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Form 3160-3
(June 2015)

MAY 07 2019

DISTRICT II-ARTESIA O.C.D.

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM022080

6. If Indian, Allotee or Tribe Name

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

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

8. Lease Name and Well No.
TOMB RAIDER 1-12 FED
732H 316874

2. Name of Operator
DEVON ENERGY PRODUCTION COMPANY LP 6137

9. API Well No.
30-015-45979

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
333 West Sheridan Avenue Oklahoma City OK 73102	(800)583-3866	WC-015 G-08 S233102C / WOLFCAMP

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface LOT 3 / 210 FNL / 2229 FWL / LAT 32.3401418 / LONG -103.7328382
At proposed prod. zone SESW / 20 FSL / 2600 FWL / LAT 32.3117539 / LONG -103.7316141

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 1 / T23S / R31E / NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
	EDDY	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
210 feet	1280	640

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
457 feet	12110 feet / 22358 feet	FED: CO1104

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3467 feet	06/19/2019	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	Name *(Printed/Typed)*	Date
(Electronic Submission)	Jenny Harms / Ph: (405)552-6560	12/14/2018

Title
Regulatory Compliance Professional

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	05/03/2019

Title	Office
Assistant Field Manager Lands & Minerals	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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 05/03/2019 RWP 5-10-19

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 I: 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 wen, 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 directionany 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 wen 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 win 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 conects this information to anow 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 Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

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Additional Operator Remarks

Location of Well

1. SHL: LOT 3 / 210 FNL / 2229 FWL / TWSP: 23S / RANGE: 31E / SECTION: 1 / LAT: 32.3401418 / LONG: -103.7328382 (TVD: 0 feet, MD: 0 feet)
   PPP: LOT 3 / 120 FNL / 1170 FWL / TWSP: 23S / RANGE: 31E / SECTION: 1 / LAT: 32.312016 / LONG: -103.736243 (TVD: 11537 feet, MD: 11581 feet)
   BHL: SESW / 20 FSL / 2600 FWL / TWSP: 23S / RANGE: 31E / SECTION: 12 / LAT: 32.3117539 / LONG: -103.7316141 (TVD: 12110 feet, MD: 22358 feet)

BLM Point of Contact

Name: Tanja Baca
Title: Admin Support Assistant
Phone: 5752345940
Email: tabaca@blm.gov

CONFIDENTIAL

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

OPERATOR'S NAME:	**Devon Energy Production Company LP**
LEASE NO.:	NMNM022080
WELL NAME & NO.:	Tomb Raider 1-12 Fed 732H
SURFACE HOLE FOOTAGE:	210'/N & 2229'/W
BOTTOM HOLE FOOTAGE	20'/S & 2600'/W
LOCATION:	Section 1, T.23 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	○ None	◉ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	○ Multibowl	◉ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☑ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☐ Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

Primary Casing Design:

1. The **10-3/4** inch surface casing shall be set at approximately **791 feet** (a minimum of 70 feet (Eddy 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 **24 hours in the Potash Area** 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 **7-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

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.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Operator has proposed to pump down 10-3/4" X 7-5/8" annulus. Operator must run a CBL from TD of the 7-5/8" casing to surface. Submit results to BLM.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

- Cement should tie-back at least **500 feet** into previous casing string. Operator shall provide method of verification.
  Cement excess is less than 25%, more cement might be required.

Alternate Casing Design:

4. The **13-3/8** inch surface casing shall be set at approximately **791 feet** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

    e. 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.
    f. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

    g. 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.
    h. 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.

5. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:

    Option 1 (Single Stage):

    - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

    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.

    c. 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.

    d. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Operator has proposed to pump down 13-3/8" X 8-5/8" annulus. Operator must run a CBL from TD of the 8-5/8" casing to surface. Submit results to BLM.

6. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   - Cement should tie-back at least **500 feet** into previous casing string. Operator shall provide method of verification.
     Cement excess is less than 25%, more cement might be required. (-3%)

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.

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 2nd 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.:	Tomb Raider 1-12 Fed 732H
SURFACE HOLE FOOTAGE:	210'/N & 2229'/W
BOTTOM HOLE FOOTAGE	20'/S & 2600'/W
LOCATION:	Section 1, T.23 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

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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
- Potash
- Range
- Watershed
- Cultural

☐ **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**

Approval Date: 05/03/2019

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)

This pad is a build as you go not a full grade.

In May 2008, the Pecos District Special Status Species Resource Management Plan Amendment (RMPA) was approved and is being implemented. In addition to the standard practices that minimize impacts, as listed above, the following COA will apply:

- Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken, to minimize noise associated impacts which could disrupt breeding and nesting activities.
- Upon abandonment, a low profile abandoned well marker will be installed to prevent raptor perching.

The proposed action occurs within one-half mile of the WIPP and Mills lesser prairie-chicken Habitat Evaluation Areas (HEA) as described in the 2008 Special Status Species Resource Management Plan Amendment. Therefore, according to the prescriptions set forth in the RMPA for management of HEAs, non-emergency exceptions to the Timing Limitation Condition-of-Approval will not be granted to afford the species protection during its breeding season.

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.

Temporary Fencing Requirement

For the following proposed locations, the BLM would require temporary fencing be installed before construction begins. This fencing would remain in place and be maintained throughout the life of the well pads and CTB pads to protect nearby dune land habitat from harm.

- Todd Apache 6-6 Pad 2
- Todd Apache 6-6 CTB 2
- Todd Apache 8-5 CTB 2

Temporary Fencing Requirement

For the following proposed locations, the BLM would require temporary fencing be installed before construction begins. This fencing would remain in place and be maintained throughout the life of the well pads and CTB pads to protect nearby dune land habitat from harm.

- Todd Apache 6-6 Pad 2
- Todd Apache 6-6 CTB 2
- Todd Apache 8-5 CTB 2

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.

Cattle Guard Requirement
Where entry is granted across a fence line for an access road, 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 with an appropriately sized cattle guard sufficient to carry out the project. Any new or existing cattle guards on the access 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. Once the road is abandoned, the fence would 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
The operator must contact the allotment holder prior to construction to identify the location of the pipelines. The operator 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, the operator is responsible for repairing the pipelines immediately. The operator 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, the proponent shall minimize disturbance to existing fences, water lines, troughs, windmills, and other improvements on public lands. The proponent 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.

Interim reclamation will be conducted on all disturbed areas not needed for active support of production operations, and if caliche is used as a surfacing material it will be removed at time of reclamation to enhance re-establishment of vegetation.

Temporary Fencing Requirement
For the following proposed locations, the BLM would require temporary fencing be installed before construction begins. This fencing would remain in place and be maintained throughout the life of the well pads and CTB pads to protect nearby dune land habitat from harm.

- Todd Apache 6-6 Pad 2
- Todd Apache 6-6 CTB 2
- Todd Apache 8-5 CTB 2

Devon would need to avoid the two identified archaeology sites by ensuring that infrastructure and vehicles maintain a minimum distance of 100 feet from these sites.

- 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.

Permitted Exceptions for Drilling in the Designated Potash Area

1. It is the intent of the Department of the Interior to administer oil and gas operations throughout the Designated Potash Area in a manner which promotes safe, orderly co-development of oil, gas, and potash resources. It is the policy of the Department of the Interior to deny approval of most applications for permits to drill oil and gas wells from surface locations within the Designated Potash Area. Three exceptions to this policy will be permitted if the drilling will occur under the following conditions from:

    a. A Drilling Island associated with a Development Area established under this Order or a Drilling Island established under a prior Order;

    b. A Barren Area and the Authorized Officer determines that such operations will not adversely affect active or planned potash mining operations in the immediate vicinity of the proposed drill-site; or

    c. A Drilling Island, not covered by (a) above or single well site established under this Order by the approval and in the sole discretion of the Authorized Officer, provided that such site was jointly recommended to the Authorized Officer by the oil and gas lessee(s) and the nearest potash lessee(s).

Development Areas

2. When processing an application for permit to drill (APD) an oil or gas well in the Designated Potash Area that complies with regulatory requirements, the Authorized Officer will determine whether to establish a Development Area in connection with the application, and if so, will determine the boundaries of the Development Area and the location within the Development Area of one or more Drilling Islands from which drilling will be permitted. The BLM may also designate a Development Area outside of the APD process based on information in its possession, and may modify the boundaries of a Development Area. Existing wells may be included within the boundaries of a Development Area. A Development Area may include Federal oil and gas leases and other Federal and non-Federal lands.

    a. After designating or modifying a Development Area, the BLM will issue a Notice to Lessees, consistent with its authorities under 43 CFR Subpart 3105 and part 3180, information lessees that future drilling on lands under an oil and gas lease within that Development Area will:

        i. occur, under most circumstances, from a Barren Area or A Drilling Island within the Development Area; and
        ii. be managed under a unit or communitization agreement, generally by a single operator, consistent with BLM regulations and this Order. Unit and communitization agreements will be negotiated among lessees. The BLM will consider whether a specific plan of development is necessary or advisable for a particular Drilling Island.

    b. The Authorized Officer reserves the right to approve an operator or successor operator of a Development Area and/or a Drilling Island, if applicable, to ensure that the operator has the resources to operate and extract the oil and gas resources consistent with the requirements of this Order and all applicable laws

and regulations, and has provided financial assurance in the amount required by the Authorized Officer.

c. The Authorized Officer will determine the appropriate designation of a Development Area in terms of location, shape and size. In most cases, a single Drilling Island will be established for each Development Area. In establishing the location, shape and size of a Development Area and an associated Drilling Island, the Authorized Officer will consider:

   i. the appropriate location, shape, and size of a Development Area and associated Drillings Island to allow effective extraction of oil and gas resources while managing the impact on potash resources;
   ii. the application of available oil and gas drilling and production technology in the Permian Basin;
   iii. the applicable geology of the Designated Potash Area and optimal locations to minimize loss of potash ore while considering co-development of both resources;
   iv. any long term exploration and/or mining plans provided by the potash industry;
   v. whether a Barren Area may be the most appropriate area for a Drilling Island;
   vi. the requirements of this Order; and
   vii. any other relevant factors

d. As the Authorized Officer establishes a Development Area, the Authorized Officer will more strictly apply the factors listed in Section 6.e.(2)(d), especially the appropriate application of the available oil and gas drilling and production technology in the Permian Basin, when closer to current traditional (non-solution) potash mining operations. Greater flexibility in the application of the factors listed in Section 6.e(2)(d) will be applied further from current and near-term traditional (non-solution) potash mining operations. No Drilling Islands will be established within one mile of any area where approved potash mining operations will be conducted within 3 years consistent with the 3-year mine plan referenced above (Section 6.d.(8)) without the consent of the affected potash lessee(s).

e. The Authorized Officer may establish a Development Area associated with a well or wells drilled from a Barren Area as appropriate and necessary.

f. As part of the consideration for establishing Development Areas and Drilling Islands, the BLM will consider input from the potash lessees and the oil and gas lessees or mineral right owner who would be potentially subject to a unitization agreement supporting the Development Are, provided that the input is given timely.

Buffer Zones

3. Buffer Zones of ¼ mile for oil wells and ½ mile for gas wells are hereby established. These Buffer Zones will stay in effect until such time as revised distances are adopted by the BLM Director or other BLM official, as delegated. However, the Authorized Officer may adjust the Buffer Zones in an individual case, when the facts and circumstances demonstrate that such adjustment would enhance conservation and would not compromise safety. The Director will base revised Buffer Zones on science, engineering, and new technology and will consider comments and reports from the Joint Industry Technical Committee and other interested parties in adopting any revisions.

Unitization and Communitization

4. To more properly conserve the potash, oil, and gas resources in the Designated Potash Area, and to adequately protect the rights of all parties in interest, including the United States, it is the policy of the Department of the Interior that all Federal oil and gas leases within a Development Area should be unitized or subject to an approved communitization agreement unless there is a compelling reason for another operating system. The Authorized Officer will make full use of his/her authorities wherever necessary or advisable to require unitization and/or communitization pursuant to the regulations in 43 CFR Subparts 3105 and 3180. The Authorized Officer will use his/her discretion to the fullest extent possible to assure that any communitization agreement and any unit plan of operations hereafter approved or prescribed within the Designated Potash Area will adhere to the provisions of this Order. The Authorized Officer will work with Federal lessees, and with the State Of New Mexico as provided below, to include non-Federal mineral rights owners in unit or communitization agreements to the extent possible.

5. Coordination with the State of New Mexico.

    a. If the effective operation of any Development Area requires that the New Mexico Oil Conservation Division (NMOCD) revise the State's mandatory well spacing requirements, the BLM will participate as needed in such a process. The BLM may adopt the NMOCD spacing requirements and require lessees to enter into communitization agreements based on those requirements.

    b. The BLM will cooperate with the NMOCD in the implementation of that agency's rules and regulations.

    c. In taking any action under Section 6.e. of this Order, the Authorized Officer will take into consideration the applicable rules and regulations of the NMOCD.

To minimize impacts to potash resources, the proposed well is confined within the boundaries of the established Tomb Raider Drill Island (See Potash Memo and Map in attached file for Drill Island description).

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.

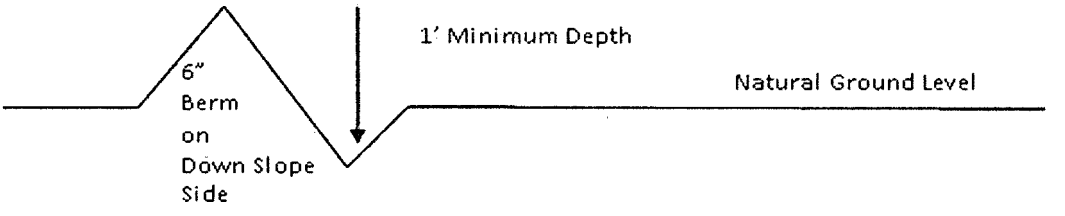
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping 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.

Cross Section of a Typical 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 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ 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

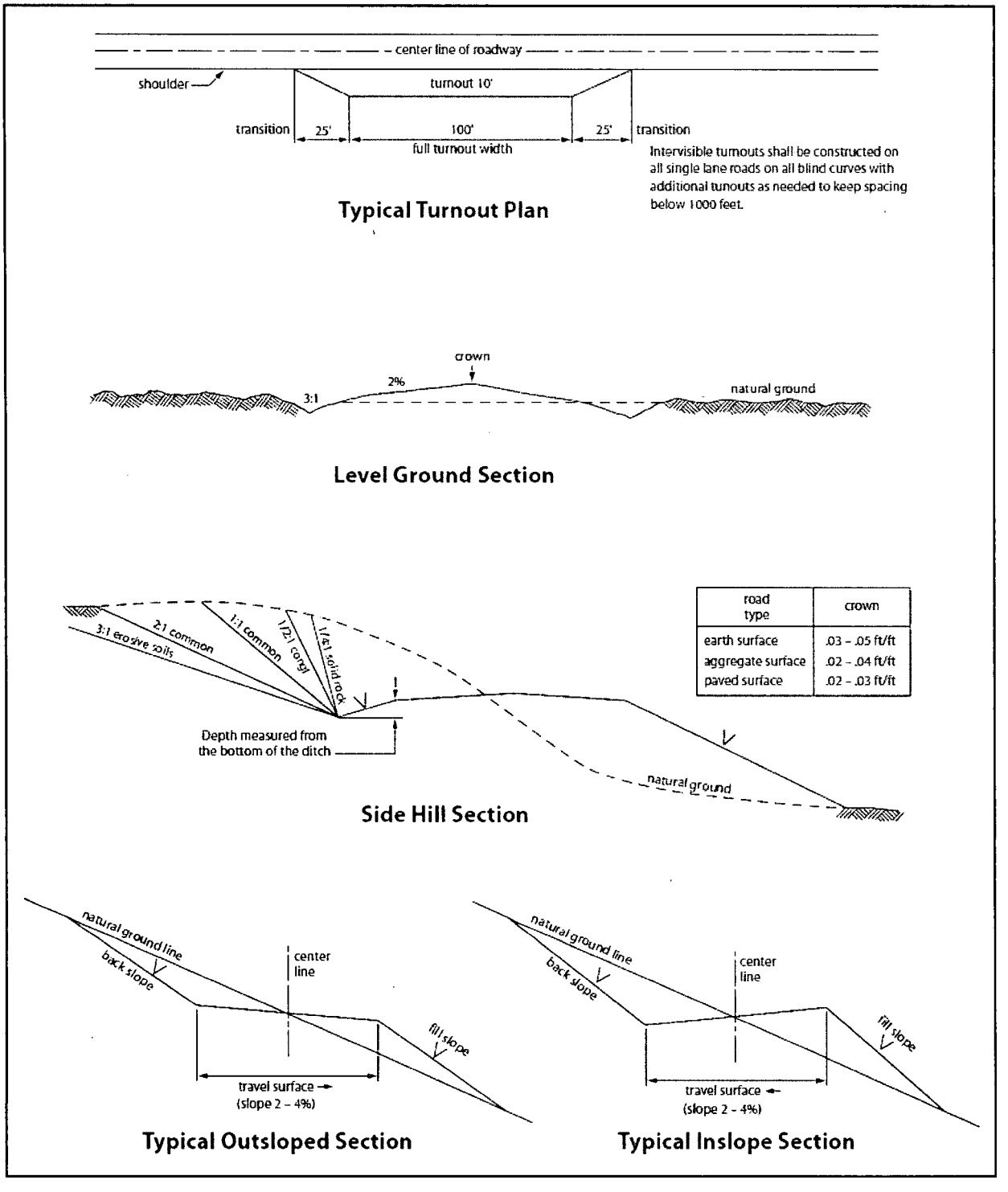


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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).

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.

( ) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
(X) seed mixture 2/LPC	( ) 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 of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then 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:

Species	lb/acre
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

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

05/06/2019

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:** 12/14/2018

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 AVENUE

City: OKLAHOMA CITY **State:** OK **Zip:** 73102-5015

Phone: (405)552-4902

Email address: ray.vaz@dvn.com

APD ID: 10400037342 **Submission Date:** 12/14/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400037342 **Tie to previous NOS?** **Submission Date:** 12/14/2018

BLM Office: CARLSBAD **User:** Jenny Harms **Title:** Regulatory Compliance Professional

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM022080 **Lease Acres:** 1280

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? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WC-015 G-08 S233102C **Pool Name:** WOLFCAMP

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

Is the proposed well in an area containing other mineral resources? POTASH

Describe other minerals:

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

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** TODD-APACHE 1-1 PAD **Number:** 1

Well Class: HORIZONTAL **Number of Legs:** 1

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:** 457 FT **Distance to lease line:** 210 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: TOMB_RAIDER_1_12_FED_732H_C102_20181214143306.pdf

Well work start Date: 06/19/2019 **Duration:** 45 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 6664

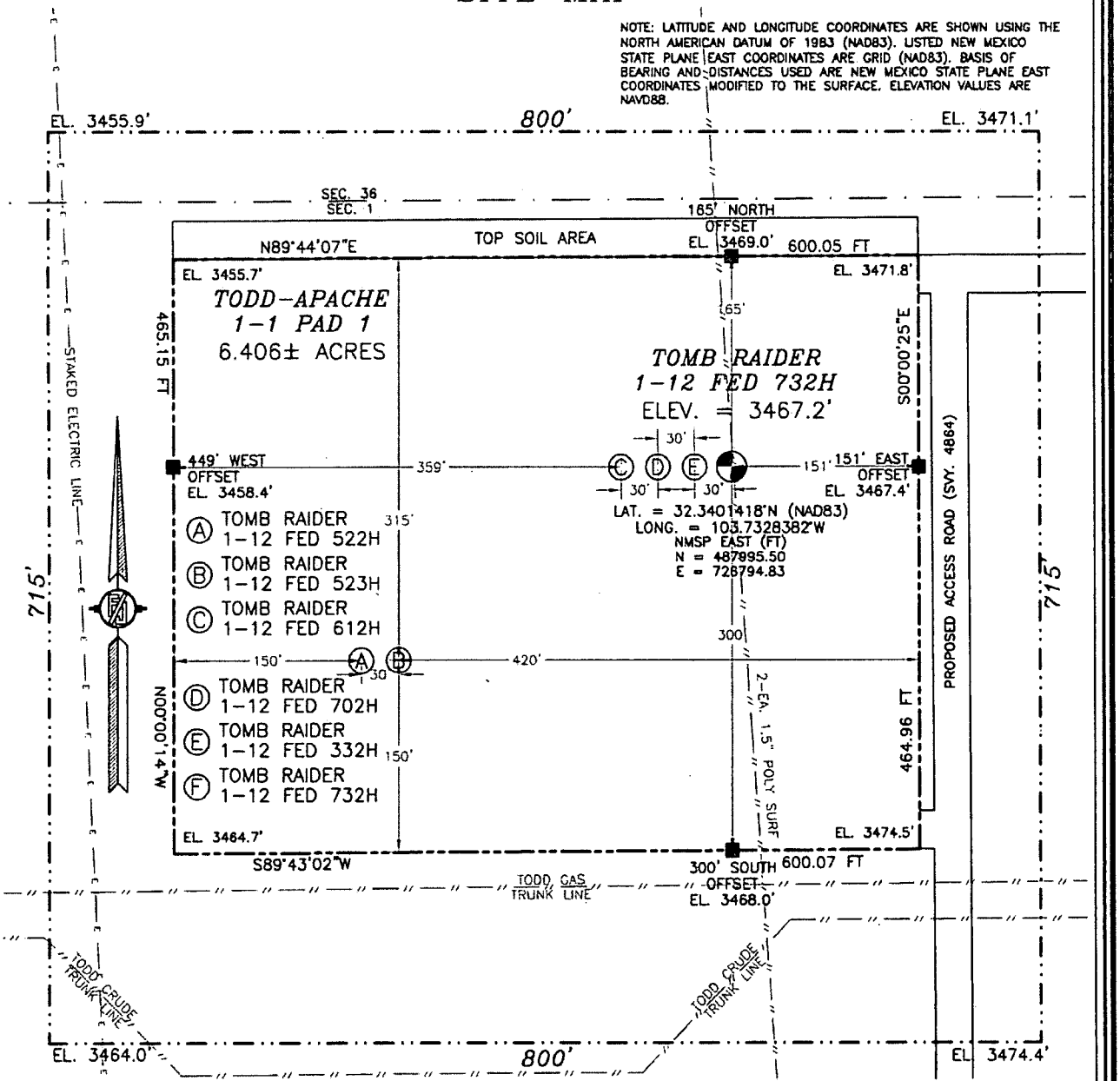
	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	210	FNL	2229	FWL	23S	31E	1	Lot 3	32.3401418	-103.7328382	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 022080	3467	0	0
KOP Leg #1	120	FNL	1170	FWL	23S	31E	1	Lot 3	32.312016	-103.736243	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 022080	-8070	11546	11537
PPP Leg #1	120	FNL	1170	FWL	23S	31E	1	Lot 3	32.312016	-103.736243	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 022080	-8070	11581	11537

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

	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
EXIT Leg #1	100	FSL	1300	FWL	23S	31E	12	Aliquot SESW	32.340447	-103.735851	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 022080	-8643	22267	12110
BHL Leg #1	20	FSL	2600	FWL	23S	31E	12	Aliquot SESW	32.3117539	-103.7316141	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 022080	-8643	22358	12110

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP



012 60 120 240

SCALE 1" = 120'

DIRECTIONS TO LOCATION

FROM STATE HIGHWAY 128 AND CR 798 (RED ROAD) GO NORTH ON CR 798 6.4 MILES, TURN RIGHT ON CALICHE ROAD AND GO EAST 0.4 OF A MILE, BEND RIGHT AND GO SOUTH 0.15 OF A MILE, BEND LEFT AND GO SOUTHEAST 0.19 OF A MILE, TURN RIGHT AND GO SOUTH 0.11 OF A MILE TO A PROPOSED ROAD SURVEY WHERE ROAD BENDS LEFT. FOLLOW FLAGS SOUTH 90', THEN WEST 378' TO THE NORTHEAST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 732H

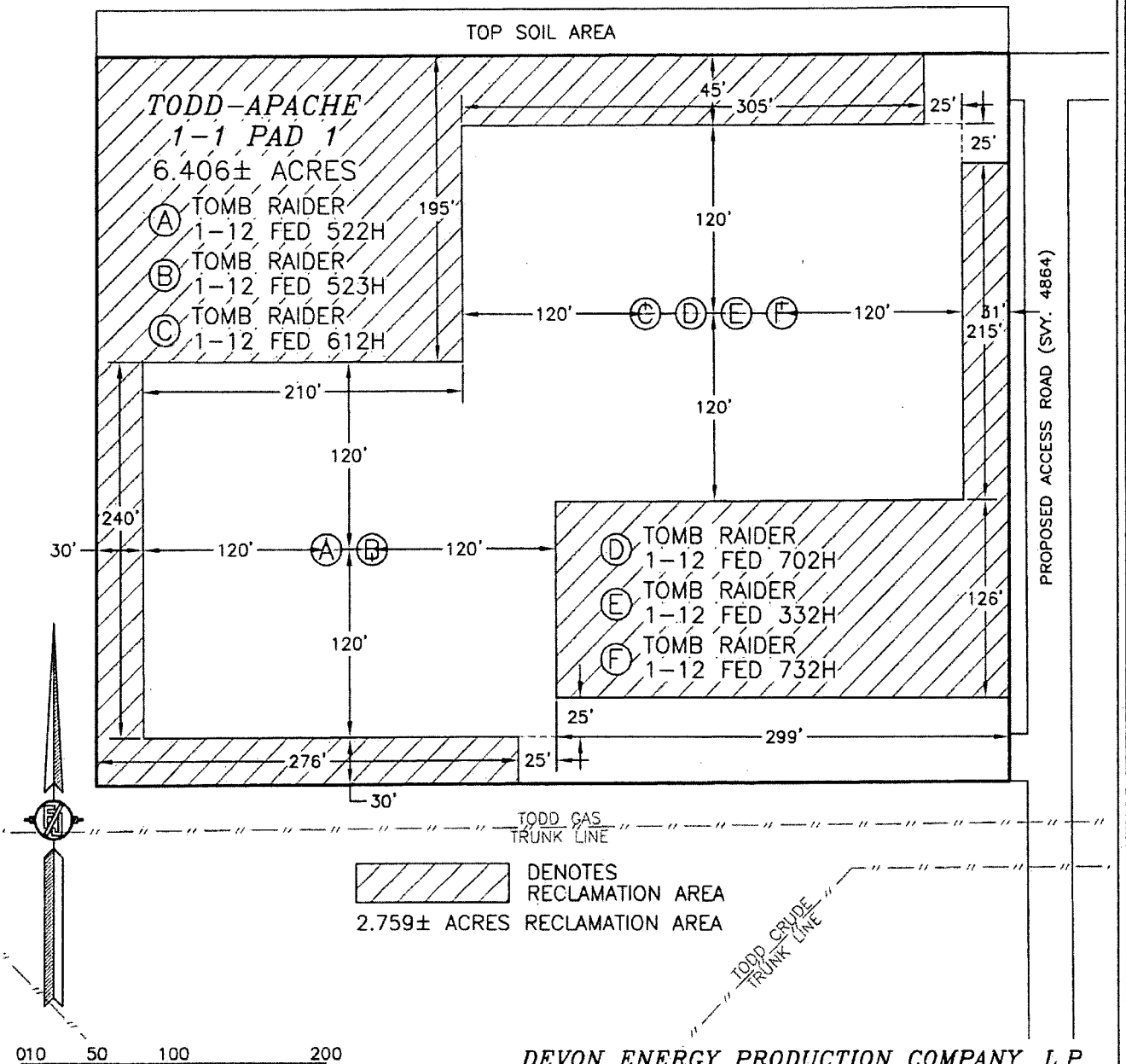
LOCATED 210 FT. FROM THE NORTH LINE AND 2229 FT. FROM THE WEST LINE OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 6, 2018

SURVEY NO. 6664

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

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
INTERIM SITE RECLAMATION



DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 732H

LOCATED 210 FT. FROM THE NORTH LINE AND 2229 FT. FROM THE WEST LINE OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

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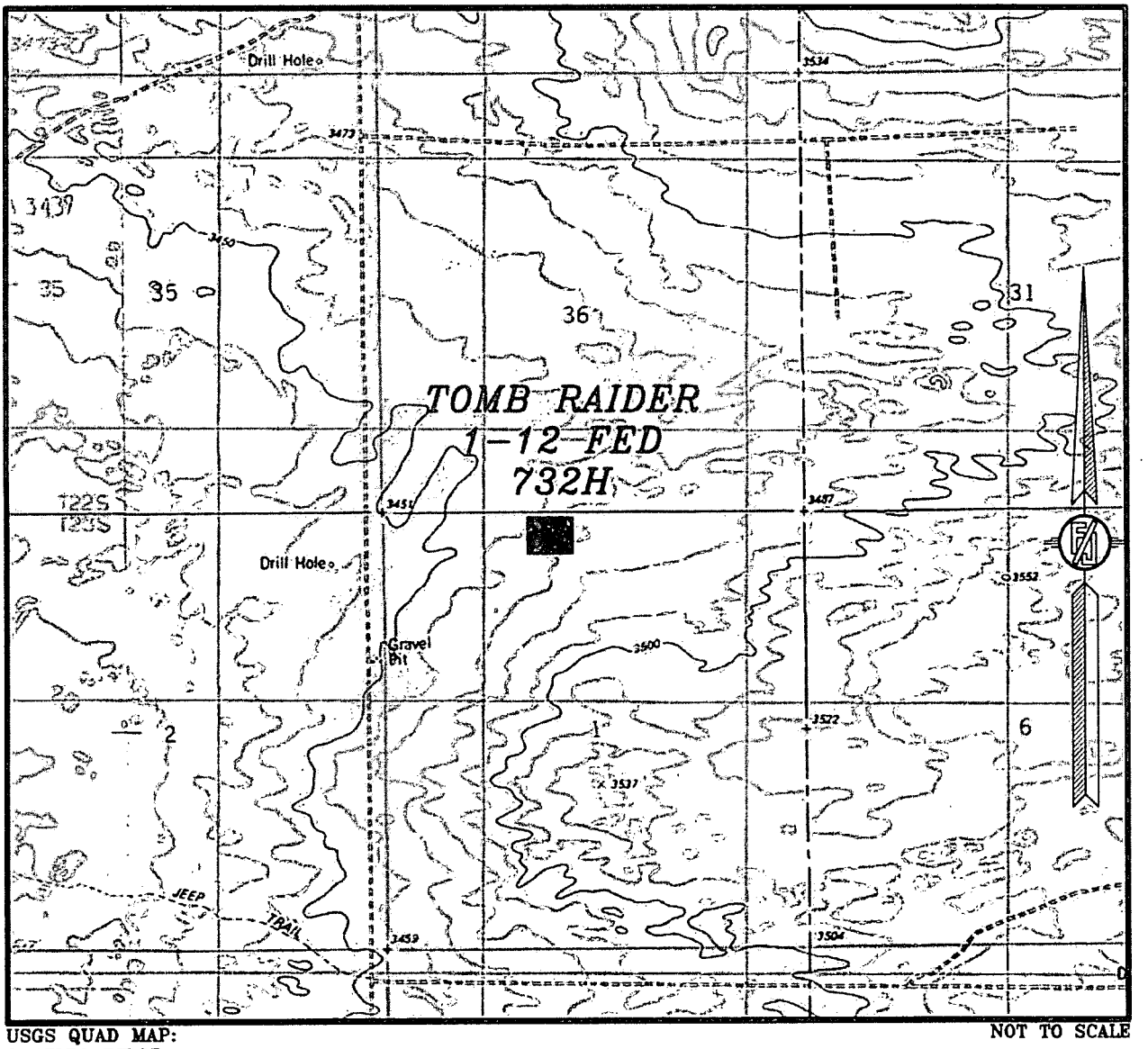
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
BOOTLEG RIDGE

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 732H

LOCATED 210 FT. FROM THE NORTH LINE
AND 2229 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

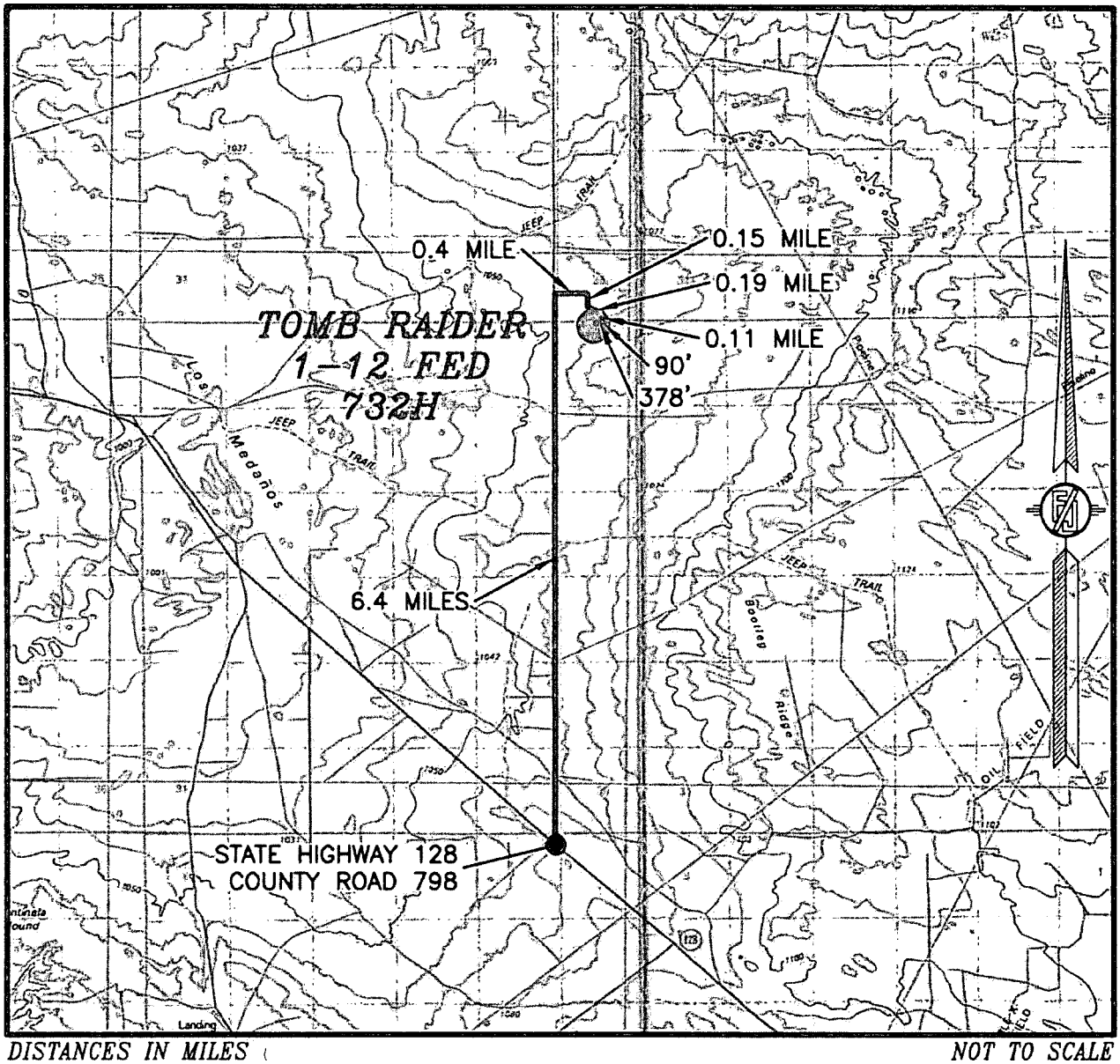
NOVEMBER 6, 2018

SURVEY NO. 6664

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

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

VICINITY MAP



DISTANCES IN MILES (NOT TO SCALE)

DIRECTIONS TO LOCATION

FROM STATE HIGHWAY 128 AND CR 798 (RED ROAD) GO NORTH ON CR 798 6.4 MILES, TURN RIGHT ON CALICHE ROAD AND GO EAST 0.4 OF A MILE, BEND RIGHT AND GO SOUTH 0.15 OF A MILE, BEND LEFT AND GO SOUTHEAST 0.19 OF A MILE, TURN RIGHT AND GO SOUTH 0.11 OF A MILE TO A PROPOSED ROAD SURVEY WHERE ROAD BENDS LEFT. FOLLOW FLAGS SOUTH 90', THEN WEST 378' TO THE NORTHEAST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 732H

LOCATED 210 FT. FROM THE NORTH LINE AND 2229 FT. FROM THE WEST LINE OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

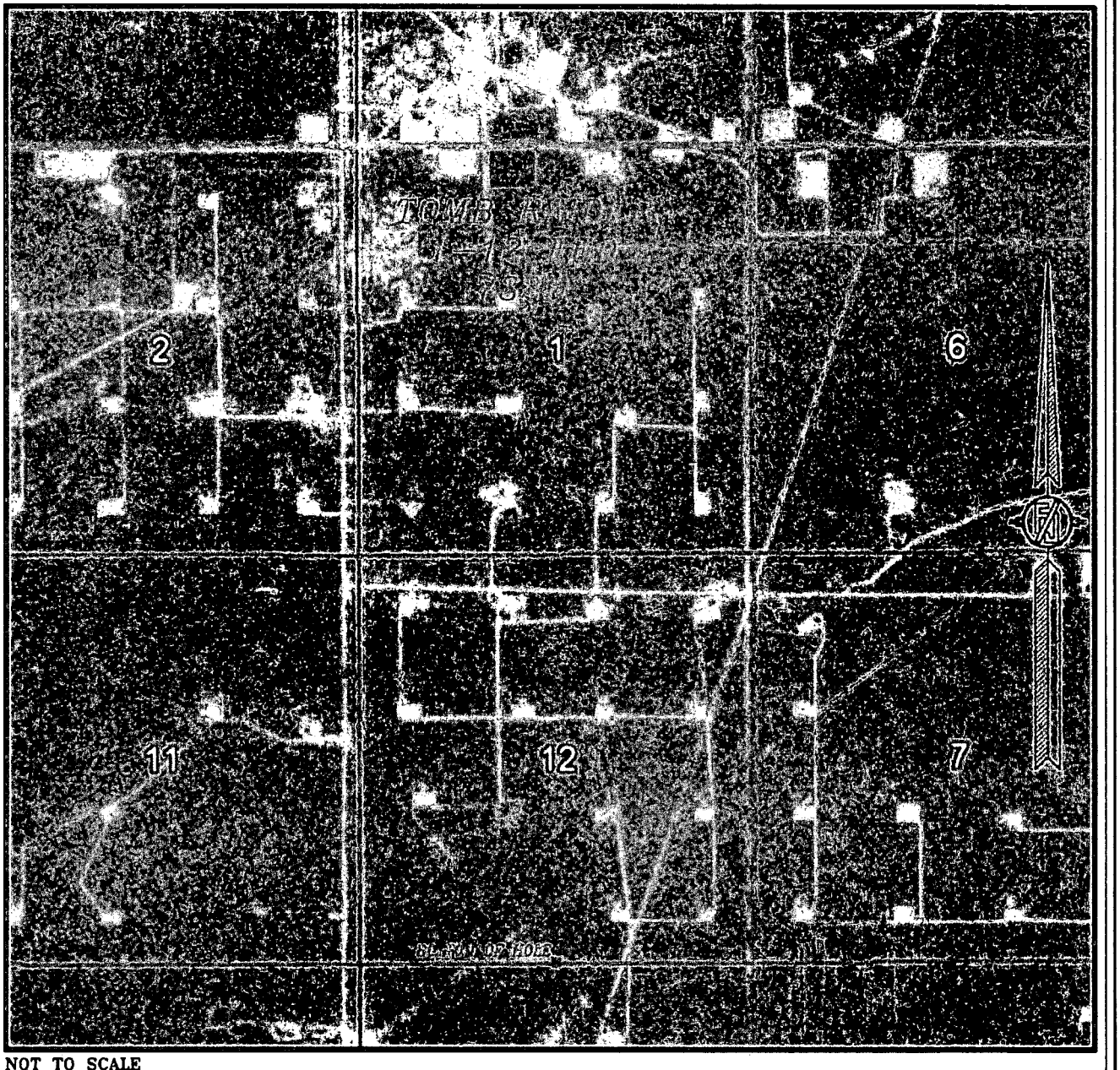
NOVEMBER 6, 2018

SURVEY NO. 6664

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

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOV. 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 732H

LOCATED 210 FT. FROM THE NORTH LINE
AND 2229 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

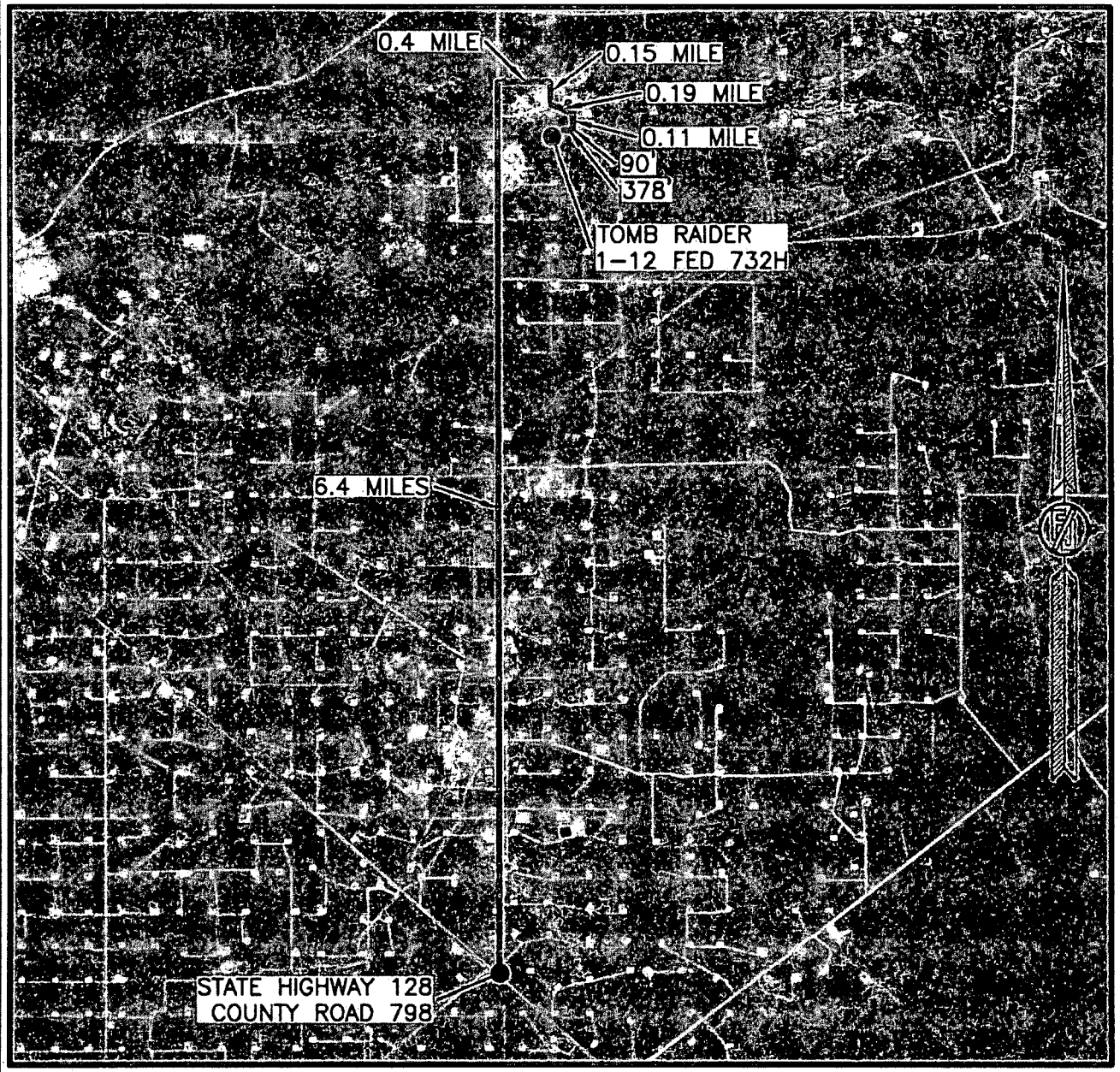
NOVEMBER 6, 2018

SURVEY NO. 6664

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

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOV. 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 732H

LOCATED 210 FT. FROM THE NORTH LINE
AND 2229 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 6, 2018

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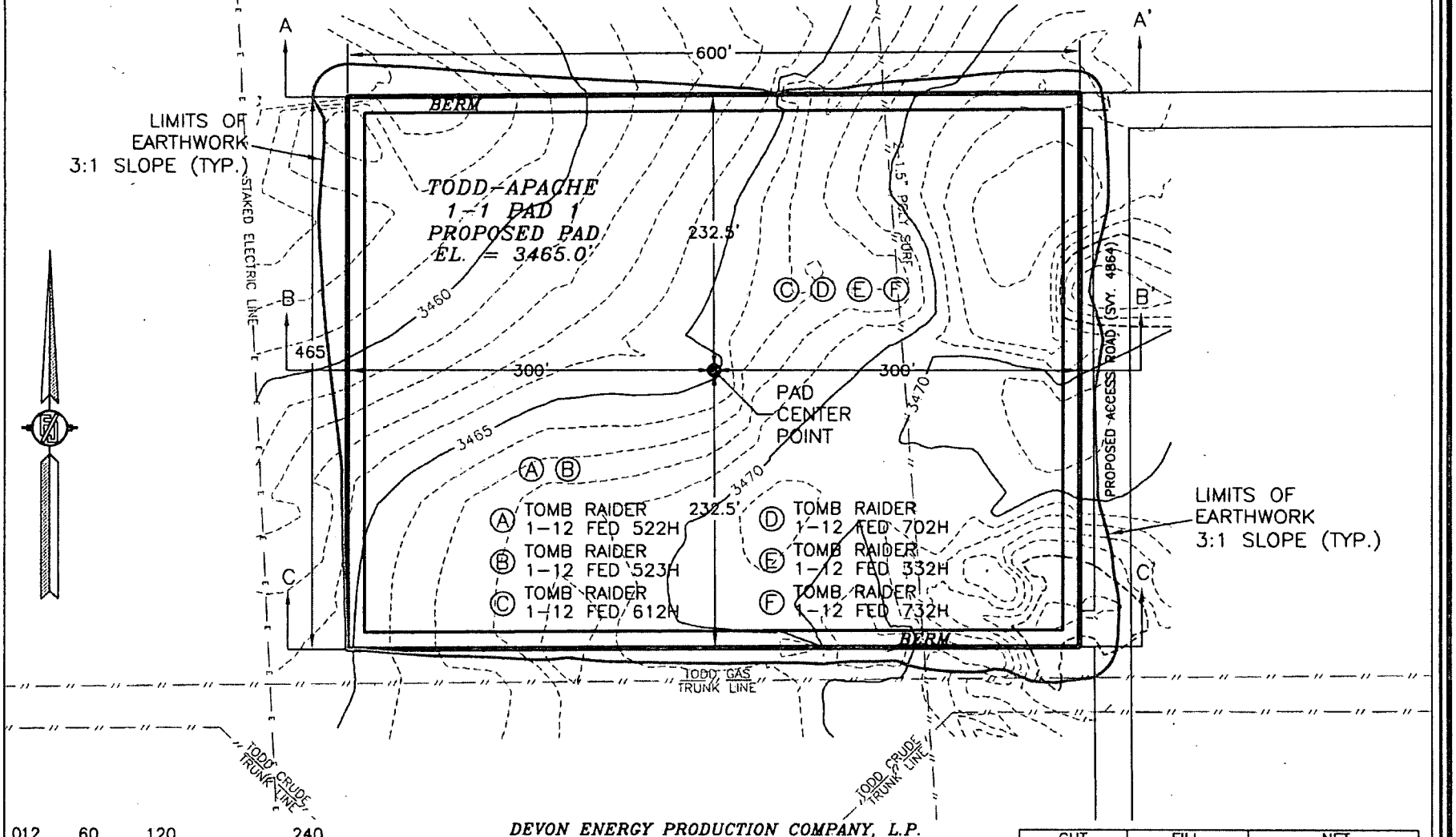
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

PLAN VIEW



CUT	FILL	NET
32056 CU. YD	13418 CU. YD	18638 CU. YD (CUT)

EARTHWORK QUANTITIES ARE ESTIMATED

DEVON ENERGY PRODUCTION COMPANY, L.P.
PAD GRADING AND CROSS SECTIONS
FOR TOMB RAIDER 1-12 FED 732H
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

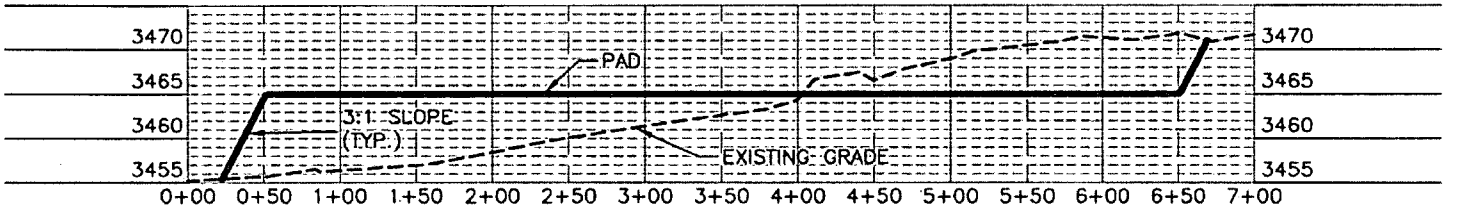
NOVEMBER 6, 2018

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

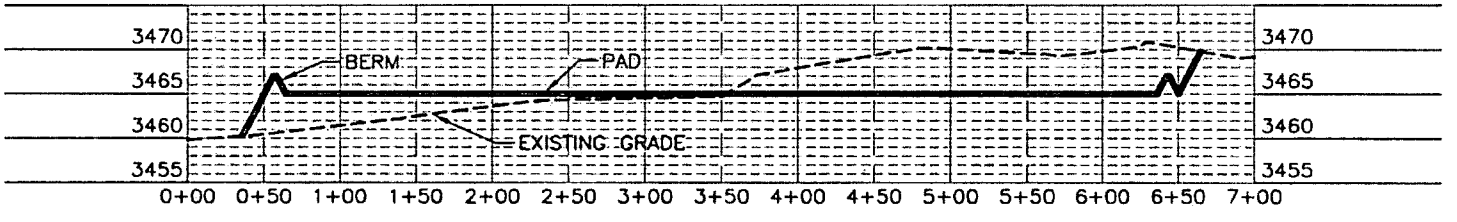
SHEET 1-2
SURVEY NO. 6664

CROSS-SECTIONS

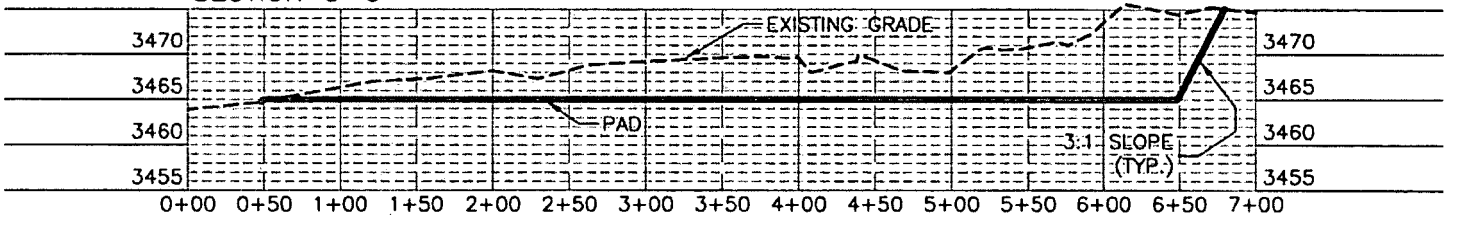
SECTION A-A'



SECTION B-B'



SECTION C-C'



012 60 120 240

SCALE 1" = 120' - 1" = 20' VER

DEVON ENERGY PRODUCTION COMPANY, L.P.
PAD GRADING AND CROSS SECTIONS
FOR TOMB RAIDER 1-12 FED 732H
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

CUT	FILL	NET
32056 CU. YD	13418 CU. YD	18638 CU. YD (CUT)

EARTHWORK QUANTITIES ARE ESTIMATED

NOVEMBER 6, 2018

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

SHEET 2-2
SURVEY NO. 6664

APD ID: 10400037342 **Submission Date:** 12/14/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	UNKNOWN	3467	0	0	ALLUVIUM,OTHER	NONE	No
2	RUSTLER	2797	670	670	SALT	NONE	No
3	SALADO	2326	1141	1141	SALT	NONE	No
4	BASE OF SALT	-978	4445	4445	SALT	NONE	No
5	DELAWARE	-1008	4475	4475	SANDSTONE	NATURAL GAS,OIL	No
6	BONE SPRING LIME	-4883	8350	8350	LIMESTONE	NATURAL GAS,OIL	No
7	WOLFCAMP	-8643	12110	22110	SANDSTONE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 12110

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below intermeidate casing, a BOP/BOPE system with the above minimum rating 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:

WLFMP_10M_BOPE_Double_Ram_and_CLS_Schematic_Remote_Kill_Line_20181214093048.pdf

BOP Diagram Attachment:

WLFMP_10M_BOPE_Double_Ram_and_CLS_Schematic_Remote_Kill_Line_20181214093104.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

Pressure Rating (PSI): 5M **Rating Depth:** 11231

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below surface casing, a BOP/BOPE system with the above minimum rating 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_20180716121144_20181214075309.pdf

BOP Diagram Attachment:

5M_BOPE_20180716121144_20181214075317.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	14.75	10.75	NEW	API	N	0	791	0	791	-6768	-7557	791	J-55	40.5	STC	1.125	1.25	BUOY	1.6	BUOY	1.6
2	INTERMEDIATE	9.875	7.625	NEW	API	N	0	11231	0	11231	-6768	-11036	11231	P-110	29.7	OTHER - BTC	1.125	1.25	BUOY	1.6	BUOY	1.6
3	PRODUCTION	6.75	5.5	NEW	API	N	0	22358	0	12110	-6768	-16768	22358	P-110	20	OTHER - VAM SG	1.125	1.25	BUOY	1.6	BUOY	1.6

Casing Attachments

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Surf_Csg_Ass_20181214075552.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Int_Csg_Ass_20181214075711.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Prod_Csg_Ass_20181214075915.pdf

Section 4 - Cement

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	791	513	1.33	13.2	683	50	C	Class C + adds
INTERMEDIATE	Lead		0	7231	1067	3.31	9	1974	30	TUNED	TUNED LIGHT
INTERMEDIATE	Tail		7231	11231	848	1.33	13.2	1128	30	H	Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
PRODUCTION	Lead		10731	22658	812	1.33	13.2	1080	10	CLASS H	0.125 lbs/sack Poly-E-Flake
PRODUCTION	Tail										none

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
791	11231	OTHER : DBE/CUT BRINE	9	10				2			

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

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
0	791	OTHER : FW GEL	8.5	9				2			
11231	12110	OIL-BASED MUD	10	10.5							

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: 6612 **Anticipated Surface Pressure:** 3947.8

Anticipated Bottom Hole Temperature(F): 176

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Tomb_Raider_1_12_Fed_732H_H2S_20181214144343.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Devon_Tomb_Raider_1_12_Fed_732H_AC_Report_Permit_Plan_1_20181214144518.pdf

Devon_Tomb_Raider_1_12_Fed_732H_Permit_Plan_1_20181214144518.pdf

Devon_Tomb_Raider_1_12_Fed_732H_Plot_Permit_Plan_1_20181214144519.pdf

Tomb_Raider_12_1_Fed_732H_Drilling_Plan_4_15_20190416133504.pdf

Other proposed operations facets description:

DRILLING PLAN -REVISED 4-16-2019
CLOSED LOOP DESIGN,
MB VERB MB WELLHEAD, GAS CAPTURE PLAN, SPEC SHEETS, SPUDDER RIG

Other proposed operations facets attachment:

Spudder_Rig_Info_20181214084913.pdf

8.625_32__P110EC___7.875_SD__BTC__20181214084913.pdf

Clsd_Loop_20181214085036.pdf

5.5_x_20_P110_EC_VAMSG_20181214084912.pdf

WLFMP_Wellhead_Schematic_10.75x7.625_x5.5_20181214094333.pdf

WLFMP_MB_Verb_10M_Alt_Design_20181214094331.pdf

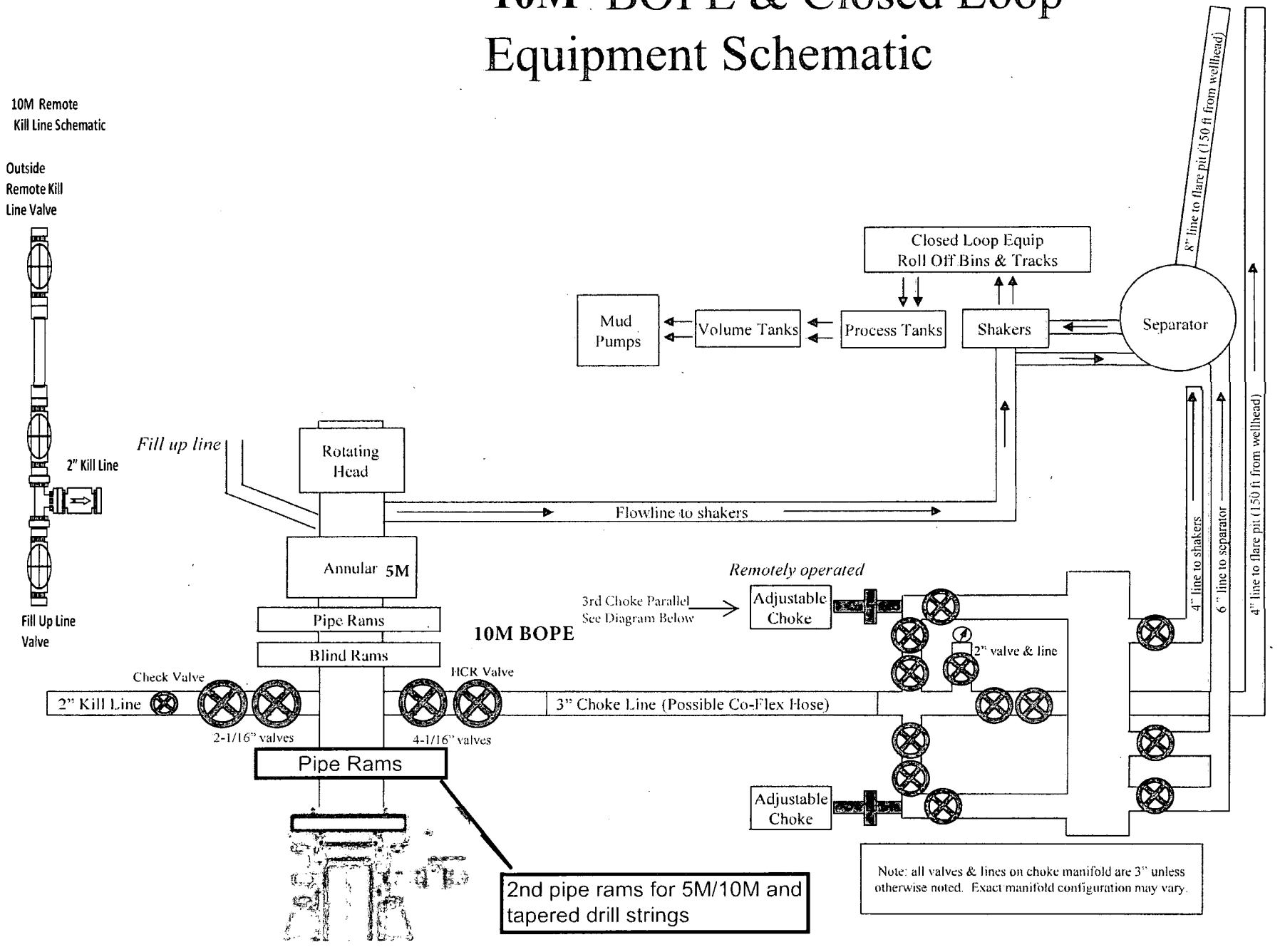
WLFMP_Wellhead_Schematic_Contingency_13.375x8.625x5.5_20181214094334.pdf

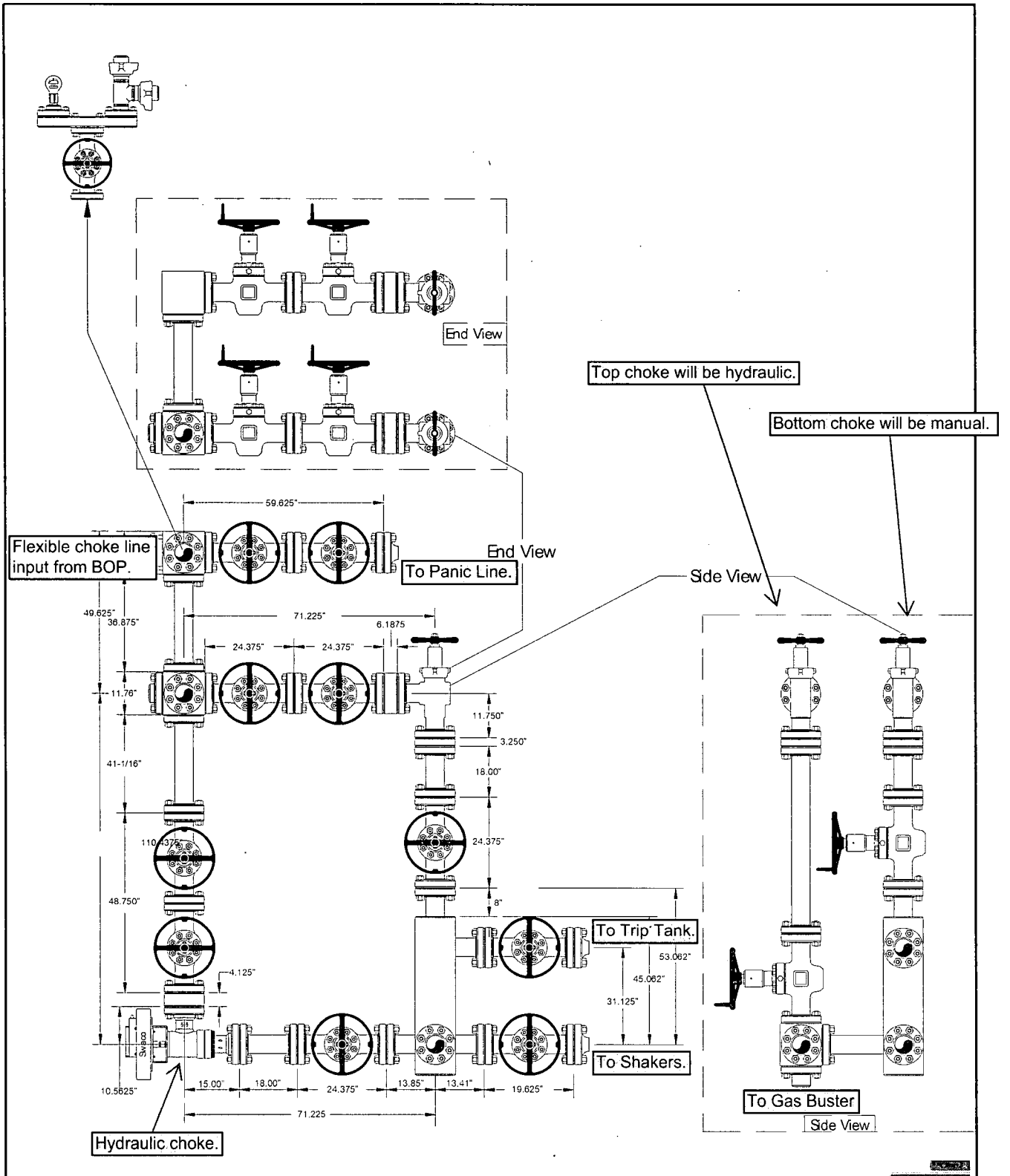
TODD_1_12_GasCapturePlan_12_13_2018_20181214140554.pdf

Other Variance attachment:

Co_flex_20181214085236.pdf

10M BOPE & Closed Loop Equipment Schematic





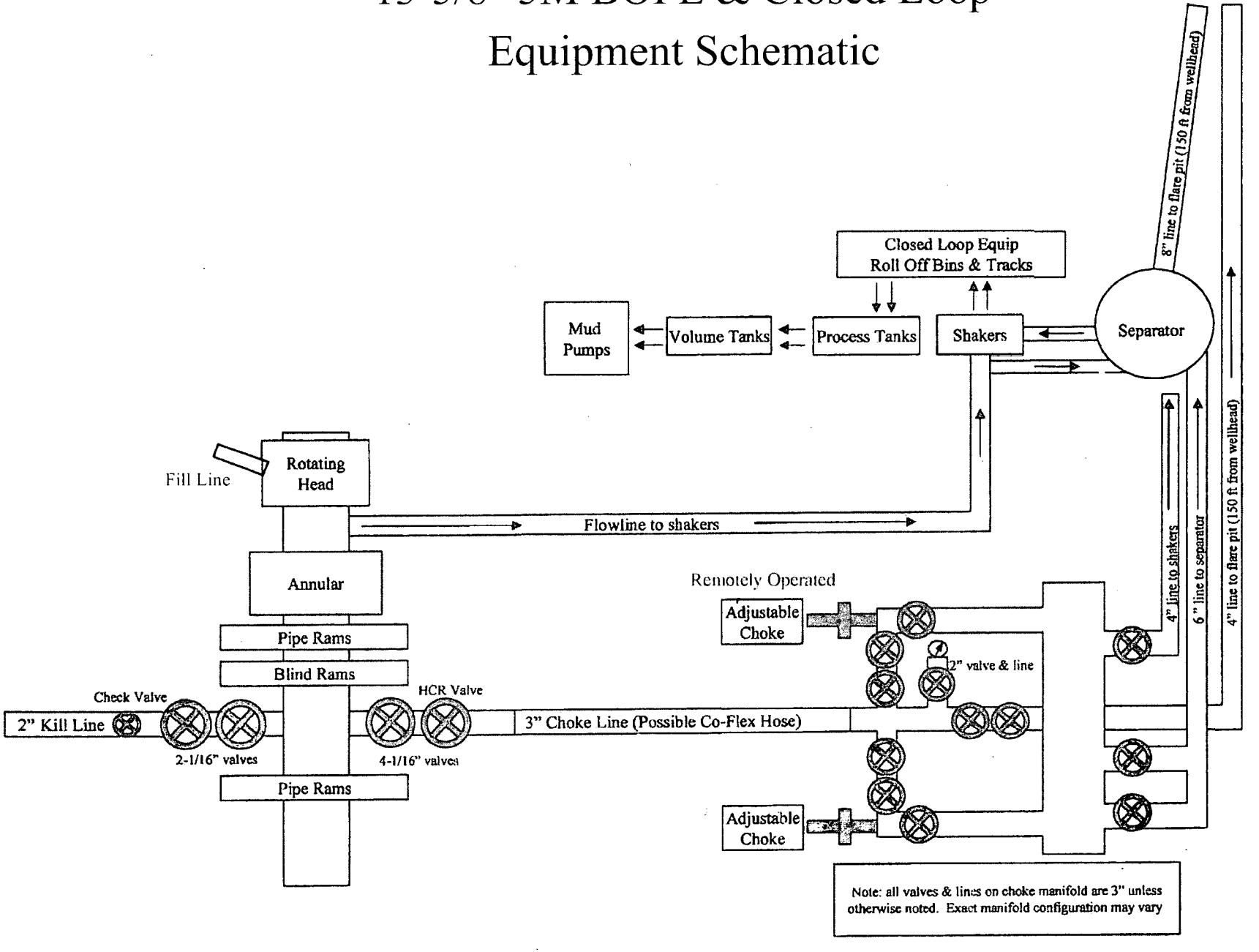
Helmerich & Payne

Flex 3 Rig w/ 3 Chokes

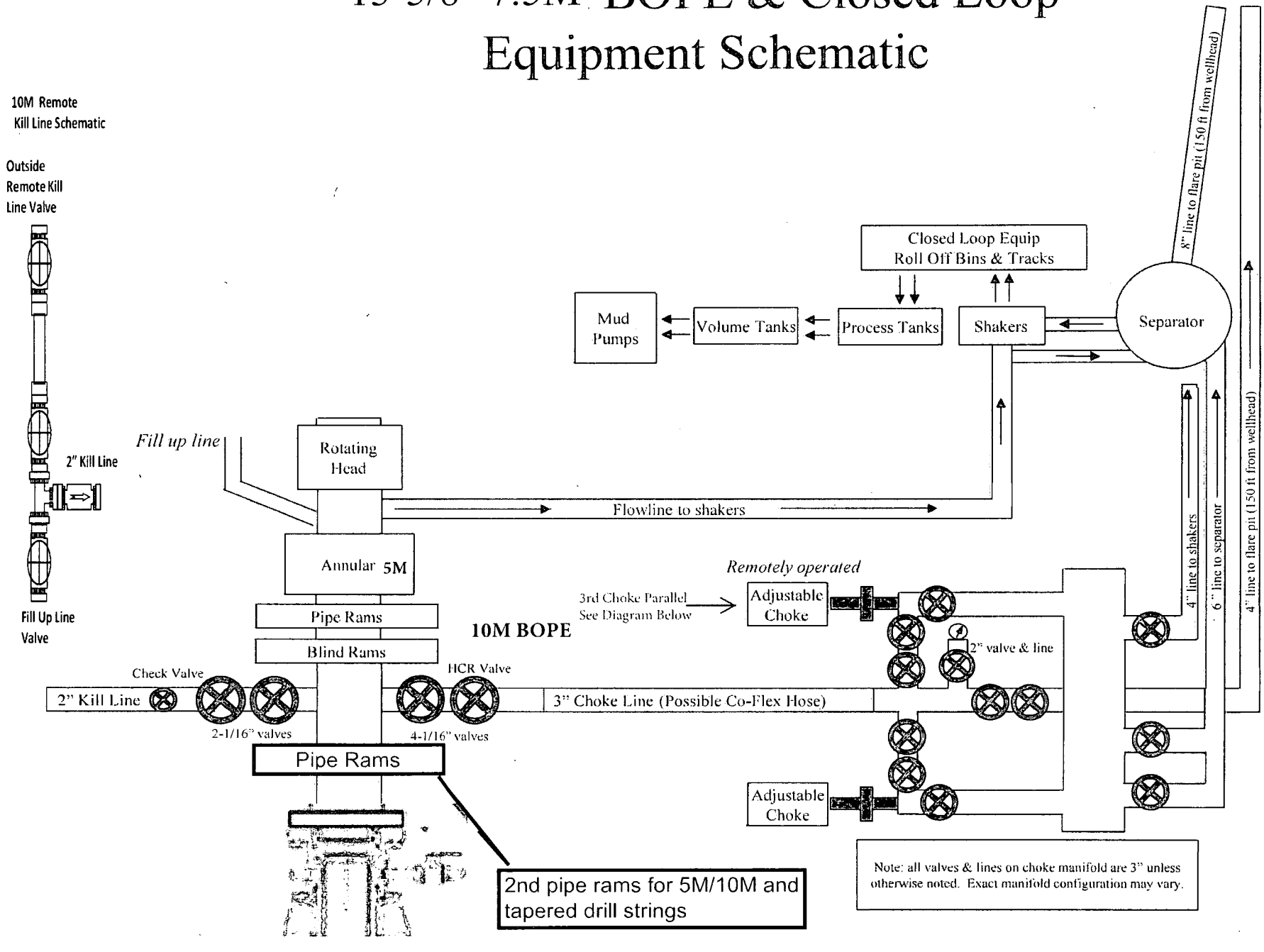
devon

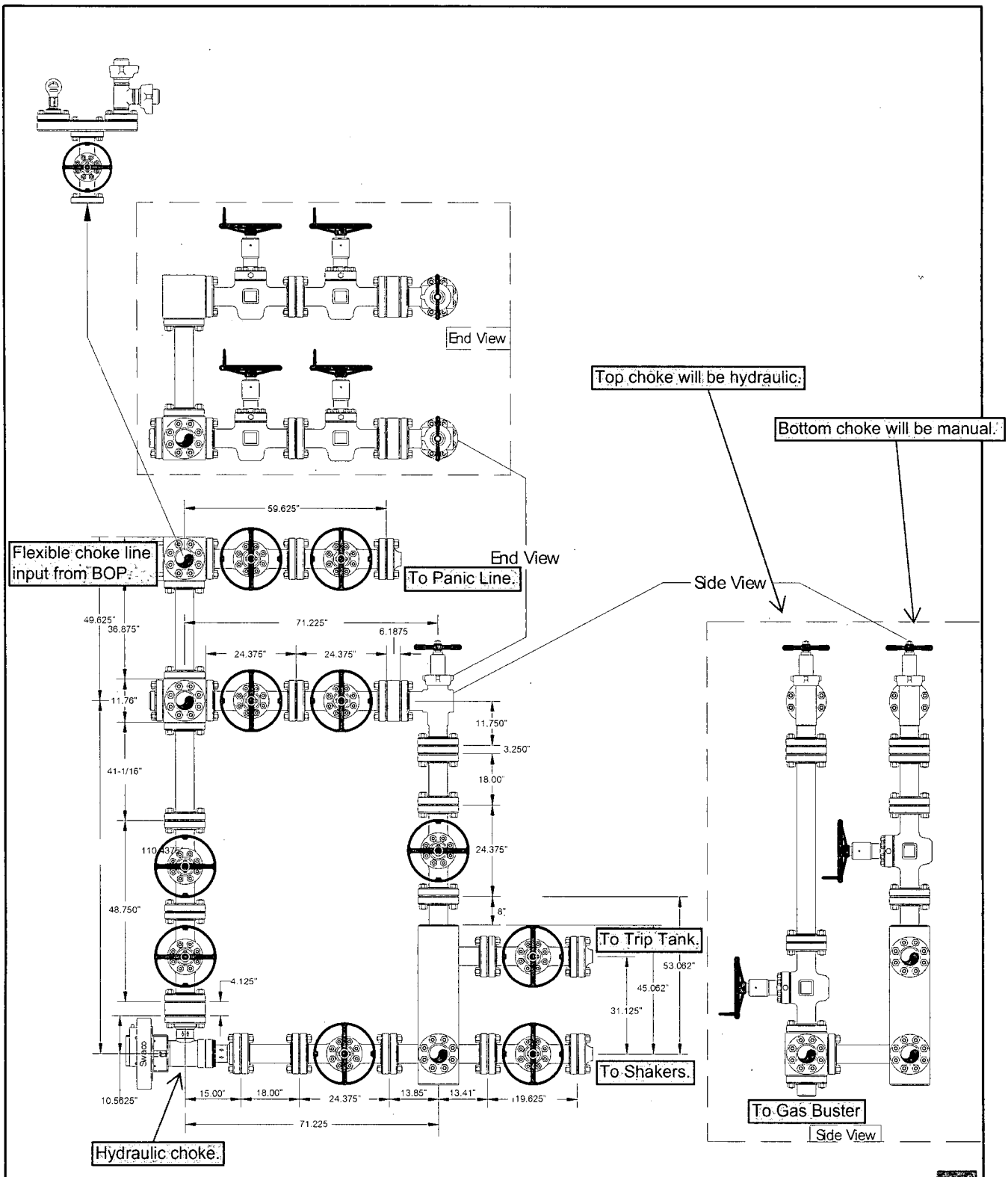
Name: Mike Potts	Date: 6-23-2010	Working Pressure: 10M	J-5132-E

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



13-5/8" 7.5M BOPE & Closed Loop Equipment Schematic





Helmerich & Payne

Flex 3 Rig w/ 3 Chokes

devon

Name:	Date:	Working Pressure:	
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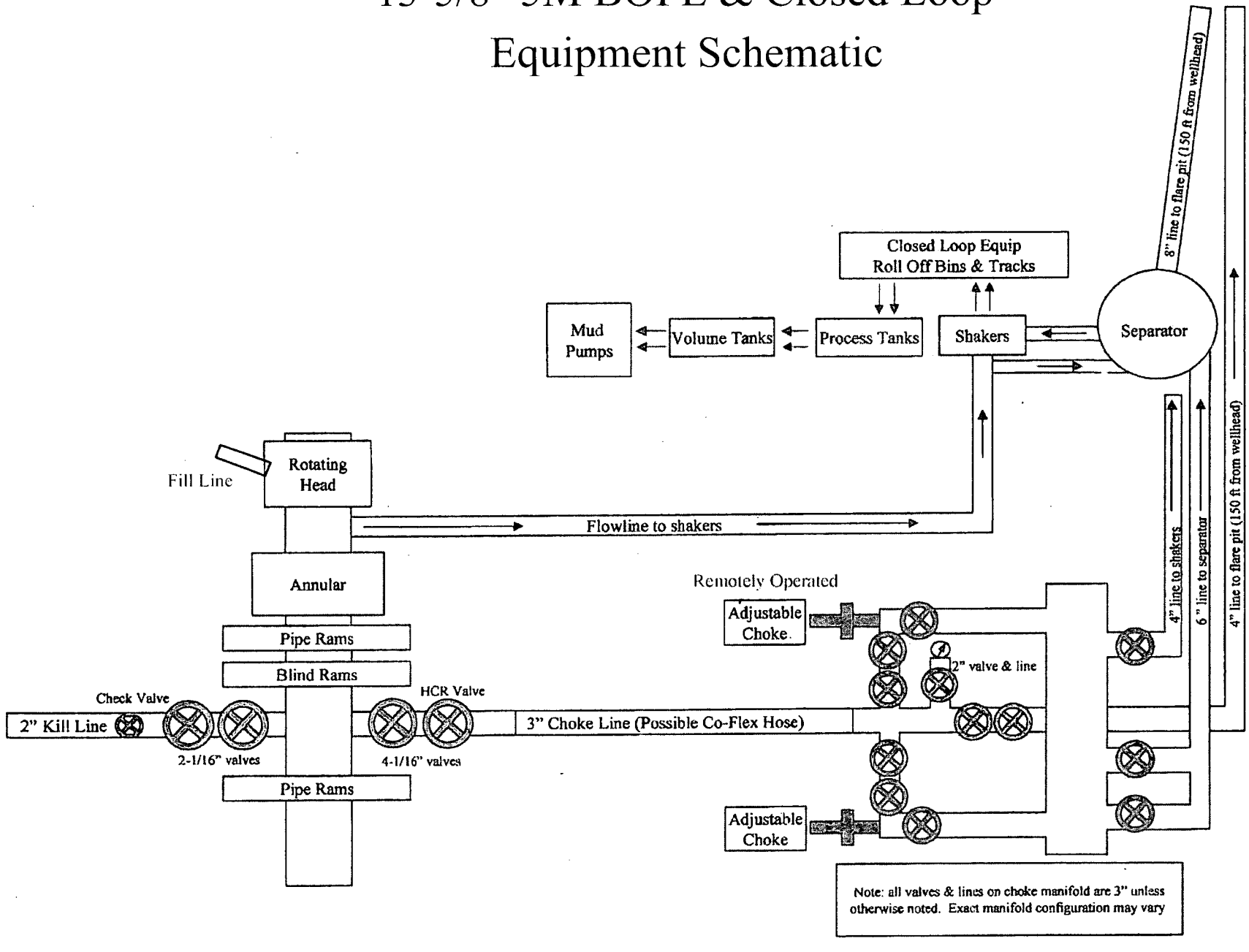


Casing Assumptions and Load Cases

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

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

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.

Production Casing Burst Design		
Load Case	**External Pressure**	**Internal Pressure**
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

Production 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)

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

devon

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

Hydrogen Sulfide (H_2S) Contingency Plan

For

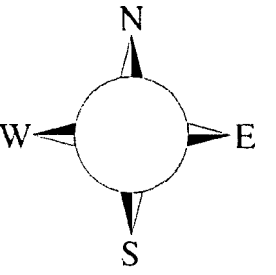
Tomb Raider 1-12 Fed 732H

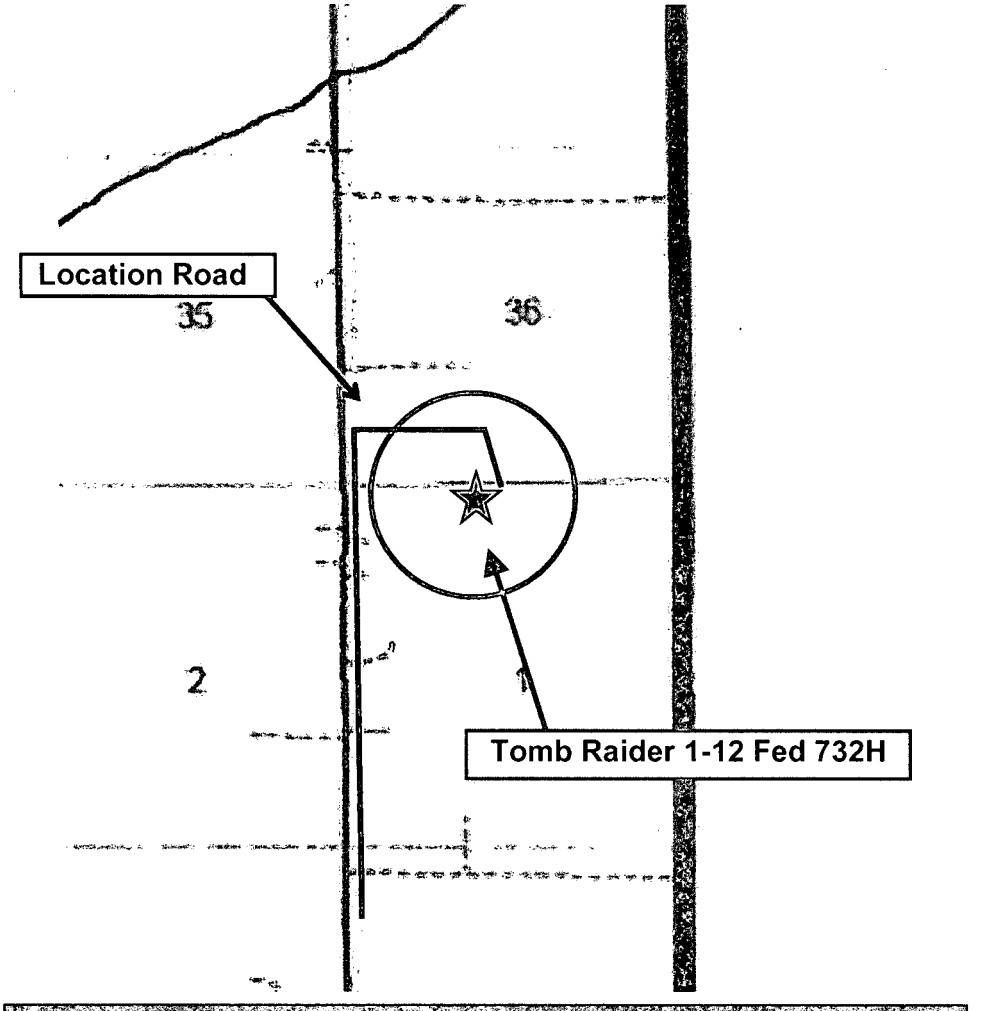
Sec-1 T-23S R-31E
210' FNL & 2229' FWL
LAT. = 32.3401418' N (NAD83)
LONG = 103.7328382' W

Eddy County NM

Tomb Raider 1-12 Fed 732H

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H_2S, including warning signs, wind indicators and H_2S monitor.





Assumed 100 ppm 3000' ( )
100 ppm H2S 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_2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, 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_2S 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_2S, 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_2). 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_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = 1	2 ppm	N/A	1000 ppm

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_2S) 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_2S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H_2S 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_2S 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_2S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H_2S 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_2S.

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_2S detection and monitoring equipment:**

   Portable H_2S monitors positioned on location for best coverage and response. These units have warning lights which activate when H_2S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

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

   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_2S circulated to surface. Proper mud weight, safe drilling practices and the use of H_2S scavengers will minimize hazards when penetrating H_2S 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_2S trim.

   B. All elastomers used for packing and seals shall be H_2S 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_2S environment will use the closed chamber method of testing.

