

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

1a. Type of work: ☒ DRILL ☐ REENTER  
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other  
1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone

5. Lease Serial No.  
NMNM062223

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

ALLEY CAT 17-20 FED COM  
525H (322236)

9. API Well No.

70-025-46251

10. Field and Pool, or Exploratory  
SAND DUNES / BONE SPRING (53500)

11. Sec., T. R. M. or Blk. and Survey or Area  
SEC 8 / T23S / R32E / NMP

2. Name of Operator  
DEVON ENERGY PRODUCTION COMPANY LP (6137)

3a. Address  
333 West Sheridan Avenue Oklahoma City OK 73102

3b. Phone No. (include area code)  
(800)583-3866

4. Location of Well (Report location clearly and in accordance with any State requirements. \*)

At surface SESE / 302 FSL / 1236 FEL / LAT 32.3126541 / LONG -103.6921676

At proposed prod. zone SESE / 20 FSL / 1280 FEL / LAT 32.2828474 / LONG -103.6922961

14. Distance in miles and direction from nearest town or post office\*

12. County or Parish  
LEA

13. State  
NM

15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drig. unit line, if any)  
302 feet

16. No of acres in lease  
617.92

17. Spacing Unit dedicated to this well  
640

18. Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft.  
310 feet

19. Proposed Depth  
9455 feet / 20055 feet

20. BLM/BIA Bond No. in file  
FED: CO1104

21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
3610 feet

22. Approximate date work will start\*  
05/19/2019

23. Estimated duration  
45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature  
(Electronic Submission)

Name (Printed/Typed)  
Jenny Harms / Ph: (405)552-6560

Date  
12/14/2018

Title  
Regulatory Compliance Professional

Approved by (Signature)  
(Electronic Submission)

Name (Printed/Typed)  
Cody Layton / Ph: (575)234-5959

Date  
07/17/2019

Title  
Assistant Field Manager Lands & Minerals

Office  
CARLSBAD

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

GCP Rec 07/19/19

KB 07/19/19

**APPROVED WITH CONDITIONS**  
Approval Date: 07/17/2019

## INSTRUCTIONS

**GENERAL:** This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

**ITEM 1:** If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

**ITEM 4:** Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

**ITEM 14:** Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

**ITEMS 15 AND 18:** If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

**ITEM 22:** Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

**ITEM 24:** If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

**PRINCIPAL PURPOSES:** The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

**ROUTINE USE:** Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

**EFFECT OF NOT PROVIDING INFORMATION:** Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to an evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

## Additional Operator Remarks

### Location of Well

- I. SHL: SESE / 302 FSL / 1236 FEL / TWSP: 23S / RANGE: 32E / SECTION: 8 / LAT: 32.3126541 / LONG: -103.6921676 ( TVD: 0 feet, MD: 0 feet )  
PPP: NENE / 100 FNL / 1280 FEL / TWSP: 23S / RANGE: 32E / SECTION: 17 / LAT: 32.31155 / LONG: -103.692311 ( TVD: 9410 feet, MD: 9556 feet )  
PPP: NESE / 2640 FSL / 1280 FWL / TWSP: 23S / RANGE: 32E / SECTION: 17 / LAT: 32.304568 / LONG: -103.692307 ( TVD: 9455 feet, MD: 12102 feet )  
BHL: SESE / 20 FSL / 1280 FEL / TWSP: 23S / RANGE: 32E / SECTION: 20 / LAT: 32.2828474 / LONG: -103.6922961 ( TVD: 9455 feet, MD: 20055 feet )

### BLM Point of Contact

Name: Ciji Methola  
Title: GIS Support - Adjudicator  
Phone: 5752345924  
Email: cmethola@blm.gov

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## Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

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# PECOS DISTRICT

## DRILLING CONDITIONS OF APPROVAL

|                              |                                           |
|------------------------------|-------------------------------------------|
| <b>OPERATOR'S NAME:</b>      | <b>Devon Energy Production Company LP</b> |
| <b>LEASE NO.:</b>            | <b>NMNM062223</b>                         |
| <b>WELL NAME &amp; NO.:</b>  | <b>Alley Cat 17-20 Fed Com 525H</b>       |
| <b>SURFACE HOLE FOOTAGE:</b> | <b>302'/S &amp; 1236'/E</b>               |
| <b>BOTTOM HOLE FOOTAGE:</b>  | <b>20'/S &amp; 1280'/E</b>                |
| <b>LOCATION:</b>             | <b>Section 8, T.23 S., R.32 E., NMPM</b>  |
| <b>COUNTY:</b>               | <b>Lea County, New Mexico</b>             |

COA

|                      |                                                  |                                            |                                       |
|----------------------|--------------------------------------------------|--------------------------------------------|---------------------------------------|
| H2S                  | <input checked="" type="radio"/> Yes             | <input type="radio"/> No                   |                                       |
| Potash               | <input checked="" type="radio"/> None            | <input type="radio"/> Secretary            | <input type="radio"/> R-111-P         |
| Cave/Karst Potential | <input checked="" type="radio"/> Low             | <input type="radio"/> Medium               | <input type="radio"/> High            |
| Variance             | <input type="radio"/> None                       | <input checked="" type="radio"/> Flex Hose | <input type="radio"/> Other           |
| Wellhead             | <input type="radio"/> Conventional               | <input type="radio"/> Multibowl            | <input checked="" type="radio"/> Both |
| Other                | <input type="checkbox"/> 4 String Area           | <input type="checkbox"/> Capitan Reef      | <input type="checkbox"/> WIPP         |
| Other                | <input checked="" type="checkbox"/> Fluid Filled | <input type="checkbox"/> Cement Squeeze    | <input type="checkbox"/> Pilot Hole   |
| Special Requirements | <input type="checkbox"/> Water Disposal          | <input checked="" type="checkbox"/> COM    | <input type="checkbox"/> Unit         |

### A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Sand Dunes, Triste Draw, Wildcat, and Bone Springs** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

### B. CASING

1. The 13-3/8 inch surface casing shall be set at approximately **1110 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to

- include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

**Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.**

- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing shall be set at approximately 4673 feet is:

**Option 1 (Single Stage):**

- Cement to surface. If cement does not circulate see B.1.a, c-d above.  
**Cement excess is less than 25%, more cement might be required.**

**Option 2:**

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
  - b. Second stage above DV tool:
    - Cement to surface. If cement does not circulate, contact the appropriate BLM office.  
**Cement excess is less than 25%, more cement might be required.**
- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
    - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.  
**Cement excess is less than 25%, more cement might be required.**

## **C. PRESSURE CONTROL**

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

### **Option 1:**

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** psi.

### **Option 2:**

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

## **D. SPECIAL REQUIREMENT (S)**

### **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees

of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

## GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties  
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.  
During office hours call (575) 627-0272.  
After office hours call (575)

☒ Eddy County  
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
(575) 361-2822

☒ Lea County  
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)  
393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

**B. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the

plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

**D. WASTE MATERIAL AND FLUIDS**

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

|                       |                                    |
|-----------------------|------------------------------------|
| OPERATOR'S NAME:      | Devon Energy Production Company LP |
| WELL NAME & NO.:      | Alley Cat 17-20 Fed Com 525H       |
| SURFACE HOLE FOOTAGE: | 302'S & 1236'E                     |
| BOTTOM HOLE FOOTAGE   | 20'S & 1280'E                      |
| LOCATION:             | Section 8, T.23 S., R.32 E., NMPM  |
| COUNTY:               | Lea County, New Mexico             |

**TABLE OF CONTENTS**

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Lesser Prairie-Chicken Timing Stipulations
  - Ground-level Abandoned Well Marker
  - VRM
  - Range
  - Watershed & Surface/Groundwater Quality
  - Tank Battery
- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

## **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## V. SPECIAL REQUIREMENT(S)

### **Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

**Ground-level Abandoned Well Marker to avoid raptor perching:** Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all power line structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. The holder without liability or expense shall make such modifications and/or additions to the United States.

### **Raptor Nest Mitigation**

- A BLM Wildlife Biologist must be contacted by the operator prior to construction activities to determine if the raptor nests/burrows are active.
- Raptor nests on special, natural habitat features, such as trees, large brush, cliff faces and escarpments, will be protected by not allowing surface disturbance within up to 200 meters of nests or by delaying activity for up to 90 days, or a combination of both. Exceptions to this requirement for raptor nests will be

considered if the nests expected to be disturbed are inactive, the proposed activity is of short duration (e.g. habitat enhancement projects, fences, pipelines), and will not result in continuing activity in proximity to the nest.

- Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

### **Watershed**

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad and CTB pad during the life of the well and CTB will be corrected within two weeks and proper measures will be taken to prevent future erosion.
- Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.
- Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.
- Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

### **Range**

#### ***Temporary Fence Crossing Requirement***

Where entry is granted across a fence line, the fence must be braced and tied off on both sides of the passageway with H-braces prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

#### ***Livestock Watering Requirement***

Devon, in an agreement with the grazing allotment holder, would relocate a water pipeline and trough affected by several proposed actions. See Table 12 above.

Devon must contact the allotment holder prior to construction to identify the location of the pipelines. Devon must take measures to protect the pipelines from compression or other damages. If the pipelines are damaged or compromised in any way near the proposed project as a result of oil and gas activity, Devon is responsible for repairing the pipelines immediately. Devon must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

During construction, Devon shall minimize disturbance to existing fences, water lines, troughs, windmills, and other improvements on public lands. Devon is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the grazing permittee/allottee prior to disturbing any range improvement projects. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

#### **Temporary Fencing Requirement**

For the proposed Todd Apache 2 Pad 7-1, the BLM would require temporary fencing be installed before construction begins. This fencing would stay in place and be maintained throughout construction activities to protect nearby dune land habitat from harm.

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### **B. TOPSOIL**

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

### **C. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

### **D. FEDERAL MINERAL MATERIALS PIT**

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

### **F. EXCLOSURE FENCING (CELLARS & PITS)**

**Exclosure Fencing**

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

**G. ON LEASE ACCESS ROADS****Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

**Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

**Crowning**

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

**Ditching**

Ditching shall be required on both sides of the road.

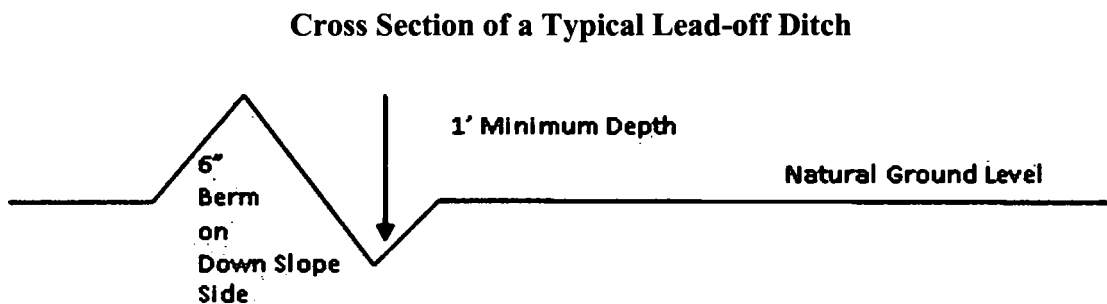
**Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

**Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

#### **Formula for Spacing Interval of Lead-off Ditches**

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

#### **Cattle guards**

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

#### **Fence Requirement**

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

#### **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

### Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

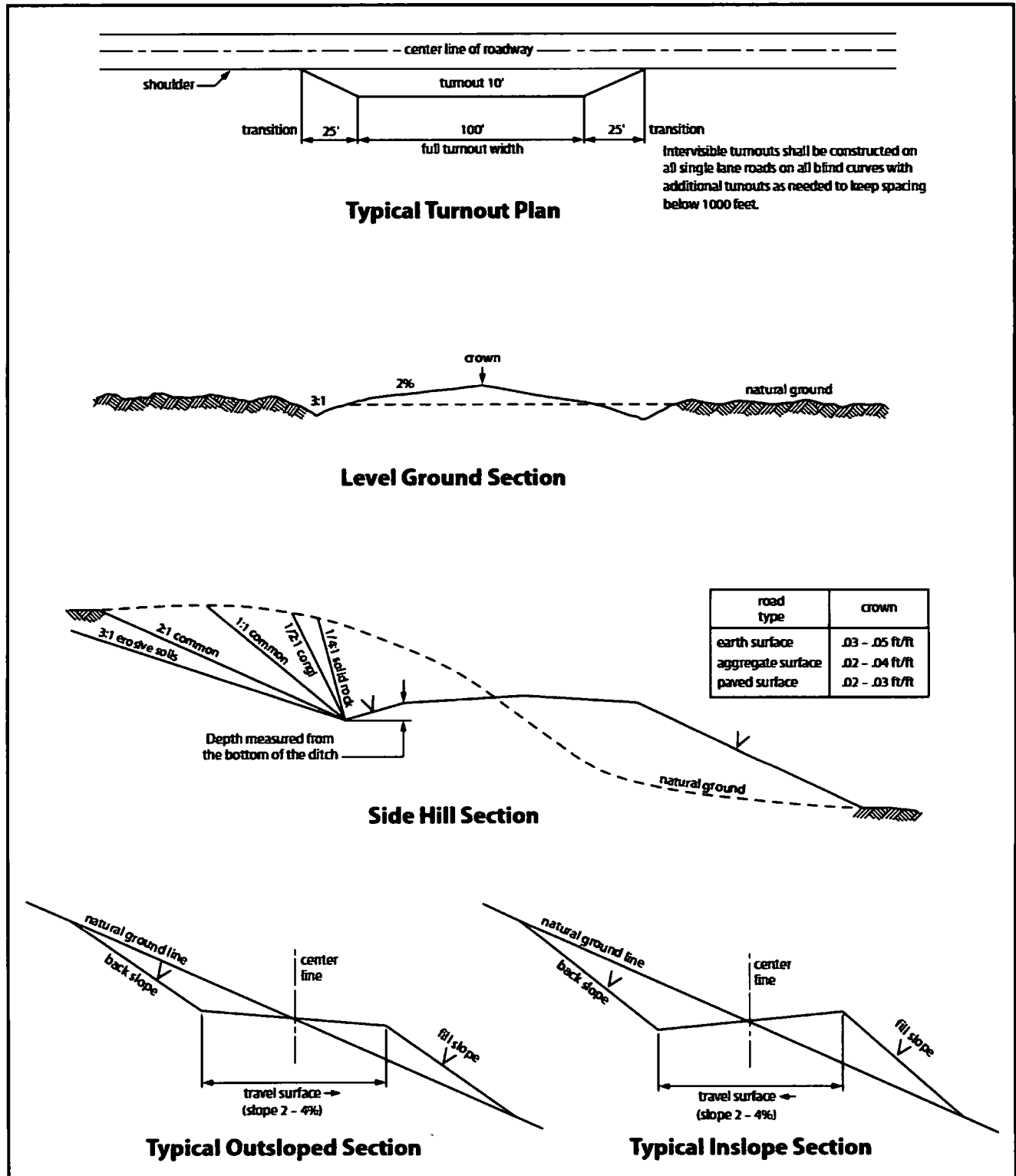


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## **VII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Exclosure Netting (Open-top Tanks)**

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

#### **Chemical and Fuel Secondary Containment and Exclosure Screening**

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

#### **Open-Vent Exhaust Stack Exclosures**

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

**Containment Structures**

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

**Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

**VRM Facility Requirement**

There are no mitigation measures for this project as currently proposed.

**B. PIPELINES****BURIED PIPELINE STIPULATIONS**

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way.

This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.
6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.
7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:
- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed 20 feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
  - Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed 30 feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
  - The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)
8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.
9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.
11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

- |                                                        |                                                  |
|--------------------------------------------------------|--------------------------------------------------|
| <input type="checkbox"/> seed mixture 1                | <input type="checkbox"/> seed mixture 3          |
| <input type="checkbox"/> seed mixture 2                | <input type="checkbox"/> seed mixture 4          |
| <input checked="" type="checkbox"/> seed mixture 2/LPC | <input type="checkbox"/> Aplomado Falcon Mixture |

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches that are not otherwise fenced, screened, or netted to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or

other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

19. Special Stipulations:

**Lesser Prairie-Chicken**

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

**STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES**

**A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and

especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
- b. Activities of other parties including, but not limited to:
  - (1) Land clearing.
  - (2) Earth-disturbing and earth-moving work.
  - (3) Blasting.
  - (4) Vandalism and sabotage.
- c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of

the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of 20 feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline will be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State

Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

18. Special Stipulations:

- a. **Lesser Prairie-Chicken:** Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted.
- b. This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous

Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

**C. ELECTRIC LINES**

**STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES**

**A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.
5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the

above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

**Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

## **VIII. INTERIM RECLAMATION**

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

## **IX. FINAL ABANDONMENT & RECLAMATION**

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

## Seed Mixture for LPC Sand/Shinnery Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

| <u>Species</u>      | <u>lb/acre</u> |
|---------------------|----------------|
| Plains Bristlegrass | 5lbs/A         |
| Sand Bluestem       | 5lbs/A         |
| Little Bluestem     | 3lbs/A         |
| Big Bluestem        | 6lbs/A         |
| Plains Coreopsis    | 2lbs/A         |
| Sand Dropseed       | 1lbs/A         |

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

**Operator Certification**

*I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.*

**NAME:** Jenny Harms**Signed on:** 12/13/2018**Title:** Regulatory Compliance Professional**Street Address:** 333 W Sheridan Ave**City:** Oklahoma City**State:** OK**Zip:** 73102**Phone:** (405)552-6560**Email address:** jenny.harms@dvn.com**Field Representative****Representative Name:** Ray Vaz**Street Address:** 333 WEST SHERIDAN AVE**City:** OKLAHOMA CITY**State:** OK**Zip:** 73102**Phone:** (575)748-1871**Email address:** ray.vaz@dvn.com

APD ID: 10400037296

Submission Date: 12/14/2018

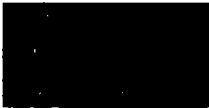
Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM

Well Number: 525H

Well Type: OIL WELL

Well Work Type: Drill

  
[Show Final Text](#)**Section 1 - General**

APD ID: 10400037296

Tie to previous NOS?

Submission Date: 12/14/2018

BLM Office: CARLSBAD

User: Jenny Harms

Title: Regulatory Compliance

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM062223

Lease Acres: 617.92

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

APD Operator: DEVON ENERGY PRODUCTION COMPANY LP

Operator letter of designation:

**Operator Info**

Operator Organization Name: DEVON ENERGY PRODUCTION COMPANY LP

Operator Address: 333 West Sheridan Avenue

Zip: 73102

Operator PO Box:

Operator City: Oklahoma City State: OK

Operator Phone: (800)583-3866

Operator Internet Address:

**Section 2 - Well Information**

Well in Master Development Plan? EXISTING

Master Development Plan name: Todd/Apache MDP 2

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: ALLEY CAT 17-20 FED COM

Well Number: 525H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: SAND DUNES

Pool Name: BONE SPRING

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL,POTASH

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM

Well Number: 525H

Describe other minerals:

Is the proposed well in a Helium production area? N Use Existing Well Pad? YES New surface disturbance? N

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: TODD-Number: 8-5

Well Class: HORIZONTAL

APACHE MDP 2 PAD

Number of Legs:

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town:

Distance to nearest well: 310 FT

Distance to lease line: 302 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: ALLEY\_CAT\_17\_20\_FED\_COM\_525H\_C102\_20181213131012.pdf

Well work start Date: 05/19/2019

Duration: 45 DAYS

### Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 6694

|                  | NS-Foot | NS Indicator | EW-Foot  | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude       | Longitude            | County | State             | Meridian          | Lease Type | Lease Number   | Elevation     | MD       | TVD      |
|------------------|---------|--------------|----------|--------------|------|-------|---------|-------------------|----------------|----------------------|--------|-------------------|-------------------|------------|----------------|---------------|----------|----------|
| SHL<br>Leg<br>#1 | 302     | FSL          | 123<br>6 | FEL          | 23S  | 32E   | 8       | Aliquot<br>SESE   | 32.31265<br>41 | -<br>103.6921<br>676 | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMNM<br>098826 | 361<br>0      | 0        | 0        |
| KOP<br>Leg<br>#1 | 252     | FSL          | 128<br>0 | FEL          | 23S  | 32E   | 8       | Aliquot<br>SESE   | 32.31251<br>7  | -<br>103.6923<br>11  | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMNM<br>098826 | -<br>527<br>2 | 888<br>2 | 888<br>2 |
| PPP<br>Leg<br>#1 | 100     | FNL          | 128<br>0 | FEL          | 23S  | 32E   | 17      | Aliquot<br>NENE   | 32.31155       | -<br>103.6923<br>11  | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMNM<br>062223 | -<br>580<br>0 | 955<br>6 | 941<br>0 |

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM

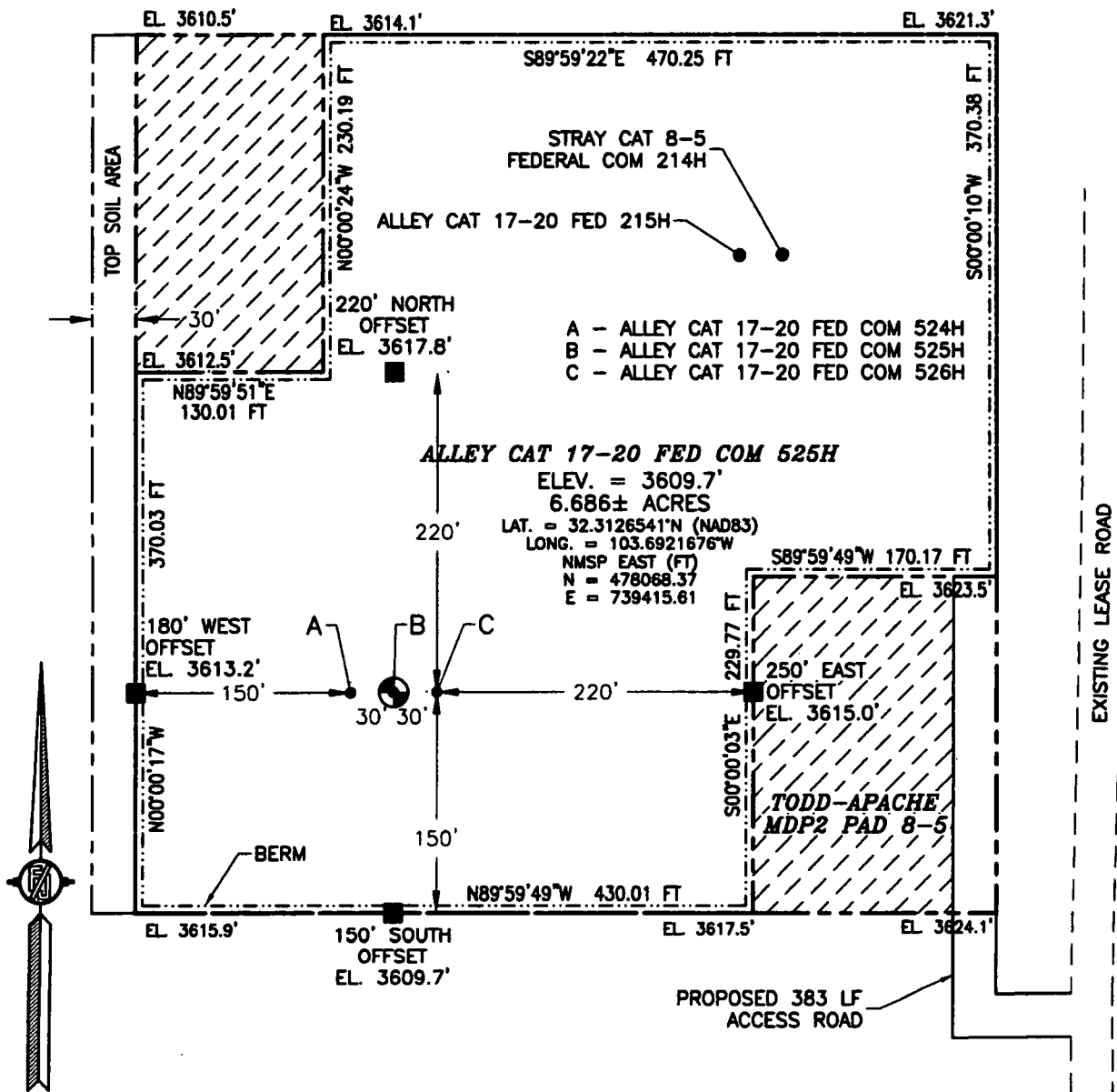
Well Number: 525H

|                   | NS-Foot  | NS Indicator | EW-Foot  | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude       | Longitude            | County | State             | Meridian          | Lease Type | Lease Number   | Elevation     | MD        | TVD      |
|-------------------|----------|--------------|----------|--------------|------|-------|---------|-------------------|----------------|----------------------|--------|-------------------|-------------------|------------|----------------|---------------|-----------|----------|
| PPP<br>Leg<br>#1  | 264<br>0 | FSL          | 128<br>0 | FWL          | 23S  | 32E   | 17      | Aliquot<br>NESE   | 32.30456<br>8  | -<br>103.6923<br>07  | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMNM<br>097891 | -<br>584<br>5 | 121<br>02 | 945<br>5 |
| EXIT<br>Leg<br>#1 | 100      | FSL          | 128<br>0 | FEL          | 23S  | 32E   | 20      | Aliquot<br>SESE   | 32.28306<br>7  | -<br>103.6922<br>96  | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMNM<br>086153 | -<br>584<br>5 | 199<br>24 | 945<br>5 |
| BHL<br>Leg<br>#1  | 20       | FSL          | 128<br>0 | FEL          | 23S  | 32E   | 20      | Aliquot<br>SESE   | 32.28284<br>74 | -<br>103.6922<br>961 | LEA    | NEW<br>MEXI<br>CO | NEW<br>MEXI<br>CO | F          | NMNM<br>086153 | -<br>584<br>5 | 200<br>55 | 945<br>5 |

SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO

SITE MAP

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83) LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. VERTICAL DATUM NAVD88.



012 60 120 240

SCALE 1" = 120'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF STATE HWY 128 AND CR 798 (RED ROAD) GO NORTH ON CR 798 APPROX. 3.5 MILES TO A LEASE ROAD ON RIGHT (EAST), TURN EAST GO APPROX. 2.1 MILES, ROAD TURNS RIGHT (SOUTH) GO SOUTH APPROX. 0.5 OF A MILE, ROAD TURNS LEFT (EAST) GO EAST APPROX. 0.85 OF A MILE TO A LEASE ROAD ON LEFT (NORTH), TURN NORTH GO APPROX. 0.92 OF A MILE TO A PROPOSED ROAD ON LEFT (WEST) GO WEST APPROX. 82', TURN NORTH GO APPROX. 301' TO SOUTHEAST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.  
**ALLEY CAT 17-20 FED COM 525H**  
LOCATED 302 FT. FROM THE SOUTH LINE  
AND 1236 FT. FROM THE EAST LINE OF  
SECTION 8, TOWNSHIP 23 SOUTH,  
RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO  
LAND STATUS: BLM

NOVEMBER 14, 2018

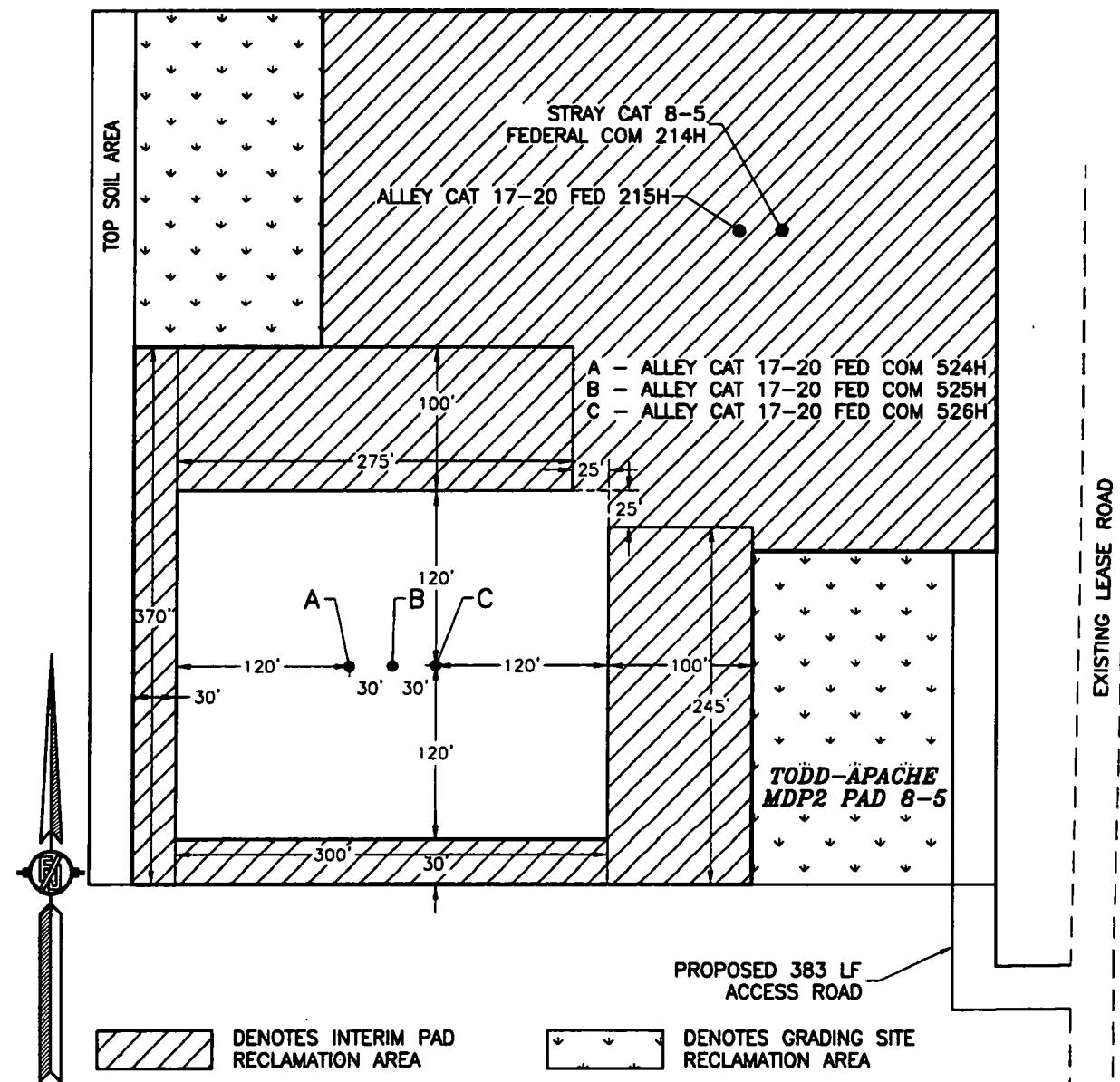
SURVEY NO. 6694

MADRON SURVEYING, INC.

301 SOUTH CANAL  
(575) 234-3341

CARLSBAD, NEW MEXICO

**SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO  
INTERIM SITE BUILD PLAN**



012 60 120 240  
SCALE 1" = 120'

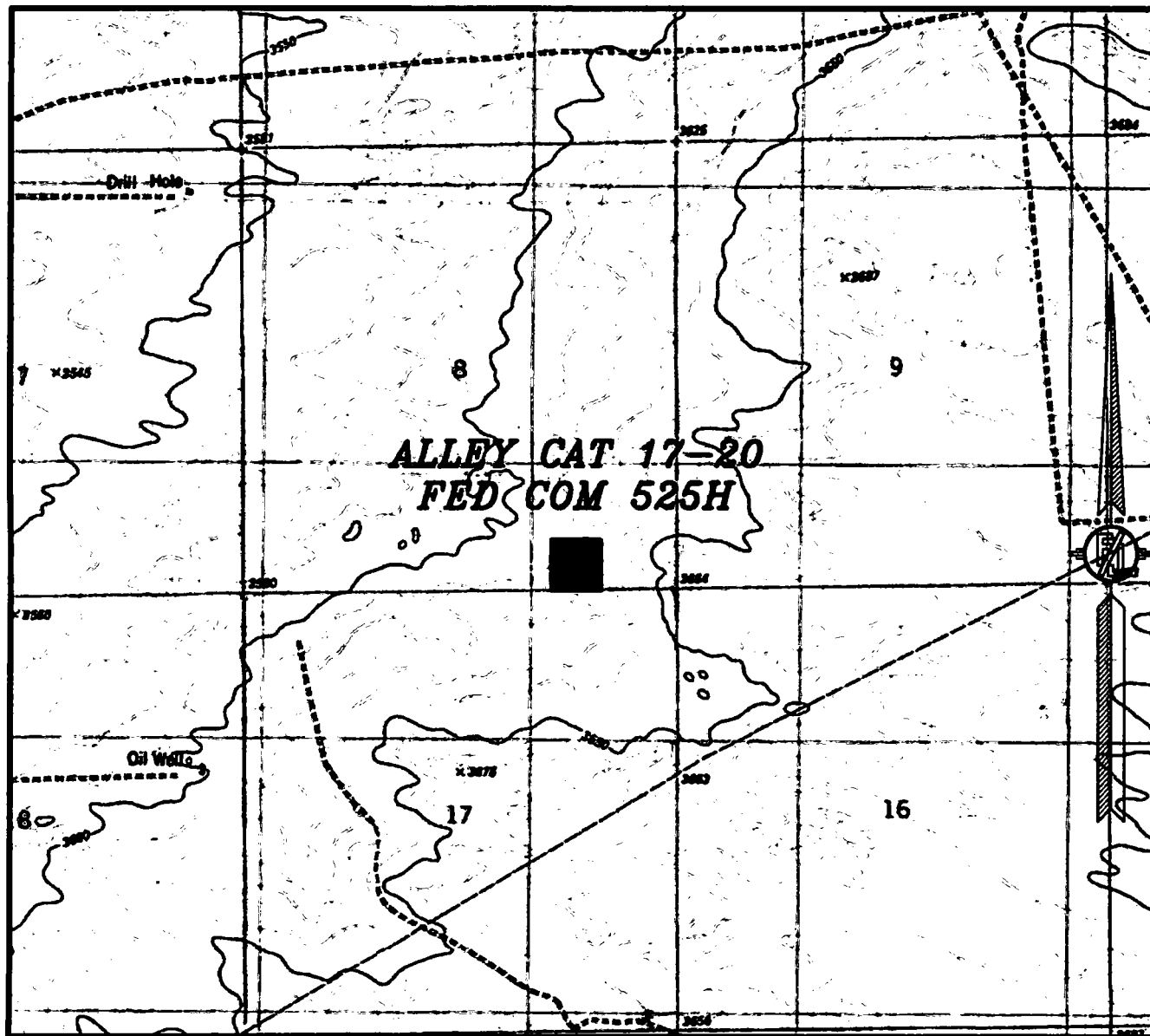
5.033± ACRES INTERIM PAD RECLAMATION AREA  
1.426± ACRES GRADING SITE RECLAMATION AREA  
1.811± ACRES NON-RECLAIMED AREA  
8.270± ACRES TODD-APACHE MDP2 PAD 8-5

**DEVON ENERGY PRODUCTION COMPANY, L.P.**  
**ALLEY CAT 17-20 FED COM 525H**  
**LOCATED 302 FT. FROM THE SOUTH LINE**  
**AND 1236 FT. FROM THE EAST LINE OF**  
**SECTION 8, TOWNSHIP 23 SOUTH,**  
**RANGE 32 EAST, N.M.P.M.**  
**LEA COUNTY, STATE OF NEW MEXICO**  
**LAND STATUS: BLM**

NOVEMBER 14, 2018  
SURVEY NO. 6694

**MADRON SURVEYING, INC.** 301 SOUTH CANAL (575) 234-3341 **CARLSBAD, NEW MEXICO**

SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO  
LOCATION VERIFICATION MAP



USGS QUAD MAP:  
BOOTLEG RIDGE

NOT TO SCALE

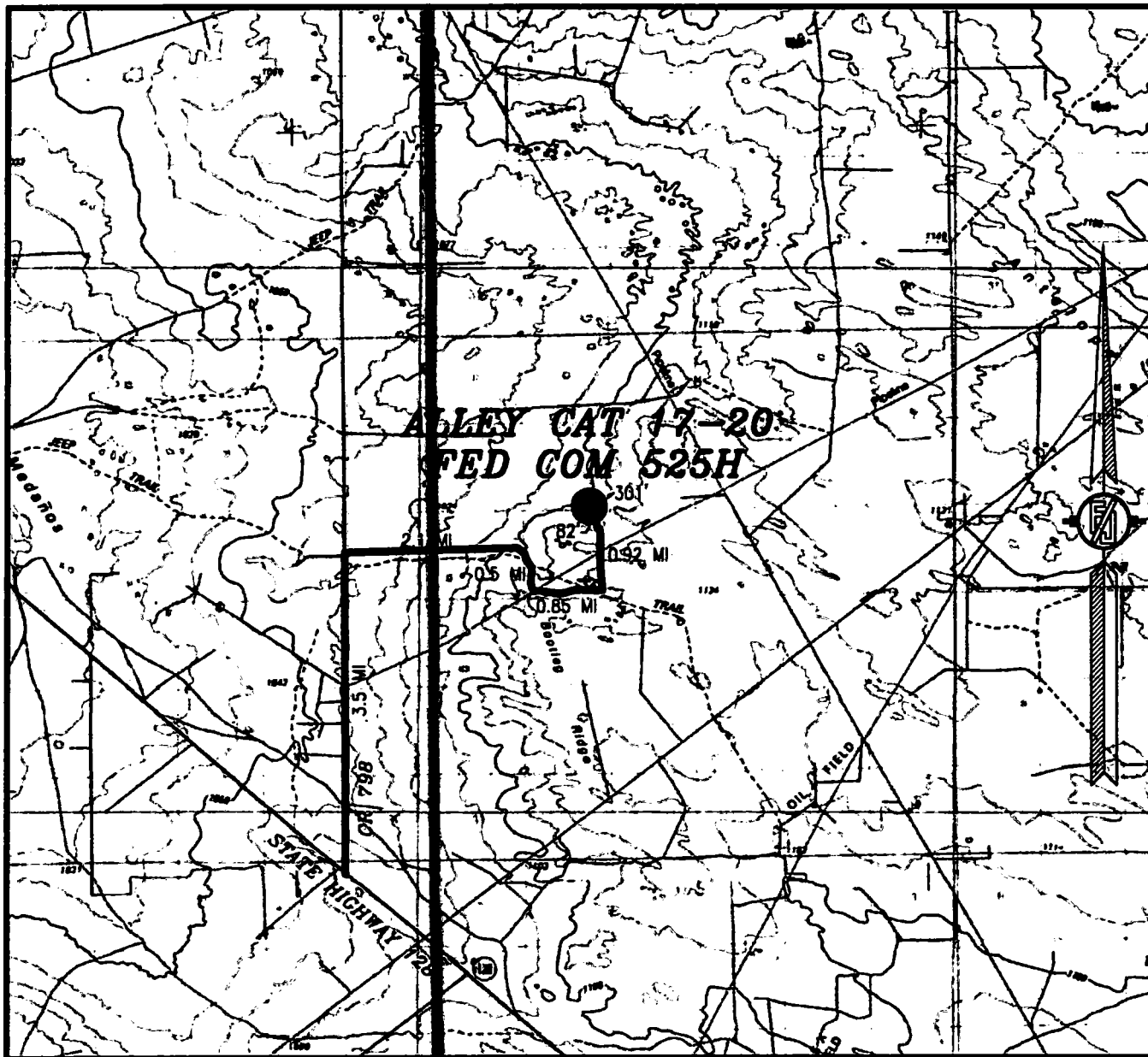
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LEA COUNTY, STATE OF NEW MEXICO  
LAND STATUS: BLM

NOVEMBER 14, 2018

SURVEY NO. 6694

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO  
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

ALLEY CAT 17-20 FED COM 525H

LOCATED 302 FT. FROM THE SOUTH LINE  
AND 1236 FT. FROM THE EAST LINE OF

SECTION 8, TOWNSHIP 23 SOUTH,  
RANGE 32 EAST, N.M.P.M.

LEA COUNTY, STATE OF NEW MEXICO  
LAND STATUS: BLM

**DIRECTIONS TO LOCATION**

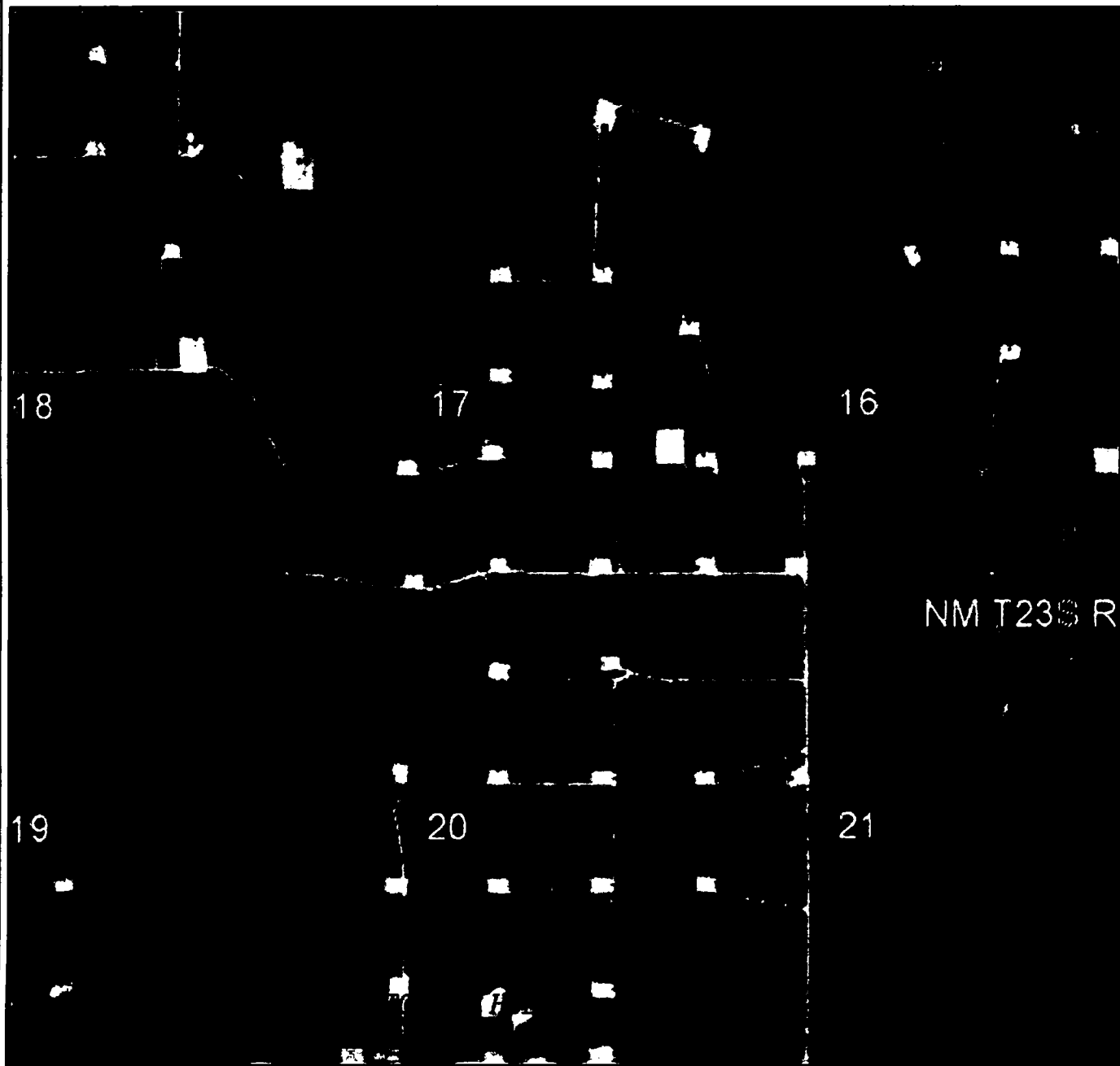
FROM THE INTERSECTION OF STATE HWY 128 AND CR 798 (RED ROAD) GO NORTH ON CR 798 APPROX. 3.5 MILES TO A LEASE ROAD ON RIGHT (EAST), TURN EAST GO APPROX. 2.1 MILES, ROAD TURNS RIGHT (SOUTH) GO SOUTH APPROX. 0.5 OF A MILE, ROAD TURNS LEFT (EAST) GO EAST APPROX. 0.85 OF A MILE TO A LEASE ROAD ON LEFT (NORTH), TURN NORTH GO APPROX. 0.92 OF A MILE TO A PROPOSED ROAD ON LEFT (WEST) GO WEST APPROX. 82', TURN NORTH GO APPROX. 301' TO SOUTHEAST PAD CORNER FOR THIS LOCATION.

NOVEMBER 14, 2018

SURVEY NO. 6694

MADRON SURVEYING, INC. 301 SOUTH CAVAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO  
**AERIAL PHOTO**



NOT TO SCALE  
AERIAL PHOTO:  
GOOGLE EARTH  
FEBRUARY 2017

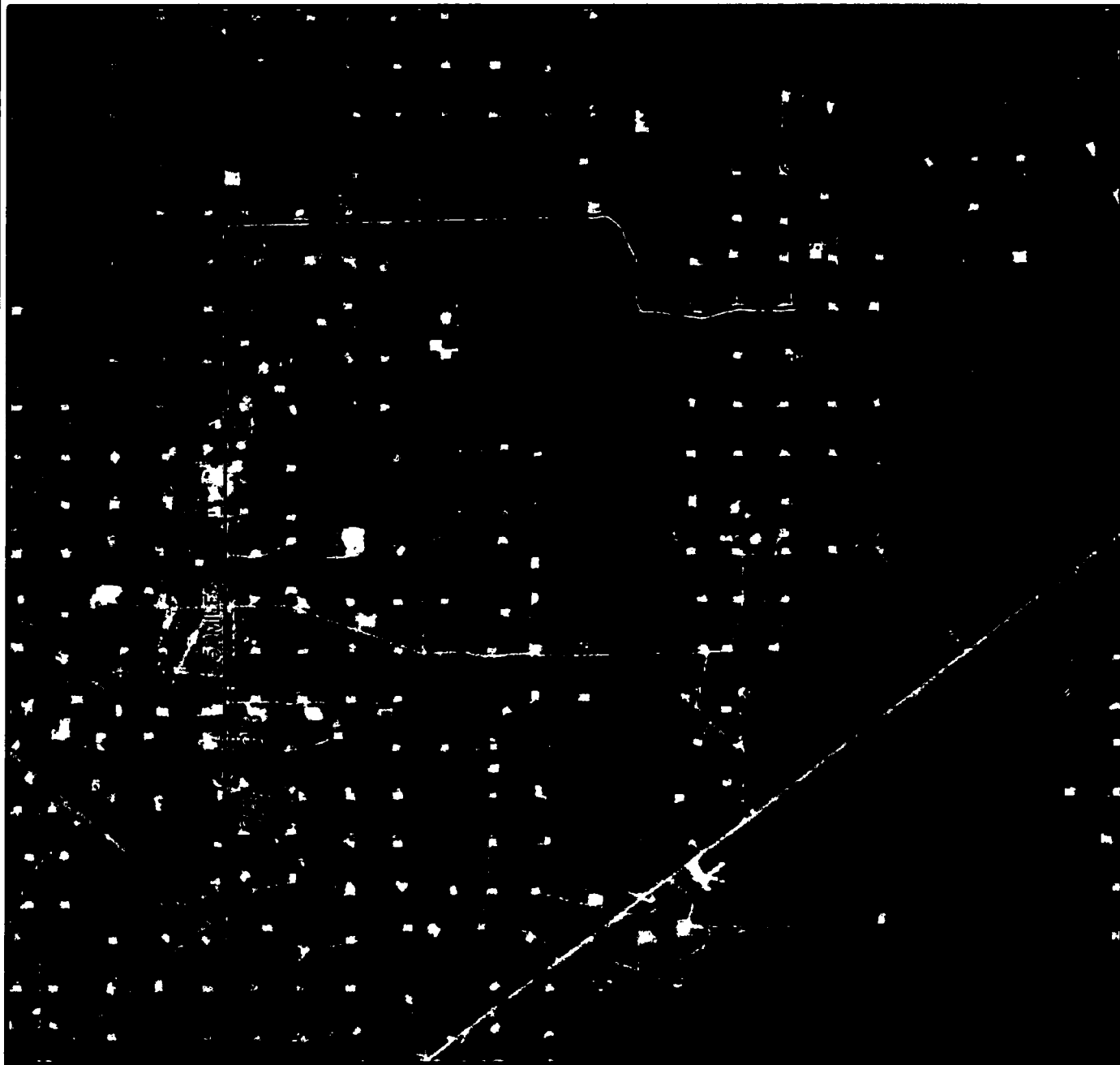
**DEVON ENERGY PRODUCTION COMPANY, L.P.**  
**ALLEY CAT 17-20 FED COM 525H**  
LOCATED 302 FT. FROM THE SOUTH LINE  
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SECTION 8, TOWNSHIP 23 SOUTH,  
RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO  
LAND STATUS: BLM

NOVEMBER 14, 2018

SURVEY NO. 6694

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

**SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO  
ACCESS AERIAL ROUTE MAP**



**NOT TO SCALE  
AERIAL PHOTO:  
GOOGLE EARTH  
FEBRUARY 2017**

**DEVON ENERGY PRODUCTION COMPANY, L.P.  
ALLEY CAT 17-20 FED COM 525H  
LOCATED 302 FT. FROM THE SOUTH LINE  
AND 1236 FT. FROM THE EAST LINE OF  
SECTION 8, TOWNSHIP 23 SOUTH,  
RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO  
LAND STATUS: BLM**

**NOVEMBER 14, 2018**

**SURVEY NO. 6694**

**MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO**

# PLAN VIEW

TODD-APACHE  
MDP2 PAD 8-4

LIMITS OF  
EARTHWORK  
3:1 SLOPE (TYP.)

A - ALLEY CAT 17-20 FED COM 524H  
B - ALLEY CAT 17-20 FED COM 525H  
C - ALLEY CAT 17-20 FED COM 526H

STRAY CAT 8-5  
FED COM 214H

ALLEY CAT 17-20  
FED 215H

DRILLING PAD

TODD-APACHE  
MDP2 PAD 8-5  
CENTER POINT

TODD-APACHE  
MDP2 PAD 8-5  
PROPOSED PAD  
EL. = 3613.0

LIMITS OF  
EARTHWORK  
3:1 SLOPE (TYP.)

PROPOSED 383 LF  
ACCESS ROAD

DEVON ENERGY PRODUCTION COMPANY, L.P.  
GRADING PLAN AND CROSS SECTIONS  
FOR ALLEY CAT 17-20 FED COM 525H  
SECTION 8, TOWNSHIP 23 SOUTH,  
RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO

012 60 120 240  
SCALE 1" = 120'

| CUT          | FILL        | NET                |
|--------------|-------------|--------------------|
| 48629 CU. YD | 9006 CU. YD | 39623 CU. YD (CUT) |

EARTHWORK QUANTITIES ARE ESTIMATED

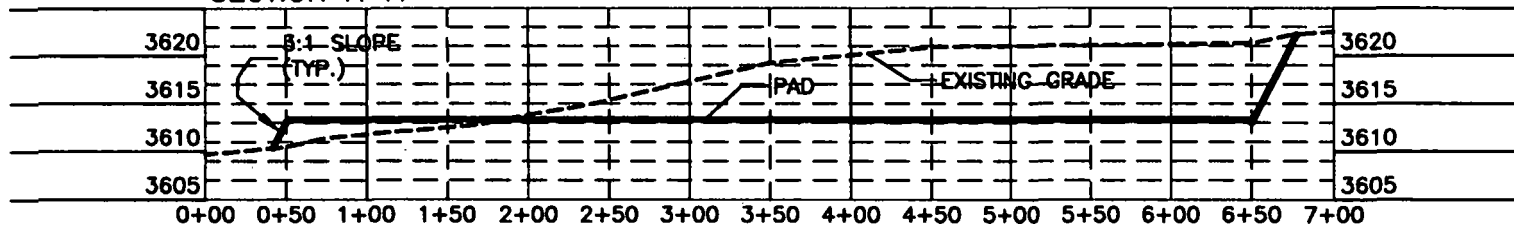
NOVEMBER 14, 2018

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO  
(575) 234-3341

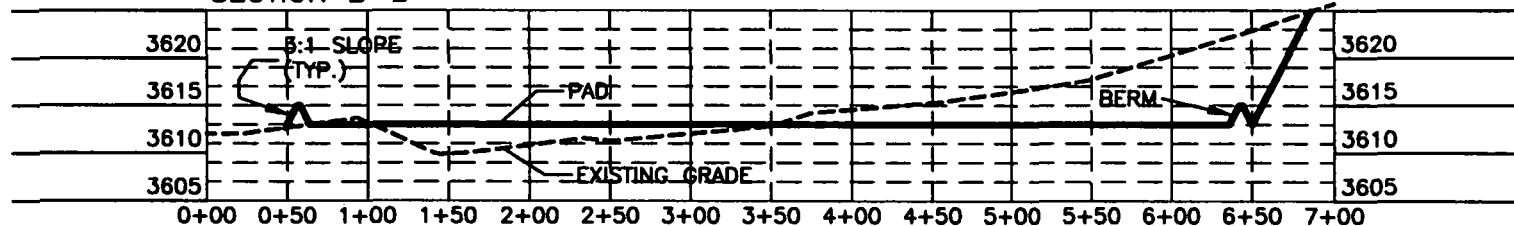
SHEET 1-2  
SURVEY NO. 6694

# CROSS-SECTIONS

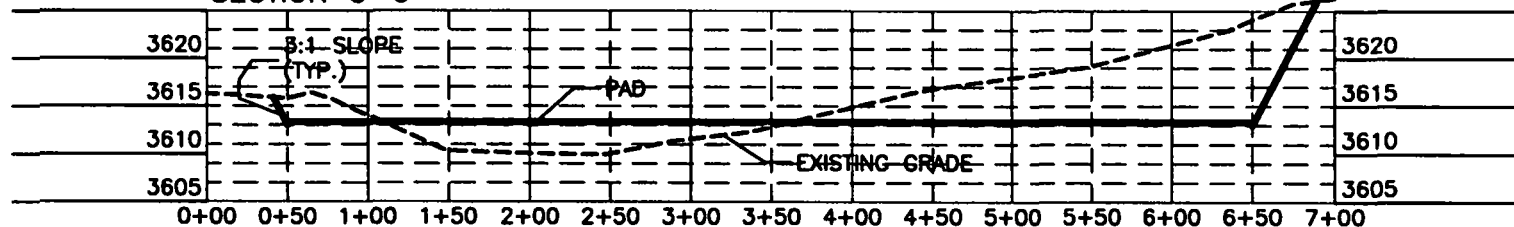
SECTION A-A'



SECTION B-B'



SECTION C-C'



DEVON ENERGY PRODUCTION COMPANY, L.P.  
GRADING PLAN AND CROSS SECTIONS  
FOR ALLEY CAT 17-20 FED COM 626H  
SECTION 8, TOWNSHIP 23 SOUTH,  
RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO

012 60 120 240  
SCALE 1" = 120' - 1" = 20' VER

| CUT          | FILL        | NET                |
|--------------|-------------|--------------------|
| 48629 CU. YD | 9006 CU. YD | 39623 CU. YD (CUT) |

EARTHWORK QUANTITIES ARE ESTIMATED

NOVEMBER 14, 2018

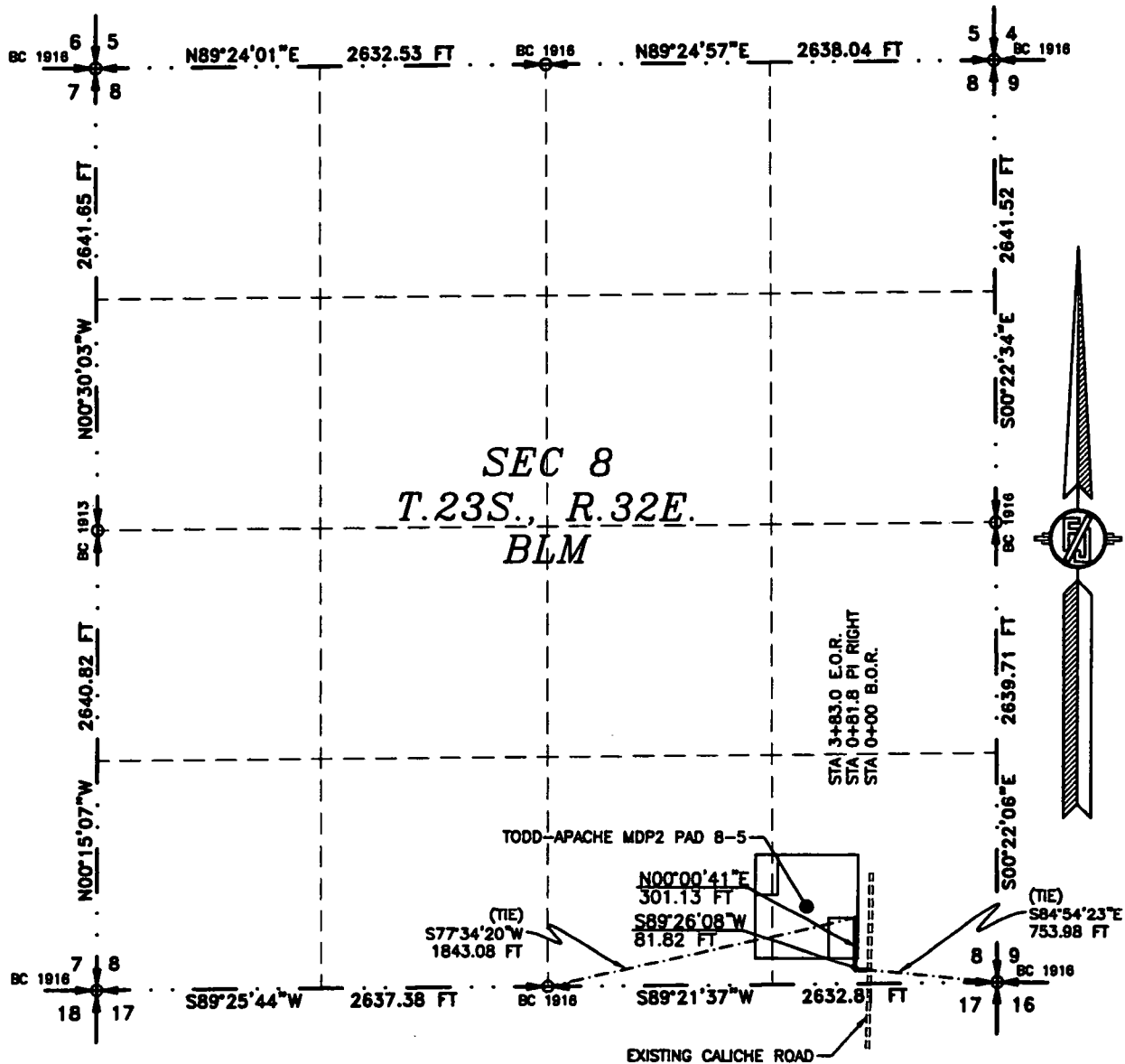
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SHEET 2-2  
SURVEY NO. 6694

# ACCESS ROAD PLAT

ACCESS ROAD TO THE TODD-APACHE MDP2 PAD 8-5 (ALLEY CAT 17-20 FED COM 524H, 525H, 526H,  
ALLEY CAT 17-20 FED 215H, STRAY CAT 8-5 FEDERAL COM 214H)

DEVON ENERGY PRODUCTION COMPANY, L.P.  
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING  
SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO  
NOVEMBER 14, 2018



SEE NEXT SHEET (2-2) FOR DESCRIPTION

## SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 27<sup>TH</sup> DAY OF NOVEMBER 2018

MADRON SURVEYING, INC.  
301 SOUTH CANAL  
CARLSBAD, NEW MEXICO 88220  
Phone (575) 234-3341

FILMON F. JARAMILLO REG. #12797

SURVEY NO. 6694

## GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-2

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO (575) 234-3341

## ACCESS ROAD PLAT

ACCESS ROAD TO THE TODD-APACHE MDP2 PAD 8-5 (ALLEY CAT 17-20 FED COM 524H, 525H, 526H,  
ALLEY CAT 17-20 FED 215H, STRAY CAT 8-5 FEDERAL COM 214H)

**DEVON ENERGY PRODUCTION COMPANY, L.P.**  
**CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING**  
**SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.**  
**LEA COUNTY, STATE OF NEW MEXICO**  
**NOVEMBER 14, 2018**

### DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SE/4 SE/4 OF SAID SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M., WHENCE THE SOUTHEAST CORNER OF SAID SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS S84°54'23"E, A DISTANCE OF 753.98 FEET;  
THENCE S89°26'08"W A DISTANCE OF 81.82 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;  
THENCE N00°00'41"E A DISTANCE OF 301.13 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS S77°34'20"W, A DISTANCE OF 1843.08 FEET;

SAID STRIP OF LAND BEING 382.95 FEET OR 23.21 RODS IN LENGTH, CONTAINING 0.264 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SE/4      382.95 L.F.      23.21 RODS      0.264 ACRES

### GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 2-2

MADRON SURVEYING

### SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO THIS 17 DAY OF NOVEMBER 2018

FILMON F. JARAMILLO, S.S. 12797

301 SOUTH CANAL  
(575) 234-3341

MADRON SURVEYING, INC.  
301 SOUTH CANAL  
CARLSBAD, NEW MEXICO 88220  
Phone (575) 234-3341

SURVEY NO. 6694

CARLSBAD, NEW MEXICO

APD ID: 10400037296

Submission Date: 12/14/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM

Well Number: 525H

Well Type: OIL WELL

Well Work Type: Drill

  
[Show Final Text](#)**Section 1 - Geologic Formations**

| Formation ID | Formation Name   | Elevation | True Vertical Depth | Measured Depth | Lithologies               | Mineral Resources | Producing Formation |
|--------------|------------------|-----------|---------------------|----------------|---------------------------|-------------------|---------------------|
| 1            | UNKNOWN          | 3610      | 0                   | 0              | ALLUVIUM, OTHER : Surface | NONE              | No                  |
| 2            | RUSTLER          | 2562      | 1048                | 1048           | SALT                      | NONE              | No                  |
| 3            | SALADO           | 2187      | 1423                | 1423           | SALT                      | NONE              | No                  |
| 4            | BASE OF SALT     | -1033     | 4643                | 4643           | SALT                      | NONE              | No                  |
| 5            | DELAWARE         | -1063     | 4673                | 4673           | SANDSTONE                 | NATURAL GAS,OIL   | No                  |
| 6            | BONE SPRING LIME | -5038     | 8648                | 8648           | LIMESTONE                 | NATURAL GAS,OIL   | No                  |
| 7            | BONE SPRING      | -5845     | 9455                | 19455          | SANDSTONE                 | NATURAL GAS,OIL   | Yes                 |

**Section 2 - Blowout Prevention**

Pressure Rating (PSI): 5M

Rating Depth: 9455

**Equipment:** BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below surface casing, BOP/BOPE system with a minimum rating consistent with value listed above will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.

**Requesting Variance? YES**

**Variance request:** A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.

**Testing Procedure:** A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

**Choke Diagram Attachment:**

5M\_BOPE\_\_CK\_20181213094458.pdf

**BOP Diagram Attachment:**

5M\_BOPE\_\_CK\_20181213094514.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ALLEY CAT 17-20 FED COM

Well Number: 525H

Pressure Rating (PSI): 5M

Rating Depth: 4773

**Equipment:** BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below surface casing, BOP/BOPE system with a minimum rating consistent with value listed above will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.

**Requesting Variance?** YES

**Variance request:** A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.

**Testing Procedure:** A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

**Choke Diagram Attachment:**

5M\_BOPE\_\_CK\_20181213094639.pdf

**BOP Diagram Attachment:**

5M\_BOPE\_\_CK\_20181213094656.pdf

### Section 3 - Casing

| Casing ID | String Type  | Hole Size | Csg Size | Condition | Standard | Tapered String | Top Set MD | Bottom Set MD | Top Set TVD | Bottom Set TVD | Top Set MSL | Bottom Set MSL | Calculated casing length MD | Grade | Weight | Joint Type | Collapse SF | Burst SF | Joint SF Type | Joint SF | Body SF Type | Body SF |
|-----------|--------------|-----------|----------|-----------|----------|----------------|------------|---------------|-------------|----------------|-------------|----------------|-----------------------------|-------|--------|------------|-------------|----------|---------------|----------|--------------|---------|
| 1         | SURFACE      | 17.5      | 13.375   | NEW       | API      | N              | 0          | 1073          | 0           | 1073           | -6965       | -8031          | 1073                        | H-40  | 48     |            | 1.125       | 1        | BUOY          | 1.6      | BUOY         | 1.6     |
| 2         | INTERMEDIATE | 12.25     | 9.625    | NEW       | API      | N              | 0          | 4773          | 0           | 4773           |             |                | 4773                        | J-55  | 40     |            | 1.125       | 1        | BUOY          | 1.6      | BUOY         | 1.6     |
| 3         | PRODUCTION   | 8.75      | 5.5      | NEW       | API      | N              | 0          | 20004         | 0           | 9455           | -6965       | -17514         | 20004                       | P-110 | 17     |            | 1.125       | 1        | BUOY          | 1.6      | BUOY         | 1.6     |

Casing Attachments

**Operator Name:** DEVON ENERGY PRODUCTION COMPANY LP

**Well Name:** ALLEY CAT 17-20 FED COM

**Well Number:** 525H

#### Casing Attachments

---

**Casing ID:** 1      **String Type:** SURFACE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Surf\_Csg\_Ass\_20181213094858.pdf

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**Casing ID:** 2      **String Type:** INTERMEDIATE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Int\_Csg\_Ass\_20181213094959.pdf

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**Casing ID:** 3      **String Type:** PRODUCTION

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Prod\_Csg\_Ass\_20181213134622.pdf

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#### Section 4 - Cement

**Operator Name:** DEVON ENERGY PRODUCTION COMPANY LP**Well Name:** ALLEY CAT 17-20 FED COM**Well Number:** 525H

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft  | Excess% | Cement type | Additives      |
|-------------|-----------|------------------|--------|-----------|--------------|-------|---------|--------|---------|-------------|----------------|
| SURFACE     | Lead      |                  | 0      | 1073      | 1120.8       | 1.33  | 13.2    | 1490.7 | 100     | C           | Class C + adds |

|              |      |  |      |       |        |      |      |        |    |       |                                                                                                                                    |
|--------------|------|--|------|-------|--------|------|------|--------|----|-------|------------------------------------------------------------------------------------------------------------------------------------|
| INTERMEDIATE | Lead |  | 0    | 4273  | 433.6  | 3.27 | 9    | 1418   | 50 | c     | Class C + adds                                                                                                                     |
| INTERMEDIATE | Tail |  | 4273 | 4773  | 196.8  | 1.33 | 13.2 | 261.7  | 50 | C     | Class C + adds                                                                                                                     |
| PRODUCTION   | Lead |  | 4273 | 8882  | 393    | 3.27 | 9    | 1285.1 | 10 | TUNED | Class C + adds                                                                                                                     |
| PRODUCTION   | Tail |  | 8882 | 20004 | 2323.6 | 1.33 | 13.2 | 3090.4 | 10 | H     | (50:50) Clas H Cement:<br>Poz (Fly Ash) + 0.5%<br>bwoc HALAD-344 +<br>0.4% bwoc CFR-3 +<br>0.2% BWOC HR-601 +<br>2% bwoc Bentonite |

### Section 5 - Circulating Medium

**Mud System Type:** Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:****Describe what will be on location to control well or mitigate other conditions:** Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.**Describe the mud monitoring system utilized:** PVT/Pason/Visual Monitoring

### Circulating Medium Table

| Top Depth | Bottom Depth | Mud Type      | Min Weight (lbs/gal) | Max Weight (lbs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | PH | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|-----------|--------------|---------------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|----------------------------|
| 1073      | 4773         | OTHER : BRINE | 10                   | 10.5                 |                     |                             |    |                |                |                 |                            |

**Operator Name:** DEVON ENERGY PRODUCTION COMPANY LP

**Well Name:** ALLEY CAT 17-20 FED COM

**Well Number:** 525H

| Top Depth | Bottom Depth | Mud Type            | Min Weight (lbs/gal) | Max Weight (lbs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | PH | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|-----------|--------------|---------------------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|----------------------------|
| 4773      | 9455         | WATER-BASED MUD     | 8.5                  | 9                    |                     |                             |    |                |                |                 |                            |
| 0         | 1073         | OTHER : FRESH WATER | 8.5                  | 9                    |                     |                             |    |                |                |                 |                            |

### Section 6 - Test, Logging, Coring

**List of production tests including testing procedures, equipment and safety measures:**

Will run GRMWD from TD to from KOP. Cement bond logs will be run in vertical to determine top of cement. Stated logs run will be in the completion report and submitted to the BLM.

**List of open and cased hole logs run in the well:**

CALIPER,CBL,DS,GR,MUDLOG

**Coring operation description for the well:**

N/A

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 4425

**Anticipated Surface Pressure:** 2344.9

**Anticipated Bottom Hole Temperature(F):** 151

**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations plan:**

Alley\_Cat\_17\_20\_Fed\_Com\_525H\_H2S\_20181213133805.pdf

**Operator Name:** DEVON ENERGY PRODUCTION COMPANY LP

**Well Name:** ALLEY CAT 17-20 FED COM

**Well Number:** 525H

## Section 8 - Other Information

### **Proposed horizontal/directional/multi-lateral plan submission:**

Devon\_Alley\_Cat\_17\_20\_Fed\_Com\_525H\_AC\_Report\_Permit\_Plan\_1\_20181213133910.pdf

Devon\_Alley\_Cat\_17\_20\_Fed\_Com\_525H\_Permit\_Plan\_1\_20181213133910.pdf

Devon\_Alley\_Cat\_17\_20\_Fed\_Com\_525H\_Plot\_Permit\_Plan\_1\_20181213133911.pdf

Drilling\_Plan\_Alley\_Cat\_17\_20\_Fed\_Com\_525H\_6\_3\_2019\_20190603093751.pdf

### **Other proposed operations facets description:**

Multi-Bowl Verbiage

Multi-Bowl Wellhead

Closed-Loop Design Plan

Gas Capture Plan

DRILLING PLAN-revised 4/16/2019; 5/23/2019- production yield corrected; 6/3/2019- cmt revised

### **Other proposed operations facets attachment:**

MB\_Wellhd\_5M\_20181213121039.pdf

ALLEY\_CAT\_GasCapturePlan\_12\_13\_2018\_20181213121145.pdf

Clsd\_Loop\_20181213121037.pdf

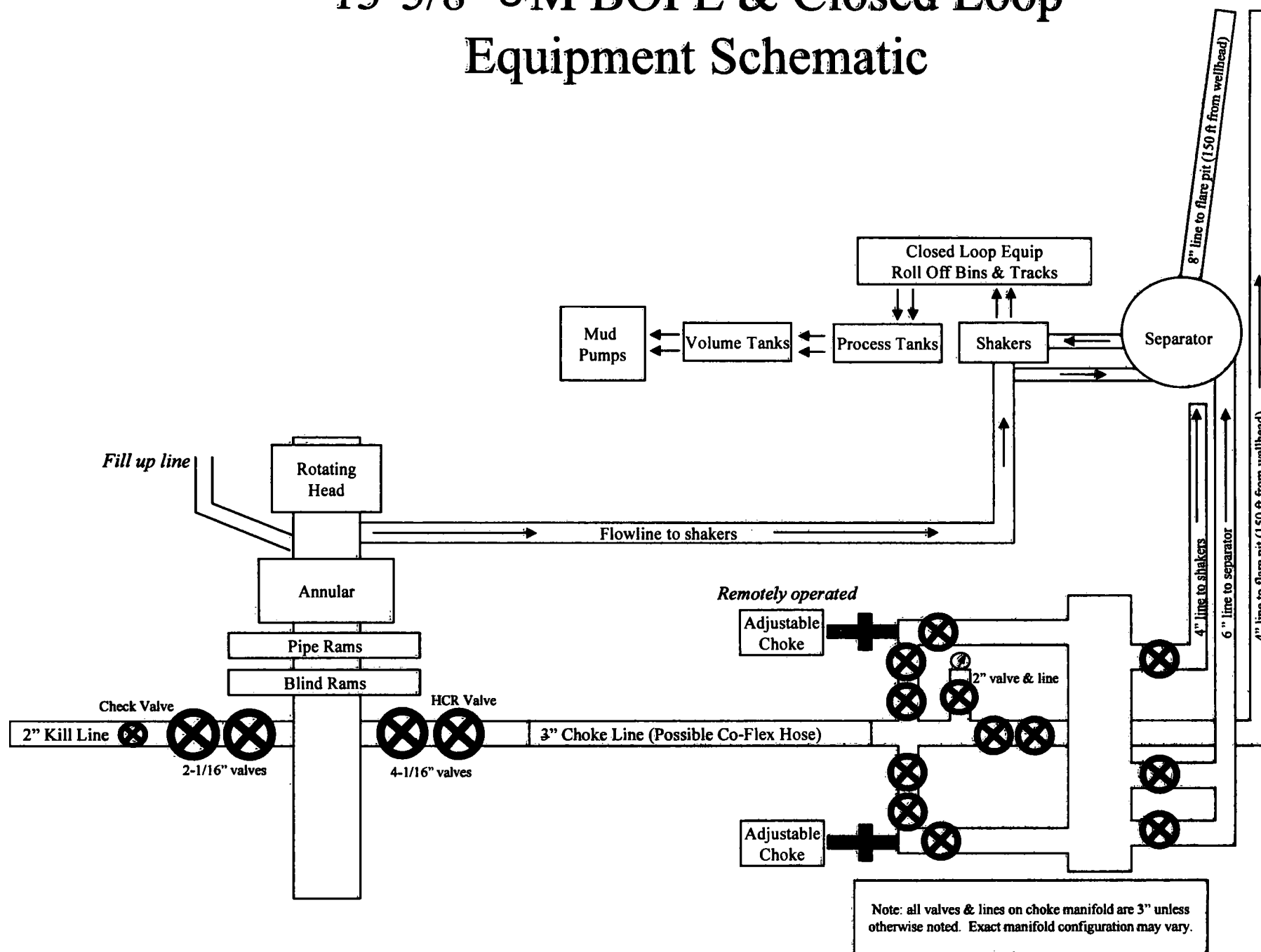
MB\_Verb\_5M\_20181213121038.pdf

Spudder\_Rig\_Info\_20190422125119.pdf

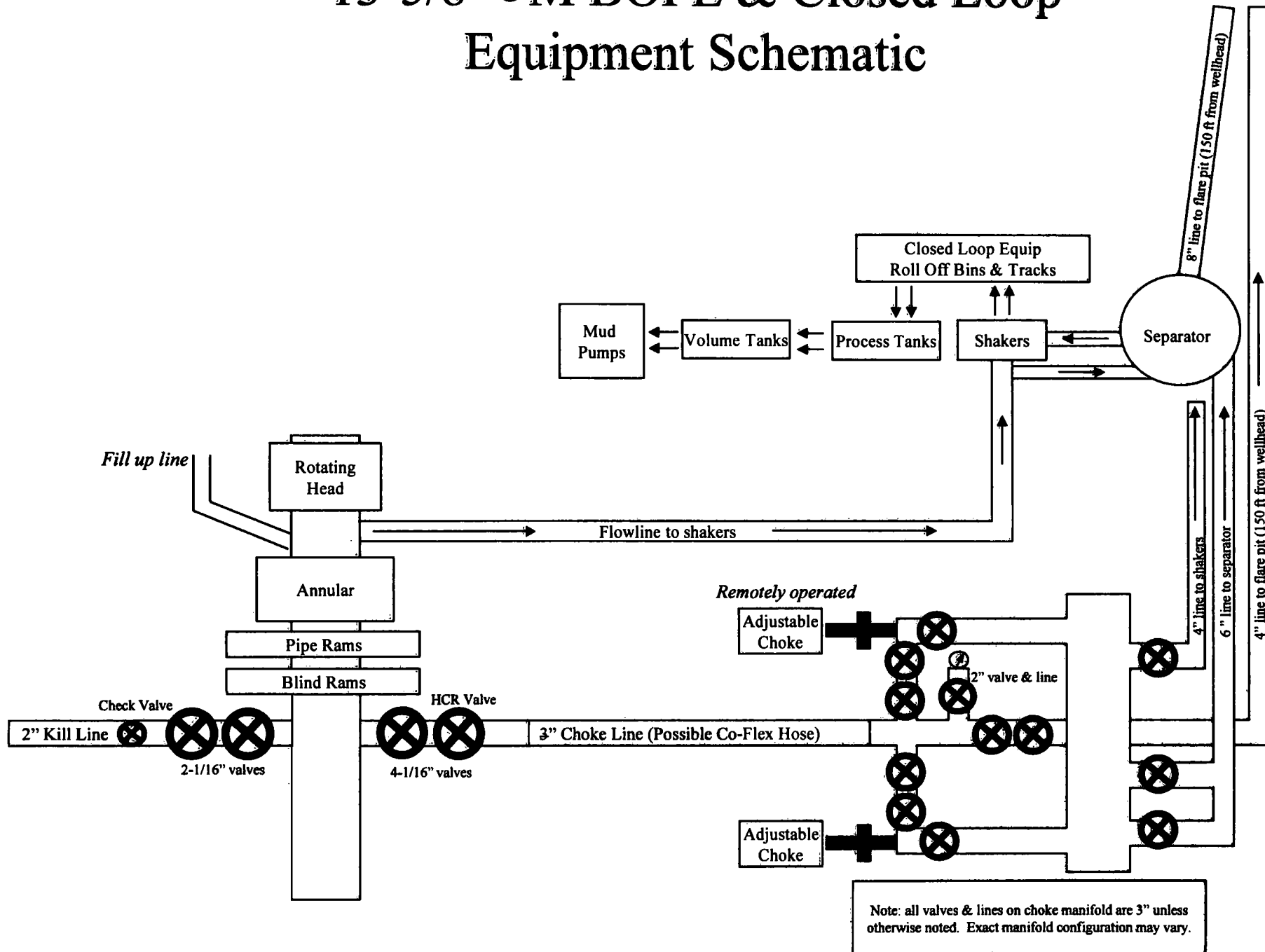
### **Other Variance attachment:**

Co\_flex\_20181213121301.pdf

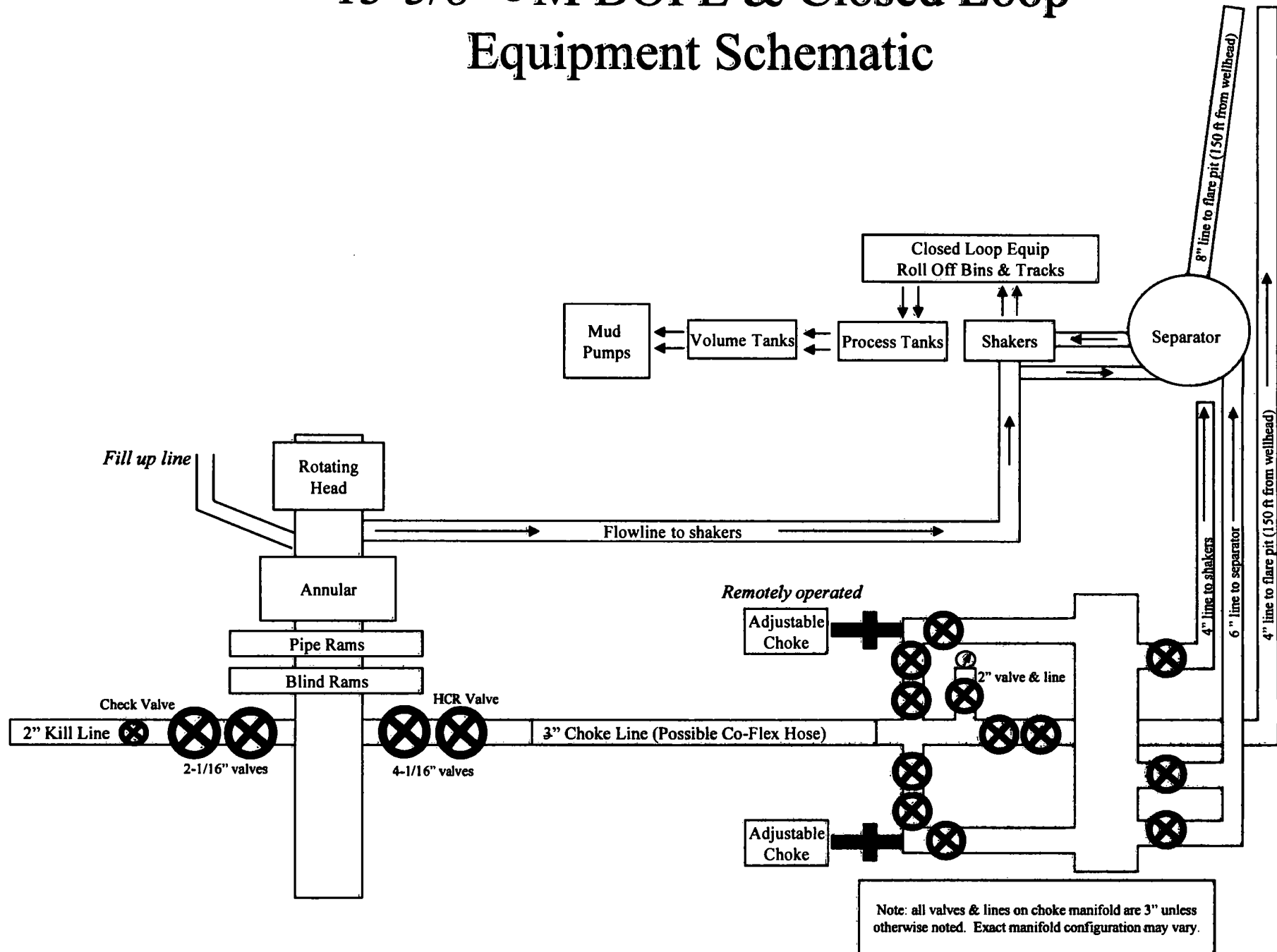
# 13-5/8" 5M BOPE & Closed Loop Equipment Schematic



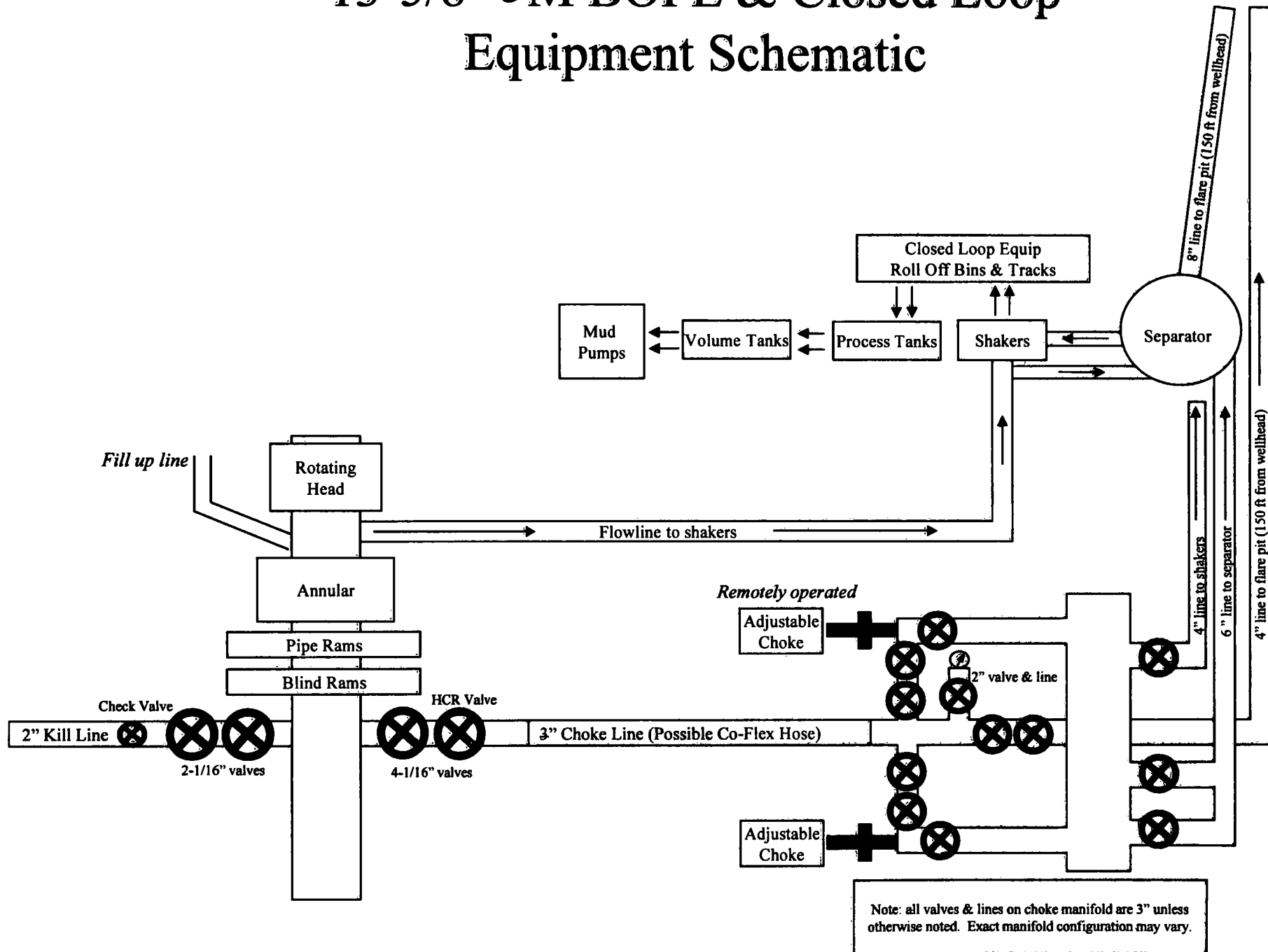
# 13-5/8" 5M BOPE & Closed Loop Equipment Schematic



# 13-5/8" 5M BOPE & Closed Loop Equipment Schematic



# 13-5/8" 5M BOPE & Closed Loop Equipment Schematic



## Casing Assumptions and Load Cases

### Intermediate

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

| Intermediate Casing Burst Design |                         |                                                   |
|----------------------------------|-------------------------|---------------------------------------------------|
| Load Case                        | External Pressure       | Internal Pressure                                 |
| Pressure Test                    | Formation Pore Pressure | Max mud weight of next hole-section plus Test psi |
| Drill Ahead                      | Formation Pore Pressure | Max mud weight of next hole section               |
| Fracture @ Shoe                  | Formation Pore Pressure | Dry gas                                           |

| Intermediate Casing Collapse Design |                                         |                   |
|-------------------------------------|-----------------------------------------|-------------------|
| Load Case                           | External Pressure                       | Internal Pressure |
| Full Evacuation                     | Water gradient in cement, mud above TOC | None              |
| Cementing                           | Wet cement weight                       | Water (8.33ppg)   |

| Intermediate Casing Tension Design |             |
|------------------------------------|-------------|
| Load Case                          | Assumptions |
| Overpull                           | 100kips     |
| Runing in hole                     | 2 ft/s      |
| Service Loads                      | N/A         |

## Casing Assumptions and Load Cases

### Surface

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

| Surface Casing Burst Design |                         |                                                   |
|-----------------------------|-------------------------|---------------------------------------------------|
| Load Case                   | External Pressure       | Internal Pressure                                 |
| Pressure Test               | Formation Pore Pressure | Max mud weight of next hole-section plus Test psi |
| Drill Ahead                 | Formation Pore Pressure | Max mud weight of next hole section               |
| Displace to Gas             | Formation Pore Pressure | Dry gas from next casing point                    |

| Surface Casing Collapse Design |                                         |                   |
|--------------------------------|-----------------------------------------|-------------------|
| Load Case                      | External Pressure                       | Internal Pressure |
| Full Evacuation                | Water gradient in cement, mud above TOC | None              |
| Cementing                      | Wet cement weight                       | Water (8.33ppg)   |

| Surface Casing Tension Design |             |
|-------------------------------|-------------|
| Load Case                     | Assumptions |
| Overpull                      | 100kips     |
| Runing in hole                | 3 ft/s      |
| Service Loads                 | N/A         |

## Casing Assumptions and Load Cases

### Production

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

| <b>Production Casing Burst Design</b> |                          |                                                       |
|---------------------------------------|--------------------------|-------------------------------------------------------|
| <b>Load Case</b>                      | <b>External Pressure</b> | <b>Internal Pressure</b>                              |
| Pressure Test                         | Formation Pore Pressure  | Fluid in hole (water or produced water) + test psi    |
| Tubing Leak                           | Formation Pore Pressure  | Packer @ KOP, leak below surface 8.6 ppg packer fluid |
| Stimulation                           | Formation Pore Pressure  | Max frac pressure with heaviest frac fluid            |

| <b>Production Casing Collapse Design</b> |                                          |                          |
|------------------------------------------|------------------------------------------|--------------------------|
| <b>Load Case</b>                         | <b>External Pressure</b>                 | <b>Internal Pressure</b> |
| Full Evacuation                          | Water gradient in cement, mud above TOC. | None                     |
| Cementing                                | Wet cement weight                        | Water (8.33ppg)          |

| <b>Production Casing Tension Design</b> |                    |
|-----------------------------------------|--------------------|
| <b>Load Case</b>                        | <b>Assumptions</b> |
| Overpull                                | 100kips            |
| Runing in hole                          | 2 ft/s             |
| Service Loads                           | N/A                |

## Casing Assumptions and Load Cases

### Production

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

| <b>Production Casing Burst Design</b> |                          |                                                       |
|---------------------------------------|--------------------------|-------------------------------------------------------|
| <b>Load Case</b>                      | <b>External Pressure</b> | <b>Internal Pressure</b>                              |
| Pressure Test                         | Formation Pore Pressure  | Fluid in hole (water or produced water) + test psi    |
| Tubing Leak                           | Formation Pore Pressure  | Packer @ KOP, leak below surface 8.6 ppg packer fluid |
| Stimulation                           | Formation Pore Pressure  | Max frac pressure with heaviest frac fluid            |

| <b>Production Casing Collapse Design</b> |                                          |                          |
|------------------------------------------|------------------------------------------|--------------------------|
| <b>Load Case</b>                         | <b>External Pressure</b>                 | <b>Internal Pressure</b> |
| Full Evacuation                          | Water gradient in cement, mud above TOC. | None                     |
| Cementing                                | Wet cement weight                        | Water (8.33ppg)          |

| <b>Production Casing Tension Design</b> |                    |
|-----------------------------------------|--------------------|
| <b>Load Case</b>                        | <b>Assumptions</b> |
| Overpull                                | 100kips            |
| Runing in hole                          | 2 ft/s             |
| Service Loads                           | N/A                |



**Devon Energy Center  
333 West Sheridan Avenue  
Oklahoma City, Oklahoma 73102-5015**

# **Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan**

**For**

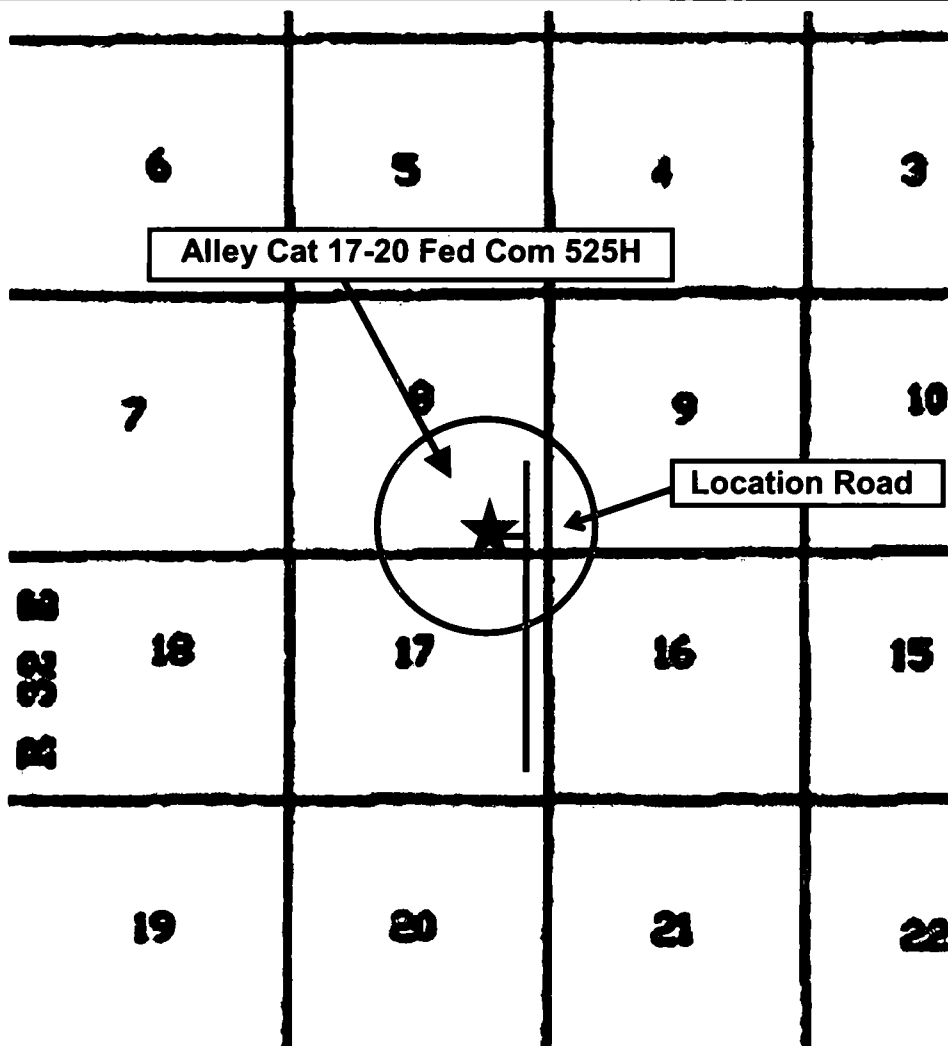
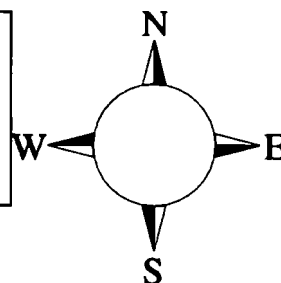
**Alley Cat 17-20 Fed Com 525H**

**Sec-8 T-23S R-32E  
302' FSL & 1236' FEL  
LAT. = 32.3126541' N (NAD83)  
LONG = 103.6921676' W**

**Lea County NM**

## Alley Cat 17-20 Fed Com 525H

This is an open drilling site. H<sub>2</sub>S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H<sub>2</sub>S, including warning signs, wind indicators and H<sub>2</sub>S monitor.



**Assumed 100 ppm ROE = 3000' (Radius of Exposure)  
100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.**

### Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crews should then block the entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

**Assumed 100 ppm ROE = 3000'**

**100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.**

### **Emergency Procedures**

**In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must**

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.**
- **Use the “buddy system” to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
  - **Detection of H<sub>2</sub>S, and**
  - **Measures for protection against the gas,**
  - **Equipment used for protection and emergency response.**

### **Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

### **Characteristics of H<sub>2</sub>S and SO<sub>2</sub>**

| <b>Common Name</b>      | <b>Chemical Formula</b> | <b>Specific Gravity</b>  | <b>Threshold Limit</b> | <b>Hazardous Limit</b> | <b>Lethal Concentration</b> |
|-------------------------|-------------------------|--------------------------|------------------------|------------------------|-----------------------------|
| <b>Hydrogen Sulfide</b> | <b>H<sub>2</sub>S</b>   | <b>1.189<br/>Air = 1</b> | <b>10 ppm</b>          | <b>100 ppm/hr</b>      | <b>600 ppm</b>              |
| <b>Sulfur Dioxide</b>   | <b>SO<sub>2</sub></b>   | <b>2.21<br/>Air = 1</b>  | <b>2 ppm</b>           | <b>N/A</b>             | <b>1000 ppm</b>             |

### **Contacting Authorities**

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

## **Hydrogen Sulfide Drilling Operation Plan**

### **I. HYDROGEN SULFIDE (H<sub>2</sub>S) TRAINING**

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H<sub>2</sub>S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan.

### **II. HYDROGEN SULFIDE TRAINING**

Note: All H<sub>2</sub>S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H<sub>2</sub>S.

## **1. Well Control Equipment**

- A. Flare line
- B. Choke manifold – Remotely Operated
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer and rotating head.
- E. Mud/Gas Separator

## **2. Protective equipment for essential personnel:**

30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

## **3. H<sub>2</sub>S detection and monitoring equipment:**

Portable H<sub>2</sub>S monitors positioned on location for best coverage and response. These units have warning lights which activate when H<sub>2</sub>S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

- Bell nipple
- Possum Belly/Shale shaker
- Rig floor
- Choke manifold
- Cellar

### **Visual warning systems:**

- A. Wind direction indicators as shown on well site diagram
- B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

#### **4. Mud program:**

The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to surface. Proper mud weight, safe drilling practices and the use of H<sub>2</sub>S scavengers will minimize hazards when penetrating H<sub>2</sub>S bearing zones.

#### **5. Metallurgy:**

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H<sub>2</sub>S trim.
- B. All elastomers used for packing and seals shall be H<sub>2</sub>S trim.