   B. There will be no drill stem testing.

Devon Energy Corp. Company Call List		
Drilling Supervisor – Basin – Mark Kramer		405-823-4796
EHS Professional – Laura Wright		405-439-8129
Agency Call List		
Lea County (575)	**Hobbs**	
	Lea County Communication Authority	393-3981
	State Police	392-5588
	City Police	397-9265
	Sheriff's Office	393-2515
	Ambulance	**911**
	Fire Department	397-9308
	LEPC (Local Emergency Planning Committee)	393-2870
	NMOCD	393-6161
	US Bureau of Land Management	393-3612
Eddy County (575)	**Carlsbad**	
	State Police	885-3137
	City Police	885-2111
	Sheriff's Office	887-7551
	Ambulance	**911**
	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
	Emergency Services	
	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
Give GPS position:	Native Air – Emergency Helicopter – Hobbs	(575) 392-6429
	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 - www.nhc.noaa.gov	

Prepared in conjunction with
Dave Small

SHARP COMMUNICATIONS & CONSULTING, LLC

WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)
Sec 01-T23S-R31E
Tomb Raider 1-12 Fed 732H

Wellbore #1
Permit Plan 1

Anticollision Report

04 December, 2018

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	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 (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	22,358.61	Permit Plan 1 (Wellbore #1)	MWD+HDGM	OWSG MWD + HDGM

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Sec 01-T23S-R31E						
Barclay Fed #1 (P&A) - Wellbore #1 - Wellbore #1						Out of range
Belloq 2 State 5H - Wellbore #1 - Actual						Out of range
Belloq 2 State 5H - Wellbore #1 - Plan #1						Out of range
Belloq 2 State 5H - Wellbore #1 - Plan #2						Out of range
Belloq 2 State 5H - Wellbore #1 - Plan #3						Out of range
Belloq 2 State 5H - Wellbore #1 - PTL						Out of range
Belloq 2 State 5H - Wellbore #1 - PTL - WellCon						Out of range
Belloq 2 State 5H - Wellbore #1 - T&D						Out of range
Tomb Raider 1 Fed 1H - Original - Actual	9,817.41	9,796.30	796.70	728.48	11.679	CC, ES
Tomb Raider 1 Fed 1H - Original - Actual	9,950.00	9,909.07	799.56	730.89	11.643	SF
Tomb Raider 1 Fed 1H - Original - Plan 2	9,839.45	9,819.62	794.13	725.09	11.502	CC
Tomb Raider 1 Fed 1H - Original - Plan 2	9,850.00	9,826.96	794.16	725.05	11.492	ES
Tomb Raider 1 Fed 1H - Original - Plan 2	9,950.00	9,893.26	796.96	727.36	11.450	SF
Tomb Raider 1 Fed 1H - Original - Plan1v2	9,796.11	9,772.94	743.41	708.60	21.355	CC
Tomb Raider 1 Fed 1H - Original - Plan1v2	9,800.00	9,775.98	743.41	708.59	21.347	ES
Tomb Raider 1 Fed 1H - Original - Plan1v2	9,950.00	9,886.41	747.82	712.51	21.179	SF
Tomb Raider 1 Fed 1H - Original - PTL	9,817.41	9,796.30	796.70	728.48	11.679	CC, ES
Tomb Raider 1 Fed 1H - Original - PTL	9,950.00	9,907.60	799.57	730.90	11.644	SF
Tomb Raider 1 Fed 1H - Original - T&D	10,263.99	12,316.00	723.80	687.31	19.833	CC, ES
Tomb Raider 1 Fed 1H - Original - T&D	10,300.00	12,316.00	724.70	688.12	19.811	SF
Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan	2,000.00	2,000.20	29.99	16.06	2.153	Minor Risk, CC
Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan	2,050.00	2,049.80	30.19	15.91	2.114	Minor Risk, ES
Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan	2,100.00	2,100.21	30.80	16.16	2.104	Minor Risk, SF
Tomb Raider 1-12 Fed 334H - Wellbore #1 - Wellbore #1						Out of range
Tomb Raider 1-12 Fed 512H - Wellbore #1 - Wellbore #1	190.26	178.06	768.80	767.49	589.932	CC
Tomb Raider 1-12 Fed 512H - Wellbore #1 - Wellbore #1	2,050.00	2,038.21	771.73	757.70	54.988	ES
Tomb Raider 1-12 Fed 512H - Wellbore #1 - Wellbore #1	8,750.00	8,716.01	1,209.56	1,148.12	19.685	SF
Tomb Raider 1-12 Fed 514H - Wellbore #1 - Permit Plan	8,666.57	8,666.27	282.88	221.41	4.602	Alert, CC, ES
Tomb Raider 1-12 Fed 514H - Wellbore #1 - Permit Plan	8,700.00	8,694.08	283.22	221.58	4.594	Alert, SF
Tomb Raider 1-12 Fed 523H - Wellbore #1 - Permit Plan	7,815.77	7,830.75	283.25	227.82	5.110	CC
Tomb Raider 1-12 Fed 523H - Wellbore #1 - Permit Plan	7,850.00	7,862.68	283.39	227.72	5.090	ES
Tomb Raider 1-12 Fed 523H - Wellbore #1 - Permit Plan	7,950.00	7,955.94	285.38	229.03	5.064	SF
Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan	6,125.80	6,170.78	118.96	75.08	2.711	Alert, CC
Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan	6,150.00	6,205.47	119.05	74.96	2.700	Alert, ES
Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan	6,200.00	6,243.60	119.81	75.41	2.698	Alert, SF
Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan	6,125.80	6,170.78	118.96	75.08	2.711	Alert, CC
Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan	6,150.00	6,205.47	119.05	74.96	2.700	Alert, ES

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Sec 01-T23S-R31E						
Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan	6,200.00	6,243.60	119.81	75.41	2.698	Alert, SF
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	2,762.82	2,744.86	714.99	695.76	37.182	CC
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	2,800.00	2,778.46	715.09	695.61	36.719	ES
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	8,950.00	8,900.00	929.57	866.38	14.711	SF
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	2,736.68	2,718.72	715.47	696.43	37.577	CC
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	2,800.00	2,775.30	715.77	696.32	36.797	ES
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	8,900.00	8,832.01	954.07	891.39	15.220	SF
Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan	2,000.00	1,999.70	89.99	76.07	6.462	CC, ES
Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan	22,358.61	21,964.29	978.97	685.87	3.340	Alert, SF
Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1	11,197.50	11,213.08	430.94	351.26	5.408	CC
Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1	22,052.25	21,663.31	568.27	314.01	2.235	Minor Risk, ES, SF
Tomb Raider 1-12 Fed 614H - Wellbore #1 - T&D	11,797.96	21,155.00	321.91	279.95	7.672	CC, ES, SF
Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1	11,178.32	11,192.70	419.42	340.93	5.344	CC
Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1	21,600.00	21,144.50	565.73	326.25	2.362	Minor Risk, ES
Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1	22,100.00	21,636.21	582.86	332.77	2.331	Minor Risk, SF
Tomb Raider 1-12 Fed 61H - Original Hole - Original Hole	1,360.51	1,345.77	907.51	898.35	99.071	CC
Tomb Raider 1-12 Fed 61H - Original Hole - Original Hole	2,050.00	2,033.88	908.02	894.02	64.858	ES
Tomb Raider 1-12 Fed 61H - Original Hole - Original Hole	8,850.00	8,710.65	1,496.64	1,435.27	24.386	SF
Tomb Raider 1-12 Fed 62H - Wellbore #1 - Wellbore #1	7,777.34	7,808.65	785.87	731.02	14.326	CC
Tomb Raider 1-12 Fed 62H - Wellbore #1 - Wellbore #1	7,900.00	7,926.36	786.34	730.62	14.114	ES
Tomb Raider 1-12 Fed 62H - Wellbore #1 - Wellbore #1	10,200.00	10,189.22	890.58	819.04	12.449	SF
Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan	2,000.00	2,000.10	60.00	46.07	4.308	Alert, CC
Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan	2,050.00	2,049.90	60.20	45.92	4.215	Alert, ES
Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan	22,358.61	22,065.92	630.48	342.04	2.186	Minor Risk, SF
Tomb Raider 1-12 Fed 714H - Original Hole - Actuals	2,506.08	2,493.78	684.14	667.02	39.976	CC, ES
Tomb Raider 1-12 Fed 714H - Original Hole - Actuals	22,358.61	22,222.62	996.32	681.67	3.166	Alert, SF
Tomb Raider 1-12 Fed 714H - Original Hole - NTL	2,506.08	2,493.78	684.14	667.02	39.976	CC, ES
Tomb Raider 1-12 Fed 714H - Original Hole - NTL	11,750.00	11,742.00	971.37	888.58	11.732	SF
Tomb Raider 1-12 Fed 714H - Original Hole - T&D	12,029.79	20,700.69	315.68	273.27	7.444	CC, ES, SF
Tomb Raider 1-12 Fed Com 234H - Wellbore #1 - Wellbo						Out of range
Tomb Raider 1-12 Fed Com 528H - Wellbore #1 - Wellbo						Out of range
Tomb Raider 1-12 Fed Com 718H - Wellbore #1 - Wellbo						Out of range
Sec 12-T23S-R31E						
Tomb Raider 12-1 Fed 331H - Wellbore #1 - Permit Plan						Out of range
Tomb Raider 12-1 Fed 516H - Wellbore #1 - Permit Plan						Out of range
Tomb Raider 12-1 Fed 521H - Wellbore #1 - Permit Plan						Out of range
Tomb Raider 12-1 Fed 611H - Wellbore #1 - Permit Plan						Out of range
Tomb Raider 12-1 Fed 701H - Wellbore #1 - Permit Plan						Out of range
Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan	12,050.00	22,104.86	1,307.12	1,111.91	6.696	SF
Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan	21,690.21	12,496.27	1,300.20	1,108.91	6.797	CC
Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan	21,700.00	12,495.87	1,300.24	1,108.83	6.793	ES

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Actual — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	11.82	11.82	0.50	0.02	89.19	14.88	1,047.55	1,047.66				
50.00	50.00	62.35	62.35	0.50	0.08	89.18	15.04	1,047.53	1,047.64	1,047.05	0.59	1,789.538	
100.00	100.00	112.98	112.97	0.52	0.17	89.16	15.43	1,047.48	1,047.59	1,046.90	0.69	1,513.117	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Actual — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
150.00	150.00	164.01	164.01	0.59	0.35	89.13	15.82	1,047.39	1,047.51	1,046.57	0.94	1,110.205	
200.00	200.00	214.51	214.51	0.70	0.53	89.12	16.12	1,047.25	1,047.38	1,046.15	1.23	850.185	
250.00	250.00	264.11	264.11	0.84	0.70	89.10	16.39	1,047.12	1,047.25	1,045.71	1.54	679.783	
300.00	300.00	312.58	312.58	0.99	0.87	89.09	16.64	1,047.03	1,047.16	1,045.30	1.86	563.247	
316.18	316.18	327.89	327.88	1.04	0.93	89.09	16.70	1,047.02	1,047.16	1,045.19	1.96	533.468	
350.00	350.00	359.88	359.87	1.15	1.04	89.08	16.81	1,047.05	1,047.19	1,045.00	2.18	479.908	
400.00	400.00	409.91	409.91	1.31	1.21	89.07	16.96	1,047.16	1,047.30	1,044.78	2.52	415.574	
450.00	450.00	462.58	462.57	1.48	1.40	89.05	17.33	1,047.18	1,047.33	1,044.45	2.87	364.768	
500.00	500.00	513.33	513.32	1.65	1.58	89.02	17.86	1,047.10	1,047.25	1,044.04	3.22	325.393	
550.00	550.00	563.38	563.37	1.82	1.75	89.00	18.36	1,047.01	1,047.18	1,043.61	3.57	293.726	
588.31	588.31	600.02	600.01	1.95	1.88	88.98	18.72	1,046.97	1,047.14	1,043.31	3.83	273.709	
600.00	600.00	611.09	611.08	1.99	1.92	88.97	18.84	1,046.97	1,047.14	1,043.24	3.91	268.154	
650.00	650.00	658.43	658.41	2.16	2.08	88.94	19.41	1,047.05	1,047.24	1,042.99	4.24	246.723	
700.00	700.00	709.08	709.05	2.34	2.26	88.91	19.99	1,047.19	1,047.39	1,042.79	4.60	227.876	
750.00	750.00	760.20	760.17	2.51	2.44	88.88	20.43	1,047.29	1,047.49	1,042.54	4.95	211.601	
800.00	800.00	812.17	812.14	2.69	2.62	88.86	20.87	1,047.31	1,047.51	1,042.21	5.31	197.358	
850.00	850.00	863.68	863.65	2.87	2.80	88.83	21.45	1,047.23	1,047.45	1,041.78	5.66	184.932	
900.00	900.00	913.86	913.82	3.04	2.98	88.79	22.03	1,047.12	1,047.35	1,041.34	6.02	174.095	
950.00	950.00	962.95	962.91	3.22	3.15	88.77	22.55	1,047.01	1,047.26	1,040.89	6.36	164.549	
972.94	972.94	984.68	984.64	3.30	3.23	88.76	22.75	1,047.00	1,047.24	1,040.72	6.52	160.582	
1,000.00	1,000.00	1,010.31	1,010.27	3.40	3.32	88.74	22.96	1,047.01	1,047.26	1,040.55	6.71	156.148	
1,050.00	1,050.00	1,059.99	1,059.95	3.58	3.49	88.73	23.28	1,047.11	1,047.37	1,040.31	7.06	148.402	
1,100.00	1,100.00	1,113.05	1,113.01	3.75	3.68	88.70	23.69	1,047.11	1,047.38	1,039.96	7.42	141.150	
1,150.00	1,150.00	1,161.96	1,161.92	3.93	3.85	88.68	24.11	1,047.03	1,047.31	1,039.54	7.77	134.811	
1,153.26	1,153.26	1,165.01	1,164.96	3.94	3.86	88.68	24.13	1,047.03	1,047.31	1,039.52	7.79	134.426	
1,200.00	1,200.00	1,208.58	1,208.54	4.11	4.01	88.67	24.38	1,047.09	1,047.38	1,039.27	8.11	129.159	
1,250.00	1,250.00	1,257.58	1,257.54	4.29	4.18	88.66	24.52	1,047.28	1,047.57	1,039.12	8.46	123.855	
1,300.00	1,300.00	1,307.95	1,307.90	4.46	4.36	88.65	24.61	1,047.47	1,047.76	1,038.95	8.81	118.903	
1,350.00	1,350.00	1,360.36	1,360.32	4.64	4.54	88.65	24.69	1,047.61	1,047.90	1,038.73	9.17	114.238	
1,400.00	1,400.00	1,413.37	1,413.32	4.82	4.73	88.64	24.89	1,047.60	1,047.89	1,038.36	9.54	109.886	
1,450.00	1,450.00	1,464.07	1,464.03	5.00	4.91	88.62	25.20	1,047.49	1,047.80	1,037.91	9.89	105.931	
1,500.00	1,500.00	1,514.80	1,514.75	5.18	5.08	88.60	25.67	1,047.35	1,047.67	1,037.42	10.25	102.245	
1,550.00	1,550.00	1,563.85	1,563.80	5.36	5.26	88.57	26.07	1,047.23	1,047.55	1,036.96	10.60	98.860	
1,600.00	1,600.00	1,613.32	1,613.27	5.53	5.43	88.56	26.31	1,047.14	1,047.47	1,036.52	10.95	95.682	
1,650.00	1,650.00	1,663.27	1,663.21	5.71	5.60	88.55	26.50	1,047.06	1,047.40	1,036.10	11.30	92.689	
1,700.00	1,700.00	1,712.24	1,712.19	5.89	5.77	88.54	26.65	1,047.00	1,047.33	1,035.68	11.65	89.903	
1,709.53	1,709.53	1,721.28	1,721.23	5.93	5.81	88.54	26.67	1,046.99	1,047.33	1,035.62	11.72	89.399	
1,750.00	1,750.00	1,759.69	1,759.64	6.07	5.94	88.54	26.69	1,047.03	1,047.37	1,035.38	11.99	87.327	
1,800.00	1,800.00	1,808.15	1,808.10	6.25	6.11	88.54	26.63	1,047.18	1,047.52	1,035.18	12.34	84.878	
1,850.00	1,850.00	1,858.02	1,857.97	6.43	6.28	88.55	26.53	1,047.35	1,047.70	1,035.00	12.69	82.533	
1,900.00	1,900.00	1,908.14	1,908.09	6.61	6.46	88.55	26.44	1,047.53	1,047.87	1,034.83	13.05	80.310	
1,950.00	1,950.00	1,958.48	1,958.42	6.78	6.63	88.56	26.34	1,047.70	1,048.04	1,034.64	13.40	78.198	
2,000.00	2,000.00	2,012.42	2,012.36	6.96	6.82	88.56	26.27	1,047.80	1,048.13	1,034.36	13.77	76.120	
2,050.00	2,050.00	2,068.05	2,068.00	7.14	7.01	21.90	26.28	1,047.61	1,047.76	1,033.62	14.14	74.102	
2,100.00	2,099.99	2,116.84	2,116.78	7.32	7.18	21.91	26.33	1,047.35	1,046.88	1,032.39	14.49	72.271	
2,150.00	2,149.98	2,165.79	2,165.73	7.49	7.35	21.93	26.38	1,047.14	1,045.65	1,030.82	14.83	70.510	
2,200.00	2,199.96	2,216.87	2,216.82	7.66	7.53	21.97	26.42	1,046.91	1,044.02	1,028.84	15.18	68.768	
2,250.00	2,249.92	2,266.73	2,266.67	7.84	7.70	22.02	26.40	1,046.64	1,041.93	1,026.40	15.53	67.092	
2,300.00	2,299.87	2,312.86	2,312.81	8.01	7.86	22.06	26.37	1,046.51	1,039.70	1,023.83	15.87	65.534	
2,350.00	2,349.82	2,360.66	2,360.60	8.19	8.03	22.11	26.33	1,046.53	1,037.64	1,021.43	16.21	64.027	
2,400.00	2,399.77	2,414.41	2,414.35	8.36	8.22	22.16	26.30	1,046.48	1,035.51	1,018.94	16.57	62.500	
2,450.00	2,449.72	2,466.38	2,466.32	8.54	8.40	22.21	26.28	1,046.26	1,033.21	1,016.29	16.92	61.050	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Actual — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,500.00	2,499.67	2,516.41	2,516.35	8.72	8.57	22.26	26.26	1,046.02	1,030.89	1,013.62	17.27	59.681	
2,550.00	2,549.62	2,564.06	2,564.01	8.89	8.74	22.31	26.22	1,045.82	1,028.60	1,010.99	17.62	58.393	
2,600.00	2,599.57	2,610.18	2,610.12	9.07	8.90	22.36	26.17	1,045.79	1,026.48	1,008.53	17.95	57.181	
2,650.00	2,649.52	2,658.23	2,658.17	9.25	9.07	22.41	26.10	1,045.91	1,024.53	1,006.23	18.29	56.002	
2,700.00	2,699.47	2,707.71	2,707.65	9.42	9.24	22.46	26.02	1,046.07	1,022.61	1,003.96	18.64	54.853	
2,750.00	2,749.41	2,759.62	2,759.56	9.60	9.42	22.51	25.95	1,046.22	1,020.67	1,001.67	19.00	53.720	
2,800.00	2,799.36	2,812.66	2,812.60	9.78	9.61	22.56	25.94	1,046.22	1,018.59	999.23	19.36	52.611	
2,850.00	2,849.31	2,862.76	2,862.70	9.95	9.78	22.61	25.98	1,046.13	1,016.43	996.72	19.71	51.565	
2,900.00	2,899.26	2,912.62	2,912.56	10.13	9.95	22.66	26.03	1,046.05	1,014.27	994.21	20.06	50.558	
2,950.00	2,949.21	2,963.09	2,963.03	10.31	10.13	22.70	26.10	1,045.96	1,012.11	991.69	20.41	49.578	
3,000.00	2,999.16	3,013.57	3,013.51	10.49	10.31	22.75	26.20	1,045.84	1,009.91	989.15	20.77	48.631	
3,050.00	3,049.11	3,059.70	3,059.64	10.66	10.47	22.79	26.29	1,045.82	1,007.82	986.72	21.10	47.753	
3,100.00	3,099.06	3,107.12	3,107.06	10.84	10.63	22.83	26.37	1,045.95	1,005.88	984.44	21.45	46.901	
3,150.00	3,149.01	3,157.28	3,157.22	11.02	10.81	22.88	26.44	1,046.13	1,003.99	982.19	21.80	46.057	
3,200.00	3,198.96	3,209.17	3,209.11	11.20	10.99	22.92	26.50	1,046.29	1,002.07	979.91	22.16	45.227	
3,250.00	3,248.91	3,264.78	3,264.72	11.38	11.18	22.97	26.63	1,046.22	999.93	977.41	22.53	44.388	
3,300.00	3,298.86	3,316.94	3,316.87	11.55	11.37	23.01	26.84	1,045.91	997.57	974.69	22.89	43.590	
3,350.00	3,348.81	3,367.09	3,367.03	11.73	11.54	23.05	27.12	1,045.59	995.18	971.94	23.24	42.826	
3,400.00	3,398.76	3,414.52	3,414.45	11.91	11.71	23.08	27.41	1,045.32	992.83	969.25	23.58	42.103	
3,450.00	3,448.71	3,461.12	3,461.06	12.09	11.87	23.11	27.67	1,045.21	990.64	966.72	23.92	41.412	
3,500.00	3,498.66	3,510.79	3,510.72	12.27	12.05	23.15	27.91	1,045.20	988.57	964.29	24.27	40.728	
3,550.00	3,548.60	3,561.43	3,561.36	12.45	12.22	23.19	28.12	1,045.16	986.46	961.84	24.63	40.057	
3,600.00	3,598.55	3,614.89	3,614.82	12.63	12.41	23.23	28.35	1,045.01	984.26	959.27	24.99	39.386	
3,650.00	3,648.50	3,668.62	3,668.55	12.81	12.60	23.27	28.66	1,044.66	981.86	956.51	25.35	38.726	
3,700.00	3,698.45	3,717.22	3,717.15	12.99	12.77	23.30	29.01	1,044.30	979.43	953.73	25.70	38.107	
3,750.00	3,748.40	3,766.47	3,766.39	13.16	12.94	23.32	29.43	1,043.97	977.02	950.97	26.05	37.503	
3,800.00	3,798.35	3,815.47	3,815.39	13.34	13.11	23.35	29.94	1,043.67	974.66	948.26	26.40	36.918	
3,850.00	3,848.30	3,863.37	3,863.29	13.52	13.28	23.36	30.52	1,043.44	972.35	945.61	26.75	36.354	
3,900.00	3,898.25	3,909.31	3,909.22	13.70	13.44	23.37	31.12	1,043.38	970.22	943.14	27.09	35.820	
3,950.00	3,948.20	3,955.33	3,955.24	13.88	13.60	23.39	31.72	1,043.51	968.30	940.87	27.42	35.307	
4,000.00	3,998.15	4,001.53	4,001.44	14.06	13.76	23.41	32.16	1,043.83	966.57	938.81	27.76	34.813	
4,050.00	4,048.10	4,047.74	4,047.64	14.24	13.93	23.45	32.41	1,044.32	965.04	936.94	28.10	34.339	
4,100.00	4,098.05	4,093.95	4,093.84	14.42	14.09	23.49	32.53	1,044.99	963.70	935.26	28.44	33.883	
4,150.00	4,148.00	4,139.97	4,139.86	14.60	14.25	23.53	32.56	1,045.84	962.56	933.78	28.78	33.446	
4,200.00	4,197.95	4,185.50	4,185.38	14.78	14.41	23.59	32.44	1,046.88	961.65	932.53	29.12	33.029	
4,250.00	4,247.90	4,231.58	4,231.44	14.96	14.57	23.66	32.14	1,048.15	960.96	931.51	29.45	32.627	
4,300.00	4,297.85	4,279.76	4,279.59	15.14	14.74	23.74	31.68	1,049.60	960.41	930.61	29.80	32.230	
4,350.00	4,347.79	4,327.76	4,327.57	15.32	14.90	23.82	31.10	1,051.14	959.96	929.82	30.14	31.847	
4,400.00	4,397.74	4,375.33	4,375.10	15.50	15.07	23.92	30.32	1,052.78	959.63	929.14	30.49	31.478	
4,450.00	4,447.69	4,423.65	4,423.38	15.68	15.24	24.03	29.34	1,054.55	959.42	928.59	30.83	31.118	
4,500.00	4,497.64	4,473.78	4,473.47	15.86	15.41	24.14	28.31	1,056.42	959.24	928.06	31.19	30.759	
4,550.00	4,547.59	4,522.45	4,522.09	16.04	15.58	24.25	27.38	1,058.23	959.07	927.54	31.53	30.415	
4,582.42	4,579.98	4,552.75	4,552.36	16.15	15.69	24.31	26.91	1,059.44	959.04	927.28	31.75	30.203	
4,600.00	4,597.54	4,569.18	4,568.78	16.22	15.75	24.34	26.69	1,060.12	959.05	927.18	31.87	30.090	
4,650.00	4,647.49	4,619.26	4,618.81	16.40	15.92	24.43	26.16	1,062.27	959.16	926.93	32.23	29.763	
4,700.00	4,697.44	4,673.78	4,673.28	16.58	16.11	24.52	25.57	1,064.42	959.10	926.50	32.60	29.421	
4,750.00	4,747.39	4,727.23	4,726.69	16.76	16.30	24.62	24.90	1,066.30	958.82	925.86	32.97	29.085	
4,800.00	4,797.34	4,780.24	4,779.68	16.94	16.49	24.72	24.08	1,067.99	958.39	925.06	33.33	28.753	
4,850.00	4,847.29	4,829.82	4,829.22	17.12	16.66	24.83	23.25	1,069.49	957.88	924.20	33.68	28.438	
4,900.00	4,897.24	4,879.31	4,878.69	17.30	16.83	24.93	22.45	1,071.03	957.41	923.38	34.04	28.130	
4,950.00	4,947.19	4,931.22	4,930.56	17.48	17.02	25.03	21.71	1,072.59	956.90	922.51	34.40	27.820	
5,000.00	4,997.14	4,982.94	4,982.26	17.66	17.20	25.12	21.13	1,074.06	956.30	921.54	34.76	27.514	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Actual — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,050.00	5,047.09	5,034.10	5,033.40	17.84	17.38	25.21	20.64	1,075.43	955.62	920.51	35.11	27.214	
5,100.00	5,097.04	5,084.47	5,083.75	18.02	17.55	25.29	20.20	1,076.73	954.89	919.42	35.47	26.921	
5,150.00	5,146.99	5,133.71	5,132.97	18.20	17.72	25.37	19.65	1,078.02	954.19	918.36	35.82	26.638	
5,200.00	5,196.93	5,184.92	5,184.15	18.38	17.90	25.48	18.90	1,079.37	953.49	917.32	36.18	26.355	
5,250.00	5,246.88	5,237.97	5,237.18	18.56	18.09	25.59	18.04	1,080.61	952.67	916.12	36.54	26.069	
5,300.00	5,296.83	5,288.46	5,287.66	18.74	18.26	25.69	17.27	1,081.69	951.73	914.83	36.90	25.792	
5,350.00	5,346.78	5,338.12	5,337.30	18.92	18.44	25.77	16.91	1,082.77	950.81	913.56	37.25	25.523	
5,400.00	5,396.73	5,389.29	5,388.46	19.10	18.62	25.83	16.88	1,083.88	949.87	912.26	37.61	25.255	
5,450.00	5,446.68	5,440.71	5,439.87	19.28	18.80	25.87	17.05	1,084.94	948.86	910.89	37.97	24.990	
5,500.00	5,496.63	5,490.68	5,489.83	19.46	18.97	25.93	17.07	1,085.91	947.81	909.49	38.32	24.732	
5,550.00	5,546.58	5,540.94	5,540.08	19.64	19.15	26.01	16.70	1,086.88	946.77	908.09	38.68	24.478	
5,600.00	5,596.53	5,592.37	5,591.50	19.82	19.33	26.10	16.20	1,087.80	945.67	906.63	39.04	24.225	
5,650.00	5,646.48	5,644.20	5,643.32	20.00	19.51	26.19	15.74	1,088.65	944.49	905.09	39.40	23.973	
5,700.00	5,696.43	5,696.72	5,695.84	20.18	19.69	26.27	15.41	1,089.39	943.19	903.43	39.76	23.722	
5,750.00	5,746.38	5,748.03	5,747.14	20.36	19.87	26.34	15.22	1,090.00	941.78	901.66	40.12	23.475	
5,800.00	5,796.33	5,798.41	5,797.51	20.54	20.04	26.41	15.08	1,090.57	940.33	899.86	40.47	23.233	
5,850.00	5,846.28	5,848.63	5,847.74	20.73	20.22	26.48	14.93	1,091.12	938.87	898.04	40.83	22.996	
5,900.00	5,896.23	5,898.79	5,897.89	20.91	20.39	26.55	14.62	1,091.64	937.39	896.21	41.18	22.762	
5,950.00	5,946.18	5,949.54	5,948.63	21.09	20.57	26.64	14.22	1,092.15	935.90	894.36	41.54	22.531	
6,000.00	5,996.12	6,000.39	5,999.48	21.27	20.75	26.72	13.84	1,092.60	934.36	892.46	41.90	22.302	
6,050.00	6,046.07	6,050.25	6,049.33	21.45	20.92	26.81	13.48	1,093.03	932.80	890.55	42.25	22.078	
6,100.00	6,096.02	6,100.31	6,099.40	21.63	21.10	26.89	13.10	1,093.46	931.25	888.64	42.60	21.858	
6,150.00	6,145.97	6,151.84	6,150.93	21.81	21.28	26.97	12.85	1,093.87	929.64	886.68	42.96	21.639	
6,200.00	6,195.92	6,202.98	6,202.06	21.99	21.46	27.04	12.81	1,094.19	927.96	884.64	43.32	21.421	
6,250.00	6,245.87	6,253.23	6,252.31	22.17	21.63	27.10	12.82	1,094.49	926.25	882.58	43.67	21.208	
6,300.00	6,295.82	6,303.08	6,302.16	22.35	21.81	27.16	12.83	1,094.77	924.53	880.50	44.03	20.998	
6,350.00	6,345.77	6,352.45	6,351.53	22.53	21.98	27.23	12.67	1,095.06	922.84	878.45	44.38	20.794	
6,400.00	6,395.72	6,402.27	6,401.34	22.71	22.15	27.31	12.36	1,095.37	921.17	876.43	44.73	20.592	
6,450.00	6,445.67	6,452.45	6,451.52	22.89	22.33	27.39	12.06	1,095.68	919.49	874.40	45.09	20.393	
6,500.00	6,495.62	6,503.44	6,502.51	23.07	22.50	27.47	11.81	1,095.96	917.79	872.35	45.45	20.195	
6,550.00	6,545.57	6,554.80	6,553.87	23.26	22.68	27.55	11.70	1,096.19	916.02	870.22	45.80	19.999	
6,600.00	6,595.52	6,605.79	6,604.86	23.44	22.86	27.61	11.68	1,096.34	914.18	868.02	46.16	19.804	
6,650.00	6,645.47	6,656.71	6,655.78	23.62	23.04	27.68	11.64	1,096.44	912.29	865.77	46.52	19.612	
6,700.00	6,695.42	6,705.36	6,704.44	23.80	23.21	27.75	11.53	1,096.55	910.41	863.54	46.87	19.425	
6,750.00	6,745.37	6,754.16	6,753.24	23.98	23.38	27.83	11.26	1,096.70	908.60	861.38	47.22	19.242	
6,800.00	6,795.31	6,803.82	6,802.89	24.16	23.55	27.92	10.95	1,096.90	906.83	859.26	47.57	19.062	
6,850.00	6,845.26	6,853.55	6,852.62	24.34	23.72	28.00	10.67	1,097.11	905.08	857.16	47.93	18.885	
6,900.00	6,895.21	6,903.57	6,902.64	24.52	23.90	28.08	10.52	1,097.34	903.33	855.05	48.28	18.711	
6,950.00	6,945.16	6,953.46	6,952.52	24.70	24.07	28.14	10.55	1,097.57	901.58	852.95	48.63	18.538	
7,000.00	6,995.11	7,003.07	7,002.14	24.88	24.25	28.20	10.58	1,097.83	899.85	850.87	48.99	18.369	
7,050.00	7,045.06	7,052.18	7,051.24	25.06	24.42	28.27	10.54	1,098.09	898.15	848.81	49.34	18.204	
7,100.00	7,095.01	7,100.69	7,099.75	25.24	24.59	28.35	10.31	1,098.41	896.51	846.82	49.69	18.043	
7,150.00	7,144.96	7,150.91	7,149.97	25.43	24.76	28.44	9.90	1,098.78	894.94	844.89	50.04	17.883	
7,200.00	7,194.91	7,202.66	7,201.72	25.61	24.94	28.53	9.62	1,099.09	893.28	842.88	50.40	17.723	
7,250.00	7,244.86	7,252.42	7,251.48	25.79	25.12	28.61	9.47	1,099.34	891.57	840.81	50.76	17.566	
7,300.00	7,294.81	7,301.39	7,300.45	25.97	25.29	28.69	9.29	1,099.63	889.91	838.80	51.11	17.412	
7,350.00	7,344.76	7,349.29	7,348.34	26.15	25.46	28.77	8.99	1,099.98	888.33	836.87	51.46	17.264	
7,400.00	7,394.71	7,396.91	7,395.96	26.33	25.62	28.87	8.38	1,100.43	886.88	835.08	51.80	17.120	
7,450.00	7,444.66	7,446.13	7,445.17	26.51	25.79	29.00	7.48	1,100.95	885.53	833.37	52.15	16.979	
7,500.00	7,494.61	7,495.64	7,494.67	26.69	25.97	29.13	6.43	1,101.48	884.21	831.70	52.51	16.840	
7,550.00	7,544.56	7,547.81	7,546.82	26.87	26.15	29.27	5.32	1,102.00	882.84	829.97	52.87	16.699	
7,600.00	7,594.50	7,600.12	7,599.12	27.05	26.33	29.41	4.37	1,102.39	881.35	828.12	53.23	16.557	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Actual — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,650.00	7,644.45	7,649.13	7,648.12	27.23	26.50	29.53	3.45	1,102.73	879.83	826.25	53.58	16.420	
7,700.00	7,694.40	7,698.09	7,697.07	27.42	26.67	29.67	2.43	1,103.09	878.35	824.42	53.93	16.286	
7,750.00	7,744.35	7,745.69	7,744.66	27.60	26.84	29.81	1.30	1,103.52	876.98	822.70	54.28	16.157	
7,800.00	7,794.30	7,793.49	7,792.43	27.78	27.01	29.96	0.03	1,104.06	875.75	821.12	54.63	16.031	
7,850.00	7,844.25	7,841.74	7,840.66	27.96	27.17	30.10	-1.22	1,104.72	874.62	819.65	54.98	15.909	
7,900.00	7,894.20	7,892.07	7,890.97	28.14	27.35	30.25	-2.44	1,105.48	873.58	818.25	55.33	15.788	
7,950.00	7,944.15	7,946.06	7,944.94	28.32	27.54	30.40	-3.59	1,106.15	872.38	816.68	55.70	15.662	
8,000.00	7,994.10	7,997.02	7,995.89	28.50	27.72	30.54	-4.57	1,106.60	871.00	814.94	56.06	15.538	
8,050.00	8,044.05	8,046.16	8,045.02	28.68	27.89	30.68	-5.59	1,107.06	869.66	813.25	56.41	15.417	
8,100.00	8,094.00	8,095.11	8,093.95	28.86	28.06	30.82	-6.72	1,107.55	868.37	811.61	56.76	15.299	
8,150.00	8,143.95	8,143.96	8,142.79	29.04	28.23	30.97	-8.00	1,108.08	867.15	810.04	57.11	15.183	
8,200.00	8,193.90	8,194.47	8,193.27	29.23	28.41	31.14	-9.43	1,108.64	865.96	808.49	57.47	15.068	
8,250.00	8,243.85	8,245.36	8,244.14	29.41	28.58	31.31	-10.86	1,109.14	864.72	806.89	57.83	14.954	
8,300.00	8,293.80	8,298.67	8,297.43	29.59	28.77	31.48	-12.28	1,109.55	863.36	805.17	58.19	14.837	
8,350.00	8,343.75	8,352.05	8,350.79	29.77	28.96	31.65	-13.57	1,109.76	861.81	803.26	58.56	14.718	
8,400.00	8,393.69	8,404.44	8,403.17	29.95	29.14	31.81	-14.73	1,109.81	860.11	801.19	58.92	14.599	
8,450.00	8,443.64	8,454.49	8,453.21	30.13	29.31	31.95	-15.77	1,109.74	858.28	799.01	59.27	14.480	
8,500.00	8,493.59	8,501.23	8,499.94	30.31	29.48	32.10	-16.85	1,109.78	856.59	796.97	59.62	14.368	
8,550.00	8,543.54	8,550.78	8,549.47	30.49	29.65	32.26	-18.11	1,109.96	855.06	795.09	59.97	14.258	
8,600.00	8,593.49	8,604.07	8,602.74	30.67	29.83	32.43	-19.40	1,110.01	853.40	793.06	60.33	14.144	
8,650.00	8,643.44	8,657.16	8,655.82	30.86	30.02	32.59	-20.54	1,109.88	851.55	790.85	60.70	14.030	
8,700.00	8,693.39	8,710.15	8,708.80	31.04	30.20	32.75	-21.47	1,109.59	849.53	788.47	61.06	13.913	
8,750.00	8,743.34	8,759.11	8,757.76	31.22	30.37	32.88	-22.26	1,109.26	847.44	786.03	61.41	13.800	
8,800.00	8,793.29	8,807.65	8,806.29	31.40	30.54	33.03	-23.13	1,109.00	845.43	783.67	61.76	13.689	
8,850.00	8,843.24	8,856.80	8,855.43	31.58	30.71	33.17	-23.97	1,108.80	843.49	781.38	62.11	13.580	
8,900.00	8,893.19	8,905.98	8,904.60	31.76	30.89	33.29	-24.63	1,108.68	841.60	779.14	62.47	13.473	
8,950.00	8,943.14	8,952.30	8,950.92	31.94	31.05	33.41	-25.16	1,108.71	839.86	777.05	62.81	13.371	
9,000.00	8,993.09	8,999.25	8,997.87	32.12	31.21	33.52	-25.67	1,108.94	838.31	775.16	63.16	13.274	
9,050.00	9,043.04	9,052.70	9,051.32	32.30	31.40	33.64	-26.23	1,109.17	836.75	773.23	63.52	13.173	
9,100.00	9,092.99	9,106.95	9,105.56	32.49	31.59	33.77	-26.76	1,109.17	834.97	771.08	63.89	13.070	
9,150.00	9,142.94	9,162.99	9,161.60	32.67	31.78	33.90	-27.09	1,108.85	832.86	768.61	64.25	12.962	
9,200.00	9,192.88	9,215.19	9,213.79	32.85	31.96	34.00	-27.25	1,108.26	830.47	765.86	64.61	12.853	
9,250.00	9,242.83	9,265.18	9,263.78	33.03	32.14	34.13	-27.74	1,107.60	828.05	763.08	64.97	12.746	
9,300.00	9,292.78	9,320.29	9,318.88	33.21	32.33	34.30	-28.52	1,106.68	825.51	760.18	65.33	12.636	
9,350.00	9,342.73	9,376.94	9,375.50	33.39	32.53	34.46	-29.22	1,105.31	822.58	756.89	65.69	12.522	
9,400.00	9,392.68	9,430.15	9,428.68	33.57	32.71	34.62	-29.84	1,103.70	819.36	753.31	66.05	12.406	
9,450.00	9,442.63	9,484.02	9,482.52	33.75	32.90	34.79	-30.50	1,101.81	815.91	749.51	66.40	12.287	
9,500.00	9,492.58	9,538.46	9,536.91	33.94	33.09	34.98	-31.35	1,099.56	812.20	745.44	66.76	12.167	
9,550.00	9,542.53	9,586.48	9,584.88	34.12	33.21	35.15	-32.14	1,097.46	808.38	741.32	67.06	12.054	
9,600.00	9,592.48	9,632.75	9,631.10	34.30	33.29	35.33	-33.02	1,095.58	804.76	737.42	67.33	11.952	
9,650.00	9,642.43	9,674.78	9,673.07	34.48	33.32	35.53	-34.46	1,094.01	801.46	733.90	67.56	11.863	
9,700.00	9,692.38	9,709.00	9,707.14	34.66	33.32	35.82	-37.43	1,092.91	798.97	731.19	67.77	11.789	
9,750.00	9,742.33	9,745.50	9,743.26	34.84	33.32	36.26	-42.59	1,091.96	797.42	729.45	67.97	11.732	
9,800.00	9,792.28	9,782.38	9,779.33	35.02	33.32	36.87	-50.13	1,091.03	796.74	728.59	68.15	11.690	
9,817.41	9,809.67	9,796.30	9,792.81	35.09	33.32	37.15	-53.60	1,090.64	796.70	728.48	68.22	11.679	CC, ES
9,850.00	9,842.23	9,819.35	9,814.93	35.20	33.33	37.65	-60.03	1,089.98	796.90	728.58	68.32	11.664	
9,900.00	9,892.18	9,859.24	9,852.72	35.38	33.34	38.63	-72.75	1,088.90	798.04	729.56	68.49	11.653	
9,950.00	9,942.13	9,909.07	9,899.13	35.57	33.35	40.01	-90.77	1,086.86	799.56	730.89	68.68	11.643	SF
10,000.00	9,992.08	9,944.64	9,931.70	35.75	33.36	41.08	-104.94	1,085.08	801.75	732.94	68.81	11.652	
10,050.00	10,042.02	9,974.52	9,958.47	35.93	33.38	42.07	-118.13	1,083.63	805.27	736.38	68.89	11.690	
10,100.00	10,091.97	10,002.17	9,982.53	36.11	33.40	43.07	-131.68	1,082.29	810.31	741.40	68.91	11.759	
10,150.00	10,141.92	10,023.00	10,000.20	36.29	33.41	43.86	-142.67	1,081.29	817.02	748.20	68.82	11.872	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Actual — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,191.87	10,048.09	10,020.82	36.47	33.43	44.88	-156.91	1,080.19	825.53	756.82	68.71	12.015	
10,250.00	10,241.82	10,067.90	10,036.50	36.65	33.45	45.72	-168.99	1,079.41	836.02	767.54	68.48	12.208	
10,300.00	10,291.77	10,086.00	10,050.36	36.83	33.47	46.53	-180.62	1,078.76	848.46	780.29	68.17	12.446	
10,350.00	10,341.72	10,105.28	10,064.59	37.02	33.50	47.41	-193.60	1,078.10	862.81	795.00	67.81	12.723	
10,400.00	10,391.67	10,118.00	10,073.67	37.20	33.52	48.01	-202.50	1,077.66	879.08	811.78	67.30	13.061	
10,450.00	10,441.62	10,138.77	10,087.97	37.38	33.55	49.00	-217.54	1,076.96	897.16	830.29	66.88	13.415	
10,500.00	10,491.57	10,149.00	10,094.78	37.56	33.56	49.50	-225.17	1,076.63	917.10	850.86	66.24	13.845	
10,550.00	10,541.52	10,165.54	10,105.44	37.74	33.60	50.32	-237.80	1,076.16	938.79	873.10	65.68	14.292	
10,600.00	10,591.47	10,181.00	10,114.99	37.92	33.62	51.09	-249.96	1,075.81	962.25	897.16	65.09	14.783	
10,650.00	10,641.42	10,181.00	10,114.99	38.10	33.62	51.09	-249.96	1,075.81	987.37	923.16	64.21	15.377	
10,700.00	10,691.37	10,197.72	10,124.85	38.28	33.66	51.92	-263.46	1,075.56	1,013.95	950.31	63.64	15.933	
10,750.00	10,741.32	10,212.00	10,132.88	38.47	33.69	52.64	-275.27	1,075.45	1,042.07	979.05	63.03	16.534	
10,800.00	10,791.27	10,212.00	10,132.88	38.65	33.69	52.64	-275.27	1,075.45	1,071.52	1,009.36	62.16	17.238	
10,850.00	10,841.21	10,223.14	10,138.87	38.83	33.72	53.20	-284.66	1,075.44	1,102.26	1,040.73	61.53	17.915	
10,900.00	10,891.16	10,230.24	10,142.55	39.01	33.74	53.56	-290.73	1,075.46	1,134.22	1,073.38	60.84	18.642	
10,950.00	10,941.11	10,244.00	10,149.38	39.19	33.77	54.25	-302.68	1,075.60	1,167.38	1,107.07	60.31	19.357	
11,000.00	10,991.06	10,244.00	10,149.38	39.37	33.77	54.25	-302.68	1,075.60	1,201.42	1,141.87	59.55	20.173	
11,050.00	11,041.02	10,244.00	10,149.38	39.55	33.77	54.57	-302.68	1,075.60	1,236.59	1,177.75	58.84	21.017	
11,100.00	11,090.99	10,256.49	10,155.23	39.73	33.81	55.85	-313.71	1,075.78	1,272.76	1,214.37	58.38	21.799	
11,150.00	11,140.98	10,262.69	10,158.02	39.91	33.82	56.85	-319.25	1,075.88	1,310.02	1,252.16	57.86	22.642	
11,200.00	11,190.98	10,275.00	10,163.31	40.09	33.86	124.82	-330.36	1,076.08	1,348.29	1,290.81	57.47	23.459	
11,250.00	11,240.98	10,275.00	10,163.31	40.26	33.86	124.82	-330.36	1,076.08	1,387.20	1,330.28	56.92	24.371	
11,300.00	11,290.98	10,275.00	10,163.31	40.44	33.86	124.82	-330.36	1,076.08	1,426.80	1,370.39	56.41	25.296	
11,350.00	11,340.98	10,286.88	10,168.15	40.61	33.90	125.40	-341.21	1,076.28	1,466.88	1,410.77	56.11	26.144	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9558- — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	11.82	11.82	0.50	0.02	89.19	14.88	1,047.55	1,047.66				
50.00	50.00	62.35	62.35	0.50	0.08	89.18	15.04	1,047.53	1,047.64	1,047.05	0.59	1,789.538	
100.00	100.00	112.98	112.97	0.52	0.17	89.16	15.43	1,047.48	1,047.59	1,046.90	0.69	1,513.117	
150.00	150.00	164.01	164.01	0.59	0.35	89.13	15.82	1,047.39	1,047.51	1,046.57	0.94	1,110.205	
200.00	200.00	214.51	214.51	0.70	0.53	89.12	16.12	1,047.25	1,047.38	1,046.15	1.23	850.185	
250.00	250.00	264.11	264.11	0.84	0.70	89.10	16.39	1,047.12	1,047.25	1,045.71	1.54	679.783	
300.00	300.00	312.58	312.58	0.99	0.87	89.09	16.64	1,047.03	1,047.16	1,045.30	1.86	563.247	
316.18	316.18	327.89	327.88	1.04	0.93	89.09	16.70	1,047.02	1,047.16	1,045.19	1.96	533.468	
350.00	350.00	359.88	359.87	1.15	1.04	89.08	16.81	1,047.05	1,047.19	1,045.00	2.18	479.908	
400.00	400.00	409.91	409.91	1.31	1.21	89.07	16.96	1,047.16	1,047.30	1,044.78	2.52	415.574	
450.00	450.00	462.58	462.57	1.48	1.40	89.05	17.33	1,047.18	1,047.33	1,044.45	2.87	364.768	
500.00	500.00	513.33	513.32	1.65	1.58	89.02	17.86	1,047.10	1,047.25	1,044.04	3.22	325.393	
550.00	550.00	563.38	563.37	1.82	1.75	89.00	18.36	1,047.01	1,047.18	1,043.61	3.57	293.726	
588.31	588.31	600.02	600.01	1.95	1.88	88.98	18.72	1,046.97	1,047.14	1,043.31	3.83	273.709	
600.00	600.00	611.09	611.08	1.99	1.92	88.97	18.84	1,046.97	1,047.14	1,043.24	3.91	268.154	
650.00	650.00	658.43	658.41	2.16	2.08	88.94	19.41	1,047.05	1,047.24	1,042.99	4.24	246.723	
700.00	700.00	709.08	709.05	2.34	2.26	88.91	19.99	1,047.19	1,047.39	1,042.79	4.60	227.876	
750.00	750.00	760.20	760.17	2.51	2.44	88.88	20.43	1,047.29	1,047.49	1,042.54	4.95	211.601	
800.00	800.00	812.17	812.14	2.69	2.62	88.86	20.87	1,047.31	1,047.51	1,042.21	5.31	197.358	
850.00	850.00	863.68	863.65	2.87	2.80	88.83	21.45	1,047.23	1,047.45	1,041.78	5.66	184.932	
900.00	900.00	913.86	913.82	3.04	2.98	88.79	22.03	1,047.12	1,047.35	1,041.34	6.02	174.095	
950.00	950.00	962.95	962.91	3.22	3.15	88.77	22.55	1,047.01	1,047.26	1,040.89	6.36	164.549	
972.94	972.94	984.68	984.64	3.30	3.23	88.76	22.75	1,047.00	1,047.24	1,040.72	6.52	160.582	
1,000.00	1,000.00	1,010.31	1,010.27	3.40	3.32	88.74	22.96	1,047.01	1,047.26	1,040.55	6.71	156.148	
1,050.00	1,050.00	1,059.99	1,059.95	3.58	3.49	88.73	23.28	1,047.11	1,047.37	1,040.31	7.06	148.402	
1,100.00	1,100.00	1,113.05	1,113.01	3.75	3.68	88.70	23.69	1,047.11	1,047.38	1,039.96	7.42	141.150	
1,150.00	1,150.00	1,161.96	1,161.92	3.93	3.85	88.68	24.11	1,047.03	1,047.31	1,039.54	7.77	134.811	
1,153.26	1,153.26	1,165.01	1,164.96	3.94	3.86	88.68	24.13	1,047.03	1,047.31	1,039.52	7.79	134.426	
1,200.00	1,200.00	1,208.58	1,208.54	4.11	4.01	88.67	24.38	1,047.09	1,047.38	1,039.27	8.11	129.159	
1,250.00	1,250.00	1,257.58	1,257.54	4.29	4.18	88.66	24.52	1,047.28	1,047.57	1,039.12	8.46	123.855	
1,300.00	1,300.00	1,307.95	1,307.90	4.46	4.36	88.65	24.61	1,047.47	1,047.76	1,038.95	8.81	118.903	
1,350.00	1,350.00	1,360.36	1,360.32	4.64	4.54	88.65	24.69	1,047.61	1,047.90	1,038.73	9.17	114.238	
1,400.00	1,400.00	1,413.37	1,413.32	4.82	4.73	88.64	24.89	1,047.60	1,047.89	1,038.36	9.54	109.886	
1,450.00	1,450.00	1,464.07	1,464.03	5.00	4.91	88.62	25.20	1,047.49	1,047.80	1,037.91	9.89	105.931	
1,500.00	1,500.00	1,514.80	1,514.75	5.18	5.08	88.60	25.67	1,047.35	1,047.67	1,037.42	10.25	102.245	
1,550.00	1,550.00	1,563.85	1,563.80	5.36	5.26	88.57	26.07	1,047.23	1,047.55	1,036.96	10.60	98.860	
1,600.00	1,600.00	1,613.32	1,613.27	5.53	5.43	88.56	26.31	1,047.14	1,047.47	1,036.52	10.95	95.682	
1,650.00	1,650.00	1,663.27	1,663.21	5.71	5.60	88.55	26.50	1,047.06	1,047.40	1,036.10	11.30	92.689	
1,700.00	1,700.00	1,712.24	1,712.19	5.89	5.77	88.54	26.65	1,047.00	1,047.33	1,035.68	11.65	89.903	
1,709.53	1,709.53	1,721.28	1,721.23	5.93	5.81	88.54	26.67	1,046.99	1,047.33	1,035.62	11.72	89.399	
1,750.00	1,750.00	1,759.69	1,759.64	6.07	5.94	88.54	26.69	1,047.03	1,047.37	1,035.38	11.99	87.327	
1,800.00	1,800.00	1,808.15	1,808.10	6.25	6.11	88.54	26.63	1,047.18	1,047.52	1,035.18	12.34	84.878	
1,850.00	1,850.00	1,858.02	1,857.97	6.43	6.28	88.55	26.53	1,047.35	1,047.70	1,035.00	12.69	82.533	
1,900.00	1,900.00	1,908.14	1,908.09	6.61	6.46	88.55	26.44	1,047.53	1,047.87	1,034.83	13.05	80.310	
1,950.00	1,950.00	1,958.48	1,958.42	6.78	6.63	88.56	26.34	1,047.70	1,048.04	1,034.64	13.40	78.198	
2,000.00	2,000.00	2,012.42	2,012.36	6.96	6.82	88.56	26.27	1,047.80	1,048.13	1,034.36	13.77	76.120	
2,050.00	2,050.00	2,068.05	2,068.00	7.14	7.01	21.90	26.28	1,047.61	1,047.76	1,033.62	14.14	74.102	
2,100.00	2,099.99	2,116.84	2,116.78	7.32	7.18	21.91	26.33	1,047.35	1,046.88	1,032.39	14.49	72.271	
2,150.00	2,149.98	2,165.79	2,165.73	7.49	7.35	21.93	26.38	1,047.14	1,045.65	1,030.82	14.83	70.510	
2,200.00	2,199.96	2,216.87	2,216.82	7.66	7.53	21.97	26.42	1,046.91	1,044.02	1,028.84	15.18	68.768	
2,250.00	2,249.92	2,266.73	2,266.67	7.84	7.70	22.02	26.40	1,046.64	1,041.93	1,026.40	15.53	67.092	
2,300.00	2,299.87	2,312.86	2,312.81	8.01	7.86	22.06	26.37	1,046.51	1,039.70	1,023.83	15.87	65.534	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9558- — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,350.00	2,349.82	2,360.66	2,360.60	8.19	8.03	22.11	26.33	1,046.53	1,037.64	1,021.43	16.21	64.027	
2,400.00	2,399.77	2,414.41	2,414.35	8.36	8.22	22.16	26.30	1,046.48	1,035.51	1,018.94	16.57	62.500	
2,450.00	2,449.72	2,466.38	2,466.32	8.54	8.40	22.21	26.28	1,046.26	1,033.21	1,016.29	16.92	61.050	
2,500.00	2,499.67	2,516.41	2,516.35	8.72	8.57	22.26	26.26	1,046.02	1,030.89	1,013.62	17.27	59.681	
2,550.00	2,549.62	2,564.06	2,564.01	8.89	8.74	22.31	26.22	1,045.82	1,028.60	1,010.99	17.62	58.393	
2,600.00	2,599.57	2,610.18	2,610.12	9.07	8.90	22.36	26.17	1,045.79	1,026.48	1,008.53	17.95	57.181	
2,650.00	2,649.52	2,658.23	2,658.17	9.25	9.07	22.41	26.10	1,045.91	1,024.53	1,006.23	18.29	56.002	
2,700.00	2,699.47	2,707.71	2,707.65	9.42	9.24	22.46	26.02	1,046.07	1,022.61	1,003.96	18.64	54.853	
2,750.00	2,749.41	2,759.62	2,759.56	9.60	9.42	22.51	25.95	1,046.22	1,020.67	1,001.67	19.00	53.720	
2,800.00	2,799.36	2,812.66	2,812.60	9.78	9.61	22.56	25.94	1,046.22	1,018.59	999.23	19.36	52.611	
2,850.00	2,849.31	2,862.76	2,862.70	9.95	9.78	22.61	25.98	1,046.13	1,016.43	996.72	19.71	51.565	
2,900.00	2,899.26	2,912.62	2,912.56	10.13	9.95	22.66	26.03	1,046.05	1,014.27	994.21	20.06	50.558	
2,950.00	2,949.21	2,963.09	2,963.03	10.31	10.13	22.70	26.10	1,045.96	1,012.11	991.69	20.41	49.578	
3,000.00	2,999.16	3,013.57	3,013.51	10.49	10.31	22.75	26.20	1,045.84	1,009.91	989.15	20.77	48.631	
3,050.00	3,049.11	3,059.70	3,059.64	10.66	10.47	22.79	26.29	1,045.82	1,007.82	986.72	21.10	47.753	
3,100.00	3,099.06	3,107.12	3,107.06	10.84	10.63	22.83	26.37	1,045.95	1,005.88	984.44	21.45	46.901	
3,150.00	3,149.01	3,157.28	3,157.22	11.02	10.81	22.88	26.44	1,046.13	1,003.99	982.19	21.80	46.057	
3,200.00	3,198.96	3,209.17	3,209.11	11.20	10.99	22.92	26.50	1,046.29	1,002.07	979.91	22.16	45.227	
3,250.00	3,248.91	3,264.78	3,264.72	11.38	11.18	22.97	26.63	1,046.22	999.93	977.41	22.53	44.388	
3,300.00	3,298.86	3,316.94	3,316.87	11.55	11.37	23.01	26.84	1,045.91	997.57	974.69	22.89	43.590	
3,350.00	3,348.81	3,367.09	3,367.03	11.73	11.54	23.05	27.12	1,045.59	995.18	971.94	23.24	42.826	
3,400.00	3,398.76	3,414.52	3,414.45	11.91	11.71	23.08	27.41	1,045.32	992.83	969.25	23.58	42.103	
3,450.00	3,448.71	3,461.12	3,461.06	12.09	11.87	23.11	27.67	1,045.21	990.64	966.72	23.92	41.412	
3,500.00	3,498.66	3,510.79	3,510.72	12.27	12.05	23.15	27.91	1,045.20	988.57	964.29	24.27	40.728	
3,550.00	3,548.60	3,561.43	3,561.36	12.45	12.22	23.19	28.12	1,045.16	986.46	961.84	24.63	40.057	
3,600.00	3,598.55	3,614.89	3,614.82	12.63	12.41	23.23	28.35	1,045.01	984.26	959.27	24.99	39.386	
3,650.00	3,648.50	3,668.62	3,668.55	12.81	12.60	23.27	28.66	1,044.66	981.86	956.51	25.35	38.726	
3,700.00	3,698.45	3,717.22	3,717.15	12.99	12.77	23.30	29.01	1,044.30	979.43	953.73	25.70	38.107	
3,750.00	3,748.40	3,766.47	3,766.39	13.16	12.94	23.32	29.43	1,043.97	977.02	950.97	26.05	37.503	
3,800.00	3,798.35	3,815.47	3,815.39	13.34	13.11	23.35	29.94	1,043.67	974.66	948.26	26.40	36.918	
3,850.00	3,848.30	3,863.37	3,863.29	13.52	13.28	23.36	30.52	1,043.44	972.35	945.61	26.75	36.354	
3,900.00	3,898.25	3,909.31	3,909.22	13.70	13.44	23.37	31.12	1,043.38	970.22	943.14	27.09	35.820	
3,950.00	3,948.20	3,955.33	3,955.24	13.88	13.60	23.39	31.72	1,043.51	968.30	940.87	27.42	35.307	
4,000.00	3,998.15	4,001.53	4,001.44	14.06	13.76	23.41	32.16	1,043.83	966.57	938.81	27.76	34.813	
4,050.00	4,048.10	4,047.74	4,047.64	14.24	13.93	23.45	32.41	1,044.32	965.04	936.94	28.10	34.339	
4,100.00	4,098.05	4,093.95	4,093.84	14.42	14.09	23.49	32.53	1,044.99	963.70	935.26	28.44	33.883	
4,150.00	4,148.00	4,139.97	4,139.86	14.60	14.25	23.53	32.56	1,045.84	962.56	933.78	28.78	33.446	
4,200.00	4,197.95	4,185.50	4,185.38	14.78	14.41	23.59	32.44	1,046.88	961.65	932.53	29.12	33.029	
4,250.00	4,247.90	4,231.58	4,231.44	14.96	14.57	23.66	32.14	1,048.15	960.96	931.51	29.45	32.627	
4,300.00	4,297.85	4,279.76	4,279.59	15.14	14.74	23.74	31.68	1,049.60	960.41	930.61	29.80	32.230	
4,350.00	4,347.79	4,327.76	4,327.57	15.32	14.90	23.82	31.10	1,051.14	959.96	929.82	30.14	31.847	
4,400.00	4,397.74	4,375.33	4,375.10	15.50	15.07	23.92	30.32	1,052.78	959.63	929.14	30.49	31.478	
4,450.00	4,447.69	4,423.65	4,423.38	15.68	15.24	24.03	29.34	1,054.55	959.42	928.59	30.83	31.118	
4,500.00	4,497.64	4,473.78	4,473.47	15.86	15.41	24.14	28.31	1,056.42	959.24	928.06	31.19	30.759	
4,550.00	4,547.59	4,522.45	4,522.09	16.04	15.58	24.25	27.38	1,058.23	959.07	927.54	31.53	30.415	
4,582.42	4,579.98	4,552.75	4,552.36	16.15	15.69	24.31	26.91	1,059.44	959.04	927.28	31.75	30.203	
4,600.00	4,597.54	4,569.18	4,568.78	16.22	15.75	24.34	26.69	1,060.12	959.05	927.18	31.87	30.090	
4,650.00	4,647.49	4,619.26	4,618.81	16.40	15.92	24.43	26.16	1,062.27	959.16	926.93	32.23	29.763	
4,700.00	4,697.44	4,673.78	4,673.28	16.58	16.11	24.52	25.57	1,064.42	959.10	926.50	32.60	29.421	
4,750.00	4,747.39	4,727.23	4,726.69	16.76	16.30	24.62	24.90	1,066.30	958.82	925.86	32.97	29.085	
4,800.00	4,797.34	4,780.24	4,779.68	16.94	16.49	24.72	24.08	1,067.99	958.39	925.06	33.33	28.753	
4,850.00	4,847.29	4,829.82	4,829.22	17.12	16.66	24.83	23.25	1,069.49	957.88	924.20	33.68	28.438	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9558- — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.00	4,897.24	4,879.31	4,878.69	17.30	16.83	24.93	22.45	1,071.03	957.41	923.38	34.04	28.130	
4,950.00	4,947.19	4,931.22	4,930.56	17.48	17.02	25.03	21.71	1,072.59	956.90	922.51	34.40	27.820	
5,000.00	4,997.14	4,982.94	4,982.26	17.66	17.20	25.12	21.13	1,074.06	956.30	921.54	34.76	27.514	
5,050.00	5,047.09	5,034.10	5,033.40	17.84	17.38	25.21	20.64	1,075.43	955.62	920.51	35.11	27.214	
5,100.00	5,097.04	5,084.47	5,083.75	18.02	17.55	25.29	20.20	1,076.73	954.89	919.42	35.47	26.921	
5,150.00	5,146.99	5,133.71	5,132.97	18.20	17.72	25.37	19.65	1,078.02	954.19	918.36	35.82	26.638	
5,200.00	5,196.93	5,184.92	5,184.15	18.38	17.90	25.48	18.90	1,079.37	953.49	917.32	36.18	26.355	
5,250.00	5,246.88	5,237.97	5,237.18	18.56	18.09	25.59	18.04	1,080.61	952.67	916.12	36.54	26.069	
5,300.00	5,296.83	5,288.46	5,287.66	18.74	18.26	25.69	17.27	1,081.69	951.73	914.83	36.90	25.792	
5,350.00	5,346.78	5,338.12	5,337.30	18.92	18.44	25.77	16.91	1,082.77	950.81	913.56	37.25	25.523	
5,400.00	5,396.73	5,389.29	5,388.46	19.10	18.62	25.83	16.88	1,083.88	949.87	912.26	37.61	25.255	
5,450.00	5,446.68	5,440.71	5,439.87	19.28	18.80	25.87	17.05	1,084.94	948.86	910.89	37.97	24.990	
5,500.00	5,496.63	5,490.68	5,489.83	19.46	18.97	25.93	17.07	1,085.91	947.81	909.49	38.32	24.732	
5,550.00	5,546.58	5,540.94	5,540.08	19.64	19.15	26.01	16.70	1,086.88	946.77	908.09	38.68	24.478	
5,600.00	5,596.53	5,592.37	5,591.50	19.82	19.33	26.10	16.20	1,087.80	945.67	906.63	39.04	24.225	
5,650.00	5,646.48	5,644.20	5,643.32	20.00	19.51	26.19	15.74	1,088.65	944.49	905.09	39.40	23.973	
5,700.00	5,696.43	5,696.72	5,695.84	20.18	19.69	26.27	15.41	1,089.39	943.19	903.43	39.76	23.722	
5,750.00	5,746.38	5,748.03	5,747.14	20.36	19.87	26.34	15.22	1,090.00	941.78	901.66	40.12	23.475	
5,800.00	5,796.33	5,798.41	5,797.51	20.54	20.04	26.41	15.08	1,090.57	940.33	899.86	40.47	23.233	
5,850.00	5,846.28	5,848.63	5,847.74	20.73	20.22	26.48	14.93	1,091.12	938.87	898.04	40.83	22.996	
5,900.00	5,896.23	5,898.79	5,897.89	20.91	20.39	26.55	14.62	1,091.64	937.39	896.21	41.18	22.762	
5,950.00	5,946.18	5,949.54	5,948.63	21.09	20.57	26.64	14.22	1,092.15	935.90	894.36	41.54	22.531	
6,000.00	5,996.12	6,000.39	5,999.48	21.27	20.75	26.72	13.84	1,092.60	934.36	892.46	41.90	22.302	
6,050.00	6,046.07	6,050.25	6,049.33	21.45	20.92	26.81	13.48	1,093.03	932.80	890.55	42.25	22.078	
6,100.00	6,096.02	6,100.31	6,099.40	21.63	21.10	26.89	13.10	1,093.46	931.25	888.64	42.60	21.858	
6,150.00	6,145.97	6,151.84	6,150.93	21.81	21.28	26.97	12.85	1,093.87	929.64	886.68	42.96	21.639	
6,200.00	6,195.92	6,202.98	6,202.06	21.99	21.46	27.04	12.81	1,094.19	927.96	884.64	43.32	21.421	
6,250.00	6,245.87	6,253.23	6,252.31	22.17	21.63	27.10	12.82	1,094.49	926.25	882.58	43.67	21.208	
6,300.00	6,295.82	6,303.08	6,302.16	22.35	21.81	27.16	12.83	1,094.77	924.53	880.50	44.03	20.998	
6,350.00	6,345.77	6,352.45	6,351.53	22.53	21.98	27.23	12.67	1,095.06	922.84	878.45	44.38	20.794	
6,400.00	6,395.72	6,402.27	6,401.34	22.71	22.15	27.31	12.36	1,095.37	921.17	876.43	44.73	20.592	
6,450.00	6,445.67	6,452.45	6,451.52	22.89	22.33	27.39	12.06	1,095.68	919.49	874.40	45.09	20.393	
6,500.00	6,495.62	6,503.44	6,502.51	23.07	22.50	27.47	11.81	1,095.96	917.79	872.35	45.45	20.195	
6,550.00	6,545.57	6,554.80	6,553.87	23.26	22.68	27.55	11.70	1,096.19	916.02	870.22	45.80	19.999	
6,600.00	6,595.52	6,605.79	6,604.86	23.44	22.86	27.61	11.68	1,096.34	914.18	868.02	46.16	19.804	
6,650.00	6,645.47	6,656.71	6,655.78	23.62	23.04	27.68	11.64	1,096.44	912.29	865.77	46.52	19.612	
6,700.00	6,695.42	6,705.36	6,704.44	23.80	23.21	27.75	11.53	1,096.55	910.41	863.54	46.87	19.425	
6,750.00	6,745.37	6,754.16	6,753.24	23.98	23.38	27.83	11.26	1,096.70	908.60	861.38	47.22	19.242	
6,800.00	6,795.31	6,803.82	6,802.89	24.16	23.55	27.92	10.95	1,096.90	906.83	859.26	47.57	19.062	
6,850.00	6,845.26	6,853.55	6,852.62	24.34	23.72	28.00	10.67	1,097.11	905.08	857.16	47.93	18.885	
6,900.00	6,895.21	6,903.57	6,902.64	24.52	23.90	28.08	10.52	1,097.34	903.33	855.05	48.28	18.711	
6,950.00	6,945.16	6,953.46	6,952.52	24.70	24.07	28.14	10.55	1,097.57	901.58	852.95	48.63	18.538	
7,000.00	6,995.11	7,003.07	7,002.14	24.88	24.25	28.20	10.58	1,097.83	899.85	850.87	48.99	18.369	
7,050.00	7,045.06	7,052.18	7,051.24	25.06	24.42	28.27	10.54	1,098.09	898.15	848.81	49.34	18.204	
7,100.00	7,095.01	7,100.69	7,099.75	25.24	24.59	28.35	10.31	1,098.41	896.51	846.82	49.69	18.043	
7,150.00	7,144.96	7,150.91	7,149.97	25.43	24.76	28.44	9.90	1,098.78	894.94	844.89	50.04	17.883	
7,200.00	7,194.91	7,202.66	7,201.72	25.61	24.94	28.53	9.62	1,099.09	893.28	842.88	50.40	17.723	
7,250.00	7,244.86	7,252.42	7,251.48	25.79	25.12	28.61	9.47	1,099.34	891.57	840.81	50.76	17.566	
7,300.00	7,294.81	7,301.39	7,300.45	25.97	25.29	28.69	9.29	1,099.63	889.91	838.80	51.11	17.412	
7,350.00	7,344.76	7,349.29	7,348.34	26.15	25.46	28.77	8.99	1,099.98	888.33	836.87	51.46	17.264	
7,400.00	7,394.71	7,396.91	7,395.96	26.33	25.62	28.87	8.38	1,100.43	886.88	835.08	51.80	17.120	
7,450.00	7,444.66	7,446.13	7,445.17	26.51	25.79	29.00	7.48	1,100.95	885.53	833.37	52.15	16.979	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9558- — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,500.00	7,494.61	7,495.64	7,494.67	26.69	25.97	29.13	6.43	1,101.48	884.21	831.70	52.51	16.840	
7,550.00	7,544.56	7,547.81	7,546.82	26.87	26.15	29.27	5.32	1,102.00	882.84	829.97	52.87	16.699	
7,600.00	7,594.50	7,600.12	7,599.12	27.05	26.33	29.41	4.37	1,102.39	881.35	828.12	53.23	16.557	
7,650.00	7,644.45	7,649.13	7,648.12	27.23	26.50	29.53	3.45	1,102.73	879.83	826.25	53.58	16.420	
7,700.00	7,694.40	7,698.09	7,697.07	27.42	26.67	29.67	2.43	1,103.09	878.35	824.42	53.93	16.286	
7,750.00	7,744.35	7,745.69	7,744.66	27.60	26.84	29.81	1.30	1,103.52	876.98	822.70	54.28	16.157	
7,800.00	7,794.30	7,793.49	7,792.43	27.78	27.01	29.96	0.03	1,104.06	875.75	821.12	54.63	16.031	
7,850.00	7,844.25	7,841.74	7,840.66	27.96	27.17	30.10	-1.22	1,104.72	874.62	819.65	54.98	15.909	
7,900.00	7,894.20	7,892.07	7,890.97	28.14	27.35	30.25	-2.44	1,105.48	873.58	818.25	55.33	15.788	
7,950.00	7,944.15	7,946.06	7,944.94	28.32	27.54	30.40	-3.59	1,106.15	872.38	816.68	55.70	15.662	
8,000.00	7,994.10	7,997.02	7,995.89	28.50	27.72	30.54	-4.57	1,106.60	871.00	814.94	56.06	15.538	
8,050.00	8,044.05	8,046.16	8,045.02	28.68	27.89	30.68	-5.59	1,107.06	869.66	813.25	56.41	15.417	
8,100.00	8,094.00	8,095.11	8,093.95	28.86	28.06	30.82	-6.72	1,107.55	868.37	811.61	56.76	15.299	
8,150.00	8,143.95	8,143.96	8,142.79	29.04	28.23	30.97	-8.00	1,108.08	867.15	810.04	57.11	15.183	
8,200.00	8,193.90	8,194.47	8,193.27	29.23	28.41	31.14	-9.43	1,108.64	865.96	808.49	57.47	15.068	
8,250.00	8,243.85	8,245.36	8,244.14	29.41	28.58	31.31	-10.86	1,109.14	864.72	806.89	57.83	14.954	
8,300.00	8,293.80	8,298.67	8,297.43	29.59	28.77	31.48	-12.28	1,109.55	863.36	805.17	58.19	14.837	
8,350.00	8,343.75	8,352.05	8,350.79	29.77	28.96	31.65	-13.57	1,109.76	861.81	803.26	58.56	14.718	
8,400.00	8,393.69	8,404.44	8,403.17	29.95	29.14	31.81	-14.73	1,109.81	860.11	801.19	58.92	14.599	
8,450.00	8,443.64	8,454.49	8,453.21	30.13	29.31	31.95	-15.77	1,109.74	858.28	799.01	59.27	14.480	
8,500.00	8,493.59	8,501.23	8,499.94	30.31	29.48	32.10	-16.85	1,109.78	856.59	796.97	59.62	14.368	
8,550.00	8,543.54	8,550.78	8,549.47	30.49	29.65	32.26	-18.11	1,109.96	855.06	795.09	59.97	14.258	
8,600.00	8,593.49	8,604.07	8,602.74	30.67	29.83	32.43	-19.40	1,110.01	853.40	793.06	60.33	14.144	
8,650.00	8,643.44	8,657.16	8,655.82	30.86	30.02	32.59	-20.54	1,109.88	851.55	790.85	60.70	14.030	
8,700.00	8,693.39	8,710.15	8,708.80	31.04	30.20	32.75	-21.47	1,109.59	849.53	788.47	61.06	13.913	
8,750.00	8,743.34	8,759.11	8,757.76	31.22	30.37	32.88	-22.26	1,109.26	847.44	786.03	61.41	13.800	
8,800.00	8,793.29	8,807.65	8,806.29	31.40	30.54	33.03	-23.13	1,109.00	845.43	783.67	61.76	13.689	
8,850.00	8,843.24	8,856.80	8,855.43	31.58	30.71	33.17	-23.97	1,108.80	843.49	781.38	62.11	13.580	
8,900.00	8,893.19	8,905.98	8,904.60	31.76	30.89	33.29	-24.63	1,108.68	841.60	779.14	62.47	13.473	
8,950.00	8,943.14	8,952.30	8,950.92	31.94	31.05	33.41	-25.16	1,108.71	839.86	777.05	62.81	13.371	
9,000.00	8,993.09	8,999.25	8,997.87	32.12	31.21	33.52	-25.67	1,108.94	838.31	775.16	63.16	13.274	
9,050.00	9,043.04	9,052.70	9,051.32	32.30	31.40	33.64	-26.23	1,109.17	836.75	773.23	63.52	13.173	
9,100.00	9,092.99	9,106.95	9,105.56	32.49	31.59	33.77	-26.76	1,109.17	834.97	771.08	63.89	13.070	
9,150.00	9,142.94	9,162.99	9,161.60	32.67	31.78	33.90	-27.09	1,108.85	832.86	768.61	64.25	12.962	
9,200.00	9,192.88	9,215.19	9,213.79	32.85	31.96	34.00	-27.25	1,108.26	830.47	765.86	64.61	12.853	
9,250.00	9,242.83	9,265.18	9,263.78	33.03	32.14	34.13	-27.74	1,107.60	828.05	763.08	64.97	12.746	
9,300.00	9,292.78	9,320.29	9,318.88	33.21	32.33	34.30	-28.52	1,106.68	825.51	760.18	65.33	12.636	
9,350.00	9,342.73	9,376.94	9,375.50	33.39	32.53	34.46	-29.22	1,105.31	822.58	756.89	65.69	12.522	
9,400.00	9,392.68	9,430.15	9,428.68	33.57	32.71	34.62	-29.84	1,103.70	819.36	753.31	66.05	12.406	
9,450.00	9,442.63	9,484.02	9,482.52	33.75	32.90	34.79	-30.50	1,101.81	815.91	749.51	66.40	12.287	
9,500.00	9,492.58	9,538.46	9,536.91	33.94	33.09	34.98	-31.35	1,099.56	812.20	745.44	66.76	12.167	
9,550.00	9,542.53	9,588.67	9,587.06	34.12	33.26	35.16	-32.14	1,097.32	808.33	741.22	67.11	12.045	
9,600.00	9,592.48	9,638.46	9,636.79	34.30	33.43	35.34	-32.91	1,095.10	804.47	737.01	67.46	11.925	
9,650.00	9,642.43	9,679.60	9,677.87	34.48	33.58	35.54	-34.28	1,093.27	800.82	733.01	67.81	11.809	
9,700.00	9,692.38	9,717.76	9,715.80	34.66	33.71	35.89	-37.98	1,091.59	797.88	729.72	68.16	11.706	
9,750.00	9,742.33	9,755.20	9,752.72	34.84	33.84	36.41	-43.97	1,089.98	795.73	727.24	68.49	11.618	
9,800.00	9,792.28	9,791.68	9,788.26	35.02	33.97	37.07	-52.03	1,088.44	794.45	725.65	68.81	11.546	
9,839.45	9,831.68	9,819.62	9,815.11	35.17	34.08	37.68	-59.67	1,087.29	794.13	725.09	69.04	11.502 CC	
9,850.00	9,842.23	9,826.96	9,822.10	35.20	34.10	37.85	-61.88	1,086.99	794.16	725.05	69.10	11.492 ES	
9,900.00	9,892.18	9,860.86	9,854.01	35.38	34.23	38.73	-73.22	1,085.64	794.95	725.58	69.37	11.459	
9,950.00	9,942.13	9,893.26	9,883.87	35.57	34.35	39.68	-85.74	1,084.39	796.96	727.36	69.60	11.450 SF	
10,000.00	9,992.08	9,924.08	9,911.59	35.75	34.47	40.69	-99.14	1,083.24	800.32	730.53	69.79	11.468	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9558- — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,050.00	10,042.02	9,950.00	9,934.35	35.93	34.57	41.60	-111.52	1,082.31	805.14	735.26	69.88	11.522	
10,100.00	10,091.97	9,980.84	9,960.69	36.11	34.70	42.76	-127.51	1,081.24	811.50	741.52	69.98	11.596	
10,150.00	10,141.92	10,006.80	9,982.20	36.29	34.81	43.80	-142.02	1,080.37	819.52	749.55	69.97	11.712	
10,200.00	10,191.87	10,031.21	10,001.83	36.47	34.92	44.82	-156.50	1,079.59	829.26	759.37	69.89	11.866	
10,250.00	10,241.82	10,050.00	10,016.53	36.65	35.01	45.64	-168.19	1,079.01	840.78	771.13	69.65	12.072	
10,300.00	10,291.77	10,075.60	10,035.94	36.83	35.14	46.78	-184.86	1,078.26	854.06	784.58	69.48	12.292	
10,350.00	10,341.72	10,100.00	10,053.77	37.02	35.26	47.90	-201.51	1,077.57	869.18	799.94	69.24	12.553	
10,400.00	10,391.67	10,114.60	10,064.10	37.20	35.34	48.58	-211.81	1,077.18	886.05	817.28	68.77	12.884	
10,450.00	10,441.62	10,132.28	10,076.27	37.38	35.44	49.42	-224.62	1,076.72	904.69	836.37	68.32	13.242	
10,500.00	10,491.57	10,150.00	10,088.08	37.56	35.54	50.27	-237.83	1,076.29	925.06	857.22	67.84	13.637	
10,550.00	10,541.52	10,164.39	10,097.38	37.74	35.63	50.97	-248.80	1,075.95	947.07	879.82	67.26	14.081	
10,600.00	10,591.47	10,178.98	10,106.54	37.92	35.72	51.68	-260.15	1,075.61	970.69	904.02	66.67	14.560	
10,650.00	10,641.42	10,200.00	10,119.24	38.10	35.85	52.71	-276.90	1,075.16	995.89	929.67	66.22	15.040	
10,700.00	10,691.37	10,200.00	10,119.24	38.28	35.85	52.71	-276.90	1,075.16	1,022.45	957.16	65.28	15.662	
10,750.00	10,741.32	10,217.71	10,129.47	38.47	35.98	53.59	-291.35	1,074.80	1,050.37	985.60	64.77	16.218	
10,800.00	10,791.27	10,229.14	10,135.84	38.65	36.06	54.15	-300.83	1,074.59	1,079.62	1,015.50	64.12	16.838	
10,850.00	10,841.21	10,250.00	10,147.00	38.83	36.21	55.18	-318.45	1,074.21	1,110.20	1,046.50	63.70	17.429	
10,900.00	10,891.16	10,250.00	10,147.00	39.01	36.21	55.18	-318.45	1,074.21	1,141.69	1,078.86	62.83	18.172	
10,950.00	10,941.11	10,250.00	10,147.00	39.19	36.21	55.18	-318.45	1,074.21	1,174.47	1,112.48	61.99	18.947	
11,000.00	10,991.06	10,268.79	10,156.52	39.37	36.37	56.11	-334.65	1,073.89	1,208.03	1,146.43	61.60	19.611	
11,050.00	11,041.02	10,277.41	10,160.72	39.55	36.44	56.85	-342.18	1,073.76	1,242.66	1,181.65	61.01	20.367	
11,100.00	11,090.99	10,300.00	10,171.19	39.73	36.63	58.59	-362.19	1,073.43	1,278.60	1,217.84	60.76	21.043	
11,150.00	11,140.98	10,300.00	10,171.19	39.91	36.63	59.28	-362.19	1,073.43	1,315.16	1,255.10	60.06	21.897	
11,200.00	11,190.98	10,300.00	10,171.19	40.09	36.63	126.63	-362.19	1,073.43	1,352.79	1,293.38	59.41	22.771	
11,250.00	11,240.98	10,300.00	10,171.19	40.26	36.63	126.63	-362.19	1,073.43	1,391.29	1,332.50	58.79	23.664	
11,300.00	11,290.98	10,300.00	10,171.19	40.44	36.63	126.63	-362.19	1,073.43	1,430.51	1,372.29	58.22	24.571	
11,350.00	11,340.98	10,321.92	10,180.63	40.61	36.83	127.66	-381.97	1,073.14	1,469.85	1,411.74	58.11	25.296	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Plan1v2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-GYRO — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	11.70	11.70	0.50	0.00	89.19	14.87	1,047.55	1,047.66				
50.00	50.00	61.70	61.70	0.50	0.00	89.19	14.87	1,047.55	1,047.66	1,047.16	0.50	2,086.438	
100.00	100.00	111.70	111.70	0.52	0.00	89.19	14.87	1,047.55	1,047.66	1,047.14	0.52	2,022.679	
150.00	150.00	161.70	161.70	0.59	0.00	89.19	14.87	1,047.55	1,047.66	1,047.07	0.59	1,774.365	
200.00	200.00	211.70	211.70	0.70	0.00	89.19	14.87	1,047.55	1,047.66	1,046.96	0.70	1,491.745	
250.00	250.00	261.70	261.70	0.84	0.00	89.19	14.87	1,047.55	1,047.66	1,046.82	0.84	1,250.317	
300.00	300.00	311.70	311.70	0.99	0.00	89.19	14.87	1,047.55	1,047.66	1,046.67	0.99	1,060.881	
350.00	350.00	361.70	361.70	1.15	0.00	89.19	14.87	1,047.55	1,047.66	1,046.51	1.15	914.433	
400.00	400.00	411.70	411.70	1.31	0.00	89.19	14.87	1,047.55	1,047.66	1,046.35	1.31	800.172	
450.00	450.00	461.70	461.70	1.48	0.00	89.19	14.87	1,047.55	1,047.66	1,046.18	1.48	709.543	
500.00	500.00	511.70	511.70	1.65	0.00	89.19	14.87	1,047.55	1,047.66	1,046.01	1.65	636.376	
550.00	550.00	561.70	561.70	1.82	0.00	89.19	14.87	1,047.55	1,047.66	1,045.84	1.82	576.310	
600.00	600.00	611.70	611.70	1.99	0.00	89.19	14.87	1,047.55	1,047.66	1,045.67	1.99	526.249	
650.00	650.00	661.70	661.70	2.16	0.00	89.19	14.87	1,047.55	1,047.66	1,045.49	2.16	483.960	
700.00	700.00	711.70	711.70	2.34	0.00	89.19	14.87	1,047.55	1,047.66	1,045.32	2.34	447.810	
750.00	750.00	761.70	761.70	2.51	0.00	89.19	14.87	1,047.55	1,047.66	1,045.14	2.51	416.580	
800.00	800.00	811.70	811.70	2.69	0.00	89.19	14.87	1,047.55	1,047.66	1,044.97	2.69	389.349	
850.00	850.00	861.70	861.70	2.87	0.00	89.19	14.87	1,047.55	1,047.66	1,044.79	2.87	365.407	
900.00	900.00	911.70	911.70	3.04	0.00	89.19	14.87	1,047.55	1,047.66	1,044.61	3.04	344.200	
950.00	950.00	961.70	961.70	3.22	0.00	89.19	14.87	1,047.55	1,047.66	1,044.44	3.22	325.290	
1,000.00	1,000.00	1,011.70	1,011.70	3.40	0.00	89.19	14.87	1,047.55	1,047.66	1,044.26	3.40	308.328	
1,050.00	1,050.00	1,061.70	1,061.70	3.58	0.00	89.19	14.87	1,047.55	1,047.66	1,044.08	3.58	293.031	
1,100.00	1,100.00	1,111.70	1,111.70	3.75	0.00	89.19	14.87	1,047.55	1,047.66	1,043.90	3.75	279.167	
1,150.00	1,150.00	1,161.70	1,161.70	3.93	0.00	89.19	14.87	1,047.55	1,047.66	1,043.73	3.93	266.545	
1,200.00	1,200.00	1,211.70	1,211.70	4.11	0.00	89.19	14.87	1,047.55	1,047.66	1,043.55	4.11	255.007	
1,250.00	1,250.00	1,261.70	1,261.70	4.29	0.00	89.19	14.87	1,047.55	1,047.66	1,043.37	4.29	244.419	
1,300.00	1,300.00	1,311.70	1,311.70	4.46	0.00	89.19	14.87	1,047.55	1,047.66	1,043.19	4.46	234.671	
1,350.00	1,350.00	1,361.70	1,361.70	4.64	0.00	89.19	14.87	1,047.55	1,047.66	1,043.02	4.64	225.665	
1,400.00	1,400.00	1,411.70	1,411.70	4.82	0.00	89.19	14.87	1,047.55	1,047.66	1,042.84	4.82	217.322	
1,450.00	1,450.00	1,461.70	1,461.70	5.00	0.00	89.19	14.87	1,047.55	1,047.66	1,042.66	5.00	209.571	
1,500.00	1,500.00	1,511.70	1,511.70	5.18	0.00	89.19	14.87	1,047.55	1,047.66	1,042.48	5.18	202.351	
1,550.00	1,550.00	1,561.70	1,561.70	5.36	0.00	89.19	14.87	1,047.55	1,047.66	1,042.30	5.36	195.610	
1,600.00	1,600.00	1,611.70	1,611.70	5.53	0.00	89.19	14.87	1,047.55	1,047.66	1,042.12	5.53	189.302	
1,650.00	1,650.00	1,661.70	1,661.70	5.71	0.00	89.19	14.87	1,047.55	1,047.66	1,041.94	5.71	183.386	
1,700.00	1,700.00	1,711.70	1,711.70	5.89	0.00	89.19	14.87	1,047.55	1,047.66	1,041.77	5.89	177.827	
1,750.00	1,750.00	1,761.70	1,761.70	6.07	0.00	89.19	14.87	1,047.55	1,047.66	1,041.59	6.07	172.595	
1,800.00	1,800.00	1,811.70	1,811.70	6.25	0.00	89.19	14.87	1,047.55	1,047.66	1,041.41	6.25	167.661	
1,850.00	1,850.00	1,861.70	1,861.70	6.43	0.00	89.19	14.87	1,047.55	1,047.66	1,041.23	6.43	163.000	
1,900.00	1,900.00	1,911.70	1,911.70	6.61	0.00	89.19	14.87	1,047.55	1,047.66	1,041.05	6.61	158.590	
1,950.00	1,950.00	1,961.70	1,961.70	6.78	0.00	89.19	14.87	1,047.55	1,047.66	1,040.87	6.78	154.412	
2,000.00	2,000.00	2,011.70	2,011.70	6.96	0.00	89.19	14.87	1,047.55	1,047.66	1,040.69	6.96	150.449	
2,050.00	2,050.00	2,061.70	2,061.70	7.14	0.00	22.52	14.87	1,047.55	1,047.46	1,040.32	7.14	146.711	
2,100.00	2,099.99	2,111.69	2,111.69	7.32	0.00	22.54	14.87	1,047.55	1,046.85	1,039.54	7.32	143.098	
2,150.00	2,149.98	2,161.68	2,161.68	7.49	0.00	22.56	14.87	1,047.55	1,045.84	1,038.35	7.49	139.644	
2,200.00	2,199.96	2,211.66	2,211.66	7.66	0.00	22.60	14.87	1,047.55	1,044.43	1,036.77	7.66	136.295	
2,250.00	2,249.92	2,261.62	2,261.62	7.84	0.00	22.65	14.87	1,047.55	1,042.62	1,034.78	7.84	133.036	
2,300.00	2,299.87	2,311.57	2,311.57	8.01	0.00	22.70	14.87	1,047.55	1,040.55	1,032.54	8.01	129.885	
2,350.00	2,349.82	2,361.52	2,361.52	8.19	0.00	22.75	14.87	1,047.55	1,038.48	1,030.29	8.19	126.865	
2,400.00	2,399.77	2,411.47	2,411.47	8.36	0.00	22.79	14.87	1,047.55	1,036.40	1,028.04	8.36	123.971	
2,450.00	2,449.72	2,461.42	2,461.42	8.54	0.00	22.84	14.87	1,047.55	1,034.33	1,025.79	8.53	121.189	
2,500.00	2,499.67	2,511.37	2,511.37	8.72	0.00	22.89	14.87	1,047.55	1,032.26	1,023.55	8.71	118.518	
2,550.00	2,549.62	2,561.32	2,561.32	8.89	0.00	22.94	14.87	1,047.55	1,030.18	1,021.30	8.88	115.948	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Plan1v2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-GYRO — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,611.27	2,611.27	9.07	0.00	22.99	14.87	1,047.55	1,028.11	1,019.05	9.06	113.477	
2,650.00	2,649.52	2,661.22	2,661.22	9.25	0.00	23.04	14.87	1,047.55	1,026.04	1,016.81	9.24	111.096	
2,700.00	2,699.47	2,711.17	2,711.17	9.42	0.00	23.09	14.87	1,047.55	1,023.97	1,014.56	9.41	108.804	
2,750.00	2,749.41	2,761.11	2,761.11	9.60	0.00	23.14	14.87	1,047.55	1,021.90	1,012.32	9.59	106.592	
2,800.00	2,799.36	2,811.06	2,811.06	9.78	0.00	23.19	14.87	1,047.55	1,019.83	1,010.07	9.76	104.460	
2,850.00	2,849.31	2,861.01	2,861.01	9.95	0.00	23.24	14.87	1,047.55	1,017.77	1,007.83	9.94	102.401	
2,900.00	2,899.26	2,910.96	2,910.96	10.13	0.00	23.29	14.87	1,047.55	1,015.70	1,005.58	10.12	100.413	
2,950.00	2,949.21	2,960.91	2,960.91	10.31	0.00	23.34	14.87	1,047.55	1,013.63	1,003.34	10.29	98.491	
3,000.00	2,999.16	3,010.86	3,010.86	10.49	0.00	23.39	14.87	1,047.55	1,011.57	1,001.10	10.47	96.634	
3,050.00	3,049.11	3,060.81	3,060.81	10.66	0.00	23.44	14.87	1,047.55	1,009.50	998.86	10.64	94.837	
3,100.00	3,099.06	3,110.76	3,110.76	10.84	0.00	23.49	14.87	1,047.55	1,007.44	996.62	10.82	93.098	
3,150.00	3,149.01	3,160.71	3,160.71	11.02	0.00	23.54	14.87	1,047.55	1,005.38	994.38	11.00	91.414	
3,200.00	3,198.96	3,210.66	3,210.66	11.20	0.00	23.59	14.87	1,047.55	1,003.32	992.14	11.17	89.783	
3,250.00	3,248.91	3,260.61	3,260.61	11.38	0.00	23.64	14.87	1,047.55	1,001.25	989.90	11.35	88.201	
3,300.00	3,298.86	3,310.56	3,310.56	11.55	0.00	23.69	14.87	1,047.55	999.19	987.66	11.53	86.668	
3,350.00	3,348.81	3,360.51	3,360.51	11.73	0.00	23.75	14.87	1,047.55	997.13	985.43	11.71	85.180	
3,400.00	3,398.76	3,410.46	3,410.46	11.91	0.00	23.80	14.87	1,047.55	995.08	983.19	11.88	83.737	
3,450.00	3,448.71	3,460.41	3,460.41	12.09	0.00	23.85	14.87	1,047.55	993.02	980.96	12.06	82.335	
3,500.00	3,498.66	3,510.36	3,510.36	12.27	0.00	23.90	14.87	1,047.55	990.96	978.72	12.24	80.974	
3,550.00	3,548.60	3,560.30	3,560.30	12.45	0.00	23.96	14.87	1,047.55	988.90	976.49	12.42	79.650	
3,600.00	3,598.55	3,610.25	3,610.25	12.63	0.00	24.01	14.87	1,047.55	986.85	974.26	12.59	78.365	
3,650.00	3,648.50	3,660.20	3,660.20	12.81	0.00	24.06	14.87	1,047.55	984.79	972.02	12.77	77.114	
3,700.00	3,698.45	3,710.15	3,710.15	12.99	0.00	24.12	14.87	1,047.55	982.74	969.79	12.95	75.897	
3,750.00	3,748.40	3,760.10	3,760.10	13.16	0.00	24.17	14.87	1,047.55	980.69	967.56	13.13	74.713	
3,800.00	3,798.35	3,810.05	3,810.05	13.34	0.00	24.22	14.87	1,047.55	978.63	965.33	13.30	73.561	
3,850.00	3,848.30	3,860.00	3,860.00	13.52	0.00	24.28	14.87	1,047.55	976.58	963.10	13.48	72.438	
3,900.00	3,898.25	3,909.95	3,909.95	13.70	0.00	24.33	14.87	1,047.55	974.53	960.87	13.66	71.345	
3,950.00	3,948.20	3,959.90	3,959.90	13.88	0.00	24.39	14.87	1,047.55	972.48	958.65	13.84	70.279	
4,000.00	3,998.15	4,009.85	4,009.85	14.06	0.00	24.44	14.87	1,047.55	970.44	956.42	14.02	69.240	
4,050.00	4,048.10	4,059.80	4,059.80	14.24	0.00	24.50	14.87	1,047.55	968.39	954.19	14.19	68.227	
4,100.00	4,098.05	4,109.75	4,109.75	14.42	0.00	24.55	14.87	1,047.55	966.34	951.97	14.37	67.240	
4,150.00	4,148.00	4,159.70	4,159.70	14.60	0.00	24.61	14.87	1,047.55	964.29	949.75	14.55	66.276	
4,200.00	4,197.95	4,209.65	4,209.65	14.78	0.00	24.66	14.87	1,047.55	962.25	947.52	14.73	65.335	
4,250.00	4,247.90	4,259.60	4,259.60	14.96	0.00	24.72	14.87	1,047.55	960.21	945.30	14.91	64.417	
4,300.00	4,297.85	4,309.55	4,309.55	15.14	0.00	24.77	14.87	1,047.55	958.16	943.08	15.08	63.520	
4,350.00	4,347.79	4,359.49	4,359.49	15.32	0.00	24.83	14.87	1,047.55	956.12	940.86	15.26	62.644	
4,400.00	4,397.74	4,409.44	4,409.44	15.50	0.00	24.89	14.87	1,047.55	954.08	938.64	15.44	61.789	
4,450.00	4,447.69	4,459.39	4,459.39	15.68	0.00	24.94	14.87	1,047.55	952.04	936.42	15.62	60.952	
4,500.00	4,497.64	4,509.34	4,509.34	15.86	0.00	25.00	14.87	1,047.55	950.00	934.20	15.80	60.135	
4,550.00	4,547.59	4,559.29	4,559.29	16.04	0.00	25.06	14.87	1,047.55	947.96	931.98	15.98	59.336	
4,600.00	4,597.54	4,609.24	4,609.24	16.22	0.00	25.12	14.87	1,047.55	945.92	929.77	16.15	58.554	
4,650.00	4,647.49	4,659.19	4,659.19	16.40	0.00	25.18	14.87	1,047.55	943.89	927.55	16.33	57.789	
4,700.00	4,697.44	4,709.14	4,709.14	16.58	0.00	25.23	14.87	1,047.55	941.85	925.34	16.51	57.041	
4,750.00	4,747.39	4,759.09	4,759.09	16.76	0.00	25.29	14.87	1,047.55	939.82	923.13	16.69	56.309	
4,800.00	4,797.34	4,809.04	4,809.04	16.94	0.00	25.35	14.87	1,047.55	937.78	920.91	16.87	55.592	
4,850.00	4,847.29	4,858.99	4,858.99	17.12	0.00	25.41	14.87	1,047.55	935.75	918.70	17.05	54.890	
4,900.00	4,897.24	4,908.94	4,908.94	17.30	0.00	25.47	14.87	1,047.55	933.72	916.49	17.23	54.203	
4,950.00	4,947.19	4,958.89	4,958.89	17.48	0.00	25.53	14.87	1,047.55	931.69	914.28	17.41	53.530	
5,000.00	4,997.14	5,008.84	5,008.84	17.66	0.00	25.59	14.87	1,047.55	929.66	912.08	17.58	52.870	
5,050.00	5,047.09	5,058.79	5,058.79	17.84	0.00	25.65	14.87	1,047.55	927.63	909.87	17.76	52.224	
5,100.00	5,097.04	5,108.74	5,108.74	18.02	0.00	25.71	14.87	1,047.55	925.60	907.66	17.94	51.591	
5,150.00	5,146.99	5,158.69	5,158.69	18.20	0.00	25.77	14.87	1,047.55	923.58	905.46	18.12	50.970	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Plan1v2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-GYRO — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,196.93	5,208.63	5,208.63	18.38	0.00	25.83	14.87	1,047.55	921.55	903.25	18.30	50.361	
5,250.00	5,246.88	5,258.58	5,258.58	18.56	0.00	25.89	14.87	1,047.55	919.53	901.05	18.48	49.764	
5,300.00	5,296.83	5,308.53	5,308.53	18.74	0.00	25.95	14.87	1,047.55	917.50	898.85	18.66	49.179	
5,350.00	5,346.78	5,358.48	5,358.48	18.92	0.00	26.01	14.87	1,047.55	915.48	896.65	18.84	48.604	
5,400.00	5,396.73	5,408.43	5,408.43	19.10	0.00	26.08	14.87	1,047.55	913.46	894.45	19.01	48.040	
5,450.00	5,446.68	5,458.38	5,458.38	19.28	0.00	26.14	14.87	1,047.55	911.44	892.25	19.19	47.487	
5,500.00	5,496.63	5,508.33	5,508.33	19.46	0.00	26.20	14.87	1,047.55	909.42	890.05	19.37	46.944	
5,550.00	5,546.58	5,558.28	5,558.28	19.64	0.00	26.26	14.87	1,047.55	907.40	887.85	19.55	46.411	
5,600.00	5,596.53	5,608.23	5,608.23	19.82	0.00	26.33	14.87	1,047.55	905.38	885.65	19.73	45.888	
5,650.00	5,646.48	5,658.18	5,658.18	20.00	0.00	26.39	14.87	1,047.55	903.37	883.46	19.91	45.374	
5,700.00	5,696.43	5,708.13	5,708.13	20.18	0.00	26.45	14.87	1,047.55	901.35	881.27	20.09	44.870	
5,750.00	5,746.38	5,758.08	5,758.08	20.36	0.00	26.52	14.87	1,047.55	899.34	879.07	20.27	44.374	
5,800.00	5,796.33	5,808.03	5,808.03	20.54	0.00	26.58	14.87	1,047.55	897.33	876.88	20.45	43.887	
5,850.00	5,846.28	5,857.98	5,857.98	20.73	0.00	26.64	14.87	1,047.55	895.32	874.69	20.63	43.408	
5,900.00	5,896.23	5,907.93	5,907.93	20.91	0.00	26.71	14.87	1,047.55	893.31	872.50	20.80	42.938	
5,950.00	5,946.18	5,957.88	5,957.88	21.09	0.00	26.77	14.87	1,047.55	891.30	870.31	20.98	42.476	
6,000.00	5,996.12	6,007.82	6,007.82	21.27	0.00	26.84	14.87	1,047.55	889.29	868.13	21.16	42.021	
6,050.00	6,046.07	6,057.77	6,057.77	21.45	0.00	26.91	14.87	1,047.55	887.28	865.94	21.34	41.574	
6,100.00	6,096.02	6,107.72	6,107.72	21.63	0.00	26.97	14.87	1,047.55	885.28	863.76	21.52	41.135	
6,150.00	6,145.97	6,157.67	6,157.67	21.81	0.00	27.04	14.87	1,047.55	883.27	861.57	21.70	40.703	
6,200.00	6,195.92	6,207.62	6,207.62	21.99	0.00	27.10	14.87	1,047.55	881.27	859.39	21.88	40.278	
6,250.00	6,245.87	6,257.57	6,257.57	22.17	0.00	27.17	14.87	1,047.55	879.27	857.21	22.06	39.860	
6,300.00	6,295.82	6,307.52	6,307.52	22.35	0.00	27.24	14.87	1,047.55	877.27	855.03	22.24	39.449	
6,350.00	6,345.77	6,357.47	6,357.47	22.53	0.00	27.30	14.87	1,047.55	875.27	852.85	22.42	39.044	
6,400.00	6,395.72	6,407.42	6,407.42	22.71	0.00	27.37	14.87	1,047.55	873.27	850.67	22.60	38.646	
6,450.00	6,445.67	6,457.37	6,457.37	22.89	0.00	27.44	14.87	1,047.55	871.27	848.49	22.78	38.254	
6,500.00	6,495.62	6,507.32	6,507.32	23.07	0.00	27.51	14.87	1,047.55	869.27	846.32	22.96	37.868	
6,550.00	6,545.57	6,557.27	6,557.27	23.26	0.00	27.58	14.87	1,047.55	867.28	844.14	23.13	37.489	
6,600.00	6,595.52	6,607.22	6,607.22	23.44	0.00	27.65	14.87	1,047.55	865.29	841.97	23.31	37.115	
6,650.00	6,645.47	6,657.17	6,657.17	23.62	0.00	27.72	14.87	1,047.55	863.29	839.80	23.49	36.747	
6,700.00	6,695.42	6,707.12	6,707.12	23.80	0.00	27.79	14.87	1,047.55	861.30	837.63	23.67	36.384	
6,750.00	6,745.37	6,757.07	6,757.07	23.98	0.00	27.86	14.87	1,047.55	859.31	835.46	23.85	36.027	
6,800.00	6,795.31	6,807.01	6,807.01	24.16	0.00	27.93	14.87	1,047.55	857.32	833.29	24.03	35.675	
6,850.00	6,845.26	6,856.96	6,856.96	24.34	0.00	28.00	14.87	1,047.55	855.34	831.13	24.21	35.329	
6,900.00	6,895.21	6,906.91	6,906.91	24.52	0.00	28.07	14.87	1,047.55	853.35	828.96	24.39	34.988	
6,950.00	6,945.16	6,956.86	6,956.86	24.70	0.00	28.14	14.87	1,047.55	851.37	826.80	24.57	34.651	
7,000.00	6,995.11	7,006.81	7,006.81	24.88	0.00	28.21	14.87	1,047.55	849.38	824.63	24.75	34.320	
7,050.00	7,045.06	7,056.76	7,056.76	25.06	0.00	28.28	14.87	1,047.55	847.40	822.47	24.93	33.993	
7,100.00	7,095.01	7,106.71	7,106.71	25.24	0.00	28.35	14.87	1,047.55	845.42	820.31	25.11	33.672	
7,150.00	7,144.96	7,156.66	7,156.66	25.43	0.00	28.43	14.87	1,047.55	843.44	818.15	25.29	33.354	
7,200.00	7,194.91	7,206.61	7,206.61	25.61	0.00	28.50	14.87	1,047.55	841.46	816.00	25.47	33.042	
7,250.00	7,244.86	7,256.56	7,256.56	25.79	0.00	28.57	14.87	1,047.55	839.49	813.84	25.65	32.733	
7,300.00	7,294.81	7,306.51	7,306.51	25.97	0.00	28.65	14.87	1,047.55	837.51	811.69	25.83	32.429	
7,350.00	7,344.76	7,356.46	7,356.46	26.15	0.00	28.72	14.87	1,047.55	835.54	809.53	26.01	32.130	
7,400.00	7,394.71	7,406.41	7,406.41	26.33	0.00	28.79	14.87	1,047.55	833.57	807.38	26.18	31.834	
7,450.00	7,444.66	7,456.36	7,456.36	26.51	0.00	28.87	14.87	1,047.55	831.59	805.23	26.36	31.542	
7,500.00	7,494.61	7,506.31	7,506.31	26.69	0.00	28.94	14.87	1,047.55	829.63	803.08	26.54	31.255	
7,550.00	7,544.56	7,556.26	7,556.26	26.87	0.00	29.02	14.87	1,047.55	827.66	800.93	26.72	30.971	
7,600.00	7,594.50	7,606.20	7,606.20	27.05	0.00	29.09	14.87	1,047.55	825.69	798.79	26.90	30.691	
7,650.00	7,644.45	7,656.15	7,656.15	27.23	0.00	29.17	14.87	1,047.55	823.73	796.64	27.08	30.415	
7,700.00	7,694.40	7,706.10	7,706.10	27.42	0.00	29.25	14.87	1,047.55	821.76	794.50	27.26	30.143	
7,750.00	7,744.35	7,756.05	7,756.05	27.60	0.00	29.32	14.87	1,047.55	819.80	792.36	27.44	29.874	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Plan1v2 — Offset Site Error: 5.00 ft

Survey Program: 0-GYRO — Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,800.00	7,794.30	7,806.00	7,806.00	27.78	0.00	29.40	14.87	1,047.55	817.84	790.22	27.62	29.609	
7,850.00	7,844.25	7,855.95	7,855.95	27.96	0.00	29.48	14.87	1,047.55	815.88	788.08	27.80	29.347	
7,900.00	7,894.20	7,905.90	7,905.90	28.14	0.00	29.56	14.87	1,047.55	813.92	785.94	27.98	29.089	
7,950.00	7,944.15	7,955.85	7,955.85	28.32	0.00	29.63	14.87	1,047.55	811.96	783.80	28.16	28.834	
8,000.00	7,994.10	8,005.80	8,005.80	28.50	0.00	29.71	14.87	1,047.55	810.01	781.67	28.34	28.582	
8,050.00	8,044.05	8,055.75	8,055.75	28.68	0.00	29.79	14.87	1,047.55	808.06	779.54	28.52	28.333	
8,100.00	8,094.00	8,105.70	8,105.70	28.86	0.00	29.87	14.87	1,047.55	806.10	777.41	28.70	28.088	
8,150.00	8,143.95	8,155.65	8,155.65	29.04	0.00	29.95	14.87	1,047.55	804.15	775.28	28.88	27.846	
8,200.00	8,193.90	8,205.60	8,205.60	29.23	0.00	30.03	14.87	1,047.55	802.21	773.15	29.06	27.606	
8,250.00	8,243.85	8,255.55	8,255.55	29.41	0.00	30.11	14.87	1,047.55	800.26	771.02	29.24	27.370	
8,300.00	8,293.80	8,305.50	8,305.50	29.59	0.00	30.19	14.87	1,047.55	798.31	768.90	29.42	27.137	
8,350.00	8,343.75	8,355.45	8,355.45	29.77	0.00	30.27	14.87	1,047.55	796.37	766.77	29.60	26.906	
8,400.00	8,393.69	8,405.39	8,405.39	29.95	0.00	30.36	14.87	1,047.55	794.43	764.65	29.78	26.679	
8,450.00	8,443.64	8,455.34	8,455.34	30.13	0.00	30.44	14.87	1,047.55	792.49	762.53	29.96	26.454	
8,500.00	8,493.59	8,505.29	8,505.29	30.31	0.00	30.52	14.87	1,047.55	790.55	760.41	30.14	26.232	
8,550.00	8,543.54	8,555.24	8,555.24	30.49	0.00	30.60	14.87	1,047.55	788.61	758.29	30.32	26.012	
8,600.00	8,593.49	8,605.19	8,605.19	30.67	0.00	30.69	14.87	1,047.55	786.67	756.18	30.50	25.795	
8,650.00	8,643.44	8,655.14	8,655.14	30.86	0.00	30.77	14.87	1,047.55	784.74	754.06	30.68	25.581	
8,700.00	8,693.39	8,705.09	8,705.09	31.04	0.00	30.86	14.87	1,047.55	782.81	751.95	30.86	25.370	
8,750.00	8,743.34	8,755.04	8,755.04	31.22	0.00	30.94	14.87	1,047.55	780.88	749.84	31.04	25.160	
8,800.00	8,793.29	8,804.99	8,804.99	31.40	0.00	31.03	14.87	1,047.55	778.95	747.73	31.22	24.954	
8,850.00	8,843.24	8,854.94	8,854.94	31.58	0.00	31.11	14.87	1,047.55	777.02	745.63	31.40	24.749	
8,900.00	8,893.19	8,904.89	8,904.89	31.76	0.00	31.20	14.87	1,047.55	775.10	743.52	31.58	24.547	
8,950.00	8,943.14	8,954.84	8,954.84	31.94	0.00	31.28	14.87	1,047.55	773.17	741.42	31.76	24.348	
9,000.00	8,993.09	9,004.79	9,004.79	32.12	0.00	31.37	14.87	1,047.55	771.25	739.32	31.94	24.150	
9,050.00	9,043.04	9,054.74	9,054.74	32.30	0.00	31.46	14.87	1,047.55	769.33	737.22	32.12	23.955	
9,100.00	9,092.99	9,104.69	9,104.69	32.49	0.00	31.54	14.87	1,047.55	767.41	735.12	32.29	23.763	
9,150.00	9,142.94	9,154.64	9,154.64	32.67	0.00	31.63	14.87	1,047.55	765.50	733.02	32.47	23.572	
9,200.00	9,192.88	9,204.58	9,204.58	32.85	0.00	31.72	14.87	1,047.55	763.58	730.93	32.65	23.383	
9,250.00	9,242.83	9,254.53	9,254.53	33.03	0.00	31.81	14.87	1,047.55	761.67	728.83	32.83	23.197	
9,300.00	9,292.78	9,304.48	9,304.48	33.21	0.00	31.90	14.87	1,047.55	759.76	726.74	33.01	23.013	
9,350.00	9,342.73	9,354.43	9,354.43	33.39	0.00	31.99	14.87	1,047.55	757.85	724.65	33.19	22.831	
9,400.00	9,392.68	9,404.38	9,404.38	33.57	0.00	32.08	14.87	1,047.55	755.94	722.57	33.37	22.650	
9,450.00	9,442.63	9,454.33	9,454.33	33.75	0.00	32.17	14.87	1,047.55	754.03	720.48	33.55	22.472	
9,500.00	9,492.58	9,504.28	9,504.28	33.94	0.00	32.26	14.87	1,047.55	752.13	718.40	33.73	22.296	
9,550.00	9,542.53	9,554.23	9,554.23	34.12	0.00	32.35	14.87	1,047.55	750.23	716.32	33.91	22.121	
9,600.00	9,592.48	9,604.18	9,604.18	34.30	0.00	32.45	14.87	1,047.55	748.33	714.24	34.09	21.949	
9,650.00	9,642.43	9,654.13	9,654.13	34.48	0.00	32.54	14.87	1,047.55	746.43	712.16	34.27	21.778	
9,700.00	9,692.38	9,696.16	9,696.14	34.66	0.00	32.70	13.79	1,047.56	744.76	710.30	34.46	21.612	
9,750.00	9,742.33	9,736.49	9,736.27	34.84	0.00	33.07	9.91	1,047.61	743.73	709.09	34.64	21.467	
9,796.11	9,788.39	9,772.94	9,772.23	35.01	0.00	33.59	3.98	1,047.67	743.41	708.60	34.81	21.355 CC	
9,800.00	9,792.28	9,775.98	9,775.21	35.02	0.00	33.64	3.38	1,047.68	743.41	708.59	34.82	21.347 ES	
9,850.00	9,842.23	9,814.30	9,812.48	35.20	0.00	34.38	-5.50	1,047.78	743.90	708.90	35.00	21.255	
9,900.00	9,892.18	9,850.00	9,846.59	35.38	0.00	35.24	-16.01	1,047.90	745.32	710.16	35.16	21.198	
9,950.00	9,942.13	9,886.41	9,880.64	35.57	0.00	36.27	-28.88	1,048.04	747.82	712.51	35.31	21.179 SF	
10,000.00	9,992.08	9,919.85	9,911.14	35.75	0.00	37.35	-42.59	1,048.20	751.54	716.10	35.44	21.207	
10,050.00	10,042.02	9,950.00	9,937.91	35.93	0.00	38.43	-56.46	1,048.35	756.64	721.10	35.53	21.293	
10,100.00	10,091.97	9,981.11	9,964.72	36.11	0.00	39.64	-72.22	1,048.53	763.24	727.63	35.61	21.433	
10,150.00	10,141.92	10,008.93	9,987.94	36.29	0.00	40.79	-87.53	1,048.70	771.47	735.82	35.64	21.644	
10,200.00	10,191.87	10,034.92	10,008.95	36.47	0.00	41.93	-102.84	1,048.88	781.41	745.77	35.64	21.926	
10,250.00	10,241.82	10,059.18	10,027.90	36.65	0.00	43.04	-117.97	1,049.05	793.15	757.56	35.59	22.285	
10,300.00	10,291.77	10,081.78	10,044.97	36.83	0.00	44.11	-132.78	1,049.21	806.71	771.21	35.50	22.723	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - Plan1v2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-GYRO — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,350.00	10,341.72	10,100.00	10,058.30	37.02	0.00	45.00	-145.20	1,049.35	822.14	786.79	35.35	23.258	
10,400.00	10,391.67	10,122.44	10,074.16	37.20	0.00	46.11	-161.07	1,049.53	839.39	804.19	35.20	23.844	
10,450.00	10,441.62	10,140.69	10,086.60	37.38	0.00	47.03	-174.43	1,049.68	858.47	823.47	35.00	24.526	
10,500.00	10,491.57	10,150.00	10,092.77	37.56	0.00	47.51	-181.40	1,049.76	879.39	844.68	34.70	25.342	
10,550.00	10,541.52	10,173.57	10,107.90	37.74	0.00	48.72	-199.47	1,049.96	901.89	867.37	34.52	26.127	
10,600.00	10,591.47	10,188.37	10,117.01	37.92	0.00	49.49	-211.13	1,050.10	926.10	891.85	34.25	27.041	
10,650.00	10,641.42	10,200.00	10,123.96	38.10	0.00	50.10	-220.46	1,050.20	951.88	917.94	33.94	28.043	
10,700.00	10,691.37	10,215.14	10,132.72	38.28	0.00	50.89	-232.80	1,050.34	979.14	945.46	33.67	29.077	
10,750.00	10,741.32	10,227.25	10,139.49	38.47	0.00	51.53	-242.85	1,050.45	1,007.80	974.42	33.38	30.191	
10,800.00	10,791.27	10,250.00	10,151.62	38.65	0.00	52.73	-262.08	1,050.67	1,037.93	1,004.73	33.20	31.264	
10,850.00	10,841.21	10,250.00	10,151.62	38.83	0.00	52.73	-262.08	1,050.67	1,068.99	1,036.18	32.81	32.581	
10,900.00	10,891.16	10,250.00	10,151.62	39.01	0.00	52.73	-262.08	1,050.67	1,101.45	1,069.01	32.44	33.958	
10,950.00	10,941.11	10,268.71	10,161.03	39.19	0.00	53.72	-278.26	1,050.85	1,134.79	1,102.53	32.26	35.180	
11,000.00	10,991.06	10,277.60	10,165.31	39.37	0.00	54.18	-286.05	1,050.94	1,169.22	1,137.21	32.00	36.537	
11,050.00	11,041.02	10,300.00	10,175.55	39.55	0.00	55.68	-305.96	1,051.16	1,204.83	1,172.95	31.89	37.786	
11,100.00	11,090.99	10,300.00	10,175.55	39.73	0.00	56.33	-305.96	1,051.16	1,241.12	1,209.53	31.59	39.288	
11,150.00	11,140.98	10,300.00	10,175.55	39.91	0.00	57.04	-305.96	1,051.16	1,278.58	1,247.26	31.32	40.826	
11,200.00	11,190.98	10,300.00	10,175.55	40.09	0.00	124.41	-305.96	1,051.16	1,317.09	1,286.02	31.07	42.388	
11,250.00	11,240.98	10,315.94	10,182.37	40.26	0.00	125.23	-320.37	1,051.33	1,356.16	1,325.18	30.98	43.779	
11,300.00	11,290.98	10,322.56	10,185.08	40.44	0.00	125.56	-326.41	1,051.39	1,395.91	1,365.09	30.82	45.289	
11,350.00	11,340.98	10,328.85	10,187.59	40.61	0.00	125.88	-332.18	1,051.46	1,436.21	1,405.53	30.68	46.807	
11,400.00	11,390.98	10,350.00	10,195.57	40.78	0.00	126.94	-351.76	1,051.68	1,477.28	1,446.60	30.67	48.164	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - PTL — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF, 9898- — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	11.82	11.82	0.50	0.02	89.19	14.88	1,047.55	1,047.66				
50.00	50.00	62.35	62.35	0.50	0.08	89.18	15.04	1,047.53	1,047.64	1,047.05	0.59	1,789.538	
100.00	100.00	112.98	112.97	0.52	0.17	89.16	15.43	1,047.48	1,047.59	1,046.90	0.69	1,513.117	
150.00	150.00	164.01	164.01	0.59	0.35	89.13	15.82	1,047.39	1,047.51	1,046.57	0.94	1,110.205	
200.00	200.00	214.51	214.51	0.70	0.53	89.12	16.12	1,047.25	1,047.38	1,046.15	1.23	850.185	
250.00	250.00	264.11	264.11	0.84	0.70	89.10	16.39	1,047.12	1,047.25	1,045.71	1.54	679.783	
300.00	300.00	312.58	312.58	0.99	0.87	89.09	16.64	1,047.03	1,047.16	1,045.30	1.86	563.247	
316.18	316.18	327.89	327.88	1.04	0.93	89.09	16.70	1,047.02	1,047.16	1,045.19	1.96	533.468	
350.00	350.00	359.88	359.87	1.15	1.04	89.08	16.81	1,047.05	1,047.19	1,045.00	2.18	479.908	
400.00	400.00	409.91	409.91	1.31	1.21	89.07	16.96	1,047.16	1,047.30	1,044.78	2.52	415.574	
450.00	450.00	462.58	462.57	1.48	1.40	89.05	17.33	1,047.18	1,047.33	1,044.45	2.87	364.768	
500.00	500.00	513.33	513.32	1.65	1.58	89.02	17.86	1,047.10	1,047.25	1,044.04	3.22	325.393	
550.00	550.00	563.38	563.37	1.82	1.75	89.00	18.36	1,047.01	1,047.18	1,043.61	3.57	293.726	
588.31	588.31	600.02	600.01	1.95	1.88	88.98	18.72	1,046.97	1,047.14	1,043.31	3.83	273.709	
600.00	600.00	611.09	611.08	1.99	1.92	88.97	18.84	1,046.97	1,047.14	1,043.24	3.91	268.154	
650.00	650.00	658.43	658.41	2.16	2.08	88.94	19.41	1,047.05	1,047.24	1,042.99	4.24	246.723	
700.00	700.00	709.08	709.05	2.34	2.26	88.91	19.99	1,047.19	1,047.39	1,042.79	4.60	227.876	
750.00	750.00	760.20	760.17	2.51	2.44	88.88	20.43	1,047.29	1,047.49	1,042.54	4.95	211.601	
800.00	800.00	812.17	812.14	2.69	2.62	88.86	20.87	1,047.31	1,047.51	1,042.21	5.31	197.358	
850.00	850.00	863.68	863.65	2.87	2.80	88.83	21.45	1,047.23	1,047.45	1,041.78	5.66	184.932	
900.00	900.00	913.86	913.82	3.04	2.98	88.79	22.03	1,047.12	1,047.35	1,041.34	6.02	174.095	
950.00	950.00	962.95	962.91	3.22	3.15	88.77	22.55	1,047.01	1,047.26	1,040.89	6.36	164.549	
972.94	972.94	984.68	984.64	3.30	3.23	88.76	22.75	1,047.00	1,047.24	1,040.72	6.52	160.582	
1,000.00	1,000.00	1,010.31	1,010.27	3.40	3.32	88.74	22.96	1,047.01	1,047.26	1,040.55	6.71	156.148	
1,050.00	1,050.00	1,059.99	1,059.95	3.58	3.49	88.73	23.28	1,047.11	1,047.37	1,040.31	7.06	148.402	
1,100.00	1,100.00	1,113.05	1,113.01	3.75	3.68	88.70	23.69	1,047.11	1,047.38	1,039.96	7.42	141.150	
1,150.00	1,150.00	1,161.96	1,161.92	3.93	3.85	88.68	24.11	1,047.03	1,047.31	1,039.54	7.77	134.811	
1,153.26	1,153.26	1,165.01	1,164.96	3.94	3.86	88.68	24.13	1,047.03	1,047.31	1,039.52	7.79	134.426	
1,200.00	1,200.00	1,208.58	1,208.54	4.11	4.01	88.67	24.38	1,047.09	1,047.38	1,039.27	8.11	129.159	
1,250.00	1,250.00	1,257.58	1,257.54	4.29	4.18	88.66	24.52	1,047.28	1,047.57	1,039.12	8.46	123.855	
1,300.00	1,300.00	1,307.95	1,307.90	4.46	4.36	88.65	24.61	1,047.47	1,047.76	1,038.95	8.81	118.903	
1,350.00	1,350.00	1,360.36	1,360.32	4.64	4.54	88.65	24.69	1,047.61	1,047.90	1,038.73	9.17	114.238	
1,400.00	1,400.00	1,413.37	1,413.32	4.82	4.73	88.64	24.89	1,047.60	1,047.89	1,038.36	9.54	109.886	
1,450.00	1,450.00	1,464.07	1,464.03	5.00	4.91	88.62	25.20	1,047.49	1,047.80	1,037.91	9.89	105.931	
1,500.00	1,500.00	1,514.80	1,514.75	5.18	5.08	88.60	25.67	1,047.35	1,047.67	1,037.42	10.25	102.245	
1,550.00	1,550.00	1,563.85	1,563.80	5.36	5.26	88.57	26.07	1,047.23	1,047.55	1,036.96	10.60	98.860	
1,600.00	1,600.00	1,613.32	1,613.27	5.53	5.43	88.56	26.31	1,047.14	1,047.47	1,036.52	10.95	95.682	
1,650.00	1,650.00	1,663.27	1,663.21	5.71	5.60	88.55	26.50	1,047.06	1,047.40	1,036.10	11.30	92.689	
1,700.00	1,700.00	1,712.24	1,712.19	5.89	5.77	88.54	26.65	1,047.00	1,047.33	1,035.68	11.65	89.903	
1,709.53	1,709.53	1,721.28	1,721.23	5.93	5.81	88.54	26.67	1,046.99	1,047.33	1,035.62	11.72	89.399	
1,750.00	1,750.00	1,759.69	1,759.64	6.07	5.94	88.54	26.69	1,047.03	1,047.37	1,035.38	11.99	87.327	
1,800.00	1,800.00	1,808.15	1,808.10	6.25	6.11	88.54	26.63	1,047.18	1,047.52	1,035.18	12.34	84.878	
1,850.00	1,850.00	1,858.02	1,857.97	6.43	6.28	88.55	26.53	1,047.35	1,047.70	1,035.00	12.69	82.533	
1,900.00	1,900.00	1,908.14	1,908.09	6.61	6.46	88.55	26.44	1,047.53	1,047.87	1,034.83	13.05	80.310	
1,950.00	1,950.00	1,958.48	1,958.42	6.78	6.63	88.56	26.34	1,047.70	1,048.04	1,034.64	13.40	78.198	
2,000.00	2,000.00	2,012.42	2,012.36	6.96	6.82	88.56	26.27	1,047.80	1,048.13	1,034.36	13.77	76.120	
2,050.00	2,050.00	2,068.05	2,068.00	7.14	7.01	21.90	26.28	1,047.61	1,047.76	1,033.62	14.14	74.102	
2,100.00	2,099.99	2,116.84	2,116.78	7.32	7.18	21.91	26.33	1,047.35	1,046.88	1,032.39	14.49	72.271	
2,150.00	2,149.98	2,165.79	2,165.73	7.49	7.35	21.93	26.38	1,047.14	1,045.65	1,030.82	14.83	70.510	
2,200.00	2,199.96	2,216.87	2,216.82	7.66	7.53	21.97	26.42	1,046.91	1,044.02	1,028.84	15.18	68.768	
2,250.00	2,249.92	2,266.73	2,266.67	7.84	7.70	22.02	26.40	1,046.64	1,041.93	1,026.40	15.53	67.092	
2,300.00	2,299.87	2,312.86	2,312.81	8.01	7.86	22.06	26.37	1,046.51	1,039.70	1,023.83	15.87	65.534	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - PTL — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF, 9898- — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,350.00	2,349.82	2,360.66	2,360.60	8.19	8.03	22.11	26.33	1,046.53	1,037.64	1,021.43	16.21	64.027	
2,400.00	2,399.77	2,414.41	2,414.35	8.36	8.22	22.16	26.30	1,046.48	1,035.51	1,018.94	16.57	62.500	
2,450.00	2,449.72	2,466.38	2,466.32	8.54	8.40	22.21	26.28	1,046.26	1,033.21	1,016.29	16.92	61.050	
2,500.00	2,499.67	2,516.41	2,516.35	8.72	8.57	22.26	26.26	1,046.02	1,030.89	1,013.62	17.27	59.681	
2,550.00	2,549.62	2,564.06	2,564.01	8.89	8.74	22.31	26.22	1,045.82	1,028.60	1,010.99	17.62	58.393	
2,600.00	2,599.57	2,610.18	2,610.12	9.07	8.90	22.36	26.17	1,045.79	1,026.48	1,008.53	17.95	57.181	
2,650.00	2,649.52	2,658.23	2,658.17	9.25	9.07	22.41	26.10	1,045.91	1,024.53	1,006.23	18.29	56.002	
2,700.00	2,699.47	2,707.71	2,707.65	9.42	9.24	22.46	26.02	1,046.07	1,022.61	1,003.96	18.64	54.853	
2,750.00	2,749.41	2,759.62	2,759.56	9.60	9.42	22.51	25.95	1,046.22	1,020.67	1,001.67	19.00	53.720	
2,800.00	2,799.36	2,812.66	2,812.60	9.78	9.61	22.56	25.94	1,046.22	1,018.59	999.23	19.36	52.611	
2,850.00	2,849.31	2,862.76	2,862.70	9.95	9.78	22.61	25.98	1,046.13	1,016.43	996.72	19.71	51.565	
2,900.00	2,899.26	2,912.62	2,912.56	10.13	9.95	22.66	26.03	1,046.05	1,014.27	994.21	20.06	50.558	
2,950.00	2,949.21	2,963.09	2,963.03	10.31	10.13	22.70	26.10	1,045.96	1,012.11	991.69	20.41	49.578	
3,000.00	2,999.16	3,013.57	3,013.51	10.49	10.31	22.75	26.20	1,045.84	1,009.91	989.15	20.77	48.631	
3,050.00	3,049.11	3,059.70	3,059.64	10.66	10.47	22.79	26.29	1,045.82	1,007.82	986.72	21.10	47.753	
3,100.00	3,099.06	3,107.12	3,107.06	10.84	10.63	22.83	26.37	1,045.95	1,005.88	984.44	21.45	46.901	
3,150.00	3,149.01	3,157.28	3,157.22	11.02	10.81	22.88	26.44	1,046.13	1,003.99	982.19	21.80	46.057	
3,200.00	3,198.96	3,209.17	3,209.11	11.20	10.99	22.92	26.50	1,046.29	1,002.07	979.91	22.16	45.227	
3,250.00	3,248.91	3,264.78	3,264.72	11.38	11.18	22.97	26.63	1,046.22	999.93	977.41	22.53	44.388	
3,300.00	3,298.86	3,316.94	3,316.87	11.55	11.37	23.01	26.84	1,045.91	997.57	974.69	22.89	43.590	
3,350.00	3,348.81	3,367.09	3,367.03	11.73	11.54	23.05	27.12	1,045.59	995.18	971.94	23.24	42.826	
3,400.00	3,398.76	3,414.52	3,414.45	11.91	11.71	23.08	27.41	1,045.32	992.83	969.25	23.58	42.103	
3,450.00	3,448.71	3,461.12	3,461.06	12.09	11.87	23.11	27.67	1,045.21	990.64	966.72	23.92	41.412	
3,500.00	3,498.66	3,510.79	3,510.72	12.27	12.05	23.15	27.91	1,045.20	988.57	964.29	24.27	40.728	
3,550.00	3,548.60	3,561.43	3,561.36	12.45	12.22	23.19	28.12	1,045.16	986.46	961.84	24.63	40.057	
3,600.00	3,598.55	3,614.89	3,614.82	12.63	12.41	23.23	28.35	1,045.01	984.26	959.27	24.99	39.386	
3,650.00	3,648.50	3,668.62	3,668.55	12.81	12.60	23.27	28.66	1,044.66	981.86	956.51	25.35	38.726	
3,700.00	3,698.45	3,717.22	3,717.15	12.99	12.77	23.30	29.01	1,044.30	979.43	953.73	25.70	38.107	
3,750.00	3,748.40	3,766.47	3,766.39	13.16	12.94	23.32	29.43	1,043.97	977.02	950.97	26.05	37.503	
3,800.00	3,798.35	3,815.47	3,815.39	13.34	13.11	23.35	29.94	1,043.67	974.66	948.26	26.40	36.918	
3,850.00	3,848.30	3,863.37	3,863.29	13.52	13.28	23.36	30.52	1,043.44	972.35	945.61	26.75	36.354	
3,900.00	3,898.25	3,909.31	3,909.22	13.70	13.44	23.37	31.12	1,043.38	970.22	943.14	27.09	35.820	
3,950.00	3,948.20	3,955.33	3,955.24	13.88	13.60	23.39	31.72	1,043.51	968.30	940.87	27.42	35.307	
4,000.00	3,998.15	4,001.53	4,001.44	14.06	13.76	23.41	32.16	1,043.83	966.57	938.81	27.76	34.813	
4,050.00	4,048.10	4,047.74	4,047.64	14.24	13.93	23.45	32.41	1,044.32	965.04	936.94	28.10	34.339	
4,100.00	4,098.05	4,093.95	4,093.84	14.42	14.09	23.49	32.53	1,044.99	963.70	935.26	28.44	33.883	
4,150.00	4,148.00	4,139.97	4,139.86	14.60	14.25	23.53	32.56	1,045.84	962.56	933.78	28.78	33.446	
4,200.00	4,197.95	4,185.50	4,185.38	14.78	14.41	23.59	32.44	1,046.88	961.65	932.53	29.12	33.029	
4,250.00	4,247.90	4,231.58	4,231.44	14.96	14.57	23.66	32.14	1,048.15	960.96	931.51	29.45	32.627	
4,300.00	4,297.85	4,279.76	4,279.59	15.14	14.74	23.74	31.68	1,049.60	960.41	930.61	29.80	32.230	
4,350.00	4,347.79	4,327.76	4,327.57	15.32	14.90	23.82	31.10	1,051.14	959.96	929.82	30.14	31.847	
4,400.00	4,397.74	4,375.33	4,375.10	15.50	15.07	23.92	30.32	1,052.78	959.63	929.14	30.49	31.478	
4,450.00	4,447.69	4,423.65	4,423.38	15.68	15.24	24.03	29.34	1,054.55	959.42	928.59	30.83	31.118	
4,500.00	4,497.64	4,473.78	4,473.47	15.86	15.41	24.14	28.31	1,056.42	959.24	928.06	31.19	30.759	
4,550.00	4,547.59	4,522.45	4,522.09	16.04	15.58	24.25	27.38	1,058.23	959.07	927.54	31.53	30.415	
4,582.42	4,579.98	4,552.75	4,552.36	16.15	15.69	24.31	26.91	1,059.44	959.04	927.28	31.75	30.203	
4,600.00	4,597.54	4,569.18	4,568.78	16.22	15.75	24.34	26.69	1,060.12	959.05	927.18	31.87	30.090	
4,650.00	4,647.49	4,619.26	4,618.81	16.40	15.92	24.43	26.16	1,062.27	959.16	926.93	32.23	29.763	
4,700.00	4,697.44	4,673.78	4,673.28	16.58	16.11	24.52	25.57	1,064.42	959.10	926.50	32.60	29.421	
4,750.00	4,747.39	4,727.23	4,726.69	16.76	16.30	24.62	24.90	1,066.30	958.82	925.86	32.97	29.085	
4,800.00	4,797.34	4,780.24	4,779.68	16.94	16.49	24.72	24.08	1,067.99	958.39	925.06	33.33	28.753	
4,850.00	4,847.29	4,829.82	4,829.22	17.12	16.66	24.83	23.25	1,069.49	957.88	924.20	33.68	28.438	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - PTL — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF, 9898- — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.00	4,897.24	4,879.31	4,878.69	17.30	16.83	24.93	22.45	1,071.03	957.41	923.38	34.04	28.130	
4,950.00	4,947.19	4,931.22	4,930.56	17.48	17.02	25.03	21.71	1,072.59	956.90	922.51	34.40	27.820	
5,000.00	4,997.14	4,982.94	4,982.26	17.66	17.20	25.12	21.13	1,074.06	956.30	921.54	34.76	27.514	
5,050.00	5,047.09	5,034.10	5,033.40	17.84	17.38	25.21	20.64	1,075.43	955.62	920.51	35.11	27.214	
5,100.00	5,097.04	5,084.47	5,083.75	18.02	17.55	25.29	20.20	1,076.73	954.89	919.42	35.47	26.921	
5,150.00	5,146.99	5,133.71	5,132.97	18.20	17.72	25.37	19.65	1,078.02	954.19	918.36	35.82	26.638	
5,200.00	5,196.93	5,184.92	5,184.15	18.38	17.90	25.48	18.90	1,079.37	953.49	917.32	36.18	26.355	
5,250.00	5,246.88	5,237.97	5,237.18	18.56	18.09	25.59	18.04	1,080.61	952.67	916.12	36.54	26.069	
5,300.00	5,296.83	5,288.46	5,287.66	18.74	18.26	25.69	17.27	1,081.69	951.73	914.83	36.90	25.792	
5,350.00	5,346.78	5,338.12	5,337.30	18.92	18.44	25.77	16.91	1,082.77	950.81	913.56	37.25	25.523	
5,400.00	5,396.73	5,389.29	5,388.46	19.10	18.62	25.83	16.88	1,083.88	949.87	912.26	37.61	25.255	
5,450.00	5,446.68	5,440.71	5,439.87	19.28	18.80	25.87	17.05	1,084.94	948.86	910.89	37.97	24.990	
5,500.00	5,496.63	5,490.68	5,489.83	19.46	18.97	25.93	17.07	1,085.91	947.81	909.49	38.32	24.732	
5,550.00	5,546.58	5,540.94	5,540.08	19.64	19.15	26.01	16.70	1,086.88	946.77	908.09	38.68	24.478	
5,600.00	5,596.53	5,592.37	5,591.50	19.82	19.33	26.10	16.20	1,087.80	945.67	906.63	39.04	24.225	
5,650.00	5,646.48	5,644.20	5,643.32	20.00	19.51	26.19	15.74	1,088.65	944.49	905.09	39.40	23.973	
5,700.00	5,696.43	5,696.72	5,695.84	20.18	19.69	26.27	15.41	1,089.39	943.19	903.43	39.76	23.722	
5,750.00	5,746.38	5,748.03	5,747.14	20.36	19.87	26.34	15.22	1,090.00	941.78	901.66	40.12	23.475	
5,800.00	5,796.33	5,798.41	5,797.51	20.54	20.04	26.41	15.08	1,090.57	940.33	899.86	40.47	23.233	
5,850.00	5,846.28	5,848.63	5,847.74	20.73	20.22	26.48	14.93	1,091.12	938.87	898.04	40.83	22.996	
5,900.00	5,896.23	5,898.79	5,897.89	20.91	20.39	26.55	14.62	1,091.64	937.39	896.21	41.18	22.762	
5,950.00	5,946.18	5,949.54	5,948.63	21.09	20.57	26.64	14.22	1,092.15	935.90	894.36	41.54	22.531	
6,000.00	5,996.12	6,000.39	5,999.48	21.27	20.75	26.72	13.84	1,092.60	934.36	892.46	41.90	22.302	
6,050.00	6,046.07	6,050.25	6,049.33	21.45	20.92	26.81	13.48	1,093.03	932.80	890.55	42.25	22.078	
6,100.00	6,096.02	6,100.31	6,099.40	21.63	21.10	26.89	13.10	1,093.46	931.25	888.64	42.60	21.858	
6,150.00	6,145.97	6,151.84	6,150.93	21.81	21.28	26.97	12.85	1,093.87	929.64	886.68	42.96	21.639	
6,200.00	6,195.92	6,202.98	6,202.06	21.99	21.46	27.04	12.81	1,094.19	927.96	884.64	43.32	21.421	
6,250.00	6,245.87	6,253.23	6,252.31	22.17	21.63	27.10	12.82	1,094.49	926.25	882.58	43.67	21.208	
6,300.00	6,295.82	6,303.08	6,302.16	22.35	21.81	27.16	12.83	1,094.77	924.53	880.50	44.03	20.998	
6,350.00	6,345.77	6,352.45	6,351.53	22.53	21.98	27.23	12.67	1,095.06	922.84	878.45	44.38	20.794	
6,400.00	6,395.72	6,402.27	6,401.34	22.71	22.15	27.31	12.36	1,095.37	921.17	876.43	44.73	20.592	
6,450.00	6,445.67	6,452.45	6,451.52	22.89	22.33	27.39	12.06	1,095.68	919.49	874.40	45.09	20.393	
6,500.00	6,495.62	6,503.44	6,502.51	23.07	22.50	27.47	11.81	1,095.96	917.79	872.35	45.45	20.195	
6,550.00	6,545.57	6,554.80	6,553.87	23.26	22.68	27.55	11.70	1,096.19	916.02	870.22	45.80	19.999	
6,600.00	6,595.52	6,605.79	6,604.86	23.44	22.86	27.61	11.68	1,096.34	914.18	868.02	46.16	19.804	
6,650.00	6,645.47	6,656.71	6,655.78	23.62	23.04	27.68	11.64	1,096.44	912.29	865.77	46.52	19.612	
6,700.00	6,695.42	6,705.36	6,704.44	23.80	23.21	27.75	11.53	1,096.55	910.41	863.54	46.87	19.425	
6,750.00	6,745.37	6,754.16	6,753.24	23.98	23.38	27.83	11.26	1,096.70	908.60	861.38	47.22	19.242	
6,800.00	6,795.31	6,803.82	6,802.89	24.16	23.55	27.92	10.95	1,096.90	906.83	859.26	47.57	19.062	
6,850.00	6,845.26	6,853.55	6,852.62	24.34	23.72	28.00	10.67	1,097.11	905.08	857.16	47.93	18.885	
6,900.00	6,895.21	6,903.57	6,902.64	24.52	23.90	28.08	10.52	1,097.34	903.33	855.05	48.28	18.711	
6,950.00	6,945.16	6,953.46	6,952.52	24.70	24.07	28.14	10.55	1,097.57	901.58	852.95	48.63	18.538	
7,000.00	6,995.11	7,003.07	7,002.14	24.88	24.25	28.20	10.58	1,097.83	899.85	850.87	48.99	18.369	
7,050.00	7,045.06	7,052.18	7,051.24	25.06	24.42	28.27	10.54	1,098.09	898.15	848.81	49.34	18.204	
7,100.00	7,095.01	7,100.69	7,099.75	25.24	24.59	28.35	10.31	1,098.41	896.51	846.82	49.69	18.043	
7,150.00	7,144.96	7,150.91	7,149.97	25.43	24.76	28.44	9.90	1,098.78	894.94	844.89	50.04	17.883	
7,200.00	7,194.91	7,202.66	7,201.72	25.61	24.94	28.53	9.62	1,099.09	893.28	842.88	50.40	17.723	
7,250.00	7,244.86	7,252.42	7,251.48	25.79	25.12	28.61	9.47	1,099.34	891.57	840.81	50.76	17.566	
7,300.00	7,294.81	7,301.39	7,300.45	25.97	25.29	28.69	9.29	1,099.63	889.91	838.80	51.11	17.412	
7,350.00	7,344.76	7,349.29	7,348.34	26.15	25.46	28.77	8.99	1,099.98	888.33	836.87	51.46	17.264	
7,400.00	7,394.71	7,396.91	7,395.96	26.33	25.62	28.87	8.38	1,100.43	886.88	835.08	51.80	17.120	
7,450.00	7,444.66	7,446.13	7,445.17	26.51	25.79	29.00	7.48	1,100.95	885.53	833.37	52.15	16.979	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - PTL — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF, 9898- — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,500.00	7,494.61	7,495.64	7,494.67	26.69	25.97	29.13	6.43	1,101.48	884.21	831.70	52.51	16.840	
7,550.00	7,544.56	7,547.81	7,546.82	26.87	26.15	29.27	5.32	1,102.00	882.84	829.97	52.87	16.699	
7,600.00	7,594.50	7,600.12	7,599.12	27.05	26.33	29.41	4.37	1,102.39	881.35	828.12	53.23	16.557	
7,650.00	7,644.45	7,649.13	7,648.12	27.23	26.50	29.53	3.45	1,102.73	879.83	826.25	53.58	16.420	
7,700.00	7,694.40	7,698.09	7,697.07	27.42	26.67	29.67	2.43	1,103.09	878.35	824.42	53.93	16.286	
7,750.00	7,744.35	7,745.69	7,744.66	27.60	26.84	29.81	1.30	1,103.52	876.98	822.70	54.28	16.157	
7,800.00	7,794.30	7,793.49	7,792.43	27.78	27.01	29.96	0.03	1,104.06	875.75	821.12	54.63	16.031	
7,850.00	7,844.25	7,841.74	7,840.66	27.96	27.17	30.10	-1.22	1,104.72	874.62	819.65	54.98	15.909	
7,900.00	7,894.20	7,892.07	7,890.97	28.14	27.35	30.25	-2.44	1,105.48	873.58	818.25	55.33	15.788	
7,950.00	7,944.15	7,946.06	7,944.94	28.32	27.54	30.40	-3.59	1,106.15	872.38	816.68	55.70	15.662	
8,000.00	7,994.10	7,997.02	7,995.89	28.50	27.72	30.54	-4.57	1,106.60	871.00	814.94	56.06	15.538	
8,050.00	8,044.05	8,046.16	8,045.02	28.68	27.89	30.68	-5.59	1,107.06	869.66	813.25	56.41	15.417	
8,100.00	8,094.00	8,095.11	8,093.95	28.86	28.06	30.82	-6.72	1,107.55	868.37	811.61	56.76	15.299	
8,150.00	8,143.95	8,143.96	8,142.79	29.04	28.23	30.97	-8.00	1,108.08	867.15	810.04	57.11	15.183	
8,200.00	8,193.90	8,194.47	8,193.27	29.23	28.41	31.14	-9.43	1,108.64	865.96	808.49	57.47	15.068	
8,250.00	8,243.85	8,245.36	8,244.14	29.41	28.58	31.31	-10.86	1,109.14	864.72	806.89	57.83	14.954	
8,300.00	8,293.80	8,298.67	8,297.43	29.59	28.77	31.48	-12.28	1,109.55	863.36	805.17	58.19	14.837	
8,350.00	8,343.75	8,352.05	8,350.79	29.77	28.96	31.65	-13.57	1,109.76	861.81	803.26	58.56	14.718	
8,400.00	8,393.69	8,404.44	8,403.17	29.95	29.14	31.81	-14.73	1,109.81	860.11	801.19	58.92	14.599	
8,450.00	8,443.64	8,454.49	8,453.21	30.13	29.31	31.95	-15.77	1,109.74	858.28	799.01	59.27	14.480	
8,500.00	8,493.59	8,501.23	8,499.94	30.31	29.48	32.10	-16.85	1,109.78	856.59	796.97	59.62	14.368	
8,550.00	8,543.54	8,550.78	8,549.47	30.49	29.65	32.26	-18.11	1,109.96	855.06	795.09	59.97	14.258	
8,600.00	8,593.49	8,604.07	8,602.74	30.67	29.83	32.43	-19.40	1,110.01	853.40	793.06	60.33	14.144	
8,650.00	8,643.44	8,657.16	8,655.82	30.86	30.02	32.59	-20.54	1,109.88	851.55	790.85	60.70	14.030	
8,700.00	8,693.39	8,710.15	8,708.80	31.04	30.20	32.75	-21.47	1,109.59	849.53	788.47	61.06	13.913	
8,750.00	8,743.34	8,759.11	8,757.76	31.22	30.37	32.88	-22.26	1,109.26	847.44	786.03	61.41	13.800	
8,800.00	8,793.29	8,807.65	8,806.29	31.40	30.54	33.03	-23.13	1,109.00	845.43	783.67	61.76	13.689	
8,850.00	8,843.24	8,856.80	8,855.43	31.58	30.71	33.17	-23.97	1,108.80	843.49	781.38	62.11	13.580	
8,900.00	8,893.19	8,905.98	8,904.60	31.76	30.89	33.29	-24.63	1,108.68	841.60	779.14	62.47	13.473	
8,950.00	8,943.14	8,952.30	8,950.92	31.94	31.05	33.41	-25.16	1,108.71	839.86	777.05	62.81	13.371	
9,000.00	8,993.09	8,999.25	8,997.87	32.12	31.21	33.52	-25.67	1,108.94	838.31	775.16	63.16	13.274	
9,050.00	9,043.04	9,052.70	9,051.32	32.30	31.40	33.64	-26.23	1,109.17	836.75	773.23	63.52	13.173	
9,100.00	9,092.99	9,106.95	9,105.56	32.49	31.59	33.77	-26.76	1,109.17	834.97	771.08	63.89	13.070	
9,150.00	9,142.94	9,162.99	9,161.60	32.67	31.78	33.90	-27.09	1,108.85	832.86	768.61	64.25	12.962	
9,200.00	9,192.88	9,215.19	9,213.79	32.85	31.96	34.00	-27.25	1,108.26	830.47	765.86	64.61	12.853	
9,250.00	9,242.83	9,265.18	9,263.78	33.03	32.14	34.13	-27.74	1,107.60	828.05	763.08	64.97	12.746	
9,300.00	9,292.78	9,320.29	9,318.88	33.21	32.33	34.30	-28.52	1,106.68	825.51	760.18	65.33	12.636	
9,350.00	9,342.73	9,376.94	9,375.50	33.39	32.53	34.46	-29.22	1,105.31	822.58	756.89	65.69	12.522	
9,400.00	9,392.68	9,430.15	9,428.68	33.57	32.71	34.62	-29.84	1,103.70	819.36	753.31	66.05	12.406	
9,450.00	9,442.63	9,484.02	9,482.52	33.75	32.90	34.79	-30.50	1,101.81	815.91	749.51	66.40	12.287	
9,500.00	9,492.58	9,538.46	9,536.91	33.94	33.09	34.98	-31.35	1,099.56	812.20	745.44	66.76	12.167	
9,550.00	9,542.53	9,586.48	9,584.88	34.12	33.21	35.15	-32.14	1,097.46	808.38	741.32	67.06	12.054	
9,600.00	9,592.48	9,632.75	9,631.10	34.30	33.29	35.33	-33.02	1,095.58	804.76	737.42	67.33	11.952	
9,650.00	9,642.43	9,674.78	9,673.07	34.48	33.32	35.53	-34.46	1,094.01	801.46	733.90	67.56	11.863	
9,700.00	9,692.38	9,709.00	9,707.14	34.66	33.32	35.82	-37.43	1,092.91	798.97	731.19	67.77	11.789	
9,750.00	9,742.33	9,745.50	9,743.26	34.84	33.32	36.26	-42.59	1,091.96	797.42	729.45	67.97	11.732	
9,800.00	9,792.28	9,782.38	9,779.33	35.02	33.32	36.87	-50.13	1,091.03	796.74	728.59	68.15	11.690	
9,817.41	9,809.67	9,796.30	9,792.81	35.09	33.32	37.15	-53.60	1,090.64	796.70	728.48	68.22	11.679	CC, ES
9,850.00	9,842.23	9,819.35	9,814.93	35.20	33.33	37.65	-60.03	1,089.98	796.90	728.58	68.32	11.664	
9,900.00	9,892.18	9,859.24	9,852.72	35.38	33.34	38.63	-72.75	1,088.90	798.04	729.56	68.49	11.653	
9,950.00	9,942.13	9,907.60	9,897.78	35.57	33.35	39.97	-90.21	1,086.94	799.57	730.90	68.67	11.644	SF
10,000.00	9,992.08	9,941.69	9,929.06	35.75	33.36	40.99	-103.68	1,085.43	801.94	733.15	68.80	11.657	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - PTL — **Offset Site Error:** 5.00 ft

Survey Program: 102-GYRO-NS, 9646-MWD+IGRF, 9898- — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,050.00	10,042.02	9,972.17	9,956.58	35.93	33.38	41.96	-116.70	1,084.20	805.57	736.70	68.87	11.696	
10,100.00	10,091.97	10,000.00	9,981.04	36.11	33.39	42.93	-129.93	1,083.13	810.74	741.84	68.89	11.768	
10,150.00	10,141.92	10,024.60	10,002.01	36.29	33.41	43.85	-142.74	1,082.22	817.55	748.71	68.84	11.876	
10,200.00	10,191.87	10,050.00	10,023.00	36.47	33.43	44.86	-157.01	1,081.32	826.12	757.38	68.74	12.018	
10,250.00	10,241.82	10,070.66	10,039.53	36.65	33.46	45.72	-169.39	1,080.62	836.47	767.94	68.53	12.206	
10,300.00	10,291.77	10,100.00	10,062.10	36.83	33.49	47.01	-188.10	1,079.68	848.75	780.38	68.37	12.414	
10,350.00	10,341.72	10,110.82	10,070.15	37.02	33.50	47.50	-195.33	1,079.35	862.72	794.80	67.92	12.702	
10,400.00	10,391.67	10,128.89	10,083.23	37.20	33.53	48.33	-207.78	1,078.81	878.63	811.12	67.51	13.015	
10,450.00	10,441.62	10,150.00	10,097.94	37.38	33.56	49.32	-222.91	1,078.22	896.39	829.28	67.10	13.359	
10,500.00	10,491.57	10,161.43	10,105.64	37.56	33.58	49.87	-231.35	1,077.91	915.89	849.39	66.50	13.772	
10,550.00	10,541.52	10,176.08	10,115.23	37.74	33.61	50.58	-242.42	1,077.53	937.15	871.22	65.93	14.215	
10,600.00	10,591.47	10,200.00	10,130.18	37.92	33.65	51.75	-261.08	1,076.95	960.21	894.71	65.50	14.660	
10,650.00	10,641.42	10,200.00	10,130.18	38.10	33.65	51.75	-261.08	1,076.95	984.63	920.00	64.63	15.235	
10,700.00	10,691.37	10,214.47	10,138.79	38.28	33.69	52.47	-272.70	1,076.62	1,010.67	946.65	64.02	15.786	
10,750.00	10,741.32	10,225.66	10,145.22	38.47	33.71	53.02	-281.85	1,076.38	1,038.16	974.81	63.36	16.386	
10,800.00	10,791.27	10,236.14	10,151.06	38.65	33.74	53.55	-290.56	1,076.16	1,067.01	1,004.32	62.69	17.020	
10,850.00	10,841.21	10,250.00	10,158.50	38.83	33.77	54.24	-302.25	1,075.89	1,097.15	1,035.05	62.10	17.667	
10,900.00	10,891.16	10,250.00	10,158.50	39.01	33.77	54.24	-302.25	1,075.89	1,128.48	1,067.20	61.28	18.415	
10,950.00	10,941.11	10,250.00	10,158.50	39.19	33.77	54.24	-302.25	1,075.89	1,161.12	1,100.63	60.49	19.196	
11,000.00	10,991.06	10,272.11	10,169.70	39.37	33.83	55.35	-321.30	1,075.48	1,194.36	1,134.23	60.13	19.863	
11,050.00	11,041.02	10,279.84	10,173.42	39.55	33.86	56.05	-328.08	1,075.35	1,228.84	1,169.30	59.54	20.639	
11,100.00	11,090.99	10,300.00	10,182.62	39.73	33.91	57.68	-346.01	1,075.04	1,264.64	1,205.44	59.20	21.363	
11,150.00	11,140.98	10,300.00	10,182.62	39.91	33.91	58.36	-346.01	1,075.04	1,301.15	1,242.60	58.55	22.224	
11,200.00	11,190.98	10,300.00	10,182.62	40.09	33.91	125.71	-346.01	1,075.04	1,338.74	1,280.80	57.94	23.105	
11,250.00	11,240.98	10,300.00	10,182.62	40.26	33.91	125.71	-346.01	1,075.04	1,377.22	1,319.85	57.37	24.005	
11,300.00	11,290.98	10,300.00	10,182.62	40.44	33.91	125.71	-346.01	1,075.04	1,416.42	1,359.58	56.84	24.919	
11,350.00	11,340.98	10,319.33	10,190.77	40.61	33.98	126.65	-363.53	1,074.77	1,455.82	1,399.17	56.65	25.700	
11,400.00	11,390.98	10,324.83	10,192.97	40.78	34.00	126.91	-368.58	1,074.70	1,495.99	1,439.73	56.26	26.589	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	11.70	11.70	0.50		89.19	14.87	1,047.55	1,047.66				
50.00	50.00	61.70	61.70	0.50		89.19	14.87	1,047.55	1,047.66	1,047.16	0.50	2,086.951	
100.00	100.00	111.70	111.70	0.52		89.19	14.87	1,047.55	1,047.66	1,047.14	0.52	2,023.461	
138.28	138.28	149.97	149.96	0.57		89.18	14.98	1,047.54	1,047.65	1,047.08	0.57	1,841.132	
150.00	150.00	161.55	161.55	0.59		89.18	14.97	1,047.54	1,047.65	1,047.06	0.59	1,774.946	
200.00	200.00	211.70	211.70	0.70		89.19	14.87	1,047.55	1,047.66	1,046.96	0.70	1,492.170	
231.63	231.63	243.31	243.31	0.79		89.18	14.93	1,047.52	1,047.62	1,046.84	0.79	1,333.069	
250.00	250.00	261.11	261.11	0.84		89.18	14.92	1,047.52	1,047.63	1,046.79	0.84	1,250.580	
300.00	300.00	311.71	311.70	0.99		89.19	14.87	1,047.55	1,047.66	1,046.67	0.99	1,061.096	
324.81	324.81	336.51	336.51	1.06		89.18	14.93	1,047.53	1,047.63	1,046.57	1.06	983.702	
350.00	350.00	361.11	361.10	1.15		89.18	14.91	1,047.53	1,047.64	1,046.49	1.15	914.577	
400.00	400.00	411.71	411.70	1.31		89.19	14.87	1,047.55	1,047.66	1,046.35	1.31	800.295	
450.00	450.00	462.81	462.81	1.48		89.19	14.88	1,047.57	1,047.68	1,046.20	1.48	709.651	
500.00	500.00	511.71	511.70	1.65		89.19	14.87	1,047.55	1,047.66	1,046.01	1.65	636.453	
511.83	511.83	523.53	523.52	1.69		89.18	14.99	1,047.53	1,047.64	1,045.95	1.69	621.180	
550.00	550.00	561.04	561.03	1.82		89.18	14.91	1,047.54	1,047.65	1,045.83	1.82	576.370	
600.00	600.00	611.71	611.70	1.99		89.19	14.87	1,047.55	1,047.66	1,045.67	1.99	526.302	
607.16	607.16	618.84	618.83	2.02		89.18	14.98	1,047.53	1,047.64	1,045.62	2.02	519.798	
650.00	650.00	660.89	660.88	2.16		89.19	14.88	1,047.55	1,047.66	1,045.49	2.16	484.004	
700.00	700.00	711.76	711.74	2.34		89.18	15.02	1,047.59	1,047.70	1,045.36	2.34	447.864	
750.00	750.00	763.69	763.66	2.51		89.19	14.83	1,047.54	1,047.65	1,045.13	2.51	416.610	
753.01	753.01	766.81	766.78	2.53		89.19	14.80	1,047.54	1,047.64	1,045.12	2.53	414.865	
800.00	800.00	811.85	811.82	2.69		89.18	14.95	1,047.57	1,047.67	1,044.98	2.69	389.384	
850.00	850.00	861.73	861.70	2.87		89.19	14.87	1,047.55	1,047.66	1,044.79	2.87	365.432	
888.02	888.02	899.71	899.68	3.00		89.18	15.01	1,047.53	1,047.63	1,044.63	3.00	349.073	
900.00	900.00	911.43	911.40	3.04		89.18	15.00	1,047.53	1,047.64	1,044.59	3.04	344.215	
950.00	950.00	961.74	961.70	3.22		89.19	14.87	1,047.55	1,047.66	1,044.44	3.22	325.310	
981.32	981.32	993.02	992.98	3.33		89.18	15.00	1,047.52	1,047.63	1,044.30	3.33	314.469	
1,000.00	1,000.00	1,011.24	1,011.20	3.40		89.18	14.97	1,047.53	1,047.64	1,044.24	3.40	308.340	
1,050.00	1,050.00	1,061.74	1,061.70	3.58		89.19	14.87	1,047.55	1,047.66	1,044.08	3.58	293.047	
1,100.00	1,100.00	1,112.59	1,112.55	3.75		89.18	14.92	1,047.57	1,047.68	1,043.93	3.75	279.188	
1,150.00	1,150.00	1,161.74	1,161.70	3.93		89.19	14.87	1,047.55	1,047.66	1,043.73	3.93	266.558	
1,167.46	1,167.46	1,179.19	1,179.15	3.99		89.18	14.98	1,047.52	1,047.63	1,043.64	3.99	262.406	
1,200.00	1,200.00	1,210.87	1,210.83	4.11		89.18	14.93	1,047.54	1,047.64	1,043.53	4.11	255.016	
1,250.00	1,250.00	1,261.74	1,261.70	4.29		89.19	14.87	1,047.55	1,047.66	1,043.37	4.29	244.431	
1,300.00	1,300.00	1,326.67	1,311.70	4.46		89.19	14.87	1,047.55	1,047.66	1,043.19	4.46	234.681	
1,350.00	1,350.00	1,361.75	1,361.70	4.64		89.19	14.87	1,047.55	1,047.66	1,043.02	4.64	225.675	
1,400.00	1,400.00	1,413.91	1,411.70	4.82		89.19	14.87	1,047.55	1,047.66	1,042.84	4.82	217.331	
1,447.97	1,447.97	1,459.71	1,459.67	4.99		89.18	14.92	1,047.53	1,047.64	1,042.65	4.99	209.880	
1,450.00	1,450.00	1,461.71	1,461.66	5.00		89.18	14.92	1,047.53	1,047.64	1,042.64	5.00	209.576	
1,500.00	1,500.00	1,511.75	1,511.70	5.18		89.19	14.87	1,047.55	1,047.66	1,042.48	5.18	202.359	
1,541.52	1,541.52	1,553.26	1,553.21	5.33		89.18	14.99	1,047.52	1,047.62	1,042.30	5.33	196.723	
1,550.00	1,550.00	1,561.48	1,561.43	5.36		89.18	14.99	1,047.52	1,047.62	1,042.27	5.36	195.611	
1,600.00	1,600.00	1,611.75	1,611.70	5.53		89.19	14.87	1,047.55	1,047.66	1,042.12	5.53	189.308	
1,635.22	1,635.22	1,646.97	1,646.92	5.66		89.18	14.92	1,047.53	1,047.64	1,041.98	5.66	185.099	
1,650.00	1,650.00	1,661.49	1,661.44	5.71		89.18	14.91	1,047.53	1,047.64	1,041.93	5.71	183.389	
1,700.00	1,700.00	1,711.75	1,711.70	5.89		89.19	14.87	1,047.55	1,047.66	1,041.77	5.89	177.833	
1,728.75	1,728.75	1,740.50	1,740.45	5.99		89.18	14.91	1,047.53	1,047.64	1,041.65	5.99	174.784	
1,750.00	1,750.00	1,761.41	1,761.36	6.07		89.19	14.90	1,047.54	1,047.64	1,041.57	6.07	172.598	
1,800.00	1,800.00	1,811.75	1,811.70	6.25		89.19	14.87	1,047.55	1,047.66	1,041.41	6.25	167.666	
1,850.00	1,850.00	1,862.85	1,862.80	6.43		89.19	14.86	1,047.58	1,047.68	1,041.26	6.43	163.009	
1,900.00	1,900.00	1,911.75	1,911.70	6.61		89.19	14.87	1,047.55	1,047.66	1,041.05	6.61	158.595	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,950.00	1,950.00	1,963.20	1,963.15	6.78		89.19	14.86	1,047.57	1,047.68	1,040.89	6.78	154.420	
1,970.00	1,970.00	1,984.06	1,984.01	6.86		89.19	14.88	1,047.53	1,047.64	1,040.78	6.86	152.804	
2,000.00	2,000.00	2,011.75	2,011.70	6.96		89.19	14.87	1,047.55	1,047.66	1,040.69	6.96	150.453	
2,050.00	2,050.00	2,074.59	2,061.70	7.14		22.52	14.87	1,047.55	1,047.46	1,040.32	7.14	146.715	
2,100.00	2,099.99	2,111.75	2,111.69	7.32		22.54	14.87	1,047.55	1,046.85	1,039.54	7.32	143.102	
2,150.00	2,149.98	2,158.78	2,158.73	7.49		22.56	14.87	1,047.54	1,045.84	1,038.35	7.49	139.648	
2,200.00	2,199.96	2,211.59	2,211.53	7.66		22.60	14.88	1,047.51	1,044.39	1,036.73	7.66	136.293	
2,250.00	2,249.92	2,261.68	2,261.62	7.84		22.65	14.87	1,047.55	1,042.62	1,034.79	7.84	133.039	
2,300.00	2,299.87	2,311.06	2,311.01	8.01		22.70	14.86	1,047.49	1,040.49	1,032.48	8.01	129.880	
2,350.00	2,349.82	2,361.58	2,361.52	8.19		22.75	14.87	1,047.55	1,038.48	1,030.29	8.19	126.868	
2,400.00	2,399.77	2,411.83	2,411.77	8.36		22.80	14.86	1,047.57	1,036.42	1,028.06	8.36	123.976	
2,450.00	2,449.72	2,461.48	2,461.42	8.54		22.84	14.87	1,047.55	1,034.33	1,025.79	8.53	121.191	
2,500.00	2,499.67	2,510.34	2,510.29	8.72		22.89	14.87	1,047.51	1,032.21	1,023.50	8.71	118.516	
2,550.00	2,549.62	2,561.38	2,561.32	8.89		22.94	14.87	1,047.55	1,030.18	1,021.30	8.88	115.951	
2,600.00	2,599.57	2,609.90	2,609.84	9.07		22.99	14.87	1,047.51	1,028.07	1,019.01	9.06	113.475	
2,650.00	2,649.52	2,661.28	2,661.22	9.25		23.04	14.87	1,047.55	1,026.04	1,016.81	9.24	111.098	
2,700.00	2,699.47	2,712.29	2,712.23	9.42		23.09	14.86	1,047.57	1,023.99	1,014.57	9.41	108.808	
2,750.00	2,749.41	2,761.17	2,761.11	9.60		23.14	14.87	1,047.55	1,021.90	1,012.32	9.59	106.594	
2,800.00	2,799.36	2,823.14	2,811.06	9.78		23.19	14.87	1,047.55	1,019.83	1,010.07	9.76	104.462	
2,850.00	2,849.31	2,861.07	2,861.01	9.95		23.24	14.87	1,047.55	1,017.77	1,007.83	9.94	102.403	
2,900.00	2,899.26	2,910.13	2,910.07	10.13		23.29	14.87	1,047.55	1,015.70	1,005.58	10.12	100.414	
2,950.00	2,949.21	2,960.92	2,960.86	10.31		23.34	14.88	1,047.53	1,013.62	1,003.32	10.29	98.491	
3,000.00	2,999.16	3,010.92	3,010.86	10.49		23.39	14.87	1,047.55	1,011.57	1,001.10	10.47	96.636	
3,050.00	3,049.11	3,060.61	3,060.55	10.66		23.44	14.89	1,047.52	1,009.48	998.83	10.64	94.836	
3,100.00	3,099.06	3,110.82	3,110.76	10.84		23.49	14.87	1,047.55	1,007.44	996.62	10.82	93.100	
3,150.00	3,149.01	3,161.43	3,161.37	11.02		23.54	14.89	1,047.59	1,005.42	994.42	11.00	91.419	
3,200.00	3,198.96	3,210.72	3,210.66	11.20		23.59	14.87	1,047.55	1,003.32	992.14	11.17	89.784	
3,250.00	3,248.91	3,261.49	3,261.43	11.38		23.64	14.88	1,047.58	1,001.28	989.93	11.35	88.206	
3,300.00	3,298.86	3,310.62	3,310.56	11.55		23.69	14.87	1,047.55	999.19	987.66	11.53	86.670	
3,350.00	3,348.81	3,358.79	3,358.72	11.73		23.74	14.90	1,047.50	997.09	985.38	11.71	85.176	
3,400.00	3,398.76	3,410.52	3,410.46	11.91		23.80	14.87	1,047.55	995.08	983.19	11.88	83.738	
3,450.00	3,448.71	3,458.15	3,458.09	12.09		23.85	14.91	1,047.51	992.98	980.92	12.06	82.331	
3,500.00	3,498.66	3,510.42	3,510.36	12.27		23.90	14.87	1,047.55	990.96	978.72	12.24	80.975	
3,550.00	3,548.60	3,571.81	3,560.30	12.45		23.96	14.87	1,047.55	988.90	976.49	12.42	79.652	
3,600.00	3,598.55	3,610.32	3,610.25	12.63		24.01	14.87	1,047.55	986.85	974.26	12.59	78.366	
3,650.00	3,648.50	3,660.27	3,660.20	12.81		24.06	14.87	1,047.55	984.79	972.02	12.77	77.115	
3,700.00	3,698.45	3,709.94	3,709.87	12.99		24.11	14.94	1,047.46	982.65	969.70	12.95	75.891	
3,750.00	3,748.40	3,760.18	3,760.10	13.16		24.17	14.87	1,047.55	980.69	967.56	13.13	74.714	
3,800.00	3,798.35	3,809.46	3,809.38	13.34		24.22	14.97	1,047.48	978.56	965.25	13.30	73.555	
3,850.00	3,848.30	3,860.08	3,860.00	13.52		24.28	14.87	1,047.55	976.58	963.10	13.48	72.439	
3,900.00	3,898.25	3,909.21	3,909.12	13.70		24.32	15.00	1,047.50	974.48	960.82	13.66	71.341	
3,950.00	3,948.20	3,959.99	3,959.90	13.88		24.39	14.87	1,047.55	972.48	958.65	13.84	70.280	
4,000.00	3,998.15	4,010.73	4,010.64	14.06		24.43	14.99	1,047.58	970.46	956.45	14.02	69.244	
4,050.00	4,048.10	4,059.90	4,059.80	14.24		24.50	14.87	1,047.55	968.39	954.19	14.19	68.228	
4,100.00	4,098.05	4,113.68	4,113.58	14.42		24.55	14.90	1,047.62	966.42	952.05	14.37	67.250	
4,150.00	4,148.00	4,159.81	4,159.70	14.60		24.61	14.87	1,047.55	964.29	949.75	14.55	66.277	
4,200.00	4,197.95	4,218.50	4,218.39	14.78		24.67	14.87	1,047.58	962.32	947.59	14.73	65.352	
4,250.00	4,247.90	4,259.73	4,259.60	14.96		24.72	14.87	1,047.55	960.21	945.30	14.91	64.418	
4,300.00	4,297.85	4,327.32	4,327.16	15.14		24.79	14.92	1,047.35	958.12	943.05	15.08	63.547	
4,350.00	4,347.79	4,359.68	4,359.49	15.32		24.83	14.87	1,047.55	956.12	940.86	15.26	62.645	
4,400.00	4,397.74	4,409.70	4,409.44	15.50		24.89	14.87	1,047.55	954.08	938.64	15.44	61.789	
4,450.00	4,447.69	4,462.32	4,462.05	15.68		24.96	14.63	1,047.98	952.48	936.86	15.62	60.984	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,500.00	4,497.64	4,509.69	4,509.34	15.86		25.00	14.87	1,047.55	950.00	934.20	15.80	60.136	
4,550.00	4,547.59	4,566.20	4,565.84	16.04		25.08	14.68	1,047.93	948.37	932.39	15.97	59.370	
4,600.00	4,597.54	4,609.67	4,609.24	16.22		25.12	14.87	1,047.55	945.92	929.77	16.15	58.555	
4,650.00	4,647.49	4,673.37	4,672.92	16.40		25.19	14.81	1,047.85	944.28	927.95	16.33	57.834	
4,700.00	4,697.44	4,709.65	4,709.14	16.58		25.23	14.87	1,047.55	941.85	925.34	16.51	57.042	
4,750.00	4,747.39	4,772.97	4,772.45	16.76		25.31	14.82	1,047.71	940.08	923.39	16.68	56.344	
4,800.00	4,797.34	4,809.61	4,809.04	16.94		25.35	14.87	1,047.55	937.78	920.91	16.87	55.593	
4,850.00	4,847.29	4,872.76	4,872.17	17.12		25.43	14.84	1,047.61	935.90	918.86	17.04	54.919	
4,900.00	4,897.24	4,909.57	4,908.94	17.30		25.47	14.87	1,047.55	933.72	916.49	17.23	54.204	
4,950.00	4,947.19	4,976.34	4,975.69	17.48		25.55	14.92	1,047.45	931.74	914.34	17.40	53.559	
5,000.00	4,997.14	5,009.51	5,008.84	17.66		25.59	14.87	1,047.55	929.66	912.08	17.58	52.871	
5,050.00	5,047.09	5,075.94	5,075.25	17.84		25.66	14.94	1,047.36	927.59	909.83	17.75	52.247	
5,100.00	5,097.04	5,109.45	5,108.74	18.02		25.71	14.87	1,047.55	925.60	907.66	17.94	51.591	
5,150.00	5,146.99	5,176.18	5,175.45	18.20		25.78	14.96	1,047.27	923.44	905.33	18.11	50.988	
5,200.00	5,196.93	5,211.24	5,210.48	18.38		25.84	14.70	1,047.86	921.87	903.57	18.30	50.381	
5,250.00	5,246.88	5,259.38	5,258.58	18.56		25.89	14.87	1,047.55	919.53	901.05	18.48	49.765	
5,300.00	5,296.83	5,312.41	5,311.61	18.74		25.97	14.68	1,047.78	917.74	899.08	18.66	49.195	
5,350.00	5,346.78	5,359.30	5,358.48	18.92		26.01	14.87	1,047.55	915.48	896.65	18.84	48.605	
5,400.00	5,396.73	5,414.16	5,413.33	19.10		26.08	14.85	1,047.75	913.67	894.66	19.01	48.058	
5,450.00	5,446.68	5,459.22	5,458.38	19.28		26.14	14.87	1,047.55	911.44	892.25	19.19	47.488	
5,500.00	5,496.63	5,514.77	5,513.92	19.46		26.20	14.91	1,047.69	909.57	890.21	19.37	46.959	
5,550.00	5,546.58	5,559.14	5,558.28	19.64		26.26	14.87	1,047.55	907.40	887.85	19.55	46.412	
5,600.00	5,596.53	5,616.16	5,615.30	19.82		26.34	14.83	1,047.63	905.50	885.77	19.73	45.903	
5,650.00	5,646.48	5,659.06	5,658.18	20.00		26.39	14.87	1,047.55	903.37	883.46	19.91	45.375	
5,700.00	5,696.43	5,716.04	5,715.16	20.18		26.46	14.86	1,047.58	901.41	881.32	20.08	44.881	
5,750.00	5,746.38	5,758.97	5,758.08	20.36		26.52	14.87	1,047.55	899.34	879.07	20.27	44.374	
5,800.00	5,796.33	5,817.02	5,808.03	20.54		26.58	14.87	1,047.55	897.33	876.88	20.45	43.887	
5,850.00	5,846.28	5,858.87	5,857.98	20.73		26.64	14.87	1,047.55	895.32	874.69	20.63	43.409	
5,900.00	5,896.23	5,914.62	5,913.72	20.91		26.72	14.88	1,047.50	893.28	872.48	20.80	42.943	
5,950.00	5,946.18	5,959.39	5,958.49	21.09		26.78	14.78	1,047.67	891.42	870.44	20.98	42.483	
6,000.00	5,996.12	6,015.03	6,014.12	21.27		26.84	14.94	1,047.46	889.22	868.06	21.16	42.025	
6,050.00	6,046.07	6,059.77	6,058.86	21.45		26.91	14.79	1,047.64	887.38	866.04	21.34	41.580	
6,100.00	6,096.02	6,108.64	6,107.72	21.63		26.97	14.87	1,047.55	885.28	863.76	21.52	41.135	
6,150.00	6,145.97	6,160.30	6,159.38	21.81		27.04	14.80	1,047.64	883.36	861.66	21.70	40.709	
6,200.00	6,195.92	6,208.54	6,207.62	21.99		27.10	14.87	1,047.55	881.27	859.39	21.88	40.278	
6,250.00	6,245.87	6,259.96	6,259.04	22.17		27.17	14.87	1,047.60	879.32	857.26	22.06	39.864	
6,300.00	6,295.82	6,308.44	6,307.52	22.35		27.24	14.87	1,047.55	877.27	855.03	22.24	39.449	
6,350.00	6,345.77	6,360.05	6,359.13	22.53		27.31	14.87	1,047.59	875.30	852.89	22.42	39.048	
6,400.00	6,395.72	6,408.34	6,407.42	22.71		27.37	14.87	1,047.55	873.27	850.67	22.60	38.646	
6,450.00	6,445.67	6,460.77	6,459.85	22.89		27.45	14.85	1,047.57	871.30	848.52	22.77	38.258	
6,500.00	6,495.62	6,508.24	6,507.32	23.07		27.51	14.87	1,047.55	869.27	846.32	22.95	37.869	
6,550.00	6,545.57	6,565.67	6,557.27	23.26		27.58	14.87	1,047.55	867.28	844.15	23.13	37.489	
6,600.00	6,595.52	6,608.14	6,607.22	23.44		27.65	14.87	1,047.55	865.29	841.97	23.31	37.115	
6,650.00	6,645.47	6,659.74	6,658.81	23.62		27.72	14.87	1,047.54	863.29	839.80	23.49	36.748	
6,700.00	6,695.42	6,708.13	6,707.20	23.80		27.79	14.86	1,047.57	861.32	837.65	23.67	36.385	
6,750.00	6,745.37	6,758.80	6,757.87	23.98		27.86	14.87	1,047.54	859.30	835.45	23.85	36.028	
6,800.00	6,795.31	6,808.43	6,807.50	24.16		27.93	14.80	1,047.59	857.37	833.34	24.03	35.678	
6,850.00	6,845.26	6,857.90	6,856.96	24.34		28.00	14.87	1,047.55	855.34	831.13	24.21	35.329	
6,900.00	6,895.21	6,908.69	6,907.76	24.52		28.07	14.81	1,047.60	853.40	829.01	24.39	34.991	
6,950.00	6,945.16	6,957.80	6,956.86	24.70		28.14	14.87	1,047.55	851.37	826.80	24.57	34.652	
7,000.00	6,995.11	7,008.83	7,007.90	24.88		28.21	14.88	1,047.59	849.42	824.67	24.75	34.323	
7,050.00	7,045.06	7,057.70	7,056.76	25.06		28.28	14.87	1,047.55	847.40	822.47	24.93	33.994	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,100.00	7,095.01	7,109.23	7,108.29	25.24		28.36	14.87	1,047.58	845.46	820.35	25.11	33.675	
7,150.00	7,144.96	7,157.60	7,156.66	25.43		28.43	14.87	1,047.55	843.44	818.15	25.29	33.355	
7,200.00	7,194.91	7,210.65	7,209.72	25.61		28.51	14.84	1,047.58	841.50	816.03	25.46	33.046	
7,250.00	7,244.86	7,257.50	7,256.56	25.79		28.57	14.87	1,047.55	839.49	813.84	25.65	32.734	
7,300.00	7,294.81	7,314.33	7,306.51	25.97		28.65	14.87	1,047.55	837.51	811.69	25.83	32.430	
7,350.00	7,344.76	7,357.40	7,356.46	26.15		28.72	14.87	1,047.55	835.54	809.53	26.01	32.130	
7,400.00	7,394.71	7,410.68	7,409.73	26.33		28.80	14.88	1,047.53	833.55	807.37	26.18	31.837	
7,450.00	7,444.66	7,458.05	7,457.09	26.51		28.88	14.67	1,047.67	831.74	805.37	26.36	31.549	
7,500.00	7,494.61	7,514.13	7,513.17	26.69		28.94	15.03	1,047.45	829.54	803.00	26.54	31.258	
7,550.00	7,544.56	7,558.87	7,557.89	26.87		29.04	14.63	1,047.67	827.80	801.08	26.72	30.978	
7,600.00	7,594.50	7,607.20	7,606.20	27.05		29.09	14.87	1,047.55	825.69	798.79	26.90	30.692	
7,650.00	7,644.45	7,658.66	7,657.66	27.23		29.18	14.71	1,047.62	823.81	796.73	27.08	30.420	
7,700.00	7,694.40	7,707.12	7,706.10	27.42		29.25	14.87	1,047.55	821.76	794.50	27.26	30.143	
7,750.00	7,744.35	7,759.36	7,758.34	27.60		29.34	14.70	1,047.61	819.88	792.44	27.44	29.879	
7,800.00	7,794.30	7,807.05	7,806.00	27.78		29.40	14.87	1,047.55	817.84	790.22	27.62	29.609	
7,850.00	7,844.25	7,861.67	7,860.61	27.96		29.49	14.74	1,047.61	815.96	788.17	27.80	29.354	
7,900.00	7,894.20	7,906.99	7,905.90	28.14		29.56	14.87	1,047.55	813.92	785.94	27.98	29.089	
7,950.00	7,944.15	7,975.49	7,955.85	28.32		29.63	14.87	1,047.55	811.96	783.80	28.16	28.834	
8,000.00	7,994.10	8,006.92	8,005.80	28.50		29.71	14.87	1,047.55	810.01	781.67	28.34	28.582	
8,050.00	8,044.05	8,062.81	8,055.75	28.68		29.79	14.87	1,047.55	808.06	779.54	28.52	28.334	
8,100.00	8,094.00	8,106.87	8,105.72	28.86		29.89	14.61	1,047.67	806.25	777.55	28.70	28.093	
8,150.00	8,143.95	8,162.82	8,161.67	29.04		29.95	14.99	1,047.50	804.11	775.24	28.87	27.849	
8,200.00	8,193.90	8,207.73	8,206.54	29.23		30.06	14.55	1,047.68	802.38	773.32	29.06	27.613	
8,250.00	8,243.85	8,256.77	8,255.55	29.41		30.11	14.87	1,047.55	800.26	771.02	29.24	27.370	
8,300.00	8,293.80	8,308.30	8,307.07	29.59		30.22	14.57	1,047.65	798.45	769.03	29.42	27.143	
8,350.00	8,343.75	8,356.70	8,355.45	29.77		30.27	14.87	1,047.55	796.37	766.77	29.60	26.907	
8,400.00	8,393.69	8,407.66	8,406.40	29.95		30.37	14.65	1,047.58	794.48	764.71	29.78	26.681	
8,450.00	8,443.64	8,456.62	8,455.34	30.13		30.44	14.87	1,047.55	792.49	762.53	29.96	26.454	
8,500.00	8,493.59	8,506.68	8,505.40	30.31		30.53	14.70	1,047.54	790.55	760.42	30.14	26.232	
8,550.00	8,543.54	8,556.55	8,555.24	30.49		30.60	14.87	1,047.55	788.61	758.29	30.32	26.012	
8,600.00	8,593.49	8,608.77	8,607.46	30.67		30.70	14.73	1,047.58	786.72	756.23	30.49	25.799	
8,650.00	8,643.44	8,656.47	8,655.14	30.86		30.77	14.87	1,047.55	784.74	754.06	30.68	25.581	
8,700.00	8,693.39	8,723.94	8,705.09	31.04		30.86	14.87	1,047.55	782.81	751.95	30.86	25.370	
8,750.00	8,743.34	8,756.39	8,755.04	31.22		30.94	14.87	1,047.55	780.88	749.84	31.04	25.161	
8,800.00	8,793.29	8,804.54	8,803.19	31.40		31.02	14.84	1,047.54	778.94	747.72	31.22	24.952	
8,850.00	8,843.24	8,856.29	8,854.93	31.58		31.13	14.65	1,047.50	777.00	745.60	31.40	24.749	
8,900.00	8,893.19	8,906.26	8,904.89	31.76		31.20	14.87	1,047.55	775.10	743.52	31.58	24.548	
8,950.00	8,943.14	8,956.21	8,954.83	31.94		31.29	14.74	1,047.53	773.17	741.42	31.76	24.348	
9,000.00	8,993.09	9,006.17	9,004.79	32.12		31.37	14.87	1,047.55	771.25	739.32	31.94	24.151	
9,050.00	9,043.04	9,057.08	9,055.70	32.30		31.47	14.76	1,047.62	769.42	737.30	32.11	23.959	
9,100.00	9,092.99	9,106.07	9,104.69	32.49		31.54	14.87	1,047.55	767.41	735.12	32.29	23.763	
9,150.00	9,142.94	9,156.17	9,154.78	32.67		31.64	14.77	1,047.55	765.50	733.03	32.47	23.572	
9,200.00	9,192.88	9,205.98	9,204.58	32.85		31.72	14.87	1,047.55	763.58	730.93	32.65	23.384	
9,250.00	9,242.83	9,253.79	9,252.39	33.03		31.81	14.86	1,047.45	761.57	728.74	32.84	23.193	
9,300.00	9,292.78	9,305.89	9,304.48	33.21		31.90	14.87	1,047.55	759.76	726.74	33.01	23.013	
9,350.00	9,342.73	9,353.06	9,351.65	33.39		31.99	14.76	1,047.45	757.77	724.57	33.20	22.827	
9,400.00	9,392.68	9,405.81	9,404.38	33.57		32.08	14.87	1,047.55	755.94	722.57	33.37	22.650	
9,450.00	9,442.63	9,449.29	9,447.85	33.75		32.17	14.80	1,047.38	753.91	720.35	33.56	22.465	
9,500.00	9,492.58	9,503.81	9,502.32	33.94		32.27	14.77	1,047.26	751.86	718.12	33.74	22.287	
9,550.00	9,542.53	9,550.00	9,548.45	34.12		32.35	14.82	1,047.43	750.14	716.22	33.92	22.116	
9,600.00	9,592.48	9,604.74	9,603.15	34.30		32.46	14.70	1,047.06	747.87	713.78	34.10	21.935	
9,650.00	9,642.43	9,655.79	9,654.13	34.48		32.54	14.87	1,047.55	746.43	712.16	34.27	21.778	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1 Fed 1H - Original - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,700.00	9,692.38	9,700.96	9,699.23	34.66		32.64	14.69	1,047.44	744.48	710.02	34.46	21.605	
9,750.00	9,742.33	9,756.22	9,754.00	34.84		32.77	14.24	1,047.46	742.65	708.02	34.63	21.443	
9,800.00	9,792.28	9,807.71	9,803.98	35.02		32.82	14.87	1,047.55	740.75	705.94	34.81	21.277	
9,850.00	9,842.23	9,866.00	9,859.06	35.20		32.92	14.87	1,047.55	738.88	703.89	34.99	21.118	
9,900.00	9,892.18	9,913.74	9,904.34	35.38		33.11	13.54	1,047.39	737.04	701.86	35.17	20.954	
9,950.00	9,942.13	9,968.38	9,953.83	35.57		33.10	14.87	1,047.55	735.09	699.73	35.35	20.792	
10,000.00	9,992.08	10,026.58	10,003.78	35.75		33.20	14.87	1,047.55	733.20	697.67	35.53	20.634	
10,050.00	10,042.02	10,089.37	10,053.72	35.93		33.30	14.87	1,047.55	731.32	695.61	35.71	20.477	
10,100.00	10,091.97	10,157.89	10,103.67	36.11		33.39	14.87	1,047.55	729.44	693.55	35.89	20.322	
10,150.00	10,141.92	10,248.25	10,153.62	36.29		33.49	14.87	1,047.55	727.56	691.49	36.07	20.168	
10,200.00	10,191.87	10,401.07	10,203.57	36.47		33.59	14.87	1,047.55	725.69	689.43	36.25	20.016	
10,250.00	10,241.82	12,316.00	10,240.39	36.65		33.66	14.87	1,047.55	723.94	687.49	36.44	19.865	
10,263.99	10,255.79	12,316.00	10,240.39	36.70		33.66	14.87	1,047.55	723.80	687.31	36.49	19.833	CC, ES
10,300.00	10,291.77	12,316.00	10,240.39	36.83		33.66	14.87	1,047.55	724.70	688.12	36.58	19.811	SF
10,350.00	10,341.72	12,316.00	10,240.39	37.02		33.66	14.87	1,047.55	728.89	692.30	36.60	19.918	
10,400.00	10,391.67	12,316.00	10,240.39	37.20		33.66	14.87	1,047.55	736.47	699.97	36.50	20.179	
10,450.00	10,441.62	12,316.00	10,240.39	37.38		33.66	14.87	1,047.55	747.32	711.03	36.29	20.591	
10,500.00	10,491.57	12,316.00	10,240.39	37.56		33.66	14.87	1,047.55	761.31	725.31	36.00	21.146	
10,550.00	10,541.52	12,316.00	10,240.39	37.74		33.66	14.87	1,047.55	778.26	742.62	35.64	21.838	
10,600.00	10,591.47	12,316.00	10,240.39	37.92		33.66	14.87	1,047.55	797.99	762.77	35.22	22.657	
10,650.00	10,641.42	12,316.00	10,240.39	38.10		33.66	14.87	1,047.55	820.30	785.54	34.76	23.596	
10,700.00	10,691.37	12,316.00	10,240.39	38.28		33.66	14.87	1,047.55	844.98	810.70	34.29	24.644	
10,750.00	10,741.32	12,316.00	10,240.39	38.47		33.66	14.87	1,047.55	871.84	838.03	33.80	25.793	
10,800.00	10,791.27	12,316.00	10,240.39	38.65		33.66	14.87	1,047.55	900.67	867.35	33.32	27.032	
10,850.00	10,841.21	12,316.00	10,240.39	38.83		33.66	14.87	1,047.55	931.29	898.44	32.85	28.352	
10,900.00	10,891.16	12,316.00	10,240.39	39.01		33.66	14.87	1,047.55	963.54	931.14	32.40	29.743	
10,950.00	10,941.11	12,316.00	10,240.39	39.19		33.66	14.87	1,047.55	997.25	965.28	31.97	31.196	
11,000.00	10,991.06	12,316.00	10,240.39	39.37		33.66	14.87	1,047.55	1,032.28	1,000.72	31.57	32.703	
11,050.00	11,041.02	12,316.00	10,240.39	39.55		33.89	14.87	1,047.55	1,068.56	1,037.36	31.19	34.255	
11,100.00	11,090.99	12,316.00	10,240.39	39.73		34.37	14.87	1,047.55	1,106.21	1,075.35	30.86	35.848	
11,150.00	11,140.98	12,316.00	10,240.39	39.91		34.90	14.87	1,047.55	1,145.15	1,114.59	30.56	37.476	
11,200.00	11,190.98	12,316.00	10,240.39	40.09		102.11	14.87	1,047.55	1,185.24	1,154.94	30.29	39.126	
11,250.00	11,240.98	12,316.00	10,240.39	40.26		102.11	14.87	1,047.55	1,226.18	1,196.12	30.06	40.796	
11,300.00	11,290.98	12,316.00	10,240.39	40.44		102.11	14.87	1,047.55	1,267.77	1,237.92	29.85	42.475	
11,350.00	11,340.98	12,316.00	10,240.39	40.61		102.11	14.87	1,047.55	1,309.95	1,280.29	29.66	44.158	
11,400.00	11,390.98	12,316.00	10,240.39	40.78		102.11	14.87	1,047.55	1,352.66	1,323.16	29.51	45.843	
11,450.00	11,440.98	12,316.00	10,240.39	40.96		102.11	14.87	1,047.55	1,395.86	1,366.49	29.37	47.525	
11,500.00	11,490.98	12,316.00	10,240.39	41.13		102.11	14.87	1,047.55	1,439.50	1,410.24	29.26	49.202	
11,550.00	11,540.98	12,316.00	10,240.39	41.31		-76.81	14.87	1,047.55	1,483.54	1,454.37	29.16	50.870	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.20	-0.20	0.50	0.50	-90.31	-0.16	-29.99	29.99				
50.00	50.00	49.80	49.80	0.50	0.50	-90.31	-0.16	-29.99	29.99	28.98	1.01	29.798	
100.00	100.00	100.20	99.80	0.52	0.52	-90.31	-0.16	-29.99	29.99	28.95	1.04	28.957	
150.00	150.00	149.80	149.80	0.59	0.59	-90.31	-0.16	-29.99	29.99	28.81	1.18	25.413	
200.00	200.00	200.20	199.80	0.70	0.70	-90.31	-0.16	-29.99	29.99	28.59	1.40	21.350	
250.00	250.00	249.80	249.80	0.84	0.84	-90.31	-0.16	-29.99	29.99	28.32	1.67	17.906	
300.00	300.00	300.20	299.80	0.99	0.99	-90.31	-0.16	-29.99	29.99	28.02	1.98	15.183	
350.00	350.00	349.80	349.80	1.15	1.14	-90.31	-0.16	-29.99	29.99	27.70	2.29	13.094	
400.00	400.00	400.20	399.80	1.31	1.31	-90.31	-0.16	-29.99	29.99	27.37	2.62	11.452	
450.00	450.00	449.80	449.80	1.48	1.48	-90.31	-0.16	-29.99	29.99	27.04	2.95	10.159	
500.00	500.00	500.20	499.80	1.65	1.65	-90.31	-0.16	-29.99	29.99	26.70	3.29	9.108	
550.00	550.00	549.80	549.80	1.82	1.82	-90.31	-0.16	-29.99	29.99	26.36	3.63	8.251	
600.00	600.00	600.20	599.80	1.99	1.99	-90.31	-0.16	-29.99	29.99	26.01	3.98	7.532	
650.00	650.00	649.80	649.80	2.16	2.16	-90.31	-0.16	-29.99	29.99	25.66	4.33	6.929	
700.00	700.00	700.20	699.80	2.34	2.34	-90.31	-0.16	-29.99	29.99	25.31	4.68	6.409	
750.00	750.00	749.80	749.80	2.51	2.51	-90.31	-0.16	-29.99	29.99	24.96	5.03	5.964	
800.00	800.00	800.20	799.80	2.69	2.69	-90.31	-0.16	-29.99	29.99	24.61	5.38	5.572	
850.00	850.00	849.80	849.80	2.87	2.87	-90.31	-0.16	-29.99	29.99	24.26	5.73	5.231	
900.00	900.00	900.20	899.80	3.04	3.04	-90.31	-0.16	-29.99	29.99	23.90	6.09	4.926	Alert
950.00	950.00	949.80	949.80	3.22	3.22	-90.31	-0.16	-29.99	29.99	23.55	6.44	4.657	Alert
1,000.00	1,000.00	1,000.20	999.80	3.40	3.40	-90.31	-0.16	-29.99	29.99	23.19	6.80	4.413	Alert
1,050.00	1,050.00	1,049.80	1,049.80	3.58	3.57	-90.31	-0.16	-29.99	29.99	22.84	7.15	4.195	Alert
1,100.00	1,100.00	1,100.20	1,099.80	3.75	3.75	-90.31	-0.16	-29.99	29.99	22.48	7.51	3.996	Alert
1,150.00	1,150.00	1,149.80	1,149.80	3.93	3.93	-90.31	-0.16	-29.99	29.99	22.13	7.86	3.816	Alert
1,200.00	1,200.00	1,200.20	1,199.80	4.11	4.11	-90.31	-0.16	-29.99	29.99	21.77	8.22	3.650	Alert
1,250.00	1,250.00	1,249.80	1,249.80	4.29	4.29	-90.31	-0.16	-29.99	29.99	21.42	8.57	3.499	Alert
1,300.00	1,300.00	1,300.20	1,299.80	4.46	4.46	-90.31	-0.16	-29.99	29.99	21.06	8.93	3.359	Alert
1,350.00	1,350.00	1,349.80	1,349.80	4.64	4.64	-90.31	-0.16	-29.99	29.99	20.71	9.28	3.230	Alert
1,400.00	1,400.00	1,400.20	1,399.80	4.82	4.82	-90.31	-0.16	-29.99	29.99	20.35	9.64	3.110	Alert
1,450.00	1,450.00	1,449.80	1,449.80	5.00	5.00	-90.31	-0.16	-29.99	29.99	19.99	10.00	3.000	Alert
1,500.00	1,500.00	1,500.20	1,499.80	5.18	5.18	-90.31	-0.16	-29.99	29.99	19.64	10.36	2.896	Alert
1,550.00	1,550.00	1,549.80	1,549.80	5.36	5.35	-90.31	-0.16	-29.99	29.99	19.28	10.71	2.800	Alert
1,600.00	1,600.00	1,600.20	1,599.80	5.53	5.53	-90.31	-0.16	-29.99	29.99	18.92	11.07	2.709	Alert
1,650.00	1,650.00	1,649.80	1,649.80	5.71	5.71	-90.31	-0.16	-29.99	29.99	18.57	11.42	2.625	Alert
1,700.00	1,700.00	1,700.20	1,699.80	5.89	5.89	-90.31	-0.16	-29.99	29.99	18.21	11.78	2.545	Alert
1,750.00	1,750.00	1,749.80	1,749.80	6.07	6.07	-90.31	-0.16	-29.99	29.99	17.85	12.14	2.471	Minor Risk
1,800.00	1,800.00	1,800.20	1,799.80	6.25	6.25	-90.31	-0.16	-29.99	29.99	17.49	12.50	2.400	Minor Risk
1,850.00	1,850.00	1,849.80	1,849.80	6.43	6.43	-90.31	-0.16	-29.99	29.99	17.14	12.85	2.333	Minor Risk
1,900.00	1,900.00	1,900.20	1,899.80	6.61	6.61	-90.31	-0.16	-29.99	29.99	16.78	13.21	2.270	Minor Risk
1,950.00	1,950.00	1,949.80	1,949.80	6.78	6.78	-90.31	-0.16	-29.99	29.99	16.42	13.57	2.210	Minor Risk
2,000.00	2,000.00	2,000.20	1,999.80	6.96	6.96	-90.31	-0.16	-29.99	29.99	16.06	13.93	2.153	Minor Risk, CC
2,050.00	2,050.00	2,049.80	2,049.80	7.14	7.14	-157.14	-0.16	-29.99	30.19	15.91	14.28	2.114	Minor Risk, ES
2,100.00	2,099.99	2,100.21	2,099.79	7.32	7.32	-157.61	-0.16	-29.99	30.80	16.16	14.64	2.104	Minor Risk, SF
2,150.00	2,149.98	2,149.78	2,149.78	7.49	7.50	-158.35	-0.16	-29.99	31.81	16.82	14.99	2.122	Minor Risk
2,200.00	2,199.96	2,200.24	2,199.76	7.66	7.68	-159.32	-0.16	-29.99	33.23	17.89	15.34	2.166	Minor Risk
2,250.00	2,249.92	2,249.72	2,249.72	7.84	7.86	-160.45	-0.16	-29.99	35.07	19.38	15.69	2.235	Minor Risk
2,300.00	2,299.87	2,300.33	2,299.67	8.01	8.04	-161.60	-0.16	-29.99	37.20	21.15	16.05	2.318	Minor Risk
2,350.00	2,349.82	2,349.62	2,349.62	8.19	8.21	-162.64	-0.16	-29.99	39.34	22.94	16.40	2.399	Minor Risk
2,400.00	2,399.77	2,400.43	2,399.57	8.36	8.40	-163.56	-0.16	-29.99	41.49	24.73	16.76	2.476	Minor Risk
2,450.00	2,449.72	2,449.52	2,449.52	8.54	8.57	-164.40	-0.16	-29.99	43.65	26.55	17.11	2.552	Alert
2,500.00	2,499.67	2,499.47	2,499.47	8.72	8.75	-165.15	-0.16	-29.99	45.82	28.36	17.46	2.624	Alert
2,550.00	2,549.62	2,549.76	2,549.76	8.89	8.93	-165.70	-0.01	-29.83	47.82	30.01	17.81	2.685	Alert