#### **6. Communication:**

- A. Company personnel have/use cellular telephones in the field.
- B. Land line (telephone) communications at Office

#### **7. Well testing:**

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H<sub>2</sub>S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

| <b><u>Devon Energy Corp. Company Call List</u></b> |                                                                         |                               |
|----------------------------------------------------|-------------------------------------------------------------------------|-------------------------------|
| Drilling Supervisor – Basin – Mark Kramer          |                                                                         | 405-823-4796                  |
| EHS Professional – Laura Wright                    |                                                                         | 405-439-8129                  |
| <b><u>Agency Call List</u></b>                     |                                                                         |                               |
| <b><u>Lea County (575)</u></b>                     | <b>Hobbs</b>                                                            |                               |
|                                                    | Lea County Communication Authority                                      | 393-3981                      |
|                                                    | State Police                                                            | 392-5588                      |
|                                                    | City Police                                                             | 397-9265                      |
|                                                    | Sheriff's Office                                                        | 393-2515                      |
|                                                    | <b>Ambulance</b>                                                        | <b>911</b>                    |
|                                                    | Fire Department                                                         | 397-9308                      |
|                                                    | LEPC (Local Emergency Planning Committee)                               | 393-2870                      |
|                                                    | NMOCD                                                                   | 393-6161                      |
|                                                    | US Bureau of Land Management                                            | 393-3612                      |
|                                                    |                                                                         |                               |
|                                                    |                                                                         |                               |
| <b><u>Eddy County (575)</u></b>                    | <b>Carlsbad</b>                                                         |                               |
|                                                    | State Police                                                            | 885-3137                      |
|                                                    | City Police                                                             | 885-2111                      |
|                                                    | Sheriff's Office                                                        | 887-7551                      |
|                                                    | <b>Ambulance</b>                                                        | <b>911</b>                    |
|                                                    | Fire Department                                                         | 885-3125                      |
|                                                    | LEPC (Local Emergency Planning Committee)                               | 887-3798                      |
|                                                    | US Bureau of Land Management                                            | 887-6544                      |
|                                                    | NM Emergency Response Commission (Santa Fe)                             | (505) 476-9600                |
|                                                    | 24 HR                                                                   | (505) 827-9126                |
|                                                    | National Emergency Response Center                                      | (800) 424-8802                |
|                                                    | National Pollution Control Center: Direct                               | (703) 872-6000                |
|                                                    | For Oil Spills                                                          | (800) 280-7118                |
|                                                    | <b>Emergency Services</b>                                               |                               |
|                                                    | Wild Well Control                                                       | (281) 784-4700                |
|                                                    | Cudd Pressure Control                                                   | (915) 699-0139 (915) 563-3356 |
|                                                    | Halliburton                                                             | (575) 746-2757                |
|                                                    | B. J. Services                                                          | (575) 746-3569                |
|                                                    | Native Air – Emergency Helicopter – Hobbs                               | (575) 392-6429                |
| <b><u>Give GPS position:</u></b>                   | Flight For Life - Lubbock, TX                                           | (806) 743-9911                |
|                                                    | Aerocare - Lubbock, TX                                                  | (806) 747-8923                |
|                                                    | Med Flight Air Amb - Albuquerque, NM                                    | (575) 842-4433                |
|                                                    | Lifeguard Air Med Svc. Albuquerque, NM                                  | (800) 222-1222                |
|                                                    | Poison Control (24/7)                                                   | (575) 272-3115                |
|                                                    | Oil & Gas Pipeline 24 Hour Service                                      | (800) 364-4366                |
|                                                    | NOAA – Website - <a href="http://www.nhc.noaa.gov">www.nhc.noaa.gov</a> |                               |
|                                                    |                                                                         |                               |

Prepared in conjunction with  
Dave Small



# **WCDSC Permian NM**

**Lea County (NAD83 New Mexico East)**

**Sec 08-T23S-R32E**

**Alley Cat 17-20 Fed Com 525H**

**Wellbore #1**

**Permit Plan 1**

## **Anticollision Report**

**04 December, 2018**

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

|                              |                                                                     |                |                     |
|------------------------------|---------------------------------------------------------------------|----------------|---------------------|
| Reference                    | Permit Plan 1                                                       |                |                     |
| Filter type:                 | NO GLOBAL FILTER: Using user defined selection & filtering criteria |                |                     |
| Interpolation Method:        | MD Interval 50.00ft                                                 | Error Model:   | ISCWSA              |
| Depth Range:                 | Unlimited                                                           | Scan Method:   | Closest Approach 3D |
| Results Limited by:          | Maximum center-center distance of 1,500.00 ft                       | Error Surface: | Pedal Curve         |
| Warning Levels Evaluated at: | 2.00 Sigma                                                          | Casing Method: | Not applied         |

|                     |            |                             |           |                 |  |
|---------------------|------------|-----------------------------|-----------|-----------------|--|
| Survey Tool Program |            | Date                        | 12/4/2018 |                 |  |
| From<br>(ft)        | To<br>(ft) | Survey (Wellbore)           | Tool Name | Description     |  |
| 0.00                | 20,003.50  | Permit Plan 1 (Wellbore #1) | MWD+HDGM  | OWSG MWD + HDGM |  |

| Summary                                                 |                               |                            |                               |                                |                   |                        |
|---------------------------------------------------------|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|------------------------|
| Site Name                                               | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning                |
| <b>Offset Well - Wellbore - Design</b>                  |                               |                            |                               |                                |                   |                        |
| <b>Sec 08-T23S-R32E</b>                                 |                               |                            |                               |                                |                   |                        |
| Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore   | 3,319.40                      | 3,330.31                   | 382.24                        | 359.19                         | 16.581            | CC                     |
| Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore   | 6,000.00                      | 6,009.76                   | 385.83                        | 343.83                         | 9.188             | ES                     |
| Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore   | 20,004.02                     | 21,436.00                  | 1,108.37                      | 912.97                         | 5.672             | SF                     |
| Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore   | 991.48                        | 996.52                     | 776.18                        | 769.52                         | 116.451           | CC                     |
| Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore   | 2,300.00                      | 2,299.58                   | 783.49                        | 767.61                         | 49.342            | ES                     |
| Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore   | 20,004.02                     | 21,324.00                  | 1,429.37                      | 1,174.24                       | 5.603             | SF                     |
| Alley Cat 17-20 Fed Com 524H - Wellbore #1 - Permit PI  | 2,700.00                      | 2,700.30                   | 29.99                         | 11.05                          | 1.584             | Minor Risk, CC         |
| Alley Cat 17-20 Fed Com 524H - Wellbore #1 - Permit PI  | 2,750.00                      | 2,749.91                   | 30.32                         | 11.03                          | 1.572             | Minor Risk, ES, SF     |
| Alley Cat 17-20 Fed Com 526H - Wellbore #1 - Permit PI  | 2,700.00                      | 2,700.30                   | 29.97                         | 11.03                          | 1.583             | Minor Risk, CC         |
| Alley Cat 17-20 Fed Com 526H - Wellbore #1 - Permit PI  | 2,750.00                      | 2,750.04                   | 30.19                         | 10.90                          | 1.565             | Minor Risk, ES, SF     |
| Stray Cat 8 FED COM 1H - Original Hole - Actuals        |                               |                            |                               |                                |                   | Out of range           |
| Stray Cat 8-5 Fed Com 213H - Original Hole - Original H | 9,415.60                      | 9,373.23                   | 661.84                        | 595.21                         | 9.934             | CC, ES                 |
| Stray Cat 8-5 Fed Com 213H - Original Hole - Original H | 9,450.00                      | 9,393.79                   | 662.41                        | 595.60                         | 9.915             | SF                     |
| <b>Sec 17-T23S-R32E</b>                                 |                               |                            |                               |                                |                   |                        |
| Sharbro Fed #2 (Active) - Wellbore #1 - Wellbore #1     | 11,793.72                     | 9,488.30                   | 617.89                        | 425.31                         | 3.208             | Alert, CC              |
| Sharbro Fed #2 (Active) - Wellbore #1 - Wellbore #1     | 11,800.00                     | 9,488.30                   | 617.92                        | 425.28                         | 3.208             | Alert, ES, SF          |
| Sharbro Fed #3 (Active) - Wellbore #1 - Wellbore #1     | 11,720.98                     | 8,710.00                   | 1,058.86                      | 895.52                         | 6.482             | CC, ES                 |
| Sharbro Fed #3 (Active) - Wellbore #1 - Wellbore #1     | 11,950.00                     | 8,710.00                   | 1,083.35                      | 914.92                         | 6.432             | SF                     |
| Sharbro Fed #4 (Active) - Wellbore #1 - Wellbore #1     | 9,115.27                      | 9,120.36                   | 1,411.87                      | 1,181.62                       | 6.132             | SF                     |
| Sharbro Fed #4 (Active) - Wellbore #1 - Wellbore #1     | 10,480.30                     | 8,750.00                   | 1,006.66                      | 843.98                         | 6.188             | CC, ES                 |
| Sharbro Fed #5 (Active) - Wellbore #1 - Wellbore #1     | 10,473.92                     | 9,473.30                   | 616.08                        | 436.07                         | 3.423             | Alert, CC, ES          |
| Sharbro Fed #5 (Active) - Wellbore #1 - Wellbore #1     | 10,500.00                     | 9,473.30                   | 616.63                        | 436.46                         | 3.422             | Alert, SF              |
| Tomcat 17 Fed #01 (Active) - Wellbore #1 - Wellbore #1  | 14,100.23                     | 9,495.31                   | 619.30                        | 330.86                         | 2.147             | Minor Risk, CC, ES, SF |
| Tomcat 17 Fed #02 (Active) - Wellbore #1 - Wellbore #1  | 14,105.23                     | 8,850.00                   | 950.88                        | 744.66                         | 4.611             | Alert, CC, ES          |
| Tomcat 17 Fed #02 (Active) - Wellbore #1 - Wellbore #1  | 14,200.00                     | 8,850.00                   | 955.59                        | 747.94                         | 4.602             | Alert, SF              |
| Tomcat 17 Fed #03 (Active) - Wellbore #1 - Wellbore #1  | 12,779.05                     | 8,874.00                   | 884.06                        | 700.20                         | 4.808             | Alert, CC, ES          |
| Tomcat 17 Fed #03 (Active) - Wellbore #1 - Wellbore #1  | 12,850.00                     | 8,874.00                   | 886.91                        | 702.03                         | 4.797             | Alert, SF              |
| Tomcat 17 Fed #04 (Active) - Wellbore #1 - Wellbore #1  | 12,685.45                     | 8,876.00                   | 1,015.63                      | 811.98                         | 4.987             | Alert, CC              |
| Tomcat 17 Fed #04 (Active) - Wellbore #1 - Wellbore #1  | 12,700.00                     | 8,876.00                   | 1,015.73                      | 811.92                         | 4.984             | Alert, ES              |
| Tomcat 17 Fed #04 (Active) - Wellbore #1 - Wellbore #1  | 12,750.00                     | 8,876.00                   | 1,017.68                      | 813.20                         | 4.977             | Alert, SF              |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

## Summary

| Site Name                                               | Reference<br>Measured<br>Depth<br>(ft) | Offset<br>Measured<br>Depth<br>(ft) | Distance<br>Between<br>Centres<br>(ft) | Distance<br>Between<br>Ellipses<br>(ft) | Separation<br>Factor | Warning       |
|---------------------------------------------------------|----------------------------------------|-------------------------------------|----------------------------------------|-----------------------------------------|----------------------|---------------|
| <b>Offset Well - Wellbore - Design</b>                  |                                        |                                     |                                        |                                         |                      |               |
| <b>Sec 20-T23S-R32E</b>                                 |                                        |                                     |                                        |                                         |                      |               |
| APJ Fed #008 (Active) - Wellbore #1 - Wellbore #1       | 19,709.28                              | 8,750.00                            | 850.36                                 | 665.21                                  | 4.593                | Alert, CC, ES |
| APJ Fed #008 (Active) - Wellbore #1 - Wellbore #1       | 19,950.00                              | 8,750.00                            | 883.78                                 | 688.24                                  | 4.520                | Alert, SF     |
| Tomcat 20 Fed #002 (Active) - Wellbore #1 - Wellbore #1 | 15,426.42                              | 8,850.00                            | 954.34                                 | 734.58                                  | 4.343                | Alert, CC     |
| Tomcat 20 Fed #002 (Active) - Wellbore #1 - Wellbore #1 | 15,450.00                              | 8,850.00                            | 954.63                                 | 734.57                                  | 4.338                | Alert, ES     |
| Tomcat 20 Fed #002 (Active) - Wellbore #1 - Wellbore #1 | 15,500.00                              | 8,850.00                            | 957.17                                 | 736.37                                  | 4.335                | Alert, SF     |
| Tomcat 20 Fed #01 (Active) - Wellbore #1 - Wellbore #1  | 15,320.14                              | 8,850.00                            | 965.24                                 | 743.51                                  | 4.353                | Alert, CC, ES |
| Tomcat 20 Fed #01 (Active) - Wellbore #1 - Wellbore #1  | 15,400.00                              | 8,850.00                            | 968.54                                 | 745.78                                  | 4.348                | Alert, SF     |
| Tomcat 20 Fed #03 (Active) - Wellbore #1 - Wellbore #1  | 16,739.84                              | 8,600.00                            | 1,103.22                               | 915.54                                  | 5.878                | CC            |
| Tomcat 20 Fed #03 (Active) - Wellbore #1 - Wellbore #1  | 16,750.00                              | 8,600.00                            | 1,103.27                               | 915.48                                  | 5.875                | ES            |
| Tomcat 20 Fed #03 (Active) - Wellbore #1 - Wellbore #1  | 16,950.00                              | 8,600.00                            | 1,123.06                               | 930.89                                  | 5.844                | SF            |
| Tomcat 20 Fed #04 (Active) - Wellbore #1 - Wellbore #1  | 16,746.18                              | 8,600.00                            | 1,148.44                               | 950.24                                  | 5.794                | CC            |
| Tomcat 20 Fed #04 (Active) - Wellbore #1 - Wellbore #1  | 16,750.00                              | 8,600.00                            | 1,148.45                               | 950.21                                  | 5.793                | ES            |
| Tomcat 20 Fed #04 (Active) - Wellbore #1 - Wellbore #1  | 16,900.00                              | 8,600.00                            | 1,158.70                               | 957.83                                  | 5.769                | SF            |
| Tomcat 20 Fed #05 (Active) - Wellbore #1 - Wellbore #1  | 18,055.45                              | 8,655.00                            | 1,065.85                               | 858.50                                  | 5.140                | CC, ES        |
| Tomcat 20 Fed #05 (Active) - Wellbore #1 - Wellbore #1  | 18,150.00                              | 8,655.00                            | 1,070.03                               | 861.28                                  | 5.126                | SF            |
| Tomcat 20 Fed #06 (Active) - Wellbore #1 - Wellbore #1  | 18,060.46                              | 8,950.00                            | 899.10                                 | 635.79                                  | 3.415                | Alert, CC, ES |
| Tomcat 20 Fed #06 (Active) - Wellbore #1 - Wellbore #1  | 18,100.00                              | 8,950.00                            | 899.97                                 | 636.15                                  | 3.411                | Alert, SF     |
| Tomcat 20 Fed #07 (Active) - Wellbore #1 - Wellbore #1  | 19,375.26                              | 8,650.00                            | 1,081.53                               | 862.38                                  | 4.935                | Alert, CC, ES |
| Tomcat 20 Fed #07 (Active) - Wellbore #1 - Wellbore #1  | 19,500.00                              | 8,650.00                            | 1,088.70                               | 867.60                                  | 4.924                | Alert, SF     |

## Offset Design

Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore #1

Offset Site Error: 0.00 ft

Survey Program: 147-MWD+HDGM

Offset Well Error: 0.50 ft

| Reference                 |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°)             | Distance                   |                             | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning |
|---------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------------------|----------------------------|-----------------------------|-------------------------------|----------------------|---------|
| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Offset Wellbore Centre<br>+N/-S<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                               |                      |         |
| 0.00                      | 0.00                      | 10.67                     | 10.67                     | 0.50              | 0.50           | 38.80                                   | 298.58                     | 240.05                      | 383.11                        |                      |         |
| 50.00                     | 50.00                     | 60.09                     | 60.09                     | 0.50              | 0.51           | 38.81                                   | 298.58                     | 240.14                      | 383.17                        | 1.01                 | 379.419 |
| 100.00                    | 100.00                    | 109.51                    | 109.51                    | 0.52              | 0.53           | 38.83                                   | 298.59                     | 240.34                      | 383.30                        | 1.04                 | 367.321 |
| 150.00                    | 150.00                    | 159.00                    | 159.00                    | 0.59              | 0.56           | 38.87                                   | 298.60                     | 240.65                      | 383.50                        | 1.15                 | 332.231 |
| 200.00                    | 200.00                    | 208.73                    | 208.73                    | 0.70              | 0.67           | 38.91                                   | 298.61                     | 241.03                      | 383.76                        | 1.37                 | 280.566 |
| 250.00                    | 250.00                    | 258.45                    | 258.45                    | 0.84              | 0.79           | 38.96                                   | 298.63                     | 241.46                      | 384.04                        | 1.63                 | 235.250 |
| 300.00                    | 300.00                    | 308.16                    | 308.15                    | 0.99              | 0.94           | 39.01                                   | 298.66                     | 241.93                      | 384.37                        | 1.93                 | 199.421 |
| 350.00                    | 350.00                    | 358.04                    | 358.03                    | 1.15              | 1.10           | 39.07                                   | 298.71                     | 242.45                      | 384.73                        | 2.24                 | 171.659 |
| 400.00                    | 400.00                    | 408.05                    | 408.04                    | 1.31              | 1.26           | 39.12                                   | 298.74                     | 242.97                      | 385.08                        | 2.57                 | 150.005 |
| 450.00                    | 450.00                    | 458.11                    | 458.10                    | 1.48              | 1.42           | 39.18                                   | 298.78                     | 243.49                      | 385.44                        | 2.90                 | 132.866 |
| 500.00                    | 500.00                    | 508.19                    | 508.17                    | 1.65              | 1.59           | 39.24                                   | 298.80                     | 244.02                      | 385.79                        | 3.24                 | 119.062 |
| 550.00                    | 550.00                    | 557.98                    | 557.96                    | 1.82              | 1.76           | 39.30                                   | 298.81                     | 244.56                      | 386.14                        | 3.58                 | 107.780 |
| 600.00                    | 600.00                    | 607.72                    | 607.70                    | 1.99              | 1.94           | 39.36                                   | 298.82                     | 245.14                      | 386.52                        | 3.93                 | 98.425  |
| 650.00                    | 650.00                    | 657.47                    | 657.45                    | 2.16              | 2.11           | 39.43                                   | 298.84                     | 245.77                      | 386.94                        | 4.27                 | 90.532  |
| 700.00                    | 700.00                    | 707.25                    | 707.22                    | 2.34              | 2.28           | 39.51                                   | 298.86                     | 246.45                      | 387.39                        | 4.62                 | 83.800  |
| 750.00                    | 750.00                    | 757.20                    | 757.17                    | 2.51              | 2.46           | 39.59                                   | 298.89                     | 247.14                      | 387.85                        | 4.97                 | 77.986  |
| 800.00                    | 800.00                    | 807.16                    | 807.12                    | 2.69              | 2.63           | 39.66                                   | 298.93                     | 247.84                      | 388.32                        | 5.33                 | 72.923  |
| 850.00                    | 850.00                    | 857.14                    | 857.10                    | 2.87              | 2.81           | 39.74                                   | 298.97                     | 248.54                      | 388.80                        | 5.68                 | 68.478  |
| 900.00                    | 900.00                    | 907.30                    | 907.25                    | 3.04              | 2.99           | 39.81                                   | 299.01                     | 249.23                      | 389.27                        | 6.03                 | 64.538  |
| 950.00                    | 950.00                    | 957.67                    | 957.61                    | 3.22              | 3.17           | 39.87                                   | 299.07                     | 249.83                      | 389.70                        | 6.39                 | 61.016  |
| 1,000.00                  | 1,000.00                  | 1,007.80                  | 1,007.74                  | 3.40              | 3.34           | 39.93                                   | 299.15                     | 250.36                      | 390.10                        | 6.74                 | 57.863  |
| 1,050.00                  | 1,050.00                  | 1,058.13                  | 1,058.07                  | 3.58              | 3.52           | 39.98                                   | 299.22                     | 250.88                      | 390.48                        | 7.10                 | 55.016  |
| 1,100.00                  | 1,100.00                  | 1,108.94                  | 1,108.88                  | 3.75              | 3.70           | 40.03                                   | 299.21                     | 251.36                      | 390.78                        | 7.46                 | 52.416  |
| 1,150.00                  | 1,150.00                  | 1,159.75                  | 1,159.69                  | 3.93              | 3.88           | 40.09                                   | 299.10                     | 251.80                      | 390.98                        | 7.81                 | 50.039  |
| 1,200.00                  | 1,200.00                  | 1,210.16                  | 1,210.10                  | 4.11              | 4.06           | 40.15                                   | 298.94                     | 252.17                      | 391.09                        | 8.17                 | 47.873  |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 147-MWD+HDGM                                                              |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 1,250.00                                                                                  | 1,250.00            | 1,260.62            | 1,260.55            | 4.29            | 4.24        | 40.20                 | 298.75                            | 252.49     | 391.16               | 382.63                | 8.53                    | 45.880            |                    |         |
| 1,300.00                                                                                  | 1,300.00            | 1,311.10            | 1,311.03            | 4.46            | 4.42        | 40.25                 | 298.55                            | 252.72     | 391.16               | 382.28                | 8.88                    | 44.045            |                    |         |
| 1,350.00                                                                                  | 1,350.00            | 1,361.47            | 1,361.40            | 4.64            | 4.59        | 40.29                 | 298.34                            | 252.88     | 391.10               | 381.86                | 9.23                    | 42.350            |                    |         |
| 1,400.00                                                                                  | 1,400.00            | 1,411.67            | 1,411.60            | 4.82            | 4.77        | 40.31                 | 298.15                            | 252.97     | 391.01               | 381.42                | 9.59                    | 40.785            |                    |         |
| 1,450.00                                                                                  | 1,450.00            | 1,462.14            | 1,462.07            | 5.00            | 4.94        | 40.33                 | 297.97                            | 252.99     | 390.89               | 380.95                | 9.94                    | 39.334            |                    |         |
| 1,500.00                                                                                  | 1,500.00            | 1,512.77            | 1,512.70            | 5.18            | 5.11        | 40.34                 | 297.77                            | 252.91     | 390.68               | 380.40                | 10.29                   | 37.977            |                    |         |
| 1,550.00                                                                                  | 1,550.00            | 1,562.86            | 1,562.79            | 5.36            | 5.28        | 40.34                 | 297.57                            | 252.75     | 390.43               | 379.79                | 10.63                   | 36.719            |                    |         |
| 1,600.00                                                                                  | 1,600.00            | 1,612.81            | 1,612.73            | 5.53            | 5.44        | 40.34                 | 297.40                            | 252.56     | 390.17               | 379.20                | 10.98                   | 35.544            |                    |         |
| 1,650.00                                                                                  | 1,650.00            | 1,662.79            | 1,662.71            | 5.71            | 5.61        | 40.33                 | 297.27                            | 252.33     | 389.93               | 378.61                | 11.32                   | 34.439            |                    |         |
| 1,700.00                                                                                  | 1,700.00            | 1,712.86            | 1,712.78            | 5.89            | 5.78        | 40.32                 | 297.12                            | 252.12     | 389.68               | 378.01                | 11.67                   | 33.397            |                    |         |
| 1,750.00                                                                                  | 1,750.00            | 1,762.74            | 1,762.67            | 6.07            | 5.95        | 40.31                 | 296.95                            | 251.93     | 389.43               | 377.41                | 12.01                   | 32.412            |                    |         |
| 1,800.00                                                                                  | 1,800.00            | 1,812.38            | 1,812.31            | 6.25            | 6.11        | 40.31                 | 296.79                            | 251.78     | 389.21               | 376.85                | 12.36                   | 31.484            |                    |         |
| 1,850.00                                                                                  | 1,850.00            | 1,862.22            | 1,862.14            | 6.43            | 6.28        | 40.31                 | 296.65                            | 251.68     | 389.03               | 376.32                | 12.71                   | 30.607            |                    |         |
| 1,900.00                                                                                  | 1,900.00            | 1,912.21            | 1,912.13            | 6.61            | 6.45        | 40.31                 | 296.52                            | 251.58     | 388.86               | 375.80                | 13.06                   | 29.776            |                    |         |
| 1,950.00                                                                                  | 1,950.00            | 1,962.19            | 1,962.11            | 6.78            | 6.62        | 40.31                 | 296.42                            | 251.43     | 388.69               | 375.28                | 13.41                   | 28.988            |                    |         |
| 2,000.00                                                                                  | 2,000.00            | 2,012.17            | 2,012.09            | 6.96            | 6.79        | 40.30                 | 296.32                            | 251.28     | 388.52               | 374.76                | 13.76                   | 28.240            |                    |         |
| 2,050.00                                                                                  | 2,050.00            | 2,061.90            | 2,061.82            | 7.14            | 6.96        | 40.29                 | 296.24                            | 251.14     | 388.37               | 374.26                | 14.11                   | 27.532            |                    |         |
| 2,100.00                                                                                  | 2,100.00            | 2,111.56            | 2,111.49            | 7.32            | 7.13        | 40.29                 | 296.18                            | 251.05     | 388.26               | 373.80                | 14.45                   | 26.860            |                    |         |
| 2,150.00                                                                                  | 2,150.00            | 2,161.41            | 2,161.34            | 7.50            | 7.30        | 40.28                 | 296.14                            | 250.97     | 388.18               | 373.38                | 14.80                   | 26.222            |                    |         |
| 2,200.00                                                                                  | 2,200.00            | 2,211.30            | 2,211.22            | 7.68            | 7.47        | 40.27                 | 296.13                            | 250.89     | 388.12               | 372.97                | 15.15                   | 25.614            |                    |         |
| 2,250.00                                                                                  | 2,250.00            | 2,261.38            | 2,261.30            | 7.86            | 7.65        | 40.26                 | 296.13                            | 250.80     | 388.06               | 372.56                | 15.50                   | 25.032            |                    |         |
| 2,300.00                                                                                  | 2,300.00            | 2,311.46            | 2,311.38            | 8.04            | 7.82        | 40.25                 | 296.11                            | 250.71     | 387.99               | 372.14                | 15.85                   | 24.475            |                    |         |
| 2,350.00                                                                                  | 2,350.00            | 2,361.36            | 2,361.28            | 8.22            | 7.99        | 40.25                 | 296.09                            | 250.63     | 387.93               | 371.72                | 16.20                   | 23.942            |                    |         |
| 2,400.00                                                                                  | 2,400.00            | 2,411.39            | 2,411.31            | 8.39            | 8.16        | 40.24                 | 296.09                            | 250.54     | 387.87               | 371.31                | 16.55                   | 23.431            |                    |         |
| 2,450.00                                                                                  | 2,450.00            | 2,461.78            | 2,461.70            | 8.57            | 8.33        | 40.23                 | 296.07                            | 250.42     | 387.78               | 370.87                | 16.91                   | 22.937            |                    |         |
| 2,500.00                                                                                  | 2,500.00            | 2,512.05            | 2,511.97            | 8.75            | 8.51        | 40.21                 | 296.02                            | 250.26     | 387.64               | 370.38                | 17.26                   | 22.461            |                    |         |
| 2,550.00                                                                                  | 2,550.00            | 2,562.11            | 2,562.04            | 8.93            | 8.68        | 40.20                 | 295.95                            | 250.10     | 387.48               | 369.87                | 17.61                   | 22.002            |                    |         |
| 2,600.00                                                                                  | 2,600.00            | 2,612.14            | 2,612.06            | 9.11            | 8.85        | 40.19                 | 295.87                            | 249.95     | 387.32               | 369.36                | 17.96                   | 21.561            |                    |         |
| 2,650.00                                                                                  | 2,650.00            | 2,662.12            | 2,662.04            | 9.29            | 9.03        | 40.18                 | 295.79                            | 249.80     | 387.16               | 368.84                | 18.32                   | 21.137            |                    |         |
| 2,700.00                                                                                  | 2,700.00            | 2,712.36            | 2,712.28            | 9.47            | 9.20        | 40.17                 | 295.70                            | 249.64     | 386.99               | 368.32                | 18.67                   | 20.727            |                    |         |
| 2,750.00                                                                                  | 2,750.00            | 2,762.77            | 2,762.69            | 9.65            | 9.38        | 40.17                 | 295.53                            | 249.50     | 386.77               | 367.74                | 19.03                   | 20.328            |                    |         |
| 2,800.00                                                                                  | 2,800.00            | 2,812.89            | 2,812.81            | 9.83            | 9.56        | 40.18                 | 295.31                            | 249.36     | 386.51               | 367.13                | 19.38                   | 19.943            |                    |         |
| 2,850.00                                                                                  | 2,850.00            | 2,862.90            | 2,862.82            | 10.00           | 9.73        | 40.18                 | 295.11                            | 249.19     | 386.25               | 366.52                | 19.74                   | 19.571            |                    |         |
| 2,900.00                                                                                  | 2,900.00            | 2,912.90            | 2,912.82            | 10.18           | 9.91        | 40.18                 | 294.92                            | 249.01     | 385.99               | 365.90                | 20.09                   | 19.212            |                    |         |
| 2,950.00                                                                                  | 2,950.00            | 2,962.89            | 2,962.81            | 10.36           | 10.08       | 40.17                 | 294.74                            | 248.83     | 385.73               | 365.29                | 20.45                   | 18.866            |                    |         |
| 3,000.00                                                                                  | 3,000.00            | 3,013.54            | 3,013.46            | 10.54           | 10.26       | 40.16                 | 294.54                            | 248.59     | 385.43               | 364.63                | 20.80                   | 18.528            |                    |         |
| 3,050.00                                                                                  | 3,050.00            | 3,064.27            | 3,064.19            | 10.72           | 10.44       | 40.15                 | 294.31                            | 248.25     | 385.04               | 363.88                | 21.16                   | 18.197            |                    |         |
| 3,100.00                                                                                  | 3,100.00            | 3,115.53            | 3,115.44            | 10.90           | 10.62       | 40.12                 | 294.03                            | 247.75     | 384.52               | 363.00                | 21.52                   | 17.870            |                    |         |
| 3,150.00                                                                                  | 3,150.00            | 3,166.27            | 3,166.18            | 11.08           | 10.80       | 40.07                 | 293.71                            | 247.07     | 383.85               | 361.97                | 21.87                   | 17.548            |                    |         |
| 3,200.00                                                                                  | 3,200.00            | 3,215.88            | 3,215.78            | 11.26           | 10.97       | 40.01                 | 293.48                            | 246.30     | 383.17               | 360.94                | 22.23                   | 17.239            |                    |         |
| 3,250.00                                                                                  | 3,250.00            | 3,264.56            | 3,264.45            | 11.44           | 11.14       | 39.92                 | 293.38                            | 245.51     | 382.57               | 360.00                | 22.58                   | 16.946            |                    |         |
| 3,300.00                                                                                  | 3,300.00            | 3,311.93            | 3,311.82            | 11.62           | 11.30       | 39.87                 | 293.38                            | 245.06     | 382.27               | 359.35                | 22.92                   | 16.679            |                    |         |
| 3,319.40                                                                                  | 3,319.40            | 3,330.31            | 3,330.20            | 11.69           | 11.37       | 39.86                 | 293.40                            | 245.00     | 382.24               | 359.19                | 23.05                   | 16.581 CC         |                    |         |
| 3,350.00                                                                                  | 3,350.00            | 3,360.16            | 3,360.05            | 11.80           | 11.47       | 39.86                 | 293.45                            | 245.00     | 382.28               | 359.02                | 23.26                   | 16.432            |                    |         |
| 3,400.00                                                                                  | 3,400.00            | 3,409.54            | 3,409.43            | 11.97           | 11.64       | 39.87                 | 293.49                            | 245.17     | 382.42               | 358.80                | 23.61                   | 16.195            |                    |         |
| 3,450.00                                                                                  | 3,450.00            | 3,459.72            | 3,459.60            | 12.15           | 11.81       | 39.91                 | 293.49                            | 245.47     | 382.61               | 358.64                | 23.97                   | 15.964            |                    |         |
| 3,500.00                                                                                  | 3,500.00            | 3,510.62            | 3,510.51            | 12.33           | 11.99       | 39.93                 | 293.48                            | 245.63     | 382.71               | 358.39                | 24.32                   | 15.734            |                    |         |
| 3,550.00                                                                                  | 3,550.00            | 3,560.49            | 3,560.38            | 12.51           | 12.16       | 39.93                 | 293.49                            | 245.66     | 382.73               | 358.06                | 24.68                   | 15.511            |                    |         |
| 3,600.00                                                                                  | 3,600.00            | 3,609.87            | 3,609.76            | 12.69           | 12.34       | 39.94                 | 293.53                            | 245.76     | 382.83               | 357.80                | 25.03                   | 15.297            |                    |         |
| 3,650.00                                                                                  | 3,650.00            | 3,659.35            | 3,659.24            | 12.87           | 12.51       | 39.95                 | 293.60                            | 245.94     | 383.00               | 357.62                | 25.38                   | 15.093            |                    |         |
| 3,700.00                                                                                  | 3,700.00            | 3,708.85            | 3,708.74            | 13.05           | 12.68       | 39.98                 | 293.67                            | 246.22     | 383.24               | 357.51                | 25.73                   | 14.896            |                    |         |
| 3,750.00                                                                                  | 3,750.00            | 3,757.89            | 3,757.77            | 13.23           | 12.85       | 40.02                 | 293.75                            | 246.62     | 383.56               | 357.49                | 26.08                   | 14.709            |                    |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore #1 |                           |                        |                           |                              |        |                             |                                         |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------------|------------------------|---------------------------|------------------------------|--------|-----------------------------|-----------------------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|---------|
| Survey Program: 147-MWD+HDGM                                                              |                           |                        |                           |                              |        |                             |                                         |               |                            |                             |                               |                      | Offset Well Error: | 0.50 ft |
| Measured Depth<br>(ft)                                                                    | Vertical<br>Depth<br>(ft) | Measured Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Semi Major Axis<br>Reference | Offset | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |         |
| 3,800.00                                                                                  | 3,800.00                  | 3,806.85               | 3,806.73                  | 13.41                        | 13.02  | 40.07                       | 293.86                                  | 247.20        | 384.03                     | 357.60                      | 26.43                         | 14.532               |                    |         |
| 3,850.00                                                                                  | 3,850.00                  | 3,856.91               | 3,856.78                  | 13.59                        | 13.19  | 40.16                       | 293.90                                  | 247.97        | 384.56                     | 357.78                      | 26.78                         | 14.360               |                    |         |
| 3,900.00                                                                                  | 3,900.00                  | 3,907.20               | 3,907.07                  | 13.77                        | 13.37  | 40.28                       | 293.77                                  | 248.93        | 385.07                     | 357.94                      | 27.13                         | 14.191               |                    |         |
| 3,950.00                                                                                  | 3,950.00                  | 3,959.72               | 3,959.58                  | 13.94                        | 13.56  | 40.43                       | 293.38                                  | 249.91        | 385.39                     | 357.89                      | 27.50                         | 14.015               |                    |         |
| 4,000.00                                                                                  | 4,000.00                  | 4,011.73               | 4,011.58                  | 14.12                        | 13.74  | 40.58                       | 292.71                                  | 250.71        | 385.40                     | 357.54                      | 27.86                         | 13.833               |                    |         |
| 4,050.00                                                                                  | 4,050.00                  | 4,062.51               | 4,062.35                  | 14.30                        | 13.92  | 40.67                       | 292.21                                  | 251.05        | 385.25                     | 357.03                      | 28.22                         | 13.652               |                    |         |
| 4,100.00                                                                                  | 4,100.00                  | 4,112.62               | 4,112.46                  | 14.48                        | 14.09  | 40.68                       | 292.00                                  | 250.94        | 385.01                     | 356.44                      | 28.57                         | 13.474               |                    |         |
| 4,150.00                                                                                  | 4,150.00                  | 4,161.87               | 4,161.71                  | 14.66                        | 14.26  | 40.67                       | 291.90                                  | 250.80        | 384.85                     | 355.92                      | 28.92                         | 13.305               |                    |         |
| 4,200.00                                                                                  | 4,200.00                  | 4,211.52               | 4,211.36                  | 14.84                        | 14.44  | 40.67                       | 291.82                                  | 250.77        | 384.76                     | 355.49                      | 29.28                         | 13.142               |                    |         |
| 4,250.00                                                                                  | 4,250.00                  | 4,261.52               | 4,261.36                  | 15.02                        | 14.61  | 40.75                       | 291.44                                  | 251.10        | 384.69                     | 355.06                      | 29.63                         | 12.982               |                    |         |
| 4,300.00                                                                                  | 4,300.00                  | 4,312.20               | 4,312.03                  | 15.20                        | 14.79  | 40.88                       | 290.77                                  | 251.72        | 384.59                     | 354.60                      | 29.99                         | 12.824               |                    |         |
| 4,350.00                                                                                  | 4,350.00                  | 4,363.25               | 4,363.07                  | 15.38                        | 14.97  | 41.01                       | 290.05                                  | 252.19        | 384.36                     | 354.01                      | 30.35                         | 12.665               |                    |         |
| 4,400.00                                                                                  | 4,400.00                  | 4,412.86               | 4,412.68                  | 15.56                        | 15.15  | 41.09                       | 289.46                                  | 252.44        | 384.07                     | 353.37                      | 30.70                         | 12.510               |                    |         |
| 4,450.00                                                                                  | 4,450.00                  | 4,462.14               | 4,461.96                  | 15.74                        | 15.32  | 41.11                       | 289.21                                  | 252.42        | 383.88                     | 352.82                      | 31.05                         | 12.361               |                    |         |
| 4,500.00                                                                                  | 4,500.00                  | 4,511.70               | 4,511.52                  | 15.92                        | 15.49  | 41.10                       | 289.19                                  | 252.26        | 383.76                     | 352.35                      | 31.41                         | 12.219               |                    |         |
| 4,550.00                                                                                  | 4,550.00                  | 4,561.29               | 4,561.10                  | 16.09                        | 15.66  | 41.08                       | 289.24                                  | 252.10        | 383.69                     | 351.93                      | 31.76                         | 12.082               |                    |         |
| 4,600.00                                                                                  | 4,600.00                  | 4,611.70               | 4,611.52                  | 16.27                        | 15.84  | 41.05                       | 289.29                                  | 251.94        | 383.62                     | 351.51                      | 32.11                         | 11.947               |                    |         |
| 4,650.00                                                                                  | 4,650.00                  | 4,662.13               | 4,661.95                  | 16.45                        | 16.01  | 41.03                       | 289.28                                  | 251.78        | 383.50                     | 351.04                      | 32.46                         | 11.813               |                    |         |
| 4,700.00                                                                                  | 4,700.00                  | 4,712.19               | 4,712.01                  | 16.63                        | 16.19  | 41.02                       | 289.22                                  | 251.61        | 383.35                     | 350.53                      | 32.82                         | 11.681               |                    |         |
| 4,750.00                                                                                  | 4,750.00                  | 4,762.17               | 4,761.99                  | 16.81                        | 16.36  | 41.01                       | 289.13                                  | 251.46        | 383.19                     | 350.02                      | 33.17                         | 11.551               |                    |         |
| 4,800.00                                                                                  | 4,800.00                  | 4,811.79               | 4,811.60                  | 16.99                        | 16.54  | 41.01                       | 289.07                                  | 251.34        | 383.06                     | 349.53                      | 33.53                         | 11.426               |                    |         |
| 4,850.00                                                                                  | 4,850.00                  | 4,861.44               | 4,861.25                  | 17.17                        | 16.71  | 41.00                       | 289.04                                  | 251.25        | 382.98                     | 349.10                      | 33.88                         | 11.304               |                    |         |
| 4,900.00                                                                                  | 4,900.00                  | 4,911.15               | 4,910.96                  | 17.35                        | 16.89  | 41.00                       | 289.03                                  | 251.21        | 382.94                     | 348.71                      | 34.23                         | 11.186               |                    |         |
| 4,950.00                                                                                  | 4,950.00                  | 4,961.07               | 4,960.89                  | 17.53                        | 17.06  | 41.00                       | 289.02                                  | 251.20        | 382.93                     | 348.34                      | 34.59                         | 11.071               |                    |         |
| 5,000.00                                                                                  | 5,000.00                  | 5,011.28               | 5,011.09                  | 17.71                        | 17.24  | 41.00                       | 288.98                                  | 251.21        | 382.91                     | 347.96                      | 34.94                         | 10.958               |                    |         |
| 5,050.00                                                                                  | 5,050.00                  | 5,061.18               | 5,061.00                  | 17.89                        | 17.41  | 41.01                       | 288.90                                  | 251.24        | 382.87                     | 347.57                      | 35.30                         | 10.847               |                    |         |
| 5,080.60                                                                                  | 5,080.60                  | 5,091.58               | 5,091.40                  | 18.00                        | 17.52  | 41.02                       | 288.87                                  | 251.27        | 382.86                     | 347.34                      | 35.51                         | 10.780               |                    |         |
| 5,100.00                                                                                  | 5,100.00                  | 5,110.86               | 5,110.68                  | 18.06                        | 17.59  | 41.02                       | 288.85                                  | 251.29        | 382.86                     | 347.21                      | 35.65                         | 10.739               |                    |         |
| 5,150.00                                                                                  | 5,150.00                  | 5,160.38               | 5,160.20                  | 18.24                        | 17.76  | 41.03                       | 288.83                                  | 251.38        | 382.91                     | 346.90                      | 36.00                         | 10.635               |                    |         |
| 5,200.00                                                                                  | 5,200.00                  | 5,209.82               | 5,209.64                  | 18.42                        | 17.93  | 41.04                       | 288.88                                  | 251.50        | 383.02                     | 346.67                      | 36.35                         | 10.536               |                    |         |
| 5,250.00                                                                                  | 5,250.00                  | 5,259.70               | 5,259.52                  | 18.60                        | 18.10  | 41.05                       | 288.97                                  | 251.64        | 383.19                     | 346.48                      | 36.71                         | 10.439               |                    |         |
| 5,300.00                                                                                  | 5,300.00                  | 5,309.71               | 5,309.52                  | 18.78                        | 18.28  | 41.06                       | 289.07                                  | 251.79        | 383.35                     | 346.30                      | 37.06                         | 10.345               |                    |         |
| 5,350.00                                                                                  | 5,350.00                  | 5,359.68               | 5,359.49                  | 18.96                        | 18.45  | 41.06                       | 289.17                                  | 251.93        | 383.52                     | 346.11                      | 37.41                         | 10.252               |                    |         |
| 5,400.00                                                                                  | 5,400.00                  | 5,409.65               | 5,409.46                  | 19.14                        | 18.62  | 41.07                       | 289.29                                  | 252.06        | 383.69                     | 345.93                      | 37.76                         | 10.161               |                    |         |
| 5,450.00                                                                                  | 5,450.00                  | 5,459.65               | 5,459.46                  | 19.32                        | 18.79  | 41.07                       | 289.42                                  | 252.17        | 383.87                     | 345.76                      | 38.11                         | 10.072               |                    |         |
| 5,500.00                                                                                  | 5,500.00                  | 5,509.65               | 5,509.47                  | 19.50                        | 18.97  | 41.06                       | 289.56                                  | 252.27        | 384.04                     | 345.58                      | 38.46                         | 9.984                |                    |         |
| 5,550.00                                                                                  | 5,550.00                  | 5,559.49               | 5,559.30                  | 19.68                        | 19.14  | 41.07                       | 289.67                                  | 252.43        | 384.23                     | 345.41                      | 38.82                         | 9.898                |                    |         |
| 5,600.00                                                                                  | 5,600.00                  | 5,609.40               | 5,609.22                  | 19.86                        | 19.31  | 41.09                       | 289.74                                  | 252.65        | 384.43                     | 345.26                      | 39.17                         | 9.815                |                    |         |
| 5,650.00                                                                                  | 5,650.00                  | 5,659.55               | 5,659.36                  | 20.04                        | 19.49  | 41.10                       | 289.83                                  | 252.86        | 384.63                     | 345.11                      | 39.52                         | 9.732                |                    |         |
| 5,700.00                                                                                  | 5,700.00                  | 5,709.65               | 5,709.46                  | 20.22                        | 19.66  | 41.11                       | 289.95                                  | 252.99        | 384.81                     | 344.93                      | 39.88                         | 9.650                |                    |         |
| 5,750.00                                                                                  | 5,750.00                  | 5,759.65               | 5,759.46                  | 20.39                        | 19.83  | 41.11                       | 290.08                                  | 253.10        | 384.98                     | 344.75                      | 40.23                         | 9.570                |                    |         |
| 5,800.00                                                                                  | 5,800.00                  | 5,809.65               | 5,809.46                  | 20.57                        | 20.01  | 41.11                       | 290.21                                  | 253.22        | 385.16                     | 344.58                      | 40.58                         | 9.491                |                    |         |
| 5,850.00                                                                                  | 5,850.00                  | 5,859.65               | 5,859.46                  | 20.75                        | 20.18  | 41.11                       | 290.34                                  | 253.34        | 385.33                     | 344.40                      | 40.93                         | 9.414                |                    |         |
| 5,900.00                                                                                  | 5,900.00                  | 5,909.69               | 5,909.50                  | 20.93                        | 20.36  | 41.11                       | 290.47                                  | 253.46        | 385.50                     | 344.22                      | 41.29                         | 9.337                |                    |         |
| 5,950.00                                                                                  | 5,950.00                  | 5,959.76               | 5,959.57                  | 21.11                        | 20.53  | 41.11                       | 290.56                                  | 253.59        | 385.67                     | 344.03                      | 41.64                         | 9.262                |                    |         |
| 6,000.00                                                                                  | 6,000.00                  | 6,009.76               | 6,009.57                  | 21.29                        | 20.70  | 41.12                       | 290.65                                  | 253.74        | 385.83                     | 343.83                      | 41.99                         | 9.188 ES             |                    |         |
| 6,050.00                                                                                  | 6,050.00                  | 6,059.74               | 6,059.55                  | 21.46                        | 20.88  | 179.77                      | 290.78                                  | 253.83        | 386.26                     | 343.92                      | 42.34                         | 9.123                |                    |         |
| 6,100.00                                                                                  | 6,099.99                  | 6,109.70               | 6,109.51                  | 21.63                        | 21.05  | 179.76                      | 290.93                                  | 253.91        | 387.24                     | 344.56                      | 42.68                         | 9.073                |                    |         |
| 6,150.00                                                                                  | 6,149.98                  | 6,159.64               | 6,159.45                  | 21.80                        | 21.22  | 179.77                      | 291.06                                  | 254.02        | 388.71                     | 345.69                      | 43.02                         | 9.036                |                    |         |
| 6,200.00                                                                                  | 6,199.96                  | 6,209.98               | 6,209.79                  | 21.96                        | 21.40  | 179.77                      | 291.14                                  | 254.15        | 390.24                     | 346.88                      | 43.36                         | 9.000                |                    |         |
| 6,250.00                                                                                  | 6,249.94                  | 6,260.34               | 6,260.15                  | 22.12                        | 21.58  | 179.78                      | 291.20                                  | 254.24        | 391.71                     | 348.02                      | 43.70                         | 8.964                |                    |         |
| 6,300.00                                                                                  | 6,299.92                  | 6,309.86               | 6,309.67                  | 22.29                        | 21.75  | 179.78                      | 291.26                                  | 254.33        | 393.20                     | 349.17                      | 44.04                         | 8.929                |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore #1 |                        |                        |                        |                   |                |                          |                                         |               |                         |                          |                            |                   | Offset Site Error: | 0.00 ft |
|------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|-------------------|----------------|--------------------------|-----------------------------------------|---------------|-------------------------|--------------------------|----------------------------|-------------------|--------------------|---------|
| Survey Program:    147-MWD+HDGM                                                                |                        |                        |                        |                   |                |                          |                                         |               |                         |                          |                            |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                      |                        | Offset                 |                        | Semi Major Axis   |                |                          | Distance                                |               |                         |                          |                            |                   |                    |         |
| Measured Depth<br>(ft)                                                                         | Vertical Depth<br>(ft) | Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Highside Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between Centres<br>(ft) | Between Ellipses<br>(ft) | Minimum Separation<br>(ft) | Separation Factor | Warning            |         |
| 6,350.00                                                                                       | 6,349.90               | 6,359.60               | 6,359.41               | 22.45             | 21.92          | 179.79                   | 291.36                                  | 254.45        | 394.73                  | 350.36                   | 44.37                      | 8.896             |                    |         |
| 6,400.00                                                                                       | 6,399.88               | 6,409.99               | 6,409.79               | 22.62             | 22.10          | 179.79                   | 291.45                                  | 254.56        | 396.25                  | 351.54                   | 44.71                      | 8.862             |                    |         |
| 6,450.00                                                                                       | 6,449.86               | 6,460.24               | 6,460.05               | 22.78             | 22.27          | 179.80                   | 291.49                                  | 254.65        | 397.72                  | 352.66                   | 45.05                      | 8.827             |                    |         |
| 6,500.00                                                                                       | 6,499.84               | 6,510.22               | 6,510.03               | 22.95             | 22.45          | 179.81                   | 291.49                                  | 254.77        | 399.17                  | 353.78                   | 45.39                      | 8.793             |                    |         |
| 6,550.00                                                                                       | 6,549.82               | 6,560.38               | 6,560.19               | 23.11             | 22.63          | 179.84                   | 291.44                                  | 254.93        | 400.62                  | 354.88                   | 45.74                      | 8.759             |                    |         |
| 6,600.00                                                                                       | 6,599.80               | 6,610.77               | 6,610.58               | 23.28             | 22.80          | 179.87                   | 291.32                                  | 255.11        | 402.03                  | 355.95                   | 46.08                      | 8.725             |                    |         |
| 6,650.00                                                                                       | 6,649.79               | 6,661.24               | 6,661.05               | 23.44             | 22.98          | 179.90                   | 291.14                                  | 255.29        | 403.38                  | 356.96                   | 46.42                      | 8.689             |                    |         |
| 6,700.00                                                                                       | 6,699.77               | 6,711.77               | 6,711.57               | 23.61             | 23.16          | 179.94                   | 290.91                                  | 255.41        | 404.67                  | 357.90                   | 46.77                      | 8.653             |                    |         |
| 6,750.00                                                                                       | 6,749.75               | 6,762.40               | 6,762.20               | 23.78             | 23.34          | 179.97                   | 290.63                                  | 255.48        | 405.88                  | 358.77                   | 47.11                      | 8.616             |                    |         |
| 6,800.00                                                                                       | 6,799.73               | 6,813.07               | 6,812.87               | 23.94             | 23.52          | -179.99                  | 290.25                                  | 255.53        | 407.01                  | 359.56                   | 47.45                      | 8.577             |                    |         |
| 6,850.00                                                                                       | 6,849.71               | 6,863.16               | 6,862.96               | 24.11             | 23.69          | -179.94                  | 289.80                                  | 255.58        | 408.09                  | 360.30                   | 47.80                      | 8.538             |                    |         |
| 6,900.00                                                                                       | 6,899.69               | 6,913.15               | 6,912.95               | 24.28             | 23.87          | -179.89                  | 289.32                                  | 255.68        | 409.17                  | 361.03                   | 48.14                      | 8.500             |                    |         |
| 6,950.00                                                                                       | 6,949.67               | 6,964.59               | 6,964.38               | 24.44             | 24.05          | -179.82                  | 288.72                                  | 255.76        | 410.16                  | 361.68                   | 48.49                      | 8.460             |                    |         |
| 7,000.00                                                                                       | 6,999.65               | 7,016.05               | 7,015.84               | 24.61             | 24.23          | -179.76                  | 287.96                                  | 255.73        | 410.97                  | 362.14                   | 48.83                      | 8.416             |                    |         |
| 7,050.00                                                                                       | 7,049.63               | 7,065.42               | 7,065.20               | 24.78             | 24.40          | -179.70                  | 287.22                                  | 255.68        | 411.75                  | 362.58                   | 49.17                      | 8.374             |                    |         |
| 7,100.00                                                                                       | 7,099.61               | 7,115.16               | 7,114.93               | 24.94             | 24.58          | -179.64                  | 286.52                                  | 255.63        | 412.57                  | 363.06                   | 49.52                      | 8.332             |                    |         |
| 7,150.00                                                                                       | 7,149.60               | 7,165.15               | 7,164.92               | 25.11             | 24.75          | -179.59                  | 285.87                                  | 255.54        | 413.40                  | 363.55                   | 49.86                      | 8.292             |                    |         |
| 7,200.00                                                                                       | 7,199.58               | 7,215.35               | 7,215.12               | 25.28             | 24.93          | -179.55                  | 285.26                                  | 255.38        | 414.23                  | 364.03                   | 50.20                      | 8.251             |                    |         |
| 7,250.00                                                                                       | 7,249.56               | 7,265.88               | 7,265.65               | 25.45             | 25.11          | -179.52                  | 284.65                                  | 255.15        | 415.00                  | 364.46                   | 50.55                      | 8.210             |                    |         |
| 7,300.00                                                                                       | 7,299.54               | 7,316.16               | 7,315.93               | 25.62             | 25.28          | -179.49                  | 284.02                                  | 254.86        | 415.72                  | 364.83                   | 50.89                      | 8.169             |                    |         |
| 7,350.00                                                                                       | 7,349.52               | 7,366.21               | 7,365.97               | 25.78             | 25.46          | -179.47                  | 283.40                                  | 254.54        | 416.42                  | 365.19                   | 51.23                      | 8.128             |                    |         |
| 7,400.00                                                                                       | 7,399.50               | 7,414.90               | 7,414.65               | 25.95             | 25.63          | -179.45                  | 282.83                                  | 254.25        | 417.17                  | 365.59                   | 51.57                      | 8.089             |                    |         |
| 7,450.00                                                                                       | 7,449.48               | 7,462.83               | 7,462.58               | 26.12             | 25.80          | -179.42                  | 282.39                                  | 254.16        | 418.15                  | 366.24                   | 51.91                      | 8.055             |                    |         |
| 7,500.00                                                                                       | 7,499.46               | 7,511.17               | 7,510.92               | 26.29             | 25.97          | -179.38                  | 282.07                                  | 254.28        | 419.36                  | 367.11                   | 52.25                      | 8.026             |                    |         |
| 7,550.00                                                                                       | 7,549.44               | 7,559.68               | 7,559.43               | 26.46             | 26.14          | -179.33                  | 281.81                                  | 254.59        | 420.74                  | 368.15                   | 52.59                      | 8.000             |                    |         |
| 7,600.00                                                                                       | 7,599.42               | 7,609.08               | 7,608.82               | 26.63             | 26.32          | -179.26                  | 281.57                                  | 255.07        | 422.27                  | 369.33                   | 52.93                      | 7.977             |                    |         |
| 7,650.00                                                                                       | 7,649.41               | 7,658.77               | 7,658.51               | 26.80             | 26.49          | -179.18                  | 281.29                                  | 255.64        | 423.83                  | 370.55                   | 53.28                      | 7.955             |                    |         |
| 7,700.00                                                                                       | 7,699.39               | 7,709.39               | 7,709.12               | 26.97             | 26.67          | -179.09                  | 280.98                                  | 256.25        | 425.38                  | 371.75                   | 53.63                      | 7.932             |                    |         |
| 7,750.00                                                                                       | 7,749.37               | 7,760.17               | 7,759.90               | 27.14             | 26.85          | -179.01                  | 280.61                                  | 256.77        | 426.83                  | 372.86                   | 53.97                      | 7.908             |                    |         |
| 7,800.00                                                                                       | 7,799.35               | 7,810.18               | 7,809.91               | 27.31             | 27.03          | -178.93                  | 280.22                                  | 257.24        | 428.24                  | 373.92                   | 54.32                      | 7.884             |                    |         |
| 7,850.00                                                                                       | 7,849.33               | 7,860.25               | 7,859.98               | 27.48             | 27.20          | -178.85                  | 279.82                                  | 257.71        | 429.64                  | 374.97                   | 54.67                      | 7.859             |                    |         |
| 7,900.00                                                                                       | 7,899.31               | 7,910.79               | 7,910.51               | 27.65             | 27.38          | -178.77                  | 279.38                                  | 258.18        | 431.00                  | 375.99                   | 55.02                      | 7.834             |                    |         |
| 7,950.00                                                                                       | 7,949.29               | 7,961.23               | 7,960.94               | 27.82             | 27.56          | -178.68                  | 278.85                                  | 258.63        | 432.31                  | 376.94                   | 55.38                      | 7.808             |                    |         |
| 8,000.00                                                                                       | 7,999.27               | 8,011.40               | 8,011.11               | 27.99             | 27.74          | -178.59                  | 278.28                                  | 259.09        | 433.57                  | 377.86                   | 55.71                      | 7.783             |                    |         |
| 8,050.00                                                                                       | 8,049.25               | 8,061.55               | 8,061.26               | 28.16             | 27.92          | -178.49                  | 277.66                                  | 259.57        | 434.82                  | 378.76                   | 56.06                      | 7.757             |                    |         |
| 8,100.00                                                                                       | 8,099.23               | 8,111.68               | 8,111.38               | 28.33             | 28.09          | -178.38                  | 276.97                                  | 260.10        | 436.05                  | 379.65                   | 56.41                      | 7.731             |                    |         |
| 8,150.00                                                                                       | 8,149.22               | 8,162.08               | 8,161.77               | 28.50             | 28.27          | -178.26                  | 276.19                                  | 260.68        | 437.26                  | 380.51                   | 56.76                      | 7.704             |                    |         |
| 8,200.00                                                                                       | 8,199.20               | 8,212.74               | 8,212.42               | 28.67             | 28.45          | -178.13                  | 275.30                                  | 261.27        | 438.40                  | 381.29                   | 57.10                      | 7.677             |                    |         |
| 8,250.00                                                                                       | 8,249.18               | 8,263.13               | 8,262.80               | 28.84             | 28.63          | -178.00                  | 274.32                                  | 261.87        | 439.47                  | 382.02                   | 57.45                      | 7.649             |                    |         |
| 8,300.00                                                                                       | 8,299.16               | 8,313.38               | 8,313.03               | 29.01             | 28.81          | -177.85                  | 273.29                                  | 262.47        | 440.51                  | 382.71                   | 57.80                      | 7.621             |                    |         |
| 8,350.00                                                                                       | 8,349.14               | 8,363.81               | 8,363.44               | 29.18             | 28.99          | -177.71                  | 272.22                                  | 263.05        | 441.52                  | 383.37                   | 58.15                      | 7.593             |                    |         |
| 8,400.00                                                                                       | 8,399.12               | 8,414.29               | 8,413.91               | 29.35             | 29.17          | -177.58                  | 271.16                                  | 263.54        | 442.47                  | 383.97                   | 58.50                      | 7.564             |                    |         |
| 8,450.00                                                                                       | 8,449.10               | 8,462.97               | 8,462.58               | 29.52             | 29.34          | -177.46                  | 270.24                                  | 263.96        | 443.40                  | 384.56                   | 58.85                      | 7.535             |                    |         |
| 8,500.00                                                                                       | 8,499.10               | 8,511.53               | 8,511.13               | 29.69             | 29.51          | -177.37                  | 269.56                                  | 264.36        | 443.94                  | 384.75                   | 59.19                      | 7.500             |                    |         |
| 8,550.00                                                                                       | 8,549.10               | 8,563.77               | 8,563.37               | 29.87             | 29.70          | 44.06                    | 268.91                                  | 264.64        | 443.82                  | 384.27                   | 59.55                      | 7.453             |                    |         |
| 8,600.00                                                                                       | 8,599.10               | 8,616.38               | 8,615.97               | 30.05             | 29.88          | 44.14                    | 268.12                                  | 264.67        | 443.29                  | 383.38                   | 59.91                      | 7.399             |                    |         |
| 8,650.00                                                                                       | 8,649.10               | 8,670.40               | 8,669.98               | 30.23             | 30.07          | 44.19                    | 267.11                                  | 264.28        | 442.38                  | 382.11                   | 60.27                      | 7.340             |                    |         |
| 8,700.00                                                                                       | 8,699.10               | 8,717.77               | 8,717.34               | 30.40             | 30.24          | 44.24                    | 266.23                                  | 263.90        | 441.43                  | 380.81                   | 60.62                      | 7.282             |                    |         |
| 8,750.00                                                                                       | 8,749.10               | 8,765.49               | 8,765.05               | 30.58             | 30.41          | 44.28                    | 265.47                                  | 263.69        | 440.70                  | 379.73                   | 60.97                      | 7.228             |                    |         |
| 8,800.00                                                                                       | 8,799.10               | 8,811.35               | 8,810.91               | 30.76             | 30.57          | 44.29                    | 265.19                                  | 263.52        | 440.35                  | 379.05                   | 61.31                      | 7.183             |                    |         |
| 8,812.23                                                                                       | 8,811.32               | 8,822.56               | 8,822.12               | 30.80             | 30.61          | 44.29                    | 265.21                                  | 263.47        | 440.34                  | 378.95                   | 61.39                      | 7.173             |                    |         |
| 8,850.00                                                                                       | 8,849.10               | 8,857.51               | 8,857.07               | 30.94             | 30.73          | 44.24                    | 265.54                                  | 263.31        | 440.47                  | 378.83                   | 61.64                      | 7.146             |                    |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore #1 |                        |                        |                        |                   |                |                          |                                         |               |                         |                          |                            |                   | Offset Site Error: | 0.00 ft |
|------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|-------------------|----------------|--------------------------|-----------------------------------------|---------------|-------------------------|--------------------------|----------------------------|-------------------|--------------------|---------|
| Survey Program:    147-MWD+HDGM                                                                |                        |                        |                        |                   |                |                          |                                         |               |                         |                          |                            |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                      |                        | Offset                 |                        | Semi Major Axis   |                |                          | Distance                                |               |                         |                          |                            |                   | Warning            |         |
| Measured Depth<br>(ft)                                                                         | Vertical Depth<br>(ft) | Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Highside Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between Centres<br>(ft) | Between Ellipses<br>(ft) | Minimum Separation<br>(ft) | Separation Factor |                    |         |
| 8,900.00                                                                                       | 8,899.09               | 8,906.05               | 8,905.61               | 31.11             | 30.89          | -135.48                  | 268.29                                  | 263.10        | 441.06                  | 379.07                   | 61.98                      | 7.116             |                    |         |
| 8,950.00                                                                                       | 8,948.94               | 8,955.24               | 8,954.79               | 31.28             | 31.06          | -135.69                  | 267.24                                  | 262.92        | 444.24                  | 381.92                   | 62.32                      | 7.129             |                    |         |
| 9,000.00                                                                                       | 8,998.28               | 9,008.06               | 9,007.60               | 31.45             | 31.24          | -138.09                  | 267.90                                  | 262.77        | 450.38                  | 387.71                   | 62.67                      | 7.186             |                    |         |
| 9,050.00                                                                                       | 9,046.74               | 9,058.79               | 9,058.33               | 31.62             | 31.42          | -136.57                  | 267.98                                  | 262.68        | 459.38                  | 396.37                   | 63.01                      | 7.291             |                    |         |
| 9,100.00                                                                                       | 9,093.94               | 9,106.23               | 9,105.77               | 31.78             | 31.58          | -137.05                  | 267.89                                  | 262.65        | 471.60                  | 408.26                   | 63.34                      | 7.446             |                    |         |
| 9,150.00                                                                                       | 9,139.53               | 9,151.48               | 9,151.02               | 31.94             | 31.74          | -137.51                  | 267.75                                  | 262.66        | 487.18                  | 423.53                   | 63.65                      | 7.654             |                    |         |
| 9,200.00                                                                                       | 9,183.16               | 9,193.79               | 9,193.33               | 32.10             | 31.89          | -137.85                  | 267.72                                  | 262.69        | 506.28                  | 442.34                   | 63.94                      | 7.918             |                    |         |
| 9,250.00                                                                                       | 9,224.50               | 9,233.75               | 9,233.29               | 32.26             | 32.03          | -138.01                  | 267.80                                  | 262.75        | 528.93                  | 464.72                   | 64.21                      | 8.237             |                    |         |
| 9,300.00                                                                                       | 9,263.23               | 9,271.03               | 9,270.56               | 32.42             | 32.16          | -137.93                  | 268.04                                  | 262.73        | 555.08                  | 490.62                   | 64.47                      | 8.610             |                    |         |
| 9,350.00                                                                                       | 9,299.06               | 9,305.16               | 9,304.69               | 32.58             | 32.27          | -137.49                  | 268.43                                  | 262.60        | 584.64                  | 519.95                   | 64.70                      | 9.037             |                    |         |
| 9,400.00                                                                                       | 9,331.72               | 9,336.51               | 9,336.04               | 32.74             | 32.38          | -136.62                  | 268.92                                  | 262.38        | 617.43                  | 552.53                   | 64.90                      | 9.513             |                    |         |
| 9,450.00                                                                                       | 9,360.95               | 9,364.95               | 9,364.48               | 32.91             | 32.48          | -135.18                  | 269.43                                  | 262.09        | 653.19                  | 588.10                   | 65.09                      | 10.036            |                    |         |
| 9,500.00                                                                                       | 9,386.54               | 9,389.57               | 9,389.09               | 33.08             | 32.56          | -132.93                  | 269.91                                  | 261.77        | 691.64                  | 626.40                   | 65.24                      | 10.601            |                    |         |
| 9,550.00                                                                                       | 9,408.29               | 9,410.21               | 9,409.72               | 33.25             | 32.63          | -129.59                  | 270.34                                  | 261.45        | 732.49                  | 667.12                   | 65.37                      | 11.205            |                    |         |
| 9,600.00                                                                                       | 9,426.04               | 9,427.44               | 9,426.94               | 33.42             | 32.69          | -124.87                  | 270.71                                  | 261.15        | 775.38                  | 709.90                   | 65.48                      | 11.842            |                    |         |
| 9,650.00                                                                                       | 9,439.64               | 9,440.66               | 9,440.16               | 33.60             | 32.74          | -118.23                  | 271.00                                  | 260.89        | 819.93                  | 754.38                   | 65.56                      | 12.507            |                    |         |
| 9,700.00                                                                                       | 9,449.01               | 9,449.42               | 9,448.91               | 33.78             | 32.77          | -109.06                  | 271.19                                  | 260.71        | 865.78                  | 800.16                   | 65.61                      | 13.195            |                    |         |
| 9,750.00                                                                                       | 9,454.05               | 9,453.62               | 9,453.11               | 33.97             | 32.78          | -97.00                   | 271.28                                  | 260.62        | 912.51                  | 846.87                   | 65.64                      | 13.901            |                    |         |
| 9,800.00                                                                                       | 9,455.00               | 9,453.49               | 9,452.98               | 34.15             | 32.78          | -87.61                   | 271.27                                  | 260.63        | 959.74                  | 894.09                   | 65.65                      | 14.619            |                    |         |
| 9,850.00                                                                                       | 9,455.00               | 9,452.36               | 9,451.85               | 34.36             | 32.78          | -87.40                   | 271.25                                  | 260.65        | 1,007.24                | 941.59                   | 65.65                      | 15.342            |                    |         |
| 9,900.00                                                                                       | 9,455.00               | 9,451.22               | 9,450.72               | 34.56             | 32.77          | -87.19                   | 271.23                                  | 260.67        | 1,054.97                | 989.31                   | 65.66                      | 16.068            |                    |         |
| 9,950.00                                                                                       | 9,455.00               | 9,450.09               | 9,449.58               | 34.79             | 32.77          | -86.87                   | 271.20                                  | 260.70        | 1,102.90                | 1,037.24                 | 65.66                      | 16.797            |                    |         |
| 10,000.00                                                                                      | 9,455.00               | 11,395.71              | 10,545.51              | 35.02             | 40.34          | -160.86                  | -822.21                                 | 335.63        | 1,142.98                | 1,097.86                 | 45.12                      | 25.331            |                    |         |
| 10,050.00                                                                                      | 9,455.00               | 11,444.75              | 10,548.41              | 35.28             | 40.64          | -160.90                  | -871.25                                 | 335.44        | 1,143.67                | 1,098.26                 | 45.41                      | 25.186            |                    |         |
| 10,100.00                                                                                      | 9,455.00               | 11,492.29              | 10,547.42              | 35.54             | 40.95          | -160.95                  | -918.78                                 | 335.06        | 1,144.44                | 1,098.74                 | 45.70                      | 25.042            |                    |         |
| 10,150.00                                                                                      | 9,455.00               | 11,540.08              | 10,548.65              | 35.82             | 41.26          | -161.02                  | -966.55                                 | 334.37        | 1,145.32                | 1,099.32                 | 46.00                      | 24.898            |                    |         |
| 10,200.00                                                                                      | 9,455.00               | 11,609.62              | 10,549.97              | 36.11             | 41.74          | -161.12                  | -1,036.06                               | 333.06        | 1,145.81                | 1,099.47                 | 46.34                      | 24.727            |                    |         |
| 10,250.00                                                                                      | 9,455.00               | 11,664.25              | 10,550.34              | 36.42             | 42.12          | -161.20                  | -1,090.68                               | 331.93        | 1,145.68                | 1,099.00                 | 46.68                      | 24.542            |                    |         |
| 10,300.00                                                                                      | 9,455.00               | 11,712.28              | 10,550.69              | 36.72             | 42.46          | -161.27                  | -1,138.87                               | 330.92        | 1,145.59                | 1,098.58                 | 47.01                      | 24.367            |                    |         |
| 10,350.00                                                                                      | 9,455.00               | 11,765.86              | 10,551.00              | 37.06             | 42.86          | -161.33                  | -1,192.27                               | 330.02        | 1,145.49                | 1,098.10                 | 47.39                      | 24.172            |                    |         |
| 10,400.00                                                                                      | 9,455.00               | 11,821.10              | 10,550.82              | 37.39             | 43.28          | -161.35                  | -1,247.50                               | 329.83        | 1,145.18                | 1,097.38                 | 47.79                      | 23.960            |                    |         |
| 10,450.00                                                                                      | 9,455.00               | 11,870.90              | 10,550.47              | 37.74             | 43.67          | -161.36                  | -1,297.31                               | 329.88        | 1,144.76                | 1,096.55                 | 48.21                      | 23.743            |                    |         |
| 10,500.00                                                                                      | 9,455.00               | 11,924.15              | 10,550.08              | 38.10             | 44.09          | -161.37                  | -1,350.55                               | 329.89        | 1,144.32                | 1,095.67                 | 48.65                      | 23.522            |                    |         |
| 10,550.00                                                                                      | 9,455.00               | 11,985.51              | 10,549.22              | 38.47             | 44.60          | -161.38                  | -1,411.81                               | 329.72        | 1,143.51                | 1,094.37                 | 49.14                      | 23.270            |                    |         |
| 10,600.00                                                                                      | 9,455.00               | 12,041.01              | 10,548.06              | 38.85             | 45.06          | -161.40                  | -1,467.39                               | 329.33        | 1,142.29                | 1,092.68                 | 49.61                      | 23.025            |                    |         |
| 10,650.00                                                                                      | 9,455.00               | 12,094.68              | 10,546.86              | 39.24             | 45.52          | -161.43                  | -1,521.05                               | 328.56        | 1,140.91                | 1,090.83                 | 50.08                      | 22.782            |                    |         |
| 10,700.00                                                                                      | 9,455.00               | 12,141.13              | 10,545.95              | 39.64             | 45.92          | -161.48                  | -1,567.48                               | 327.57        | 1,139.53                | 1,089.02                 | 50.51                      | 22.560            |                    |         |
| 10,750.00                                                                                      | 9,455.00               | 12,187.92              | 10,545.27              | 40.05             | 46.33          | -161.55                  | -1,614.24                               | 326.24        | 1,138.30                | 1,087.35                 | 50.94                      | 22.345            |                    |         |
| 10,800.00                                                                                      | 9,455.00               | 12,223.96              | 10,545.07              | 40.46             | 46.65          | -161.61                  | -1,650.27                               | 325.17        | 1,137.46                | 1,086.13                 | 51.33                      | 22.160            |                    |         |
| 10,847.90                                                                                      | 9,455.00               | 12,259.30              | 10,545.26              | 40.88             | 46.96          | -161.66                  | -1,685.59                               | 324.21        | 1,137.19                | 1,085.47                 | 51.72                      | 21.988            |                    |         |
| 10,850.00                                                                                      | 9,455.00               | 12,260.85              | 10,545.28              | 40.89             | 46.98          | -161.67                  | -1,687.14                               | 324.17        | 1,137.19                | 1,085.46                 | 51.74                      | 21.981            |                    |         |
| 10,900.00                                                                                      | 9,455.00               | 12,300.08              | 10,545.91              | 41.32             | 47.33          | -161.74                  | -1,726.35                               | 323.22        | 1,137.47                | 1,085.32                 | 52.16                      | 21.809            |                    |         |
| 10,950.00                                                                                      | 9,455.00               | 12,340.94              | 10,546.89              | 41.77             | 47.71          | -161.81                  | -1,767.19                               | 322.32        | 1,138.17                | 1,085.58                 | 52.60                      | 21.639            |                    |         |
| 11,000.00                                                                                      | 9,455.00               | 12,388.05              | 10,548.34              | 42.22             | 48.15          | -161.89                  | -1,814.27                               | 321.42        | 1,139.23                | 1,086.17                 | 53.07                      | 21.468            |                    |         |
| 11,050.00                                                                                      | 9,455.00               | 12,448.94              | 10,549.73              | 42.68             | 48.73          | -161.96                  | -1,875.14                               | 320.65        | 1,140.02                | 1,086.41                 | 53.62                      | 21.263            |                    |         |
| 11,100.00                                                                                      | 9,455.00               | 12,508.75              | 10,550.39              | 43.14             | 49.31          | -162.01                  | -1,934.94                               | 320.31        | 1,140.36                | 1,086.17                 | 54.19                      | 21.045            |                    |         |
| 11,150.00                                                                                      | 9,455.00               | 12,568.66              | 10,550.42              | 43.62             | 49.89          | -162.03                  | -1,994.85                               | 320.25        | 1,140.27                | 1,085.48                 | 54.79                      | 20.812            |                    |         |
| 11,200.00                                                                                      | 9,455.00               | 12,629.56              | 10,549.77              | 44.10             | 50.50          | -162.03                  | -2,055.75                               | 320.47        | 1,139.72                | 1,084.29                 | 55.42                      | 20.565            |                    |         |
| 11,250.00                                                                                      | 9,455.00               | 12,679.94              | 10,548.85              | 44.59             | 51.01          | -162.01                  | -2,106.12                               | 320.85        | 1,138.86                | 1,082.85                 | 56.01                      | 20.333            |                    |         |
| 11,300.00                                                                                      | 9,455.00               | 12,727.05              | 10,548.05              | 45.08             | 51.49          | -161.99                  | -2,153.22                               | 321.34        | 1,138.12                | 1,081.53                 | 56.58                      | 20.114            |                    |         |
| 11,350.00                                                                                      | 9,455.00               | 12,781.93              | 10,547.04              | 45.58             | 52.06          | -161.95                  | -2,208.08                               | 322.09        | 1,137.36                | 1,080.13                 | 57.23                      | 19.874            |                    |         |
| 11,400.00                                                                                      | 9,455.00               | 12,838.60              | 10,545.59              | 46.08             | 52.65          | -161.90                  | -2,264.73                               | 323.10        | 1,136.32                | 1,078.42                 | 57.90                      | 19.625            |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 147-MWD+HDGM                                                              |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Footface (") | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 11,450.00                                                                                 | 9,455.00            | 12,887.63           | 10,544.19           | 46.60           | 53.17       | -161.85               | -2,313.72                         | 324.11     | 1,135.19             | 1,078.65              | 58.54                   | 19.392            |                    |         |
| 11,500.00                                                                                 | 9,455.00            | 12,936.31           | 10,542.77           | 47.11           | 53.69       | -161.79               | -2,362.38                         | 325.19     | 1,134.04             | 1,074.87              | 59.18                   | 19.163            |                    |         |
| 11,550.00                                                                                 | 9,455.00            | 12,981.79           | 10,541.58           | 47.64           | 54.19       | -161.73               | -2,407.83                         | 326.22     | 1,133.06             | 1,073.25              | 59.80                   | 18.946            |                    |         |
| 11,600.00                                                                                 | 9,455.00            | 13,026.81           | 10,540.59           | 48.16           | 54.67       | -161.68               | -2,452.82                         | 327.24     | 1,132.27             | 1,071.84              | 60.43                   | 18.738            |                    |         |
| 11,650.00                                                                                 | 9,455.00            | 13,070.41           | 10,539.92           | 48.70           | 55.15       | -161.64               | -2,496.41                         | 328.10     | 1,131.74             | 1,070.70              | 61.04                   | 18.540            |                    |         |
| 11,700.00                                                                                 | 9,455.00            | 13,114.00           | 10,539.56           | 49.24           | 55.63       | -161.62               | -2,539.99                         | 328.78     | 1,131.50             | 1,069.85              | 61.65                   | 18.354            |                    |         |
| 11,717.45                                                                                 | 9,455.00            | 13,129.13           | 10,539.50           | 49.43           | 55.80       | -161.61               | -2,555.13                         | 328.99     | 1,131.48             | 1,069.62              | 61.86                   | 18.290            |                    |         |
| 11,750.00                                                                                 | 9,455.00            | 13,157.37           | 10,539.48           | 49.78           | 56.11       | -161.60               | -2,583.36                         | 329.42     | 1,131.54             | 1,069.28              | 62.26                   | 18.174            |                    |         |
| 11,800.00                                                                                 | 9,455.00            | 13,200.74           | 10,539.64           | 50.33           | 56.59       | -161.58               | -2,626.72                         | 330.14     | 1,131.88             | 1,069.00              | 62.88                   | 18.002            |                    |         |
| 11,850.00                                                                                 | 9,455.00            | 13,259.89           | 10,539.76           | 50.88           | 57.25       | -161.55               | -2,685.86                         | 331.29     | 1,132.19             | 1,068.57              | 63.62                   | 17.796            |                    |         |
| 11,900.00                                                                                 | 9,455.00            | 13,316.84           | 10,539.29           | 51.44           | 57.90       | -161.49               | -2,742.79                         | 332.64     | 1,132.07             | 1,067.70              | 64.37                   | 17.587            |                    |         |
| 11,950.00                                                                                 | 9,455.00            | 13,367.84           | 10,538.68           | 52.00           | 58.48       | -161.43               | -2,793.77                         | 334.01     | 1,131.82             | 1,066.73              | 65.09                   | 17.389            |                    |         |
| 12,000.00                                                                                 | 9,455.00            | 13,415.76           | 10,538.03           | 52.57           | 59.03       | -161.36               | -2,841.66                         | 335.47     | 1,131.56             | 1,065.77              | 65.79                   | 17.200            |                    |         |
| 12,041.17                                                                                 | 9,455.00            | 13,452.93           | 10,537.57           | 53.04           | 59.46       | -161.30               | -2,878.80                         | 336.86     | 1,131.49             | 1,065.12              | 66.37                   | 17.049            |                    |         |
| 12,050.00                                                                                 | 9,455.00            | 13,460.90           | 10,537.47           | 53.14           | 59.56       | -161.29               | -2,886.77                         | 337.19     | 1,131.49             | 1,065.00              | 66.49                   | 17.018            |                    |         |
| 12,100.00                                                                                 | 9,455.00            | 13,511.80           | 10,536.91           | 53.71           | 60.15       | -161.18               | -2,937.61                         | 339.46     | 1,131.58             | 1,064.33              | 67.25                   | 16.826            |                    |         |
| 12,150.00                                                                                 | 9,455.00            | 13,569.98           | 10,536.12           | 54.29           | 60.83       | -161.09               | -2,995.76                         | 341.49     | 1,131.40             | 1,063.33              | 68.07                   | 16.620            |                    |         |
| 12,200.00                                                                                 | 9,455.00            | 13,620.60           | 10,535.36           | 54.87           | 61.43       | -161.03               | -3,046.35                         | 342.78     | 1,131.00             | 1,062.18              | 68.82                   | 16.435            |                    |         |
| 12,250.00                                                                                 | 9,455.00            | 13,678.44           | 10,534.71           | 55.45           | 62.11       | -160.98               | -3,095.30                         | 343.88     | 1,130.63             | 1,061.03              | 69.60                   | 16.244            |                    |         |
| 12,300.00                                                                                 | 9,455.00            | 13,719.55           | 10,534.10           | 56.04           | 62.60       | -160.94               | -3,145.27                         | 344.93     | 1,130.29             | 1,060.01              | 70.28                   | 16.083            |                    |         |
| 12,350.00                                                                                 | 9,455.00            | 13,769.67           | 10,533.49           | 56.63           | 63.20       | -160.89               | -3,195.37                         | 345.98     | 1,129.95             | 1,058.93              | 71.02                   | 15.910            |                    |         |
| 12,400.00                                                                                 | 9,455.00            | 13,823.61           | 10,532.74           | 57.22           | 63.84       | -160.85               | -3,249.29                         | 347.05     | 1,129.52             | 1,057.72              | 71.80                   | 15.732            |                    |         |
| 12,450.00                                                                                 | 9,455.00            | 13,874.44           | 10,531.91           | 57.82           | 64.45       | -160.81               | -3,300.11                         | 347.96     | 1,128.94             | 1,056.38              | 72.56                   | 15.580            |                    |         |
| 12,500.00                                                                                 | 9,455.00            | 13,917.60           | 10,531.37           | 58.42           | 64.97       | -160.77               | -3,343.26                         | 348.72     | 1,128.53             | 1,055.29              | 73.24                   | 15.408            |                    |         |
| 12,541.62                                                                                 | 9,455.00            | 13,953.52           | 10,531.14           | 58.92           | 65.41       | -160.75               | -3,379.18                         | 348.34     | 1,128.43             | 1,054.61              | 73.82                   | 15.286            |                    |         |
| 12,550.00                                                                                 | 9,455.00            | 13,961.24           | 10,531.11           | 59.02           | 65.50       | -160.75               | -3,386.90                         | 349.48     | 1,128.43             | 1,054.49              | 73.94                   | 15.262            |                    |         |
| 12,600.00                                                                                 | 9,455.00            | 14,008.79           | 10,531.05           | 59.63           | 66.08       | -160.72               | -3,434.45                         | 350.21     | 1,128.51             | 1,053.85              | 74.66                   | 15.115            |                    |         |
| 12,650.00                                                                                 | 9,455.00            | 14,056.38           | 10,531.15           | 60.24           | 66.66       | -160.71               | -3,482.03                         | 350.77     | 1,128.71             | 1,053.33              | 75.38                   | 14.973            |                    |         |
| 12,700.00                                                                                 | 9,455.00            | 14,104.21           | 10,531.40           | 60.85           | 67.24       | -160.71               | -3,529.85                         | 351.21     | 1,129.00             | 1,052.90              | 76.10                   | 14.836            |                    |         |
| 12,750.00                                                                                 | 9,455.00            | 14,153.06           | 10,531.78           | 61.46           | 67.84       | -160.72               | -3,578.70                         | 351.58     | 1,129.38             | 1,052.57              | 76.82                   | 14.702            |                    |         |
| 12,800.00                                                                                 | 9,455.00            | 14,207.02           | 10,532.18           | 62.08           | 68.50       | -160.73               | -3,632.66                         | 351.78     | 1,129.69             | 1,052.11              | 77.58                   | 14.562            |                    |         |
| 12,850.00                                                                                 | 9,455.00            | 14,264.24           | 10,532.45           | 62.70           | 69.21       | -160.76               | -3,689.88                         | 351.70     | 1,129.79             | 1,051.43              | 78.36                   | 14.419            |                    |         |
| 12,900.00                                                                                 | 9,455.00            | 14,326.19           | 10,532.26           | 63.32           | 69.97       | -160.79               | -3,751.82                         | 351.26     | 1,129.42             | 1,050.26              | 79.16                   | 14.267            |                    |         |
| 12,950.00                                                                                 | 9,455.00            | 14,377.53           | 10,531.83           | 63.94           | 70.60       | -160.83               | -3,803.16                         | 350.67     | 1,128.73             | 1,048.84              | 79.89                   | 14.129            |                    |         |
| 13,000.00                                                                                 | 9,455.00            | 14,427.56           | 10,531.46           | 64.57           | 71.22       | -160.87               | -3,853.19                         | 349.96     | 1,128.04             | 1,047.45              | 80.60                   | 13.996            |                    |         |
| 13,050.00                                                                                 | 9,455.00            | 14,466.37           | 10,531.39           | 65.19           | 71.70       | -160.91               | -3,891.99                         | 349.36     | 1,127.60             | 1,046.38              | 81.22                   | 13.883            |                    |         |
| 13,069.95                                                                                 | 9,455.00            | 14,481.91           | 10,531.47           | 65.45           | 71.90       | -160.93               | -3,907.52                         | 349.13     | 1,127.56             | 1,046.10              | 81.47                   | 13.841            |                    |         |
| 13,100.00                                                                                 | 9,455.00            | 14,505.31           | 10,531.72           | 65.82           | 72.19       | -160.96               | -3,930.92                         | 348.79     | 1,127.65             | 1,045.81              | 81.84                   | 13.779            |                    |         |
| 13,150.00                                                                                 | 9,455.00            | 14,552.74           | 10,532.49           | 66.46           | 72.78       | -161.02               | -3,978.34                         | 348.10     | 1,128.08             | 1,045.57              | 82.51                   | 13.671            |                    |         |
| 13,200.00                                                                                 | 9,455.00            | 14,605.91           | 10,533.31           | 67.09           | 73.44       | -161.09               | -4,031.50                         | 347.18     | 1,128.42             | 1,045.19              | 83.23                   | 13.558            |                    |         |
| 13,250.00                                                                                 | 9,455.00            | 14,662.66           | 10,533.95           | 67.73           | 74.15       | -161.17               | -4,088.24                         | 346.12     | 1,128.55             | 1,044.58              | 83.97                   | 13.439            |                    |         |
| 13,300.00                                                                                 | 9,455.00            | 14,720.16           | 10,534.19           | 68.36           | 74.87       | -161.24               | -4,145.73                         | 345.10     | 1,128.36             | 1,043.63              | 84.73                   | 13.317            |                    |         |
| 13,350.00                                                                                 | 9,455.00            | 14,770.83           | 10,534.22           | 69.00           | 75.51       | -161.30               | -4,196.38                         | 344.24     | 1,128.01             | 1,042.57              | 85.45                   | 13.202            |                    |         |
| 13,400.00                                                                                 | 9,455.00            | 14,820.70           | 10,534.16           | 69.64           | 76.14       | -161.35               | -4,246.25                         | 343.44     | 1,127.60             | 1,041.44              | 86.16                   | 13.088            |                    |         |
| 13,450.00                                                                                 | 9,455.00            | 14,867.31           | 10,534.26           | 70.29           | 76.73       | -161.41               | -4,292.85                         | 342.57     | 1,127.29             | 1,040.45              | 86.84                   | 12.982            |                    |         |
| 13,500.00                                                                                 | 9,455.00            | 14,919.10           | 10,534.53           | 70.93           | 77.39       | -161.48               | -4,344.63                         | 341.45     | 1,127.10             | 1,039.55              | 87.55                   | 12.874            |                    |         |
| 13,550.00                                                                                 | 9,455.00            | 14,980.94           | 10,534.30           | 71.58           | 78.18       | -161.55               | -4,406.46                         | 340.28     | 1,126.53             | 1,038.18              | 88.35                   | 12.751            |                    |         |
| 13,600.00                                                                                 | 9,455.00            | 15,037.90           | 10,533.52           | 72.22           | 78.90       | -161.60               | -4,463.41                         | 339.36     | 1,125.52             | 1,036.39              | 89.13                   | 12.628            |                    |         |
| 13,650.00                                                                                 | 9,455.00            | 15,093.78           | 10,532.46           | 72.87           | 79.62       | -161.65               | -4,519.27                         | 338.41     | 1,124.24             | 1,034.34              | 89.90                   | 12.505            |                    |         |
| 13,700.00                                                                                 | 9,455.00            | 15,142.93           | 10,531.46           | 73.52           | 80.25       | -161.70               | -4,568.40                         | 337.46     | 1,122.87             | 1,032.25              | 90.63                   | 12.390            |                    |         |
| 13,750.00                                                                                 | 9,455.00            | 15,192.99           | 10,530.48           | 74.18           | 80.89       | -161.75               | -4,618.43                         | 336.38     | 1,121.51             | 1,030.16              | 91.35                   | 12.277            |                    |         |
| 13,800.00                                                                                 | 9,455.00            | 15,243.32           | 10,529.41           | 74.83           | 81.54       | -161.79               | -4,668.75                         | 335.52     | 1,120.13             | 1,028.04              | 92.09                   | 12.164            |                    |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore #1 |                           |                           |                           |                   |                |                             |                                         |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|-----------------------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|---------|
| Survey Program: 147-MWD+HDGM                                                              |                           |                           |                           |                   |                |                             |                                         |               |                            |                             |                               |                      | Offset Well Error: | 0.50 ft |
| Reference                                                                                 |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Distance                                |               | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |         |
| Measured<br>Depth<br>(ft)                                                                 | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) |                            |                             |                               |                      |                    |         |
| 13,850.00                                                                                 | 9,455.00                  | 15,289.54                 | 10,528.33                 | 75.48             | 82.14          | -161.81                     | -4,714.96                               | 335.06        | 1,118.77                   | 1,025.96                    | 92.81                         | 12.054               |                    |         |
| 13,900.00                                                                                 | 9,455.00                  | 15,329.35                 | 10,527.64                 | 76.14             | 82.66          | -161.82                     | -4,754.75                               | 334.87        | 1,117.78                   | 1,024.28                    | 93.49                         | 11.956               |                    |         |
| 13,950.00                                                                                 | 9,455.00                  | 15,369.37                 | 10,527.28                 | 76.80             | 83.18          | -161.83                     | -4,794.78                               | 334.86        | 1,117.24                   | 1,023.06                    | 94.18                         | 11.883               |                    |         |
| 14,000.00                                                                                 | 9,455.00                  | 15,416.31                 | 10,527.08                 | 77.46             | 83.79          | -161.83                     | -4,841.71                               | 335.03        | 1,116.99                   | 1,022.06                    | 94.93                         | 11.767               |                    |         |
| 14,050.00                                                                                 | 9,455.00                  | 15,463.24                 | 10,526.96                 | 78.12             | 84.41          | -161.83                     | -4,888.65                               | 335.36        | 1,116.88                   | 1,021.19                    | 95.69                         | 11.672               |                    |         |
| 14,063.00                                                                                 | 9,455.00                  | 15,475.28                 | 10,526.94                 | 78.29             | 84.57          | -161.82                     | -4,900.68                               | 335.47        | 1,116.87                   | 1,020.99                    | 95.88                         | 11.648               |                    |         |
| 14,100.00                                                                                 | 9,455.00                  | 15,509.59                 | 10,526.94                 | 78.78             | 85.02          | -161.82                     | -4,934.99                               | 335.83        | 1,116.92                   | 1,020.47                    | 96.45                         | 11.581               |                    |         |
| 14,150.00                                                                                 | 9,455.00                  | 15,555.95                 | 10,527.04                 | 79.44             | 85.63          | -161.80                     | -4,981.34                               | 336.41        | 1,117.12                   | 1,019.91                    | 97.21                         | 11.492               |                    |         |
| 14,200.00                                                                                 | 9,455.00                  | 15,593.06                 | 10,527.36                 | 80.10             | 86.12          | -161.79                     | -5,018.45                               | 337.03        | 1,117.69                   | 1,019.81                    | 97.89                         | 11.418               |                    |         |
| 14,250.00                                                                                 | 9,455.00                  | 15,630.15                 | 10,528.07                 | 80.77             | 86.61          | -161.77                     | -5,055.52                               | 337.86        | 1,118.84                   | 1,020.28                    | 98.56                         | 11.352               |                    |         |
| 14,300.00                                                                                 | 9,455.00                  | 15,676.33                 | 10,529.34                 | 81.43             | 87.23          | -161.75                     | -5,101.67                               | 339.14        | 1,120.47                   | 1,021.13                    | 99.34                         | 11.279               |                    |         |
| 14,350.00                                                                                 | 9,455.00                  | 15,733.04                 | 10,530.62                 | 82.10             | 87.99          | -161.70                     | -5,158.33                               | 340.89        | 1,121.93                   | 1,021.67                    | 100.26                        | 11.190               |                    |         |
| 14,400.00                                                                                 | 9,455.00                  | 15,791.89                 | 10,531.50                 | 82.77             | 88.78          | -161.64                     | -5,217.15                               | 342.78        | 1,123.05                   | 1,021.83                    | 101.21                        | 11.096               |                    |         |
| 14,450.00                                                                                 | 9,455.00                  | 15,851.28                 | 10,531.94                 | 83.44             | 89.57          | -161.58                     | -5,276.51                               | 344.49        | 1,123.75                   | 1,021.58                    | 102.17                        | 10.999               |                    |         |
| 14,500.00                                                                                 | 9,455.00                  | 15,901.23                 | 10,532.18                 | 84.11             | 90.24          | -161.54                     | -5,326.44                               | 345.81        | 1,124.29                   | 1,021.27                    | 103.02                        | 10.913               |                    |         |
| 14,550.00                                                                                 | 9,455.00                  | 15,949.35                 | 10,532.38                 | 84.78             | 90.89          | -161.50                     | -5,374.55                               | 347.00        | 1,124.78                   | 1,020.94                    | 103.85                        | 10.831               |                    |         |
| 14,600.00                                                                                 | 9,455.00                  | 15,991.78                 | 10,532.82                 | 85.45             | 91.46          | -161.47                     | -5,416.96                               | 347.95        | 1,125.53                   | 1,020.93                    | 104.60                        | 10.760               |                    |         |
| 14,650.00                                                                                 | 9,455.00                  | 16,038.96                 | 10,533.68                 | 86.12             | 92.09          | -161.46                     | -5,464.13                               | 348.89        | 1,126.60                   | 1,021.21                    | 105.39                        | 10.690               |                    |         |
| 14,700.00                                                                                 | 9,455.00                  | 16,109.45                 | 10,534.16                 | 86.80             | 93.04          | -161.41                     | -5,534.59                               | 350.49        | 1,127.19                   | 1,020.73                    | 106.46                        | 10.588               |                    |         |
| 14,750.00                                                                                 | 9,455.00                  | 16,161.96                 | 10,533.82                 | 87.47             | 93.75          | -161.35                     | -5,587.09                               | 351.91        | 1,127.20                   | 1,019.84                    | 107.36                        | 10.499               |                    |         |
| 14,800.00                                                                                 | 9,455.00                  | 16,210.97                 | 10,533.47                 | 88.15             | 94.42          | -161.29                     | -5,636.07                               | 353.37        | 1,127.25                   | 1,019.02                    | 108.23                        | 10.415               |                    |         |
| 14,850.00                                                                                 | 9,455.00                  | 16,258.56                 | 10,533.18                 | 88.82             | 95.06          | -161.23                     | -5,683.64                               | 354.90        | 1,127.36                   | 1,018.27                    | 109.09                        | 10.334               |                    |         |
| 14,900.00                                                                                 | 9,455.00                  | 16,306.02                 | 10,532.96                 | 89.50             | 95.71          | -161.16                     | -5,731.07                               | 356.51        | 1,127.60                   | 1,017.64                    | 109.96                        | 10.255               |                    |         |
| 14,950.00                                                                                 | 9,455.00                  | 16,353.76                 | 10,532.83                 | 90.18             | 96.36          | -161.09                     | -5,778.78                               | 358.20        | 1,127.93                   | 1,017.10                    | 110.83                        | 10.177               |                    |         |
| 15,000.00                                                                                 | 9,455.00                  | 16,401.52                 | 10,532.79                 | 90.86             | 97.01          | -161.02                     | -5,826.51                               | 359.92        | 1,128.37                   | 1,016.66                    | 111.71                        | 10.101               |                    |         |
| 15,050.00                                                                                 | 9,455.00                  | 16,457.67                 | 10,532.71                 | 91.54             | 97.77          | -160.95                     | -5,882.63                               | 361.76        | 1,128.73                   | 1,016.06                    | 112.68                        | 10.017               |                    |         |
| 15,100.00                                                                                 | 9,455.00                  | 16,515.02                 | 10,532.43                 | 92.22             | 98.55          | -160.90                     | -5,939.96                               | 363.15        | 1,128.80                   | 1,015.17                    | 113.63                        | 9.934                |                    |         |
| 15,150.00                                                                                 | 9,455.00                  | 16,574.47                 | 10,531.86                 | 92.90             | 99.36          | -160.86                     | -5,999.41                               | 364.03        | 1,128.48                   | 1,013.90                    | 114.58                        | 9.849                |                    |         |
| 15,200.00                                                                                 | 9,455.00                  | 16,625.72                 | 10,531.19                 | 93.58             | 100.05         | -160.85                     | -6,050.65                               | 364.39        | 1,127.88                   | 1,012.45                    | 115.43                        | 9.771                |                    |         |
| 15,250.00                                                                                 | 9,455.00                  | 16,673.54                 | 10,530.88                 | 94.26             | 100.70         | -160.85                     | -6,098.48                               | 364.82        | 1,127.34                   | 1,011.11                    | 116.24                        | 9.699                |                    |         |
| 15,300.00                                                                                 | 9,455.00                  | 16,730.00                 | 10,530.07                 | 94.94             | 101.47         | -160.85                     | -6,154.92                               | 364.71        | 1,126.76                   | 1,009.65                    | 117.11                        | 9.621                |                    |         |
| 15,350.00                                                                                 | 9,455.00                  | 16,789.49                 | 10,529.07                 | 95.63             | 102.27         | -160.86                     | -6,214.40                               | 364.43        | 1,125.78                   | 1,007.79                    | 117.99                        | 9.541                |                    |         |
| 15,400.00                                                                                 | 9,455.00                  | 16,830.35                 | 10,528.47                 | 96.31             | 103.03         | -160.88                     | -6,255.26                               | 364.13        | 1,124.86                   | 1,006.14                    | 118.72                        | 9.475                |                    |         |
| 15,450.00                                                                                 | 9,455.00                  | 16,873.79                 | 10,528.11                 | 97.00             | 103.41         | -160.91                     | -6,288.69                               | 363.77        | 1,124.21                   | 1,004.77                    | 119.45                        | 9.412                |                    |         |
| 15,500.00                                                                                 | 9,455.00                  | 16,922.82                 | 10,527.89                 | 97.68             | 104.08         | -160.94                     | -6,347.72                               | 363.27        | 1,123.74                   | 1,003.52                    | 120.22                        | 9.348                |                    |         |
| 15,550.00                                                                                 | 9,455.00                  | 16,971.88                 | 10,527.77                 | 98.37             | 104.74         | -160.98                     | -6,396.78                               | 362.65        | 1,123.31                   | 1,002.33                    | 120.97                        | 9.286                |                    |         |
| 15,600.00                                                                                 | 9,455.00                  | 17,018.90                 | 10,527.74                 | 99.06             | 105.38         | -161.03                     | -6,443.79                               | 362.06        | 1,122.97                   | 1,001.25                    | 121.71                        | 9.226                |                    |         |
| 15,650.00                                                                                 | 9,455.00                  | 17,066.41                 | 10,527.78                 | 99.74             | 106.02         | -161.06                     | -6,491.30                               | 361.59        | 1,122.75                   | 1,000.29                    | 122.46                        | 9.168                |                    |         |
| 15,700.00                                                                                 | 9,455.00                  | 17,117.47                 | 10,527.90                 | 100.43            | 106.72         | -161.11                     | -6,542.35                               | 360.98        | 1,122.56                   | 999.33                      | 123.23                        | 9.109                |                    |         |
| 15,750.00                                                                                 | 9,455.00                  | 17,166.81                 | 10,528.06                 | 101.12            | 107.39         | -161.17                     | -6,591.69                               | 360.12        | 1,122.33                   | 998.36                      | 123.97                        | 9.053                |                    |         |
| 15,785.14                                                                                 | 9,455.00                  | 17,197.83                 | 10,528.23                 | 101.61            | 107.81         | -161.21                     | -6,622.70                               | 359.85        | 1,122.27                   | 997.80                      | 124.47                        | 9.017                |                    |         |
| 15,800.00                                                                                 | 9,455.00                  | 17,210.95                 | 10,528.33                 | 101.81            | 107.99         | -161.22                     | -6,635.82                               | 359.49        | 1,122.28                   | 997.60                      | 124.67                        | 9.002                |                    |         |
| 15,850.00                                                                                 | 9,455.00                  | 17,256.21                 | 10,528.74                 | 102.50            | 108.60         | -161.26                     | -6,681.07                               | 359.15        | 1,122.49                   | 997.08                      | 125.40                        | 8.951                |                    |         |
| 15,900.00                                                                                 | 9,455.00                  | 17,310.02                 | 10,529.04                 | 103.19            | 109.34         | -161.27                     | -6,734.89                               | 359.29        | 1,122.69                   | 996.44                      | 126.25                        | 8.893                |                    |         |
| 15,950.00                                                                                 | 9,455.00                  | 17,364.76                 | 10,528.92                 | 103.88            | 110.10         | -161.25                     | -6,789.82                               | 360.09        | 1,122.72                   | 995.56                      | 127.16                        | 8.829                |                    |         |
| 16,000.00                                                                                 | 9,455.00                  | 17,421.10                 | 10,528.52                 | 104.57            | 110.87         | -161.22                     | -6,845.95                               | 360.82        | 1,122.48                   | 994.40                      | 128.08                        | 8.764                |                    |         |
| 16,050.00                                                                                 | 9,455.00                  | 17,471.88                 | 10,528.02                 | 105.26            | 111.57         | -161.21                     | -6,896.73                               | 361.26        | 1,122.06                   | 993.12                      | 128.94                        | 8.702                |                    |         |
| 16,100.00                                                                                 | 9,455.00                  | 17,520.30                 | 10,527.61                 | 105.96            | 112.24         | -161.20                     | -6,945.15                               | 361.63        | 1,121.68                   | 991.92                      | 129.77                        | 8.644                |                    |         |
| 16,150.00                                                                                 | 9,455.00                  | 17,570.94                 | 10,527.24                 | 106.65            | 112.94         | -161.19                     | -6,995.79                               | 361.97        | 1,121.34                   | 990.73                      | 130.61                        | 8.585                |                    |         |
| 16,200.00                                                                                 | 9,455.00                  | 17,622.30                 | 10,526.82                 | 107.34            | 113.64         | -161.19                     | -7,047.14                               | 362.27        | 1,120.94                   | 989.48                      | 131.46                        | 8.527                |                    |         |
| 16,250.00                                                                                 | 9,455.00                  | 17,670.94                 | 10,526.46                 | 108.04            | 114.31         | -161.19                     | -7,095.78                               | 362.45        | 1,120.54                   | 988.26                      | 132.28                        | 8.471                |                    |         |
| 16,300.00                                                                                 | 9,455.00                  | 17,719.38                 | 10,526.22                 | 108.73            | 114.98         | -161.20                     | -7,144.22                               | 362.46        | 1,120.21                   | 987.13                      | 133.09                        | 8.417                |                    |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore #1 |                           |                           |                           |                 |        |                              |               |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-----------------|--------|------------------------------|---------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|---------|
| Survey Program: 147-MWD+HDGM                                                              |                           |                           |                           |                 |        |                              |               |               |                            |                             |                               |                      | Offset Well Error: | 0.50 ft |
| Reference                                                                                 |                           | Offset                    |                           | Semi Major Axis |        | Highside<br>Toothface<br>(") | Distance      |               | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |         |
| Measured<br>Depth<br>(ft)                                                                 | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference       | Offset |                              | +N/-S<br>(ft) | +E/-W<br>(ft) |                            |                             |                               |                      |                    |         |
| 16,350.00                                                                                 | 9,455.00                  | 17,768.43                 | 10,526.09                 | 109.43          | 115.66 | -161.22                      | -7,193.27     | 362.30        | 1,119.93                   | 986.06                      | 133.88                        | 8.365                |                    |         |
| 16,400.00                                                                                 | 9,455.00                  | 17,817.49                 | 10,528.05                 | 110.12          | 116.33 | -161.25                      | -7,242.33     | 362.02        | 1,119.70                   | 985.04                      | 134.66                        | 8.315                |                    |         |
| 16,450.00                                                                                 | 9,455.00                  | 17,866.17                 | 10,526.05                 | 110.82          | 117.00 | -161.27                      | -7,291.01     | 361.78        | 1,119.52                   | 984.07                      | 135.44                        | 8.266                |                    |         |
| 16,500.00                                                                                 | 9,455.00                  | 17,915.59                 | 10,526.05                 | 111.51          | 117.68 | -161.29                      | -7,340.43     | 361.71        | 1,119.39                   | 983.15                      | 136.24                        | 8.216                |                    |         |
| 16,550.00                                                                                 | 9,455.00                  | 17,970.24                 | 10,525.88                 | 112.21          | 118.44 | -161.30                      | -7,395.07     | 361.78        | 1,119.16                   | 982.05                      | 137.11                        | 8.163                |                    |         |
| 16,600.00                                                                                 | 9,455.00                  | 18,020.40                 | 10,525.52                 | 112.91          | 119.13 | -161.31                      | -7,445.24     | 361.92        | 1,118.76                   | 980.82                      | 137.94                        | 8.110                |                    |         |
| 16,650.00                                                                                 | 9,455.00                  | 18,063.87                 | 10,525.42                 | 113.60          | 119.73 | -161.32                      | -7,488.70     | 361.95        | 1,118.56                   | 979.87                      | 138.70                        | 8.065                |                    |         |
| 16,658.66                                                                                 | 9,455.00                  | 18,071.39                 | 10,525.44                 | 113.72          | 119.84 | -161.32                      | -7,496.23     | 361.94        | 1,118.56                   | 979.73                      | 138.82                        | 8.057                |                    |         |
| 16,700.00                                                                                 | 9,455.00                  | 18,109.11                 | 10,525.64                 | 114.30          | 120.36 | -161.34                      | -7,533.94     | 361.84        | 1,118.65                   | 979.20                      | 139.45                        | 8.022                |                    |         |
| 16,750.00                                                                                 | 9,455.00                  | 18,160.09                 | 10,525.89                 | 115.00          | 121.07 | -161.36                      | -7,584.92     | 361.88        | 1,118.79                   | 978.52                      | 140.27                        | 7.976                |                    |         |
| 16,800.00                                                                                 | 9,455.00                  | 18,213.67                 | 10,525.99                 | 115.70          | 121.81 | -161.38                      | -7,638.50     | 362.16        | 1,118.86                   | 977.73                      | 141.13                        | 7.928                |                    |         |
| 16,850.00                                                                                 | 9,455.00                  | 18,271.26                 | 10,525.87                 | 116.40          | 122.61 | -161.38                      | -7,696.09     | 362.12        | 1,118.65                   | 976.63                      | 142.02                        | 7.877                |                    |         |
| 16,900.00                                                                                 | 9,455.00                  | 18,330.88                 | 10,525.37                 | 117.09          | 123.43 | -161.41                      | -7,755.71     | 361.80        | 1,118.07                   | 975.16                      | 142.90                        | 7.824                |                    |         |
| 16,950.00                                                                                 | 9,455.00                  | 18,391.12                 | 10,524.21                 | 117.79          | 124.27 | -161.41                      | -7,815.94     | 361.72        | 1,117.03                   | 973.20                      | 143.82                        | 7.767                |                    |         |
| 17,000.00                                                                                 | 9,455.00                  | 18,441.50                 | 10,523.00                 | 118.49          | 124.97 | -161.41                      | -7,866.30     | 361.71        | 1,115.79                   | 971.12                      | 144.67                        | 7.713                |                    |         |
| 17,050.00                                                                                 | 9,455.00                  | 18,494.10                 | 10,521.63                 | 119.19          | 125.70 | -161.40                      | -7,918.88     | 361.71        | 1,114.45                   | 968.92                      | 145.54                        | 7.658                |                    |         |
| 17,100.00                                                                                 | 9,455.00                  | 18,547.57                 | 10,520.09                 | 119.90          | 126.45 | -161.39                      | -7,972.33     | 361.66        | 1,112.97                   | 966.56                      | 146.41                        | 7.602                |                    |         |
| 17,150.00                                                                                 | 9,455.00                  | 18,602.46                 | 10,518.30                 | 120.60          | 127.21 | -161.38                      | -8,027.20     | 361.63        | 1,111.31                   | 964.01                      | 147.30                        | 7.545                |                    |         |
| 17,200.00                                                                                 | 9,455.00                  | 18,658.15                 | 10,516.09                 | 121.30          | 127.99 | -161.35                      | -8,082.84     | 361.85        | 1,109.40                   | 961.18                      | 148.23                        | 7.485                |                    |         |
| 17,250.00                                                                                 | 9,455.00                  | 18,694.54                 | 10,514.71                 | 122.00          | 128.50 | -161.33                      | -8,119.20     | 362.13        | 1,107.64                   | 958.63                      | 149.01                        | 7.433                |                    |         |
| 17,300.00                                                                                 | 9,455.00                  | 18,729.53                 | 10,513.87                 | 122.70          | 128.99 | -161.31                      | -8,154.18     | 362.48        | 1,106.55                   | 956.79                      | 149.76                        | 7.389                |                    |         |
| 17,350.00                                                                                 | 9,455.00                  | 18,785.29                 | 10,513.50                 | 123.40          | 129.49 | -161.29                      | -8,189.94     | 362.89        | 1,106.13                   | 955.65                      | 150.49                        | 7.350                |                    |         |
| 17,359.96                                                                                 | 9,455.00                  | 18,772.89                 | 10,513.48                 | 123.54          | 129.59 | -161.29                      | -8,197.53     | 362.98        | 1,106.12                   | 955.49                      | 150.63                        | 7.343                |                    |         |
| 17,400.00                                                                                 | 9,455.00                  | 18,803.43                 | 10,513.57                 | 124.11          | 130.02 | -161.29                      | -8,228.08     | 363.30        | 1,106.29                   | 955.08                      | 151.21                        | 7.316                |                    |         |
| 17,450.00                                                                                 | 9,455.00                  | 18,841.57                 | 10,514.11                 | 124.81          | 130.55 | -161.29                      | -8,266.20     | 363.62        | 1,106.99                   | 955.09                      | 151.90                        | 7.287                |                    |         |
| 17,500.00                                                                                 | 9,455.00                  | 18,880.56                 | 10,515.07                 | 125.51          | 131.10 | -161.30                      | -8,305.19     | 363.97        | 1,108.21                   | 955.62                      | 152.59                        | 7.263                |                    |         |
| 17,550.00                                                                                 | 9,455.00                  | 18,919.79                 | 10,516.37                 | 126.21          | 131.65 | -161.31                      | -8,344.39     | 364.58        | 1,109.91                   | 956.64                      | 153.27                        | 7.241                |                    |         |
| 17,600.00                                                                                 | 9,455.00                  | 18,963.35                 | 10,518.13                 | 126.92          | 132.27 | -161.30                      | -8,387.90     | 365.52        | 1,112.06                   | 958.03                      | 154.03                        | 7.220                |                    |         |
| 17,650.00                                                                                 | 9,455.00                  | 19,013.96                 | 10,520.20                 | 127.62          | 132.98 | -161.30                      | -8,438.45     | 366.71        | 1,114.28                   | 959.38                      | 154.90                        | 7.194                |                    |         |
| 17,700.00                                                                                 | 9,455.00                  | 19,080.85                 | 10,522.54                 | 128.33          | 133.93 | -161.27                      | -8,505.28     | 368.39        | 1,116.28                   | 960.25                      | 156.02                        | 7.155                |                    |         |
| 17,750.00                                                                                 | 9,455.00                  | 19,150.18                 | 10,523.32                 | 129.03          | 134.91 | -161.21                      | -8,574.57     | 370.36        | 1,117.11                   | 959.89                      | 157.22                        | 7.105                |                    |         |
| 17,800.00                                                                                 | 9,455.00                  | 19,197.68                 | 10,523.59                 | 129.74          | 135.58 | -161.16                      | -8,622.06     | 371.74        | 1,117.75                   | 959.63                      | 158.12                        | 7.069                |                    |         |
| 17,850.00                                                                                 | 9,455.00                  | 19,248.03                 | 10,523.99                 | 130.44          | 136.31 | -161.12                      | -8,673.39     | 373.17        | 1,118.46                   | 959.40                      | 159.06                        | 7.032                |                    |         |
| 17,900.00                                                                                 | 9,455.00                  | 19,306.58                 | 10,524.16                 | 131.15          | 137.12 | -161.07                      | -8,730.92     | 374.67        | 1,118.93                   | 958.84                      | 160.09                        | 6.989                |                    |         |
| 17,950.00                                                                                 | 9,455.00                  | 19,344.25                 | 10,524.24                 | 131.85          | 137.68 | -161.03                      | -8,768.57     | 375.65        | 1,119.39                   | 958.53                      | 160.85                        | 6.959                |                    |         |
| 18,000.00                                                                                 | 9,455.00                  | 19,375.25                 | 10,524.79                 | 132.56          | 138.10 | -161.00                      | -8,799.55     | 376.68        | 1,120.66                   | 959.15                      | 161.50                        | 6.939                |                    |         |
| 18,050.00                                                                                 | 9,455.00                  | 19,415.00                 | 10,526.20                 | 133.26          | 138.66 | -160.96                      | -8,839.24     | 378.30        | 1,122.83                   | 960.55                      | 162.28                        | 6.919                |                    |         |
| 18,100.00                                                                                 | 9,455.00                  | 19,458.85                 | 10,528.05                 | 133.97          | 139.29 | -160.91                      | -8,883.01     | 380.22        | 1,125.39                   | 962.27                      | 163.12                        | 6.899                |                    |         |
| 18,150.00                                                                                 | 9,455.00                  | 19,520.17                 | 10,530.15                 | 134.68          | 140.16 | -160.85                      | -8,944.24     | 382.66        | 1,127.56                   | 963.30                      | 164.26                        | 6.864                |                    |         |
| 18,200.00                                                                                 | 9,455.00                  | 19,580.48                 | 10,531.77                 | 135.38          | 141.02 | -160.80                      | -9,004.51     | 384.60        | 1,129.25                   | 963.90                      | 165.35                        | 6.829                |                    |         |
| 18,250.00                                                                                 | 9,455.00                  | 19,640.88                 | 10,532.94                 | 136.09          | 141.88 | -160.76                      | -9,064.87     | 386.13        | 1,130.48                   | 964.07                      | 166.40                        | 6.794                |                    |         |
| 18,300.00                                                                                 | 9,455.00                  | 19,701.32                 | 10,533.52                 | 136.80          | 142.73 | -160.72                      | -9,125.29     | 387.68        | 1,131.25                   | 963.78                      | 167.47                        | 6.755                |                    |         |
| 18,350.00                                                                                 | 9,455.00                  | 19,763.30                 | 10,533.52                 | 137.50          | 143.61 | -160.67                      | -9,187.25     | 389.10        | 1,131.52                   | 962.97                      | 168.55                        | 6.713                |                    |         |
| 18,400.00                                                                                 | 9,455.00                  | 19,825.58                 | 10,532.95                 | 138.21          | 144.49 | -160.63                      | -9,249.52     | 390.15        | 1,131.26                   | 961.66                      | 169.60                        | 6.670                |                    |         |
| 18,450.00                                                                                 | 9,455.00                  | 19,888.09                 | 10,531.79                 | 138.92          | 145.38 | -160.60                      | -9,312.01     | 390.79        | 1,130.45                   | 959.83                      | 170.62                        | 6.626                |                    |         |
| 18,500.00                                                                                 | 9,455.00                  | 19,944.13                 | 10,530.36                 | 139.63          | 146.17 | -160.57                      | -9,368.03     | 391.11        | 1,129.23                   | 957.67                      | 171.56                        | 6.582                |                    |         |
| 18,550.00                                                                                 | 9,455.00                  | 19,999.38                 | 10,528.66                 | 140.34          | 146.95 | -160.55                      | -9,423.26     | 391.32        | 1,127.75                   | 955.25                      | 172.50                        | 6.538                |                    |         |
| 18,600.00                                                                                 | 9,455.00                  | 20,052.89                 | 10,526.84                 | 141.04          | 147.70 | -160.53                      | -9,476.74     | 391.46        | 1,126.08                   | 952.67                      | 173.41                        | 6.494                |                    |         |
| 18,650.00                                                                                 | 9,455.00                  | 20,101.36                 | 10,525.11                 | 141.75          | 148.38 | -160.51                      | -9,525.18     | 391.58        | 1,124.32                   | 950.03                      | 174.30                        | 6.451                |                    |         |
| 18,700.00                                                                                 | 9,455.00                  | 20,146.81                 | 10,523.62                 | 142.46          | 149.02 | -160.49                      | -9,570.81     | 391.78        | 1,122.75                   | 947.58                      | 175.17                        | 6.410                |                    |         |
| 18,750.00                                                                                 | 9,455.00                  | 20,194.78                 | 10,522.18                 | 143.17          | 149.70 | -160.46                      | -9,618.55     | 392.11        | 1,121.34                   | 945.28                      | 176.06                        | 6.369                |                    |         |
| 18,800.00                                                                                 | 9,455.00                  | 20,244.76                 | 10,520.69                 | 143.88          | 150.41 | -160.44                      | -9,668.51     | 392.46        | 1,119.95                   | 942.98                      | 176.97                        | 6.329                |                    |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 215H - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 147-MWD+HDGM                                                              |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   | Warning            |         |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 18,850.00                                                                                 | 9,455.00            | 20,289.92           | 10,519.44           | 144.59          | 151.05      | -160.42               | -9,713.65                         | 392.72     | 1,118.63             | 940.80                | 177.83                  | 6.290             |                    |         |
| 18,900.00                                                                                 | 9,455.00            | 20,332.78           | 10,518.61           | 145.30          | 151.65      | -160.42               | -9,756.50                         | 392.74     | 1,117.62             | 938.98                | 178.64                  | 6.256             |                    |         |
| 18,950.00                                                                                 | 9,455.00            | 20,379.25           | 10,518.07           | 146.01          | 152.31      | -160.43               | -9,802.96                         | 392.52     | 1,116.89             | 937.45                | 179.44                  | 6.224             |                    |         |
| 19,000.00                                                                                 | 9,455.00            | 20,429.59           | 10,517.55           | 146.72          | 153.01      | -160.45               | -9,853.30                         | 392.21     | 1,116.18             | 935.93                | 180.26                  | 6.192             |                    |         |
| 19,050.00                                                                                 | 9,455.00            | 20,475.89           | 10,517.11           | 147.43          | 153.67      | -160.48               | -9,899.60                         | 391.88     | 1,115.52             | 934.48                | 181.04                  | 6.162             |                    |         |
| 19,100.00                                                                                 | 9,455.00            | 20,519.65           | 10,516.97           | 148.14          | 154.28      | -160.51               | -9,943.36                         | 391.49     | 1,115.12             | 933.34                | 181.78                  | 6.134             |                    |         |
| 19,144.46                                                                                 | 9,455.00            | 20,558.19           | 10,517.08           | 148.77          | 154.82      | -160.54               | -9,981.90                         | 391.11     | 1,114.99             | 932.58                | 182.42                  | 6.112             |                    |         |
| 19,150.00                                                                                 | 9,455.00            | 20,562.92           | 10,517.11           | 148.85          | 154.89      | -160.54               | -9,986.62                         | 391.07     | 1,114.99             | 932.50                | 182.50                  | 6.110             |                    |         |
| 19,200.00                                                                                 | 9,455.00            | 20,605.61           | 10,517.49           | 149.56          | 155.49      | -160.58               | -10,029.31                        | 390.78     | 1,115.19             | 931.99                | 183.21                  | 6.087             |                    |         |
| 19,250.00                                                                                 | 9,455.00            | 20,650.23           | 10,518.12           | 150.27          | 156.12      | -160.61               | -10,073.92                        | 390.66     | 1,115.71             | 931.77                | 183.94                  | 6.066             |                    |         |
| 19,300.00                                                                                 | 9,455.00            | 20,700.22           | 10,518.91           | 150.98          | 156.83      | -160.64               | -10,123.91                        | 390.57     | 1,116.32             | 931.58                | 184.73                  | 6.043             |                    |         |
| 19,350.00                                                                                 | 9,455.00            | 20,751.35           | 10,519.70           | 151.70          | 157.55      | -160.67               | -10,175.03                        | 390.48     | 1,116.91             | 931.37                | 185.54                  | 6.020             |                    |         |
| 19,400.00                                                                                 | 9,455.00            | 20,804.46           | 10,520.40           | 152.41          | 158.30      | -160.71               | -10,228.14                        | 390.39     | 1,117.40             | 931.03                | 186.37                  | 5.996             |                    |         |
| 19,450.00                                                                                 | 9,455.00            | 20,859.24           | 10,520.95           | 153.12          | 159.08      | -160.74               | -10,282.91                        | 390.25     | 1,117.72             | 930.51                | 187.22                  | 5.970             |                    |         |
| 19,500.00                                                                                 | 9,455.00            | 20,915.14           | 10,521.28           | 153.83          | 159.87      | -160.78               | -10,338.82                        | 389.90     | 1,117.80             | 929.73                | 188.06                  | 5.944             |                    |         |
| 19,550.00                                                                                 | 9,455.00            | 20,973.81           | 10,521.32           | 154.54          | 160.69      | -160.83               | -10,397.48                        | 389.26     | 1,117.55             | 928.64                | 188.90                  | 5.916             |                    |         |
| 19,600.00                                                                                 | 9,455.00            | 21,032.73           | 10,520.98           | 155.25          | 161.52      | -160.89               | -10,456.39                        | 388.29     | 1,116.90             | 927.18                | 189.72                  | 5.887             |                    |         |
| 19,650.00                                                                                 | 9,455.00            | 21,080.28           | 10,520.63           | 155.97          | 162.19      | -160.93               | -10,503.94                        | 387.56     | 1,116.19             | 925.72                | 190.47                  | 5.860             |                    |         |
| 19,700.00                                                                                 | 9,455.00            | 21,131.29           | 10,520.19           | 156.68          | 162.91      | -160.98               | -10,554.93                        | 386.80     | 1,115.43             | 924.19                | 191.24                  | 5.833             |                    |         |
| 19,750.00                                                                                 | 9,455.00            | 21,183.01           | 10,519.74           | 157.39          | 163.63      | -161.03               | -10,606.65                        | 385.83     | 1,114.61             | 922.62                | 192.00                  | 5.805             |                    |         |
| 19,800.00                                                                                 | 9,455.00            | 21,235.40           | 10,519.24           | 158.10          | 164.37      | -161.10               | -10,659.02                        | 384.67     | 1,113.70             | 920.96                | 192.74                  | 5.778             |                    |         |
| 19,850.00                                                                                 | 9,455.00            | 21,288.12           | 10,518.60           | 158.82          | 165.11      | -161.16               | -10,711.72                        | 383.54     | 1,112.68             | 919.19                | 193.49                  | 5.751             |                    |         |
| 19,900.00                                                                                 | 9,455.00            | 21,344.67           | 10,517.65           | 159.53          | 165.91      | -161.22               | -10,768.25                        | 382.38     | 1,111.45             | 917.18                | 194.27                  | 5.721             |                    |         |
| 19,950.00                                                                                 | 9,455.00            | 21,398.76           | 10,516.40           | 160.13          | 166.67      | -161.26               | -10,822.32                        | 381.33     | 1,109.93             | 915.08                | 194.86                  | 5.696             |                    |         |
| 20,000.00                                                                                 | 9,455.00            | 21,436.00           | 10,515.49           | 160.74          | 167.19      | -161.30               | -10,859.54                        | 380.61     | 1,108.44             | 913.07                | 195.37                  | 5.674             |                    |         |
| 20,004.02                                                                                 | 9,455.00            | 21,436.00           | 10,515.49           | 160.78          | 167.19      | -161.30               | -10,859.54                        | 380.61     | 1,108.37             | 912.97                | 195.40                  | 5.672 SF          |                    |         |

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design                |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore #1 |         | Offset Site Error: 0.00 ft |  |
|------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|-----------------------------------------------------------------------------|---------|----------------------------|--|
| Survey Program: 139-MWD+HDGM |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: 0.50 ft                                                  |         |                            |  |
| Reference                    |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                                                                             | Warning |                            |  |
| Measured Depth (ft)          | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                                                                             |         |                            |  |
|                              |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   |                                                                             |         |                            |  |
| 0.00                         | 0.00                | 5.17                | 5.17                | 0.50            | 0.50        | -88.07                | 291.81                            | -724.70    | 781.25               |                       |                         |                   |                                                                             |         |                            |  |
| 50.00                        | 50.00               | 56.86               | 56.86               | 0.50            | 0.51        | -88.06                | 291.85                            | -724.61    | 781.18               | 780.17                | 1.01                    | 774.943           |                                                                             |         |                            |  |
| 100.00                       | 100.00              | 108.55              | 108.54              | 0.52            | 0.52        | -88.05                | 291.96                            | -724.38    | 781.01               | 779.97                | 1.04                    | 751.320           |                                                                             |         |                            |  |
| 150.00                       | 150.00              | 159.78              | 159.78              | 0.59            | 0.57        | -88.03                | 292.13                            | -724.00    | 780.73               | 779.58                | 1.16                    | 675.204           |                                                                             |         |                            |  |
| 200.00                       | 200.00              | 210.37              | 210.37              | 0.70            | 0.67        | -88.00                | 292.39                            | -723.55    | 780.41               | 779.04                | 1.37                    | 568.617           |                                                                             |         |                            |  |
| 250.00                       | 250.00              | 260.28              | 260.27              | 0.84            | 0.80        | -87.96                | 292.71                            | -723.04    | 780.06               | 778.42                | 1.64                    | 476.139           |                                                                             |         |                            |  |
| 300.00                       | 300.00              | 309.78              | 309.77              | 0.99            | 0.95        | -87.93                | 293.03                            | -722.57    | 779.74               | 777.80                | 1.93                    | 403.396           |                                                                             |         |                            |  |
| 350.00                       | 350.00              | 359.35              | 359.33              | 1.15            | 1.10        | -87.89                | 293.33                            | -722.13    | 779.45               | 777.20                | 2.25                    | 347.066           |                                                                             |         |                            |  |
| 400.00                       | 400.00              | 408.95              | 408.93              | 1.31            | 1.26        | -87.86                | 293.61                            | -721.74    | 779.18               | 776.61                | 2.57                    | 303.145           |                                                                             |         |                            |  |
| 450.00                       | 450.00              | 459.27              | 459.25              | 1.48            | 1.43        | -87.84                | 293.84                            | -721.36    | 778.93               | 776.02                | 2.90                    | 268.146           |                                                                             |         |                            |  |
| 500.00                       | 500.00              | 509.97              | 509.95              | 1.65            | 1.60        | -87.81                | 294.03                            | -720.96    | 778.63               | 775.38                | 3.25                    | 239.874           |                                                                             |         |                            |  |
| 550.00                       | 550.00              | 559.77              | 559.74              | 1.82            | 1.77        | -87.79                | 294.19                            | -720.56    | 778.31               | 774.73                | 3.59                    | 216.927           |                                                                             |         |                            |  |
| 600.00                       | 600.00              | 609.36              | 609.34              | 1.99            | 1.94        | -87.77                | 294.40                            | -720.16    | 778.02               | 774.09                | 3.93                    | 197.873           |                                                                             |         |                            |  |
| 650.00                       | 650.00              | 659.77              | 659.75              | 2.16            | 2.12        | -87.74                | 294.61                            | -719.75    | 777.73               | 773.45                | 4.28                    | 181.675           |                                                                             |         |                            |  |
| 700.00                       | 700.00              | 710.23              | 710.20              | 2.34            | 2.29        | -87.72                | 294.78                            | -719.34    | 777.41               | 772.78                | 4.63                    | 167.846           |                                                                             |         |                            |  |
| 750.00                       | 750.00              | 759.90              | 759.87              | 2.51            | 2.47        | -87.70                | 294.89                            | -718.95    | 777.09               | 772.11                | 4.98                    | 156.020           |                                                                             |         |                            |  |
| 800.00                       | 800.00              | 809.31              | 809.28              | 2.69            | 2.64        | -87.68                | 294.94                            | -718.61    | 776.79               | 771.46                | 5.33                    | 145.741           |                                                                             |         |                            |  |
| 850.00                       | 850.00              | 858.41              | 858.37              | 2.87            | 2.81        | -87.67                | 295.05                            | -718.30    | 776.55               | 770.87                | 5.68                    | 136.742           |                                                                             |         |                            |  |
| 900.00                       | 900.00              | 907.50              | 907.46              | 3.04            | 2.99        | -87.65                | 295.22                            | -718.03    | 776.36               | 770.33                | 6.03                    | 128.779           |                                                                             |         |                            |  |
| 950.00                       | 950.00              | 956.58              | 956.55              | 3.22            | 3.16        | -87.63                | 295.39                            | -717.83    | 776.23               | 769.85                | 6.38                    | 121.688           |                                                                             |         |                            |  |
| 991.48                       | 991.48              | 996.52              | 996.48              | 3.37            | 3.30        | -87.62                | 295.53                            | -717.72    | 776.18               | 769.52                | 6.67                    | 116.451 CC        |                                                                             |         |                            |  |
| 1,000.00                     | 1,000.00            | 1,004.66            | 1,004.63            | 3.40            | 3.33        | -87.62                | 295.57                            | -717.71    | 776.18               | 769.46                | 6.72                    | 115.438           |                                                                             |         |                            |  |
| 1,050.00                     | 1,050.00            | 1,052.68            | 1,052.64            | 3.58            | 3.49        | -87.60                | 295.80                            | -717.71    | 776.28               | 769.21                | 7.07                    | 109.832           |                                                                             |         |                            |  |
| 1,100.00                     | 1,100.00            | 1,101.69            | 1,101.65            | 3.75            | 3.66        | -87.58                | 296.08                            | -717.79    | 776.46               | 769.05                | 7.41                    | 104.742           |                                                                             |         |                            |  |
| 1,150.00                     | 1,150.00            | 1,150.70            | 1,150.66            | 3.93            | 3.83        | -87.57                | 296.38                            | -717.93    | 776.71               | 768.95                | 7.76                    | 100.110           |                                                                             |         |                            |  |
| 1,200.00                     | 1,200.00            | 1,199.91            | 1,199.87            | 4.11            | 4.00        | -87.55                | 296.73                            | -718.11    | 777.01               | 768.91                | 8.11                    | 95.866            |                                                                             |         |                            |  |
| 1,250.00                     | 1,250.00            | 1,249.40            | 1,249.36            | 4.29            | 4.17        | -87.52                | 297.17                            | -718.30    | 777.37               | 768.91                | 8.45                    | 91.960            |                                                                             |         |                            |  |
| 1,300.00                     | 1,300.00            | 1,300.28            | 1,300.24            | 4.46            | 4.35        | -87.50                | 297.64                            | -718.48    | 777.70               | 768.89                | 8.81                    | 88.284            |                                                                             |         |                            |  |
| 1,350.00                     | 1,350.00            | 1,350.66            | 1,350.62            | 4.64            | 4.52        | -87.47                | 298.10                            | -718.59    | 777.99               | 768.82                | 9.16                    | 84.921            |                                                                             |         |                            |  |
| 1,400.00                     | 1,400.00            | 1,400.13            | 1,400.08            | 4.82            | 4.69        | -87.45                | 298.51                            | -718.75    | 778.28               | 768.77                | 9.51                    | 81.825            |                                                                             |         |                            |  |
| 1,450.00                     | 1,450.00            | 1,449.95            | 1,449.90            | 5.00            | 4.87        | -87.43                | 298.87                            | -718.95    | 778.61               | 768.75                | 9.86                    | 78.939            |                                                                             |         |                            |  |
| 1,500.00                     | 1,500.00            | 1,500.09            | 1,500.03            | 5.18            | 5.04        | -87.40                | 299.32                            | -719.11    | 778.94               | 768.72                | 10.22                   | 76.241            |                                                                             |         |                            |  |
| 1,550.00                     | 1,550.00            | 1,550.52            | 1,550.46            | 5.36            | 5.22        | -87.37                | 299.83                            | -719.24    | 779.24               | 768.67                | 10.57                   | 73.706            |                                                                             |         |                            |  |
| 1,600.00                     | 1,600.00            | 1,601.11            | 1,601.05            | 5.53            | 5.40        | -87.34                | 300.33                            | -719.33    | 779.52               | 768.59                | 10.93                   | 71.324            |                                                                             |         |                            |  |
| 1,650.00                     | 1,650.00            | 1,650.72            | 1,650.66            | 5.71            | 5.57        | -87.31                | 300.79                            | -719.41    | 779.77               | 768.49                | 11.28                   | 69.117            |                                                                             |         |                            |  |
| 1,700.00                     | 1,700.00            | 1,700.02            | 1,699.96            | 5.89            | 5.74        | -87.29                | 301.15                            | -719.58    | 780.07               | 768.44                | 11.63                   | 67.054            |                                                                             |         |                            |  |
| 1,750.00                     | 1,750.00            | 1,749.82            | 1,749.75            | 6.07            | 5.92        | -87.28                | 301.45                            | -719.81    | 780.41               | 768.42                | 11.99                   | 65.111            |                                                                             |         |                            |  |
| 1,800.00                     | 1,800.00            | 1,799.68            | 1,799.61            | 6.25            | 6.09        | -87.26                | 301.75                            | -720.06    | 780.75               | 768.41                | 12.34                   | 63.278            |                                                                             |         |                            |  |
| 1,850.00                     | 1,850.00            | 1,850.83            | 1,850.76            | 6.43            | 6.27        | -87.25                | 302.03                            | -720.28    | 781.06               | 768.36                | 12.70                   | 61.518            |                                                                             |         |                            |  |
| 1,900.00                     | 1,900.00            | 1,901.98            | 1,901.91            | 6.61            | 6.45        | -87.24                | 302.30                            | -720.43    | 781.29               | 768.24                | 13.05                   | 59.848            |                                                                             |         |                            |  |
| 1,950.00                     | 1,950.00            | 1,951.17            | 1,951.11            | 6.78            | 6.63        | -87.22                | 302.58                            | -720.56    | 781.52               | 768.12                | 13.41                   | 58.292            |                                                                             |         |                            |  |
| 2,000.00                     | 2,000.00            | 2,001.08            | 2,001.01            | 6.96            | 6.80        | -87.20                | 302.91                            | -720.71    | 781.79               | 768.02                | 13.76                   | 56.809            |                                                                             |         |                            |  |
| 2,050.00                     | 2,050.00            | 2,052.21            | 2,052.14            | 7.14            | 6.98        | -87.19                | 303.17                            | -720.84    | 782.01               | 767.89                | 14.12                   | 55.381            |                                                                             |         |                            |  |
| 2,100.00                     | 2,100.00            | 2,102.04            | 2,101.97            | 7.32            | 7.16        | -87.18                | 303.30                            | -720.96    | 782.17               | 767.69                | 14.47                   | 54.040            |                                                                             |         |                            |  |
| 2,150.00                     | 2,150.00            | 2,149.91            | 2,149.84            | 7.50            | 7.32        | -87.18                | 303.43                            | -721.18    | 782.43               | 767.61                | 14.82                   | 52.798            |                                                                             |         |                            |  |
| 2,200.00                     | 2,200.00            | 2,199.04            | 2,198.96            | 7.68            | 7.49        | -87.18                | 303.60                            | -721.51    | 782.81               | 767.64                | 15.17                   | 51.605            |                                                                             |         |                            |  |
| 2,250.00                     | 2,250.00            | 2,249.95            | 2,249.87            | 7.86            | 7.67        | -87.17                | 303.82                            | -721.82    | 783.17               | 767.64                | 15.53                   | 50.441            |                                                                             |         |                            |  |
| 2,300.00                     | 2,300.00            | 2,299.58            | 2,299.50            | 8.04            | 7.85        | -87.16                | 304.05                            | -722.06    | 783.49               | 767.61                | 15.88                   | 49.342 ES         |                                                                             |         |                            |  |
| 2,350.00                     | 2,350.00            | 2,348.14            | 2,348.07            | 8.22            | 8.02        | -87.16                | 304.27                            | -722.39    | 783.89               | 767.66                | 16.23                   | 48.306            |                                                                             |         |                            |  |
| 2,400.00                     | 2,400.00            | 2,399.15            | 2,399.07            | 8.39            | 8.19        | -87.16                | 304.47                            | -722.79    | 784.33               | 767.74                | 16.59                   | 47.291            |                                                                             |         |                            |  |
| 2,450.00                     | 2,450.00            | 2,451.85            | 2,451.77            | 8.57            | 8.38        | -87.16                | 304.61                            | -723.07    | 784.62               | 767.67                | 16.95                   | 46.295            |                                                                             |         |                            |  |
| 2,500.00                     | 2,500.00            | 2,495.43            | 2,495.35            | 8.75            | 8.53        | -87.15                | 304.76                            | -723.33    | 784.97               | 767.69                | 17.28                   | 45.429            |                                                                             |         |                            |  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore #1 |                     |                     |                     |           |        |                 |                       |                                   |            |                      |                       |                         | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------|--------|-----------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 139-MWD+HDGM                                                              |                     |                     |                     |           |        |                 |                       |                                   |            |                      |                       |                         | Offset Well Error: | 0.50 ft |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Semi Major Axis | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor  | Warning |
| 2,550.00                                                                                  | 2,550.00            | 2,536.84            | 2,536.75            | 8.93      | 8.68   | -67.15          |                       | 305.12                            | -723.98    | 785.86               | 768.26                | 17.60                   | 44.650             |         |
| 2,600.00                                                                                  | 2,600.00            | 2,579.78            | 2,579.67            | 9.11      | 8.83   | -67.14          |                       | 305.72                            | -725.04    | 787.27               | 769.34                | 17.93                   | 43.917             |         |
| 2,650.00                                                                                  | 2,650.00            | 2,624.03            | 2,623.90            | 9.29      | 8.98   | -67.12          |                       | 306.55                            | -726.41    | 789.06               | 770.80                | 18.26                   | 43.220             |         |
| 2,700.00                                                                                  | 2,700.00            | 2,671.28            | 2,671.10            | 9.47      | 9.15   | -67.10          |                       | 307.64                            | -728.12    | 791.17               | 772.57                | 18.60                   | 42.537             |         |
| 2,750.00                                                                                  | 2,750.00            | 2,722.80            | 2,722.57            | 9.65      | 9.33   | -67.07          |                       | 308.80                            | -729.97    | 793.26               | 774.30                | 18.96                   | 41.837             |         |
| 2,800.00                                                                                  | 2,800.00            | 2,773.29            | 2,773.02            | 9.83      | 9.51   | -67.04          |                       | 309.92                            | -731.71    | 795.28               | 775.96                | 19.32                   | 41.167             |         |
| 2,850.00                                                                                  | 2,850.00            | 2,822.99            | 2,822.68            | 10.00     | 9.69   | -67.00          |                       | 311.21                            | -733.34    | 797.30               | 777.62                | 19.67                   | 40.529             |         |
| 2,900.00                                                                                  | 2,900.00            | 2,868.96            | 2,868.60            | 10.18     | 9.85   | -66.95          |                       | 312.63                            | -734.84    | 799.41               | 779.40                | 20.01                   | 39.949             |         |
| 2,950.00                                                                                  | 2,950.00            | 2,912.96            | 2,912.54            | 10.36     | 10.01  | -66.90          |                       | 314.22                            | -736.52    | 801.87               | 781.53                | 20.34                   | 39.424             |         |
| 3,000.00                                                                                  | 3,000.00            | 2,960.86            | 2,960.36            | 10.54     | 10.18  | -66.83          |                       | 316.15                            | -738.58    | 804.64               | 783.96                | 20.69                   | 38.898             |         |
| 3,050.00                                                                                  | 3,050.00            | 3,012.72            | 3,012.13            | 10.72     | 10.36  | -66.76          |                       | 318.15                            | -740.79    | 807.36               | 786.31                | 21.05                   | 38.352             |         |
| 3,100.00                                                                                  | 3,100.00            | 3,065.34            | 3,064.67            | 10.90     | 10.55  | -66.70          |                       | 320.01                            | -742.94    | 809.94               | 788.52                | 21.42                   | 37.813             |         |
| 3,150.00                                                                                  | 3,150.00            | 3,118.35            | 3,117.62            | 11.08     | 10.74  | -66.65          |                       | 321.66                            | -744.99    | 812.33               | 790.54                | 21.79                   | 37.281             |         |
| 3,200.00                                                                                  | 3,200.00            | 3,164.20            | 3,163.41            | 11.26     | 10.90  | -66.62          |                       | 322.91                            | -746.85    | 814.73               | 792.60                | 22.13                   | 36.822             |         |
| 3,250.00                                                                                  | 3,250.00            | 3,209.00            | 3,208.15            | 11.44     | 11.06  | -66.61          |                       | 323.98                            | -749.03    | 817.44               | 794.98                | 22.46                   | 36.399             |         |
| 3,300.00                                                                                  | 3,300.00            | 3,254.56            | 3,253.62            | 11.62     | 11.22  | -66.62          |                       | 324.89                            | -751.62    | 820.44               | 797.65                | 22.79                   | 35.998             |         |
| 3,350.00                                                                                  | 3,350.00            | 3,300.28            | 3,299.25            | 11.80     | 11.38  | -66.66          |                       | 325.60                            | -754.56    | 823.70               | 800.58                | 23.12                   | 35.620             |         |
| 3,400.00                                                                                  | 3,400.00            | 3,344.42            | 3,343.27            | 11.97     | 11.54  | -66.72          |                       | 326.06                            | -757.76    | 827.24               | 803.80                | 23.45                   | 35.279             |         |
| 3,450.00                                                                                  | 3,450.00            | 3,387.90            | 3,386.59            | 12.15     | 11.70  | -66.80          |                       | 326.29                            | -761.38    | 831.17               | 807.40                | 23.77                   | 34.970             |         |
| 3,500.00                                                                                  | 3,500.00            | 3,434.55            | 3,433.05            | 12.33     | 11.86  | -66.92          |                       | 326.34                            | -765.68    | 835.42               | 811.32                | 24.10                   | 34.659             |         |
| 3,550.00                                                                                  | 3,550.00            | 3,483.99            | 3,482.28            | 12.51     | 12.04  | -67.03          |                       | 326.41                            | -770.28    | 839.74               | 815.29                | 24.45                   | 34.339             |         |
| 3,600.00                                                                                  | 3,600.00            | 3,536.29            | 3,534.36            | 12.69     | 12.22  | -67.15          |                       | 326.60                            | -775.07    | 844.03               | 819.21                | 24.82                   | 34.004             |         |
| 3,650.00                                                                                  | 3,650.00            | 3,590.29            | 3,588.15            | 12.87     | 12.42  | -67.24          |                       | 327.04                            | -779.64    | 848.09               | 822.90                | 25.20                   | 33.658             |         |
| 3,700.00                                                                                  | 3,700.00            | 3,642.24            | 3,639.94            | 13.05     | 12.60  | -67.33          |                       | 327.45                            | -783.83    | 851.97               | 826.40                | 25.56                   | 33.329             |         |
| 3,750.00                                                                                  | 3,750.00            | 3,693.89            | 3,691.42            | 13.23     | 12.79  | -67.44          |                       | 327.42                            | -788.05    | 855.73               | 829.81                | 25.93                   | 33.007             |         |
| 3,800.00                                                                                  | 3,800.00            | 3,744.04            | 3,741.40            | 13.41     | 12.97  | -67.56          |                       | 327.19                            | -792.17    | 859.44               | 833.16                | 26.28                   | 32.702             |         |
| 3,850.00                                                                                  | 3,850.00            | 3,795.84            | 3,793.02            | 13.59     | 13.15  | -67.68          |                       | 326.94                            | -796.40    | 863.13               | 836.48                | 26.64                   | 32.394             |         |
| 3,900.00                                                                                  | 3,900.00            | 3,857.14            | 3,854.15            | 13.77     | 13.37  | -67.82          |                       | 326.45                            | -800.92    | 866.39               | 839.33                | 27.06                   | 32.023             |         |
| 3,950.00                                                                                  | 3,950.00            | 3,911.71            | 3,908.60            | 13.94     | 13.56  | -67.95          |                       | 325.77                            | -804.41    | 869.11               | 841.68                | 27.43                   | 31.683             |         |
| 4,000.00                                                                                  | 4,000.00            | 3,961.64            | 3,958.43            | 14.12     | 13.74  | -68.08          |                       | 324.95                            | -807.61    | 871.78               | 844.00                | 27.78                   | 31.376             |         |
| 4,050.00                                                                                  | 4,050.00            | 4,006.52            | 4,003.19            | 14.30     | 13.90  | -68.21          |                       | 324.09                            | -810.64    | 874.56               | 846.44                | 28.11                   | 31.106             |         |
| 4,100.00                                                                                  | 4,100.00            | 4,049.31            | 4,045.86            | 14.48     | 14.05  | -68.34          |                       | 323.23                            | -813.89    | 877.72               | 849.29                | 28.43                   | 30.869             |         |
| 4,150.00                                                                                  | 4,150.00            | 4,095.77            | 4,092.14            | 14.66     | 14.22  | -68.49          |                       | 322.27                            | -817.79    | 881.25               | 852.47                | 28.77                   | 30.630             |         |
| 4,200.00                                                                                  | 4,200.00            | 4,146.44            | 4,142.62            | 14.84     | 14.40  | -68.66          |                       | 321.19                            | -822.07    | 884.79               | 855.66                | 29.13                   | 30.375             |         |
| 4,250.00                                                                                  | 4,250.00            | 4,203.20            | 4,199.17            | 15.02     | 14.60  | -68.85          |                       | 319.84                            | -826.72    | 888.19               | 858.67                | 29.52                   | 30.090             |         |
| 4,300.00                                                                                  | 4,300.00            | 4,263.84            | 4,259.61            | 15.20     | 14.82  | -69.07          |                       | 317.85                            | -831.18    | 891.04               | 861.11                | 29.92                   | 29.778             |         |
| 4,350.00                                                                                  | 4,350.00            | 4,312.08            | 4,307.71            | 15.38     | 14.99  | -69.24          |                       | 316.26                            | -834.48    | 893.65               | 863.38                | 30.27                   | 29.523             |         |
| 4,400.00                                                                                  | 4,400.00            | 4,360.90            | 4,356.40            | 15.56     | 15.16  | -69.39          |                       | 314.98                            | -837.75    | 896.33               | 865.71                | 30.62                   | 29.274             |         |
| 4,450.00                                                                                  | 4,450.00            | 4,400.54            | 4,395.93            | 15.74     | 15.30  | -69.50          |                       | 314.24                            | -840.60    | 899.36               | 868.43                | 30.92                   | 29.083             |         |
| 4,500.00                                                                                  | 4,500.00            | 4,441.12            | 4,436.39            | 15.92     | 15.45  | -69.60          |                       | 313.81                            | -843.82    | 902.90               | 871.67                | 31.23                   | 28.911             |         |
| 4,550.00                                                                                  | 4,550.00            | 4,491.47            | 4,486.56            | 16.09     | 15.63  | -69.71          |                       | 313.55                            | -848.05    | 906.74               | 875.15                | 31.59                   | 28.704             |         |
| 4,600.00                                                                                  | 4,600.00            | 4,544.59            | 4,539.51            | 16.27     | 15.83  | -69.82          |                       | 313.28                            | -852.32    | 910.43               | 878.47                | 31.96                   | 28.484             |         |
| 4,650.00                                                                                  | 4,650.00            | 4,600.20            | 4,594.96            | 16.45     | 16.03  | -69.93          |                       | 312.96                            | -856.51    | 913.87               | 881.52                | 32.35                   | 28.250             |         |
| 4,700.00                                                                                  | 4,700.00            | 4,655.89            | 4,650.51            | 16.63     | 16.23  | -70.03          |                       | 312.59                            | -860.35    | 917.00               | 884.26                | 32.73                   | 28.013             |         |
| 4,750.00                                                                                  | 4,750.00            | 4,700.82            | 4,695.33            | 16.81     | 16.39  | -70.12          |                       | 312.32                            | -863.51    | 920.19               | 887.12                | 33.07                   | 27.829             |         |
| 4,800.00                                                                                  | 4,800.00            | 4,748.06            | 4,742.45            | 16.99     | 16.56  | -70.20          |                       | 312.09                            | -866.92    | 923.50               | 890.09                | 33.41                   | 27.642             |         |
| 4,850.00                                                                                  | 4,850.00            | 4,795.12            | 4,789.37            | 17.17     | 16.73  | -70.29          |                       | 311.92                            | -870.44    | 926.97               | 893.21                | 33.75                   | 27.464             |         |
| 4,900.00                                                                                  | 4,900.00            | 4,842.64            | 4,836.75            | 17.35     | 16.91  | -70.37          |                       | 311.81                            | -874.12    | 930.58               | 896.48                | 34.10                   | 27.283             |         |
| 4,950.00                                                                                  | 4,950.00            | 4,891.38            | 4,885.34            | 17.53     | 17.09  | -70.44          |                       | 311.86                            | -877.93    | 934.28               | 899.83                | 34.45                   | 27.122             |         |
| 5,000.00                                                                                  | 5,000.00            | 4,941.06            | 4,934.87            | 17.71     | 17.27  | -70.51          |                       | 312.09                            | -881.80    | 938.03               | 903.22                | 34.80                   | 26.952             |         |
| 5,050.00                                                                                  | 5,050.00            | 4,992.66            | 4,986.31            | 17.89     | 17.46  | -70.58          |                       | 312.27                            | -885.78    | 941.72               | 906.55                | 35.17                   | 26.776             |         |
| 5,100.00                                                                                  | 5,100.00            | 5,040.71            | 5,034.23            | 18.06     | 17.63  | -70.65          |                       | 312.35                            | -889.46    | 945.37               | 909.85                | 35.52                   | 26.617             |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 139-MWD+HDGM                                                              |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 5,150.00                                                                                  | 5,150.00            | 5,085.04            | 5,078.41            | 18.24           | 17.79       | -70.71                | 312.57                            | -893.04    | 949.25               | 913.41                | 35.84                   | 26.483            |                    |         |
| 5,200.00                                                                                  | 5,200.00            | 5,131.42            | 5,124.62            | 18.42           | 17.96       | -70.77                | 312.98                            | -896.99    | 953.41               | 917.23                | 36.18                   | 26.351            |                    |         |
| 5,250.00                                                                                  | 5,250.00            | 5,181.74            | 5,174.75            | 18.60           | 18.15       | -70.83                | 313.42                            | -901.31    | 957.62               | 921.08                | 36.54                   | 26.206            |                    |         |
| 5,300.00                                                                                  | 5,300.00            | 5,234.24            | 5,227.05            | 18.78           | 18.34       | -70.89                | 313.80                            | -905.79    | 961.77               | 924.85                | 36.92                   | 26.054            |                    |         |
| 5,350.00                                                                                  | 5,350.00            | 5,289.14            | 5,281.78            | 18.96           | 18.54       | -70.97                | 314.01                            | -910.27    | 965.69               | 928.39                | 37.30                   | 25.889            |                    |         |
| 5,400.00                                                                                  | 5,400.00            | 5,342.52            | 5,334.99            | 19.14           | 18.74       | -71.04                | 314.07                            | -914.42    | 969.38               | 931.70                | 37.68                   | 25.728            |                    |         |
| 5,450.00                                                                                  | 5,450.00            | 5,395.40            | 5,387.73            | 19.32           | 18.93       | -71.12                | 314.15                            | -918.34    | 972.91               | 934.86                | 38.05                   | 25.569            |                    |         |
| 5,500.00                                                                                  | 5,500.00            | 5,440.37            | 5,432.57            | 19.50           | 19.10       | -71.18                | 314.20                            | -921.72    | 976.49               | 938.11                | 38.38                   | 25.441            |                    |         |
| 5,550.00                                                                                  | 5,550.00            | 5,484.89            | 5,476.94            | 19.68           | 19.26       | -71.24                | 314.21                            | -925.33    | 980.33               | 941.62                | 38.71                   | 25.324            |                    |         |
| 5,600.00                                                                                  | 5,600.00            | 5,531.17            | 5,523.05            | 19.86           | 19.43       | -71.32                | 314.18                            | -929.33    | 984.41               | 945.36                | 39.05                   | 25.210            |                    |         |
| 5,650.00                                                                                  | 5,650.00            | 5,577.83            | 5,569.52            | 20.04           | 19.61       | -71.40                | 314.10                            | -933.53    | 988.66               | 949.27                | 39.39                   | 25.100            |                    |         |
| 5,700.00                                                                                  | 5,700.00            | 5,632.96            | 5,624.42            | 20.22           | 19.81       | -71.50                | 313.97                            | -938.49    | 992.89               | 953.12                | 39.78                   | 24.962            |                    |         |
| 5,750.00                                                                                  | 5,750.00            | 5,680.52            | 5,681.79            | 20.39           | 20.02       | -71.60                | 313.82                            | -943.23    | 996.76               | 956.58                | 40.18                   | 24.809            |                    |         |
| 5,800.00                                                                                  | 5,800.00            | 5,740.27            | 5,731.39            | 20.57           | 20.20       | -71.67                | 313.77                            | -947.13    | 1,000.46             | 959.93                | 40.53                   | 24.682            |                    |         |
| 5,850.00                                                                                  | 5,850.00            | 5,789.68            | 5,780.65            | 20.75           | 20.39       | -71.74                | 313.83                            | -950.92    | 1,004.13             | 963.24                | 40.89                   | 24.557            |                    |         |
| 5,900.00                                                                                  | 5,900.00            | 5,835.46            | 5,826.28            | 20.93           | 20.55       | -71.80                | 313.92                            | -954.56    | 1,007.93             | 966.71                | 41.23                   | 24.449            |                    |         |
| 5,950.00                                                                                  | 5,950.00            | 5,881.42            | 5,872.09            | 21.11           | 20.72       | -71.88                | 314.01                            | -958.40    | 1,011.94             | 970.38                | 41.56                   | 24.348            |                    |         |
| 6,000.00                                                                                  | 6,000.00            | 5,928.20            | 5,918.69            | 21.29           | 20.90       | -71.93                | 314.02                            | -962.51    | 1,016.11             | 974.21                | 41.90                   | 24.249            |                    |         |
| 6,050.00                                                                                  | 6,050.00            | 5,975.62            | 5,965.91            | 21.46           | 21.07       | -71.99                | 313.90                            | -966.85    | 1,020.32             | 978.08                | 42.24                   | 24.156            |                    |         |
| 6,100.00                                                                                  | 6,099.99            | 6,025.82            | 6,015.89            | 21.63           | 21.26       | -72.05                | 313.81                            | -971.48    | 1,024.35             | 981.76                | 42.59                   | 24.051            |                    |         |
| 6,150.00                                                                                  | 6,149.98            | 6,077.26            | 6,067.12            | 21.80           | 21.45       | -72.11                | 313.86                            | -976.14    | 1,028.17             | 985.23                | 42.94                   | 23.943            |                    |         |
| 6,200.00                                                                                  | 6,199.96            | 6,131.57            | 6,121.22            | 21.96           | 21.65       | -72.17                | 313.94                            | -980.87    | 1,031.79             | 988.48                | 43.31                   | 23.823            |                    |         |
| 6,250.00                                                                                  | 6,249.94            | 6,185.76            | 6,175.23            | 22.12           | 21.85       | -72.23                | 314.02                            | -985.35    | 1,035.19             | 991.51                | 43.68                   | 23.700            |                    |         |
| 6,300.00                                                                                  | 6,299.92            | 6,239.85            | 6,229.15            | 22.29           | 22.05       | -72.29                | 314.06                            | -989.60    | 1,038.39             | 994.35                | 44.05                   | 23.576            |                    |         |
| 6,350.00                                                                                  | 6,349.90            | 6,291.86            | 6,281.01            | 22.45           | 22.24       | -72.35                | 314.10                            | -993.51    | 1,041.43             | 997.03                | 44.40                   | 23.455            |                    |         |
| 6,400.00                                                                                  | 6,399.88            | 6,343.32            | 6,332.34            | 22.62           | 22.43       | -72.41                | 314.19                            | -997.27    | 1,044.40             | 999.64                | 44.75                   | 23.337            |                    |         |
| 6,450.00                                                                                  | 6,449.86            | 6,392.70            | 6,381.58            | 22.78           | 22.62       | -72.47                | 314.27                            | -1,000.86  | 1,047.33             | 1,002.24              | 45.09                   | 23.225            |                    |         |
| 6,500.00                                                                                  | 6,499.84            | 6,441.96            | 6,430.71            | 22.95           | 22.80       | -72.53                | 314.26                            | -1,004.50  | 1,050.30             | 1,004.87              | 45.44                   | 23.116            |                    |         |
| 6,550.00                                                                                  | 6,549.82            | 6,483.37            | 6,471.99            | 23.11           | 22.95       | -72.59                | 314.21                            | -1,007.78  | 1,053.49             | 1,007.76              | 45.73                   | 23.035            |                    |         |
| 6,600.00                                                                                  | 6,599.80            | 6,525.04            | 6,513.50            | 23.28           | 23.11       | -72.65                | 314.12                            | -1,011.42  | 1,057.07             | 1,011.04              | 46.03                   | 22.964            |                    |         |
| 6,650.00                                                                                  | 6,649.79            | 6,571.42            | 6,559.67            | 23.44           | 23.28       | -72.71                | 314.02                            | -1,015.77  | 1,060.95             | 1,014.60              | 46.36                   | 22.887            |                    |         |
| 6,700.00                                                                                  | 6,699.77            | 6,619.27            | 6,607.31            | 23.61           | 23.46       | -72.77                | 313.96                            | -1,020.34  | 1,064.94             | 1,018.25              | 46.69                   | 22.808            |                    |         |
| 6,750.00                                                                                  | 6,749.75            | 6,671.88            | 6,659.68            | 23.78           | 23.65       | -72.83                | 313.96                            | -1,025.35  | 1,068.93             | 1,021.87              | 47.05                   | 22.717            |                    |         |
| 6,800.00                                                                                  | 6,799.73            | 6,725.90            | 6,713.47            | 23.94           | 23.86       | -72.89                | 314.02                            | -1,030.28  | 1,072.73             | 1,025.31              | 47.42                   | 22.620            |                    |         |
| 6,850.00                                                                                  | 6,849.71            | 6,780.93            | 6,768.29            | 24.11           | 24.06       | -72.95                | 314.10                            | -1,035.03  | 1,076.32             | 1,028.52              | 47.80                   | 22.517            |                    |         |
| 6,900.00                                                                                  | 6,899.69            | 6,834.53            | 6,821.72            | 24.28           | 24.26       | -73.01                | 314.17                            | -1,039.41  | 1,079.67             | 1,031.51              | 48.17                   | 22.415            |                    |         |
| 6,950.00                                                                                  | 6,949.67            | 6,884.58            | 6,871.61            | 24.44           | 24.44       | -73.07                | 314.17                            | -1,043.44  | 1,082.96             | 1,034.45              | 48.52                   | 22.322            |                    |         |
| 7,000.00                                                                                  | 6,999.65            | 6,935.51            | 6,922.37            | 24.61           | 24.63       | -73.13                | 314.10                            | -1,047.56  | 1,086.24             | 1,037.37              | 48.87                   | 22.228            |                    |         |
| 7,050.00                                                                                  | 7,049.63            | 6,987.95            | 6,974.64            | 24.78           | 24.83       | -73.19                | 314.00                            | -1,051.70  | 1,089.42             | 1,040.19              | 49.23                   | 22.129            |                    |         |
| 7,100.00                                                                                  | 7,099.61            | 7,043.39            | 7,029.92            | 24.94           | 25.03       | -73.25                | 313.89                            | -1,055.90  | 1,092.45             | 1,042.85              | 49.61                   | 22.022            |                    |         |
| 7,150.00                                                                                  | 7,149.60            | 7,101.40            | 7,087.80            | 25.11           | 25.25       | -73.31                | 313.79                            | -1,059.87  | 1,095.14             | 1,045.14              | 50.00                   | 21.905            |                    |         |
| 7,200.00                                                                                  | 7,199.58            | 7,156.03            | 7,142.32            | 25.28           | 25.45       | -73.37                | 313.67                            | -1,063.29  | 1,097.53             | 1,047.16              | 50.37                   | 21.791            |                    |         |
| 7,250.00                                                                                  | 7,249.56            | 7,210.32            | 7,196.51            | 25.45           | 25.64       | -73.43                | 313.42                            | -1,066.49  | 1,099.72             | 1,048.98              | 50.73                   | 21.676            |                    |         |
| 7,300.00                                                                                  | 7,299.54            | 7,263.13            | 7,249.25            | 25.62           | 25.84       | -73.49                | 313.27                            | -1,069.40  | 1,101.75             | 1,050.65              | 51.10                   | 21.563            |                    |         |
| 7,350.00                                                                                  | 7,349.52            | 7,316.39            | 7,302.43            | 25.78           | 26.03       | -73.55                | 313.28                            | -1,072.12  | 1,103.64             | 1,052.18              | 51.46                   | 21.447            |                    |         |
| 7,400.00                                                                                  | 7,399.50            | 7,369.97            | 7,355.96            | 25.95           | 26.22       | -73.61                | 313.45                            | -1,074.64  | 1,105.37             | 1,053.55              | 51.82                   | 21.330            |                    |         |
| 7,450.00                                                                                  | 7,449.48            | 7,423.29            | 7,409.23            | 26.12           | 26.42       | -73.67                | 313.73                            | -1,076.92  | 1,106.94             | 1,054.76              | 52.18                   | 21.212            |                    |         |
| 7,500.00                                                                                  | 7,499.46            | 7,476.45            | 7,462.35            | 26.29           | 26.61       | -73.73                | 314.01                            | -1,079.03  | 1,108.37             | 1,055.82              | 52.55                   | 21.094            |                    |         |
| 7,550.00                                                                                  | 7,549.44            | 7,528.77            | 7,515.62            | 26.46           | 26.80       | -73.79                | 314.27                            | -1,080.99  | 1,109.65             | 1,056.74              | 52.91                   | 20.974            |                    |         |
| 7,600.00                                                                                  | 7,599.42            | 7,583.11            | 7,568.94            | 26.63           | 26.99       | -73.85                | 314.50                            | -1,082.80  | 1,110.78             | 1,057.51              | 53.27                   | 20.852            |                    |         |
| 7,650.00                                                                                  | 7,649.41            | 7,635.62            | 7,621.42            | 26.80           | 27.16       | -73.91                | 314.70                            | -1,084.44  | 1,111.78             | 1,058.15              | 53.63                   | 20.732            |                    |         |
| 7,700.00                                                                                  | 7,699.39            | 7,687.78            | 7,673.56            | 26.97           | 27.37       | -73.97                | 314.87                            | -1,085.95  | 1,112.67             | 1,058.68              | 53.98                   | 20.611            |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |                                   |                      |                       |                         |                   | Offset Site Error:      0.00 ft |  |
|------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|-----------------------------------|----------------------|-----------------------|-------------------------|-------------------|---------------------------------|--|
| Survey Program:    139-MWD+HDGM                                                                |                     |                     |                     |                 |             |                       |                                   |                                   |                      |                       |                         |                   | Offset Well Error:      0.50 ft |  |
| Reference                                                                                      |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |                                   |                      |                       |                         |                   | Warning                         |  |
| Measured Depth (ft)                                                                            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                                 |  |
| 7,750.00                                                                                       | 7,749.37            | 7,738.95            | 7,724.70            | 27.14           | 27.55       | 66.94                 | 315.02                            | -1,087.37                         | 1,113.48             | 1,059.15              | 54.34                   | 20.493            |                                 |  |
| 7,800.00                                                                                       | 7,799.35            | 7,790.08            | 7,775.82            | 27.31           | 27.73       | 67.00                 | 315.16                            | -1,088.73                         | 1,114.25             | 1,059.56              | 54.69                   | 20.375            |                                 |  |
| 7,850.00                                                                                       | 7,849.33            | 7,841.18            | 7,826.91            | 27.48           | 27.92       | 67.05                 | 315.34                            | -1,090.02                         | 1,114.97             | 1,059.93              | 55.04                   | 20.257            |                                 |  |
| 7,900.00                                                                                       | 7,899.31            | 7,892.05            | 7,877.76            | 27.65           | 28.10       | 67.11                 | 315.55                            | -1,091.24                         | 1,115.64             | 1,060.25              | 55.39                   | 20.140            |                                 |  |
| 7,950.00                                                                                       | 7,949.29            | 7,942.77            | 7,928.46            | 27.82           | 28.28       | 67.16                 | 315.73                            | -1,092.44                         | 1,116.28             | 1,060.53              | 55.74                   | 20.025            |                                 |  |
| 8,000.00                                                                                       | 7,999.27            | 7,993.23            | 7,978.91            | 27.99           | 28.46       | 67.22                 | 315.89                            | -1,093.60                         | 1,116.89             | 1,060.79              | 56.10                   | 19.911            |                                 |  |
| 8,050.00                                                                                       | 8,049.25            | 8,043.60            | 8,029.27            | 28.16           | 28.64       | 67.27                 | 316.05                            | -1,094.75                         | 1,117.48             | 1,061.04              | 56.45                   | 19.797            |                                 |  |
| 8,100.00                                                                                       | 8,099.23            | 8,096.79            | 8,082.44            | 28.33           | 28.83       | 67.33                 | 316.21                            | -1,095.88                         | 1,118.01             | 1,061.20              | 56.81                   | 19.681            |                                 |  |
| 8,150.00                                                                                       | 8,149.22            | 8,150.46            | 8,136.11            | 28.50           | 29.02       | 67.39                 | 316.32                            | -1,096.85                         | 1,118.37             | 1,061.20              | 57.17                   | 19.563            |                                 |  |
| 8,200.00                                                                                       | 8,199.20            | 8,200.27            | 8,185.91            | 28.67           | 29.20       | 67.45                 | 316.43                            | -1,097.68                         | 1,118.66             | 1,061.15              | 57.52                   | 19.449            |                                 |  |
| 8,250.00                                                                                       | 8,249.18            | 8,250.45            | 8,236.09            | 28.84           | 29.38       | 67.50                 | 316.56                            | -1,098.49                         | 1,118.95             | 1,061.08              | 57.87                   | 19.337            |                                 |  |
| 8,300.00                                                                                       | 8,299.16            | 8,300.68            | 8,286.31            | 29.01           | 29.56       | 67.56                 | 316.70                            | -1,099.30                         | 1,119.22             | 1,061.01              | 58.22                   | 19.225            |                                 |  |
| 8,350.00                                                                                       | 8,349.14            | 8,350.27            | 8,335.89            | 29.18           | 29.73       | 67.62                 | 316.83                            | -1,100.09                         | 1,119.50             | 1,060.93              | 58.57                   | 19.115            |                                 |  |
| 8,400.00                                                                                       | 8,399.12            | 8,398.59            | 8,384.20            | 29.35           | 29.90       | 67.68                 | 317.01                            | -1,100.90                         | 1,119.82             | 1,060.92              | 58.91                   | 19.009            |                                 |  |
| 8,450.00                                                                                       | 8,449.10            | 8,447.68            | 8,433.28            | 29.52           | 30.08       | 67.74                 | 317.27                            | -1,101.77                         | 1,120.25             | 1,060.99              | 59.26                   | 18.905            |                                 |  |
| 8,500.00                                                                                       | 8,499.10            | 8,497.87            | 8,483.47            | 29.69           | 30.26       | 67.78                 | 317.56                            | -1,102.65                         | 1,120.88             | 1,061.28              | 59.61                   | 18.805            |                                 |  |
| 8,550.00                                                                                       | 8,549.10            | 8,547.60            | 8,533.18            | 29.87           | 30.44       | -70.85                | 317.87                            | -1,103.51                         | 1,121.75             | 1,061.79              | 59.96                   | 18.708            |                                 |  |
| 8,600.00                                                                                       | 8,599.10            | 8,596.92            | 8,582.50            | 30.05           | 30.61       | -70.85                | 318.25                            | -1,104.37                         | 1,122.70             | 1,062.39              | 60.31                   | 18.614            |                                 |  |
| 8,650.00                                                                                       | 8,649.10            | 8,646.58            | 8,632.15            | 30.23           | 30.79       | -70.84                | 318.67                            | -1,105.24                         | 1,123.67             | 1,063.00              | 60.67                   | 18.521            |                                 |  |
| 8,700.00                                                                                       | 8,699.10            | 8,696.25            | 8,681.81            | 30.40           | 30.97       | -70.83                | 319.14                            | -1,106.11                         | 1,124.65             | 1,063.63              | 61.02                   | 18.430            |                                 |  |
| 8,750.00                                                                                       | 8,749.10            | 8,745.76            | 8,731.31            | 30.58           | 31.14       | -70.83                | 319.64                            | -1,106.99                         | 1,125.65             | 1,064.27              | 61.38                   | 18.339            |                                 |  |
| 8,800.00                                                                                       | 8,799.10            | 8,795.21            | 8,780.75            | 30.76           | 31.32       | -70.82                | 320.10                            | -1,107.90                         | 1,126.68             | 1,064.94              | 61.73                   | 18.251            |                                 |  |
| 8,850.00                                                                                       | 8,849.10            | 8,843.66            | 8,829.19            | 30.94           | 31.49       | -70.81                | 320.56                            | -1,108.84                         | 1,127.74             | 1,065.66              | 62.08                   | 18.165            |                                 |  |
| 8,900.00                                                                                       | 8,899.09            | 8,891.89            | 8,877.41            | 31.11           | 31.66       | -109.53               | 321.05                            | -1,109.83                         | 1,128.97             | 1,066.54              | 62.43                   | 18.083            |                                 |  |
| 8,950.00                                                                                       | 8,948.94            | 8,938.67            | 8,924.17            | 31.28           | 31.83       | -109.47               | 321.62                            | -1,110.87                         | 1,131.45             | 1,068.68              | 62.77                   | 18.026            |                                 |  |
| 9,000.00                                                                                       | 8,998.28            | 8,984.66            | 8,970.14            | 31.45           | 32.00       | -109.45               | 322.33                            | -1,111.97                         | 1,135.54             | 1,072.44              | 63.10                   | 17.995            |                                 |  |
| 9,050.00                                                                                       | 9,046.74            | 9,035.79            | 9,021.25            | 31.62           | 32.18       | -109.53               | 323.22                            | -1,113.19                         | 1,141.21             | 1,077.75              | 63.45                   | 17.985            |                                 |  |
| 9,100.00                                                                                       | 9,093.94            | 9,087.11            | 9,072.55            | 31.78           | 32.36       | -109.68               | 324.06                            | -1,114.24                         | 1,146.31             | 1,084.51              | 63.81                   | 17.997            |                                 |  |
| 9,150.00                                                                                       | 9,139.53            | 9,128.15            | 9,113.58            | 31.94           | 32.51       | -109.65               | 324.79                            | -1,115.04                         | 1,157.12             | 1,093.00              | 64.12                   | 18.046            |                                 |  |
| 9,200.00                                                                                       | 9,183.16            | 9,166.86            | 9,152.27            | 32.10           | 32.65       | -109.53               | 325.63                            | -1,115.89                         | 1,167.93             | 1,103.51              | 64.42                   | 18.129            |                                 |  |
| 9,250.00                                                                                       | 9,224.50            | 9,207.17            | 9,192.55            | 32.26           | 32.79       | -109.38               | 326.63                            | -1,116.85                         | 1,180.79             | 1,116.06              | 64.73                   | 18.242            |                                 |  |
| 9,300.00                                                                                       | 9,263.23            | 9,248.47            | 9,233.83            | 32.42           | 32.94       | -109.18               | 327.61                            | -1,117.76                         | 1,195.61             | 1,130.57              | 65.04                   | 18.383            |                                 |  |
| 9,350.00                                                                                       | 9,299.06            | 9,286.64            | 9,271.98            | 32.58           | 33.07       | -108.77               | 328.46                            | -1,118.51                         | 1,212.45             | 1,147.11              | 65.34                   | 18.557            |                                 |  |
| 9,400.00                                                                                       | 9,331.72            | 9,318.94            | 9,304.27            | 32.74           | 33.19       | -108.01               | 329.15                            | -1,119.12                         | 1,231.42             | 1,165.81              | 65.61                   | 18.770            |                                 |  |
| 9,450.00                                                                                       | 9,360.95            | 9,348.14            | 9,333.46            | 32.91           | 33.29       | -106.94               | 329.75                            | -1,119.66                         | 1,252.57             | 1,186.71              | 65.86                   | 19.018            |                                 |  |
| 9,500.00                                                                                       | 9,386.54            | 9,373.60            | 9,358.92            | 33.08           | 33.38       | -105.49               | 330.24                            | -1,120.12                         | 1,275.87             | 1,209.78              | 66.10                   | 19.303            |                                 |  |
| 9,550.00                                                                                       | 9,408.29            | 9,396.08            | 9,381.38            | 33.25           | 33.46       | -103.65               | 330.66                            | -1,120.52                         | 1,301.26             | 1,234.94              | 66.32                   | 19.622            |                                 |  |
| 9,600.00                                                                                       | 9,426.04            | 9,414.40            | 9,399.69            | 33.42           | 33.53       | -101.34               | 330.97                            | -1,120.84                         | 1,328.60             | 1,262.09              | 66.51                   | 19.975            |                                 |  |
| 9,650.00                                                                                       | 9,439.64            | 9,428.31            | 9,413.60            | 33.60           | 33.58       | -98.49                | 331.20                            | -1,121.08                         | 1,357.75             | 1,291.06              | 66.69                   | 20.361            |                                 |  |
| 9,700.00                                                                                       | 9,449.01            | 9,437.67            | 9,422.96            | 33.78           | 33.61       | -95.11                | 331.34                            | -1,121.23                         | 1,388.50             | 1,321.66              | 66.83                   | 20.776            |                                 |  |
| 9,750.00                                                                                       | 9,454.05            | 9,442.37            | 9,427.66            | 33.97           | 33.63       | -91.17                | 331.41                            | -1,121.31                         | 1,420.59             | 1,353.64              | 66.95                   | 21.219            |                                 |  |
| 9,800.00                                                                                       | 9,455.00            | 9,442.59            | 9,427.88            | 34.15           | 33.63       | -88.29                | 331.42                            | -1,121.32                         | 1,453.77             | 1,386.73              | 67.04                   | 21.684            |                                 |  |
| 9,850.00                                                                                       | 9,455.00            | 9,441.77            | 9,427.06            | 34.36           | 33.62       | -88.24                | 331.40                            | -1,121.30                         | 1,487.88             | 1,420.74              | 67.14                   | 22.162            |                                 |  |
| 10,050.00                                                                                      | 9,455.00            | 11,485.15           | 10,525.14           | 35.28           | 41.93       | 135.57                | -1,017.98                         | -1,082.07                         | 1,496.56             | 1,436.65              | 59.91                   | 24.981            |                                 |  |
| 10,100.00                                                                                      | 9,455.00            | 11,536.47           | 10,524.59           | 35.54           | 42.29       | 135.70                | -1,068.97                         | -1,076.26                         | 1,492.43             | 1,432.14              | 60.29                   | 24.754            |                                 |  |
| 10,150.00                                                                                      | 9,455.00            | 11,580.56           | 10,524.03           | 35.82           | 42.61       | 135.81                | -1,112.80                         | -1,071.51                         | 1,488.43             | 1,427.74              | 60.69                   | 24.527            |                                 |  |
| 10,200.00                                                                                      | 9,455.00            | 11,624.18           | 10,523.49           | 36.11           | 42.94       | 135.91                | -1,156.18                         | -1,067.03                         | 1,484.63             | 1,423.54              | 61.09                   | 24.303            |                                 |  |
| 10,250.00                                                                                      | 9,455.00            | 11,666.94           | 10,522.87           | 36.42           | 43.26       | 136.00                | -1,198.75                         | -1,063.01                         | 1,481.06             | 1,419.54              | 61.52                   | 24.074            |                                 |  |
| 10,300.00                                                                                      | 9,455.00            | 11,710.68           | 10,522.14           | 36.72           | 43.60       | 136.08                | -1,242.33                         | -1,059.30                         | 1,477.72             | 1,415.75              | 61.97                   | 23.845            |                                 |  |
| 10,350.00                                                                                      | 9,455.00            | 11,757.57           | 10,521.35           | 37.06           | 43.98       | 136.15                | -1,289.06                         | -1,055.51                         | 1,474.53             | 1,412.07              | 62.46                   | 23.606            |                                 |  |
| 10,400.00                                                                                      | 9,455.00            | 11,801.98           | 10,520.66           | 37.39           | 44.33       | 136.23                | -1,333.31                         | -1,051.99                         | 1,471.46             | 1,408.51              | 62.95                   | 23.375            |                                 |  |
| 10,450.00                                                                                      | 9,455.00            | 11,839.52           | 10,520.12           | 37.74           | 44.64       | 136.28                | -1,370.76                         | -1,049.35                         | 1,468.72             | 1,405.28              | 63.44                   | 23.152            |                                 |  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore #1 |                           |                           |                           |                   |                |                             |                        |               |                            |                  |                               |                      |         | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|------------------------|---------------|----------------------------|------------------|-------------------------------|----------------------|---------|--------------------|---------|
| Survey Program: 139-MWD+HDGM                                                              |                           |                           |                           |                   |                |                             |                        |               |                            |                  |                               |                      |         | Offset Well Error: | 0.50 ft |
| Reference                                                                                 |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Offset Wellbore Centre |               | Distance                   |                  | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning |                    |         |
| Measured<br>Depth<br>(ft)                                                                 | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | +N/-S<br>(ft)          | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Ellipses<br>(ft) |                               |                      |         |                    |         |
| 10,500.00                                                                                 | 9,455.00                  | 11,877.11                 | 10,519.61                 | 38.10             | 44.95          | 136.32                      | -1,408.28              | -1,047.12     | 1,466.40                   | 1,402.46         | 63.94                         | 22.935               |         |                    |         |
| 10,550.00                                                                                 | 9,455.00                  | 11,909.54                 | 10,519.22                 | 38.47             | 45.23          | 136.35                      | -1,440.68              | -1,045.60     | 1,464.58                   | 1,400.13         | 64.44                         | 22.726               |         |                    |         |
| 10,600.00                                                                                 | 9,455.00                  | 11,941.05                 | 10,518.94                 | 38.85             | 45.49          | 136.36                      | -1,472.16              | -1,044.61     | 1,463.38                   | 1,398.43         | 64.96                         | 22.528               |         |                    |         |
| 10,650.00                                                                                 | 9,455.00                  | 11,973.00                 | 10,518.74                 | 39.24             | 45.76          | 136.37                      | -1,504.11              | -1,044.09     | 1,462.82                   | 1,397.32         | 65.50                         | 22.333               |         |                    |         |
| 10,700.00                                                                                 | 9,455.00                  | 12,021.85                 | 10,518.65                 | 39.64             | 46.19          | 136.37                      | -1,552.95              | -1,043.55     | 1,462.59                   | 1,396.46         | 66.13                         | 22.116               |         |                    |         |
| 10,750.00                                                                                 | 9,455.00                  | 12,071.36                 | 10,518.84                 | 40.05             | 46.62          | 136.39                      | -1,602.46              | -1,042.72     | 1,462.38                   | 1,395.60         | 66.77                         | 21.900               |         |                    |         |
| 10,787.06                                                                                 | 9,455.00                  | 12,102.40                 | 10,519.02                 | 40.36             | 46.90          | 136.40                      | -1,633.50              | -1,042.26     | 1,462.31                   | 1,395.08         | 67.23                         | 21.750               |         |                    |         |
| 10,800.00                                                                                 | 9,455.00                  | 12,113.57                 | 10,519.09                 | 40.46             | 47.00          | 136.41                      | -1,644.67              | -1,042.13     | 1,462.32                   | 1,394.93         | 67.39                         | 21.698               |         |                    |         |
| 10,850.00                                                                                 | 9,455.00                  | 12,157.31                 | 10,519.35                 | 40.89             | 47.39          | 136.42                      | -1,688.41              | -1,041.80     | 1,462.50                   | 1,394.46         | 68.04                         | 21.495               |         |                    |         |
| 10,900.00                                                                                 | 9,455.00                  | 12,215.15                 | 10,519.64                 | 41.32             | 47.92          | 136.42                      | -1,746.24              | -1,041.37     | 1,462.64                   | 1,393.87         | 68.77                         | 21.270               |         |                    |         |
| 10,950.00                                                                                 | 9,455.00                  | 12,270.54                 | 10,519.81                 | 41.77             | 48.44          | 136.44                      | -1,801.62              | -1,040.66     | 1,462.53                   | 1,393.04         | 69.49                         | 21.045               |         |                    |         |
| 11,000.00                                                                                 | 9,455.00                  | 12,322.91                 | 10,519.95                 | 42.22             | 48.93          | 136.46                      | -1,853.99              | -1,039.85     | 1,462.31                   | 1,392.10         | 70.21                         | 20.827               |         |                    |         |
| 11,050.00                                                                                 | 9,455.00                  | 12,369.86                 | 10,520.08                 | 42.68             | 49.38          | 136.47                      | -1,900.93              | -1,039.09     | 1,462.08                   | 1,391.16         | 70.92                         | 20.617               |         |                    |         |
| 11,094.64                                                                                 | 9,455.00                  | 12,409.99                 | 10,520.26                 | 43.09             | 49.77          | 136.49                      | -1,941.06              | -1,038.56     | 1,462.01                   | 1,390.47         | 71.54                         | 20.436               |         |                    |         |
| 11,100.00                                                                                 | 9,455.00                  | 12,414.81                 | 10,520.28                 | 43.14             | 49.82          | 136.49                      | -1,945.88              | -1,038.50     | 1,462.01                   | 1,390.40         | 71.62                         | 20.415               |         |                    |         |
| 11,150.00                                                                                 | 9,455.00                  | 12,475.14                 | 10,520.68                 | 43.62             | 50.41          | 136.51                      | -2,006.20              | -1,037.55     | 1,461.93                   | 1,389.52         | 72.42                         | 20.188               |         |                    |         |
| 11,200.00                                                                                 | 9,455.00                  | 12,537.17                 | 10,521.13                 | 44.10             | 51.03          | 136.57                      | -2,068.20              | -1,035.61     | 1,461.34                   | 1,388.13         | 73.21                         | 19.962               |         |                    |         |
| 11,250.00                                                                                 | 9,455.00                  | 12,589.62                 | 10,521.30                 | 44.59             | 51.56          | 136.61                      | -2,120.62              | -1,033.89     | 1,460.55                   | 1,386.59         | 73.97                         | 19.746               |         |                    |         |
| 11,300.00                                                                                 | 9,455.00                  | 12,640.19                 | 10,521.17                 | 45.08             | 52.08          | 136.64                      | -2,171.16              | -1,032.45     | 1,459.70                   | 1,384.97         | 74.73                         | 19.532               |         |                    |         |
| 11,350.00                                                                                 | 9,455.00                  | 12,689.46                 | 10,520.79                 | 45.58             | 52.59          | 136.65                      | -2,220.43              | -1,031.34     | 1,458.86                   | 1,383.35         | 75.51                         | 19.319               |         |                    |         |
| 11,400.00                                                                                 | 9,455.00                  | 12,733.62                 | 10,520.27                 | 46.08             | 53.05          | 136.65                      | -2,264.57              | -1,030.63     | 1,458.11                   | 1,381.83         | 76.28                         | 19.115               |         |                    |         |
| 11,450.00                                                                                 | 9,455.00                  | 12,775.41                 | 10,519.69                 | 46.60             | 53.49          | 136.64                      | -2,306.36              | -1,030.39     | 1,457.63                   | 1,380.58         | 77.05                         | 18.917               |         |                    |         |
| 11,500.00                                                                                 | 9,455.00                  | 12,819.51                 | 10,519.01                 | 47.11             | 53.95          | 136.61                      | -2,350.45              | -1,030.56     | 1,457.42                   | 1,379.56         | 77.88                         | 18.719               |         |                    |         |
| 11,550.00                                                                                 | 9,455.00                  | 12,870.72                 | 10,518.05                 | 47.64             | 54.49          | 136.56                      | -2,401.66              | -1,031.01     | 1,457.26                   | 1,378.52         | 78.73                         | 18.509               |         |                    |         |
| 11,600.00                                                                                 | 9,455.00                  | 12,917.66                 | 10,517.05                 | 48.16             | 54.99          | 136.51                      | -2,448.58              | -1,031.54     | 1,457.09                   | 1,377.51         | 79.59                         | 18.308               |         |                    |         |
| 11,615.84                                                                                 | 9,455.00                  | 12,931.31                 | 10,516.79                 | 48.33             | 55.14          | 136.49                      | -2,462.22              | -1,031.71     | 1,457.08                   | 1,377.23         | 79.85                         | 18.247               |         |                    |         |
| 11,650.00                                                                                 | 9,455.00                  | 12,960.75                 | 10,516.28                 | 48.70             | 55.45          | 136.46                      | -2,491.66              | -1,032.13     | 1,457.14                   | 1,376.72         | 80.42                         | 18.119               |         |                    |         |
| 11,700.00                                                                                 | 9,455.00                  | 13,014.50                 | 10,515.51                 | 49.24             | 56.04          | 136.41                      | -2,545.40              | -1,032.92     | 1,457.36                   | 1,376.02         | 81.34                         | 17.917               |         |                    |         |
| 11,750.00                                                                                 | 9,455.00                  | 13,088.55                 | 10,514.04                 | 49.78             | 56.84          | 136.35                      | -2,619.43              | -1,033.18     | 1,456.98                   | 1,374.56         | 82.41                         | 17.679               |         |                    |         |
| 11,800.00                                                                                 | 9,455.00                  | 13,123.15                 | 10,513.45                 | 50.33             | 57.23          | 136.33                      | -2,654.02              | -1,033.10     | 1,456.49                   | 1,373.30         | 83.20                         | 17.507               |         |                    |         |
| 11,829.06                                                                                 | 9,455.00                  | 13,144.58                 | 10,513.26                 | 50.65             | 57.47          | 136.32                      | -2,675.46              | -1,033.09     | 1,456.42                   | 1,372.76         | 83.66                         | 17.409               |         |                    |         |
| 11,850.00                                                                                 | 9,455.00                  | 13,160.04                 | 10,513.20                 | 50.88             | 57.64          | 136.31                      | -2,690.91              | -1,033.10     | 1,456.46                   | 1,372.47         | 83.99                         | 17.341               |         |                    |         |
| 11,900.00                                                                                 | 9,455.00                  | 13,202.02                 | 10,513.31                 | 51.44             | 58.11          | 136.31                      | -2,732.90              | -1,033.17     | 1,456.83                   | 1,372.01         | 84.82                         | 17.176               |         |                    |         |
| 11,950.00                                                                                 | 9,455.00                  | 13,248.85                 | 10,513.53                 | 52.00             | 58.63          | 136.30                      | -2,779.72              | -1,033.34     | 1,457.34                   | 1,371.66         | 85.69                         | 17.007               |         |                    |         |
| 12,000.00                                                                                 | 9,455.00                  | 13,297.55                 | 10,513.80                 | 52.57             | 59.18          | 136.29                      | -2,828.43              | -1,033.61     | 1,457.96                   | 1,371.38         | 86.58                         | 16.840               |         |                    |         |
| 12,050.00                                                                                 | 9,455.00                  | 13,348.28                 | 10,514.04                 | 53.14             | 59.75          | 136.28                      | -2,879.15              | -1,033.92     | 1,458.56                   | 1,371.07         | 87.49                         | 16.671               |         |                    |         |
| 12,100.00                                                                                 | 9,455.00                  | 13,399.77                 | 10,514.22                 | 53.71             | 60.34          | 136.26                      | -2,930.64              | -1,034.26     | 1,459.13                   | 1,370.71         | 88.42                         | 16.502               |         |                    |         |
| 12,150.00                                                                                 | 9,455.00                  | 13,451.73                 | 10,514.38                 | 54.29             | 60.93          | 136.25                      | -2,982.60              | -1,034.51     | 1,459.64                   | 1,370.28         | 89.36                         | 16.335               |         |                    |         |
| 12,200.00                                                                                 | 9,455.00                  | 13,493.39                 | 10,514.57                 | 54.87             | 61.41          | 136.24                      | -3,024.26              | -1,034.75     | 1,460.22                   | 1,370.01         | 90.22                         | 16.186               |         |                    |         |
| 12,250.00                                                                                 | 9,455.00                  | 13,532.81                 | 10,514.94                 | 55.45             | 61.87          | 136.23                      | -3,063.68              | -1,035.17     | 1,461.16                   | 1,370.10         | 91.06                         | 16.046               |         |                    |         |
| 12,300.00                                                                                 | 9,455.00                  | 13,580.50                 | 10,515.61                 | 56.04             | 62.42          | 136.22                      | -3,111.35              | -1,035.89     | 1,462.40                   | 1,370.42         | 91.98                         | 15.899               |         |                    |         |
| 12,350.00                                                                                 | 9,455.00                  | 13,638.86                 | 10,516.45                 | 56.63             | 63.11          | 136.22                      | -3,169.70              | -1,036.42     | 1,463.46                   | 1,370.48         | 92.98                         | 15.739               |         |                    |         |
| 12,400.00                                                                                 | 9,455.00                  | 13,698.02                 | 10,517.15                 | 57.22             | 63.80          | 136.22                      | -3,228.86              | -1,036.61     | 1,464.22                   | 1,370.23         | 93.99                         | 15.579               |         |                    |         |
| 12,450.00                                                                                 | 9,455.00                  | 13,757.37                 | 10,517.44                 | 57.82             | 64.50          | 136.22                      | -3,288.21              | -1,036.68     | 1,464.66                   | 1,369.65         | 95.01                         | 15.416               |         |                    |         |
| 12,500.00                                                                                 | 9,455.00                  | 13,791.71                 | 10,517.79                 | 58.42             | 64.92          | 136.22                      | -3,322.54              | -1,036.78     | 1,465.30                   | 1,369.47         | 95.83                         | 15.291               |         |                    |         |
| 12,550.00                                                                                 | 9,455.00                  | 13,830.63                 | 10,518.46                 | 59.02             | 65.38          | 136.22                      | -3,361.46              | -1,036.96     | 1,466.31                   | 1,369.62         | 96.68                         | 15.166               |         |                    |         |
| 12,600.00                                                                                 | 9,455.00                  | 13,868.71                 | 10,519.42                 | 59.63             | 65.84          | 136.24                      | -3,399.52              | -1,037.25     | 1,467.70                   | 1,370.17         | 97.53                         | 15.049               |         |                    |         |
| 12,650.00                                                                                 | 9,455.00                  | 13,906.56                 | 10,520.64                 | 60.24             | 66.29          | 136.25                      | -3,437.36              | -1,037.70     | 1,469.50                   | 1,371.14         | 98.36                         | 14.939               |         |                    |         |
| 12,700.00                                                                                 | 9,455.00                  | 13,949.67                 | 10,522.34                 | 60.85             | 66.81          | 136.27                      | -3,480.43              | -1,038.39     | 1,471.69                   | 1,372.45         | 99.24                         | 14.829               |         |                    |         |
| 12,750.00                                                                                 | 9,455.00                  | 14,003.60                 | 10,524.45                 | 61.46             | 67.46          | 136.29                      | -3,534.31              | -1,039.23     | 1,473.87                   | 1,373.64         | 100.22                        | 14.706               |         |                    |         |
| 12,800.00                                                                                 | 9,455.00                  | 14,052.40                 | 10,526.28                 | 62.08             | 68.06          | 136.31                      | -3,583.06              | -1,039.96     | 1,475.96                   | 1,374.80         | 101.16                        | 14.590               |         |                    |         |
| 12,850.00                                                                                 | 9,455.00                  | 14,097.53                 | 10,528.03                 | 62.70             | 68.61          | 136.33                      | -3,628.16              | -1,040.75     | 1,478.19                   | 1,376.12         | 102.07                        | 14.482               |         |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                            |                   |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|----------------------------|-------------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 139-MWD+HDGM                                                              |                     |                     |                     |                 |             |                       |                            |                   |                      |                       |                         |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                   |                   |                      |                       |                         |                   | Warning            |         |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore +N/-S (ft) | Centre +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 12,900.00                                                                                 | 9,455.00            | 14,151.12           | 10,530.18           | 63.32           | 69.26       | 136.35                | -3,681.70                  | -1,041.76         | 1,480.51             | 1,377.45              | 103.06                  | 14.366            |                    |         |
| 12,950.00                                                                                 | 9,455.00            | 14,213.93           | 10,532.62           | 63.94           | 70.03       | 136.38                | -3,744.45                  | -1,042.39         | 1,482.48             | 1,378.36              | 104.12                  | 14.238            |                    |         |
| 13,000.00                                                                                 | 9,455.00            | 14,290.41           | 10,534.82           | 64.57           | 70.98       | 136.43                | -3,820.90                  | -1,042.49         | 1,483.79             | 1,378.50              | 105.29                  | 14.092            |                    |         |
| 13,050.00                                                                                 | 9,455.00            | 14,369.28           | 10,536.00           | 65.19           | 71.97       | 136.47                | -3,899.75                  | -1,041.62         | 1,484.18             | 1,377.70              | 106.48                  | 13.939            |                    |         |
| 13,100.00                                                                                 | 9,455.00            | 14,433.47           | 10,536.83           | 65.82           | 72.78       | 136.54                | -3,963.90                  | -1,039.52         | 1,483.72             | 1,376.21              | 107.51                  | 13.801            |                    |         |
| 13,150.00                                                                                 | 9,455.00            | 14,486.36           | 10,537.60           | 66.46           | 73.45       | 136.61                | -4,016.74                  | -1,037.39         | 1,483.08             | 1,374.83              | 108.45                  | 13.675            |                    |         |
| 13,200.00                                                                                 | 9,455.00            | 14,583.41           | 10,537.70           | 67.09           | 74.69       | 136.73                | -4,113.68                  | -1,032.68         | 1,481.74             | 1,372.09              | 109.65                  | 13.513            |                    |         |
| 13,250.00                                                                                 | 9,455.00            | 14,633.04           | 10,536.71           | 67.73           | 75.33       | 136.76                | -4,163.23                  | -1,030.06         | 1,479.42             | 1,368.81              | 110.61                  | 13.375            |                    |         |
| 13,300.00                                                                                 | 9,455.00            | 14,678.92           | 10,535.69           | 68.36           | 75.92       | 136.79                | -4,209.05                  | -1,027.91         | 1,477.23             | 1,365.66              | 111.56                  | 13.241            |                    |         |
| 13,350.00                                                                                 | 9,455.00            | 14,726.81           | 10,534.54           | 69.00           | 76.54       | 136.81                | -4,256.88                  | -1,025.92         | 1,475.15             | 1,362.61              | 112.54                  | 13.108            |                    |         |
| 13,400.00                                                                                 | 9,455.00            | 14,775.01           | 10,533.30           | 69.64           | 77.16       | 136.82                | -4,305.03                  | -1,024.09         | 1,473.13             | 1,359.60              | 113.53                  | 12.976            |                    |         |
| 13,450.00                                                                                 | 9,455.00            | 14,821.36           | 10,532.13           | 70.29           | 77.76       | 136.82                | -4,351.34                  | -1,022.42         | 1,471.19             | 1,356.68              | 114.51                  | 12.847            |                    |         |
| 13,500.00                                                                                 | 9,455.00            | 14,867.51           | 10,531.17           | 70.93           | 78.35       | 136.84                | -4,397.45                  | -1,020.72         | 1,469.39             | 1,353.90              | 115.49                  | 12.723            |                    |         |
| 13,550.00                                                                                 | 9,455.00            | 14,919.58           | 10,530.16           | 71.58           | 79.03       | 136.86                | -4,449.46                  | -1,018.78         | 1,467.63             | 1,351.13              | 116.50                  | 12.598            |                    |         |
| 13,600.00                                                                                 | 9,455.00            | 14,972.60           | 10,528.99           | 72.22           | 79.72       | 136.87                | -4,502.44                  | -1,016.80         | 1,465.77             | 1,348.25              | 117.52                  | 12.472            |                    |         |
| 13,650.00                                                                                 | 9,455.00            | 15,008.73           | 10,528.24           | 72.87           | 80.19       | 136.88                | -4,538.54                  | -1,015.63         | 1,464.12             | 1,345.67              | 118.44                  | 12.361            |                    |         |
| 13,700.00                                                                                 | 9,455.00            | 15,046.22           | 10,527.82           | 73.52           | 80.68       | 136.88                | -4,576.01                  | -1,014.71         | 1,462.89             | 1,343.51              | 119.37                  | 12.255            |                    |         |
| 13,750.00                                                                                 | 9,455.00            | 15,097.84           | 10,526.89           | 74.18           | 81.35       | 136.88                | -4,627.62                  | -1,013.74         | 1,461.95             | 1,341.54              | 120.41                  | 12.141            |                    |         |
| 13,800.00                                                                                 | 9,455.00            | 15,160.85           | 10,525.59           | 74.83           | 82.17       | 136.87                | -4,690.61                  | -1,012.34         | 1,460.68             | 1,339.12              | 121.54                  | 12.018            |                    |         |
| 13,850.00                                                                                 | 9,455.00            | 15,195.94           | 10,524.94           | 75.48           | 82.63       | 136.87                | -4,725.67                  | -1,011.56         | 1,459.43             | 1,336.96              | 122.47                  | 11.917            |                    |         |
| 13,900.00                                                                                 | 9,455.00            | 15,232.65           | 10,524.60           | 76.14           | 83.11       | 136.88                | -4,762.37                  | -1,010.85         | 1,458.65             | 1,335.26              | 123.39                  | 11.821            |                    |         |
| 13,950.00                                                                                 | 9,455.00            | 15,271.39           | 10,524.60           | 76.80           | 83.62       | 136.89                | -4,801.11                  | -1,010.23         | 1,458.31             | 1,333.99              | 124.32                  | 11.730            |                    |         |
| 13,976.80                                                                                 | 9,455.00            | 15,293.37           | 10,524.69           | 77.15           | 83.91       | 136.90                | -4,823.09                  | -1,009.94         | 1,458.27             | 1,333.44              | 124.83                  | 11.682            |                    |         |
| 14,000.00                                                                                 | 9,455.00            | 15,312.41           | 10,524.81           | 77.46           | 84.16       | 136.90                | -4,842.13                  | -1,009.72         | 1,458.30             | 1,333.03              | 125.26                  | 11.642            |                    |         |
| 14,050.00                                                                                 | 9,455.00            | 15,357.00           | 10,525.27           | 78.12           | 84.74       | 136.92                | -4,886.72                  | -1,009.33         | 1,458.58             | 1,332.35              | 126.23                  | 11.555            |                    |         |
| 14,100.00                                                                                 | 9,455.00            | 15,417.81           | 10,525.90           | 78.78           | 85.54       | 136.95                | -4,947.52                  | -1,008.52         | 1,458.73             | 1,331.40              | 127.33                  | 11.456            |                    |         |
| 14,150.00                                                                                 | 9,455.00            | 15,471.09           | 10,526.35           | 79.44           | 86.24       | 136.98                | -5,000.78                  | -1,007.47         | 1,458.58             | 1,330.22              | 128.36                  | 11.363            |                    |         |
| 14,200.00                                                                                 | 9,455.00            | 15,519.73           | 10,526.65           | 80.10           | 86.89       | 137.00                | -5,049.41                  | -1,006.66         | 1,458.45             | 1,329.09              | 129.36                  | 11.275            |                    |         |
| 14,250.00                                                                                 | 9,455.00            | 15,574.00           | 10,526.82           | 80.77           | 87.60       | 137.02                | -5,103.68                  | -1,005.88         | 1,458.30             | 1,327.88              | 130.42                  | 11.182            |                    |         |
| 14,300.00                                                                                 | 9,455.00            | 15,630.85           | 10,526.77           | 81.43           | 88.36       | 137.03                | -5,160.52                  | -1,004.95         | 1,457.93             | 1,326.43              | 131.50                  | 11.087            |                    |         |
| 14,350.00                                                                                 | 9,455.00            | 15,680.60           | 10,526.55           | 82.10           | 89.02       | 137.04                | -5,210.26                  | -1,004.17         | 1,457.45             | 1,324.91              | 132.53                  | 10.997            |                    |         |
| 14,400.00                                                                                 | 9,455.00            | 15,731.17           | 10,526.16           | 82.77           | 89.69       | 137.04                | -5,260.83                  | -1,003.55         | 1,456.97             | 1,323.38              | 133.59                  | 10.906            |                    |         |
| 14,450.00                                                                                 | 9,455.00            | 15,786.58           | 10,525.48           | 83.44           | 90.42       | 137.03                | -5,316.23                  | -1,002.96         | 1,456.37             | 1,321.67              | 134.70                  | 10.812            |                    |         |
| 14,500.00                                                                                 | 9,455.00            | 15,839.02           | 10,524.60           | 84.11           | 91.12       | 137.01                | -5,368.66                  | -1,002.40         | 1,455.62             | 1,319.82              | 135.80                  | 10.719            |                    |         |
| 14,550.00                                                                                 | 9,455.00            | 15,887.58           | 10,523.95           | 84.78           | 91.77       | 137.00                | -5,417.22                  | -1,001.73         | 1,454.87             | 1,318.02              | 136.85                  | 10.631            |                    |         |
| 14,600.00                                                                                 | 9,455.00            | 15,938.63           | 10,523.46           | 85.45           | 92.45       | 137.00                | -5,468.26                  | -1,000.86         | 1,454.16             | 1,316.25              | 137.91                  | 10.544            |                    |         |
| 14,650.00                                                                                 | 9,455.00            | 15,992.41           | 10,522.69           | 86.12           | 93.17       | 137.00                | -5,522.02                  | -1,000.05         | 1,453.34             | 1,314.33              | 139.01                  | 10.455            |                    |         |
| 14,700.00                                                                                 | 9,455.00            | 16,052.68           | 10,521.48           | 86.80           | 93.98       | 136.98                | -5,582.27                  | -999.12           | 1,452.30             | 1,312.14              | 140.17                  | 10.361            |                    |         |
| 14,750.00                                                                                 | 9,455.00            | 16,115.58           | 10,520.03           | 87.47           | 94.83       | 136.97                | -5,645.14                  | -997.58           | 1,450.84             | 1,309.51              | 141.33                  | 10.266            |                    |         |
| 14,800.00                                                                                 | 9,455.00            | 16,145.25           | 10,519.51           | 88.15           | 95.23       | 136.97                | -5,674.80                  | -996.95           | 1,449.62             | 1,307.37              | 142.25                  | 10.191            |                    |         |
| 14,850.00                                                                                 | 9,455.00            | 16,180.48           | 10,519.13           | 88.82           | 95.71       | 136.97                | -5,710.01                  | -996.38           | 1,448.89             | 1,305.69              | 143.20                  | 10.118            |                    |         |
| 14,900.00                                                                                 | 9,455.00            | 16,229.23           | 10,518.87           | 89.50           | 96.36       | 136.97                | -5,758.76                  | -995.85           | 1,448.54             | 1,304.29              | 144.25                  | 10.042            |                    |         |
| 14,950.00                                                                                 | 9,455.00            | 16,289.92           | 10,518.26           | 90.18           | 97.18       | 136.97                | -5,819.44                  | -995.02           | 1,447.93             | 1,302.52              | 145.41                  | 9.958             |                    |         |
| 15,000.00                                                                                 | 9,455.00            | 16,341.60           | 10,517.52           | 90.86           | 97.88       | 136.96                | -5,871.12                  | -994.21           | 1,447.09             | 1,300.59              | 146.50                  | 9.878             |                    |         |
| 15,050.00                                                                                 | 9,455.00            | 16,392.97           | 10,516.69           | 91.54           | 98.57       | 136.95                | -5,922.47                  | -993.45           | 1,446.21             | 1,298.61              | 147.59                  | 9.799             |                    |         |
| 15,100.00                                                                                 | 9,455.00            | 16,441.15           | 10,515.86           | 92.22           | 99.23       | 136.94                | -5,970.64                  | -992.80           | 1,445.34             | 1,296.67              | 148.67                  | 9.722             |                    |         |
| 15,150.00                                                                                 | 9,455.00            | 16,480.00           | 10,515.18           | 92.90           | 99.75       | 136.93                | -6,009.48                  | -992.34           | 1,444.55             | 1,294.88              | 149.67                  | 9.652             |                    |         |
| 15,200.00                                                                                 | 9,455.00            | 16,520.66           | 10,514.62           | 93.58           | 100.30      | 136.91                | -6,050.14                  | -992.12           | 1,444.11             | 1,293.43              | 150.68                  | 9.584             |                    |         |
| 15,212.18                                                                                 | 9,455.00            | 16,528.91           | 10,514.54           | 93.75           | 100.41      | 136.91                | -6,058.39                  | -992.13           | 1,444.10             | 1,293.18              | 150.91                  | 9.569             |                    |         |
| 15,250.00                                                                                 | 9,455.00            | 16,554.53           | 10,514.39           | 94.26           | 100.76      | 136.89                | -6,084.00                  | -992.29           | 1,444.26             | 1,292.63              | 151.63                  | 9.525             |                    |         |
| 15,300.00                                                                                 | 9,455.00            | 16,596.04           | 10,514.36           | 94.94           | 101.32      | 136.87                | -6,125.51                  | -992.86           | 1,444.90             | 1,292.25              | 152.66                  | 9.465             |                    |         |
| 15,350.00                                                                                 | 9,455.00            | 16,647.90           | 10,514.45           | 95.63           | 102.02      | 136.84                | -6,177.37                  | -993.46           | 1,445.59             | 1,291.80              | 153.79                  | 9.400             |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                      |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 139-MWD+HDGM                                                              |                     |                     |                     |                 |             |                      |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                      | Distance                          |            |                      |                       |                         |                   |                    | Warning |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Tooface (") | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 15,400.00                                                                                 | 9,455.00            | 16,893.51           | 10,514.63           | 96.31           | 102.63      | 136.83               | -6,222.98                         | -993.90    | 1,448.27             | 1,291.43              | 154.84                  | 9.340             |                    |         |
| 15,450.00                                                                                 | 9,455.00            | 16,735.15           | 10,514.89           | 97.00           | 103.19      | 136.81               | -6,264.61                         | -994.50    | 1,447.22             | 1,291.37              | 155.85                  | 9.286             |                    |         |
| 15,500.00                                                                                 | 9,455.00            | 16,784.14           | 10,515.30           | 97.68           | 103.85      | 136.78               | -6,313.59                         | -995.46    | 1,448.41             | 1,291.46              | 156.96                  | 9.228             |                    |         |
| 15,550.00                                                                                 | 9,455.00            | 16,848.03           | 10,515.50           | 98.37           | 104.71      | 136.75               | -6,377.47                         | -996.50    | 1,449.30             | 1,291.06              | 158.24                  | 9.159             |                    |         |
| 15,600.00                                                                                 | 9,455.00            | 16,888.06           | 10,515.62           | 99.06           | 105.25      | 136.73               | -6,417.50                         | -996.99    | 1,450.06             | 1,290.82              | 159.25                  | 9.106             |                    |         |
| 15,650.00                                                                                 | 9,455.00            | 16,924.19           | 10,516.24           | 99.74           | 105.74      | 136.73               | -6,453.62                         | -997.40    | 1,451.29             | 1,291.12              | 160.17                  | 9.061             |                    |         |
| 15,700.00                                                                                 | 9,455.00            | 16,963.36           | 10,517.44           | 100.43          | 106.28      | 136.74               | -6,492.77                         | -997.82    | 1,452.99             | 1,291.89              | 161.10                  | 9.019             |                    |         |
| 15,750.00                                                                                 | 9,455.00            | 17,012.76           | 10,519.10           | 101.12          | 106.95      | 136.76               | -6,542.14                         | -998.40    | 1,454.84             | 1,292.69              | 162.14                  | 8.972             |                    |         |
| 15,800.00                                                                                 | 9,455.00            | 17,081.88           | 10,521.20           | 101.81          | 107.89      | 136.78               | -6,611.22                         | -999.15    | 1,456.60             | 1,293.18              | 163.42                  | 8.913             |                    |         |
| 15,850.00                                                                                 | 9,455.00            | 17,168.29           | 10,522.44           | 102.50          | 109.07      | 136.82               | -6,697.61                         | -998.43    | 1,456.98             | 1,292.15              | 164.81                  | 8.840             |                    |         |
| 15,900.00                                                                                 | 9,455.00            | 17,228.42           | 10,522.57           | 103.19          | 109.90      | 136.84               | -6,757.74                         | -997.52    | 1,456.74             | 1,290.79              | 165.96                  | 8.778             |                    |         |
| 15,950.00                                                                                 | 9,455.00            | 17,273.70           | 10,522.39           | 103.88          | 110.52      | 136.84               | -6,803.01                         | -996.97    | 1,456.41             | 1,289.41              | 167.00                  | 8.721             |                    |         |
| 16,000.00                                                                                 | 9,455.00            | 17,317.45           | 10,522.11           | 104.57          | 111.12      | 136.83               | -6,846.76                         | -996.83    | 1,456.28             | 1,288.23              | 168.05                  | 8.666             |                    |         |
| 16,050.00                                                                                 | 9,455.00            | 17,395.43           | 10,521.09           | 105.26          | 112.19      | 136.80               | -6,924.74                         | -996.51    | 1,455.94             | 1,286.51              | 169.43                  | 8.593             |                    |         |
| 16,100.00                                                                                 | 9,455.00            | 17,449.28           | 10,518.88           | 105.96          | 112.93      | 136.78               | -6,978.54                         | -995.54    | 1,454.71             | 1,284.13              | 170.57                  | 8.528             |                    |         |
| 16,150.00                                                                                 | 9,455.00            | 17,487.07           | 10,519.16           | 106.65          | 113.46      | 136.77               | -7,016.34                         | -995.06    | 1,453.81             | 1,282.21              | 171.59                  | 8.472             |                    |         |
| 16,200.00                                                                                 | 9,455.00            | 17,533.04           | 10,518.49           | 107.34          | 114.09      | 136.75               | -7,062.30                         | -994.80    | 1,453.29             | 1,280.60              | 172.69                  | 8.416             |                    |         |
| 16,250.00                                                                                 | 9,455.00            | 17,605.48           | 10,516.90           | 108.04          | 115.09      | 136.72               | -7,134.72                         | -994.04    | 1,452.35             | 1,278.34              | 174.01                  | 8.346             |                    |         |
| 16,300.00                                                                                 | 9,455.00            | 17,641.83           | 10,515.97           | 108.73          | 115.59      | 136.70               | -7,171.06                         | -993.59    | 1,451.22             | 1,276.18              | 175.04                  | 8.291             |                    |         |
| 16,350.00                                                                                 | 9,455.00            | 17,675.79           | 10,515.35           | 109.43          | 116.06      | 136.68               | -7,205.01                         | -993.45    | 1,450.64             | 1,274.61              | 176.04                  | 8.241             |                    |         |
| 16,377.35                                                                                 | 9,455.00            | 17,694.37           | 10,515.12           | 109.81          | 116.32      | 136.67               | -7,223.59                         | -993.50    | 1,450.56             | 1,273.98              | 176.58                  | 8.215             |                    |         |
| 16,400.00                                                                                 | 9,455.00            | 17,711.23           | 10,514.97           | 110.12          | 116.55      | 136.66               | -7,240.45                         | -993.61    | 1,450.62             | 1,273.58              | 177.04                  | 8.194             |                    |         |
| 16,450.00                                                                                 | 9,455.00            | 17,755.72           | 10,514.92           | 110.82          | 117.16      | 136.64               | -7,284.94                         | -993.76    | 1,450.91             | 1,272.81              | 178.10                  | 8.146             |                    |         |
| 16,500.00                                                                                 | 9,455.00            | 17,800.27           | 10,515.37           | 111.51          | 117.78      | 136.65               | -7,329.48                         | -993.63    | 1,451.39             | 1,272.26              | 179.13                  | 8.102             |                    |         |
| 16,550.00                                                                                 | 9,455.00            | 17,846.78           | 10,516.09           | 112.21          | 118.42      | 136.67               | -7,375.99                         | -993.43    | 1,452.03             | 1,271.87              | 180.16                  | 8.060             |                    |         |
| 16,600.00                                                                                 | 9,455.00            | 17,893.42           | 10,516.84           | 112.91          | 119.06      | 136.68               | -7,422.62                         | -993.37    | 1,452.79             | 1,271.59              | 181.20                  | 8.018             |                    |         |
| 16,650.00                                                                                 | 9,455.00            | 17,958.68           | 10,517.75           | 113.60          | 119.97      | 136.70               | -7,467.88                         | -993.03    | 1,453.34             | 1,270.82              | 182.41                  | 7.967             |                    |         |
| 16,700.00                                                                                 | 9,455.00            | 18,017.45           | 10,518.29           | 114.30          | 120.78      | 136.73               | -7,546.64                         | -992.24    | 1,453.43             | 1,269.88              | 183.55                  | 7.918             |                    |         |
| 16,750.00                                                                                 | 9,455.00            | 18,071.24           | 10,518.54           | 115.00          | 121.53      | 136.75               | -7,600.42                         | -991.51    | 1,453.35             | 1,268.70              | 184.65                  | 7.871             |                    |         |
| 16,800.00                                                                                 | 9,455.00            | 18,122.79           | 10,518.56           | 115.70          | 122.25      | 136.76               | -7,651.97                         | -990.89    | 1,453.17             | 1,267.42              | 185.75                  | 7.823             |                    |         |
| 16,850.00                                                                                 | 9,455.00            | 18,173.72           | 10,518.43           | 116.40          | 122.96      | 136.76               | -7,702.90                         | -990.38    | 1,452.96             | 1,266.10              | 186.86                  | 7.776             |                    |         |
| 16,900.00                                                                                 | 9,455.00            | 18,227.71           | 10,518.06           | 117.09          | 123.71      | 136.75               | -7,756.88                         | -989.96    | 1,452.66             | 1,264.65              | 188.01                  | 7.727             |                    |         |
| 16,950.00                                                                                 | 9,455.00            | 18,285.35           | 10,517.30           | 117.79          | 124.51      | 136.73               | -7,814.52                         | -989.64    | 1,452.21             | 1,263.00              | 189.22                  | 7.675             |                    |         |
| 17,000.00                                                                                 | 9,455.00            | 18,360.09           | 10,515.79           | 118.49          | 125.55      | 136.71               | -7,889.24                         | -988.46    | 1,451.16             | 1,260.82              | 190.54                  | 7.616             |                    |         |
| 17,050.00                                                                                 | 9,455.00            | 18,403.35           | 10,514.81           | 119.19          | 126.16      | 136.70               | -7,932.46                         | -987.44    | 1,449.75             | 1,258.14              | 191.61                  | 7.566             |                    |         |
| 17,100.00                                                                                 | 9,455.00            | 18,443.91           | 10,514.09           | 119.90          | 126.73      | 136.70               | -7,973.01                         | -986.66    | 1,448.66             | 1,256.00              | 192.66                  | 7.519             |                    |         |
| 17,150.00                                                                                 | 9,455.00            | 18,487.77           | 10,513.54           | 120.60          | 127.34      | 136.70               | -8,016.87                         | -985.95    | 1,447.86             | 1,254.14              | 193.72                  | 7.474             |                    |         |
| 17,200.00                                                                                 | 9,455.00            | 18,533.81           | 10,513.25           | 121.30          | 127.98      | 136.70               | -8,062.89                         | -985.09    | 1,447.22             | 1,252.44              | 194.78                  | 7.430             |                    |         |
| 17,250.00                                                                                 | 9,455.00            | 18,586.94           | 10,513.15           | 122.00          | 128.73      | 136.72               | -8,116.01                         | -983.96    | 1,446.64             | 1,250.77              | 195.87                  | 7.386             |                    |         |
| 17,300.00                                                                                 | 9,455.00            | 18,645.62           | 10,512.67           | 122.70          | 129.55      | 136.74               | -8,174.67                         | -982.66    | 1,445.81             | 1,248.78              | 197.02                  | 7.338             |                    |         |
| 17,350.00                                                                                 | 9,455.00            | 18,701.54           | 10,511.86           | 123.40          | 130.34      | 136.74               | -8,230.57                         | -981.39    | 1,444.72             | 1,246.55              | 198.16                  | 7.291             |                    |         |
| 17,400.00                                                                                 | 9,455.00            | 18,757.33           | 10,510.79           | 124.11          | 131.12      | 136.74               | -8,286.34                         | -980.07    | 1,443.43             | 1,244.11              | 199.31                  | 7.242             |                    |         |
| 17,450.00                                                                                 | 9,455.00            | 18,810.00           | 10,509.53           | 124.81          | 131.86      | 136.73               | -8,338.98                         | -978.88    | 1,442.00             | 1,241.54              | 200.46                  | 7.193             |                    |         |
| 17,500.00                                                                                 | 9,455.00            | 18,858.14           | 10,508.22           | 125.51          | 132.54      | 136.72               | -8,387.10                         | -977.85    | 1,440.50             | 1,238.91              | 201.59                  | 7.146             |                    |         |
| 17,550.00                                                                                 | 9,455.00            | 18,900.18           | 10,507.37           | 126.21          | 133.13      | 136.71               | -8,429.11                         | -976.91    | 1,439.22             | 1,236.56              | 202.66                  | 7.102             |                    |         |
| 17,600.00                                                                                 | 9,455.00            | 18,941.36           | 10,506.92           | 126.92          | 133.71      | 136.72               | -8,470.28                         | -975.92    | 1,438.21             | 1,234.53              | 203.69                  | 7.061             |                    |         |
| 17,650.00                                                                                 | 9,455.00            | 18,978.99           | 10,506.84           | 127.62          | 134.24      | 136.74               | -8,507.90                         | -975.07    | 1,437.59             | 1,232.92              | 204.67                  | 7.024             |                    |         |
| 17,697.47                                                                                 | 9,455.00            | 19,014.72           | 10,507.08           | 128.29          | 134.74      | 136.76               | -8,543.62                         | -974.38    | 1,437.40             | 1,231.82              | 205.57                  | 6.992             |                    |         |
| 17,700.00                                                                                 | 9,455.00            | 19,016.62           | 10,507.10           | 128.33          | 134.77      | 136.76               | -8,545.52                         | -974.35    | 1,437.40             | 1,231.78              | 205.62                  | 6.990             |                    |         |
| 17,750.00                                                                                 | 9,455.00            | 19,062.67           | 10,507.69           | 129.03          | 135.42      | 136.79               | -8,591.57                         | -973.60    | 1,437.52             | 1,230.89              | 206.63                  | 6.957             |                    |         |
| 17,800.00                                                                                 | 9,455.00            | 19,111.53           | 10,508.25           | 129.74          | 136.10      | 136.81               | -8,640.42                         | -972.95    | 1,437.70             | 1,230.02              | 207.68                  | 6.923             |                    |         |
| 17,850.00                                                                                 | 9,455.00            | 19,168.62           | 10,508.75           | 130.44          | 136.91      | 136.84               | -8,697.50                         | -972.22    | 1,437.81             | 1,229.00              | 208.81                  | 6.886             |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 216H - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 139-MWD+HDGM                                                              |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 17,900.00                                                                                 | 9,455.00            | 19,227.69           | 10,508.97           | 131.15          | 137.74      | 136.86                | -8,756.56                         | -971.25    | 1,437.60             | 1,227.65              | 209.95                  | 6.847             |                    |         |
| 17,950.00                                                                                 | 9,455.00            | 19,277.55           | 10,508.98           | 131.85          | 138.44      | 136.87                | -8,806.41                         | -970.44    | 1,437.28             | 1,226.24              | 211.03                  | 6.811             |                    |         |
| 18,000.00                                                                                 | 9,455.00            | 19,329.24           | 10,508.86           | 132.56          | 139.17      | 136.88                | -8,858.10                         | -969.65    | 1,436.89             | 1,224.75              | 212.14                  | 6.773             |                    |         |
| 18,050.00                                                                                 | 9,455.00            | 19,381.29           | 10,508.78           | 133.26          | 139.90      | 136.90                | -8,910.14                         | -968.72    | 1,436.44             | 1,223.20              | 213.24                  | 6.736             |                    |         |
| 18,100.00                                                                                 | 9,455.00            | 19,434.38           | 10,508.73           | 133.97          | 140.65      | 136.92                | -8,963.21                         | -967.60    | 1,435.90             | 1,221.58              | 214.33                  | 6.700             |                    |         |
| 18,150.00                                                                                 | 9,455.00            | 19,488.33           | 10,508.43           | 134.68          | 141.41      | 136.93                | -9,017.16                         | -966.53    | 1,435.24             | 1,219.79              | 215.45                  | 6.662             |                    |         |
| 18,200.00                                                                                 | 9,455.00            | 19,543.16           | 10,507.83           | 135.38          | 142.19      | 136.94                | -9,071.97                         | -965.51    | 1,434.43             | 1,217.84              | 216.59                  | 6.623             |                    |         |
| 18,250.00                                                                                 | 9,455.00            | 19,598.23           | 10,506.93           | 136.09          | 142.96      | 136.93                | -9,127.02                         | -964.53    | 1,433.44             | 1,215.68              | 217.75                  | 6.583             |                    |         |
| 18,300.00                                                                                 | 9,455.00            | 19,650.58           | 10,505.82           | 136.80          | 143.70      | 136.92                | -9,179.36                         | -963.66    | 1,432.32             | 1,213.40              | 218.92                  | 6.543             |                    |         |
| 18,350.00                                                                                 | 9,455.00            | 19,702.72           | 10,504.50           | 137.50          | 144.44      | 136.89                | -9,231.48                         | -962.90    | 1,431.12             | 1,211.02              | 220.10                  | 6.502             |                    |         |
| 18,400.00                                                                                 | 9,455.00            | 19,753.79           | 10,503.11           | 138.21          | 145.16      | 136.87                | -9,282.52                         | -962.19    | 1,429.86             | 1,208.58              | 221.28                  | 6.462             |                    |         |
| 18,450.00                                                                                 | 9,455.00            | 19,802.56           | 10,501.75           | 138.92          | 145.85      | 136.84                | -9,331.26                         | -961.50    | 1,428.58             | 1,206.13              | 222.45                  | 6.422             |                    |         |
| 18,500.00                                                                                 | 9,455.00            | 19,847.99           | 10,500.75           | 139.63          | 146.49      | 136.83                | -9,376.68                         | -960.75    | 1,427.43             | 1,203.86              | 223.57                  | 6.385             |                    |         |
| 18,550.00                                                                                 | 9,455.00            | 19,890.07           | 10,500.12           | 140.34          | 147.09      | 136.82                | -9,418.74                         | -959.94    | 1,426.46             | 1,201.83              | 224.63                  | 6.350             |                    |         |
| 18,600.00                                                                                 | 9,455.00            | 19,924.90           | 10,499.90           | 141.04          | 147.58      | 136.83                | -9,453.57                         | -959.42    | 1,425.93             | 1,200.31              | 225.62                  | 6.320             |                    |         |
| 18,624.74                                                                                 | 9,455.00            | 19,942.14           | 10,499.90           | 141.40          | 147.83      | 136.83                | -9,470.81                         | -959.24    | 1,425.86             | 1,199.77              | 226.09                  | 6.307             |                    |         |
| 18,650.00                                                                                 | 9,455.00            | 19,959.74           | 10,499.98           | 141.75          | 148.07      | 136.83                | -9,488.41                         | -959.12    | 1,425.93             | 1,199.36              | 226.58                  | 6.293             |                    |         |
| 18,700.00                                                                                 | 9,455.00            | 20,005.32           | 10,500.35           | 142.46          | 148.72      | 136.84                | -9,533.99                         | -958.99    | 1,426.36             | 1,198.72              | 227.63                  | 6.266             |                    |         |
| 18,750.00                                                                                 | 9,455.00            | 20,058.35           | 10,500.57           | 143.17          | 149.46      | 136.83                | -9,587.02                         | -958.99    | 1,426.73             | 1,197.94              | 228.79                  | 6.236             |                    |         |
| 18,800.00                                                                                 | 9,455.00            | 20,117.48           | 10,500.52           | 143.88          | 150.30      | 136.82                | -9,646.15                         | -958.98    | 1,426.90             | 1,196.87              | 230.03                  | 6.203             |                    |         |
| 18,850.00                                                                                 | 9,455.00            | 20,177.97           | 10,500.19           | 144.59          | 151.15      | 136.81                | -9,706.63                         | -958.61    | 1,426.72             | 1,195.45              | 231.26                  | 6.169             |                    |         |
| 18,860.37                                                                                 | 9,455.00            | 20,177.77           | 10,500.25           | 144.74          | 151.15      | 136.81                | -9,706.43                         | -958.64    | 1,426.74             | 1,195.34              | 231.40                  | 6.166             |                    |         |
| 18,900.00                                                                                 | 9,455.00            | 20,205.01           | 10,500.34           | 145.30          | 151.53      | 136.81                | -9,733.68                         | -958.55    | 1,426.91             | 1,194.76              | 232.15                  | 6.146             |                    |         |
| 18,950.00                                                                                 | 9,455.00            | 20,239.38           | 10,500.79           | 146.01          | 152.02      | 136.82                | -9,768.04                         | -958.55    | 1,427.62             | 1,194.55              | 233.07                  | 6.125             |                    |         |
| 19,000.00                                                                                 | 9,455.00            | 20,280.75           | 10,501.75           | 146.72          | 152.60      | 136.83                | -9,809.40                         | -958.72    | 1,428.81             | 1,194.77              | 234.05                  | 6.105             |                    |         |
| 19,050.00                                                                                 | 9,455.00            | 20,328.70           | 10,502.99           | 147.43          | 153.27      | 136.85                | -9,857.34                         | -958.94    | 1,430.13             | 1,195.04              | 235.09                  | 6.083             |                    |         |
| 19,100.00                                                                                 | 9,455.00            | 20,383.94           | 10,504.46           | 148.14          | 154.05      | 136.87                | -9,912.55                         | -959.14    | 1,431.45             | 1,195.23              | 236.22                  | 6.060             |                    |         |
| 19,150.00                                                                                 | 9,455.00            | 20,445.01           | 10,505.83           | 148.85          | 154.92      | 136.90                | -9,973.61                         | -959.03    | 1,432.43             | 1,195.02              | 237.41                  | 6.034             |                    |         |
| 19,200.00                                                                                 | 9,455.00            | 20,499.44           | 10,506.84           | 149.56          | 155.69      | 136.93                | -10,028.03                        | -958.73    | 1,433.13             | 1,194.62              | 238.52                  | 6.008             |                    |         |
| 19,250.00                                                                                 | 9,455.00            | 20,554.47           | 10,507.71           | 150.27          | 156.47      | 136.95                | -10,083.05                        | -958.34    | 1,433.68             | 1,194.05              | 239.63                  | 5.983             |                    |         |
| 19,300.00                                                                                 | 9,455.00            | 20,611.07           | 10,508.44           | 150.98          | 157.27      | 136.96                | -10,139.64                        | -957.75    | 1,434.02             | 1,193.28              | 240.76                  | 5.956             |                    |         |
| 19,350.00                                                                                 | 9,455.00            | 20,664.29           | 10,509.02           | 151.70          | 158.03      | 137.01                | -10,192.85                        | -957.01    | 1,434.17             | 1,192.32              | 241.85                  | 5.930             |                    |         |
| 19,400.00                                                                                 | 9,455.00            | 20,715.20           | 10,509.63           | 152.41          | 158.75      | 137.04                | -10,243.76                        | -956.18    | 1,434.26             | 1,191.37              | 242.90                  | 5.905             |                    |         |
| 19,450.00                                                                                 | 9,455.00            | 20,768.73           | 10,510.27           | 153.12          | 159.51      | 137.08                | -10,297.27                        | -955.19    | 1,434.29             | 1,190.33              | 243.96                  | 5.879             |                    |         |
| 19,500.00                                                                                 | 9,455.00            | 20,823.14           | 10,510.77           | 153.83          | 160.29      | 137.11                | -10,351.67                        | -954.12    | 1,434.17             | 1,189.14              | 245.04                  | 5.853             |                    |         |
| 19,550.00                                                                                 | 9,455.00            | 20,868.90           | 10,511.18           | 154.54          | 160.94      | 137.14                | -10,397.42                        | -953.23    | 1,434.06             | 1,188.01              | 246.05                  | 5.828             |                    |         |
| 19,567.43                                                                                 | 9,455.00            | 20,884.96           | 10,511.36           | 154.79          | 161.17      | 137.15                | -10,413.48                        | -952.92    | 1,434.05             | 1,187.65              | 246.40                  | 5.820             |                    |         |
| 19,600.00                                                                                 | 9,455.00            | 20,914.98           | 10,511.72           | 155.25          | 161.60      | 137.17                | -10,443.49                        | -952.38    | 1,434.08             | 1,187.03              | 247.05                  | 5.805             |                    |         |
| 19,650.00                                                                                 | 9,455.00            | 20,971.77           | 10,512.43           | 155.97          | 162.41      | 137.21                | -10,500.26                        | -951.21    | 1,434.05             | 1,185.93              | 248.13                  | 5.779             |                    |         |
| 19,700.00                                                                                 | 9,455.00            | 21,028.78           | 10,513.11           | 156.68          | 163.22      | 137.27                | -10,557.25                        | -949.66    | 1,433.79             | 1,184.61              | 249.18                  | 5.754             |                    |         |
| 19,750.00                                                                                 | 9,455.00            | 21,079.76           | 10,513.59           | 157.39          | 163.95      | 137.31                | -10,608.20                        | -948.23    | 1,433.40             | 1,183.21              | 250.19                  | 5.729             |                    |         |
| 19,800.00                                                                                 | 9,455.00            | 21,133.19           | 10,513.94           | 158.10          | 164.71      | 137.35                | -10,661.61                        | -946.76    | 1,432.93             | 1,181.70              | 251.23                  | 5.704             |                    |         |
| 19,850.00                                                                                 | 9,455.00            | 21,188.65           | 10,514.05           | 158.82          | 165.51      | 137.39                | -10,717.05                        | -945.25    | 1,432.29             | 1,179.99              | 252.30                  | 5.677             |                    |         |
| 19,900.00                                                                                 | 9,455.00            | 21,248.39           | 10,513.81           | 159.53          | 166.36      | 137.42                | -10,776.77                        | -943.56    | 1,431.41             | 1,178.00              | 253.41                  | 5.649             |                    |         |
| 19,950.00                                                                                 | 9,455.00            | 21,300.01           | 10,513.37           | 160.13          | 167.10      | 137.45                | -10,828.36                        | -941.99    | 1,430.28             | 1,175.95              | 254.33                  | 5.624             |                    |         |
| 20,000.00                                                                                 | 9,455.00            | 21,324.00           | 10,513.16           | 160.74          | 167.45      | 137.46                | -10,852.34                        | -941.26    | 1,429.39             | 1,174.30              | 255.09                  | 5.604             |                    |         |
| 20,004.02                                                                                 | 9,455.00            | 21,324.00           | 10,513.16           | 160.78          | 167.45      | 137.46                | -10,852.34                        | -941.26    | 1,429.37             | 1,174.24              | 255.13                  | 5.603 SF          |                    |         |