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,600.09	2,600.08	9.07	9.11	-165.92	0.44	-29.35	49.46	31.30	18.17	2.723	Alert
2,650.00	2,649.52	2,650.44	2,650.42	9.25	9.29	-165.85	1.19	-28.55	50.74	32.22	18.52	2.740	Alert
2,700.00	2,699.47	2,700.55	2,700.51	9.42	9.46	-165.58	2.17	-27.50	51.73	32.86	18.87	2.742	Alert
2,750.00	2,749.41	2,750.54	2,750.48	9.60	9.64	-165.30	3.16	-26.44	52.71	33.49	19.22	2.742	Alert
2,800.00	2,799.36	2,800.53	2,800.45	9.78	9.82	-165.03	4.15	-25.38	53.69	34.12	19.57	2.743	Alert
2,850.00	2,849.31	2,850.52	2,850.41	9.95	9.99	-164.77	5.14	-24.32	54.67	34.74	19.93	2.744	Alert
2,900.00	2,899.26	2,900.51	2,900.38	10.13	10.17	-164.52	6.14	-23.26	55.65	35.37	20.28	2.744	Alert
2,950.00	2,949.21	2,950.50	2,950.35	10.31	10.35	-164.28	7.13	-22.20	56.63	36.00	20.63	2.745	Alert
3,000.00	2,999.16	3,000.49	3,000.32	10.49	10.52	-164.05	8.12	-21.14	57.62	36.63	20.98	2.746	Alert
3,050.00	3,049.11	3,050.47	3,050.29	10.66	10.70	-163.83	9.11	-20.08	58.60	37.26	21.34	2.746	Alert
3,100.00	3,099.06	3,100.46	3,100.26	10.84	10.88	-163.61	10.11	-19.02	59.59	37.89	21.69	2.747	Alert
3,150.00	3,149.01	3,150.45	3,150.23	11.02	11.05	-163.40	11.10	-17.96	60.57	38.53	22.05	2.748	Alert
3,200.00	3,198.96	3,200.44	3,200.20	11.20	11.23	-163.20	12.09	-16.90	61.56	39.16	22.40	2.748	Alert
3,250.00	3,248.91	3,250.43	3,250.16	11.38	11.41	-163.00	13.08	-15.84	62.55	39.79	22.75	2.749	Alert
3,300.00	3,298.86	3,300.42	3,300.13	11.55	11.59	-162.81	14.07	-14.78	63.53	40.43	23.11	2.749	Alert
3,350.00	3,348.81	3,350.41	3,350.10	11.73	11.77	-162.62	15.07	-13.72	64.52	41.06	23.46	2.750	Alert
3,400.00	3,398.76	3,400.40	3,400.07	11.91	11.94	-162.44	16.06	-12.66	65.51	41.70	23.82	2.751	Alert
3,450.00	3,448.71	3,450.39	3,450.04	12.09	12.12	-162.27	17.05	-11.60	66.50	42.33	24.17	2.751	Alert
3,500.00	3,498.66	3,500.38	3,500.01	12.27	12.30	-162.10	18.04	-10.54	67.49	42.97	24.53	2.752	Alert
3,550.00	3,548.60	3,550.37	3,549.98	12.45	12.48	-161.94	19.03	-9.48	68.49	43.60	24.88	2.752	Alert
3,600.00	3,598.55	3,600.36	3,599.95	12.63	12.65	-161.78	20.03	-8.42	69.48	44.24	25.24	2.753	Alert
3,650.00	3,648.50	3,650.35	3,649.91	12.81	12.83	-161.62	21.02	-7.35	70.47	44.88	25.59	2.754	Alert
3,700.00	3,698.45	3,700.34	3,699.88	12.99	13.01	-161.47	22.01	-6.29	71.46	45.52	25.95	2.754	Alert
3,750.00	3,748.40	3,750.33	3,749.85	13.16	13.19	-161.33	23.00	-5.23	72.46	46.15	26.30	2.755	Alert
3,800.00	3,798.35	3,800.32	3,799.82	13.34	13.37	-161.18	24.00	-4.17	73.45	46.79	26.66	2.755	Alert
3,850.00	3,848.30	3,850.31	3,849.79	13.52	13.55	-161.04	24.99	-3.11	74.45	47.43	27.01	2.756	Alert
3,900.00	3,898.25	3,900.30	3,899.76	13.70	13.72	-160.91	25.98	-2.05	75.44	48.07	27.37	2.756	Alert
3,950.00	3,948.20	3,950.29	3,949.73	13.88	13.90	-160.78	26.97	-0.99	76.44	48.71	27.73	2.757	Alert
4,000.00	3,998.15	4,000.28	3,999.69	14.06	14.08	-160.65	27.96	0.07	77.43	49.35	28.08	2.757	Alert
4,050.00	4,048.10	4,050.27	4,049.66	14.24	14.26	-160.52	28.96	1.13	78.43	49.99	28.44	2.758	Alert
4,100.00	4,098.05	4,100.26	4,099.63	14.42	14.44	-160.40	29.95	2.19	79.42	50.63	28.79	2.758	Alert
4,150.00	4,148.00	4,150.25	4,149.60	14.60	14.62	-160.28	30.94	3.25	80.42	51.27	29.15	2.759	Alert
4,200.00	4,197.95	4,200.24	4,199.57	14.78	14.79	-160.17	31.93	4.31	81.42	51.91	29.51	2.759	Alert
4,250.00	4,247.90	4,250.23	4,249.54	14.96	14.97	-160.06	32.93	5.37	82.41	52.55	29.86	2.760	Alert
4,300.00	4,297.85	4,300.22	4,299.51	15.14	15.15	-159.95	33.92	6.43	83.41	53.19	30.22	2.760	Alert
4,350.00	4,347.79	4,350.21	4,349.48	15.32	15.33	-159.84	34.91	7.49	84.41	53.83	30.58	2.761	Alert
4,400.00	4,397.74	4,400.20	4,399.44	15.50	15.51	-159.73	35.90	8.55	85.41	54.47	30.93	2.761	Alert
4,450.00	4,447.69	4,450.19	4,449.41	15.68	15.69	-159.63	36.89	9.61	86.41	55.12	31.29	2.761	Alert
4,500.00	4,497.64	4,500.18	4,499.38	15.86	15.87	-159.53	37.89	10.67	87.41	55.76	31.65	2.762	Alert
4,550.00	4,547.59	4,550.17	4,549.35	16.04	16.04	-159.43	38.88	11.73	88.40	56.40	32.00	2.762	Alert
4,600.00	4,597.54	4,600.16	4,599.32	16.22	16.22	-159.33	39.87	12.79	89.40	57.04	32.36	2.763	Alert
4,650.00	4,647.49	4,650.15	4,649.29	16.40	16.40	-159.24	40.86	13.85	90.40	57.69	32.72	2.763	Alert
4,700.00	4,697.44	4,700.14	4,699.26	16.58	16.58	-159.15	41.85	14.91	91.40	58.33	33.07	2.764	Alert
4,750.00	4,747.39	4,750.13	4,749.23	16.76	16.76	-159.06	42.85	15.97	92.40	58.97	33.43	2.764	Alert
4,800.00	4,797.34	4,800.12	4,799.19	16.94	16.94	-158.97	43.84	17.03	93.40	59.61	33.79	2.764	Alert
4,850.00	4,847.29	4,850.11	4,849.16	17.12	17.12	-158.89	44.83	18.09	94.40	60.26	34.15	2.765	Alert
4,900.00	4,897.24	4,900.10	4,899.13	17.30	17.30	-158.80	45.82	19.15	95.40	60.90	34.50	2.765	Alert
4,950.00	4,947.19	4,950.09	4,949.10	17.48	17.48	-158.72	46.82	20.21	96.41	61.55	34.86	2.765	Alert
5,000.00	4,997.14	5,000.08	4,999.07	17.66	17.65	-158.64	47.81	21.27	97.41	62.19	35.22	2.766	Alert
5,050.00	5,047.09	5,050.07	5,049.04	17.84	17.83	-158.56	48.80	22.34	98.41	62.83	35.58	2.766	Alert
5,100.00	5,097.04	5,100.06	5,099.01	18.02	18.01	-158.48	49.79	23.40	99.41	63.48	35.93	2.767	Alert
5,150.00	5,146.99	5,150.05	5,148.97	18.20	18.19	-158.41	50.78	24.46	100.41	64.12	36.29	2.767	Alert

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,196.93	5,200.04	5,198.94	18.38	18.37	-158.33	51.78	25.52	101.41	64.77	36.65	2.767	Alert
5,250.00	5,246.88	5,250.03	5,248.91	18.56	18.55	-158.26	52.77	26.58	102.41	65.41	37.00	2.768	Alert
5,300.00	5,296.83	5,300.02	5,298.88	18.74	18.73	-158.19	53.76	27.64	103.42	66.05	37.36	2.768	Alert
5,350.00	5,346.78	5,350.01	5,348.85	18.92	18.91	-158.12	54.75	28.70	104.42	66.70	37.72	2.768	Alert
5,400.00	5,396.73	5,400.01	5,398.82	19.10	19.09	-158.05	55.74	29.76	105.42	67.34	38.08	2.769	Alert
5,450.00	5,446.68	5,449.98	5,448.79	19.28	19.27	-157.98	56.74	30.82	106.42	67.99	38.44	2.769	Alert
5,500.00	5,496.63	5,500.03	5,498.76	19.46	19.44	-157.91	57.73	31.88	107.43	68.63	38.79	2.769	Alert
5,550.00	5,546.58	5,549.96	5,548.72	19.64	19.62	-157.85	58.72	32.94	108.43	69.28	39.15	2.770	Alert
5,600.00	5,596.53	5,600.05	5,598.69	19.82	19.80	-157.78	59.71	34.00	109.43	69.92	39.51	2.770	Alert
5,650.00	5,646.48	5,649.94	5,648.66	20.00	19.98	-157.72	60.71	35.06	110.44	70.57	39.87	2.770	Alert
5,700.00	5,696.43	5,700.07	5,698.63	20.18	20.16	-157.66	61.70	36.12	111.44	71.21	40.22	2.770	Alert
5,750.00	5,746.38	5,749.92	5,748.60	20.36	20.34	-157.60	62.69	37.18	112.44	71.86	40.58	2.771	Alert
5,800.00	5,796.33	5,800.09	5,798.57	20.54	20.52	-157.54	63.68	38.24	113.45	72.51	40.94	2.771	Alert
5,850.00	5,846.28	5,849.90	5,848.54	20.73	20.70	-157.48	64.67	39.30	114.45	73.15	41.30	2.771	Alert
5,900.00	5,896.23	5,900.11	5,898.51	20.91	20.88	-157.42	65.67	40.36	115.45	73.80	41.66	2.772	Alert
5,950.00	5,946.18	5,949.88	5,948.47	21.09	21.06	-157.37	66.66	41.42	116.46	74.44	42.01	2.772	Alert
6,000.00	5,996.12	6,000.13	5,998.44	21.27	21.24	-157.31	67.65	42.48	117.46	75.09	42.37	2.772	Alert
6,050.00	6,046.07	6,049.86	6,048.41	21.45	21.42	-157.26	68.64	43.54	118.47	75.74	42.73	2.772	Alert
6,100.00	6,096.02	6,100.15	6,098.38	21.63	21.60	-157.20	69.63	44.60	119.47	76.38	43.09	2.773	Alert
6,150.00	6,145.97	6,149.84	6,148.35	21.81	21.77	-157.15	70.63	45.66	120.47	77.03	43.45	2.773	Alert
6,200.00	6,195.92	6,200.17	6,198.32	21.99	21.95	-157.10	71.62	46.72	121.48	77.67	43.81	2.773	Alert
6,250.00	6,245.87	6,249.82	6,248.29	22.17	22.13	-157.05	72.61	47.78	122.48	78.32	44.16	2.773	Alert
6,300.00	6,295.82	6,300.19	6,298.25	22.35	22.31	-157.00	73.60	48.84	123.49	78.97	44.52	2.774	Alert
6,350.00	6,345.77	6,349.80	6,348.22	22.53	22.49	-156.95	74.60	49.90	124.49	79.61	44.88	2.774	Alert
6,400.00	6,395.72	6,400.21	6,398.19	22.71	22.67	-156.90	75.59	50.96	125.50	80.26	45.24	2.774	Alert
6,450.00	6,445.67	6,449.78	6,448.16	22.89	22.85	-156.85	76.58	52.03	126.50	80.91	45.60	2.774	Alert
6,500.00	6,495.62	6,500.23	6,498.13	23.07	23.03	-156.81	77.57	53.09	127.51	81.55	45.96	2.775	Alert
6,550.00	6,545.57	6,549.76	6,548.10	23.26	23.21	-156.76	78.56	54.15	128.51	82.20	46.31	2.775	Alert
6,600.00	6,595.52	6,600.25	6,598.07	23.44	23.39	-156.71	79.56	55.21	129.52	82.85	46.67	2.775	Alert
6,650.00	6,645.47	6,649.74	6,648.04	23.62	23.57	-156.67	80.55	56.27	130.52	83.49	47.03	2.775	Alert
6,700.00	6,695.42	6,700.27	6,698.00	23.80	23.75	-156.63	81.54	57.33	131.53	84.14	47.39	2.776	Alert
6,750.00	6,745.37	6,749.72	6,747.97	23.98	23.93	-156.58	82.53	58.39	132.53	84.79	47.74	2.776	Alert
6,800.00	6,795.31	6,800.29	6,797.94	24.16	24.11	-156.54	83.52	59.45	133.54	85.43	48.11	2.776	Alert
6,850.00	6,845.26	6,849.70	6,847.91	24.34	24.29	-156.50	84.52	60.51	134.54	86.08	48.46	2.776	Alert
6,900.00	6,895.21	6,900.31	6,897.88	24.52	24.47	-156.46	85.51	61.57	135.55	86.73	48.82	2.776	Alert
6,950.00	6,945.16	6,949.68	6,947.85	24.70	24.64	-156.41	86.50	62.63	136.56	87.38	49.18	2.777	Alert
7,000.00	6,995.11	7,000.33	6,997.82	24.88	24.83	-156.37	87.49	63.69	137.56	88.02	49.54	2.777	Alert
7,050.00	7,045.06	7,049.66	7,047.79	25.06	25.00	-156.33	88.49	64.75	138.57	88.67	49.90	2.777	Alert
7,100.00	7,095.01	7,100.35	7,097.75	25.24	25.19	-156.29	89.48	65.81	139.57	89.32	50.26	2.777	Alert
7,150.00	7,144.96	7,149.64	7,147.72	25.43	25.36	-156.26	90.47	66.87	140.58	89.97	50.61	2.778	Alert
7,200.00	7,194.91	7,200.37	7,197.69	25.61	25.54	-156.22	91.46	67.93	141.59	90.61	50.97	2.778	Alert
7,250.00	7,244.86	7,249.62	7,247.66	25.79	25.72	-156.18	92.45	68.99	142.59	91.26	51.33	2.778	Alert
7,300.00	7,294.81	7,300.39	7,297.63	25.97	25.90	-156.14	93.45	70.05	143.60	91.91	51.69	2.778	Alert
7,350.00	7,344.76	7,349.60	7,347.60	26.15	26.08	-156.11	94.44	71.11	144.60	92.56	52.05	2.778	Alert
7,400.00	7,394.71	7,400.41	7,397.57	26.33	26.26	-156.07	95.43	72.17	145.61	93.20	52.41	2.778	Alert
7,450.00	7,444.66	7,449.58	7,447.53	26.51	26.44	-156.04	96.42	73.23	146.62	93.85	52.76	2.779	Alert
7,500.00	7,494.61	7,500.43	7,497.50	26.69	26.62	-156.00	97.41	74.29	147.62	94.50	53.13	2.779	Alert
7,550.00	7,544.56	7,549.56	7,547.47	26.87	26.80	-155.97	98.41	75.35	148.63	95.15	53.48	2.779	Alert
7,600.00	7,594.50	7,600.45	7,597.44	27.05	26.98	-155.93	99.40	76.41	149.64	95.79	53.84	2.779	Alert
7,650.00	7,644.45	7,649.54	7,647.41	27.23	27.16	-155.90	100.39	77.47	150.64	96.44	54.20	2.779	Alert
7,700.00	7,694.40	7,700.47	7,697.38	27.42	27.34	-155.87	101.38	78.53	151.65	97.09	54.56	2.779	Alert
7,750.00	7,744.35	7,749.52	7,747.35	27.60	27.52	-155.83	102.38	79.59	152.65	97.74	54.92	2.780	Alert

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,800.00	7,794.30	7,800.50	7,797.32	27.78	27.70	-155.80	103.37	80.65	153.66	98.38	55.28	2.780	Alert
7,850.00	7,844.25	7,849.49	7,847.28	27.96	27.88	-155.77	104.36	81.72	154.67	99.04	55.63	2.780	Alert
7,900.00	7,894.20	7,900.52	7,897.25	28.14	28.06	-155.74	105.35	82.78	155.67	99.68	56.00	2.780	Alert
7,950.00	7,944.15	7,949.47	7,947.22	28.32	28.23	-155.71	106.34	83.84	156.68	100.33	56.35	2.781	Alert
8,000.00	7,994.10	8,000.54	7,997.19	28.50	28.42	-155.67	107.34	84.90	157.69	100.98	56.71	2.780	Alert
8,050.00	8,044.05	8,049.45	8,047.16	28.68	28.59	-155.64	108.33	85.96	158.70	101.63	57.07	2.781	Alert
8,100.00	8,094.00	8,100.56	8,097.13	28.86	28.78	-155.61	109.32	87.02	159.70	102.27	57.43	2.781	Alert
8,150.00	8,143.95	8,149.43	8,147.10	29.04	28.95	-155.59	110.31	88.08	160.71	102.92	57.79	2.781	Alert
8,200.00	8,193.90	8,200.58	8,197.07	29.23	29.14	-155.56	111.30	89.14	161.72	103.57	58.15	2.781	Alert
8,250.00	8,243.85	8,249.41	8,247.03	29.41	29.31	-155.53	112.30	90.20	162.72	104.22	58.50	2.781	Alert
8,300.00	8,293.80	8,300.60	8,297.00	29.59	29.50	-155.50	113.29	91.26	163.73	104.86	58.87	2.781	Alert
8,350.00	8,343.75	8,349.39	8,346.97	29.77	29.67	-155.47	114.28	92.32	164.74	105.52	59.22	2.782	Alert
8,400.00	8,393.69	8,400.62	8,396.94	29.95	29.86	-155.44	115.27	93.38	165.74	106.16	59.58	2.782	Alert
8,450.00	8,443.64	8,449.37	8,446.91	30.13	30.03	-155.42	116.27	94.44	166.75	106.81	59.94	2.782	Alert
8,500.00	8,493.59	8,500.64	8,496.88	30.31	30.21	-155.39	117.26	95.50	167.76	107.46	60.30	2.782	Alert
8,550.00	8,543.54	8,549.35	8,546.85	30.49	30.39	-155.36	118.25	96.56	168.77	108.11	60.66	2.782	Alert
8,600.00	8,593.49	8,600.66	8,596.81	30.67	30.57	-155.33	119.24	97.62	169.77	108.76	61.02	2.782	Alert
8,650.00	8,643.44	8,649.33	8,646.78	30.86	30.75	-155.31	120.23	98.68	170.78	109.41	61.37	2.783	Alert
8,700.00	8,693.39	8,700.68	8,696.75	31.04	30.93	-155.28	121.23	99.74	171.79	110.05	61.74	2.783	Alert
8,750.00	8,743.34	8,749.31	8,746.72	31.22	31.11	-155.26	122.22	100.80	172.80	110.71	62.09	2.783	Alert
8,800.00	8,793.29	8,800.70	8,796.69	31.40	31.29	-155.23	123.21	101.86	173.80	111.35	62.45	2.783	Alert
8,850.00	8,843.24	8,849.29	8,846.66	31.58	31.47	-155.21	124.20	102.92	174.81	112.00	62.81	2.783	Alert
8,900.00	8,893.19	8,900.72	8,896.63	31.76	31.65	-155.18	125.19	103.98	175.82	112.65	63.17	2.783	Alert
8,950.00	8,943.14	8,949.27	8,946.60	31.94	31.83	-155.16	126.19	105.04	176.83	113.30	63.53	2.784	Alert
9,000.00	8,993.09	9,000.74	8,996.56	32.12	32.01	-155.13	127.18	106.10	177.83	113.94	63.89	2.783	Alert
9,050.00	9,043.04	9,049.25	9,046.53	32.30	32.19	-155.11	128.17	107.16	178.84	114.60	64.24	2.784	Alert
9,100.00	9,092.99	9,100.76	9,096.50	32.49	32.37	-155.09	129.16	108.22	179.85	115.24	64.61	2.784	Alert
9,150.00	9,142.94	9,149.23	9,146.47	32.67	32.55	-155.06	130.16	109.28	180.86	115.89	64.96	2.784	Alert
9,200.00	9,192.88	9,200.78	9,196.44	32.85	32.73	-155.04	131.15	110.34	181.86	116.54	65.33	2.784	Alert
9,250.00	9,242.83	9,249.21	9,246.41	33.03	32.91	-155.02	132.14	111.41	182.87	117.19	65.68	2.784	Alert
9,300.00	9,292.78	9,300.80	9,296.38	33.21	33.09	-154.99	133.13	112.47	183.88	117.84	66.04	2.784	Alert
9,350.00	9,342.73	9,349.19	9,346.35	33.39	33.26	-154.97	134.12	113.53	184.89	118.49	66.40	2.785	Alert
9,400.00	9,392.68	9,400.82	9,396.31	33.57	33.45	-154.95	135.12	114.59	185.90	119.13	66.76	2.784	Alert
9,450.00	9,442.63	9,449.17	9,446.28	33.75	33.62	-154.93	136.11	115.65	186.90	119.79	67.12	2.785	Alert
9,500.00	9,492.58	9,500.84	9,496.25	33.94	33.81	-154.91	137.10	116.71	187.91	120.43	67.48	2.785	Alert
9,550.00	9,542.53	9,549.15	9,546.22	34.12	33.98	-154.89	138.09	117.77	188.92	121.09	67.83	2.785	Alert
9,600.00	9,592.48	9,600.86	9,596.19	34.30	34.17	-154.86	139.08	118.83	189.93	121.73	68.20	2.785	Alert
9,650.00	9,642.43	9,649.13	9,646.16	34.48	34.34	-154.84	140.08	119.89	190.94	122.38	68.55	2.785	Alert
9,700.00	9,692.38	9,700.88	9,696.13	34.66	34.53	-154.82	141.07	120.95	191.94	123.03	68.92	2.785	Alert
9,750.00	9,742.33	9,749.11	9,746.09	34.84	34.70	-154.80	142.06	122.01	192.95	123.68	69.27	2.786	Alert
9,800.00	9,792.28	9,800.90	9,796.06	35.02	34.89	-154.78	143.05	123.07	193.96	124.32	69.64	2.785	Alert
9,850.00	9,842.23	9,849.09	9,846.03	35.20	35.06	-154.76	144.05	124.13	194.97	124.98	69.99	2.786	Alert
9,900.00	9,892.18	9,899.08	9,896.00	35.38	35.24	-154.74	145.04	125.19	195.98	125.63	70.35	2.786	Alert
9,950.00	9,942.13	9,949.07	9,945.97	35.57	35.42	-154.72	146.03	126.25	196.98	126.28	70.71	2.786	Alert
10,000.00	9,992.08	10,000.94	9,995.94	35.75	35.61	-154.70	147.02	127.31	197.99	126.92	71.07	2.786	Alert
10,050.00	10,042.02	10,049.05	10,045.91	35.93	35.78	-154.68	148.01	128.37	199.00	127.58	71.42	2.786	Alert
10,100.00	10,091.97	10,100.96	10,095.88	36.11	35.97	-154.66	149.01	129.43	200.01	128.22	71.79	2.786	Alert
10,150.00	10,141.92	10,149.03	10,145.84	36.29	36.14	-154.65	150.00	130.49	201.02	128.87	72.14	2.786	Alert
10,200.00	10,191.87	10,200.99	10,195.81	36.47	36.33	-154.63	150.99	131.55	202.02	129.52	72.51	2.786	Alert
10,250.00	10,241.82	10,249.00	10,245.78	36.65	36.50	-154.61	151.98	132.61	203.03	130.17	72.86	2.787	Alert
10,300.00	10,291.77	10,298.99	10,295.75	36.83	36.68	-154.59	152.97	133.67	204.04	130.82	73.22	2.787	Alert
10,350.00	10,341.72	10,348.98	10,345.72	37.02	36.86	-154.57	153.97	134.73	205.05	131.47	73.58	2.787	Alert

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,400.00	10,391.67	10,401.03	10,395.69	37.20	37.05	-154.55	154.96	135.79	206.06	132.11	73.94	2.787	Alert
10,450.00	10,441.62	10,448.96	10,445.66	37.38	37.22	-154.54	155.95	136.85	207.07	132.77	74.30	2.787	Alert
10,500.00	10,491.57	10,501.05	10,495.63	37.56	37.41	-154.52	156.94	137.91	208.07	133.41	74.66	2.787	Alert
10,550.00	10,541.52	10,548.94	10,545.59	37.74	37.58	-154.50	157.94	138.97	209.08	134.07	75.01	2.787	Alert
10,600.00	10,591.47	10,598.58	10,595.21	37.92	37.76	-154.49	158.91	140.02	210.10	134.73	75.37	2.787	Alert
10,650.00	10,641.42	10,646.69	10,643.31	38.10	37.93	-154.55	159.58	140.73	211.41	135.69	75.72	2.792	Alert
10,700.00	10,691.37	10,706.22	10,691.17	38.28	38.14	-154.73	159.84	141.01	213.17	137.07	76.10	2.801	Alert
10,750.00	10,741.32	10,744.50	10,741.12	38.47	38.28	-154.98	159.84	141.01	215.21	138.79	76.42	2.816	Alert
10,800.00	10,791.27	10,805.55	10,791.07	38.65	38.49	-155.23	159.84	141.01	217.25	140.44	76.81	2.828	Alert
10,850.00	10,841.21	10,844.40	10,841.01	38.83	38.63	-155.48	159.84	141.01	219.29	142.16	77.13	2.843	Alert
10,900.00	10,891.16	10,905.65	10,890.96	39.01	38.85	-155.72	159.84	141.01	221.34	143.82	77.52	2.855	Alert
10,950.00	10,941.11	10,944.30	10,940.91	39.19	38.98	-155.96	159.84	141.01	223.39	145.55	77.84	2.870	Alert
11,000.00	10,991.06	10,994.25	10,990.86	39.37	39.16	-156.19	159.84	141.01	225.45	147.25	78.20	2.883	Alert
11,050.00	11,041.02	11,044.20	11,040.82	39.55	39.34	-156.42	159.84	141.01	227.43	148.88	78.55	2.895	Alert
11,100.00	11,090.99	11,094.22	11,090.80	39.73	39.51	-157.00	158.17	141.02	228.88	149.98	78.90	2.901	Alert
11,150.00	11,140.98	11,143.56	11,139.77	39.91	39.66	-158.56	152.29	141.06	229.82	150.59	79.22	2.901	Alert
11,200.00	11,190.98	11,191.56	11,186.75	40.09	39.81	-94.34	142.55	141.12	230.58	151.06	79.52	2.900	Alert
11,250.00	11,240.98	11,237.63	11,230.94	40.26	39.95	-97.55	129.53	141.20	232.02	152.27	79.75	2.909	Alert
11,300.00	11,290.98	11,281.33	11,271.75	40.44	40.07	-101.34	113.94	141.29	235.05	155.18	79.87	2.943	Alert
11,350.00	11,340.98	11,322.37	11,308.89	40.61	40.18	-105.46	96.51	141.40	240.34	160.55	79.79	3.012	Alert
11,400.00	11,390.98	11,360.60	11,342.28	40.78	40.28	-109.68	77.92	141.52	248.50	169.06	79.44	3.128	Alert
11,450.00	11,440.98	11,395.99	11,372.03	40.96	40.36	-113.82	58.75	141.64	259.97	181.21	78.76	3.301	Alert
11,500.00	11,490.98	11,428.61	11,398.35	41.13	40.43	-117.73	39.50	141.76	274.98	197.24	77.74	3.537	Alert
11,550.00	11,540.98	11,458.58	11,421.55	41.31	40.49	58.87	20.51	141.87	293.55	217.09	76.46	3.839	Alert
11,600.00	11,590.90	11,487.30	11,442.80	41.47	40.56	53.84	1.20	141.99	314.24	239.23	75.01	4.189	Alert
11,650.00	11,640.41	11,515.73	11,462.86	41.63	40.62	49.37	-18.94	142.12	335.57	262.08	73.49	4.566	Alert
11,700.00	11,689.13	11,543.93	11,481.75	41.78	40.69	45.44	-39.87	142.25	357.02	285.08	71.95	4.962	Alert
11,750.00	11,736.70	11,571.92	11,499.46	41.93	40.75	42.02	-61.54	142.38	378.18	307.77	70.40	5.372	
11,800.00	11,782.75	11,600.00	11,516.14	42.07	40.82	39.05	-84.13	142.52	398.71	329.81	68.90	5.787	
11,850.00	11,826.92	11,627.40	11,531.33	42.20	40.88	36.52	-106.93	142.67	418.37	350.98	67.39	6.208	
11,900.00	11,868.90	11,650.00	11,543.03	42.31	40.94	34.51	-126.27	142.79	437.01	371.35	65.66	6.655	
11,950.00	11,908.34	11,682.36	11,558.42	42.42	41.01	32.49	-154.72	142.96	454.33	389.75	64.58	7.035	
12,000.00	11,944.96	11,709.68	11,570.16	42.52	41.08	30.90	-179.39	143.12	470.35	407.06	63.29	7.432	
12,050.00	11,978.47	11,736.93	11,580.68	42.61	41.14	29.57	-204.52	143.27	484.90	422.81	62.09	7.810	
12,100.00	12,008.63	11,764.11	11,589.97	42.71	41.20	28.45	-230.06	143.43	497.90	436.90	61.00	8.163	
12,150.00	12,035.19	11,791.23	11,598.02	42.81	41.26	27.52	-255.95	143.59	509.28	449.25	60.03	8.484	
12,200.00	12,057.97	11,818.30	11,604.83	42.91	41.32	26.76	-282.15	143.75	518.99	459.79	59.20	8.767	
12,250.00	12,076.78	11,850.00	11,611.22	43.03	41.40	26.12	-313.20	143.95	527.02	468.38	58.63	8.988	
12,300.00	12,091.48	11,872.33	11,614.69	43.14	41.45	25.71	-335.26	144.08	533.21	475.21	58.00	9.193	
12,350.00	12,101.97	11,900.00	11,617.78	43.26	41.51	25.39	-362.75	144.25	537.65	479.99	57.66	9.324	
12,400.00	12,108.15	11,926.27	11,619.49	43.37	41.57	25.21	-388.96	144.42	540.29	482.80	57.49	9.398	
12,450.00	12,110.00	11,955.63	11,620.00	43.49	41.64	25.15	-418.31	144.60	541.11	483.59	57.51	9.408	
12,500.00	12,110.00	12,005.63	11,620.00	43.61	41.76	25.15	-468.31	144.91	541.11	483.47	57.64	9.388	
12,550.00	12,110.00	12,055.63	11,620.00	43.75	41.89	25.15	-518.31	145.22	541.11	483.32	57.79	9.364	
12,600.00	12,110.00	12,105.63	11,620.00	43.89	42.03	25.15	-568.31	145.53	541.11	483.17	57.94	9.340	
12,650.00	12,110.00	12,155.63	11,620.00	44.04	42.19	25.15	-618.31	145.84	541.11	482.99	58.11	9.311	
12,700.00	12,110.00	12,205.63	11,620.00	44.20	42.35	25.15	-668.31	146.15	541.11	482.82	58.29	9.283	
12,750.00	12,110.00	12,255.63	11,620.00	44.38	42.53	25.15	-718.31	146.46	541.11	482.61	58.50	9.250	
12,800.00	12,110.00	12,305.63	11,620.00	44.56	42.72	25.15	-768.31	146.77	541.11	482.40	58.70	9.217	
12,850.00	12,110.00	12,355.63	11,620.00	44.77	42.92	25.15	-818.31	147.08	541.11	482.17	58.94	9.181	
12,900.00	12,110.00	12,405.63	11,620.00	44.97	43.13	25.15	-868.30	147.39	541.11	481.93	59.18	9.144	
12,950.00	12,110.00	12,455.63	11,620.00	45.19	43.36	25.15	-918.30	147.70	541.11	481.67	59.44	9.104	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan 1 — Offset Site Error: 5.00 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,000.00	12,110.00	12,505.63	11,620.00	45.41	43.59	25.15	-968.30	148.01	541.11	481.40	59.70	9.063	
13,050.00	12,110.00	12,555.63	11,620.00	45.66	43.84	25.15	-1,018.30	148.32	541.11	481.11	59.99	9.020	
13,100.00	12,110.00	12,605.63	11,620.00	45.90	44.09	25.15	-1,068.30	148.63	541.11	480.82	60.28	8.976	
13,150.00	12,110.00	12,655.63	11,620.00	46.16	44.36	25.15	-1,118.30	148.94	541.11	480.51	60.60	8.929	
13,200.00	12,110.00	12,705.63	11,620.00	46.43	44.63	25.15	-1,168.30	149.25	541.11	480.19	60.92	8.883	
13,250.00	12,110.00	12,755.63	11,620.00	46.71	44.92	25.15	-1,218.30	149.56	541.11	479.85	61.26	8.833	
13,300.00	12,110.00	12,805.63	11,620.00	47.00	45.22	25.15	-1,268.30	149.87	541.11	479.50	61.60	8.784	
13,350.00	12,110.00	12,855.63	11,620.00	47.30	45.53	25.15	-1,318.30	150.18	541.11	479.14	61.97	8.732	
13,400.00	12,110.00	12,905.63	11,620.00	47.60	45.84	25.15	-1,368.30	150.50	541.11	478.77	62.34	8.680	
13,450.00	12,110.00	12,955.63	11,620.00	47.92	46.17	25.15	-1,418.29	150.81	541.11	478.38	62.73	8.626	
13,500.00	12,110.00	13,005.63	11,620.00	48.24	46.50	25.15	-1,468.29	151.12	541.11	477.99	63.12	8.573	
13,550.00	12,110.00	13,055.63	11,620.00	48.58	46.84	25.15	-1,518.29	151.43	541.11	477.57	63.53	8.517	
13,600.00	12,110.00	13,105.63	11,620.00	48.91	47.19	25.15	-1,568.29	151.74	541.11	477.16	63.94	8.462	
13,650.00	12,110.00	13,155.63	11,620.00	49.27	47.56	25.15	-1,618.29	152.05	541.10	476.72	64.38	8.405	
13,700.00	12,110.00	13,205.63	11,620.00	49.62	47.92	25.15	-1,668.29	152.36	541.10	476.29	64.82	8.348	
13,750.00	12,110.00	13,255.63	11,620.00	49.99	48.30	25.15	-1,718.29	152.67	541.10	475.83	65.27	8.290	
13,800.00	12,110.00	13,305.63	11,620.00	50.36	48.69	25.15	-1,768.29	152.98	541.10	475.37	65.73	8.232	
13,850.00	12,110.00	13,355.63	11,620.00	50.75	49.08	25.15	-1,818.29	153.29	541.10	474.89	66.21	8.173	
13,900.00	12,110.00	13,405.63	11,620.00	51.13	49.48	25.15	-1,868.29	153.60	541.10	474.42	66.69	8.114	
13,950.00	12,110.00	13,455.63	11,620.00	51.53	49.89	25.15	-1,918.28	153.91	541.10	473.92	67.18	8.054	
14,000.00	12,110.00	13,505.63	11,620.00	51.93	50.30	25.15	-1,968.28	154.22	541.10	473.42	67.68	7.995	
14,050.00	12,110.00	13,555.63	11,620.00	52.35	50.73	25.15	-2,018.28	154.53	541.10	472.91	68.20	7.934	
14,100.00	12,110.00	13,605.63	11,620.00	52.76	51.15	25.15	-2,068.28	154.84	541.10	472.39	68.71	7.875	
14,150.00	12,110.00	13,655.63	11,620.00	53.19	51.59	25.15	-2,118.28	155.15	541.10	471.86	69.25	7.814	
14,200.00	12,110.00	13,705.63	11,620.00	53.62	52.03	25.15	-2,168.28	155.46	541.10	471.32	69.78	7.754	
14,250.00	12,110.00	13,755.63	11,620.00	54.06	52.48	25.15	-2,218.28	155.77	541.10	470.77	70.33	7.694	
14,300.00	12,110.00	13,805.63	11,620.00	54.50	52.94	25.15	-2,268.28	156.08	541.10	470.22	70.88	7.634	
14,350.00	12,110.00	13,855.63	11,620.00	54.95	53.40	25.15	-2,318.28	156.39	541.10	469.65	71.45	7.573	
14,400.00	12,110.00	13,905.63	11,620.00	55.40	53.87	25.15	-2,368.28	156.70	541.10	469.09	72.02	7.514	
14,450.00	12,110.00	13,955.63	11,620.00	55.87	54.34	25.15	-2,418.28	157.01	541.10	468.51	72.60	7.453	
14,500.00	12,110.00	14,005.63	11,620.00	56.33	54.82	25.15	-2,468.27	157.32	541.10	467.92	73.18	7.394	
14,550.00	12,110.00	14,055.63	11,620.00	56.81	55.30	25.15	-2,518.27	157.63	541.10	467.33	73.78	7.334	
14,600.00	12,110.00	14,105.63	11,620.00	57.28	55.79	25.15	-2,568.27	157.94	541.10	466.73	74.37	7.275	
14,650.00	12,110.00	14,155.63	11,620.00	57.77	56.29	25.15	-2,618.27	158.25	541.10	466.12	74.99	7.216	
14,700.00	12,110.00	14,205.63	11,620.00	58.26	56.78	25.15	-2,668.27	158.56	541.10	465.51	75.60	7.158	
14,750.00	12,110.00	14,255.63	11,620.00	58.75	57.29	25.15	-2,718.27	158.87	541.10	464.88	76.22	7.099	
14,800.00	12,110.00	14,305.63	11,620.00	59.25	57.80	25.15	-2,768.27	159.19	541.10	464.26	76.85	7.041	
14,850.00	12,110.00	14,355.63	11,620.00	59.75	58.31	25.15	-2,818.27	159.50	541.10	463.62	77.48	6.983	
14,900.00	12,110.00	14,405.63	11,620.00	60.26	58.83	25.15	-2,868.27	159.81	541.10	462.98	78.12	6.927	
14,950.00	12,110.00	14,455.63	11,620.00	60.77	59.36	25.15	-2,918.27	160.12	541.10	462.33	78.77	6.869	
15,000.00	12,110.00	14,505.63	11,620.00	61.29	59.88	25.15	-2,968.26	160.43	541.10	461.68	79.42	6.813	
15,050.00	12,110.00	14,555.63	11,620.00	61.81	60.41	25.15	-3,018.26	160.74	541.10	461.02	80.08	6.757	
15,100.00	12,110.00	14,605.63	11,620.00	62.33	60.95	25.15	-3,068.26	161.05	541.10	460.36	80.74	6.702	
15,150.00	12,110.00	14,655.63	11,620.00	62.86	61.49	25.15	-3,118.26	161.36	541.10	459.69	81.41	6.646	
15,200.00	12,110.00	14,705.63	11,620.00	63.39	62.03	25.15	-3,168.26	161.67	541.10	459.02	82.08	6.592	
15,250.00	12,110.00	14,755.63	11,620.00	63.93	62.58	25.15	-3,218.26	161.98	541.10	458.34	82.77	6.538	
15,300.00	12,110.00	14,805.63	11,620.00	64.47	63.13	25.15	-3,268.26	162.29	541.10	457.65	83.45	6.484	
15,350.00	12,110.00	14,855.63	11,620.00	65.02	63.69	25.15	-3,318.26	162.60	541.10	456.96	84.14	6.431	
15,400.00	12,110.00	14,905.63	11,620.00	65.56	64.24	25.15	-3,368.26	162.91	541.10	456.27	84.83	6.378	
15,450.00	12,110.00	14,955.63	11,620.00	66.12	64.80	25.15	-3,418.26	163.22	541.10	455.57	85.54	6.326	
15,500.00	12,110.00	15,005.63	11,620.00	66.67	65.37	25.15	-3,468.25	163.53	541.10	454.86	86.24	6.275	
15,550.00	12,110.00	15,055.63	11,620.00	67.23	65.94	25.15	-3,518.25	163.84	541.10	454.15	86.95	6.223	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan 1 — Offset Site Error: 5.00 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
15,600.00	12,110.00	15,105.63	11,620.00	67.79	66.51	25.15	-3,568.25	164.15	541.10	453.44	87.66	6.173	
15,650.00	12,110.00	15,155.63	11,620.00	68.35	67.08	25.15	-3,618.25	164.46	541.10	452.72	88.38	6.123	
15,700.00	12,110.00	15,205.63	11,620.00	68.92	67.66	25.15	-3,668.25	164.77	541.10	452.00	89.10	6.073	
15,750.00	12,110.00	15,255.63	11,620.00	69.49	68.24	25.15	-3,718.25	165.08	541.10	451.28	89.82	6.024	
15,800.00	12,110.00	15,305.63	11,620.00	70.06	68.82	25.15	-3,768.25	165.39	541.10	450.55	90.55	5.976	
15,850.00	12,110.00	15,355.63	11,620.00	70.64	69.41	25.15	-3,818.25	165.70	541.10	449.81	91.29	5.927	
15,900.00	12,110.00	15,405.63	11,620.00	71.22	69.99	25.15	-3,868.25	166.01	541.10	449.08	92.02	5.880	
15,950.00	12,110.00	15,455.63	11,620.00	71.80	70.59	25.15	-3,918.25	166.32	541.10	448.34	92.77	5.833	
16,000.00	12,110.00	15,505.63	11,620.00	72.39	71.18	25.15	-3,968.25	166.63	541.10	447.59	93.51	5.787	
16,050.00	12,110.00	15,555.63	11,620.00	72.97	71.78	25.15	-4,018.24	166.94	541.10	446.84	94.26	5.741	
16,100.00	12,110.00	15,605.63	11,620.00	73.56	72.37	25.15	-4,068.24	167.25	541.10	446.09	95.01	5.695	
16,150.00	12,110.00	15,655.63	11,620.00	74.16	72.98	25.15	-4,118.24	167.56	541.10	445.34	95.76	5.650	
16,200.00	12,110.00	15,705.63	11,620.00	74.75	73.58	25.15	-4,168.24	167.87	541.10	444.58	96.52	5.606	
16,250.00	12,110.00	15,755.63	11,620.00	75.35	74.18	25.15	-4,218.24	168.19	541.10	443.82	97.28	5.562	
16,300.00	12,110.00	15,805.63	11,620.00	75.95	74.79	25.15	-4,268.24	168.50	541.10	443.05	98.05	5.519	
16,350.00	12,110.00	15,855.63	11,620.00	76.55	75.40	25.15	-4,318.24	168.81	541.10	442.28	98.82	5.476	
16,400.00	12,110.00	15,905.63	11,620.00	77.15	76.01	25.15	-4,368.24	169.12	541.10	441.51	99.59	5.434	
16,450.00	12,110.00	15,955.63	11,620.00	77.76	76.63	25.15	-4,418.24	169.43	541.10	440.74	100.36	5.392	
16,500.00	12,110.00	16,005.63	11,620.00	78.37	77.24	25.15	-4,468.24	169.74	541.10	439.96	101.14	5.350	
16,550.00	12,110.00	16,055.63	11,620.00	78.98	77.86	25.15	-4,518.23	170.05	541.10	439.18	101.92	5.309	
16,600.00	12,110.00	16,105.63	11,620.00	79.59	78.48	25.15	-4,568.23	170.36	541.10	438.40	102.70	5.269	
16,650.00	12,110.00	16,155.63	11,620.00	80.20	79.10	25.15	-4,618.23	170.67	541.10	437.62	103.48	5.229	
16,700.00	12,110.00	16,205.63	11,620.00	80.82	79.72	25.15	-4,668.23	170.98	541.10	436.83	104.27	5.190	
16,750.00	12,110.00	16,255.63	11,620.00	81.44	80.35	25.15	-4,718.23	171.29	541.10	436.04	105.06	5.150	
16,800.00	12,110.00	16,305.63	11,620.00	82.05	80.98	25.15	-4,768.23	171.60	541.10	435.25	105.85	5.112	
16,850.00	12,110.00	16,355.63	11,620.00	82.68	81.61	25.15	-4,818.23	171.91	541.10	434.45	106.65	5.074	
16,900.00	12,110.00	16,405.63	11,620.00	83.30	82.24	25.15	-4,868.23	172.22	541.10	433.66	107.44	5.036	
16,950.00	12,110.00	16,455.63	11,620.00	83.92	82.87	25.15	-4,918.23	172.53	541.10	432.86	108.24	4.999	Alert
17,000.00	12,110.00	16,505.63	11,620.00	84.55	83.50	25.15	-4,968.23	172.84	541.10	432.06	109.04	4.962	Alert
17,050.00	12,110.00	16,555.63	11,620.00	85.18	84.14	25.15	-5,018.22	173.15	541.10	431.25	109.85	4.926	Alert
17,100.00	12,110.00	16,605.63	11,620.00	85.81	84.77	25.15	-5,068.22	173.46	541.10	430.45	110.65	4.890	Alert
17,150.00	12,110.00	16,655.63	11,620.00	86.44	85.41	25.15	-5,118.22	173.77	541.10	429.64	111.46	4.855	Alert
17,200.00	12,110.00	16,705.63	11,620.00	87.07	86.05	25.15	-5,168.22	174.08	541.10	428.83	112.27	4.820	Alert
17,250.00	12,110.00	16,755.63	11,620.00	87.71	86.69	25.15	-5,218.22	174.39	541.10	428.01	113.08	4.785	Alert
17,300.00	12,110.00	16,805.63	11,620.00	88.34	87.33	25.15	-5,268.22	174.70	541.10	427.20	113.90	4.751	Alert
17,350.00	12,110.00	16,855.63	11,620.00	88.98	87.98	25.15	-5,318.22	175.01	541.10	426.38	114.71	4.717	Alert
17,400.00	12,110.00	16,905.63	11,620.00	89.62	88.62	25.15	-5,368.22	175.32	541.10	425.57	115.53	4.684	Alert
17,450.00	12,110.00	16,955.63	11,620.00	90.26	89.27	25.15	-5,418.22	175.63	541.10	424.75	116.35	4.651	Alert
17,500.00	12,110.00	17,005.63	11,620.00	90.90	89.92	25.15	-5,468.22	175.94	541.10	423.92	117.17	4.618	Alert
17,550.00	12,110.00	17,055.63	11,620.00	91.54	90.56	25.15	-5,518.22	176.25	541.10	423.10	118.00	4.586	Alert
17,600.00	12,110.00	17,105.63	11,620.00	92.19	91.21	25.15	-5,568.21	176.56	541.10	422.28	118.82	4.554	Alert
17,650.00	12,110.00	17,155.63	11,620.00	92.83	91.87	25.15	-5,618.21	176.88	541.10	421.45	119.65	4.522	Alert
17,700.00	12,110.00	17,205.63	11,620.00	93.48	92.52	25.15	-5,668.21	177.19	541.10	420.62	120.48	4.491	Alert
17,750.00	12,110.00	17,255.63	11,620.00	94.13	93.17	25.15	-5,718.21	177.50	541.10	419.79	121.31	4.460	Alert
17,800.00	12,110.00	17,305.63	11,620.00	94.77	93.83	25.15	-5,768.21	177.81	541.10	418.96	122.14	4.430	Alert
17,850.00	12,110.00	17,355.63	11,620.00	95.42	94.48	25.15	-5,818.21	178.12	541.10	418.12	122.98	4.400	Alert
17,900.00	12,110.00	17,405.63	11,620.00	96.08	95.14	25.15	-5,868.21	178.43	541.10	417.29	123.81	4.370	Alert
17,950.00	12,110.00	17,455.63	11,620.00	96.73	95.80	25.15	-5,918.21	178.74	541.10	416.45	124.65	4.341	Alert
18,000.00	12,110.00	17,505.63	11,620.00	97.38	96.46	25.15	-5,968.21	179.05	541.10	415.61	125.49	4.312	Alert
18,050.00	12,110.00	17,555.63	11,620.00	98.04	97.12	25.15	-6,018.21	179.36	541.10	414.77	126.33	4.283	Alert
18,100.00	12,110.00	17,605.63	11,620.00	98.69	97.78	25.15	-6,068.20	179.67	541.10	413.93	127.17	4.255	Alert
18,150.00	12,110.00	17,655.63	11,620.00	99.35	98.44	25.15	-6,118.20	179.98	541.10	413.09	128.01	4.227	Alert

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
18,200.00	12,110.00	17,705.63	11,620.00	100.00	99.10	25.15	-6,168.20	180.29	541.10	412.24	128.85	4.199	Alert
18,250.00	12,110.00	17,755.63	11,620.00	100.66	99.76	25.15	-6,218.20	180.60	541.10	411.40	129.70	4.172	Alert
18,300.00	12,110.00	17,805.63	11,620.00	101.32	100.43	25.15	-6,268.20	180.91	541.10	410.55	130.54	4.145	Alert
18,350.00	12,110.00	17,855.63	11,620.00	101.98	101.09	25.15	-6,318.20	181.22	541.10	409.70	131.39	4.118	Alert
18,400.00	12,110.00	17,905.63	11,620.00	102.64	101.76	25.15	-6,368.20	181.53	541.10	408.85	132.24	4.092	Alert
18,450.00	12,110.00	17,955.63	11,620.00	103.31	102.43	25.15	-6,418.20	181.84	541.10	408.00	133.09	4.066	Alert
18,500.00	12,110.00	18,005.63	11,620.00	103.97	103.10	25.15	-6,468.20	182.15	541.10	407.15	133.94	4.040	Alert
18,550.00	12,110.00	18,055.63	11,620.00	104.63	103.76	25.15	-6,518.20	182.46	541.10	406.30	134.80	4.014	Alert
18,600.00	12,110.00	18,105.63	11,620.00	105.30	104.43	25.15	-6,568.20	182.77	541.10	405.45	135.65	3.989	Alert
18,650.00	12,110.00	18,155.63	11,620.00	105.96	105.10	25.15	-6,618.19	183.08	541.10	404.59	136.51	3.964	Alert
18,700.00	12,110.00	18,205.63	11,620.00	106.63	105.78	25.15	-6,668.19	183.39	541.10	403.73	137.36	3.939	Alert
18,750.00	12,110.00	18,255.63	11,620.00	107.30	106.45	25.15	-6,718.19	183.70	541.10	402.88	138.22	3.915	Alert
18,800.00	12,110.00	18,305.63	11,620.00	107.97	107.12	25.15	-6,768.19	184.01	541.10	402.02	139.08	3.891	Alert
18,850.00	12,110.00	18,355.63	11,620.00	108.64	107.79	25.15	-6,818.19	184.32	541.10	401.16	139.94	3.867	Alert
18,900.00	12,110.00	18,405.63	11,620.00	109.30	108.47	25.15	-6,868.19	184.63	541.10	400.30	140.80	3.843	Alert
18,950.00	12,110.00	18,455.63	11,620.00	109.98	109.14	25.15	-6,918.19	184.94	541.10	399.43	141.66	3.820	Alert
19,000.00	12,110.00	18,505.63	11,620.00	110.65	109.82	25.15	-6,968.19	185.25	541.10	398.57	142.52	3.797	Alert
19,050.00	12,110.00	18,555.63	11,620.00	111.32	110.49	25.15	-7,018.19	185.56	541.10	397.71	143.39	3.774	Alert
19,100.00	12,110.00	18,605.63	11,620.00	111.99	111.17	25.15	-7,068.19	185.88	541.10	396.84	144.25	3.751	Alert
19,150.00	12,110.00	18,655.63	11,620.00	112.66	111.85	25.15	-7,118.18	186.19	541.10	395.98	145.12	3.729	Alert
19,200.00	12,110.00	18,705.63	11,620.00	113.34	112.53	25.15	-7,168.18	186.50	541.10	395.11	145.98	3.707	Alert
19,250.00	12,110.00	18,755.63	11,620.00	114.01	113.21	25.15	-7,218.18	186.81	541.10	394.24	146.85	3.685	Alert
19,300.00	12,110.00	18,805.63	11,620.00	114.69	113.89	25.15	-7,268.18	187.12	541.10	393.37	147.72	3.663	Alert
19,350.00	12,110.00	18,855.63	11,620.00	115.36	114.57	25.15	-7,318.18	187.43	541.10	392.50	148.59	3.642	Alert
19,400.00	12,110.00	18,905.63	11,620.00	116.04	115.25	25.15	-7,368.18	187.74	541.09	391.63	149.46	3.620	Alert
19,450.00	12,110.00	18,955.63	11,620.00	116.72	115.93	25.15	-7,418.18	188.05	541.09	390.76	150.33	3.599	Alert
19,500.00	12,110.00	19,005.63	11,620.00	117.40	116.61	25.15	-7,468.18	188.36	541.09	389.89	151.20	3.579	Alert
19,550.00	12,110.00	19,055.63	11,620.00	118.07	117.29	25.15	-7,518.18	188.67	541.09	389.02	152.08	3.558	Alert
19,600.00	12,110.00	19,105.63	11,620.00	118.75	117.97	25.15	-7,568.18	188.98	541.09	388.15	152.95	3.538	Alert
19,650.00	12,110.00	19,155.63	11,620.00	119.43	118.66	25.15	-7,618.17	189.29	541.09	387.27	153.82	3.518	Alert
19,700.00	12,110.00	19,205.63	11,620.00	120.11	119.34	25.15	-7,668.17	189.60	541.09	386.40	154.70	3.498	Alert
19,750.00	12,110.00	19,255.63	11,620.00	120.79	120.03	25.15	-7,718.17	189.91	541.09	385.52	155.58	3.478	Alert
19,800.00	12,110.00	19,305.63	11,620.00	121.48	120.71	25.15	-7,768.17	190.22	541.09	384.64	156.45	3.459	Alert
19,850.00	12,110.00	19,355.63	11,620.00	122.16	121.40	25.15	-7,818.17	190.53	541.09	383.76	157.33	3.439	Alert
19,900.00	12,110.00	19,405.63	11,620.00	122.84	122.08	25.15	-7,868.17	190.84	541.09	382.89	158.21	3.420	Alert
19,950.00	12,110.00	19,455.63	11,620.00	123.52	122.77	25.15	-7,918.17	191.15	541.09	382.01	159.09	3.401	Alert
20,000.00	12,110.00	19,505.63	11,620.00	124.21	123.46	25.15	-7,968.17	191.46	541.09	381.13	159.97	3.383	Alert
20,050.00	12,110.00	19,555.63	11,620.00	124.89	124.15	25.15	-8,018.17	191.77	541.09	380.25	160.85	3.364	Alert
20,100.00	12,110.00	19,605.63	11,620.00	125.58	124.83	25.15	-8,068.17	192.08	541.09	379.37	161.73	3.346	Alert
20,150.00	12,110.00	19,655.63	11,620.00	126.26	125.52	25.15	-8,118.17	192.39	541.09	378.48	162.61	3.328	Alert
20,200.00	12,110.00	19,705.63	11,620.00	126.95	126.21	25.15	-8,168.16	192.70	541.09	377.60	163.49	3.310	Alert
20,250.00	12,110.00	19,755.63	11,620.00	127.63	126.90	25.15	-8,218.16	193.01	541.09	376.72	164.38	3.292	Alert
20,300.00	12,110.00	19,805.63	11,620.00	128.32	127.59	25.15	-8,268.16	193.32	541.09	375.83	165.26	3.274	Alert
20,350.00	12,110.00	19,855.63	11,620.00	129.01	128.28	25.15	-8,318.16	193.63	541.09	374.95	166.14	3.257	Alert
20,400.00	12,110.00	19,905.63	11,620.00	129.69	128.97	25.15	-8,368.16	193.94	541.09	374.06	167.03	3.240	Alert
20,450.00	12,110.00	19,955.63	11,620.00	130.38	129.66	25.15	-8,418.16	194.25	541.09	373.18	167.91	3.222	Alert
20,500.00	12,110.00	20,005.63	11,620.00	131.07	130.35	25.15	-8,468.16	194.57	541.09	372.29	168.80	3.206	Alert
20,550.00	12,110.00	20,055.63	11,620.00	131.76	131.05	25.15	-8,518.16	194.88	541.09	371.40	169.69	3.189	Alert
20,600.00	12,110.00	20,105.63	11,620.00	132.45	131.74	25.15	-8,568.16	195.19	541.09	370.52	170.58	3.172	Alert
20,650.00	12,110.00	20,155.63	11,620.00	133.14	132.43	25.15	-8,618.16	195.50	541.09	369.63	171.46	3.156	Alert
20,700.00	12,110.00	20,205.63	11,620.00	133.83	133.12	25.15	-8,668.15	195.81	541.09	368.74	172.35	3.139	Alert
20,750.00	12,110.00	20,255.63	11,620.00	134.52	133.82	25.15	-8,718.15	196.12	541.09	367.85	173.24	3.123	Alert

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 332H - Wellbore #1 - Permit Plan 1 — Offset Site Error: 5.00 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
20,800.00	12,110.00	20,305.63	11,620.00	135.21	134.51	25.15	-8,768.15	196.43	541.09	366.96	174.13	3.107	Alert
20,850.00	12,110.00	20,355.63	11,620.00	135.90	135.21	25.15	-8,818.15	196.74	541.09	366.07	175.02	3.092	Alert
20,900.00	12,110.00	20,405.63	11,620.00	136.59	135.90	25.15	-8,868.15	197.05	541.09	365.18	175.91	3.076	Alert
20,950.00	12,110.00	20,455.63	11,620.00	137.28	136.60	25.15	-8,918.15	197.36	541.09	364.29	176.80	3.060	Alert
21,000.00	12,110.00	20,505.63	11,620.00	137.98	137.29	25.15	-8,968.15	197.67	541.09	363.40	177.70	3.045	Alert
21,050.00	12,110.00	20,555.63	11,620.00	138.67	137.99	25.15	-9,018.15	197.98	541.09	362.50	178.59	3.030	Alert
21,100.00	12,110.00	20,605.63	11,620.00	139.36	138.68	25.15	-9,068.15	198.29	541.09	361.61	179.48	3.015	Alert
21,150.00	12,110.00	20,655.63	11,620.00	140.06	139.38	25.15	-9,118.15	198.60	541.09	360.72	180.37	3.000	Alert
21,200.00	12,110.00	20,705.63	11,620.00	140.75	140.08	25.15	-9,168.15	198.91	541.09	359.82	181.27	2.985	Alert
21,250.00	12,110.00	20,755.63	11,620.00	141.44	140.77	25.15	-9,218.14	199.22	541.09	358.93	182.16	2.970	Alert
21,300.00	12,110.00	20,805.63	11,620.00	142.14	141.47	25.15	-9,268.14	199.53	541.09	358.03	183.06	2.956	Alert
21,350.00	12,110.00	20,855.63	11,620.00	142.83	142.17	25.15	-9,318.14	199.84	541.09	357.14	183.95	2.941	Alert
21,400.00	12,110.00	20,905.63	11,620.00	143.53	142.87	25.15	-9,368.14	200.15	541.09	356.24	184.85	2.927	Alert
21,450.00	12,110.00	20,955.63	11,620.00	144.22	143.56	25.15	-9,418.14	200.46	541.09	355.35	185.74	2.913	Alert
21,500.00	12,110.00	21,005.63	11,620.00	144.92	144.26	25.15	-9,468.14	200.77	541.09	354.45	186.64	2.899	Alert
21,550.00	12,110.00	21,055.63	11,620.00	145.62	144.96	25.15	-9,518.14	201.08	541.09	353.55	187.54	2.885	Alert
21,600.00	12,110.00	21,105.63	11,620.00	146.31	145.66	25.15	-9,568.14	201.39	541.09	352.65	188.44	2.871	Alert
21,650.00	12,110.00	21,155.63	11,620.00	147.01	146.36	25.15	-9,618.14	201.70	541.09	351.76	189.33	2.858	Alert
21,700.00	12,110.00	21,205.63	11,620.00	147.71	147.06	25.15	-9,668.14	202.01	541.09	350.86	190.23	2.844	Alert
21,750.00	12,110.00	21,255.63	11,620.00	148.40	147.76	25.15	-9,718.13	202.32	541.09	349.96	191.13	2.831	Alert
21,800.00	12,110.00	21,305.63	11,620.00	149.10	148.46	25.15	-9,768.13	202.63	541.09	349.06	192.03	2.818	Alert
21,850.00	12,110.00	21,355.63	11,620.00	149.80	149.16	25.15	-9,818.13	202.94	541.09	348.16	192.93	2.805	Alert
21,900.00	12,110.00	21,405.63	11,620.00	150.50	149.86	25.15	-9,868.13	203.25	541.09	347.26	193.83	2.792	Alert
21,950.00	12,110.00	21,455.63	11,620.00	151.20	150.56	25.15	-9,918.13	203.57	541.09	346.36	194.73	2.779	Alert
22,000.00	12,110.00	21,505.63	11,620.00	151.90	151.27	25.15	-9,968.13	203.88	541.09	345.46	195.63	2.766	Alert
22,050.00	12,110.00	21,555.63	11,620.00	152.60	151.97	25.15	-10,018.13	204.19	541.09	344.56	196.53	2.753	Alert
22,100.00	12,110.00	21,605.63	11,620.00	153.30	152.67	25.15	-10,068.13	204.50	541.09	343.66	197.44	2.741	Alert
22,150.00	12,110.00	21,655.63	11,620.00	154.00	153.37	25.15	-10,118.13	204.81	541.09	342.75	198.34	2.728	Alert
22,200.00	12,110.00	21,705.63	11,620.00	154.70	154.07	25.15	-10,168.13	205.12	541.09	341.85	199.24	2.716	Alert
22,250.00	12,110.00	21,755.63	11,620.00	155.40	154.78	25.15	-10,218.12	205.43	541.09	340.95	200.14	2.704	Alert
22,300.00	12,110.00	21,805.63	11,620.00	156.10	155.48	25.15	-10,268.12	205.74	541.09	340.04	201.05	2.691	Alert
22,350.00	12,110.00	21,855.63	11,620.00	156.80	156.18	25.15	-10,318.12	206.05	541.09	339.14	201.95	2.679	Alert
22,358.61	12,110.00	21,864.24	11,620.00	156.92	156.30	25.15	-10,326.73	206.10	541.09	338.99	202.10	2.677	Alert