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 524H - Wellbore #1 - Permit Plan 1 |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         | Offset Site Error: | 0.00 ft |
|---------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD+HDGM                                                                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         | Offset Well Error: | 0.50 ft |
| Reference                                                                                   | Offset              | Semi Major Axis     |                     | Distance       |             | Minimum               |                                   | Separation |                      | Warning               |                         |                    |         |
| Measured Depth (ft)                                                                         | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor  |         |
| 0.00                                                                                        | 0.00                | 0.30                | 0.30                | 0.50           | 0.50        | -90.61                | -0.32                             | -29.99     | 29.99                |                       |                         |                    |         |
| 50.00                                                                                       | 50.00               | 50.30               | 50.30               | 0.50           | 0.50        | -90.61                | -0.32                             | -29.99     | 29.99                | 28.99                 | 1.01                    | 29.796             |         |
| 100.00                                                                                      | 100.00              | 100.30              | 100.30              | 0.52           | 0.52        | -90.61                | -0.32                             | -29.99     | 29.99                | 28.96                 | 1.04                    | 28.955             |         |
| 150.00                                                                                      | 150.00              | 150.30              | 150.30              | 0.59           | 0.59        | -90.61                | -0.32                             | -29.99     | 29.99                | 28.81                 | 1.18                    | 25.394             |         |
| 200.00                                                                                      | 200.00              | 200.30              | 200.30              | 0.70           | 0.70        | -90.61                | -0.32                             | -29.99     | 29.99                | 28.59                 | 1.40                    | 21.347             |         |
| 250.00                                                                                      | 250.00              | 250.30              | 250.30              | 0.84           | 0.84        | -90.61                | -0.32                             | -29.99     | 29.99                | 28.32                 | 1.68                    | 17.892             |         |
| 300.00                                                                                      | 300.00              | 300.30              | 300.30              | 0.99           | 0.99        | -90.61                | -0.32                             | -29.99     | 29.99                | 28.02                 | 1.98                    | 15.181             |         |
| 350.00                                                                                      | 350.00              | 350.30              | 350.30              | 1.15           | 1.15        | -90.61                | -0.32                             | -29.99     | 29.99                | 27.70                 | 2.29                    | 13.086             |         |
| 400.00                                                                                      | 400.00              | 400.30              | 400.30              | 1.31           | 1.31        | -90.61                | -0.32                             | -29.99     | 29.99                | 27.37                 | 2.62                    | 11.451             |         |
| 450.00                                                                                      | 450.00              | 450.30              | 450.30              | 1.48           | 1.48        | -90.61                | -0.32                             | -29.99     | 29.99                | 27.04                 | 2.95                    | 10.154             |         |
| 500.00                                                                                      | 500.00              | 500.30              | 500.30              | 1.65           | 1.65        | -90.61                | -0.32                             | -29.99     | 29.99                | 26.70                 | 3.29                    | 9.107              |         |
| 550.00                                                                                      | 550.00              | 550.30              | 550.30              | 1.82           | 1.82        | -90.61                | -0.32                             | -29.99     | 29.99                | 26.36                 | 3.64                    | 8.248              |         |
| 600.00                                                                                      | 600.00              | 600.30              | 600.30              | 1.99           | 1.99        | -90.61                | -0.32                             | -29.99     | 29.99                | 26.01                 | 3.98                    | 7.531              |         |
| 650.00                                                                                      | 650.00              | 650.30              | 650.30              | 2.16           | 2.17        | -90.61                | -0.32                             | -29.99     | 29.99                | 25.66                 | 4.33                    | 6.926              |         |
| 700.00                                                                                      | 700.00              | 700.30              | 700.30              | 2.34           | 2.34        | -90.61                | -0.32                             | -29.99     | 29.99                | 25.31                 | 4.68                    | 6.409              |         |
| 750.00                                                                                      | 750.00              | 750.30              | 750.30              | 2.51           | 2.52        | -90.61                | -0.32                             | -29.99     | 29.99                | 24.96                 | 5.03                    | 5.962              |         |
| 800.00                                                                                      | 800.00              | 800.30              | 800.30              | 2.69           | 2.69        | -90.61                | -0.32                             | -29.99     | 29.99                | 24.61                 | 5.38                    | 5.572              |         |
| 850.00                                                                                      | 850.00              | 850.30              | 850.30              | 2.87           | 2.87        | -90.61                | -0.32                             | -29.99     | 29.99                | 24.26                 | 5.73                    | 5.230              |         |
| 900.00                                                                                      | 900.00              | 900.30              | 900.30              | 3.04           | 3.04        | -90.61                | -0.32                             | -29.99     | 29.99                | 23.90                 | 6.09                    | 4.926 Alert        |         |
| 950.00                                                                                      | 950.00              | 950.30              | 950.30              | 3.22           | 3.22        | -90.61                | -0.32                             | -29.99     | 29.99                | 23.55                 | 6.44                    | 4.656 Alert        |         |
| 1,000.00                                                                                    | 1,000.00            | 1,000.30            | 1,000.30            | 3.40           | 3.40        | -90.61                | -0.32                             | -29.99     | 29.99                | 23.20                 | 6.80                    | 4.413 Alert        |         |
| 1,050.00                                                                                    | 1,050.00            | 1,050.30            | 1,050.30            | 3.58           | 3.58        | -90.61                | -0.32                             | -29.99     | 29.99                | 22.84                 | 7.15                    | 4.194 Alert        |         |
| 1,100.00                                                                                    | 1,100.00            | 1,100.30            | 1,100.30            | 3.75           | 3.75        | -90.61                | -0.32                             | -29.99     | 29.99                | 22.49                 | 7.51                    | 3.996 Alert        |         |
| 1,150.00                                                                                    | 1,150.00            | 1,150.30            | 1,150.30            | 3.93           | 3.93        | -90.61                | -0.32                             | -29.99     | 29.99                | 22.13                 | 7.86                    | 3.815 Alert        |         |
| 1,200.00                                                                                    | 1,200.00            | 1,200.30            | 1,200.30            | 4.11           | 4.11        | -90.61                | -0.32                             | -29.99     | 29.99                | 21.77                 | 8.22                    | 3.650 Alert        |         |
| 1,250.00                                                                                    | 1,250.00            | 1,250.30            | 1,250.30            | 4.29           | 4.29        | -90.61                | -0.32                             | -29.99     | 29.99                | 21.42                 | 8.57                    | 3.498 Alert        |         |
| 1,300.00                                                                                    | 1,300.00            | 1,300.30            | 1,300.30            | 4.46           | 4.47        | -90.61                | -0.32                             | -29.99     | 29.99                | 21.06                 | 8.93                    | 3.359 Alert        |         |
| 1,350.00                                                                                    | 1,350.00            | 1,350.30            | 1,350.30            | 4.64           | 4.64        | -90.61                | -0.32                             | -29.99     | 29.99                | 20.71                 | 9.29                    | 3.230 Alert        |         |
| 1,400.00                                                                                    | 1,400.00            | 1,400.30            | 1,400.30            | 4.82           | 4.82        | -90.61                | -0.32                             | -29.99     | 29.99                | 20.35                 | 9.64                    | 3.110 Alert        |         |
| 1,450.00                                                                                    | 1,450.00            | 1,450.30            | 1,450.30            | 5.00           | 5.00        | -90.61                | -0.32                             | -29.99     | 29.99                | 19.99                 | 10.00                   | 3.000 Alert        |         |
| 1,500.00                                                                                    | 1,500.00            | 1,500.30            | 1,500.30            | 5.18           | 5.18        | -90.61                | -0.32                             | -29.99     | 29.99                | 19.64                 | 10.36                   | 2.896 Alert        |         |
| 1,550.00                                                                                    | 1,550.00            | 1,550.30            | 1,550.30            | 5.36           | 5.36        | -90.61                | -0.32                             | -29.99     | 29.99                | 19.28                 | 10.71                   | 2.800 Alert        |         |
| 1,600.00                                                                                    | 1,600.00            | 1,600.30            | 1,600.30            | 5.53           | 5.54        | -90.61                | -0.32                             | -29.99     | 29.99                | 18.92                 | 11.07                   | 2.709 Alert        |         |
| 1,650.00                                                                                    | 1,650.00            | 1,650.30            | 1,650.30            | 5.71           | 5.71        | -90.61                | -0.32                             | -29.99     | 29.99                | 18.57                 | 11.43                   | 2.625 Alert        |         |
| 1,700.00                                                                                    | 1,700.00            | 1,700.30            | 1,700.30            | 5.89           | 5.89        | -90.61                | -0.32                             | -29.99     | 29.99                | 18.21                 | 11.78                   | 2.545 Alert        |         |
| 1,750.00                                                                                    | 1,750.00            | 1,750.30            | 1,750.30            | 6.07           | 6.07        | -90.61                | -0.32                             | -29.99     | 29.99                | 17.85                 | 12.14                   | 2.470 Minor Risk   |         |
| 1,800.00                                                                                    | 1,800.00            | 1,800.30            | 1,800.30            | 6.25           | 6.25        | -90.61                | -0.32                             | -29.99     | 29.99                | 17.49                 | 12.50                   | 2.400 Minor Risk   |         |
| 1,850.00                                                                                    | 1,850.00            | 1,850.30            | 1,850.30            | 6.43           | 6.43        | -90.61                | -0.32                             | -29.99     | 29.99                | 17.14                 | 12.86                   | 2.333 Minor Risk   |         |
| 1,900.00                                                                                    | 1,900.00            | 1,900.30            | 1,900.30            | 6.61           | 6.61        | -90.61                | -0.32                             | -29.99     | 29.99                | 16.78                 | 13.21                   | 2.270 Minor Risk   |         |
| 1,950.00                                                                                    | 1,950.00            | 1,950.30            | 1,950.30            | 6.78           | 6.79        | -90.61                | -0.32                             | -29.99     | 29.99                | 16.42                 | 13.57                   | 2.210 Minor Risk   |         |
| 2,000.00                                                                                    | 2,000.00            | 2,000.30            | 2,000.30            | 6.96           | 6.96        | -90.61                | -0.32                             | -29.99     | 29.99                | 16.06                 | 13.93                   | 2.153 Minor Risk   |         |
| 2,050.00                                                                                    | 2,050.00            | 2,050.30            | 2,050.30            | 7.14           | 7.14        | -90.61                | -0.32                             | -29.99     | 29.99                | 15.71                 | 14.29                   | 2.099 Minor Risk   |         |
| 2,100.00                                                                                    | 2,100.00            | 2,100.30            | 2,100.30            | 7.32           | 7.32        | -90.61                | -0.32                             | -29.99     | 29.99                | 15.35                 | 14.64                   | 2.048 Minor Risk   |         |
| 2,150.00                                                                                    | 2,150.00            | 2,150.30            | 2,150.30            | 7.50           | 7.50        | -90.61                | -0.32                             | -29.99     | 29.99                | 14.99                 | 15.00                   | 1.999 Minor Risk   |         |
| 2,200.00                                                                                    | 2,200.00            | 2,200.30            | 2,200.30            | 7.68           | 7.68        | -90.61                | -0.32                             | -29.99     | 29.99                | 14.63                 | 15.36                   | 1.953 Minor Risk   |         |
| 2,250.00                                                                                    | 2,250.00            | 2,250.30            | 2,250.30            | 7.86           | 7.86        | -90.61                | -0.32                             | -29.99     | 29.99                | 14.28                 | 15.72                   | 1.908 Minor Risk   |         |
| 2,300.00                                                                                    | 2,300.00            | 2,300.30            | 2,300.30            | 8.04           | 8.04        | -90.61                | -0.32                             | -29.99     | 29.99                | 13.92                 | 16.07                   | 1.866 Minor Risk   |         |
| 2,350.00                                                                                    | 2,350.00            | 2,350.30            | 2,350.30            | 8.22           | 8.22        | -90.61                | -0.32                             | -29.99     | 29.99                | 13.56                 | 16.43                   | 1.825 Minor Risk   |         |
| 2,400.00                                                                                    | 2,400.00            | 2,400.30            | 2,400.30            | 8.39           | 8.40        | -90.61                | -0.32                             | -29.99     | 29.99                | 13.20                 | 16.79                   | 1.786 Minor Risk   |         |
| 2,450.00                                                                                    | 2,450.00            | 2,450.30            | 2,450.30            | 8.57           | 8.57        | -90.61                | -0.32                             | -29.99     | 29.99                | 12.84                 | 17.15                   | 1.749 Minor Risk   |         |
| 2,500.00                                                                                    | 2,500.00            | 2,500.30            | 2,500.30            | 8.75           | 8.75        | -90.61                | -0.32                             | -29.99     | 29.99                | 12.49                 | 17.51                   | 1.713 Minor Risk   |         |
| 2,550.00                                                                                    | 2,550.00            | 2,550.30            | 2,550.30            | 8.93           | 8.93        | -90.61                | -0.32                             | -29.99     | 29.99                | 12.13                 | 17.86                   | 1.679 Minor Risk   |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 524H - Wellbore #1 - Permit Plan 1 |                        |                        |                        |                   |                |                          |                                        |              |                         |                          | Offset Site Error:      0.00 ft |         |                    |
|--------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|-------------------|----------------|--------------------------|----------------------------------------|--------------|-------------------------|--------------------------|---------------------------------|---------|--------------------|
| Survey Program:      0-MWD+HDGM                                                                  |                        |                        |                        |                   |                |                          |                                        |              |                         |                          | Offset Well Error:      0.50 ft |         |                    |
| Reference                                                                                        |                        | Offset                 |                        | Semi Major Axis   |                |                          | Distance                               |              |                         |                          |                                 | Warning |                    |
| Measured Depth<br>(ft)                                                                           | Vertical Depth<br>(ft) | Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Highside Toolface<br>(°) | Offset Wellbore Centre<br>+N-S<br>(ft) | +E-W<br>(ft) | Between Centres<br>(ft) | Between Ellipses<br>(ft) | Minimum Separation<br>(ft)      |         | Separation Factor  |
| 2,600.00                                                                                         | 2,600.00               | 2,600.30               | 2,600.30               | 9.11              | 9.11           | -90.61                   | -0.32                                  | -29.99       | 29.99                   | 11.77                    | 18.22                           | 1.646   | Minor Risk         |
| 2,650.00                                                                                         | 2,650.00               | 2,650.30               | 2,650.30               | 9.29              | 9.29           | -90.61                   | -0.32                                  | -29.99       | 29.99                   | 11.41                    | 18.58                           | 1.614   | Minor Risk         |
| 2,700.00                                                                                         | 2,700.00               | 2,700.30               | 2,700.30               | 9.47              | 9.47           | -90.61                   | -0.32                                  | -29.99       | 29.99                   | 11.05                    | 18.94                           | 1.584   | Minor Risk, CC     |
| 2,750.00                                                                                         | 2,750.00               | 2,749.91               | 2,749.90               | 9.65              | 9.64           | -90.64                   | -0.34                                  | -30.32       | 30.32                   | 11.03                    | 19.29                           | 1.572   | Minor Risk, ES, SF |
| 2,800.00                                                                                         | 2,800.00               | 2,799.50               | 2,799.49               | 9.83              | 9.81           | -90.73                   | -0.40                                  | -31.28       | 31.30                   | 11.66                    | 19.63                           | 1.594   | Minor Risk         |
| 2,850.00                                                                                         | 2,850.00               | 2,849.05               | 2,849.02               | 10.00             | 9.98           | -90.86                   | -0.50                                  | -32.89       | 32.92                   | 12.95                    | 19.97                           | 1.648   | Minor Risk         |
| 2,900.00                                                                                         | 2,900.00               | 2,898.56               | 2,898.47               | 10.18             | 10.15          | -91.03                   | -0.63                                  | -35.14       | 35.19                   | 14.88                    | 20.31                           | 1.733   | Minor Risk         |
| 2,950.00                                                                                         | 2,950.00               | 2,948.00               | 2,947.83               | 10.36             | 10.32          | -91.21                   | -0.81                                  | -38.02       | 38.11                   | 17.47                    | 20.65                           | 1.846   | Minor Risk         |
| 3,000.00                                                                                         | 3,000.00               | 2,997.36               | 2,997.06               | 10.54             | 10.49          | -91.40                   | -1.02                                  | -41.54       | 41.68                   | 20.70                    | 20.98                           | 1.987   | Minor Risk         |
| 3,050.00                                                                                         | 3,050.00               | 3,046.62               | 3,046.14               | 10.72             | 10.66          | -91.59                   | -1.27                                  | -45.68       | 45.88                   | 24.58                    | 21.30                           | 2.154   | Minor Risk         |
| 3,100.00                                                                                         | 3,100.00               | 3,095.76               | 3,095.06               | 10.90             | 10.83          | -91.77                   | -1.56                                  | -50.44       | 50.73                   | 29.11                    | 21.63                           | 2.346   | Minor Risk         |
| 3,150.00                                                                                         | 3,150.00               | 3,144.78               | 3,143.77               | 11.08             | 11.00          | -91.93                   | -1.88                                  | -55.81       | 56.22                   | 34.27                    | 21.95                           | 2.562   | Alert              |
| 3,200.00                                                                                         | 3,200.00               | 3,193.64               | 3,192.27               | 11.26             | 11.17          | -92.08                   | -2.24                                  | -61.79       | 62.35                   | 40.08                    | 22.26                           | 2.800   | Alert              |
| 3,250.00                                                                                         | 3,250.00               | 3,242.64               | 3,240.82               | 11.44             | 11.35          | -92.21                   | -2.64                                  | -68.36       | 69.07                   | 46.48                    | 22.59                           | 3.058   | Alert              |
| 3,300.00                                                                                         | 3,300.00               | 3,292.17               | 3,289.88               | 11.62             | 11.52          | -92.32                   | -3.05                                  | -75.15       | 75.93                   | 52.99                    | 22.94                           | 3.310   | Alert              |
| 3,350.00                                                                                         | 3,350.00               | 3,341.70               | 3,338.94               | 11.80             | 11.70          | -92.42                   | -3.46                                  | -81.93       | 82.79                   | 59.50                    | 23.29                           | 3.555   | Alert              |
| 3,400.00                                                                                         | 3,400.00               | 3,408.78               | 3,388.00               | 11.97             | 11.94          | -92.50                   | -3.87                                  | -88.71       | 89.65                   | 65.95                    | 23.69                           | 3.783   | Alert              |
| 3,450.00                                                                                         | 3,450.00               | 3,440.75               | 3,437.06               | 12.15             | 12.05          | -92.56                   | -4.28                                  | -95.50       | 96.51                   | 72.52                    | 23.98                           | 4.024   | Alert              |
| 3,500.00                                                                                         | 3,500.00               | 3,490.28               | 3,486.12               | 12.33             | 12.23          | -92.62                   | -4.69                                  | -102.28      | 103.37                  | 79.04                    | 24.33                           | 4.248   | Alert              |
| 3,550.00                                                                                         | 3,550.00               | 3,539.81               | 3,535.18               | 12.51             | 12.41          | -92.68                   | -5.10                                  | -109.07      | 110.23                  | 85.55                    | 24.68                           | 4.466   | Alert              |
| 3,600.00                                                                                         | 3,600.00               | 3,589.33               | 3,584.23               | 12.69             | 12.59          | -92.72                   | -5.51                                  | -115.85      | 117.09                  | 92.06                    | 25.03                           | 4.677   | Alert              |
| 3,650.00                                                                                         | 3,650.00               | 3,638.86               | 3,633.29               | 12.87             | 12.77          | -92.76                   | -5.92                                  | -122.63      | 123.95                  | 98.57                    | 25.38                           | 4.883   | Alert              |
| 3,700.00                                                                                         | 3,700.00               | 3,688.39               | 3,682.35               | 13.05             | 12.95          | -92.80                   | -6.33                                  | -129.42      | 130.81                  | 105.08                   | 25.73                           | 5.083   |                    |
| 3,750.00                                                                                         | 3,750.00               | 3,737.91               | 3,731.41               | 13.23             | 13.14          | -92.83                   | -6.74                                  | -136.20      | 137.67                  | 111.59                   | 26.08                           | 5.278   |                    |
| 3,800.00                                                                                         | 3,800.00               | 3,787.44               | 3,780.47               | 13.41             | 13.32          | -92.86                   | -7.15                                  | -142.99      | 144.53                  | 118.10                   | 26.44                           | 5.467   |                    |
| 3,850.00                                                                                         | 3,850.00               | 3,836.97               | 3,829.53               | 13.59             | 13.50          | -92.89                   | -7.55                                  | -149.77      | 151.39                  | 124.60                   | 26.79                           | 5.652   |                    |
| 3,900.00                                                                                         | 3,900.00               | 3,886.49               | 3,878.59               | 13.77             | 13.68          | -92.91                   | -7.96                                  | -156.55      | 158.25                  | 131.11                   | 27.14                           | 5.831   |                    |
| 3,950.00                                                                                         | 3,950.00               | 3,936.02               | 3,927.64               | 13.94             | 13.87          | -92.94                   | -8.37                                  | -163.34      | 165.11                  | 137.62                   | 27.49                           | 6.006   |                    |
| 4,000.00                                                                                         | 4,000.00               | 3,985.55               | 3,976.70               | 14.12             | 14.05          | -92.96                   | -8.78                                  | -170.12      | 171.97                  | 144.13                   | 27.84                           | 6.176   |                    |
| 4,050.00                                                                                         | 4,050.00               | 4,035.08               | 4,025.76               | 14.30             | 14.24          | -92.98                   | -9.19                                  | -176.90      | 178.84                  | 150.64                   | 28.20                           | 6.342   |                    |
| 4,100.00                                                                                         | 4,100.00               | 4,084.60               | 4,074.82               | 14.48             | 14.42          | -92.99                   | -9.60                                  | -183.69      | 185.70                  | 157.15                   | 28.55                           | 6.504   |                    |
| 4,150.00                                                                                         | 4,150.00               | 4,134.13               | 4,123.88               | 14.66             | 14.61          | -93.01                   | -10.01                                 | -190.47      | 192.56                  | 163.65                   | 28.90                           | 6.662   |                    |
| 4,200.00                                                                                         | 4,200.00               | 4,183.66               | 4,172.94               | 14.84             | 14.80          | -93.02                   | -10.42                                 | -197.26      | 199.42                  | 170.16                   | 29.26                           | 6.816   |                    |
| 4,250.00                                                                                         | 4,250.00               | 4,233.18               | 4,221.99               | 15.02             | 14.98          | -93.04                   | -10.83                                 | -204.04      | 206.28                  | 176.67                   | 29.61                           | 6.967   |                    |
| 4,300.00                                                                                         | 4,300.00               | 4,282.71               | 4,271.05               | 15.20             | 15.17          | -93.05                   | -11.24                                 | -210.82      | 213.14                  | 183.18                   | 29.96                           | 7.113   |                    |
| 4,350.00                                                                                         | 4,350.00               | 4,332.24               | 4,320.11               | 15.38             | 15.36          | -93.07                   | -11.65                                 | -217.61      | 220.00                  | 189.68                   | 30.32                           | 7.256   |                    |
| 4,400.00                                                                                         | 4,400.00               | 4,381.76               | 4,369.17               | 15.56             | 15.55          | -93.08                   | -12.06                                 | -224.39      | 226.86                  | 196.19                   | 30.67                           | 7.396   |                    |
| 4,450.00                                                                                         | 4,450.00               | 4,431.29               | 4,418.23               | 15.74             | 15.73          | -93.09                   | -12.47                                 | -231.18      | 233.72                  | 202.70                   | 31.03                           | 7.533   |                    |
| 4,500.00                                                                                         | 4,500.00               | 4,480.82               | 4,467.29               | 15.92             | 15.92          | -93.10                   | -12.88                                 | -237.96      | 240.58                  | 209.20                   | 31.38                           | 7.667   |                    |
| 4,550.00                                                                                         | 4,550.00               | 4,530.35               | 4,516.35               | 16.09             | 16.11          | -93.11                   | -13.29                                 | -244.74      | 247.44                  | 215.71                   | 31.74                           | 7.797   |                    |
| 4,600.00                                                                                         | 4,600.00               | 4,579.87               | 4,565.40               | 16.27             | 16.30          | -93.12                   | -13.70                                 | -251.53      | 254.31                  | 222.22                   | 32.09                           | 7.925   |                    |
| 4,650.00                                                                                         | 4,650.00               | 4,629.40               | 4,614.46               | 16.45             | 16.49          | -93.13                   | -14.11                                 | -258.31      | 261.17                  | 228.72                   | 32.45                           | 8.049   |                    |
| 4,700.00                                                                                         | 4,700.00               | 4,678.93               | 4,663.52               | 16.63             | 16.68          | -93.14                   | -14.52                                 | -265.09      | 268.03                  | 235.23                   | 32.80                           | 8.171   |                    |
| 4,750.00                                                                                         | 4,750.00               | 4,728.45               | 4,712.58               | 16.81             | 16.87          | -93.14                   | -14.93                                 | -271.88      | 274.89                  | 241.73                   | 33.16                           | 8.291   |                    |
| 4,800.00                                                                                         | 4,800.00               | 4,777.98               | 4,761.64               | 16.99             | 17.06          | -93.15                   | -15.34                                 | -278.66      | 281.75                  | 248.24                   | 33.51                           | 8.408   |                    |
| 4,850.00                                                                                         | 4,850.00               | 4,827.51               | 4,810.70               | 17.17             | 17.25          | -93.16                   | -15.75                                 | -285.45      | 288.61                  | 254.74                   | 33.87                           | 8.522   |                    |
| 4,900.00                                                                                         | 4,900.00               | 4,877.03               | 4,859.76               | 17.35             | 17.44          | -93.17                   | -16.16                                 | -292.23      | 295.47                  | 261.25                   | 34.22                           | 8.634   |                    |
| 4,950.00                                                                                         | 4,950.00               | 4,926.56               | 4,908.81               | 17.53             | 17.63          | -93.17                   | -16.57                                 | -299.01      | 302.33                  | 267.75                   | 34.58                           | 8.743   |                    |
| 5,000.00                                                                                         | 5,000.00               | 4,976.09               | 4,957.87               | 17.71             | 17.82          | -93.18                   | -16.98                                 | -305.80      | 309.19                  | 274.26                   | 34.93                           | 8.851   |                    |
| 5,050.00                                                                                         | 5,050.00               | 5,025.62               | 5,006.93               | 17.89             | 18.02          | -93.18                   | -17.39                                 | -312.58      | 316.05                  | 280.76                   | 35.29                           | 8.956   |                    |
| 5,100.00                                                                                         | 5,100.00               | 5,075.14               | 5,055.99               | 18.06             | 18.21          | -93.19                   | -17.80                                 | -319.37      | 322.92                  | 287.27                   | 35.65                           | 9.059   |                    |
| 5,150.00                                                                                         | 5,150.00               | 5,124.67               | 5,105.05               | 18.24             | 18.40          | -93.20                   | -18.21                                 | -326.15      | 329.78                  | 293.77                   | 36.00                           | 9.160   |                    |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 524H - Wellbore #1 - Permit Plan 1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |
|---------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 0-MWD+HDGM                                                                  |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                   |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning |
| Measured Depth (ft)                                                                         | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 5,200.00                                                                                    | 5,200.00            | 5,174.20            | 5,154.11            | 18.42           | 18.59       | -93.20                | -18.62                            | -332.93    | 336.64               | 300.28                | 36.36                   | 9.258             |                    |         |
| 5,250.00                                                                                    | 5,250.00            | 5,223.72            | 5,203.16            | 18.60           | 18.79       | -93.21                | -19.03                            | -339.72    | 343.50               | 306.78                | 36.72                   | 9.355             |                    |         |
| 5,300.00                                                                                    | 5,300.00            | 5,273.25            | 5,252.22            | 18.78           | 18.98       | -93.21                | -19.44                            | -346.50    | 350.36               | 313.29                | 37.07                   | 9.450             |                    |         |
| 5,350.00                                                                                    | 5,350.00            | 5,322.78            | 5,301.28            | 18.96           | 19.17       | -93.22                | -19.85                            | -353.28    | 357.22               | 319.79                | 37.43                   | 9.544             |                    |         |
| 5,400.00                                                                                    | 5,400.00            | 5,372.30            | 5,350.34            | 19.14           | 19.36       | -93.22                | -20.26                            | -360.07    | 364.08               | 326.29                | 37.79                   | 9.635             |                    |         |
| 5,450.00                                                                                    | 5,450.00            | 5,421.83            | 5,399.40            | 19.32           | 19.56       | -93.22                | -20.67                            | -366.85    | 370.94               | 332.80                | 38.14                   | 9.725             |                    |         |
| 5,500.00                                                                                    | 5,500.00            | 5,471.36            | 5,448.46            | 19.50           | 19.75       | -93.23                | -21.08                            | -373.64    | 377.80               | 339.30                | 38.50                   | 9.813             |                    |         |
| 5,550.00                                                                                    | 5,550.00            | 5,520.89            | 5,497.52            | 19.68           | 19.94       | -93.23                | -21.49                            | -380.42    | 384.66               | 345.81                | 38.86                   | 9.899             |                    |         |
| 5,600.00                                                                                    | 5,600.00            | 5,570.41            | 5,546.57            | 19.86           | 20.14       | -93.24                | -21.90                            | -387.20    | 391.53               | 352.31                | 39.22                   | 9.984             |                    |         |
| 5,650.00                                                                                    | 5,650.00            | 5,619.94            | 5,595.63            | 20.04           | 20.33       | -93.24                | -22.31                            | -393.99    | 398.39               | 358.81                | 39.57                   | 10.067            |                    |         |
| 5,700.00                                                                                    | 5,700.00            | 5,669.47            | 5,644.69            | 20.22           | 20.53       | -93.24                | -22.72                            | -400.77    | 405.25               | 365.32                | 39.93                   | 10.149            |                    |         |
| 5,750.00                                                                                    | 5,750.00            | 5,718.99            | 5,693.75            | 20.39           | 20.72       | -93.25                | -23.13                            | -407.56    | 412.11               | 371.82                | 40.29                   | 10.229            |                    |         |
| 5,800.00                                                                                    | 5,800.00            | 5,768.52            | 5,742.81            | 20.57           | 20.91       | -93.25                | -23.54                            | -414.34    | 418.97               | 378.32                | 40.65                   | 10.308            |                    |         |
| 5,850.00                                                                                    | 5,850.00            | 5,818.05            | 5,791.87            | 20.75           | 21.11       | -93.25                | -23.95                            | -421.12    | 425.83               | 384.83                | 41.00                   | 10.385            |                    |         |
| 5,900.00                                                                                    | 5,900.00            | 5,867.57            | 5,840.93            | 20.93           | 21.30       | -93.26                | -24.35                            | -427.91    | 432.69               | 391.33                | 41.36                   | 10.461            |                    |         |
| 5,950.00                                                                                    | 5,950.00            | 5,917.10            | 5,889.98            | 21.11           | 21.50       | -93.26                | -24.76                            | -434.69    | 439.55               | 397.83                | 41.72                   | 10.536            |                    |         |
| 6,000.00                                                                                    | 6,000.00            | 5,966.63            | 5,939.04            | 21.29           | 21.69       | -93.26                | -25.17                            | -441.47    | 446.41               | 404.34                | 42.08                   | 10.609            |                    |         |
| 6,050.00                                                                                    | 6,050.00            | 6,016.18            | 5,988.13            | 21.46           | 21.89       | 45.35                 | -25.58                            | -448.26    | 453.09               | 410.66                | 42.43                   | 10.679            |                    |         |
| 6,100.00                                                                                    | 6,099.99            | 6,065.78            | 6,037.26            | 21.63           | 22.08       | 45.36                 | -25.99                            | -455.06    | 459.38               | 416.60                | 42.78                   | 10.739            |                    |         |
| 6,150.00                                                                                    | 6,149.98            | 6,115.42            | 6,086.42            | 21.80           | 22.28       | 45.45                 | -26.41                            | -461.85    | 465.33               | 422.21                | 43.12                   | 10.791            |                    |         |
| 6,200.00                                                                                    | 6,199.96            | 6,165.06            | 6,135.59            | 21.96           | 22.48       | 45.56                 | -26.82                            | -468.65    | 471.24               | 427.77                | 43.48                   | 10.842            |                    |         |
| 6,250.00                                                                                    | 6,249.94            | 6,214.70            | 6,184.77            | 22.12           | 22.67       | 45.67                 | -27.23                            | -475.45    | 477.14               | 433.33                | 43.81                   | 10.892            |                    |         |
| 6,300.00                                                                                    | 6,299.92            | 6,264.34            | 6,233.94            | 22.29           | 22.87       | 45.78                 | -27.64                            | -482.25    | 483.05               | 438.90                | 44.15                   | 10.940            |                    |         |
| 6,350.00                                                                                    | 6,349.98            | 6,313.98            | 6,283.11            | 22.45           | 23.06       | 45.89                 | -28.05                            | -489.05    | 488.96               | 444.46                | 44.50                   | 10.989            |                    |         |
| 6,400.00                                                                                    | 6,399.88            | 6,363.62            | 6,332.28            | 22.62           | 23.26       | 45.99                 | -28.46                            | -495.85    | 494.87               | 450.03                | 44.84                   | 11.036            |                    |         |
| 6,450.00                                                                                    | 6,449.86            | 6,413.27            | 6,381.45            | 22.78           | 23.46       | 46.09                 | -28.87                            | -502.65    | 500.78               | 455.60                | 45.19                   | 11.082            |                    |         |
| 6,500.00                                                                                    | 6,499.84            | 6,462.91            | 6,430.63            | 22.95           | 23.65       | 46.19                 | -29.28                            | -509.45    | 506.70               | 461.17                | 45.53                   | 11.128            |                    |         |
| 6,550.00                                                                                    | 6,549.82            | 6,512.55            | 6,479.80            | 23.11           | 23.85       | 46.29                 | -29.69                            | -516.25    | 512.61               | 466.74                | 45.88                   | 11.173            |                    |         |
| 6,600.00                                                                                    | 6,599.80            | 6,562.19            | 6,528.97            | 23.28           | 24.05       | 46.39                 | -30.10                            | -523.05    | 518.53               | 472.31                | 46.22                   | 11.218            |                    |         |
| 6,650.00                                                                                    | 6,649.79            | 6,611.83            | 6,578.14            | 23.44           | 24.24       | 46.48                 | -30.51                            | -529.85    | 524.45               | 477.88                | 46.57                   | 11.261            |                    |         |
| 6,700.00                                                                                    | 6,699.77            | 6,661.47            | 6,627.31            | 23.61           | 24.44       | 46.57                 | -30.92                            | -536.65    | 530.37               | 483.45                | 46.92                   | 11.304            |                    |         |
| 6,750.00                                                                                    | 6,749.75            | 6,711.11            | 6,676.48            | 23.78           | 24.64       | 46.66                 | -31.33                            | -543.45    | 536.29               | 489.03                | 47.26                   | 11.347            |                    |         |
| 6,800.00                                                                                    | 6,799.73            | 6,760.76            | 6,725.66            | 23.94           | 24.83       | 46.74                 | -31.74                            | -550.25    | 542.21               | 494.60                | 47.61                   | 11.388            |                    |         |
| 6,850.00                                                                                    | 6,849.71            | 6,810.40            | 6,774.83            | 24.11           | 25.03       | 46.83                 | -32.16                            | -557.05    | 548.14               | 500.18                | 47.96                   | 11.429            |                    |         |
| 6,900.00                                                                                    | 6,899.69            | 6,860.04            | 6,824.00            | 24.28           | 25.23       | 46.91                 | -32.57                            | -563.85    | 554.06               | 505.76                | 48.31                   | 11.470            |                    |         |
| 6,950.00                                                                                    | 6,949.67            | 6,909.68            | 6,873.17            | 24.44           | 25.43       | 46.99                 | -32.98                            | -570.65    | 559.99               | 511.33                | 48.65                   | 11.510            |                    |         |
| 7,000.00                                                                                    | 6,999.65            | 6,959.32            | 6,922.34            | 24.61           | 25.62       | 47.07                 | -33.39                            | -577.45    | 565.91               | 516.91                | 49.00                   | 11.549            |                    |         |
| 7,050.00                                                                                    | 7,049.63            | 7,008.96            | 6,971.52            | 24.78           | 25.82       | 47.15                 | -33.80                            | -584.25    | 571.84               | 522.49                | 49.35                   | 11.587            |                    |         |
| 7,100.00                                                                                    | 7,099.61            | 7,058.60            | 7,020.69            | 24.94           | 26.02       | 47.23                 | -34.21                            | -591.04    | 577.77               | 528.07                | 49.70                   | 11.626            |                    |         |
| 7,150.00                                                                                    | 7,149.60            | 7,108.25            | 7,069.88            | 25.11           | 26.22       | 47.30                 | -34.62                            | -597.84    | 583.70               | 533.65                | 50.05                   | 11.663            |                    |         |
| 7,200.00                                                                                    | 7,199.58            | 7,157.89            | 7,119.03            | 25.28           | 26.41       | 47.37                 | -35.03                            | -604.64    | 589.63               | 539.24                | 50.40                   | 11.700            |                    |         |
| 7,250.00                                                                                    | 7,249.56            | 7,207.53            | 7,168.20            | 25.45           | 26.61       | 47.44                 | -35.44                            | -611.44    | 595.56               | 544.82                | 50.75                   | 11.736            |                    |         |
| 7,300.00                                                                                    | 7,299.54            | 7,257.17            | 7,217.38            | 25.62           | 26.81       | 47.51                 | -35.85                            | -618.24    | 601.50               | 550.40                | 51.10                   | 11.772            |                    |         |
| 7,350.00                                                                                    | 7,349.52            | 7,306.81            | 7,266.55            | 25.78           | 27.01       | 47.58                 | -36.26                            | -625.04    | 607.43               | 555.98                | 51.44                   | 11.807            |                    |         |
| 7,400.00                                                                                    | 7,399.50            | 7,356.45            | 7,315.72            | 25.95           | 27.20       | 47.65                 | -36.67                            | -631.84    | 613.36               | 561.57                | 51.79                   | 11.842            |                    |         |
| 7,450.00                                                                                    | 7,449.48            | 7,406.09            | 7,364.89            | 26.12           | 27.40       | 47.72                 | -37.08                            | -638.64    | 619.30               | 567.15                | 52.14                   | 11.877            |                    |         |
| 7,500.00                                                                                    | 7,499.46            | 7,455.74            | 7,414.06            | 26.29           | 27.60       | 47.78                 | -37.49                            | -645.44    | 625.24               | 572.74                | 52.49                   | 11.910            |                    |         |
| 7,550.00                                                                                    | 7,549.44            | 7,505.38            | 7,463.23            | 26.46           | 27.80       | 47.85                 | -37.90                            | -652.24    | 631.17               | 578.33                | 52.85                   | 11.944            |                    |         |
| 7,600.00                                                                                    | 7,599.42            | 7,555.02            | 7,512.41            | 26.63           | 28.00       | 47.91                 | -38.32                            | -659.04    | 637.11               | 583.91                | 53.20                   | 11.977            |                    |         |
| 7,650.00                                                                                    | 7,649.41            | 7,604.66            | 7,561.58            | 26.80           | 28.20       | 47.97                 | -38.73                            | -665.84    | 643.05               | 589.50                | 53.55                   | 12.009            |                    |         |
| 7,700.00                                                                                    | 7,699.39            | 7,654.30            | 7,610.75            | 26.97           | 28.39       | 48.03                 | -39.14                            | -672.64    | 648.99               | 595.09                | 53.90                   | 12.041            |                    |         |
| 7,750.00                                                                                    | 7,749.37            | 7,703.94            | 7,659.92            | 27.14           | 28.59       | 48.09                 | -39.55                            | -679.44    | 654.93               | 600.68                | 54.25                   | 12.073            |                    |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 524H - Wellbore #1 - Permit Plan 1 |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft |
|---------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|---------|
| Survey Program: 0-MWD+HDGM                                                                  |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                               |                      | Offset Well Error: | 0.50 ft |
| Reference                                                                                   |                           | Offset                    |                           | Semi Major Axis   |                | Hightide<br>Toolface<br>(°) | Offset Wellbore Centre |               | Distance                   |                             | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |         |
| Measured<br>Depth<br>(ft)                                                                   | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | +N/-S<br>(ft)          | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                               |                      |                    |         |
| 7,800.00                                                                                    | 7,799.35                  | 7,753.58                  | 7,709.09                  | 27.31             | 28.79          | 48.15                       | -39.96                 | -686.24       | 660.87                     | 606.27                      | 54.60                         | 12.104               |                    |         |
| 7,850.00                                                                                    | 7,849.33                  | 7,803.23                  | 7,758.27                  | 27.48             | 28.99          | 48.20                       | -40.37                 | -693.04       | 666.81                     | 611.86                      | 54.95                         | 12.134               |                    |         |
| 7,900.00                                                                                    | 7,899.31                  | 7,852.87                  | 7,807.44                  | 27.65             | 29.19          | 48.26                       | -40.78                 | -699.84       | 672.75                     | 617.45                      | 55.30                         | 12.165               |                    |         |
| 7,950.00                                                                                    | 7,949.29                  | 7,902.51                  | 7,856.61                  | 27.82             | 29.39          | 48.32                       | -41.19                 | -706.64       | 678.69                     | 623.04                      | 55.66                         | 12.194               |                    |         |
| 8,000.00                                                                                    | 7,999.27                  | 7,952.15                  | 7,905.78                  | 27.99             | 29.59          | 48.37                       | -41.60                 | -713.44       | 684.64                     | 628.63                      | 56.01                         | 12.224               |                    |         |
| 8,050.00                                                                                    | 8,049.25                  | 8,001.79                  | 7,954.95                  | 28.16             | 29.78          | 48.42                       | -42.01                 | -720.24       | 690.58                     | 634.22                      | 56.36                         | 12.253               |                    |         |
| 8,100.00                                                                                    | 8,099.23                  | 8,051.43                  | 8,004.12                  | 28.33             | 29.98          | 48.48                       | -42.42                 | -727.04       | 696.52                     | 639.81                      | 56.71                         | 12.282               |                    |         |
| 8,150.00                                                                                    | 8,149.22                  | 8,101.07                  | 8,053.30                  | 28.50             | 30.18          | 48.53                       | -42.83                 | -733.83       | 702.47                     | 645.40                      | 57.07                         | 12.310               |                    |         |
| 8,200.00                                                                                    | 8,199.20                  | 8,150.72                  | 8,102.47                  | 28.67             | 30.38          | 48.58                       | -43.24                 | -740.63       | 708.41                     | 650.99                      | 57.42                         | 12.338               |                    |         |
| 8,250.00                                                                                    | 8,249.18                  | 8,200.36                  | 8,151.64                  | 28.84             | 30.58          | 48.63                       | -43.65                 | -747.43       | 714.36                     | 656.59                      | 57.77                         | 12.365               |                    |         |
| 8,300.00                                                                                    | 8,299.16                  | 8,250.00                  | 8,200.81                  | 29.01             | 30.78          | 48.68                       | -44.07                 | -754.23       | 720.30                     | 662.18                      | 58.12                         | 12.392               |                    |         |
| 8,350.00                                                                                    | 8,349.14                  | 8,300.36                  | 8,249.98                  | 29.18             | 30.98          | 48.72                       | -44.48                 | -761.03       | 726.25                     | 667.77                      | 58.48                         | 12.419               |                    |         |
| 8,400.00                                                                                    | 8,399.12                  | 8,349.28                  | 8,299.16                  | 29.35             | 31.18          | 48.77                       | -44.89                 | -767.83       | 732.20                     | 673.37                      | 58.83                         | 12.446               |                    |         |
| 8,450.00                                                                                    | 8,449.10                  | 8,401.08                  | 8,348.32                  | 29.52             | 31.38          | 48.85                       | -45.30                 | -774.63       | 738.19                     | 679.00                      | 59.19                         | 12.471               |                    |         |
| 8,500.00                                                                                    | 8,499.10                  | 8,448.51                  | 8,397.45                  | 29.69             | 31.57          | 48.93                       | -45.71                 | -781.42       | 744.54                     | 685.00                      | 59.54                         | 12.505               |                    |         |
| 8,550.00                                                                                    | 8,549.10                  | 8,501.95                  | 8,446.52                  | 29.87             | 31.79          | 48.97                       | -46.12                 | -788.21       | 751.30                     | 691.39                      | 59.91                         | 12.541               |                    |         |
| 8,600.00                                                                                    | 8,599.10                  | 8,547.58                  | 8,495.58                  | 30.05             | 31.97          | 48.97                       | -46.53                 | -794.99       | 758.14                     | 697.89                      | 60.25                         | 12.583               |                    |         |
| 8,650.00                                                                                    | 8,649.10                  | 8,602.89                  | 8,544.64                  | 30.23             | 32.19          | 48.97                       | -46.94                 | -801.78       | 764.99                     | 704.36                      | 60.63                         | 12.617               |                    |         |
| 8,700.00                                                                                    | 8,699.10                  | 8,646.63                  | 8,593.70                  | 30.40             | 32.37          | 48.97                       | -47.35                 | -808.56       | 771.84                     | 710.87                      | 60.97                         | 12.659               |                    |         |
| 8,750.00                                                                                    | 8,749.10                  | 8,703.84                  | 8,642.75                  | 30.58             | 32.60          | 48.97                       | -47.76                 | -815.34       | 778.69                     | 717.33                      | 61.36                         | 12.691               |                    |         |
| 8,800.00                                                                                    | 8,799.10                  | 8,745.69                  | 8,691.81                  | 30.76             | 32.77          | 48.97                       | -48.17                 | -822.13       | 785.53                     | 723.84                      | 61.69                         | 12.734               |                    |         |
| 8,850.00                                                                                    | 8,849.10                  | 8,804.79                  | 8,740.87                  | 30.94             | 33.00          | 48.97                       | -48.58                 | -828.91       | 792.38                     | 730.30                      | 62.08                         | 12.783               |                    |         |
| 8,900.00                                                                                    | 8,899.09                  | 8,844.74                  | 8,789.93                  | 31.11             | 33.17          | 48.97                       | -48.99                 | -835.70       | 799.23                     | 736.82                      | 62.41                         | 12.807               |                    |         |
| 8,950.00                                                                                    | 8,948.94                  | 8,894.15                  | 8,838.87                  | 31.28             | 33.38          | 48.97                       | -49.39                 | -842.46       | 806.09                     | 743.34                      | 62.76                         | 12.844               |                    |         |
| 9,000.00                                                                                    | 8,998.28                  | 8,943.08                  | 8,887.34                  | 31.45             | 33.56          | 48.97                       | -49.80                 | -849.17       | 812.98                     | 749.87                      | 63.11                         | 12.882               |                    |         |
| 9,050.00                                                                                    | 9,046.74                  | 8,993.42                  | 8,937.14                  | 31.62             | 33.78          | 48.97                       | -50.26                 | -856.04       | 819.90                     | 756.42                      | 63.48                         | 12.916               |                    |         |
| 9,100.00                                                                                    | 9,093.94                  | 9,044.88                  | 8,987.65                  | 31.78             | 33.96          | 48.94                       | -50.61                 | -862.98       | 826.76                     | 762.90                      | 63.86                         | 12.947               |                    |         |
| 9,150.00                                                                                    | 9,139.53                  | 9,097.37                  | 9,038.34                  | 31.94             | 34.17          | 48.98                       | -50.97                 | -869.92       | 833.51                     | 769.27                      | 64.24                         | 12.975               |                    |         |
| 9,200.00                                                                                    | 9,183.16                  | 9,150.96                  | 9,088.77                  | 32.10             | 34.38          | 48.97                       | -51.35                 | -876.79       | 840.09                     | 775.46                      | 64.63                         | 12.998               |                    |         |
| 9,250.00                                                                                    | 9,224.50                  | 9,205.66                  | 9,138.44                  | 32.26             | 34.56          | 48.97                       | -51.74                 | -883.52       | 846.43                     | 781.41                      | 65.02                         | 13.017               |                    |         |
| 9,300.00                                                                                    | 9,263.23                  | 9,261.51                  | 9,186.79                  | 32.42             | 34.75          | 48.97                       | -52.12                 | -890.03       | 852.47                     | 787.06                      | 65.41                         | 13.032               |                    |         |
| 9,350.00                                                                                    | 9,299.06                  | 9,318.51                  | 9,233.21                  | 32.58             | 34.93          | 48.94                       | -52.50                 | -896.24       | 858.15                     | 792.35                      | 65.80                         | 13.042               |                    |         |
| 9,400.00                                                                                    | 9,331.72                  | 9,378.65                  | 9,277.02                  | 32.74             | 35.11          | 48.99                       | -52.89                 | -902.06       | 863.40                     | 797.22                      | 66.18                         | 13.047               |                    |         |
| 9,450.00                                                                                    | 9,360.95                  | 9,435.88                  | 9,317.53                  | 32.91             | 35.28          | 48.93                       | -53.29                 | -907.39       | 868.16                     | 801.61                      | 66.55                         | 13.045               |                    |         |
| 9,500.00                                                                                    | 9,386.54                  | 9,466.13                  | 9,354.03                  | 33.08             | 35.45          | 48.97                       | -53.67                 | -912.13       | 872.38                     | 805.46                      | 66.92                         | 13.038               |                    |         |
| 9,550.00                                                                                    | 9,408.29                  | 9,557.31                  | 9,385.81                  | 33.25             | 35.62          | 48.97                       | -54.05                 | -916.19       | 875.98                     | 808.70                      | 67.28                         | 13.020               |                    |         |
| 9,600.00                                                                                    | 9,426.04                  | 9,619.28                  | 9,412.21                  | 33.42             | 35.79          | 48.97                       | -54.43                 | -919.48       | 878.94                     | 811.30                      | 67.64                         | 12.994               |                    |         |
| 9,650.00                                                                                    | 9,439.64                  | 9,681.89                  | 9,432.66                  | 33.60             | 35.96          | 48.93                       | -54.81                 | -921.93       | 881.20                     | 813.20                      | 68.00                         | 12.959               |                    |         |
| 9,700.00                                                                                    | 9,449.01                  | 9,744.95                  | 9,446.68                  | 33.78             | 36.14          | 48.97                       | -55.19                 | -923.47       | 882.74                     | 814.37                      | 68.36                         | 12.913               |                    |         |
| 9,750.00                                                                                    | 9,454.05                  | 9,808.26                  | 9,453.95                  | 33.97             | 36.33          | 48.97                       | -55.57                 | -924.07       | 883.53                     | 814.80                      | 68.73                         | 12.855               |                    |         |
| 9,800.00                                                                                    | 9,455.00                  | 9,865.63                  | 9,455.00                  | 34.15             | 36.51          | 48.98                       | -55.95                 | -923.85       | 883.64                     | 814.55                      | 69.10                         | 12.789               |                    |         |
| 9,850.00                                                                                    | 9,455.00                  | 9,915.63                  | 9,455.00                  | 34.36             | 36.69          | 48.98                       | -56.33                 | -923.52       | 883.64                     | 814.15                      | 69.49                         | 12.716               |                    |         |
| 9,900.00                                                                                    | 9,455.00                  | 9,965.63                  | 9,455.00                  | 34.56             | 36.87          | 48.98                       | -56.71                 | -923.20       | 883.64                     | 813.74                      | 69.90                         | 12.642               |                    |         |
| 9,950.00                                                                                    | 9,455.00                  | 10,015.63                 | 9,455.00                  | 34.79             | 37.07          | 48.98                       | -57.09                 | -922.88       | 883.63                     | 813.29                      | 70.34                         | 12.562               |                    |         |
| 10,000.00                                                                                   | 9,455.00                  | 10,065.63                 | 9,455.00                  | 35.02             | 37.28          | 48.98                       | -57.47                 | -922.55       | 883.63                     | 812.82                      | 70.81                         | 12.480               |                    |         |
| 10,050.00                                                                                   | 9,455.00                  | 10,115.63                 | 9,455.00                  | 35.28             | 37.51          | 48.98                       | -57.85                 | -922.23       | 883.63                     | 812.32                      | 71.30                         | 12.392               |                    |         |
| 10,100.00                                                                                   | 9,455.00                  | 10,165.63                 | 9,455.00                  | 35.54             | 37.75          | 48.98                       | -58.23                 | -921.91       | 883.63                     | 811.80                      | 71.82                         | 12.303               |                    |         |
| 10,150.00                                                                                   | 9,455.00                  | 10,215.63                 | 9,455.00                  | 35.82             | 38.00          | 48.98                       | -58.61                 | -921.58       | 883.62                     | 811.25                      | 72.37                         | 12.209               |                    |         |
| 10,200.00                                                                                   | 9,455.00                  | 10,265.63                 | 9,455.00                  | 36.11             | 38.26          | 48.98                       | -58.99                 | -921.26       | 883.62                     | 810.68                      | 72.94                         | 12.114               |                    |         |
| 10,250.00                                                                                   | 9,455.00                  | 10,315.63                 | 9,455.00                  | 36.42             | 38.54          | 48.98                       | -59.37                 | -920.94       | 883.62                     | 810.08                      | 73.54                         | 12.016               |                    |         |
| 10,300.00                                                                                   | 9,455.00                  | 10,365.63                 | 9,455.00                  | 36.72             | 38.83          | 48.98                       | -59.75                 | -920.62       | 883.61                     | 809.46                      | 74.16                         | 11.916               |                    |         |
| 10,350.00                                                                                   | 9,455.00                  | 10,415.63                 | 9,455.00                  | 37.06             | 39.13          | 48.98                       | -60.13                 | -920.29       | 883.61                     | 808.81                      | 74.80                         | 11.813               |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 524H - Wellbore #1 - Permit Plan 1 |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                               | Offset Site Error:   | 0.00 ft |
|---------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|---------|
| Survey Program: O-MWD+HDGM                                                                  |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                               | Offset Well Error:   | 0.50 ft |
| Reference                                                                                   |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Offset Wellbore Centre |               | Distance                   |                             | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning |
| Measured<br>Depth<br>(ft)                                                                   | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | +N/-S<br>(ft)          | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                               |                      |         |
| 10,400.00                                                                                   | 9,455.00                  | 10,465.63                 | 9,455.00                  | 37.39             | 39.44          | 89.98                       | -1,245.70              | -919.97       | 883.61                     | 808.15                      | 75.46                         | 11.709               |         |
| 10,450.00                                                                                   | 9,455.00                  | 10,515.63                 | 9,455.00                  | 37.74             | 39.76          | 89.98                       | -1,295.69              | -919.65       | 883.61                     | 807.45                      | 76.16                         | 11.603               |         |
| 10,500.00                                                                                   | 9,455.00                  | 10,565.63                 | 9,455.00                  | 38.10             | 40.10          | 89.98                       | -1,345.69              | -919.32       | 883.60                     | 806.74                      | 76.86                         | 11.496               |         |
| 10,550.00                                                                                   | 9,455.00                  | 10,615.63                 | 9,455.00                  | 38.47             | 40.44          | 89.98                       | -1,395.69              | -919.00       | 883.60                     | 806.01                      | 77.59                         | 11.387               |         |
| 10,600.00                                                                                   | 9,455.00                  | 10,665.63                 | 9,455.00                  | 38.85             | 40.80          | 89.98                       | -1,445.69              | -918.68       | 883.60                     | 805.26                      | 78.34                         | 11.279               |         |
| 10,650.00                                                                                   | 9,455.00                  | 10,715.63                 | 9,455.00                  | 39.24             | 41.16          | 89.98                       | -1,495.69              | -918.36       | 883.60                     | 804.48                      | 79.12                         | 11.168               |         |
| 10,700.00                                                                                   | 9,455.00                  | 10,765.63                 | 9,455.00                  | 39.64             | 41.54          | 89.98                       | -1,545.69              | -918.03       | 883.59                     | 803.69                      | 79.90                         | 11.059               |         |
| 10,750.00                                                                                   | 9,455.00                  | 10,815.63                 | 9,455.00                  | 40.05             | 41.92          | 89.98                       | -1,595.69              | -917.71       | 883.59                     | 802.88                      | 80.71                         | 10.947               |         |
| 10,800.00                                                                                   | 9,455.00                  | 10,865.63                 | 9,455.00                  | 40.46             | 42.31          | 89.98                       | -1,645.69              | -917.39       | 883.59                     | 802.05                      | 81.54                         | 10.837               |         |
| 10,850.00                                                                                   | 9,455.00                  | 10,915.63                 | 9,455.00                  | 40.89             | 42.72          | 89.98                       | -1,695.69              | -917.06       | 883.58                     | 801.20                      | 82.38                         | 10.725               |         |
| 10,900.00                                                                                   | 9,455.00                  | 10,965.63                 | 9,455.00                  | 41.32             | 43.13          | 89.98                       | -1,745.69              | -916.74       | 883.58                     | 800.34                      | 83.24                         | 10.615               |         |
| 10,950.00                                                                                   | 9,455.00                  | 11,015.63                 | 9,455.00                  | 41.77             | 43.55          | 89.98                       | -1,795.68              | -916.42       | 883.58                     | 799.46                      | 84.12                         | 10.504               |         |
| 11,000.00                                                                                   | 9,455.00                  | 11,065.63                 | 9,455.00                  | 42.22             | 43.98          | 89.98                       | -1,845.68              | -916.10       | 883.58                     | 798.57                      | 85.01                         | 10.394               |         |
| 11,050.00                                                                                   | 9,455.00                  | 11,115.63                 | 9,455.00                  | 42.68             | 44.41          | 89.98                       | -1,895.68              | -915.77       | 883.57                     | 797.65                      | 85.92                         | 10.284               |         |
| 11,100.00                                                                                   | 9,455.00                  | 11,165.63                 | 9,455.00                  | 43.14             | 44.85          | 89.98                       | -1,945.68              | -915.45       | 883.57                     | 796.73                      | 86.84                         | 10.174               |         |
| 11,150.00                                                                                   | 9,455.00                  | 11,215.63                 | 9,455.00                  | 43.62             | 45.30          | 89.98                       | -1,995.68              | -915.13       | 883.57                     | 795.79                      | 87.78                         | 10.065               |         |
| 11,200.00                                                                                   | 9,455.00                  | 11,265.63                 | 9,455.00                  | 44.10             | 45.76          | 89.98                       | -2,045.68              | -914.80       | 883.57                     | 794.83                      | 88.73                         | 9.958                |         |
| 11,250.00                                                                                   | 9,455.00                  | 11,315.63                 | 9,455.00                  | 44.59             | 46.23          | 89.98                       | -2,095.68              | -914.48       | 883.56                     | 793.86                      | 89.70                         | 9.850                |         |
| 11,300.00                                                                                   | 9,455.00                  | 11,365.63                 | 9,455.00                  | 45.08             | 46.70          | 89.98                       | -2,145.68              | -914.16       | 883.56                     | 792.88                      | 90.68                         | 9.744                |         |
| 11,350.00                                                                                   | 9,455.00                  | 11,415.63                 | 9,455.00                  | 45.58             | 47.18          | 89.98                       | -2,195.68              | -913.84       | 883.56                     | 791.89                      | 91.67                         | 9.639                |         |
| 11,400.00                                                                                   | 9,455.00                  | 11,465.63                 | 9,455.00                  | 46.08             | 47.66          | 89.98                       | -2,245.67              | -913.51       | 883.56                     | 790.88                      | 92.67                         | 9.534                |         |
| 11,450.00                                                                                   | 9,455.00                  | 11,515.63                 | 9,455.00                  | 46.60             | 48.16          | 89.98                       | -2,295.67              | -913.19       | 883.55                     | 789.86                      | 93.69                         | 9.431                |         |
| 11,500.00                                                                                   | 9,455.00                  | 11,565.63                 | 9,455.00                  | 47.11             | 48.65          | 89.98                       | -2,345.67              | -912.87       | 883.55                     | 788.84                      | 94.71                         | 9.329                |         |
| 11,550.00                                                                                   | 9,455.00                  | 11,615.63                 | 9,455.00                  | 47.64             | 49.16          | 89.98                       | -2,395.67              | -912.54       | 883.55                     | 787.79                      | 95.75                         | 9.227                |         |
| 11,600.00                                                                                   | 9,455.00                  | 11,665.63                 | 9,455.00                  | 48.16             | 49.67          | 89.98                       | -2,445.67              | -912.22       | 883.54                     | 786.74                      | 96.80                         | 9.127                |         |
| 11,650.00                                                                                   | 9,455.00                  | 11,715.63                 | 9,455.00                  | 48.70             | 50.18          | 89.98                       | -2,495.67              | -911.90       | 883.54                     | 785.68                      | 97.86                         | 9.028                |         |
| 11,700.00                                                                                   | 9,455.00                  | 11,765.63                 | 9,455.00                  | 49.24             | 50.70          | 89.98                       | -2,545.67              | -911.58       | 883.54                     | 784.61                      | 98.93                         | 8.931                |         |
| 11,750.00                                                                                   | 9,455.00                  | 11,815.63                 | 9,455.00                  | 49.78             | 51.22          | 89.98                       | -2,595.67              | -911.25       | 883.54                     | 783.52                      | 100.01                        | 8.834                |         |
| 11,800.00                                                                                   | 9,455.00                  | 11,865.63                 | 9,455.00                  | 50.33             | 51.75          | 89.98                       | -2,645.67              | -910.93       | 883.53                     | 782.43                      | 101.10                        | 8.739                |         |
| 11,850.00                                                                                   | 9,455.00                  | 11,915.63                 | 9,455.00                  | 50.88             | 52.29          | 89.98                       | -2,695.67              | -910.61       | 883.53                     | 781.33                      | 102.20                        | 8.645                |         |
| 11,900.00                                                                                   | 9,455.00                  | 11,965.63                 | 9,455.00                  | 51.44             | 52.83          | 89.98                       | -2,745.66              | -910.28       | 883.53                     | 780.22                      | 103.30                        | 8.553                |         |
| 11,950.00                                                                                   | 9,455.00                  | 12,015.63                 | 9,455.00                  | 52.00             | 53.37          | 89.98                       | -2,795.66              | -909.96       | 883.53                     | 779.10                      | 104.42                        | 8.461                |         |
| 12,000.00                                                                                   | 9,455.00                  | 12,065.63                 | 9,455.00                  | 52.57             | 53.92          | 89.98                       | -2,845.66              | -909.64       | 883.52                     | 777.98                      | 105.54                        | 8.371                |         |
| 12,050.00                                                                                   | 9,455.00                  | 12,115.63                 | 9,455.00                  | 53.14             | 54.47          | 89.98                       | -2,895.66              | -909.32       | 883.52                     | 776.84                      | 106.68                        | 8.282                |         |
| 12,100.00                                                                                   | 9,455.00                  | 12,165.63                 | 9,455.00                  | 53.71             | 55.03          | 89.98                       | -2,945.66              | -908.99       | 883.52                     | 775.70                      | 107.82                        | 8.195                |         |
| 12,150.00                                                                                   | 9,455.00                  | 12,215.63                 | 9,455.00                  | 54.29             | 55.59          | 89.98                       | -2,995.66              | -908.67       | 883.51                     | 774.55                      | 108.97                        | 8.108                |         |
| 12,200.00                                                                                   | 9,455.00                  | 12,265.63                 | 9,455.00                  | 54.87             | 56.15          | 89.98                       | -3,045.66              | -908.35       | 883.51                     | 773.39                      | 110.12                        | 8.023                |         |
| 12,250.00                                                                                   | 9,455.00                  | 12,315.63                 | 9,455.00                  | 55.45             | 56.72          | 89.98                       | -3,095.66              | -908.02       | 883.51                     | 772.23                      | 111.28                        | 7.939                |         |
| 12,300.00                                                                                   | 9,455.00                  | 12,365.63                 | 9,455.00                  | 56.04             | 57.29          | 89.98                       | -3,145.66              | -907.70       | 883.51                     | 771.06                      | 112.45                        | 7.857                |         |
| 12,350.00                                                                                   | 9,455.00                  | 12,415.63                 | 9,455.00                  | 56.63             | 57.87          | 89.98                       | -3,195.66              | -907.38       | 883.50                     | 769.88                      | 113.63                        | 7.775                |         |
| 12,400.00                                                                                   | 9,455.00                  | 12,465.63                 | 9,455.00                  | 57.22             | 58.45          | 89.98                       | -3,245.65              | -907.06       | 883.50                     | 768.69                      | 114.81                        | 7.695                |         |
| 12,450.00                                                                                   | 9,455.00                  | 12,515.63                 | 9,455.00                  | 57.82             | 59.03          | 89.98                       | -3,295.65              | -906.73       | 883.50                     | 767.50                      | 116.00                        | 7.617                |         |
| 12,500.00                                                                                   | 9,455.00                  | 12,565.63                 | 9,455.00                  | 58.42             | 59.61          | 89.98                       | -3,345.65              | -906.41       | 883.50                     | 766.31                      | 117.19                        | 7.539                |         |
| 12,550.00                                                                                   | 9,455.00                  | 12,615.63                 | 9,455.00                  | 59.02             | 60.20          | 89.98                       | -3,395.65              | -906.09       | 883.49                     | 765.10                      | 118.39                        | 7.462                |         |
| 12,600.00                                                                                   | 9,455.00                  | 12,665.63                 | 9,455.00                  | 59.63             | 60.79          | 89.98                       | -3,445.65              | -905.76       | 883.49                     | 763.89                      | 119.60                        | 7.387                |         |
| 12,650.00                                                                                   | 9,455.00                  | 12,715.63                 | 9,455.00                  | 60.24             | 61.39          | 89.98                       | -3,495.65              | -905.44       | 883.49                     | 762.68                      | 120.81                        | 7.313                |         |
| 12,700.00                                                                                   | 9,455.00                  | 12,765.63                 | 9,455.00                  | 60.85             | 61.99          | 89.98                       | -3,545.65              | -905.12       | 883.48                     | 761.46                      | 122.03                        | 7.240                |         |
| 12,750.00                                                                                   | 9,455.00                  | 12,815.63                 | 9,455.00                  | 61.46             | 62.59          | 89.98                       | -3,595.65              | -904.80       | 883.48                     | 760.23                      | 123.25                        | 7.168                |         |
| 12,800.00                                                                                   | 9,455.00                  | 12,865.63                 | 9,455.00                  | 62.08             | 63.19          | 89.98                       | -3,645.65              | -904.47       | 883.48                     | 759.00                      | 124.47                        | 7.098                |         |
| 12,850.00                                                                                   | 9,455.00                  | 12,915.63                 | 9,455.00                  | 62.70             | 63.79          | 89.98                       | -3,695.64              | -904.15       | 883.48                     | 757.77                      | 125.71                        | 7.028                |         |
| 12,900.00                                                                                   | 9,455.00                  | 12,965.63                 | 9,455.00                  | 63.32             | 64.40          | 89.98                       | -3,745.64              | -903.83       | 883.47                     | 756.53                      | 126.94                        | 6.960                |         |
| 12,950.00                                                                                   | 9,455.00                  | 13,015.63                 | 9,455.00                  | 63.94             | 65.01          | 89.98                       | -3,795.64              | -903.50       | 883.47                     | 755.29                      | 128.19                        | 6.892                |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 524H - Wellbore #1 - Permit Plan 1 |                           |                           |                           |                   |                |                             |                            |                             |                               |                      |         |                        | Offset Site Error:     | 0.00 ft |
|---------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|----------------------------|-----------------------------|-------------------------------|----------------------|---------|------------------------|------------------------|---------|
| Survey Program: O-MWD+HDGM                                                                  |                           |                           |                           |                   |                |                             |                            |                             |                               |                      |         |                        | Offset Well Error:     | 0.50 ft |
| Reference                                                                                   |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Distance                   |                             | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning |                        |                        |         |
| Measured<br>Depth<br>(ft)                                                                   | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                               |                      |         | Offset<br>+N-S<br>(ft) | Offset<br>+E-W<br>(ft) |         |
| 13,000.00                                                                                   | 9,455.00                  | 13,065.63                 | 9,455.00                  | 64.57             | 65.63          | 89.98                       | -3,845.64                  | -903.18                     | 883.47                        | 754.04               | 129.43  | 6.826                  |                        |         |
| 13,050.00                                                                                   | 9,455.00                  | 13,115.63                 | 9,455.00                  | 65.19             | 66.24          | 89.98                       | -3,895.64                  | -902.86                     | 883.47                        | 752.78               | 130.68  | 6.760                  |                        |         |
| 13,100.00                                                                                   | 9,455.00                  | 13,165.63                 | 9,455.00                  | 65.82             | 66.86          | 89.98                       | -3,945.64                  | -902.53                     | 883.46                        | 751.53               | 131.94  | 6.896                  |                        |         |
| 13,150.00                                                                                   | 9,455.00                  | 13,215.63                 | 9,455.00                  | 66.46             | 67.48          | 89.98                       | -3,995.64                  | -902.21                     | 883.46                        | 750.26               | 133.20  | 6.633                  |                        |         |
| 13,200.00                                                                                   | 9,455.00                  | 13,265.63                 | 9,455.00                  | 67.09             | 68.10          | 89.98                       | -4,045.64                  | -901.89                     | 883.46                        | 749.00               | 134.46  | 6.570                  |                        |         |
| 13,250.00                                                                                   | 9,455.00                  | 13,315.63                 | 9,455.00                  | 67.73             | 68.73          | 89.98                       | -4,095.64                  | -901.57                     | 883.46                        | 747.73               | 135.73  | 6.509                  |                        |         |
| 13,300.00                                                                                   | 9,455.00                  | 13,365.63                 | 9,455.00                  | 68.36             | 69.35          | 89.98                       | -4,145.64                  | -901.24                     | 883.45                        | 746.46               | 137.00  | 6.449                  |                        |         |
| 13,350.00                                                                                   | 9,455.00                  | 13,415.63                 | 9,455.00                  | 69.00             | 69.98          | 89.98                       | -4,195.63                  | -900.92                     | 883.45                        | 745.18               | 138.27  | 6.389                  |                        |         |
| 13,400.00                                                                                   | 9,455.00                  | 13,465.63                 | 9,455.00                  | 69.64             | 70.61          | 89.98                       | -4,245.63                  | -900.60                     | 883.45                        | 743.90               | 139.55  | 6.331                  |                        |         |
| 13,450.00                                                                                   | 9,455.00                  | 13,515.63                 | 9,455.00                  | 70.29             | 71.24          | 89.98                       | -4,295.63                  | -900.27                     | 883.44                        | 742.61               | 140.83  | 6.273                  |                        |         |
| 13,500.00                                                                                   | 9,455.00                  | 13,565.63                 | 9,455.00                  | 70.93             | 71.88          | 89.98                       | -4,345.63                  | -899.95                     | 883.44                        | 741.33               | 142.11  | 6.216                  |                        |         |
| 13,550.00                                                                                   | 9,455.00                  | 13,615.63                 | 9,455.00                  | 71.58             | 72.51          | 89.98                       | -4,395.63                  | -899.63                     | 883.44                        | 740.04               | 143.40  | 6.161                  |                        |         |
| 13,600.00                                                                                   | 9,455.00                  | 13,665.63                 | 9,455.00                  | 72.22             | 73.15          | 89.98                       | -4,445.63                  | -899.31                     | 883.44                        | 738.74               | 144.69  | 6.106                  |                        |         |
| 13,650.00                                                                                   | 9,455.00                  | 13,715.63                 | 9,455.00                  | 72.87             | 73.79          | 89.98                       | -4,495.63                  | -898.98                     | 883.43                        | 737.45               | 145.99  | 6.051                  |                        |         |
| 13,700.00                                                                                   | 9,455.00                  | 13,765.63                 | 9,455.00                  | 73.52             | 74.43          | 89.98                       | -4,545.63                  | -898.66                     | 883.43                        | 736.15               | 147.28  | 5.998                  |                        |         |
| 13,750.00                                                                                   | 9,455.00                  | 13,815.63                 | 9,455.00                  | 74.18             | 75.07          | 89.98                       | -4,595.63                  | -898.34                     | 883.43                        | 734.84               | 148.59  | 5.946                  |                        |         |
| 13,800.00                                                                                   | 9,455.00                  | 13,865.63                 | 9,455.00                  | 74.83             | 75.72          | 89.98                       | -4,645.62                  | -898.01                     | 883.43                        | 733.54               | 149.89  | 5.894                  |                        |         |
| 13,850.00                                                                                   | 9,455.00                  | 13,915.63                 | 9,455.00                  | 75.48             | 76.36          | 89.98                       | -4,695.62                  | -897.69                     | 883.42                        | 732.23               | 151.20  | 5.843                  |                        |         |
| 13,900.00                                                                                   | 9,455.00                  | 13,965.63                 | 9,455.00                  | 76.14             | 77.01          | 89.98                       | -4,745.62                  | -897.37                     | 883.42                        | 730.92               | 152.50  | 5.793                  |                        |         |
| 13,950.00                                                                                   | 9,455.00                  | 14,015.63                 | 9,455.00                  | 76.80             | 77.66          | 89.98                       | -4,795.62                  | -897.05                     | 883.42                        | 729.60               | 153.82  | 5.743                  |                        |         |
| 14,000.00                                                                                   | 9,455.00                  | 14,065.63                 | 9,455.00                  | 77.46             | 78.31          | 89.98                       | -4,845.62                  | -896.72                     | 883.41                        | 728.29               | 155.13  | 5.695                  |                        |         |
| 14,050.00                                                                                   | 9,455.00                  | 14,115.63                 | 9,455.00                  | 78.12             | 78.96          | 89.98                       | -4,895.62                  | -896.40                     | 883.41                        | 726.97               | 156.45  | 5.647                  |                        |         |
| 14,100.00                                                                                   | 9,455.00                  | 14,165.63                 | 9,455.00                  | 78.78             | 79.61          | 89.98                       | -4,945.62                  | -896.08                     | 883.41                        | 725.64               | 157.77  | 5.600                  |                        |         |
| 14,150.00                                                                                   | 9,455.00                  | 14,215.63                 | 9,455.00                  | 79.44             | 80.26          | 89.98                       | -4,995.62                  | -895.75                     | 883.41                        | 724.32               | 159.09  | 5.553                  |                        |         |
| 14,200.00                                                                                   | 9,455.00                  | 14,265.63                 | 9,455.00                  | 80.10             | 80.92          | 89.98                       | -5,045.62                  | -895.43                     | 883.40                        | 722.99               | 160.41  | 5.507                  |                        |         |
| 14,250.00                                                                                   | 9,455.00                  | 14,315.63                 | 9,455.00                  | 80.77             | 81.58          | 89.98                       | -5,095.62                  | -895.11                     | 883.40                        | 721.66               | 161.74  | 5.462                  |                        |         |
| 14,300.00                                                                                   | 9,455.00                  | 14,365.63                 | 9,455.00                  | 81.43             | 82.23          | 89.98                       | -5,145.61                  | -894.79                     | 883.40                        | 720.33               | 163.07  | 5.417                  |                        |         |
| 14,350.00                                                                                   | 9,455.00                  | 14,415.63                 | 9,455.00                  | 82.10             | 82.89          | 89.98                       | -5,195.61                  | -894.46                     | 883.40                        | 719.00               | 164.40  | 5.374                  |                        |         |
| 14,400.00                                                                                   | 9,455.00                  | 14,465.63                 | 9,455.00                  | 82.77             | 83.55          | 89.98                       | -5,245.61                  | -894.14                     | 883.39                        | 717.66               | 165.73  | 5.330                  |                        |         |
| 14,450.00                                                                                   | 9,455.00                  | 14,515.63                 | 9,455.00                  | 83.44             | 84.21          | 89.98                       | -5,295.61                  | -893.82                     | 883.39                        | 716.33               | 167.06  | 5.288                  |                        |         |
| 14,500.00                                                                                   | 9,455.00                  | 14,565.63                 | 9,455.00                  | 84.11             | 84.88          | 89.98                       | -5,345.61                  | -893.49                     | 883.39                        | 714.99               | 168.40  | 5.246                  |                        |         |
| 14,550.00                                                                                   | 9,455.00                  | 14,615.63                 | 9,455.00                  | 84.78             | 85.54          | 89.98                       | -5,395.61                  | -893.17                     | 883.38                        | 713.64               | 169.74  | 5.204                  |                        |         |
| 14,600.00                                                                                   | 9,455.00                  | 14,665.63                 | 9,455.00                  | 85.45             | 86.20          | 89.98                       | -5,445.61                  | -892.85                     | 883.38                        | 712.30               | 171.08  | 5.164                  |                        |         |
| 14,650.00                                                                                   | 9,455.00                  | 14,715.63                 | 9,455.00                  | 86.12             | 86.87          | 89.98                       | -5,495.61                  | -892.53                     | 883.38                        | 710.96               | 172.42  | 5.123                  |                        |         |
| 14,700.00                                                                                   | 9,455.00                  | 14,765.63                 | 9,455.00                  | 86.80             | 87.54          | 89.98                       | -5,545.61                  | -892.20                     | 883.38                        | 709.61               | 173.77  | 5.084                  |                        |         |
| 14,750.00                                                                                   | 9,455.00                  | 14,815.63                 | 9,455.00                  | 87.47             | 88.20          | 89.98                       | -5,595.61                  | -891.88                     | 883.37                        | 708.26               | 175.11  | 5.045                  |                        |         |
| 14,800.00                                                                                   | 9,455.00                  | 14,865.63                 | 9,455.00                  | 88.15             | 88.87          | 89.98                       | -5,645.60                  | -891.56                     | 883.37                        | 706.91               | 176.46  | 5.006                  |                        |         |
| 14,850.00                                                                                   | 9,455.00                  | 14,915.63                 | 9,455.00                  | 88.82             | 89.54          | 89.98                       | -5,695.60                  | -891.23                     | 883.37                        | 705.56               | 177.81  | 4.968 Alert            |                        |         |
| 14,900.00                                                                                   | 9,455.00                  | 14,965.63                 | 9,455.00                  | 89.50             | 90.21          | 89.98                       | -5,745.60                  | -890.91                     | 883.37                        | 704.20               | 179.16  | 4.930 Alert            |                        |         |
| 14,950.00                                                                                   | 9,455.00                  | 15,015.63                 | 9,455.00                  | 90.18             | 90.88          | 89.98                       | -5,795.60                  | -890.59                     | 883.36                        | 702.85               | 180.52  | 4.893 Alert            |                        |         |
| 15,000.00                                                                                   | 9,455.00                  | 15,065.63                 | 9,455.00                  | 90.86             | 91.55          | 89.98                       | -5,845.60                  | -890.27                     | 883.36                        | 701.49               | 181.87  | 4.857 Alert            |                        |         |
| 15,050.00                                                                                   | 9,455.00                  | 15,115.63                 | 9,455.00                  | 91.54             | 92.23          | 89.98                       | -5,895.60                  | -889.94                     | 883.36                        | 700.13               | 183.23  | 4.821 Alert            |                        |         |
| 15,100.00                                                                                   | 9,455.00                  | 15,165.63                 | 9,455.00                  | 92.22             | 92.90          | 89.98                       | -5,945.60                  | -889.62                     | 883.35                        | 698.77               | 184.59  | 4.786 Alert            |                        |         |
| 15,150.00                                                                                   | 9,455.00                  | 15,215.63                 | 9,455.00                  | 92.90             | 93.58          | 89.98                       | -5,995.60                  | -889.30                     | 883.35                        | 697.41               | 185.95  | 4.751 Alert            |                        |         |
| 15,200.00                                                                                   | 9,455.00                  | 15,265.63                 | 9,455.00                  | 93.58             | 94.25          | 89.98                       | -6,045.60                  | -888.97                     | 883.35                        | 696.04               | 187.31  | 4.716 Alert            |                        |         |
| 15,250.00                                                                                   | 9,455.00                  | 15,315.63                 | 9,455.00                  | 94.26             | 94.93          | 89.98                       | -6,095.59                  | -888.65                     | 883.35                        | 694.68               | 188.67  | 4.682 Alert            |                        |         |
| 15,300.00                                                                                   | 9,455.00                  | 15,365.63                 | 9,455.00                  | 94.94             | 95.60          | 89.98                       | -6,145.59                  | -888.33                     | 883.34                        | 693.31               | 190.03  | 4.648 Alert            |                        |         |
| 15,350.00                                                                                   | 9,455.00                  | 15,415.63                 | 9,455.00                  | 95.63             | 96.28          | 89.98                       | -6,195.59                  | -888.01                     | 883.34                        | 691.94               | 191.40  | 4.615 Alert            |                        |         |
| 15,400.00                                                                                   | 9,455.00                  | 15,465.63                 | 9,455.00                  | 96.31             | 96.96          | 89.98                       | -6,245.59                  | -887.68                     | 883.34                        | 690.57               | 192.77  | 4.582 Alert            |                        |         |
| 15,450.00                                                                                   | 9,455.00                  | 15,515.63                 | 9,455.00                  | 97.00             | 97.64          | 89.98                       | -6,295.59                  | -887.36                     | 883.34                        | 689.20               | 194.13  | 4.550 Alert            |                        |         |
| 15,500.00                                                                                   | 9,455.00                  | 15,565.63                 | 9,455.00                  | 97.68             | 98.32          | 89.98                       | -6,345.59                  | -887.04                     | 883.33                        | 687.83               | 195.50  | 4.518 Alert            |                        |         |
| 15,550.00                                                                                   | 9,455.00                  | 15,615.63                 | 9,455.00                  | 98.37             | 99.00          | 89.98                       | -6,395.59                  | -886.71                     | 883.33                        | 686.46               | 196.87  | 4.487 Alert            |                        |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 524H - Wellbore #1 - Permit Plan 1 |                           |                           |                           |                   |                |                             |               |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft |
|---------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|---------|
| Survey Program: 0-MWD+HODGM                                                                 |                           |                           |                           |                   |                |                             |               |               |                            |                             |                               |                      | Offset Well Error: | 0.50 ft |
| Reference                                                                                   |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Distance      |               | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |         |
| Measured<br>Depth<br>(ft)                                                                   | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | +N/-S<br>(ft) | +E/-W<br>(ft) |                            |                             |                               |                      |                    |         |
| 15,600.00                                                                                   | 9,455.00                  | 15,665.63                 | 9,455.00                  | 99.06             | 99.68          | 89.98                       | -8,445.59     | -886.39       | 883.33                     | 685.08                      | 198.24                        | 4.456                | Alert              |         |
| 15,650.00                                                                                   | 9,455.00                  | 15,715.63                 | 9,455.00                  | 99.74             | 100.36         | 89.98                       | -8,495.59     | -886.07       | 883.33                     | 683.71                      | 199.62                        | 4.425                | Alert              |         |
| 15,700.00                                                                                   | 9,455.00                  | 15,765.63                 | 9,455.00                  | 100.43            | 101.05         | 89.98                       | -8,545.59     | -885.74       | 883.32                     | 682.33                      | 200.99                        | 4.395                | Alert              |         |
| 15,750.00                                                                                   | 9,455.00                  | 15,815.63                 | 9,455.00                  | 101.12            | 101.73         | 89.98                       | -8,595.58     | -885.42       | 883.32                     | 680.95                      | 202.37                        | 4.365                | Alert              |         |
| 15,800.00                                                                                   | 9,455.00                  | 15,865.63                 | 9,455.00                  | 101.81            | 102.41         | 89.98                       | -8,645.58     | -885.10       | 883.32                     | 679.57                      | 203.74                        | 4.335                | Alert              |         |
| 15,850.00                                                                                   | 9,455.00                  | 15,915.63                 | 9,455.00                  | 102.50            | 103.10         | 89.98                       | -8,695.58     | -884.78       | 883.31                     | 678.19                      | 205.12                        | 4.306                | Alert              |         |
| 15,900.00                                                                                   | 9,455.00                  | 15,965.63                 | 9,455.00                  | 103.19            | 103.78         | 89.98                       | -8,745.58     | -884.45       | 883.31                     | 676.81                      | 206.50                        | 4.278                | Alert              |         |
| 15,950.00                                                                                   | 9,455.00                  | 16,015.63                 | 9,455.00                  | 103.88            | 104.47         | 89.98                       | -8,795.58     | -884.13       | 883.31                     | 675.43                      | 207.88                        | 4.249                | Alert              |         |
| 16,000.00                                                                                   | 9,455.00                  | 16,065.63                 | 9,455.00                  | 104.57            | 105.16         | 89.98                       | -8,845.58     | -883.81       | 883.31                     | 674.05                      | 209.26                        | 4.221                | Alert              |         |
| 16,050.00                                                                                   | 9,455.00                  | 16,115.63                 | 9,455.00                  | 105.26            | 105.84         | 89.98                       | -8,895.58     | -883.48       | 883.30                     | 672.66                      | 210.64                        | 4.193                | Alert              |         |
| 16,100.00                                                                                   | 9,455.00                  | 16,165.63                 | 9,455.00                  | 105.96            | 106.53         | 89.98                       | -8,945.58     | -883.16       | 883.30                     | 671.28                      | 212.02                        | 4.166                | Alert              |         |
| 16,150.00                                                                                   | 9,455.00                  | 16,215.63                 | 9,455.00                  | 106.65            | 107.22         | 89.98                       | -8,995.58     | -882.84       | 883.30                     | 669.89                      | 213.41                        | 4.139                | Alert              |         |
| 16,200.00                                                                                   | 9,455.00                  | 16,265.63                 | 9,455.00                  | 107.34            | 107.91         | 89.98                       | -7,045.57     | -882.52       | 883.30                     | 668.50                      | 214.79                        | 4.112                | Alert              |         |
| 16,250.00                                                                                   | 9,455.00                  | 16,315.63                 | 9,455.00                  | 108.04            | 108.60         | 89.98                       | -7,095.57     | -882.19       | 883.29                     | 667.11                      | 216.18                        | 4.086                | Alert              |         |
| 16,300.00                                                                                   | 9,455.00                  | 16,365.63                 | 9,455.00                  | 108.73            | 109.28         | 89.98                       | -7,145.57     | -881.87       | 883.29                     | 665.72                      | 217.57                        | 4.060                | Alert              |         |
| 16,350.00                                                                                   | 9,455.00                  | 16,415.63                 | 9,455.00                  | 109.43            | 109.97         | 89.98                       | -7,195.57     | -881.55       | 883.29                     | 664.33                      | 218.95                        | 4.034                | Alert              |         |
| 16,400.00                                                                                   | 9,455.00                  | 16,465.63                 | 9,455.00                  | 110.12            | 110.67         | 89.98                       | -7,245.57     | -881.22       | 883.28                     | 662.94                      | 220.34                        | 4.009                | Alert              |         |
| 16,450.00                                                                                   | 9,455.00                  | 16,515.63                 | 9,455.00                  | 110.82            | 111.36         | 89.98                       | -7,295.57     | -880.90       | 883.28                     | 661.55                      | 221.73                        | 3.984                | Alert              |         |
| 16,500.00                                                                                   | 9,455.00                  | 16,565.63                 | 9,455.00                  | 111.51            | 112.05         | 89.98                       | -7,345.57     | -880.58       | 883.28                     | 660.16                      | 223.12                        | 3.959                | Alert              |         |
| 16,550.00                                                                                   | 9,455.00                  | 16,615.63                 | 9,455.00                  | 112.21            | 112.74         | 89.98                       | -7,395.57     | -880.26       | 883.28                     | 658.76                      | 224.51                        | 3.934                | Alert              |         |
| 16,600.00                                                                                   | 9,455.00                  | 16,665.63                 | 9,455.00                  | 112.91            | 113.43         | 89.98                       | -7,445.57     | -879.93       | 883.27                     | 657.37                      | 225.91                        | 3.910                | Alert              |         |
| 16,650.00                                                                                   | 9,455.00                  | 16,715.63                 | 9,455.00                  | 113.60            | 114.13         | 89.98                       | -7,495.57     | -879.61       | 883.27                     | 655.97                      | 227.30                        | 3.886                | Alert              |         |
| 16,700.00                                                                                   | 9,455.00                  | 16,765.63                 | 9,455.00                  | 114.30            | 114.82         | 89.98                       | -7,545.56     | -879.29       | 883.27                     | 654.58                      | 228.69                        | 3.862                | Alert              |         |
| 16,750.00                                                                                   | 9,455.00                  | 16,815.63                 | 9,455.00                  | 115.00            | 115.51         | 89.98                       | -7,595.56     | -878.96       | 883.27                     | 653.18                      | 230.09                        | 3.839                | Alert              |         |
| 16,800.00                                                                                   | 9,455.00                  | 16,865.63                 | 9,455.00                  | 115.70            | 116.21         | 89.98                       | -7,645.56     | -878.64       | 883.26                     | 651.78                      | 231.48                        | 3.816                | Alert              |         |
| 16,850.00                                                                                   | 9,455.00                  | 16,915.63                 | 9,455.00                  | 116.40            | 116.90         | 89.98                       | -7,695.56     | -878.32       | 883.26                     | 650.38                      | 232.88                        | 3.793                | Alert              |         |
| 16,900.00                                                                                   | 9,455.00                  | 16,965.63                 | 9,455.00                  | 117.09            | 117.60         | 89.98                       | -7,745.56     | -878.00       | 883.26                     | 648.98                      | 234.27                        | 3.770                | Alert              |         |
| 16,950.00                                                                                   | 9,455.00                  | 17,015.63                 | 9,455.00                  | 117.79            | 118.29         | 89.98                       | -7,795.56     | -877.67       | 883.25                     | 647.58                      | 235.67                        | 3.748                | Alert              |         |
| 17,000.00                                                                                   | 9,455.00                  | 17,065.63                 | 9,455.00                  | 118.49            | 118.99         | 89.98                       | -7,845.56     | -877.35       | 883.25                     | 646.18                      | 237.07                        | 3.726                | Alert              |         |
| 17,050.00                                                                                   | 9,455.00                  | 17,115.63                 | 9,455.00                  | 119.19            | 119.68         | 89.98                       | -7,895.56     | -877.03       | 883.25                     | 644.78                      | 238.47                        | 3.704                | Alert              |         |
| 17,100.00                                                                                   | 9,455.00                  | 17,165.63                 | 9,455.00                  | 119.90            | 120.38         | 89.98                       | -7,945.56     | -876.70       | 883.25                     | 643.38                      | 239.87                        | 3.682                | Alert              |         |
| 17,150.00                                                                                   | 9,455.00                  | 17,215.63                 | 9,455.00                  | 120.60            | 121.08         | 89.98                       | -7,995.56     | -876.38       | 883.24                     | 641.98                      | 241.27                        | 3.661                | Alert              |         |
| 17,200.00                                                                                   | 9,455.00                  | 17,265.63                 | 9,455.00                  | 121.30            | 121.77         | 89.98                       | -8,045.55     | -876.06       | 883.24                     | 640.57                      | 242.67                        | 3.640                | Alert              |         |
| 17,250.00                                                                                   | 9,455.00                  | 17,315.63                 | 9,455.00                  | 122.00            | 122.47         | 89.98                       | -8,095.55     | -875.74       | 883.24                     | 639.17                      | 244.07                        | 3.619                | Alert              |         |
| 17,300.00                                                                                   | 9,455.00                  | 17,365.63                 | 9,455.00                  | 122.70            | 123.17         | 89.98                       | -8,145.55     | -875.41       | 883.24                     | 637.76                      | 245.47                        | 3.598                | Alert              |         |
| 17,350.00                                                                                   | 9,455.00                  | 17,415.63                 | 9,455.00                  | 123.40            | 123.87         | 89.98                       | -8,195.55     | -875.09       | 883.23                     | 636.36                      | 246.88                        | 3.578                | Alert              |         |
| 17,400.00                                                                                   | 9,455.00                  | 17,465.63                 | 9,455.00                  | 124.11            | 124.57         | 89.98                       | -8,245.55     | -874.77       | 883.23                     | 634.95                      | 248.28                        | 3.557                | Alert              |         |
| 17,450.00                                                                                   | 9,455.00                  | 17,515.63                 | 9,455.00                  | 124.81            | 125.27         | 89.98                       | -8,295.55     | -874.44       | 883.23                     | 633.54                      | 249.68                        | 3.537                | Alert              |         |
| 17,500.00                                                                                   | 9,455.00                  | 17,565.63                 | 9,455.00                  | 125.51            | 125.97         | 89.98                       | -8,345.55     | -874.12       | 883.23                     | 632.14                      | 251.09                        | 3.518                | Alert              |         |
| 17,550.00                                                                                   | 9,455.00                  | 17,615.63                 | 9,455.00                  | 126.21            | 126.67         | 89.98                       | -8,395.55     | -873.80       | 883.22                     | 630.73                      | 252.49                        | 3.498                | Alert              |         |
| 17,600.00                                                                                   | 9,455.00                  | 17,665.63                 | 9,455.00                  | 126.92            | 127.37         | 89.98                       | -8,445.55     | -873.48       | 883.22                     | 629.32                      | 253.90                        | 3.479                | Alert              |         |
| 17,650.00                                                                                   | 9,455.00                  | 17,715.63                 | 9,455.00                  | 127.62            | 128.07         | 89.98                       | -8,495.54     | -873.15       | 883.22                     | 627.91                      | 255.31                        | 3.459                | Alert              |         |
| 17,700.00                                                                                   | 9,455.00                  | 17,765.63                 | 9,455.00                  | 128.33            | 128.77         | 89.98                       | -8,545.54     | -872.83       | 883.21                     | 626.50                      | 256.71                        | 3.440                | Alert              |         |
| 17,750.00                                                                                   | 9,455.00                  | 17,815.63                 | 9,455.00                  | 129.03            | 129.47         | 89.98                       | -8,595.54     | -872.51       | 883.21                     | 625.09                      | 258.12                        | 3.422                | Alert              |         |
| 17,800.00                                                                                   | 9,455.00                  | 17,865.63                 | 9,455.00                  | 129.74            | 130.17         | 89.98                       | -8,645.54     | -872.18       | 883.21                     | 623.68                      | 259.53                        | 3.403                | Alert              |         |
| 17,850.00                                                                                   | 9,455.00                  | 17,915.63                 | 9,455.00                  | 130.44            | 130.87         | 89.98                       | -8,695.54     | -871.86       | 883.21                     | 622.27                      | 260.94                        | 3.385                | Alert              |         |
| 17,900.00                                                                                   | 9,455.00                  | 17,965.63                 | 9,455.00                  | 131.15            | 131.57         | 89.98                       | -8,745.54     | -871.54       | 883.20                     | 620.86                      | 262.35                        | 3.367                | Alert              |         |
| 17,950.00                                                                                   | 9,455.00                  | 18,015.63                 | 9,455.00                  | 131.85            | 132.28         | 89.98                       | -8,795.54     | -871.22       | 883.20                     | 619.44                      | 263.76                        | 3.349                | Alert              |         |
| 18,000.00                                                                                   | 9,455.00                  | 18,065.63                 | 9,455.00                  | 132.56            | 132.98         | 89.98                       | -8,845.54     | -870.89       | 883.20                     | 618.03                      | 265.17                        | 3.331                | Alert              |         |
| 18,050.00                                                                                   | 9,455.00                  | 18,115.63                 | 9,455.00                  | 133.26            | 133.68         | 89.98                       | -8,895.54     | -870.57       | 883.20                     | 616.62                      | 266.58                        | 3.313                | Alert              |         |
| 18,100.00                                                                                   | 9,455.00                  | 18,165.63                 | 9,455.00                  | 133.97            | 134.39         | 89.98                       | -8,945.54     | -870.25       | 883.19                     | 615.20                      | 267.99                        | 3.296                | Alert              |         |
| 18,150.00                                                                                   | 9,455.00                  | 18,215.63                 | 9,455.00                  | 134.68            | 135.09         | 89.98                       | -8,995.53     | -869.92       | 883.19                     | 613.79                      | 269.40                        | 3.278                | Alert              |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design              |                           |                           |                           |                   |                |                             |                                         |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft |
|----------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|-----------------------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|---------|
| Survey Program: O-MWD+HDGM |                           |                           |                           |                   |                |                             |                                         |               |                            |                             |                               |                      | Offset Well Error: | 0.50 ft |
| Reference                  |                           |                           |                           |                   |                |                             |                                         |               |                            |                             |                               |                      |                    |         |
| Offset                     |                           |                           |                           |                   |                |                             |                                         |               |                            |                             |                               |                      |                    |         |
| Semi Major Axis            |                           |                           |                           |                   |                |                             |                                         |               |                            |                             |                               |                      |                    |         |
| Distance                   |                           |                           |                           |                   |                |                             |                                         |               |                            |                             |                               |                      |                    |         |
| Measured<br>Depth<br>(ft)  | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |         |
| 18,200.00                  | 9,455.00                  | 18,265.63                 | 9,455.00                  | 135.38            | 135.79         | 89.98                       | -9,045.53                               | -869.60       | 883.19                     | 612.37                      | 270.81                        | 3.261                | Alert              |         |
| 18,250.00                  | 9,455.00                  | 18,315.63                 | 9,455.00                  | 136.09            | 136.50         | 89.98                       | -9,095.53                               | -869.28       | 883.18                     | 610.96                      | 272.23                        | 3.244                | Alert              |         |
| 18,300.00                  | 9,455.00                  | 18,365.63                 | 9,455.00                  | 136.80            | 137.20         | 89.98                       | -9,145.53                               | -868.95       | 883.18                     | 609.54                      | 273.64                        | 3.228                | Alert              |         |
| 18,350.00                  | 9,455.00                  | 18,415.63                 | 9,455.00                  | 137.50            | 137.90         | 89.98                       | -9,195.53                               | -868.63       | 883.18                     | 608.13                      | 275.05                        | 3.211                | Alert              |         |
| 18,400.00                  | 9,455.00                  | 18,465.63                 | 9,455.00                  | 138.21            | 138.61         | 89.98                       | -9,245.53                               | -868.31       | 883.18                     | 606.71                      | 276.47                        | 3.194                | Alert              |         |
| 18,450.00                  | 9,455.00                  | 18,515.63                 | 9,455.00                  | 138.92            | 139.31         | 89.98                       | -9,295.53                               | -867.99       | 883.17                     | 605.29                      | 277.88                        | 3.178                | Alert              |         |
| 18,500.00                  | 9,455.00                  | 18,565.63                 | 9,455.00                  | 139.63            | 140.02         | 89.98                       | -9,345.53                               | -867.66       | 883.17                     | 603.87                      | 279.30                        | 3.162                | Alert              |         |
| 18,550.00                  | 9,455.00                  | 18,615.63                 | 9,455.00                  | 140.34            | 140.73         | 89.98                       | -9,395.53                               | -867.34       | 883.17                     | 602.45                      | 280.71                        | 3.146                | Alert              |         |
| 18,600.00                  | 9,455.00                  | 18,665.63                 | 9,455.00                  | 141.04            | 141.43         | 89.98                       | -9,445.52                               | -867.02       | 883.17                     | 601.04                      | 282.13                        | 3.130                | Alert              |         |
| 18,650.00                  | 9,455.00                  | 18,715.63                 | 9,455.00                  | 141.75            | 142.14         | 89.98                       | -9,495.52                               | -866.69       | 883.16                     | 599.62                      | 283.55                        | 3.115                | Alert              |         |
| 18,700.00                  | 9,455.00                  | 18,765.63                 | 9,455.00                  | 142.46            | 142.84         | 89.98                       | -9,545.52                               | -866.37       | 883.16                     | 598.20                      | 284.96                        | 3.099                | Alert              |         |
| 18,750.00                  | 9,455.00                  | 18,815.63                 | 9,455.00                  | 143.17            | 143.55         | 89.98                       | -9,595.52                               | -866.05       | 883.16                     | 596.78                      | 286.38                        | 3.084                | Alert              |         |
| 18,800.00                  | 9,455.00                  | 18,865.63                 | 9,455.00                  | 143.88            | 144.26         | 89.98                       | -9,645.52                               | -865.73       | 883.15                     | 595.36                      | 287.80                        | 3.069                | Alert              |         |
| 18,850.00                  | 9,455.00                  | 18,915.63                 | 9,455.00                  | 144.59            | 144.96         | 89.98                       | -9,695.52                               | -865.40       | 883.15                     | 593.94                      | 289.22                        | 3.054                | Alert              |         |
| 18,900.00                  | 9,455.00                  | 18,965.63                 | 9,455.00                  | 145.30            | 145.67         | 89.98                       | -9,745.52                               | -865.08       | 883.15                     | 592.52                      | 290.63                        | 3.039                | Alert              |         |
| 18,950.00                  | 9,455.00                  | 19,015.63                 | 9,455.00                  | 146.01            | 146.38         | 89.98                       | -9,795.52                               | -864.76       | 883.15                     | 591.09                      | 292.05                        | 3.024                | Alert              |         |
| 19,000.00                  | 9,455.00                  | 19,065.63                 | 9,455.00                  | 146.72            | 147.08         | 89.98                       | -9,845.52                               | -864.43       | 883.14                     | 589.67                      | 293.47                        | 3.009                | Alert              |         |
| 19,050.00                  | 9,455.00                  | 19,115.63                 | 9,455.00                  | 147.43            | 147.79         | 89.98                       | -9,895.52                               | -864.11       | 883.14                     | 588.25                      | 294.89                        | 2.995                | Alert              |         |
| 19,100.00                  | 9,455.00                  | 19,165.63                 | 9,455.00                  | 148.14            | 148.50         | 89.98                       | -9,945.51                               | -863.79       | 883.14                     | 586.83                      | 296.31                        | 2.980                | Alert              |         |
| 19,150.00                  | 9,455.00                  | 19,215.63                 | 9,455.00                  | 148.85            | 149.21         | 89.98                       | -9,995.51                               | -863.47       | 883.14                     | 585.40                      | 297.73                        | 2.966                | Alert              |         |
| 19,200.00                  | 9,455.00                  | 19,265.63                 | 9,455.00                  | 149.56            | 149.92         | 89.98                       | -10,045.51                              | -863.14       | 883.13                     | 583.98                      | 299.15                        | 2.952                | Alert              |         |
| 19,250.00                  | 9,455.00                  | 19,315.63                 | 9,455.00                  | 150.27            | 150.62         | 89.98                       | -10,095.51                              | -862.82       | 883.13                     | 582.56                      | 300.57                        | 2.938                | Alert              |         |
| 19,300.00                  | 9,455.00                  | 19,365.63                 | 9,455.00                  | 150.98            | 151.33         | 89.98                       | -10,145.51                              | -862.50       | 883.13                     | 581.13                      | 301.99                        | 2.924                | Alert              |         |
| 19,350.00                  | 9,455.00                  | 19,415.63                 | 9,455.00                  | 151.70            | 152.04         | 89.98                       | -10,195.51                              | -862.17       | 883.12                     | 579.71                      | 303.42                        | 2.911                | Alert              |         |
| 19,400.00                  | 9,455.00                  | 19,465.63                 | 9,455.00                  | 152.41            | 152.75         | 89.98                       | -10,245.51                              | -861.85       | 883.12                     | 578.28                      | 304.84                        | 2.897                | Alert              |         |
| 19,450.00                  | 9,455.00                  | 19,515.63                 | 9,455.00                  | 153.12            | 153.46         | 89.98                       | -10,295.51                              | -861.53       | 883.12                     | 576.86                      | 306.26                        | 2.884                | Alert              |         |
| 19,500.00                  | 9,455.00                  | 19,565.63                 | 9,455.00                  | 153.83            | 154.17         | 89.98                       | -10,345.51                              | -861.21       | 883.12                     | 575.43                      | 307.68                        | 2.870                | Alert              |         |
| 19,550.00                  | 9,455.00                  | 19,615.63                 | 9,455.00                  | 154.54            | 154.88         | 89.98                       | -10,395.51                              | -860.88       | 883.11                     | 574.01                      | 309.11                        | 2.857                | Alert              |         |
| 19,600.00                  | 9,455.00                  | 19,665.63                 | 9,455.00                  | 155.25            | 155.59         | 89.98                       | -10,445.50                              | -860.56       | 883.11                     | 572.58                      | 310.53                        | 2.844                | Alert              |         |
| 19,650.00                  | 9,455.00                  | 19,715.63                 | 9,455.00                  | 155.97            | 156.30         | 89.98                       | -10,495.50                              | -860.24       | 883.11                     | 571.16                      | 311.95                        | 2.831                | Alert              |         |
| 19,700.00                  | 9,455.00                  | 19,765.63                 | 9,455.00                  | 156.68            | 157.01         | 89.98                       | -10,545.50                              | -859.91       | 883.11                     | 569.73                      | 313.38                        | 2.818                | Alert              |         |
| 19,750.00                  | 9,455.00                  | 19,815.63                 | 9,455.00                  | 157.39            | 157.72         | 89.98                       | -10,595.50                              | -859.59       | 883.10                     | 568.30                      | 314.80                        | 2.805                | Alert              |         |
| 19,800.00                  | 9,455.00                  | 19,865.63                 | 9,455.00                  | 158.10            | 158.43         | 89.98                       | -10,645.50                              | -859.27       | 883.10                     | 566.87                      | 316.23                        | 2.793                | Alert              |         |
| 19,850.00                  | 9,455.00                  | 19,915.63                 | 9,455.00                  | 158.82            | 159.14         | 89.98                       | -10,695.50                              | -858.95       | 883.10                     | 565.45                      | 317.65                        | 2.780                | Alert              |         |
| 19,900.00                  | 9,455.00                  | 19,965.63                 | 9,455.00                  | 159.53            | 159.85         | 89.98                       | -10,745.50                              | -858.62       | 883.10                     | 564.02                      | 319.08                        | 2.768                | Alert              |         |
| 19,950.00                  | 9,455.00                  | 20,015.63                 | 9,455.00                  | 160.24            | 160.56         | 89.98                       | -10,795.50                              | -858.30       | 883.09                     | 562.60                      | 320.50                        | 2.756                | Alert              |         |
| 20,000.00                  | 9,455.00                  | 20,065.63                 | 9,455.00                  | 160.95            | 161.27         | 89.98                       | -10,845.50                              | -857.98       | 883.09                     | 561.18                      | 321.91                        | 2.745                | Alert              |         |
| 20,004.02                  | 9,455.00                  | 20,069.65                 | 9,455.00                  | 160.78            | 161.33         | 89.98                       | -10,849.51                              | -857.95       | 883.09                     | 561.28                      | 321.81                        | 2.744                | Alert              |         |