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 512H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 117-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.50	0.50	-89.52	6.38	-768.91	769.03				
50.00	50.00	38.20	38.20	0.50	0.50	-89.52	6.38	-768.90	768.93	767.92	1.00	765.230	
100.00	100.00	88.73	88.73	0.52	0.52	-89.53	6.36	-768.86	768.89	767.85	1.03	744.441	
150.00	150.00	138.59	138.59	0.59	0.55	-89.53	6.33	-768.79	768.82	767.67	1.14	672.011	
190.26	190.26	178.06	178.06	0.68	0.63	-89.53	6.33	-768.77	768.80	767.49	1.30	589.932	CC
200.00	200.00	187.61	187.61	0.70	0.65	-89.53	6.34	-768.77	768.80	767.45	1.35	570.452	
250.00	250.00	236.63	236.63	0.84	0.76	-89.52	6.40	-768.81	768.84	767.24	1.60	479.781	
300.00	300.00	285.66	285.66	0.99	0.90	-89.51	6.51	-768.92	768.95	767.06	1.89	407.276	
350.00	350.00	334.71	334.71	1.15	1.05	-89.51	6.63	-769.09	769.12	766.93	2.19	350.764	
400.00	400.00	384.76	384.76	1.31	1.20	-89.50	6.74	-769.30	769.34	766.82	2.51	306.136	
450.00	450.00	436.08	436.08	1.48	1.37	-89.49	6.78	-769.46	769.49	766.65	2.85	270.340	
500.00	500.00	485.18	485.18	1.65	1.53	-89.50	6.77	-769.57	769.61	766.43	3.18	242.108	
550.00	550.00	533.10	533.10	1.82	1.69	-89.49	6.80	-769.80	769.85	766.33	3.51	219.238	
600.00	600.00	582.29	582.29	1.99	1.86	-89.49	6.89	-770.14	770.19	766.34	3.85	199.945	
650.00	650.00	631.95	631.95	2.16	2.03	-89.48	7.06	-770.50	770.56	766.36	4.20	183.613	
700.00	700.00	680.88	680.87	2.34	2.20	-89.46	7.23	-770.90	770.97	766.43	4.54	169.791	
750.00	750.00	729.76	729.75	2.51	2.37	-89.46	7.31	-771.38	771.46	766.57	4.89	157.893	
800.00	800.00	780.75	780.74	2.69	2.55	-89.45	7.39	-771.88	771.95	766.71	5.24	147.323	
850.00	850.00	831.74	831.73	2.87	2.73	-89.44	7.56	-772.31	772.37	766.78	5.59	138.057	
900.00	900.00	882.73	882.72	3.04	2.91	-89.42	7.81	-772.68	772.73	766.78	5.95	129.869	
950.00	950.00	933.72	933.70	3.22	3.09	-89.40	8.05	-772.98	773.03	766.72	6.31	122.578	
1,000.00	1,000.00	985.09	985.07	3.40	3.27	-89.39	8.21	-773.21	773.26	766.59	6.66	116.036	
1,050.00	1,050.00	1,037.30	1,037.28	3.58	3.45	-89.38	8.38	-773.32	773.36	766.34	7.02	110.115	
1,100.00	1,100.00	1,088.66	1,088.64	3.75	3.63	-89.37	8.55	-773.29	773.34	765.96	7.38	104.812	
1,150.00	1,150.00	1,139.26	1,139.24	3.93	3.80	-89.36	8.70	-773.22	773.27	765.54	7.73	100.038	
1,200.00	1,200.00	1,189.33	1,189.31	4.11	3.97	-89.35	8.82	-773.11	773.17	765.09	8.08	95.714	
1,250.00	1,250.00	1,239.19	1,239.17	4.29	4.14	-89.34	8.87	-773.02	773.07	764.65	8.42	91.761	
1,300.00	1,300.00	1,289.24	1,289.22	4.46	4.31	-89.34	8.92	-772.93	772.98	764.21	8.77	88.098	
1,350.00	1,350.00	1,339.38	1,339.36	4.64	4.48	-89.33	9.10	-772.83	772.89	763.76	9.12	84.709	
1,400.00	1,400.00	1,390.55	1,390.53	4.82	4.66	-89.31	9.24	-772.69	772.75	763.27	9.48	81.533	
1,450.00	1,450.00	1,441.72	1,441.70	5.00	4.83	-89.32	9.18	-772.47	772.53	762.70	9.83	78.577	
1,500.00	1,500.00	1,488.68	1,488.66	5.18	4.99	-89.33	9.06	-772.36	772.41	762.24	10.17	75.953	
1,518.52	1,518.52	1,506.34	1,506.32	5.24	5.05	-89.33	9.01	-772.35	772.40	762.10	10.30	75.021	
1,550.00	1,550.00	1,537.32	1,537.30	5.36	5.16	-89.34	8.91	-772.37	772.42	761.91	10.51	73.467	
1,600.00	1,600.00	1,588.43	1,588.41	5.53	5.33	-89.35	8.79	-772.37	772.42	761.55	10.87	71.079	
1,650.00	1,650.00	1,639.21	1,639.18	5.71	5.51	-89.35	8.75	-772.30	772.35	761.13	11.22	68.838	
1,700.00	1,700.00	1,689.58	1,689.56	5.89	5.68	-89.35	8.80	-772.19	772.24	760.67	11.57	66.733	
1,750.00	1,750.00	1,740.41	1,740.39	6.07	5.86	-89.34	8.90	-772.05	772.11	760.18	11.93	64.739	
1,800.00	1,800.00	1,791.55	1,791.53	6.25	6.03	-89.34	8.92	-771.84	771.90	759.62	12.28	62.847	
1,850.00	1,850.00	1,839.83	1,839.81	6.43	6.20	-89.34	8.90	-771.64	771.70	759.07	12.63	61.105	
1,888.10	1,888.10	1,875.93	1,875.90	6.56	6.33	-89.34	8.90	-771.60	771.65	758.76	12.89	59.860	
1,900.00	1,900.00	1,887.20	1,887.17	6.61	6.37	-89.34	8.91	-771.60	771.65	758.68	12.97	59.484	
1,950.00	1,950.00	1,938.03	1,938.01	6.78	6.55	-89.34	8.95	-771.64	771.69	758.36	13.33	57.896	
2,000.00	2,000.00	1,989.89	1,989.87	6.96	6.73	-89.33	9.04	-771.56	771.62	757.93	13.69	56.368	
2,013.01	2,013.01	2,003.38	2,003.36	7.01	6.77	-156.00	9.07	-771.52	771.59	757.81	13.78	55.986	
2,050.00	2,050.00	2,038.21	2,038.19	7.14	6.90	-156.00	9.17	-771.48	771.73	757.70	14.03	54.988	ES
2,100.00	2,099.99	2,086.39	2,086.36	7.32	7.06	-156.00	9.38	-771.51	772.36	757.98	14.38	53.713	
2,150.00	2,149.98	2,135.08	2,135.05	7.49	7.24	-156.01	9.54	-771.64	773.49	758.77	14.72	52.534	
2,200.00	2,199.96	2,184.05	2,184.02	7.66	7.41	-156.05	9.55	-771.85	775.11	760.04	15.07	51.438	
2,250.00	2,249.92	2,236.62	2,236.60	7.84	7.59	-156.11	9.48	-772.02	777.06	761.63	15.42	50.378	
2,300.00	2,299.87	2,288.54	2,288.51	8.01	7.77	-156.18	9.41	-772.01	779.11	763.33	15.78	49.379	
2,350.00	2,349.82	2,338.82	2,338.79	8.19	7.94	-156.25	9.36	-771.95	781.10	764.97	16.13	48.438	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 512H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 117-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,400.00	2,399.77	2,387.22	2,387.20	8.36	8.11	-156.32	9.37	-771.89	783.10	766.63	16.47	47.553	
2,450.00	2,449.72	2,433.02	2,433.00	8.54	8.27	-156.37	9.54	-772.03	785.32	768.51	16.80	46.738	
2,500.00	2,499.67	2,479.33	2,479.30	8.72	8.43	-156.40	9.89	-772.41	787.79	770.65	17.14	45.965	
2,550.00	2,549.62	2,526.53	2,526.49	8.89	8.60	-156.43	10.39	-772.98	790.46	772.98	17.48	45.223	
2,600.00	2,599.57	2,572.71	2,572.66	9.07	8.76	-156.44	11.00	-773.71	793.31	775.49	17.82	44.529	
2,650.00	2,649.52	2,617.19	2,617.13	9.25	8.92	-156.45	11.74	-774.68	796.46	778.32	18.14	43.894	
2,700.00	2,699.47	2,662.77	2,662.68	9.42	9.08	-156.44	12.63	-775.98	799.95	781.48	18.48	43.292	
2,750.00	2,749.41	2,711.54	2,711.42	9.60	9.25	-156.43	13.62	-777.51	803.58	784.76	18.82	42.687	
2,800.00	2,799.36	2,761.55	2,761.39	9.78	9.43	-156.43	14.61	-779.13	807.27	788.09	19.18	42.096	
2,850.00	2,849.31	2,814.05	2,813.86	9.95	9.61	-156.42	15.63	-780.72	810.85	791.31	19.54	41.498	
2,900.00	2,899.26	2,865.37	2,865.15	10.13	9.79	-156.42	16.62	-782.13	814.28	794.38	19.90	40.924	
2,950.00	2,949.21	2,915.69	2,915.44	10.31	9.97	-156.41	17.61	-783.46	817.67	797.42	20.25	40.376	
3,000.00	2,999.16	2,962.30	2,962.02	10.49	10.14	-156.40	18.61	-784.74	821.11	800.52	20.59	39.878	
3,050.00	3,049.11	3,006.94	3,006.62	10.66	10.29	-156.38	19.80	-786.23	824.85	803.93	20.92	39.427	
3,100.00	3,099.06	3,053.73	3,053.35	10.84	10.46	-156.33	21.27	-788.06	828.86	807.60	21.26	38.987	
3,150.00	3,149.01	3,102.31	3,101.86	11.02	10.63	-156.28	22.86	-790.05	832.98	811.37	21.61	38.551	
3,200.00	3,198.96	3,150.20	3,149.69	11.20	10.80	-156.24	24.45	-792.10	837.19	815.23	21.95	38.138	
3,250.00	3,248.91	3,197.66	3,197.07	11.38	10.97	-156.20	25.91	-794.26	841.52	819.23	22.29	37.747	
3,300.00	3,298.86	3,245.91	3,245.25	11.55	11.14	-156.16	27.28	-796.57	845.99	823.35	22.64	37.368	
3,350.00	3,348.81	3,294.61	3,293.87	11.73	11.32	-156.14	28.54	-798.98	850.52	827.53	22.99	36.999	
3,400.00	3,398.76	3,344.82	3,344.00	11.91	11.50	-156.12	29.77	-801.49	855.09	831.75	23.34	36.632	
3,450.00	3,448.71	3,395.67	3,394.78	12.09	11.68	-156.09	31.14	-803.98	859.60	835.90	23.70	36.268	
3,500.00	3,498.66	3,441.90	3,440.93	12.27	11.84	-156.06	32.47	-806.29	864.16	840.12	24.04	35.950	
3,550.00	3,548.60	3,487.31	3,486.25	12.45	12.01	-156.03	33.84	-808.78	868.97	844.60	24.37	35.657	
3,600.00	3,598.55	3,538.27	3,537.10	12.63	12.19	-155.99	35.39	-811.70	873.91	849.18	24.73	35.338	
3,650.00	3,648.50	3,590.77	3,589.50	12.81	12.38	-155.96	36.86	-814.56	878.70	853.60	25.10	35.011	
3,700.00	3,698.45	3,645.80	3,644.45	12.99	12.58	-155.93	38.28	-817.32	883.27	857.79	25.48	34.669	
3,750.00	3,748.40	3,698.87	3,697.45	13.16	12.77	-155.91	39.57	-819.67	887.55	861.70	25.85	34.338	
3,800.00	3,798.35	3,746.94	3,745.45	13.34	12.94	-155.89	40.90	-821.80	891.83	865.64	26.19	34.047	
3,850.00	3,848.30	3,793.87	3,792.30	13.52	13.11	-155.84	42.45	-823.98	896.22	869.69	26.54	33.775	
3,900.00	3,898.25	3,838.70	3,837.04	13.70	13.27	-155.79	44.12	-826.27	900.85	873.99	26.87	33.532	
3,950.00	3,948.20	3,884.92	3,883.16	13.88	13.43	-155.73	46.00	-828.88	905.75	878.55	27.20	33.296	
4,000.00	3,998.15	3,935.90	3,934.01	14.06	13.62	-155.67	47.94	-831.79	910.68	883.11	27.56	33.038	
4,050.00	4,048.10	3,986.26	3,984.26	14.24	13.80	-155.62	49.63	-834.60	915.55	887.63	27.92	32.789	
4,100.00	4,098.05	4,035.62	4,033.53	14.42	13.98	-155.59	51.11	-837.37	920.42	892.15	28.28	32.552	
4,150.00	4,148.00	4,083.12	4,080.93	14.60	14.15	-155.57	52.45	-840.08	925.34	896.72	28.62	32.333	
4,200.00	4,197.95	4,128.62	4,126.32	14.78	14.31	-155.53	53.87	-842.86	930.46	901.51	28.95	32.138	
4,250.00	4,247.90	4,176.10	4,173.68	14.96	14.49	-155.49	55.55	-845.94	935.79	906.49	29.30	31.943	
4,300.00	4,297.85	4,226.40	4,223.83	15.14	14.67	-155.44	57.41	-849.23	941.13	911.47	29.65	31.737	
4,350.00	4,347.79	4,280.19	4,277.47	15.32	14.86	-155.38	59.41	-852.64	946.39	916.36	30.03	31.513	
4,400.00	4,397.74	4,336.89	4,334.05	15.50	15.07	-155.33	61.31	-855.88	951.32	920.89	30.42	31.270	
4,450.00	4,447.69	4,385.10	4,382.17	15.68	15.24	-155.30	62.85	-858.47	956.08	925.31	30.77	31.071	
4,500.00	4,497.64	4,432.26	4,429.22	15.86	15.41	-155.26	64.46	-861.12	960.97	929.86	31.11	30.886	
4,550.00	4,547.59	4,482.76	4,479.61	16.04	15.60	-155.21	66.26	-864.02	965.93	934.45	31.47	30.690	
4,600.00	4,597.54	4,533.64	4,530.38	16.22	15.78	-155.17	68.08	-866.89	970.82	938.99	31.84	30.495	
4,650.00	4,647.49	4,579.70	4,576.33	16.40	15.95	-155.12	69.75	-869.55	975.79	943.62	32.17	30.329	
4,700.00	4,697.44	4,626.01	4,622.52	16.58	16.12	-155.08	71.47	-872.38	980.93	948.42	32.51	30.172	
4,750.00	4,747.39	4,674.25	4,670.63	16.76	16.29	-155.03	73.31	-875.45	986.20	953.34	32.86	30.013	
4,800.00	4,797.34	4,722.93	4,719.16	16.94	16.47	-154.98	75.21	-878.62	991.55	958.34	33.21	29.857	
4,850.00	4,847.29	4,777.44	4,773.53	17.12	16.67	-154.92	77.30	-882.06	996.79	963.19	33.59	29.673	
4,900.00	4,897.24	4,832.40	4,828.36	17.30	16.87	-154.87	79.31	-885.26	1,001.78	967.81	33.98	29.485	
4,950.00	4,947.19	4,888.14	4,883.99	17.48	17.07	-154.83	81.22	-888.19	1,006.50	972.13	34.36	29.289	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 512H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 117-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,997.14	4,942.84	4,938.60	17.66	17.27	-154.79	82.96	-890.77	1,010.93	976.19	34.74	29.096	
5,050.00	5,047.09	4,997.03	4,992.71	17.84	17.47	-154.77	84.54	-893.08	1,015.15	980.02	35.12	28.903	
5,100.00	5,097.04	5,048.26	5,043.89	18.02	17.65	-154.75	85.91	-895.13	1,019.22	983.73	35.49	28.721	
5,150.00	5,146.99	5,099.28	5,094.85	18.20	17.84	-154.74	87.18	-897.11	1,023.23	987.38	35.85	28.543	
5,200.00	5,196.93	5,150.28	5,145.80	18.38	18.02	-154.73	88.30	-899.03	1,027.18	990.97	36.21	28.366	
5,250.00	5,246.88	5,201.82	5,197.30	18.56	18.21	-154.74	89.21	-900.93	1,031.08	994.50	36.58	28.190	
5,300.00	5,296.83	5,255.09	5,250.53	18.74	18.40	-154.76	90.00	-902.74	1,034.84	997.89	36.95	28.008	
5,350.00	5,346.78	5,307.00	5,302.41	18.92	18.58	-154.78	90.64	-904.37	1,038.46	1,001.14	37.31	27.830	
5,400.00	5,396.73	5,357.41	5,352.80	19.10	18.76	-154.81	91.18	-905.90	1,042.03	1,004.35	37.67	27.660	
5,450.00	5,446.68	5,407.25	5,402.61	19.28	18.94	-154.83	91.63	-907.40	1,045.58	1,007.55	38.03	27.494	
5,500.00	5,496.63	5,456.72	5,452.06	19.46	19.12	-154.87	92.01	-908.90	1,049.15	1,010.76	38.38	27.333	
5,550.00	5,546.58	5,508.97	5,504.28	19.64	19.31	-154.91	92.35	-910.47	1,052.69	1,013.94	38.75	27.165	
5,600.00	5,596.53	5,562.37	5,557.67	19.82	19.50	-154.94	92.76	-911.89	1,056.07	1,016.95	39.12	26.994	
5,650.00	5,646.48	5,612.18	5,607.45	20.00	19.68	-154.98	93.14	-913.14	1,059.37	1,019.89	39.48	26.833	
5,700.00	5,696.43	5,661.99	5,657.25	20.18	19.85	-155.01	93.48	-914.40	1,062.67	1,022.84	39.84	26.677	
5,750.00	5,746.38	5,715.10	5,710.34	20.36	20.04	-155.05	93.82	-915.65	1,065.91	1,025.70	40.21	26.511	
5,800.00	5,796.33	5,767.99	5,763.22	20.54	20.23	-155.09	94.15	-916.75	1,068.99	1,028.41	40.58	26.346	
5,850.00	5,846.28	5,820.25	5,815.48	20.73	20.42	-155.12	94.50	-917.71	1,071.95	1,031.01	40.94	26.182	
5,900.00	5,896.23	5,873.00	5,868.21	20.91	20.61	-155.16	94.86	-918.55	1,074.80	1,033.49	41.31	26.018	
5,950.00	5,946.18	5,926.29	5,921.50	21.09	20.80	-155.19	95.26	-919.24	1,077.50	1,035.82	41.68	25.851	
6,000.00	5,996.12	5,979.26	5,974.46	21.27	20.99	-155.22	95.68	-919.76	1,080.04	1,037.99	42.05	25.685	
6,050.00	6,046.07	6,031.47	6,026.67	21.45	21.17	-155.25	96.11	-920.15	1,082.47	1,040.06	42.42	25.521	
6,100.00	6,096.02	6,081.03	6,076.23	21.63	21.35	-155.28	96.54	-920.47	1,084.84	1,042.07	42.77	25.364	
6,150.00	6,145.97	6,129.75	6,124.95	21.81	21.52	-155.30	96.98	-920.82	1,087.26	1,044.14	43.12	25.213	
6,200.00	6,195.92	6,180.66	6,175.85	21.99	21.70	-155.33	97.46	-921.21	1,089.70	1,046.21	43.48	25.060	
6,250.00	6,245.87	6,232.02	6,227.21	22.17	21.89	-155.35	97.99	-921.54	1,092.07	1,048.22	43.85	24.907	
6,300.00	6,295.82	6,280.35	6,275.53	22.35	22.06	-155.38	98.49	-921.85	1,094.45	1,050.25	44.20	24.763	
6,350.00	6,345.77	6,328.80	6,323.98	22.53	22.23	-155.40	98.93	-922.23	1,096.90	1,052.35	44.55	24.623	
6,400.00	6,395.72	6,379.38	6,374.55	22.71	22.41	-155.43	99.39	-922.65	1,099.37	1,054.46	44.91	24.480	
6,450.00	6,445.67	6,429.96	6,425.13	22.89	22.59	-155.45	99.87	-923.04	1,101.81	1,056.54	45.27	24.340	
6,500.00	6,495.62	6,480.53	6,475.70	23.07	22.77	-155.47	100.37	-923.40	1,104.22	1,058.59	45.63	24.201	
6,550.00	6,545.57	6,531.38	6,526.55	23.26	22.95	-155.50	100.90	-923.72	1,106.60	1,060.61	45.99	24.063	
6,600.00	6,595.52	6,582.78	6,577.94	23.44	23.14	-155.52	101.41	-924.00	1,108.92	1,062.57	46.35	23.925	
6,650.00	6,645.47	6,634.60	6,629.76	23.62	23.32	-155.54	101.90	-924.20	1,111.17	1,064.46	46.71	23.787	
6,700.00	6,695.42	6,686.87	6,682.03	23.80	23.50	-155.56	102.28	-924.30	1,113.32	1,066.25	47.08	23.648	
6,750.00	6,745.37	6,736.01	6,731.17	23.98	23.68	-155.61	102.54	-924.35	1,115.42	1,067.99	47.43	23.517	
6,800.00	6,795.31	6,783.75	6,778.90	24.16	23.85	-155.64	102.80	-924.48	1,117.61	1,069.83	47.78	23.391	
6,850.00	6,845.26	6,832.57	6,827.72	24.34	24.02	-155.67	103.08	-924.69	1,119.88	1,071.75	48.13	23.267	
6,900.00	6,895.21	6,881.81	6,876.96	24.52	24.20	-155.70	103.40	-924.93	1,122.19	1,073.70	48.49	23.144	
6,950.00	6,945.16	6,931.84	6,926.99	24.70	24.37	-155.73	103.78	-925.20	1,124.51	1,075.66	48.84	23.022	
7,000.00	6,995.11	6,982.06	6,977.21	24.88	24.55	-155.75	104.28	-925.45	1,126.82	1,077.61	49.20	22.902	
7,050.00	7,045.06	7,030.85	7,025.99	25.06	24.73	-155.77	104.81	-925.71	1,129.14	1,079.59	49.56	22.786	
7,100.00	7,095.01	7,079.55	7,074.69	25.24	24.90	-155.79	105.31	-926.03	1,131.53	1,081.62	49.91	22.672	
7,150.00	7,144.96	7,129.32	7,124.46	25.43	25.08	-155.82	105.77	-926.38	1,133.94	1,083.68	50.26	22.559	
7,200.00	7,194.91	7,179.08	7,174.22	25.61	25.26	-155.84	106.17	-926.74	1,136.36	1,085.74	50.62	22.448	
7,250.00	7,244.86	7,227.82	7,222.95	25.79	25.43	-155.87	106.54	-927.13	1,138.82	1,087.84	50.97	22.341	
7,300.00	7,294.81	7,277.15	7,272.28	25.97	25.61	-155.90	106.94	-927.57	1,141.32	1,089.99	51.33	22.235	
7,350.00	7,344.76	7,328.44	7,323.56	26.15	25.79	-155.92	107.35	-927.99	1,143.80	1,092.10	51.69	22.127	
7,400.00	7,394.71	7,378.90	7,374.02	26.33	25.97	-155.95	107.74	-928.36	1,146.22	1,094.17	52.05	22.021	
7,450.00	7,444.66	7,427.91	7,423.03	26.51	26.14	-155.98	108.14	-928.74	1,148.66	1,096.26	52.41	21.918	
7,500.00	7,494.61	7,477.51	7,472.62	26.69	26.32	-156.00	108.56	-929.16	1,151.14	1,098.38	52.76	21.817	
7,550.00	7,544.56	7,527.88	7,523.00	26.87	26.50	-156.03	108.87	-929.57	1,153.61	1,100.49	53.12	21.716	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 512H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 117-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,600.00	7,594.50	7,578.26	7,573.37	27.05	26.68	-156.07	109.07	-929.97	1,156.07	1,102.59	53.48	21.616	
7,650.00	7,644.45	7,628.65	7,623.76	27.23	26.86	-156.10	109.30	-930.35	1,158.50	1,104.66	53.84	21.517	
7,700.00	7,694.40	7,679.07	7,674.18	27.42	27.04	-156.14	109.53	-930.70	1,160.91	1,106.71	54.20	21.419	
7,750.00	7,744.35	7,729.51	7,724.61	27.60	27.22	-156.17	109.71	-931.04	1,163.30	1,108.74	54.56	21.322	
7,800.00	7,794.30	7,778.34	7,773.44	27.78	27.39	-156.21	109.82	-931.37	1,165.70	1,110.79	54.91	21.229	
7,850.00	7,844.25	7,826.88	7,821.98	27.96	27.57	-156.25	109.86	-931.76	1,168.16	1,112.90	55.26	21.138	
7,900.00	7,894.20	7,873.98	7,869.08	28.14	27.73	-156.29	109.83	-932.22	1,170.71	1,115.11	55.61	21.053	
7,950.00	7,944.15	7,920.93	7,916.03	28.32	27.90	-156.34	109.76	-932.80	1,173.39	1,117.44	55.95	20.972	
8,000.00	7,994.10	7,970.54	7,965.63	28.50	28.07	-156.39	109.66	-933.49	1,176.14	1,119.83	56.31	20.889	
8,050.00	8,044.05	8,020.40	8,015.49	28.68	28.25	-156.44	109.58	-934.18	1,178.89	1,122.23	56.66	20.806	
8,100.00	8,094.00	8,067.25	8,062.33	28.86	28.42	-156.48	109.49	-934.89	1,181.71	1,124.71	57.00	20.731	
8,150.00	8,143.95	8,114.26	8,109.33	29.04	28.58	-156.53	109.36	-935.73	1,184.66	1,127.32	57.35	20.658	
8,200.00	8,193.90	8,165.35	8,160.42	29.23	28.76	-156.58	109.20	-936.67	1,187.65	1,129.94	57.71	20.581	
8,250.00	8,243.85	8,216.45	8,211.51	29.41	28.94	-156.63	109.03	-937.56	1,190.58	1,132.51	58.07	20.503	
8,300.00	8,293.80	8,264.13	8,259.17	29.59	29.11	-156.69	108.81	-938.42	1,193.55	1,135.14	58.41	20.433	
8,350.00	8,343.75	8,312.99	8,308.02	29.77	29.28	-156.74	108.51	-939.37	1,196.59	1,137.83	58.76	20.363	
8,400.00	8,393.69	8,364.30	8,359.33	29.95	29.46	-156.80	108.22	-940.35	1,199.61	1,140.49	59.12	20.290	
8,450.00	8,443.64	8,436.25	8,431.23	30.13	29.71	-156.94	106.50	-941.24	1,202.37	1,142.81	59.56	20.187	
8,500.00	8,493.59	8,527.55	8,521.35	30.31	30.00	-157.68	92.67	-939.51	1,203.54	1,143.52	60.02	20.052	
8,550.00	8,543.54	8,595.21	8,585.60	30.49	30.21	-158.72	71.89	-936.27	1,203.49	1,143.10	60.39	19.930	
8,562.82	8,556.35	8,605.04	8,594.66	30.54	30.23	-158.91	68.13	-935.73	1,203.47	1,143.00	60.47	19.903	
8,600.00	8,593.49	8,632.57	8,619.64	30.67	30.31	-159.47	56.66	-934.30	1,203.65	1,142.96	60.69	19.832	
8,650.00	8,643.44	8,667.25	8,650.14	30.86	30.40	-160.28	40.25	-932.64	1,204.56	1,143.58	60.99	19.752	
8,700.00	8,693.39	8,693.79	8,672.67	31.04	30.47	-160.96	26.28	-931.54	1,206.43	1,145.19	61.24	19.701	
8,750.00	8,743.34	8,716.01	8,690.94	31.22	30.52	-161.58	13.65	-930.88	1,209.56	1,148.12	61.44	19.685 SF	
8,800.00	8,793.29	8,736.80	8,707.51	31.40	30.56	-162.18	1.09	-930.50	1,214.04	1,152.42	61.61	19.704	
8,850.00	8,843.24	8,772.00	8,734.29	31.58	30.65	-163.28	-21.74	-930.37	1,220.11	1,158.29	61.82	19.737	
8,900.00	8,893.19	8,772.00	8,734.29	31.76	30.65	-163.28	-21.74	-930.37	1,227.22	1,165.42	61.80	19.858	
8,950.00	8,943.14	8,797.71	8,752.83	31.94	30.70	-164.12	-39.55	-930.57	1,235.89	1,174.01	61.89	19.971	
9,000.00	8,993.09	8,818.46	8,767.16	32.12	30.75	-164.83	-54.54	-930.79	1,245.91	1,184.01	61.90	20.126	
9,050.00	9,043.04	8,837.56	8,779.84	32.30	30.80	-165.50	-68.82	-931.04	1,257.32	1,195.44	61.87	20.321	
9,100.00	9,092.99	8,866.00	8,797.78	32.49	30.88	-166.52	-90.89	-931.50	1,270.22	1,208.33	61.88	20.527	
9,150.00	9,142.94	8,866.00	8,797.78	32.67	30.88	-166.52	-90.89	-931.50	1,284.38	1,222.76	61.62	20.842	
9,200.00	9,192.88	8,866.00	8,797.78	32.85	30.88	-166.52	-90.89	-931.50	1,300.32	1,239.01	61.31	21.207	
9,250.00	9,242.83	8,894.99	8,814.73	33.03	30.96	-167.60	-114.39	-932.14	1,317.20	1,255.96	61.24	21.510	
9,300.00	9,292.78	8,905.86	8,820.70	33.21	30.98	-168.02	-123.47	-932.45	1,335.76	1,274.80	60.96	21.911	
9,350.00	9,342.73	8,915.96	8,826.05	33.39	31.01	-168.41	-132.02	-932.77	1,355.71	1,295.06	60.65	22.352	
9,400.00	9,392.68	8,925.34	8,830.86	33.57	31.04	-168.77	-140.08	-933.09	1,377.01	1,316.70	60.31	22.831	
9,450.00	9,442.63	8,960.00	8,847.16	33.75	31.13	-170.14	-170.62	-934.49	1,400.29	1,340.09	60.20	23.261	
9,500.00	9,492.58	8,960.00	8,847.16	33.94	31.13	-170.14	-170.62	-934.49	1,423.80	1,364.07	59.74	23.835	
9,550.00	9,542.53	8,960.00	8,847.16	34.12	31.13	-170.14	-170.62	-934.49	1,448.67	1,389.41	59.26	24.447	
9,600.00	9,592.48	8,960.00	8,847.16	34.30	31.13	-170.14	-170.62	-934.49	1,474.80	1,416.03	58.77	25.095	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 514H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	8.50	8.50	0.50	0.50	102.03	-146.77	688.51	703.98				
50.00	50.00	58.50	58.50	0.50	0.51	102.03	-146.77	688.51	703.98	702.97	1.01	698.290	
100.00	100.00	108.50	108.50	0.52	0.53	102.03	-146.77	688.51	703.98	702.94	1.04	674.153	
150.00	150.00	158.50	158.50	0.59	0.61	102.03	-146.77	688.51	703.98	702.78	1.20	588.012	
200.00	200.00	208.50	208.50	0.70	0.72	102.03	-146.77	688.51	703.98	702.56	1.43	493.702	
250.00	250.00	258.50	258.50	0.84	0.86	102.03	-146.77	688.51	703.98	702.28	1.70	414.090	
300.00	300.00	308.50	308.50	0.99	1.01	102.03	-146.77	688.51	703.98	701.98	2.00	351.804	
350.00	350.00	358.50	358.50	1.15	1.17	102.03	-146.77	688.51	703.98	701.66	2.32	303.640	
400.00	400.00	408.50	408.50	1.31	1.34	102.03	-146.77	688.51	703.98	701.33	2.65	266.016	
450.00	450.00	458.50	458.50	1.48	1.51	102.03	-146.77	688.51	703.98	701.00	2.98	236.128	
500.00	500.00	508.50	508.50	1.65	1.68	102.03	-146.77	688.51	703.98	700.66	3.32	211.964	
550.00	550.00	558.50	558.50	1.82	1.85	102.03	-146.77	688.51	703.98	700.32	3.66	192.100	
600.00	600.00	608.50	608.50	1.99	2.02	102.03	-146.77	688.51	703.98	699.97	4.01	175.525	
650.00	650.00	658.50	658.50	2.16	2.19	102.03	-146.77	688.51	703.98	699.62	4.36	161.509	
700.00	700.00	708.50	708.50	2.34	2.37	102.03	-146.77	688.51	703.98	699.27	4.71	149.516	
750.00	750.00	758.50	758.50	2.51	2.54	102.03	-146.77	688.51	703.98	698.92	5.06	139.147	
800.00	800.00	808.50	808.50	2.69	2.72	102.03	-146.77	688.51	703.98	698.57	5.41	130.099	
850.00	850.00	858.50	858.50	2.87	2.90	102.03	-146.77	688.51	703.98	698.22	5.76	122.138	
900.00	900.00	908.50	908.50	3.04	3.07	102.03	-146.77	688.51	703.98	697.86	6.12	115.083	
950.00	950.00	958.50	958.50	3.22	3.25	102.03	-146.77	688.51	703.98	697.51	6.47	108.789	
1,000.00	1,000.00	1,008.50	1,008.50	3.40	3.43	102.03	-146.77	688.51	703.98	697.16	6.83	103.140	
1,050.00	1,050.00	1,058.50	1,058.50	3.58	3.61	102.03	-146.77	688.51	703.98	696.80	7.18	98.044	
1,100.00	1,100.00	1,108.50	1,108.50	3.75	3.78	102.03	-146.77	688.51	703.98	696.45	7.54	93.423	
1,150.00	1,150.00	1,158.50	1,158.50	3.93	3.96	102.03	-146.77	688.51	703.98	696.09	7.89	89.215	
1,200.00	1,200.00	1,208.50	1,208.50	4.11	4.14	102.03	-146.77	688.51	703.98	695.73	8.25	85.367	
1,250.00	1,250.00	1,258.50	1,258.50	4.29	4.32	102.03	-146.77	688.51	703.98	695.38	8.60	81.835	
1,300.00	1,300.00	1,308.50	1,308.50	4.46	4.49	102.03	-146.77	688.51	703.98	695.02	8.96	78.581	
1,350.00	1,350.00	1,358.50	1,358.50	4.64	4.67	102.03	-146.77	688.51	703.98	694.67	9.31	75.575	
1,400.00	1,400.00	1,408.50	1,408.50	4.82	4.85	102.03	-146.77	688.51	703.98	694.31	9.67	72.790	
1,450.00	1,450.00	1,458.50	1,458.50	5.00	5.03	102.03	-146.77	688.51	703.98	693.95	10.03	70.201	
1,500.00	1,500.00	1,508.50	1,508.50	5.18	5.21	102.03	-146.77	688.51	703.98	693.60	10.38	67.790	
1,550.00	1,550.00	1,558.50	1,558.50	5.36	5.39	102.03	-146.77	688.51	703.98	693.24	10.74	65.538	
1,600.00	1,600.00	1,608.50	1,608.50	5.53	5.56	102.03	-146.77	688.51	703.98	692.88	11.10	63.430	
1,650.00	1,650.00	1,658.50	1,658.50	5.71	5.74	102.03	-146.77	688.51	703.98	692.53	11.46	61.453	
1,700.00	1,700.00	1,708.50	1,708.50	5.89	5.92	102.03	-146.77	688.51	703.98	692.17	11.81	59.595	
1,750.00	1,750.00	1,758.50	1,758.50	6.07	6.10	102.03	-146.77	688.51	703.98	691.81	12.17	57.845	
1,800.00	1,800.00	1,808.50	1,808.50	6.25	6.28	102.03	-146.77	688.51	703.98	691.45	12.53	56.196	
1,850.00	1,850.00	1,858.50	1,858.50	6.43	6.46	102.03	-146.77	688.51	703.98	691.10	12.88	54.637	
1,900.00	1,900.00	1,908.50	1,908.50	6.61	6.64	102.03	-146.77	688.51	703.98	690.74	13.24	53.162	
1,950.00	1,950.00	1,958.50	1,958.50	6.78	6.81	102.03	-146.77	688.51	703.98	690.38	13.60	51.765	
2,000.00	2,000.00	2,008.50	2,008.50	6.96	6.99	102.03	-146.77	688.51	703.98	690.02	13.96	50.439	
2,050.00	2,050.00	2,058.50	2,058.50	7.14	7.17	35.37	-146.77	688.51	703.80	689.49	14.31	49.176	
2,100.00	2,099.99	2,108.49	2,108.49	7.32	7.35	35.41	-146.77	688.51	703.27	688.60	14.67	47.950	
2,150.00	2,149.98	2,158.48	2,158.48	7.49	7.53	35.46	-146.77	688.51	702.38	687.36	15.02	46.765	
2,200.00	2,199.96	2,208.46	2,208.46	7.66	7.71	35.54	-146.77	688.51	701.14	685.77	15.37	45.612	
2,250.00	2,249.92	2,258.42	2,258.42	7.84	7.89	35.65	-146.77	688.51	699.54	683.82	15.72	44.487	
2,300.00	2,299.87	2,308.37	2,308.37	8.01	8.07	35.76	-146.77	688.51	697.72	681.64	16.08	43.397	
2,350.00	2,349.82	2,358.32	2,358.32	8.19	8.25	35.86	-146.77	688.51	695.89	679.46	16.43	42.353	
2,400.00	2,399.77	2,408.27	2,408.27	8.36	8.42	35.97	-146.77	688.51	694.07	677.29	16.78	41.354	
2,450.00	2,449.72	2,458.22	2,458.22	8.54	8.60	36.08	-146.77	688.51	692.25	675.11	17.14	40.394	
2,500.00	2,499.67	2,508.17	2,508.17	8.72	8.78	36.19	-146.77	688.51	690.43	672.94	17.49	39.473	
2,550.00	2,549.62	2,558.12	2,558.12	8.89	8.96	36.30	-146.77	688.51	688.62	670.77	17.85	38.588	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 514H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,608.07	2,608.07	9.07	9.14	36.41	-146.77	688.51	686.81	668.61	18.20	37.738	
2,650.00	2,649.52	2,658.02	2,658.02	9.25	9.32	36.53	-146.77	688.51	685.00	666.44	18.55	36.919	
2,700.00	2,699.47	2,707.97	2,707.97	9.42	9.50	36.64	-146.77	688.51	683.19	664.28	18.91	36.132	
2,750.00	2,749.41	2,757.91	2,757.91	9.60	9.68	36.75	-146.77	688.51	681.39	662.12	19.26	35.373	
2,800.00	2,799.36	2,807.86	2,807.86	9.78	9.85	36.86	-146.77	688.51	679.59	659.97	19.62	34.641	
2,850.00	2,849.31	2,857.81	2,857.81	9.95	10.03	36.98	-146.77	688.51	677.79	657.81	19.97	33.935	
2,900.00	2,899.26	2,907.76	2,907.76	10.13	10.21	37.09	-146.77	688.51	675.99	655.66	20.33	33.254	
2,950.00	2,949.21	2,957.71	2,957.71	10.31	10.39	37.21	-146.77	688.51	674.20	653.51	20.68	32.596	
3,000.00	2,999.16	3,007.66	3,007.66	10.49	10.57	37.32	-146.77	688.51	672.41	651.37	21.04	31.960	
3,050.00	3,049.11	3,057.61	3,057.61	10.66	10.75	37.44	-146.77	688.51	670.62	649.22	21.39	31.345	
3,100.00	3,099.06	3,107.56	3,107.56	10.84	10.93	37.56	-146.77	688.51	668.83	647.08	21.75	30.750	
3,150.00	3,149.01	3,157.51	3,157.51	11.02	11.11	37.67	-146.77	688.51	667.05	644.94	22.11	30.174	
3,200.00	3,198.96	3,207.46	3,207.46	11.20	11.28	37.79	-146.77	688.51	665.27	642.81	22.46	29.617	
3,250.00	3,248.91	3,257.41	3,257.41	11.38	11.46	37.91	-146.77	688.51	663.49	640.68	22.82	29.077	
3,300.00	3,298.86	3,307.36	3,307.36	11.55	11.64	38.03	-146.77	688.51	661.72	638.55	23.17	28.554	
3,350.00	3,348.81	3,357.31	3,357.31	11.73	11.82	38.15	-146.77	688.51	659.95	636.42	23.53	28.046	
3,400.00	3,398.76	3,407.26	3,407.26	11.91	12.00	38.27	-146.77	688.51	658.18	634.29	23.89	27.554	
3,450.00	3,448.71	3,457.21	3,457.21	12.09	12.18	38.39	-146.77	688.51	656.42	632.17	24.24	27.076	
3,500.00	3,498.66	3,507.16	3,507.16	12.27	12.36	38.52	-146.77	688.51	654.65	630.05	24.60	26.612	
3,550.00	3,548.60	3,557.10	3,557.10	12.45	12.54	38.64	-146.77	688.51	652.89	627.94	24.96	26.161	
3,600.00	3,598.55	3,607.05	3,607.05	12.63	12.72	38.76	-146.77	688.51	651.14	625.83	25.31	25.723	
3,650.00	3,648.50	3,657.00	3,657.00	12.81	12.89	38.89	-146.77	688.51	649.39	623.72	25.67	25.297	
3,700.00	3,698.45	3,706.95	3,706.95	12.99	13.07	39.01	-146.77	688.51	647.64	621.61	26.03	24.883	
3,750.00	3,748.40	3,756.90	3,756.90	13.16	13.25	39.14	-146.77	688.51	645.89	619.50	26.38	24.480	
3,800.00	3,798.35	3,806.85	3,806.85	13.34	13.43	39.26	-146.77	688.51	644.15	617.40	26.74	24.088	
3,850.00	3,848.30	3,856.80	3,856.80	13.52	13.61	39.39	-146.77	688.51	642.40	615.31	27.10	23.706	
3,900.00	3,898.25	3,906.75	3,906.75	13.70	13.79	39.52	-146.77	688.51	640.67	613.21	27.46	23.335	
3,950.00	3,948.20	3,956.70	3,956.70	13.88	13.97	39.65	-146.77	688.51	638.93	611.12	27.81	22.973	
4,000.00	3,998.15	4,007.57	4,007.57	14.06	14.15	39.78	-146.77	688.51	637.20	609.02	28.17	22.617	
4,050.00	4,048.10	4,064.41	4,064.41	14.24	14.35	39.91	-146.45	688.19	635.13	606.58	28.55	22.247	
4,100.00	4,098.05	4,121.20	4,121.19	14.42	14.55	40.00	-145.63	687.39	632.52	603.59	28.92	21.870	
4,150.00	4,148.00	4,177.94	4,177.90	14.60	14.76	40.07	-144.31	686.09	629.36	600.07	29.29	21.487	
4,200.00	4,197.95	4,234.60	4,234.50	14.78	14.96	40.11	-142.49	684.31	625.67	596.02	29.66	21.098	
4,250.00	4,247.90	4,291.16	4,290.97	14.96	15.16	40.12	-140.18	682.03	621.44	591.43	30.02	20.703	
4,300.00	4,297.85	4,339.69	4,339.40	15.14	15.33	40.12	-138.07	679.96	617.06	586.69	30.37	20.318	
4,350.00	4,347.79	4,389.50	4,389.12	15.32	15.50	40.11	-135.90	677.83	612.66	581.94	30.72	19.941	
4,400.00	4,397.74	4,439.30	4,438.83	15.50	15.68	40.11	-133.72	675.70	608.26	577.19	31.08	19.573	
4,450.00	4,447.69	4,489.11	4,488.54	15.68	15.86	40.11	-131.55	673.56	603.87	572.44	31.43	19.212	
4,500.00	4,497.64	4,538.92	4,538.26	15.86	16.04	40.11	-129.38	671.43	599.47	567.69	31.79	18.860	
4,550.00	4,547.59	4,588.72	4,587.97	16.04	16.21	40.10	-127.21	669.29	595.07	562.93	32.14	18.515	
4,600.00	4,597.54	4,638.53	4,637.68	16.22	16.39	40.10	-125.04	667.16	590.68	558.18	32.49	18.178	
4,650.00	4,647.49	4,688.33	4,687.40	16.40	16.57	40.10	-122.86	665.03	586.28	553.43	32.85	17.848	
4,700.00	4,697.44	4,738.14	4,737.11	16.58	16.74	40.10	-120.69	662.89	581.88	548.68	33.20	17.525	
4,750.00	4,747.39	4,787.95	4,786.82	16.76	16.92	40.10	-118.52	660.76	577.49	543.93	33.56	17.209	
4,800.00	4,797.34	4,837.75	4,836.54	16.94	17.10	40.09	-116.35	658.62	573.09	539.18	33.91	16.899	
4,850.00	4,847.29	4,887.56	4,886.25	17.12	17.28	40.09	-114.18	656.49	568.69	534.43	34.27	16.596	
4,900.00	4,897.24	4,937.37	4,935.96	17.30	17.45	40.09	-112.00	654.36	564.30	529.67	34.62	16.298	
4,950.00	4,947.19	4,987.17	4,985.68	17.48	17.63	40.09	-109.83	652.22	559.90	524.92	34.98	16.007	
5,000.00	4,997.14	5,036.98	5,035.39	17.66	17.81	40.08	-107.66	650.09	555.50	520.17	35.33	15.722	
5,050.00	5,047.09	5,086.78	5,085.10	17.84	17.99	40.08	-105.49	647.96	551.11	515.42	35.69	15.442	
5,100.00	5,097.04	5,136.59	5,134.81	18.02	18.17	40.08	-103.32	645.82	546.71	510.67	36.04	15.168	
5,150.00	5,146.99	5,186.40	5,184.53	18.20	18.35	40.07	-101.14	643.69	542.31	505.91	36.40	14.899	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 514H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,196.93	5,236.20	5,234.24	18.38	18.52	40.07	-98.97	641.55	537.92	501.16	36.76	14.635	
5,250.00	5,246.88	5,286.01	5,283.95	18.56	18.70	40.07	-96.80	639.42	533.52	496.41	37.11	14.376	
5,300.00	5,296.83	5,335.82	5,333.67	18.74	18.88	40.07	-94.63	637.29	529.12	491.66	37.47	14.122	
5,350.00	5,346.78	5,385.62	5,383.38	18.92	19.06	40.06	-92.45	635.15	524.73	486.91	37.82	13.873	
5,400.00	5,396.73	5,435.43	5,433.09	19.10	19.24	40.06	-90.28	633.02	520.33	482.15	38.18	13.629	
5,450.00	5,446.68	5,485.24	5,482.81	19.28	19.42	40.06	-88.11	630.89	515.93	477.40	38.53	13.389	
5,500.00	5,496.63	5,535.04	5,532.52	19.46	19.60	40.05	-85.94	628.75	511.54	472.65	38.89	13.153	
5,550.00	5,546.58	5,584.85	5,582.23	19.64	19.78	40.05	-83.77	626.62	507.14	467.89	39.25	12.922	
5,600.00	5,596.53	5,634.65	5,631.95	19.82	19.95	40.05	-81.59	624.48	502.74	463.14	39.60	12.695	
5,650.00	5,646.48	5,684.46	5,681.66	20.00	20.13	40.04	-79.42	622.35	498.35	458.39	39.96	12.471	
5,700.00	5,696.43	5,734.27	5,731.37	20.18	20.31	40.04	-77.25	620.22	493.95	453.64	40.32	12.252	
5,750.00	5,746.38	5,784.07	5,781.09	20.36	20.49	40.04	-75.08	618.08	489.56	448.88	40.67	12.037	
5,800.00	5,796.33	5,833.88	5,830.80	20.54	20.67	40.03	-72.91	615.95	485.16	444.13	41.03	11.825	
5,850.00	5,846.28	5,883.69	5,880.51	20.73	20.85	40.03	-70.73	613.81	480.76	439.38	41.39	11.617	
5,900.00	5,896.23	5,933.49	5,930.23	20.91	21.03	40.03	-68.56	611.68	476.37	434.62	41.74	11.412	
5,950.00	5,946.18	5,983.30	5,979.94	21.09	21.21	40.02	-66.39	609.55	471.97	429.87	42.10	11.211	
6,000.00	5,996.12	6,033.10	6,029.65	21.27	21.39	40.02	-64.22	607.41	467.57	425.12	42.46	11.013	
6,050.00	6,046.07	6,082.91	6,079.36	21.45	21.57	40.02	-62.05	605.28	463.18	420.36	42.81	10.819	
6,100.00	6,096.02	6,132.72	6,129.08	21.63	21.75	40.01	-59.87	603.15	458.78	415.61	43.17	10.627	
6,150.00	6,145.97	6,182.52	6,178.79	21.81	21.93	40.01	-57.70	601.01	454.38	410.86	43.53	10.439	
6,200.00	6,195.92	6,232.33	6,228.50	21.99	22.11	40.00	-55.53	598.88	449.99	406.10	43.88	10.254	
6,250.00	6,245.87	6,282.14	6,278.22	22.17	22.29	40.00	-53.36	596.74	445.59	401.35	44.24	10.072	
6,300.00	6,295.82	6,331.94	6,327.93	22.35	22.47	40.00	-51.19	594.61	441.19	396.60	44.60	9.893	
6,350.00	6,345.77	6,381.75	6,377.64	22.53	22.65	39.99	-49.01	592.48	436.80	391.84	44.95	9.716	
6,400.00	6,395.72	6,431.56	6,427.36	22.71	22.83	39.99	-46.84	590.34	432.40	387.09	45.31	9.543	
6,450.00	6,445.67	6,481.36	6,477.07	22.89	23.01	39.98	-44.67	588.21	428.00	382.33	45.67	9.372	
6,500.00	6,495.62	6,531.17	6,526.78	23.07	23.19	39.98	-42.50	586.08	423.61	377.58	46.03	9.204	
6,550.00	6,545.57	6,580.97	6,576.50	23.26	23.37	39.97	-40.33	583.94	419.21	372.83	46.38	9.038	
6,600.00	6,595.52	6,630.78	6,626.21	23.44	23.55	39.97	-38.15	581.81	414.81	368.07	46.74	8.875	
6,650.00	6,645.47	6,680.59	6,675.92	23.62	23.73	39.96	-35.98	579.67	410.42	363.32	47.10	8.714	
6,700.00	6,695.42	6,730.39	6,725.64	23.80	23.91	39.96	-33.81	577.54	406.02	358.56	47.46	8.556	
6,750.00	6,745.37	6,780.20	6,775.35	23.98	24.09	39.95	-31.64	575.41	401.62	353.81	47.81	8.400	
6,800.00	6,795.31	6,830.01	6,825.06	24.16	24.27	39.95	-29.46	573.27	397.23	349.06	48.17	8.246	
6,850.00	6,845.26	6,879.81	6,874.78	24.34	24.45	39.94	-27.29	571.14	392.83	344.30	48.53	8.095	
6,900.00	6,895.21	6,929.62	6,924.49	24.52	24.63	39.94	-25.12	569.01	388.43	339.55	48.89	7.946	
6,950.00	6,945.16	6,979.42	6,974.20	24.70	24.81	39.93	-22.95	566.87	384.04	334.79	49.24	7.799	
7,000.00	6,995.11	7,029.23	7,023.91	24.88	24.99	39.93	-20.78	564.74	379.64	330.04	49.60	7.654	
7,050.00	7,045.06	7,079.04	7,073.63	25.06	25.17	39.92	-18.60	562.60	375.24	325.29	49.96	7.511	
7,100.00	7,095.01	7,128.84	7,123.34	25.24	25.35	39.92	-16.43	560.47	370.85	320.53	50.32	7.370	
7,150.00	7,144.96	7,178.65	7,173.05	25.43	25.53	39.91	-14.26	558.34	366.45	315.78	50.67	7.232	
7,200.00	7,194.91	7,228.46	7,222.77	25.61	25.71	39.90	-12.09	556.20	362.05	311.02	51.03	7.095	
7,250.00	7,244.86	7,278.26	7,272.48	25.79	25.89	39.90	-9.92	554.07	357.66	306.27	51.39	6.960	
7,300.00	7,294.81	7,328.07	7,322.19	25.97	26.07	39.89	-7.74	551.93	353.26	301.51	51.75	6.827	
7,350.00	7,344.76	7,377.88	7,371.91	26.15	26.25	39.89	-5.57	549.80	348.86	296.76	52.11	6.695	
7,400.00	7,394.71	7,427.68	7,421.62	26.33	26.43	39.88	-3.40	547.67	344.47	292.00	52.46	6.566	
7,450.00	7,444.66	7,477.49	7,471.33	26.51	26.61	39.87	-1.23	545.53	340.07	287.25	52.82	6.438	
7,500.00	7,494.61	7,527.29	7,521.05	26.69	26.79	39.86	0.94	543.40	335.67	282.50	53.18	6.312	
7,550.00	7,544.56	7,577.10	7,570.76	26.87	26.97	39.86	3.12	541.27	331.28	277.74	53.54	6.188	
7,600.00	7,594.50	7,626.91	7,620.47	27.05	27.15	39.85	5.29	539.13	326.88	272.99	53.90	6.065	
7,650.00	7,644.45	7,676.71	7,670.19	27.23	27.34	39.84	7.46	537.00	322.49	268.23	54.25	5.944	
7,700.00	7,694.40	7,722.89	7,716.29	27.42	27.50	39.86	9.24	535.25	318.39	263.77	54.62	5.829	
7,750.00	7,744.35	7,769.39	7,762.75	27.60	27.67	39.93	10.64	533.88	314.83	259.85	54.98	5.726	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 514H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,800.00	7,794.30	7,815.95	7,809.29	27.78	27.84	40.06	11.63	532.91	311.80	256.46	55.34	5.634	
7,850.00	7,844.25	7,862.55	7,855.89	27.96	28.00	40.23	12.21	532.33	309.31	253.61	55.70	5.553	
7,900.00	7,894.20	7,909.37	7,902.70	28.14	28.17	40.47	12.40	532.15	307.35	251.31	56.05	5.484	
7,950.00	7,944.15	7,959.32	7,952.65	28.32	28.35	40.74	12.40	532.15	305.65	249.24	56.40	5.419	
8,000.00	7,994.10	8,009.27	8,002.60	28.50	28.53	41.02	12.40	532.15	303.94	247.18	56.76	5.355	
8,050.00	8,044.05	8,059.22	8,052.55	28.68	28.70	41.30	12.40	532.15	302.25	245.13	57.12	5.291	
8,100.00	8,094.00	8,109.16	8,102.50	28.86	28.88	41.58	12.40	532.15	300.56	243.08	57.48	5.229	
8,150.00	8,143.95	8,159.11	8,152.45	29.04	29.06	41.86	12.40	532.15	298.88	241.05	57.84	5.168	
8,200.00	8,193.90	8,209.06	8,202.40	29.23	29.24	42.15	12.40	532.15	297.21	239.02	58.20	5.107	
8,250.00	8,243.85	8,259.01	8,252.35	29.41	29.41	42.45	12.40	532.15	295.55	236.99	58.55	5.047	
8,300.00	8,293.80	8,308.96	8,302.30	29.59	29.59	42.74	12.40	532.15	293.89	234.98	58.91	4.989	Alert
8,350.00	8,343.75	8,358.91	8,352.25	29.77	29.77	43.04	12.40	532.15	292.24	232.97	59.27	4.931	Alert
8,400.00	8,393.69	8,408.86	8,402.19	29.95	29.95	43.34	12.40	532.15	290.60	230.97	59.63	4.873	Alert
8,450.00	8,443.64	8,458.81	8,452.14	30.13	30.12	43.65	12.40	532.15	288.97	228.98	59.99	4.817	Alert
8,500.00	8,493.59	8,508.76	8,502.09	30.31	30.30	43.96	12.40	532.15	287.34	227.00	60.35	4.762	Alert
8,550.00	8,543.54	8,558.71	8,552.04	30.49	30.48	44.27	12.40	532.15	285.73	225.02	60.70	4.707	Alert
8,600.00	8,593.49	8,608.66	8,601.99	30.67	30.66	44.59	12.40	532.15	284.12	223.06	61.06	4.653	Alert
8,650.00	8,643.44	8,652.38	8,645.69	30.86	30.81	45.05	11.41	532.16	282.96	221.58	61.38	4.610	Alert
8,666.57	8,660.00	8,666.27	8,659.55	30.92	30.85	45.33	10.42	532.16	282.88	221.41	61.48	4.602	Alert, CC, ES
8,700.00	8,693.39	8,694.08	8,687.19	31.04	30.94	46.06	7.45	532.18	283.22	221.58	61.65	4.594	Alert, SF
8,750.00	8,743.34	8,734.89	8,727.43	31.22	31.06	47.58	0.66	532.22	285.11	223.26	61.85	4.610	Alert
8,800.00	8,793.29	8,774.43	8,765.86	31.40	31.18	49.52	-8.64	532.27	288.85	226.90	61.96	4.662	Alert
8,850.00	8,843.24	8,812.42	8,802.09	31.58	31.29	51.77	-20.04	532.33	294.74	232.80	61.94	4.758	Alert
8,900.00	8,893.19	8,850.00	8,837.10	31.76	31.39	54.31	-33.66	532.41	303.04	241.22	61.82	4.902	Alert
8,950.00	8,943.14	8,882.92	8,866.98	31.94	31.48	56.73	-47.45	532.49	313.97	252.54	61.43	5.111	
9,000.00	8,993.09	8,915.19	8,895.47	32.12	31.56	59.24	-62.62	532.57	327.67	266.77	60.90	5.381	
9,050.00	9,043.04	8,945.45	8,921.36	32.30	31.63	61.67	-78.28	532.66	344.19	284.00	60.19	5.718	
9,100.00	9,092.99	8,973.73	8,944.77	32.49	31.70	63.97	-94.12	532.75	363.51	304.17	59.34	6.126	
9,150.00	9,142.94	9,000.00	8,965.81	32.67	31.75	66.11	-109.86	532.84	385.50	327.13	58.37	6.604	
9,200.00	9,192.88	9,024.59	8,984.82	32.85	31.80	68.09	-125.45	532.93	410.02	352.68	57.33	7.151	
9,250.00	9,242.83	9,050.00	9,003.74	33.03	31.85	70.10	-142.41	533.02	436.88	380.48	56.40	7.746	
9,300.00	9,292.78	9,068.54	9,017.07	33.21	31.88	71.54	-155.30	533.10	465.84	410.67	55.17	8.444	
9,350.00	9,342.73	9,088.20	9,030.73	33.39	31.92	73.02	-169.44	533.18	496.73	442.63	54.10	9.181	
9,400.00	9,392.68	9,100.00	9,038.70	33.57	31.94	73.89	-178.14	533.22	529.42	476.69	52.73	10.039	
9,450.00	9,442.63	9,123.47	9,054.00	33.75	31.99	75.58	-195.93	533.32	563.51	511.41	52.09	10.817	
9,500.00	9,492.58	9,139.28	9,063.89	33.94	32.03	76.68	-208.26	533.39	599.04	547.87	51.17	11.707	
9,550.00	9,542.53	9,150.00	9,070.40	34.12	32.06	77.40	-216.78	533.44	635.82	585.71	50.12	12.686	
9,600.00	9,592.48	9,167.75	9,080.83	34.30	32.10	78.57	-231.14	533.52	673.65	624.15	49.50	13.608	
9,650.00	9,642.43	9,180.58	9,088.09	34.48	32.13	79.39	-241.72	533.58	712.48	663.72	48.76	14.611	
9,700.00	9,692.38	9,200.00	9,098.62	34.66	32.18	80.59	-258.03	533.67	752.27	703.88	48.39	15.547	
9,750.00	9,742.33	9,200.00	9,098.62	34.84	32.18	80.59	-258.03	533.67	792.69	745.37	47.32	16.753	
9,800.00	9,792.28	9,214.35	9,106.04	35.02	32.21	81.44	-270.31	533.74	833.85	786.96	46.89	17.782	
9,850.00	9,842.23	9,224.23	9,110.98	35.20	32.24	82.01	-278.88	533.79	875.67	829.29	46.38	18.881	
9,900.00	9,892.18	9,233.53	9,115.48	35.38	32.26	82.53	-287.01	533.84	918.06	872.15	45.91	19.998	
9,950.00	9,942.13	9,250.00	9,123.14	35.57	32.30	83.44	-301.59	533.92	961.05	915.31	45.73	21.015	
10,000.00	9,992.08	9,250.00	9,123.14	35.75	32.30	83.44	-301.59	533.92	1,004.34	959.25	45.09	22.276	
10,050.00	10,042.02	9,250.00	9,123.14	35.93	32.30	83.44	-301.59	533.92	1,048.22	1,003.71	44.52	23.547	
10,100.00	10,091.97	9,265.67	9,130.02	36.11	32.34	84.26	-315.66	534.00	1,092.31	1,047.87	44.45	24.576	
10,150.00	10,141.92	9,272.63	9,132.96	36.29	32.36	84.62	-321.97	534.03	1,136.85	1,092.68	44.17	25.738	
10,200.00	10,191.87	9,279.22	9,135.67	36.47	32.38	84.95	-327.98	534.07	1,181.70	1,137.78	43.92	26.904	
10,250.00	10,241.82	9,300.00	9,143.76	36.65	32.43	85.96	-347.12	534.18	1,227.12	1,183.07	44.06	27.854	
10,300.00	10,291.77	9,300.00	9,143.76	36.83	32.43	85.96	-347.12	534.18	1,272.37	1,228.66	43.71	29.110	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 514H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,350.00	10,341.72	9,300.00	9,143.76	37.02	32.43	85.96	-347.12	534.18	1,317.96	1,274.56	43.41	30.363	
10,400.00	10,391.67	9,300.00	9,143.76	37.20	32.43	85.96	-347.12	534.18	1,363.86	1,320.72	43.14	31.613	
10,450.00	10,441.62	9,300.00	9,143.76	37.38	32.43	85.96	-347.12	534.18	1,410.04	1,367.13	42.91	32.857	
10,500.00	10,491.57	9,300.00	9,143.76	37.56	32.43	85.96	-347.12	534.18	1,456.48	1,413.76	42.72	34.095	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 523H - Wellbore #1 - Permit Plan 1 — Offset Site Error: 5.00 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.20	0.20	0.50	0.50	-119.35	-151.19	-268.82	308.42				
50.00	50.00	50.20	50.20	0.50	0.50	-119.35	-151.19	-268.82	308.42	307.41	1.01	306.417	
100.00	100.00	100.20	100.20	0.52	0.52	-119.35	-151.19	-268.82	308.42	307.38	1.04	297.790	
150.00	150.00	150.20	150.20	0.59	0.59	-119.35	-151.19	-268.82	308.42	307.24	1.18	261.182	
200.00	200.00	200.20	200.20	0.70	0.70	-119.35	-151.19	-268.82	308.42	307.02	1.40	219.561	
250.00	250.00	250.20	250.20	0.84	0.84	-119.35	-151.19	-268.82	308.42	306.74	1.68	184.021	
300.00	300.00	300.20	300.20	0.99	0.99	-119.35	-151.19	-268.82	308.42	306.44	1.98	156.139	
350.00	350.00	350.20	350.20	1.15	1.15	-119.35	-151.19	-268.82	308.42	306.13	2.29	134.586	
400.00	400.00	400.20	400.20	1.31	1.31	-119.35	-151.19	-268.82	308.42	305.80	2.62	117.770	
450.00	450.00	450.20	450.20	1.48	1.48	-119.35	-151.19	-268.82	308.42	305.47	2.95	104.432	
500.00	500.00	500.20	500.20	1.65	1.65	-119.35	-151.19	-268.82	308.42	305.13	3.29	93.663	
550.00	550.00	550.20	550.20	1.82	1.82	-119.35	-151.19	-268.82	308.42	304.78	3.64	84.823	
600.00	600.00	600.20	600.20	1.99	1.99	-119.35	-151.19	-268.82	308.42	304.44	3.98	77.456	
650.00	650.00	650.20	650.20	2.16	2.17	-119.35	-151.19	-268.82	308.42	304.09	4.33	71.232	
700.00	700.00	700.20	700.20	2.34	2.34	-119.35	-151.19	-268.82	308.42	303.74	4.68	65.911	
750.00	750.00	750.20	750.20	2.51	2.52	-119.35	-151.19	-268.82	308.42	303.39	5.03	61.315	
800.00	800.00	800.20	800.20	2.69	2.69	-119.35	-151.19	-268.82	308.42	303.04	5.38	57.307	
850.00	850.00	850.20	850.20	2.87	2.87	-119.35	-151.19	-268.82	308.42	302.69	5.73	53.783	
900.00	900.00	900.20	900.20	3.04	3.04	-119.35	-151.19	-268.82	308.42	302.33	6.09	50.662	
950.00	950.00	950.20	950.20	3.22	3.22	-119.35	-151.19	-268.82	308.42	301.98	6.44	47.879	
1,000.00	1,000.00	1,000.20	1,000.20	3.40	3.40	-119.35	-151.19	-268.82	308.42	301.62	6.80	45.382	
1,050.00	1,050.00	1,050.20	1,050.20	3.58	3.58	-119.35	-151.19	-268.82	308.42	301.27	7.15	43.131	
1,100.00	1,100.00	1,100.20	1,100.20	3.75	3.75	-119.35	-151.19	-268.82	308.42	300.91	7.51	41.090	
1,150.00	1,150.00	1,150.20	1,150.20	3.93	3.93	-119.35	-151.19	-268.82	308.42	300.56	7.86	39.233	
1,200.00	1,200.00	1,200.20	1,200.20	4.11	4.11	-119.35	-151.19	-268.82	308.42	300.20	8.22	37.534	
1,250.00	1,250.00	1,250.20	1,250.20	4.29	4.29	-119.35	-151.19	-268.82	308.42	299.85	8.57	35.976	
1,300.00	1,300.00	1,300.20	1,300.20	4.46	4.46	-119.35	-151.19	-268.82	308.42	299.49	8.93	34.541	
1,350.00	1,350.00	1,350.20	1,350.20	4.64	4.64	-119.35	-151.19	-268.82	308.42	299.13	9.29	33.216	
1,400.00	1,400.00	1,400.20	1,400.20	4.82	4.82	-119.35	-151.19	-268.82	308.42	298.78	9.64	31.988	
1,450.00	1,450.00	1,450.20	1,450.20	5.00	5.00	-119.35	-151.19	-268.82	308.42	298.42	10.00	30.847	
1,500.00	1,500.00	1,500.20	1,500.20	5.18	5.18	-119.35	-151.19	-268.82	308.42	298.06	10.36	29.784	
1,550.00	1,550.00	1,550.20	1,550.20	5.36	5.36	-119.35	-151.19	-268.82	308.42	297.71	10.71	28.792	
1,600.00	1,600.00	1,600.20	1,600.20	5.53	5.53	-119.35	-151.19	-268.82	308.42	297.35	11.07	27.863	
1,650.00	1,650.00	1,650.20	1,650.20	5.71	5.71	-119.35	-151.19	-268.82	308.42	296.99	11.43	26.993	
1,700.00	1,700.00	1,700.20	1,700.20	5.89	5.89	-119.35	-151.19	-268.82	308.42	296.64	11.78	26.175	
1,750.00	1,750.00	1,750.20	1,750.20	6.07	6.07	-119.35	-151.19	-268.82	308.42	296.28	12.14	25.404	
1,800.00	1,800.00	1,800.20	1,800.20	6.25	6.25	-119.35	-151.19	-268.82	308.42	295.92	12.50	24.678	
1,850.00	1,850.00	1,850.20	1,850.20	6.43	6.43	-119.35	-151.19	-268.82	308.42	295.57	12.86	23.992	
1,900.00	1,900.00	1,900.20	1,900.20	6.61	6.61	-119.35	-151.19	-268.82	308.42	295.21	13.21	23.343	
1,950.00	1,950.00	1,950.20	1,950.20	6.78	6.79	-119.35	-151.19	-268.82	308.42	294.85	13.57	22.728	
2,000.00	2,000.00	2,000.20	2,000.20	6.96	6.96	-119.35	-151.19	-268.82	308.42	294.49	13.93	22.145	
2,050.00	2,050.00	2,050.20	2,050.20	7.14	7.14	173.98	-151.19	-268.82	308.64	294.35	14.28	21.610	
2,100.00	2,099.99	2,100.19	2,100.19	7.32	7.32	173.99	-151.19	-268.82	309.29	294.65	14.64	21.130	
2,150.00	2,149.98	2,150.18	2,150.18	7.49	7.50	174.01	-151.19	-268.82	310.37	295.38	14.99	20.706	
2,200.00	2,199.96	2,200.16	2,200.16	7.66	7.68	174.04	-151.19	-268.82	311.89	296.55	15.34	20.329	
2,250.00	2,249.92	2,250.12	2,250.12	7.84	7.86	174.07	-151.19	-268.82	313.84	298.15	15.70	19.996	
2,300.00	2,299.87	2,300.07	2,300.07	8.01	8.04	174.12	-151.19	-268.82	316.08	300.03	16.05	19.695	
2,350.00	2,349.82	2,350.02	2,350.02	8.19	8.22	174.16	-151.19	-268.82	318.31	301.91	16.40	19.407	
2,400.00	2,399.77	2,400.03	2,399.97	8.36	8.39	174.20	-151.19	-268.82	320.55	303.80	16.76	19.131	
2,450.00	2,449.72	2,449.92	2,449.92	8.54	8.57	174.24	-151.19	-268.82	322.79	305.68	17.11	18.867	
2,500.00	2,499.67	2,499.87	2,499.87	8.72	8.75	174.28	-151.19	-268.82	325.03	307.56	17.46	18.613	
2,550.00	2,549.62	2,552.82	2,552.82	8.89	8.94	174.32	-151.05	-268.62	327.04	309.21	17.82	18.347	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 523H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,605.82	2,605.81	9.07	9.13	174.37	-150.65	-268.01	328.59	310.40	18.19	18.068	
2,650.00	2,649.52	2,658.84	2,658.82	9.25	9.31	174.43	-149.96	-266.99	329.67	311.13	18.54	17.777	
2,700.00	2,699.47	2,711.88	2,711.83	9.42	9.50	174.50	-149.01	-265.57	330.30	311.40	18.90	17.474	
2,750.00	2,749.41	2,764.92	2,764.83	9.60	9.69	174.57	-147.78	-263.73	330.47	311.21	19.26	17.160	
2,800.00	2,799.36	2,817.97	2,817.80	9.78	9.87	174.65	-146.28	-261.49	330.18	310.56	19.61	16.834	
2,850.00	2,849.31	2,867.85	2,867.61	9.95	10.05	174.73	-144.75	-259.21	329.67	309.71	19.97	16.512	
2,900.00	2,899.26	2,917.85	2,917.53	10.13	10.22	174.81	-143.21	-256.92	329.17	308.85	20.32	16.201	
2,950.00	2,949.21	2,967.84	2,967.45	10.31	10.40	174.89	-141.68	-254.63	328.66	307.99	20.67	15.900	
3,000.00	2,999.16	3,017.84	3,017.37	10.49	10.58	174.97	-140.14	-252.34	328.16	307.13	21.02	15.610	
3,050.00	3,049.11	3,067.83	3,067.29	10.66	10.75	175.05	-138.61	-250.05	327.65	306.28	21.38	15.328	
3,100.00	3,099.06	3,117.83	3,117.21	10.84	10.93	175.13	-137.08	-247.76	327.15	305.42	21.73	15.056	
3,150.00	3,149.01	3,167.82	3,167.13	11.02	11.11	175.21	-135.54	-245.47	326.65	304.56	22.08	14.792	
3,200.00	3,198.96	3,217.82	3,217.05	11.20	11.29	175.30	-134.01	-243.18	326.15	303.71	22.44	14.537	
3,250.00	3,248.91	3,267.82	3,266.97	11.38	11.46	175.38	-132.47	-240.89	325.64	302.85	22.79	14.289	
3,300.00	3,298.86	3,317.81	3,316.89	11.55	11.64	175.46	-130.94	-238.60	325.14	302.00	23.14	14.049	
3,350.00	3,348.81	3,367.81	3,366.81	11.73	11.82	175.54	-129.40	-236.31	324.64	301.15	23.50	13.816	
3,400.00	3,398.76	3,417.80	3,416.73	11.91	12.00	175.62	-127.87	-234.02	324.14	300.29	23.85	13.590	
3,450.00	3,448.71	3,467.80	3,466.65	12.09	12.18	175.70	-126.33	-231.73	323.65	299.44	24.21	13.370	
3,500.00	3,498.66	3,517.79	3,516.56	12.27	12.36	175.79	-124.80	-229.44	323.15	298.59	24.56	13.157	
3,550.00	3,548.60	3,567.79	3,566.48	12.45	12.53	175.87	-123.27	-227.15	322.65	297.74	24.92	12.949	
3,600.00	3,598.55	3,617.78	3,616.40	12.63	12.71	175.95	-121.73	-224.86	322.16	296.88	25.27	12.748	
3,650.00	3,648.50	3,667.78	3,666.32	12.81	12.89	176.04	-120.20	-222.58	321.66	296.03	25.63	12.552	
3,700.00	3,698.45	3,717.77	3,716.24	12.99	13.07	176.12	-118.66	-220.29	321.16	295.18	25.98	12.361	
3,750.00	3,748.40	3,767.77	3,766.16	13.16	13.25	176.21	-117.13	-218.00	320.67	294.33	26.34	12.176	
3,800.00	3,798.35	3,817.76	3,816.08	13.34	13.43	176.29	-115.59	-215.71	320.18	293.48	26.69	11.995	
3,850.00	3,848.30	3,867.76	3,866.00	13.52	13.61	176.37	-114.06	-213.42	319.68	292.64	27.05	11.819	
3,900.00	3,898.25	3,917.75	3,915.92	13.70	13.79	176.46	-112.52	-211.13	319.19	291.79	27.40	11.648	
3,950.00	3,948.20	3,967.75	3,965.84	13.88	13.97	176.54	-110.99	-208.84	318.70	290.94	27.76	11.481	
4,000.00	3,998.15	4,017.75	4,015.76	14.06	14.15	176.63	-109.45	-206.55	318.21	290.09	28.12	11.318	
4,050.00	4,048.10	4,067.74	4,065.68	14.24	14.32	176.71	-107.92	-204.26	317.72	289.25	28.47	11.159	
4,100.00	4,098.05	4,117.74	4,115.60	14.42	14.50	176.80	-106.39	-201.97	317.23	288.40	28.83	11.004	
4,150.00	4,148.00	4,167.73	4,165.52	14.60	14.68	176.89	-104.85	-199.68	316.74	287.56	29.18	10.853	
4,200.00	4,197.95	4,217.73	4,215.43	14.78	14.86	176.97	-103.32	-197.39	316.25	286.71	29.54	10.706	
4,250.00	4,247.90	4,267.72	4,265.35	14.96	15.04	177.06	-101.78	-195.10	315.77	285.87	29.90	10.562	
4,300.00	4,297.85	4,317.72	4,315.27	15.14	15.22	177.15	-100.25	-192.81	315.28	285.03	30.25	10.421	
4,350.00	4,347.79	4,367.71	4,365.19	15.32	15.40	177.23	-98.71	-190.52	314.79	284.18	30.61	10.284	
4,400.00	4,397.74	4,417.71	4,415.11	15.50	15.58	177.32	-97.18	-188.23	314.31	283.34	30.97	10.150	
4,450.00	4,447.69	4,467.70	4,465.03	15.68	15.76	177.41	-95.64	-185.94	313.82	282.50	31.32	10.019	
4,500.00	4,497.64	4,517.70	4,514.95	15.86	15.94	177.50	-94.11	-183.65	313.34	281.66	31.68	9.891	
4,550.00	4,547.59	4,567.69	4,564.87	16.04	16.12	177.58	-92.57	-181.36	312.86	280.82	32.04	9.765	
4,600.00	4,597.54	4,617.69	4,614.79	16.22	16.30	177.67	-91.04	-179.07	312.37	279.98	32.39	9.643	
4,650.00	4,647.49	4,667.68	4,664.71	16.40	16.48	177.76	-89.51	-176.78	311.89	279.14	32.75	9.523	
4,700.00	4,697.44	4,717.68	4,714.63	16.58	16.66	177.85	-87.97	-174.49	311.41	278.30	33.11	9.406	
4,750.00	4,747.39	4,767.68	4,764.55	16.76	16.84	177.94	-86.44	-172.20	310.93	277.47	33.47	9.291	
4,800.00	4,797.34	4,817.67	4,814.47	16.94	17.02	178.03	-84.90	-169.91	310.45	276.63	33.82	9.179	
4,850.00	4,847.29	4,867.67	4,864.39	17.12	17.21	178.12	-83.37	-167.62	309.98	275.79	34.18	9.069	
4,900.00	4,897.24	4,917.66	4,914.30	17.30	17.39	178.21	-81.83	-165.33	309.50	274.96	34.54	8.961	
4,950.00	4,947.19	4,967.66	4,964.22	17.48	17.57	178.30	-80.30	-163.04	309.02	274.13	34.89	8.856	
5,000.00	4,997.14	5,017.65	5,014.14	17.66	17.75	178.39	-78.76	-160.76	308.54	273.29	35.25	8.752	
5,050.00	5,047.09	5,067.65	5,064.06	17.84	17.93	178.48	-77.23	-158.47	308.07	272.46	35.61	8.651	
5,100.00	5,097.04	5,117.64	5,113.98	18.02	18.11	178.57	-75.69	-156.18	307.59	271.63	35.97	8.552	
5,150.00	5,146.99	5,167.64	5,163.90	18.20	18.29	178.66	-74.16	-153.89	307.12	270.80	36.32	8.455	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 523H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,196.93	5,217.63	5,213.82	18.38	18.47	178.76	-72.63	-151.60	306.65	269.97	36.68	8.359	
5,250.00	5,246.88	5,267.63	5,263.74	18.56	18.65	178.85	-71.09	-149.31	306.18	269.14	37.04	8.266	
5,300.00	5,296.83	5,317.62	5,313.66	18.74	18.83	178.94	-69.56	-147.02	305.70	268.31	37.40	8.174	
5,350.00	5,346.78	5,367.62	5,363.58	18.92	19.01	179.03	-68.02	-144.73	305.23	267.48	37.76	8.084	
5,400.00	5,396.73	5,417.61	5,413.50	19.10	19.19	179.13	-66.49	-142.44	304.76	266.65	38.11	7.996	
5,450.00	5,446.68	5,467.61	5,463.42	19.28	19.37	179.22	-64.95	-140.15	304.30	265.82	38.47	7.910	
5,500.00	5,496.63	5,517.61	5,513.34	19.46	19.55	179.31	-63.42	-137.86	303.83	265.00	38.83	7.825	
5,550.00	5,546.58	5,567.60	5,563.26	19.64	19.74	179.41	-61.88	-135.57	303.36	264.17	39.19	7.741	
5,600.00	5,596.53	5,617.60	5,613.18	19.82	19.92	179.50	-60.35	-133.28	302.89	263.35	39.55	7.659	
5,650.00	5,646.48	5,667.59	5,663.09	20.00	20.10	179.60	-58.81	-130.99	302.43	262.52	39.90	7.579	
5,700.00	5,696.43	5,717.59	5,713.01	20.18	20.28	179.69	-57.28	-128.70	301.96	261.70	40.26	7.500	
5,750.00	5,746.38	5,767.58	5,762.93	20.36	20.46	179.79	-55.75	-126.41	301.50	260.88	40.62	7.422	
5,800.00	5,796.33	5,817.58	5,812.85	20.54	20.64	179.88	-54.21	-124.12	301.04	260.06	40.98	7.346	
5,850.00	5,846.28	5,867.57	5,862.77	20.73	20.82	179.98	-52.68	-121.83	300.57	259.24	41.34	7.271	
5,900.00	5,896.23	5,917.57	5,912.69	20.91	21.00	-179.93	-51.14	-119.54	300.11	258.42	41.69	7.198	
5,950.00	5,946.18	5,967.56	5,962.61	21.09	21.18	-179.83	-49.61	-117.25	299.65	257.60	42.05	7.126	
6,000.00	5,996.12	6,017.56	6,012.53	21.27	21.37	-179.74	-48.07	-114.96	299.19	256.78	42.41	7.055	
6,050.00	6,046.07	6,067.55	6,062.45	21.45	21.55	-179.64	-46.54	-112.67	298.73	255.96	42.77	6.985	
6,100.00	6,096.02	6,117.55	6,112.37	21.63	21.73	-179.54	-45.00	-110.38	298.27	255.15	43.13	6.916	
6,150.00	6,145.97	6,167.55	6,162.29	21.81	21.91	-179.44	-43.47	-108.09	297.82	254.33	43.49	6.849	
6,200.00	6,195.92	6,217.54	6,212.21	21.99	22.09	-179.35	-41.93	-105.80	297.36	253.52	43.84	6.782	
6,250.00	6,245.87	6,267.54	6,262.13	22.17	22.27	-179.25	-40.40	-103.51	296.90	252.70	44.20	6.717	
6,300.00	6,295.82	6,317.53	6,312.05	22.35	22.45	-179.15	-38.87	-101.23	296.45	251.89	44.56	6.653	
6,350.00	6,345.77	6,367.53	6,361.96	22.53	22.63	-179.05	-37.33	-98.94	296.00	251.08	44.92	6.590	
6,400.00	6,395.72	6,417.52	6,411.88	22.71	22.82	-178.95	-35.80	-96.65	295.54	250.27	45.28	6.527	
6,450.00	6,445.67	6,467.52	6,461.80	22.89	23.00	-178.85	-34.26	-94.36	295.09	249.45	45.64	6.466	
6,500.00	6,495.62	6,517.51	6,511.72	23.07	23.18	-178.75	-32.73	-92.07	294.64	248.65	45.99	6.406	
6,550.00	6,545.57	6,567.51	6,561.64	23.26	23.36	-178.65	-31.19	-89.78	294.19	247.84	46.35	6.347	
6,600.00	6,595.52	6,617.50	6,611.56	23.44	23.54	-178.55	-29.66	-87.49	293.74	247.03	46.71	6.288	
6,650.00	6,645.47	6,667.50	6,661.48	23.62	23.72	-178.45	-28.12	-85.20	293.29	246.22	47.07	6.231	
6,700.00	6,695.42	6,717.49	6,711.40	23.80	23.90	-178.35	-26.59	-82.91	292.84	245.42	47.43	6.174	
6,750.00	6,745.37	6,767.49	6,761.32	23.98	24.09	-178.25	-25.06	-80.62	292.40	244.61	47.79	6.119	
6,800.00	6,795.31	6,817.48	6,811.24	24.16	24.27	-178.15	-23.52	-78.33	291.95	243.81	48.15	6.064	
6,850.00	6,845.26	6,867.48	6,861.16	24.34	24.45	-178.05	-21.99	-76.04	291.51	243.00	48.50	6.010	
6,900.00	6,895.21	6,917.48	6,911.08	24.52	24.63	-177.95	-20.45	-73.75	291.06	242.20	48.86	5.957	
6,950.00	6,945.16	6,967.47	6,961.00	24.70	24.81	-177.84	-18.92	-71.46	290.62	241.40	49.22	5.904	
7,000.00	6,995.11	7,017.47	7,010.92	24.88	24.99	-177.74	-17.38	-69.17	290.18	240.60	49.58	5.853	
7,050.00	7,045.06	7,067.46	7,060.84	25.06	25.17	-177.64	-15.85	-66.88	289.74	239.80	49.94	5.802	
7,100.00	7,095.01	7,117.46	7,110.75	25.24	25.36	-177.54	-14.31	-64.59	289.30	239.00	50.30	5.752	
7,150.00	7,144.96	7,167.45	7,160.67	25.43	25.54	-177.43	-12.78	-62.30	288.86	238.20	50.66	5.702	
7,200.00	7,194.91	7,217.45	7,210.59	25.61	25.72	-177.33	-11.24	-60.01	288.42	237.40	51.02	5.653	
7,250.00	7,244.86	7,267.44	7,260.51	25.79	25.90	-177.22	-9.71	-57.72	287.98	236.61	51.38	5.605	
7,300.00	7,294.81	7,317.44	7,310.43	25.97	26.08	-177.12	-8.18	-55.43	287.54	235.81	51.73	5.558	
7,350.00	7,344.76	7,367.43	7,360.35	26.15	26.26	-177.02	-6.64	-53.14	287.11	235.02	52.09	5.511	
7,400.00	7,394.71	7,417.43	7,410.27	26.33	26.45	-176.91	-5.11	-50.85	286.67	234.22	52.45	5.466	
7,450.00	7,444.66	7,467.42	7,460.19	26.51	26.63	-176.81	-3.57	-48.56	286.24	233.43	52.81	5.420	
7,500.00	7,494.61	7,517.42	7,510.11	26.69	26.81	-176.70	-2.04	-46.27	285.81	232.64	53.17	5.375	
7,550.00	7,544.56	7,567.41	7,560.03	26.87	26.99	-176.59	-0.50	-43.98	285.38	231.85	53.53	5.331	
7,600.00	7,594.50	7,617.41	7,609.95	27.05	27.17	-176.49	1.03	-41.70	284.95	231.06	53.89	5.288	
7,650.00	7,644.45	7,667.41	7,659.87	27.23	27.35	-176.38	2.57	-39.41	284.52	230.27	54.25	5.245	
7,700.00	7,694.40	7,717.40	7,709.79	27.42	27.54	-176.27	4.10	-37.12	284.09	229.48	54.61	5.203	
7,750.00	7,744.35	7,767.40	7,759.71	27.60	27.72	-176.17	5.64	-34.83	283.66	228.70	54.96	5.161	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 523H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,800.00	7,794.30	7,816.04	7,808.27	27.78	27.89	-176.06	7.10	-32.64	283.28	227.96	55.32	5.121	
7,815.77	7,810.06	7,830.75	7,822.97	27.83	27.95	-176.04	7.50	-32.05	283.25	227.82	55.43	5.110	CC
7,850.00	7,844.25	7,862.68	7,854.88	27.96	28.06	-175.99	8.25	-30.93	283.39	227.72	55.67	5.090	ES
7,900.00	7,894.20	7,909.32	7,901.49	28.14	28.23	-175.94	9.08	-29.69	284.09	228.07	56.02	5.071	
7,950.00	7,944.15	7,955.94	7,948.10	28.32	28.40	-175.93	9.59	-28.93	285.38	229.03	56.36	5.064	SF
8,000.00	7,994.10	8,013.54	7,994.30	28.50	28.60	-175.94	9.78	-28.64	287.26	230.54	56.73	5.064	
8,050.00	8,044.05	8,052.09	8,044.25	28.68	28.74	-175.97	9.78	-28.64	289.51	232.46	57.04	5.075	
8,100.00	8,094.00	8,102.04	8,094.20	28.86	28.91	-176.00	9.78	-28.64	291.75	234.35	57.40	5.083	
8,150.00	8,143.95	8,151.99	8,144.15	29.04	29.09	-176.03	9.78	-28.64	293.99	236.24	57.75	5.090	
8,200.00	8,193.90	8,201.94	8,194.10	29.23	29.26	-176.06	9.78	-28.64	296.24	238.13	58.11	5.098	
8,250.00	8,243.85	8,251.89	8,244.05	29.41	29.44	-176.09	9.78	-28.64	298.48	240.02	58.47	5.105	
8,300.00	8,293.80	8,301.84	8,294.00	29.59	29.62	-176.12	9.78	-28.64	300.73	241.90	58.82	5.113	
8,350.00	8,343.75	8,351.79	8,343.95	29.77	29.79	-176.15	9.78	-28.64	302.97	243.79	59.18	5.120	
8,400.00	8,393.69	8,401.74	8,393.89	29.95	29.97	-176.18	9.78	-28.64	305.21	245.68	59.53	5.127	
8,450.00	8,443.64	8,451.69	8,443.84	30.13	30.14	-176.21	9.78	-28.64	307.46	247.57	59.89	5.134	
8,500.00	8,493.59	8,501.64	8,493.79	30.31	30.32	-176.23	9.78	-28.64	309.70	249.46	60.25	5.141	
8,550.00	8,543.54	8,551.59	8,543.74	30.49	30.50	-176.26	9.78	-28.64	311.95	251.34	60.60	5.147	
8,600.00	8,593.49	8,601.54	8,593.69	30.67	30.67	-176.29	9.78	-28.64	314.19	253.23	60.96	5.154	
8,650.00	8,643.44	8,646.59	8,638.74	30.86	30.83	-176.42	9.16	-28.63	316.68	255.42	61.26	5.169	
8,700.00	8,693.39	8,688.44	8,680.43	31.04	30.96	-177.03	5.69	-28.61	320.33	258.82	61.51	5.208	
8,750.00	8,743.34	8,729.45	8,720.95	31.22	31.09	-178.10	-0.66	-28.57	325.32	263.62	61.70	5.273	
8,800.00	8,793.29	8,769.27	8,759.74	31.40	31.21	-179.56	-9.58	-28.52	331.82	269.99	61.83	5.367	
8,850.00	8,843.24	8,807.56	8,796.38	31.58	31.32	178.68	-20.68	-28.45	340.03	278.17	61.86	5.497	
8,900.00	8,893.19	8,844.10	8,830.58	31.76	31.42	176.71	-33.53	-28.36	350.17	288.39	61.78	5.668	
8,950.00	8,943.14	8,878.73	8,862.18	31.94	31.51	174.64	-47.70	-28.27	362.42	300.86	61.56	5.887	
9,000.00	8,993.09	8,911.37	8,891.11	32.12	31.60	172.54	-62.77	-28.18	376.94	315.74	61.21	6.159	
9,050.00	9,043.04	8,941.97	8,917.43	32.30	31.67	170.46	-78.39	-28.08	393.81	333.11	60.70	6.488	
9,100.00	9,092.99	8,970.58	8,941.25	32.49	31.73	168.46	-94.23	-27.98	413.06	352.99	60.07	6.877	
9,150.00	9,142.94	9,000.00	8,964.88	32.67	31.80	166.36	-111.75	-27.87	434.65	375.22	59.44	7.313	
9,200.00	9,192.88	9,022.07	8,982.00	32.85	31.84	164.77	-125.67	-27.78	458.48	400.00	58.48	7.840	
9,250.00	9,242.83	9,050.00	9,002.88	33.03	31.90	162.77	-144.22	-27.67	484.49	426.69	57.80	8.382	
9,300.00	9,292.78	9,066.57	9,014.83	33.21	31.92	161.59	-155.69	-27.59	512.42	455.77	56.64	9.047	
9,350.00	9,342.73	9,086.47	9,028.74	33.39	31.96	160.19	-169.93	-27.50	542.22	486.53	55.69	9.736	
9,400.00	9,392.68	9,100.00	9,037.91	33.57	31.99	159.24	-179.87	-27.44	573.75	519.22	54.53	10.522	
9,450.00	9,442.63	9,122.16	9,052.41	33.75	32.02	157.72	-196.63	-27.34	606.74	552.91	53.83	11.271	
9,500.00	9,492.58	9,138.16	9,062.47	33.94	32.06	156.65	-209.07	-27.26	641.15	588.21	52.94	12.110	
9,550.00	9,542.53	9,150.00	9,069.70	34.12	32.08	155.86	-218.45	-27.20	676.84	624.87	51.97	13.023	
9,600.00	9,592.48	9,166.96	9,079.70	34.30	32.12	154.76	-232.14	-27.11	713.63	662.33	51.30	13.911	
9,650.00	9,642.43	9,179.93	9,087.07	34.48	32.15	153.93	-242.81	-27.04	751.46	700.91	50.55	14.867	
9,700.00	9,692.38	9,200.00	9,098.00	34.66	32.20	152.68	-259.65	-26.94	790.29	740.16	50.13	15.764	
9,750.00	9,742.33	9,200.00	9,098.00	34.84	32.20	152.68	-259.65	-26.94	829.80	780.73	49.07	16.909	
9,800.00	9,792.28	9,214.05	9,105.29	35.02	32.24	151.83	-271.65	-26.86	870.12	821.53	48.59	17.908	
9,850.00	9,842.23	9,224.03	9,110.30	35.20	32.26	151.24	-280.29	-26.81	911.13	863.09	48.03	18.969	
9,900.00	9,892.18	9,233.42	9,114.87	35.38	32.28	150.69	-288.49	-26.76	952.75	905.23	47.52	20.049	
9,950.00	9,942.13	9,250.00	9,122.60	35.57	32.33	149.74	-303.16	-26.66	995.02	947.74	47.28	21.045	
10,000.00	9,992.08	9,250.00	9,122.60	35.75	32.33	149.74	-303.16	-26.66	1,037.63	991.03	46.61	22.264	
10,050.00	10,042.02	9,250.00	9,122.60	35.93	32.33	149.74	-303.16	-26.66	1,080.88	1,034.88	46.01	23.495	
10,100.00	10,091.97	9,265.85	9,129.60	36.11	32.37	148.86	-317.38	-26.57	1,124.37	1,078.49	45.88	24.509	
10,150.00	10,141.92	9,272.87	9,132.57	36.29	32.39	148.47	-323.74	-26.53	1,168.34	1,122.78	45.55	25.647	
10,200.00	10,191.87	9,279.52	9,135.32	36.47	32.40	148.12	-329.79	-26.49	1,212.66	1,167.40	45.26	26.791	
10,250.00	10,241.82	9,300.00	9,143.32	36.65	32.46	147.04	-348.64	-26.38	1,257.55	1,212.23	45.32	27.745	
10,300.00	10,291.77	9,300.00	9,143.32	36.83	32.46	147.04	-348.64	-26.38	1,302.33	1,257.39	44.94	28.976	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 523H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,350.00	10,341.72	9,300.00	9,143.32	37.02	32.46	147.04	-348.64	-26.38	1,347.48	1,302.87	44.61	30.207	
10,400.00	10,391.67	9,300.00	9,143.32	37.20	32.46	147.04	-348.64	-26.38	1,392.96	1,348.65	44.31	31.436	
10,450.00	10,441.62	9,300.00	9,143.32	37.38	32.46	147.04	-348.64	-26.38	1,438.74	1,394.69	44.05	32.662	
10,500.00	10,491.57	9,300.00	9,143.32	37.56	32.46	147.04	-348.64	-26.38	1,484.79	1,440.97	43.82	33.884	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+IFR1 — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	8.40	8.40	0.50	0.50	102.58	-146.97	658.49	674.69				
50.00	50.00	58.40	58.40	0.50	0.51	102.58	-146.97	658.49	674.69	673.69	1.01	669.253	
100.00	100.00	108.40	108.40	0.52	0.53	102.58	-146.97	658.49	674.69	673.65	1.04	646.176	
150.00	150.00	158.40	158.40	0.59	0.61	102.58	-146.97	658.49	674.69	673.50	1.20	563.644	
200.00	200.00	208.40	208.40	0.70	0.72	102.58	-146.97	658.49	674.69	673.27	1.43	473.249	
250.00	250.00	258.40	258.40	0.84	0.86	102.58	-146.97	658.49	674.69	672.99	1.70	396.931	
300.00	300.00	308.40	308.40	0.99	1.01	102.58	-146.97	658.49	674.69	672.69	2.00	337.220	
350.00	350.00	358.40	358.40	1.15	1.17	102.58	-146.97	658.49	674.69	672.38	2.32	291.049	
400.00	400.00	408.40	408.40	1.31	1.34	102.58	-146.97	658.49	674.69	672.05	2.65	254.981	
450.00	450.00	458.40	458.40	1.48	1.50	102.58	-146.97	658.49	674.69	671.71	2.98	226.330	
500.00	500.00	508.40	508.40	1.65	1.67	102.58	-146.97	658.49	674.69	671.37	3.32	203.166	
550.00	550.00	558.40	558.40	1.82	1.85	102.58	-146.97	658.49	674.69	671.03	3.66	184.126	
600.00	600.00	608.40	608.40	1.99	2.02	102.58	-146.97	658.49	674.69	670.68	4.01	168.237	
650.00	650.00	658.40	658.40	2.16	2.19	102.58	-146.97	658.49	674.69	670.33	4.36	154.802	
700.00	700.00	708.40	708.40	2.34	2.37	102.58	-146.97	658.49	674.69	669.99	4.71	143.306	
750.00	750.00	758.40	758.40	2.51	2.54	102.58	-146.97	658.49	674.69	669.63	5.06	133.367	
800.00	800.00	808.40	808.40	2.69	2.72	102.58	-146.97	658.49	674.69	669.28	5.41	124.694	
850.00	850.00	858.40	858.40	2.87	2.90	102.58	-146.97	658.49	674.69	668.93	5.76	117.064	
900.00	900.00	908.40	908.40	3.04	3.07	102.58	-146.97	658.49	674.69	668.58	6.12	110.302	
950.00	950.00	958.40	958.40	3.22	3.25	102.58	-146.97	658.49	674.69	668.22	6.47	104.269	
1,000.00	1,000.00	1,008.40	1,008.40	3.40	3.43	102.58	-146.97	658.49	674.69	667.87	6.83	98.855	
1,050.00	1,050.00	1,058.40	1,058.40	3.58	3.60	102.58	-146.97	658.49	674.69	667.51	7.18	93.970	
1,100.00	1,100.00	1,108.40	1,108.40	3.75	3.78	102.58	-146.97	658.49	674.69	667.16	7.54	89.541	
1,150.00	1,150.00	1,158.40	1,158.40	3.93	3.96	102.58	-146.97	658.49	674.69	666.80	7.89	85.507	
1,200.00	1,200.00	1,208.40	1,208.40	4.11	4.14	102.58	-146.97	658.49	674.69	666.45	8.25	81.819	
1,250.00	1,250.00	1,258.40	1,258.40	4.29	4.32	102.58	-146.97	658.49	674.69	666.09	8.60	78.433	
1,300.00	1,300.00	1,308.40	1,308.40	4.46	4.49	102.58	-146.97	658.49	674.69	665.74	8.96	75.315	
1,350.00	1,350.00	1,358.40	1,358.40	4.64	4.67	102.58	-146.97	658.49	674.69	665.38	9.31	72.434	
1,400.00	1,400.00	1,408.40	1,408.40	4.82	4.85	102.58	-146.97	658.49	674.69	665.02	9.67	69.764	
1,450.00	1,450.00	1,458.40	1,458.40	5.00	5.03	102.58	-146.97	658.49	674.69	664.67	10.03	67.283	
1,500.00	1,500.00	1,508.40	1,508.40	5.18	5.21	102.58	-146.97	658.49	674.69	664.31	10.38	64.972	
1,550.00	1,550.00	1,558.40	1,558.40	5.36	5.39	102.58	-146.97	658.49	674.69	663.95	10.74	62.813	
1,600.00	1,600.00	1,608.40	1,608.40	5.53	5.56	102.58	-146.97	658.49	674.69	663.60	11.10	60.793	
1,650.00	1,650.00	1,658.40	1,658.40	5.71	5.74	102.58	-146.97	658.49	674.69	663.24	11.46	58.898	
1,700.00	1,700.00	1,708.40	1,708.40	5.89	5.92	102.58	-146.97	658.49	674.69	662.88	11.81	57.117	
1,750.00	1,750.00	1,758.40	1,758.40	6.07	6.10	102.58	-146.97	658.49	674.69	662.52	12.17	55.441	
1,800.00	1,800.00	1,808.40	1,808.40	6.25	6.28	102.58	-146.97	658.49	674.69	662.17	12.53	53.859	
1,850.00	1,850.00	1,858.40	1,858.40	6.43	6.46	102.58	-146.97	658.49	674.69	661.81	12.88	52.365	
1,900.00	1,900.00	1,908.40	1,908.40	6.61	6.64	102.58	-146.97	658.49	674.69	661.45	13.24	50.952	
1,950.00	1,950.00	1,958.40	1,958.40	6.78	6.81	102.58	-146.97	658.49	674.69	661.09	13.60	49.613	
2,000.00	2,000.00	2,008.40	2,008.40	6.96	6.99	102.58	-146.97	658.49	674.69	660.74	13.96	48.342	
2,050.00	2,050.00	2,058.40	2,058.40	7.14	7.17	35.92	-146.97	658.49	674.52	660.21	14.31	47.131	
2,100.00	2,099.99	2,108.39	2,108.39	7.32	7.35	35.96	-146.97	658.49	673.99	659.32	14.67	45.954	
2,150.00	2,149.98	2,158.38	2,158.38	7.49	7.53	36.02	-146.97	658.49	673.10	658.09	15.02	44.817	
2,200.00	2,199.96	2,208.36	2,208.36	7.66	7.71	36.10	-146.97	658.49	671.87	656.50	15.37	43.709	
2,250.00	2,249.92	2,258.32	2,258.32	7.84	7.89	36.21	-146.97	658.49	670.28	654.56	15.72	42.628	
2,300.00	2,299.87	2,308.27	2,308.27	8.01	8.07	36.33	-146.97	658.49	668.47	652.40	16.08	41.579	
2,350.00	2,349.82	2,358.22	2,358.22	8.19	8.24	36.44	-146.97	658.49	666.66	650.23	16.43	40.575	
2,400.00	2,399.77	2,408.17	2,408.17	8.36	8.42	36.55	-146.97	658.49	664.85	648.07	16.78	39.614	
2,450.00	2,449.72	2,458.12	2,458.12	8.54	8.60	36.67	-146.97	658.49	663.05	645.91	17.14	38.691	
2,500.00	2,499.67	2,509.43	2,509.43	8.72	8.79	36.79	-146.97	658.48	661.24	643.74	17.49	37.796	
2,550.00	2,549.62	2,567.75	2,567.75	8.89	8.99	36.93	-146.87	658.00	659.02	641.14	17.87	36.872	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+IFR1 — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,626.00	2,625.99	9.07	9.19	37.07	-146.63	656.79	656.16	637.92	18.25	35.962	
2,650.00	2,649.52	2,684.15	2,684.10	9.25	9.39	37.22	-146.25	654.86	652.68	634.07	18.61	35.063	
2,700.00	2,699.47	2,742.19	2,742.08	9.42	9.59	37.37	-145.72	652.22	648.57	629.59	18.98	34.171	
2,750.00	2,749.41	2,800.10	2,799.89	9.60	9.79	37.52	-145.06	648.86	643.84	624.49	19.34	33.285	
2,800.00	2,799.36	2,857.86	2,857.49	9.78	10.00	37.69	-144.25	644.80	638.48	618.78	19.70	32.406	
2,850.00	2,849.31	2,915.45	2,914.88	9.95	10.20	37.85	-143.31	640.04	632.50	612.44	20.06	31.532	
2,900.00	2,899.26	2,972.85	2,972.01	10.13	10.40	38.03	-142.22	634.59	625.90	605.49	20.41	30.663	
2,950.00	2,949.21	3,030.05	3,028.87	10.31	10.60	38.21	-141.01	628.46	618.70	597.93	20.76	29.800	
3,000.00	2,999.16	3,087.03	3,085.43	10.49	10.80	38.40	-139.66	621.67	610.88	589.77	21.11	28.941	
3,050.00	3,049.11	3,143.78	3,141.67	10.66	11.00	38.60	-138.18	614.22	602.46	581.00	21.45	28.086	
3,100.00	3,099.06	3,200.28	3,197.56	10.84	11.20	38.81	-136.57	606.12	593.43	571.64	21.79	27.235	
3,150.00	3,149.01	3,250.43	3,247.11	11.02	11.38	39.01	-135.07	598.56	584.03	561.90	22.13	26.386	
3,200.00	3,198.96	3,300.50	3,295.60	11.20	11.55	39.21	-133.60	591.15	574.63	552.14	22.48	25.557	
3,250.00	3,248.91	3,348.57	3,344.08	11.38	11.73	39.41	-132.13	583.73	565.23	542.40	22.83	24.761	
3,300.00	3,298.86	3,402.36	3,392.56	11.55	11.92	39.63	-130.66	576.32	555.84	532.65	23.19	23.968	
3,350.00	3,348.81	3,446.70	3,441.05	11.73	12.08	39.85	-129.18	568.91	546.46	522.94	23.52	23.231	
3,400.00	3,398.76	3,504.23	3,489.53	11.91	12.28	40.07	-127.71	561.50	537.09	513.19	23.90	22.471	
3,450.00	3,448.71	3,544.84	3,538.01	12.09	12.43	40.31	-126.24	554.09	527.72	503.50	24.22	21.789	
3,500.00	3,498.66	3,606.09	3,586.49	12.27	12.65	40.55	-124.77	546.68	518.37	493.76	24.61	21.061	
3,550.00	3,548.60	3,642.98	3,634.98	12.45	12.78	40.80	-123.30	539.26	509.02	484.10	24.92	20.427	
3,600.00	3,598.55	3,707.95	3,683.46	12.63	13.02	41.06	-121.83	531.85	499.69	474.36	25.33	19.730	
3,650.00	3,648.50	3,741.11	3,731.94	12.81	13.14	41.34	-120.35	524.44	490.36	464.74	25.62	19.140	
3,700.00	3,698.45	3,809.82	3,780.43	12.99	13.39	41.62	-118.88	517.03	481.05	455.01	26.04	18.473	
3,750.00	3,748.40	3,839.25	3,828.91	13.16	13.50	41.91	-117.41	509.62	471.74	445.42	26.32	17.922	
3,800.00	3,798.35	3,888.32	3,877.39	13.34	13.67	42.22	-115.94	502.21	462.45	435.78	26.67	17.337	
3,850.00	3,848.30	3,937.39	3,925.88	13.52	13.85	42.53	-114.47	494.80	453.18	426.15	27.03	16.768	
3,900.00	3,898.25	3,986.46	3,974.36	13.70	14.03	42.87	-113.00	487.38	443.91	416.53	27.38	16.214	
3,950.00	3,948.20	4,035.52	4,022.84	13.88	14.21	43.21	-111.52	479.97	434.67	406.93	27.73	15.674	
4,000.00	3,998.15	4,084.59	4,071.33	14.06	14.39	43.57	-110.05	472.56	425.43	397.35	28.09	15.148	
4,050.00	4,048.10	4,133.66	4,119.81	14.24	14.57	43.95	-108.58	465.15	416.22	387.78	28.44	14.635	
4,100.00	4,098.05	4,182.73	4,168.29	14.42	14.75	44.34	-107.11	457.74	407.02	378.23	28.79	14.136	
4,150.00	4,148.00	4,231.80	4,216.77	14.60	14.93	44.75	-105.64	450.33	397.84	368.69	29.15	13.649	
4,200.00	4,197.95	4,280.87	4,265.26	14.78	15.11	45.18	-104.17	442.92	388.69	359.18	29.50	13.174	
4,250.00	4,247.90	4,329.93	4,313.74	14.96	15.29	45.63	-102.70	435.50	379.55	349.69	29.86	12.711	
4,300.00	4,297.85	4,379.00	4,362.22	15.14	15.47	46.10	-101.22	428.09	370.44	340.22	30.21	12.260	
4,350.00	4,347.79	4,428.07	4,410.71	15.32	15.66	46.60	-99.75	420.68	361.35	330.78	30.57	11.820	
4,400.00	4,397.74	4,477.14	4,459.19	15.50	15.84	47.12	-98.28	413.27	352.30	321.37	30.93	11.391	
4,450.00	4,447.69	4,526.21	4,507.67	15.68	16.02	47.67	-96.81	405.86	343.27	311.98	31.29	10.972	
4,500.00	4,497.64	4,575.28	4,556.16	15.86	16.20	48.25	-95.34	398.45	334.27	302.63	31.64	10.564	
4,550.00	4,547.59	4,624.34	4,604.64	16.04	16.38	48.86	-93.87	391.03	325.31	293.31	32.00	10.165	
4,600.00	4,597.54	4,673.41	4,653.12	16.22	16.56	49.50	-92.39	383.62	316.39	284.03	32.36	9.777	
4,650.00	4,647.49	4,722.48	4,701.60	16.40	16.75	50.19	-90.92	376.21	307.51	274.79	32.72	9.398	
4,700.00	4,697.44	4,771.55	4,750.09	16.58	16.93	50.91	-89.45	368.80	298.67	265.59	33.08	9.028	
4,750.00	4,747.39	4,820.62	4,798.57	16.76	17.11	51.68	-87.98	361.39	289.89	256.44	33.44	8.668	
4,800.00	4,797.34	4,869.69	4,847.05	16.94	17.29	52.49	-86.51	353.98	281.15	247.35	33.81	8.317	
4,850.00	4,847.29	4,918.75	4,895.54	17.12	17.47	53.35	-85.04	346.57	272.48	238.31	34.17	7.975	
4,900.00	4,897.24	4,967.82	4,944.02	17.30	17.66	54.27	-83.56	339.15	263.87	229.34	34.53	7.641	
4,950.00	4,947.19	5,016.89	4,992.50	17.48	17.84	55.26	-82.09	331.74	255.33	220.43	34.90	7.317	
5,000.00	4,997.14	5,065.96	5,040.99	17.66	18.02	56.31	-80.62	324.33	246.87	211.61	35.26	7.001	
5,050.00	5,047.09	5,115.03	5,089.47	17.84	18.21	57.43	-79.15	316.92	238.50	202.87	35.63	6.694	
5,100.00	5,097.04	5,164.10	5,137.95	18.02	18.39	58.63	-77.68	309.51	230.22	194.22	36.00	6.395	
5,150.00	5,146.99	5,213.16	5,186.44	18.20	18.57	59.92	-76.21	302.10	222.05	185.68	36.37	6.106	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+IFR1 — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,196.93	5,262.23	5,234.92	18.38	18.76	61.31	-74.74	294.69	214.00	177.26	36.74	5.825	
5,250.00	5,246.88	5,311.30	5,283.40	18.56	18.94	62.81	-73.26	287.27	206.08	168.97	37.11	5.553	
5,300.00	5,296.83	5,360.37	5,331.88	18.74	19.12	64.42	-71.79	279.86	198.32	160.83	37.49	5.290	
5,350.00	5,346.78	5,409.44	5,380.37	18.92	19.31	66.16	-70.32	272.45	190.72	152.85	37.87	5.036	
5,400.00	5,396.73	5,458.51	5,428.85	19.10	19.49	68.04	-68.85	265.04	183.31	145.06	38.25	4.793	Alert
5,450.00	5,446.68	5,507.57	5,477.33	19.28	19.67	70.07	-67.38	257.63	176.11	137.48	38.63	4.559	Alert
5,500.00	5,496.63	5,556.64	5,525.82	19.46	19.86	72.27	-65.91	250.22	169.15	130.13	39.01	4.335	Alert
5,550.00	5,546.58	5,605.71	5,574.30	19.64	20.04	74.65	-64.43	242.81	162.46	123.06	39.40	4.123	Alert
5,600.00	5,596.53	5,654.78	5,622.78	19.82	20.23	77.23	-62.96	235.39	156.07	116.28	39.79	3.922	Alert
5,650.00	5,646.48	5,703.85	5,671.27	20.00	20.41	80.02	-61.49	227.98	150.03	109.85	40.19	3.734	Alert
5,700.00	5,696.43	5,752.92	5,719.75	20.18	20.59	83.02	-60.02	220.57	144.38	103.80	40.58	3.558	Alert
5,750.00	5,746.38	5,801.98	5,768.23	20.36	20.78	86.26	-58.55	213.16	139.16	98.18	40.98	3.396	Alert
5,800.00	5,796.33	5,851.05	5,816.71	20.54	20.96	89.73	-57.08	205.75	134.43	93.05	41.38	3.249	Alert
5,850.00	5,846.28	5,900.12	5,865.20	20.73	21.15	93.43	-55.60	198.34	130.23	88.46	41.77	3.118	Alert
5,900.00	5,896.23	5,949.19	5,913.68	20.91	21.33	97.35	-54.13	190.92	126.63	84.46	42.17	3.003	Alert
5,950.00	5,946.18	6,001.74	5,962.16	21.09	21.53	101.47	-52.66	183.51	123.67	81.09	42.57	2.905	Alert
6,000.00	5,996.12	6,047.33	6,010.65	21.27	21.70	105.76	-51.19	176.10	121.39	78.45	42.95	2.827	Alert
6,050.00	6,046.07	6,103.61	6,059.13	21.45	21.91	110.19	-49.72	168.69	119.85	76.50	43.35	2.765	Alert
6,100.00	6,096.02	6,145.46	6,107.61	21.63	22.07	114.70	-48.25	161.28	119.07	75.37	43.70	2.725	Alert
6,125.80	6,121.79	6,170.78	6,132.63	21.72	22.17	117.04	-47.49	157.46	118.96	75.08	43.88	2.711	Alert, CC
6,150.00	6,145.97	6,205.47	6,156.10	21.81	22.30	119.24	-46.78	153.87	119.05	74.96	44.10	2.700	Alert, ES
6,200.00	6,195.92	6,243.60	6,204.58	21.99	22.44	123.75	-45.30	146.46	119.81	75.41	44.41	2.698	Alert, SF
6,250.00	6,245.87	6,307.33	6,253.06	22.17	22.68	128.18	-43.83	139.04	121.33	76.53	44.81	2.708	Alert
6,300.00	6,295.82	6,341.74	6,301.55	22.35	22.81	132.48	-42.36	131.63	123.58	78.50	45.09	2.741	Alert
6,350.00	6,345.77	6,409.20	6,350.03	22.53	23.07	136.60	-40.89	124.22	126.52	81.04	45.48	2.782	Alert
6,400.00	6,395.72	6,439.87	6,398.51	22.71	23.18	140.53	-39.42	116.81	130.11	84.37	45.74	2.845	Alert
6,450.00	6,445.67	6,488.94	6,446.99	22.89	23.37	144.24	-37.95	109.40	134.29	88.23	46.06	2.916	Alert
6,500.00	6,495.62	6,538.01	6,495.48	23.07	23.55	147.71	-36.47	101.99	139.00	92.63	46.38	2.997	Alert
6,550.00	6,545.57	6,587.08	6,543.96	23.26	23.74	150.96	-35.00	94.58	144.21	97.51	46.70	3.088	Alert
6,600.00	6,595.52	6,636.15	6,592.44	23.44	23.92	153.97	-33.53	87.16	149.85	102.83	47.02	3.187	Alert
6,650.00	6,645.47	6,685.21	6,640.93	23.62	24.11	156.76	-32.06	79.75	155.88	108.54	47.34	3.293	Alert
6,700.00	6,695.42	6,734.28	6,689.41	23.80	24.29	159.35	-30.59	72.34	162.25	114.59	47.66	3.404	Alert
6,750.00	6,745.37	6,783.35	6,737.89	23.98	24.48	161.74	-29.12	64.93	168.93	120.94	47.99	3.520	Alert
6,800.00	6,795.31	6,832.42	6,786.38	24.16	24.66	163.94	-27.64	57.52	175.88	127.56	48.32	3.640	Alert
6,850.00	6,845.26	6,881.49	6,834.86	24.34	24.85	165.98	-26.17	50.11	183.07	134.42	48.65	3.763	Alert
6,900.00	6,895.21	6,930.56	6,883.34	24.52	25.04	167.86	-24.70	42.69	190.48	141.49	48.98	3.889	Alert
6,950.00	6,945.16	6,979.62	6,931.82	24.70	25.22	169.61	-23.23	35.28	198.07	148.75	49.32	4.016	Alert
7,000.00	6,995.11	7,028.69	6,980.31	24.88	25.41	171.22	-21.76	27.87	205.83	156.18	49.66	4.145	Alert
7,050.00	7,045.06	7,077.76	7,028.79	25.06	25.59	172.72	-20.29	20.46	213.75	163.75	50.00	4.275	Alert
7,100.00	7,095.01	7,126.83	7,077.27	25.24	25.78	174.11	-18.82	13.05	221.79	171.45	50.34	4.406	Alert
7,150.00	7,144.96	7,175.90	7,125.76	25.43	25.96	175.41	-17.34	5.64	229.96	179.28	50.68	4.537	Alert
7,200.00	7,194.91	7,224.97	7,174.24	25.61	26.15	176.61	-15.87	-1.77	238.23	187.21	51.03	4.669	Alert
7,250.00	7,244.86	7,274.03	7,222.72	25.79	26.34	177.74	-14.40	-9.19	246.60	195.23	51.37	4.800	Alert
7,300.00	7,294.81	7,323.10	7,271.21	25.97	26.52	178.79	-12.93	-16.60	255.06	203.34	51.72	4.932	Alert
7,350.00	7,344.76	7,372.17	7,319.69	26.15	26.71	179.78	-11.46	-24.01	263.60	211.53	52.07	5.063	
7,400.00	7,394.71	7,421.24	7,368.17	26.33	26.89	-179.30	-9.99	-31.42	272.20	219.79	52.42	5.193	
7,450.00	7,444.66	7,470.31	7,416.65	26.51	27.08	-178.43	-8.51	-38.83	280.88	228.11	52.76	5.323	
7,500.00	7,494.61	7,519.38	7,465.14	26.69	27.27	-177.62	-7.04	-46.24	289.61	236.49	53.12	5.452	
7,550.00	7,544.56	7,568.44	7,513.62	26.87	27.45	-176.85	-5.57	-53.65	298.39	244.93	53.47	5.581	
7,600.00	7,594.50	7,617.51	7,562.10	27.05	27.64	-176.13	-4.10	-61.07	307.23	253.41	53.82	5.709	
7,650.00	7,644.45	7,666.58	7,610.59	27.23	27.83	-175.44	-2.63	-68.48	316.11	261.94	54.17	5.835	
7,700.00	7,694.40	7,715.65	7,659.07	27.42	28.01	-174.80	-1.16	-75.89	325.03	270.51	54.52	5.961	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+IFR1 — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,750.00	7,744.35	7,764.72	7,707.55	27.60	28.20	-174.19	0.32	-83.30	333.99	279.11	54.88	6.086	
7,800.00	7,794.30	7,817.64	7,759.89	27.78	28.40	-173.59	1.84	-90.99	342.73	287.44	55.29	6.198	
7,850.00	7,844.25	7,871.19	7,812.96	27.96	28.60	-173.07	3.25	-98.06	350.89	295.18	55.72	6.298	
7,900.00	7,894.20	7,925.00	7,866.37	28.14	28.80	-172.63	4.51	-104.42	358.46	302.33	56.13	6.386	
7,950.00	7,944.15	7,979.03	7,920.09	28.32	29.00	-172.26	5.63	-110.06	365.43	308.89	56.54	6.463	
8,000.00	7,994.10	8,033.28	7,974.11	28.50	29.20	-171.96	6.60	-114.98	371.77	314.83	56.95	6.529	
8,050.00	8,044.05	8,087.71	8,028.38	28.68	29.39	-171.73	7.43	-119.15	377.50	320.15	57.34	6.583	
8,100.00	8,094.00	8,142.32	8,082.87	28.86	29.59	-171.55	8.11	-122.58	382.59	324.85	57.73	6.627	
8,150.00	8,143.95	8,197.07	8,137.55	29.04	29.78	-171.42	8.64	-125.25	387.04	328.92	58.12	6.660	
8,200.00	8,193.90	8,251.95	8,192.39	29.23	29.98	-171.35	9.02	-127.15	390.85	332.36	58.49	6.682	
8,250.00	8,243.85	8,306.93	8,247.36	29.41	30.17	-171.33	9.25	-128.28	394.02	335.16	58.86	6.694	
8,300.00	8,293.80	8,361.99	8,302.42	29.59	30.36	-171.36	9.32	-128.64	396.53	337.32	59.22	6.697	
8,350.00	8,343.75	8,411.71	8,352.15	29.77	30.53	-171.41	9.32	-128.64	398.76	339.19	59.57	6.694	
8,400.00	8,393.69	8,461.66	8,402.09	29.95	30.70	-171.46	9.32	-128.64	400.98	341.07	59.92	6.692	
8,450.00	8,443.64	8,511.61	8,452.04	30.13	30.87	-171.51	9.32	-128.64	403.21	342.94	60.27	6.690	
8,500.00	8,493.59	8,561.56	8,501.99	30.31	31.04	-171.55	9.32	-128.64	405.43	344.81	60.62	6.688	
8,550.00	8,543.54	8,611.51	8,551.94	30.49	31.21	-171.60	9.32	-128.64	407.66	346.69	60.97	6.686	
8,600.00	8,593.49	8,661.46	8,601.89	30.67	31.38	-171.65	9.32	-128.64	409.88	348.56	61.32	6.684	
8,650.00	8,643.44	8,705.24	8,645.65	30.86	31.53	-171.82	8.33	-128.63	412.41	350.74	61.66	6.688	
8,700.00	8,693.39	8,746.99	8,687.21	31.04	31.66	-172.38	4.36	-128.61	415.88	353.90	61.98	6.710	
8,750.00	8,743.34	8,787.86	8,727.49	31.22	31.79	-173.32	-2.44	-128.56	420.41	358.14	62.27	6.751	
8,800.00	8,793.29	8,827.46	8,765.97	31.40	31.91	-174.56	-11.75	-128.50	426.16	363.63	62.52	6.816	
8,850.00	8,843.24	8,865.49	8,802.25	31.58	32.02	-176.04	-23.17	-128.43	433.31	370.59	62.72	6.908	
8,900.00	8,893.19	8,900.00	8,834.43	31.76	32.12	-177.60	-35.60	-128.35	442.07	379.26	62.81	7.038	
8,950.00	8,943.14	8,936.05	8,867.20	31.94	32.21	-179.44	-50.63	-128.26	452.63	389.76	62.87	7.200	
9,000.00	8,993.09	8,968.36	8,895.71	32.12	32.29	178.76	-65.83	-128.16	465.15	402.38	62.78	7.410	
9,050.00	9,043.04	9,000.00	8,922.75	32.30	32.37	176.88	-82.24	-128.06	479.76	417.17	62.60	7.664	
9,100.00	9,092.99	9,026.93	8,945.03	32.49	32.43	175.21	-97.38	-127.97	496.53	434.30	62.22	7.980	
9,150.00	9,142.94	9,050.00	8,963.52	32.67	32.48	173.73	-111.15	-127.88	515.49	453.82	61.67	8.359	
9,200.00	9,192.88	9,077.82	8,985.07	32.85	32.54	171.92	-128.75	-127.77	536.58	475.38	61.20	8.768	
9,250.00	9,242.83	9,100.00	9,001.62	33.03	32.59	170.45	-143.51	-127.68	559.78	499.26	60.52	9.249	
9,300.00	9,292.78	9,121.78	9,017.31	33.21	32.62	169.00	-158.62	-127.58	584.99	525.18	59.81	9.781	
9,350.00	9,342.73	9,141.45	9,030.97	33.39	32.66	167.69	-172.77	-127.49	612.08	553.05	59.03	10.369	
9,400.00	9,392.68	9,159.72	9,043.22	33.57	32.69	166.47	-186.32	-127.41	640.95	582.73	58.22	11.009	
9,450.00	9,442.63	9,176.71	9,054.22	33.75	32.71	165.34	-199.27	-127.32	671.45	614.05	57.40	11.698	
9,500.00	9,492.58	9,200.00	9,068.66	33.94	32.75	163.81	-217.54	-127.21	703.54	646.72	56.82	12.382	
9,550.00	9,542.53	9,200.00	9,068.66	34.12	32.75	163.81	-217.54	-127.21	736.93	681.40	55.53	13.271	
9,600.00	9,592.48	9,220.99	9,081.03	34.30	32.78	162.45	-234.49	-127.10	771.51	716.53	54.98	14.033	
9,650.00	9,642.43	9,233.82	9,088.28	34.48	32.79	161.63	-245.08	-127.04	807.31	753.09	54.22	14.889	
9,700.00	9,692.38	9,250.00	9,097.08	34.66	32.81	160.61	-258.65	-126.95	844.19	790.56	53.62	15.743	
9,750.00	9,742.33	9,250.00	9,097.08	34.84	32.81	160.61	-258.65	-126.95	882.03	829.43	52.60	16.767	
9,800.00	9,792.28	9,267.56	9,106.20	35.02	32.83	159.51	-273.66	-126.86	920.63	868.47	52.16	17.649	
9,850.00	9,842.23	9,277.44	9,111.13	35.20	32.84	158.91	-282.23	-126.80	960.08	908.53	51.56	18.622	
9,900.00	9,892.18	9,300.00	9,121.82	35.38	32.86	157.55	-302.09	-126.68	1,000.48	949.14	51.34	19.487	
9,950.00	9,942.13	9,300.00	9,121.82	35.57	32.86	157.55	-302.09	-126.68	1,041.10	990.52	50.58	20.585	
10,000.00	9,992.08	9,300.00	9,121.82	35.75	32.86	157.55	-302.09	-126.68	1,082.51	1,032.63	49.88	21.704	
10,050.00	10,042.02	9,300.00	9,121.82	35.93	32.86	157.55	-302.09	-126.68	1,124.61	1,075.37	49.24	22.840	
10,100.00	10,091.97	9,318.85	9,130.15	36.11	32.88	156.44	-319.00	-126.57	1,166.90	1,117.81	49.09	23.769	
10,150.00	10,141.92	9,325.80	9,133.08	36.29	32.88	156.04	-325.30	-126.53	1,209.81	1,161.10	48.71	24.838	
10,200.00	10,191.87	9,332.39	9,135.78	36.47	32.89	155.67	-331.31	-126.49	1,253.14	1,204.79	48.35	25.916	
10,250.00	10,241.82	9,350.00	9,142.67	36.65	32.90	154.68	-347.51	-126.39	1,297.01	1,248.74	48.26	26.873	
10,300.00	10,291.77	9,350.00	9,142.67	36.83	32.90	154.68	-347.51	-126.39	1,340.95	1,293.11	47.84	28.030	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+IFR1 — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,350.00	10,341.72	9,350.00	9,142.67	37.02	32.90	154.68	-347.51	-126.39	1,385.31	1,337.85	47.46	29.190	
10,400.00	10,391.67	9,350.00	9,142.67	37.20	32.90	154.68	-347.51	-126.39	1,430.04	1,382.93	47.11	30.354	
10,450.00	10,441.62	9,350.00	9,142.67	37.38	32.90	154.68	-347.51	-126.39	1,475.11	1,428.30	46.80	31.518	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+IFR1 — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	8.40	8.40	0.50	0.50	102.58	-146.97	658.49	674.69				
50.00	50.00	58.40	58.40	0.50	0.51	102.58	-146.97	658.49	674.69	673.69	1.01	669.253	
100.00	100.00	108.40	108.40	0.52	0.53	102.58	-146.97	658.49	674.69	673.65	1.04	646.176	
150.00	150.00	158.40	158.40	0.59	0.61	102.58	-146.97	658.49	674.69	673.50	1.20	563.644	
200.00	200.00	208.40	208.40	0.70	0.72	102.58	-146.97	658.49	674.69	673.27	1.43	473.249	
250.00	250.00	258.40	258.40	0.84	0.86	102.58	-146.97	658.49	674.69	672.99	1.70	396.931	
300.00	300.00	308.40	308.40	0.99	1.01	102.58	-146.97	658.49	674.69	672.69	2.00	337.220	
350.00	350.00	358.40	358.40	1.15	1.17	102.58	-146.97	658.49	674.69	672.38	2.32	291.049	
400.00	400.00	408.40	408.40	1.31	1.34	102.58	-146.97	658.49	674.69	672.05	2.65	254.981	
450.00	450.00	458.40	458.40	1.48	1.50	102.58	-146.97	658.49	674.69	671.71	2.98	226.330	
500.00	500.00	508.40	508.40	1.65	1.67	102.58	-146.97	658.49	674.69	671.37	3.32	203.166	
550.00	550.00	558.40	558.40	1.82	1.85	102.58	-146.97	658.49	674.69	671.03	3.66	184.126	
600.00	600.00	608.40	608.40	1.99	2.02	102.58	-146.97	658.49	674.69	670.68	4.01	168.237	
650.00	650.00	658.40	658.40	2.16	2.19	102.58	-146.97	658.49	674.69	670.33	4.36	154.802	
700.00	700.00	708.40	708.40	2.34	2.37	102.58	-146.97	658.49	674.69	669.99	4.71	143.306	
750.00	750.00	758.40	758.40	2.51	2.54	102.58	-146.97	658.49	674.69	669.63	5.06	133.367	
800.00	800.00	808.40	808.40	2.69	2.72	102.58	-146.97	658.49	674.69	669.28	5.41	124.694	
850.00	850.00	858.40	858.40	2.87	2.90	102.58	-146.97	658.49	674.69	668.93	5.76	117.064	
900.00	900.00	908.40	908.40	3.04	3.07	102.58	-146.97	658.49	674.69	668.58	6.12	110.302	
950.00	950.00	958.40	958.40	3.22	3.25	102.58	-146.97	658.49	674.69	668.22	6.47	104.269	
1,000.00	1,000.00	1,008.40	1,008.40	3.40	3.43	102.58	-146.97	658.49	674.69	667.87	6.83	98.855	
1,050.00	1,050.00	1,058.40	1,058.40	3.58	3.60	102.58	-146.97	658.49	674.69	667.51	7.18	93.970	
1,100.00	1,100.00	1,108.40	1,108.40	3.75	3.78	102.58	-146.97	658.49	674.69	667.16	7.54	89.541	
1,150.00	1,150.00	1,158.40	1,158.40	3.93	3.96	102.58	-146.97	658.49	674.69	666.80	7.89	85.507	
1,200.00	1,200.00	1,208.40	1,208.40	4.11	4.14	102.58	-146.97	658.49	674.69	666.45	8.25	81.819	
1,250.00	1,250.00	1,258.40	1,258.40	4.29	4.32	102.58	-146.97	658.49	674.69	666.09	8.60	78.433	
1,300.00	1,300.00	1,308.40	1,308.40	4.46	4.49	102.58	-146.97	658.49	674.69	665.74	8.96	75.315	
1,350.00	1,350.00	1,358.40	1,358.40	4.64	4.67	102.58	-146.97	658.49	674.69	665.38	9.31	72.434	
1,400.00	1,400.00	1,408.40	1,408.40	4.82	4.85	102.58	-146.97	658.49	674.69	665.02	9.67	69.764	
1,450.00	1,450.00	1,458.40	1,458.40	5.00	5.03	102.58	-146.97	658.49	674.69	664.67	10.03	67.283	
1,500.00	1,500.00	1,508.40	1,508.40	5.18	5.21	102.58	-146.97	658.49	674.69	664.31	10.38	64.972	
1,550.00	1,550.00	1,558.40	1,558.40	5.36	5.39	102.58	-146.97	658.49	674.69	663.95	10.74	62.813	
1,600.00	1,600.00	1,608.40	1,608.40	5.53	5.56	102.58	-146.97	658.49	674.69	663.60	11.10	60.793	
1,650.00	1,650.00	1,658.40	1,658.40	5.71	5.74	102.58	-146.97	658.49	674.69	663.24	11.46	58.898	
1,700.00	1,700.00	1,708.40	1,708.40	5.89	5.92	102.58	-146.97	658.49	674.69	662.88	11.81	57.117	
1,750.00	1,750.00	1,758.40	1,758.40	6.07	6.10	102.58	-146.97	658.49	674.69	662.52	12.17	55.441	
1,800.00	1,800.00	1,808.40	1,808.40	6.25	6.28	102.58	-146.97	658.49	674.69	662.17	12.53	53.859	
1,850.00	1,850.00	1,858.40	1,858.40	6.43	6.46	102.58	-146.97	658.49	674.69	661.81	12.88	52.365	
1,900.00	1,900.00	1,908.40	1,908.40	6.61	6.64	102.58	-146.97	658.49	674.69	661.45	13.24	50.952	
1,950.00	1,950.00	1,958.40	1,958.40	6.78	6.81	102.58	-146.97	658.49	674.69	661.09	13.60	49.613	
2,000.00	2,000.00	2,008.40	2,008.40	6.96	6.99	102.58	-146.97	658.49	674.69	660.74	13.96	48.342	
2,050.00	2,050.00	2,058.40	2,058.40	7.14	7.17	35.92	-146.97	658.49	674.52	660.21	14.31	47.131	
2,100.00	2,099.99	2,108.39	2,108.39	7.32	7.35	35.96	-146.97	658.49	673.99	659.32	14.67	45.954	
2,150.00	2,149.98	2,158.38	2,158.38	7.49	7.53	36.02	-146.97	658.49	673.10	658.09	15.02	44.817	
2,200.00	2,199.96	2,208.36	2,208.36	7.66	7.71	36.10	-146.97	658.49	671.87	656.50	15.37	43.709	
2,250.00	2,249.92	2,258.32	2,258.32	7.84	7.89	36.21	-146.97	658.49	670.28	654.56	15.72	42.628	
2,300.00	2,299.87	2,308.27	2,308.27	8.01	8.07	36.33	-146.97	658.49	668.47	652.40	16.08	41.579	
2,350.00	2,349.82	2,358.22	2,358.22	8.19	8.24	36.44	-146.97	658.49	666.66	650.23	16.43	40.575	
2,400.00	2,399.77	2,408.17	2,408.17	8.36	8.42	36.55	-146.97	658.49	664.85	648.07	16.78	39.614	
2,450.00	2,449.72	2,458.12	2,458.12	8.54	8.60	36.67	-146.97	658.49	663.05	645.91	17.14	38.691	
2,500.00	2,499.67	2,509.43	2,509.43	8.72	8.79	36.79	-146.97	658.48	661.24	643.74	17.49	37.796	
2,550.00	2,549.62	2,567.75	2,567.75	8.89	8.99	36.93	-146.87	658.00	659.02	641.14	17.87	36.872	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan 2