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 525H - Wellbore #1 - Permit Plan 1 |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         | Offset Site Error: | 0.00 ft |
|---------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: O-MWD+HDCM                                                                  |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         | Offset Well Error: | 0.50 ft |
| Reference                                                                                   | Offset              | Semi Major Axis     |                     | Distance       |             | Minimum               |                                   | Separation |                      | Warning               |                         |                    |         |
| Measured Depth (ft)                                                                         | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor  |         |
| 0.00                                                                                        | 0.00                | 0.30                | 0.30                | 0.50           | 0.50        | 89.50                 | 0.26                              | 29.97      | 29.97                |                       |                         |                    |         |
| 50.00                                                                                       | 50.00               | 50.30               | 50.30               | 0.50           | 0.50        | 89.50                 | 0.26                              | 29.97      | 29.97                | 28.96                 | 1.01                    | 29.776             |         |
| 100.00                                                                                      | 100.00              | 100.30              | 100.30              | 0.52           | 0.52        | 89.50                 | 0.26                              | 29.97      | 29.97                | 28.94                 | 1.04                    | 28.936             |         |
| 150.00                                                                                      | 150.00              | 150.30              | 150.30              | 0.59           | 0.59        | 89.50                 | 0.26                              | 29.97      | 29.97                | 28.79                 | 1.18                    | 25.377             |         |
| 200.00                                                                                      | 200.00              | 200.30              | 200.30              | 0.70           | 0.70        | 89.50                 | 0.26                              | 29.97      | 29.97                | 28.57                 | 1.40                    | 21.332             |         |
| 250.00                                                                                      | 250.00              | 250.30              | 250.30              | 0.84           | 0.84        | 89.50                 | 0.26                              | 29.97      | 29.97                | 28.29                 | 1.68                    | 17.879             |         |
| 300.00                                                                                      | 300.00              | 300.30              | 300.30              | 0.99           | 0.99        | 89.50                 | 0.26                              | 29.97      | 29.97                | 28.00                 | 1.98                    | 15.171             |         |
| 350.00                                                                                      | 350.00              | 350.30              | 350.30              | 1.15           | 1.15        | 89.50                 | 0.26                              | 29.97      | 29.97                | 27.68                 | 2.29                    | 13.077             |         |
| 400.00                                                                                      | 400.00              | 400.30              | 400.30              | 1.31           | 1.31        | 89.50                 | 0.26                              | 29.97      | 29.97                | 27.35                 | 2.62                    | 11.443             |         |
| 450.00                                                                                      | 450.00              | 450.30              | 450.30              | 1.48           | 1.48        | 89.50                 | 0.26                              | 29.97      | 29.97                | 27.02                 | 2.95                    | 10.147             |         |
| 500.00                                                                                      | 500.00              | 500.30              | 500.30              | 1.65           | 1.65        | 89.50                 | 0.26                              | 29.97      | 29.97                | 26.68                 | 3.29                    | 9.101              |         |
| 550.00                                                                                      | 550.00              | 550.30              | 550.30              | 1.82           | 1.82        | 89.50                 | 0.26                              | 29.97      | 29.97                | 26.33                 | 3.64                    | 8.242              |         |
| 600.00                                                                                      | 600.00              | 600.30              | 600.30              | 1.99           | 1.99        | 89.50                 | 0.26                              | 29.97      | 29.97                | 25.99                 | 3.98                    | 7.526              |         |
| 650.00                                                                                      | 650.00              | 650.30              | 650.30              | 2.16           | 2.17        | 89.50                 | 0.26                              | 29.97      | 29.97                | 25.64                 | 4.33                    | 6.921              |         |
| 700.00                                                                                      | 700.00              | 700.30              | 700.30              | 2.34           | 2.34        | 89.50                 | 0.26                              | 29.97      | 29.97                | 25.29                 | 4.68                    | 6.405              |         |
| 750.00                                                                                      | 750.00              | 750.30              | 750.30              | 2.51           | 2.52        | 89.50                 | 0.26                              | 29.97      | 29.97                | 24.94                 | 5.03                    | 5.958              |         |
| 800.00                                                                                      | 800.00              | 800.30              | 800.30              | 2.69           | 2.69        | 89.50                 | 0.26                              | 29.97      | 29.97                | 24.59                 | 5.38                    | 5.569              |         |
| 850.00                                                                                      | 850.00              | 850.30              | 850.30              | 2.87           | 2.87        | 89.50                 | 0.26                              | 29.97      | 29.97                | 24.24                 | 5.73                    | 5.226              |         |
| 900.00                                                                                      | 900.00              | 900.30              | 900.30              | 3.04           | 3.04        | 89.50                 | 0.26                              | 29.97      | 29.97                | 23.88                 | 6.09                    | 4.923 Alert        |         |
| 950.00                                                                                      | 950.00              | 950.30              | 950.30              | 3.22           | 3.22        | 89.50                 | 0.26                              | 29.97      | 29.97                | 23.53                 | 6.44                    | 4.652 Alert        |         |
| 1,000.00                                                                                    | 1,000.00            | 1,000.30            | 1,000.30            | 3.40           | 3.40        | 89.50                 | 0.26                              | 29.97      | 29.97                | 23.17                 | 6.80                    | 4.410 Alert        |         |
| 1,050.00                                                                                    | 1,050.00            | 1,050.30            | 1,050.30            | 3.58           | 3.58        | 89.50                 | 0.26                              | 29.97      | 29.97                | 22.82                 | 7.15                    | 4.191 Alert        |         |
| 1,100.00                                                                                    | 1,100.00            | 1,100.30            | 1,100.30            | 3.75           | 3.75        | 89.50                 | 0.26                              | 29.97      | 29.97                | 22.46                 | 7.51                    | 3.993 Alert        |         |
| 1,150.00                                                                                    | 1,150.00            | 1,150.30            | 1,150.30            | 3.93           | 3.93        | 89.50                 | 0.26                              | 29.97      | 29.97                | 22.11                 | 7.86                    | 3.812 Alert        |         |
| 1,200.00                                                                                    | 1,200.00            | 1,200.30            | 1,200.30            | 4.11           | 4.11        | 89.50                 | 0.26                              | 29.97      | 29.97                | 21.75                 | 8.22                    | 3.647 Alert        |         |
| 1,250.00                                                                                    | 1,250.00            | 1,250.30            | 1,250.30            | 4.29           | 4.29        | 89.50                 | 0.26                              | 29.97      | 29.97                | 21.40                 | 8.57                    | 3.496 Alert        |         |
| 1,300.00                                                                                    | 1,300.00            | 1,300.30            | 1,300.30            | 4.46           | 4.47        | 89.50                 | 0.26                              | 29.97      | 29.97                | 21.04                 | 8.93                    | 3.356 Alert        |         |
| 1,350.00                                                                                    | 1,350.00            | 1,350.30            | 1,350.30            | 4.64           | 4.64        | 89.50                 | 0.26                              | 29.97      | 29.97                | 20.69                 | 9.29                    | 3.228 Alert        |         |
| 1,400.00                                                                                    | 1,400.00            | 1,400.30            | 1,400.30            | 4.82           | 4.82        | 89.50                 | 0.26                              | 29.97      | 29.97                | 20.33                 | 9.64                    | 3.108 Alert        |         |
| 1,450.00                                                                                    | 1,450.00            | 1,450.30            | 1,450.30            | 5.00           | 5.00        | 89.50                 | 0.26                              | 29.97      | 29.97                | 19.97                 | 10.00                   | 2.997 Alert        |         |
| 1,500.00                                                                                    | 1,500.00            | 1,500.30            | 1,500.30            | 5.18           | 5.18        | 89.50                 | 0.26                              | 29.97      | 29.97                | 19.62                 | 10.36                   | 2.894 Alert        |         |
| 1,550.00                                                                                    | 1,550.00            | 1,550.30            | 1,550.30            | 5.36           | 5.36        | 89.50                 | 0.26                              | 29.97      | 29.97                | 19.26                 | 10.71                   | 2.798 Alert        |         |
| 1,600.00                                                                                    | 1,600.00            | 1,600.30            | 1,600.30            | 5.53           | 5.54        | 89.50                 | 0.26                              | 29.97      | 29.97                | 18.90                 | 11.07                   | 2.708 Alert        |         |
| 1,650.00                                                                                    | 1,650.00            | 1,650.30            | 1,650.30            | 5.71           | 5.71        | 89.50                 | 0.26                              | 29.97      | 29.97                | 18.54                 | 11.43                   | 2.623 Alert        |         |
| 1,700.00                                                                                    | 1,700.00            | 1,700.30            | 1,700.30            | 5.89           | 5.89        | 89.50                 | 0.26                              | 29.97      | 29.97                | 18.19                 | 11.78                   | 2.543 Alert        |         |
| 1,750.00                                                                                    | 1,750.00            | 1,750.30            | 1,750.30            | 6.07           | 6.07        | 89.50                 | 0.26                              | 29.97      | 29.97                | 17.83                 | 12.14                   | 2.469 Minor Risk   |         |
| 1,800.00                                                                                    | 1,800.00            | 1,800.30            | 1,800.30            | 6.25           | 6.25        | 89.50                 | 0.26                              | 29.97      | 29.97                | 17.47                 | 12.50                   | 2.398 Minor Risk   |         |
| 1,850.00                                                                                    | 1,850.00            | 1,850.30            | 1,850.30            | 6.43           | 6.43        | 89.50                 | 0.26                              | 29.97      | 29.97                | 17.12                 | 12.86                   | 2.331 Minor Risk   |         |
| 1,900.00                                                                                    | 1,900.00            | 1,900.30            | 1,900.30            | 6.61           | 6.61        | 89.50                 | 0.26                              | 29.97      | 29.97                | 16.76                 | 13.21                   | 2.268 Minor Risk   |         |
| 1,950.00                                                                                    | 1,950.00            | 1,950.30            | 1,950.30            | 6.78           | 6.79        | 89.50                 | 0.26                              | 29.97      | 29.97                | 16.40                 | 13.57                   | 2.209 Minor Risk   |         |
| 2,000.00                                                                                    | 2,000.00            | 2,000.30            | 2,000.30            | 6.96           | 6.96        | 89.50                 | 0.26                              | 29.97      | 29.97                | 16.04                 | 13.93                   | 2.152 Minor Risk   |         |
| 2,050.00                                                                                    | 2,050.00            | 2,050.30            | 2,050.30            | 7.14           | 7.14        | 89.50                 | 0.26                              | 29.97      | 29.97                | 15.69                 | 14.29                   | 2.098 Minor Risk   |         |
| 2,100.00                                                                                    | 2,100.00            | 2,100.30            | 2,100.30            | 7.32           | 7.32        | 89.50                 | 0.26                              | 29.97      | 29.97                | 15.33                 | 14.64                   | 2.047 Minor Risk   |         |
| 2,150.00                                                                                    | 2,150.00            | 2,150.30            | 2,150.30            | 7.50           | 7.50        | 89.50                 | 0.26                              | 29.97      | 29.97                | 14.97                 | 15.00                   | 1.998 Minor Risk   |         |
| 2,200.00                                                                                    | 2,200.00            | 2,200.30            | 2,200.30            | 7.68           | 7.68        | 89.50                 | 0.26                              | 29.97      | 29.97                | 14.61                 | 15.36                   | 1.951 Minor Risk   |         |
| 2,250.00                                                                                    | 2,250.00            | 2,250.30            | 2,250.30            | 7.86           | 7.86        | 89.50                 | 0.26                              | 29.97      | 29.97                | 14.26                 | 15.72                   | 1.907 Minor Risk   |         |
| 2,300.00                                                                                    | 2,300.00            | 2,300.30            | 2,300.30            | 8.04           | 8.04        | 89.50                 | 0.26                              | 29.97      | 29.97                | 13.90                 | 16.07                   | 1.865 Minor Risk   |         |
| 2,350.00                                                                                    | 2,350.00            | 2,350.30            | 2,350.30            | 8.22           | 8.22        | 89.50                 | 0.26                              | 29.97      | 29.97                | 13.54                 | 16.43                   | 1.824 Minor Risk   |         |
| 2,400.00                                                                                    | 2,400.00            | 2,400.30            | 2,400.30            | 8.39           | 8.40        | 89.50                 | 0.26                              | 29.97      | 29.97                | 13.18                 | 16.79                   | 1.785 Minor Risk   |         |
| 2,450.00                                                                                    | 2,450.00            | 2,450.30            | 2,450.30            | 8.57           | 8.57        | 89.50                 | 0.26                              | 29.97      | 29.97                | 12.82                 | 17.15                   | 1.748 Minor Risk   |         |
| 2,500.00                                                                                    | 2,500.00            | 2,500.30            | 2,500.30            | 8.75           | 8.75        | 89.50                 | 0.26                              | 29.97      | 29.97                | 12.47                 | 17.51                   | 1.712 Minor Risk   |         |
| 2,550.00                                                                                    | 2,550.00            | 2,550.30            | 2,550.30            | 8.93           | 8.93        | 89.50                 | 0.26                              | 29.97      | 29.97                | 12.11                 | 17.86                   | 1.678 Minor Risk   |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 526H - Wellbore #1 - Permit Plan 1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |
|--------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program:    O-MWD+HDGM                                                                    |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.50 ft |
| Reference                                                                                        |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    |         |
| Measured Depth (ft)                                                                              | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning            |         |
| 2,600.00                                                                                         | 2,600.00            | 2,600.30            | 2,600.30            | 9.11            | 9.11        | 89.50                 | 0.26                              | 29.97      | 29.97                | 11.75                 | 18.22                   | 1.645             | Minor Risk         |         |
| 2,650.00                                                                                         | 2,650.00            | 2,650.30            | 2,650.30            | 9.29            | 9.29        | 89.50                 | 0.26                              | 29.97      | 29.97                | 11.39                 | 18.58                   | 1.613             | Minor Risk         |         |
| 2,700.00                                                                                         | 2,700.00            | 2,700.30            | 2,700.30            | 9.47            | 9.47        | 89.50                 | 0.26                              | 29.97      | 29.97                | 11.03                 | 18.94                   | 1.583             | Minor Risk, CC     |         |
| 2,750.00                                                                                         | 2,750.00            | 2,750.04            | 2,750.04            | 9.65            | 9.64        | 89.53                 | 0.25                              | 30.19      | 30.19                | 10.90                 | 19.29                   | 1.565             | Minor Risk, ES, SF |         |
| 2,800.00                                                                                         | 2,800.00            | 2,799.77            | 2,799.76            | 9.83            | 9.82        | 89.62                 | 0.21                              | 30.84      | 30.84                | 11.20                 | 19.64                   | 1.570             | Minor Risk         |         |
| 2,850.00                                                                                         | 2,850.00            | 2,849.49            | 2,849.47            | 10.00           | 9.98        | 89.75                 | 0.14                              | 31.92      | 31.93                | 11.94                 | 19.98                   | 1.598             | Minor Risk         |         |
| 2,900.00                                                                                         | 2,900.00            | 2,899.18            | 2,899.14            | 10.18           | 10.15       | 89.92                 | 0.05                              | 33.43      | 33.45                | 13.12                 | 20.33                   | 1.645             | Minor Risk         |         |
| 2,950.00                                                                                         | 2,950.00            | 2,948.84            | 2,948.77            | 10.36           | 10.32       | 90.12                 | -0.07                             | 35.36      | 35.40                | 14.73                 | 20.67                   | 1.713             | Minor Risk         |         |
| 3,000.00                                                                                         | 3,000.00            | 2,998.47            | 2,998.34            | 10.54           | 10.49       | 90.34                 | -0.22                             | 37.73      | 37.78                | 16.77                 | 21.01                   | 1.798             | Minor Risk         |         |
| 3,050.00                                                                                         | 3,050.00            | 3,048.05            | 3,047.84            | 10.72           | 10.66       | 90.56                 | -0.39                             | 40.52      | 40.59                | 19.25                 | 21.35                   | 1.901             | Minor Risk         |         |
| 3,100.00                                                                                         | 3,100.00            | 3,097.58            | 3,097.26            | 10.90           | 10.84       | 90.78                 | -0.59                             | 43.73      | 43.84                | 22.15                 | 21.69                   | 2.022             | Minor Risk         |         |
| 3,150.00                                                                                         | 3,150.00            | 3,147.05            | 3,146.60            | 11.08           | 11.01       | 90.99                 | -0.82                             | 47.37      | 47.52                | 25.50                 | 22.02                   | 2.158             | Minor Risk         |         |
| 3,200.00                                                                                         | 3,200.00            | 3,196.46            | 3,195.84            | 11.26           | 11.18       | 91.19                 | -1.07                             | 51.42      | 51.63                | 29.27                 | 22.36                   | 2.309             | Minor Risk         |         |
| 3,250.00                                                                                         | 3,250.00            | 3,245.79            | 3,244.96            | 11.44           | 11.35       | 91.38                 | -1.35                             | 55.90      | 56.17                | 33.47                 | 22.69                   | 2.475             | Minor Risk         |         |
| 3,300.00                                                                                         | 3,300.00            | 3,295.04            | 3,293.97            | 11.62           | 11.52       | 91.56                 | -1.65                             | 60.78      | 61.13                | 38.11                 | 23.02                   | 2.655             | Alert              |         |
| 3,350.00                                                                                         | 3,350.00            | 3,344.20            | 3,342.84            | 11.80           | 11.69       | 91.72                 | -1.98                             | 66.08      | 66.53                | 43.17                 | 23.35                   | 2.849             | Alert              |         |
| 3,400.00                                                                                         | 3,400.00            | 3,393.26            | 3,391.57            | 11.97           | 11.87       | 91.86                 | -2.33                             | 71.78      | 72.35                | 48.66                 | 23.68                   | 3.055             | Alert              |         |
| 3,450.00                                                                                         | 3,450.00            | 3,442.23            | 3,440.15            | 12.15           | 12.04       | 91.99                 | -2.71                             | 77.89      | 78.59                | 54.58                 | 24.01                   | 3.274             | Alert              |         |
| 3,500.00                                                                                         | 3,500.00            | 3,491.08            | 3,488.57            | 12.33           | 12.22       | 92.11                 | -3.12                             | 84.39      | 85.26                | 60.93                 | 24.33                   | 3.504             | Alert              |         |
| 3,550.00                                                                                         | 3,550.00            | 3,539.82            | 3,536.82            | 12.51           | 12.39       | 92.22                 | -3.54                             | 91.29      | 92.35                | 67.70                 | 24.65                   | 3.746             | Alert              |         |
| 3,600.00                                                                                         | 3,600.00            | 3,568.44            | 3,564.88            | 12.69           | 12.57       | 92.32                 | -4.00                             | 98.58      | 99.86                | 74.89                 | 24.97                   | 3.998             | Alert              |         |
| 3,650.00                                                                                         | 3,650.00            | 3,637.55            | 3,633.39            | 12.87           | 12.74       | 92.41                 | -4.47                             | 106.26     | 107.69               | 82.38                 | 25.31                   | 4.254             | Alert              |         |
| 3,700.00                                                                                         | 3,700.00            | 3,686.93            | 3,682.15            | 13.05           | 12.92       | 92.49                 | -4.95                             | 114.00     | 115.54               | 89.88                 | 25.66                   | 4.502             | Alert              |         |
| 3,750.00                                                                                         | 3,750.00            | 3,736.31            | 3,730.92            | 13.23           | 13.11       | 92.56                 | -5.43                             | 121.74     | 123.40               | 97.38                 | 26.01                   | 4.744             | Alert              |         |
| 3,800.00                                                                                         | 3,800.00            | 3,785.69            | 3,779.69            | 13.41           | 13.29       | 92.61                 | -5.91                             | 129.49     | 131.25               | 104.89                | 26.36                   | 4.979             | Alert              |         |
| 3,850.00                                                                                         | 3,850.00            | 3,835.07            | 3,828.45            | 13.59           | 13.47       | 92.67                 | -6.39                             | 137.23     | 139.10               | 112.39                | 26.71                   | 5.207             |                    |         |
| 3,900.00                                                                                         | 3,900.00            | 3,884.45            | 3,877.22            | 13.77           | 13.65       | 92.71                 | -6.87                             | 144.97     | 146.95               | 119.89                | 27.06                   | 5.430             |                    |         |
| 3,950.00                                                                                         | 3,950.00            | 3,933.83            | 3,925.99            | 13.94           | 13.84       | 92.76                 | -7.35                             | 152.71     | 154.81               | 127.39                | 27.41                   | 5.647             |                    |         |
| 4,000.00                                                                                         | 4,000.00            | 3,983.21            | 3,974.75            | 14.12           | 14.02       | 92.80                 | -7.83                             | 160.45     | 162.66               | 134.90                | 27.77                   | 5.858             |                    |         |
| 4,050.00                                                                                         | 4,050.00            | 4,032.58            | 4,023.52            | 14.30           | 14.21       | 92.83                 | -8.31                             | 168.19     | 170.51               | 142.40                | 28.12                   | 6.064             |                    |         |
| 4,100.00                                                                                         | 4,100.00            | 4,081.96            | 4,072.28            | 14.48           | 14.39       | 92.86                 | -8.79                             | 175.93     | 178.37               | 149.90                | 28.47                   | 6.265             |                    |         |
| 4,150.00                                                                                         | 4,150.00            | 4,131.34            | 4,121.05            | 14.66           | 14.58       | 92.89                 | -9.28                             | 183.67     | 186.22               | 157.40                | 28.82                   | 6.461             |                    |         |
| 4,200.00                                                                                         | 4,200.00            | 4,180.72            | 4,169.82            | 14.84           | 14.77       | 92.92                 | -9.76                             | 191.42     | 194.07               | 164.90                | 29.17                   | 6.652             |                    |         |
| 4,250.00                                                                                         | 4,250.00            | 4,230.10            | 4,218.58            | 15.02           | 14.96       | 92.94                 | -10.24                            | 199.16     | 201.93               | 172.40                | 29.53                   | 6.839             |                    |         |
| 4,300.00                                                                                         | 4,300.00            | 4,279.48            | 4,267.35            | 15.20           | 15.14       | 92.96                 | -10.72                            | 206.90     | 209.78               | 179.90                | 29.88                   | 7.021             |                    |         |
| 4,350.00                                                                                         | 4,350.00            | 4,328.86            | 4,316.12            | 15.38           | 15.33       | 92.99                 | -11.20                            | 214.64     | 217.63               | 187.40                | 30.23                   | 7.199             |                    |         |
| 4,400.00                                                                                         | 4,400.00            | 4,378.24            | 4,364.88            | 15.56           | 15.52       | 93.01                 | -11.68                            | 222.38     | 225.49               | 194.90                | 30.59                   | 7.372             |                    |         |
| 4,450.00                                                                                         | 4,450.00            | 4,427.62            | 4,413.65            | 15.74           | 15.71       | 93.02                 | -12.16                            | 230.12     | 233.34               | 202.40                | 30.94                   | 7.542             |                    |         |
| 4,500.00                                                                                         | 4,500.00            | 4,477.00            | 4,462.42            | 15.92           | 15.90       | 93.04                 | -12.64                            | 237.86     | 241.19               | 209.90                | 31.29                   | 7.708             |                    |         |
| 4,550.00                                                                                         | 4,550.00            | 4,526.38            | 4,511.18            | 16.09           | 16.09       | 93.06                 | -13.12                            | 245.61     | 249.05               | 217.40                | 31.65                   | 7.869             |                    |         |
| 4,600.00                                                                                         | 4,600.00            | 4,575.76            | 4,559.95            | 16.27           | 16.29       | 93.07                 | -13.60                            | 253.35     | 256.90               | 224.90                | 32.00                   | 8.028             |                    |         |
| 4,650.00                                                                                         | 4,650.00            | 4,625.14            | 4,608.71            | 16.45           | 16.48       | 93.09                 | -14.08                            | 261.09     | 264.75               | 232.40                | 32.36                   | 8.183             |                    |         |
| 4,700.00                                                                                         | 4,700.00            | 4,674.52            | 4,657.48            | 16.63           | 16.67       | 93.10                 | -14.56                            | 268.83     | 272.61               | 239.90                | 32.71                   | 8.334             |                    |         |
| 4,750.00                                                                                         | 4,750.00            | 4,723.90            | 4,706.25            | 16.81           | 16.86       | 93.11                 | -15.04                            | 276.57     | 280.46               | 247.40                | 33.07                   | 8.482             |                    |         |
| 4,800.00                                                                                         | 4,800.00            | 4,773.27            | 4,755.01            | 16.99           | 17.05       | 93.12                 | -15.52                            | 284.31     | 288.32               | 254.89                | 33.42                   | 8.627             |                    |         |
| 4,850.00                                                                                         | 4,850.00            | 4,822.65            | 4,803.78            | 17.17           | 17.25       | 93.14                 | -16.00                            | 292.05     | 296.17               | 262.39                | 33.78                   | 8.769             |                    |         |
| 4,900.00                                                                                         | 4,900.00            | 4,872.03            | 4,852.55            | 17.35           | 17.44       | 93.15                 | -16.48                            | 299.80     | 304.02               | 269.89                | 34.13                   | 8.908             |                    |         |
| 4,950.00                                                                                         | 4,950.00            | 4,921.41            | 4,901.31            | 17.53           | 17.64       | 93.16                 | -16.96                            | 307.54     | 311.88               | 277.39                | 34.49                   | 9.043             |                    |         |
| 5,000.00                                                                                         | 5,000.00            | 4,970.79            | 4,950.08            | 17.71           | 17.83       | 93.17                 | -17.44                            | 315.28     | 319.73               | 284.89                | 34.84                   | 9.176             |                    |         |
| 5,050.00                                                                                         | 5,050.00            | 5,020.17            | 4,998.85            | 17.89           | 18.02       | 93.18                 | -17.92                            | 323.02     | 327.58               | 292.38                | 35.20                   | 9.307             |                    |         |
| 5,100.00                                                                                         | 5,100.00            | 5,069.55            | 5,047.61            | 18.06           | 18.22       | 93.18                 | -18.40                            | 330.76     | 335.44               | 299.88                | 35.55                   | 9.435             |                    |         |
| 5,150.00                                                                                         | 5,150.00            | 5,118.93            | 5,096.38            | 18.24           | 18.41       | 93.19                 | -18.88                            | 338.50     | 343.29               | 307.38                | 35.91                   | 9.560             |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 526H - Wellbore #1 - Permit Plan 1 |                     |                     |                     |                 |             |                       |                                   |                                   |                      |                       |                         |                   | Offset Site Error:      0.00 ft |         |
|--------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|-----------------------------------|----------------------|-----------------------|-------------------------|-------------------|---------------------------------|---------|
| Survey Program:    0-MWD+HDGM                                                                    |                     |                     |                     |                 |             |                       |                                   |                                   |                      |                       |                         |                   | Offset Well Error:      0.50 ft |         |
| Reference                                                                                        |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |                                   |                      |                       |                         |                   |                                 | Warning |
| Measured Depth (ft)                                                                              | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                                 |         |
| 5,200.00                                                                                         | 5,200.00            | 5,168.31            | 5,145.14            | 18.42           | 18.61       | 93.20                 | -19.36                            | 346.24                            | 351.14               | 314.88                | 36.27                   | 9.682             |                                 |         |
| 5,250.00                                                                                         | 5,250.00            | 5,217.69            | 5,193.91            | 18.60           | 18.80       | 93.21                 | -19.84                            | 353.99                            | 359.00               | 322.37                | 36.62                   | 9.803             |                                 |         |
| 5,300.00                                                                                         | 5,300.00            | 5,267.07            | 5,242.68            | 18.78           | 19.00       | 93.22                 | -20.32                            | 361.73                            | 366.85               | 329.87                | 36.98                   | 9.920             |                                 |         |
| 5,350.00                                                                                         | 5,350.00            | 5,316.45            | 5,291.44            | 18.96           | 19.20       | 93.22                 | -20.80                            | 369.47                            | 374.70               | 337.37                | 37.34                   | 10.036            |                                 |         |
| 5,400.00                                                                                         | 5,400.00            | 5,365.83            | 5,340.21            | 19.14           | 19.39       | 93.23                 | -21.28                            | 377.21                            | 382.56               | 344.87                | 37.69                   | 10.149            |                                 |         |
| 5,450.00                                                                                         | 5,450.00            | 5,415.21            | 5,388.98            | 19.32           | 19.59       | 93.24                 | -21.76                            | 384.95                            | 390.41               | 352.36                | 38.05                   | 10.261            |                                 |         |
| 5,500.00                                                                                         | 5,500.00            | 5,464.59            | 5,437.74            | 19.50           | 19.79       | 93.24                 | -22.24                            | 392.69                            | 398.27               | 359.86                | 38.41                   | 10.370            |                                 |         |
| 5,550.00                                                                                         | 5,550.00            | 5,513.96            | 5,486.51            | 19.68           | 19.98       | 93.25                 | -22.72                            | 400.43                            | 406.12               | 367.36                | 38.76                   | 10.477            |                                 |         |
| 5,600.00                                                                                         | 5,600.00            | 5,563.34            | 5,535.28            | 19.86           | 20.18       | 93.25                 | -23.20                            | 408.18                            | 413.97               | 374.85                | 39.12                   | 10.582            |                                 |         |
| 5,650.00                                                                                         | 5,650.00            | 5,612.72            | 5,584.04            | 20.04           | 20.38       | 93.26                 | -23.68                            | 415.92                            | 421.83               | 382.35                | 39.48                   | 10.685            |                                 |         |
| 5,700.00                                                                                         | 5,700.00            | 5,662.10            | 5,632.81            | 20.22           | 20.58       | 93.26                 | -24.16                            | 423.66                            | 429.68               | 389.84                | 39.84                   | 10.786            |                                 |         |
| 5,750.00                                                                                         | 5,750.00            | 5,711.48            | 5,681.58            | 20.39           | 20.78       | 93.27                 | -24.64                            | 431.40                            | 437.53               | 397.34                | 40.19                   | 10.886            |                                 |         |
| 5,800.00                                                                                         | 5,800.00            | 5,760.86            | 5,730.34            | 20.57           | 20.97       | 93.27                 | -25.12                            | 439.14                            | 445.39               | 404.84                | 40.55                   | 10.983            |                                 |         |
| 5,850.00                                                                                         | 5,850.00            | 5,810.24            | 5,779.11            | 20.75           | 21.17       | 93.28                 | -25.60                            | 446.88                            | 453.24               | 412.33                | 40.91                   | 11.079            |                                 |         |
| 5,900.00                                                                                         | 5,900.00            | 5,859.62            | 5,827.87            | 20.93           | 21.37       | 93.28                 | -26.08                            | 454.62                            | 461.10               | 419.83                | 41.27                   | 11.173            |                                 |         |
| 5,950.00                                                                                         | 5,950.00            | 5,909.00            | 5,876.64            | 21.11           | 21.57       | 93.29                 | -26.56                            | 462.37                            | 468.95               | 427.32                | 41.63                   | 11.266            |                                 |         |
| 6,000.00                                                                                         | 6,000.00            | 5,958.38            | 5,925.41            | 21.29           | 21.77       | 93.29                 | -27.04                            | 470.11                            | 478.80               | 434.82                | 41.98                   | 11.357            |                                 |         |
| 6,050.00                                                                                         | 6,050.00            | 6,007.73            | 5,974.15            | 21.46           | 21.97       | -128.00               | -27.52                            | 477.84                            | 484.82               | 442.49                | 42.33                   | 11.452            |                                 |         |
| 6,100.00                                                                                         | 6,099.99            | 6,057.02            | 6,022.83            | 21.63           | 22.17       | -127.98               | -28.00                            | 485.57                            | 493.17               | 450.49                | 42.68                   | 11.554            |                                 |         |
| 6,150.00                                                                                         | 6,149.98            | 6,106.26            | 6,071.45            | 21.80           | 22.37       | -128.05               | -28.48                            | 493.29                            | 501.82               | 458.79                | 43.03                   | 11.663            |                                 |         |
| 6,200.00                                                                                         | 6,199.96            | 6,155.49            | 6,120.07            | 21.96           | 22.56       | -128.17               | -28.96                            | 501.01                            | 510.51               | 467.15                | 43.37                   | 11.772            |                                 |         |
| 6,250.00                                                                                         | 6,249.94            | 6,204.72            | 6,168.69            | 22.12           | 22.76       | -128.28               | -29.44                            | 508.73                            | 519.21               | 475.50                | 43.71                   | 11.878            |                                 |         |
| 6,300.00                                                                                         | 6,299.92            | 6,253.95            | 6,217.30            | 22.29           | 22.96       | -128.39               | -29.92                            | 516.44                            | 527.91               | 483.85                | 44.05                   | 11.983            |                                 |         |
| 6,350.00                                                                                         | 6,349.90            | 6,303.17            | 6,265.92            | 22.45           | 23.16       | -128.49               | -30.40                            | 524.16                            | 536.61               | 492.21                | 44.40                   | 12.087            |                                 |         |
| 6,400.00                                                                                         | 6,399.88            | 6,352.40            | 6,314.54            | 22.62           | 23.36       | -128.60               | -30.88                            | 531.88                            | 545.31               | 500.57                | 44.74                   | 12.188            |                                 |         |
| 6,450.00                                                                                         | 6,449.86            | 6,401.63            | 6,363.16            | 22.78           | 23.56       | -128.69               | -31.35                            | 539.60                            | 554.01               | 508.93                | 45.08                   | 12.288            |                                 |         |
| 6,500.00                                                                                         | 6,499.84            | 6,450.86            | 6,411.77            | 22.95           | 23.76       | -128.79               | -31.83                            | 547.31                            | 562.72               | 517.29                | 45.43                   | 12.387            |                                 |         |
| 6,550.00                                                                                         | 6,549.82            | 6,500.09            | 6,460.39            | 23.11           | 23.96       | -128.88               | -32.31                            | 555.03                            | 571.42               | 525.65                | 45.77                   | 12.484            |                                 |         |
| 6,600.00                                                                                         | 6,599.80            | 6,549.31            | 6,509.01            | 23.28           | 24.16       | -128.97               | -32.79                            | 562.75                            | 580.13               | 534.01                | 46.12                   | 12.579            |                                 |         |
| 6,650.00                                                                                         | 6,649.79            | 6,601.46            | 6,557.62            | 23.44           | 24.37       | -129.06               | -33.27                            | 570.47                            | 588.84               | 542.37                | 46.47                   | 12.670            |                                 |         |
| 6,700.00                                                                                         | 6,699.77            | 6,647.77            | 6,606.24            | 23.61           | 24.56       | -129.14               | -33.75                            | 578.19                            | 597.55               | 550.74                | 46.81                   | 12.766            |                                 |         |
| 6,750.00                                                                                         | 6,749.75            | 6,697.00            | 6,654.86            | 23.78           | 24.76       | -129.23               | -34.23                            | 585.90                            | 606.26               | 559.11                | 47.15                   | 12.857            |                                 |         |
| 6,800.00                                                                                         | 6,799.73            | 6,746.22            | 6,703.47            | 23.94           | 24.96       | -129.31               | -34.71                            | 593.62                            | 614.97               | 567.47                | 47.50                   | 12.947            |                                 |         |
| 6,850.00                                                                                         | 6,849.71            | 6,804.55            | 6,752.09            | 24.11           | 25.20       | -129.38               | -35.18                            | 601.34                            | 623.69               | 575.81                | 47.88                   | 13.026            |                                 |         |
| 6,900.00                                                                                         | 6,899.69            | 6,844.68            | 6,800.71            | 24.28           | 25.37       | -129.46               | -35.66                            | 609.06                            | 632.40               | 584.21                | 48.19                   | 13.122            |                                 |         |
| 6,950.00                                                                                         | 6,949.67            | 6,896.09            | 6,849.32            | 24.44           | 25.62       | -129.53               | -36.14                            | 616.77                            | 641.12               | 592.53                | 48.58                   | 13.196            |                                 |         |
| 7,000.00                                                                                         | 6,999.65            | 6,943.14            | 6,897.94            | 24.61           | 25.77       | -129.60               | -36.62                            | 624.49                            | 649.83               | 600.95                | 48.89                   | 13.293            |                                 |         |
| 7,050.00                                                                                         | 7,049.63            | 7,007.64            | 6,946.56            | 24.78           | 26.03       | -129.67               | -37.10                            | 632.21                            | 658.55               | 609.26                | 49.29                   | 13.361            |                                 |         |
| 7,100.00                                                                                         | 7,099.61            | 7,041.59            | 6,995.17            | 24.94           | 26.17       | -129.74               | -37.58                            | 639.93                            | 667.27               | 617.69                | 49.58                   | 13.458            |                                 |         |
| 7,150.00                                                                                         | 7,149.60            | 7,109.18            | 7,043.79            | 25.11           | 26.45       | -129.81               | -38.06                            | 647.64                            | 675.99               | 625.99                | 50.00                   | 13.521            |                                 |         |
| 7,200.00                                                                                         | 7,199.58            | 7,140.05            | 7,092.41            | 25.28           | 26.57       | -129.87               | -38.54                            | 655.36                            | 684.71               | 634.43                | 50.28                   | 13.619            |                                 |         |
| 7,250.00                                                                                         | 7,249.56            | 7,189.28            | 7,141.03            | 25.45           | 26.78       | -129.93               | -39.01                            | 663.08                            | 693.43               | 642.81                | 50.62                   | 13.698            |                                 |         |
| 7,300.00                                                                                         | 7,299.54            | 7,238.50            | 7,189.64            | 25.62           | 26.98       | -130.00               | -39.49                            | 670.80                            | 702.15               | 651.18                | 50.97                   | 13.775            |                                 |         |
| 7,350.00                                                                                         | 7,349.52            | 7,287.73            | 7,238.26            | 25.78           | 27.18       | -130.06               | -39.97                            | 678.52                            | 710.88               | 659.55                | 51.32                   | 13.851            |                                 |         |
| 7,400.00                                                                                         | 7,399.50            | 7,336.96            | 7,286.88            | 25.95           | 27.38       | -130.11               | -40.45                            | 686.23                            | 719.60               | 667.93                | 51.67                   | 13.927            |                                 |         |
| 7,450.00                                                                                         | 7,449.48            | 7,386.19            | 7,335.49            | 26.12           | 27.58       | -130.17               | -40.93                            | 693.95                            | 728.32               | 676.30                | 52.02                   | 14.001            |                                 |         |
| 7,500.00                                                                                         | 7,499.46            | 7,435.42            | 7,384.11            | 26.29           | 27.79       | -130.23               | -41.41                            | 701.67                            | 737.05               | 684.68                | 52.37                   | 14.074            |                                 |         |
| 7,550.00                                                                                         | 7,549.44            | 7,484.64            | 7,432.73            | 26.46           | 27.99       | -130.28               | -41.89                            | 709.39                            | 745.77               | 693.06                | 52.72                   | 14.146            |                                 |         |
| 7,600.00                                                                                         | 7,599.42            | 7,533.87            | 7,481.34            | 26.63           | 28.19       | -130.33               | -42.37                            | 717.10                            | 754.50               | 701.43                | 53.07                   | 14.218            |                                 |         |
| 7,650.00                                                                                         | 7,649.41            | 7,583.10            | 7,529.96            | 26.80           | 28.39       | -130.38               | -42.84                            | 724.82                            | 763.23               | 709.81                | 53.42                   | 14.288            |                                 |         |
| 7,700.00                                                                                         | 7,699.39            | 7,632.33            | 7,578.58            | 26.97           | 28.59       | -130.43               | -43.32                            | 732.54                            | 771.95               | 718.19                | 53.77                   | 14.357            |                                 |         |
| 7,750.00                                                                                         | 7,749.37            | 7,681.56            | 7,627.19            | 27.14           | 28.80       | -130.48               | -43.80                            | 740.26                            | 780.68               | 726.56                | 54.12                   | 14.425            |                                 |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 526H - Wellbore #1 - Permit Plan 1 |                        |                        |                        |           |        |                                    |                                         |               |                         |                          |                            | Offset Site Error: | 0.00 ft |
|---------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|-----------|--------|------------------------------------|-----------------------------------------|---------------|-------------------------|--------------------------|----------------------------|--------------------|---------|
| Survey Program: 0-MWD+HDGM                                                                  |                        |                        |                        |           |        |                                    |                                         |               |                         |                          |                            | Offset Well Error: | 0.50 ft |
| Measured Depth<br>(ft)                                                                      | Vertical Depth<br>(ft) | Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Reference | Offset | Semi Major Axis<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between Centres<br>(ft) | Between Ellipses<br>(ft) | Minimum Separation<br>(ft) | Separation Factor  | Warning |
| 7,800.00                                                                                    | 7,799.35               | 7,730.78               | 7,675.81               | 27.31     | 29.00  | -130.53                            | -44.28                                  | 747.97        | 789.41                  | 734.94                   | 54.47                      | 14.493             |         |
| 7,850.00                                                                                    | 7,849.33               | 7,780.01               | 7,724.43               | 27.48     | 29.20  | -130.58                            | -44.76                                  | 755.69        | 798.14                  | 743.32                   | 54.82                      | 14.559             |         |
| 7,900.00                                                                                    | 7,899.31               | 7,829.24               | 7,773.04               | 27.65     | 29.40  | -130.63                            | -45.24                                  | 763.41        | 806.87                  | 751.70                   | 55.17                      | 14.625             |         |
| 7,950.00                                                                                    | 7,949.29               | 7,878.47               | 7,821.66               | 27.82     | 29.61  | -130.67                            | -45.72                                  | 771.13        | 815.60                  | 760.08                   | 55.52                      | 14.690             |         |
| 8,000.00                                                                                    | 7,999.27               | 7,927.70               | 7,870.28               | 27.99     | 29.81  | -130.72                            | -46.20                                  | 778.84        | 824.33                  | 768.46                   | 55.87                      | 14.754             |         |
| 8,050.00                                                                                    | 8,049.25               | 7,976.92               | 7,918.89               | 28.16     | 30.01  | -130.76                            | -46.68                                  | 786.56        | 833.06                  | 776.84                   | 56.22                      | 14.817             |         |
| 8,100.00                                                                                    | 8,099.23               | 8,036.29               | 7,977.57               | 28.33     | 30.25  | -130.81                            | -47.24                                  | 795.60        | 841.57                  | 784.91                   | 56.67                      | 14.851             |         |
| 8,150.00                                                                                    | 8,149.22               | 8,099.70               | 8,040.38               | 28.50     | 30.51  | -130.87                            | -47.77                                  | 804.26        | 849.30                  | 792.17                   | 57.14                      | 14.884             |         |
| 8,200.00                                                                                    | 8,199.20               | 8,163.42               | 8,103.63               | 28.67     | 30.76  | -130.93                            | -48.25                                  | 811.92        | 856.21                  | 798.62                   | 57.60                      | 14.886             |         |
| 8,250.00                                                                                    | 8,249.18               | 8,227.41               | 8,167.28               | 28.84     | 31.01  | -130.99                            | -48.66                                  | 818.55        | 862.29                  | 804.25                   | 58.04                      | 14.857             |         |
| 8,300.00                                                                                    | 8,299.16               | 8,291.65               | 8,231.27               | 29.01     | 31.25  | -131.06                            | -49.01                                  | 824.14        | 867.54                  | 809.07                   | 58.47                      | 14.836             |         |
| 8,350.00                                                                                    | 8,349.14               | 8,356.10               | 8,295.56               | 29.18     | 31.48  | -131.13                            | -49.29                                  | 828.66        | 871.96                  | 813.06                   | 58.89                      | 14.805             |         |
| 8,400.00                                                                                    | 8,399.12               | 8,420.72               | 8,360.09               | 29.35     | 31.71  | -131.21                            | -49.50                                  | 832.11        | 875.53                  | 816.23                   | 59.30                      | 14.764             |         |
| 8,450.00                                                                                    | 8,449.10               | 8,485.48               | 8,424.80               | 29.52     | 31.94  | -131.29                            | -49.65                                  | 834.47        | 878.22                  | 818.52                   | 59.70                      | 14.712             |         |
| 8,500.00                                                                                    | 8,499.10               | 8,550.35               | 8,489.67               | 29.69     | 32.16  | -131.35                            | -49.73                                  | 835.74        | 879.70                  | 819.82                   | 60.07                      | 14.644             |         |
| 8,550.00                                                                                    | 8,549.10               | 8,610.09               | 8,549.40               | 29.87     | 32.38  | -89.98                             | -49.74                                  | 835.97        | 879.97                  | 819.54                   | 60.43                      | 14.561             |         |
| 8,600.00                                                                                    | 8,599.10               | 8,660.09               | 8,599.40               | 30.05     | 32.52  | -89.98                             | -49.74                                  | 835.97        | 879.97                  | 819.19                   | 60.78                      | 14.478             |         |
| 8,650.00                                                                                    | 8,649.10               | 8,710.09               | 8,649.40               | 30.23     | 32.69  | -89.98                             | -49.74                                  | 835.97        | 879.97                  | 818.84                   | 61.13                      | 14.395             |         |
| 8,700.00                                                                                    | 8,699.10               | 8,760.09               | 8,699.40               | 30.40     | 32.85  | -89.98                             | -49.74                                  | 835.97        | 879.97                  | 818.49                   | 61.48                      | 14.313             |         |
| 8,750.00                                                                                    | 8,749.10               | 8,810.09               | 8,749.40               | 30.58     | 33.01  | -89.98                             | -49.74                                  | 835.97        | 879.97                  | 818.14                   | 61.83                      | 14.233             |         |
| 8,800.00                                                                                    | 8,799.10               | 8,860.09               | 8,799.40               | 30.76     | 33.18  | -89.98                             | -49.74                                  | 835.97        | 879.97                  | 817.79                   | 62.18                      | 14.153             |         |
| 8,850.00                                                                                    | 8,849.10               | 8,910.09               | 8,849.40               | 30.94     | 33.34  | -89.98                             | -49.74                                  | 835.97        | 879.97                  | 817.45                   | 62.52                      | 14.074             |         |
| 8,900.00                                                                                    | 8,899.09               | 8,959.92               | 8,899.23               | 31.11     | 33.51  | -89.65                             | -50.00                                  | 835.97        | 879.97                  | 817.10                   | 62.87                      | 13.997             |         |
| 8,950.00                                                                                    | 8,948.94               | 9,009.46               | 8,948.82               | 31.28     | 33.66  | -89.65                             | -53.62                                  | 835.99        | 879.97                  | 816.77                   | 63.20                      | 13.923             |         |
| 9,000.00                                                                                    | 8,998.28               | 9,059.00               | 8,997.51               | 31.45     | 33.82  | -89.65                             | -61.50                                  | 836.05        | 879.97                  | 816.43                   | 63.54                      | 13.850             |         |
| 9,050.00                                                                                    | 9,048.74               | 9,108.54               | 9,045.55               | 31.62     | 33.97  | -89.66                             | -73.57                                  | 836.12        | 879.97                  | 816.10                   | 63.87                      | 13.778             |         |
| 9,100.00                                                                                    | 9,093.94               | 9,158.10               | 9,092.37               | 31.78     | 34.12  | -89.67                             | -89.74                                  | 836.23        | 879.97                  | 815.77                   | 64.19                      | 13.708             |         |
| 9,150.00                                                                                    | 9,139.53               | 9,207.66               | 9,137.63               | 31.94     | 34.27  | -89.68                             | -109.91                                 | 836.35        | 879.97                  | 815.45                   | 64.52                      | 13.639             |         |
| 9,200.00                                                                                    | 9,183.16               | 9,257.24               | 9,180.99               | 32.10     | 34.41  | -89.69                             | -133.82                                 | 836.51        | 879.97                  | 815.12                   | 64.84                      | 13.571             |         |
| 9,250.00                                                                                    | 9,224.50               | 9,306.84               | 9,222.14               | 32.26     | 34.55  | -89.71                             | -161.59                                 | 836.69        | 879.96                  | 814.80                   | 65.16                      | 13.504             |         |
| 9,300.00                                                                                    | 9,263.23               | 9,356.46               | 9,260.75               | 32.42     | 34.68  | -89.73                             | -192.74                                 | 836.88        | 879.96                  | 814.48                   | 65.48                      | 13.438             |         |
| 9,350.00                                                                                    | 9,299.06               | 9,406.11               | 9,296.53               | 32.58     | 34.80  | -89.75                             | -227.12                                 | 837.10        | 879.96                  | 814.15                   | 65.81                      | 13.372             |         |
| 9,400.00                                                                                    | 9,331.72               | 9,455.79               | 9,329.23               | 32.74     | 34.92  | -89.77                             | -264.50                                 | 837.34        | 879.96                  | 813.83                   | 66.13                      | 13.306             |         |
| 9,450.00                                                                                    | 9,360.95               | 9,505.49               | 9,358.58               | 32.91     | 35.04  | -89.79                             | -304.59                                 | 837.60        | 879.96                  | 813.49                   | 66.46                      | 13.240             |         |
| 9,500.00                                                                                    | 9,386.54               | 9,555.23               | 9,384.37               | 33.08     | 35.16  | -89.82                             | -347.10                                 | 837.87        | 879.95                  | 813.16                   | 66.80                      | 13.173             |         |
| 9,550.00                                                                                    | 9,408.29               | 9,605.00               | 9,406.38               | 33.25     | 35.29  | -89.84                             | -391.72                                 | 838.16        | 879.95                  | 812.81                   | 67.14                      | 13.106             |         |
| 9,600.00                                                                                    | 9,426.04               | 9,654.80               | 9,424.45               | 33.42     | 35.42  | -89.87                             | -438.12                                 | 838.45        | 879.95                  | 812.46                   | 67.49                      | 13.038             |         |
| 9,650.00                                                                                    | 9,439.64               | 9,704.65               | 9,438.44               | 33.60     | 35.56  | -89.90                             | -485.94                                 | 838.76        | 879.95                  | 812.10                   | 67.85                      | 12.970             |         |
| 9,700.00                                                                                    | 9,449.01               | 9,754.53               | 9,448.22               | 33.78     | 35.70  | -89.93                             | -534.84                                 | 839.07        | 879.95                  | 811.74                   | 68.21                      | 12.901             |         |
| 9,750.00                                                                                    | 9,454.05               | 9,804.45               | 9,453.72               | 33.97     | 35.86  | -89.96                             | -584.44                                 | 839.39        | 879.95                  | 811.38                   | 68.57                      | 12.833             |         |
| 9,800.00                                                                                    | 9,455.00               | 9,854.42               | 9,455.00               | 34.15     | 36.03  | -89.98                             | -634.38                                 | 839.71        | 879.95                  | 811.01                   | 68.94                      | 12.764             |         |
| 9,850.00                                                                                    | 9,455.00               | 9,904.42               | 9,455.00               | 34.36     | 36.21  | -89.98                             | -684.38                                 | 840.03        | 879.95                  | 810.61                   | 69.33                      | 12.691             |         |
| 9,900.00                                                                                    | 9,455.00               | 9,954.42               | 9,455.00               | 34.56     | 36.41  | -89.98                             | -734.38                                 | 840.35        | 879.95                  | 810.19                   | 69.75                      | 12.615             |         |
| 9,950.00                                                                                    | 9,455.00               | 10,004.42              | 9,455.00               | 34.79     | 36.62  | -89.98                             | -784.37                                 | 840.67        | 879.95                  | 809.74                   | 70.20                      | 12.535             |         |
| 10,000.00                                                                                   | 9,455.00               | 10,054.42              | 9,455.00               | 35.02     | 36.85  | -89.98                             | -834.37                                 | 840.99        | 879.94                  | 809.27                   | 70.67                      | 12.451             |         |
| 10,050.00                                                                                   | 9,455.00               | 10,104.42              | 9,455.00               | 35.28     | 37.09  | -89.98                             | -884.37                                 | 841.31        | 879.94                  | 808.77                   | 71.17                      | 12.363             |         |
| 10,100.00                                                                                   | 9,455.00               | 10,154.42              | 9,455.00               | 35.54     | 37.34  | -89.98                             | -934.37                                 | 841.62        | 879.94                  | 808.24                   | 71.70                      | 12.273             |         |
| 10,150.00                                                                                   | 9,455.00               | 10,204.42              | 9,455.00               | 35.82     | 37.60  | -89.98                             | -984.37                                 | 841.94        | 879.94                  | 807.69                   | 72.25                      | 12.179             |         |
| 10,200.00                                                                                   | 9,455.00               | 10,254.42              | 9,455.00               | 36.11     | 37.88  | -89.98                             | -1,034.37                               | 842.26        | 879.94                  | 807.12                   | 72.83                      | 12.083             |         |
| 10,250.00                                                                                   | 9,455.00               | 10,304.42              | 9,455.00               | 36.42     | 38.17  | -89.98                             | -1,084.37                               | 842.58        | 879.94                  | 806.51                   | 73.43                      | 11.983             |         |
| 10,300.00                                                                                   | 9,455.00               | 10,354.42              | 9,455.00               | 36.72     | 38.47  | -89.98                             | -1,134.37                               | 842.90        | 879.94                  | 805.89                   | 74.05                      | 11.882             |         |
| 10,350.00                                                                                   | 9,455.00               | 10,404.42              | 9,455.00               | 37.06     | 38.78  | -89.98                             | -1,184.37                               | 843.22        | 879.94                  | 805.24                   | 74.70                      | 11.779             |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 526H - Wellbore #1 - Permit Plan 1 |                           |                           |                           |                 |        |                      |                        |               |                            |                             |                       |                      | Offset Site Error:      0.00 ft |  |
|--------------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-----------------|--------|----------------------|------------------------|---------------|----------------------------|-----------------------------|-----------------------|----------------------|---------------------------------|--|
| Survey Program:      O-MWD+HDGM                                                                  |                           |                           |                           |                 |        |                      |                        |               |                            |                             |                       |                      | Offset Well Error:      0.50 ft |  |
| Reference                                                                                        |                           | Offset                    |                           | Semi Major Axis |        | Highside<br>Toolface | Offset Wellbore Centre |               | Distance                   |                             | Minimum<br>Separation | Separation<br>Factor | Warning                         |  |
| Measured<br>Depth<br>(ft)                                                                        | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference       | Offset |                      | +N/-S<br>(ft)          | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                       |                      |                                 |  |
| 10,400.00                                                                                        | 9,455.00                  | 10,454.42                 | 9,455.00                  | 37.39           | 39.10  | -89.98               | -1,234.36              | 843.54        | 879.94                     | 804.57                      | 75.37                 | 11.675               |                                 |  |
| 10,450.00                                                                                        | 9,455.00                  | 10,504.42                 | 9,455.00                  | 37.74           | 39.43  | -89.98               | -1,284.36              | 843.86        | 879.94                     | 803.87                      | 76.07                 | 11.568               |                                 |  |
| 10,500.00                                                                                        | 9,455.00                  | 10,554.42                 | 9,455.00                  | 38.10           | 39.78  | -89.98               | -1,334.36              | 844.18        | 879.94                     | 803.16                      | 76.78                 | 11.461               |                                 |  |
| 10,550.00                                                                                        | 9,455.00                  | 10,604.42                 | 9,455.00                  | 38.47           | 40.13  | -89.98               | -1,384.36              | 844.50        | 879.94                     | 802.42                      | 77.52                 | 11.352               |                                 |  |
| 10,600.00                                                                                        | 9,455.00                  | 10,654.42                 | 9,455.00                  | 38.85           | 40.50  | -89.98               | -1,434.36              | 844.82        | 879.94                     | 801.67                      | 78.27                 | 11.242               |                                 |  |
| 10,650.00                                                                                        | 9,455.00                  | 10,704.42                 | 9,455.00                  | 39.24           | 40.87  | -89.98               | -1,484.36              | 845.14        | 879.94                     | 800.89                      | 79.05                 | 11.132               |                                 |  |
| 10,700.00                                                                                        | 9,455.00                  | 10,754.42                 | 9,455.00                  | 39.64           | 41.26  | -89.98               | -1,534.36              | 845.46        | 879.94                     | 800.10                      | 79.84                 | 11.021               |                                 |  |
| 10,750.00                                                                                        | 9,455.00                  | 10,804.42                 | 9,455.00                  | 40.05           | 41.65  | -89.98               | -1,584.36              | 845.78        | 879.94                     | 799.28                      | 80.65                 | 10.910               |                                 |  |
| 10,800.00                                                                                        | 9,455.00                  | 10,854.42                 | 9,455.00                  | 40.46           | 42.06  | -89.98               | -1,634.36              | 846.10        | 879.94                     | 798.45                      | 81.48                 | 10.799               |                                 |  |
| 10,850.00                                                                                        | 9,455.00                  | 10,904.42                 | 9,455.00                  | 40.89           | 42.47  | -89.98               | -1,684.36              | 846.42        | 879.94                     | 797.60                      | 82.33                 | 10.688               |                                 |  |
| 10,900.00                                                                                        | 9,455.00                  | 10,954.42                 | 9,455.00                  | 41.32           | 42.89  | -89.98               | -1,734.35              | 846.74        | 879.93                     | 796.74                      | 83.20                 | 10.577               |                                 |  |
| 10,950.00                                                                                        | 9,455.00                  | 11,004.42                 | 9,455.00                  | 41.77           | 43.32  | -89.98               | -1,784.35              | 847.06        | 879.93                     | 795.86                      | 84.08                 | 10.466               |                                 |  |
| 11,000.00                                                                                        | 9,455.00                  | 11,054.42                 | 9,455.00                  | 42.22           | 43.75  | -89.98               | -1,834.35              | 847.38        | 879.93                     | 794.96                      | 84.97                 | 10.355               |                                 |  |
| 11,050.00                                                                                        | 9,455.00                  | 11,104.42                 | 9,455.00                  | 42.68           | 44.20  | -89.98               | -1,884.35              | 847.70        | 879.93                     | 794.05                      | 85.89                 | 10.245               |                                 |  |
| 11,100.00                                                                                        | 9,455.00                  | 11,154.42                 | 9,455.00                  | 43.14           | 44.65  | -89.98               | -1,934.35              | 848.02        | 879.93                     | 793.12                      | 86.81                 | 10.136               |                                 |  |
| 11,150.00                                                                                        | 9,455.00                  | 11,204.42                 | 9,455.00                  | 43.62           | 45.10  | -89.98               | -1,984.35              | 848.34        | 879.93                     | 792.18                      | 87.76                 | 10.027               |                                 |  |
| 11,200.00                                                                                        | 9,455.00                  | 11,254.42                 | 9,455.00                  | 44.10           | 45.57  | -89.98               | -2,034.35              | 848.66        | 879.93                     | 791.22                      | 88.71                 | 9.919                |                                 |  |
| 11,250.00                                                                                        | 9,455.00                  | 11,304.42                 | 9,455.00                  | 44.59           | 46.04  | -89.98               | -2,084.35              | 848.98        | 879.93                     | 790.25                      | 89.68                 | 9.812                |                                 |  |
| 11,300.00                                                                                        | 9,455.00                  | 11,354.42                 | 9,455.00                  | 45.08           | 46.52  | -89.98               | -2,134.35              | 849.30        | 879.93                     | 789.27                      | 90.66                 | 9.705                |                                 |  |
| 11,350.00                                                                                        | 9,455.00                  | 11,404.42                 | 9,455.00                  | 45.58           | 47.01  | -89.98               | -2,184.35              | 849.62        | 879.93                     | 788.27                      | 91.66                 | 9.600                |                                 |  |
| 11,400.00                                                                                        | 9,455.00                  | 11,454.42                 | 9,455.00                  | 46.08           | 47.50  | -89.98               | -2,234.34              | 849.93        | 879.93                     | 787.26                      | 92.67                 | 9.496                |                                 |  |
| 11,450.00                                                                                        | 9,455.00                  | 11,504.42                 | 9,455.00                  | 46.60           | 48.00  | -89.98               | -2,284.34              | 850.25        | 879.93                     | 786.24                      | 93.69                 | 9.392                |                                 |  |
| 11,500.00                                                                                        | 9,455.00                  | 11,554.42                 | 9,455.00                  | 47.11           | 48.50  | -89.98               | -2,334.34              | 850.57        | 879.93                     | 785.21                      | 94.72                 | 9.290                |                                 |  |
| 11,550.00                                                                                        | 9,455.00                  | 11,604.42                 | 9,455.00                  | 47.64           | 49.01  | -89.98               | -2,384.34              | 850.89        | 879.93                     | 784.17                      | 95.76                 | 9.189                |                                 |  |
| 11,600.00                                                                                        | 9,455.00                  | 11,654.42                 | 9,455.00                  | 48.16           | 49.53  | -89.98               | -2,434.34              | 851.21        | 879.93                     | 783.12                      | 96.81                 | 9.089                |                                 |  |
| 11,650.00                                                                                        | 9,455.00                  | 11,704.42                 | 9,455.00                  | 48.70           | 50.04  | -89.98               | -2,484.34              | 851.53        | 879.93                     | 782.05                      | 97.87                 | 8.991                |                                 |  |
| 11,700.00                                                                                        | 9,455.00                  | 11,754.42                 | 9,455.00                  | 49.24           | 50.57  | -89.98               | -2,534.34              | 851.85        | 879.93                     | 780.98                      | 98.95                 | 8.893                |                                 |  |
| 11,750.00                                                                                        | 9,455.00                  | 11,804.42                 | 9,455.00                  | 49.78           | 51.10  | -89.98               | -2,584.34              | 852.17        | 879.92                     | 779.90                      | 100.03                | 8.797                |                                 |  |
| 11,800.00                                                                                        | 9,455.00                  | 11,854.42                 | 9,455.00                  | 50.33           | 51.64  | -89.98               | -2,634.34              | 852.49        | 879.92                     | 778.80                      | 101.12                | 8.702                |                                 |  |
| 11,850.00                                                                                        | 9,455.00                  | 11,904.42                 | 9,455.00                  | 50.88           | 52.18  | -89.98               | -2,684.34              | 852.81        | 879.92                     | 777.70                      | 102.22                | 8.608                |                                 |  |
| 11,900.00                                                                                        | 9,455.00                  | 11,954.42                 | 9,455.00                  | 51.44           | 52.72  | -89.98               | -2,734.33              | 853.13        | 879.92                     | 776.59                      | 103.33                | 8.516                |                                 |  |
| 11,950.00                                                                                        | 9,455.00                  | 12,004.42                 | 9,455.00                  | 52.00           | 53.27  | -89.98               | -2,784.33              | 853.45        | 879.92                     | 775.47                      | 104.45                | 8.424                |                                 |  |
| 12,000.00                                                                                        | 9,455.00                  | 12,054.42                 | 9,455.00                  | 52.57           | 53.82  | -89.98               | -2,834.33              | 853.77        | 879.92                     | 774.35                      | 105.58                | 8.334                |                                 |  |
| 12,050.00                                                                                        | 9,455.00                  | 12,104.42                 | 9,455.00                  | 53.14           | 54.38  | -89.98               | -2,884.33              | 854.09        | 879.92                     | 773.21                      | 106.71                | 8.246                |                                 |  |
| 12,100.00                                                                                        | 9,455.00                  | 12,154.42                 | 9,455.00                  | 53.71           | 54.94  | -89.98               | -2,934.33              | 854.41        | 879.92                     | 772.07                      | 107.85                | 8.158                |                                 |  |
| 12,150.00                                                                                        | 9,455.00                  | 12,204.42                 | 9,455.00                  | 54.29           | 55.50  | -89.98               | -2,984.33              | 854.73        | 879.92                     | 770.92                      | 109.00                | 8.072                |                                 |  |
| 12,200.00                                                                                        | 9,455.00                  | 12,254.42                 | 9,455.00                  | 54.87           | 56.07  | -89.98               | -3,034.33              | 855.05        | 879.92                     | 769.76                      | 110.16                | 7.988                |                                 |  |
| 12,250.00                                                                                        | 9,455.00                  | 12,304.42                 | 9,455.00                  | 55.45           | 56.65  | -89.98               | -3,084.33              | 855.37        | 879.92                     | 768.59                      | 111.33                | 7.904                |                                 |  |
| 12,300.00                                                                                        | 9,455.00                  | 12,354.42                 | 9,455.00                  | 56.04           | 57.22  | -89.98               | -3,134.33              | 855.69        | 879.92                     | 767.42                      | 112.50                | 7.822                |                                 |  |
| 12,350.00                                                                                        | 9,455.00                  | 12,404.42                 | 9,455.00                  | 56.63           | 57.80  | -89.98               | -3,184.33              | 856.01        | 879.92                     | 766.24                      | 113.67                | 7.741                |                                 |  |
| 12,400.00                                                                                        | 9,455.00                  | 12,454.42                 | 9,455.00                  | 57.22           | 58.39  | -89.98               | -3,234.32              | 856.33        | 879.92                     | 765.06                      | 114.88                | 7.661                |                                 |  |
| 12,450.00                                                                                        | 9,455.00                  | 12,504.42                 | 9,455.00                  | 57.82           | 58.97  | -89.98               | -3,284.32              | 856.65        | 879.92                     | 763.87                      | 116.05                | 7.582                |                                 |  |
| 12,500.00                                                                                        | 9,455.00                  | 12,554.42                 | 9,455.00                  | 58.42           | 59.56  | -89.98               | -3,334.32              | 856.97        | 879.92                     | 762.67                      | 117.25                | 7.505                |                                 |  |
| 12,550.00                                                                                        | 9,455.00                  | 12,604.42                 | 9,455.00                  | 59.02           | 60.15  | -89.98               | -3,384.32              | 857.29        | 879.92                     | 761.47                      | 118.45                | 7.429                |                                 |  |
| 12,600.00                                                                                        | 9,455.00                  | 12,654.42                 | 9,455.00                  | 59.63           | 60.75  | -89.98               | -3,434.32              | 857.61        | 879.92                     | 760.26                      | 119.66                | 7.354                |                                 |  |
| 12,650.00                                                                                        | 9,455.00                  | 12,704.42                 | 9,455.00                  | 60.24           | 61.35  | -89.98               | -3,484.32              | 857.92        | 879.91                     | 759.04                      | 120.87                | 7.280                |                                 |  |
| 12,700.00                                                                                        | 9,455.00                  | 12,754.42                 | 9,455.00                  | 60.85           | 61.95  | -89.98               | -3,534.32              | 858.24        | 879.91                     | 757.82                      | 122.09                | 7.207                |                                 |  |
| 12,750.00                                                                                        | 9,455.00                  | 12,804.42                 | 9,455.00                  | 61.46           | 62.55  | -89.98               | -3,584.32              | 858.56        | 879.91                     | 756.60                      | 123.31                | 7.136                |                                 |  |
| 12,800.00                                                                                        | 9,455.00                  | 12,854.42                 | 9,455.00                  | 62.08           | 63.16  | -89.98               | -3,634.32              | 858.88        | 879.91                     | 755.37                      | 124.54                | 7.065                |                                 |  |
| 12,850.00                                                                                        | 9,455.00                  | 12,904.42                 | 9,455.00                  | 62.70           | 63.76  | -89.98               | -3,684.31              | 859.20        | 879.91                     | 754.14                      | 125.78                | 6.996                |                                 |  |
| 12,900.00                                                                                        | 9,455.00                  | 12,954.42                 | 9,455.00                  | 63.32           | 64.38  | -89.98               | -3,734.31              | 859.52        | 879.91                     | 752.90                      | 127.02                | 6.928                |                                 |  |
| 12,950.00                                                                                        | 9,455.00                  | 13,004.42                 | 9,455.00                  | 63.94           | 64.99  | -89.98               | -3,784.31              | 859.84        | 879.91                     | 751.65                      | 128.26                | 6.860                |                                 |  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design              |                     |                     |                     |                 |             |                       |                        |            |                      |                       |                         |                   | Offset Site Error: |  | 0.00 ft |
|----------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--|---------|
| Survey Program: 0-MWD+HDGM |                     |                     |                     |                 |             |                       |                        |            |                      |                       |                         |                   | Offset Well Error: |  | 0.50 ft |
| Reference                  |                     | Offset              |                     | Semi Major Axis |             | Highside Toolface (°) | Offset Wellbore Centre |            | Distance             |                       | Minimum Separation (ft) | Separation Factor | Warning            |  |         |
| Measured Depth (ft)        | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) |                       | +N/-S (ft)             | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) |                         |                   |                    |  |         |
| 13,000.00                  | 9,455.00            | 13,054.42           | 9,455.00            | 64.57           | 65.61       | -89.98                | -3,834.31              | 860.16     | 879.91               | 750.40                | 129.51                  | 6.794             |                    |  |         |
| 13,050.00                  | 9,455.00            | 13,104.42           | 9,455.00            | 65.19           | 66.22       | -89.98                | -3,884.31              | 860.48     | 879.91               | 749.15                | 130.76                  | 6.729             |                    |  |         |
| 13,100.00                  | 9,455.00            | 13,154.42           | 9,455.00            | 65.82           | 66.85       | -89.98                | -3,934.31              | 860.80     | 879.91               | 747.89                | 132.02                  | 6.665             |                    |  |         |
| 13,150.00                  | 9,455.00            | 13,204.42           | 9,455.00            | 66.46           | 67.47       | -89.98                | -3,984.31              | 861.12     | 879.91               | 746.63                | 133.28                  | 6.602             |                    |  |         |
| 13,200.00                  | 9,455.00            | 13,254.42           | 9,455.00            | 67.09           | 68.09       | -89.98                | -4,034.31              | 861.44     | 879.91               | 745.37                | 134.54                  | 6.540             |                    |  |         |
| 13,250.00                  | 9,455.00            | 13,304.42           | 9,455.00            | 67.73           | 68.72       | -89.98                | -4,084.31              | 861.76     | 879.91               | 744.10                | 135.81                  | 6.479             |                    |  |         |
| 13,300.00                  | 9,455.00            | 13,354.42           | 9,455.00            | 68.36           | 69.35       | -89.98                | -4,134.31              | 862.08     | 879.91               | 742.83                | 137.08                  | 6.419             |                    |  |         |
| 13,350.00                  | 9,455.00            | 13,404.42           | 9,455.00            | 69.00           | 69.98       | -89.98                | -4,184.30              | 862.40     | 879.91               | 741.55                | 138.36                  | 6.360             |                    |  |         |
| 13,400.00                  | 9,455.00            | 13,454.42           | 9,455.00            | 69.64           | 70.61       | -89.98                | -4,234.30              | 862.72     | 879.91               | 740.27                | 139.64                  | 6.301             |                    |  |         |
| 13,450.00                  | 9,455.00            | 13,504.42           | 9,455.00            | 70.29           | 71.25       | -89.98                | -4,284.30              | 863.04     | 879.91               | 738.99                | 140.92                  | 6.244             |                    |  |         |
| 13,500.00                  | 9,455.00            | 13,554.42           | 9,455.00            | 70.93           | 71.88       | -89.98                | -4,334.30              | 863.36     | 879.90               | 737.70                | 142.20                  | 6.188             |                    |  |         |
| 13,550.00                  | 9,455.00            | 13,604.42           | 9,455.00            | 71.58           | 72.52       | -89.98                | -4,384.30              | 863.68     | 879.90               | 736.41                | 143.49                  | 6.132             |                    |  |         |
| 13,600.00                  | 9,455.00            | 13,654.42           | 9,455.00            | 72.22           | 73.16       | -89.98                | -4,434.30              | 864.00     | 879.90               | 735.12                | 144.79                  | 6.077             |                    |  |         |
| 13,650.00                  | 9,455.00            | 13,704.42           | 9,455.00            | 72.87           | 73.80       | -89.98                | -4,484.30              | 864.32     | 879.90               | 733.82                | 146.08                  | 6.023             |                    |  |         |
| 13,700.00                  | 9,455.00            | 13,754.42           | 9,455.00            | 73.52           | 74.45       | -89.98                | -4,534.30              | 864.64     | 879.90               | 732.52                | 147.38                  | 5.970             |                    |  |         |
| 13,750.00                  | 9,455.00            | 13,804.42           | 9,455.00            | 74.18           | 75.09       | -89.98                | -4,584.30              | 864.96     | 879.90               | 731.22                | 148.68                  | 5.918             |                    |  |         |
| 13,800.00                  | 9,455.00            | 13,854.42           | 9,455.00            | 74.83           | 75.74       | -89.98                | -4,634.30              | 865.28     | 879.90               | 729.91                | 149.99                  | 5.866             |                    |  |         |
| 13,850.00                  | 9,455.00            | 13,904.42           | 9,455.00            | 75.48           | 76.38       | -89.98                | -4,684.29              | 865.60     | 879.90               | 728.61                | 151.30                  | 5.816             |                    |  |         |
| 13,900.00                  | 9,455.00            | 13,954.42           | 9,455.00            | 76.14           | 77.03       | -89.98                | -4,734.29              | 865.92     | 879.90               | 727.30                | 152.61                  | 5.766             |                    |  |         |
| 13,950.00                  | 9,455.00            | 14,004.42           | 9,455.00            | 76.80           | 77.68       | -89.98                | -4,784.29              | 866.23     | 879.90               | 725.98                | 153.92                  | 5.717             |                    |  |         |
| 14,000.00                  | 9,455.00            | 14,054.42           | 9,455.00            | 77.46           | 78.34       | -89.98                | -4,834.29              | 866.55     | 879.90               | 724.67                | 155.23                  | 5.668             |                    |  |         |
| 14,050.00                  | 9,455.00            | 14,104.42           | 9,455.00            | 78.12           | 78.99       | -89.98                | -4,884.29              | 866.87     | 879.90               | 723.35                | 156.55                  | 5.621             |                    |  |         |
| 14,100.00                  | 9,455.00            | 14,154.42           | 9,455.00            | 78.78           | 79.64       | -89.98                | -4,934.29              | 867.19     | 879.90               | 722.03                | 157.87                  | 5.574             |                    |  |         |
| 14,150.00                  | 9,455.00            | 14,204.42           | 9,455.00            | 79.44           | 80.30       | -89.98                | -4,984.29              | 867.51     | 879.90               | 720.70                | 159.19                  | 5.527             |                    |  |         |
| 14,200.00                  | 9,455.00            | 14,254.42           | 9,455.00            | 80.10           | 80.96       | -89.98                | -5,034.29              | 867.83     | 879.90               | 719.38                | 160.52                  | 5.482             |                    |  |         |
| 14,250.00                  | 9,455.00            | 14,304.42           | 9,455.00            | 80.77           | 81.61       | -89.98                | -5,084.29              | 868.15     | 879.90               | 718.05                | 161.85                  | 5.437             |                    |  |         |
| 14,300.00                  | 9,455.00            | 14,354.42           | 9,455.00            | 81.43           | 82.27       | -89.98                | -5,134.29              | 868.47     | 879.90               | 716.72                | 163.18                  | 5.392             |                    |  |         |
| 14,350.00                  | 9,455.00            | 14,404.42           | 9,455.00            | 82.10           | 82.93       | -89.98                | -5,184.28              | 868.79     | 879.90               | 715.39                | 164.51                  | 5.349             |                    |  |         |
| 14,400.00                  | 9,455.00            | 14,454.42           | 9,455.00            | 82.77           | 83.60       | -89.98                | -5,234.28              | 869.11     | 879.89               | 714.05                | 165.84                  | 5.306             |                    |  |         |
| 14,450.00                  | 9,455.00            | 14,504.42           | 9,455.00            | 83.44           | 84.26       | -89.98                | -5,284.28              | 869.43     | 879.89               | 712.72                | 167.18                  | 5.263             |                    |  |         |
| 14,500.00                  | 9,455.00            | 14,554.42           | 9,455.00            | 84.11           | 84.92       | -89.98                | -5,334.28              | 869.75     | 879.89               | 711.38                | 168.52                  | 5.221             |                    |  |         |
| 14,550.00                  | 9,455.00            | 14,604.42           | 9,455.00            | 84.78           | 85.59       | -89.98                | -5,384.28              | 870.07     | 879.89               | 710.04                | 169.86                  | 5.180             |                    |  |         |
| 14,600.00                  | 9,455.00            | 14,654.42           | 9,455.00            | 85.45           | 86.25       | -89.98                | -5,434.28              | 870.39     | 879.89               | 708.70                | 171.20                  | 5.140             |                    |  |         |
| 14,650.00                  | 9,455.00            | 14,704.42           | 9,455.00            | 86.12           | 86.92       | -89.98                | -5,484.28              | 870.71     | 879.89               | 707.35                | 172.54                  | 5.100             |                    |  |         |
| 14,700.00                  | 9,455.00            | 14,754.42           | 9,455.00            | 86.80           | 87.59       | -89.98                | -5,534.28              | 871.03     | 879.89               | 706.00                | 173.89                  | 5.060             |                    |  |         |
| 14,750.00                  | 9,455.00            | 14,804.42           | 9,455.00            | 87.47           | 88.26       | -89.98                | -5,584.28              | 871.35     | 879.89               | 704.68                | 175.23                  | 5.021             |                    |  |         |
| 14,800.00                  | 9,455.00            | 14,854.42           | 9,455.00            | 88.15           | 88.93       | -89.98                | -5,634.28              | 871.67     | 879.89               | 703.31                | 176.58                  | 4.983 Alert       |                    |  |         |
| 14,850.00                  | 9,455.00            | 14,904.42           | 9,455.00            | 88.82           | 89.60       | -89.98                | -5,684.27              | 871.99     | 879.89               | 701.96                | 177.93                  | 4.945 Alert       |                    |  |         |
| 14,900.00                  | 9,455.00            | 14,954.42           | 9,455.00            | 89.50           | 90.27       | -89.98                | -5,734.27              | 872.31     | 879.89               | 700.60                | 179.29                  | 4.908 Alert       |                    |  |         |
| 14,950.00                  | 9,455.00            | 15,004.42           | 9,455.00            | 90.18           | 90.94       | -89.98                | -5,784.27              | 872.63     | 879.89               | 699.25                | 180.64                  | 4.871 Alert       |                    |  |         |
| 15,000.00                  | 9,455.00            | 15,054.42           | 9,455.00            | 90.86           | 91.62       | -89.98                | -5,834.27              | 872.95     | 879.89               | 697.89                | 182.00                  | 4.835 Alert       |                    |  |         |
| 15,050.00                  | 9,455.00            | 15,104.42           | 9,455.00            | 91.54           | 92.29       | -89.98                | -5,884.27              | 873.27     | 879.89               | 696.53                | 183.35                  | 4.799 Alert       |                    |  |         |
| 15,100.00                  | 9,455.00            | 15,154.42           | 9,455.00            | 92.22           | 92.97       | -89.98                | -5,934.27              | 873.59     | 879.89               | 695.17                | 184.71                  | 4.764 Alert       |                    |  |         |
| 15,150.00                  | 9,455.00            | 15,204.42           | 9,455.00            | 92.90           | 93.64       | -89.98                | -5,984.27              | 873.91     | 879.89               | 693.81                | 186.07                  | 4.729 Alert       |                    |  |         |
| 15,200.00                  | 9,455.00            | 15,254.42           | 9,455.00            | 93.58           | 94.32       | -89.98                | -6,034.27              | 874.22     | 879.89               | 692.45                | 187.43                  | 4.694 Alert       |                    |  |         |
| 15,250.00                  | 9,455.00            | 15,304.42           | 9,455.00            | 94.26           | 95.00       | -89.98                | -6,084.27              | 874.54     | 879.88               | 691.09                | 188.80                  | 4.660 Alert       |                    |  |         |
| 15,300.00                  | 9,455.00            | 15,354.42           | 9,455.00            | 94.94           | 95.67       | -89.98                | -6,134.26              | 874.86     | 879.88               | 689.72                | 190.16                  | 4.627 Alert       |                    |  |         |
| 15,350.00                  | 9,455.00            | 15,404.42           | 9,455.00            | 95.63           | 96.35       | -89.98                | -6,184.26              | 875.18     | 879.88               | 688.36                | 191.53                  | 4.594 Alert       |                    |  |         |
| 15,400.00                  | 9,455.00            | 15,454.42           | 9,455.00            | 96.31           | 97.03       | -89.98                | -6,234.26              | 875.50     | 879.88               | 686.99                | 192.90                  | 4.561 Alert       |                    |  |         |
| 15,450.00                  | 9,455.00            | 15,504.42           | 9,455.00            | 97.00           | 97.71       | -89.98                | -6,284.26              | 875.82     | 879.88               | 685.62                | 194.26                  | 4.529 Alert       |                    |  |         |
| 15,500.00                  | 9,455.00            | 15,554.42           | 9,455.00            | 97.68           | 98.39       | -89.98                | -6,334.26              | 876.14     | 879.88               | 684.25                | 195.63                  | 4.498 Alert       |                    |  |         |
| 15,550.00                  | 9,455.00            | 15,604.42           | 9,455.00            | 98.37           | 99.08       | -89.98                | -6,384.26              | 876.46     | 879.88               | 682.88                | 197.00                  | 4.466 Alert       |                    |  |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 526H - Wellbore #1 - Permit Plan 1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       | Offset Site Error:      0.00 ft |         |                   |
|--------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|---------------------------------|---------|-------------------|
| Survey Program:      0-MWD+HDGM                                                                  |                     |                     |                     |                 |             |                       |                                   |            |                      |                       | Offset Well Error:      0.50 ft |         |                   |
| Reference                                                                                        |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                                 | Warning |                   |
| Measured Depth (ft)                                                                              | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft)         |         | Separation Factor |
| 15,600.00                                                                                        | 9,455.00            | 15,654.42           | 9,455.00            | 99.06           | 99.76       | -89.98                | -6,434.26                         | 876.78     | 879.88               | 681.50                | 198.38                          | 4.435   | Alert             |
| 15,650.00                                                                                        | 9,455.00            | 15,704.42           | 9,455.00            | 99.74           | 100.44      | -89.98                | -6,484.26                         | 877.10     | 879.88               | 680.13                | 199.75                          | 4.405   | Alert             |
| 15,700.00                                                                                        | 9,455.00            | 15,754.42           | 9,455.00            | 100.43          | 101.13      | -89.98                | -6,534.26                         | 877.42     | 879.88               | 678.75                | 201.13                          | 4.375   | Alert             |
| 15,750.00                                                                                        | 9,455.00            | 15,804.42           | 9,455.00            | 101.12          | 101.81      | -89.98                | -6,584.26                         | 877.74     | 879.88               | 677.38                | 202.50                          | 4.345   | Alert             |
| 15,800.00                                                                                        | 9,455.00            | 15,854.42           | 9,455.00            | 101.81          | 102.50      | -89.98                | -6,634.25                         | 878.06     | 879.88               | 676.00                | 203.88                          | 4.316   | Alert             |
| 15,850.00                                                                                        | 9,455.00            | 15,904.42           | 9,455.00            | 102.50          | 103.18      | -89.98                | -6,684.25                         | 878.38     | 879.88               | 674.62                | 205.26                          | 4.287   | Alert             |
| 15,900.00                                                                                        | 9,455.00            | 15,954.42           | 9,455.00            | 103.19          | 103.87      | -89.98                | -6,734.25                         | 878.70     | 879.88               | 673.24                | 206.64                          | 4.258   | Alert             |
| 15,950.00                                                                                        | 9,455.00            | 16,004.42           | 9,455.00            | 103.88          | 104.55      | -89.98                | -6,784.25                         | 879.02     | 879.88               | 671.86                | 208.02                          | 4.230   | Alert             |
| 16,000.00                                                                                        | 9,455.00            | 16,054.42           | 9,455.00            | 104.57          | 105.24      | -89.98                | -6,834.25                         | 879.34     | 879.88               | 670.48                | 209.40                          | 4.202   | Alert             |
| 16,050.00                                                                                        | 9,455.00            | 16,104.42           | 9,455.00            | 105.26          | 105.93      | -89.98                | -6,884.25                         | 879.66     | 879.88               | 669.10                | 210.78                          | 4.174   | Alert             |
| 16,100.00                                                                                        | 9,455.00            | 16,154.42           | 9,455.00            | 105.96          | 106.62      | -89.98                | -6,934.25                         | 879.98     | 879.88               | 667.71                | 212.16                          | 4.147   | Alert             |
| 16,150.00                                                                                        | 9,455.00            | 16,204.42           | 9,455.00            | 106.65          | 107.31      | -89.98                | -6,984.25                         | 880.30     | 879.87               | 666.33                | 213.55                          | 4.120   | Alert             |
| 16,200.00                                                                                        | 9,455.00            | 16,254.42           | 9,455.00            | 107.34          | 108.00      | -89.98                | -7,034.25                         | 880.62     | 879.87               | 664.94                | 214.93                          | 4.094   | Alert             |
| 16,250.00                                                                                        | 9,455.00            | 16,304.42           | 9,455.00            | 108.04          | 108.69      | -89.98                | -7,084.25                         | 880.94     | 879.87               | 663.55                | 216.32                          | 4.067   | Alert             |
| 16,300.00                                                                                        | 9,455.00            | 16,354.42           | 9,455.00            | 108.73          | 109.38      | -89.98                | -7,134.24                         | 881.26     | 879.87               | 662.17                | 217.71                          | 4.042   | Alert             |
| 16,350.00                                                                                        | 9,455.00            | 16,404.42           | 9,455.00            | 109.43          | 110.07      | -89.98                | -7,184.24                         | 881.58     | 879.87               | 660.78                | 219.10                          | 4.016   | Alert             |
| 16,400.00                                                                                        | 9,455.00            | 16,454.42           | 9,455.00            | 110.12          | 110.76      | -89.98                | -7,234.24                         | 881.90     | 879.87               | 659.39                | 220.48                          | 3.991   | Alert             |
| 16,450.00                                                                                        | 9,455.00            | 16,504.42           | 9,455.00            | 110.82          | 111.45      | -89.98                | -7,284.24                         | 882.21     | 879.87               | 658.00                | 221.87                          | 3.966   | Alert             |
| 16,500.00                                                                                        | 9,455.00            | 16,554.42           | 9,455.00            | 111.51          | 112.14      | -89.98                | -7,334.24                         | 882.53     | 879.87               | 656.61                | 223.27                          | 3.941   | Alert             |
| 16,550.00                                                                                        | 9,455.00            | 16,604.42           | 9,455.00            | 112.21          | 112.84      | -89.98                | -7,384.24                         | 882.85     | 879.87               | 655.21                | 224.66                          | 3.917   | Alert             |
| 16,600.00                                                                                        | 9,455.00            | 16,654.42           | 9,455.00            | 112.91          | 113.53      | -89.98                | -7,434.24                         | 883.17     | 879.87               | 653.82                | 226.05                          | 3.892   | Alert             |
| 16,650.00                                                                                        | 9,455.00            | 16,704.42           | 9,455.00            | 113.60          | 114.22      | -89.98                | -7,484.24                         | 883.49     | 879.87               | 652.43                | 227.44                          | 3.869   | Alert             |
| 16,700.00                                                                                        | 9,455.00            | 16,754.42           | 9,455.00            | 114.30          | 114.92      | -89.98                | -7,534.24                         | 883.81     | 879.87               | 651.03                | 228.84                          | 3.845   | Alert             |
| 16,750.00                                                                                        | 9,455.00            | 16,804.42           | 9,455.00            | 115.00          | 115.61      | -89.98                | -7,584.24                         | 884.13     | 879.87               | 649.64                | 230.23                          | 3.822   | Alert             |
| 16,800.00                                                                                        | 9,455.00            | 16,854.42           | 9,455.00            | 115.70          | 116.31      | -89.98                | -7,634.23                         | 884.45     | 879.87               | 648.24                | 231.63                          | 3.799   | Alert             |
| 16,850.00                                                                                        | 9,455.00            | 16,904.42           | 9,455.00            | 116.40          | 117.00      | -89.98                | -7,684.23                         | 884.77     | 879.87               | 646.84                | 233.02                          | 3.776   | Alert             |
| 16,900.00                                                                                        | 9,455.00            | 16,954.42           | 9,455.00            | 117.09          | 117.70      | -89.98                | -7,734.23                         | 885.09     | 879.87               | 645.45                | 234.42                          | 3.753   | Alert             |
| 16,950.00                                                                                        | 9,455.00            | 17,004.42           | 9,455.00            | 117.79          | 118.39      | -89.98                | -7,784.23                         | 885.41     | 879.87               | 644.05                | 235.82                          | 3.731   | Alert             |
| 17,000.00                                                                                        | 9,455.00            | 17,054.42           | 9,455.00            | 118.49          | 119.09      | -89.98                | -7,834.23                         | 885.73     | 879.86               | 642.65                | 237.22                          | 3.709   | Alert             |
| 17,050.00                                                                                        | 9,455.00            | 17,104.42           | 9,455.00            | 119.19          | 119.79      | -89.98                | -7,884.23                         | 886.05     | 879.86               | 641.25                | 238.62                          | 3.687   | Alert             |
| 17,100.00                                                                                        | 9,455.00            | 17,154.42           | 9,455.00            | 119.90          | 120.49      | -89.98                | -7,934.23                         | 886.37     | 879.86               | 639.85                | 240.02                          | 3.666   | Alert             |
| 17,150.00                                                                                        | 9,455.00            | 17,204.42           | 9,455.00            | 120.60          | 121.18      | -89.98                | -7,984.23                         | 886.69     | 879.86               | 638.45                | 241.42                          | 3.645   | Alert             |
| 17,200.00                                                                                        | 9,455.00            | 17,254.42           | 9,455.00            | 121.30          | 121.88      | -89.98                | -8,034.23                         | 887.01     | 879.86               | 637.04                | 242.82                          | 3.624   | Alert             |
| 17,250.00                                                                                        | 9,455.00            | 17,304.42           | 9,455.00            | 122.00          | 122.58      | -89.98                | -8,084.23                         | 887.33     | 879.86               | 635.64                | 244.22                          | 3.603   | Alert             |
| 17,300.00                                                                                        | 9,455.00            | 17,354.42           | 9,455.00            | 122.70          | 123.28      | -89.98                | -8,134.22                         | 887.65     | 879.86               | 634.24                | 245.62                          | 3.582   | Alert             |
| 17,350.00                                                                                        | 9,455.00            | 17,404.42           | 9,455.00            | 123.40          | 123.98      | -89.98                | -8,184.22                         | 887.97     | 879.86               | 632.83                | 247.03                          | 3.562   | Alert             |
| 17,400.00                                                                                        | 9,455.00            | 17,454.42           | 9,455.00            | 124.11          | 124.68      | -89.98                | -8,234.22                         | 888.29     | 879.86               | 631.43                | 248.43                          | 3.542   | Alert             |
| 17,450.00                                                                                        | 9,455.00            | 17,504.42           | 9,455.00            | 124.81          | 125.38      | -89.98                | -8,284.22                         | 888.61     | 879.86               | 630.02                | 249.84                          | 3.522   | Alert             |
| 17,500.00                                                                                        | 9,455.00            | 17,554.42           | 9,455.00            | 125.51          | 126.08      | -89.98                | -8,334.22                         | 888.93     | 879.86               | 628.62                | 251.24                          | 3.502   | Alert             |
| 17,550.00                                                                                        | 9,455.00            | 17,604.42           | 9,455.00            | 126.21          | 126.78      | -89.98                | -8,384.22                         | 889.25     | 879.86               | 627.21                | 252.65                          | 3.483   | Alert             |
| 17,600.00                                                                                        | 9,455.00            | 17,654.42           | 9,455.00            | 126.92          | 127.48      | -89.98                | -8,434.22                         | 889.57     | 879.86               | 625.81                | 254.05                          | 3.463   | Alert             |
| 17,650.00                                                                                        | 9,455.00            | 17,704.42           | 9,455.00            | 127.62          | 128.18      | -89.98                | -8,484.22                         | 889.89     | 879.86               | 624.40                | 255.46                          | 3.444   | Alert             |
| 17,700.00                                                                                        | 9,455.00            | 17,754.42           | 9,455.00            | 128.33          | 128.88      | -89.98                | -8,534.22                         | 890.21     | 879.86               | 622.99                | 256.87                          | 3.425   | Alert             |
| 17,750.00                                                                                        | 9,455.00            | 17,804.42           | 9,455.00            | 129.03          | 129.58      | -89.98                | -8,584.21                         | 890.52     | 879.86               | 621.58                | 258.28                          | 3.407   | Alert             |
| 17,800.00                                                                                        | 9,455.00            | 17,854.42           | 9,455.00            | 129.74          | 130.29      | -89.98                | -8,634.21                         | 890.84     | 879.86               | 620.17                | 259.68                          | 3.388   | Alert             |
| 17,850.00                                                                                        | 9,455.00            | 17,904.42           | 9,455.00            | 130.44          | 130.99      | -89.98                | -8,684.21                         | 891.16     | 879.86               | 618.76                | 261.09                          | 3.370   | Alert             |
| 17,900.00                                                                                        | 9,455.00            | 17,954.42           | 9,455.00            | 131.15          | 131.69      | -89.98                | -8,734.21                         | 891.48     | 879.85               | 617.35                | 262.50                          | 3.352   | Alert             |
| 17,950.00                                                                                        | 9,455.00            | 18,004.42           | 9,455.00            | 131.85          | 132.39      | -89.98                | -8,784.21                         | 891.80     | 879.85               | 615.94                | 263.91                          | 3.334   | Alert             |
| 18,000.00                                                                                        | 9,455.00            | 18,054.42           | 9,455.00            | 132.56          | 133.10      | -89.98                | -8,834.21                         | 892.12     | 879.85               | 614.53                | 265.32                          | 3.316   | Alert             |
| 18,050.00                                                                                        | 9,455.00            | 18,104.42           | 9,455.00            | 133.26          | 133.80      | -89.98                | -8,884.21                         | 892.44     | 879.85               | 613.12                | 266.74                          | 3.299   | Alert             |
| 18,100.00                                                                                        | 9,455.00            | 18,154.42           | 9,455.00            | 133.97          | 134.50      | -89.98                | -8,934.21                         | 892.76     | 879.85               | 611.71                | 268.15                          | 3.281   | Alert             |
| 18,150.00                                                                                        | 9,455.00            | 18,204.42           | 9,455.00            | 134.68          | 135.21      | -89.98                | -8,984.21                         | 893.08     | 879.85               | 610.29                | 269.56                          | 3.264   | Alert             |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Alley Cat 17-20 Fed Com 526H - Wellbore #1 - Permit Plan 1 |                           |                           |                           |                 |        |                             |                                         |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft |
|---------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-----------------|--------|-----------------------------|-----------------------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|---------|
| Survey Program: 0-MWD+HDGM                                                                  |                           |                           |                           |                 |        |                             |                                         |               |                            |                             |                               |                      | Offset Well Error: | 0.50 ft |
| Reference                                                                                   |                           | Offset                    |                           | Semi Major Axis |        | Highside<br>Toolface<br>(°) | Distance                                |               | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |         |
| Measured<br>Depth<br>(ft)                                                                   | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference       | Offset |                             | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) |                            |                             |                               |                      |                    |         |
| 18,200.00                                                                                   | 9,455.00                  | 18,254.42                 | 9,455.00                  | 135.38          | 135.91 | -89.98                      | -9,034.21                               | 893.40        | 879.85                     | 608.88                      | 270.97                        | 3.247                | Alert              |         |
| 18,250.00                                                                                   | 9,455.00                  | 18,304.42                 | 9,455.00                  | 136.09          | 136.62 | -89.98                      | -9,084.20                               | 893.72        | 879.85                     | 607.47                      | 272.38                        | 3.230                | Alert              |         |
| 18,300.00                                                                                   | 9,455.00                  | 18,354.42                 | 9,455.00                  | 136.80          | 137.32 | -89.98                      | -9,134.20                               | 894.04        | 879.85                     | 606.05                      | 273.80                        | 3.213                | Alert              |         |
| 18,350.00                                                                                   | 9,455.00                  | 18,404.42                 | 9,455.00                  | 137.50          | 138.03 | -89.98                      | -9,184.20                               | 894.36        | 879.85                     | 604.64                      | 275.21                        | 3.197                | Alert              |         |
| 18,400.00                                                                                   | 9,455.00                  | 18,454.42                 | 9,455.00                  | 138.21          | 138.73 | -89.98                      | -9,234.20                               | 894.68        | 879.85                     | 603.22                      | 276.63                        | 3.181                | Alert              |         |
| 18,450.00                                                                                   | 9,455.00                  | 18,504.42                 | 9,455.00                  | 138.92          | 139.44 | -89.98                      | -9,284.20                               | 895.00        | 879.85                     | 601.81                      | 278.04                        | 3.164                | Alert              |         |
| 18,500.00                                                                                   | 9,455.00                  | 18,554.42                 | 9,455.00                  | 139.63          | 140.14 | -89.98                      | -9,334.20                               | 895.32        | 879.85                     | 600.39                      | 279.46                        | 3.148                | Alert              |         |
| 18,550.00                                                                                   | 9,455.00                  | 18,604.42                 | 9,455.00                  | 140.34          | 140.85 | -89.98                      | -9,384.20                               | 895.64        | 879.85                     | 598.97                      | 280.87                        | 3.133                | Alert              |         |
| 18,600.00                                                                                   | 9,455.00                  | 18,654.42                 | 9,455.00                  | 141.04          | 141.55 | -89.98                      | -9,434.20                               | 895.96        | 879.85                     | 597.56                      | 282.29                        | 3.117                | Alert              |         |
| 18,650.00                                                                                   | 9,455.00                  | 18,704.42                 | 9,455.00                  | 141.75          | 142.26 | -89.98                      | -9,484.20                               | 896.28        | 879.85                     | 596.14                      | 283.71                        | 3.101                | Alert              |         |
| 18,700.00                                                                                   | 9,455.00                  | 18,754.42                 | 9,455.00                  | 142.46          | 142.97 | -89.98                      | -9,534.20                               | 896.60        | 879.85                     | 594.72                      | 285.12                        | 3.086                | Alert              |         |
| 18,750.00                                                                                   | 9,455.00                  | 18,804.42                 | 9,455.00                  | 143.17          | 143.67 | -89.98                      | -9,584.19                               | 896.92        | 879.85                     | 593.30                      | 286.54                        | 3.071                | Alert              |         |
| 18,800.00                                                                                   | 9,455.00                  | 18,854.42                 | 9,455.00                  | 143.88          | 144.38 | -89.98                      | -9,634.19                               | 897.24        | 879.84                     | 591.89                      | 287.96                        | 3.055                | Alert              |         |
| 18,850.00                                                                                   | 9,455.00                  | 18,904.42                 | 9,455.00                  | 144.59          | 145.09 | -89.98                      | -9,684.19                               | 897.56        | 879.84                     | 590.47                      | 289.38                        | 3.040                | Alert              |         |
| 18,900.00                                                                                   | 9,455.00                  | 18,954.42                 | 9,455.00                  | 145.30          | 145.80 | -89.98                      | -9,734.19                               | 897.88        | 879.84                     | 589.05                      | 290.80                        | 3.026                | Alert              |         |
| 18,950.00                                                                                   | 9,455.00                  | 19,004.42                 | 9,455.00                  | 146.01          | 146.50 | -89.98                      | -9,784.19                               | 898.20        | 879.84                     | 587.63                      | 292.21                        | 3.011                | Alert              |         |
| 19,000.00                                                                                   | 9,455.00                  | 19,054.42                 | 9,455.00                  | 146.72          | 147.21 | -89.98                      | -9,834.19                               | 898.51        | 879.84                     | 586.21                      | 293.63                        | 2.996                | Alert              |         |
| 19,050.00                                                                                   | 9,455.00                  | 19,104.42                 | 9,455.00                  | 147.43          | 147.92 | -89.98                      | -9,884.19                               | 898.83        | 879.84                     | 584.79                      | 295.05                        | 2.982                | Alert              |         |
| 19,100.00                                                                                   | 9,455.00                  | 19,154.42                 | 9,455.00                  | 148.14          | 148.63 | -89.98                      | -9,934.19                               | 899.15        | 879.84                     | 583.37                      | 296.47                        | 2.968                | Alert              |         |
| 19,150.00                                                                                   | 9,455.00                  | 19,204.42                 | 9,455.00                  | 148.85          | 149.34 | -89.98                      | -9,984.19                               | 899.47        | 879.84                     | 581.95                      | 297.89                        | 2.954                | Alert              |         |
| 19,200.00                                                                                   | 9,455.00                  | 19,254.42                 | 9,455.00                  | 149.56          | 150.05 | -89.98                      | -10,034.19                              | 899.79        | 879.84                     | 580.52                      | 299.32                        | 2.940                | Alert              |         |
| 19,250.00                                                                                   | 9,455.00                  | 19,304.42                 | 9,455.00                  | 150.27          | 150.75 | -89.98                      | -10,084.18                              | 900.11        | 879.84                     | 579.10                      | 300.74                        | 2.926                | Alert              |         |
| 19,300.00                                                                                   | 9,455.00                  | 19,354.42                 | 9,455.00                  | 150.98          | 151.46 | -89.98                      | -10,134.18                              | 900.43        | 879.84                     | 577.68                      | 302.16                        | 2.912                | Alert              |         |
| 19,350.00                                                                                   | 9,455.00                  | 19,404.42                 | 9,455.00                  | 151.70          | 152.17 | -89.98                      | -10,184.18                              | 900.75        | 879.84                     | 576.26                      | 303.58                        | 2.898                | Alert              |         |
| 19,400.00                                                                                   | 9,455.00                  | 19,454.42                 | 9,455.00                  | 152.41          | 152.88 | -89.98                      | -10,234.18                              | 901.07        | 879.84                     | 574.83                      | 305.00                        | 2.885                | Alert              |         |
| 19,450.00                                                                                   | 9,455.00                  | 19,504.42                 | 9,455.00                  | 153.12          | 153.59 | -89.98                      | -10,284.18                              | 901.39        | 879.84                     | 573.41                      | 306.43                        | 2.871                | Alert              |         |
| 19,500.00                                                                                   | 9,455.00                  | 19,554.42                 | 9,455.00                  | 153.83          | 154.30 | -89.98                      | -10,334.18                              | 901.71        | 879.84                     | 571.99                      | 307.85                        | 2.858                | Alert              |         |
| 19,550.00                                                                                   | 9,455.00                  | 19,604.42                 | 9,455.00                  | 154.54          | 155.01 | -89.98                      | -10,384.18                              | 902.03        | 879.84                     | 570.56                      | 309.27                        | 2.845                | Alert              |         |
| 19,600.00                                                                                   | 9,455.00                  | 19,654.42                 | 9,455.00                  | 155.25          | 155.72 | -89.98                      | -10,434.18                              | 902.35        | 879.84                     | 569.14                      | 310.70                        | 2.832                | Alert              |         |
| 19,650.00                                                                                   | 9,455.00                  | 19,704.42                 | 9,455.00                  | 155.97          | 156.43 | -89.98                      | -10,484.18                              | 902.67        | 879.83                     | 567.72                      | 312.12                        | 2.819                | Alert              |         |
| 19,700.00                                                                                   | 9,455.00                  | 19,754.42                 | 9,455.00                  | 156.68          | 157.14 | -89.98                      | -10,534.18                              | 902.99        | 879.83                     | 566.29                      | 313.54                        | 2.806                | Alert              |         |
| 19,750.00                                                                                   | 9,455.00                  | 19,804.42                 | 9,455.00                  | 157.39          | 157.85 | -89.98                      | -10,584.17                              | 903.31        | 879.83                     | 564.87                      | 314.97                        | 2.793                | Alert              |         |
| 19,800.00                                                                                   | 9,455.00                  | 19,854.42                 | 9,455.00                  | 158.10          | 158.56 | -89.98                      | -10,634.17                              | 903.63        | 879.83                     | 563.44                      | 316.39                        | 2.781                | Alert              |         |
| 19,850.00                                                                                   | 9,455.00                  | 19,904.42                 | 9,455.00                  | 158.82          | 159.28 | -89.98                      | -10,684.17                              | 903.95        | 879.83                     | 562.01                      | 317.82                        | 2.768                | Alert              |         |
| 19,900.00                                                                                   | 9,455.00                  | 19,954.42                 | 9,455.00                  | 159.53          | 159.99 | -89.98                      | -10,734.17                              | 904.27        | 879.83                     | 560.59                      | 319.24                        | 2.756                | Alert              |         |
| 19,950.00                                                                                   | 9,455.00                  | 20,004.42                 | 9,455.00                  | 160.13          | 160.70 | -89.98                      | -10,784.17                              | 904.59        | 879.83                     | 559.27                      | 320.66                        | 2.745                | Alert              |         |
| 20,000.00                                                                                   | 9,455.00                  | 20,054.42                 | 9,455.00                  | 160.74          | 161.41 | -89.98                      | -10,834.17                              | 904.91        | 879.83                     | 557.96                      | 321.87                        | 2.733                | Alert              |         |
| 20,004.02                                                                                   | 9,455.00                  | 20,058.44                 | 9,455.00                  | 160.78          | 161.47 | -89.98                      | -10,838.19                              | 904.93        | 879.83                     | 557.85                      | 321.98                        | 2.733                | Alert              |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Stray Cat 8-5 Fed Com 213H - Original Hole - Original Hole |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error:      0.00 ft |         |
|--------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------------------------------|---------|
| Survey Program:      203-MWD+HDGM                                                                |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error:      0.00 ft |         |
| Reference                                                                                        |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                                 | Warning |
| Measured Depth (ft)                                                                              | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                                 |         |
| 0.00                                                                                             | 0.00                | 4.37                | 4.37                | 0.50            | 0.01        | -68.88                | 291.58                            | -754.68    | 809.05               |                       |                         |                   |                                 |         |
| 50.00                                                                                            | 50.00               | 55.22               | 55.22               | 0.50            | 0.08        | -68.88                | 291.57                            | -754.65    | 809.02               | 808.43                | 0.59                    | 1,381.784         |                                 |         |
| 100.00                                                                                           | 100.00              | 106.06              | 106.06              | 0.52            | 0.16        | -68.87                | 291.55                            | -754.57    | 808.94               | 808.26                | 0.68                    | 1,192.922         |                                 |         |
| 150.00                                                                                           | 150.00              | 156.90              | 156.90              | 0.59            | 0.24        | -68.87                | 291.51                            | -754.44    | 808.80               | 807.98                | 0.83                    | 977.449           |                                 |         |
| 200.00                                                                                           | 200.00              | 207.75              | 207.75              | 0.70            | 0.31        | -68.87                | 291.47                            | -754.25    | 808.62               | 807.60                | 1.02                    | 795.731           |                                 |         |
| 250.00                                                                                           | 250.00              | 257.11              | 257.11              | 0.84            | 0.50        | -68.88                | 291.34                            | -754.10    | 808.43               | 807.09                | 1.34                    | 605.124           |                                 |         |
| 300.00                                                                                           | 300.00              | 306.60              | 306.59              | 0.99            | 0.67        | -68.89                | 291.11                            | -754.02    | 808.27               | 806.61                | 1.66                    | 486.748           |                                 |         |
| 350.00                                                                                           | 350.00              | 356.89              | 356.89              | 1.15            | 0.85        | -68.91                | 290.77                            | -754.00    | 808.13               | 806.13                | 2.00                    | 404.670           |                                 |         |
| 400.00                                                                                           | 400.00              | 408.11              | 408.11              | 1.31            | 1.03        | -68.93                | 290.48                            | -753.90    | 807.93               | 805.59                | 2.34                    | 344.882           |                                 |         |
| 450.00                                                                                           | 450.00              | 457.67              | 457.66              | 1.48            | 1.21        | -68.94                | 290.27                            | -753.73    | 807.70               | 805.01                | 2.69                    | 300.579           |                                 |         |
| 500.00                                                                                           | 500.00              | 506.55              | 506.54              | 1.65            | 1.39        | -68.94                | 290.13                            | -753.60    | 807.52               | 804.49                | 3.03                    | 266.336           |                                 |         |
| 550.00                                                                                           | 550.00              | 556.95              | 556.94              | 1.82            | 1.57        | -68.95                | 290.03                            | -753.49    | 807.38               | 804.00                | 3.38                    | 238.583           |                                 |         |
| 600.00                                                                                           | 600.00              | 607.71              | 607.70              | 1.99            | 1.75        | -68.96                | 289.84                            | -753.35    | 807.19               | 803.45                | 3.74                    | 215.896           |                                 |         |
| 650.00                                                                                           | 650.00              | 656.42              | 656.42              | 2.16            | 1.92        | -68.97                | 289.58                            | -753.28    | 807.02               | 802.94                | 4.09                    | 197.520           |                                 |         |
| 700.00                                                                                           | 700.00              | 705.27              | 705.26              | 2.34            | 2.09        | -68.99                | 289.25                            | -753.31    | 806.93               | 802.50                | 4.43                    | 181.991           |                                 |         |
| 750.00                                                                                           | 750.00              | 754.82              | 754.82              | 2.51            | 2.27        | -69.02                | 288.87                            | -753.40    | 806.89               | 802.10                | 4.78                    | 168.658           |                                 |         |
| 800.00                                                                                           | 800.00              | 804.38              | 804.37              | 2.69            | 2.44        | -69.05                | 288.49                            | -753.53    | 806.87               | 801.73                | 5.13                    | 157.134           |                                 |         |
| 807.61                                                                                           | 807.61              | 811.92              | 811.91              | 2.72            | 2.47        | -69.06                | 288.43                            | -753.55    | 806.87               | 801.68                | 5.19                    | 155.516           |                                 |         |
| 850.00                                                                                           | 850.00              | 853.93              | 853.92              | 2.87            | 2.62        | -69.08                | 288.10                            | -753.69    | 806.88               | 801.39                | 5.49                    | 147.078           |                                 |         |
| 900.00                                                                                           | 900.00              | 903.61              | 903.60              | 3.04            | 2.79        | -69.11                | 287.70                            | -753.88    | 806.91               | 801.07                | 5.84                    | 138.215           |                                 |         |
| 950.00                                                                                           | 950.00              | 953.43              | 953.42              | 3.22            | 2.97        | -69.14                | 287.32                            | -754.08    | 806.96               | 800.77                | 6.19                    | 130.344           |                                 |         |
| 1,000.00                                                                                         | 1,000.00            | 1,003.28            | 1,003.26            | 3.40            | 3.15        | -69.17                | 286.99                            | -754.27    | 807.02               | 800.48                | 6.54                    | 123.318           |                                 |         |
| 1,050.00                                                                                         | 1,050.00            | 1,053.14            | 1,053.13            | 3.58            | 3.32        | -69.19                | 286.75                            | -754.43    | 807.09               | 800.19                | 6.90                    | 117.010           |                                 |         |
| 1,100.00                                                                                         | 1,100.00            | 1,100.87            | 1,100.85            | 3.75            | 3.49        | -69.20                | 286.61                            | -754.63    | 807.23               | 799.99                | 7.24                    | 111.480           |                                 |         |
| 1,150.00                                                                                         | 1,150.00            | 1,148.65            | 1,148.63            | 3.93            | 3.65        | -69.22                | 286.54                            | -754.95    | 807.52               | 799.93                | 7.58                    | 106.486           |                                 |         |
| 1,200.00                                                                                         | 1,200.00            | 1,198.41            | 1,198.38            | 4.11            | 3.83        | -69.23                | 286.52                            | -755.35    | 807.88               | 799.95                | 7.93                    | 101.825           |                                 |         |
| 1,250.00                                                                                         | 1,250.00            | 1,248.54            | 1,248.51            | 4.29            | 4.00        | -69.24                | 286.51                            | -755.74    | 808.25               | 799.96                | 8.28                    | 97.561            |                                 |         |
| 1,300.00                                                                                         | 1,300.00            | 1,299.55            | 1,299.53            | 4.46            | 4.17        | -69.24                | 286.56                            | -756.08    | 808.57               | 799.94                | 8.64                    | 93.616            |                                 |         |
| 1,350.00                                                                                         | 1,350.00            | 1,350.29            | 1,350.26            | 4.64            | 4.35        | -69.24                | 286.70                            | -756.31    | 808.84               | 799.85                | 8.99                    | 89.983            |                                 |         |
| 1,400.00                                                                                         | 1,400.00            | 1,400.08            | 1,400.05            | 4.82            | 4.52        | -69.24                | 286.84                            | -756.53    | 809.10               | 799.76                | 9.34                    | 86.652            |                                 |         |
| 1,450.00                                                                                         | 1,450.00            | 1,450.56            | 1,450.53            | 5.00            | 4.69        | -69.24                | 286.94                            | -756.77    | 809.36               | 799.67                | 9.69                    | 83.527            |                                 |         |
| 1,500.00                                                                                         | 1,500.00            | 1,502.09            | 1,502.06            | 5.18            | 4.87        | -69.24                | 286.98                            | -756.97    | 809.54               | 799.49                | 10.05                   | 80.569            |                                 |         |
| 1,550.00                                                                                         | 1,550.00            | 1,553.47            | 1,553.45            | 5.36            | 5.05        | -69.24                | 286.95                            | -757.08    | 809.63               | 799.23                | 10.41                   | 77.800            |                                 |         |
| 1,600.00                                                                                         | 1,600.00            | 1,604.74            | 1,604.72            | 5.53            | 5.23        | -69.25                | 286.90                            | -757.11    | 809.65               | 798.88                | 10.77                   | 75.205            |                                 |         |
| 1,650.00                                                                                         | 1,650.00            | 1,654.80            | 1,654.78            | 5.71            | 5.41        | -69.25                | 286.86                            | -757.09    | 809.61               | 798.49                | 11.12                   | 72.819            |                                 |         |
| 1,700.00                                                                                         | 1,700.00            | 1,704.40            | 1,704.37            | 5.89            | 5.58        | -69.25                | 286.84                            | -757.08    | 809.59               | 798.13                | 11.47                   | 70.597            |                                 |         |
| 1,708.67                                                                                         | 1,708.67            | 1,713.00            | 1,712.97            | 5.92            | 5.61        | -69.25                | 286.84                            | -757.08    | 809.59               | 798.06                | 11.53                   | 70.225            |                                 |         |
| 1,750.00                                                                                         | 1,750.00            | 1,754.05            | 1,754.02            | 6.07            | 5.75        | -69.25                | 286.84                            | -757.08    | 809.60               | 797.78                | 11.82                   | 68.517            |                                 |         |
| 1,800.00                                                                                         | 1,800.00            | 1,803.71            | 1,803.69            | 6.25            | 5.92        | -69.25                | 286.87                            | -757.10    | 809.63               | 797.46                | 12.16                   | 66.559            |                                 |         |
| 1,850.00                                                                                         | 1,850.00            | 1,853.50            | 1,853.47            | 6.43            | 6.09        | -69.25                | 286.88                            | -757.15    | 809.67               | 797.16                | 12.52                   | 64.689            |                                 |         |
| 1,900.00                                                                                         | 1,900.00            | 1,903.39            | 1,903.36            | 6.61            | 6.26        | -69.25                | 286.85                            | -757.22    | 809.73               | 796.86                | 12.87                   | 62.919            |                                 |         |
| 1,950.00                                                                                         | 1,950.00            | 1,954.74            | 1,954.71            | 6.78            | 6.44        | -69.26                | 286.80                            | -757.25    | 809.75               | 796.52                | 13.23                   | 61.212            |                                 |         |
| 2,000.00                                                                                         | 2,000.00            | 2,005.55            | 2,005.53            | 6.96            | 6.62        | -69.26                | 286.74                            | -757.21    | 809.68               | 796.10                | 13.59                   | 59.598            |                                 |         |
| 2,050.00                                                                                         | 2,050.00            | 2,054.44            | 2,054.41            | 7.14            | 6.79        | -69.26                | 286.71                            | -757.18    | 809.64               | 795.71                | 13.94                   | 58.100            |                                 |         |
| 2,055.04                                                                                         | 2,055.04            | 2,059.37            | 2,059.34            | 7.16            | 6.81        | -69.26                | 286.70                            | -757.18    | 809.64               | 795.67                | 13.97                   | 57.953            |                                 |         |
| 2,100.00                                                                                         | 2,100.00            | 2,103.51            | 2,103.49            | 7.32            | 6.96        | -69.26                | 286.70                            | -757.21    | 809.67               | 795.38                | 14.29                   | 56.677            |                                 |         |
| 2,150.00                                                                                         | 2,150.00            | 2,153.09            | 2,153.06            | 7.50            | 7.14        | -69.26                | 286.71                            | -757.27    | 809.73               | 795.09                | 14.64                   | 55.316            |                                 |         |
| 2,200.00                                                                                         | 2,200.00            | 2,202.94            | 2,202.91            | 7.68            | 7.31        | -69.26                | 286.72                            | -757.36    | 809.82               | 794.83                | 14.99                   | 54.019            |                                 |         |
| 2,250.00                                                                                         | 2,250.00            | 2,253.24            | 2,253.21            | 7.86            | 7.49        | -69.26                | 286.75                            | -757.43    | 809.89               | 794.55                | 15.35                   | 52.776            |                                 |         |
| 2,300.00                                                                                         | 2,300.00            | 2,303.74            | 2,303.71            | 8.04            | 7.67        | -69.26                | 286.78                            | -757.48    | 809.95               | 794.25                | 15.70                   | 51.584            |                                 |         |
| 2,350.00                                                                                         | 2,350.00            | 2,354.45            | 2,354.42            | 8.22            | 7.84        | -69.26                | 286.77                            | -757.50    | 809.96               | 793.91                | 16.06                   | 50.440            |                                 |         |
| 2,400.00                                                                                         | 2,400.00            | 2,404.38            | 2,404.35            | 8.39            | 8.02        | -69.27                | 286.72                            | -757.50    | 809.95               | 793.54                | 16.41                   | 49.350            |                                 |         |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 08-T23S-R32E - Stray Cat 8-5 Fed Com 213H - Original Hole - Original Hole |                           |                           |                           |                   |                |                            |                        |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft |
|---------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|----------------------------|------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|---------|
| Survey Program: 203-MWD+HDMG                                                                |                           |                           |                           |                   |                |                            |                        |               |                            |                             |                               |                      | Offset Well Error: | 0.00 ft |
| Reference                                                                                   |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Tooface<br>(") | Offset Wellbore Centre |               | Distance                   |                             | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |         |
| Measured<br>Depth<br>(ft)                                                                   | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                            | +N/-S<br>(ft)          | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                               |                      |                    |         |
| 2,404.17                                                                                    | 2,404.17                  | 2,408.50                  | 2,408.47                  | 8.41              | 8.03           | -69.27                     | 286.71                 | -757.50       | 809.95                     | 793.51                      | 16.44                         | 49.261               |                    |         |
| 2,450.00                                                                                    | 2,450.00                  | 2,453.81                  | 2,453.78                  | 8.57              | 8.19           | -69.27                     | 286.70                 | -757.53       | 809.96                     | 793.20                      | 16.77                         | 48.312               |                    |         |
| 2,500.00                                                                                    | 2,500.00                  | 2,504.00                  | 2,503.97                  | 8.75              | 8.37           | -69.27                     | 286.70                 | -757.56       | 810.00                     | 792.88                      | 17.12                         | 47.311               |                    |         |
| 2,550.00                                                                                    | 2,550.00                  | 2,554.52                  | 2,554.50                  | 8.93              | 8.55           | -69.27                     | 286.68                 | -757.57       | 810.00                     | 792.52                      | 17.48                         | 46.346               |                    |         |
| 2,600.00                                                                                    | 2,600.00                  | 2,604.76                  | 2,604.73                  | 9.11              | 8.72           | -69.27                     | 286.64                 | -757.56       | 809.98                     | 792.15                      | 17.83                         | 45.420               |                    |         |
| 2,650.00                                                                                    | 2,650.00                  | 2,654.93                  | 2,654.90                  | 9.29              | 8.90           | -69.28                     | 286.55                 | -757.57       | 809.95                     | 791.76                      | 18.19                         | 44.530               |                    |         |
| 2,700.00                                                                                    | 2,700.00                  | 2,704.42                  | 2,704.39                  | 9.47              | 9.07           | -69.29                     | 286.46                 | -757.58       | 809.93                     | 791.38                      | 18.54                         | 43.682               |                    |         |
| 2,708.85                                                                                    | 2,708.85                  | 2,713.18                  | 2,713.15                  | 9.50              | 9.10           | -69.29                     | 286.45                 | -757.58       | 809.93                     | 791.32                      | 18.60                         | 43.535               |                    |         |
| 2,750.00                                                                                    | 2,750.00                  | 2,753.85                  | 2,753.83                  | 9.65              | 9.25           | -69.29                     | 286.44                 | -757.59       | 809.94                     | 791.04                      | 18.89                         | 42.867               |                    |         |
| 2,800.00                                                                                    | 2,800.00                  | 2,804.90                  | 2,804.88                  | 9.83              | 9.43           | -69.29                     | 286.40                 | -757.60       | 809.93                     | 790.68                      | 19.25                         | 42.070               |                    |         |
| 2,850.00                                                                                    | 2,850.00                  | 2,855.85                  | 2,855.82                  | 10.00             | 9.60           | -69.30                     | 286.25                 | -757.59       | 809.87                     | 790.26                      | 19.61                         | 41.300               |                    |         |
| 2,900.00                                                                                    | 2,900.00                  | 2,904.86                  | 2,904.83                  | 10.18             | 9.77           | -69.31                     | 286.14                 | -757.58       | 809.81                     | 789.85                      | 19.96                         | 40.575               |                    |         |
| 2,950.00                                                                                    | 2,950.00                  | 2,954.55                  | 2,954.52                  | 10.36             | 9.95           | -69.31                     | 286.11                 | -757.57       | 809.80                     | 789.49                      | 20.31                         | 39.873               |                    |         |
| 3,000.00                                                                                    | 3,000.00                  | 3,005.45                  | 3,005.42                  | 10.54             | 10.12          | -69.32                     | 286.02                 | -757.56       | 809.76                     | 789.09                      | 20.67                         | 39.184               |                    |         |
| 3,050.00                                                                                    | 3,050.00                  | 3,056.32                  | 3,056.29                  | 10.72             | 10.30          | -69.33                     | 285.83                 | -757.53       | 809.66                     | 788.64                      | 21.02                         | 38.515               |                    |         |
| 3,100.00                                                                                    | 3,100.00                  | 3,107.14                  | 3,107.11                  | 10.90             | 10.48          | -69.34                     | 285.56                 | -757.47       | 809.51                     | 788.13                      | 21.38                         | 37.863               |                    |         |
| 3,150.00                                                                                    | 3,150.00                  | 3,156.61                  | 3,156.58                  | 11.08             | 10.66          | -69.37                     | 285.18                 | -757.42       | 809.33                     | 787.60                      | 21.73                         | 37.238               |                    |         |
| 3,200.00                                                                                    | 3,200.00                  | 3,204.77                  | 3,204.73                  | 11.26             | 10.83          | -69.42                     | 284.41                 | -757.63       | 809.25                     | 787.17                      | 22.08                         | 36.645               |                    |         |
| 3,211.54                                                                                    | 3,211.54                  | 3,215.88                  | 3,215.84                  | 11.30             | 10.86          | -69.44                     | 284.17                 | -757.71       | 809.25                     | 787.08                      | 22.16                         | 36.511               |                    |         |
| 3,250.00                                                                                    | 3,250.00                  | 3,254.65                  | 3,254.60                  | 11.44             | 11.00          | -69.52                     | 283.13                 | -758.11       | 809.25                     | 786.81                      | 22.44                         | 36.063               |                    |         |
| 3,300.00                                                                                    | 3,300.00                  | 3,305.88                  | 3,305.79                  | 11.62             | 11.18          | -69.66                     | 281.26                 | -758.74       | 809.20                     | 786.40                      | 22.80                         | 35.489               |                    |         |
| 3,350.00                                                                                    | 3,350.00                  | 3,356.64                  | 3,356.49                  | 11.80             | 11.37          | -69.83                     | 278.98                 | -759.46       | 809.08                     | 785.92                      | 23.16                         | 34.932               |                    |         |
| 3,400.00                                                                                    | 3,400.00                  | 3,407.24                  | 3,407.03                  | 11.97             | 11.55          | -70.00                     | 276.66                 | -760.14       | 808.93                     | 785.41                      | 23.52                         | 34.392               |                    |         |
| 3,450.00                                                                                    | 3,450.00                  | 3,457.70                  | 3,457.44                  | 12.15             | 11.73          | -70.17                     | 274.39                 | -760.77       | 808.75                     | 784.87                      | 23.88                         | 33.887               |                    |         |
| 3,500.00                                                                                    | 3,500.00                  | 3,508.16                  | 3,507.84                  | 12.33             | 11.91          | -70.32                     | 272.28                 | -761.31       | 808.54                     | 784.30                      | 24.24                         | 33.357               |                    |         |
| 3,550.00                                                                                    | 3,550.00                  | 3,556.17                  | 3,555.82                  | 12.51             | 12.08          | -70.46                     | 270.43                 | -761.80       | 808.38                     | 783.79                      | 24.59                         | 32.874               |                    |         |
| 3,586.99                                                                                    | 3,586.99                  | 3,591.67                  | 3,591.29                  | 12.64             | 12.21          | -70.55                     | 269.17                 | -762.22       | 808.35                     | 783.50                      | 24.85                         | 32.530               |                    |         |
| 3,600.00                                                                                    | 3,600.00                  | 3,604.16                  | 3,603.77                  | 12.69             | 12.25          | -70.58                     | 268.75                 | -762.37       | 808.35                     | 783.41                      | 24.94                         | 32.411               |                    |         |
| 3,650.00                                                                                    | 3,650.00                  | 3,654.12                  | 3,653.70                  | 12.87             | 12.43          | -70.71                     | 267.10                 | -762.98       | 808.39                     | 783.09                      | 25.30                         | 31.954               |                    |         |
| 3,700.00                                                                                    | 3,700.00                  | 3,704.55                  | 3,704.11                  | 13.05             | 12.61          | -70.83                     | 265.48                 | -763.59       | 808.42                     | 782.76                      | 25.66                         | 31.508               |                    |         |
| 3,750.00                                                                                    | 3,750.00                  | 3,758.33                  | 3,757.84                  | 13.23             | 12.80          | -70.98                     | 263.46                 | -764.17       | 808.32                     | 782.29                      | 26.03                         | 31.054               |                    |         |
| 3,800.00                                                                                    | 3,800.00                  | 3,815.80                  | 3,815.24                  | 13.41             | 13.01          | -71.17                     | 260.70                 | -764.65       | 807.95                     | 781.53                      | 26.41                         | 30.590               |                    |         |
| 3,850.00                                                                                    | 3,850.00                  | 3,880.50                  | 3,879.80                  | 13.59             | 13.24          | -71.46                     | 256.35                 | -764.58       | 806.82                     | 780.00                      | 26.81                         | 30.089               |                    |         |
| 3,900.00                                                                                    | 3,900.00                  | 3,943.59                  | 3,942.63                  | 13.77             | 13.47          | -71.82                     | 250.81                 | -763.79       | 804.83                     | 777.62                      | 27.20                         | 29.584               |                    |         |
| 3,950.00                                                                                    | 3,950.00                  | 4,001.59                  | 4,000.30                  | 13.94             | 13.67          | -72.21                     | 244.70                 | -762.49       | 802.11                     | 774.53                      | 27.58                         | 29.083               |                    |         |
| 4,000.00                                                                                    | 4,000.00                  | 4,051.64                  | 4,050.03                  | 14.12             | 13.85          | -72.56                     | 239.16                 | -761.25       | 799.25                     | 771.31                      | 27.94                         | 28.606               |                    |         |
| 4,050.00                                                                                    | 4,050.00                  | 4,101.02                  | 4,099.08                  | 14.30             | 14.03          | -72.91                     | 233.65                 | -760.04       | 796.40                     | 768.10                      | 28.30                         | 28.143               |                    |         |
| 4,100.00                                                                                    | 4,100.00                  | 4,149.69                  | 4,147.46                  | 14.48             | 14.21          | -73.25                     | 228.41                 | -758.83       | 793.64                     | 764.98                      | 28.68                         | 27.696               |                    |         |
| 4,150.00                                                                                    | 4,150.00                  | 4,200.16                  | 4,197.64                  | 14.66             | 14.39          | -73.58                     | 223.20                 | -757.55       | 790.93                     | 761.92                      | 29.02                         | 27.258               |                    |         |
| 4,200.00                                                                                    | 4,200.00                  | 4,252.24                  | 4,249.42                  | 14.84             | 14.58          | -73.93                     | 217.84                 | -756.08       | 788.13                     | 758.75                      | 29.38                         | 26.825               |                    |         |
| 4,250.00                                                                                    | 4,250.00                  | 4,301.89                  | 4,298.79                  | 15.02             | 14.76          | -74.26                     | 212.73                 | -754.59       | 785.26                     | 755.52                      | 29.74                         | 26.404               |                    |         |
| 4,300.00                                                                                    | 4,300.00                  | 4,350.59                  | 4,347.20                  | 15.20             | 14.94          | -74.58                     | 207.69                 | -753.19       | 782.48                     | 752.38                      | 30.10                         | 25.997               |                    |         |
| 4,350.00                                                                                    | 4,350.00                  | 4,400.52                  | 4,396.85                  | 15.38             | 15.12          | -74.92                     | 202.55                 | -751.78       | 779.75                     | 749.29                      | 30.46                         | 25.600               |                    |         |
| 4,400.00                                                                                    | 4,400.00                  | 4,450.86                  | 4,446.91                  | 15.56             | 15.30          | -75.25                     | 197.50                 | -750.29       | 777.02                     | 746.19                      | 30.82                         | 25.210               |                    |         |
| 4,450.00                                                                                    | 4,450.00                  | 4,498.99                  | 4,494.79                  | 15.74             | 15.48          | -75.58                     | 192.84                 | -748.84       | 774.33                     | 743.15                      | 31.18                         | 24.835               |                    |         |
| 4,500.00                                                                                    | 4,500.00                  | 4,546.90                  | 4,542.48                  | 15.92             | 15.66          | -75.85                     | 188.39                 | -747.47       | 771.79                     | 740.25                      | 31.54                         | 24.473               |                    |         |
| 4,550.00                                                                                    | 4,550.00                  | 4,591.85                  | 4,587.22                  | 16.09             | 15.82          | -76.13                     | 184.23                 | -746.37       | 769.47                     | 737.58                      | 31.89                         | 24.131               |                    |         |
| 4,600.00                                                                                    | 4,600.00                  | 4,636.49                  | 4,631.65                  | 16.27             | 15.98          | -76.43                     | 179.93                 | -745.62       | 767.51                     | 735.27                      | 32.24                         | 23.808               |                    |         |
| 4,650.00                                                                                    | 4,650.00                  | 4,684.75                  | 4,679.66                  | 16.45             | 16.16          | -76.78                     | 175.03                 | -745.12       | 765.82                     | 733.22                      | 32.60                         | 23.494               |                    |         |
| 4,700.00                                                                                    | 4,700.00                  | 4,733.94                  | 4,728.56                  | 16.63             | 16.34          | -77.16                     | 169.71                 | -744.72       | 764.19                     | 731.24                      | 32.96                         | 23.187               |                    |         |
| 4,750.00                                                                                    | 4,750.00                  | 4,784.33                  | 4,778.63                  | 16.81             | 16.53          | -77.57                     | 164.08                 | -744.35       | 762.61                     | 729.29                      | 33.32                         | 22.885               |                    |         |
| 4,800.00                                                                                    | 4,800.00                  | 4,834.96                  | 4,828.95                  | 16.99             | 16.72          | -77.97                     | 158.52                 | -743.90       | 761.00                     | 727.31                      | 33.69                         | 22.588               |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Stray Cat 8-5 Fed Com 213H - Original Hole - Original Hole |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |
|--------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|
| Survey Program: 203-MWD+HDGM                                                                     |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 0.00 ft |
| Reference                                                                                        |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   | Warning            |         |
| Measured Depth (ft)                                                                              | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |
| 4,850.00                                                                                         | 4,850.00            | 4,884.34            | 4,878.04            | 17.17           | 16.90       | -78.35                | 153.23                            | -743.41    | 759.41               | 725.38                | 34.05                   | 22.301            |                    |         |
| 4,900.00                                                                                         | 4,900.00            | 4,933.91            | 4,927.35            | 17.35           | 17.09       | -78.72                | 148.13                            | -742.90    | 757.87               | 723.46                | 34.42                   | 22.020            |                    |         |
| 4,950.00                                                                                         | 4,950.00            | 4,986.35            | 4,979.51            | 17.53           | 17.28       | -79.11                | 142.77                            | -742.25    | 756.28               | 721.49                | 34.79                   | 21.740            |                    |         |
| 5,000.00                                                                                         | 5,000.00            | 5,037.87            | 5,030.74            | 17.71           | 17.47       | -79.50                | 137.43                            | -741.46    | 754.55               | 719.39                | 35.16                   | 21.462            |                    |         |
| 5,050.00                                                                                         | 5,050.00            | 5,086.55            | 5,079.14            | 17.89           | 17.65       | -79.88                | 132.20                            | -740.73    | 752.85               | 717.33                | 35.52                   | 21.195            |                    |         |
| 5,100.00                                                                                         | 5,100.00            | 5,135.45            | 5,127.73            | 18.06           | 17.84       | -80.28                | 126.76                            | -740.11    | 751.25               | 715.37                | 35.88                   | 20.936            |                    |         |
| 5,150.00                                                                                         | 5,150.00            | 5,184.90            | 5,176.86            | 18.24           | 18.02       | -80.69                | 121.25                            | -739.50    | 749.72               | 713.47                | 36.25                   | 20.683            |                    |         |
| 5,200.00                                                                                         | 5,200.00            | 5,234.70            | 5,226.38            | 18.42           | 18.21       | -81.10                | 115.77                            | -738.89    | 748.23               | 711.62                | 36.61                   | 20.436            |                    |         |
| 5,250.00                                                                                         | 5,250.00            | 5,285.06            | 5,276.42            | 18.60           | 18.40       | -81.50                | 110.32                            | -738.23    | 746.78               | 709.77                | 36.98                   | 20.193            |                    |         |
| 5,300.00                                                                                         | 5,300.00            | 5,334.00            | 5,325.08            | 18.78           | 18.58       | -81.89                | 105.12                            | -737.55    | 745.29               | 707.95                | 37.35                   | 19.957            |                    |         |
| 5,350.00                                                                                         | 5,350.00            | 5,381.54            | 5,372.35            | 18.96           | 18.76       | -82.27                | 100.07                            | -737.01    | 743.99               | 706.29                | 37.71                   | 19.732            |                    |         |
| 5,400.00                                                                                         | 5,400.00            | 5,430.18            | 5,420.69            | 19.14           | 18.94       | -82.66                | 94.94                             | -736.58    | 742.85               | 704.78                | 38.07                   | 19.514            |                    |         |
| 5,450.00                                                                                         | 5,450.00            | 5,479.87            | 5,470.15            | 19.32           | 19.13       | -83.04                | 89.89                             | -736.13    | 741.77               | 703.33                | 38.43                   | 19.300            |                    |         |
| 5,500.00                                                                                         | 5,500.00            | 5,529.43            | 5,519.46            | 19.50           | 19.31       | -83.41                | 84.98                             | -735.67    | 740.72               | 701.92                | 38.80                   | 19.091            |                    |         |
| 5,550.00                                                                                         | 5,550.00            | 5,578.80            | 5,568.55            | 19.68           | 19.50       | -83.81                | 79.78                             | -735.27    | 739.72               | 700.56                | 39.16                   | 18.887            |                    |         |
| 5,600.00                                                                                         | 5,600.00            | 5,629.36            | 5,618.80            | 19.86           | 19.69       | -84.24                | 74.15                             | -734.89    | 738.76               | 699.23                | 39.53                   | 18.686            |                    |         |
| 5,650.00                                                                                         | 5,650.00            | 5,680.45            | 5,669.55            | 20.04           | 19.88       | -84.69                | 68.32                             | -734.43    | 737.76               | 697.85                | 39.91                   | 18.487            |                    |         |
| 5,700.00                                                                                         | 5,700.00            | 5,730.72            | 5,719.49            | 20.22           | 20.07       | -85.13                | 62.56                             | -733.90    | 736.72               | 696.44                | 40.28                   | 18.292            |                    |         |
| 5,750.00                                                                                         | 5,750.00            | 5,780.87            | 5,769.32            | 20.39           | 20.26       | -85.56                | 56.96                             | -733.33    | 735.69               | 695.05                | 40.65                   | 18.100            |                    |         |
| 5,800.00                                                                                         | 5,800.00            | 5,829.18            | 5,817.34            | 20.57           | 20.44       | -85.96                | 51.74                             | -732.80    | 734.74               | 693.73                | 41.01                   | 17.917            |                    |         |
| 5,850.00                                                                                         | 5,850.00            | 5,877.40            | 5,865.30            | 20.75           | 20.63       | -86.35                | 46.71                             | -732.35    | 733.92               | 692.55                | 41.37                   | 17.740            |                    |         |
| 5,900.00                                                                                         | 5,900.00            | 5,926.88            | 5,914.63            | 20.93           | 20.81       | -86.74                | 41.74                             | -731.93    | 733.19               | 691.45                | 41.74                   | 17.567            |                    |         |
| 5,950.00                                                                                         | 5,950.00            | 5,976.61            | 5,964.03            | 21.11           | 21.00       | -87.11                | 36.98                             | -731.51    | 732.51               | 690.40                | 42.10                   | 17.398            |                    |         |
| 6,000.00                                                                                         | 6,000.00            | 6,027.49            | 6,014.68            | 21.29           | 21.19       | -87.48                | 32.21                             | -731.06    | 731.84               | 689.36                | 42.47                   | 17.230            |                    |         |
| 6,050.00                                                                                         | 6,050.00            | 6,079.47            | 6,066.41            | 21.46           | 21.39       | -87.86                | 27.11                             | -730.48    | 730.91               | 688.07                | 42.84                   | 17.061            |                    |         |
| 6,100.00                                                                                         | 6,099.99            | 6,133.14            | 6,119.77            | 21.63           | 21.59       | -88.24                | 21.45                             | -729.66    | 729.45               | 686.24                | 43.21                   | 16.881            |                    |         |
| 6,150.00                                                                                         | 6,149.98            | 6,186.19            | 6,172.47            | 21.80           | 21.79       | -88.61                | 15.41                             | -728.60    | 727.45               | 683.87                | 43.57                   | 16.695            |                    |         |
| 6,200.00                                                                                         | 6,199.96            | 6,238.58            | 6,224.45            | 21.96           | 21.99       | -88.98                | 9.03                              | -727.35    | 725.24               | 681.30                | 43.93                   | 16.507            |                    |         |
| 6,250.00                                                                                         | 6,249.94            | 6,289.29            | 6,274.73            | 22.12           | 22.19       | -89.35                | 2.55                              | -726.00    | 722.92               | 678.63                | 44.29                   | 16.321            |                    |         |
| 6,300.00                                                                                         | 6,299.92            | 6,339.27            | 6,324.27            | 22.29           | 22.38       | -89.72                | -3.84                             | -724.64    | 720.61               | 675.96                | 44.65                   | 16.140            |                    |         |
| 6,350.00                                                                                         | 6,349.90            | 6,387.43            | 6,372.02            | 22.45           | 22.56       | -90.09                | -10.03                            | -723.36    | 718.37               | 673.37                | 45.00                   | 15.963            |                    |         |
| 6,400.00                                                                                         | 6,399.88            | 6,435.07            | 6,419.24            | 22.62           | 22.75       | -90.46                | -16.29                            | -722.22    | 716.31               | 670.95                | 45.35                   | 15.784            |                    |         |
| 6,450.00                                                                                         | 6,449.86            | 6,483.82            | 6,467.53            | 22.78           | 22.94       | -90.83                | -22.83                            | -721.16    | 714.39               | 668.69                | 45.71                   | 15.630            |                    |         |
| 6,500.00                                                                                         | 6,499.84            | 6,532.83            | 6,516.07            | 22.95           | 23.13       | -91.20                | -29.51                            | -720.13    | 712.57               | 666.51                | 46.06                   | 15.469            |                    |         |
| 6,550.00                                                                                         | 6,549.82            | 6,583.57            | 6,566.31            | 23.11           | 23.32       | -91.57                | -36.54                            | -719.06    | 710.79               | 664.37                | 46.43                   | 15.310            |                    |         |
| 6,600.00                                                                                         | 6,599.80            | 6,634.62            | 6,616.84            | 23.28           | 23.52       | -91.94                | -43.71                            | -717.87    | 708.96               | 662.17                | 46.79                   | 15.152            |                    |         |
| 6,650.00                                                                                         | 6,649.79            | 6,683.05            | 6,664.77            | 23.44           | 23.71       | -92.31                | -50.55                            | -716.73    | 707.17               | 660.03                | 47.15                   | 15.000            |                    |         |
| 6,700.00                                                                                         | 6,699.77            | 6,731.42            | 6,712.66            | 23.61           | 23.90       | -92.68                | -57.34                            | -715.68    | 705.52               | 658.02                | 47.50                   | 14.853            |                    |         |
| 6,750.00                                                                                         | 6,749.75            | 6,778.99            | 6,759.75            | 23.78           | 24.09       | -93.05                | -64.00                            | -714.75    | 704.04               | 656.18                | 47.85                   | 14.712            |                    |         |
| 6,800.00                                                                                         | 6,799.73            | 6,826.59            | 6,806.87            | 23.94           | 24.27       | -93.42                | -70.63                            | -713.97    | 702.75               | 654.54                | 48.21                   | 14.577            |                    |         |
| 6,850.00                                                                                         | 6,849.71            | 6,873.68            | 6,853.53            | 24.11           | 24.46       | -93.79                | -77.04                            | -713.36    | 701.87               | 653.11                | 48.56                   | 14.450            |                    |         |
| 6,900.00                                                                                         | 6,899.69            | 6,920.86            | 6,900.30            | 24.28           | 24.64       | -94.16                | -83.15                            | -712.95    | 700.82               | 651.91                | 48.91                   | 14.329            |                    |         |
| 6,950.00                                                                                         | 6,949.67            | 6,968.75            | 6,947.81            | 24.44           | 24.83       | -94.53                | -89.21                            | -712.69    | 700.17               | 650.91                | 49.26                   | 14.214            |                    |         |
| 7,000.00                                                                                         | 6,999.65            | 7,016.66            | 6,995.32            | 24.61           | 25.01       | -94.90                | -95.33                            | -712.55    | 699.88               | 650.07                | 49.61                   | 14.103            |                    |         |
| 7,050.00                                                                                         | 7,049.63            | 7,067.25            | 7,045.51            | 24.78           | 25.21       | -95.27                | -101.73                           | -712.44    | 699.27               | 649.30                | 49.97                   | 13.993            |                    |         |
| 7,100.00                                                                                         | 7,099.61            | 7,118.21            | 7,096.08            | 24.94           | 25.40       | -95.64                | -107.98                           | -712.29    | 698.83               | 648.49                | 50.34                   | 13.883            |                    |         |
| 7,150.00                                                                                         | 7,149.60            | 7,170.79            | 7,148.29            | 25.11           | 25.61       | -96.01                | -114.28                           | -711.98    | 698.28               | 647.57                | 50.71                   | 13.770            |                    |         |
| 7,200.00                                                                                         | 7,199.58            | 7,223.37            | 7,200.50            | 25.28           | 25.81       | -96.38                | -120.45                           | -711.48    | 697.56               | 646.48                | 51.08                   | 13.656            |                    |         |
| 7,250.00                                                                                         | 7,249.56            | 7,275.88            | 7,252.62            | 25.45           | 26.01       | -96.75                | -126.73                           | -710.75    | 696.68               | 645.22                | 51.45                   | 13.540            |                    |         |
| 7,300.00                                                                                         | 7,299.54            | 7,325.44            | 7,301.82            | 25.62           | 26.21       | -97.12                | -132.70                           | -709.91    | 695.69               | 643.88                | 51.81                   | 13.428            |                    |         |
| 7,350.00                                                                                         | 7,349.52            | 7,372.80            | 7,348.88            | 25.78           | 26.39       | -97.49                | -137.96                           | -709.31    | 694.88               | 642.72                | 52.16                   | 13.322            |                    |         |
| 7,400.00                                                                                         | 7,399.50            | 7,422.23            | 7,398.05            | 25.95           | 26.58       | -97.86                | -143.00                           | -708.89    | 694.23               | 641.71                | 52.52                   | 13.219            |                    |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Stray Cat 8-5 Fed Com 213H - Original Hole - Original Hole |                |                |                |                 |        |                   |                        |            |                 |                  |                    |                   | Offset Site Error:      0.00 ft |         |
|--------------------------------------------------------------------------------------------------|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|--------------------|-------------------|---------------------------------|---------|
| Survey Program:      203-MWD+HDGM                                                                |                |                |                |                 |        |                   |                        |            |                 |                  |                    |                   | Offset Well Error:      0.00 ft |         |
| Reference                                                                                        |                | Offset         |                | Semi Major Axis |        |                   | Distance               |            |                 |                  |                    |                   |                                 | Warning |
| Measured Depth                                                                                   | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre |            | Between Centres | Between Ellipses | Minimum Separation | Separation Factor |                                 |         |
| (ft)                                                                                             | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | +N/-S (ft)             | +E/-W (ft) | (ft)            | (ft)             | (ft)               |                   |                                 |         |
| 7,450.00                                                                                         | 7,449.48       | 7,473.15       | 7,448.72       | 26.12           | 26.77  | 38.74             | -148.08                | -708.42    | 693.55          | 640.67           | 52.88              | 13.116            |                                 |         |
| 7,500.00                                                                                         | 7,499.46       | 7,522.74       | 7,498.06       | 26.29           | 26.96  | 38.41             | -152.95                | -707.93    | 692.85          | 639.61           | 53.23              | 13.015            |                                 |         |
| 7,550.00                                                                                         | 7,549.44       | 7,571.79       | 7,546.88       | 26.46           | 27.15  | 38.08             | -157.74                | -707.50    | 692.22          | 638.63           | 53.59              | 12.917            |                                 |         |
| 7,600.00                                                                                         | 7,599.42       | 7,621.92       | 7,596.77       | 26.63           | 27.34  | 37.75             | -162.58                | -707.10    | 691.64          | 637.69           | 53.95              | 12.821            |                                 |         |
| 7,650.00                                                                                         | 7,649.41       | 7,672.37       | 7,647.00       | 26.80           | 27.53  | 37.43             | -167.36                | -706.67    | 691.04          | 636.73           | 54.31              | 12.725            |                                 |         |
| 7,700.00                                                                                         | 7,699.39       | 7,722.15       | 7,696.55       | 26.97           | 27.72  | 37.11             | -172.05                | -706.23    | 690.44          | 635.78           | 54.67              | 12.630            |                                 |         |
| 7,750.00                                                                                         | 7,749.37       | 7,771.84       | 7,746.01       | 27.14           | 27.91  | 36.78             | -176.82                | -705.78    | 689.88          | 634.86           | 55.02              | 12.538            |                                 |         |
| 7,800.00                                                                                         | 7,799.35       | 7,820.58       | 7,794.50       | 27.31           | 28.10  | 36.44             | -181.66                | -705.35    | 689.38          | 634.00           | 55.38              | 12.449            |                                 |         |
| 7,850.00                                                                                         | 7,849.33       | 7,869.35       | 7,843.01       | 27.48           | 28.28  | 36.09             | -186.73                | -704.96    | 688.99          | 633.26           | 55.73              | 12.363            |                                 |         |
| 7,900.00                                                                                         | 7,899.31       | 7,919.23       | 7,892.60       | 27.65           | 28.47  | 35.72             | -192.07                | -704.55    | 688.66          | 632.57           | 56.09              | 12.278            |                                 |         |
| 7,950.00                                                                                         | 7,949.29       | 7,969.09       | 7,942.16       | 27.82           | 28.67  | 35.34             | -197.49                | -704.11    | 688.35          | 631.90           | 56.45              | 12.194            |                                 |         |
| 8,000.00                                                                                         | 7,999.27       | 8,018.33       | 7,991.10       | 27.99           | 28.86  | 34.95             | -202.91                | -703.69    | 688.10          | 631.29           | 56.81              | 12.113            |                                 |         |
| 8,050.00                                                                                         | 8,049.25       | 8,067.97       | 8,040.43       | 28.16           | 29.05  | 34.57             | -208.41                | -703.29    | 687.90          | 630.74           | 57.17              | 12.033            |                                 |         |
| 8,100.00                                                                                         | 8,099.23       | 8,118.50       | 8,090.65       | 28.33           | 29.24  | 34.17             | -214.04                | -702.83    | 687.71          | 630.18           | 57.53              | 11.954            |                                 |         |
| 8,150.00                                                                                         | 8,149.22       | 8,168.94       | 8,140.77       | 28.50           | 29.44  | 33.77             | -219.66                | -702.32    | 687.50          | 629.61           | 57.89              | 11.875            |                                 |         |
| 8,200.00                                                                                         | 8,199.20       | 8,219.30       | 8,190.86       | 28.67           | 29.63  | 33.40             | -224.89                | -701.87    | 687.27          | 629.02           | 58.25              | 11.798            |                                 |         |
| 8,250.00                                                                                         | 8,249.18       | 8,270.21       | 8,241.53       | 28.84           | 29.82  | 33.07             | -229.76                | -701.48    | 687.02          | 628.41           | 58.62              | 11.721            |                                 |         |
| 8,300.00                                                                                         | 8,299.16       | 8,321.55       | 8,292.66       | 29.01           | 30.02  | 32.74             | -234.43                | -701.04    | 686.70          | 627.71           | 58.98              | 11.643            |                                 |         |
| 8,350.00                                                                                         | 8,349.14       | 8,374.02       | 8,344.92       | 29.18           | 30.22  | 32.43             | -238.96                | -700.52    | 686.25          | 626.90           | 59.35              | 11.563            |                                 |         |
| 8,400.00                                                                                         | 8,399.12       | 8,426.99       | 8,397.73       | 29.35           | 30.42  | 32.14             | -243.17                | -699.85    | 685.60          | 625.89           | 59.72              | 11.481            |                                 |         |
| 8,450.00                                                                                         | 8,449.10       | 8,475.50       | 8,446.09       | 29.52           | 30.60  | 31.89             | -246.85                | -699.22    | 684.96          | 624.89           | 60.07              | 11.403            |                                 |         |
| 8,477.94                                                                                         | 8,477.04       | 8,502.44       | 8,472.96       | 29.62           | 30.70  | 31.74             | -248.91                | -698.92    | 684.85          | 624.58           | 60.26              | 11.364            |                                 |         |
| 8,500.00                                                                                         | 8,499.10       | 8,523.72       | 8,494.17       | 29.69           | 30.78  | 31.61             | -250.54                | -698.71    | 684.92          | 624.50           | 60.42              | 11.336            |                                 |         |
| 8,550.00                                                                                         | 8,549.10       | 8,573.66       | 8,543.97       | 29.87           | 30.97  | -107.34           | -254.33                | -698.25    | 685.48          | 624.70           | 60.78              | 11.278            |                                 |         |
| 8,600.00                                                                                         | 8,599.10       | 8,623.63       | 8,593.79       | 30.05           | 31.15  | -107.65           | -258.01                | -697.81    | 686.17          | 625.03           | 61.14              | 11.223            |                                 |         |
| 8,650.00                                                                                         | 8,649.10       | 8,670.22       | 8,640.26       | 30.23           | 31.33  | -107.92           | -261.32                | -697.57    | 687.01          | 625.52           | 61.49              | 11.173            |                                 |         |
| 8,700.00                                                                                         | 8,699.10       | 8,717.53       | 8,687.46       | 30.40           | 31.50  | -108.18           | -264.57                | -697.57    | 688.08          | 626.24           | 61.84              | 11.127            |                                 |         |
| 8,750.00                                                                                         | 8,749.10       | 8,770.78       | 8,740.60       | 30.58           | 31.70  | -108.44           | -267.96                | -697.62    | 689.13          | 626.91           | 62.21              | 11.077            |                                 |         |
| 8,800.00                                                                                         | 8,799.10       | 8,823.41       | 8,793.15       | 30.76           | 31.89  | -108.68           | -270.96                | -697.53    | 689.94          | 627.36           | 62.58              | 11.024            |                                 |         |
| 8,850.00                                                                                         | 8,849.10       | 8,874.50       | 8,844.17       | 30.94           | 32.08  | -108.90           | -273.65                | -697.37    | 690.65          | 627.70           | 62.95              | 10.972            |                                 |         |
| 8,900.00                                                                                         | 8,899.09       | 8,923.38       | 8,892.99       | 31.11           | 32.26  | 71.28             | -276.08                | -697.22    | 691.23          | 627.93           | 63.30              | 10.920            |                                 |         |
| 8,950.00                                                                                         | 8,948.94       | 8,969.20       | 8,938.76       | 31.28           | 32.42  | 71.41             | -278.15                | -697.38    | 690.96          | 627.33           | 63.63              | 10.859            |                                 |         |
| 9,000.00                                                                                         | 8,998.28       | 9,015.94       | 8,985.46       | 31.45           | 32.59  | 72.00             | -280.00                | -697.91    | 689.60          | 625.64           | 63.97              | 10.781            |                                 |         |
| 9,050.00                                                                                         | 9,046.74       | 9,064.17       | 9,033.67       | 31.62           | 32.76  | 73.09             | -281.44                | -698.71    | 687.10          | 622.79           | 64.31              | 10.685            |                                 |         |
| 9,100.00                                                                                         | 9,093.94       | 9,110.63       | 9,080.11       | 31.78           | 32.93  | 74.61             | -282.36                | -699.68    | 683.63          | 618.99           | 64.64              | 10.576            |                                 |         |
| 9,150.00                                                                                         | 9,139.53       | 9,154.96       | 9,124.42       | 31.94           | 33.08  | 76.44             | -283.22                | -700.71    | 679.54          | 614.58           | 64.96              | 10.460            |                                 |         |
| 9,200.00                                                                                         | 9,183.16       | 9,198.72       | 9,168.15       | 32.10           | 33.23  | 78.59             | -284.17                | -701.79    | 675.20          | 609.91           | 65.28              | 10.342            |                                 |         |
| 9,250.00                                                                                         | 9,224.50       | 9,244.53       | 9,213.94       | 32.26           | 33.39  | 81.14             | -285.07                | -702.80    | 670.78          | 605.16           | 65.62              | 10.222            |                                 |         |
| 9,300.00                                                                                         | 9,263.23       | 9,287.33       | 9,256.73       | 32.42           | 33.54  | 83.82             | -285.73                | -703.52    | 666.71          | 600.77           | 65.94              | 10.111            |                                 |         |
| 9,350.00                                                                                         | 9,299.06       | 9,326.88       | 9,296.27       | 32.58           | 33.68  | 86.47             | -286.22                | -704.00    | 663.57          | 597.33           | 66.25              | 10.017            |                                 |         |
| 9,400.00                                                                                         | 9,331.72       | 9,362.80       | 9,332.19       | 32.74           | 33.80  | 88.96             | -286.58                | -704.27    | 661.94          | 595.41           | 66.54              | 9.948             |                                 |         |
| 9,415.60                                                                                         | 9,341.22       | 9,373.23       | 9,342.62       | 32.79           | 33.84  | 89.69             | -286.66                | -704.33    | 661.84          | 595.21           | 66.63              | 9.934 CC, ES      |                                 |         |
| 9,450.00                                                                                         | 9,360.95       | 9,393.79       | 9,363.18       | 32.91           | 33.91  | 91.08             | -286.83                | -704.40    | 662.41          | 595.60           | 66.81              | 9.915 SF          |                                 |         |
| 9,500.00                                                                                         | 9,386.54       | 9,420.13       | 9,389.51       | 33.08           | 34.00  | 92.71             | -287.13                | -704.49    | 665.53          | 598.47           | 67.06              | 9.925             |                                 |         |
| 9,550.00                                                                                         | 9,408.29       | 9,442.93       | 9,412.31       | 33.25           | 34.08  | 93.84             | -287.48                | -704.56    | 671.67          | 604.38           | 67.28              | 9.983             |                                 |         |
| 9,600.00                                                                                         | 9,426.04       | 9,461.97       | 9,431.35       | 33.42           | 34.15  | 94.41             | -287.84                | -704.62    | 681.08          | 613.59           | 67.48              | 10.092            |                                 |         |
| 9,650.00                                                                                         | 9,439.64       | 9,477.05       | 9,446.42       | 33.60           | 34.20  | 94.32             | -288.15                | -704.67    | 693.87          | 626.22           | 67.65              | 10.256            |                                 |         |
| 9,700.00                                                                                         | 9,449.01       | 9,486.94       | 9,456.32       | 33.78           | 34.24  | 93.45             | -288.38                | -704.71    | 710.05          | 642.26           | 67.79              | 10.475            |                                 |         |
| 9,750.00                                                                                         | 9,454.05       | 9,492.90       | 9,462.27       | 33.97           | 34.26  | 91.86             | -288.51                | -704.73    | 729.43          | 661.55           | 67.88              | 10.745            |                                 |         |
| 9,800.00                                                                                         | 9,455.00       | 9,494.93       | 9,464.30       | 34.15           | 34.27  | 90.43             | -288.56                | -704.74    | 751.75          | 683.80           | 67.95              | 11.064            |                                 |         |
| 9,850.00                                                                                         | 9,455.00       | 9,496.06       | 9,465.43       | 34.36           | 34.27  | 90.53             | -288.58                | -704.75    | 776.66          | 708.65           | 68.00              | 11.421            |                                 |         |
| 9,900.00                                                                                         | 9,455.00       | 9,497.19       | 9,466.56       | 34.56           | 34.28  | 90.63             | -288.61                | -704.75    | 803.90          | 735.86           | 68.04              | 11.815            |                                 |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 08-T23S-R32E - Stray Cat 8-5 Fed Com 213H - Original Hole - Original Hole |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Site Error: | 0.00 ft |
|--------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 203-MWD+HDGM                                                                     |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Well Error: | 0.00 ft |
| Reference                                                                                        |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                    | Warning |
| Measured Depth (ft)                                                                              | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor  |         |
| 9,950.00                                                                                         | 9,455.00            | 9,498.33            | 9,467.70            | 34.79           | 34.28       | 90.73                 | -288.64                           | -704.76    | 833.26               | 765.18                | 68.08                   | 12.239             |         |
| 10,000.00                                                                                        | 9,455.00            | 9,499.48            | 9,468.85            | 35.02           | 34.28       | 90.83                 | -288.67                           | -704.77    | 864.51               | 796.40                | 68.11                   | 12.693             |         |
| 10,050.00                                                                                        | 9,455.00            | 9,500.64            | 9,470.01            | 35.28           | 34.29       | 90.93                 | -288.69                           | -704.77    | 897.46               | 829.32                | 68.14                   | 13.171             |         |
| 10,100.00                                                                                        | 9,455.00            | 9,501.80            | 9,471.17            | 35.54           | 34.29       | 91.03                 | -288.72                           | -704.78    | 931.93               | 863.77                | 68.16                   | 13.673             |         |
| 10,150.00                                                                                        | 9,455.00            | 9,502.97            | 9,472.34            | 35.82           | 34.30       | 91.13                 | -288.75                           | -704.78    | 967.75               | 899.57                | 68.18                   | 14.194             |         |
| 10,200.00                                                                                        | 9,455.00            | 9,504.15            | 9,473.51            | 36.11           | 34.30       | 91.23                 | -288.78                           | -704.79    | 1,004.79             | 936.59                | 68.20                   | 14.734             |         |
| 10,250.00                                                                                        | 9,455.00            | 9,505.33            | 9,474.70            | 36.42           | 34.31       | 91.33                 | -288.80                           | -704.80    | 1,042.90             | 974.69                | 68.21                   | 15.289             |         |
| 10,300.00                                                                                        | 9,455.00            | 9,506.52            | 9,475.89            | 36.72           | 34.31       | 91.43                 | -288.83                           | -704.80    | 1,081.98             | 1,013.76              | 68.22                   | 15.860             |         |
| 10,350.00                                                                                        | 9,455.00            | 9,507.72            | 9,477.09            | 37.06           | 34.31       | 91.54                 | -288.86                           | -704.81    | 1,121.93             | 1,053.69              | 68.23                   | 16.442             |         |
| 10,400.00                                                                                        | 9,455.00            | 9,508.93            | 9,478.30            | 37.39           | 34.32       | 91.64                 | -288.89                           | -704.82    | 1,162.65             | 1,094.41              | 68.24                   | 17.037             |         |
| 10,450.00                                                                                        | 9,455.00            | 9,510.14            | 9,479.51            | 37.74           | 34.32       | 91.75                 | -288.92                           | -704.83    | 1,204.07             | 1,135.82              | 68.25                   | 17.642             |         |
| 10,500.00                                                                                        | 9,455.00            | 9,511.37            | 9,480.73            | 38.10           | 34.33       | 91.85                 | -288.95                           | -704.83    | 1,246.12             | 1,177.87              | 68.26                   | 18.256             |         |
| 10,550.00                                                                                        | 9,455.00            | 9,512.60            | 9,481.97            | 38.47           | 34.33       | 91.96                 | -288.98                           | -704.84    | 1,288.74             | 1,220.47              | 68.27                   | 18.878             |         |
| 10,600.00                                                                                        | 9,455.00            | 9,513.84            | 9,483.20            | 38.85           | 34.34       | 92.07                 | -289.01                           | -704.85    | 1,331.87             | 1,263.60              | 68.27                   | 19.508             |         |
| 10,650.00                                                                                        | 9,455.00            | 9,515.09            | 9,484.45            | 39.24           | 34.34       | 92.17                 | -289.04                           | -704.86    | 1,375.47             | 1,307.18              | 68.28                   | 20.144             |         |
| 10,700.00                                                                                        | 9,455.00            | 9,516.34            | 9,485.71            | 39.64           | 34.34       | 92.28                 | -289.07                           | -704.86    | 1,419.48             | 1,351.19              | 68.29                   | 20.787             |         |
| 10,750.00                                                                                        | 9,455.00            | 9,517.60            | 9,486.97            | 40.05           | 34.35       | 92.39                 | -289.10                           | -704.87    | 1,463.88             | 1,395.58              | 68.30                   | 21.434             |         |

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Sec 17-T23S-R32E - Sharbro Fed #2 (Active) - Wellbore #1 - Wellbore #1 |                           |                           |                           |                 |        |                             |                                         |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft  |
|------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-----------------|--------|-----------------------------|-----------------------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                            |                           |                           |                           |                 |        |                             |                                         |               |                            |                             |                               |                      | Offset Well Error: | 10.00 ft |
| Measured Depth<br>(ft)                                                 | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Semi Major Axis |        | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Distance                   |                             | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |          |
| Reference                                                              | Offset                    | Reference                 | Offset                    | Reference       | Offset |                             |                                         |               | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                               |                      |                    |          |
| 10,450.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 37.74           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,478.98                   | 1,302.74                    | 176.24                        | 8.392                |                    |          |
| 10,500.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 38.10           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,433.70                   | 1,257.32                    | 176.38                        | 8.128                |                    |          |
| 10,550.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 38.47           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,388.75                   | 1,212.21                    | 176.55                        | 7.866                |                    |          |
| 10,600.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 38.85           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,344.16                   | 1,167.43                    | 176.73                        | 7.606                |                    |          |
| 10,650.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 39.24           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,299.96                   | 1,123.02                    | 176.94                        | 7.347                |                    |          |
| 10,700.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 39.64           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,256.19                   | 1,079.03                    | 177.17                        | 7.090                |                    |          |
| 10,750.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 40.05           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,212.91                   | 1,035.48                    | 177.43                        | 6.836                |                    |          |
| 10,800.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 40.46           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,170.16                   | 992.44                      | 177.72                        | 6.584                |                    |          |
| 10,850.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 40.89           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,128.01                   | 949.96                      | 178.05                        | 6.335                |                    |          |
| 10,900.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 41.32           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,086.52                   | 908.11                      | 178.41                        | 6.090                |                    |          |
| 10,950.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 41.77           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,045.78                   | 866.85                      | 178.83                        | 5.848                |                    |          |
| 11,000.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 42.22           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,005.87                   | 826.58                      | 179.29                        | 5.610                |                    |          |
| 11,050.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 42.68           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 966.91                     | 787.10                      | 179.81                        | 5.377                |                    |          |
| 11,100.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 43.14           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 929.00                     | 748.61                      | 180.39                        | 5.150                |                    |          |
| 11,150.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 43.62           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 892.28                     | 711.25                      | 181.03                        | 4.929 Alert          |                    |          |
| 11,200.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 44.10           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 856.91                     | 675.17                      | 181.74                        | 4.715 Alert          |                    |          |
| 11,250.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 44.59           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 823.06                     | 640.53                      | 182.53                        | 4.509 Alert          |                    |          |
| 11,300.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 45.08           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 790.92                     | 607.54                      | 183.38                        | 4.313 Alert          |                    |          |
| 11,350.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 45.58           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 760.71                     | 576.41                      | 184.30                        | 4.127 Alert          |                    |          |
| 11,400.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 46.08           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 732.67                     | 547.39                      | 185.28                        | 3.954 Alert          |                    |          |
| 11,450.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 46.60           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 707.06                     | 520.74                      | 186.32                        | 3.795 Alert          |                    |          |
| 11,500.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 47.11           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 684.15                     | 498.78                      | 187.38                        | 3.651 Alert          |                    |          |
| 11,550.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 47.64           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 664.22                     | 475.78                      | 188.44                        | 3.525 Alert          |                    |          |
| 11,600.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 48.16           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 647.55                     | 458.07                      | 189.48                        | 3.418 Alert          |                    |          |
| 11,650.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 48.70           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 634.39                     | 443.93                      | 190.46                        | 3.331 Alert          |                    |          |
| 11,700.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 49.24           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 624.96                     | 433.63                      | 191.33                        | 3.266 Alert          |                    |          |
| 11,750.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 49.78           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 619.44                     | 427.37                      | 192.07                        | 3.225 Alert          |                    |          |
| 11,793.72                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 50.26           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 617.89                     | 425.31                      | 192.58                        | 3.208 Alert, CC      |                    |          |
| 11,800.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 50.33           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 617.92                     | 425.28                      | 192.64                        | 3.208 Alert, ES, SF  |                    |          |
| 11,850.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 50.88           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 620.45                     | 427.41                      | 193.04                        | 3.214 Alert          |                    |          |
| 11,900.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 51.44           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 626.97                     | 433.73                      | 193.24                        | 3.244 Alert          |                    |          |
| 11,950.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 52.00           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 637.35                     | 444.09                      | 193.26                        | 3.298 Alert          |                    |          |
| 12,000.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 52.57           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 651.41                     | 458.30                      | 193.12                        | 3.373 Alert          |                    |          |
| 12,050.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 53.14           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 668.93                     | 476.10                      | 192.83                        | 3.469 Alert          |                    |          |
| 12,100.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 53.71           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 689.64                     | 497.20                      | 192.43                        | 3.584 Alert          |                    |          |
| 12,150.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 54.29           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 713.25                     | 521.30                      | 191.95                        | 3.716 Alert          |                    |          |
| 12,200.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 54.87           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 739.49                     | 548.09                      | 191.40                        | 3.864 Alert          |                    |          |
| 12,250.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 55.45           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 768.10                     | 577.28                      | 190.83                        | 4.025 Alert          |                    |          |
| 12,300.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 56.04           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 798.82                     | 608.59                      | 190.23                        | 4.199 Alert          |                    |          |
| 12,350.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 56.63           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 831.41                     | 641.78                      | 189.63                        | 4.384 Alert          |                    |          |
| 12,400.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 57.22           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 865.66                     | 676.62                      | 189.04                        | 4.579 Alert          |                    |          |
| 12,450.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 57.82           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 901.38                     | 712.91                      | 188.47                        | 4.783 Alert          |                    |          |
| 12,500.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 58.42           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 938.41                     | 750.49                      | 187.92                        | 4.994 Alert          |                    |          |
| 12,550.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 59.02           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 976.60                     | 789.20                      | 187.40                        | 5.211                |                    |          |
| 12,600.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 59.63           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,015.81                   | 828.91                      | 186.90                        | 5.435                |                    |          |
| 12,650.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 60.24           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,055.94                   | 869.50                      | 186.43                        | 5.664                |                    |          |
| 12,700.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 60.85           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,096.87                   | 910.88                      | 186.00                        | 5.897                |                    |          |
| 12,750.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 61.46           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,138.53                   | 952.95                      | 185.59                        | 6.135                |                    |          |
| 12,800.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 62.08           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,180.84                   | 995.64                      | 185.20                        | 6.376                |                    |          |
| 12,850.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 62.70           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,223.73                   | 1,038.89                    | 184.84                        | 6.620                |                    |          |
| 12,900.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 63.32           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,267.14                   | 1,082.63                    | 184.51                        | 6.868                |                    |          |
| 12,950.00                                                              | 9,455.00                  | 9,488.30                  | 9,488.30                  | 63.94           | 142.33 | -90.00                      | -2,629.73                               | 590.42        | 1,311.02                   | 1,126.82                    | 184.20                        | 7.117                |                    |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

|                 |                |                |                |                 |        |                   |                              |        |                 |                  |                    |                   |                                                                        |  |                    |          |
|-----------------|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------------|--------|-----------------|------------------|--------------------|-------------------|------------------------------------------------------------------------|--|--------------------|----------|
| Offset Design   |                |                |                |                 |        |                   |                              |        |                 |                  |                    |                   | Sec 17-T23S-R32E - Sharbro Fed #2 (Active) - Wellbore #1 - Wellbore #1 |  | Offset Site Error: | 0.00 ft  |
| Survey Program: |                |                |                |                 |        |                   |                              |        |                 |                  |                    |                   | 10-INC-ONLY                                                            |  | Offset Well Error: | 10.00 ft |
| Reference       |                | Offset         |                | Semi Major Axis |        |                   | Distance                     |        |                 |                  |                    |                   | Warning                                                                |  |                    |          |
| Measured Depth  | Vertical Depth | Measured Depth | Vertical Depth | Reference       | Offset | Highside Toolface | Offset Wellbore Centre +N/-S | +E/-W  | Between Centres | Between Ellipses | Minimum Separation | Separation Factor |                                                                        |  |                    |          |
| (ft)            | (ft)           | (ft)           | (ft)           | (ft)            | (ft)   | (°)               | (ft)                         | (ft)   | (ft)            | (ft)             | (ft)               |                   |                                                                        |  |                    |          |
| 13,000.00       | 9,455.00       | 9,488.30       | 9,488.30       | 64.57           | 142.33 | -90.00            | -2,629.73                    | 590.42 | 1,355.32        | 1,171.41         | 183.91             | 7.370             |                                                                        |  |                    |          |
| 13,050.00       | 9,455.00       | 9,488.30       | 9,488.30       | 65.19           | 142.33 | -90.00            | -2,629.73                    | 590.42 | 1,400.01        | 1,216.37         | 183.64             | 7.624             |                                                                        |  |                    |          |
| 13,100.00       | 9,455.00       | 9,488.30       | 9,488.30       | 65.82           | 142.33 | -90.00            | -2,629.73                    | 590.42 | 1,445.04        | 1,261.66         | 183.39             | 7.880             |                                                                        |  |                    |          |
| 13,150.00       | 9,455.00       | 9,488.30       | 9,488.30       | 66.46           | 142.33 | -90.00            | -2,629.73                    | 590.42 | 1,490.40        | 1,307.24         | 183.15             | 8.138             |                                                                        |  |                    |          |