Offset Site Error: 5.00 ft

Survey Program: 0-MWD+IFR1

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,626.00	2,625.99	9.07	9.19	37.07	-146.63	656.79	656.16	637.92	18.25	35.962	
2,650.00	2,649.52	2,684.15	2,684.10	9.25	9.39	37.22	-146.25	654.86	652.68	634.07	18.61	35.063	
2,700.00	2,699.47	2,742.19	2,742.08	9.42	9.59	37.37	-145.72	652.22	648.57	629.59	18.98	34.171	
2,750.00	2,749.41	2,800.10	2,799.89	9.60	9.79	37.52	-145.06	648.86	643.84	624.49	19.34	33.285	
2,800.00	2,799.36	2,857.86	2,857.49	9.78	10.00	37.69	-144.25	644.80	638.48	618.78	19.70	32.406	
2,850.00	2,849.31	2,915.45	2,914.88	9.95	10.20	37.85	-143.31	640.04	632.50	612.44	20.06	31.532	
2,900.00	2,899.26	2,972.85	2,972.01	10.13	10.40	38.03	-142.22	634.59	625.90	605.49	20.41	30.663	
2,950.00	2,949.21	3,030.05	3,028.87	10.31	10.60	38.21	-141.01	628.46	618.70	597.93	20.76	29.800	
3,000.00	2,999.16	3,087.03	3,085.43	10.49	10.80	38.40	-139.66	621.67	610.88	589.77	21.11	28.941	
3,050.00	3,049.11	3,143.78	3,141.67	10.66	11.00	38.60	-138.18	614.22	602.46	581.00	21.45	28.086	
3,100.00	3,099.06	3,200.28	3,197.56	10.84	11.20	38.81	-136.57	606.12	593.43	571.64	21.79	27.235	
3,150.00	3,149.01	3,256.43	3,247.11	11.02	11.38	39.01	-135.07	598.56	584.03	561.90	22.13	26.386	
3,200.00	3,198.96	3,300.50	3,295.60	11.20	11.55	39.21	-133.60	591.15	574.63	552.14	22.48	25.557	
3,250.00	3,248.91	3,348.57	3,344.08	11.38	11.73	39.41	-132.13	583.73	565.23	542.40	22.83	24.761	
3,300.00	3,298.86	3,402.36	3,392.56	11.55	11.92	39.63	-130.66	576.32	555.84	532.65	23.19	23.968	
3,350.00	3,348.81	3,446.70	3,441.05	11.73	12.08	39.85	-129.18	568.91	546.46	522.94	23.52	23.231	
3,400.00	3,398.76	3,504.23	3,489.53	11.91	12.28	40.07	-127.71	561.50	537.09	513.19	23.90	22.471	
3,450.00	3,448.71	3,544.84	3,538.01	12.09	12.43	40.31	-126.24	554.09	527.72	503.50	24.22	21.789	
3,500.00	3,498.66	3,606.09	3,586.49	12.27	12.65	40.55	-124.77	546.68	518.37	493.76	24.61	21.061	
3,550.00	3,548.60	3,642.98	3,634.98	12.45	12.78	40.80	-123.30	539.26	509.02	484.10	24.92	20.427	
3,600.00	3,598.55	3,707.95	3,683.46	12.63	13.02	41.06	-121.83	531.85	499.69	474.36	25.33	19.730	
3,650.00	3,648.50	3,741.11	3,731.94	12.81	13.14	41.34	-120.35	524.44	490.36	464.74	25.62	19.140	
3,700.00	3,698.45	3,809.82	3,780.43	12.99	13.39	41.62	-118.88	517.03	481.05	455.01	26.04	18.473	
3,750.00	3,748.40	3,839.25	3,828.91	13.16	13.50	41.91	-117.41	509.62	471.74	445.42	26.32	17.922	
3,800.00	3,798.35	3,888.32	3,877.39	13.34	13.67	42.22	-115.94	502.21	462.45	435.78	26.67	17.337	
3,850.00	3,848.30	3,937.39	3,925.88	13.52	13.85	42.53	-114.47	494.80	453.18	426.15	27.03	16.768	
3,900.00	3,898.25	3,986.46	3,974.36	13.70	14.03	42.87	-113.00	487.38	443.91	416.53	27.38	16.214	
3,950.00	3,948.20	4,035.52	4,022.84	13.88	14.21	43.21	-111.52	479.97	434.67	406.93	27.73	15.674	
4,000.00	3,998.15	4,084.59	4,071.33	14.06	14.39	43.57	-110.05	472.56	425.43	397.35	28.09	15.148	
4,050.00	4,048.10	4,133.66	4,119.81	14.24	14.57	43.95	-108.58	465.15	416.22	387.78	28.44	14.635	
4,100.00	4,098.05	4,182.73	4,168.29	14.42	14.75	44.34	-107.11	457.74	407.02	378.23	28.79	14.136	
4,150.00	4,148.00	4,231.80	4,216.77	14.60	14.93	44.75	-105.64	450.33	397.84	368.69	29.15	13.649	
4,200.00	4,197.95	4,280.87	4,265.26	14.78	15.11	45.18	-104.17	442.92	388.69	359.18	29.50	13.174	
4,250.00	4,247.90	4,329.93	4,313.74	14.96	15.29	45.63	-102.70	435.50	379.55	349.69	29.86	12.711	
4,300.00	4,297.85	4,379.00	4,362.22	15.14	15.47	46.10	-101.22	428.09	370.44	340.22	30.21	12.260	
4,350.00	4,347.79	4,428.07	4,410.71	15.32	15.66	46.60	-99.75	420.68	361.35	330.78	30.57	11.820	
4,400.00	4,397.74	4,477.14	4,459.19	15.50	15.84	47.12	-98.28	413.27	352.30	321.37	30.93	11.391	
4,450.00	4,447.69	4,526.21	4,507.67	15.68	16.02	47.67	-96.81	405.86	343.27	311.98	31.29	10.972	
4,500.00	4,497.64	4,575.28	4,556.16	15.86	16.20	48.25	-95.34	398.45	334.27	302.63	31.64	10.564	
4,550.00	4,547.59	4,624.34	4,604.64	16.04	16.38	48.86	-93.87	391.03	325.31	293.31	32.00	10.165	
4,600.00	4,597.54	4,673.41	4,653.12	16.22	16.56	49.50	-92.39	383.62	316.39	284.03	32.36	9.777	
4,650.00	4,647.49	4,722.48	4,701.60	16.40	16.75	50.19	-90.92	376.21	307.51	274.79	32.72	9.398	
4,700.00	4,697.44	4,771.55	4,750.09	16.58	16.93	50.91	-89.45	368.80	298.67	265.59	33.08	9.028	
4,750.00	4,747.39	4,820.62	4,798.57	16.76	17.11	51.68	-87.98	361.39	289.89	256.44	33.44	8.668	
4,800.00	4,797.34	4,869.69	4,847.05	16.94	17.29	52.49	-86.51	353.98	281.15	247.35	33.81	8.317	
4,850.00	4,847.29	4,918.75	4,895.54	17.12	17.47	53.35	-85.04	346.57	272.48	238.31	34.17	7.975	
4,900.00	4,897.24	4,967.82	4,944.02	17.30	17.66	54.27	-83.56	339.15	263.87	229.34	34.53	7.641	
4,950.00	4,947.19	5,016.89	4,992.50	17.48	17.84	55.26	-82.09	331.74	255.33	220.43	34.90	7.317	
5,000.00	4,997.14	5,065.96	5,040.99	17.66	18.02	56.31	-80.62	324.33	246.87	211.61	35.26	7.001	
5,050.00	5,047.09	5,115.03	5,089.47	17.84	18.21	57.43	-79.15	316.92	238.50	202.87	35.63	6.694	
5,100.00	5,097.04	5,164.10	5,137.95	18.02	18.39	58.63	-77.68	309.51	230.22	194.22	36.00	6.395	
5,150.00	5,146.99	5,213.16	5,186.44	18.20	18.57	59.92	-76.21	302.10	222.05	185.68	36.37	6.106	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+IFR1 — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,196.93	5,262.23	5,234.92	18.38	18.76	61.31	-74.74	294.69	214.00	177.26	36.74	5.825	
5,250.00	5,246.88	5,311.30	5,283.40	18.56	18.94	62.81	-73.26	287.27	206.08	168.97	37.11	5.553	
5,300.00	5,296.83	5,360.37	5,331.88	18.74	19.12	64.42	-71.79	279.86	198.32	160.83	37.49	5.290	
5,350.00	5,346.78	5,409.44	5,380.37	18.92	19.31	66.16	-70.32	272.45	190.72	152.85	37.87	5.036	
5,400.00	5,396.73	5,458.51	5,428.85	19.10	19.49	68.04	-68.85	265.04	183.31	145.06	38.25	4.793	Alert
5,450.00	5,446.68	5,507.57	5,477.33	19.28	19.67	70.07	-67.38	257.63	176.11	137.48	38.63	4.559	Alert
5,500.00	5,496.63	5,556.64	5,525.82	19.46	19.86	72.27	-65.91	250.22	169.15	130.13	39.01	4.335	Alert
5,550.00	5,546.58	5,605.71	5,574.30	19.64	20.04	74.65	-64.43	242.81	162.46	123.06	39.40	4.123	Alert
5,600.00	5,596.53	5,654.78	5,622.78	19.82	20.23	77.23	-62.96	235.39	156.07	116.28	39.79	3.922	Alert
5,650.00	5,646.48	5,703.85	5,671.27	20.00	20.41	80.02	-61.49	227.98	150.03	109.85	40.19	3.734	Alert
5,700.00	5,696.43	5,752.92	5,719.75	20.18	20.59	83.02	-60.02	220.57	144.38	103.80	40.58	3.558	Alert
5,750.00	5,746.38	5,801.98	5,768.23	20.36	20.78	86.26	-58.55	213.16	139.16	98.18	40.98	3.396	Alert
5,800.00	5,796.33	5,851.05	5,816.71	20.54	20.96	89.73	-57.08	205.75	134.43	93.05	41.38	3.249	Alert
5,850.00	5,846.28	5,900.12	5,865.20	20.73	21.15	93.43	-55.60	198.34	130.23	88.46	41.77	3.118	Alert
5,900.00	5,896.23	5,949.19	5,913.68	20.91	21.33	97.35	-54.13	190.92	126.63	84.46	42.17	3.003	Alert
5,950.00	5,946.18	6,001.74	5,962.16	21.09	21.53	101.47	-52.66	183.51	123.67	81.09	42.57	2.905	Alert
6,000.00	5,996.12	6,047.33	6,010.65	21.27	21.70	105.76	-51.19	176.10	121.39	78.45	42.95	2.827	Alert
6,050.00	6,046.07	6,103.61	6,059.13	21.45	21.91	110.19	-49.72	168.69	119.85	76.50	43.35	2.765	Alert
6,100.00	6,096.02	6,145.46	6,107.61	21.63	22.07	114.70	-48.25	161.28	119.07	75.37	43.70	2.725	Alert
6,125.80	6,121.79	6,170.78	6,132.63	21.72	22.17	117.04	-47.49	157.46	118.96	75.08	43.88	2.711	Alert, CC
6,150.00	6,145.97	6,205.47	6,156.10	21.81	22.30	119.24	-46.78	153.87	119.05	74.96	44.10	2.700	Alert, ES
6,200.00	6,195.92	6,243.60	6,204.58	21.99	22.44	123.75	-45.30	146.46	119.81	75.41	44.41	2.698	Alert, SF
6,250.00	6,245.87	6,307.33	6,253.06	22.17	22.68	128.18	-43.83	139.04	121.33	76.53	44.81	2.708	Alert
6,300.00	6,295.82	6,341.74	6,301.55	22.35	22.81	132.48	-42.36	131.63	123.58	78.50	45.09	2.741	Alert
6,350.00	6,345.77	6,409.20	6,350.03	22.53	23.07	136.60	-40.89	124.22	126.52	81.04	45.48	2.782	Alert
6,400.00	6,395.72	6,439.87	6,398.51	22.71	23.18	140.53	-39.42	116.81	130.11	84.37	45.74	2.845	Alert
6,450.00	6,445.67	6,488.94	6,446.99	22.89	23.37	144.24	-37.95	109.40	134.29	88.23	46.06	2.916	Alert
6,500.00	6,495.62	6,538.01	6,495.48	23.07	23.55	147.71	-36.47	101.99	139.00	92.63	46.38	2.997	Alert
6,550.00	6,545.57	6,587.08	6,543.96	23.26	23.74	150.96	-35.00	94.58	144.21	97.51	46.70	3.088	Alert
6,600.00	6,595.52	6,636.15	6,592.44	23.44	23.92	153.97	-33.53	87.16	149.85	102.83	47.02	3.187	Alert
6,650.00	6,645.47	6,685.21	6,640.93	23.62	24.11	156.76	-32.06	79.75	155.88	108.54	47.34	3.293	Alert
6,700.00	6,695.42	6,734.28	6,689.41	23.80	24.29	159.35	-30.59	72.34	162.25	114.59	47.66	3.404	Alert
6,750.00	6,745.37	6,783.35	6,737.89	23.98	24.48	161.74	-29.12	64.93	168.93	120.94	47.99	3.520	Alert
6,800.00	6,795.31	6,832.42	6,786.38	24.16	24.66	163.94	-27.64	57.52	175.88	127.56	48.32	3.640	Alert
6,850.00	6,845.26	6,881.49	6,834.86	24.34	24.85	165.98	-26.17	50.11	183.07	134.42	48.65	3.763	Alert
6,900.00	6,895.21	6,930.56	6,883.34	24.52	25.04	167.86	-24.70	42.69	190.48	141.49	48.98	3.889	Alert
6,950.00	6,945.16	6,979.62	6,931.82	24.70	25.22	169.61	-23.23	35.28	198.07	148.75	49.32	4.016	Alert
7,000.00	6,995.11	7,028.69	6,980.31	24.88	25.41	171.22	-21.76	27.87	205.83	156.18	49.66	4.145	Alert
7,050.00	7,045.06	7,077.76	7,028.79	25.06	25.59	172.72	-20.29	20.46	213.75	163.75	50.00	4.275	Alert
7,100.00	7,095.01	7,126.83	7,077.27	25.24	25.78	174.11	-18.82	13.05	221.79	171.45	50.34	4.406	Alert
7,150.00	7,144.96	7,175.90	7,125.76	25.43	25.96	175.41	-17.34	5.64	229.96	179.28	50.68	4.537	Alert
7,200.00	7,194.91	7,224.97	7,174.24	25.61	26.15	176.61	-15.87	-1.77	238.23	187.21	51.03	4.669	Alert
7,250.00	7,244.86	7,274.03	7,222.72	25.79	26.34	177.74	-14.40	-9.19	246.60	195.23	51.37	4.800	Alert
7,300.00	7,294.81	7,323.10	7,271.21	25.97	26.52	178.79	-12.93	-16.60	255.06	203.34	51.72	4.932	Alert
7,350.00	7,344.76	7,372.17	7,319.69	26.15	26.71	179.78	-11.46	-24.01	263.60	211.53	52.07	5.063	
7,400.00	7,394.71	7,421.24	7,368.17	26.33	26.89	-179.30	-9.99	-31.42	272.20	219.79	52.42	5.193	
7,450.00	7,444.66	7,470.31	7,416.65	26.51	27.08	-178.43	-8.51	-38.83	280.88	228.11	52.76	5.323	
7,500.00	7,494.61	7,519.38	7,465.14	26.69	27.27	-177.62	-7.04	-46.24	289.61	236.49	53.12	5.452	
7,550.00	7,544.56	7,568.44	7,513.62	26.87	27.45	-176.85	-5.57	-53.65	298.39	244.93	53.47	5.581	
7,600.00	7,594.50	7,617.51	7,562.10	27.05	27.64	-176.13	-4.10	-61.07	307.23	253.41	53.82	5.709	
7,650.00	7,644.45	7,666.58	7,610.59	27.23	27.83	-175.44	-2.63	-68.48	316.11	261.94	54.17	5.835	
7,700.00	7,694.40	7,715.65	7,659.07	27.42	28.01	-174.80	-1.16	-75.89	325.03	270.51	54.52	5.961	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan 2