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDCS Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 17-T23S-R32E - Sharbro Fed #3 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft  |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                                               |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 10.00 ft |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    |          |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning            |          |
| 10,700.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 39.64           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,470.92             | 1,281.61              | 189.31                  | 7.770             |                    |          |
| 10,750.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 40.05           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,436.66             | 1,248.77              | 187.89                  | 7.646             |                    |          |
| 10,800.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 40.46           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,403.35             | 1,216.94              | 186.41                  | 7.528             |                    |          |
| 10,850.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 40.89           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,371.06             | 1,186.18              | 184.88                  | 7.416             |                    |          |
| 10,900.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 41.32           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,339.85             | 1,156.57              | 183.28                  | 7.311             |                    |          |
| 10,950.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 41.77           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,309.81             | 1,128.18              | 181.63                  | 7.211             |                    |          |
| 11,000.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 42.22           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,281.02             | 1,101.08              | 179.93                  | 7.119             |                    |          |
| 11,050.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 42.68           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,253.56             | 1,075.35              | 178.20                  | 7.034             |                    |          |
| 11,100.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 43.14           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,227.52             | 1,051.07              | 176.45                  | 6.957             |                    |          |
| 11,150.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 43.62           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,203.00             | 1,028.30              | 174.70                  | 6.886             |                    |          |
| 11,200.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 44.10           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,180.09             | 1,007.13              | 172.96                  | 6.823             |                    |          |
| 11,250.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 44.59           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,158.88             | 987.63                | 171.26                  | 6.767             |                    |          |
| 11,300.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 45.08           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,139.48             | 969.85                | 169.63                  | 6.718             |                    |          |
| 11,350.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 45.58           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,121.97             | 953.87                | 168.10                  | 6.674             |                    |          |
| 11,400.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 46.08           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,106.44             | 939.74                | 166.71                  | 6.637             |                    |          |
| 11,450.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 46.60           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,092.99             | 927.50                | 165.49                  | 6.605             |                    |          |
| 11,500.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 47.11           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,081.68             | 917.19                | 164.48                  | 6.576             |                    |          |
| 11,550.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 47.64           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,072.58             | 908.86                | 163.72                  | 6.551             |                    |          |
| 11,600.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 48.16           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,065.75             | 902.51                | 163.24                  | 6.529             |                    |          |
| 11,650.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 48.70           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,061.24             | 898.18                | 163.06                  | 6.508             |                    |          |
| 11,700.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 49.24           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,059.07             | 895.88                | 163.19                  | 6.490             |                    |          |
| 11,720.98                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 49.47           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,058.86             | 895.52                | 163.35                  | 6.482             | CC, ES             |          |
| 11,750.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 49.78           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,059.26             | 895.61                | 163.65                  | 6.473             |                    |          |
| 11,800.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 50.33           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,061.81             | 897.38                | 164.42                  | 6.458             |                    |          |
| 11,850.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 50.88           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,066.69             | 901.20                | 165.50                  | 6.445             |                    |          |
| 11,900.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 51.44           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,073.89             | 907.05                | 166.84                  | 6.437             |                    |          |
| 11,950.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 52.00           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,083.35             | 914.82                | 168.43                  | 6.432             | SF                 |          |
| 12,000.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 52.57           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,095.01             | 924.79                | 170.22                  | 6.433             |                    |          |
| 12,050.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 53.14           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,108.80             | 936.64                | 172.16                  | 6.440             |                    |          |
| 12,100.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 53.71           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,124.65             | 950.43                | 174.23                  | 6.455             |                    |          |
| 12,150.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 54.29           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,142.47             | 966.10                | 176.37                  | 6.478             |                    |          |
| 12,200.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 54.87           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,162.17             | 983.62                | 178.55                  | 6.509             |                    |          |
| 12,250.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 55.45           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,183.66             | 1,002.92              | 180.74                  | 6.549             |                    |          |
| 12,300.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 56.04           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,206.84             | 1,023.92              | 182.92                  | 6.598             |                    |          |
| 12,350.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 56.63           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,231.61             | 1,046.56              | 185.05                  | 6.655             |                    |          |
| 12,400.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 57.22           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,257.88             | 1,070.75              | 187.13                  | 6.722             |                    |          |
| 12,450.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 57.82           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,285.56             | 1,096.43              | 189.13                  | 6.797             |                    |          |
| 12,500.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 58.42           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,314.56             | 1,123.50              | 191.05                  | 6.881             |                    |          |
| 12,550.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 59.02           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,344.79             | 1,151.90              | 192.89                  | 6.972             |                    |          |
| 12,600.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 59.63           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,376.18             | 1,181.54              | 194.64                  | 7.071             |                    |          |
| 12,650.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 60.24           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,408.64             | 1,212.35              | 196.29                  | 7.176             |                    |          |
| 12,700.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 60.85           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,442.11             | 1,244.25              | 197.85                  | 7.289             |                    |          |
| 12,750.00                                                                                 | 9,455.00            | 8,710.00            | 8,706.73            | 61.46           | 186.17      | 41.54                 | -2,565.44                         | -730.06    | 1,476.51             | 1,277.18              | 199.32                  | 7.408             |                    |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 17-T23S-R32E - Sharbro Fed #4 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                      |                                   |            |                      |                       |                         |                   | Offset Site Error:      0.00 ft  |  |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|----------------------------------|--|
| Survey Program:      10-INC-ONLY                                                          |                     |                     |                     |                 |             |                      |                                   |            |                      |                       |                         |                   | Offset Well Error:      10.00 ft |  |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                      | Distance                          |            |                      |                       |                         |                   | Warning                          |  |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Tooface (") | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                                  |  |
| 6,750.00                                                                                  | 6,749.75            | 6,782.06            | 6,761.05            | 23.78           | 127.92      | -12.32               | -1,324.80                         | -739.80    | 1,498.87             | 1,347.17              | 151.70                  | 9.881             |                                  |  |
| 6,800.00                                                                                  | 6,799.73            | 6,812.04            | 6,811.03            | 23.94           | 129.42      | -12.34               | -1,324.80                         | -739.80    | 1,497.52             | 1,344.17              | 153.36                  | 9.765             |                                  |  |
| 6,850.00                                                                                  | 6,849.71            | 6,862.02            | 6,861.01            | 24.11           | 130.91      | -12.35               | -1,324.80                         | -739.80    | 1,496.18             | 1,341.16              | 155.02                  | 9.652             |                                  |  |
| 6,900.00                                                                                  | 6,899.69            | 6,912.00            | 6,910.99            | 24.28           | 132.40      | -12.36               | -1,324.80                         | -739.80    | 1,494.83             | 1,338.16              | 156.68                  | 9.541             |                                  |  |
| 6,950.00                                                                                  | 6,949.67            | 6,961.98            | 6,960.97            | 24.44           | 133.90      | -12.37               | -1,324.80                         | -739.80    | 1,493.49             | 1,335.15              | 158.34                  | 9.432             |                                  |  |
| 7,000.00                                                                                  | 6,999.65            | 7,011.97            | 7,010.95            | 24.61           | 135.39      | -12.38               | -1,324.80                         | -739.80    | 1,492.14             | 1,332.14              | 160.00                  | 9.326             |                                  |  |
| 7,050.00                                                                                  | 7,049.63            | 7,061.95            | 7,060.93            | 24.78           | 136.88      | -12.39               | -1,324.80                         | -739.80    | 1,490.80             | 1,329.14              | 161.66                  | 9.222             |                                  |  |
| 7,100.00                                                                                  | 7,099.61            | 7,111.93            | 7,110.91            | 24.94           | 138.38      | -12.40               | -1,324.80                         | -739.80    | 1,489.45             | 1,326.13              | 163.32                  | 9.120             |                                  |  |
| 7,150.00                                                                                  | 7,149.60            | 7,161.91            | 7,160.90            | 25.11           | 139.87      | -12.42               | -1,324.80                         | -739.80    | 1,488.10             | 1,323.12              | 164.98                  | 9.020             |                                  |  |
| 7,200.00                                                                                  | 7,199.58            | 7,211.89            | 7,210.88            | 25.28           | 141.37      | -12.43               | -1,324.80                         | -739.80    | 1,486.76             | 1,320.12              | 166.64                  | 8.922             |                                  |  |
| 7,250.00                                                                                  | 7,249.56            | 7,261.87            | 7,260.86            | 25.45           | 142.86      | -12.44               | -1,324.80                         | -739.80    | 1,485.41             | 1,317.11              | 168.30                  | 8.826             |                                  |  |
| 7,300.00                                                                                  | 7,299.54            | 7,311.85            | 7,310.84            | 25.62           | 144.35      | -12.45               | -1,324.80                         | -739.80    | 1,484.07             | 1,314.10              | 169.97                  | 8.732             |                                  |  |
| 7,350.00                                                                                  | 7,349.52            | 7,361.83            | 7,360.82            | 25.78           | 145.85      | -12.46               | -1,324.80                         | -739.80    | 1,482.72             | 1,311.10              | 171.63                  | 8.639             |                                  |  |
| 7,400.00                                                                                  | 7,399.50            | 7,411.81            | 7,410.80            | 25.95           | 147.34      | -12.47               | -1,324.80                         | -739.80    | 1,481.38             | 1,308.09              | 173.29                  | 8.549             |                                  |  |
| 7,450.00                                                                                  | 7,449.48            | 7,461.79            | 7,460.78            | 26.12           | 148.84      | -12.48               | -1,324.80                         | -739.80    | 1,480.03             | 1,305.08              | 174.95                  | 8.460             |                                  |  |
| 7,500.00                                                                                  | 7,499.46            | 7,511.78            | 7,510.76            | 26.29           | 150.33      | -12.50               | -1,324.80                         | -739.80    | 1,478.69             | 1,302.07              | 176.62                  | 8.372             |                                  |  |
| 7,550.00                                                                                  | 7,549.44            | 7,561.76            | 7,560.74            | 26.46           | 151.83      | -12.51               | -1,324.80                         | -739.80    | 1,477.34             | 1,299.06              | 178.28                  | 8.287             |                                  |  |
| 7,600.00                                                                                  | 7,599.42            | 7,611.74            | 7,610.72            | 26.63           | 153.32      | -12.52               | -1,324.80                         | -739.80    | 1,476.00             | 1,296.06              | 179.94                  | 8.203             |                                  |  |
| 7,650.00                                                                                  | 7,649.41            | 7,661.72            | 7,660.71            | 26.80           | 154.81      | -12.53               | -1,324.80                         | -739.80    | 1,474.65             | 1,293.05              | 181.60                  | 8.120             |                                  |  |
| 7,700.00                                                                                  | 7,699.39            | 7,711.70            | 7,710.69            | 26.97           | 156.31      | -12.54               | -1,324.80                         | -739.80    | 1,473.31             | 1,290.04              | 183.27                  | 8.039             |                                  |  |
| 7,750.00                                                                                  | 7,749.37            | 7,761.68            | 7,760.67            | 27.14           | 157.80      | -12.55               | -1,324.80                         | -739.80    | 1,471.96             | 1,287.03              | 184.93                  | 7.959             |                                  |  |
| 7,800.00                                                                                  | 7,799.35            | 7,811.66            | 7,810.65            | 27.31           | 159.30      | -12.57               | -1,324.80                         | -739.80    | 1,470.62             | 1,284.02              | 186.60                  | 7.881             |                                  |  |
| 7,850.00                                                                                  | 7,849.33            | 7,861.64            | 7,860.63            | 27.48           | 160.79      | -12.58               | -1,324.80                         | -739.80    | 1,469.27             | 1,281.01              | 188.26                  | 7.804             |                                  |  |
| 7,900.00                                                                                  | 7,899.31            | 7,911.62            | 7,910.61            | 27.65           | 162.29      | -12.59               | -1,324.80                         | -739.80    | 1,467.93             | 1,278.00              | 189.93                  | 7.729             |                                  |  |
| 7,950.00                                                                                  | 7,949.29            | 7,961.61            | 7,960.59            | 27.82           | 163.78      | -12.60               | -1,324.80                         | -739.80    | 1,466.58             | 1,274.99              | 191.59                  | 7.655             |                                  |  |
| 8,000.00                                                                                  | 7,999.27            | 8,011.59            | 8,010.57            | 27.99           | 165.28      | -12.61               | -1,324.80                         | -739.80    | 1,465.24             | 1,271.98              | 193.25                  | 7.582             |                                  |  |
| 8,050.00                                                                                  | 8,049.25            | 8,061.57            | 8,060.55            | 28.16           | 166.77      | -12.62               | -1,324.80                         | -739.80    | 1,463.89             | 1,268.97              | 194.92                  | 7.510             |                                  |  |
| 8,100.00                                                                                  | 8,099.23            | 8,111.55            | 8,110.53            | 28.33           | 168.27      | -12.64               | -1,324.80                         | -739.80    | 1,462.55             | 1,265.97              | 196.58                  | 7.440             |                                  |  |
| 8,150.00                                                                                  | 8,149.22            | 8,161.53            | 8,160.52            | 28.50           | 169.76      | -12.65               | -1,324.80                         | -739.80    | 1,461.21             | 1,262.96              | 198.25                  | 7.371             |                                  |  |
| 8,200.00                                                                                  | 8,199.20            | 8,211.51            | 8,210.50            | 28.67           | 171.26      | -12.66               | -1,324.80                         | -739.80    | 1,459.86             | 1,259.95              | 199.91                  | 7.302             |                                  |  |
| 8,250.00                                                                                  | 8,249.18            | 8,261.49            | 8,260.48            | 28.84           | 172.75      | -12.67               | -1,324.80                         | -739.80    | 1,458.52             | 1,256.94              | 201.58                  | 7.235             |                                  |  |
| 8,300.00                                                                                  | 8,299.16            | 8,311.47            | 8,310.46            | 29.01           | 174.25      | -12.68               | -1,324.80                         | -739.80    | 1,457.17             | 1,253.93              | 203.25                  | 7.169             |                                  |  |
| 8,350.00                                                                                  | 8,349.14            | 8,361.45            | 8,360.44            | 29.18           | 175.74      | -12.70               | -1,324.80                         | -739.80    | 1,455.83             | 1,250.92              | 204.91                  | 7.105             |                                  |  |
| 8,400.00                                                                                  | 8,399.12            | 8,411.43            | 8,410.42            | 29.35           | 177.24      | -12.71               | -1,324.80                         | -739.80    | 1,454.48             | 1,247.91              | 206.58                  | 7.041             |                                  |  |
| 8,450.00                                                                                  | 8,449.10            | 8,461.42            | 8,460.40            | 29.52           | 178.73      | -12.72               | -1,324.80                         | -739.80    | 1,453.20             | 1,244.96              | 208.24                  | 6.978             |                                  |  |
| 8,500.00                                                                                  | 8,499.10            | 8,511.41            | 8,510.40            | 29.69           | 180.23      | -12.72               | -1,324.80                         | -739.80    | 1,452.46             | 1,242.55              | 209.91                  | 6.919             |                                  |  |
| 8,549.99                                                                                  | 8,549.09            | 8,561.40            | 8,560.39            | 29.87           | 181.73      | -151.37              | -1,324.80                         | -739.80    | 1,452.25             | 1,240.87              | 211.58                  | 6.864             |                                  |  |
| 8,550.00                                                                                  | 8,549.10            | 8,561.41            | 8,560.40            | 29.87           | 181.73      | -151.37              | -1,324.80                         | -739.80    | 1,452.33             | 1,240.74              | 211.58                  | 6.864             |                                  |  |
| 8,600.00                                                                                  | 8,599.10            | 8,611.41            | 8,610.40            | 30.05           | 183.22      | -151.37              | -1,324.80                         | -739.80    | 1,452.33             | 1,239.07              | 213.26                  | 6.810             |                                  |  |
| 8,650.00                                                                                  | 8,649.10            | 8,661.41            | 8,660.40            | 30.23           | 184.72      | -151.37              | -1,324.80                         | -739.80    | 1,452.33             | 1,237.40              | 214.93                  | 6.757             |                                  |  |
| 8,700.00                                                                                  | 8,699.10            | 8,711.41            | 8,710.40            | 30.40           | 186.21      | -151.37              | -1,324.80                         | -739.80    | 1,452.33             | 1,235.72              | 216.60                  | 6.705             |                                  |  |
| 8,750.00                                                                                  | 8,749.10            | 8,761.41            | 8,760.40            | 30.58           | 187.71      | -151.37              | -1,324.80                         | -739.80    | 1,452.33             | 1,234.05              | 218.28                  | 6.654             |                                  |  |
| 8,800.00                                                                                  | 8,799.10            | 8,811.41            | 8,810.40            | 30.76           | 189.21      | -151.37              | -1,324.80                         | -739.80    | 1,452.33             | 1,232.37              | 219.95                  | 6.603             |                                  |  |
| 8,850.00                                                                                  | 8,849.10            | 8,861.41            | 8,860.40            | 30.94           | 190.70      | -151.37              | -1,324.80                         | -739.80    | 1,452.33             | 1,230.70              | 221.63                  | 6.553             |                                  |  |
| 8,900.00                                                                                  | 8,899.09            | 8,911.41            | 8,910.39            | 31.11           | 192.20      | 29.01                | -1,324.80                         | -739.80    | 1,452.10             | 1,228.81              | 223.30                  | 6.503             |                                  |  |
| 8,950.00                                                                                  | 8,948.94            | 8,961.26            | 8,960.24            | 31.28           | 193.69      | 29.24                | -1,324.80                         | -739.80    | 1,448.90             | 1,223.94              | 224.96                  | 6.441             |                                  |  |
| 9,000.00                                                                                  | 8,998.28            | 9,010.60            | 9,009.58            | 31.45           | 195.17      | 29.74                | -1,324.80                         | -739.80    | 1,441.92             | 1,215.31              | 226.60                  | 6.363             |                                  |  |
| 9,050.00                                                                                  | 9,046.74            | 9,059.05            | 9,058.04            | 31.62           | 196.62      | 30.53                | -1,324.80                         | -739.80    | 1,431.22             | 1,203.01              | 228.21                  | 6.271             |                                  |  |
| 9,100.00                                                                                  | 9,093.94            | 9,106.26            | 9,105.24            | 31.78           | 198.03      | 31.64                | -1,324.80                         | -739.80    | 1,416.93             | 1,187.15              | 229.78                  | 6.166             |                                  |  |
| 9,115.27                                                                                  | 9,108.05            | 9,120.36            | 9,119.35            | 31.83           | 198.45      | 32.04                | -1,324.80                         | -739.80    | 1,411.87             | 1,181.62              | 230.25                  | 6.132 SF          |                                  |  |
| 9,150.00                                                                                  | 9,139.53            | 8,750.00            | 8,746.70            | 31.94           | 187.37      | 29.16                | -1,324.80                         | -739.80    | 1,456.37             | 1,245.11              | 211.27                  | 6.894             |                                  |  |
| 9,200.00                                                                                  | 9,183.16            | 8,750.00            | 8,746.70            | 32.10           | 187.37      | 29.52                | -1,324.80                         | -739.80    | 1,449.07             | 1,239.63              | 209.44                  | 6.919             |                                  |  |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 17-T23S-R32E - Sharbro Fed #4 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                  |           |                      |                       |                         |                   | Offset Site Error: | 0.00 ft  |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|----------------------------------|-----------|----------------------|-----------------------|-------------------------|-------------------|--------------------|----------|
| Survey Program:    10-INC-ONLY                                                            |                     |                     |                     |                 |             |                       |                                  |           |                      |                       |                         |                   | Offset Well Error: | 10.00 ft |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                         |           |                      |                       | Minimum Separation (ft) | Separation Factor | Warning            |          |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (ft) | +E-W (ft) | Between Centres (ft) | Between Ellipses (ft) |                         |                   |                    |          |
| 9,250.00                                                                                  | 9,224.50            | 8,750.00            | 8,746.70            | 32.26           | 187.37      | 29.99                 | -1,324.80                        | -739.80   | 1,439.70             | 1,232.28              | 207.42                  | 6.941             |                    |          |
| 9,300.00                                                                                  | 9,263.23            | 8,750.00            | 8,746.70            | 32.42           | 187.37      | 30.58                 | -1,324.80                        | -739.80   | 1,428.30             | 1,223.06              | 205.24                  | 6.959             |                    |          |
| 9,350.00                                                                                  | 9,299.06            | 8,750.00            | 8,746.70            | 32.58           | 187.37      | 31.30                 | -1,324.80                        | -739.80   | 1,414.90             | 1,211.98              | 202.92                  | 6.973             |                    |          |
| 9,400.00                                                                                  | 9,331.72            | 8,750.00            | 8,746.70            | 32.74           | 187.37      | 32.15                 | -1,324.80                        | -739.80   | 1,399.55             | 1,199.07              | 200.48                  | 6.981             |                    |          |
| 9,450.00                                                                                  | 9,360.95            | 8,750.00            | 8,746.70            | 32.91           | 187.37      | 33.14                 | -1,324.80                        | -739.80   | 1,382.30             | 1,184.36              | 197.95                  | 6.983             |                    |          |
| 9,500.00                                                                                  | 9,386.54            | 8,750.00            | 8,746.70            | 33.08           | 187.37      | 34.28                 | -1,324.80                        | -739.80   | 1,363.22             | 1,167.86              | 195.36                  | 6.978             |                    |          |
| 9,550.00                                                                                  | 9,408.29            | 8,750.00            | 8,746.70            | 33.25           | 187.37      | 35.60                 | -1,324.80                        | -739.80   | 1,342.38             | 1,149.62              | 192.77                  | 6.964             |                    |          |
| 9,600.00                                                                                  | 9,426.04            | 8,750.00            | 8,746.70            | 33.42           | 187.37      | 37.09                 | -1,324.80                        | -739.80   | 1,319.86             | 1,129.66              | 190.19                  | 6.940             |                    |          |
| 9,650.00                                                                                  | 9,439.64            | 8,750.00            | 8,746.70            | 33.60           | 187.37      | 38.78                 | -1,324.80                        | -739.80   | 1,295.74             | 1,108.04              | 187.69                  | 6.903             |                    |          |
| 9,700.00                                                                                  | 9,449.01            | 8,750.00            | 8,746.70            | 33.78           | 187.37      | 40.69                 | -1,324.80                        | -739.80   | 1,270.12             | 1,084.80              | 185.32                  | 6.854             |                    |          |
| 9,750.00                                                                                  | 9,454.05            | 8,750.00            | 8,746.70            | 33.97           | 187.37      | 42.83                 | -1,324.80                        | -739.80   | 1,243.11             | 1,059.98              | 183.13                  | 6.788             |                    |          |
| 9,800.00                                                                                  | 9,455.00            | 8,750.00            | 8,746.70            | 34.15           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,214.98             | 1,033.82              | 181.16                  | 6.707             |                    |          |
| 9,850.00                                                                                  | 9,455.00            | 8,750.00            | 8,746.70            | 34.36           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,187.71             | 1,008.50              | 179.21                  | 6.627             |                    |          |
| 9,900.00                                                                                  | 9,455.00            | 8,750.00            | 8,746.70            | 34.56           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,161.95             | 984.72                | 177.23                  | 6.556             |                    |          |
| 9,950.00                                                                                  | 9,455.00            | 8,750.00            | 8,746.70            | 34.79           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,137.80             | 962.55                | 175.25                  | 6.493             |                    |          |
| 10,000.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 35.02           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,115.37             | 942.09                | 173.28                  | 6.437             |                    |          |
| 10,050.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 35.28           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,094.77             | 923.40                | 171.37                  | 6.388             |                    |          |
| 10,100.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 35.54           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,076.10             | 906.56                | 169.54                  | 6.347             |                    |          |
| 10,150.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 35.82           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,059.46             | 891.62                | 167.84                  | 6.312             |                    |          |
| 10,200.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 36.11           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,044.96             | 878.65                | 166.31                  | 6.283             |                    |          |
| 10,250.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 36.42           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,032.67             | 867.67                | 164.99                  | 6.259             |                    |          |
| 10,300.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 36.72           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,022.68             | 858.76                | 163.92                  | 6.239             |                    |          |
| 10,350.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 37.06           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,015.06             | 851.91                | 163.15                  | 6.222             |                    |          |
| 10,400.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 37.39           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,009.86             | 847.16                | 162.69                  | 6.207             |                    |          |
| 10,450.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 37.74           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,007.12             | 844.53                | 162.58                  | 6.194             |                    |          |
| 10,480.30                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 37.96           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,006.66             | 843.98                | 162.68                  | 6.188 CC, ES      |                    |          |
| 10,500.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 38.10           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,006.85             | 844.04                | 162.82                  | 6.184             |                    |          |
| 10,550.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 38.47           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,009.07             | 845.66                | 163.41                  | 6.175             |                    |          |
| 10,600.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 38.85           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,013.75             | 849.43                | 164.32                  | 6.169             |                    |          |
| 10,650.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 39.24           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,020.86             | 855.32                | 165.55                  | 6.167             |                    |          |
| 10,700.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 39.64           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,030.35             | 863.32                | 167.03                  | 6.169             |                    |          |
| 10,750.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 40.05           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,042.16             | 873.40                | 168.76                  | 6.176             |                    |          |
| 10,800.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 40.46           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,056.20             | 885.55                | 170.66                  | 6.189             |                    |          |
| 10,850.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 40.89           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,072.40             | 899.70                | 172.70                  | 6.210             |                    |          |
| 10,900.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 41.32           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,090.65             | 915.82                | 174.83                  | 6.238             |                    |          |
| 10,950.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 41.77           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,110.85             | 933.83                | 177.02                  | 6.275             |                    |          |
| 11,000.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 42.22           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,132.89             | 953.67                | 179.22                  | 6.321             |                    |          |
| 11,050.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 42.68           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,156.68             | 975.27                | 181.41                  | 6.376             |                    |          |
| 11,100.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 43.14           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,182.11             | 998.54                | 183.57                  | 6.440             |                    |          |
| 11,150.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 43.62           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,209.07             | 1,023.40              | 185.67                  | 6.512             |                    |          |
| 11,200.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 44.10           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,237.47             | 1,049.77              | 187.70                  | 6.593             |                    |          |
| 11,250.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 44.59           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,267.20             | 1,077.55              | 189.65                  | 6.682             |                    |          |
| 11,300.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 45.08           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,298.18             | 1,106.67              | 191.51                  | 6.779             |                    |          |
| 11,350.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 45.58           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,330.31             | 1,137.03              | 193.28                  | 6.883             |                    |          |
| 11,400.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 46.08           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,363.53             | 1,168.57              | 194.96                  | 6.994             |                    |          |
| 11,450.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 46.60           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,397.74             | 1,201.19              | 196.55                  | 7.112             |                    |          |
| 11,500.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 47.11           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,432.88             | 1,234.84              | 198.04                  | 7.235             |                    |          |
| 11,550.00                                                                                 | 9,455.00            | 8,750.00            | 8,746.70            | 47.64           | 187.37      | 44.37                 | -1,324.80                        | -739.80   | 1,468.88             | 1,269.44              | 199.44                  | 7.365             |                    |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 17-T23S-R32E - Sharbro Fed #5 (Active) - Wellbore #1 - Wellbore #1 |                           |                           |                           |                   |                |                             |                        |              |                            |                             |                               |                      | Offset Site Error: | 0.00 ft  |
|-------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|------------------------|--------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|----------|
| Survey Program:      10-INC-ONLY                                                          |                           |                           |                           |                   |                |                             |                        |              |                            |                             |                               |                      | Offset Well Error: | 10.00 ft |
| Reference                                                                                 |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Offset Wellbore Centre |              | Distance                   |                             | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |          |
| Measured<br>Depth<br>(ft)                                                                 | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | +N-S<br>(ft)           | +E-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                               |                      |                    |          |
| 0.00                                                                                      | 0.00                      | 18.30                     | 18.30                     | 0.50              | 10.00          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   |                             |                               |                      |                    |          |
| 50.00                                                                                     | 50.00                     | 68.30                     | 68.30                     | 0.50              | 10.04          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,422.14                    | 10.54                         | 135.927              |                    |          |
| 100.00                                                                                    | 100.00                    | 118.30                    | 118.30                    | 0.52              | 10.13          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,422.03                    | 10.65                         | 134.543              |                    |          |
| 150.00                                                                                    | 150.00                    | 168.30                    | 168.30                    | 0.59              | 10.28          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,421.81                    | 10.87                         | 131.831              |                    |          |
| 200.00                                                                                    | 200.00                    | 218.30                    | 218.30                    | 0.70              | 10.48          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,421.50                    | 11.18                         | 128.175              |                    |          |
| 250.00                                                                                    | 250.00                    | 268.30                    | 268.30                    | 0.84              | 10.72          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,421.12                    | 11.56                         | 123.933              |                    |          |
| 300.00                                                                                    | 300.00                    | 318.30                    | 318.30                    | 0.99              | 11.01          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,420.68                    | 12.00                         | 119.369              |                    |          |
| 350.00                                                                                    | 350.00                    | 368.30                    | 368.30                    | 1.15              | 11.35          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,420.19                    | 12.49                         | 114.663              |                    |          |
| 400.00                                                                                    | 400.00                    | 418.30                    | 418.30                    | 1.31              | 11.72          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,419.65                    | 13.03                         | 109.943              |                    |          |
| 450.00                                                                                    | 450.00                    | 468.30                    | 468.30                    | 1.48              | 12.13          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,419.08                    | 13.61                         | 105.298              |                    |          |
| 500.00                                                                                    | 500.00                    | 518.30                    | 518.30                    | 1.65              | 12.57          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,418.47                    | 14.21                         | 100.788              |                    |          |
| 550.00                                                                                    | 550.00                    | 568.30                    | 568.30                    | 1.82              | 13.04          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,417.83                    | 14.85                         | 96.453               |                    |          |
| 600.00                                                                                    | 600.00                    | 618.30                    | 618.30                    | 1.99              | 13.53          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,417.16                    | 15.52                         | 92.316               |                    |          |
| 650.00                                                                                    | 650.00                    | 668.30                    | 668.30                    | 2.16              | 14.04          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,416.47                    | 16.21                         | 88.390               |                    |          |
| 700.00                                                                                    | 700.00                    | 718.30                    | 718.30                    | 2.34              | 14.58          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,415.76                    | 16.92                         | 84.679               |                    |          |
| 750.00                                                                                    | 750.00                    | 768.30                    | 768.30                    | 2.51              | 15.13          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,415.03                    | 17.65                         | 81.180               |                    |          |
| 800.00                                                                                    | 800.00                    | 818.30                    | 818.30                    | 2.69              | 15.70          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,414.29                    | 18.39                         | 77.889               |                    |          |
| 850.00                                                                                    | 850.00                    | 868.30                    | 868.30                    | 2.87              | 16.29          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,413.53                    | 19.15                         | 74.795               |                    |          |
| 900.00                                                                                    | 900.00                    | 918.30                    | 918.30                    | 3.04              | 16.89          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,412.75                    | 19.93                         | 71.890               |                    |          |
| 950.00                                                                                    | 950.00                    | 968.30                    | 968.30                    | 3.22              | 17.49          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,411.97                    | 20.71                         | 69.162               |                    |          |
| 1,000.00                                                                                  | 1,000.00                  | 1,018.30                  | 1,018.30                  | 3.40              | 18.11          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,411.17                    | 21.51                         | 66.600               |                    |          |
| 1,050.00                                                                                  | 1,050.00                  | 1,068.30                  | 1,068.30                  | 3.58              | 18.74          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,410.36                    | 22.32                         | 64.194               |                    |          |
| 1,100.00                                                                                  | 1,100.00                  | 1,118.30                  | 1,118.30                  | 3.75              | 19.38          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,409.55                    | 23.13                         | 61.932               |                    |          |
| 1,150.00                                                                                  | 1,150.00                  | 1,168.30                  | 1,168.30                  | 3.93              | 20.03          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,408.73                    | 23.96                         | 59.804               |                    |          |
| 1,200.00                                                                                  | 1,200.00                  | 1,218.30                  | 1,218.30                  | 4.11              | 20.68          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,407.90                    | 24.79                         | 57.801               |                    |          |
| 1,250.00                                                                                  | 1,250.00                  | 1,268.30                  | 1,268.30                  | 4.29              | 21.34          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,407.06                    | 25.62                         | 55.914               |                    |          |
| 1,300.00                                                                                  | 1,300.00                  | 1,318.30                  | 1,318.30                  | 4.46              | 22.00          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,406.22                    | 26.47                         | 54.134               |                    |          |
| 1,350.00                                                                                  | 1,350.00                  | 1,368.30                  | 1,368.30                  | 4.64              | 22.67          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,405.37                    | 27.31                         | 52.454               |                    |          |
| 1,400.00                                                                                  | 1,400.00                  | 1,418.30                  | 1,418.30                  | 4.82              | 23.35          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,404.52                    | 28.17                         | 50.866               |                    |          |
| 1,450.00                                                                                  | 1,450.00                  | 1,468.30                  | 1,468.30                  | 5.00              | 24.02          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,403.66                    | 29.02                         | 49.363               |                    |          |
| 1,500.00                                                                                  | 1,500.00                  | 1,518.30                  | 1,518.30                  | 5.18              | 24.71          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,402.80                    | 29.88                         | 47.941               |                    |          |
| 1,550.00                                                                                  | 1,550.00                  | 1,568.30                  | 1,568.30                  | 5.36              | 25.39          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,401.93                    | 30.75                         | 46.592               |                    |          |
| 1,600.00                                                                                  | 1,600.00                  | 1,618.30                  | 1,618.30                  | 5.53              | 26.08          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,401.06                    | 31.62                         | 45.312               |                    |          |
| 1,650.00                                                                                  | 1,650.00                  | 1,668.30                  | 1,668.30                  | 5.71              | 26.78          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,400.19                    | 32.49                         | 44.096               |                    |          |
| 1,700.00                                                                                  | 1,700.00                  | 1,718.30                  | 1,718.30                  | 5.89              | 27.47          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,399.32                    | 33.38                         | 42.940               |                    |          |
| 1,750.00                                                                                  | 1,750.00                  | 1,768.30                  | 1,768.30                  | 6.07              | 28.17          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,398.44                    | 34.24                         | 41.840               |                    |          |
| 1,800.00                                                                                  | 1,800.00                  | 1,818.30                  | 1,818.30                  | 6.25              | 28.87          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,397.56                    | 35.12                         | 40.791               |                    |          |
| 1,850.00                                                                                  | 1,850.00                  | 1,868.30                  | 1,868.30                  | 6.43              | 29.58          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,396.68                    | 36.00                         | 39.791               |                    |          |
| 1,900.00                                                                                  | 1,900.00                  | 1,918.30                  | 1,918.30                  | 6.61              | 30.28          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,395.79                    | 36.89                         | 38.837               |                    |          |
| 1,950.00                                                                                  | 1,950.00                  | 1,968.30                  | 1,968.30                  | 6.78              | 30.99          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,394.91                    | 37.78                         | 37.926               |                    |          |
| 2,000.00                                                                                  | 2,000.00                  | 2,018.30                  | 2,018.30                  | 6.96              | 31.70          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,394.02                    | 38.66                         | 37.054               |                    |          |
| 2,050.00                                                                                  | 2,050.00                  | 2,068.30                  | 2,068.30                  | 7.14              | 32.41          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,393.13                    | 39.55                         | 36.220               |                    |          |
| 2,100.00                                                                                  | 2,100.00                  | 2,118.30                  | 2,118.30                  | 7.32              | 33.13          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,392.24                    | 40.45                         | 35.421               |                    |          |
| 2,150.00                                                                                  | 2,150.00                  | 2,168.30                  | 2,168.30                  | 7.50              | 33.84          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,391.34                    | 41.34                         | 34.656               |                    |          |
| 2,200.00                                                                                  | 2,200.00                  | 2,218.30                  | 2,218.30                  | 7.68              | 34.56          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,390.45                    | 42.24                         | 33.921               |                    |          |
| 2,250.00                                                                                  | 2,250.00                  | 2,268.30                  | 2,268.30                  | 7.86              | 35.27          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,389.55                    | 43.13                         | 33.216               |                    |          |
| 2,300.00                                                                                  | 2,300.00                  | 2,318.30                  | 2,318.30                  | 8.04              | 35.99          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,388.65                    | 44.03                         | 32.539               |                    |          |
| 2,350.00                                                                                  | 2,350.00                  | 2,368.30                  | 2,368.30                  | 8.22              | 36.71          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,387.75                    | 44.93                         | 31.888               |                    |          |
| 2,400.00                                                                                  | 2,400.00                  | 2,418.30                  | 2,418.30                  | 8.39              | 37.43          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,386.85                    | 45.83                         | 31.262               |                    |          |
| 2,450.00                                                                                  | 2,450.00                  | 2,468.30                  | 2,468.30                  | 8.57              | 38.16          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,385.95                    | 46.73                         | 30.659               |                    |          |
| 2,500.00                                                                                  | 2,500.00                  | 2,518.30                  | 2,518.30                  | 8.75              | 38.88          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,385.05                    | 47.63                         | 30.078               |                    |          |
| 2,550.00                                                                                  | 2,550.00                  | 2,568.30                  | 2,568.30                  | 8.93              | 39.60          | 156.11                      | -1,309.96              | 580.16       | 1,432.68                   | 1,384.15                    | 48.54                         | 29.518               |                    |          |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 17-T23S-R32E - Sharbro Fed #5 (Active) - Wellbore #1 - Wellbore #1 |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                               | Offset Site Error:   | 0.00 ft  |
|--------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|----------|
| Survey Program: 10-INC-ONLY                                                          |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                               | Offset Well Error:   | 10.00 ft |
| Reference                                                                            |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Offset Wellbore Centre |               | Distance                   |                             | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning  |
| Measured<br>Depth<br>(ft)                                                            | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | +N/-S<br>(ft)          | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                               |                      |          |
| 2,600.00                                                                             | 2,600.00                  | 2,618.30                  | 2,618.30                  | 9.11              | 40.33          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,383.24                    | 49.44                         | 28.978               |          |
| 2,650.00                                                                             | 2,650.00                  | 2,668.30                  | 2,668.30                  | 9.29              | 41.06          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,382.34                    | 50.34                         | 28.458               |          |
| 2,700.00                                                                             | 2,700.00                  | 2,718.30                  | 2,718.30                  | 9.47              | 41.78          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,381.43                    | 51.25                         | 27.955               |          |
| 2,750.00                                                                             | 2,750.00                  | 2,768.30                  | 2,768.30                  | 9.65              | 42.51          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,380.53                    | 52.16                         | 27.469               |          |
| 2,800.00                                                                             | 2,800.00                  | 2,818.30                  | 2,818.30                  | 9.83              | 43.24          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,379.62                    | 53.06                         | 26.999               |          |
| 2,850.00                                                                             | 2,850.00                  | 2,868.30                  | 2,868.30                  | 10.00             | 43.97          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,378.71                    | 53.97                         | 26.545               |          |
| 2,900.00                                                                             | 2,900.00                  | 2,918.30                  | 2,918.30                  | 10.18             | 44.70          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,377.80                    | 54.88                         | 26.105               |          |
| 2,950.00                                                                             | 2,950.00                  | 2,968.30                  | 2,968.30                  | 10.36             | 45.43          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,376.89                    | 55.79                         | 25.680               |          |
| 3,000.00                                                                             | 3,000.00                  | 3,018.30                  | 3,018.30                  | 10.54             | 46.16          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,375.98                    | 56.70                         | 25.288               |          |
| 3,050.00                                                                             | 3,050.00                  | 3,068.30                  | 3,068.30                  | 10.72             | 46.89          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,375.07                    | 57.61                         | 24.888               |          |
| 3,100.00                                                                             | 3,100.00                  | 3,118.30                  | 3,118.30                  | 10.90             | 47.62          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,374.16                    | 58.52                         | 24.481               |          |
| 3,150.00                                                                             | 3,150.00                  | 3,168.30                  | 3,168.30                  | 11.08             | 48.35          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,373.25                    | 59.43                         | 24.106               |          |
| 3,200.00                                                                             | 3,200.00                  | 3,218.30                  | 3,218.30                  | 11.26             | 49.09          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,372.34                    | 60.35                         | 23.741               |          |
| 3,250.00                                                                             | 3,250.00                  | 3,268.30                  | 3,268.30                  | 11.44             | 49.82          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,371.42                    | 61.26                         | 23.388               |          |
| 3,300.00                                                                             | 3,300.00                  | 3,318.30                  | 3,318.30                  | 11.62             | 50.55          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,370.51                    | 62.17                         | 23.044               |          |
| 3,350.00                                                                             | 3,350.00                  | 3,368.30                  | 3,368.30                  | 11.80             | 51.29          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,369.60                    | 63.08                         | 22.711               |          |
| 3,400.00                                                                             | 3,400.00                  | 3,418.30                  | 3,418.30                  | 11.97             | 52.02          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,368.68                    | 64.00                         | 22.388               |          |
| 3,450.00                                                                             | 3,450.00                  | 3,468.30                  | 3,468.30                  | 12.15             | 52.76          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,367.77                    | 64.91                         | 22.071               |          |
| 3,500.00                                                                             | 3,500.00                  | 3,518.30                  | 3,518.30                  | 12.33             | 53.49          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,366.86                    | 65.83                         | 21.764               |          |
| 3,550.00                                                                             | 3,550.00                  | 3,568.30                  | 3,568.30                  | 12.51             | 54.23          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,365.94                    | 66.74                         | 21.466               |          |
| 3,600.00                                                                             | 3,600.00                  | 3,618.30                  | 3,618.30                  | 12.69             | 54.97          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,365.02                    | 67.66                         | 21.176               |          |
| 3,650.00                                                                             | 3,650.00                  | 3,668.30                  | 3,668.30                  | 12.87             | 55.70          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,364.11                    | 68.57                         | 20.893               |          |
| 3,700.00                                                                             | 3,700.00                  | 3,718.30                  | 3,718.30                  | 13.05             | 56.44          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,363.19                    | 69.49                         | 20.617               |          |
| 3,750.00                                                                             | 3,750.00                  | 3,768.30                  | 3,768.30                  | 13.23             | 57.18          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,362.28                    | 70.41                         | 20.349               |          |
| 3,800.00                                                                             | 3,800.00                  | 3,818.30                  | 3,818.30                  | 13.41             | 57.92          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,361.36                    | 71.32                         | 20.087               |          |
| 3,850.00                                                                             | 3,850.00                  | 3,868.30                  | 3,868.30                  | 13.59             | 58.65          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,360.44                    | 72.24                         | 19.832               |          |
| 3,900.00                                                                             | 3,900.00                  | 3,918.30                  | 3,918.30                  | 13.77             | 59.39          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,359.53                    | 73.16                         | 19.584               |          |
| 3,950.00                                                                             | 3,950.00                  | 3,968.30                  | 3,968.30                  | 13.94             | 60.13          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,358.61                    | 74.07                         | 19.341               |          |
| 4,000.00                                                                             | 4,000.00                  | 4,018.30                  | 4,018.30                  | 14.12             | 60.87          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,357.69                    | 74.99                         | 19.105               |          |
| 4,050.00                                                                             | 4,050.00                  | 4,068.30                  | 4,068.30                  | 14.30             | 61.61          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,356.77                    | 75.91                         | 18.873               |          |
| 4,100.00                                                                             | 4,100.00                  | 4,118.30                  | 4,118.30                  | 14.48             | 62.35          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,355.85                    | 76.83                         | 18.648               |          |
| 4,150.00                                                                             | 4,150.00                  | 4,168.30                  | 4,168.30                  | 14.66             | 63.09          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,354.94                    | 77.75                         | 18.428               |          |
| 4,200.00                                                                             | 4,200.00                  | 4,218.30                  | 4,218.30                  | 14.84             | 63.83          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,354.02                    | 78.67                         | 18.212               |          |
| 4,250.00                                                                             | 4,250.00                  | 4,268.30                  | 4,268.30                  | 15.02             | 64.57          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,353.10                    | 79.58                         | 18.002               |          |
| 4,300.00                                                                             | 4,300.00                  | 4,318.30                  | 4,318.30                  | 15.20             | 65.31          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,352.18                    | 80.50                         | 17.797               |          |
| 4,350.00                                                                             | 4,350.00                  | 4,368.30                  | 4,368.30                  | 15.38             | 66.05          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,351.26                    | 81.42                         | 17.596               |          |
| 4,400.00                                                                             | 4,400.00                  | 4,418.30                  | 4,418.30                  | 15.56             | 66.79          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,350.34                    | 82.34                         | 17.399               |          |
| 4,450.00                                                                             | 4,450.00                  | 4,468.30                  | 4,468.30                  | 15.74             | 67.53          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,349.42                    | 83.26                         | 17.207               |          |
| 4,500.00                                                                             | 4,500.00                  | 4,518.30                  | 4,518.30                  | 15.92             | 68.27          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,348.50                    | 84.18                         | 17.019               |          |
| 4,550.00                                                                             | 4,550.00                  | 4,568.30                  | 4,568.30                  | 16.09             | 69.01          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,347.58                    | 85.10                         | 16.835               |          |
| 4,600.00                                                                             | 4,600.00                  | 4,618.30                  | 4,618.30                  | 16.27             | 69.75          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,346.66                    | 86.02                         | 16.655               |          |
| 4,650.00                                                                             | 4,650.00                  | 4,668.30                  | 4,668.30                  | 16.45             | 70.49          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,345.74                    | 86.94                         | 16.478               |          |
| 4,700.00                                                                             | 4,700.00                  | 4,718.30                  | 4,718.30                  | 16.63             | 71.23          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,344.82                    | 87.86                         | 16.306               |          |
| 4,750.00                                                                             | 4,750.00                  | 4,768.30                  | 4,768.30                  | 16.81             | 71.97          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,343.90                    | 88.78                         | 16.137               |          |
| 4,800.00                                                                             | 4,800.00                  | 4,818.30                  | 4,818.30                  | 16.99             | 72.72          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,342.98                    | 89.71                         | 15.971               |          |
| 4,850.00                                                                             | 4,850.00                  | 4,868.30                  | 4,868.30                  | 17.17             | 73.46          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,342.06                    | 90.63                         | 15.809               |          |
| 4,900.00                                                                             | 4,900.00                  | 4,918.30                  | 4,918.30                  | 17.35             | 74.20          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,341.13                    | 91.55                         | 15.650               |          |
| 4,950.00                                                                             | 4,950.00                  | 4,968.30                  | 4,968.30                  | 17.53             | 74.94          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,340.21                    | 92.47                         | 15.494               |          |
| 5,000.00                                                                             | 5,000.00                  | 5,018.30                  | 5,018.30                  | 17.71             | 75.68          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,339.29                    | 93.39                         | 15.341               |          |
| 5,050.00                                                                             | 5,050.00                  | 5,068.30                  | 5,068.30                  | 17.89             | 76.43          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,338.37                    | 94.31                         | 15.191               |          |
| 5,100.00                                                                             | 5,100.00                  | 5,118.30                  | 5,118.30                  | 18.06             | 77.17          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,337.45                    | 95.23                         | 15.044               |          |
| 5,150.00                                                                             | 5,150.00                  | 5,168.30                  | 5,168.30                  | 18.24             | 77.91          | 156.11                      | -1,309.96              | 580.16        | 1,432.68                   | 1,336.53                    | 96.16                         | 14.900               |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 17-T23S-R32E - Sharbro Fed #5 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft  |
|--------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                                          |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: | 10.00 ft |
| Reference                                                                            |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   |                    | Warning  |
| Measured Depth (ft)                                                                  | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |          |
| 5,200.00                                                                             | 5,200.00            | 5,218.30            | 5,218.30            | 18.42           | 78.65       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,335.60              | 97.08                   | 14.758            |                    |          |
| 5,250.00                                                                             | 5,250.00            | 5,268.30            | 5,268.30            | 18.60           | 79.40       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,334.68              | 98.00                   | 14.619            |                    |          |
| 5,300.00                                                                             | 5,300.00            | 5,318.30            | 5,318.30            | 18.78           | 80.14       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,333.76              | 98.92                   | 14.483            |                    |          |
| 5,350.00                                                                             | 5,350.00            | 5,368.30            | 5,368.30            | 18.96           | 80.88       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,332.84              | 99.84                   | 14.349            |                    |          |
| 5,400.00                                                                             | 5,400.00            | 5,418.30            | 5,418.30            | 19.14           | 81.63       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,331.92              | 100.77                  | 14.218            |                    |          |
| 5,450.00                                                                             | 5,450.00            | 5,468.30            | 5,468.30            | 19.32           | 82.37       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,330.99              | 101.69                  | 14.089            |                    |          |
| 5,500.00                                                                             | 5,500.00            | 5,518.30            | 5,518.30            | 19.50           | 83.11       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,330.07              | 102.61                  | 13.962            |                    |          |
| 5,550.00                                                                             | 5,550.00            | 5,568.30            | 5,568.30            | 19.68           | 83.86       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,329.15              | 103.53                  | 13.838            |                    |          |
| 5,600.00                                                                             | 5,600.00            | 5,618.30            | 5,618.30            | 19.86           | 84.60       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,328.22              | 104.46                  | 13.715            |                    |          |
| 5,650.00                                                                             | 5,650.00            | 5,668.30            | 5,668.30            | 20.04           | 85.35       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,327.30              | 105.38                  | 13.595            |                    |          |
| 5,700.00                                                                             | 5,700.00            | 5,718.30            | 5,718.30            | 20.22           | 86.09       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,326.38              | 106.30                  | 13.477            |                    |          |
| 5,750.00                                                                             | 5,750.00            | 5,768.30            | 5,768.30            | 20.39           | 86.83       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,325.46              | 107.23                  | 13.361            |                    |          |
| 5,800.00                                                                             | 5,800.00            | 5,818.30            | 5,818.30            | 20.57           | 87.58       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,324.53              | 108.15                  | 13.247            |                    |          |
| 5,850.00                                                                             | 5,850.00            | 5,868.30            | 5,868.30            | 20.75           | 88.32       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,323.61              | 109.07                  | 13.135            |                    |          |
| 5,900.00                                                                             | 5,900.00            | 5,918.30            | 5,918.30            | 20.93           | 89.07       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,322.69              | 110.00                  | 13.025            |                    |          |
| 5,950.00                                                                             | 5,950.00            | 5,968.30            | 5,968.30            | 21.11           | 89.81       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,321.76              | 110.92                  | 12.916            |                    |          |
| 6,000.00                                                                             | 6,000.00            | 6,018.30            | 6,018.30            | 21.29           | 90.55       | 156.11                | -1,309.96                         | 580.16     | 1,432.68             | 1,320.84              | 111.84                  | 12.810            |                    |          |
| 6,050.00                                                                             | 6,050.00            | 6,068.30            | 6,068.30            | 21.46           | 91.30       | -65.25                | -1,309.96                         | 580.16     | 1,432.57             | 1,319.81              | 112.76                  | 12.705            |                    |          |
| 6,100.00                                                                             | 6,099.99            | 6,118.29            | 6,118.29            | 21.63           | 92.04       | -65.28                | -1,309.96                         | 580.16     | 1,432.23             | 1,318.55              | 113.67                  | 12.599            |                    |          |
| 6,150.00                                                                             | 6,149.98            | 6,168.28            | 6,168.28            | 21.80           | 92.79       | -65.33                | -1,309.96                         | 580.16     | 1,431.68             | 1,317.10              | 114.58                  | 12.495            |                    |          |
| 6,200.00                                                                             | 6,199.96            | 6,218.26            | 6,218.26            | 21.96           | 93.53       | -65.38                | -1,309.96                         | 580.16     | 1,431.11             | 1,315.62              | 115.49                  | 12.392            |                    |          |
| 6,250.00                                                                             | 6,249.94            | 6,268.24            | 6,268.24            | 22.12           | 94.28       | -65.43                | -1,309.96                         | 580.16     | 1,430.53             | 1,314.13              | 116.40                  | 12.290            |                    |          |
| 6,300.00                                                                             | 6,299.92            | 6,318.22            | 6,318.22            | 22.29           | 95.02       | -65.48                | -1,309.96                         | 580.16     | 1,429.96             | 1,312.65              | 117.31                  | 12.190            |                    |          |
| 6,350.00                                                                             | 6,349.90            | 6,368.20            | 6,368.20            | 22.45           | 95.76       | -65.53                | -1,309.96                         | 580.16     | 1,429.39             | 1,311.17              | 118.22                  | 12.091            |                    |          |
| 6,400.00                                                                             | 6,399.88            | 6,418.18            | 6,418.18            | 22.62           | 96.51       | -65.58                | -1,309.96                         | 580.16     | 1,428.82             | 1,309.69              | 119.13                  | 11.994            |                    |          |
| 6,450.00                                                                             | 6,449.86            | 6,468.16            | 6,468.16            | 22.78           | 97.25       | -65.63                | -1,309.96                         | 580.16     | 1,428.25             | 1,308.22              | 120.03                  | 11.899            |                    |          |
| 6,500.00                                                                             | 6,499.84            | 6,518.14            | 6,518.14            | 22.95           | 98.00       | -65.68                | -1,309.96                         | 580.16     | 1,427.68             | 1,306.74              | 120.94                  | 11.804            |                    |          |
| 6,550.00                                                                             | 6,549.82            | 6,568.12            | 6,568.12            | 23.11           | 98.74       | -65.73                | -1,309.96                         | 580.16     | 1,427.11             | 1,305.26              | 121.85                  | 11.712            |                    |          |
| 6,600.00                                                                             | 6,599.80            | 6,618.10            | 6,618.10            | 23.28           | 99.49       | -65.78                | -1,309.96                         | 580.16     | 1,426.55             | 1,303.78              | 122.77                  | 11.620            |                    |          |
| 6,650.00                                                                             | 6,649.79            | 6,668.09            | 6,668.09            | 23.44           | 100.23      | -65.83                | -1,309.96                         | 580.16     | 1,425.98             | 1,302.31              | 123.68                  | 11.530            |                    |          |
| 6,700.00                                                                             | 6,699.77            | 6,718.07            | 6,718.07            | 23.61           | 100.98      | -65.88                | -1,309.96                         | 580.16     | 1,425.42             | 1,300.83              | 124.59                  | 11.441            |                    |          |
| 6,750.00                                                                             | 6,749.75            | 6,768.05            | 6,768.05            | 23.78           | 101.72      | -65.93                | -1,309.96                         | 580.16     | 1,424.86             | 1,299.36              | 125.50                  | 11.354            |                    |          |
| 6,800.00                                                                             | 6,799.73            | 6,818.03            | 6,818.03            | 23.94           | 102.47      | -65.99                | -1,309.96                         | 580.16     | 1,424.30             | 1,297.89              | 126.41                  | 11.267            |                    |          |
| 6,850.00                                                                             | 6,849.71            | 6,868.01            | 6,868.01            | 24.11           | 103.21      | -66.04                | -1,309.96                         | 580.16     | 1,423.74             | 1,296.42              | 127.32                  | 11.182            |                    |          |
| 6,900.00                                                                             | 6,899.69            | 6,917.99            | 6,917.99            | 24.28           | 103.96      | -66.09                | -1,309.96                         | 580.16     | 1,423.18             | 1,294.94              | 128.23                  | 11.098            |                    |          |
| 6,950.00                                                                             | 6,949.67            | 6,967.97            | 6,967.97            | 24.44           | 104.70      | -66.14                | -1,309.96                         | 580.16     | 1,422.62             | 1,293.47              | 129.15                  | 11.016            |                    |          |
| 7,000.00                                                                             | 6,999.65            | 7,017.95            | 7,017.95            | 24.61           | 105.45      | -66.19                | -1,309.96                         | 580.16     | 1,422.06             | 1,292.00              | 130.06                  | 10.934            |                    |          |
| 7,050.00                                                                             | 7,049.63            | 7,067.93            | 7,067.93            | 24.78           | 106.19      | -66.24                | -1,309.96                         | 580.16     | 1,421.51             | 1,290.54              | 130.97                  | 10.854            |                    |          |
| 7,100.00                                                                             | 7,099.61            | 7,117.91            | 7,117.91            | 24.94           | 106.94      | -66.29                | -1,309.96                         | 580.16     | 1,420.95             | 1,289.07              | 131.88                  | 10.774            |                    |          |
| 7,150.00                                                                             | 7,149.60            | 7,167.90            | 7,167.90            | 25.11           | 107.69      | -66.34                | -1,309.96                         | 580.16     | 1,420.40             | 1,287.60              | 132.80                  | 10.696            |                    |          |
| 7,200.00                                                                             | 7,199.58            | 7,217.88            | 7,217.88            | 25.28           | 108.43      | -66.39                | -1,309.96                         | 580.16     | 1,419.85             | 1,286.14              | 133.71                  | 10.619            |                    |          |
| 7,250.00                                                                             | 7,249.56            | 7,267.86            | 7,267.86            | 25.45           | 109.18      | -66.44                | -1,309.96                         | 580.16     | 1,419.29             | 1,284.67              | 134.62                  | 10.543            |                    |          |
| 7,300.00                                                                             | 7,299.54            | 7,317.84            | 7,317.84            | 25.62           | 109.92      | -66.49                | -1,309.96                         | 580.16     | 1,418.74             | 1,283.21              | 135.54                  | 10.468            |                    |          |
| 7,350.00                                                                             | 7,349.52            | 7,367.82            | 7,367.82            | 25.78           | 110.67      | -66.54                | -1,309.96                         | 580.16     | 1,418.19             | 1,281.74              | 136.45                  | 10.393            |                    |          |
| 7,400.00                                                                             | 7,399.50            | 7,417.80            | 7,417.80            | 25.95           | 111.41      | -66.60                | -1,309.96                         | 580.16     | 1,417.65             | 1,280.28              | 137.36                  | 10.320            |                    |          |
| 7,450.00                                                                             | 7,449.48            | 7,467.78            | 7,467.78            | 26.12           | 112.16      | -66.65                | -1,309.96                         | 580.16     | 1,417.10             | 1,278.82              | 138.28                  | 10.248            |                    |          |
| 7,500.00                                                                             | 7,499.46            | 7,517.76            | 7,517.76            | 26.29           | 112.90      | -66.70                | -1,309.96                         | 580.16     | 1,416.55             | 1,277.36              | 139.19                  | 10.177            |                    |          |
| 7,550.00                                                                             | 7,549.44            | 7,567.74            | 7,567.74            | 26.46           | 113.65      | -66.75                | -1,309.96                         | 580.16     | 1,416.01             | 1,275.90              | 140.11                  | 10.107            |                    |          |
| 7,600.00                                                                             | 7,599.42            | 7,617.72            | 7,617.72            | 26.63           | 114.40      | -66.80                | -1,309.96                         | 580.16     | 1,415.47             | 1,274.44              | 141.02                  | 10.037            |                    |          |
| 7,650.00                                                                             | 7,649.41            | 7,667.71            | 7,667.71            | 26.80           | 115.14      | -66.85                | -1,309.96                         | 580.16     | 1,414.92             | 1,272.98              | 141.94                  | 9.969             |                    |          |
| 7,700.00                                                                             | 7,699.39            | 7,717.69            | 7,717.69            | 26.97           | 115.89      | -66.90                | -1,309.96                         | 580.16     | 1,414.38             | 1,271.53              | 142.85                  | 9.901             |                    |          |
| 7,750.00                                                                             | 7,749.37            | 7,767.67            | 7,767.67            | 27.14           | 116.63      | -66.95                | -1,309.96                         | 580.16     | 1,413.84             | 1,270.07              | 143.77                  | 9.834             |                    |          |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 17-T23S-R32E - Sharbro Fed #5 (Active) - Wellbore #1 - Wellbore #1 |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft  |
|-------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|----------|
| Survey Program:    10-INC-ONLY                                                            |                           |                           |                           |                   |                |                             |                        |               |                            |                             |                               |                      | Offset Well Error: | 10.00 ft |
| Reference                                                                                 |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Offset Wellbore Centre |               | Distance                   |                             | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |          |
| Measured<br>Depth<br>(ft)                                                                 | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | +N/-S<br>(ft)          | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) |                               |                      |                    |          |
| 7,800.00                                                                                  | 7,799.35                  | 7,817.65                  | 7,817.65                  | 27.31             | 117.38         | -67.01                      | -1,309.96              | 580.16        | 1,413.30                   | 1,268.62                    | 144.69                        | 9.768                |                    |          |
| 7,850.00                                                                                  | 7,849.33                  | 7,867.63                  | 7,867.63                  | 27.48             | 118.13         | -67.06                      | -1,309.96              | 580.16        | 1,412.77                   | 1,267.16                    | 145.60                        | 9.703                |                    |          |
| 7,900.00                                                                                  | 7,899.31                  | 7,917.61                  | 7,917.61                  | 27.65             | 118.87         | -67.11                      | -1,309.96              | 580.16        | 1,412.23                   | 1,265.71                    | 146.52                        | 9.639                |                    |          |
| 7,950.00                                                                                  | 7,949.29                  | 7,967.59                  | 7,967.59                  | 27.82             | 119.62         | -67.16                      | -1,309.96              | 580.16        | 1,411.69                   | 1,264.26                    | 147.43                        | 9.575                |                    |          |
| 8,000.00                                                                                  | 7,999.27                  | 8,017.57                  | 8,017.57                  | 27.99             | 120.36         | -67.21                      | -1,309.96              | 580.16        | 1,411.16                   | 1,262.81                    | 148.35                        | 9.512                |                    |          |
| 8,050.00                                                                                  | 8,049.25                  | 8,067.55                  | 8,067.55                  | 28.16             | 121.11         | -67.26                      | -1,309.96              | 580.16        | 1,410.63                   | 1,261.36                    | 149.27                        | 9.450                |                    |          |
| 8,100.00                                                                                  | 8,099.23                  | 8,117.53                  | 8,117.53                  | 28.33             | 121.86         | -67.31                      | -1,309.96              | 580.16        | 1,410.09                   | 1,259.91                    | 150.18                        | 9.389                |                    |          |
| 8,150.00                                                                                  | 8,149.22                  | 8,167.52                  | 8,167.52                  | 28.50             | 122.60         | -67.37                      | -1,309.96              | 580.16        | 1,409.56                   | 1,258.46                    | 151.10                        | 9.329                |                    |          |
| 8,200.00                                                                                  | 8,199.20                  | 8,217.50                  | 8,217.50                  | 28.67             | 123.35         | -67.42                      | -1,309.96              | 580.16        | 1,409.03                   | 1,257.02                    | 152.02                        | 9.269                |                    |          |
| 8,250.00                                                                                  | 8,249.18                  | 8,267.48                  | 8,267.48                  | 28.84             | 124.09         | -67.47                      | -1,309.96              | 580.16        | 1,408.50                   | 1,255.57                    | 152.93                        | 9.210                |                    |          |
| 8,300.00                                                                                  | 8,299.16                  | 8,317.46                  | 8,317.46                  | 29.01             | 124.84         | -67.52                      | -1,309.96              | 580.16        | 1,407.98                   | 1,254.13                    | 153.85                        | 9.152                |                    |          |
| 8,350.00                                                                                  | 8,349.14                  | 8,367.44                  | 8,367.44                  | 29.18             | 125.59         | -67.57                      | -1,309.96              | 580.16        | 1,407.45                   | 1,252.68                    | 154.77                        | 9.094                |                    |          |
| 8,400.00                                                                                  | 8,399.12                  | 8,417.42                  | 8,417.42                  | 29.35             | 126.33         | -67.63                      | -1,309.96              | 580.16        | 1,406.93                   | 1,251.24                    | 155.69                        | 9.037                |                    |          |
| 8,450.00                                                                                  | 8,449.10                  | 8,467.40                  | 8,467.40                  | 29.52             | 127.08         | -67.67                      | -1,309.96              | 580.16        | 1,406.43                   | 1,249.82                    | 156.60                        | 8.981                |                    |          |
| 8,500.00                                                                                  | 8,499.10                  | 8,517.40                  | 8,517.40                  | 29.69             | 127.83         | -67.70                      | -1,309.96              | 580.16        | 1,406.14                   | 1,248.62                    | 157.52                        | 8.927                |                    |          |
| 8,549.98                                                                                  | 8,549.08                  | 8,567.38                  | 8,567.38                  | 29.87             | 128.57         | 153.64                      | -1,309.96              | 580.16        | 1,406.06                   | 1,247.61                    | 158.44                        | 8.874                |                    |          |
| 8,550.00                                                                                  | 8,549.10                  | 8,567.40                  | 8,567.40                  | 29.87             | 128.57         | 153.65                      | -1,309.96              | 580.16        | 1,406.08                   | 1,247.64                    | 158.44                        | 8.874                |                    |          |
| 8,600.00                                                                                  | 8,599.10                  | 8,617.40                  | 8,617.40                  | 30.05             | 129.32         | 153.65                      | -1,309.96              | 580.16        | 1,406.08                   | 1,246.72                    | 159.37                        | 8.823                |                    |          |
| 8,650.00                                                                                  | 8,649.10                  | 8,667.40                  | 8,667.40                  | 30.23             | 130.07         | 153.65                      | -1,309.96              | 580.16        | 1,406.08                   | 1,245.79                    | 160.29                        | 8.772                |                    |          |
| 8,700.00                                                                                  | 8,699.10                  | 8,717.40                  | 8,717.40                  | 30.40             | 130.81         | 153.65                      | -1,309.96              | 580.16        | 1,406.08                   | 1,244.87                    | 161.22                        | 8.722                |                    |          |
| 8,750.00                                                                                  | 8,749.10                  | 8,767.40                  | 8,767.40                  | 30.58             | 131.56         | 153.65                      | -1,309.96              | 580.16        | 1,406.08                   | 1,243.94                    | 162.14                        | 8.672                |                    |          |
| 8,800.00                                                                                  | 8,799.10                  | 8,817.40                  | 8,817.40                  | 30.76             | 132.31         | 153.65                      | -1,309.96              | 580.16        | 1,406.08                   | 1,243.02                    | 163.07                        | 8.623                |                    |          |
| 8,850.00                                                                                  | 8,849.10                  | 8,867.40                  | 8,867.40                  | 30.94             | 133.05         | 153.65                      | -1,309.96              | 580.16        | 1,406.08                   | 1,242.09                    | 163.99                        | 8.574                |                    |          |
| 8,900.00                                                                                  | 8,899.09                  | 8,917.39                  | 8,917.39                  | 31.11             | 133.80         | -26.00                      | -1,309.96              | 580.16        | 1,405.86                   | 1,240.94                    | 164.91                        | 8.525                |                    |          |
| 8,950.00                                                                                  | 8,948.94                  | 8,967.24                  | 8,967.24                  | 31.28             | 134.55         | -26.21                      | -1,309.96              | 580.16        | 1,402.56                   | 1,236.74                    | 165.83                        | 8.458                |                    |          |
| 9,000.00                                                                                  | 8,998.28                  | 9,016.58                  | 9,016.58                  | 31.45             | 135.28         | -26.68                      | -1,309.96              | 580.16        | 1,395.38                   | 1,228.65                    | 166.73                        | 8.369                |                    |          |
| 9,050.00                                                                                  | 9,046.74                  | 9,065.04                  | 9,065.04                  | 31.62             | 136.01         | -27.42                      | -1,309.96              | 580.16        | 1,384.39                   | 1,216.77                    | 167.62                        | 8.259                |                    |          |
| 9,100.00                                                                                  | 9,093.94                  | 9,112.24                  | 9,112.24                  | 31.78             | 136.71         | -28.46                      | -1,309.96              | 580.16        | 1,369.68                   | 1,201.20                    | 168.49                        | 8.129                |                    |          |
| 9,150.00                                                                                  | 9,139.53                  | 9,157.83                  | 9,157.83                  | 31.94             | 137.39         | -29.83                      | -1,309.96              | 580.16        | 1,351.41                   | 1,182.09                    | 169.32                        | 7.981                |                    |          |
| 9,200.00                                                                                  | 9,183.16                  | 9,201.46                  | 9,201.46                  | 32.10             | 138.04         | -31.57                      | -1,309.96              | 580.16        | 1,329.75                   | 1,159.63                    | 170.12                        | 7.817                |                    |          |
| 9,250.00                                                                                  | 9,224.50                  | 9,242.80                  | 9,242.80                  | 32.26             | 138.66         | -33.74                      | -1,309.96              | 580.16        | 1,304.91                   | 1,134.03                    | 170.88                        | 7.637                |                    |          |
| 9,300.00                                                                                  | 9,263.23                  | 9,281.53                  | 9,281.53                  | 32.42             | 139.24         | -36.41                      | -1,309.96              | 580.16        | 1,277.15                   | 1,105.56                    | 171.59                        | 7.443                |                    |          |
| 9,350.00                                                                                  | 9,299.06                  | 9,317.36                  | 9,317.36                  | 32.58             | 139.78         | -39.65                      | -1,309.96              | 580.16        | 1,246.73                   | 1,074.49                    | 172.25                        | 7.238                |                    |          |
| 9,400.00                                                                                  | 9,331.72                  | 9,350.02                  | 9,350.02                  | 32.74             | 140.26         | -43.54                      | -1,309.96              | 580.16        | 1,213.98                   | 1,041.13                    | 172.85                        | 7.023                |                    |          |
| 9,450.00                                                                                  | 9,360.95                  | 9,379.25                  | 9,379.25                  | 32.91             | 140.70         | -48.14                      | -1,309.96              | 580.16        | 1,179.22                   | 1,005.82                    | 173.40                        | 6.801                |                    |          |
| 9,500.00                                                                                  | 9,386.54                  | 9,404.84                  | 9,404.84                  | 33.08             | 141.08         | -53.48                      | -1,309.96              | 580.16        | 1,142.83                   | 968.95                      | 173.89                        | 6.572                |                    |          |
| 9,550.00                                                                                  | 9,408.29                  | 9,426.59                  | 9,426.59                  | 33.25             | 141.41         | -59.50                      | -1,309.96              | 580.16        | 1,105.19                   | 930.88                      | 174.32                        | 6.340                |                    |          |
| 9,600.00                                                                                  | 9,426.04                  | 9,444.34                  | 9,444.34                  | 33.42             | 141.67         | -66.07                      | -1,309.96              | 580.16        | 1,066.72                   | 892.03                      | 174.69                        | 6.106                |                    |          |
| 9,650.00                                                                                  | 9,439.64                  | 9,457.94                  | 9,457.94                  | 33.60             | 141.88         | -72.93                      | -1,309.96              | 580.16        | 1,027.83                   | 852.83                      | 175.00                        | 5.873                |                    |          |
| 9,700.00                                                                                  | 9,449.01                  | 9,467.31                  | 9,467.31                  | 33.78             | 142.02         | -79.73                      | -1,309.96              | 580.16        | 988.96                     | 813.71                      | 175.25                        | 5.643                |                    |          |
| 9,750.00                                                                                  | 9,454.05                  | 9,472.35                  | 9,472.35                  | 33.97             | 142.09         | -86.14                      | -1,309.96              | 580.16        | 950.57                     | 775.12                      | 175.45                        | 5.418                |                    |          |
| 9,800.00                                                                                  | 9,455.00                  | 9,473.30                  | 9,473.30                  | 34.15             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 913.08                     | 737.48                      | 175.60                        | 5.200                |                    |          |
| 9,850.00                                                                                  | 9,455.00                  | 9,473.30                  | 9,473.30                  | 34.36             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 876.83                     | 701.06                      | 175.77                        | 4.989 Alert          |                    |          |
| 9,900.00                                                                                  | 9,455.00                  | 9,473.30                  | 9,473.30                  | 34.56             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 841.98                     | 666.03                      | 175.95                        | 4.785 Alert          |                    |          |
| 9,950.00                                                                                  | 9,455.00                  | 9,473.30                  | 9,473.30                  | 34.79             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 808.73                     | 632.55                      | 176.18                        | 4.590 Alert          |                    |          |
| 10,000.00                                                                                 | 9,455.00                  | 9,473.30                  | 9,473.30                  | 35.02             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 777.27                     | 600.85                      | 176.42                        | 4.406 Alert          |                    |          |
| 10,050.00                                                                                 | 9,455.00                  | 9,473.30                  | 9,473.30                  | 35.28             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 747.84                     | 571.12                      | 176.72                        | 4.232 Alert          |                    |          |
| 10,100.00                                                                                 | 9,455.00                  | 9,473.30                  | 9,473.30                  | 35.54             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 720.67                     | 543.63                      | 177.04                        | 4.071 Alert          |                    |          |
| 10,150.00                                                                                 | 9,455.00                  | 9,473.30                  | 9,473.30                  | 35.82             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 696.04                     | 518.64                      | 177.40                        | 3.924 Alert          |                    |          |
| 10,200.00                                                                                 | 9,455.00                  | 9,473.30                  | 9,473.30                  | 36.11             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 674.23                     | 496.44                      | 177.78                        | 3.792 Alert          |                    |          |
| 10,250.00                                                                                 | 9,455.00                  | 9,473.30                  | 9,473.30                  | 36.42             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 655.51                     | 477.30                      | 178.20                        | 3.678 Alert          |                    |          |
| 10,300.00                                                                                 | 9,455.00                  | 9,473.30                  | 9,473.30                  | 36.72             | 142.11         | -90.00                      | -1,309.96              | 580.16        | 640.16                     | 461.53                      | 178.62                        | 3.584 Alert          |                    |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 17-T23S-R32E - Sharbro Fed #5 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                        |            |                      |                       |                 |            | Offset Site Error: | 0.00 ft  |
|-------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|------------------------|------------|----------------------|-----------------------|-----------------|------------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                                               |                     |                     |                     |                 |             |                       |                        |            |                      |                       |                 |            | Offset Well Error: | 10.00 ft |
| Reference                                                                                 |                     | Offset              |                     | Semi Major Axis |             |                       | Offset Wellbore Centre |            | Distance             |                       | Minimum         | Separation | Warning            |          |
| Measured Depth (ft)                                                                       | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | +N/-S (ft)             | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Separation (ft) | Factor     |                    |          |
| 10,350.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 37.06           | 142.11      | -90.00                | -1,309.96              | 580.16     | 628.42               | 449.36                | 179.06          | 3.510      | Alert              |          |
| 10,400.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 37.39           | 142.11      | -90.00                | -1,309.96              | 580.16     | 620.50               | 441.04                | 179.48          | 3.458      | Alert              |          |
| 10,450.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 37.74           | 142.11      | -90.00                | -1,309.96              | 580.16     | 616.54               | 436.70                | 179.84          | 3.428      | Alert              |          |
| 10,473.92                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 37.91           | 142.11      | -90.00                | -1,309.96              | 580.16     | 616.08               | 436.07                | 180.01          | 3.423      | Alert, CC, ES      |          |
| 10,500.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 38.10           | 142.11      | -90.00                | -1,309.96              | 580.16     | 616.63               | 436.46                | 180.17          | 3.422      | Alert, SF          |          |
| 10,550.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 38.47           | 142.11      | -90.00                | -1,309.96              | 580.16     | 620.76               | 440.31                | 180.45          | 3.440      | Alert              |          |
| 10,600.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 38.85           | 142.11      | -90.00                | -1,309.96              | 580.16     | 628.85               | 448.20                | 180.65          | 3.481      | Alert              |          |
| 10,650.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 39.24           | 142.11      | -90.00                | -1,309.96              | 580.16     | 640.75               | 459.95                | 180.80          | 3.544      | Alert              |          |
| 10,700.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 39.64           | 142.11      | -90.00                | -1,309.96              | 580.16     | 656.25               | 475.38                | 180.87          | 3.628      | Alert              |          |
| 10,750.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 40.05           | 142.11      | -90.00                | -1,309.96              | 580.16     | 675.11               | 494.21                | 180.90          | 3.732      | Alert              |          |
| 10,800.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 40.46           | 142.11      | -90.00                | -1,309.96              | 580.16     | 697.05               | 516.18                | 180.87          | 3.854      | Alert              |          |
| 10,850.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 40.89           | 142.11      | -90.00                | -1,309.96              | 580.16     | 721.80               | 540.99                | 180.81          | 3.992      | Alert              |          |
| 10,900.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 41.32           | 142.11      | -90.00                | -1,309.96              | 580.16     | 749.07               | 568.35                | 180.71          | 4.145      | Alert              |          |
| 10,950.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 41.77           | 142.11      | -90.00                | -1,309.96              | 580.16     | 778.59               | 598.00                | 180.60          | 4.311      | Alert              |          |
| 11,000.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 42.22           | 142.11      | -90.00                | -1,309.96              | 580.16     | 810.13               | 629.67                | 180.46          | 4.489      | Alert              |          |
| 11,050.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 42.68           | 142.11      | -90.00                | -1,309.96              | 580.16     | 843.46               | 663.13                | 180.33          | 4.677      | Alert              |          |
| 11,100.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 43.14           | 142.11      | -90.00                | -1,309.96              | 580.16     | 878.37               | 698.19                | 180.18          | 4.875      | Alert              |          |
| 11,150.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 43.62           | 142.11      | -90.00                | -1,309.96              | 580.16     | 914.68               | 734.64                | 180.04          | 5.080      |                    |          |
| 11,200.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 44.10           | 142.11      | -90.00                | -1,309.96              | 580.16     | 952.23               | 772.34                | 179.89          | 5.293      |                    |          |
| 11,250.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 44.59           | 142.11      | -90.00                | -1,309.96              | 580.16     | 990.89               | 811.13                | 179.76          | 5.512      |                    |          |
| 11,300.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 45.08           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,030.52             | 850.89                | 179.62          | 5.737      |                    |          |
| 11,350.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 45.58           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,071.02             | 891.52                | 179.50          | 5.967      |                    |          |
| 11,400.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 46.08           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,112.29             | 932.91                | 179.38          | 6.201      |                    |          |
| 11,450.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 46.60           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,154.25             | 974.99                | 179.26          | 6.439      |                    |          |
| 11,500.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 47.11           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,196.83             | 1,017.67              | 179.15          | 6.680      |                    |          |
| 11,550.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 47.64           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,239.96             | 1,060.91              | 179.05          | 6.925      |                    |          |
| 11,600.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 48.16           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,283.60             | 1,104.64              | 178.96          | 7.173      |                    |          |
| 11,650.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 48.70           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,327.68             | 1,148.81              | 178.87          | 7.423      |                    |          |
| 11,700.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 49.24           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,372.16             | 1,193.38              | 178.79          | 7.675      |                    |          |
| 11,750.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 49.78           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,417.02             | 1,238.31              | 178.71          | 7.929      |                    |          |
| 11,800.00                                                                                 | 9,455.00            | 9,473.30            | 9,473.30            | 50.33           | 142.11      | -90.00                | -1,309.96              | 580.16     | 1,462.21             | 1,283.57              | 178.64          | 8.185      |                    |          |

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 17-T23S-R32E - Tomcat 17 Fed #01 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |           |        |                 |                   |                        |                 |                  |                    | Offset Site Error: | 0.00 ft                      |
|-----------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------|--------|-----------------|-------------------|------------------------|-----------------|------------------|--------------------|--------------------|------------------------------|
| Survey Program: 10-INC-ONLY                                                             |                     |                     |                     |           |        |                 |                   |                        |                 |                  |                    | Offset Well Error: | 10.00 ft                     |
| Measured Depth (ft)                                                                     | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Semi Major Axis | Highside Toolface | Offset Wellbore Centre | Between Centres | Between Ellipses | Minimum Separation | Separation Factor  | Warning                      |
| (ft)                                                                                    | (ft)                | (ft)                | (ft)                | (ft)      | (ft)   | (ft)            | (°)               | +N-S (ft)              | +E-W (ft)       | (ft)             | (ft)               | (ft)               |                              |
| 12,750.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 61.46     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,485.48         | 1,235.70           | 249.79             | 5.947                        |
| 12,800.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 62.08     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,440.19         | 1,189.83           | 250.35             | 5.753                        |
| 12,850.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 62.70     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,395.21         | 1,144.24           | 250.97             | 5.559                        |
| 12,900.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 63.32     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,350.59         | 1,098.95           | 251.64             | 5.367                        |
| 12,950.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 63.94     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,306.36         | 1,053.99           | 252.37             | 5.176                        |
| 13,000.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 64.57     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,262.56         | 1,009.39           | 253.16             | 4.987 Alert                  |
| 13,050.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 65.19     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,219.23         | 965.20             | 254.03             | 4.800 Alert                  |
| 13,100.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 65.82     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,176.43         | 921.46             | 254.97             | 4.614 Alert                  |
| 13,150.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 66.46     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,134.23         | 878.23             | 256.00             | 4.431 Alert                  |
| 13,200.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 67.09     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,092.68         | 835.56             | 257.12             | 4.250 Alert                  |
| 13,250.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 67.73     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,051.87         | 793.52             | 258.35             | 4.072 Alert                  |
| 13,300.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 68.36     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,011.88         | 752.21             | 259.67             | 3.897 Alert                  |
| 13,350.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 69.00     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 972.82           | 711.71             | 261.11             | 3.726 Alert                  |
| 13,400.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 69.64     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 934.80           | 672.14             | 262.67             | 3.559 Alert                  |
| 13,450.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 70.29     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 897.96           | 633.61             | 264.35             | 3.397 Alert                  |
| 13,500.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 70.93     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 862.45           | 596.30             | 266.15             | 3.240 Alert                  |
| 13,550.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 71.58     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 828.43           | 560.36             | 268.07             | 3.090 Alert                  |
| 13,600.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 72.22     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 796.10           | 526.00             | 270.10             | 2.947 Alert                  |
| 13,650.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 72.87     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 765.67           | 493.45             | 272.22             | 2.813 Alert                  |
| 13,700.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 73.52     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 737.37           | 462.96             | 274.41             | 2.687 Alert                  |
| 13,750.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 74.18     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 711.48           | 434.83             | 276.65             | 2.572 Alert                  |
| 13,800.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 74.83     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 688.24           | 409.37             | 278.87             | 2.468 Minor Risk             |
| 13,850.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 75.48     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 667.95           | 386.92             | 281.03             | 2.377 Minor Risk             |
| 13,900.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 76.14     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 650.87           | 367.82             | 283.05             | 2.299 Minor Risk             |
| 13,950.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 76.80     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 637.26           | 352.39             | 284.87             | 2.237 Minor Risk             |
| 14,000.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 77.46     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 627.36           | 340.94             | 286.42             | 2.190 Minor Risk             |
| 14,050.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 78.12     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 621.34           | 333.71             | 287.63             | 2.160 Minor Risk             |
| 14,100.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 78.78     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 619.30           | 330.86             | 288.44             | 2.147 Minor Risk             |
| 14,100.23                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 78.78     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 619.30           | 330.86             | 288.45             | 2.147 Minor Risk, CC, ES, SF |
| 14,150.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 79.44     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 621.30           | 332.45             | 288.85             | 2.151 Minor Risk             |
| 14,200.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 80.10     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 627.29           | 338.45             | 288.84             | 2.172 Minor Risk             |
| 14,250.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 80.77     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 637.16           | 348.72             | 288.44             | 2.209 Minor Risk             |
| 14,300.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 81.43     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 650.73           | 363.04             | 287.69             | 2.262 Minor Risk             |
| 14,350.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 82.10     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 667.77           | 381.13             | 286.65             | 2.330 Minor Risk             |
| 14,400.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 82.77     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 688.04           | 402.66             | 285.38             | 2.411 Minor Risk             |
| 14,450.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 83.44     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 711.25           | 427.30             | 283.95             | 2.505 Alert                  |
| 14,500.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 84.11     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 737.12           | 454.72             | 282.41             | 2.610 Alert                  |
| 14,550.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 84.78     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 765.39           | 484.58             | 280.81             | 2.726 Alert                  |
| 14,600.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 85.45     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 795.81           | 516.61             | 279.20             | 2.850 Alert                  |
| 14,650.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 86.12     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 828.12           | 550.52             | 277.60             | 2.983 Alert                  |
| 14,700.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 86.80     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 862.13           | 586.08             | 276.04             | 3.123 Alert                  |
| 14,750.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 87.47     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 897.63           | 623.09             | 274.54             | 3.270 Alert                  |
| 14,800.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 88.15     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 934.46           | 661.36             | 273.09             | 3.422 Alert                  |
| 14,850.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 88.82     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 972.47           | 700.74             | 271.73             | 3.579 Alert                  |
| 14,900.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 89.50     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,011.52         | 741.09             | 270.43             | 3.740 Alert                  |
| 14,950.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 90.18     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,051.50         | 782.28             | 269.21             | 3.906 Alert                  |
| 15,000.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 90.86     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,092.30         | 824.23             | 268.07             | 4.075 Alert                  |
| 15,050.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 91.54     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,133.84         | 866.85             | 266.99             | 4.247 Alert                  |
| 15,100.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 92.22     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,176.04         | 910.05             | 265.99             | 4.421 Alert                  |
| 15,150.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 92.90     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,218.83         | 953.78             | 265.05             | 4.599 Alert                  |
| 15,200.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 93.58     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,262.15         | 997.98             | 264.17             | 4.778 Alert                  |
| 15,250.00                                                                               | 9,455.00            | 9,495.31            | 9,494.30            | 94.26     | 209.67 | -90.00          | -90.00            | -4,936.18              | 606.61          | 1,305.95         | 1,042.60           | 263.35             | 4.959 Alert                  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

|                                                                                                |                       |                       |                       |                        |               |                          |                               |        |                        |                         |                           |                          |                           |          |
|------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------------|---------------|--------------------------|-------------------------------|--------|------------------------|-------------------------|---------------------------|--------------------------|---------------------------|----------|
| <b>Offset Design</b> Sec 17-T23S-R32E - Tomcat 17 Fed #01 (Active) - Wellbore #1 - Wellbore #1 |                       |                       |                       |                        |               |                          |                               |        |                        |                         |                           |                          | <b>Offset Site Error:</b> | 0.00 ft  |
| <b>Survey Program:</b> 10-INC-ONLY                                                             |                       |                       |                       |                        |               |                          |                               |        |                        |                         |                           |                          | <b>Offset Well Error:</b> | 10.00 ft |
| <b>Reference</b>                                                                               |                       | <b>Offset</b>         |                       | <b>Semi Major Axis</b> |               |                          | <b>Distance</b>               |        |                        |                         |                           |                          | <b>Warning</b>            |          |
| <b>Measured Depth</b>                                                                          | <b>Vertical Depth</b> | <b>Measured Depth</b> | <b>Vertical Depth</b> | <b>Reference</b>       | <b>Offset</b> | <b>Highside Toolface</b> | <b>Offset Wellbore Centre</b> |        | <b>Between Centres</b> | <b>Between Ellipses</b> | <b>Minimum Separation</b> | <b>Separation Factor</b> |                           |          |
| (ft)                                                                                           | (ft)                  | (ft)                  | (ft)                  | (ft)                   | (ft)          | (°)                      | +N/-S                         | +E/-W  | (ft)                   | (ft)                    | (ft)                      |                          |                           |          |
| 15,300.00                                                                                      | 9,455.00              | 9,495.31              | 9,494.30              | 94.94                  | 209.67        | -90.00                   | -4,936.18                     | 606.61 | 1,350.18               | 1,087.59                | 262.59                    | 5.142                    |                           |          |
| 15,350.00                                                                                      | 9,455.00              | 9,495.31              | 9,494.30              | 95.63                  | 209.67        | -90.00                   | -4,936.18                     | 606.61 | 1,394.80               | 1,132.93                | 261.87                    | 5.326                    |                           |          |
| 15,400.00                                                                                      | 9,455.00              | 9,495.31              | 9,494.30              | 96.31                  | 209.67        | -90.00                   | -4,936.18                     | 606.61 | 1,439.77               | 1,178.57                | 261.20                    | 5.512                    |                           |          |
| 15,450.00                                                                                      | 9,455.00              | 9,495.31              | 9,494.30              | 97.00                  | 209.67        | -90.00                   | -4,936.18                     | 606.61 | 1,485.06               | 1,224.49                | 260.58                    | 5.699                    |                           |          |

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 17-T23S-R32E - Tomcat 17 Fed #02 (Active) - Wellbore #1 - Wellbore #1 |                           |                           |                           |                 |        |                             |                                         |               |                            |                             |                               | Offset Site Error:   | 0.00 ft       |
|-----------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-----------------|--------|-----------------------------|-----------------------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|---------------|
| Survey Program: 10-INC-ONLY                                                             |                           |                           |                           |                 |        |                             |                                         |               |                            |                             |                               | Offset Well Error:   | 10.00 ft      |
| Reference                                                                               |                           | Offset                    |                           | Semi Major Axis |        | Highside<br>Toolface<br>(°) | Distance                                |               | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning       |
| Measured<br>Depth<br>(ft)                                                               | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference       | Offset |                             | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) |                            |                             |                               |                      |               |
| 12,950.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 63.94           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,496.24                   | 1,282.10                    | 214.15                        | 6.987                |               |
| 13,000.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 64.57           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,457.99                   | 1,244.17                    | 213.82                        | 6.819                |               |
| 13,050.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 65.19           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,420.46                   | 1,206.99                    | 213.47                        | 6.654                |               |
| 13,100.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 65.82           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,383.72                   | 1,170.62                    | 213.09                        | 6.493                |               |
| 13,150.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 66.46           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,347.83                   | 1,135.14                    | 212.70                        | 6.337                |               |
| 13,200.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 67.09           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,312.87                   | 1,100.60                    | 212.27                        | 6.185                |               |
| 13,250.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 67.73           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,278.91                   | 1,067.09                    | 211.82                        | 6.038                |               |
| 13,300.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 68.36           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,246.03                   | 1,034.69                    | 211.34                        | 5.896                |               |
| 13,350.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 69.00           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,214.31                   | 1,003.48                    | 210.83                        | 5.760                |               |
| 13,400.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 69.64           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,183.87                   | 973.57                      | 210.30                        | 5.629                |               |
| 13,450.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 70.29           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,154.78                   | 945.04                      | 209.74                        | 5.506                |               |
| 13,500.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 70.93           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,127.16                   | 917.99                      | 209.17                        | 5.389                |               |
| 13,550.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 71.58           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,101.12                   | 892.54                      | 208.58                        | 5.279                |               |
| 13,600.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 72.22           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,076.77                   | 868.78                      | 207.99                        | 5.177                |               |
| 13,650.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 72.87           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,054.24                   | 846.82                      | 207.42                        | 5.083                |               |
| 13,700.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 73.52           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,033.63                   | 826.76                      | 206.87                        | 4.997                | Alert         |
| 13,750.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 74.18           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,015.07                   | 808.70                      | 206.37                        | 4.919                | Alert         |
| 13,800.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 74.83           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 998.67                     | 792.73                      | 205.94                        | 4.849                | Alert         |
| 13,850.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 75.48           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 984.54                     | 778.93                      | 205.61                        | 4.788                | Alert         |
| 13,900.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 76.14           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 972.78                     | 767.38                      | 205.40                        | 4.736                | Alert         |
| 13,950.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 76.80           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 963.47                     | 758.14                      | 205.33                        | 4.692                | Alert         |
| 14,000.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 77.46           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 956.69                     | 751.26                      | 205.43                        | 4.657                | Alert         |
| 14,050.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 78.12           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 952.49                     | 746.78                      | 205.70                        | 4.630                | Alert         |
| 14,100.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 78.78           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 950.90                     | 744.73                      | 206.17                        | 4.612                | Alert         |
| 14,105.23                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 78.85           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 950.88                     | 744.66                      | 206.23                        | 4.611                | Alert, CC, ES |
| 14,150.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 79.44           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 951.94                     | 745.12                      | 206.82                        | 4.603                | Alert         |
| 14,200.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 80.10           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 955.59                     | 747.94                      | 207.85                        | 4.602                | Alert, SF     |
| 14,250.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 80.77           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 961.84                     | 753.20                      | 208.64                        | 4.610                | Alert         |
| 14,300.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 81.43           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 970.63                     | 760.85                      | 209.77                        | 4.627                | Alert         |
| 14,350.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 82.10           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 981.88                     | 770.87                      | 211.01                        | 4.653                | Alert         |
| 14,400.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 82.77           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 995.52                     | 783.20                      | 212.32                        | 4.689                | Alert         |
| 14,450.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 83.44           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,011.46                   | 797.78                      | 213.68                        | 4.734                | Alert         |
| 14,500.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 84.11           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,029.57                   | 814.52                      | 215.05                        | 4.788                | Alert         |
| 14,550.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 84.78           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,049.76                   | 833.35                      | 216.41                        | 4.851                | Alert         |
| 14,600.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 85.45           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,071.90                   | 854.16                      | 217.74                        | 4.923                | Alert         |
| 14,650.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 86.12           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,095.88                   | 876.86                      | 219.02                        | 5.003                |               |
| 14,700.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 86.80           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,121.57                   | 901.33                      | 220.24                        | 5.092                |               |
| 14,750.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 87.47           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,148.87                   | 927.48                      | 221.39                        | 5.189                |               |
| 14,800.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 88.15           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,177.66                   | 955.20                      | 222.46                        | 5.294                |               |
| 14,850.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 88.82           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,207.83                   | 984.38                      | 223.45                        | 5.405                |               |
| 14,900.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 89.50           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,239.29                   | 1,014.93                    | 224.36                        | 5.524                |               |
| 14,950.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 90.18           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,271.93                   | 1,046.73                    | 225.20                        | 5.648                |               |
| 15,000.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 90.86           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,305.67                   | 1,079.72                    | 225.96                        | 5.778                |               |
| 15,050.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 91.54           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,340.43                   | 1,113.79                    | 226.65                        | 5.914                |               |
| 15,100.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 92.22           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,376.13                   | 1,148.86                    | 227.27                        | 6.055                |               |
| 15,150.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 92.90           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,412.70                   | 1,184.86                    | 227.84                        | 6.200                |               |
| 15,200.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 93.58           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,450.07                   | 1,221.72                    | 228.34                        | 6.350                |               |
| 15,250.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 94.26           | 190.36 | 47.48                       | -4,949.64                               | -713.48       | 1,488.18                   | 1,259.38                    | 228.80                        | 6.504                |               |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 17-T23S-R32E - Tomcat 17 Fed #03 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                     | Offset Site Error: | 0.00 ft  |
|-----------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|---------------------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                                             |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                     | Offset Well Error: | 10.00 ft |
| Reference                                                                               |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                     | Warning            |          |
| Measured Depth (ft)                                                                     | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor   |                    |          |
| 11,600.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 48.16           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,473.67             | 1,265.43              | 208.24                  | 7.077               |                    |          |
| 11,650.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 48.70           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,433.98             | 1,226.53              | 207.46                  | 6.912               |                    |          |
| 11,700.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 49.24           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,394.96             | 1,188.34              | 206.62                  | 6.751               |                    |          |
| 11,750.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 49.78           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,356.65             | 1,150.83              | 205.72                  | 6.596               |                    |          |
| 11,800.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 50.33           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,319.13             | 1,114.36              | 204.77                  | 6.442               |                    |          |
| 11,850.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 50.88           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,282.46             | 1,078.71              | 203.75                  | 6.294               |                    |          |
| 11,900.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 51.44           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,246.71             | 1,044.05              | 202.67                  | 6.152               |                    |          |
| 11,950.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 52.00           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,211.98             | 1,010.46              | 201.52                  | 6.014               |                    |          |
| 12,000.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 52.57           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,178.34             | 978.04                | 200.30                  | 5.883               |                    |          |
| 12,050.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 53.14           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,145.90             | 946.88                | 199.02                  | 5.758               |                    |          |
| 12,100.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 53.71           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,114.75             | 917.08                | 197.67                  | 5.639               |                    |          |
| 12,150.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 54.29           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,085.02             | 888.75                | 196.27                  | 5.528               |                    |          |
| 12,200.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 54.87           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,056.82             | 862.00                | 194.82                  | 5.425               |                    |          |
| 12,250.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 55.45           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,030.27             | 836.94                | 193.33                  | 5.329               |                    |          |
| 12,300.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 56.04           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,005.51             | 813.68                | 191.83                  | 5.242               |                    |          |
| 12,350.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 56.63           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 982.67               | 792.33                | 190.35                  | 5.163               |                    |          |
| 12,400.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 57.22           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 961.90               | 773.00                | 188.90                  | 5.092               |                    |          |
| 12,450.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 57.82           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 943.31               | 755.78                | 187.54                  | 5.030               |                    |          |
| 12,500.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 58.42           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 927.06               | 740.76                | 186.30                  | 4.976 Alert         |                    |          |
| 12,550.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 59.02           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 913.25               | 728.02                | 185.24                  | 4.930 Alert         |                    |          |
| 12,600.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 59.63           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 902.01               | 717.61                | 184.40                  | 4.892 Alert         |                    |          |
| 12,650.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 60.24           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 893.43               | 709.60                | 183.83                  | 4.860 Alert         |                    |          |
| 12,700.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 60.85           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 887.59               | 704.02                | 183.58                  | 4.835 Alert         |                    |          |
| 12,750.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 61.46           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 884.54               | 700.88                | 183.66                  | 4.816 Alert         |                    |          |
| 12,779.05                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 61.82           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 884.06               | 700.20                | 183.87                  | 4.808 Alert, CC, ES |                    |          |
| 12,800.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 62.08           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 884.31               | 700.22                | 184.09                  | 4.804 Alert         |                    |          |
| 12,850.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 62.70           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 886.91               | 702.03                | 184.87                  | 4.797 Alert, SF     |                    |          |
| 12,900.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 63.32           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 892.30               | 706.32                | 185.98                  | 4.798 Alert         |                    |          |
| 12,950.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 63.94           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 900.44               | 713.07                | 187.37                  | 4.806 Alert         |                    |          |
| 13,000.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 64.57           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 911.26               | 722.25                | 189.00                  | 4.821 Alert         |                    |          |
| 13,050.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 65.19           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 924.66               | 733.83                | 190.82                  | 4.846 Alert         |                    |          |
| 13,100.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 65.82           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 940.52               | 747.75                | 192.77                  | 4.879 Alert         |                    |          |
| 13,150.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 66.46           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 958.74               | 763.95                | 194.79                  | 4.922 Alert         |                    |          |
| 13,200.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 67.09           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 979.17               | 782.33                | 196.84                  | 4.974 Alert         |                    |          |
| 13,250.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 67.73           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,001.68             | 802.81                | 198.88                  | 5.037               |                    |          |
| 13,300.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 68.36           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,026.14             | 825.27                | 200.87                  | 5.109               |                    |          |
| 13,350.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 69.00           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,052.41             | 849.62                | 202.79                  | 5.190               |                    |          |
| 13,400.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 69.64           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,080.35             | 875.73                | 204.62                  | 5.280               |                    |          |
| 13,450.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 70.29           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,109.84             | 903.49                | 206.36                  | 5.378               |                    |          |
| 13,500.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 70.93           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,140.77             | 932.78                | 207.99                  | 5.485               |                    |          |
| 13,550.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 71.58           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,173.01             | 963.50                | 209.51                  | 5.599               |                    |          |
| 13,600.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 72.22           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,206.46             | 995.54                | 210.92                  | 5.720               |                    |          |
| 13,650.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 72.87           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,241.02             | 1,028.79              | 212.23                  | 5.848               |                    |          |
| 13,700.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 73.52           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,276.61             | 1,063.17              | 213.44                  | 5.981               |                    |          |
| 13,750.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 74.18           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,313.14             | 1,098.58              | 214.55                  | 6.120               |                    |          |
| 13,800.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 74.83           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,350.53             | 1,134.95              | 215.58                  | 6.265               |                    |          |
| 13,850.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 75.48           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,388.71             | 1,172.19              | 216.52                  | 6.414               |                    |          |
| 13,900.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 76.14           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,427.62             | 1,210.24              | 217.38                  | 6.567               |                    |          |
| 13,950.00                                                                               | 9,455.00            | 8,874.00            | 8,870.63            | 76.80           | 191.08      | -44.30                | -3,615.03                         | 596.33     | 1,467.21             | 1,249.03              | 218.18                  | 6.725               |                    |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 17-T23S-R32E - Tomcat 17 Fed #04 (Active) - Wellbore #1 - Wellbore #1 |                           |                           |                           |                 |        |                            |               |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft  |
|----------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-----------------|--------|----------------------------|---------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                                                  |                           |                           |                           |                 |        |                            |               |               |                            |                             |                               |                      | Offset Well Error: | 10.00 ft |
| Reference                                                                                    |                           | Offset                    |                           | Semi Major Axis |        | Highside<br>Tooface<br>(°) | Distance      |               | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |          |
| Measured<br>Depth<br>(ft)                                                                    | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference       | Offset |                            | +N/-S<br>(ft) | +E/-W<br>(ft) |                            |                             |                               |                      |                    |          |
| 11,600.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 48.16           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,486.51                   | 1,275.73                    | 210.78                        | 7.052                |                    |          |
| 11,650.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 48.70           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,450.40                   | 1,240.10                    | 210.30                        | 6.897                |                    |          |
| 11,700.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 49.24           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,415.14                   | 1,205.34                    | 209.80                        | 6.745                |                    |          |
| 11,750.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 49.78           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,380.78                   | 1,171.50                    | 209.28                        | 6.598                |                    |          |
| 11,800.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 50.33           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,347.41                   | 1,138.66                    | 208.76                        | 6.455                |                    |          |
| 11,850.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 50.88           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,315.10                   | 1,106.88                    | 208.21                        | 6.316                |                    |          |
| 11,900.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 51.44           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,283.91                   | 1,076.26                    | 207.65                        | 6.183                |                    |          |
| 11,950.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 52.00           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,253.95                   | 1,046.86                    | 207.09                        | 6.055                |                    |          |
| 12,000.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 52.57           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,225.29                   | 1,018.77                    | 206.52                        | 5.933                |                    |          |
| 12,050.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 53.14           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,198.04                   | 992.09                      | 205.95                        | 5.817                |                    |          |
| 12,100.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 53.71           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,172.28                   | 966.90                      | 205.39                        | 5.708                |                    |          |
| 12,150.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 54.29           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,148.13                   | 943.28                      | 204.85                        | 5.605                |                    |          |
| 12,200.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 54.87           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,125.68                   | 921.35                      | 204.33                        | 5.509                |                    |          |
| 12,250.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 55.45           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,105.04                   | 901.18                      | 203.86                        | 5.421                |                    |          |
| 12,300.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 56.04           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,086.31                   | 882.87                      | 203.44                        | 5.340                |                    |          |
| 12,350.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 56.63           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,069.59                   | 866.50                      | 203.09                        | 5.267                |                    |          |
| 12,400.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 57.22           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,054.98                   | 852.16                      | 202.82                        | 5.201                |                    |          |
| 12,450.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 57.82           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,042.56                   | 839.90                      | 202.66                        | 5.144                |                    |          |
| 12,500.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 58.42           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,032.42                   | 829.80                      | 202.62                        | 5.095                |                    |          |
| 12,550.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 59.02           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,024.62                   | 821.92                      | 202.70                        | 5.055                |                    |          |
| 12,600.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 59.63           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,019.22                   | 816.29                      | 202.93                        | 5.023                |                    |          |
| 12,650.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 60.24           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,016.25                   | 812.95                      | 203.30                        | 4.999 Alert          |                    |          |
| 12,685.45                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 60.67           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,015.63                   | 811.98                      | 203.65                        | 4.987 Alert, CC      |                    |          |
| 12,700.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 60.85           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,015.73                   | 811.92                      | 203.82                        | 4.984 Alert, ES      |                    |          |
| 12,750.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 61.46           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,017.68                   | 813.20                      | 204.48                        | 4.977 Alert, SF      |                    |          |
| 12,800.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 62.08           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,022.07                   | 816.80                      | 205.27                        | 4.979 Alert          |                    |          |
| 12,850.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 62.70           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,028.87                   | 822.69                      | 206.18                        | 4.990 Alert          |                    |          |
| 12,900.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 63.32           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,038.04                   | 830.85                      | 207.19                        | 5.010                |                    |          |
| 12,950.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 63.94           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,049.52                   | 841.23                      | 208.29                        | 5.039                |                    |          |
| 13,000.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 64.57           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,063.22                   | 853.78                      | 209.44                        | 5.077                |                    |          |
| 13,050.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 65.19           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,079.07                   | 868.44                      | 210.63                        | 5.123                |                    |          |
| 13,100.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 65.82           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,096.97                   | 885.14                      | 211.84                        | 5.178                |                    |          |
| 13,150.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 66.46           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,116.83                   | 903.79                      | 213.04                        | 5.242                |                    |          |
| 13,200.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 67.09           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,138.53                   | 924.30                      | 214.23                        | 5.315                |                    |          |
| 13,250.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 67.73           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,161.99                   | 946.60                      | 215.39                        | 5.395                |                    |          |
| 13,300.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 68.36           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,187.08                   | 970.58                      | 216.51                        | 5.483                |                    |          |
| 13,350.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 69.00           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,213.72                   | 996.15                      | 217.58                        | 5.578                |                    |          |
| 13,400.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 69.64           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,241.80                   | 1,023.21                    | 218.59                        | 5.681                |                    |          |
| 13,450.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 70.29           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,271.23                   | 1,051.68                    | 219.55                        | 5.790                |                    |          |
| 13,500.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 70.93           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,301.92                   | 1,081.47                    | 220.45                        | 5.906                |                    |          |
| 13,550.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 71.58           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,333.77                   | 1,112.48                    | 221.29                        | 6.027                |                    |          |
| 13,600.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 72.22           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,366.71                   | 1,144.64                    | 222.07                        | 6.154                |                    |          |
| 13,650.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 72.87           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,400.66                   | 1,177.87                    | 222.79                        | 6.287                |                    |          |
| 13,700.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 73.52           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,435.55                   | 1,212.09                    | 223.47                        | 6.424                |                    |          |
| 13,750.00                                                                                    | 9,455.00                  | 8,876.00                  | 8,872.63                  | 74.18           | 191.14 | 52.12                      | -3,530.53     | -823.31       | 1,471.31                   | 1,247.23                    | 224.08                        | 6.566                |                    |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 20-T23S-R32E - APJ Fed #008 (Active) - Wellbore #1 - Wellbore #1 |                           |                           |                           |                 |        |                             |               |               |                            |                             |                               |                      | Offset Site Error: | 0.00 ft  |
|------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-----------------|--------|-----------------------------|---------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                                        |                           |                           |                           |                 |        |                             |               |               |                            |                             |                               |                      | Offset Well Error: | 10.00 ft |
| Reference                                                                          |                           | Offset                    |                           | Semi Major Axis |        | Highside<br>Toolface<br>(°) | Distance      |               | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning            |          |
| Measured<br>Depth<br>(ft)                                                          | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference       | Offset |                             | +N/-S<br>(ft) | +E/-W<br>(ft) |                            |                             |                               |                      |                    |          |
| 18,500.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 139.63          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,478.33                   | 1,258.45                    | 219.88                        | 6.723                |                    |          |
| 18,550.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 140.34          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,437.72                   | 1,218.19                    | 219.53                        | 6.549                |                    |          |
| 18,600.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 141.04          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,397.72                   | 1,178.61                    | 219.11                        | 6.379                |                    |          |
| 18,650.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 141.75          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,358.38                   | 1,139.76                    | 218.61                        | 6.214                |                    |          |
| 18,700.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 142.46          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,319.78                   | 1,101.72                    | 218.04                        | 6.053                |                    |          |
| 18,750.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 143.17          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,281.92                   | 1,064.56                    | 217.36                        | 5.898                |                    |          |
| 18,800.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 143.88          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,244.95                   | 1,028.37                    | 216.58                        | 5.748                |                    |          |
| 18,850.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 144.59          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,208.91                   | 993.24                      | 215.67                        | 5.605                |                    |          |
| 18,900.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 145.30          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,173.90                   | 959.27                      | 214.63                        | 5.469                |                    |          |
| 18,950.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 146.01          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,140.01                   | 926.58                      | 213.43                        | 5.341                |                    |          |
| 19,000.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 146.72          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,107.33                   | 895.28                      | 212.06                        | 5.222                |                    |          |
| 19,050.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 147.43          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,075.99                   | 865.49                      | 210.50                        | 5.112                |                    |          |
| 19,100.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 148.14          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,046.10                   | 837.35                      | 208.76                        | 5.011                |                    |          |
| 19,150.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 148.85          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 1,017.79                   | 810.99                      | 206.81                        | 4.922                | Alert              |          |
| 19,200.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 149.56          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 991.20                     | 786.54                      | 204.66                        | 4.843                | Alert              |          |
| 19,250.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 150.27          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 966.46                     | 764.14                      | 202.32                        | 4.777                | Alert              |          |
| 19,300.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 150.98          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 943.73                     | 743.91                      | 199.82                        | 4.723                | Alert              |          |
| 19,350.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 151.70          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 923.14                     | 725.93                      | 197.21                        | 4.681                | Alert              |          |
| 19,400.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 152.41          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 904.86                     | 710.30                      | 194.56                        | 4.651                | Alert              |          |
| 19,450.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 153.12          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 889.01                     | 697.04                      | 191.97                        | 4.631                | Alert              |          |
| 19,500.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 153.83          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 875.73                     | 686.16                      | 189.57                        | 4.620                | Alert              |          |
| 19,550.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 154.54          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 865.15                     | 677.62                      | 187.52                        | 4.614                | Alert              |          |
| 19,600.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 155.25          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 857.35                     | 671.36                      | 185.99                        | 4.610                | Alert              |          |
| 19,650.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 155.97          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 852.42                     | 667.29                      | 185.14                        | 4.604                | Alert              |          |
| 19,700.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 156.68          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 850.41                     | 665.34                      | 185.07                        | 4.595                | Alert              |          |
| 19,709.28                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 156.81          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 850.36                     | 665.21                      | 185.15                        | 4.593                | Alert, CC, ES      |          |
| 19,750.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 157.39          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 851.33                     | 665.48                      | 185.85                        | 4.581                | Alert              |          |
| 19,800.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 158.10          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 855.19                     | 667.74                      | 187.44                        | 4.562                | Alert              |          |
| 19,850.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 158.82          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 861.93                     | 672.18                      | 189.74                        | 4.543                | Alert              |          |
| 19,900.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 159.53          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 871.49                     | 678.89                      | 192.59                        | 4.525                | Alert              |          |
| 19,950.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 160.13          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 883.78                     | 688.24                      | 195.54                        | 4.520                | Alert, SF          |          |
| 20,000.00                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 160.74          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 898.68                     | 700.11                      | 198.58                        | 4.526                | Alert              |          |
| 20,004.02                                                                          | 9,455.00                  | 8,750.00                  | 8,746.70                  | 160.78          | 187.37 | 25.33                       | -10,551.41    | -340.59       | 899.99                     | 701.19                      | 198.80                        | 4.527                | Alert              |          |

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 20-T23S-R32E - Tomcat 20 Fed #002 (Active) - Wellbore #1 - Wellbore #1 |                           |                           |                           |                   |                |                             |                                         |               |                               |                      |         |       | Offset Site Error: | 0.00 ft  |
|------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|-----------------------------------------|---------------|-------------------------------|----------------------|---------|-------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                                              |                           |                           |                           |                   |                |                             |                                         |               |                               |                      |         |       | Offset Well Error: | 10.00 ft |
| Reference                                                                                |                           | Offset                    |                           | Semi Major Axis   |                | Highside<br>Toolface<br>(°) | Distance                                |               | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning |       |                    |          |
| Measured<br>Depth<br>(ft)                                                                | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) |                             | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) |                               |                      |         |       |                    |          |
| 14,300.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 81.43             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,478.34                      | 1,255.17             | 221.17  | 6.675 |                    |          |
| 14,350.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 82.10             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,438.56                      | 1,217.41             | 221.14  | 6.505 |                    |          |
| 14,400.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 82.77             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,401.54                      | 1,180.43             | 221.10  | 6.339 |                    |          |
| 14,450.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 83.44             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,365.34                      | 1,144.30             | 221.04  | 6.177 |                    |          |
| 14,500.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 84.11             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,330.04                      | 1,109.08             | 220.97  | 6.019 |                    |          |
| 14,550.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 84.78             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,295.71                      | 1,074.85             | 220.87  | 5.866 |                    |          |
| 14,600.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 85.45             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,262.43                      | 1,041.68             | 220.75  | 5.719 |                    |          |
| 14,650.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 86.12             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,230.28                      | 1,009.67             | 220.61  | 5.577 |                    |          |
| 14,700.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 86.80             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,199.35                      | 978.91               | 220.44  | 5.441 |                    |          |
| 14,750.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 87.47             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,169.75                      | 949.49               | 220.25  | 5.311 |                    |          |
| 14,800.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 88.15             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,141.56                      | 921.52               | 220.04  | 5.188 |                    |          |
| 14,850.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 88.82             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,114.91                      | 895.10               | 219.81  | 5.072 |                    |          |
| 14,900.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 89.50             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,089.90                      | 870.34               | 219.56  | 4.964 | Alert              |          |
| 14,950.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 90.18             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,066.65                      | 847.33               | 219.32  | 4.864 | Alert              |          |
| 15,000.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 90.86             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,045.27                      | 826.20               | 219.07  | 4.771 | Alert              |          |
| 15,050.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 91.54             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,025.89                      | 807.04               | 218.85  | 4.688 | Alert              |          |
| 15,100.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 92.22             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,008.62                      | 789.96               | 218.66  | 4.613 | Alert              |          |
| 15,150.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 92.90             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 993.57                        | 775.03               | 218.54  | 4.546 | Alert              |          |
| 15,200.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 93.58             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 980.83                        | 762.34               | 218.49  | 4.489 | Alert              |          |
| 15,250.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 94.26             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 970.51                        | 751.97               | 218.54  | 4.441 | Alert              |          |
| 15,300.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 94.94             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 962.68                        | 743.97               | 218.71  | 4.402 | Alert              |          |
| 15,350.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 95.63             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 957.40                        | 738.38               | 219.01  | 4.371 | Alert              |          |
| 15,400.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 96.31             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 954.71                        | 735.24               | 219.46  | 4.350 | Alert              |          |
| 15,426.42                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 96.67             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 954.34                        | 734.58               | 219.76  | 4.343 | Alert, CC          |          |
| 15,450.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 97.00             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 954.63                        | 734.57               | 220.06  | 4.338 | Alert, ES          |          |
| 15,500.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 97.68             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 957.17                        | 736.37               | 220.80  | 4.335 | Alert, SF          |          |
| 15,550.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 98.37             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 962.31                        | 740.64               | 221.67  | 4.341 | Alert              |          |
| 15,600.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 99.06             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 970.00                        | 747.38               | 222.64  | 4.357 | Alert              |          |
| 15,650.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 99.74             | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 980.18                        | 756.48               | 223.70  | 4.382 | Alert              |          |
| 15,700.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 100.43            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 992.78                        | 767.96               | 224.82  | 4.416 | Alert              |          |
| 15,750.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 101.12            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,007.71                      | 781.74               | 225.97  | 4.460 | Alert              |          |
| 15,800.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 101.81            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,024.86                      | 797.74               | 227.11  | 4.513 | Alert              |          |
| 15,850.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 102.50            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,044.12                      | 815.88               | 228.24  | 4.575 | Alert              |          |
| 15,900.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 103.19            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,065.38                      | 836.05               | 229.33  | 4.646 | Alert              |          |
| 15,950.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 103.88            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,088.53                      | 858.17               | 230.36  | 4.725 | Alert              |          |
| 16,000.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 104.57            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,113.45                      | 882.12               | 231.33  | 4.813 | Alert              |          |
| 16,050.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 105.26            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,140.01                      | 907.79               | 232.22  | 4.909 | Alert              |          |
| 16,100.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 105.96            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,168.11                      | 935.07               | 233.04  | 5.013 |                    |          |
| 16,150.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 106.65            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,197.64                      | 963.87               | 233.77  | 5.123 |                    |          |
| 16,200.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 107.34            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,228.49                      | 994.06               | 234.43  | 5.240 |                    |          |
| 16,250.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 108.04            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,260.58                      | 1,025.57             | 235.01  | 5.364 |                    |          |
| 16,300.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 108.73            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,293.80                      | 1,058.27             | 235.52  | 5.493 |                    |          |
| 16,350.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 109.43            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,328.07                      | 1,092.10             | 235.97  | 5.628 |                    |          |
| 16,400.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 110.12            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,363.31                      | 1,126.97             | 236.35  | 5.768 |                    |          |
| 16,450.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 110.82            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,399.46                      | 1,162.78             | 236.68  | 5.913 |                    |          |
| 16,500.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 111.51            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,438.43                      | 1,199.48             | 236.95  | 6.062 |                    |          |
| 16,550.00                                                                                | 9,455.00                  | 8,850.00                  | 8,846.64                  | 112.21            | 190.36         | 47.10                       | -6,270.78                               | -703.26       | 1,474.18                      | 1,237.00             | 237.18  | 6.215 |                    |          |