Offset Site Error: 5.00 ft

Survey Program: 0-MWD+IFR1

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,750.00	7,744.35	7,764.72	7,707.55	27.60	28.20	-174.19	0.32	-83.30	333.99	279.11	54.88	6.086	
7,800.00	7,794.30	7,817.64	7,759.89	27.78	28.40	-173.59	1.84	-90.99	342.73	287.44	55.29	6.198	
7,850.00	7,844.25	7,871.19	7,812.96	27.96	28.60	-173.07	3.25	-98.06	350.89	295.18	55.72	6.298	
7,900.00	7,894.20	7,925.00	7,866.37	28.14	28.80	-172.63	4.51	-104.42	358.46	302.33	56.13	6.386	
7,950.00	7,944.15	7,979.03	7,920.09	28.32	29.00	-172.26	5.63	-110.06	365.43	308.89	56.54	6.463	
8,000.00	7,994.10	8,033.28	7,974.11	28.50	29.20	-171.96	6.60	-114.98	371.77	314.83	56.95	6.529	
8,050.00	8,044.05	8,087.71	8,028.38	28.68	29.39	-171.73	7.43	-119.15	377.50	320.15	57.34	6.583	
8,100.00	8,094.00	8,142.32	8,082.87	28.86	29.59	-171.55	8.11	-122.58	382.59	324.85	57.73	6.627	
8,150.00	8,143.95	8,197.07	8,137.55	29.04	29.78	-171.42	8.64	-125.25	387.04	328.92	58.12	6.660	
8,200.00	8,193.90	8,251.95	8,192.39	29.23	29.98	-171.35	9.02	-127.15	390.85	332.36	58.49	6.682	
8,250.00	8,243.85	8,306.93	8,247.36	29.41	30.17	-171.33	9.25	-128.28	394.02	335.16	58.86	6.694	
8,300.00	8,293.80	8,361.99	8,302.42	29.59	30.36	-171.36	9.32	-128.64	396.53	337.32	59.22	6.697	
8,350.00	8,343.75	8,411.71	8,352.15	29.77	30.53	-171.41	9.32	-128.64	398.76	339.19	59.57	6.694	
8,400.00	8,393.69	8,461.66	8,402.09	29.95	30.70	-171.46	9.32	-128.64	400.98	341.07	59.92	6.692	
8,450.00	8,443.64	8,511.61	8,452.04	30.13	30.87	-171.51	9.32	-128.64	403.21	342.94	60.27	6.690	
8,500.00	8,493.59	8,561.56	8,501.99	30.31	31.04	-171.55	9.32	-128.64	405.43	344.81	60.62	6.688	
8,550.00	8,543.54	8,611.51	8,551.94	30.49	31.21	-171.60	9.32	-128.64	407.66	346.69	60.97	6.686	
8,600.00	8,593.49	8,661.46	8,601.89	30.67	31.38	-171.65	9.32	-128.64	409.88	348.56	61.32	6.684	
8,650.00	8,643.44	8,705.24	8,645.65	30.86	31.53	-171.82	8.33	-128.63	412.41	350.74	61.66	6.688	
8,700.00	8,693.39	8,746.99	8,687.21	31.04	31.66	-172.38	4.36	-128.61	415.88	353.90	61.98	6.710	
8,750.00	8,743.34	8,787.86	8,727.49	31.22	31.79	-173.32	-2.44	-128.56	420.41	358.14	62.27	6.751	
8,800.00	8,793.29	8,827.46	8,765.97	31.40	31.91	-174.56	-11.75	-128.50	426.16	363.63	62.52	6.816	
8,850.00	8,843.24	8,865.49	8,802.25	31.58	32.02	-176.04	-23.17	-128.43	433.31	370.59	62.72	6.908	
8,900.00	8,893.19	8,900.00	8,834.43	31.76	32.12	-177.60	-35.60	-128.35	442.07	379.26	62.81	7.038	
8,950.00	8,943.14	8,936.05	8,867.20	31.94	32.21	-179.44	-50.63	-128.26	452.63	389.76	62.87	7.200	
9,000.00	8,993.09	8,968.36	8,895.71	32.12	32.29	178.76	-65.83	-128.16	465.15	402.38	62.78	7.410	
9,050.00	9,043.04	9,000.00	8,922.75	32.30	32.37	176.88	-82.24	-128.06	479.76	417.17	62.60	7.664	
9,100.00	9,092.99	9,026.93	8,945.03	32.49	32.43	175.21	-97.38	-127.97	496.53	434.30	62.22	7.980	
9,150.00	9,142.94	9,050.00	8,963.52	32.67	32.48	173.73	-111.15	-127.88	515.49	453.82	61.67	8.359	
9,200.00	9,192.88	9,077.82	8,985.07	32.85	32.54	171.92	-128.75	-127.77	536.58	475.38	61.20	8.768	
9,250.00	9,242.83	9,100.00	9,001.62	33.03	32.59	170.45	-143.51	-127.68	559.78	499.26	60.52	9.249	
9,300.00	9,292.78	9,121.78	9,017.31	33.21	32.62	169.00	-158.62	-127.58	584.99	525.18	59.81	9.781	
9,350.00	9,342.73	9,141.45	9,030.97	33.39	32.66	167.69	-172.77	-127.49	612.08	553.05	59.03	10.369	
9,400.00	9,392.68	9,159.72	9,043.22	33.57	32.69	166.47	-186.32	-127.41	640.95	582.73	58.22	11.009	
9,450.00	9,442.63	9,176.71	9,054.22	33.75	32.71	165.34	-199.27	-127.32	671.45	614.05	57.40	11.698	
9,500.00	9,492.58	9,200.00	9,068.66	33.94	32.75	163.81	-217.54	-127.21	703.54	646.72	56.82	12.382	
9,550.00	9,542.53	9,200.00	9,068.66	34.12	32.75	163.81	-217.54	-127.21	736.93	681.40	55.53	13.271	
9,600.00	9,592.48	9,220.99	9,081.03	34.30	32.78	162.45	-234.49	-127.10	771.51	716.53	54.98	14.033	
9,650.00	9,642.43	9,233.82	9,088.28	34.48	32.79	161.63	-245.08	-127.04	807.31	753.09	54.22	14.889	
9,700.00	9,692.38	9,250.00	9,097.08	34.66	32.81	160.61	-258.65	-126.95	844.19	790.56	53.62	15.743	
9,750.00	9,742.33	9,250.00	9,097.08	34.84	32.81	160.61	-258.65	-126.95	882.03	829.43	52.60	16.767	
9,800.00	9,792.28	9,267.56	9,106.20	35.02	32.83	159.51	-273.66	-126.86	920.63	868.47	52.16	17.649	
9,850.00	9,842.23	9,277.44	9,111.13	35.20	32.84	158.91	-282.23	-126.80	960.08	908.53	51.56	18.622	
9,900.00	9,892.18	9,300.00	9,121.82	35.38	32.86	157.55	-302.09	-126.68	1,000.48	949.14	51.34	19.487	
9,950.00	9,942.13	9,300.00	9,121.82	35.57	32.86	157.55	-302.09	-126.68	1,041.10	990.52	50.58	20.585	
10,000.00	9,992.08	9,300.00	9,121.82	35.75	32.86	157.55	-302.09	-126.68	1,082.51	1,032.63	49.88	21.704	
10,050.00	10,042.02	9,300.00	9,121.82	35.93	32.86	157.55	-302.09	-126.68	1,124.61	1,075.37	49.24	22.840	
10,100.00	10,091.97	9,318.85	9,130.15	36.11	32.88	156.44	-319.00	-126.57	1,166.90	1,117.81	49.09	23.769	
10,150.00	10,141.92	9,325.80	9,133.08	36.29	32.88	156.04	-325.30	-126.53	1,209.81	1,161.10	48.71	24.838	
10,200.00	10,191.87	9,332.39	9,135.78	36.47	32.89	155.67	-331.31	-126.49	1,253.14	1,204.79	48.35	25.916	
10,250.00	10,241.82	9,350.00	9,142.67	36.65	32.90	154.68	-347.51	-126.39	1,297.01	1,248.74	48.26	26.873	
10,300.00	10,291.77	9,350.00	9,142.67	36.83	32.90	154.68	-347.51	-126.39	1,340.95	1,293.11	47.84	28.030	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 524H - Wellbore #1 - Permit Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+IFR1 — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,350.00	10,341.72	9,350.00	9,142.67	37.02	32.90	154.68	-347.51	-126.39	1,385.31	1,337.85	47.46	29.190	
10,400.00	10,391.67	9,350.00	9,142.67	37.20	32.90	154.68	-347.51	-126.39	1,430.04	1,382.93	47.11	30.354	
10,450.00	10,441.62	9,350.00	9,142.67	37.38	32.90	154.68	-347.51	-126.39	1,475.11	1,428.30	46.80	31.518	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan 1 — Offset Site Error: 5.00 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	8.60	8.60	0.50	0.50	101.54	-146.66	718.46	733.28				
50.00	50.00	58.60	58.60	0.50	0.51	101.54	-146.66	718.46	733.28	732.27	1.01	727.334	
100.00	100.00	108.60	108.60	0.52	0.53	101.54	-146.66	718.46	733.28	732.23	1.04	702.133	
150.00	150.00	158.60	158.60	0.59	0.61	101.54	-146.66	718.46	733.28	732.08	1.20	612.378	
200.00	200.00	208.60	208.60	0.70	0.72	101.54	-146.66	718.46	733.28	731.85	1.43	514.154	
250.00	250.00	258.60	258.60	0.84	0.86	101.54	-146.66	718.46	733.28	731.58	1.70	431.249	
300.00	300.00	308.60	308.60	0.99	1.01	101.54	-146.66	718.46	733.28	731.28	2.00	366.387	
350.00	350.00	358.60	358.60	1.15	1.17	101.54	-146.66	718.46	733.28	730.96	2.32	316.232	
400.00	400.00	408.60	408.60	1.31	1.34	101.54	-146.66	718.46	733.28	730.63	2.65	277.051	
450.00	450.00	458.60	458.60	1.48	1.51	101.54	-146.66	718.46	733.28	730.30	2.98	245.927	
500.00	500.00	508.60	508.60	1.65	1.68	101.54	-146.66	718.46	733.28	729.96	3.32	220.762	
550.00	550.00	558.60	558.60	1.82	1.85	101.54	-146.66	718.46	733.28	729.61	3.67	200.076	
600.00	600.00	608.60	608.60	1.99	2.02	101.54	-146.66	718.46	733.28	729.27	4.01	182.814	
650.00	650.00	658.60	658.60	2.16	2.19	101.54	-146.66	718.46	733.28	728.92	4.36	168.217	
700.00	700.00	708.60	708.60	2.34	2.37	101.54	-146.66	718.46	733.28	728.57	4.71	155.726	
750.00	750.00	758.60	758.60	2.51	2.54	101.54	-146.66	718.46	733.28	728.22	5.06	144.927	
800.00	800.00	808.60	808.60	2.69	2.72	101.54	-146.66	718.46	733.28	727.87	5.41	135.504	
850.00	850.00	858.60	858.60	2.87	2.90	101.54	-146.66	718.46	733.28	727.51	5.76	127.213	
900.00	900.00	908.60	908.60	3.04	3.07	101.54	-146.66	718.46	733.28	727.16	6.12	119.865	
950.00	950.00	958.60	958.60	3.22	3.25	101.54	-146.66	718.46	733.28	726.81	6.47	113.310	
1,000.00	1,000.00	1,008.60	1,008.60	3.40	3.43	101.54	-146.66	718.46	733.28	726.45	6.83	107.427	
1,050.00	1,050.00	1,058.60	1,058.60	3.58	3.61	101.54	-146.66	718.46	733.28	726.10	7.18	102.119	
1,100.00	1,100.00	1,108.60	1,108.60	3.75	3.78	101.54	-146.66	718.46	733.28	725.74	7.54	97.306	
1,150.00	1,150.00	1,158.60	1,158.60	3.93	3.96	101.54	-146.66	718.46	733.28	725.39	7.89	92.923	
1,200.00	1,200.00	1,208.60	1,208.60	4.11	4.14	101.54	-146.66	718.46	733.28	725.03	8.25	88.915	
1,250.00	1,250.00	1,258.60	1,258.60	4.29	4.32	101.54	-146.66	718.46	733.28	724.67	8.60	85.237	
1,300.00	1,300.00	1,308.60	1,308.60	4.46	4.49	101.54	-146.66	718.46	733.28	724.32	8.96	81.848	
1,350.00	1,350.00	1,358.60	1,358.60	4.64	4.67	101.54	-146.66	718.46	733.28	723.96	9.32	78.718	
1,400.00	1,400.00	1,408.60	1,408.60	4.82	4.85	101.54	-146.66	718.46	733.28	723.61	9.67	75.816	
1,450.00	1,450.00	1,458.60	1,458.60	5.00	5.03	101.54	-146.66	718.46	733.28	723.25	10.03	73.120	
1,500.00	1,500.00	1,508.60	1,508.60	5.18	5.21	101.54	-146.66	718.46	733.28	722.89	10.39	70.608	
1,550.00	1,550.00	1,558.60	1,558.60	5.36	5.39	101.54	-146.66	718.46	733.28	722.54	10.74	68.263	
1,600.00	1,600.00	1,608.60	1,608.60	5.53	5.56	101.54	-146.66	718.46	733.28	722.18	11.10	66.067	
1,650.00	1,650.00	1,658.60	1,658.60	5.71	5.74	101.54	-146.66	718.46	733.28	721.82	11.46	64.008	
1,700.00	1,700.00	1,708.60	1,708.60	5.89	5.92	101.54	-146.66	718.46	733.28	721.46	11.81	62.073	
1,750.00	1,750.00	1,758.60	1,758.60	6.07	6.10	101.54	-146.66	718.46	733.28	721.11	12.17	60.251	
1,800.00	1,800.00	1,808.60	1,808.60	6.25	6.28	101.54	-146.66	718.46	733.28	720.75	12.53	58.533	
1,850.00	1,850.00	1,858.60	1,858.60	6.43	6.46	101.54	-146.66	718.46	733.28	720.39	12.89	56.909	
1,900.00	1,900.00	1,908.60	1,908.60	6.61	6.64	101.54	-146.66	718.46	733.28	720.04	13.24	55.373	
1,950.00	1,950.00	1,958.60	1,958.60	6.78	6.82	101.54	-146.66	718.46	733.28	719.68	13.60	53.918	
2,000.00	2,000.00	2,008.60	2,008.60	6.96	6.99	101.54	-146.66	718.46	733.28	719.32	13.96	52.537	
2,050.00	2,050.00	2,058.60	2,058.60	7.14	7.17	34.88	-146.66	718.46	733.10	718.79	14.31	51.222	
2,100.00	2,099.99	2,108.59	2,108.59	7.32	7.35	34.91	-146.66	718.46	732.56	717.89	14.67	49.946	
2,150.00	2,149.98	2,158.58	2,158.58	7.49	7.53	34.96	-146.66	718.46	731.67	716.65	15.02	48.714	
2,200.00	2,199.96	2,208.56	2,208.56	7.66	7.71	35.04	-146.66	718.46	730.42	715.04	15.37	47.516	
2,250.00	2,249.92	2,258.52	2,258.52	7.84	7.89	35.14	-146.66	718.46	728.81	713.09	15.72	46.347	
2,300.00	2,299.87	2,308.47	2,308.47	8.01	8.07	35.24	-146.66	718.46	726.98	710.90	16.08	45.216	
2,350.00	2,349.82	2,358.42	2,358.42	8.19	8.25	35.34	-146.66	718.46	725.14	708.71	16.43	44.132	
2,400.00	2,399.77	2,408.37	2,408.37	8.36	8.42	35.45	-146.66	718.46	723.30	706.52	16.78	43.094	
2,450.00	2,449.72	2,458.32	2,458.32	8.54	8.60	35.55	-146.66	718.46	721.47	704.34	17.14	42.098	
2,500.00	2,499.67	2,508.27	2,508.27	8.72	8.78	35.65	-146.66	718.46	719.64	702.15	17.49	41.143	
2,550.00	2,549.62	2,552.59	2,552.59	8.89	8.94	35.74	-146.58	718.69	718.04	700.22	17.82	40.290	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,597.73	2,597.73	9.07	9.10	35.81	-146.39	719.25	716.78	698.62	18.16	39.481	
2,650.00	2,649.52	2,642.90	2,642.88	9.25	9.25	35.86	-146.08	720.15	715.85	697.37	18.49	38.725	
2,700.00	2,699.47	2,688.08	2,688.04	9.42	9.41	35.90	-145.66	721.38	715.26	696.44	18.82	38.014	
2,750.00	2,749.41	2,733.27	2,733.20	9.60	9.57	35.93	-145.12	722.95	715.01	695.86	19.15	37.346	
2,762.82	2,762.23	2,744.86	2,744.78	9.64	9.61	35.93	-144.97	723.41	714.99	695.76	19.23	37.182 CC	
2,800.00	2,799.36	2,778.46	2,778.35	9.78	9.72	35.94	-144.47	724.86	715.09	695.61	19.47	36.719 ES	
2,850.00	2,849.31	2,823.65	2,823.47	9.95	9.88	35.94	-143.70	727.11	715.51	695.70	19.80	36.131	
2,900.00	2,899.26	2,868.83	2,868.57	10.13	10.04	35.92	-142.82	729.69	716.26	696.13	20.13	35.580	
2,950.00	2,949.21	2,913.99	2,913.63	10.31	10.20	35.88	-141.82	732.61	717.35	696.89	20.46	35.063	
3,000.00	2,999.16	2,959.14	2,958.65	10.49	10.36	35.84	-140.71	735.86	718.78	697.99	20.79	34.581	
3,050.00	3,049.11	3,004.26	3,003.61	10.66	10.52	35.77	-139.48	739.44	720.54	699.43	21.11	34.130	
3,100.00	3,099.06	3,049.35	3,048.51	10.84	10.68	35.70	-138.14	743.36	722.64	701.21	21.44	33.710	
3,150.00	3,149.01	3,104.21	3,094.72	11.02	10.87	35.60	-136.64	747.73	725.07	703.27	21.80	33.262	
3,200.00	3,198.96	3,145.71	3,144.38	11.20	11.02	35.50	-135.01	752.51	727.58	705.46	22.12	32.891	
3,250.00	3,248.91	3,204.37	3,194.04	11.38	11.23	35.40	-133.37	757.30	730.10	707.60	22.50	32.444	
3,300.00	3,298.86	3,245.55	3,243.71	11.55	11.37	35.29	-131.73	762.09	732.62	709.79	22.83	32.097	
3,350.00	3,348.81	3,295.47	3,293.37	11.73	11.55	35.19	-130.09	766.87	735.14	711.96	23.18	31.717	
3,400.00	3,398.76	3,345.39	3,343.03	11.91	11.73	35.09	-128.45	771.66	737.66	714.13	23.53	31.349	
3,450.00	3,448.71	3,404.69	3,392.69	12.09	11.94	34.99	-126.81	776.44	740.19	716.27	23.92	30.948	
3,500.00	3,498.66	3,445.23	3,442.36	12.27	12.09	34.89	-125.18	781.23	742.72	718.48	24.24	30.643	
3,550.00	3,548.60	3,504.85	3,492.02	12.45	12.31	34.79	-123.54	786.02	745.25	720.62	24.63	30.263	
3,600.00	3,598.55	3,545.07	3,541.68	12.63	12.45	34.70	-121.90	790.80	747.78	722.83	24.95	29.976	
3,650.00	3,648.50	3,594.99	3,591.34	12.81	12.63	34.60	-120.26	795.59	750.31	725.01	25.30	29.657	
3,700.00	3,698.45	3,644.90	3,641.01	12.99	12.81	34.50	-118.62	800.38	752.85	727.19	25.65	29.345	
3,750.00	3,748.40	3,705.18	3,690.67	13.16	13.03	34.40	-116.98	805.16	755.39	729.34	26.05	29.002	
3,800.00	3,798.35	3,744.74	3,740.33	13.34	13.18	34.31	-115.35	809.95	757.93	731.56	26.36	28.748	
3,850.00	3,848.30	3,805.34	3,789.99	13.52	13.40	34.21	-113.71	814.73	760.47	733.71	26.76	28.420	
3,900.00	3,898.25	3,844.58	3,839.66	13.70	13.54	34.12	-112.07	819.52	763.02	735.94	27.08	28.181	
3,950.00	3,948.20	3,905.50	3,889.32	13.88	13.76	34.03	-110.43	824.31	765.56	738.09	27.47	27.868	
4,000.00	3,998.15	3,944.42	3,938.98	14.06	13.91	33.93	-108.79	829.09	768.11	740.33	27.79	27.642	
4,050.00	4,048.10	4,005.66	3,988.64	14.24	14.13	33.84	-107.16	833.88	770.66	742.48	28.18	27.344	
4,100.00	4,098.05	4,044.26	4,038.31	14.42	14.27	33.75	-105.52	838.67	773.22	744.72	28.50	27.130	
4,150.00	4,148.00	4,105.82	4,087.97	14.60	14.50	33.66	-103.88	843.45	775.77	746.87	28.90	26.845	
4,200.00	4,197.95	4,144.10	4,137.63	14.78	14.64	33.57	-102.24	848.24	778.33	749.12	29.21	26.643	
4,250.00	4,247.90	4,205.98	4,187.29	14.96	14.87	33.48	-100.60	853.03	780.89	751.28	29.61	26.370	
4,300.00	4,297.85	4,243.94	4,236.96	15.14	15.01	33.39	-98.96	857.81	783.45	753.52	29.93	26.178	
4,350.00	4,347.79	4,293.86	4,286.62	15.32	15.19	33.30	-97.33	862.60	786.01	755.73	30.28	25.954	
4,400.00	4,397.74	4,343.78	4,336.28	15.50	15.38	33.21	-95.69	867.38	788.58	757.93	30.64	25.735	
4,450.00	4,447.69	4,406.30	4,385.94	15.68	15.61	33.12	-94.05	872.17	791.14	760.10	31.04	25.484	
4,500.00	4,497.64	4,443.62	4,435.61	15.86	15.75	33.04	-92.41	876.96	793.71	762.35	31.36	25.312	
4,550.00	4,547.59	4,493.54	4,485.27	16.04	15.93	32.95	-90.77	881.74	796.28	764.57	31.71	25.108	
4,600.00	4,597.54	4,543.46	4,534.93	16.22	16.12	32.86	-89.13	886.53	798.85	766.78	32.07	24.908	
4,650.00	4,647.49	4,593.37	4,584.59	16.40	16.30	32.78	-87.50	891.32	801.43	769.00	32.43	24.712	
4,700.00	4,697.44	4,643.29	4,634.26	16.58	16.49	32.69	-85.86	896.10	804.00	771.21	32.79	24.521	
4,750.00	4,747.39	4,706.79	4,683.92	16.76	16.72	32.61	-84.22	900.89	806.58	773.38	33.20	24.298	
4,800.00	4,797.34	4,743.13	4,733.58	16.94	16.86	32.53	-82.58	905.68	809.16	775.65	33.50	24.151	
4,850.00	4,847.29	4,806.95	4,783.24	17.12	17.09	32.44	-80.94	910.46	811.74	777.83	33.91	23.936	
4,900.00	4,897.24	4,842.97	4,832.91	17.30	17.23	32.36	-79.31	915.25	814.32	780.10	34.22	23.796	
4,950.00	4,947.19	4,907.11	4,882.57	17.48	17.47	32.28	-77.67	920.03	816.91	782.27	34.63	23.589	
5,000.00	4,997.14	4,942.81	4,932.23	17.66	17.60	32.20	-76.03	924.82	819.49	784.55	34.94	23.455	
5,050.00	5,047.09	5,007.27	4,981.89	17.84	17.84	32.11	-74.39	929.61	822.08	786.73	35.35	23.255	
5,100.00	5,097.04	5,042.65	5,031.56	18.02	17.97	32.03	-72.75	934.39	824.67	789.01	35.66	23.128	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan 1 — Offset Site Error: 5.00 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,150.00	5,146.99	5,107.43	5,081.22	18.20	18.21	31.95	-71.11	939.18	827.26	791.19	36.07	22.936	
5,200.00	5,196.93	5,142.49	5,130.88	18.38	18.35	31.87	-69.48	943.97	829.85	793.48	36.37	22.814	
5,250.00	5,246.88	5,192.41	5,180.54	18.56	18.53	31.79	-67.84	948.75	832.45	795.71	36.73	22.662	
5,300.00	5,296.83	5,242.33	5,230.21	18.74	18.72	31.72	-66.20	953.54	835.04	797.95	37.09	22.513	
5,350.00	5,346.78	5,307.75	5,279.87	18.92	18.96	31.64	-64.56	958.33	837.64	800.13	37.51	22.332	
5,400.00	5,396.73	5,342.17	5,329.53	19.10	19.09	31.56	-62.92	963.11	840.24	802.43	37.81	22.222	
5,450.00	5,446.68	5,407.91	5,379.19	19.28	19.34	31.48	-61.28	967.90	842.84	804.61	38.23	22.048	
5,500.00	5,496.63	5,442.01	5,428.86	19.46	19.47	31.41	-59.65	972.68	845.44	806.91	38.53	21.943	
5,550.00	5,546.58	5,508.07	5,478.52	19.64	19.71	31.33	-58.01	977.47	848.04	809.09	38.95	21.774	
5,600.00	5,596.53	5,541.85	5,528.18	19.82	19.84	31.25	-56.37	982.26	850.65	811.40	39.25	21.673	
5,650.00	5,646.48	5,608.24	5,577.84	20.00	20.09	31.18	-54.73	987.04	853.25	813.58	39.67	21.510	
5,700.00	5,696.43	5,641.68	5,627.51	20.18	20.22	31.10	-53.09	991.83	855.86	815.89	39.97	21.414	
5,750.00	5,746.38	5,691.60	5,677.17	20.36	20.40	31.03	-51.46	996.62	858.47	818.14	40.33	21.288	
5,800.00	5,796.33	5,741.52	5,726.83	20.54	20.59	30.96	-49.82	1,001.40	861.08	820.39	40.69	21.164	
5,850.00	5,846.28	5,808.56	5,776.49	20.73	20.84	30.88	-48.18	1,006.19	863.69	822.58	41.11	21.010	
5,900.00	5,896.23	5,841.36	5,826.16	20.91	20.97	30.81	-46.54	1,010.97	866.30	824.90	41.41	20.922	
5,950.00	5,946.18	5,891.28	5,875.82	21.09	21.15	30.74	-44.90	1,015.76	868.92	827.15	41.77	20.804	
6,000.00	5,996.12	5,941.20	5,925.48	21.27	21.34	30.66	-43.26	1,020.55	871.53	829.41	42.13	20.689	
6,050.00	6,046.07	6,008.88	5,975.14	21.45	21.60	30.59	-41.63	1,025.33	874.15	831.60	42.55	20.544	
6,100.00	6,096.02	6,041.04	6,024.81	21.63	21.72	30.52	-39.99	1,030.12	876.77	833.92	42.85	20.463	
6,150.00	6,145.97	6,109.04	6,074.47	21.81	21.97	30.45	-38.35	1,034.91	879.39	836.12	43.27	20.322	
6,200.00	6,195.92	6,140.88	6,124.13	21.99	22.09	30.38	-36.71	1,039.69	882.01	838.45	43.57	20.245	
6,250.00	6,245.87	6,209.20	6,173.79	22.17	22.35	30.31	-35.07	1,044.48	884.63	840.64	43.99	20.108	
6,300.00	6,295.82	6,240.72	6,223.46	22.35	22.47	30.24	-33.43	1,049.27	887.26	842.97	44.29	20.034	
6,350.00	6,345.77	6,309.36	6,273.12	22.53	22.73	30.17	-31.80	1,054.05	889.88	845.17	44.72	19.901	
6,400.00	6,395.72	6,340.56	6,322.78	22.71	22.85	30.10	-30.16	1,058.84	892.51	847.50	45.01	19.830	
6,450.00	6,445.67	6,390.48	6,372.44	22.89	23.04	30.03	-28.52	1,063.62	895.14	849.77	45.37	19.731	
6,500.00	6,495.62	6,440.40	6,422.11	23.07	23.22	29.96	-26.88	1,068.41	897.77	852.04	45.73	19.633	
6,550.00	6,545.57	6,509.68	6,471.77	23.26	23.48	29.90	-25.24	1,073.20	900.40	854.24	46.16	19.507	
6,600.00	6,595.52	6,540.24	6,521.43	23.44	23.60	29.83	-23.60	1,077.98	903.03	856.58	46.45	19.442	
6,650.00	6,645.47	6,590.15	6,571.09	23.62	23.79	29.76	-21.97	1,082.77	905.66	858.85	46.81	19.348	
6,700.00	6,695.42	6,640.07	6,620.76	23.80	23.98	29.70	-20.33	1,087.56	908.30	861.13	47.17	19.256	
6,750.00	6,745.37	6,689.99	6,670.42	23.98	24.17	29.63	-18.69	1,092.34	910.93	863.40	47.53	19.166	
6,800.00	6,795.31	6,739.91	6,720.08	24.16	24.35	29.56	-17.05	1,097.13	913.57	865.68	47.89	19.076	
6,850.00	6,845.26	6,789.83	6,769.74	24.34	24.54	29.50	-15.41	1,101.92	916.21	867.96	48.25	18.988	
6,900.00	6,895.21	6,839.75	6,819.41	24.52	24.73	29.43	-13.78	1,106.70	918.85	870.24	48.61	18.902	
6,950.00	6,945.16	6,889.67	6,869.07	24.70	24.92	29.37	-12.14	1,111.49	921.49	872.51	48.97	18.817	
7,000.00	6,995.11	6,939.59	6,918.73	24.88	25.11	29.31	-10.50	1,116.27	924.13	874.80	49.33	18.733	
7,050.00	7,045.06	6,989.51	6,968.39	25.06	25.30	29.24	-8.86	1,121.06	926.77	877.08	49.69	18.650	
7,100.00	7,095.01	7,039.43	7,018.06	25.24	25.49	29.18	-7.22	1,125.85	929.41	879.36	50.05	18.568	
7,150.00	7,144.96	7,089.35	7,067.72	25.43	25.68	29.11	-5.58	1,130.63	932.06	881.64	50.41	18.488	
7,200.00	7,194.91	7,139.27	7,117.38	25.61	25.87	29.05	-3.95	1,135.42	934.70	883.93	50.78	18.409	
7,250.00	7,244.86	7,189.19	7,167.04	25.79	26.05	28.99	-2.31	1,140.21	937.35	886.22	51.14	18.331	
7,300.00	7,294.81	7,239.11	7,216.71	25.97	26.24	28.93	-0.67	1,144.99	940.00	888.50	51.50	18.254	
7,350.00	7,344.76	7,289.03	7,266.37	26.15	26.43	28.87	0.97	1,149.78	942.65	890.79	51.86	18.178	
7,400.00	7,394.71	7,338.95	7,316.03	26.33	26.62	28.80	2.61	1,154.57	945.30	893.08	52.22	18.103	
7,450.00	7,444.66	7,388.87	7,365.69	26.51	26.81	28.74	4.25	1,159.35	947.95	895.37	52.58	18.029	
7,500.00	7,494.61	7,438.79	7,415.36	26.69	27.00	28.68	5.88	1,164.14	950.60	897.66	52.94	17.956	
7,550.00	7,544.56	7,488.71	7,465.02	26.87	27.19	28.62	7.52	1,168.92	953.26	899.96	53.30	17.884	
7,600.00	7,594.50	7,539.15	7,515.21	27.05	27.38	28.56	9.18	1,173.76	955.91	902.25	53.66	17.813	
7,650.00	7,644.45	7,603.91	7,579.69	27.23	27.62	28.50	11.11	1,179.42	958.15	904.05	54.11	17.708	
7,700.00	7,694.40	7,668.75	7,644.34	27.42	27.86	28.46	12.70	1,184.04	959.62	905.08	54.54	17.595	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,750.00	7,744.35	7,733.64	7,709.12	27.60	28.10	28.45	13.92	1,187.63	960.31	905.35	54.96	17.473	
7,800.00	7,794.30	7,798.55	7,773.97	27.78	28.33	28.47	14.80	1,190.18	960.23	904.86	55.37	17.343	
7,850.00	7,844.25	7,863.42	7,838.82	27.96	28.56	28.52	15.31	1,191.68	959.37	903.61	55.76	17.204	
7,900.00	7,894.20	7,928.23	7,903.63	28.14	28.79	28.59	15.47	1,192.14	957.74	901.59	56.15	17.057	
7,950.00	7,944.15	7,977.35	7,952.75	28.32	28.96	28.65	15.47	1,192.14	955.76	899.26	56.50	16.916	
8,000.00	7,994.10	8,027.30	8,002.70	28.50	29.13	28.72	15.47	1,192.14	953.79	896.94	56.86	16.776	
8,050.00	8,044.05	8,077.25	8,052.65	28.68	29.30	28.78	15.47	1,192.14	951.82	894.61	57.21	16.637	
8,100.00	8,094.00	8,127.20	8,102.60	28.86	29.47	28.85	15.47	1,192.14	949.85	892.28	57.56	16.501	
8,150.00	8,143.95	8,177.15	8,152.55	29.04	29.64	28.91	15.47	1,192.14	947.88	889.96	57.92	16.366	
8,200.00	8,193.90	8,227.10	8,202.50	29.23	29.82	28.98	15.47	1,192.14	945.91	887.64	58.27	16.233	
8,250.00	8,243.85	8,277.05	8,252.45	29.41	29.99	29.04	15.47	1,192.14	943.94	885.31	58.63	16.101	
8,300.00	8,293.80	8,327.00	8,302.40	29.59	30.16	29.11	15.47	1,192.14	941.97	882.99	58.98	15.971	
8,350.00	8,343.75	8,376.95	8,352.35	29.77	30.33	29.18	15.47	1,192.14	940.01	880.67	59.34	15.842	
8,400.00	8,393.69	8,426.90	8,402.29	29.95	30.50	29.24	15.47	1,192.14	938.05	878.36	59.69	15.715	
8,450.00	8,443.64	8,476.85	8,452.24	30.13	30.68	29.31	15.47	1,192.14	936.08	876.04	60.04	15.590	
8,500.00	8,493.59	8,526.79	8,502.19	30.31	30.85	29.38	15.47	1,192.14	934.12	873.72	60.40	15.466	
8,550.00	8,543.54	8,576.74	8,552.14	30.49	31.02	29.45	15.47	1,192.14	932.16	871.41	60.75	15.343	
8,600.00	8,593.49	8,626.69	8,602.09	30.67	31.19	29.51	15.47	1,192.14	930.20	869.09	61.11	15.222	
8,650.00	8,643.44	8,670.36	8,645.74	30.86	31.34	29.63	14.48	1,192.15	928.38	866.94	61.45	15.109	
8,700.00	8,693.39	8,712.02	8,687.21	31.04	31.47	29.93	10.52	1,192.17	926.99	865.22	61.77	15.006	
8,750.00	8,743.34	8,752.80	8,727.40	31.22	31.59	30.41	3.74	1,192.21	926.10	864.01	62.09	14.915	
8,798.44	8,791.73	8,791.10	8,764.63	31.39	31.71	31.01	-5.22	1,192.26	925.79	863.41	62.39	14.839	
8,800.00	8,793.29	8,792.31	8,765.80	31.40	31.71	31.03	-5.55	1,192.26	925.79	863.40	62.40	14.837	
8,850.00	8,843.24	8,830.27	8,802.00	31.58	31.82	31.78	-16.94	1,192.33	926.18	863.50	62.69	14.775	
8,900.00	8,893.19	8,866.45	8,835.73	31.76	31.92	32.63	-30.00	1,192.40	927.40	864.44	62.95	14.731	
8,950.00	8,943.14	8,900.00	8,866.22	31.94	32.01	33.52	-44.00	1,192.48	929.57	866.38	63.19	14.711 SF	
9,000.00	8,993.09	8,932.96	8,895.33	32.12	32.09	34.51	-59.46	1,192.57	932.83	869.44	63.39	14.715	
9,050.00	9,043.04	8,963.21	8,921.21	32.30	32.16	35.49	-75.10	1,192.65	937.32	873.77	63.55	14.749	
9,100.00	9,092.99	8,991.47	8,944.62	32.49	32.22	36.47	-90.93	1,192.74	943.15	879.50	63.65	14.817	
9,150.00	9,142.94	9,017.80	8,965.70	32.67	32.27	37.44	-106.71	1,192.83	950.42	886.73	63.70	14.921	
9,200.00	9,192.88	9,042.31	8,984.66	32.85	32.32	38.39	-122.24	1,192.92	959.22	895.54	63.68	15.063	
9,250.00	9,242.83	9,065.09	9,001.66	33.03	32.36	39.31	-137.39	1,193.00	969.61	906.01	63.59	15.247	
9,300.00	9,292.78	9,086.25	9,016.91	33.21	32.40	40.18	-152.07	1,193.09	981.62	918.18	63.44	15.473	
9,350.00	9,342.73	9,100.00	9,026.52	33.39	32.43	40.76	-161.90	1,193.14	995.33	932.17	63.15	15.760	
9,400.00	9,392.68	9,124.19	9,042.84	33.57	32.46	41.81	-179.74	1,193.24	1,010.63	947.68	62.95	16.054	
9,450.00	9,442.63	9,150.00	9,059.42	33.75	32.51	42.96	-199.53	1,193.35	1,027.69	964.97	62.72	16.385	
9,500.00	9,492.58	9,150.00	9,059.42	33.94	32.51	42.96	-199.53	1,193.35	1,046.27	984.16	62.11	16.845	
9,550.00	9,542.53	9,171.73	9,072.67	34.12	32.54	43.94	-216.75	1,193.45	1,066.43	1,004.66	61.77	17.264	
9,600.00	9,592.48	9,185.47	9,080.71	34.30	32.56	44.57	-227.89	1,193.51	1,088.18	1,026.89	61.29	17.754	
9,650.00	9,642.43	9,200.00	9,088.91	34.48	32.58	45.24	-239.88	1,193.58	1,111.42	1,050.62	60.81	18.278	
9,700.00	9,692.38	9,200.00	9,088.91	34.66	32.58	45.24	-239.88	1,193.58	1,136.19	1,076.10	60.09	18.910	
9,750.00	9,742.33	9,221.54	9,100.51	34.84	32.61	46.24	-258.03	1,193.68	1,162.12	1,102.43	59.69	19.470	
9,800.00	9,792.28	9,232.08	9,105.94	35.02	32.63	46.73	-267.06	1,193.73	1,189.45	1,130.34	59.12	20.120	
9,850.00	9,842.23	9,250.00	9,114.78	35.20	32.66	47.57	-282.65	1,193.82	1,218.09	1,159.42	58.67	20.763	
9,900.00	9,892.18	9,250.00	9,114.78	35.38	32.66	47.57	-282.65	1,193.82	1,247.76	1,189.81	57.95	21.532	
9,950.00	9,942.13	9,250.00	9,114.78	35.57	32.66	47.57	-282.65	1,193.82	1,278.70	1,221.45	57.24	22.338	
10,000.00	9,992.08	9,268.27	9,123.29	35.75	32.68	48.43	-298.82	1,193.91	1,310.47	1,253.63	56.83	23.058	
10,050.00	10,042.02	9,276.06	9,126.76	35.93	32.70	48.80	-305.79	1,193.95	1,343.32	1,287.04	56.28	23.868	
10,100.00	10,091.97	9,283.42	9,129.95	36.11	32.71	49.14	-312.42	1,193.99	1,377.08	1,321.34	55.74	24.705	
10,150.00	10,141.92	9,300.00	9,136.82	36.29	32.74	49.92	-327.51	1,194.07	1,411.80	1,356.45	55.36	25.504	
10,200.00	10,191.87	9,300.00	9,136.82	36.47	32.74	49.92	-327.51	1,194.07	1,447.14	1,392.39	54.76	26.429	
10,250.00	10,241.82	9,300.00	9,136.82	36.65	32.74	49.92	-327.51	1,194.07	1,483.33	1,429.15	54.18	27.377	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	8.60	8.60	0.50	0.50	101.54	-146.66	718.46	733.28				
50.00	50.00	58.60	58.60	0.50	0.51	101.54	-146.66	718.46	733.28	732.27	1.01	727.334	
100.00	100.00	108.60	108.60	0.52	0.53	101.54	-146.66	718.46	733.28	732.23	1.04	702.133	
150.00	150.00	158.60	158.60	0.59	0.61	101.54	-146.66	718.46	733.28	732.08	1.20	612.378	
200.00	200.00	208.60	208.60	0.70	0.72	101.54	-146.66	718.46	733.28	731.85	1.43	514.154	
250.00	250.00	258.60	258.60	0.84	0.86	101.54	-146.66	718.46	733.28	731.58	1.70	431.249	
300.00	300.00	308.60	308.60	0.99	1.01	101.54	-146.66	718.46	733.28	731.28	2.00	366.387	
350.00	350.00	358.60	358.60	1.15	1.17	101.54	-146.66	718.46	733.28	730.96	2.32	316.232	
400.00	400.00	408.60	408.60	1.31	1.34	101.54	-146.66	718.46	733.28	730.63	2.65	277.051	
450.00	450.00	458.60	458.60	1.48	1.51	101.54	-146.66	718.46	733.28	730.30	2.98	245.927	
500.00	500.00	508.60	508.60	1.65	1.68	101.54	-146.66	718.46	733.28	729.96	3.32	220.762	
550.00	550.00	558.60	558.60	1.82	1.85	101.54	-146.66	718.46	733.28	729.61	3.67	200.076	
600.00	600.00	608.60	608.60	1.99	2.02	101.54	-146.66	718.46	733.28	729.27	4.01	182.814	
650.00	650.00	658.60	658.60	2.16	2.19	101.54	-146.66	718.46	733.28	728.92	4.36	168.217	
700.00	700.00	708.60	708.60	2.34	2.37	101.54	-146.66	718.46	733.28	728.57	4.71	155.726	
750.00	750.00	758.60	758.60	2.51	2.54	101.54	-146.66	718.46	733.28	728.22	5.06	144.927	
800.00	800.00	808.60	808.60	2.69	2.72	101.54	-146.66	718.46	733.28	727.87	5.41	135.504	
850.00	850.00	858.60	858.60	2.87	2.90	101.54	-146.66	718.46	733.28	727.51	5.76	127.213	
900.00	900.00	908.60	908.60	3.04	3.07	101.54	-146.66	718.46	733.28	727.16	6.12	119.865	
950.00	950.00	958.60	958.60	3.22	3.25	101.54	-146.66	718.46	733.28	726.81	6.47	113.310	
1,000.00	1,000.00	1,008.60	1,008.60	3.40	3.43	101.54	-146.66	718.46	733.28	726.45	6.83	107.427	
1,050.00	1,050.00	1,058.60	1,058.60	3.58	3.61	101.54	-146.66	718.46	733.28	726.10	7.18	102.119	
1,100.00	1,100.00	1,108.60	1,108.60	3.75	3.78	101.54	-146.66	718.46	733.28	725.74	7.54	97.306	
1,150.00	1,150.00	1,158.60	1,158.60	3.93	3.96	101.54	-146.66	718.46	733.28	725.39	7.89	92.923	
1,200.00	1,200.00	1,208.60	1,208.60	4.11	4.14	101.54	-146.66	718.46	733.28	725.03	8.25	88.915	
1,250.00	1,250.00	1,258.60	1,258.60	4.29	4.32	101.54	-146.66	718.46	733.28	724.67	8.60	85.237	
1,300.00	1,300.00	1,308.60	1,308.60	4.46	4.49	101.54	-146.66	718.46	733.28	724.32	8.96	81.848	
1,350.00	1,350.00	1,358.60	1,358.60	4.64	4.67	101.54	-146.66	718.46	733.28	723.96	9.32	78.718	
1,400.00	1,400.00	1,408.60	1,408.60	4.82	4.85	101.54	-146.66	718.46	733.28	723.61	9.67	75.816	
1,450.00	1,450.00	1,458.60	1,458.60	5.00	5.03	101.54	-146.66	718.46	733.28	723.25	10.03	73.120	
1,500.00	1,500.00	1,508.60	1,508.60	5.18	5.21	101.54	-146.66	718.46	733.28	722.89	10.39	70.608	
1,550.00	1,550.00	1,558.60	1,558.60	5.36	5.39	101.54	-146.66	718.46	733.28	722.54	10.74	68.263	
1,600.00	1,600.00	1,608.60	1,608.60	5.53	5.56	101.54	-146.66	718.46	733.28	722.18	11.10	66.067	
1,650.00	1,650.00	1,658.60	1,658.60	5.71	5.74	101.54	-146.66	718.46	733.28	721.82	11.46	64.008	
1,700.00	1,700.00	1,708.60	1,708.60	5.89	5.92	101.54	-146.66	718.46	733.28	721.46	11.81	62.073	
1,750.00	1,750.00	1,758.60	1,758.60	6.07	6.10	101.54	-146.66	718.46	733.28	721.11	12.17	60.251	
1,800.00	1,800.00	1,808.60	1,808.60	6.25	6.28	101.54	-146.66	718.46	733.28	720.75	12.53	58.533	
1,850.00	1,850.00	1,858.60	1,858.60	6.43	6.46	101.54	-146.66	718.46	733.28	720.39	12.89	56.909	
1,900.00	1,900.00	1,908.60	1,908.60	6.61	6.64	101.54	-146.66	718.46	733.28	720.04	13.24	55.373	
1,950.00	1,950.00	1,958.60	1,958.60	6.78	6.82	101.54	-146.66	718.46	733.28	719.68	13.60	53.918	
2,000.00	2,000.00	2,008.60	2,008.60	6.96	6.99	101.54	-146.66	718.46	733.28	719.32	13.96	52.537	
2,050.00	2,050.00	2,058.60	2,058.60	7.14	7.17	34.88	-146.66	718.46	733.10	718.79	14.31	51.222	
2,100.00	2,099.99	2,108.59	2,108.59	7.32	7.35	34.91	-146.66	718.46	732.56	717.89	14.67	49.946	
2,150.00	2,149.98	2,158.58	2,158.58	7.49	7.53	34.96	-146.66	718.46	731.67	716.65	15.02	48.714	
2,200.00	2,199.96	2,208.56	2,208.56	7.66	7.71	35.04	-146.66	718.46	730.42	715.04	15.37	47.516	
2,250.00	2,249.92	2,258.52	2,258.52	7.84	7.89	35.14	-146.66	718.46	728.81	713.09	15.72	46.347	
2,300.00	2,299.87	2,308.47	2,308.47	8.01	8.07	35.24	-146.66	718.46	726.98	710.90	16.08	45.216	
2,350.00	2,349.82	2,358.42	2,358.42	8.19	8.25	35.34	-146.66	718.46	725.14	708.71	16.43	44.132	
2,400.00	2,399.77	2,408.37	2,408.37	8.36	8.42	35.45	-146.66	718.46	723.30	706.52	16.78	43.094	
2,450.00	2,449.72	2,458.32	2,458.32	8.54	8.60	35.55	-146.66	718.46	721.47	704.34	17.14	42.098	
2,500.00	2,499.67	2,508.27	2,508.27	8.72	8.78	35.65	-146.66	718.46	719.64	702.15	17.49	41.143	
2,550.00	2,549.62	2,551.99	2,551.99	8.89	8.93	35.74	-146.64	718.70	718.07	700.25	17.82	40.299	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,596.63	2,596.62	9.07	9.09	35.82	-146.59	719.27	716.86	698.71	18.15	39.499	
2,650.00	2,649.52	2,641.28	2,641.27	9.25	9.24	35.89	-146.51	720.20	716.03	697.55	18.48	38.755	
2,700.00	2,699.47	2,685.95	2,685.92	9.42	9.40	35.96	-146.41	721.47	715.57	696.77	18.80	38.059	
2,736.68	2,736.11	2,718.72	2,718.67	9.55	9.51	36.00	-146.31	722.62	715.47	696.43	19.04	37.577	CC
2,750.00	2,749.41	2,730.62	2,730.56	9.60	9.55	36.01	-146.27	723.09	715.48	696.36	19.13	37.407	
2,800.00	2,799.36	2,775.30	2,775.19	9.78	9.70	36.06	-146.10	725.05	715.77	696.32	19.45	36.797	ES
2,850.00	2,849.31	2,819.97	2,819.80	9.95	9.86	36.10	-145.91	727.36	716.43	696.65	19.78	36.227	
2,900.00	2,899.26	2,864.63	2,864.38	10.13	10.01	36.13	-145.68	730.02	717.45	697.36	20.10	35.695	
2,950.00	2,949.21	2,909.28	2,908.93	10.31	10.17	36.15	-145.43	733.02	718.86	698.43	20.42	35.199	
3,000.00	2,999.16	2,953.91	2,953.43	10.49	10.32	36.16	-145.15	736.37	720.63	699.88	20.74	34.738	
3,050.00	3,049.11	2,998.51	2,997.88	10.66	10.48	36.17	-144.84	740.06	722.77	701.70	21.07	34.310	
3,100.00	3,099.06	3,043.08	3,042.27	10.84	10.64	36.16	-144.50	744.09	725.28	703.90	21.39	33.914	
3,150.00	3,149.01	3,107.77	3,091.19	11.02	10.86	36.15	-144.10	748.78	728.03	706.24	21.79	33.419	
3,200.00	3,198.96	3,142.16	3,140.89	11.20	10.99	36.14	-143.70	753.54	730.78	708.70	22.08	33.095	
3,250.00	3,248.91	3,207.92	3,190.58	11.38	11.22	36.13	-143.30	758.30	733.53	711.04	22.49	32.620	
3,300.00	3,298.86	3,242.00	3,240.28	11.55	11.34	36.12	-142.89	763.07	736.28	713.50	22.78	32.318	
3,350.00	3,348.81	3,308.07	3,289.97	11.73	11.57	36.11	-142.49	767.83	739.03	715.84	23.19	31.868	
3,400.00	3,398.76	3,341.85	3,339.67	11.91	11.69	36.10	-142.09	772.59	741.78	718.30	23.49	31.585	
3,450.00	3,448.71	3,391.78	3,389.36	12.09	11.87	36.09	-141.69	777.36	744.53	720.70	23.84	31.234	
3,500.00	3,498.66	3,441.70	3,439.06	12.27	12.05	36.08	-141.28	782.12	747.28	723.09	24.19	30.893	
3,550.00	3,548.60	3,491.63	3,488.75	12.45	12.23	36.07	-140.88	786.88	750.03	725.49	24.54	30.562	
3,600.00	3,598.55	3,541.55	3,538.45	12.63	12.41	36.06	-140.48	791.65	752.79	727.89	24.89	30.239	
3,650.00	3,648.50	3,608.53	3,588.14	12.81	12.65	36.06	-140.08	796.41	755.54	730.23	25.31	29.854	
3,700.00	3,698.45	3,641.40	3,637.84	12.99	12.77	36.05	-139.68	801.17	758.29	732.69	25.60	29.620	
3,750.00	3,748.40	3,691.32	3,687.53	13.16	12.95	36.04	-139.27	805.94	761.04	735.08	25.95	29.322	
3,800.00	3,798.35	3,741.25	3,737.23	13.34	13.13	36.03	-138.87	810.70	763.79	737.48	26.31	29.032	
3,850.00	3,848.30	3,791.17	3,786.92	13.52	13.31	36.02	-138.47	815.46	766.54	739.88	26.66	28.750	
3,900.00	3,898.25	3,841.09	3,836.62	13.70	13.49	36.01	-138.07	820.23	769.29	742.27	27.02	28.475	
3,950.00	3,948.20	3,891.02	3,886.31	13.88	13.67	36.00	-137.66	824.99	772.04	744.67	27.37	28.207	
4,000.00	3,998.15	3,940.94	3,936.00	14.06	13.85	35.99	-137.26	829.75	774.79	747.07	27.73	27.945	
4,050.00	4,048.10	4,009.13	3,985.70	14.24	14.10	35.98	-136.86	834.52	777.54	749.40	28.15	27.626	
4,100.00	4,098.05	4,040.79	4,035.39	14.42	14.22	35.97	-136.46	839.28	780.30	751.86	28.44	27.441	
4,150.00	4,148.00	4,109.29	4,085.09	14.60	14.47	35.97	-136.06	844.04	783.05	754.19	28.86	27.136	
4,200.00	4,197.95	4,140.64	4,134.78	14.78	14.58	35.96	-135.65	848.81	785.80	756.65	29.15	26.961	
4,250.00	4,247.90	4,190.56	4,184.48	14.96	14.77	35.95	-135.25	853.57	788.55	759.05	29.50	26.729	
4,300.00	4,297.85	4,240.49	4,234.17	15.14	14.95	35.94	-134.85	858.33	791.30	761.44	29.86	26.502	
4,350.00	4,347.79	4,309.59	4,283.87	15.32	15.20	35.93	-134.45	863.10	794.05	763.77	30.28	26.222	
4,400.00	4,397.74	4,340.34	4,333.56	15.50	15.32	35.92	-134.04	867.86	796.80	766.23	30.57	26.065	
4,450.00	4,447.69	4,409.74	4,383.26	15.68	15.57	35.91	-133.64	872.62	799.55	768.56	31.00	25.796	
4,500.00	4,497.64	4,440.18	4,432.95	15.86	15.68	35.91	-133.24	877.39	802.30	771.02	31.28	25.647	
4,550.00	4,547.59	4,509.89	4,482.65	16.04	15.94	35.90	-132.84	882.15	805.06	773.35	31.71	25.389	
4,600.00	4,597.54	4,540.03	4,532.34	16.22	16.05	35.89	-132.44	886.91	807.81	775.81	32.00	25.248	
4,650.00	4,647.49	4,589.96	4,582.04	16.40	16.23	35.88	-132.03	891.68	810.56	778.21	32.35	25.054	
4,700.00	4,697.44	4,639.88	4,631.73	16.58	16.42	35.87	-131.63	896.44	813.31	780.60	32.71	24.865	
4,750.00	4,747.39	4,689.80	4,681.43	16.76	16.60	35.86	-131.23	901.20	816.06	782.99	33.07	24.680	
4,800.00	4,797.34	4,739.73	4,731.12	16.94	16.79	35.86	-130.83	905.97	818.81	785.39	33.42	24.498	
4,850.00	4,847.29	4,789.65	4,780.81	17.12	16.97	35.85	-130.42	910.73	821.56	787.78	33.78	24.321	
4,900.00	4,897.24	4,839.58	4,830.51	17.30	17.16	35.84	-130.02	915.49	824.31	790.18	34.14	24.147	
4,950.00	4,947.19	4,889.50	4,880.20	17.48	17.34	35.83	-129.62	920.26	827.07	792.57	34.50	23.976	
5,000.00	4,997.14	4,939.42	4,929.90	17.66	17.53	35.83	-129.22	925.02	829.82	794.96	34.85	23.809	
5,050.00	5,047.09	4,989.35	4,979.59	17.84	17.71	35.82	-128.82	929.78	832.57	797.36	35.21	23.646	
5,100.00	5,097.04	5,039.27	5,029.29	18.02	17.90	35.81	-128.41	934.55	835.32	799.75	35.57	23.485	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,150.00	5,146.99	5,089.20	5,078.98	18.20	18.08	35.80	-128.01	939.31	838.07	802.14	35.93	23.328	
5,200.00	5,196.93	5,139.12	5,128.68	18.38	18.27	35.79	-127.61	944.07	840.82	804.54	36.28	23.173	
5,250.00	5,246.88	5,189.05	5,178.37	18.56	18.45	35.79	-127.21	948.84	843.57	806.93	36.64	23.022	
5,300.00	5,296.83	5,238.97	5,228.07	18.74	18.64	35.78	-126.80	953.60	846.33	809.33	37.00	22.874	
5,350.00	5,346.78	5,288.89	5,277.76	18.92	18.82	35.77	-126.40	958.36	849.08	811.72	37.36	22.728	
5,400.00	5,396.73	5,338.82	5,327.46	19.10	19.01	35.76	-126.00	963.13	851.83	814.11	37.72	22.585	
5,450.00	5,446.68	5,388.74	5,377.15	19.28	19.20	35.76	-125.60	967.89	854.58	816.50	38.07	22.445	
5,500.00	5,496.63	5,438.67	5,426.85	19.46	19.38	35.75	-125.20	972.65	857.33	818.90	38.43	22.307	
5,550.00	5,546.58	5,488.59	5,476.54	19.64	19.57	35.74	-124.79	977.42	860.08	821.29	38.79	22.172	
5,600.00	5,596.53	5,538.51	5,526.24	19.82	19.75	35.74	-124.39	982.18	862.83	823.68	39.15	22.039	
5,650.00	5,646.48	5,588.44	5,575.93	20.00	19.94	35.73	-123.99	986.94	865.59	826.08	39.51	21.909	
5,700.00	5,696.43	5,638.36	5,625.63	20.18	20.13	35.72	-123.59	991.71	868.34	828.47	39.87	21.780	
5,750.00	5,746.38	5,688.29	5,675.32	20.36	20.31	35.71	-123.18	996.47	871.09	830.86	40.23	21.655	
5,800.00	5,796.33	5,738.21	5,725.01	20.54	20.50	35.71	-122.78	1,001.24	873.84	833.25	40.59	21.531	
5,850.00	5,846.28	5,788.13	5,774.71	20.73	20.69	35.70	-122.38	1,006.00	876.59	835.65	40.94	21.409	
5,900.00	5,896.23	5,838.06	5,824.40	20.91	20.87	35.69	-121.98	1,010.76	879.34	838.04	41.30	21.290	
5,950.00	5,946.18	5,887.98	5,874.10	21.09	21.06	35.69	-121.57	1,015.53	882.10	840.43	41.66	21.172	
6,000.00	5,996.12	5,937.91	5,923.79	21.27	21.25	35.68	-121.17	1,020.29	884.85	842.83	42.02	21.057	
6,050.00	6,046.07	5,987.83	5,973.49	21.45	21.43	35.67	-120.77	1,025.05	887.60	845.22	42.38	20.943	
6,100.00	6,096.02	6,037.76	6,023.18	21.63	21.62	35.67	-120.37	1,029.82	890.35	847.61	42.74	20.832	
6,150.00	6,145.97	6,087.68	6,072.88	21.81	21.81	35.66	-119.97	1,034.58	893.10	850.00	43.10	20.722	
6,200.00	6,195.92	6,137.60	6,122.57	21.99	21.99	35.65	-119.56	1,039.34	895.85	852.39	43.46	20.614	
6,250.00	6,245.87	6,187.53	6,172.27	22.17	22.18	35.65	-119.16	1,044.11	898.60	854.79	43.82	20.508	
6,300.00	6,295.82	6,237.45	6,221.96	22.35	22.37	35.64	-118.76	1,048.87	901.36	857.18	44.18	20.403	
6,350.00	6,345.77	6,287.38	6,271.66	22.53	22.56	35.63	-118.36	1,053.63	904.11	859.57	44.54	20.300	
6,400.00	6,395.72	6,337.30	6,321.35	22.71	22.74	35.63	-117.95	1,058.40	906.86	861.96	44.90	20.199	
6,450.00	6,445.67	6,387.22	6,371.05	22.89	22.93	35.62	-117.55	1,063.16	909.61	864.36	45.26	20.099	
6,500.00	6,495.62	6,437.15	6,420.74	23.07	23.12	35.61	-117.15	1,067.92	912.36	866.75	45.62	20.001	
6,550.00	6,545.57	6,487.07	6,470.44	23.26	23.31	35.61	-116.75	1,072.69	915.12	869.14	45.98	19.905	
6,600.00	6,595.52	6,537.00	6,520.13	23.44	23.49	35.60	-116.35	1,077.45	917.87	871.53	46.33	19.809	
6,650.00	6,645.47	6,586.92	6,569.83	23.62	23.68	35.59	-115.94	1,082.21	920.62	873.92	46.69	19.716	
6,700.00	6,695.42	6,636.84	6,619.52	23.80	23.87	35.59	-115.54	1,086.98	923.37	876.32	47.05	19.624	
6,750.00	6,745.37	6,686.77	6,669.21	23.98	24.06	35.58	-115.14	1,091.74	926.12	878.71	47.41	19.533	
6,800.00	6,795.31	6,736.69	6,718.91	24.16	24.24	35.58	-114.74	1,096.50	928.87	881.10	47.77	19.443	
6,850.00	6,845.26	6,786.62	6,768.60	24.34	24.43	35.57	-114.33	1,101.27	931.63	883.49	48.13	19.355	
6,900.00	6,895.21	6,836.54	6,818.30	24.52	24.62	35.56	-113.93	1,106.03	934.38	885.88	48.49	19.268	
6,950.00	6,945.16	6,886.47	6,867.99	24.70	24.81	35.56	-113.53	1,110.79	937.13	888.28	48.85	19.182	
7,000.00	6,995.11	6,936.39	6,917.69	24.88	24.99	35.55	-113.13	1,115.56	939.88	890.67	49.21	19.098	
7,050.00	7,045.06	6,986.31	6,967.38	25.06	25.18	35.55	-112.73	1,120.32	942.63	893.06	49.57	19.015	
7,100.00	7,095.01	7,036.24	7,017.08	25.24	25.37	35.54	-112.32	1,125.08	945.39	895.45	49.93	18.933	
7,150.00	7,144.96	7,086.16	7,066.77	25.43	25.56	35.53	-111.92	1,129.85	948.14	897.84	50.29	18.852	
7,200.00	7,194.91	7,136.09	7,116.47	25.61	25.75	35.53	-111.52	1,134.61	950.89	900.23	50.65	18.772	
7,250.00	7,244.86	7,186.01	7,166.16	25.79	25.93	35.52	-111.12	1,139.37	953.64	902.63	51.01	18.694	
7,300.00	7,294.81	7,235.93	7,215.86	25.97	26.12	35.52	-110.71	1,144.14	956.39	905.02	51.37	18.616	
7,350.00	7,344.76	7,285.86	7,265.55	26.15	26.31	35.51	-110.31	1,148.90	959.14	907.41	51.73	18.540	
7,400.00	7,394.71	7,335.78	7,315.25	26.33	26.50	35.50	-109.91	1,153.66	961.90	909.80	52.10	18.464	
7,450.00	7,444.66	7,385.71	7,364.94	26.51	26.69	35.50	-109.51	1,158.43	964.65	912.19	52.46	18.390	
7,500.00	7,494.61	7,435.63	7,414.64	26.69	26.88	35.49	-109.11	1,163.19	967.40	914.58	52.82	18.316	
7,550.00	7,544.56	7,485.55	7,464.33	26.87	27.06	35.49	-108.70	1,167.95	970.15	916.98	53.18	18.244	
7,600.00	7,594.50	7,535.48	7,514.02	27.05	27.25	35.48	-108.30	1,172.72	972.90	919.37	53.54	18.173	
7,650.00	7,644.45	7,594.97	7,573.26	27.23	27.48	35.48	-107.84	1,178.19	975.51	921.56	53.95	18.082	
7,700.00	7,694.40	7,661.10	7,639.19	27.42	27.72	35.49	-107.41	1,183.26	977.36	922.97	54.39	17.969	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan 2 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,750.00	7,744.35	7,727.29	7,705.27	27.60	27.96	35.53	-107.08	1,187.20	978.38	923.56	54.82	17.847	
7,800.00	7,794.30	7,793.50	7,771.41	27.78	28.20	35.58	-106.84	1,189.99	978.57	923.34	55.24	17.716	
7,850.00	7,844.25	7,859.69	7,837.58	27.96	28.43	35.65	-106.70	1,191.64	977.94	922.30	55.64	17.576	
7,900.00	7,894.20	7,925.81	7,903.71	28.14	28.67	35.75	-106.66	1,192.14	976.48	920.45	56.03	17.428	
7,950.00	7,944.15	7,974.86	7,952.75	28.32	28.83	35.82	-106.66	1,192.14	974.66	918.28	56.38	17.287	
8,000.00	7,994.10	8,024.81	8,002.70	28.50	29.00	35.90	-106.66	1,192.14	972.83	916.10	56.73	17.147	
8,050.00	8,044.05	8,074.76	8,052.65	28.68	29.17	35.98	-106.66	1,192.14	971.01	913.92	57.09	17.009	
8,100.00	8,094.00	8,124.71	8,102.60	28.86	29.35	36.05	-106.66	1,192.14	969.19	911.75	57.44	16.873	
8,150.00	8,143.95	8,174.66	8,152.55	29.04	29.52	36.13	-106.66	1,192.14	967.37	909.58	57.80	16.738	
8,200.00	8,193.90	8,224.61	8,202.50	29.23	29.69	36.21	-106.66	1,192.14	965.56	907.41	58.15	16.605	
8,250.00	8,243.85	8,274.56	8,252.45	29.41	29.86	36.29	-106.66	1,192.14	963.74	905.24	58.50	16.473	
8,300.00	8,293.80	8,324.50	8,302.40	29.59	30.03	36.37	-106.66	1,192.14	961.93	903.07	58.86	16.343	
8,350.00	8,343.75	8,374.45	8,352.35	29.77	30.20	36.45	-106.66	1,192.14	960.12	900.91	59.21	16.215	
8,400.00	8,393.69	8,424.40	8,402.29	29.95	30.37	36.53	-106.66	1,192.14	958.31	898.74	59.57	16.088	
8,450.00	8,443.64	8,474.35	8,452.24	30.13	30.55	36.61	-106.66	1,192.14	956.50	896.58	59.92	15.963	
8,500.00	8,493.59	8,524.30	8,502.19	30.31	30.72	36.69	-106.66	1,192.14	954.70	894.42	60.27	15.839	
8,550.00	8,543.54	8,574.25	8,552.14	30.49	30.89	36.77	-106.66	1,192.14	952.89	892.26	60.63	15.717	
8,600.00	8,593.49	8,624.20	8,602.09	30.67	31.06	36.85	-106.66	1,192.14	951.09	890.11	60.98	15.596	
8,650.00	8,643.44	8,662.74	8,640.62	30.86	31.19	36.96	-107.37	1,192.15	949.53	888.22	61.31	15.487	
8,700.00	8,693.39	8,700.00	8,677.75	31.04	31.31	37.20	-110.44	1,192.17	948.72	887.10	61.63	15.394	
8,725.77	8,719.14	8,716.20	8,693.81	31.13	31.36	37.34	-112.53	1,192.18	948.61	886.84	61.78	15.355	
8,750.00	8,743.34	8,733.00	8,710.40	31.22	31.42	37.53	-115.17	1,192.19	948.71	886.79	61.92	15.322	
8,800.00	8,793.29	8,767.06	8,743.76	31.40	31.53	37.98	-122.01	1,192.23	949.55	887.36	62.20	15.267	
8,850.00	8,843.24	8,800.00	8,775.58	31.58	31.63	38.53	-130.50	1,192.28	951.32	888.86	62.45	15.232	
8,900.00	8,893.19	8,832.01	8,805.99	31.76	31.73	39.16	-140.48	1,192.34	954.07	891.39	62.68	15.220 SF	
8,950.00	8,943.14	8,862.60	8,834.49	31.94	31.82	39.85	-151.61	1,192.40	957.91	895.03	62.88	15.234	
9,000.00	8,993.09	8,891.82	8,861.12	32.12	31.90	40.58	-163.63	1,192.47	962.91	899.87	63.04	15.275	
9,050.00	9,043.04	8,919.61	8,885.84	32.30	31.98	41.35	-176.31	1,192.54	969.15	906.00	63.16	15.345	
9,100.00	9,092.99	8,950.00	8,912.14	32.49	32.06	42.25	-191.54	1,192.63	976.72	913.46	63.26	15.439	
9,150.00	9,142.94	8,970.86	8,929.70	32.67	32.12	42.91	-202.78	1,192.69	985.65	922.41	63.24	15.586	
9,200.00	9,192.88	9,000.00	8,953.53	32.85	32.19	43.89	-219.55	1,192.79	996.05	932.78	63.27	15.744	
9,250.00	9,242.83	9,016.47	8,966.61	33.03	32.23	44.46	-229.55	1,192.84	1,007.86	944.75	63.11	15.971	
9,300.00	9,292.78	9,037.28	8,982.72	33.21	32.28	45.21	-242.72	1,192.92	1,021.20	958.25	62.95	16.221	
9,350.00	9,342.73	9,050.00	8,992.33	33.39	32.31	45.67	-251.06	1,192.97	1,036.10	973.44	62.66	16.536	
9,400.00	9,392.68	9,075.22	9,010.82	33.57	32.37	46.62	-268.21	1,193.08	1,052.42	989.93	62.49	16.841	
9,450.00	9,442.63	9,100.00	9,028.23	33.75	32.43	47.59	-285.83	1,193.16	1,070.34	1,008.04	62.29	17.182	
9,500.00	9,492.58	9,100.00	9,028.23	33.94	32.43	47.59	-285.83	1,193.16	1,089.70	1,028.00	61.70	17.661	
9,550.00	9,542.53	9,123.97	9,044.34	34.12	32.48	48.54	-303.58	1,193.27	1,110.41	1,048.97	61.44	18.072	
9,600.00	9,592.48	9,138.31	9,053.61	34.30	32.51	49.12	-314.52	1,193.33	1,132.60	1,071.58	61.02	18.561	
9,650.00	9,642.43	9,150.00	9,060.97	34.48	32.54	49.59	-323.61	1,193.38	1,156.16	1,095.62	60.54	19.098	
9,700.00	9,692.38	9,164.51	9,069.84	34.66	32.57	50.19	-335.09	1,193.45	1,181.03	1,120.93	60.09	19.653	
9,750.00	9,742.33	9,176.49	9,076.94	34.84	32.60	50.69	-344.73	1,193.50	1,207.15	1,147.55	59.60	20.254	
9,800.00	9,792.28	9,200.00	9,090.29	35.02	32.65	51.67	-364.09	1,193.61	1,234.64	1,175.34	59.30	20.821	
9,850.00	9,842.23	9,200.00	9,090.29	35.20	32.65	51.67	-364.09	1,193.61	1,262.97	1,204.35	58.61	21.547	
9,900.00	9,892.18	9,200.00	9,090.29	35.38	32.65	51.67	-364.09	1,193.61	1,292.61	1,234.68	57.93	22.312	
9,950.00	9,942.13	9,218.05	9,099.99	35.57	32.69	52.42	-379.30	1,193.70	1,323.14	1,265.58	57.56	22.986	
10,000.00	9,992.08	9,227.07	9,104.66	35.75	32.72	52.80	-387.03	1,193.74	1,354.73	1,297.67	57.06	23.743	
10,050.00	10,042.02	9,250.00	9,115.97	35.93	32.77	53.77	-406.97	1,193.85	1,387.46	1,330.67	56.79	24.431	
10,100.00	10,091.97	9,250.00	9,115.97	36.11	32.77	53.77	-406.97	1,193.85	1,420.67	1,364.50	56.17	25.292	
10,150.00	10,141.92	9,250.00	9,115.97	36.29	32.77	53.77	-406.97	1,193.85	1,454.85	1,399.28	55.57	26.180	
10,200.00	10,191.87	9,250.00	9,115.97	36.47	32.77	53.77	-406.97	1,193.85	1,489.92	1,434.92	54.99	27.092	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.30	-0.30	0.50	0.50	-90.27	-0.43	-89.99	89.99				
50.00	50.00	49.70	49.70	0.50	0.50	-90.27	-0.43	-89.99	89.99	88.98	1.01	89.415	
100.00	100.00	100.30	99.70	0.52	0.52	-90.27	-0.43	-89.99	89.99	88.96	1.04	86.882	
150.00	150.00	149.70	149.70	0.59	0.59	-90.27	-0.43	-89.99	89.99	88.81	1.18	76.269	
200.00	200.00	200.30	199.70	0.70	0.70	-90.27	-0.43	-89.99	89.99	88.59	1.40	64.052	
250.00	250.00	249.70	249.70	0.84	0.84	-90.27	-0.43	-89.99	89.99	88.32	1.67	53.740	
300.00	300.00	300.30	299.70	0.99	0.99	-90.27	-0.43	-89.99	89.99	88.02	1.98	45.551	
350.00	350.00	349.70	349.70	1.15	1.14	-90.27	-0.43	-89.99	89.99	87.70	2.29	39.297	
400.00	400.00	400.30	399.70	1.31	1.31	-90.27	-0.43	-89.99	89.99	87.37	2.62	34.359	
450.00	450.00	449.70	449.70	1.48	1.48	-90.27	-0.43	-89.99	89.99	87.04	2.95	30.489	
500.00	500.00	500.30	499.70	1.65	1.65	-90.27	-0.43	-89.99	89.99	86.70	3.29	27.326	
550.00	550.00	549.70	549.70	1.82	1.82	-90.27	-0.43	-89.99	89.99	86.36	3.63	24.762	
600.00	600.00	600.30	599.70	1.99	1.99	-90.27	-0.43	-89.99	89.99	86.01	3.98	22.598	
650.00	650.00	649.70	649.70	2.16	2.16	-90.27	-0.43	-89.99	89.99	85.66	4.33	20.792	
700.00	700.00	700.30	699.70	2.34	2.34	-90.27	-0.43	-89.99	89.99	85.31	4.68	19.230	
750.00	750.00	749.70	749.70	2.51	2.51	-90.27	-0.43	-89.99	89.99	84.96	5.03	17.897	
800.00	800.00	800.30	799.70	2.69	2.69	-90.27	-0.43	-89.99	89.99	84.61	5.38	16.720	
850.00	850.00	849.70	849.70	2.87	2.87	-90.27	-0.43	-89.99	89.99	84.26	5.73	15.698	
900.00	900.00	900.30	899.70	3.04	3.04	-90.27	-0.43	-89.99	89.99	83.90	6.09	14.781	
950.00	950.00	949.70	949.70	3.22	3.22	-90.27	-0.43	-89.99	89.99	83.55	6.44	13.974	
1,000.00	1,000.00	1,000.30	999.70	3.40	3.40	-90.27	-0.43	-89.99	89.99	83.19	6.80	13.241	
1,050.00	1,050.00	1,049.70	1,049.70	3.58	3.57	-90.27	-0.43	-89.99	89.99	82.84	7.15	12.588	
1,100.00	1,100.00	1,100.30	1,099.70	3.75	3.75	-90.27	-0.43	-89.99	89.99	82.48	7.51	11.989	
1,150.00	1,150.00	1,149.70	1,149.70	3.93	3.93	-90.27	-0.43	-89.99	89.99	82.13	7.86	11.450	
1,200.00	1,200.00	1,200.30	1,199.70	4.11	4.11	-90.27	-0.43	-89.99	89.99	81.77	8.22	10.951	
1,250.00	1,250.00	1,249.70	1,249.70	4.29	4.29	-90.27	-0.43	-89.99	89.99	81.42	8.57	10.499	
1,300.00	1,300.00	1,300.30	1,299.70	4.46	4.47	-90.27	-0.43	-89.99	89.99	81.06	8.93	10.078	
1,350.00	1,350.00	1,349.70	1,349.70	4.64	4.64	-90.27	-0.43	-89.99	89.99	80.71	9.28	9.694	
1,400.00	1,400.00	1,400.30	1,399.70	4.82	4.82	-90.27	-0.43	-89.99	89.99	80.35	9.64	9.333	
1,450.00	1,450.00	1,449.70	1,449.70	5.00	5.00	-90.27	-0.43	-89.99	89.99	79.99	10.00	9.002	
1,500.00	1,500.00	1,500.30	1,499.70	5.18	5.18	-90.27	-0.43	-89.99	89.99	79.64	10.36	8.690	
1,550.00	1,550.00	1,549.70	1,549.70	5.36	5.35	-90.27	-0.43	-89.99	89.99	79.28	10.71	8.402	
1,600.00	1,600.00	1,600.30	1,599.70	5.53	5.54	-90.27	-0.43	-89.99	89.99	78.92	11.07	8.130	
1,650.00	1,650.00	1,649.70	1,649.70	5.71	5.71	-90.27	-0.43	-89.99	89.99	78.57	11.42	7.877	
1,700.00	1,700.00	1,700.30	1,699.70	5.89	5.89	-90.27	-0.43	-89.99	89.99	78.21	11.78	7.637	
1,750.00	1,750.00	1,749.70	1,749.70	6.07	6.07	-90.27	-0.43	-89.99	89.99	77.85	12.14	7.414	
1,800.00	1,800.00	1,800.30	1,799.70	6.25	6.25	-90.27	-0.43	-89.99	89.99	77.49	12.50	7.200	
1,850.00	1,850.00	1,849.70	1,849.70	6.43	6.43	-90.27	-0.43	-89.99	89.99	77.14	12.85	7.001	
1,900.00	1,900.00	1,900.30	1,899.70	6.61	6.61	-90.27	-0.43	-89.99	89.99	76.78	13.21	6.811	
1,950.00	1,950.00	1,949.70	1,949.70	6.78	6.78	-90.27	-0.43	-89.99	89.99	76.42	13.57	6.633	
2,000.00	2,000.00	1,999.70	1,999.70	6.96	6.96	-90.27	-0.43	-89.99	89.99	76.07	13.93	6.462	CC, ES
2,050.00	2,050.00	2,049.02	2,049.02	7.14	7.14	-156.93	-0.33	-90.18	90.38	76.10	14.28	6.331	
2,100.00	2,099.99	2,098.32	2,098.31	7.32	7.31	-156.90	-0.03	-90.73	91.55	76.92	14.62	6.260	
2,150.00	2,149.98	2,147.58	2,147.56	7.49	7.48	-156.84	0.46	-91.67	93.49	78.53	14.97	6.246	
2,200.00	2,199.96	2,196.79	2,196.75	7.66	7.65	-156.77	1.16	-92.97	96.22	80.91	15.31	6.284	
2,250.00	2,249.92	2,246.17	2,246.10	7.84	7.83	-156.68	2.05	-94.63	99.70	84.05	15.66	6.369	
2,300.00	2,299.87	2,303.98	2,295.91	8.01	8.03	-156.65	2.99	-96.40	103.53	87.50	16.03	6.458	
2,350.00	2,349.82	2,345.88	2,345.72	8.19	8.18	-156.62	3.93	-98.16	107.36	91.01	16.35	6.566	
2,400.00	2,399.77	2,404.27	2,395.53	8.36	8.38	-156.59	4.87	-99.93	111.19	94.46	16.73	6.646	
2,450.00	2,449.72	2,445.58	2,445.35	8.54	8.53	-156.57	5.81	-101.69	115.03	97.98	17.05	6.746	
2,500.00	2,499.67	2,504.57	2,495.16	8.72	8.74	-156.55	6.75	-103.45	118.86	101.43	17.43	6.819	
2,550.00	2,549.62	2,545.29	2,544.97	8.89	8.88	-156.53	7.69	-105.22	122.69	104.94	17.75	6.912	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,604.86	2,594.79	9.07	9.09	-156.51	8.63	-106.98	126.52	108.39	18.13	6.977	
2,650.00	2,649.52	2,644.99	2,644.60	9.25	9.23	-156.49	9.57	-108.74	130.35	111.90	18.45	7.065	
2,700.00	2,699.47	2,705.15	2,694.41	9.42	9.45	-156.47	10.51	-110.51	134.18	115.35	18.84	7.123	
2,750.00	2,749.41	2,744.70	2,744.22	9.60	9.59	-156.45	11.45	-112.27	138.01	118.86	19.15	7.206	
2,800.00	2,799.36	2,805.45	2,794.04	9.78	9.80	-156.44	12.39	-114.03	141.85	122.30	19.54	7.258	
2,850.00	2,849.31	2,844.41	2,843.85	9.95	9.94	-156.42	13.33	-115.80	145.68	125.82	19.86	7.337	
2,900.00	2,899.26	2,905.74	2,893.66	10.13	10.16	-156.41	14.27	-117.56	149.51	129.26	20.25	7.384	
2,950.00	2,949.21	2,944.11	2,943.48	10.31	10.29	-156.39	15.22	-119.33	153.34	132.78	20.56	7.458	
3,000.00	2,999.16	3,006.04	2,993.29	10.49	10.51	-156.38	16.16	-121.09	157.17	136.22	20.96	7.500	
3,050.00	3,049.11	3,043.82	3,043.10	10.66	10.65	-156.37	17.10	-122.85	161.00	139.74	21.27	7.571	
3,100.00	3,099.06	3,106.33	3,092.91	10.84	10.87	-156.36	18.04	-124.62	164.84	143.17	21.66	7.609	
3,150.00	3,149.01	3,143.52	3,142.73	11.02	11.00	-156.35	18.98	-126.38	168.67	146.70	21.97	7.677	
3,200.00	3,198.96	3,193.38	3,192.54	11.20	11.18	-156.33	19.92	-128.14	172.50	150.18	22.32	7.727	
3,250.00	3,248.91	3,243.23	3,242.35	11.38	11.36	-156.32	20.86	-129.91	176.33	153.65	22.68	7.775	
3,300.00	3,298.86	3,306.92	3,292.17	11.55	11.59	-156.31	21.80	-131.67	180.16	157.08	23.08	7.806	
3,350.00	3,348.81	3,342.94	3,341.98	11.73	11.72	-156.31	22.74	-133.43	183.99	160.61	23.39	7.868	
3,400.00	3,398.76	3,407.21	3,391.79	11.91	11.95	-156.30	23.68	-135.20	187.83	164.04	23.79	7.895	
3,450.00	3,448.71	3,442.64	3,441.60	12.09	12.07	-156.29	24.62	-136.96	191.66	167.56	24.09	7.955	
3,500.00	3,498.66	3,507.51	3,491.42	12.27	12.30	-156.28	25.56	-138.72	195.49	170.99	24.50	7.979	
3,550.00	3,548.60	3,542.35	3,541.23	12.45	12.43	-156.27	26.50	-140.49	199.32	174.52	24.80	8.037	
3,600.00	3,598.55	3,607.80	3,591.04	12.63	12.66	-156.26	27.44	-142.25	203.15	177.94	25.21	8.058	
3,650.00	3,648.50	3,642.05	3,640.86	12.81	12.79	-156.26	28.38	-144.02	206.98	181.47	25.51	8.114	
3,700.00	3,698.45	3,708.09	3,690.67	12.99	13.02	-156.25	29.32	-145.78	210.82	184.89	25.92	8.132	
3,750.00	3,748.40	3,741.76	3,740.48	13.16	13.14	-156.24	30.26	-147.54	214.65	188.43	26.22	8.186	
3,800.00	3,798.35	3,808.39	3,790.29	13.34	13.38	-156.24	31.21	-149.31	218.48	191.84	26.64	8.203	
3,850.00	3,848.30	3,841.46	3,840.11	13.52	13.50	-156.23	32.15	-151.07	222.31	195.38	26.93	8.255	
3,900.00	3,898.25	3,908.68	3,889.92	13.70	13.74	-156.22	33.09	-152.83	226.14	198.80	27.35	8.269	
3,950.00	3,948.20	3,941.17	3,939.73	13.88	13.86	-156.22	34.03	-154.60	229.97	202.33	27.64	8.320	
4,000.00	3,998.15	4,008.98	3,989.55	14.06	14.10	-156.21	34.97	-156.36	233.81	205.75	28.06	8.332	
4,050.00	4,048.10	4,040.88	4,039.36	14.24	14.21	-156.21	35.91	-158.12	237.64	209.29	28.35	8.382	
4,100.00	4,098.05	4,090.73	4,089.17	14.42	14.39	-156.20	36.85	-159.89	241.47	212.76	28.71	8.412	
4,150.00	4,148.00	4,140.58	4,138.98	14.60	14.57	-156.20	37.79	-161.65	245.30	216.24	29.06	8.440	
4,200.00	4,197.95	4,209.56	4,188.80	14.78	14.82	-156.19	38.73	-163.42	249.13	219.65	29.49	8.449	
4,250.00	4,247.90	4,240.29	4,238.61	14.96	14.93	-156.19	39.67	-165.18	252.97	223.19	29.77	8.496	
4,300.00	4,297.85	4,309.86	4,288.42	15.14	15.18	-156.18	40.61	-166.94	256.80	226.60	30.20	8.503	
4,350.00	4,347.79	4,339.99	4,338.24	15.32	15.29	-156.18	41.55	-168.71	260.63	230.14	30.49	8.549	
4,400.00	4,397.74	4,389.85	4,388.05	15.50	15.47	-156.17	42.49	-170.47	264.46	233.62	30.84	8.575	
4,450.00	4,447.69	4,439.70	4,437.86	15.68	15.65	-156.17	43.43	-172.23	268.29	237.09	31.20	8.600	
4,500.00	4,497.64	4,489.55	4,487.67	15.86	15.83	-156.16	44.37	-174.00	272.12	240.57	31.55	8.624	
4,550.00	4,547.59	4,539.41	4,537.49	16.04	16.01	-156.16	45.31	-175.76	275.96	244.05	31.91	8.648	
4,600.00	4,597.54	4,589.26	4,587.30	16.22	16.18	-156.16	46.25	-177.52	279.79	247.52	32.27	8.671	
4,650.00	4,647.49	4,639.11	4,637.11	16.40	16.36	-156.15	47.20	-179.29	283.62	251.00	32.62	8.694	
4,700.00	4,697.44	4,688.97	4,686.93	16.58	16.54	-156.15	48.14	-181.05	287.45	254.47	32.98	8.716	
4,750.00	4,747.39	4,738.82	4,736.74	16.76	16.72	-156.14	49.08	-182.82	291.28	257.95	33.34	8.738	
4,800.00	4,797.34	4,788.67	4,786.55	16.94	16.90	-156.14	50.02	-184.58	295.11	261.42	33.69	8.759	
4,850.00	4,847.29	4,838.52	4,836.36	17.12	17.08	-156.14	50.96	-186.34	298.95	264.90	34.05	8.780	
4,900.00	4,897.24	4,888.38	4,886.18	17.30	17.26	-156.13	51.90	-188.11	302.78	268.37	34.40	8.800	
4,950.00	4,947.19	4,938.23	4,935.99	17.48	17.44	-156.13	52.84	-189.87	306.61	271.85	34.76	8.820	
5,000.00	4,997.14	4,988.08	4,985.80	17.66	17.62	-156.13	53.78	-191.63	310.44	275.32	35.12	8.840	
5,050.00	5,047.09	5,037.94	5,035.62	17.84	17.80	-156.12	54.72	-193.40	314.27	278.80	35.47	8.859	
5,100.00	5,097.04	5,087.79	5,085.43	18.02	17.98	-156.12	55.66	-195.16	318.10	282.27	35.83	8.878	
5,150.00	5,146.99	5,137.64	5,135.24	18.20	18.16	-156.12	56.60	-196.92	321.94	285.75	36.19	8.896	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,196.93	5,187.49	5,185.06	18.38	18.34	-156.11	57.54	-198.69	325.77	289.22	36.54	8.914	
5,250.00	5,246.88	5,237.35	5,234.87	18.56	18.52	-156.11	58.48	-200.45	329.60	292.70	36.90	8.932	
5,300.00	5,296.83	5,287.20	5,284.68	18.74	18.70	-156.11	59.42	-202.21	333.43	296.17	37.26	8.949	
5,350.00	5,346.78	5,337.05	5,334.49	18.92	18.88	-156.11	60.36	-203.98	337.26	299.65	37.62	8.966	
5,400.00	5,396.73	5,386.91	5,384.31	19.10	19.06	-156.10	61.30	-205.74	341.10	303.12	37.97	8.983	
5,450.00	5,446.68	5,436.76	5,434.12	19.28	19.24	-156.10	62.24	-207.51	344.93	306.60	38.33	8.999	
5,500.00	5,496.63	5,486.61	5,483.93	19.46	19.42	-156.10	63.19	-209.27	348.76	310.07	38.69	9.015	
5,550.00	5,546.58	5,536.47	5,533.75	19.64	19.59	-156.10	64.13	-211.03	352.59	313.55	39.04	9.031	
5,600.00	5,596.53	5,586.32	5,583.56	19.82	19.77	-156.09	65.07	-212.80	356.42	317.02	39.40	9.046	
5,650.00	5,646.48	5,636.17	5,633.37	20.00	19.95	-156.09	66.01	-214.56	360.25	320.50	39.76	9.061	
5,700.00	5,696.43	5,686.02	5,683.18	20.18	20.13	-156.09	66.95	-216.32	364.09	323.97	40.12	9.076	
5,750.00	5,746.38	5,735.88	5,733.00	20.36	20.31	-156.09	67.89	-218.09	367.92	327.45	40.47	9.091	
5,800.00	5,796.33	5,785.73	5,782.81	20.54	20.49	-156.08	68.83	-219.85	371.75	330.92	40.83	9.105	
5,850.00	5,846.28	5,835.58	5,832.62	20.73	20.67	-156.08	69.77	-221.61	375.58	334.39	41.19	9.119	
5,900.00	5,896.23	5,885.44	5,882.44	20.91	20.85	-156.08	70.71	-223.38	379.41	337.87	41.54	9.133	
5,950.00	5,946.18	5,935.29	5,932.25	21.09	21.03	-156.08	71.65	-225.14	383.24	341.34	41.90	9.146	
6,000.00	5,996.12	5,985.14	5,982.06	21.27	21.21	-156.08	72.59	-226.91	387.08	344.82	42.26	9.160	
6,050.00	6,046.07	6,035.00	6,031.87	21.45	21.39	-156.07	73.53	-228.67	390.91	348.29	42.62	9.173	
6,100.00	6,096.02	6,084.85	6,081.69	21.63	21.57	-156.07	74.47	-230.43	394.74	351.77	42.97	9.186	
6,150.00	6,145.97	6,134.70	6,131.50	21.81	21.75	-156.07	75.41	-232.20	398.57	355.24	43.33	9.198	
6,200.00	6,195.92	6,184.55	6,181.31	21.99	21.93	-156.07	76.35	-233.96	402.40	358.71	43.69	9.211	
6,250.00	6,245.87	6,234.41	6,231.13	22.17	22.11	-156.07	77.29	-235.72	406.24	362.19	44.05	9.223	
6,300.00	6,295.82	6,284.26	6,280.94	22.35	22.29	-156.06	78.23	-237.49	410.07	365.66	44.40	9.235	
6,350.00	6,345.77	6,334.11	6,330.75	22.53	22.47	-156.06	79.18	-239.25	413.90	369.14	44.76	9.247	
6,400.00	6,395.72	6,383.97	6,380.56	22.71	22.65	-156.06	80.12	-241.01	417.73	372.61	45.12	9.258	
6,450.00	6,445.67	6,433.82	6,430.38	22.89	22.83	-156.06	81.06	-242.78	421.56	376.09	45.48	9.270	
6,500.00	6,495.62	6,483.67	6,480.19	23.07	23.01	-156.06	82.00	-244.54	425.39	379.56	45.83	9.281	
6,550.00	6,545.57	6,533.52	6,530.00	23.26	23.19	-156.05	82.94	-246.30	429.23	383.03	46.19	9.292	
6,600.00	6,595.52	6,583.38	6,579.82	23.44	23.37	-156.05	83.88	-248.07	433.06	386.51	46.55	9.303	
6,650.00	6,645.47	6,633.23	6,629.63	23.62	23.55	-156.05	84.82	-249.83	436.89	389.98	46.91	9.314	
6,700.00	6,695.42	6,683.08	6,679.44	23.80	23.73	-156.05	85.76	-251.60	440.72	393.46	47.26	9.325	
6,750.00	6,745.37	6,732.94	6,729.25	23.98	23.91	-156.05	86.70	-253.36	444.55	396.93	47.62	9.335	
6,800.00	6,795.31	6,782.79	6,779.07	24.16	24.09	-156.05	87.64	-255.12	448.38	400.40	47.98	9.345	
6,850.00	6,845.26	6,832.64	6,828.88	24.34	24.27	-156.04	88.58	-256.89	452.22	403.88	48.34	9.355	
6,900.00	6,895.21	6,882.50	6,878.69	24.52	24.45	-156.04	89.52	-258.65	456.05	407.35	48.70	9.365	
6,950.00	6,945.16	6,932.35	6,928.51	24.70	24.63	-156.04	90.46	-260.41	459.88	410.83	49.05	9.375	
7,000.00	6,995.11	6,982.20	6,978.32	24.88	24.81	-156.04	91.40	-262.18	463.71	414.30	49.41	9.385	
7,050.00	7,045.06	7,032.05	7,028.13	25.06	24.99	-156.04	92.34	-263.94	467.54	417.77	49.77	9.394	
7,100.00	7,095.01	7,081.91	7,077.94	25.24	25.17	-156.04	93.28	-265.70	471.38	421.25	50.13	9.404	
7,150.00	7,144.96	7,131.76	7,127.76	25.43	25.35	-156.04	94.22	-267.47	475.21	424.72	50.48	9.413	
7,200.00	7,194.91	7,181.61	7,177.57	25.61	25.53	-156.03	95.17	-269.23	479.04	428.20	50.84	9.422	
7,250.00	7,244.86	7,231.47	7,227.38	25.79	25.71	-156.03	96.11	-271.00	482.87	431.67	51.20	9.431	
7,300.00	7,294.81	7,281.32	7,277.20	25.97	25.89	-156.03	97.05	-272.76	486.70	435.14	51.56	9.440	
7,350.00	7,344.76	7,331.17	7,327.01	26.15	26.07	-156.03	97.99	-274.52	490.53	438.62	51.92	9.449	
7,400.00	7,394.71	7,381.02	7,376.82	26.33	26.25	-156.03	98.93	-276.29	494.37	442.09	52.27	9.457	
7,450.00	7,444.66	7,430.88	7,426.63	26.51	26.43	-156.03	99.87	-278.05	498.20	445.57	52.63	9.466	
7,500.00	7,494.61	7,480.73	7,476.45	26.69	26.61	-156.03	100.81	-279.81	502.03	449.04	52.99	9.474	
7,550.00	7,544.56	7,530.58	7,526.26	26.87	26.79	-156.03	101.75	-281.58	505.86	452.51	53.35	9.482	
7,600.00	7,594.50	7,580.44	7,576.07	27.05	26.97	-156.02	102.69	-283.34	509.69	455.99	53.71	9.490	
7,650.00	7,644.45	7,630.29	7,625.89	27.23	27.15	-156.02	103.63	-285.10	513.52	459.46	54.06	9.498	
7,700.00	7,694.40	7,680.14	7,675.70	27.42	27.33	-156.02	104.57	-286.87	517.36	462.93	54.42	9.506	
7,750.00	7,744.35	7,730.00	7,725.51	27.60	27.51	-156.02	105.51	-288.63	521.19	466.41	54.78	9.514	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan 1

Offset Site Error: 5.00 ft

Survey Program: 0-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,800.00	7,794.30	7,779.85	7,775.32	27.78	27.69	-156.02	106.45	-290.39	525.02	469.88	55.14	9.522	
7,850.00	7,844.25	7,829.70	7,825.14	27.96	27.87	-156.02	107.39	-292.16	528.85	473.36	55.50	9.530	
7,900.00	7,894.20	7,879.55	7,874.95	28.14	28.05	-156.02	108.33	-293.92	532.68	476.83	55.85	9.537	
7,950.00	7,944.15	7,929.41	7,924.76	28.32	28.23	-156.02	109.27	-295.69	536.52	480.30	56.21	9.544	
8,000.00	7,994.10	7,979.26	7,974.58	28.50	28.41	-156.02	110.21	-297.45	540.35	483.78	56.57	9.552	
8,050.00	8,044.05	8,029.11	8,024.39	28.68	28.59	-156.01	111.16	-299.21	544.18	487.25	56.93	9.559	
8,100.00	8,094.00	8,078.97	8,074.20	28.86	28.77	-156.01	112.10	-300.98	548.01	490.72	57.29	9.566	
8,150.00	8,143.95	8,128.82	8,124.01	29.04	28.95	-156.01	113.04	-302.74	551.84	494.20	57.64	9.573	
8,200.00	8,193.90	8,178.67	8,173.83	29.23	29.13	-156.01	113.98	-304.50	555.67	497.67	58.00	9.580	
8,250.00	8,243.85	8,228.53	8,223.64	29.41	29.31	-156.01	114.92	-306.27	559.51	501.14	58.36	9.587	
8,300.00	8,293.80	8,278.38	8,273.45	29.59	29.49	-156.01	115.86	-308.03	563.34	504.62	58.72	9.594	
8,350.00	8,343.75	8,328.23	8,323.27	29.77	29.67	-156.01	116.80	-309.79	567.17	508.09	59.08	9.600	
8,400.00	8,393.69	8,378.08	8,373.08	29.95	29.85	-156.01	117.74	-311.56	571.00	511.57	59.44	9.607	
8,450.00	8,443.64	8,427.94	8,422.89	30.13	30.04	-156.01	118.68	-313.32	574.83	515.04	59.79	9.614	
8,500.00	8,493.59	8,477.79	8,472.70	30.31	30.22	-156.01	119.62	-315.09	578.66	518.51	60.15	9.620	
8,550.00	8,543.54	8,527.64	8,522.52	30.49	30.40	-156.00	120.56	-316.85	582.50	521.99	60.51	9.626	
8,600.00	8,593.49	8,577.50	8,572.33	30.67	30.58	-156.00	121.50	-318.61	586.33	525.46	60.87	9.633	
8,650.00	8,643.44	8,627.35	8,622.14	30.86	30.76	-156.00	122.44	-320.38	590.16	528.93	61.23	9.639	
8,700.00	8,693.39	8,677.20	8,671.96	31.04	30.94	-156.00	123.38	-322.14	593.99	532.41	61.59	9.645	
8,750.00	8,743.34	8,727.05	8,721.77	31.22	31.12	-156.00	124.32	-323.90	597.82	535.88	61.94	9.651	
8,800.00	8,793.29	8,776.91	8,771.58	31.40	31.30	-156.00	125.26	-325.67	601.66	539.35	62.30	9.657	
8,850.00	8,843.24	8,826.76	8,821.39	31.58	31.48	-156.00	126.20	-327.43	605.49	542.83	62.66	9.663	
8,900.00	8,893.19	8,876.61	8,871.21	31.76	31.66	-156.00	127.15	-329.19	609.32	546.30	63.02	9.669	
8,950.00	8,943.14	8,926.47	8,921.02	31.94	31.84	-156.00	128.09	-330.96	613.15	549.77	63.38	9.675	
9,000.00	8,993.09	8,976.32	8,970.83	32.12	32.02	-156.00	129.03	-332.72	616.98	553.25	63.74	9.680	
9,050.00	9,043.04	9,026.17	9,020.65	32.30	32.20	-156.00	129.97	-334.48	620.81	556.72	64.09	9.686	
9,100.00	9,092.99	9,076.03	9,070.46	32.49	32.38	-156.00	130.91	-336.25	624.65	560.19	64.45	9.692	
9,150.00	9,142.94	9,125.88	9,120.27	32.67	32.56	-155.99	131.85	-338.01	628.48	563.67	64.81	9.697	
9,200.00	9,192.88	9,175.73	9,170.09	32.85	32.74	-155.99	132.79	-339.78	632.31	567.14	65.17	9.703	
9,250.00	9,242.83	9,225.58	9,219.90	33.03	32.92	-155.99	133.73	-341.54	636.14	570.61	65.53	9.708	
9,300.00	9,292.78	9,275.44	9,269.71	33.21	33.10	-155.99	134.67	-343.30	639.97	574.09	65.89	9.713	
9,350.00	9,342.73	9,325.29	9,319.52	33.39	33.28	-155.99	135.61	-345.07	643.81	577.56	66.24	9.719	
9,400.00	9,392.68	9,375.14	9,369.34	33.57	33.46	-155.99	136.55	-346.83	647.64	581.03	66.60	9.724	
9,450.00	9,442.63	9,425.00	9,419.15	33.75	33.64	-155.99	137.49	-348.59	651.47	584.51	66.96	9.729	
9,500.00	9,492.58	9,474.85	9,468.96	33.94	33.82	-155.99	138.43	-350.36	655.30	587.98	67.32	9.734	
9,550.00	9,542.53	9,524.70	9,518.78	34.12	34.00	-155.99	139.37	-352.12	659.13	591.45	67.68	9.739	
9,600.00	9,592.48	9,574.56	9,568.59	34.30	34.18	-155.99	140.31	-353.88	662.96	594.93	68.04	9.744	
9,650.00	9,642.43	9,624.41	9,618.40	34.48	34.36	-155.99	141.25	-355.65	666.80	598.40	68.39	9.749	
9,700.00	9,692.38	9,674.26	9,668.21	34.66	34.54	-155.99	142.19	-357.41	670.63	601.87	68.75	9.754	
9,750.00	9,742.33	9,724.11	9,718.03	34.84	34.72	-155.99	143.14	-359.18	674.46	605.35	69.11	9.759	
9,800.00	9,792.28	9,773.97	9,767.84	35.02	34.90	-155.99	144.08	-360.94	678.29	608.82	69.47	9.764	
9,850.00	9,842.23	9,823.82	9,817.65	35.20	35.08	-155.98	145.02	-362.70	682.12	612.29	69.83	9.769	
9,900.00	9,892.18	9,873.67	9,867.47	35.38	35.26	-155.98	145.96	-364.47	685.95	615.77	70.19	9.773	
9,950.00	9,942.13	9,923.53	9,917.28	35.57	35.44	-155.98	146.90	-366.23	689.79	619.24	70.55	9.778	
10,000.00	9,992.08	9,973.38	9,967.09	35.75	35.62	-155.98	147.84	-367.99	693.62	622.71	70.90	9.782	
10,050.00	10,042.02	10,023.23	10,016.90	35.93	35.80	-155.98	148.78	-369.76	697.45	626.19	71.26	9.787	
10,100.00	10,091.97	10,073.08	10,066.72	36.11	35.98	-155.98	149.72	-371.52	701.28	629.66	71.62	9.792	
10,150.00	10,141.92	10,122.94	10,116.53	36.29	36.16	-155.98	150.66	-373.28	705.11	633.13	71.98	9.796	
10,200.00	10,191.87	10,172.79	10,166.34	36.47	36.34	-155.98	151.60	-375.05	708.95	636.61	72.34	9.800	
10,250.00	10,241.82	10,222.64	10,216.16	36.65	36.53	-155.98	152.54	-376.81	712.78	640.08	72.70	9.805	
10,300.00	10,291.77	10,272.50	10,265.97	36.83	36.71	-155.98	153.48	-378.57	716.61	643.55	73.06	9.809	
10,350.00	10,341.72	10,322.35	10,315.78	37.02	36.89	-155.98	154.42	-380.34	720.44	647.03	73.41	9.813	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,400.00	10,391.67	10,372.20	10,365.59	37.20	37.07	-155.98	155.36	-382.10	724.27	650.50	73.77	9.818	
10,450.00	10,441.62	10,422.06	10,415.41	37.38	37.25	-155.98	156.30	-383.87	728.10	653.97	74.13	9.822	
10,500.00	10,491.57	10,471.91	10,465.22	37.56	37.43	-155.98	157.24	-385.63	731.94	657.45	74.49	9.826	
10,550.00	10,541.52	10,522.42	10,515.69	37.74	37.61	-155.98	158.20	-387.41	735.77	660.91	74.85	9.830	
10,600.00	10,591.47	10,582.62	10,575.86	37.92	37.83	-155.99	159.08	-389.07	739.20	663.94	75.27	9.821	
10,650.00	10,641.42	10,642.91	10,636.14	38.10	38.04	-156.05	159.52	-389.89	741.95	666.27	75.68	9.804	
10,700.00	10,691.37	10,702.17	10,691.07	38.28	38.25	-156.12	159.57	-389.99	744.08	668.02	76.07	9.782	
10,750.00	10,741.32	10,747.78	10,741.02	38.47	38.41	-156.19	159.57	-389.99	746.14	669.73	76.41	9.766	
10,800.00	10,791.27	10,802.27	10,790.97	38.65	38.60	-156.26	159.57	-389.99	748.20	671.42	76.78	9.745	
10,850.00	10,841.21	10,847.68	10,840.91	38.83	38.76	-156.33	159.57	-389.99	750.26	673.14	77.12	9.729	
10,900.00	10,891.16	10,902.37	10,890.86	39.01	38.95	-156.40	159.57	-389.99	752.32	674.83	77.49	9.709	
10,950.00	10,941.11	10,947.58	10,940.81	39.19	39.11	-156.47	159.57	-389.99	754.38	676.56	77.83	9.693	
11,000.00	10,991.06	10,997.53	10,990.76	39.37	39.28	-156.53	159.57	-389.99	756.44	678.26	78.18	9.676	
11,050.00	11,041.02	11,032.87	11,026.10	39.55	39.41	-156.59	159.58	-390.10	758.68	680.20	78.47	9.668	
11,100.00	11,090.99	11,050.00	11,043.22	39.73	39.47	-156.62	159.61	-390.68	762.05	683.44	78.61	9.694	
11,150.00	11,140.98	11,075.69	11,068.84	39.91	39.56	-156.66	159.73	-392.52	766.64	687.89	78.75	9.735	
11,200.00	11,190.98	11,100.00	11,092.99	40.09	39.65	-90.01	159.91	-395.31	772.51	693.70	78.81	9.802	
11,250.00	11,240.98	11,117.93	11,110.71	40.26	39.72	-89.99	160.08	-398.02	779.92	701.19	78.73	9.906	
11,300.00	11,290.98	11,139.06	11,131.48	40.44	39.80	-89.98	160.32	-401.92	789.15	710.52	78.63	10.036	
11,350.00	11,340.98	11,188.41	11,179.78	40.61	39.98	-90.09	158.78	-411.86	799.22	720.24	78.98	10.119	
11,400.00	11,390.98	11,237.15	11,227.18	40.78	40.16	-90.50	153.09	-421.58	809.30	729.99	79.31	10.204	
11,450.00	11,440.98	11,284.60	11,272.72	40.96	40.32	-91.17	143.63	-430.90	819.46	739.86	79.60	10.294	
11,500.00	11,490.98	11,330.19	11,315.62	41.13	40.47	-92.05	130.94	-439.65	829.85	749.99	79.85	10.392	
11,550.00	11,540.98	11,373.51	11,355.34	41.31	40.61	87.17	115.69	-447.73	840.62	760.58	80.04	10.502	
11,600.00	11,590.90	11,415.22	11,392.42	41.47	40.73	84.98	98.17	-455.26	851.77	771.60	80.17	10.625	
11,650.00	11,640.41	11,456.05	11,427.42	41.63	40.85	82.87	78.38	-462.34	863.13	782.87	80.26	10.754	
11,700.00	11,689.13	11,496.13	11,460.35	41.78	40.96	80.84	56.54	-468.98	874.56	794.25	80.31	10.889	
11,750.00	11,736.70	11,535.55	11,491.21	41.93	41.05	78.91	32.82	-475.19	885.92	805.59	80.33	11.028	
11,800.00	11,782.75	11,574.41	11,519.99	42.07	41.15	77.08	7.38	-480.95	897.08	816.75	80.33	11.168	
11,850.00	11,826.92	11,612.77	11,546.70	42.20	41.24	75.37	-19.64	-486.28	907.91	827.62	80.29	11.307	
11,900.00	11,868.90	11,650.00	11,570.86	42.31	41.32	73.79	-47.54	-491.08	918.31	838.07	80.24	11.445	
11,950.00	11,908.34	11,688.29	11,593.81	42.42	41.40	72.32	-77.85	-495.62	928.16	847.97	80.19	11.575	
12,000.00	11,944.96	11,725.56	11,614.20	42.52	41.48	71.00	-108.78	-499.62	937.37	857.25	80.12	11.699	
12,050.00	11,978.47	11,762.56	11,632.46	42.61	41.56	69.81	-140.76	-503.18	945.84	865.78	80.06	11.814	
12,100.00	12,008.63	11,800.00	11,648.83	42.71	41.65	68.75	-174.27	-506.34	953.51	873.49	80.02	11.916	
12,150.00	12,035.19	11,835.93	11,662.50	42.81	41.73	67.84	-207.39	-508.94	960.29	880.31	79.98	12.007	
12,200.00	12,057.97	11,872.37	11,674.26	42.91	41.81	67.06	-241.80	-511.15	966.13	886.16	79.96	12.082	
12,250.00	12,076.78	11,908.68	11,683.82	43.03	41.89	66.43	-276.77	-512.90	970.97	890.99	79.98	12.141	
12,300.00	12,091.48	11,944.88	11,691.18	43.14	41.97	65.93	-312.20	-514.19	974.78	894.76	80.02	12.182	
12,350.00	12,101.97	11,981.02	11,696.33	43.26	42.05	65.57	-347.95	-515.03	977.51	897.41	80.10	12.204	
12,400.00	12,108.15	12,017.10	11,699.26	43.37	42.13	65.36	-383.90	-515.40	979.16	898.94	80.21	12.207	
12,450.00	12,110.00	12,055.69	11,700.00	43.49	42.22	65.28	-422.48	-515.31	979.69	899.32	80.37	12.189	
12,500.00	12,110.00	12,105.69	11,700.00	43.61	42.34	65.28	-472.48	-515.00	979.69	899.10	80.59	12.157	
12,550.00	12,110.00	12,155.69	11,700.00	43.75	42.47	65.28	-522.48	-514.68	979.68	898.85	80.83	12.120	
12,600.00	12,110.00	12,205.69	11,700.00	43.89	42.61	65.28	-572.47	-514.37	979.68	898.60	81.08	12.084	
12,650.00	12,110.00	12,255.69	11,700.00	44.04	42.76	65.28	-622.47	-514.06	979.67	898.31	81.36	12.041	
12,700.00	12,110.00	12,305.69	11,700.00	44.20	42.92	65.28	-672.47	-513.74	979.67	898.02	81.65	11.998	
12,750.00	12,110.00	12,355.69	11,700.00	44.38	43.10	65.28	-722.47	-513.43	979.67	897.68	81.98	11.949	
12,800.00	12,110.00	12,405.69	11,700.00	44.56	43.28	65.28	-772.47	-513.11	979.66	897.35	82.32	11.901	
12,850.00	12,110.00	12,455.69	11,700.00	44.77	43.47	65.28	-822.47	-512.80	979.66	896.97	82.69	11.847	
12,900.00	12,110.00	12,505.69	11,700.00	44.97	43.68	65.28	-872.47	-512.49	979.66	896.59	83.07	11.794	
12,950.00	12,110.00	12,555.69	11,700.00	45.19	43.90	65.28	-922.47	-512.17	979.65	896.17	83.48	11.735	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,000.00	12,110.00	12,605.69	11,700.00	45.41	44.12	65.28	-972.47	-511.86	979.65	895.75	83.90	11.677	
13,050.00	12,110.00	12,655.69	11,700.00	45.66	44.36	65.28	-1,022.47	-511.54	979.65	895.29	84.35	11.614	
13,100.00	12,110.00	12,705.69	11,700.00	45.90	44.61	65.28	-1,072.46	-511.23	979.64	894.83	84.81	11.551	
13,150.00	12,110.00	12,755.69	11,700.00	46.16	44.87	65.28	-1,122.46	-510.91	979.64	894.34	85.30	11.484	
13,200.00	12,110.00	12,805.69	11,700.00	46.43	45.14	65.28	-1,172.46	-510.60	979.63	893.84	85.80	11.418	
13,250.00	12,110.00	12,855.69	11,700.00	46.71	45.42	65.28	-1,222.46	-510.29	979.63	893.31	86.33	11.348	
13,300.00	12,110.00	12,905.69	11,700.00	47.00	45.70	65.28	-1,272.46	-509.97	979.63	892.77	86.86	11.278	
13,350.00	12,110.00	12,955.69	11,700.00	47.30	46.01	65.28	-1,322.46	-509.66	979.62	892.20	87.42	11.205	
13,400.00	12,110.00	13,005.69	11,700.00	47.60	46.31	65.28	-1,372.46	-509.34	979.62	891.63	87.99	11.133	
13,450.00	12,110.00	13,055.69	11,700.00	47.92	46.63	65.28	-1,422.46	-509.03	979.62	891.02	88.59	11.058	
13,500.00	12,110.00	13,105.69	11,700.00	48.24	46.96	65.28	-1,472.46	-508.72	979.61	890.42	89.20	10.983	
13,550.00	12,110.00	13,155.69	11,700.00	48.58	47.30	65.28	-1,522.46	-508.40	979.61	889.78	89.83	10.905	
13,600.00	12,110.00	13,205.69	11,700.00	48.91	47.64	65.28	-1,572.45	-508.09	979.61	889.14	90.46	10.829	
13,650.00	12,110.00	13,255.69	11,700.00	49.27	47.99	65.28	-1,622.45	-507.77	979.60	888.47	91.13	10.749	
13,700.00	12,110.00	13,305.69	11,700.00	49.62	48.35	65.28	-1,672.45	-507.46	979.60	887.80	91.80	10.671	
13,750.00	12,110.00	13,355.69	11,700.00	49.99	48.72	65.28	-1,722.45	-507.14	979.59	887.10	92.49	10.591	
13,800.00	12,110.00	13,405.69	11,700.00	50.36	49.10	65.28	-1,772.45	-506.83	979.59	886.40	93.19	10.512	
13,850.00	12,110.00	13,455.69	11,700.00	50.75	49.49	65.28	-1,822.45	-506.52	979.59	885.67	93.92	10.430	
13,900.00	12,110.00	13,505.69	11,700.00	51.13	49.88	65.28	-1,872.45	-506.20	979.58	884.94	94.64	10.350	
13,950.00	12,110.00	13,555.69	11,700.00	51.53	50.28	65.28	-1,922.45	-505.89	979.58	884.18	95.40	10.269	
14,000.00	12,110.00	13,605.69	11,700.00	51.93	50.69	65.28	-1,972.45	-505.57	979.58	883.43	96.15	10.188	
14,050.00	12,110.00	13,655.69	11,700.00	52.35	51.11	65.28	-2,022.45	-505.26	979.57	882.64	96.93	10.106	
14,100.00	12,110.00	13,705.69	11,700.00	52.76	51.53	65.28	-2,072.44	-504.95	979.57	881.86	97.71	10.025	
14,150.00	12,110.00	13,755.69	11,700.00	53.19	51.96	65.28	-2,122.44	-504.63	979.57	881.05	98.52	9.943	
14,200.00	12,110.00	13,805.69	11,700.00	53.62	52.39	65.28	-2,172.44	-504.32	979.56	880.24	99.32	9.863	
14,250.00	12,110.00	13,855.69	11,700.00	54.06	52.84	65.28	-2,222.44	-504.00	979.56	879.41	100.15	9.781	
14,300.00	12,110.00	13,905.69	11,700.00	54.50	53.28	65.28	-2,272.44	-503.69	979.55	878.57	100.98	9.700	
14,350.00	12,110.00	13,955.69	11,700.00	54.95	53.74	65.28	-2,322.44	-503.38	979.55	877.72	101.83	9.619	
14,400.00	12,110.00	14,005.69	11,700.00	55.40	54.20	65.28	-2,372.44	-503.06	979.55	876.86	102.68	9.539	
14,450.00	12,110.00	14,055.69	11,700.00	55.87	54.67	65.28	-2,422.44	-502.75	979.54	875.99	103.56	9.459	
14,500.00	12,110.00	14,105.69	11,700.00	56.33	55.14	65.28	-2,472.44	-502.43	979.54	875.11	104.43	9.380	
14,550.00	12,110.00	14,155.69	11,700.00	56.81	55.62	65.28	-2,522.44	-502.12	979.54	874.21	105.33	9.300	
14,600.00	12,110.00	14,205.69	11,700.00	57.28	56.10	65.28	-2,572.44	-501.80	979.53	873.31	106.22	9.222	
14,650.00	12,110.00	14,255.69	11,700.00	57.77	56.59	65.28	-2,622.43	-501.49	979.53	872.39	107.14	9.143	
14,700.00	12,110.00	14,305.69	11,700.00	58.26	57.08	65.28	-2,672.43	-501.18	979.53	871.48	108.05	9.065	
14,750.00	12,110.00	14,355.69	11,700.00	58.75	57.58	65.27	-2,722.43	-500.86	979.52	870.54	108.98	8.988	
14,800.00	12,110.00	14,405.69	11,700.00	59.25	58.08	65.27	-2,772.43	-500.55	979.52	869.60	109.92	8.912	
14,850.00	12,110.00	14,455.69	11,700.00	59.75	58.59	65.27	-2,822.43	-500.23	979.51	868.65	110.87	8.835	
14,900.00	12,110.00	14,505.69	11,700.00	60.26	59.10	65.27	-2,872.43	-499.92	979.51	867.69	111.82	8.760	
14,950.00	12,110.00	14,555.69	11,700.00	60.77	59.62	65.27	-2,922.43	-499.61	979.51	866.72	112.78	8.685	
15,000.00	12,110.00	14,605.69	11,700.00	61.29	60.14	65.27	-2,972.43	-499.29	979.50	865.75	113.75	8.611	
15,050.00	12,110.00	14,655.69	11,700.00	61.81	60.67	65.27	-3,022.43	-498.98	979.50	864.76	114.74	8.537	
15,100.00	12,110.00	14,705.69	11,700.00	62.33	61.20	65.27	-3,072.43	-498.66	979.50	863.78	115.72	8.464	
15,150.00	12,110.00	14,755.69	11,700.00	62.86	61.73	65.27	-3,122.42	-498.35	979.49	862.78	116.72	8.392	
15,200.00	12,110.00	14,805.69	11,700.00	63.39	62.27	65.27	-3,172.42	-498.03	979.49	861.77	117.72	8.321	
15,250.00	12,110.00	14,855.69	11,700.00	63.93	62.81	65.27	-3,222.42	-497.72	979.49	860.76	118.73	8.250	
15,300.00	12,110.00	14,905.69	11,700.00	64.47	63.36	65.27	-3,272.42	-497.41	979.48	859.74	119.74	8.180	
15,350.00	12,110.00	14,955.69	11,700.00	65.02	63.91	65.27	-3,322.42	-497.09	979.48	858.71	120.77	8.110	
15,400.00	12,110.00	15,005.69	11,700.00	65.56	64.46	65.27	-3,372.42	-496.78	979.47	857.68	121.80	8.042	
15,450.00	12,110.00	15,055.69	11,700.00	66.12	65.02	65.27	-3,422.42	-496.46	979.47	856.64	122.84	7.974	
15,500.00	12,110.00	15,105.69	11,700.00	66.67	65.58	65.27	-3,472.42	-496.15	979.47	855.59	123.88	7.907	
15,550.00	12,110.00	15,155.69	11,700.00	67.23	66.14	65.27	-3,522.42	-495.84	979.46	854.54	124.93	7.840	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
15,600.00	12,110.00	15,205.69	11,700.00	67.79	66.71	65.27	-3,572.42	-495.52	979.46	853.48	125.98	7.775	
15,650.00	12,110.00	15,255.69	11,700.00	68.35	67.28	65.27	-3,622.41	-495.21	979.46	852.41	127.04	7.710	
15,700.00	12,110.00	15,305.69	11,700.00	68.92	67.85	65.27	-3,672.41	-494.89	979.45	851.34	128.11	7.646	
15,750.00	12,110.00	15,355.69	11,700.00	69.49	68.43	65.27	-3,722.41	-494.58	979.45	850.27	129.18	7.582	
15,800.00	12,110.00	15,405.69	11,700.00	70.06	69.00	65.27	-3,772.41	-494.26	979.45	849.19	130.26	7.519	
15,850.00	12,110.00	15,455.69	11,700.00	70.64	69.59	65.27	-3,822.41	-493.95	979.44	848.10	131.34	7.457	
15,900.00	12,110.00	15,505.69	11,700.00	71.22	70.17	65.27	-3,872.41	-493.64	979.44	847.01	132.43	7.396	
15,950.00	12,110.00	15,555.69	11,700.00	71.80	70.76	65.27	-3,922.41	-493.32	979.43	845.91	133.53	7.335	
16,000.00	12,110.00	15,605.69	11,700.00	72.39	71.35	65.27	-3,972.41	-493.01	979.43	844.81	134.62	7.275	
16,050.00	12,110.00	15,655.69	11,700.00	72.97	71.94	65.27	-4,022.41	-492.69	979.43	843.70	135.73	7.216	
16,100.00	12,110.00	15,705.69	11,700.00	73.56	72.53	65.27	-4,072.41	-492.38	979.42	842.59	136.83	7.158	
16,150.00	12,110.00	15,755.69	11,700.00	74.16	73.13	65.27	-4,122.40	-492.07	979.42	841.47	137.95	7.100	
16,200.00	12,110.00	15,805.69	11,700.00	74.75	73.73	65.27	-4,172.40	-491.75	979.42	840.35	139.06	7.043	
16,250.00	12,110.00	15,855.69	11,700.00	75.35	74.33	65.27	-4,222.40	-491.44	979.41	839.23	140.19	6.987	
16,300.00	12,110.00	15,905.69	11,700.00	75.95	74.93	65.27	-4,272.40	-491.12	979.41	838.10	141.31	6.931	
16,350.00	12,110.00	15,955.69	11,700.00	76.55	75.54	65.27	-4,322.40	-490.81	979.41	836.96	142.44	6.876	
16,400.00	12,110.00	16,005.69	11,700.00	77.15	76.15	65.27	-4,372.40	-490.49	979.40	835.83	143.57	6.822	
16,450.00	12,110.00	16,055.69	11,700.00	77.76	76.76	65.27	-4,422.40	-490.18	979.40	834.69	144.71	6.768	
16,500.00	12,110.00	16,105.69	11,700.00	78.37	77.37	65.27	-4,472.40	-489.87	979.39	833.54	145.85	6.715	
16,550.00	12,110.00	16,155.69	11,700.00	78.98	77.99	65.27	-4,522.40	-489.55	979.39	832.39	147.00	6.663	
16,600.00	12,110.00	16,205.69	11,700.00	79.59	78.60	65.27	-4,572.40	-489.24	979.39	831.24	148.15	6.611	
16,650.00	12,110.00	16,255.69	11,700.00	80.20	79.22	65.27	-4,622.39	-488.92	979.38	830.08	149.30	6.560	
16,700.00	12,110.00	16,305.69	11,700.00	80.82	79.84	65.27	-4,672.39	-488.61	979.38	828.92	150.46	6.509	
16,750.00	12,110.00	16,355.69	11,700.00	81.44	80.46	65.27	-4,722.39	-488.30	979.38	827.76	151.62	6.460	
16,800.00	12,110.00	16,405.69	11,700.00	82.05	81.09	65.27	-4,772.39	-487.98	979.37	826.59	152.78	6.410	
16,850.00	12,110.00	16,455.69	11,700.00	82.68	81.71	65.27	-4,822.39	-487.67	979.37	825.42	153.95	6.362	
16,900.00	12,110.00	16,505.69	11,700.00	83.30	82.34	65.27	-4,872.39	-487.35	979.37	824.25	155.12	6.314	
16,950.00	12,110.00	16,555.69	11,700.00	83.92	82.97	65.27	-4,922.39	-487.04	979.36	823.07	156.29	6.266	
17,000.00	12,110.00	16,605.69	11,700.00	84.55	83.60	65.27	-4,972.39	-486.72	979.36	821.89	157.46	6.220	
17,050.00	12,110.00	16,655.69	11,700.00	85.18	84.23	65.27	-5,022.39	-486.41	979.35	820.71	158.64	6.173	
17,100.00	12,110.00	16,705.69	11,700.00	85.81	84.86	65.27	-5,072.39	-486.10	979.35	819.53	159.82	6.128	
17,150.00	12,110.00	16,755.69	11,700.00	86.44	85.50	65.27	-5,122.38	-485.78	979.35	818.34	161.01	6.082	
17,200.00	12,110.00	16,805.69	11,700.00	87.07	86.14	65.27	-5,172.38	-485.47	979.34	817.15	162.20	6.038	
17,250.00	12,110.00	16,855.69	11,700.00	87.71	86.78	65.27	-5,222.38	-485.15	979.34	815.95	163.39	5.994	
17,300.00	12,110.00	16,905.69	11,700.00	88.34	87.41	65.27	-5,272.38	-484.84	979.34	814.76	164.58	5.951	
17,350.00	12,110.00	16,955.69	11,700.00	88.98	88.06	65.27	-5,322.38	-484.53	979.33	813.56	165.78	5.908	
17,400.00	12,110.00	17,005.69	11,700.00	89.62	88.70	65.27	-5,372.38	-484.21	979.33	812.35	166.97	5.865	
17,450.00	12,110.00	17,055.69	11,700.00	90.26	89.34	65.27	-5,422.38	-483.90	979.33	811.15	168.18	5.823	
17,500.00	12,110.00	17,105.69	11,700.00	90.90	89.99	65.27	-5,472.38	-483.58	979.32	809.94	169.38	5.782	
17,550.00	12,110.00	17,155.69	11,700.00	91.54	90.63	65.27	-5,522.38	-483.27	979.32	808.73	170.59	5.741	
17,600.00	12,110.00	17,205.69	11,700.00	92.19	91.28	65.27	-5,572.38	-482.95	979.31	807.52	171.79	5.701	
17,650.00	12,110.00	17,255.69	11,700.00	92.83	91.93	65.27	-5,622.37	-482.64	979.31	806.31	173.00	5.661	
17,700.00	12,110.00	17,305.69	11,700.00	93.48	92.58	65.27	-5,672.37	-482.33	979.31	805.09	174.21	5.621	
17,750.00	12,110.00	17,355.69	11,700.00	94.13	93.23	65.27	-5,722.37	-482.01	979.30	803.87	175.43	5.582	
17,800.00	12,110.00	17,405.69	11,700.00	94.77	93.88	65.27	-5,772.37	-481.70	979.30	802.65	176.65	5.544	
17,850.00	12,110.00	17,455.69	11,700.00	95.42	94.54	65.27	-5,822.37	-481.38	979.30	801.43	177.87	5.506	
17,900.00	12,110.00	17,505.69	11,700.00	96.08	95.19	65.27	-5,872.37	-481.07	979.29	800.20	179.09	5.468	
17,950.00	12,110.00	17,555.69	11,700.00	96.73	95.85	65.27	-5,922.37	-480.76	979.29	798.98	180.31	5.431	
18,000.00	12,110.00	17,605.69	11,700.00	97.38	96.50	65.27	-5,972.37	-480.44	979.29	797.75	181.54	5.394	
18,050.00	12,110.00	17,655.69	11,700.00	98.04	97.16	65.27	-6,022.37	-480.13	979.28	796.52	182.76	5.358	
18,100.00	12,110.00	17,705.69	11,700.00	98.69	97.82	65.27	-6,072.37	-479.81	979.28	795.29	183.99	5.322	
18,150.00	12,110.00	17,755.69	11,700.00	99.35	98.48	65.27	-6,122.37	-479.50	979.27	794.05	185.22	5.287	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
18,200.00	12,110.00	17,805.69	11,700.00	100.00	99.14	65.27	-6,172.36	-479.18	979.27	792.81	186.46	5.252	
18,250.00	12,110.00	17,855.69	11,700.00	100.66	99.80	65.27	-6,222.36	-478.87	979.27	791.57	187.69	5.217	
18,300.00	12,110.00	17,905.69	11,700.00	101.32	100.46	65.27	-6,272.36	-478.56	979.26	790.34	188.93	5.183	
18,350.00	12,110.00	17,955.69	11,700.00	101.98	101.13	65.27	-6,322.36	-478.24	979.26	789.09	190.17	5.149	
18,400.00	12,110.00	18,005.69	11,700.00	102.64	101.79	65.27	-6,372.36	-477.93	979.26	787.85	191.41	5.116	
18,450.00	12,110.00	18,055.69	11,700.00	103.31	102.46	65.27	-6,422.36	-477.61	979.25	786.60	192.65	5.083	
18,500.00	12,110.00	18,105.69	11,700.00	103.97	103.12	65.27	-6,472.36	-477.30	979.25	785.36	193.89	5.051	
18,550.00	12,110.00	18,155.69	11,700.00	104.63	103.79	65.27	-6,522.36	-476.99	979.24	784.11	195.14	5.018	
18,600.00	12,110.00	18,205.69	11,700.00	105.30	104.46	65.27	-6,572.36	-476.67	979.24	782.86	196.38	4.986	Alert
18,650.00	12,110.00	18,255.69	11,700.00	105.96	105.13	65.27	-6,622.36	-476.36	979.24	781.61	197.63	4.955	Alert
18,700.00	12,110.00	18,305.69	11,700.00	106.63	105.79	65.27	-6,672.35	-476.04	979.23	780.35	198.88	4.924	Alert
18,750.00	12,110.00	18,355.69	11,700.00	107.30	106.46	65.27	-6,722.35	-475.73	979.23	779.10	200.13	4.893	Alert
18,800.00	12,110.00	18,405.69	11,700.00	107.97	107.14	65.27	-6,772.35	-475.42	979.23	777.84	201.38	4.862	Alert
18,850.00	12,110.00	18,455.69	11,700.00	108.64	107.81	65.27	-6,822.35	-475.10	979.22	776.58	202.64	4.832	Alert
18,900.00	12,110.00	18,505.69	11,700.00	109.30	108.48	65.27	-6,872.35	-474.79	979.22	775.33	203.89	4.803	Alert
18,950.00	12,110.00	18,555.69	11,700.00	109.98	109.15	65.27	-6,922.35	-474.47	979.22	774.07	205.15	4.773	Alert
19,000.00	12,110.00	18,605.69	11,700.00	110.65	109.83	65.27	-6,972.35	-474.16	979.21	772.80	206.41	4.744	Alert
19,050.00	12,110.00	18,655.69	11,700.00	111.32	110.50	65.27	-7,022.35	-473.84	979.21	771.54	207.67	4.715	Alert
19,100.00	12,110.00	18,705.69	11,700.00	111.99	111.18	65.27	-7,072.35	-473.53	979.20	770.28	208.93	4.687	Alert
19,150.00	12,110.00	18,755.69	11,700.00	112.66	111.85	65.27	-7,122.35	-473.22	979.20	769.01	210.19	4.659	Alert
19,200.00	12,110.00	18,805.69	11,700.00	113.34	112.53	65.27	-7,172.34	-472.90	979.20	767.74	211.45	4.631	Alert
19,250.00	12,110.00	18,855.69	11,700.00	114.01	113.21	65.27	-7,222.34	-472.59	979.19	766.48	212.72	4.603	Alert
19,300.00	12,110.00	18,905.69	11,700.00	114.69	113.88	65.27	-7,272.34	-472.27	979.19	765.21	213.98	4.576	Alert
19,350.00	12,110.00	18,955.69	11,700.00	115.36	114.56	65.27	-7,322.34	-471.96	979.19	763.94	215.25	4.549	Alert
19,400.00	12,110.00	19,005.69	11,700.00	116.04	115.24	65.27	-7,372.34	-471.65	979.18	762.66	216.52	4.522	Alert
19,450.00	12,110.00	19,055.69	11,700.00	116.72	115.92	65.27	-7,422.34	-471.33	979.18	761.39	217.79	4.496	Alert
19,500.00	12,110.00	19,105.69	11,700.00	117.40	116.60	65.27	-7,472.34	-471.02	979.18	760.12	219.06	4.470	Alert
19,550.00	12,110.00	19,155.69	11,700.00	118.07	117.28	65.27	-7,522.34	-470.70	979.17	758.84	220.33	4.444	Alert
19,600.00	12,110.00	19,205.69	11,700.00	118.75	117.96	65.27	-7,572.34	-470.39	979.17	757.57	221.60	4.419	Alert
19,650.00	12,110.00	19,255.69	11,700.00	119.43	118.65	65.27	-7,622.34	-470.07	979.16	756.29	222.88	4.393	Alert
19,700.00	12,110.00	19,305.69	11,700.00	120.11	119.33	65.27	-7,672.33	-469.76	979.16	755.01	224.15	4.368	Alert
19,750.00	12,110.00	19,355.69	11,700.00	120.79	120.01	65.27	-7,722.33	-469.45	979.16	753.73	225.43	4.344	Alert
19,800.00	12,110.00	19,405.69	11,700.00	121.48	120.70	65.27	-7,772.33	-469.13	979.15	752.45	226.70	4.319	Alert
19,850.00	12,110.00	19,455.69	11,700.00	122.16	121.38	65.26	-7,822.33	-468.82	979.15	751.17	227.98	4.295	Alert
19,900.00	12,110.00	19,505.69	11,700.00	122.84	122.07	65.26	-7,872.33	-468.50	979.15	749.89	229.26	4.271	Alert
19,950.00	12,110.00	19,555.69	11,700.00	123.52	122.75	65.26	-7,922.33	-468.19	979.14	748.60	230.54	4.247	Alert
20,000.00	12,110.00	19,605.69	11,700.00	124.21	123.44	65.26	-7,972.33	-467.88	979.14	747.32	231.82	4.224	Alert
20,050.00	12,110.00	19,655.69	11,700.00	124.89	124.12	65.26	-8,022.33	-467.56	979.14	746.03	233.10	4.200	Alert
20,100.00	12,110.00	19,705.69	11,700.00	125.58	124.81	65.26	-8,072.33	-467.25	979.13	744.75	234.39	4.177	Alert
20,150.00	12,110.00	19,755.69	11,700.00	126.26	125.50	65.26	-8,122.33	-466.93	979.13	743.46	235.67	4.155	Alert
20,200.00	12,110.00	19,805.69	11,700.00	126.95	126.18	65.26	-8,172.32	-466.62	979.12	742.17	236.95	4.132	Alert
20,250.00	12,110.00	19,855.69	11,700.00	127.63	126.87	65.26	-8,222.32	-466.30	979.12	740.88	238.24	4.110	Alert
20,300.00	12,110.00	19,905.69	11,700.00	128.32	127.56	65.26	-8,272.32	-465.99	979.12	739.59	239.53	4.088	Alert
20,350.00	12,110.00	19,955.69	11,700.00	129.01	128.25	65.26	-8,322.32	-465.68	979.11	738.30	240.81	4.066	Alert
20,400.00	12,110.00	20,005.69	11,700.00	129.69	128.94	65.26	-8,372.32	-465.36	979.11	737.01	242.10	4.044	Alert
20,450.00	12,110.00	20,055.69	11,700.00	130.38	129.63	65.26	-8,422.32	-465.05	979.11	735.72	243.39	4.023	Alert
20,500.00	12,110.00	20,105.69	11,700.00	131.07	130.32	65.26	-8,472.32	-464.73	979.10	734.42	244.68	4.002	Alert
20,550.00	12,110.00	20,155.69	11,700.00	131.76	131.01	65.26	-8,522.32	-464.42	979.10	733.13	245.97	3.981	Alert
20,600.00	12,110.00	20,205.69	11,700.00	132.45	131.70	65.26	-8,572.32	-464.11	979.10	731.83	247.26	3.960	Alert
20,650.00	12,110.00	20,255.69	11,700.00	133.14	132.39	65.26	-8,622.32	-463.79	979.09	730.54	248.55	3.939	Alert
20,700.00	12,110.00	20,305.69	11,700.00	133.83	133.09	65.26	-8,672.31	-463.48	979.09	729.24	249.85	3.919	Alert
20,750.00	12,110.00	20,355.69	11,700.00	134.52	133.78	65.26	-8,722.31	-463.16	979.08	727.94	251.14	3.899	Alert