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 20-T23S-R32E - Tomcat 20 Fed #01 (Active) - Wellbore #1 - Wellbore #1 |                           |                           |                           |                 |        |                             |               |               |                            |                             |                               | Offset Site Error:   | 0.00 ft  |
|-----------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|-----------------|--------|-----------------------------|---------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|----------|
| Survey Program: 10-INC-ONLY                                                             |                           |                           |                           |                 |        |                             |               |               |                            |                             |                               | Offset Well Error:   | 10.00 ft |
| Reference                                                                               |                           | Offset                    |                           | Semi Major Axis |        | Highside<br>Toolface<br>(°) | Distance      |               | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning  |
| Measured<br>Depth<br>(ft)                                                               | Vertical<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference       | Offset |                             | +N/-S<br>(ft) | +E/-W<br>(ft) |                            |                             |                               |                      |          |
| 14,200.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 80.10           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,478.65                   | 1,256.32                    | 222.32                        | 6.651                |          |
| 14,250.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 80.77           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,441.14                   | 1,218.81                    | 222.33                        | 6.482                |          |
| 14,300.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 81.43           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,404.41                   | 1,182.09                    | 222.32                        | 6.317                |          |
| 14,350.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 82.10           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,368.52                   | 1,146.22                    | 222.30                        | 6.156                |          |
| 14,400.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 82.77           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,333.54                   | 1,111.28                    | 222.26                        | 6.000                |          |
| 14,450.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 83.44           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,299.55                   | 1,077.34                    | 222.21                        | 5.848                |          |
| 14,500.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 84.11           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,266.61                   | 1,044.48                    | 222.13                        | 5.702                |          |
| 14,550.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 84.78           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,234.83                   | 1,012.79                    | 222.03                        | 5.561                |          |
| 14,600.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 85.45           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,204.28                   | 982.36                      | 221.92                        | 5.427                |          |
| 14,650.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 86.12           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,175.06                   | 953.29                      | 221.78                        | 5.298                |          |
| 14,700.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 86.80           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,147.28                   | 925.66                      | 221.62                        | 5.177                |          |
| 14,750.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 87.47           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,121.04                   | 899.60                      | 221.44                        | 5.062                |          |
| 14,800.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 88.15           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,096.46                   | 875.21                      | 221.25                        | 4.956 Alert          |          |
| 14,850.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 88.82           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,073.65                   | 852.58                      | 221.06                        | 4.857 Alert          |          |
| 14,900.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 89.50           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,052.71                   | 831.83                      | 220.88                        | 4.766 Alert          |          |
| 14,950.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 90.18           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,033.77                   | 813.05                      | 220.72                        | 4.684 Alert          |          |
| 15,000.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 90.86           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,016.94                   | 796.35                      | 220.59                        | 4.610 Alert          |          |
| 15,050.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 91.54           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,002.33                   | 781.81                      | 220.51                        | 4.545 Alert          |          |
| 15,100.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 92.22           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 990.02                     | 769.51                      | 220.51                        | 4.490 Alert          |          |
| 15,150.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 92.90           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 980.12                     | 759.53                      | 220.59                        | 4.443 Alert          |          |
| 15,200.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 93.58           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 972.69                     | 751.91                      | 220.78                        | 4.406 Alert          |          |
| 15,250.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 94.26           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 967.78                     | 746.70                      | 221.09                        | 4.377 Alert          |          |
| 15,300.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 94.94           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 965.45                     | 743.93                      | 221.52                        | 4.358 Alert          |          |
| 15,320.14                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 95.22           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 965.24                     | 743.51                      | 221.73                        | 4.353 Alert, CC, ES  |          |
| 15,350.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 95.63           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 965.70                     | 743.62                      | 222.08                        | 4.349 Alert          |          |
| 15,400.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 96.31           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 968.54                     | 745.78                      | 222.75                        | 4.348 Alert, SF      |          |
| 15,450.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 97.00           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 973.93                     | 750.39                      | 223.54                        | 4.357 Alert          |          |
| 15,500.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 97.68           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 981.85                     | 757.44                      | 224.42                        | 4.375 Alert          |          |
| 15,550.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 98.37           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 992.23                     | 766.87                      | 225.36                        | 4.403 Alert          |          |
| 15,600.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 99.06           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,004.99                   | 778.63                      | 226.36                        | 4.440 Alert          |          |
| 15,650.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 99.74           | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,020.05                   | 792.67                      | 227.37                        | 4.486 Alert          |          |
| 15,700.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 100.43          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,037.29                   | 808.91                      | 228.38                        | 4.542 Alert          |          |
| 15,750.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 101.12          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,056.63                   | 827.25                      | 229.37                        | 4.607 Alert          |          |
| 15,800.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 101.81          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,077.94                   | 847.81                      | 230.33                        | 4.680 Alert          |          |
| 15,850.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 102.50          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,101.11                   | 869.88                      | 231.23                        | 4.762 Alert          |          |
| 15,900.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 103.19          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,126.02                   | 893.95                      | 232.07                        | 4.852 Alert          |          |
| 15,950.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 103.88          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,152.57                   | 919.72                      | 232.84                        | 4.950 Alert          |          |
| 16,000.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 104.57          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,180.63                   | 947.09                      | 233.55                        | 5.055                |          |
| 16,050.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 105.26          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,210.12                   | 975.94                      | 234.18                        | 5.167                |          |
| 16,100.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 105.96          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,240.91                   | 1,006.17                    | 234.74                        | 5.286                |          |
| 16,150.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 106.65          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,272.93                   | 1,037.69                    | 235.24                        | 5.411                |          |
| 16,200.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 107.34          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,306.08                   | 1,070.41                    | 235.67                        | 5.542                |          |
| 16,250.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 108.04          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,340.27                   | 1,104.23                    | 236.04                        | 5.678                |          |
| 16,300.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 108.73          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,375.43                   | 1,139.07                    | 236.36                        | 5.819                |          |
| 16,350.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 109.43          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,411.49                   | 1,174.86                    | 236.63                        | 5.965                |          |
| 16,400.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 110.12          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,448.37                   | 1,211.52                    | 236.85                        | 6.115                |          |
| 16,450.00                                                                               | 9,455.00                  | 8,850.00                  | 8,846.64                  | 110.82          | 190.36 | -48.26                      | -6,155.41     | 715.30        | 1,486.03                   | 1,248.99                    | 237.03                        | 6.269                |          |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design      Sec 20-T23S-R32E - Tomcat 20 Fed #03 (Active) - Wellbore #1 - Wellbore #1 |                           |                                 |                           |                   |                |                             |                                         |               |                            |                             |                               |                      | Offset Site Error:      0.00 ft  |  |
|----------------------------------------------------------------------------------------------|---------------------------|---------------------------------|---------------------------|-------------------|----------------|-----------------------------|-----------------------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|----------------------------------|--|
| Survey Program:    10-INC-ONLY                                                               |                           |                                 |                           |                   |                |                             |                                         |               |                            |                             |                               |                      | Offset Well Error:      10.00 ft |  |
| Reference                                                                                    |                           | Offset                          |                           | Semi Major Axis   |                |                             | Distance                                |               |                            |                             |                               |                      |                                  |  |
| Measured Depth<br>Depth<br>(ft)                                                              | Vertical<br>Depth<br>(ft) | Measured Depth<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Reference<br>(ft) | Offset<br>(ft) | Highside<br>Toolface<br>(") | Offset Wellbore Centre<br>+N/-S<br>(ft) | +E/-W<br>(ft) | Between<br>Centres<br>(ft) | Between<br>Ellipses<br>(ft) | Minimum<br>Separation<br>(ft) | Separation<br>Factor | Warning                          |  |
| 15,750.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 101.12            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,482.18                   | 1,278.31                    | 203.87                        | 7.270                |                                  |  |
| 15,800.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 101.81            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,449.27                   | 1,246.15                    | 203.12                        | 7.135                |                                  |  |
| 15,850.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 102.50            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,417.36                   | 1,215.05                    | 202.31                        | 7.006                |                                  |  |
| 15,900.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 103.19            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,386.51                   | 1,185.08                    | 201.43                        | 6.883                |                                  |  |
| 15,950.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 103.88            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,356.81                   | 1,156.32                    | 200.49                        | 6.767                |                                  |  |
| 16,000.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 104.57            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,328.33                   | 1,128.84                    | 199.49                        | 6.659                |                                  |  |
| 16,050.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 105.26            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,301.14                   | 1,102.72                    | 198.43                        | 6.557                |                                  |  |
| 16,100.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 105.96            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,275.34                   | 1,078.03                    | 197.31                        | 6.464                |                                  |  |
| 16,150.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 106.65            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,251.00                   | 1,054.85                    | 196.15                        | 6.378                |                                  |  |
| 16,200.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 107.34            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,228.22                   | 1,033.26                    | 194.96                        | 6.300                |                                  |  |
| 16,250.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 108.04            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,207.08                   | 1,013.32                    | 193.76                        | 6.230                |                                  |  |
| 16,300.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 108.73            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,187.67                   | 995.10                      | 192.56                        | 6.168                |                                  |  |
| 16,350.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 109.43            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,170.07                   | 978.68                      | 191.41                        | 6.113                |                                  |  |
| 16,400.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 110.12            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,154.38                   | 964.05                      | 190.32                        | 6.065                |                                  |  |
| 16,450.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 110.82            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,140.66                   | 951.31                      | 189.34                        | 6.024                |                                  |  |
| 16,500.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 111.51            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,128.99                   | 940.48                      | 188.51                        | 5.989                |                                  |  |
| 16,550.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 112.21            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,119.43                   | 931.57                      | 187.86                        | 5.959                |                                  |  |
| 16,600.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 112.91            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,112.05                   | 924.61                      | 187.44                        | 5.933                |                                  |  |
| 16,650.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 113.60            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,106.87                   | 919.60                      | 187.27                        | 5.911                |                                  |  |
| 16,700.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 114.30            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,103.94                   | 916.56                      | 187.38                        | 5.891                |                                  |  |
| 16,739.84                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 114.86            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,103.22                   | 915.54                      | 187.68                        | 5.878 CC             |                                  |  |
| 16,750.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 115.00            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,103.27                   | 915.48                      | 187.79                        | 5.875 ES             |                                  |  |
| 16,800.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 115.70            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,104.86                   | 916.37                      | 188.49                        | 5.862                |                                  |  |
| 16,850.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 116.40            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,108.71                   | 919.24                      | 189.47                        | 5.852                |                                  |  |
| 16,900.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 117.09            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,114.79                   | 924.08                      | 190.70                        | 5.846                |                                  |  |
| 16,950.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 117.79            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,123.06                   | 930.89                      | 192.17                        | 5.844 SF             |                                  |  |
| 17,000.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 118.49            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,133.48                   | 939.67                      | 193.81                        | 5.848                |                                  |  |
| 17,050.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 119.19            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,145.99                   | 950.40                      | 195.59                        | 5.859                |                                  |  |
| 17,100.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 119.90            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,160.52                   | 963.05                      | 197.47                        | 5.877                |                                  |  |
| 17,150.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 120.60            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,177.00                   | 977.59                      | 199.41                        | 5.903                |                                  |  |
| 17,200.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 121.30            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,195.34                   | 993.99                      | 201.35                        | 5.937                |                                  |  |
| 17,250.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 122.00            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,215.47                   | 1,012.18                    | 203.29                        | 5.979                |                                  |  |
| 17,300.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 122.70            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,237.29                   | 1,032.11                    | 205.18                        | 6.030                |                                  |  |
| 17,350.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 123.40            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,260.71                   | 1,053.71                    | 207.00                        | 6.090                |                                  |  |
| 17,400.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 124.11            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,285.66                   | 1,076.91                    | 208.75                        | 6.159                |                                  |  |
| 17,450.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 124.81            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,312.03                   | 1,101.62                    | 210.41                        | 6.236                |                                  |  |
| 17,500.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 125.51            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,339.76                   | 1,127.79                    | 211.97                        | 6.321                |                                  |  |
| 17,550.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 126.21            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,368.74                   | 1,155.32                    | 213.42                        | 6.413                |                                  |  |
| 17,600.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 126.92            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,398.92                   | 1,184.14                    | 214.78                        | 6.513                |                                  |  |
| 17,650.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 127.62            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,430.21                   | 1,214.17                    | 216.03                        | 6.620                |                                  |  |
| 17,700.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 128.33            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,462.54                   | 1,245.34                    | 217.19                        | 6.734                |                                  |  |
| 17,750.00                                                                                    | 9,455.00                  | 8,600.00                        | 8,596.79                  | 129.03            | 182.88         | -34.38                      | -7,575.71                               | 627.16        | 1,495.84                   | 1,277.58                    | 218.25                        | 6.854                |                                  |  |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 20-T23S-R32E - Tomcat 20 Fed #04 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                  |           |                      |                       |                         |                   | Offset Site Error: | 0.00 ft  |
|-----------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|----------------------------------|-----------|----------------------|-----------------------|-------------------------|-------------------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                                             |                     |                     |                     |                 |             |                       |                                  |           |                      |                       |                         |                   | Offset Well Error: | 10.00 ft |
| Reference                                                                               |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                         |           |                      |                       |                         |                   |                    | Warning  |
| Measured Depth (ft)                                                                     | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (ft) | +E-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |          |
| 15,800.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 101.81          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,488.01             | 1,280.89              | 207.13                  | 7.184             |                    |          |
| 15,850.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 102.50          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,456.73             | 1,250.14              | 206.59                  | 7.051             |                    |          |
| 15,900.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 103.19          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,426.52             | 1,220.50              | 206.02                  | 6.924             |                    |          |
| 15,950.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 103.88          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,397.44             | 1,192.03              | 205.40                  | 6.803             |                    |          |
| 16,000.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 104.57          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,369.57             | 1,164.82              | 204.74                  | 6.689             |                    |          |
| 16,050.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 105.26          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,342.98             | 1,138.93              | 204.05                  | 6.582             |                    |          |
| 16,100.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 105.96          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,317.75             | 1,114.43              | 203.32                  | 6.481             |                    |          |
| 16,150.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 106.65          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,293.97             | 1,091.40              | 202.57                  | 6.388             |                    |          |
| 16,200.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 107.34          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,271.71             | 1,069.91              | 201.80                  | 6.302             |                    |          |
| 16,250.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 108.04          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,251.05             | 1,050.01              | 201.03                  | 6.223             |                    |          |
| 16,300.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 108.73          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,232.07             | 1,031.79              | 200.28                  | 6.152             |                    |          |
| 16,350.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 109.43          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,214.86             | 1,015.28              | 199.58                  | 6.087             |                    |          |
| 16,400.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 110.12          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,199.49             | 1,000.56              | 198.93                  | 6.030             |                    |          |
| 16,450.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 110.82          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,186.02             | 987.66                | 198.37                  | 5.979             |                    |          |
| 16,500.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 111.51          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,174.53             | 976.61                | 197.92                  | 5.934             |                    |          |
| 16,550.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 112.21          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,165.08             | 967.46                | 197.62                  | 5.896             |                    |          |
| 16,600.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 112.91          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,157.71             | 960.23                | 197.48                  | 5.863             |                    |          |
| 16,650.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 113.60          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,152.46             | 954.84                | 197.53                  | 5.834             |                    |          |
| 16,700.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 114.30          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,149.37             | 951.59                | 197.78                  | 5.811             |                    |          |
| 16,746.18                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 114.95          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,148.44             | 950.24                | 198.20                  | 5.794 CC          |                    |          |
| 16,750.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 115.00          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,148.45             | 950.21                | 198.24                  | 5.793 ES          |                    |          |
| 16,800.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 115.70          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,149.70             | 950.78                | 198.92                  | 5.780             |                    |          |
| 16,850.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 116.40          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,153.13             | 953.33                | 199.80                  | 5.771             |                    |          |
| 16,900.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 117.09          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,158.70             | 957.83                | 200.87                  | 5.769 SF          |                    |          |
| 16,950.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 117.79          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,166.39             | 964.29                | 202.10                  | 5.771             |                    |          |
| 17,000.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 118.49          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,176.16             | 972.69                | 203.47                  | 5.781             |                    |          |
| 17,050.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 119.19          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,187.95             | 983.01                | 204.94                  | 5.797             |                    |          |
| 17,100.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 119.90          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,201.71             | 995.22                | 206.49                  | 5.820             |                    |          |
| 17,150.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 120.60          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,217.37             | 1,009.29              | 208.08                  | 5.850             |                    |          |
| 17,200.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 121.30          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,234.86             | 1,025.16              | 209.69                  | 5.889             |                    |          |
| 17,250.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 122.00          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,254.09             | 1,042.80              | 211.29                  | 5.935             |                    |          |
| 17,300.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 122.70          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,275.00             | 1,062.14              | 212.86                  | 5.990             |                    |          |
| 17,350.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 123.40          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,297.50             | 1,083.12              | 214.38                  | 6.052             |                    |          |
| 17,400.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 124.11          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,321.51             | 1,105.67              | 215.84                  | 6.123             |                    |          |
| 17,450.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 124.81          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,346.95             | 1,129.73              | 217.23                  | 6.201             |                    |          |
| 17,500.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 125.51          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,373.74             | 1,155.21              | 218.53                  | 6.286             |                    |          |
| 17,550.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 126.21          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,401.80             | 1,182.04              | 219.76                  | 6.379             |                    |          |
| 17,600.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 126.92          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,431.06             | 1,210.16              | 220.90                  | 6.478             |                    |          |
| 17,650.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 127.62          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,461.44             | 1,239.49              | 221.95                  | 6.584             |                    |          |
| 17,700.00                                                                               | 9,455.00            | 8,600.00            | 8,596.79            | 128.33          | 182.88      | 37.39                 | -7,590.51                        | -693.05   | 1,492.88             | 1,269.95              | 222.93                  | 6.697             |                    |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| <b>Offset Design</b> Sec 20-T23S-R32E - Tomcat 20 Fed #05 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                  |           |                      |                       |                         |                   | <b>Offset Site Error:</b> | 0.00 ft  |
|------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|----------------------------------|-----------|----------------------|-----------------------|-------------------------|-------------------|---------------------------|----------|
| Survey Program: 10-INC-ONLY                                                                    |                     |                     |                     |                 |             |                       |                                  |           |                      |                       |                         |                   | <b>Offset Well Error:</b> | 10.00 ft |
| Reference                                                                                      |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                         |           |                      |                       |                         |                   |                           | Warning  |
| Measured Depth (ft)                                                                            | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (ft) | +E/W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                           |          |
| 17,050.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 119.19          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,465.26             | 1,247.64              | 217.62                  | 6.733             |                           |          |
| 17,100.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 119.90          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,431.41             | 1,214.13              | 217.28                  | 6.588             |                           |          |
| 17,150.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 120.60          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,398.53             | 1,181.64              | 216.89                  | 6.448             |                           |          |
| 17,200.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 121.30          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,366.69             | 1,150.25              | 216.44                  | 6.314             |                           |          |
| 17,250.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 122.00          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,335.96             | 1,120.03              | 215.93                  | 6.187             |                           |          |
| 17,300.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 122.70          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,306.43             | 1,091.07              | 215.35                  | 6.068             |                           |          |
| 17,350.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 123.40          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,278.16             | 1,063.44              | 214.72                  | 5.953             |                           |          |
| 17,400.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 124.11          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,251.26             | 1,037.23              | 214.03                  | 5.846             |                           |          |
| 17,450.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 124.81          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,225.81             | 1,012.53              | 213.28                  | 5.747             |                           |          |
| 17,500.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 125.51          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,201.90             | 989.41                | 212.49                  | 5.656             |                           |          |
| 17,550.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 126.21          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,179.63             | 967.97                | 211.66                  | 5.573             |                           |          |
| 17,600.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 126.92          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,159.08             | 948.27                | 210.82                  | 5.498             |                           |          |
| 17,650.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 127.62          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,140.38             | 930.38                | 209.98                  | 5.431             |                           |          |
| 17,700.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 128.33          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,123.56             | 914.38                | 209.18                  | 5.371             |                           |          |
| 17,750.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 129.03          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,108.75             | 900.32                | 208.44                  | 5.319             |                           |          |
| 17,800.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 129.74          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,096.03             | 888.24                | 207.80                  | 5.275             |                           |          |
| 17,850.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 130.44          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,085.47             | 878.18                | 207.29                  | 5.236             |                           |          |
| 17,900.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 131.15          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,077.13             | 870.16                | 206.96                  | 5.204             |                           |          |
| 17,950.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 131.85          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,071.05             | 864.22                | 206.84                  | 5.178             |                           |          |
| 18,000.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 132.56          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,067.29             | 860.35                | 206.94                  | 5.157             |                           |          |
| 18,050.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 133.26          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,065.86             | 858.56                | 207.30                  | 5.142             |                           |          |
| 18,055.45                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 133.34          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,065.85             | 858.50                | 207.35                  | 5.140 CC, ES      |                           |          |
| 18,100.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 133.97          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,066.78             | 858.88                | 207.90                  | 5.131             |                           |          |
| 18,150.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 134.68          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,070.03             | 861.28                | 208.75                  | 5.126 SF          |                           |          |
| 18,200.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 135.38          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,075.61             | 865.78                | 209.82                  | 5.126             |                           |          |
| 18,250.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 136.09          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,083.46             | 872.37                | 211.09                  | 5.133             |                           |          |
| 18,300.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 136.80          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,093.54             | 881.04                | 212.51                  | 5.146             |                           |          |
| 18,350.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 137.50          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,105.80             | 891.76                | 214.04                  | 5.166             |                           |          |
| 18,400.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 138.21          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,120.15             | 904.50                | 215.65                  | 5.194             |                           |          |
| 18,450.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 138.92          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,136.53             | 919.24                | 217.29                  | 5.230             |                           |          |
| 18,500.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 139.63          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,154.84             | 935.91                | 218.93                  | 5.275             |                           |          |
| 18,550.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 140.34          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,174.99             | 954.45                | 220.54                  | 5.328             |                           |          |
| 18,600.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 141.04          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,196.90             | 974.80                | 222.09                  | 5.389             |                           |          |
| 18,650.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 141.75          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,220.46             | 996.89                | 223.57                  | 5.459             |                           |          |
| 18,700.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 142.46          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,245.58             | 1,020.62              | 224.96                  | 5.537             |                           |          |
| 18,750.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 143.17          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,272.18             | 1,045.92              | 226.26                  | 5.623             |                           |          |
| 18,800.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 143.88          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,300.15             | 1,072.70              | 227.45                  | 5.716             |                           |          |
| 18,850.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 144.59          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,329.41             | 1,100.87              | 228.54                  | 5.817             |                           |          |
| 18,900.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 145.30          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,359.89             | 1,130.35              | 229.54                  | 5.925             |                           |          |
| 18,950.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 146.01          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,391.49             | 1,161.06              | 230.43                  | 6.039             |                           |          |
| 19,000.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 146.72          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,424.15             | 1,192.92              | 231.23                  | 6.159             |                           |          |
| 19,050.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 147.43          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,457.79             | 1,225.85              | 231.94                  | 6.285             |                           |          |
| 19,100.00                                                                                      | 9,455.00            | 8,655.00            | 8,651.76            | 148.14          | 184.53      | -35.89                | -8,891.29                        | 637.40    | 1,492.35             | 1,259.78              | 232.57                  | 6.417             |                           |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 20-T23S-R32E - Tomcat 20 Fed #06 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                  |           |                      |                       |                         |                   | Offset Site Error: | 0.00 ft  |
|-----------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|----------------------------------|-----------|----------------------|-----------------------|-------------------------|-------------------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                                             |                     |                     |                     |                 |             |                       |                                  |           |                      |                       |                         |                   | Offset Well Error: | 10.00 ft |
| Reference                                                                               |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                         |           |                      |                       |                         |                   |                    | Warning  |
| Measured Depth (ft)                                                                     | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (ft) | +E-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |          |
| 16,900.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 117.09          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,468.01             | 1,223.27              | 244.73                  | 5.998             |                    |          |
| 16,950.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 117.79          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,428.81             | 1,183.27              | 245.54                  | 5.819             |                    |          |
| 17,000.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 118.49          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,390.31             | 1,143.93              | 246.37                  | 5.643             |                    |          |
| 17,050.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 119.19          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,352.55             | 1,105.33              | 247.22                  | 5.471             |                    |          |
| 17,100.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 119.90          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,315.62             | 1,067.53              | 248.09                  | 5.303             |                    |          |
| 17,150.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 120.60          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,279.57             | 1,030.60              | 248.98                  | 5.139             |                    |          |
| 17,200.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 121.30          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,244.49             | 994.62                | 249.87                  | 4.980             | Alert              |          |
| 17,250.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 122.00          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,210.46             | 959.69                | 250.78                  | 4.827             | Alert              |          |
| 17,300.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 122.70          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,177.57             | 925.89                | 251.68                  | 4.679             | Alert              |          |
| 17,350.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 123.40          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,145.92             | 893.33                | 252.59                  | 4.537             | Alert              |          |
| 17,400.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 124.11          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,115.61             | 862.13                | 253.48                  | 4.401             | Alert              |          |
| 17,450.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 124.81          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,086.76             | 832.39                | 254.36                  | 4.272             | Alert              |          |
| 17,500.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 125.51          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,059.48             | 804.25                | 255.23                  | 4.151             | Alert              |          |
| 17,550.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 126.21          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,033.90             | 777.83                | 256.07                  | 4.038             | Alert              |          |
| 17,600.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 126.92          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,010.15             | 753.27                | 256.88                  | 3.932             | Alert              |          |
| 17,650.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 127.62          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 988.36               | 730.69                | 257.67                  | 3.836             | Alert              |          |
| 17,700.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 128.33          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 968.66               | 710.24                | 258.42                  | 3.748             | Alert              |          |
| 17,750.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 129.03          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 951.19               | 692.04                | 259.15                  | 3.670             | Alert              |          |
| 17,800.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 129.74          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 936.07               | 676.21                | 259.88                  | 3.602             | Alert              |          |
| 17,850.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 130.44          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 923.40               | 662.86                | 260.54                  | 3.544             | Alert              |          |
| 17,900.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 131.15          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 913.31               | 652.09                | 261.21                  | 3.496             | Alert              |          |
| 17,950.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 131.85          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 905.86               | 643.99                | 261.87                  | 3.459             | Alert              |          |
| 18,000.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 132.56          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 901.13               | 638.60                | 262.53                  | 3.433             | Alert              |          |
| 18,050.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 133.26          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 899.16               | 635.98                | 263.18                  | 3.417             | Alert              |          |
| 18,060.46                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 133.41          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 899.10               | 635.79                | 263.31                  | 3.415             | Alert, CC, ES      |          |
| 18,100.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 133.97          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 899.97               | 636.15                | 263.82                  | 3.411             | Alert, SF          |          |
| 18,150.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 134.68          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 903.55               | 639.11                | 264.44                  | 3.417             | Alert              |          |
| 18,200.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 135.38          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 909.87               | 644.82                | 265.04                  | 3.433             | Alert              |          |
| 18,250.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 136.09          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 918.86               | 653.27                | 265.60                  | 3.460             | Alert              |          |
| 18,300.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 136.80          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 930.46               | 664.36                | 266.10                  | 3.497             | Alert              |          |
| 18,350.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 137.50          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 944.57               | 678.04                | 266.53                  | 3.544             | Alert              |          |
| 18,400.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 138.21          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 961.08               | 694.19                | 266.89                  | 3.601             | Alert              |          |
| 18,450.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 138.92          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 979.88               | 712.71                | 267.16                  | 3.668             | Alert              |          |
| 18,500.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 139.63          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,000.79             | 733.46                | 267.33                  | 3.744             | Alert              |          |
| 18,550.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 140.34          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,023.74             | 756.33                | 267.41                  | 3.828             | Alert              |          |
| 18,600.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 141.04          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,048.57             | 781.17                | 267.39                  | 3.921             | Alert              |          |
| 18,650.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 141.75          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,075.15             | 807.86                | 267.29                  | 4.022             | Alert              |          |
| 18,700.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 142.46          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,103.36             | 836.25                | 267.11                  | 4.131             | Alert              |          |
| 18,750.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 143.17          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,133.07             | 866.23                | 266.85                  | 4.246             | Alert              |          |
| 18,800.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 143.88          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,164.18             | 897.66                | 266.52                  | 4.368             | Alert              |          |
| 18,850.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 144.59          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,196.56             | 930.43                | 266.13                  | 4.496             | Alert              |          |
| 18,900.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 145.30          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,230.13             | 964.43                | 265.70                  | 4.630             | Alert              |          |
| 18,950.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 146.01          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,264.78             | 999.56                | 265.23                  | 4.769             | Alert              |          |
| 19,000.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 146.72          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,300.43             | 1,035.72              | 264.72                  | 4.913             | Alert              |          |
| 19,050.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 147.43          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,337.00             | 1,072.82              | 264.19                  | 5.061             |                    |          |
| 19,100.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 148.14          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,374.42             | 1,110.79              | 263.63                  | 5.213             |                    |          |
| 19,150.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 148.85          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,412.82             | 1,149.55              | 263.07                  | 5.370             |                    |          |
| 19,200.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 149.56          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,451.53             | 1,189.04              | 262.49                  | 5.530             |                    |          |
| 19,250.00                                                                               | 9,455.00            | 8,950.00            | 8,946.58            | 150.27          | 193.35      | 50.68                 | -8,904.74                        | -682.87   | 1,491.11             | 1,229.19              | 261.92                  | 5.693             |                    |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

| Offset Design Sec 20-T23S-R32E - Tomcat 20 Fed #07 (Active) - Wellbore #1 - Wellbore #1 |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                     | Offset Site Error: | 0.00 ft  |
|-----------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|---------------------|--------------------|----------|
| Survey Program: 10-INC-ONLY                                                             |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                     | Offset Well Error: | 10.00 ft |
| Reference                                                                               |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                     |                    | Warning  |
| Measured Depth (ft)                                                                     | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor   |                    |          |
| 18,350.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 137.50          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,490.25             | 1,264.20              | 226.06                  | 6.592               |                    |          |
| 18,400.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 138.21          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,456.31             | 1,230.35              | 225.95                  | 6.445               |                    |          |
| 18,450.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 138.92          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,423.31             | 1,197.50              | 225.80                  | 6.303               |                    |          |
| 18,500.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 139.63          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,391.32             | 1,165.73              | 225.60                  | 6.167               |                    |          |
| 18,550.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 140.34          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,360.42             | 1,135.09              | 225.33                  | 6.037               |                    |          |
| 18,600.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 141.04          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,330.69             | 1,105.68              | 225.01                  | 5.914               |                    |          |
| 18,650.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 141.75          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,302.19             | 1,077.57              | 224.62                  | 5.797               |                    |          |
| 18,700.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 142.46          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,275.02             | 1,050.85              | 224.17                  | 5.688               |                    |          |
| 18,750.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 143.17          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,249.26             | 1,025.60              | 223.66                  | 5.586               |                    |          |
| 18,800.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 143.88          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,225.00             | 1,001.90              | 223.10                  | 5.491               |                    |          |
| 18,850.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 144.59          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,202.33             | 979.84                | 222.49                  | 5.404               |                    |          |
| 18,900.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 145.30          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,181.34             | 959.49                | 221.85                  | 5.325               |                    |          |
| 18,950.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 146.01          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,162.13             | 940.93                | 221.20                  | 5.254               |                    |          |
| 19,000.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 146.72          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,144.78             | 924.22                | 220.56                  | 5.190               |                    |          |
| 19,050.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 147.43          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,129.38             | 909.42                | 219.95                  | 5.135               |                    |          |
| 19,100.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 148.14          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,116.01             | 896.59                | 219.42                  | 5.086               |                    |          |
| 19,150.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 148.85          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,104.74             | 885.75                | 218.99                  | 5.045               |                    |          |
| 19,200.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 149.56          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,095.64             | 876.95                | 218.69                  | 5.010               |                    |          |
| 19,250.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 150.27          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,088.76             | 870.19                | 218.57                  | 4.981 Alert         |                    |          |
| 19,300.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 150.98          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,084.14             | 865.51                | 218.64                  | 4.959 Alert         |                    |          |
| 19,350.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 151.70          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,081.82             | 862.90                | 218.92                  | 4.942 Alert         |                    |          |
| 19,375.26                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 152.05          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,081.53             | 862.38                | 219.15                  | 4.935 Alert, CC, ES |                    |          |
| 19,400.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 152.41          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,081.81             | 862.38                | 219.43                  | 4.930 Alert         |                    |          |
| 19,450.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 153.12          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,084.11             | 863.95                | 220.16                  | 4.924 Alert         |                    |          |
| 19,500.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 153.83          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,088.70             | 867.60                | 221.10                  | 4.924 Alert, SF     |                    |          |
| 19,550.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 154.54          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,095.56             | 873.34                | 222.21                  | 4.930 Alert         |                    |          |
| 19,600.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 155.25          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,104.63             | 881.16                | 223.48                  | 4.943 Alert         |                    |          |
| 19,650.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 155.97          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,115.88             | 891.03                | 224.85                  | 4.963 Alert         |                    |          |
| 19,700.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 156.68          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,129.23             | 902.94                | 226.30                  | 4.990 Alert         |                    |          |
| 19,750.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 157.39          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,144.81             | 916.84                | 227.78                  | 5.025               |                    |          |
| 19,800.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 158.10          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,161.94             | 932.69                | 229.26                  | 5.068               |                    |          |
| 19,850.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 158.82          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,181.14             | 950.43                | 230.71                  | 5.120               |                    |          |
| 19,900.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 159.53          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,202.11             | 970.01                | 232.10                  | 5.179               |                    |          |
| 19,950.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 160.13          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,224.76             | 991.52                | 233.24                  | 5.251               |                    |          |
| 20,000.00                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 160.74          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,249.00             | 1,014.81              | 234.20                  | 5.333               |                    |          |
| 20,004.02                                                                               | 9,455.00            | 8,650.00            | 8,646.76            | 160.78          | 184.38      | -35.40                | -10,211.05                        | 647.66     | 1,251.02             | 1,016.78              | 234.24                  | 5.341               |                    |          |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Anticollision Report

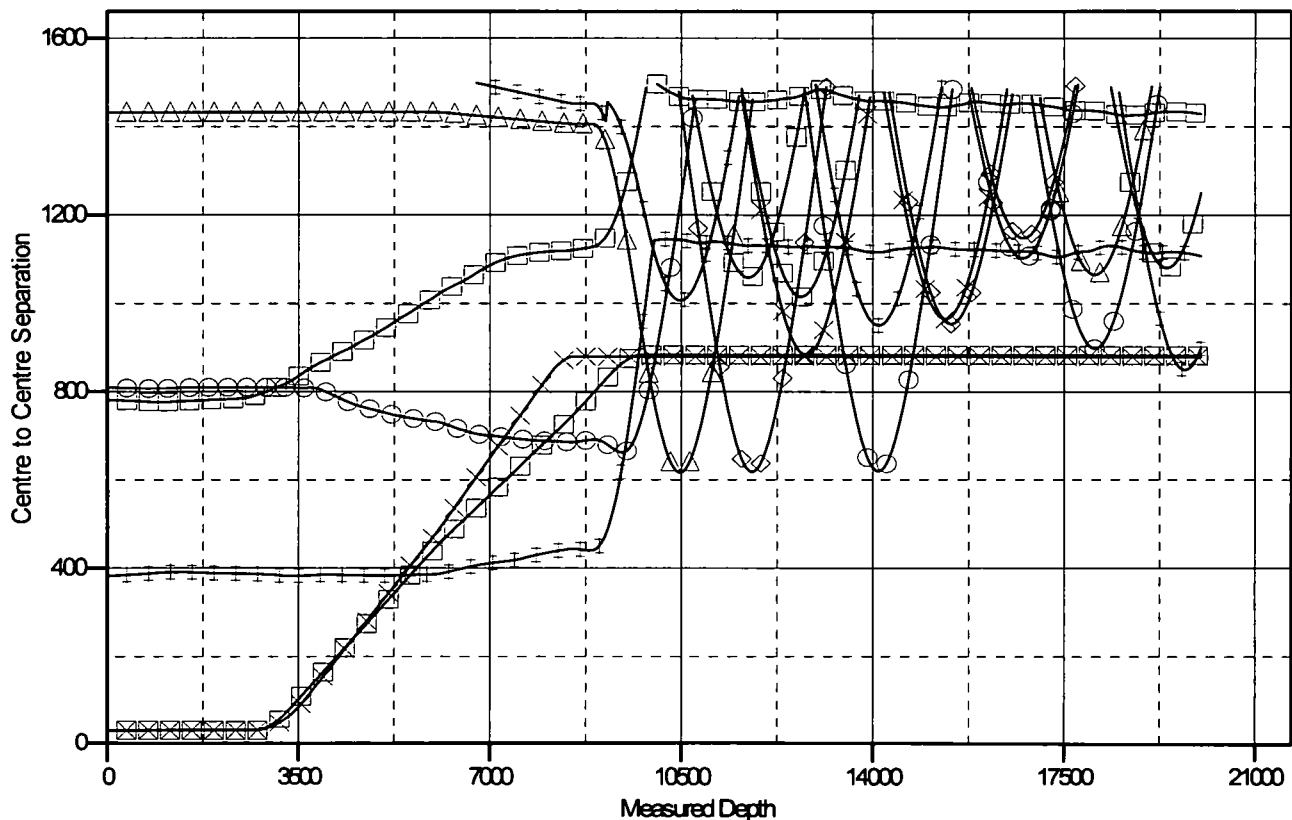
**Company:** WCDSC Permian NM  
**Project:** Lea County (NAD83 New Mexico East)  
**Reference Site:** Sec 08-T23S-R32E  
**Site Error:** 0.00 ft  
**Reference Well:** Alley Cat 17-20 Fed Com 525H  
**Well Error:** 0.50 ft  
**Reference Wellbore:** Wellbore #1  
**Reference Design:** Permit Plan 1

**Local Co-ordinate Reference:** Well Alley Cat 17-20 Fed Com 525H  
**TVD Reference:** RKB @ 3634.70ft  
**MD Reference:** RKB @ 3634.70ft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at:** 2.00 sigma  
**Database:** EDM r5000.141\_Prod US  
**Offset TVD Reference:** Offset Datum

Reference Depths are relative to RKB @ 3634.70ft  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -104.333334

Coordinates are relative to: Alley Cat 17-20 Fed Com 525H  
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone  
 Grid Convergence at Surface is: 0.34°

## Ladder Plot



## LEGEND

|                                                             |                                                         |                                                         |
|-------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|
| Alley Cat 17-20 Fed Com 215H, Wellbore #1, Wellbore #1 V0   | Tomcat 17 Fed #01 (Active), Wellbore #1, Wellbore #1 V0 | Tomcat 20 Fed #04 (Active), Wellbore #1, Wellbore #1 V0 |
| Alley Cat 17-20 Fed Com 216H, Wellbore #1, Wellbore #1 V0   | Shafter Fed #2 (Active), Wellbore #1, Wellbore #1 V0    | Tomcat 20 Fed #07 (Active), Wellbore #1, Wellbore #1 V0 |
| Alley Cat 8-6 Fed Com 213H, Original Hole, Original Hole V0 | Tomcat 17 Fed #02 (Active), Wellbore #1, Wellbore #1 V0 | Tomcat 20 Fed #08 (Active), Wellbore #1, Wellbore #1 V0 |
| Alley Cat 17-20 Fed Com 524H, Wellbore #1, Permit Plan 1 V0 | Tomcat 17 Fed #03 (Active), Wellbore #1, Wellbore #1 V0 | Tomcat 20 Fed #01 (Active), Wellbore #1, Wellbore #1 V0 |
| Alley Cat 17-20 Fed Com 525H, Wellbore #1, Permit Plan 1 V0 | Tomcat 17 Fed #04 (Active), Wellbore #1, Wellbore #1 V0 | Tomcat 20 Fed #02 (Active), Wellbore #1, Wellbore #1 V0 |
| Shafter Fed #4 (Active), Wellbore #1, Wellbore #1 V0        | Shafter Fed #5 (Active), Wellbore #1, Wellbore #1 V0    | Tomcat 20 Fed #05 (Active), Wellbore #1, Wellbore #1 V0 |
| Shafter Fed #3 (Active), Wellbore #1, Wellbore #1 V0        | Tomcat 20 Fed #03 (Active), Wellbore #1, Wellbore #1 V0 | A.P.J. Fed #008 (Active), Wellbore #1, Wellbore #1 V0   |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

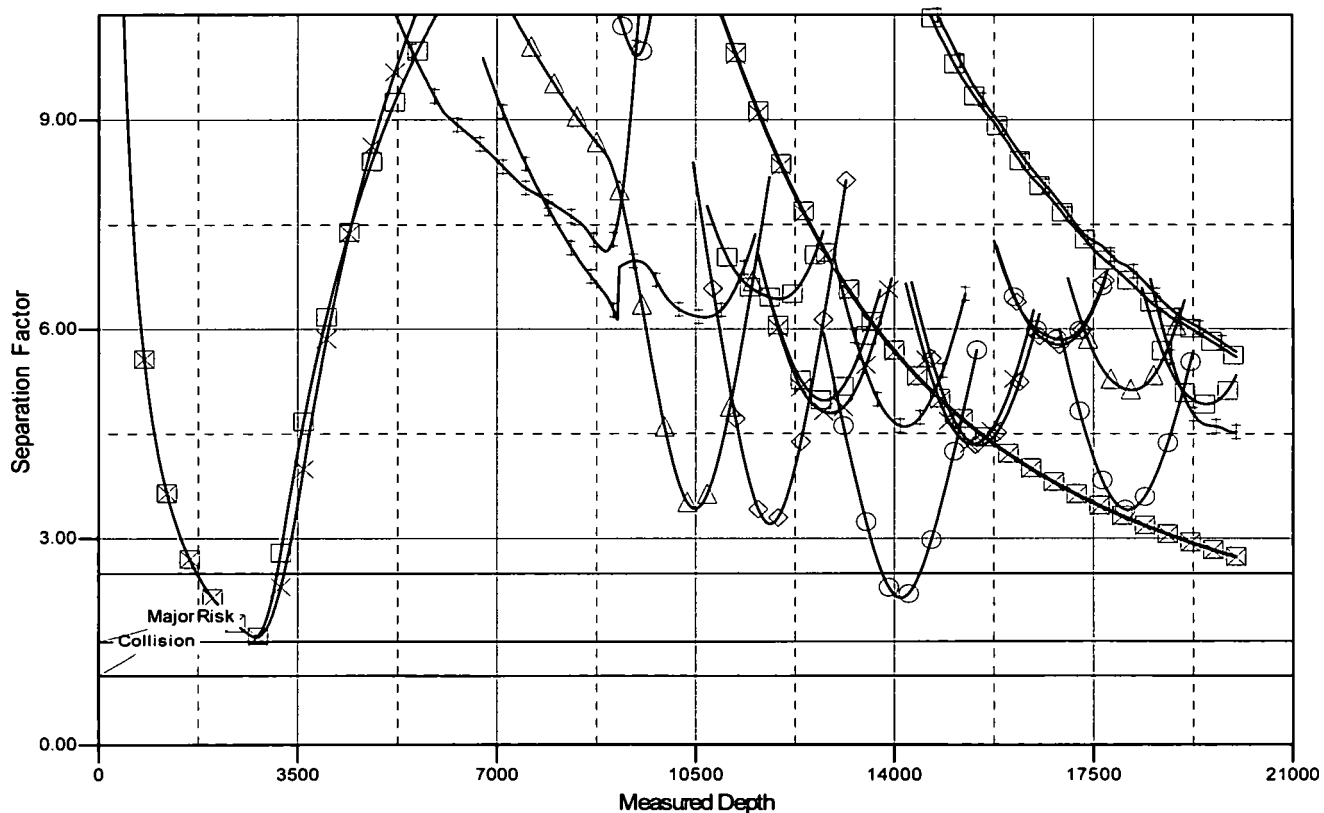
# Anticollision Report

|                           |                                    |                                     |                                   |
|---------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>           | WCDSC Permian NM                   | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Project:</b>           | Lea County (NAD83 New Mexico East) | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Reference Site:</b>    | Sec 08-T23S-R32E                   | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site Error:</b>        | 0.00 ft                            | <b>North Reference:</b>             | Grid                              |
| <b>Reference Well:</b>    | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Well Error:</b>        | 0.50 ft                            | <b>Output errors are at</b>         | 2.00 sigma                        |
| <b>Reference Wellbore</b> | Wellbore #1                        | <b>Database:</b>                    | EDM r5000.141_Prod US             |
| <b>Reference Design:</b>  | Permit Plan 1                      | <b>Offset TVD Reference:</b>        | Offset Datum                      |

Reference Depths are relative to RKB @ 3634.70ft  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -104.333334

Coordinates are relative to: Alley Cat 17-20 Fed Com 525H  
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone  
 Grid Convergence at Surface is: 0.34°

## Separation Factor Plot



### LEGEND

|                                                             |                                                         |                                                          |
|-------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|
| Alley Cat 17-20 Fed Com 215H, Wellbore #1, Wellbore #1 V0   | Tomcat 17 Fed #01 (Active), Wellbore #1, Wellbore #1 V0 | Tomcat 20 Fed #04 (Active), Wellbore #1, Wellbore #1 V0  |
| Alley Cat 17-20 Fed Com 218H, Wellbore #1, Wellbore #1 V0   | Sharbro Fed #2 (Active), Wellbore #1, Wellbore #1 V0    | Tomcat 20 Fed #07 (Active), Wellbore #1, Wellbore #1 V0  |
| Sony Cat 8-6 Fed Com 213H, Original Hole, Original Hole V0  | Tomcat 17 Fed #02 (Active), Wellbore #1, Wellbore #1 V0 | Tomcat 20 Fed #08 (Active), Wellbore #1, Wellbore #1 V0  |
| Alley Cat 17-20 Fed Com 524H, Wellbore #1, Permit Plan 1 V0 | Tomcat 17 Fed #03 (Active), Wellbore #1, Wellbore #1 V0 | Tomcat 20 Fed #01 (Active), Wellbore #1, Wellbore #1 V0  |
| Alley Cat 17-20 Fed Com 525H, Wellbore #1, Permit Plan 1 V0 | Tomcat 17 Fed #04 (Active), Wellbore #1, Wellbore #1 V0 | Tomcat 20 Fed #002 (Active), Wellbore #1, Wellbore #1 V0 |
| Sharbro Fed #4 (Active), Wellbore #1, Wellbore #1 V0        | Sharbro Fed #5 (Active), Wellbore #1, Wellbore #1 V0    | Tomcat 20 Fed #05 (Active), Wellbore #1, Wellbore #1 V0  |
| Sharbro Fed #3 (Active), Wellbore #1, Wellbore #1 V0        | Tomcat 20 Fed #03 (Active), Wellbore #1, Wellbore #1 V0 | A.P.J Fed #008 (Active), Wellbore #1, Wellbore #1 V0     |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# **WCDSC Permian NM**

**Lea County (NAD83 New Mexico East)**

**Sec 08-T23S-R32E**

**Alley Cat 17-20 Fed Com 525H**

**Wellbore #1**

**Plan: Permit Plan 1**

## **Standard Planning Report - Geographic**

**04 December, 2018**

# Planning Report - Geographic

|                  |                                    |                                     |                                   |
|------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM r5000.141_Prod US              | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Company:</b>  | WCDSC Permian NM                   | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Project:</b>  | Lea County (NAD83 New Mexico East) | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site:</b>     | Sec 08-T23S-R32E                   | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | Wellbore #1                        |                                     |                                   |
| <b>Design:</b>   | Permit Plan 1                      |                                     |                                   |

|                    |                                    |                      |                |
|--------------------|------------------------------------|----------------------|----------------|
| <b>Project</b>     | Lea County (NAD83 New Mexico East) |                      |                |
| <b>Map System:</b> | US State Plane 1983                | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983          |                      |                |
| <b>Map Zone:</b>   | New Mexico Eastern Zone            |                      |                |

|                       |          |                  |                 |                   |             |
|-----------------------|----------|------------------|-----------------|-------------------|-------------|
| Site                  |          | Sec 08-T23S-R32E |                 |                   |             |
| Site Position:        |          | Northing:        | 483,005.73 usft | Latitude:         | 32.326292   |
| From:                 | Lat/Long | Easting:         | 735,349.80 usft | Longitude:        | -103.705234 |
| Position Uncertainty: | 0.00 ft  | Slot Radius:     | 13-3/16 "       | Grid Convergence: | 0.34 °      |

|                      |                              |         |                     |                 |               |             |
|----------------------|------------------------------|---------|---------------------|-----------------|---------------|-------------|
| Well                 | Alley Cat 17-20 Fed Com 525H |         |                     |                 |               |             |
| Well Position        | +N/-S                        | 0.00 ft | Northing:           | 478,068.37 usft | Latitude:     | 32.312654   |
|                      | +E/-W                        | 0.00 ft | Easting:            | 739,415.61 usft | Longitude:    | -103.692168 |
| Position Uncertainty |                              | 0.50 ft | Wellhead Elevation: |                 | Ground Level: | 3,609.70 ft |

|                  |                   |                    |                    |                  |                       |
|------------------|-------------------|--------------------|--------------------|------------------|-----------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                    |                  |                       |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b> | <b>Dip Angle</b> | <b>Field Strength</b> |
|                  |                   |                    | (°)                | (°)              | (nT)                  |
|                  | IGRF2015          | 12/3/2018          | 6.86               | 60.11            | 47,826.15932142       |

|                          |                         |              |                      |                  |
|--------------------------|-------------------------|--------------|----------------------|------------------|
| <b>Design</b>            | Permit Plan 1           |              |                      |                  |
| <b>Audit Notes:</b>      |                         |              |                      |                  |
| <b>Version:</b>          | <b>Phase:</b>           | PROTOTYPE    | <b>Tie On Depth:</b> | 0.00             |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b> | <b>+E/-W</b>         | <b>Direction</b> |
|                          | (ft)                    | (ft)         | (ft)                 | (°)              |
|                          | 0.00                    | 0.00         | 0.00                 | 179.87           |

|                                 |                       |                                       |                  |                |
|---------------------------------|-----------------------|---------------------------------------|------------------|----------------|
| <b>Plan Survey Tool Program</b> | <b>Date</b> 12/4/2018 |                                       |                  |                |
| <b>Depth From</b>               | <b>Depth To</b>       | <b>Survey (Wellbore)</b>              | <b>Tool Name</b> | <b>Remarks</b> |
| (ft)                            | (ft)                  |                                       |                  |                |
| 1                               | 0.00                  | 20,003.50 Permit Plan 1 (Wellbore #1) | MWD+HDGM         |                |
|                                 |                       |                                       | OWSG MWD + HDGM  |                |

|                      |                    |                |                 |              |              |               |              |             |                              |               |
|----------------------|--------------------|----------------|-----------------|--------------|--------------|---------------|--------------|-------------|------------------------------|---------------|
| <b>Plan Sections</b> |                    |                |                 |              |              |               |              |             |                              |               |
| <b>Measured</b>      |                    |                | <b>Vertical</b> |              |              | <b>Dogleg</b> | <b>Build</b> | <b>Turn</b> |                              |               |
| <b>Depth</b>         | <b>Inclination</b> | <b>Azimuth</b> | <b>Depth</b>    | <b>+N/-S</b> | <b>+E/-W</b> | <b>Rate</b>   | <b>Rate</b>  | <b>Rate</b> | <b>TFO</b>                   | <b>Target</b> |
| (ft)                 | (°)                | (°)            | (ft)            | (ft)         | (ft)         | (°/100usft)   | (°/100usft)  | (°/100usft) | (°)                          |               |
| 0.00                 | 0.00               | 0.00           | 0.00            | 0.00         | 0.00         | 0.00          | 0.00         | 0.00        | 0.00                         |               |
| 6,000.00             | 0.00               | 0.00           | 6,000.00        | 0.00         | 0.00         | 0.00          | 0.00         | 0.00        | 0.00                         |               |
| 6,126.32             | 1.58               | 221.35         | 6,126.30        | -1.31        | -1.15        | 1.25          | 1.25         | 0.00        | 221.35                       |               |
| 8,427.64             | 1.58               | 221.35         | 8,426.75        | -48.91       | -43.04       | 0.00          | 0.00         | 0.00        | 0.00                         |               |
| 8,532.90             | 0.00               | 0.00           | 8,532.00        | -50.00       | -44.00       | 1.50          | -1.50        | 0.00        | 180.00                       |               |
| 8,882.94             | 0.00               | 0.00           | 8,882.04        | -50.00       | -44.00       | 0.00          | 0.00         | 0.00        | 0.00                         |               |
| 9,782.95             | 90.00              | 179.63         | 9,455.00        | -622.95      | -40.33       | 10.00         | 10.00        | 0.00        | 179.63 PBHL - Alley Cat 17-2 |               |
| 20,004.02            | 90.00              | 179.63         | 9,455.00        | -10,843.81   | 25.12        | 0.00          | 0.00         | 0.00        | 0.00 PBHL - Alley Cat 17-2   |               |

# Planning Report - Geographic

|           |                                    |                              |                                   |
|-----------|------------------------------------|------------------------------|-----------------------------------|
| Database: | EDM r5000.141_Prod US              | Local Co-ordinate Reference: | Well Alley Cat 17-20 Fed Com 525H |
| Company:  | WCDSC Permian NM                   | TVD Reference:               | RKB @ 3634.70ft                   |
| Project:  | Lea County (NAD83 New Mexico East) | MD Reference:                | RKB @ 3634.70ft                   |
| Site:     | Sec 08-T23S-R32E                   | North Reference:             | Grid                              |
| Well:     | Alley Cat 17-20 Fed Com 525H       | Survey Calculation Method:   | Minimum Curvature                 |
| Wellbore: | Wellbore #1                        |                              |                                   |
| Design:   | Permit Plan 1                      |                              |                                   |

| Planned Survey            |                    |                |                           |               |               |                           |                          |           |             |  |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|---------------------------|--------------------------|-----------|-------------|--|
| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Map<br>Northing<br>(usft) | Map<br>Easting<br>(usft) | Latitude  | Longitude   |  |
| 0.00                      | 0.00               | 0.00           | 0.00                      | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 100.00                    | 0.00               | 0.00           | 100.00                    | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 200.00                    | 0.00               | 0.00           | 200.00                    | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 300.00                    | 0.00               | 0.00           | 300.00                    | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 400.00                    | 0.00               | 0.00           | 400.00                    | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 500.00                    | 0.00               | 0.00           | 500.00                    | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 600.00                    | 0.00               | 0.00           | 600.00                    | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 700.00                    | 0.00               | 0.00           | 700.00                    | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 800.00                    | 0.00               | 0.00           | 800.00                    | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 900.00                    | 0.00               | 0.00           | 900.00                    | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 1,000.00                  | 0.00               | 0.00           | 1,000.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 1,100.00                  | 0.00               | 0.00           | 1,100.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 1,200.00                  | 0.00               | 0.00           | 1,200.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 1,300.00                  | 0.00               | 0.00           | 1,300.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 1,400.00                  | 0.00               | 0.00           | 1,400.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 1,500.00                  | 0.00               | 0.00           | 1,500.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 1,600.00                  | 0.00               | 0.00           | 1,600.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 1,700.00                  | 0.00               | 0.00           | 1,700.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 1,800.00                  | 0.00               | 0.00           | 1,800.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 1,900.00                  | 0.00               | 0.00           | 1,900.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 2,000.00                  | 0.00               | 0.00           | 2,000.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 2,100.00                  | 0.00               | 0.00           | 2,100.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 2,200.00                  | 0.00               | 0.00           | 2,200.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 2,300.00                  | 0.00               | 0.00           | 2,300.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 2,400.00                  | 0.00               | 0.00           | 2,400.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 2,500.00                  | 0.00               | 0.00           | 2,500.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 2,600.00                  | 0.00               | 0.00           | 2,600.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 2,700.00                  | 0.00               | 0.00           | 2,700.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 2,800.00                  | 0.00               | 0.00           | 2,800.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 2,900.00                  | 0.00               | 0.00           | 2,900.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 3,000.00                  | 0.00               | 0.00           | 3,000.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 3,100.00                  | 0.00               | 0.00           | 3,100.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 3,200.00                  | 0.00               | 0.00           | 3,200.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 3,300.00                  | 0.00               | 0.00           | 3,300.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 3,400.00                  | 0.00               | 0.00           | 3,400.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 3,500.00                  | 0.00               | 0.00           | 3,500.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 3,600.00                  | 0.00               | 0.00           | 3,600.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 3,700.00                  | 0.00               | 0.00           | 3,700.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 3,800.00                  | 0.00               | 0.00           | 3,800.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 3,900.00                  | 0.00               | 0.00           | 3,900.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 4,000.00                  | 0.00               | 0.00           | 4,000.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 4,100.00                  | 0.00               | 0.00           | 4,100.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 4,200.00                  | 0.00               | 0.00           | 4,200.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 4,300.00                  | 0.00               | 0.00           | 4,300.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 4,400.00                  | 0.00               | 0.00           | 4,400.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 4,500.00                  | 0.00               | 0.00           | 4,500.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 4,600.00                  | 0.00               | 0.00           | 4,600.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 4,700.00                  | 0.00               | 0.00           | 4,700.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 4,800.00                  | 0.00               | 0.00           | 4,800.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 4,900.00                  | 0.00               | 0.00           | 4,900.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 5,000.00                  | 0.00               | 0.00           | 5,000.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 5,100.00                  | 0.00               | 0.00           | 5,100.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 5,200.00                  | 0.00               | 0.00           | 5,200.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 5,300.00                  | 0.00               | 0.00           | 5,300.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |
| 5,400.00                  | 0.00               | 0.00           | 5,400.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |  |

# Planning Report - Geographic

|           |                                    |                              |                                   |
|-----------|------------------------------------|------------------------------|-----------------------------------|
| Database: | EDM r5000.141_Prod US              | Local Co-ordinate Reference: | Well Alley Cat 17-20 Fed Com 525H |
| Company:  | WCDSC Permian NM                   | TVD Reference:               | RKB @ 3634.70ft                   |
| Project:  | Lea County (NAD83 New Mexico East) | MD Reference:                | RKB @ 3634.70ft                   |
| Site:     | Sec 08-T23S-R32E                   | North Reference:             | Grid                              |
| Well:     | Alley Cat 17-20 Fed Com 525H       | Survey Calculation Method:   | Minimum Curvature                 |
| Wellbore: | Wellbore #1                        |                              |                                   |
| Design:   | Permit Plan 1                      |                              |                                   |

## Planned Survey

| Measured<br>Depth<br>(ft)                                | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Map<br>Northing<br>(usft) | Map<br>Easting<br>(usft) | Latitude  | Longitude   |
|----------------------------------------------------------|--------------------|----------------|---------------------------|---------------|---------------|---------------------------|--------------------------|-----------|-------------|
| 5,500.00                                                 | 0.00               | 0.00           | 5,500.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |
| 5,600.00                                                 | 0.00               | 0.00           | 5,600.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |
| 5,700.00                                                 | 0.00               | 0.00           | 5,700.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |
| 5,800.00                                                 | 0.00               | 0.00           | 5,800.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |
| 5,900.00                                                 | 0.00               | 0.00           | 5,900.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |
| 6,000.00                                                 | 0.00               | 0.00           | 6,000.00                  | 0.00          | 0.00          | 478,068.37                | 739,415.61               | 32.312654 | -103.692168 |
| 6,100.00                                                 | 1.25               | 221.35         | 6,099.99                  | -0.82         | -0.72         | 478,067.55                | 739,414.89               | 32.312652 | -103.692170 |
| 6,126.32                                                 | 1.58               | 221.35         | 6,126.30                  | -1.31         | -1.15         | 478,067.06                | 739,414.46               | 32.312651 | -103.692172 |
| 6,200.00                                                 | 1.58               | 221.35         | 6,199.96                  | -2.83         | -2.49         | 478,065.54                | 739,413.12               | 32.312646 | -103.692176 |
| 6,300.00                                                 | 1.58               | 221.35         | 6,299.92                  | -4.90         | -4.31         | 478,063.47                | 739,411.30               | 32.312641 | -103.692182 |
| 6,400.00                                                 | 1.58               | 221.35         | 6,399.88                  | -6.97         | -6.13         | 478,061.40                | 739,409.47               | 32.312635 | -103.692188 |
| 6,500.00                                                 | 1.58               | 221.35         | 6,499.84                  | -9.04         | -7.95         | 478,059.33                | 739,407.65               | 32.312629 | -103.692194 |
| 6,600.00                                                 | 1.58               | 221.35         | 6,599.80                  | -11.11        | -9.77         | 478,057.27                | 739,405.83               | 32.312624 | -103.692200 |
| 6,700.00                                                 | 1.58               | 221.35         | 6,699.77                  | -13.17        | -11.59        | 478,055.20                | 739,404.01               | 32.312618 | -103.692206 |
| 6,800.00                                                 | 1.58               | 221.35         | 6,799.73                  | -15.24        | -13.41        | 478,053.13                | 739,402.19               | 32.312613 | -103.692212 |
| 6,900.00                                                 | 1.58               | 221.35         | 6,899.69                  | -17.31        | -15.23        | 478,051.06                | 739,400.37               | 32.312607 | -103.692218 |
| 7,000.00                                                 | 1.58               | 221.35         | 6,999.65                  | -19.38        | -17.05        | 478,048.99                | 739,398.55               | 32.312601 | -103.692223 |
| 7,100.00                                                 | 1.58               | 221.35         | 7,099.61                  | -21.45        | -18.87        | 478,046.92                | 739,396.73               | 32.312596 | -103.692229 |
| 7,200.00                                                 | 1.58               | 221.35         | 7,199.58                  | -23.52        | -20.69        | 478,044.85                | 739,394.91               | 32.312590 | -103.692235 |
| 7,300.00                                                 | 1.58               | 221.35         | 7,299.54                  | -25.59        | -22.51        | 478,042.79                | 739,393.09               | 32.312584 | -103.692241 |
| 7,400.00                                                 | 1.58               | 221.35         | 7,399.50                  | -27.65        | -24.34        | 478,040.72                | 739,391.27               | 32.312579 | -103.692247 |
| 7,500.00                                                 | 1.58               | 221.35         | 7,499.46                  | -29.72        | -26.16        | 478,038.65                | 739,389.45               | 32.312573 | -103.692253 |
| 7,600.00                                                 | 1.58               | 221.35         | 7,599.42                  | -31.79        | -27.98        | 478,036.58                | 739,387.63               | 32.312567 | -103.692259 |
| 7,700.00                                                 | 1.58               | 221.35         | 7,699.39                  | -33.86        | -29.80        | 478,034.51                | 739,385.81               | 32.312562 | -103.692265 |
| 7,800.00                                                 | 1.58               | 221.35         | 7,799.35                  | -35.93        | -31.62        | 478,032.44                | 739,383.99               | 32.312556 | -103.692271 |
| 7,900.00                                                 | 1.58               | 221.35         | 7,899.31                  | -38.00        | -33.44        | 478,030.37                | 739,382.17               | 32.312550 | -103.692277 |
| 8,000.00                                                 | 1.58               | 221.35         | 7,999.27                  | -40.07        | -35.26        | 478,028.31                | 739,380.35               | 32.312545 | -103.692283 |
| 8,100.00                                                 | 1.58               | 221.35         | 8,099.23                  | -42.13        | -37.08        | 478,026.24                | 739,378.53               | 32.312539 | -103.692289 |
| 8,200.00                                                 | 1.58               | 221.35         | 8,199.20                  | -44.20        | -38.90        | 478,024.17                | 739,376.71               | 32.312533 | -103.692295 |
| 8,300.00                                                 | 1.58               | 221.35         | 8,299.16                  | -46.27        | -40.72        | 478,022.10                | 739,374.89               | 32.312528 | -103.692301 |
| 8,400.00                                                 | 1.58               | 221.35         | 8,399.12                  | -48.34        | -42.54        | 478,020.03                | 739,373.07               | 32.312522 | -103.692306 |
| 8,427.64                                                 | 1.58               | 221.35         | 8,426.75                  | -48.91        | -43.04        | 478,019.46                | 739,372.56               | 32.312520 | -103.692308 |
| 8,500.00                                                 | 0.49               | 221.35         | 8,499.10                  | -49.89        | -43.91        | 478,018.48                | 739,371.70               | 32.312518 | -103.692311 |
| 8,532.90                                                 | 0.00               | 0.00           | 8,532.00                  | -50.00        | -44.00        | 478,018.37                | 739,371.61               | 32.312517 | -103.692311 |
| 8,600.00                                                 | 0.00               | 0.00           | 8,599.10                  | -50.00        | -44.00        | 478,018.37                | 739,371.61               | 32.312517 | -103.692311 |
| 8,700.00                                                 | 0.00               | 0.00           | 8,699.10                  | -50.00        | -44.00        | 478,018.37                | 739,371.61               | 32.312517 | -103.692311 |
| 8,800.00                                                 | 0.00               | 0.00           | 8,799.10                  | -50.00        | -44.00        | 478,018.37                | 739,371.61               | 32.312517 | -103.692311 |
| 8,882.94                                                 | 0.00               | 0.00           | 8,882.04                  | -50.00        | -44.00        | 478,018.37                | 739,371.61               | 32.312517 | -103.692311 |
| <b>KOP @ 8883' MD, 252' FSL, 1280' FWL</b>               |                    |                |                           |               |               |                           |                          |           |             |
| 8,900.00                                                 | 1.71               | 179.63         | 8,899.09                  | -50.25        | -44.00        | 478,018.12                | 739,371.61               | 32.312517 | -103.692311 |
| 9,000.00                                                 | 11.71              | 179.63         | 8,998.28                  | -61.92        | -43.92        | 478,006.46                | 739,371.68               | 32.312485 | -103.692311 |
| 9,100.00                                                 | 21.71              | 179.63         | 9,093.94                  | -90.62        | -43.74        | 477,977.75                | 739,371.87               | 32.312406 | -103.692311 |
| 9,200.00                                                 | 31.71              | 179.63         | 9,183.16                  | -135.51       | -43.45        | 477,932.86                | 739,372.15               | 32.312282 | -103.692311 |
| 9,300.00                                                 | 41.71              | 179.63         | 9,263.23                  | -195.20       | -43.07        | 477,873.17                | 739,372.54               | 32.312118 | -103.692311 |
| 9,400.00                                                 | 51.71              | 179.63         | 9,331.72                  | -267.89       | -42.60        | 477,800.48                | 739,373.00               | 32.311919 | -103.692311 |
| 9,442.27                                                 | 55.93              | 179.63         | 9,356.67                  | -302.00       | -42.39        | 477,766.37                | 739,373.22               | 32.311825 | -103.692311 |
| <b>Cross Sect/NM062223 @ 9442' MD, 0' FNL, 1280' FWL</b> |                    |                |                           |               |               |                           |                          |           |             |
| 9,500.00                                                 | 61.71              | 179.63         | 9,386.54                  | -351.37       | -42.07        | 477,717.00                | 739,373.54               | 32.311689 | -103.692311 |
| 9,556.11                                                 | 67.32              | 179.63         | 9,410.68                  | -402.00       | -41.75        | 477,666.38                | 739,373.86               | 32.311550 | -103.692311 |
| <b>FTP @ 9556' MD, 100' FNL, 1280' FWL</b>               |                    |                |                           |               |               |                           |                          |           |             |
| 9,600.00                                                 | 71.71              | 179.63         | 9,426.04                  | -443.10       | -41.48        | 477,625.27                | 739,374.12               | 32.311437 | -103.692311 |
| 9,700.00                                                 | 81.71              | 179.63         | 9,449.01                  | -540.29       | -40.86        | 477,528.08                | 739,374.75               | 32.311170 | -103.692311 |
| 9,782.95                                                 | 90.00              | 179.63         | 9,455.00                  | -622.95       | -40.33        | 477,445.42                | 739,375.28               | 32.310943 | -103.692310 |
| 9,800.00                                                 | 90.00              | 179.63         | 9,455.00                  | -640.00       | -40.22        | 477,428.37                | 739,375.38               | 32.310896 | -103.692310 |

# Planning Report - Geographic

|                  |                                    |                                     |                                   |
|------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM r5000.141_Prod US              | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Company:</b>  | WCDSC Permian NM                   | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Project:</b>  | Lea County (NAD83 New Mexico East) | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site:</b>     | Sec 08-T23S-R32E                   | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | Wellbore #1                        |                                     |                                   |
| <b>Design:</b>   | Permit Plan 1                      |                                     |                                   |

| Planned Survey                                     |                    |                |                           |               |               |                           |                          |           |             |  |
|----------------------------------------------------|--------------------|----------------|---------------------------|---------------|---------------|---------------------------|--------------------------|-----------|-------------|--|
| Measured<br>Depth<br>(ft)                          | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Map<br>Northing<br>(usft) | Map<br>Easting<br>(usft) | Latitude  | Longitude   |  |
| 9,900.00                                           | 90.00              | 179.63         | 9,455.00                  | -740.00       | -39.58        | 477,328.37                | 739,376.03               | 32.310621 | -103.692310 |  |
| 10,000.00                                          | 90.00              | 179.63         | 9,455.00                  | -840.00       | -38.94        | 477,228.37                | 739,376.67               | 32.310346 | -103.692310 |  |
| 10,100.00                                          | 90.00              | 179.63         | 9,455.00                  | -940.00       | -38.30        | 477,128.38                | 739,377.31               | 32.310071 | -103.692310 |  |
| 10,200.00                                          | 90.00              | 179.63         | 9,455.00                  | -1,039.99     | -37.66        | 477,028.38                | 739,377.95               | 32.309796 | -103.692310 |  |
| 10,300.00                                          | 90.00              | 179.63         | 9,455.00                  | -1,139.99     | -37.02        | 476,928.38                | 739,378.59               | 32.309521 | -103.692310 |  |
| 10,400.00                                          | 90.00              | 179.63         | 9,455.00                  | -1,239.99     | -36.38        | 476,828.38                | 739,379.23               | 32.309246 | -103.692310 |  |
| 10,500.00                                          | 90.00              | 179.63         | 9,455.00                  | -1,339.99     | -35.74        | 476,728.39                | 739,379.87               | 32.308972 | -103.692309 |  |
| 10,600.00                                          | 90.00              | 179.63         | 9,455.00                  | -1,439.99     | -35.10        | 476,628.39                | 739,380.51               | 32.308697 | -103.692309 |  |
| 10,700.00                                          | 90.00              | 179.63         | 9,455.00                  | -1,539.98     | -34.46        | 476,528.39                | 739,381.15               | 32.308422 | -103.692309 |  |
| 10,800.00                                          | 90.00              | 179.63         | 9,455.00                  | -1,639.98     | -33.82        | 476,428.39                | 739,381.79               | 32.308147 | -103.692309 |  |
| 10,900.00                                          | 90.00              | 179.63         | 9,455.00                  | -1,739.98     | -33.18        | 476,328.39                | 739,382.43               | 32.307872 | -103.692309 |  |
| 11,000.00                                          | 90.00              | 179.63         | 9,455.00                  | -1,839.98     | -32.54        | 476,228.40                | 739,383.07               | 32.307597 | -103.692309 |  |
| 11,100.00                                          | 90.00              | 179.63         | 9,455.00                  | -1,939.98     | -31.90        | 476,128.40                | 739,383.71               | 32.307322 | -103.692309 |  |
| 11,200.00                                          | 90.00              | 179.63         | 9,455.00                  | -2,039.97     | -31.26        | 476,028.40                | 739,384.35               | 32.307047 | -103.692309 |  |
| 11,300.00                                          | 90.00              | 179.63         | 9,455.00                  | -2,139.97     | -30.62        | 475,928.40                | 739,384.99               | 32.306773 | -103.692308 |  |
| 11,400.00                                          | 90.00              | 179.63         | 9,455.00                  | -2,239.97     | -29.98        | 475,828.41                | 739,385.63               | 32.306498 | -103.692308 |  |
| 11,500.00                                          | 90.00              | 179.63         | 9,455.00                  | -2,339.97     | -29.34        | 475,728.41                | 739,386.27               | 32.306223 | -103.692308 |  |
| 11,600.00                                          | 90.00              | 179.63         | 9,455.00                  | -2,439.97     | -28.70        | 475,628.41                | 739,386.91               | 32.305948 | -103.692308 |  |
| 11,700.00                                          | 90.00              | 179.63         | 9,455.00                  | -2,539.96     | -28.06        | 475,528.41                | 739,387.55               | 32.305673 | -103.692308 |  |
| 11,800.00                                          | 90.00              | 179.63         | 9,455.00                  | -2,639.96     | -27.41        | 475,428.42                | 739,388.19               | 32.305398 | -103.692308 |  |
| 11,900.00                                          | 90.00              | 179.63         | 9,455.00                  | -2,739.96     | -26.77        | 475,328.42                | 739,388.83               | 32.305123 | -103.692308 |  |
| 12,000.00                                          | 90.00              | 179.63         | 9,455.00                  | -2,839.96     | -26.13        | 475,228.42                | 739,389.47               | 32.304848 | -103.692307 |  |
| 12,100.00                                          | 90.00              | 179.63         | 9,455.00                  | -2,939.95     | -25.49        | 475,128.42                | 739,390.11               | 32.304574 | -103.692307 |  |
| 12,102.05                                          | 90.00              | 179.63         | 9,455.00                  | -2,942.00     | -25.48        | 475,126.37                | 739,390.13               | 32.304568 | -103.692307 |  |
| Cross NM097891 @ 12102' MD, 2640' FSL, 1280' FWL   |                    |                |                           |               |               |                           |                          |           |             |  |
| 12,200.00                                          | 90.00              | 179.63         | 9,455.00                  | -3,039.95     | -24.85        | 475,028.42                | 739,390.75               | 32.304299 | -103.692307 |  |
| 12,300.00                                          | 90.00              | 179.63         | 9,455.00                  | -3,139.95     | -24.21        | 474,928.43                | 739,391.39               | 32.304024 | -103.692307 |  |
| 12,400.00                                          | 90.00              | 179.63         | 9,455.00                  | -3,239.95     | -23.57        | 474,828.43                | 739,392.03               | 32.303749 | -103.692307 |  |
| 12,500.00                                          | 90.00              | 179.63         | 9,455.00                  | -3,339.95     | -22.93        | 474,728.43                | 739,392.67               | 32.303474 | -103.692307 |  |
| 12,600.00                                          | 90.00              | 179.63         | 9,455.00                  | -3,439.94     | -22.29        | 474,628.43                | 739,393.31               | 32.303199 | -103.692307 |  |
| 12,700.00                                          | 90.00              | 179.63         | 9,455.00                  | -3,539.94     | -21.65        | 474,528.44                | 739,393.96               | 32.302924 | -103.692306 |  |
| 12,800.00                                          | 90.00              | 179.63         | 9,455.00                  | -3,639.94     | -21.01        | 474,428.44                | 739,394.60               | 32.302649 | -103.692306 |  |
| 12,900.00                                          | 90.00              | 179.63         | 9,455.00                  | -3,739.94     | -20.37        | 474,328.44                | 739,395.24               | 32.302375 | -103.692306 |  |
| 13,000.00                                          | 90.00              | 179.63         | 9,455.00                  | -3,839.94     | -19.73        | 474,228.44                | 739,395.88               | 32.302100 | -103.692306 |  |
| 13,100.00                                          | 90.00              | 179.63         | 9,455.00                  | -3,939.93     | -19.09        | 474,128.44                | 739,396.52               | 32.301825 | -103.692306 |  |
| 13,200.00                                          | 90.00              | 179.63         | 9,455.00                  | -4,039.93     | -18.45        | 474,028.45                | 739,397.16               | 32.301550 | -103.692306 |  |
| 13,300.00                                          | 90.00              | 179.63         | 9,455.00                  | -4,139.93     | -17.81        | 473,928.45                | 739,397.80               | 32.301275 | -103.692306 |  |
| 13,400.00                                          | 90.00              | 179.63         | 9,455.00                  | -4,239.93     | -17.17        | 473,828.45                | 739,398.44               | 32.301000 | -103.692305 |  |
| 13,500.00                                          | 90.00              | 179.63         | 9,455.00                  | -4,339.93     | -16.53        | 473,728.45                | 739,399.08               | 32.300725 | -103.692305 |  |
| 13,600.00                                          | 90.00              | 179.63         | 9,455.00                  | -4,439.92     | -15.89        | 473,628.46                | 739,399.72               | 32.300450 | -103.692305 |  |
| 13,700.00                                          | 90.00              | 179.63         | 9,455.00                  | -4,539.92     | -15.25        | 473,528.46                | 739,400.36               | 32.300176 | -103.692305 |  |
| 13,800.00                                          | 90.00              | 179.63         | 9,455.00                  | -4,639.92     | -14.61        | 473,428.46                | 739,401.00               | 32.299901 | -103.692305 |  |
| 13,900.00                                          | 90.00              | 179.63         | 9,455.00                  | -4,739.92     | -13.97        | 473,328.46                | 739,401.64               | 32.299626 | -103.692305 |  |
| 14,000.00                                          | 90.00              | 179.63         | 9,455.00                  | -4,839.92     | -13.33        | 473,228.46                | 739,402.28               | 32.299351 | -103.692305 |  |
| 14,100.00                                          | 90.00              | 179.63         | 9,455.00                  | -4,939.91     | -12.69        | 473,128.47                | 739,402.92               | 32.299076 | -103.692305 |  |
| 14,200.00                                          | 90.00              | 179.63         | 9,455.00                  | -5,039.91     | -12.05        | 473,028.47                | 739,403.56               | 32.298801 | -103.692304 |  |
| 14,300.00                                          | 90.00              | 179.63         | 9,455.00                  | -5,139.91     | -11.41        | 472,928.47                | 739,404.20               | 32.298526 | -103.692304 |  |
| 14,400.00                                          | 90.00              | 179.63         | 9,455.00                  | -5,239.91     | -10.77        | 472,828.47                | 739,404.84               | 32.298251 | -103.692304 |  |
| 14,500.00                                          | 90.00              | 179.63         | 9,455.00                  | -5,339.91     | -10.13        | 472,728.48                | 739,405.48               | 32.297977 | -103.692304 |  |
| 14,600.00                                          | 90.00              | 179.63         | 9,455.00                  | -5,439.90     | -9.48         | 472,628.48                | 739,406.12               | 32.297702 | -103.692304 |  |
| 14,700.00                                          | 90.00              | 179.63         | 9,455.00                  | -5,539.90     | -8.84         | 472,528.48                | 739,406.76               | 32.297427 | -103.692304 |  |
| 14,742.10                                          | 90.00              | 179.63         | 9,455.00                  | -5,582.00     | -8.57         | 472,486.38                | 739,407.03               | 32.297311 | -103.692304 |  |
| Cross Sect/NM086153 @ 14742' MD, 0' FNL, 1280' FWL |                    |                |                           |               |               |                           |                          |           |             |  |
| 14,800.00                                          | 90.00              | 179.63         | 9,455.00                  | -5,639.90     | -8.20         | 472,428.48                | 739,407.40               | 32.297152 | -103.692304 |  |

# Planning Report - Geographic

|                  |                                    |                                     |                                   |
|------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM r5000.141_Prod US              | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Company:</b>  | WCDSC Permian NM                   | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Project:</b>  | Lea County (NAD83 New Mexico East) | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site:</b>     | Sec 08-T23S-R32E                   | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | Wellbore #1                        |                                     |                                   |
| <b>Design:</b>   | Permit Plan 1                      |                                     |                                   |

## Planned Survey

| Measured Depth (ft)                  | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude  | Longitude   |
|--------------------------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|-----------|-------------|
| 14,900.00                            | 90.00           | 179.63      | 9,455.00            | -5,739.90  | -7.56      | 472,328.48          | 739,408.04         | 32.296877 | -103.692303 |
| 15,000.00                            | 90.00           | 179.63      | 9,455.00            | -5,839.90  | -6.92      | 472,228.49          | 739,408.68         | 32.296602 | -103.692303 |
| 15,100.00                            | 90.00           | 179.63      | 9,455.00            | -5,939.89  | -6.28      | 472,128.49          | 739,409.32         | 32.296327 | -103.692303 |
| 15,200.00                            | 90.00           | 179.63      | 9,455.00            | -6,039.89  | -5.64      | 472,028.49          | 739,409.96         | 32.296052 | -103.692303 |
| 15,300.00                            | 90.00           | 179.63      | 9,455.00            | -6,139.89  | -5.00      | 471,928.49          | 739,410.60         | 32.295778 | -103.692303 |
| 15,400.00                            | 90.00           | 179.63      | 9,455.00            | -6,239.89  | -4.36      | 471,828.50          | 739,411.24         | 32.295503 | -103.692303 |
| 15,500.00                            | 90.00           | 179.63      | 9,455.00            | -6,339.89  | -3.72      | 471,728.50          | 739,411.88         | 32.295228 | -103.692303 |
| 15,600.00                            | 90.00           | 179.63      | 9,455.00            | -6,439.88  | -3.08      | 471,628.50          | 739,412.53         | 32.294953 | -103.692302 |
| 15,700.00                            | 90.00           | 179.63      | 9,455.00            | -6,539.88  | -2.44      | 471,528.50          | 739,413.17         | 32.294678 | -103.692302 |
| 15,800.00                            | 90.00           | 179.63      | 9,455.00            | -6,639.88  | -1.80      | 471,428.50          | 739,413.81         | 32.294403 | -103.692302 |
| 15,900.00                            | 90.00           | 179.63      | 9,455.00            | -6,739.88  | -1.16      | 471,328.51          | 739,414.45         | 32.294128 | -103.692302 |
| 16,000.00                            | 90.00           | 179.63      | 9,455.00            | -6,839.87  | -0.52      | 471,228.51          | 739,415.09         | 32.293853 | -103.692302 |
| 16,100.00                            | 90.00           | 179.63      | 9,455.00            | -6,939.87  | 0.12       | 471,128.51          | 739,415.73         | 32.293579 | -103.692302 |
| 16,200.00                            | 90.00           | 179.63      | 9,455.00            | -7,039.87  | 0.76       | 471,028.51          | 739,416.37         | 32.293304 | -103.692302 |
| 16,300.00                            | 90.00           | 179.63      | 9,455.00            | -7,139.87  | 1.40       | 470,928.52          | 739,417.01         | 32.293029 | -103.692302 |
| 16,400.00                            | 90.00           | 179.63      | 9,455.00            | -7,239.87  | 2.04       | 470,828.52          | 739,417.65         | 32.292754 | -103.692301 |
| 16,500.00                            | 90.00           | 179.63      | 9,455.00            | -7,339.86  | 2.68       | 470,728.52          | 739,418.29         | 32.292479 | -103.692301 |
| 16,600.00                            | 90.00           | 179.63      | 9,455.00            | -7,439.86  | 3.32       | 470,628.52          | 739,418.93         | 32.292204 | -103.692301 |
| 16,700.00                            | 90.00           | 179.63      | 9,455.00            | -7,539.86  | 3.96       | 470,528.53          | 739,419.57         | 32.291929 | -103.692301 |
| 16,800.00                            | 90.00           | 179.63      | 9,455.00            | -7,639.86  | 4.60       | 470,428.53          | 739,420.21         | 32.291654 | -103.692301 |
| 16,900.00                            | 90.00           | 179.63      | 9,455.00            | -7,739.86  | 5.24       | 470,328.53          | 739,420.85         | 32.291380 | -103.692301 |
| 17,000.00                            | 90.00           | 179.63      | 9,455.00            | -7,839.85  | 5.88       | 470,228.53          | 739,421.49         | 32.291105 | -103.692301 |
| 17,100.00                            | 90.00           | 179.63      | 9,455.00            | -7,939.85  | 6.52       | 470,128.53          | 739,422.13         | 32.290830 | -103.692300 |
| 17,200.00                            | 90.00           | 179.63      | 9,455.00            | -8,039.85  | 7.16       | 470,028.54          | 739,422.77         | 32.290555 | -103.692300 |
| 17,300.00                            | 90.00           | 179.63      | 9,455.00            | -8,139.85  | 7.80       | 469,928.54          | 739,423.41         | 32.290280 | -103.692300 |
| 17,400.00                            | 90.00           | 179.63      | 9,455.00            | -8,239.85  | 8.45       | 469,828.54          | 739,424.05         | 32.290005 | -103.692300 |
| 17,500.00                            | 90.00           | 179.63      | 9,455.00            | -8,339.84  | 9.09       | 469,728.54          | 739,424.69         | 32.289730 | -103.692300 |
| 17,600.00                            | 90.00           | 179.63      | 9,455.00            | -8,439.84  | 9.73       | 469,628.55          | 739,425.33         | 32.289455 | -103.692300 |
| 17,700.00                            | 90.00           | 179.63      | 9,455.00            | -8,539.84  | 10.37      | 469,528.55          | 739,425.97         | 32.289181 | -103.692300 |
| 17,800.00                            | 90.00           | 179.63      | 9,455.00            | -8,639.84  | 11.01      | 469,428.55          | 739,426.61         | 32.288906 | -103.692299 |
| 17,900.00                            | 90.00           | 179.63      | 9,455.00            | -8,739.84  | 11.65      | 469,328.55          | 739,427.25         | 32.288631 | -103.692299 |
| 18,000.00                            | 90.00           | 179.63      | 9,455.00            | -8,839.83  | 12.29      | 469,228.55          | 739,427.89         | 32.288356 | -103.692299 |
| 18,100.00                            | 90.00           | 179.63      | 9,455.00            | -8,939.83  | 12.93      | 469,128.56          | 739,428.53         | 32.288081 | -103.692299 |
| 18,200.00                            | 90.00           | 179.63      | 9,455.00            | -9,039.83  | 13.57      | 469,028.56          | 739,429.17         | 32.287806 | -103.692299 |
| 18,300.00                            | 90.00           | 179.63      | 9,455.00            | -9,139.83  | 14.21      | 468,928.56          | 739,429.81         | 32.287531 | -103.692299 |
| 18,400.00                            | 90.00           | 179.63      | 9,455.00            | -9,239.83  | 14.85      | 468,828.56          | 739,430.46         | 32.287256 | -103.692299 |
| 18,500.00                            | 90.00           | 179.63      | 9,455.00            | -9,339.82  | 15.49      | 468,728.57          | 739,431.10         | 32.286982 | -103.692298 |
| 18,600.00                            | 90.00           | 179.63      | 9,455.00            | -9,439.82  | 16.13      | 468,628.57          | 739,431.74         | 32.286707 | -103.692298 |
| 18,700.00                            | 90.00           | 179.63      | 9,455.00            | -9,539.82  | 16.77      | 468,528.57          | 739,432.38         | 32.286432 | -103.692298 |
| 18,800.00                            | 90.00           | 179.63      | 9,455.00            | -9,639.82  | 17.41      | 468,428.57          | 739,433.02         | 32.286157 | -103.692298 |
| 18,900.00                            | 90.00           | 179.63      | 9,455.00            | -9,739.82  | 18.05      | 468,328.57          | 739,433.66         | 32.285882 | -103.692298 |
| 19,000.00                            | 90.00           | 179.63      | 9,455.00            | -9,839.81  | 18.69      | 468,228.58          | 739,434.30         | 32.285607 | -103.692298 |
| 19,100.00                            | 90.00           | 179.63      | 9,455.00            | -9,939.81  | 19.33      | 468,128.58          | 739,434.94         | 32.285332 | -103.692298 |
| 19,200.00                            | 90.00           | 179.63      | 9,455.00            | -10,039.81 | 19.97      | 468,028.58          | 739,435.58         | 32.285057 | -103.692297 |
| 19,300.00                            | 90.00           | 179.63      | 9,455.00            | -10,139.81 | 20.61      | 467,928.58          | 739,436.22         | 32.284783 | -103.692297 |
| 19,400.00                            | 90.00           | 179.63      | 9,455.00            | -10,239.81 | 21.25      | 467,828.59          | 739,436.86         | 32.284508 | -103.692297 |
| 19,500.00                            | 90.00           | 179.63      | 9,455.00            | -10,339.80 | 21.89      | 467,728.59          | 739,437.50         | 32.284233 | -103.692297 |
| 19,600.00                            | 90.00           | 179.63      | 9,455.00            | -10,439.80 | 22.53      | 467,628.59          | 739,438.14         | 32.283958 | -103.692297 |
| 19,700.00                            | 90.00           | 179.63      | 9,455.00            | -10,539.80 | 23.17      | 467,528.59          | 739,438.78         | 32.283683 | -103.692297 |
| 19,800.00                            | 90.00           | 179.63      | 9,455.00            | -10,639.80 | 23.81      | 467,428.59          | 739,439.42         | 32.283408 | -103.692297 |
| 19,900.00                            | 90.00           | 179.63      | 9,455.00            | -10,739.80 | 24.45      | 467,328.60          | 739,440.06         | 32.283133 | -103.692297 |
| 19,924.01                            | 90.00           | 179.63      | 9,455.00            | -10,763.80 | 24.61      | 467,304.59          | 739,440.21         | 32.283067 | -103.692296 |
| LTP @ 19924' MD, 100' FSL, 1280' FWL |                 |             |                     |            |            |                     |                    |           |             |
| 20,000.00                            | 90.00           | 179.63      | 9,455.00            | -10,839.79 | 25.09      | 467,228.60          | 739,440.70         | 32.282858 | -103.692296 |

# Planning Report - Geographic

|                  |                                    |                                     |                                   |
|------------------|------------------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM r5000.141_Prod US              | <b>Local Co-ordinate Reference:</b> | Well Alley Cat 17-20 Fed Com 525H |
| <b>Company:</b>  | WCDSC Permian NM                   | <b>TVD Reference:</b>               | RKB @ 3634.70ft                   |
| <b>Project:</b>  | Lea County (NAD83 New Mexico East) | <b>MD Reference:</b>                | RKB @ 3634.70ft                   |
| <b>Site:</b>     | Sec 08-T23S-R32E                   | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | Alley Cat 17-20 Fed Com 525H       | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | Wellbore #1                        |                                     |                                   |
| <b>Design:</b>   | Permit Plan 1                      |                                     |                                   |

## Planned Survey

| Measured Depth (ft)      | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude  | Longitude   |
|--------------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|-----------|-------------|
| 20,004.01                | 90.00           | 179.63      | 9,455.00            | -10,843.80 | 25.12      | 467,224.59          | 739,440.73         | 32.282847 | -103.692296 |
| PBHL; 20' FSL, 1280' FWL |                 |             |                     |            |            |                     |                    |           |             |
| 20,004.02                | 90.00           | 179.63      | 9,455.00            | -10,843.81 | 25.12      | 467,224.58          | 739,440.73         | 32.282847 | -103.692296 |

## Design Targets

| Target Name                                                                                   | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude  | Longitude   |
|-----------------------------------------------------------------------------------------------|---------------|--------------|----------|------------|------------|-----------------|----------------|-----------|-------------|
| - hit/miss target                                                                             |               |              |          |            |            |                 |                |           |             |
| - Shape                                                                                       |               |              |          |            |            |                 |                |           |             |
| PBHL - Alley Cat 17-20 I                                                                      | 0.00          | 0.00         | 0.00     | -10,843.81 | 25.12      | 467,224.58      | 739,440.73     | 32.282847 | -103.692296 |
| - plan misses target center by 9455.00ft at 20004.02ft MD (9455.00 TVD, -10843.81 N, 25.12 E) |               |              |          |            |            |                 |                |           |             |
| - Point                                                                                       |               |              |          |            |            |                 |                |           |             |

## Plan Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                                            |
|---------------------|---------------------|-------------------|------------|----------------------------------------------------|
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                                                    |
| 8,882.94            | 8,882.04            | -50.00            | -44.00     | KOP @ 8883' MD, 252' FSL, 1280' FWL                |
| 9,442.27            | 9,356.67            | -302.00           | -42.39     | Cross Sect/NM062223 @ 9442' MD, 0' FNL, 1280' FWL  |
| 9,556.11            | 9,410.68            | -402.00           | -41.75     | FTP @ 9556' MD, 100' FNL, 1280' FWL                |
| 12,102.05           | 9,455.00            | -2,942.00         | -25.48     | Cross NM097891 @ 12102' MD, 2640' FSL, 1280' FWL   |
| 14,742.10           | 9,455.00            | -5,582.00         | -8.57      | Cross Sect/NM086153 @ 14742' MD, 0' FNL, 1280' FWL |
| 19,924.01           | 9,455.00            | -10,763.80        | 24.61      | LTP @ 19924' MD, 100' FSL, 1280' FWL               |
| 20,004.01           | 9,455.00            | -10,843.80        | 25.12      | PBHL; 20' FSL, 1280' FWL                           |

**Sec**

**North**  
**-0.34°**  
**6.51°**

**Field**  
**6.2snT**  
**60.11°**  
**3/2018**  
**F2015**

**Cross Sect**

## Devon Energy – Alley Cat 17-20 Fed Com 525H

### 1. Geologic Formations

|               |       |                               |     |
|---------------|-------|-------------------------------|-----|
| TVD of target | 9455  | Pilot hole depth              | N/A |
| MD at TD:     | 20004 | Deepest expected fresh water: |     |

#### Basin

| Formation       | Depth (TVD)<br>from KB | Water/Mineral Bearing/ Target<br>Zone? | Hazards* |
|-----------------|------------------------|----------------------------------------|----------|
| Rustler         | 1048                   |                                        |          |
| Salado          | 1423                   |                                        |          |
| Base of Salt    | 4643                   |                                        |          |
| Delaware        | 4673                   |                                        |          |
| L Brushy Canyon | 8293                   |                                        |          |
| Bone Spring     | 8648                   |                                        |          |
| Leonard 'A'     | 8748                   |                                        |          |
| Leonard 'B'     | 9283                   |                                        |          |
| Landing Point   | 9455                   |                                        |          |
|                 |                        |                                        |          |
|                 |                        |                                        |          |
|                 |                        |                                        |          |
|                 |                        |                                        |          |
|                 |                        |                                        |          |
|                 |                        |                                        |          |
|                 |                        |                                        |          |

\*H2S, water flows, loss of circulation, abnormal pressures, etc.

## Devon Energy – Alley Cat 17-20 Fed Com 525H

### 2. Casing Program

| Hole Size                 | Casing Interval |      | Csg. Size | Weight (PPF)       | Grade          | Conn.                          |
|---------------------------|-----------------|------|-----------|--------------------|----------------|--------------------------------|
|                           | From            | To   |           |                    |                |                                |
| 17.5"                     | 0               | 1073 | 13.375"   | 48                 | H-40           | STC                            |
| 12.25"                    | 0               | 4773 | 9.625"    | 40                 | J-55           | BTC                            |
| 8.75"                     | 0               | TD   | 5.5"      | 17                 | P-110          | BTC                            |
| BLM Minimum Safety Factor |                 |      |           | Collapse:<br>1.125 | Burst:<br>1.00 | Tension:<br>1.6 Dry<br>1.8 Wet |

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h Must have table for contingency casing
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.
- Variance is requested for collapse rating on intermediate casing. Operator will keep pipe full while running casing. No losses are expected in subsequent hole section.
- Int casing shoe will be selected based on drilling data, gamma, and flows experienced while drilling. Setting depth will be revised accordingly if needed.
- A variance is requested to waive the centralizer requirement for the intermediate and production casing strings if drilling conditions dictate

# **Devon Energy – Alley Cat 17-20 Fed Com 525H**

|                                                                                                                                                  | Y or N |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Is casing new? If used, attach certification as required in Onshore Order #1                                                                     | Y      |
| Does casing meet API specifications? If no, attach casing specification sheet.                                                                   | Y      |
| Is premium or uncommon casing planned? If yes attach casing specification sheet.                                                                 | N      |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y      |
| Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?                | Y      |
| Is well located within Capitan Reef?                                                                                                             | N      |
| If yes, does production casing cement tie back a minimum of 50' above the Reef?                                                                  |        |
| Is well within the designated 4 string boundary.                                                                                                 |        |
| Is well located in SOPA but not in R-111-P?                                                                                                      | N      |
| If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?                       |        |
| Is well located in R-111-P and SOPA?                                                                                                             | N      |
| If yes, are the first three strings cemented to surface?                                                                                         |        |
| Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?                                                                               |        |
| Is well located in high Cave/Karst?                                                                                                              | N      |
| If yes, are there two strings cemented to surface?                                                                                               |        |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?                                                           |        |
| Is well located in critical Cave/Karst?                                                                                                          | N      |
| If yes, are there three strings cemented to surface?                                                                                             |        |

## Devon Energy – Alley Cat 17-20 Fed Com 525H

### 3. Cementing Program (3-String Primary Design)

| Casing     | # Sks | TOC             | Wt.<br>(lb/gal) | H <sub>2</sub> O<br>(gal/sk) | Yld<br>(ft <sup>3</sup> /sack) | Slurry Description               |
|------------|-------|-----------------|-----------------|------------------------------|--------------------------------|----------------------------------|
| Surface    | 1120  | Surf            | 13.2            | 6.33                         | 1.33                           | Lead: Class C Cement + additives |
| Int        | 434   | Surf            | 9               | 20.6                         | 3.27                           | Lead: Class C Cement + additives |
|            | 196   | 500' above shoe | 13.2            | 6.42                         | 1.33                           | Tail: Class H / C + additives    |
| Production | 393   | 500' tieback    | 9               | 20.6                         | 3.27                           | Lead: Class H / C + additives    |
|            | 2323  | KOP             | 13.2            | 5.31                         | 1.33                           | Tail: Class H / C + additives    |

If a DV tool is ran the depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Slurry weights will be adjusted based on estimated fracture gradient of the formation. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. If cement is not returned to surface during the primary cement job on the surface casing string, a planned top job will be conducted immediately after completion of the primary job.

| Casing String | % Excess |
|---------------|----------|
| Surface       | 100%     |
| Intermediate  | 50%      |
| Production    | 10%      |

**Devon Energy – Alley Cat 17-20 Fed Com 525H**

**4. Pressure Control Equipment**

| <b>BOP installed<br/>and tested<br/>before drilling<br/>which hole?</b> | <b>Size?</b> | <b>Min.<br/>Required<br/>WP</b> | <b>Type</b> | <b>✓</b> | <b>Tested to:</b>             |
|-------------------------------------------------------------------------|--------------|---------------------------------|-------------|----------|-------------------------------|
| Int 1                                                                   | 13-5/8"      | 5M                              | Annular     | X        | 50% of rated working pressure |
|                                                                         |              |                                 | Blind Ram   | X        | 5M                            |
|                                                                         |              |                                 | Pipe Ram    |          |                               |
|                                                                         |              |                                 | Double Ram  | X        |                               |
|                                                                         |              |                                 | Other*      |          |                               |
| Production                                                              | 13-5/8"      | 5M                              | Annular(5M) | X        | 50% of rated working pressure |
|                                                                         |              |                                 | Blind Ram   | X        | 5M                            |
|                                                                         |              |                                 | Pipe Ram    |          |                               |
|                                                                         |              |                                 | Double Ram  | X        |                               |
|                                                                         |              |                                 | Other*      |          |                               |
|                                                                         |              |                                 | Annular     |          |                               |
|                                                                         |              |                                 | Blind Ram   |          |                               |
|                                                                         |              |                                 | Pipe Ram    |          |                               |
|                                                                         |              |                                 | Double Ram  |          |                               |
|                                                                         |              |                                 | Other*      |          |                               |

## Devon Energy – Alley Cat 17-20 Fed Com 525H

### 5. Mud Program

| 6. Depth |      | Type  | Weight (ppg) | Vis   | Water Loss |
|----------|------|-------|--------------|-------|------------|
| From     | To   |       |              |       |            |
| 0        | 1073 | FW    | 8.5 – 9.0    | 28-34 | N/C        |
| 1073     | 4773 | Brine | 10 – 10.5    | 28-34 | N/C        |
| 4773     | TD   | WBM   | 8.5 – 9.0    | 28-34 | N/C        |

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

|                                                         |                             |
|---------------------------------------------------------|-----------------------------|
| What will be used to monitor the loss or gain of fluid? | PVT/Pason/Visual Monitoring |
|---------------------------------------------------------|-----------------------------|

### 6. Logging and Testing Procedures

| Logging, Coring and Testing. |                                                                                                                                                             |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X                            | Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM. |
|                              | No Logs are planned based on well control or offset log information.                                                                                        |
|                              | Drill stem test? If yes, explain                                                                                                                            |
|                              | Coring? If yes, explain                                                                                                                                     |

| Additional logs planned | Interval          |
|-------------------------|-------------------|
| Resistivity             |                   |
| Density                 |                   |
| X CBL                   | Production casing |
| X Mud log               | KOP to TD         |
|                         |                   |

### 7. Drilling Conditions

| Condition                  | Specify what type and where? |
|----------------------------|------------------------------|
| BH Pressure at deepest TVD | 4425 psi                     |
| Abnormal Temperature       | No                           |

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

|                                                                                                                                                                                                                                                                                                                                                              |                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Hydrogen Sulfide (H <sub>2</sub> S) monitors will be installed prior to drilling out the surface shoe. If H <sub>2</sub> S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM. |                                |
| N                                                                                                                                                                                                                                                                                                                                                            | H <sub>2</sub> S is present    |
| Y                                                                                                                                                                                                                                                                                                                                                            | H <sub>2</sub> S Plan attached |

## Devon Energy – Alley Cat 17-20 Fed Com 525H

### 8. Other facets of operation

Is this a walking operation? Potentially

1. If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
2. The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
3. The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

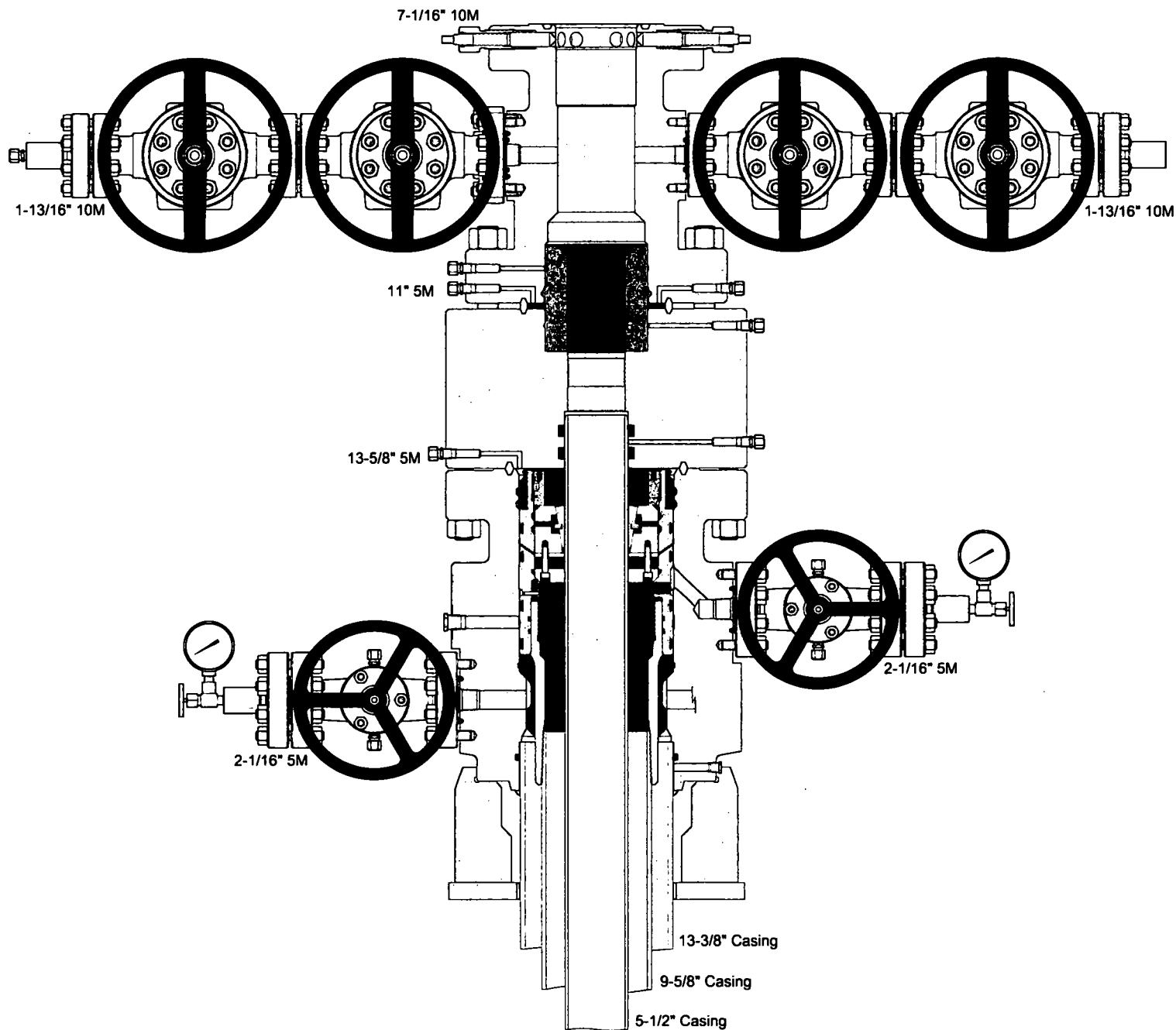
NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

1. Spudder rig will move in and drill surface hole.
  - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.
2. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
3. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
4. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
5. Spudder rig operations is expected to take 4-5 days per well on a multi well pad.
6. The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
7. Drilling operations will be performed with the drilling rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
  - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

- ☒ Directional Plan  
☐ Other, describe



## **I. Design Plan**

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

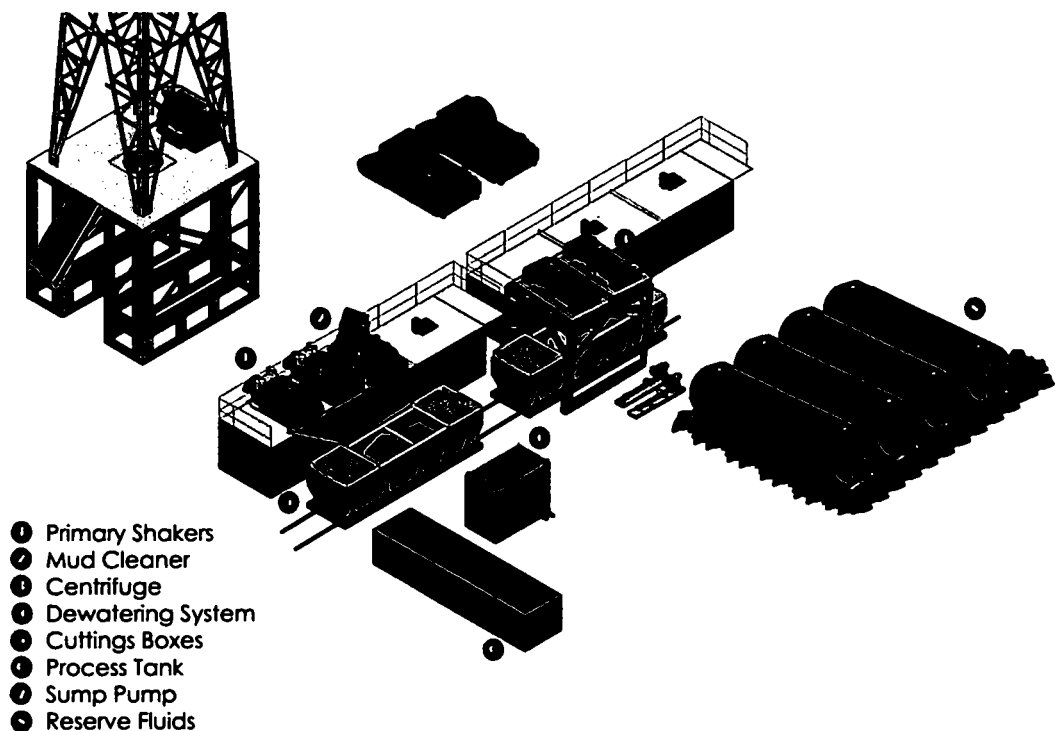
## **II. Operations and Maintenance Plan**

*Primary Shakers:* The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

**Mud Cleaner:** The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



## Closed Loop Schematic



**Centrifuges:** The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

**Dewatering System:** The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

*Cuttings Boxes:* Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

*Process Tank:* (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

*Sump and Sump Pump:* The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

*Reserve Fluids (Tank Farm):* A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

### **III. Closure Plan**

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.

A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.

- Wellhead will be installed by wellhead representatives.
- If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- Wellhead representative will install the test plug for the initial BOP test.
- Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 5M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time.
- If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted.
- Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating.
- Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.

After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 5,000 psi high pressure test. The 5,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2.

After running the 9-5/8" intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 5M will already be installed on the wellhead.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 5,000 psi WP.

Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron.

**Devon Energy**  
**APD VARIANCE DATA**

**OPERATOR NAME:** Devon Energy

**1. SUMMARY OF Variance:**

Devon Energy respectfully requests approval for the following additions to the drilling plan:

1. Potential utilization of a spudder rig to pre-set surface casing.

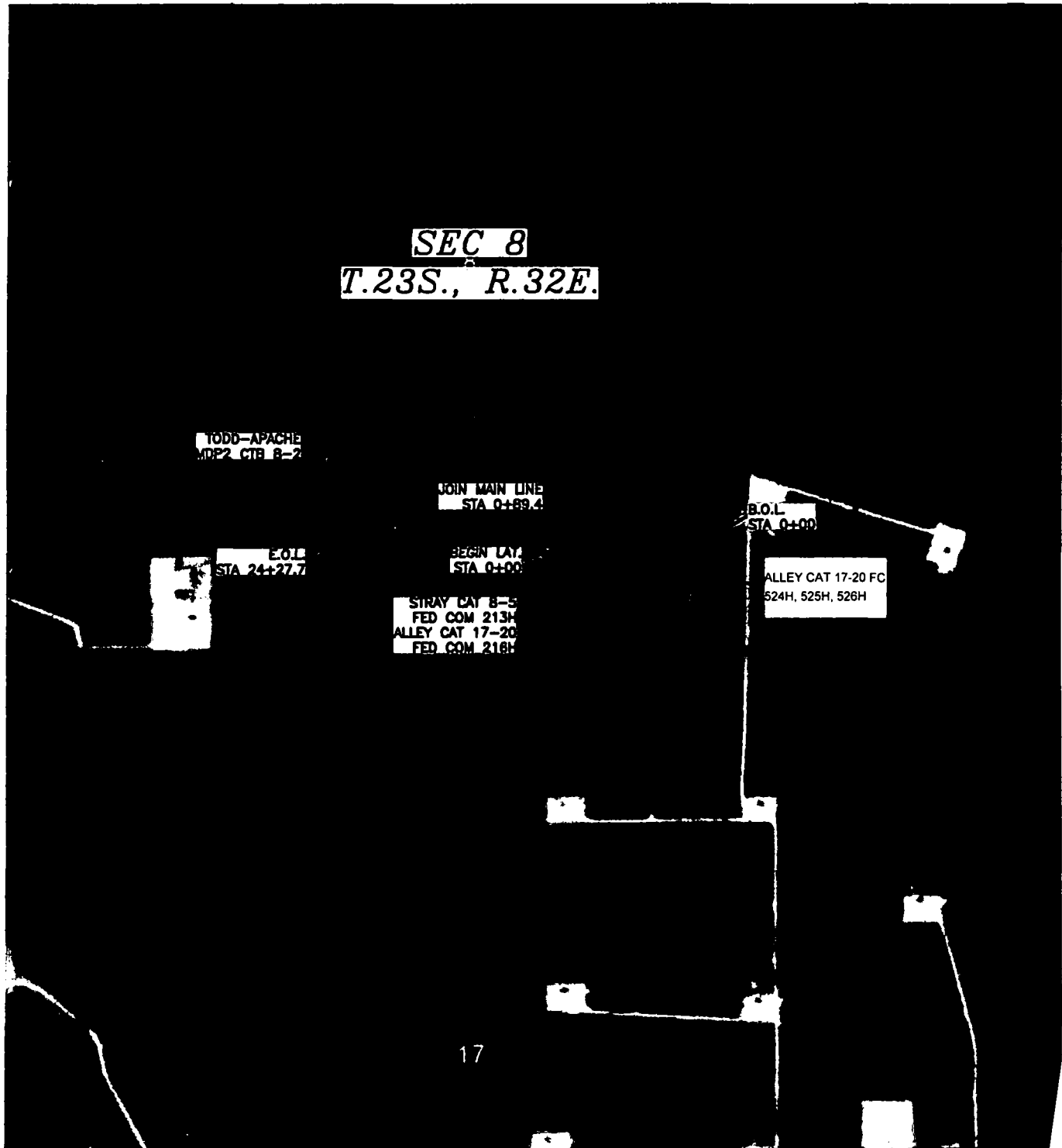
**2. Description of Operations**

1. A spudder rig contractor may move in their rig to drill the surface hole section and pre-set surface casing on this well.
  - a. After drilling the surface hole section, the rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
  - b. Rig will utilize fresh water based mud to drill surface hole to TD.
2. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
3. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
  - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
5. Drilling operation will be performed with the big rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
  - a. The BLM will be contacted / notified 24 hours before the big rig moves back on to the pad with the pre-set surface casing.
6. Devon Energy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
7. Once the rig is removed, Devon Energy will secure the wellhead area by placing a guard rail around the cellar area.

**FLOWLINE PLAT**

THREE 8" BURIED POLY-FIBER FLOWLINES AND ONE 8" BURIED POLY-FIBER GAS-LIFT LINE FROM THE  
ALLEY CAT 17-20 FED COM 524H, 525H, 526H TO THE TODD-APACHE MDP2 CTB 8-2

**DEVON ENERGY PRODUCTION COMPANY, L.P.**  
**CENTERLINE SURVEY OF A PIPELINE CROSSING**  
**SECTION 8, TOWNSHIP 23 SOUTH, RANGE 32 EAST, N.M.P.M.**  
**LEA COUNTY, STATE OF NEW MEXICO**  
\*ALL FLOWLINES ARE BURIED JANUARY 23, 2018



**SHEET: 4-4**

**MADRON SURVEYING, INC.** 301 SOUTH CANAL (575) 234-3341 **CARLSBAD, NEW MEXICO**

**SURVEY NO. 5464**

Section 1 - General

Would you like to address long-term produced water disposal? NO

PWD Data Report  
07/1

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:  
PWD surface owner:

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):  
Lined pit specifications:

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Precipitated solids disposal schedule:

Precipitated solids disposal schedule attachment:

Pit reclamation description:

Pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Pit Monitor description:

Pit Monitor attachment:

Question: do you have a reclamation bond for the pit?

Question: does the reclamation bond have a rider under the BLM bond?

Reclamation bond number:

Reclamation bond amount:

Reclamation bond information attachment:

PWD disturbance (acres):

### **Section 3 - Unlined Pits**

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

### **Section 4 - Injection**

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

### Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

### Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

**Bond Information**

**Federal/Indian APD: FED**

**BLM Bond number: CO1104**

**BIA Bond number:**

**Do you have a reclamation bond? NO**

**Is the reclamation bond a rider under the BLM bond?**

**Is the reclamation bond BLM or Forest Service?**

**BLM reclamation bond number:**

**Forest Service reclamation bond number:**

**Forest Service reclamation bond attachment:**

**Reclamation bond number:**

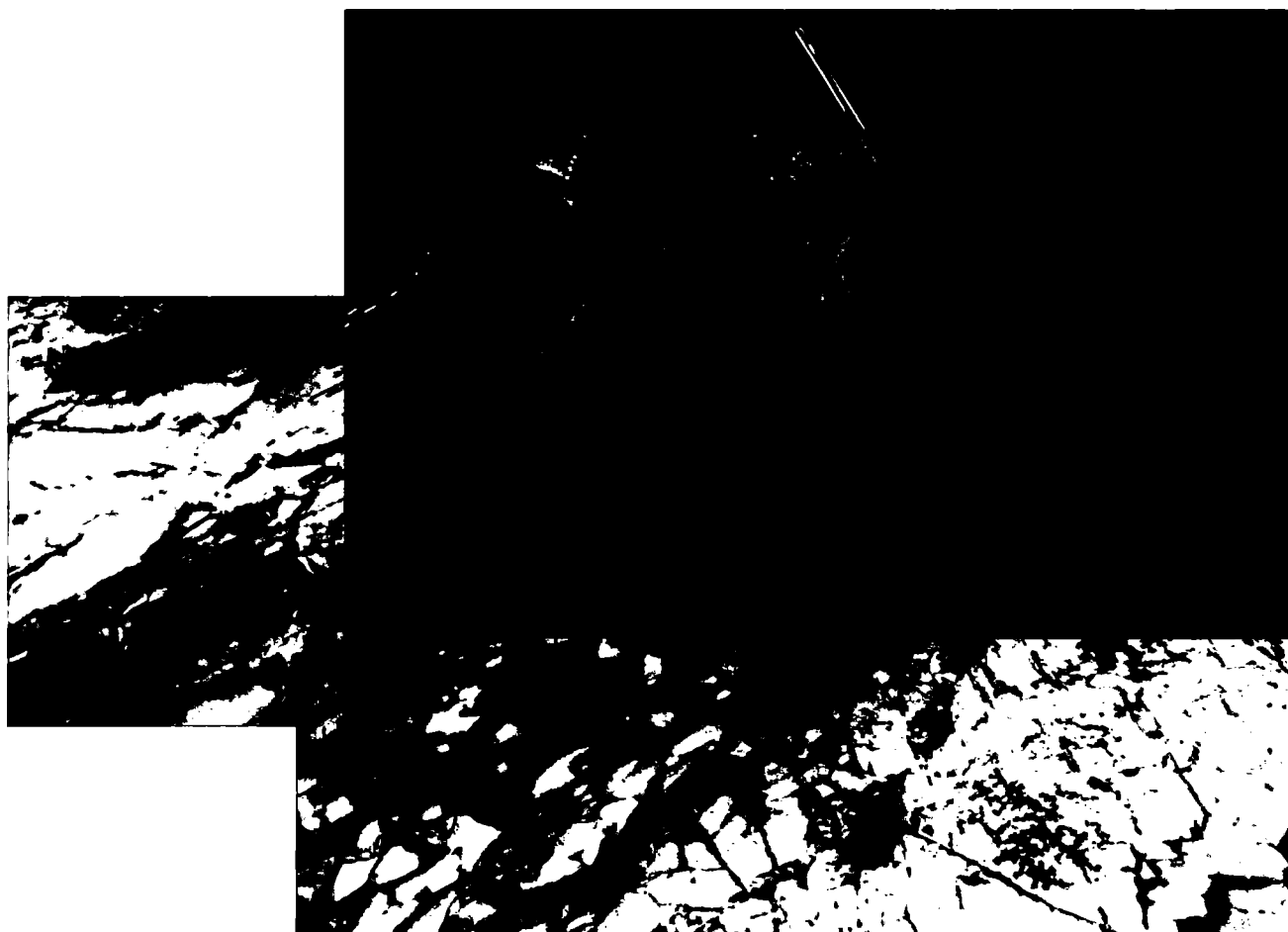
**Reclamation bond amount:**

**Reclamation bond rider amount:**

**Additional reclamation bond information attachment:**



Commitment Runs Deep



Design Plan  
Operation and Maintenance Plan  
Closure Plan

SENM - Closed Loop Systems  
June 2010