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
20,800.00	12,110.00	20,405.69	11,700.00	135.21	134.47	65.26	-8,772.31	-462.85	979.08	726.65	252.43	3.879	Alert
20,850.00	12,110.00	20,455.69	11,700.00	135.90	135.16	65.26	-8,822.31	-462.53	979.08	725.35	253.73	3.859	Alert
20,900.00	12,110.00	20,505.69	11,700.00	136.59	135.86	65.26	-8,872.31	-462.22	979.07	724.05	255.02	3.839	Alert
20,950.00	12,110.00	20,555.69	11,700.00	137.28	136.55	65.26	-8,922.31	-461.91	979.07	722.75	256.32	3.820	Alert
21,000.00	12,110.00	20,605.69	11,700.00	137.98	137.25	65.26	-8,972.31	-461.59	979.07	721.45	257.62	3.800	Alert
21,050.00	12,110.00	20,655.69	11,700.00	138.67	137.94	65.26	-9,022.31	-461.28	979.06	720.15	258.92	3.781	Alert
21,100.00	12,110.00	20,705.69	11,700.00	139.36	138.64	65.26	-9,072.31	-460.96	979.06	718.85	260.21	3.763	Alert
21,150.00	12,110.00	20,755.69	11,700.00	140.06	139.33	65.26	-9,122.31	-460.65	979.06	717.54	261.51	3.744	Alert
21,200.00	12,110.00	20,805.69	11,700.00	140.75	140.03	65.26	-9,172.30	-460.34	979.05	716.24	262.81	3.725	Alert
21,250.00	12,110.00	20,855.69	11,700.00	141.44	140.72	65.26	-9,222.30	-460.02	979.05	714.93	264.11	3.707	Alert
21,300.00	12,110.00	20,905.69	11,700.00	142.14	141.42	65.26	-9,272.30	-459.71	979.04	713.63	265.41	3.689	Alert
21,350.00	12,110.00	20,955.69	11,700.00	142.83	142.12	65.26	-9,322.30	-459.39	979.04	712.32	266.72	3.671	Alert
21,400.00	12,110.00	21,005.69	11,700.00	143.53	142.81	65.26	-9,372.30	-459.08	979.04	711.02	268.02	3.653	Alert
21,450.00	12,110.00	21,055.69	11,700.00	144.22	143.51	65.26	-9,422.30	-458.76	979.03	709.71	269.32	3.635	Alert
21,500.00	12,110.00	21,105.69	11,700.00	144.92	144.21	65.26	-9,472.30	-458.45	979.03	708.41	270.62	3.618	Alert
21,550.00	12,110.00	21,155.69	11,700.00	145.62	144.91	65.26	-9,522.30	-458.14	979.03	707.10	271.93	3.600	Alert
21,600.00	12,110.00	21,205.69	11,700.00	146.31	145.60	65.26	-9,572.30	-457.82	979.02	705.79	273.23	3.583	Alert
21,650.00	12,110.00	21,255.69	11,700.00	147.01	146.30	65.26	-9,622.30	-457.51	979.02	704.48	274.54	3.566	Alert
21,700.00	12,110.00	21,305.69	11,700.00	147.71	147.00	65.26	-9,672.29	-457.19	979.02	703.17	275.84	3.549	Alert
21,750.00	12,110.00	21,355.69	11,700.00	148.40	147.70	65.26	-9,722.29	-456.88	979.01	701.86	277.15	3.532	Alert
21,800.00	12,110.00	21,405.69	11,700.00	149.10	148.40	65.26	-9,772.29	-456.57	979.01	700.55	278.46	3.516	Alert
21,850.00	12,110.00	21,455.69	11,700.00	149.80	149.10	65.26	-9,822.29	-456.25	979.00	699.24	279.77	3.499	Alert
21,900.00	12,110.00	21,505.69	11,700.00	150.50	149.80	65.26	-9,872.29	-455.94	979.00	697.93	281.07	3.483	Alert
21,950.00	12,110.00	21,555.69	11,700.00	151.20	150.50	65.26	-9,922.29	-455.62	979.00	696.62	282.38	3.467	Alert
22,000.00	12,110.00	21,605.69	11,700.00	151.90	151.20	65.26	-9,972.29	-455.31	978.99	695.30	283.69	3.451	Alert
22,050.00	12,110.00	21,655.69	11,700.00	152.60	151.90	65.26	-10,022.29	-454.99	978.99	693.99	285.00	3.435	Alert
22,100.00	12,110.00	21,705.69	11,700.00	153.30	152.60	65.26	-10,072.29	-454.68	978.99	692.68	286.31	3.419	Alert
22,150.00	12,110.00	21,755.69	11,700.00	154.00	153.30	65.26	-10,122.29	-454.37	978.98	691.36	287.62	3.404	Alert
22,200.00	12,110.00	21,805.69	11,700.00	154.70	154.01	65.26	-10,172.29	-454.05	978.98	690.05	288.93	3.388	Alert
22,250.00	12,110.00	21,855.69	11,700.00	155.40	154.71	65.26	-10,222.28	-453.74	978.98	688.73	290.24	3.373	Alert
22,300.00	12,110.00	21,905.69	11,700.00	156.10	155.41	65.26	-10,272.28	-453.42	978.97	687.42	291.56	3.358	Alert
22,350.00	12,110.00	21,955.69	11,700.00	156.80	156.11	65.26	-10,322.28	-453.11	978.97	686.10	292.87	3.343	Alert
22,358.61	12,110.00	21,964.29	11,700.00	156.92	156.23	65.26	-10,330.89	-453.06	978.97	685.87	293.09	3.340	Alert, SF

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1 — Offset Site Error: 5.00 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	9.80	9.80	0.50	0.50	92.34	-26.92	657.87	658.42				
50.00	50.00	59.80	59.80	0.50	0.51	92.34	-26.92	657.87	658.42	657.41	1.01	653.139	
100.00	100.00	109.80	109.80	0.52	0.53	92.34	-26.92	657.87	658.42	657.38	1.04	630.321	
150.00	150.00	159.80	159.80	0.59	0.61	92.34	-26.92	657.87	658.42	657.22	1.20	549.677	
200.00	200.00	209.80	209.80	0.70	0.72	92.34	-26.92	657.87	658.42	657.00	1.43	461.500	
250.00	250.00	259.80	259.80	0.84	0.86	92.34	-26.92	657.87	658.42	656.72	1.70	387.092	
300.00	300.00	309.80	309.80	0.99	1.01	92.34	-26.92	657.87	658.42	656.42	2.00	328.882	
350.00	350.00	359.80	359.80	1.15	1.17	92.34	-26.92	657.87	658.42	656.10	2.32	283.871	
400.00	400.00	409.80	409.80	1.31	1.34	92.34	-26.92	657.87	658.42	655.77	2.65	248.706	
450.00	450.00	459.80	459.80	1.48	1.51	92.34	-26.92	657.87	658.42	655.44	2.98	220.771	
500.00	500.00	509.80	509.80	1.65	1.68	92.34	-26.92	657.87	658.42	655.10	3.32	198.185	
550.00	550.00	559.80	559.80	1.82	1.85	92.34	-26.92	657.87	658.42	654.76	3.67	179.617	
600.00	600.00	609.80	609.80	1.99	2.02	92.34	-26.92	657.87	658.42	654.41	4.01	164.123	
650.00	650.00	659.80	659.80	2.16	2.20	92.34	-26.92	657.87	658.42	654.06	4.36	151.020	
700.00	700.00	709.80	709.80	2.34	2.37	92.34	-26.92	657.87	658.42	653.71	4.71	139.808	
750.00	750.00	759.80	759.80	2.51	2.55	92.34	-26.92	657.87	658.42	653.36	5.06	130.115	
800.00	800.00	809.80	809.80	2.69	2.72	92.34	-26.92	657.87	658.42	653.01	5.41	121.655	
850.00	850.00	859.80	859.80	2.87	2.90	92.34	-26.92	657.87	658.42	652.66	5.76	114.213	
900.00	900.00	909.80	909.80	3.04	3.07	92.34	-26.92	657.87	658.42	652.30	6.12	107.617	
950.00	950.00	959.80	959.80	3.22	3.25	92.34	-26.92	657.87	658.42	651.95	6.47	101.732	
1,000.00	1,000.00	1,009.80	1,009.80	3.40	3.43	92.34	-26.92	657.87	658.42	651.60	6.83	96.450	
1,050.00	1,050.00	1,059.80	1,059.80	3.58	3.61	92.34	-26.92	657.87	658.42	651.24	7.18	91.685	
1,100.00	1,100.00	1,109.80	1,109.80	3.75	3.78	92.34	-26.92	657.87	658.42	650.89	7.54	87.365	
1,150.00	1,150.00	1,159.80	1,159.80	3.93	3.96	92.34	-26.92	657.87	658.42	650.53	7.89	83.430	
1,200.00	1,200.00	1,209.80	1,209.80	4.11	4.14	92.34	-26.92	657.87	658.42	650.17	8.25	79.832	
1,250.00	1,250.00	1,259.80	1,259.80	4.29	4.32	92.34	-26.92	657.87	658.42	649.82	8.60	76.529	
1,300.00	1,300.00	1,309.80	1,309.80	4.46	4.50	92.34	-26.92	657.87	658.42	649.46	8.96	73.487	
1,350.00	1,350.00	1,359.80	1,359.80	4.64	4.67	92.34	-26.92	657.87	658.42	649.11	9.32	70.676	
1,400.00	1,400.00	1,409.80	1,409.80	4.82	4.85	92.34	-26.92	657.87	658.42	648.75	9.67	68.072	
1,450.00	1,450.00	1,459.80	1,459.80	5.00	5.03	92.34	-26.92	657.87	658.42	648.39	10.03	65.651	
1,500.00	1,500.00	1,509.80	1,509.80	5.18	5.21	92.34	-26.92	657.87	658.42	648.04	10.39	63.396	
1,550.00	1,550.00	1,559.80	1,559.80	5.36	5.39	92.34	-26.92	657.87	658.42	647.68	10.74	61.290	
1,600.00	1,600.00	1,609.80	1,609.80	5.53	5.57	92.34	-26.92	657.87	658.42	647.32	11.10	59.319	
1,650.00	1,650.00	1,659.80	1,659.80	5.71	5.74	92.34	-26.92	657.87	658.42	646.97	11.46	57.470	
1,700.00	1,700.00	1,709.80	1,709.80	5.89	5.92	92.34	-26.92	657.87	658.42	646.61	11.81	55.733	
1,750.00	1,750.00	1,759.80	1,759.80	6.07	6.10	92.34	-26.92	657.87	658.42	646.25	12.17	54.097	
1,800.00	1,800.00	1,809.80	1,809.80	6.25	6.28	92.34	-26.92	657.87	658.42	645.89	12.53	52.554	
1,850.00	1,850.00	1,859.80	1,859.80	6.43	6.46	92.34	-26.92	657.87	658.42	645.54	12.89	51.097	
1,900.00	1,900.00	1,909.80	1,909.80	6.61	6.64	92.34	-26.92	657.87	658.42	645.18	13.24	49.718	
1,950.00	1,950.00	1,959.80	1,959.80	6.78	6.82	92.34	-26.92	657.87	658.42	644.82	13.60	48.411	
2,000.00	2,000.00	2,009.80	2,009.80	6.96	6.99	92.34	-26.92	657.87	658.42	644.46	13.96	47.171	
2,050.00	2,050.00	2,059.80	2,059.80	7.14	7.17	25.68	-26.92	657.87	658.23	643.91	14.31	45.988	
2,100.00	2,099.99	2,109.79	2,109.79	7.32	7.35	25.71	-26.92	657.87	657.64	642.97	14.67	44.835	
2,150.00	2,149.98	2,159.78	2,159.78	7.49	7.53	25.75	-26.92	657.87	656.65	641.63	15.02	43.718	
2,200.00	2,199.96	2,209.76	2,209.76	7.66	7.71	25.82	-26.92	657.87	655.28	639.91	15.37	42.626	
2,250.00	2,249.92	2,259.72	2,259.72	7.84	7.89	25.90	-26.92	657.87	653.51	637.79	15.73	41.557	
2,300.00	2,299.87	2,309.67	2,309.67	8.01	8.07	25.99	-26.92	657.87	651.49	635.41	16.08	40.520	
2,350.00	2,349.82	2,359.62	2,359.62	8.19	8.25	26.08	-26.92	657.87	649.47	633.04	16.43	39.526	
2,400.00	2,399.77	2,409.57	2,409.57	8.36	8.42	26.16	-26.92	657.87	647.45	630.67	16.78	38.574	
2,450.00	2,449.72	2,459.52	2,459.52	8.54	8.60	26.25	-26.92	657.87	645.43	628.29	17.14	37.660	
2,500.00	2,499.67	2,509.47	2,509.47	8.72	8.78	26.34	-26.92	657.87	643.42	625.92	17.49	36.784	
2,550.00	2,549.62	2,554.30	2,554.30	8.89	8.94	26.39	-26.61	658.10	641.64	623.81	17.83	35.994	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,599.98	2,599.97	9.07	9.10	26.40	-25.88	658.66	640.19	622.03	18.16	35.247	
2,650.00	2,649.52	2,645.68	2,645.64	9.25	9.27	26.38	-24.71	659.55	639.07	620.58	18.50	34.547	
2,700.00	2,699.47	2,691.38	2,691.30	9.42	9.43	26.31	-23.10	660.77	638.30	619.46	18.83	33.892	
2,750.00	2,749.41	2,737.06	2,736.91	9.60	9.59	26.20	-21.06	662.31	637.86	618.69	19.17	33.277	
2,789.43	2,788.80	2,773.07	2,772.84	9.74	9.72	26.09	-19.14	663.76	637.75	618.32	19.43	32.821	
2,800.00	2,799.36	2,782.72	2,782.46	9.78	9.75	26.05	-18.59	664.19	637.76	618.26	19.50	32.703	
2,850.00	2,849.31	2,828.34	2,827.94	9.95	9.92	25.86	-15.68	666.39	638.00	618.17	19.83	32.167	
2,900.00	2,899.26	2,873.91	2,873.31	10.13	10.08	25.63	-12.35	668.92	638.60	618.43	20.17	31.668	
2,950.00	2,949.21	2,919.42	2,918.58	10.31	10.24	25.37	-8.59	671.77	639.55	619.05	20.50	31.203	
3,000.00	2,999.16	2,964.85	2,963.70	10.49	10.40	25.06	-4.41	674.94	640.86	620.04	20.83	30.772	
3,050.00	3,049.11	3,010.19	3,008.67	10.66	10.56	24.72	0.19	678.42	642.54	621.39	21.15	30.374	
3,100.00	3,099.06	3,057.64	3,055.67	10.84	10.73	24.32	5.40	682.37	644.56	623.07	21.49	29.987	
3,150.00	3,149.01	3,107.37	3,104.92	11.02	10.91	23.91	10.92	686.55	646.66	624.81	21.85	29.599	
3,200.00	3,198.96	3,157.11	3,154.17	11.20	11.09	23.50	16.43	690.73	648.79	626.59	22.20	29.223	
3,250.00	3,248.91	3,206.85	3,203.43	11.38	11.27	23.09	21.95	694.91	650.96	628.40	22.56	28.860	
3,300.00	3,298.86	3,256.58	3,252.68	11.55	11.46	22.68	27.47	699.09	653.15	630.24	22.91	28.509	
3,350.00	3,348.81	3,306.32	3,301.93	11.73	11.64	22.28	32.98	703.27	655.38	632.12	23.27	28.170	
3,400.00	3,398.76	3,356.05	3,351.18	11.91	11.82	21.88	38.50	707.46	657.65	634.03	23.62	27.841	
3,450.00	3,448.71	3,405.79	3,400.43	12.09	12.00	21.48	44.02	711.64	659.94	635.97	23.98	27.523	
3,500.00	3,498.66	3,455.52	3,449.68	12.27	12.19	21.08	49.53	715.82	662.27	637.94	24.33	27.216	
3,550.00	3,548.60	3,505.26	3,498.94	12.45	12.37	20.69	55.05	720.00	664.63	639.94	24.69	26.918	
3,600.00	3,598.55	3,555.00	3,548.19	12.63	12.56	20.30	60.56	724.18	667.02	641.97	25.05	26.629	
3,650.00	3,648.50	3,604.73	3,597.44	12.81	12.74	19.92	66.08	728.36	669.44	644.03	25.41	26.350	
3,700.00	3,698.45	3,654.47	3,646.69	12.99	12.93	19.53	71.60	732.54	671.89	646.13	25.76	26.078	
3,750.00	3,748.40	3,704.20	3,695.94	13.16	13.11	19.15	77.11	736.72	674.37	648.25	26.12	25.816	
3,800.00	3,798.35	3,753.94	3,745.19	13.34	13.30	18.77	82.63	740.90	676.88	650.40	26.48	25.561	
3,850.00	3,848.30	3,803.67	3,794.45	13.52	13.48	18.39	88.15	745.09	679.42	652.58	26.84	25.314	
3,900.00	3,898.25	3,853.41	3,843.70	13.70	13.67	18.02	93.66	749.27	681.99	654.80	27.20	25.074	
3,950.00	3,948.20	3,903.15	3,892.95	13.88	13.86	17.65	99.18	753.45	684.59	657.04	27.56	24.842	
4,000.00	3,998.15	3,952.88	3,942.20	14.06	14.05	17.28	104.70	757.63	687.22	659.30	27.92	24.616	
4,050.00	4,048.10	4,002.62	3,991.45	14.24	14.24	16.92	110.21	761.81	689.88	661.60	28.28	24.397	
4,100.00	4,098.05	4,052.35	4,040.70	14.42	14.42	16.56	115.73	765.99	692.56	663.92	28.64	24.184	
4,150.00	4,148.00	4,102.09	4,089.96	14.60	14.61	16.20	121.25	770.17	695.27	666.27	29.00	23.977	
4,200.00	4,197.95	4,151.82	4,139.21	14.78	14.80	15.84	126.76	774.35	698.01	668.65	29.36	23.776	
4,250.00	4,247.90	4,201.56	4,188.46	14.96	14.99	15.49	132.28	778.53	700.77	671.06	29.72	23.581	
4,300.00	4,297.85	4,257.11	4,243.51	15.14	15.20	15.11	138.24	783.05	703.41	673.29	30.11	23.358	
4,350.00	4,347.79	4,314.52	4,300.49	15.32	15.42	14.77	143.74	787.22	705.54	675.02	30.52	23.118	
4,400.00	4,397.74	4,372.04	4,357.70	15.50	15.64	14.48	148.57	790.88	707.15	676.24	30.92	22.871	
4,450.00	4,447.69	4,429.68	4,415.10	15.68	15.85	14.24	152.71	794.02	708.24	676.92	31.32	22.614	
4,500.00	4,497.64	4,487.38	4,472.64	15.86	16.06	14.05	156.17	796.64	708.78	677.07	31.71	22.350	
4,550.00	4,547.59	4,545.14	4,530.29	16.04	16.27	13.91	158.94	798.74	708.78	676.68	32.10	22.078	
4,600.00	4,597.54	4,602.92	4,588.01	16.22	16.48	13.81	161.02	800.32	708.24	675.74	32.49	21.798	
4,650.00	4,647.49	4,660.70	4,645.77	16.40	16.69	13.77	162.40	801.36	707.14	674.27	32.87	21.511	
4,700.00	4,697.44	4,718.45	4,703.51	16.58	16.89	13.77	163.08	801.88	705.50	672.24	33.25	21.217	
4,750.00	4,747.39	4,772.13	4,757.19	16.76	17.08	13.81	163.16	801.94	703.37	669.76	33.61	20.924	
4,800.00	4,797.34	4,822.08	4,807.14	16.94	17.26	13.86	163.16	801.94	701.19	667.22	33.97	20.642	
4,850.00	4,847.29	4,872.03	4,857.09	17.12	17.43	13.90	163.16	801.94	699.01	664.68	34.32	20.364	
4,900.00	4,897.24	4,921.98	4,907.04	17.30	17.61	13.94	163.16	801.94	696.82	662.14	34.68	20.093	
4,950.00	4,947.19	4,971.93	4,956.99	17.48	17.78	13.99	163.16	801.94	694.64	659.60	35.04	19.827	
5,000.00	4,997.14	5,021.88	5,006.94	17.66	17.96	14.03	163.16	801.94	692.46	657.07	35.39	19.566	
5,050.00	5,047.09	5,071.83	5,056.89	17.84	18.13	14.08	163.16	801.94	690.28	654.53	35.75	19.311	
5,100.00	5,097.04	5,121.78	5,106.84	18.02	18.31	14.12	163.16	801.94	688.09	651.99	36.10	19.060	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,150.00	5,146.99	5,171.73	5,156.79	18.20	18.49	14.17	163.16	801.94	685.91	649.46	36.46	18.814	
5,200.00	5,196.93	5,221.68	5,206.73	18.38	18.66	14.22	163.16	801.94	683.73	646.92	36.81	18.573	
5,250.00	5,246.88	5,271.63	5,256.68	18.56	18.84	14.26	163.16	801.94	681.55	644.38	37.17	18.337	
5,300.00	5,296.83	5,321.57	5,306.63	18.74	19.01	14.31	163.16	801.94	679.37	641.85	37.52	18.105	
5,350.00	5,346.78	5,371.52	5,356.58	18.92	19.19	14.36	163.16	801.94	677.19	639.31	37.88	17.877	
5,400.00	5,396.73	5,421.47	5,406.53	19.10	19.37	14.40	163.16	801.94	675.01	636.78	38.24	17.654	
5,450.00	5,446.68	5,471.42	5,456.48	19.28	19.54	14.45	163.16	801.94	672.83	634.24	38.59	17.435	
5,500.00	5,496.63	5,521.37	5,506.43	19.46	19.72	14.50	163.16	801.94	670.66	631.71	38.95	17.220	
5,550.00	5,546.58	5,571.32	5,556.38	19.64	19.89	14.55	163.16	801.94	668.48	629.18	39.30	17.008	
5,600.00	5,596.53	5,621.27	5,606.33	19.82	20.07	14.60	163.16	801.94	666.30	626.64	39.66	16.801	
5,650.00	5,646.48	5,671.22	5,656.28	20.00	20.25	14.65	163.16	801.94	664.13	624.11	40.02	16.597	
5,700.00	5,696.43	5,721.17	5,706.23	20.18	20.42	14.69	163.16	801.94	661.95	621.58	40.37	16.396	
5,750.00	5,746.38	5,771.12	5,756.18	20.36	20.60	14.74	163.16	801.94	659.77	619.05	40.73	16.200	
5,800.00	5,796.33	5,821.07	5,806.13	20.54	20.78	14.79	163.16	801.94	657.60	616.51	41.08	16.006	
5,850.00	5,846.28	5,871.02	5,856.08	20.73	20.95	14.84	163.16	801.94	655.42	613.98	41.44	15.816	
5,900.00	5,896.23	5,920.97	5,906.03	20.91	21.13	14.89	163.16	801.94	653.25	611.45	41.80	15.629	
5,950.00	5,946.18	5,970.92	5,955.98	21.09	21.31	14.95	163.16	801.94	651.08	608.92	42.15	15.445	
6,000.00	5,996.12	6,020.87	6,005.92	21.27	21.48	15.00	163.16	801.94	648.90	606.39	42.51	15.265	
6,050.00	6,046.07	6,070.82	6,055.87	21.45	21.66	15.05	163.16	801.94	646.73	603.86	42.87	15.087	
6,100.00	6,096.02	6,120.76	6,105.82	21.63	21.84	15.10	163.16	801.94	644.56	601.34	43.22	14.913	
6,150.00	6,145.97	6,170.71	6,155.77	21.81	22.01	15.15	163.16	801.94	642.39	598.81	43.58	14.741	
6,200.00	6,195.92	6,220.66	6,205.72	21.99	22.19	15.21	163.16	801.94	640.22	596.28	43.94	14.572	
6,250.00	6,245.87	6,270.61	6,255.67	22.17	22.37	15.26	163.16	801.94	638.05	593.75	44.29	14.405	
6,300.00	6,295.82	6,320.56	6,305.62	22.35	22.54	15.31	163.16	801.94	635.88	591.23	44.65	14.242	
6,350.00	6,345.77	6,370.51	6,355.57	22.53	22.72	15.37	163.16	801.94	633.71	588.70	45.01	14.081	
6,400.00	6,395.72	6,420.46	6,405.52	22.71	22.90	15.42	163.16	801.94	631.54	586.17	45.36	13.922	
6,450.00	6,445.67	6,470.41	6,455.47	22.89	23.07	15.47	163.16	801.94	629.37	583.65	45.72	13.766	
6,500.00	6,495.62	6,520.36	6,505.42	23.07	23.25	15.53	163.16	801.94	627.20	581.13	46.08	13.612	
6,550.00	6,545.57	6,570.31	6,555.37	23.26	23.43	15.58	163.16	801.94	625.03	578.60	46.43	13.461	
6,600.00	6,595.52	6,620.26	6,605.32	23.44	23.61	15.64	163.16	801.94	622.87	576.08	46.79	13.312	
6,650.00	6,645.47	6,670.21	6,655.27	23.62	23.78	15.70	163.16	801.94	620.70	573.55	47.15	13.165	
6,700.00	6,695.42	6,720.16	6,705.22	23.80	23.96	15.75	163.16	801.94	618.54	571.03	47.50	13.021	
6,750.00	6,745.37	6,770.11	6,755.17	23.98	24.14	15.81	163.16	801.94	616.37	568.51	47.86	12.878	
6,800.00	6,795.31	6,820.06	6,805.11	24.16	24.31	15.87	163.16	801.94	614.21	565.99	48.22	12.738	
6,850.00	6,845.26	6,870.01	6,855.06	24.34	24.49	15.92	163.16	801.94	612.04	563.47	48.57	12.600	
6,900.00	6,895.21	6,919.96	6,905.01	24.52	24.67	15.98	163.16	801.94	609.88	560.95	48.93	12.464	
6,950.00	6,945.16	6,969.90	6,954.96	24.70	24.85	16.04	163.16	801.94	607.72	558.43	49.29	12.330	
7,000.00	6,995.11	7,019.85	7,004.91	24.88	25.02	16.10	163.16	801.94	605.56	555.91	49.65	12.198	
7,050.00	7,045.06	7,069.80	7,054.86	25.06	25.20	16.16	163.16	801.94	603.40	553.39	50.00	12.067	
7,100.00	7,095.01	7,119.75	7,104.81	25.24	25.38	16.22	163.16	801.94	601.24	550.88	50.36	11.939	
7,150.00	7,144.96	7,169.70	7,154.76	25.43	25.56	16.28	163.16	801.94	599.08	548.36	50.72	11.812	
7,200.00	7,194.91	7,219.65	7,204.71	25.61	25.73	16.34	163.16	801.94	596.92	545.84	51.07	11.687	
7,250.00	7,244.86	7,269.60	7,254.66	25.79	25.91	16.40	163.16	801.94	594.76	543.33	51.43	11.564	
7,300.00	7,294.81	7,319.55	7,304.61	25.97	26.09	16.46	163.16	801.94	592.60	540.81	51.79	11.443	
7,350.00	7,344.76	7,369.50	7,354.56	26.15	26.27	16.52	163.16	801.94	590.44	538.30	52.15	11.323	
7,400.00	7,394.71	7,419.45	7,404.51	26.33	26.44	16.58	163.16	801.94	588.29	535.78	52.50	11.205	
7,450.00	7,444.66	7,469.40	7,454.46	26.51	26.62	16.65	163.16	801.94	586.13	533.27	52.86	11.088	
7,500.00	7,494.61	7,519.35	7,504.41	26.69	26.80	16.71	163.16	801.94	583.98	530.76	53.22	10.973	
7,550.00	7,544.56	7,569.30	7,554.36	26.87	26.98	16.77	163.16	801.94	581.82	528.25	53.58	10.860	
7,600.00	7,594.50	7,619.25	7,604.30	27.05	27.15	16.84	163.16	801.94	579.67	525.74	53.93	10.748	
7,650.00	7,644.45	7,669.20	7,654.25	27.23	27.33	16.90	163.16	801.94	577.52	523.23	54.29	10.637	
7,700.00	7,694.40	7,719.15	7,704.20	27.42	27.51	16.97	163.16	801.94	575.37	520.72	54.65	10.528	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,750.00	7,744.35	7,769.09	7,754.15	27.60	27.69	17.03	163.16	801.94	573.21	518.21	55.01	10.421	
7,800.00	7,794.30	7,819.04	7,804.10	27.78	27.86	17.10	163.16	801.94	571.06	515.70	55.36	10.315	
7,850.00	7,844.25	7,868.99	7,854.05	27.96	28.04	17.17	163.16	801.94	568.91	513.19	55.72	10.210	
7,900.00	7,894.20	7,918.94	7,904.00	28.14	28.22	17.23	163.16	801.94	566.77	510.69	56.08	10.107	
7,950.00	7,944.15	7,968.89	7,953.95	28.32	28.40	17.30	163.16	801.94	564.62	508.18	56.44	10.004	
8,000.00	7,994.10	8,018.84	8,003.90	28.50	28.57	17.37	163.16	801.94	562.47	505.68	56.79	9.904	
8,050.00	8,044.05	8,068.79	8,053.85	28.68	28.75	17.44	163.16	801.94	560.32	503.17	57.15	9.804	
8,100.00	8,094.00	8,118.74	8,103.80	28.86	28.93	17.51	163.16	801.94	558.18	500.67	57.51	9.706	
8,150.00	8,143.95	8,168.69	8,153.75	29.04	29.11	17.58	163.16	801.94	556.03	498.17	57.87	9.609	
8,200.00	8,193.90	8,218.64	8,203.70	29.23	29.29	17.65	163.16	801.94	553.89	495.66	58.22	9.513	
8,250.00	8,243.85	8,268.59	8,253.65	29.41	29.46	17.72	163.16	801.94	551.75	493.16	58.58	9.418	
8,300.00	8,293.80	8,318.54	8,303.60	29.59	29.64	17.79	163.16	801.94	549.60	490.66	58.94	9.325	
8,350.00	8,343.75	8,368.49	8,353.55	29.77	29.82	17.86	163.16	801.94	547.46	488.16	59.30	9.232	
8,400.00	8,393.69	8,418.44	8,403.49	29.95	30.00	17.93	163.16	801.94	545.32	485.67	59.66	9.141	
8,450.00	8,443.64	8,468.39	8,453.44	30.13	30.17	18.01	163.16	801.94	543.18	483.17	60.01	9.051	
8,500.00	8,493.59	8,518.34	8,503.39	30.31	30.35	18.08	163.16	801.94	541.04	480.67	60.37	8.962	
8,550.00	8,543.54	8,568.28	8,553.34	30.49	30.53	18.15	163.16	801.94	538.90	478.17	60.73	8.874	
8,600.00	8,593.49	8,618.23	8,603.29	30.67	30.71	18.23	163.16	801.94	536.77	475.68	61.09	8.787	
8,650.00	8,643.44	8,668.18	8,653.24	30.86	30.89	18.30	163.16	801.94	534.63	473.19	61.44	8.701	
8,700.00	8,693.39	8,718.13	8,703.19	31.04	31.06	18.38	163.16	801.94	532.50	470.69	61.80	8.616	
8,750.00	8,743.34	8,768.08	8,753.14	31.22	31.24	18.46	163.16	801.94	530.36	468.20	62.16	8.532	
8,800.00	8,793.29	8,818.03	8,803.09	31.40	31.42	18.53	163.16	801.94	528.23	465.71	62.52	8.449	
8,850.00	8,843.24	8,867.98	8,853.04	31.58	31.60	18.61	163.16	801.94	526.10	463.22	62.88	8.367	
8,900.00	8,893.19	8,917.93	8,902.99	31.76	31.78	18.69	163.16	801.94	523.96	460.73	63.23	8.286	
8,950.00	8,943.14	8,967.88	8,952.94	31.94	31.95	18.77	163.16	801.94	521.83	458.24	63.59	8.206	
9,000.00	8,993.09	9,017.83	9,002.89	32.12	32.13	18.85	163.16	801.94	519.70	455.75	63.95	8.127	
9,050.00	9,043.04	9,067.78	9,052.84	32.30	32.31	18.93	163.16	801.94	517.58	453.27	64.31	8.048	
9,100.00	9,092.99	9,117.73	9,102.79	32.49	32.49	19.01	163.16	801.94	515.45	450.78	64.67	7.971	
9,150.00	9,142.94	9,167.68	9,152.74	32.67	32.67	19.09	163.16	801.94	513.32	448.30	65.02	7.894	
9,200.00	9,192.88	9,217.63	9,202.68	32.85	32.84	19.18	163.16	801.94	511.20	445.81	65.38	7.819	
9,250.00	9,242.83	9,267.58	9,252.63	33.03	33.02	19.26	163.16	801.94	509.07	443.33	65.74	7.744	
9,300.00	9,292.78	9,317.53	9,302.58	33.21	33.20	19.34	163.16	801.94	506.95	440.85	66.10	7.670	
9,350.00	9,342.73	9,367.47	9,352.53	33.39	33.38	19.43	163.16	801.94	504.83	438.37	66.46	7.596	
9,400.00	9,392.68	9,417.42	9,402.48	33.57	33.56	19.51	163.16	801.94	502.71	435.89	66.81	7.524	
9,450.00	9,442.63	9,467.37	9,452.43	33.75	33.74	19.60	163.16	801.94	500.59	433.41	67.17	7.452	
9,500.00	9,492.58	9,517.32	9,502.38	33.94	33.91	19.68	163.16	801.94	498.47	430.94	67.53	7.381	
9,550.00	9,542.53	9,567.27	9,552.33	34.12	34.09	19.77	163.16	801.94	496.35	428.46	67.89	7.311	
9,600.00	9,592.48	9,617.22	9,602.28	34.30	34.27	19.86	163.16	801.94	494.23	425.99	68.25	7.242	
9,650.00	9,642.43	9,667.17	9,652.23	34.48	34.45	19.95	163.16	801.94	492.12	423.51	68.61	7.173	
9,700.00	9,692.38	9,717.12	9,702.18	34.66	34.63	20.04	163.16	801.94	490.00	421.04	68.96	7.105	
9,750.00	9,742.33	9,767.07	9,752.13	34.84	34.80	20.13	163.16	801.94	487.89	418.57	69.32	7.038	
9,800.00	9,792.28	9,817.02	9,802.08	35.02	34.98	20.22	163.16	801.94	485.78	416.10	69.68	6.972	
9,850.00	9,842.23	9,866.97	9,852.03	35.20	35.16	20.31	163.16	801.94	483.67	413.63	70.04	6.906	
9,900.00	9,892.18	9,916.92	9,901.98	35.38	35.34	20.41	163.16	801.94	481.56	411.16	70.40	6.841	
9,950.00	9,942.13	9,966.87	9,951.93	35.57	35.52	20.50	163.16	801.94	479.45	408.70	70.75	6.776	
10,000.00	9,992.08	10,016.82	10,001.88	35.75	35.70	20.59	163.16	801.94	477.35	406.23	71.11	6.712	
10,050.00	10,042.02	10,066.77	10,051.82	35.93	35.87	20.69	163.16	801.94	475.24	403.77	71.47	6.649	
10,100.00	10,091.97	10,116.72	10,101.77	36.11	36.05	20.79	163.16	801.94	473.14	401.31	71.83	6.587	
10,150.00	10,141.92	10,166.66	10,151.72	36.29	36.23	20.88	163.16	801.94	471.04	398.85	72.19	6.525	
10,200.00	10,191.87	10,216.61	10,201.67	36.47	36.41	20.98	163.16	801.94	468.93	396.39	72.55	6.464	
10,250.00	10,241.82	10,266.56	10,251.62	36.65	36.59	21.08	163.16	801.94	466.83	393.93	72.90	6.403	
10,300.00	10,291.77	10,316.51	10,301.57	36.83	36.76	21.18	163.16	801.94	464.74	391.47	73.26	6.343	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,350.00	10,341.72	10,366.46	10,351.52	37.02	36.94	21.28	163.16	801.94	462.64	389.02	73.62	6.284	
10,400.00	10,391.67	10,416.41	10,401.47	37.20	37.12	21.38	163.16	801.94	460.54	386.56	73.98	6.225	
10,450.00	10,441.62	10,466.36	10,451.42	37.38	37.30	21.48	163.16	801.94	458.45	384.11	74.34	6.167	
10,500.00	10,491.57	10,516.31	10,501.37	37.56	37.48	21.59	163.16	801.94	456.36	381.66	74.70	6.109	
10,550.00	10,541.52	10,566.26	10,551.32	37.74	37.66	21.69	163.16	801.94	454.27	379.21	75.06	6.052	
10,600.00	10,591.47	10,616.21	10,601.27	37.92	37.83	21.80	163.16	801.94	452.18	376.76	75.41	5.996	
10,650.00	10,641.42	10,666.16	10,651.22	38.10	38.01	21.90	163.16	801.94	450.09	374.32	75.77	5.940	
10,700.00	10,691.37	10,716.11	10,701.17	38.28	38.19	22.01	163.16	801.94	448.00	371.87	76.13	5.885	
10,750.00	10,741.32	10,766.06	10,751.12	38.47	38.37	22.12	163.16	801.94	445.92	369.43	76.49	5.830	
10,800.00	10,791.27	10,816.01	10,801.07	38.65	38.55	22.23	163.16	801.94	443.83	366.99	76.85	5.775	
10,850.00	10,841.21	10,865.96	10,851.01	38.83	38.73	22.34	163.16	801.94	441.75	364.55	77.21	5.722	
10,900.00	10,891.16	10,915.91	10,900.96	39.01	38.90	22.45	163.16	801.94	439.67	362.11	77.57	5.668	
10,950.00	10,941.11	10,965.85	10,950.91	39.19	39.08	22.56	163.16	801.94	437.59	359.67	77.92	5.616	
11,000.00	10,991.06	11,015.80	11,000.86	39.37	39.26	22.68	163.16	801.94	435.52	357.23	78.28	5.563	
11,050.00	11,041.02	11,065.76	11,050.82	39.55	39.44	22.78	163.16	801.94	433.52	354.88	78.64	5.513	
11,100.00	11,090.99	11,115.73	11,100.79	39.73	39.62	22.85	163.16	801.94	432.06	353.06	79.00	5.469	
11,150.00	11,140.98	11,165.74	11,150.80	39.91	39.79	22.91	163.04	801.94	431.21	351.85	79.35	5.434	
11,197.50	11,188.48	11,213.08	11,198.04	40.08	39.95	23.32	160.11	801.96	430.94	351.26	79.68	5.408	CC
11,200.00	11,190.98	11,215.56	11,200.50	40.09	39.96	90.02	159.85	801.96	430.96	351.26	79.69	5.408	
11,250.00	11,240.98	11,264.48	11,248.85	40.26	40.11	90.99	152.53	802.00	431.07	351.04	80.03	5.387	
11,300.00	11,290.98	11,311.82	11,294.89	40.44	40.25	92.45	141.55	802.06	431.49	351.14	80.35	5.370	
11,350.00	11,340.98	11,357.05	11,337.88	40.61	40.38	94.30	127.55	802.14	432.55	351.89	80.66	5.362	
11,400.00	11,390.98	11,399.78	11,377.37	40.78	40.49	96.45	111.23	802.23	434.61	353.67	80.94	5.370	
11,450.00	11,440.98	11,439.80	11,413.15	40.96	40.59	98.79	93.33	802.33	438.07	356.93	81.14	5.399	
11,500.00	11,490.98	11,476.98	11,445.20	41.13	40.68	101.21	74.49	802.43	443.32	362.09	81.23	5.457	
11,550.00	11,540.98	11,511.36	11,473.69	41.31	40.76	-75.94	55.26	802.54	450.71	369.53	81.18	5.552	
11,600.00	11,590.90	11,544.19	11,499.77	41.47	40.83	-72.76	35.34	802.65	459.80	378.85	80.95	5.680	
11,650.00	11,640.41	11,576.45	11,524.25	41.63	40.89	-69.70	14.33	802.77	469.90	389.33	80.58	5.832	
11,700.00	11,689.13	11,608.23	11,547.17	41.78	40.95	-66.79	-7.67	802.89	480.73	400.65	80.07	6.004	
11,750.00	11,736.70	11,639.58	11,568.55	41.93	41.01	-64.07	-30.60	803.02	491.98	412.53	79.45	6.192	
11,800.00	11,782.75	11,670.58	11,588.43	42.07	41.07	-61.53	-54.38	803.15	503.40	424.66	78.75	6.393	
11,850.00	11,826.92	11,700.00	11,606.08	42.20	41.13	-59.25	-77.92	803.29	514.76	436.83	77.94	6.605	
11,900.00	11,868.90	11,731.68	11,623.71	42.31	41.19	-57.08	-104.23	803.43	525.85	448.69	77.16	6.815	
11,950.00	11,908.34	11,761.87	11,639.13	42.42	41.26	-55.16	-130.18	803.58	536.50	460.16	76.34	7.028	
12,000.00	11,944.96	11,791.85	11,653.07	42.52	41.32	-53.45	-156.73	803.73	546.54	471.01	75.53	7.236	
12,050.00	11,978.47	11,821.67	11,665.54	42.61	41.38	-51.95	-183.81	803.88	555.84	481.08	74.76	7.435	
12,100.00	12,008.63	11,850.00	11,676.06	42.71	41.44	-50.67	-210.10	804.02	564.28	490.27	74.01	7.624	
12,150.00	12,035.19	11,880.89	11,686.04	42.81	41.51	-49.53	-239.34	804.19	571.77	498.37	73.40	7.789	
12,200.00	12,057.97	11,910.34	11,694.08	42.91	41.57	-48.60	-267.67	804.35	578.22	505.36	72.86	7.936	
12,250.00	12,076.78	11,939.71	11,700.63	43.03	41.63	-47.85	-296.29	804.51	583.57	511.14	72.44	8.056	
12,300.00	12,091.48	11,969.02	11,705.70	43.14	41.69	-47.27	-325.15	804.67	587.76	515.63	72.14	8.148	
12,350.00	12,101.97	12,000.00	11,709.45	43.26	41.75	-46.86	-355.90	804.84	590.76	518.78	71.98	8.207	
12,400.00	12,108.15	12,027.50	11,711.38	43.37	41.81	-46.63	-383.33	804.99	592.53	520.58	71.95	8.235	
12,450.00	12,110.00	12,058.66	11,711.99	43.49	41.87	-46.56	-414.48	805.17	593.06	520.98	72.08	8.227	
12,500.00	12,110.00	12,108.66	11,711.99	43.61	41.98	-46.55	-464.48	805.44	593.04	520.76	72.28	8.204	
12,550.00	12,110.00	12,158.66	11,711.99	43.75	42.11	-46.55	-514.48	805.72	593.02	520.51	72.51	8.179	
12,600.00	12,110.00	12,208.66	11,711.99	43.89	42.24	-46.55	-564.48	806.00	592.99	520.26	72.74	8.152	
12,650.00	12,110.00	12,258.66	11,711.99	44.04	42.39	-46.55	-614.48	806.28	592.97	519.97	73.00	8.123	
12,700.00	12,110.00	12,308.66	11,711.99	44.20	42.54	-46.55	-664.48	806.56	592.95	519.68	73.27	8.093	
12,750.00	12,110.00	12,358.66	11,711.99	44.38	42.71	-46.54	-714.48	806.84	592.93	519.36	73.57	8.060	
12,800.00	12,110.00	12,408.66	11,711.99	44.56	42.89	-46.54	-764.48	807.12	592.90	519.03	73.87	8.026	
12,850.00	12,110.00	12,458.66	11,711.99	44.77	43.09	-46.54	-814.47	807.40	592.88	518.68	74.20	7.990	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1

Offset Site Error: 5.00 ft

Survey Program: 0-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,900.00	12,110.00	12,508.66	11,711.99	44.97	43.29	-46.54	-864.47	807.68	592.86	518.32	74.54	7.953	
12,950.00	12,110.00	12,558.66	11,711.99	45.19	43.50	-46.54	-914.47	807.96	592.84	517.92	74.91	7.914	
13,000.00	12,110.00	12,608.66	11,711.99	45.41	43.73	-46.53	-964.47	808.24	592.81	517.53	75.28	7.874	
13,050.00	12,110.00	12,658.66	11,711.99	45.66	43.97	-46.53	-1,014.47	808.52	592.79	517.10	75.69	7.832	
13,100.00	12,110.00	12,708.66	11,711.99	45.90	44.21	-46.53	-1,064.47	808.80	592.77	516.68	76.09	7.790	
13,150.00	12,110.00	12,758.66	11,711.99	46.16	44.47	-46.53	-1,114.47	809.08	592.75	516.22	76.53	7.745	
13,200.00	12,110.00	12,808.66	11,711.99	46.43	44.74	-46.53	-1,164.47	809.35	592.72	515.76	76.97	7.701	
13,250.00	12,110.00	12,858.66	11,711.99	46.71	45.02	-46.52	-1,214.47	809.63	592.70	515.27	77.43	7.654	
13,300.00	12,110.00	12,908.66	11,711.99	47.00	45.30	-46.52	-1,264.47	809.91	592.68	514.78	77.90	7.608	
13,350.00	12,110.00	12,958.66	11,711.99	47.30	45.60	-46.52	-1,314.47	810.19	592.66	514.26	78.40	7.559	
13,400.00	12,110.00	13,008.66	11,711.99	47.60	45.91	-46.52	-1,364.47	810.47	592.63	513.73	78.90	7.511	
13,450.00	12,110.00	13,058.66	11,711.99	47.92	46.23	-46.52	-1,414.47	810.75	592.61	513.19	79.43	7.461	
13,500.00	12,110.00	13,108.66	11,711.99	48.24	46.55	-46.51	-1,464.46	811.03	592.59	512.63	79.96	7.411	
13,550.00	12,110.00	13,158.66	11,711.99	48.58	46.89	-46.51	-1,514.46	811.31	592.57	512.06	80.51	7.360	
13,600.00	12,110.00	13,208.66	11,711.99	48.91	47.23	-46.51	-1,564.46	811.59	592.55	511.48	81.07	7.309	
13,650.00	12,110.00	13,258.66	11,711.99	49.27	47.59	-46.51	-1,614.46	811.87	592.52	510.87	81.65	7.257	
13,700.00	12,110.00	13,308.66	11,711.99	49.62	47.95	-46.51	-1,664.46	812.15	592.50	510.27	82.23	7.205	
13,750.00	12,110.00	13,358.66	11,711.99	49.99	48.32	-46.50	-1,714.46	812.43	592.48	509.64	82.84	7.152	
13,800.00	12,110.00	13,408.66	11,711.99	50.36	48.70	-46.50	-1,764.46	812.71	592.46	509.01	83.45	7.100	
13,850.00	12,110.00	13,458.66	11,711.99	50.75	49.08	-46.50	-1,814.46	812.98	592.43	508.35	84.08	7.046	
13,900.00	12,110.00	13,508.66	11,711.99	51.13	49.47	-46.50	-1,864.46	813.26	592.41	507.70	84.71	6.993	
13,950.00	12,110.00	13,558.66	11,711.99	51.53	49.88	-46.49	-1,914.46	813.54	592.39	507.02	85.37	6.939	
14,000.00	12,110.00	13,608.66	11,711.99	51.93	50.28	-46.49	-1,964.46	813.82	592.37	506.34	86.02	6.886	
14,050.00	12,110.00	13,658.66	11,711.99	52.35	50.70	-46.49	-2,014.46	814.10	592.34	505.64	86.70	6.832	
14,100.00	12,110.00	13,708.66	11,711.99	52.76	51.12	-46.49	-2,064.46	814.38	592.32	504.94	87.38	6.779	
14,150.00	12,110.00	13,758.66	11,711.99	53.19	51.55	-46.49	-2,114.45	814.66	592.30	504.22	88.08	6.725	
14,200.00	12,110.00	13,808.66	11,711.99	53.62	51.99	-46.48	-2,164.45	814.94	592.28	503.50	88.78	6.671	
14,250.00	12,110.00	13,858.66	11,711.99	54.06	52.43	-46.48	-2,214.45	815.22	592.25	502.76	89.50	6.617	
14,300.00	12,110.00	13,908.66	11,711.99	54.50	52.88	-46.48	-2,264.45	815.50	592.23	502.01	90.22	6.564	
14,350.00	12,110.00	13,958.66	11,711.99	54.95	53.34	-46.48	-2,314.45	815.78	592.21	501.25	90.96	6.511	
14,400.00	12,110.00	14,008.66	11,711.99	55.40	53.80	-46.48	-2,364.45	816.06	592.19	500.49	91.70	6.458	
14,450.00	12,110.00	14,058.66	11,711.99	55.87	54.27	-46.47	-2,414.45	816.34	592.16	499.71	92.46	6.405	
14,500.00	12,110.00	14,108.66	11,711.99	56.33	54.74	-46.47	-2,464.45	816.61	592.14	498.93	93.21	6.353	
14,550.00	12,110.00	14,158.66	11,711.99	56.81	55.22	-46.47	-2,514.45	816.89	592.12	498.13	93.99	6.300	
14,600.00	12,110.00	14,208.66	11,711.99	57.28	55.70	-46.47	-2,564.45	817.17	592.10	497.33	94.76	6.248	
14,650.00	12,110.00	14,258.66	11,711.99	57.77	56.19	-46.47	-2,614.45	817.45	592.07	496.52	95.56	6.196	
14,700.00	12,110.00	14,308.66	11,711.99	58.26	56.68	-46.46	-2,664.45	817.73	592.05	495.70	96.35	6.145	
14,750.00	12,110.00	14,358.66	11,711.99	58.75	57.18	-46.46	-2,714.44	818.01	592.03	494.87	97.16	6.094	
14,800.00	12,110.00	14,408.66	11,711.99	59.25	57.69	-46.46	-2,764.44	818.29	592.01	494.04	97.96	6.043	
14,850.00	12,110.00	14,458.66	11,711.99	59.75	58.20	-46.46	-2,814.44	818.57	591.99	493.20	98.79	5.993	
14,900.00	12,110.00	14,508.66	11,711.99	60.26	58.71	-46.46	-2,864.44	818.85	591.96	492.35	99.61	5.943	
14,950.00	12,110.00	14,558.66	11,711.99	60.77	59.23	-46.45	-2,914.44	819.13	591.94	491.49	100.45	5.893	
15,000.00	12,110.00	14,608.66	11,711.99	61.29	59.75	-46.45	-2,964.44	819.41	591.92	490.63	101.29	5.844	
15,050.00	12,110.00	14,658.66	11,711.99	61.81	60.28	-46.45	-3,014.44	819.69	591.90	489.76	102.14	5.795	
15,100.00	12,110.00	14,708.66	11,711.99	62.33	60.81	-46.45	-3,064.44	819.97	591.87	488.89	102.99	5.747	
15,150.00	12,110.00	14,758.66	11,711.99	62.86	61.34	-46.45	-3,114.44	820.25	591.85	488.00	103.85	5.699	
15,200.00	12,110.00	14,808.66	11,711.99	63.39	61.88	-46.44	-3,164.44	820.52	591.83	487.11	104.72	5.652	
15,250.00	12,110.00	14,858.66	11,711.99	63.93	62.42	-46.44	-3,214.44	820.80	591.81	486.21	105.59	5.605	
15,300.00	12,110.00	14,908.66	11,711.99	64.47	62.97	-46.44	-3,264.44	821.08	591.78	485.32	106.47	5.558	
15,350.00	12,110.00	14,958.66	11,711.99	65.02	63.52	-46.44	-3,314.44	821.36	591.76	484.41	107.36	5.512	
15,400.00	12,110.00	15,008.66	11,711.99	65.56	64.07	-46.44	-3,364.43	821.64	591.74	483.49	108.24	5.467	
15,450.00	12,110.00	15,058.66	11,711.99	66.12	64.63	-46.43	-3,414.43	821.92	591.72	482.57	109.14	5.421	

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

Anticollision Report

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Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
15,500.00	12,110.00	15,108.66	11,711.99	66.67	65.19	-46.43	-3,464.43	822.20	591.69	481.65	110.04	5.377	
15,550.00	12,110.00	15,158.66	11,711.99	67.23	65.76	-46.43	-3,514.43	822.48	591.67	480.72	110.95	5.333	
15,600.00	12,110.00	15,208.66	11,711.99	67.79	66.32	-46.43	-3,564.43	822.76	591.65	479.79	111.86	5.289	
15,650.00	12,110.00	15,258.66	11,711.99	68.35	66.89	-46.42	-3,614.43	823.04	591.63	478.84	112.78	5.246	
15,700.00	12,110.00	15,308.66	11,711.99	68.92	67.47	-46.42	-3,664.43	823.32	591.60	477.90	113.70	5.203	
15,750.00	12,110.00	15,358.66	11,711.99	69.49	68.04	-46.42	-3,714.43	823.60	591.58	476.95	114.63	5.161	
15,800.00	12,110.00	15,408.66	11,711.99	70.06	68.62	-46.42	-3,764.43	823.88	591.56	476.00	115.56	5.119	
15,850.00	12,110.00	15,458.66	11,711.99	70.64	69.20	-46.42	-3,814.43	824.15	591.54	475.04	116.50	5.078	
15,900.00	12,110.00	15,508.66	11,711.99	71.22	69.79	-46.41	-3,864.43	824.43	591.52	474.08	117.44	5.037	
15,950.00	12,110.00	15,558.66	11,711.99	71.80	70.38	-46.41	-3,914.43	824.71	591.49	473.11	118.39	4.996	Alert
16,000.00	12,110.00	15,608.66	11,711.99	72.39	70.97	-46.41	-3,964.43	824.99	591.47	472.14	119.33	4.956	Alert
16,050.00	12,110.00	15,658.66	11,711.99	72.97	71.56	-46.41	-4,014.42	825.27	591.45	471.16	120.29	4.917	Alert
16,100.00	12,110.00	15,708.66	11,711.99	73.56	72.15	-46.41	-4,064.42	825.55	591.43	470.18	121.25	4.878	Alert
16,150.00	12,110.00	15,758.66	11,711.99	74.16	72.75	-46.40	-4,114.42	825.83	591.40	469.19	122.21	4.839	Alert
16,200.00	12,110.00	15,808.66	11,711.99	74.75	73.35	-46.40	-4,164.42	826.11	591.38	468.21	123.17	4.801	Alert
16,250.00	12,110.00	15,858.66	11,711.99	75.35	73.96	-46.40	-4,214.42	826.39	591.36	467.21	124.14	4.763	Alert
16,300.00	12,110.00	15,908.66	11,711.99	75.95	74.56	-46.40	-4,264.42	826.67	591.34	466.22	125.12	4.726	Alert
16,350.00	12,110.00	15,958.66	11,711.99	76.55	75.17	-46.40	-4,314.42	826.95	591.31	465.22	126.09	4.689	Alert
16,400.00	12,110.00	16,008.66	11,711.99	77.15	75.77	-46.39	-4,364.42	827.23	591.29	464.22	127.07	4.653	Alert
16,450.00	12,110.00	16,058.66	11,711.99	77.76	76.39	-46.39	-4,414.42	827.51	591.27	463.21	128.06	4.617	Alert
16,500.00	12,110.00	16,108.66	11,711.99	78.37	77.00	-46.39	-4,464.42	827.78	591.25	462.20	129.04	4.582	Alert
16,550.00	12,110.00	16,158.66	11,711.99	78.98	77.61	-46.39	-4,514.42	828.06	591.22	461.19	130.03	4.547	Alert
16,600.00	12,110.00	16,208.66	11,711.99	79.59	78.23	-46.39	-4,564.42	828.34	591.20	460.17	131.03	4.512	Alert
16,650.00	12,110.00	16,258.66	11,711.99	80.20	78.85	-46.38	-4,614.41	828.62	591.18	459.15	132.02	4.478	Alert
16,700.00	12,110.00	16,308.66	11,711.99	80.82	79.47	-46.38	-4,664.41	828.90	591.16	458.13	133.02	4.444	Alert
16,750.00	12,110.00	16,358.66	11,711.99	81.44	80.09	-46.38	-4,714.41	829.18	591.13	457.11	134.03	4.411	Alert
16,800.00	12,110.00	16,408.66	11,711.99	82.05	80.72	-46.38	-4,764.41	829.46	591.11	456.08	135.03	4.378	Alert
16,850.00	12,110.00	16,458.66	11,711.99	82.68	81.34	-46.38	-4,814.41	829.74	591.09	455.05	136.04	4.345	Alert
16,900.00	12,110.00	16,508.66	11,711.99	83.30	81.97	-46.37	-4,864.41	830.02	591.07	454.02	137.05	4.313	Alert
16,950.00	12,110.00	16,558.66	11,711.99	83.92	82.60	-46.37	-4,914.41	830.30	591.05	452.98	138.07	4.281	Alert
17,000.00	12,110.00	16,608.66	11,711.99	84.55	83.23	-46.37	-4,964.41	830.58	591.02	451.94	139.08	4.249	Alert
17,050.00	12,110.00	16,658.66	11,711.99	85.18	83.87	-46.37	-5,014.41	830.86	591.00	450.90	140.10	4.218	Alert
17,100.00	12,110.00	16,708.66	11,711.99	85.81	84.50	-46.36	-5,064.41	831.14	590.98	449.86	141.12	4.188	Alert
17,150.00	12,110.00	16,761.15	11,712.24	86.44	85.17	-46.38	-5,116.90	831.43	590.78	448.63	142.16	4.156	Alert
17,200.00	12,110.00	16,811.15	11,712.55	87.07	85.81	-46.40	-5,166.89	831.71	590.55	447.34	143.21	4.124	Alert
17,250.00	12,110.00	16,861.15	11,712.86	87.71	86.45	-46.42	-5,216.89	831.99	590.32	446.05	144.27	4.092	Alert
17,300.00	12,110.00	16,911.15	11,713.16	88.34	87.09	-46.44	-5,266.89	832.27	590.08	444.76	145.33	4.060	Alert
17,350.00	12,110.00	16,961.15	11,713.47	88.98	87.73	-46.46	-5,316.89	832.55	589.85	443.46	146.39	4.029	Alert
17,400.00	12,110.00	17,011.15	11,713.77	89.62	88.37	-46.48	-5,366.88	832.83	589.62	442.17	147.45	3.999	Alert
17,450.00	12,110.00	17,061.15	11,714.08	90.26	89.02	-46.50	-5,416.88	833.10	589.39	440.86	148.52	3.968	Alert
17,500.00	12,110.00	17,111.14	11,714.38	90.90	89.66	-46.52	-5,466.88	833.38	589.15	439.56	149.59	3.938	Alert
17,550.00	12,110.00	17,161.14	11,714.69	91.54	90.31	-46.54	-5,516.88	833.66	588.92	438.26	150.66	3.909	Alert
17,600.00	12,110.00	17,211.14	11,714.99	92.19	90.96	-46.56	-5,566.87	833.94	588.69	436.95	151.74	3.880	Alert
17,650.00	12,110.00	17,261.14	11,715.30	92.83	91.61	-46.58	-5,616.87	834.22	588.46	435.64	152.82	3.851	Alert
17,700.00	12,110.00	17,311.14	11,715.60	93.48	92.26	-46.59	-5,666.87	834.50	588.22	434.33	153.90	3.822	Alert
17,750.00	12,110.00	17,361.14	11,715.91	94.13	92.91	-46.61	-5,716.86	834.78	587.99	433.01	154.98	3.794	Alert
17,800.00	12,110.00	17,411.14	11,716.21	94.77	93.56	-46.63	-5,766.86	835.06	587.76	431.70	156.06	3.766	Alert
17,850.00	12,110.00	17,461.14	11,716.52	95.42	94.22	-46.65	-5,816.86	835.34	587.53	430.38	157.15	3.739	Alert
17,900.00	12,110.00	17,511.14	11,716.83	96.08	94.87	-46.67	-5,866.86	835.62	587.30	429.06	158.24	3.711	Alert
17,950.00	12,110.00	17,561.14	11,717.13	96.73	95.53	-46.69	-5,916.85	835.90	587.06	427.73	159.33	3.685	Alert
18,000.00	12,110.00	17,611.13	11,717.44	97.38	96.19	-46.71	-5,966.85	836.18	586.83	426.41	160.42	3.658	Alert
18,050.00	12,110.00	17,661.13	11,717.74	98.04	96.85	-46.73	-6,016.85	836.46	586.60	425.08	161.52	3.632	Alert

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
18,100.00	12,110.00	17,711.13	11,718.05	98.69	97.51	-46.75	-6,066.85	836.73	586.37	423.75	162.62	3.606	Alert
18,150.00	12,110.00	17,761.13	11,718.35	99.35	98.17	-46.77	-6,116.84	837.01	586.14	422.42	163.72	3.580	Alert
18,200.00	12,110.00	17,811.13	11,718.66	100.00	98.83	-46.79	-6,166.84	837.29	585.90	421.08	164.82	3.555	Alert
18,250.00	12,110.00	17,861.13	11,718.96	100.66	99.49	-46.81	-6,216.84	837.57	585.67	419.75	165.93	3.530	Alert
18,300.00	12,110.00	17,911.13	11,719.27	101.32	100.16	-46.83	-6,266.84	837.85	585.44	418.41	167.03	3.505	Alert
18,350.00	12,110.00	17,961.13	11,719.57	101.98	100.82	-46.85	-6,316.83	838.13	585.21	417.07	168.14	3.481	Alert
18,400.00	12,110.00	18,011.13	11,719.88	102.64	101.48	-46.87	-6,366.83	838.41	584.98	415.73	169.25	3.456	Alert
18,450.00	12,110.00	18,061.13	11,720.19	103.31	102.15	-46.89	-6,416.83	838.69	584.75	414.39	170.36	3.432	Alert
18,500.00	12,110.00	18,111.13	11,720.49	103.97	102.82	-46.91	-6,466.82	838.97	584.52	413.04	171.47	3.409	Alert
18,550.00	12,110.00	18,161.12	11,720.80	104.63	103.49	-46.93	-6,516.82	839.25	584.28	411.69	172.59	3.385	Alert
18,600.00	12,110.00	18,211.12	11,721.10	105.30	104.15	-46.95	-6,566.82	839.53	584.05	410.35	173.71	3.362	Alert
18,650.00	12,110.00	18,261.12	11,721.41	105.96	104.82	-46.97	-6,616.82	839.81	583.82	409.00	174.83	3.339	Alert
18,700.00	12,110.00	18,311.12	11,721.71	106.63	105.49	-46.99	-6,666.81	840.09	583.59	407.64	175.95	3.317	Alert
18,750.00	12,110.00	18,361.12	11,722.02	107.30	106.17	-47.01	-6,716.81	840.36	583.36	406.29	177.07	3.295	Alert
18,800.00	12,110.00	18,411.12	11,722.32	107.97	106.84	-47.03	-6,766.81	840.64	583.13	404.94	178.19	3.272	Alert
18,850.00	12,110.00	18,461.12	11,722.63	108.64	107.51	-47.05	-6,816.81	840.92	582.90	403.58	179.32	3.251	Alert
18,900.00	12,110.00	18,511.12	11,722.93	109.30	108.18	-47.07	-6,866.80	841.20	582.67	402.22	180.45	3.229	Alert
18,950.00	12,110.00	18,561.12	11,723.24	109.98	108.86	-47.09	-6,916.80	841.48	582.44	400.86	181.58	3.208	Alert
19,000.00	12,110.00	18,611.12	11,723.55	110.65	109.53	-47.11	-6,966.80	841.76	582.21	399.50	182.71	3.187	Alert
19,050.00	12,110.00	18,661.11	11,723.85	111.32	110.21	-47.13	-7,016.80	842.04	581.98	398.13	183.84	3.166	Alert
19,100.00	12,110.00	18,711.11	11,724.16	111.99	110.88	-47.15	-7,066.79	842.32	581.75	396.77	184.98	3.145	Alert
19,150.00	12,110.00	18,761.11	11,724.46	112.66	111.56	-47.17	-7,116.79	842.60	581.52	395.40	186.11	3.125	Alert
19,200.00	12,110.00	18,811.11	11,724.77	113.34	112.24	-47.19	-7,166.79	842.88	581.29	394.04	187.25	3.104	Alert
19,250.00	12,110.00	18,861.11	11,725.07	114.01	112.91	-47.21	-7,216.79	843.16	581.06	392.67	188.39	3.084	Alert
19,300.00	12,110.00	18,911.11	11,725.38	114.69	113.59	-47.23	-7,266.78	843.44	580.83	391.30	189.53	3.065	Alert
19,350.00	12,110.00	18,961.11	11,725.68	115.36	114.27	-47.25	-7,316.78	843.72	580.60	389.92	190.67	3.045	Alert
19,400.00	12,110.00	19,011.11	11,725.99	116.04	114.95	-47.27	-7,366.78	843.99	580.37	388.55	191.82	3.026	Alert
19,450.00	12,110.00	19,061.11	11,726.29	116.72	115.63	-47.29	-7,416.77	844.27	580.14	387.17	192.96	3.006	Alert
19,500.00	12,110.00	19,111.11	11,726.60	117.40	116.31	-47.31	-7,466.77	844.55	579.91	385.80	194.11	2.988	Alert
19,550.00	12,110.00	19,161.11	11,726.90	118.07	117.00	-47.33	-7,516.77	844.83	579.68	384.42	195.26	2.969	Alert
19,600.00	12,110.00	19,211.10	11,727.21	118.75	117.68	-47.35	-7,566.77	845.11	579.45	383.04	196.40	2.950	Alert
19,650.00	12,110.00	19,261.10	11,727.52	119.43	118.36	-47.37	-7,616.76	845.39	579.22	381.66	197.56	2.932	Alert
19,700.00	12,110.00	19,311.10	11,727.82	120.11	119.04	-47.39	-7,666.76	845.67	578.99	380.28	198.71	2.914	Alert
19,750.00	12,110.00	19,361.10	11,728.13	120.79	119.73	-47.41	-7,716.76	845.95	578.76	378.90	199.86	2.896	Alert
19,800.00	12,110.00	19,411.10	11,728.43	121.48	120.41	-47.43	-7,766.76	846.23	578.53	377.51	201.02	2.878	Alert
19,850.00	12,110.00	19,461.10	11,728.74	122.16	121.10	-47.45	-7,816.75	846.51	578.30	376.13	202.17	2.860	Alert
19,900.00	12,110.00	19,511.10	11,729.04	122.84	121.78	-47.47	-7,866.75	846.79	578.07	374.74	203.33	2.843	Alert
19,950.00	12,110.00	19,561.10	11,729.35	123.52	122.47	-47.49	-7,916.75	847.07	577.84	373.35	204.49	2.826	Alert
20,000.00	12,110.00	19,611.10	11,729.65	124.21	123.15	-47.51	-7,966.75	847.35	577.61	371.96	205.65	2.809	Alert
20,050.00	12,110.00	19,661.10	11,729.96	124.89	123.84	-47.53	-8,016.74	847.62	577.38	370.57	206.81	2.792	Alert
20,100.00	12,110.00	19,711.10	11,730.26	125.58	124.53	-47.55	-8,066.74	847.90	577.15	369.18	207.97	2.775	Alert
20,150.00	12,110.00	19,761.09	11,730.57	126.26	125.22	-47.57	-8,116.74	848.18	576.92	367.79	209.14	2.759	Alert
20,200.00	12,110.00	19,811.09	11,730.88	126.95	125.90	-47.59	-8,166.73	848.46	576.70	366.39	210.30	2.742	Alert
20,250.00	12,110.00	19,861.09	11,731.18	127.63	126.59	-47.61	-8,216.73	848.74	576.47	365.00	211.47	2.726	Alert
20,300.00	12,110.00	19,911.09	11,731.49	128.32	127.28	-47.63	-8,266.73	849.02	576.24	363.60	212.64	2.710	Alert
20,350.00	12,110.00	19,961.09	11,731.79	129.01	127.97	-47.65	-8,316.73	849.30	576.01	362.20	213.81	2.694	Alert
20,400.00	12,110.00	20,011.09	11,732.10	129.69	128.66	-47.67	-8,366.72	849.58	575.78	360.80	214.98	2.678	Alert
20,450.00	12,110.00	20,061.09	11,732.40	130.38	129.35	-47.69	-8,416.72	849.86	575.55	359.40	216.15	2.663	Alert
20,500.00	12,110.00	20,111.09	11,732.71	131.07	130.04	-47.71	-8,466.72	850.14	575.32	358.00	217.32	2.647	Alert
20,550.00	12,110.00	20,161.09	11,733.01	131.76	130.74	-47.73	-8,516.72	850.42	575.10	356.60	218.49	2.632	Alert
20,600.00	12,110.00	20,211.09	11,733.32	132.45	131.43	-47.75	-8,566.71	850.70	574.87	355.20	219.67	2.617	Alert
20,650.00	12,110.00	20,261.08	11,733.62	133.14	132.12	-47.78	-8,616.71	850.98	574.64	353.79	220.85	2.602	Alert

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
20,700.00	12,110.00	20,311.08	11,733.93	133.83	132.81	-47.80	-8,666.71	851.26	574.41	352.39	222.02	2.587	Alert
20,750.00	12,110.00	20,361.08	11,734.23	134.52	133.50	-47.82	-8,716.71	851.53	574.18	350.98	223.20	2.572	Alert
20,800.00	12,110.00	20,411.08	11,734.54	135.21	134.20	-47.84	-8,766.70	851.81	573.95	349.57	224.38	2.558	Alert
20,850.00	12,110.00	20,461.08	11,734.85	135.90	134.89	-47.86	-8,816.70	852.09	573.73	348.17	225.56	2.544	Alert
20,900.00	12,110.00	20,511.08	11,735.15	136.59	135.59	-47.88	-8,866.70	852.37	573.50	346.76	226.74	2.529	Alert
20,950.00	12,110.00	20,561.08	11,735.46	137.28	136.28	-47.90	-8,916.69	852.65	573.27	345.35	227.93	2.515	Alert
21,000.00	12,110.00	20,611.08	11,735.76	137.98	136.98	-47.92	-8,966.69	852.93	573.04	343.94	229.11	2.501	Alert
21,050.00	12,110.00	20,661.08	11,736.07	138.67	137.67	-47.94	-9,016.69	853.21	572.82	342.52	230.29	2.487	Minor Risk
21,100.00	12,110.00	20,711.08	11,736.37	139.36	138.37	-47.96	-9,066.69	853.49	572.59	341.11	231.48	2.474	Minor Risk
21,150.00	12,110.00	20,761.08	11,736.68	140.06	139.06	-47.98	-9,116.68	853.77	572.36	339.69	232.67	2.460	Minor Risk
21,200.00	12,110.00	20,811.07	11,736.98	140.75	139.76	-48.00	-9,166.68	854.05	572.13	338.28	233.85	2.447	Minor Risk
21,250.00	12,110.00	20,861.07	11,737.29	141.44	140.45	-48.02	-9,216.68	854.33	571.91	336.86	235.04	2.433	Minor Risk
21,300.00	12,110.00	20,911.07	11,737.59	142.14	141.15	-48.04	-9,266.68	854.61	571.68	335.45	236.23	2.420	Minor Risk
21,350.00	12,110.00	20,961.07	11,737.90	142.83	141.85	-48.06	-9,316.67	854.89	571.45	334.03	237.43	2.407	Minor Risk
21,400.00	12,110.00	21,011.07	11,738.21	143.53	142.55	-48.08	-9,366.67	855.16	571.23	332.61	238.62	2.394	Minor Risk
21,450.00	12,110.00	21,061.07	11,738.51	144.22	143.24	-48.11	-9,416.67	855.44	571.00	331.19	239.81	2.381	Minor Risk
21,500.00	12,110.00	21,111.07	11,738.82	144.92	143.94	-48.13	-9,466.67	855.72	570.77	329.77	241.00	2.368	Minor Risk
21,550.00	12,110.00	21,161.07	11,739.12	145.62	144.64	-48.15	-9,516.66	856.00	570.54	328.34	242.20	2.356	Minor Risk
21,600.00	12,110.00	21,211.07	11,739.43	146.31	145.34	-48.17	-9,566.66	856.28	570.32	326.92	243.40	2.343	Minor Risk
21,650.00	12,110.00	21,261.07	11,739.73	147.01	146.04	-48.19	-9,616.66	856.56	570.09	325.50	244.59	2.331	Minor Risk
21,700.00	12,110.00	21,311.07	11,740.04	147.71	146.74	-48.21	-9,666.66	856.84	569.86	324.07	245.79	2.318	Minor Risk
21,750.00	12,110.00	21,361.06	11,740.34	148.40	147.44	-48.23	-9,716.65	857.12	569.64	322.65	246.99	2.306	Minor Risk
21,800.00	12,110.00	21,411.06	11,740.65	149.10	148.14	-48.25	-9,766.65	857.40	569.41	321.22	248.19	2.294	Minor Risk
21,850.00	12,110.00	21,461.06	11,740.95	149.80	148.84	-48.27	-9,816.65	857.68	569.18	319.79	249.39	2.282	Minor Risk
21,900.00	12,110.00	21,511.06	11,741.26	150.50	149.54	-48.29	-9,866.64	857.96	568.96	318.37	250.59	2.270	Minor Risk
21,950.00	12,110.00	21,561.06	11,741.57	151.20	150.24	-48.31	-9,916.64	858.24	568.73	316.94	251.80	2.259	Minor Risk
22,000.00	12,110.00	21,611.06	11,741.87	151.90	150.94	-48.33	-9,966.64	858.52	568.51	315.51	253.00	2.247	Minor Risk
22,050.00	12,110.00	21,661.06	11,742.18	152.60	151.64	-48.36	-10,016.64	858.79	568.28	314.08	254.21	2.236	Minor Risk
22,052.25	12,110.00	21,663.31	11,742.19	152.63	151.67	-48.36	-10,018.89	858.81	568.27	314.01	254.26	2.235	Minor Risk, ES, SF
22,100.00	12,110.00	21,657.56	11,742.15	153.30	151.59	-48.35	-10,013.14	858.78	570.57	315.82	254.75	2.240	Minor Risk
22,150.00	12,110.00	21,657.56	11,742.15	154.00	151.59	-48.35	-10,013.14	858.78	577.18	323.57	253.61	2.276	Minor Risk
22,200.00	12,110.00	21,657.56	11,742.15	154.70	151.59	-48.35	-10,013.14	858.78	587.99	337.03	250.96	2.343	Minor Risk
22,250.00	12,110.00	21,657.56	11,742.15	155.40	151.59	-48.35	-10,013.14	858.78	602.77	355.76	247.01	2.440	Minor Risk
22,300.00	12,110.00	21,657.56	11,742.15	156.10	151.59	-48.35	-10,013.14	858.78	621.22	379.19	242.03	2.567	Alert
22,350.00	12,110.00	21,657.56	11,742.15	156.80	151.59	-48.35	-10,013.14	858.78	643.05	406.73	236.31	2.721	Alert
22,358.61	12,110.00	21,657.56	11,742.15	156.92	151.59	-48.35	-10,013.14	858.78	647.12	411.84	235.28	2.750	Alert

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	9.80	9.80	0.50		92.34	-26.92	657.87	658.42				
50.00	50.00	59.80	59.80	0.50		92.34	-26.92	657.87	658.42	657.42	1.00	657.105	
100.00	100.00	109.80	109.80	0.52		92.34	-26.92	657.87	658.42	657.40	1.02	646.935	
131.36	131.36	141.16	141.16	0.56		92.38	-27.35	657.83	658.40	657.34	1.06	622.531	
150.00	150.00	159.77	159.77	0.59		92.38	-27.34	657.83	658.40	657.31	1.09	603.904	
200.00	200.00	209.71	209.70	0.70		92.37	-27.24	657.84	658.41	657.20	1.20	547.712	
250.00	250.00	259.64	259.64	0.84		92.35	-27.03	657.86	658.42	657.08	1.34	492.195	
300.00	300.00	309.83	309.80	0.99		92.34	-26.92	657.87	658.42	656.93	1.49	442.686	
317.36	317.36	327.16	327.13	1.04		92.36	-27.11	657.79	658.35	656.81	1.54	427.090	
350.00	350.00	358.40	358.37	1.15		92.35	-27.02	657.83	658.38	656.74	1.65	400.113	
400.00	400.00	409.85	409.80	1.31		92.34	-26.92	657.87	658.42	656.61	1.81	363.952	
409.68	409.68	419.53	419.48	1.34		92.36	-27.12	657.76	658.32	656.48	1.84	357.544	
450.00	450.00	457.58	457.52	1.48		92.35	-26.98	657.84	658.39	656.42	1.98	333.138	
500.00	500.00	509.86	509.80	1.65		92.34	-26.92	657.87	658.42	656.28	2.15	306.801	
505.94	505.94	515.60	515.54	1.67		92.36	-27.06	657.76	658.32	656.15	2.17	303.878	
550.00	550.00	557.03	556.97	1.82		92.34	-26.93	657.86	658.42	656.10	2.32	284.086	
596.61	596.61	606.47	606.40	1.98		92.36	-27.09	657.81	658.37	655.89	2.48	265.594	
600.00	600.00	609.75	609.68	1.99		92.36	-27.09	657.81	658.37	655.88	2.49	264.341	
650.00	650.00	659.88	659.80	2.16		92.34	-26.92	657.87	658.42	655.76	2.66	247.103	
700.00	700.00	709.88	709.80	2.34		92.34	-26.92	657.87	658.42	655.58	2.84	231.895	
717.08	717.08	726.92	726.83	2.40		92.36	-27.12	657.78	658.34	655.44	2.90	227.079	
750.00	750.00	759.18	759.09	2.51		92.36	-27.07	657.80	658.36	655.35	3.01	218.384	
800.00	800.00	809.89	809.80	2.69		92.34	-26.92	657.87	658.42	655.23	3.19	206.363	
832.31	832.31	842.19	842.10	2.80		92.35	-27.01	657.82	658.37	655.07	3.30	199.236	
850.00	850.00	859.36	859.27	2.87		92.35	-26.99	657.83	658.38	655.01	3.37	195.545	
900.00	900.00	909.90	909.80	3.04		92.34	-26.92	657.87	658.42	654.88	3.54	185.809	
924.43	924.43	934.27	934.18	3.13		92.35	-27.04	657.77	658.32	654.69	3.63	181.359	
950.00	950.00	958.36	958.26	3.22		92.35	-27.01	657.80	658.36	654.64	3.72	176.954	
1,000.00	1,000.00	1,009.91	1,009.80	3.40		92.34	-26.92	657.87	658.42	654.52	3.90	168.927	
1,016.83	1,016.83	1,026.62	1,026.51	3.46		92.36	-27.08	657.75	658.30	654.35	3.96	166.349	
1,050.00	1,050.00	1,057.51	1,057.40	3.58		92.35	-27.00	657.81	658.37	654.29	4.08	161.561	
1,100.00	1,100.00	1,109.92	1,109.80	3.75		92.34	-26.92	657.87	658.42	654.17	4.25	154.828	
1,107.53	1,107.53	1,117.40	1,117.28	3.78		92.36	-27.08	657.78	658.34	654.06	4.28	153.841	
1,150.00	1,150.00	1,157.78	1,157.66	3.93		92.35	-26.95	657.86	658.41	653.98	4.43	148.615	
1,197.60	1,197.60	1,207.53	1,207.40	4.10		92.36	-27.09	657.77	658.33	653.73	4.60	143.126	
1,200.00	1,200.00	1,209.79	1,209.66	4.11		92.36	-27.09	657.77	658.33	653.72	4.61	142.861	
1,250.00	1,250.00	1,259.95	1,259.80	4.29		92.34	-26.92	657.87	658.42	653.64	4.79	137.569	
1,289.05	1,289.05	1,298.99	1,298.85	4.43		92.36	-27.09	657.77	658.33	653.41	4.93	133.667	
1,300.00	1,300.00	1,309.36	1,309.21	4.46		92.36	-27.09	657.78	658.34	653.37	4.96	132.617	
1,350.00	1,350.00	1,359.96	1,359.80	4.64		92.34	-26.92	657.87	658.42	653.28	5.14	128.040	
1,383.04	1,383.04	1,393.00	1,392.84	4.76		92.36	-27.09	657.75	658.30	653.04	5.26	125.151	
1,400.00	1,400.00	1,408.90	1,408.74	4.82		92.36	-27.07	657.76	658.32	653.00	5.32	123.731	
1,450.00	1,450.00	1,459.97	1,459.80	5.00		92.34	-26.92	657.87	658.42	652.92	5.50	119.738	
1,478.04	1,478.04	1,488.01	1,487.84	5.10		92.36	-27.08	657.78	658.34	652.74	5.60	117.583	
1,500.00	1,500.00	1,508.90	1,508.73	5.18		92.35	-27.05	657.80	658.35	652.68	5.68	115.964	
1,550.00	1,550.00	1,559.98	1,559.80	5.36		92.34	-26.92	657.87	658.42	652.57	5.86	112.442	
1,574.23	1,574.23	1,584.12	1,583.94	5.44		92.36	-27.07	657.80	658.35	652.41	5.94	110.794	
1,600.00	1,600.00	1,608.88	1,608.69	5.53		92.35	-27.02	657.82	658.38	652.34	6.03	109.109	
1,650.00	1,650.00	1,659.99	1,659.80	5.71		92.34	-26.92	657.87	658.42	652.21	6.21	105.981	
1,666.94	1,666.94	1,676.87	1,676.67	5.77		92.35	-27.04	657.79	658.35	652.08	6.27	104.947	
1,700.00	1,700.00	1,708.52	1,708.33	5.89		92.35	-26.98	657.83	658.39	652.00	6.39	103.014	
1,750.00	1,750.00	1,760.00	1,759.80	6.07		92.34	-26.92	657.87	658.42	651.85	6.57	100.219	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,759.44	1,759.44	1,769.42	1,769.23	6.10		92.35	-27.04	657.79	658.35	651.75	6.60	99.696	
1,800.00	1,800.00	1,808.30	1,808.10	6.25		92.35	-26.96	657.85	658.40	651.65	6.75	97.563	
1,850.00	1,850.00	1,860.01	1,859.80	6.43		92.34	-26.92	657.87	658.42	651.49	6.93	95.049	
1,855.88	1,855.88	1,865.82	1,865.62	6.45		92.36	-27.06	657.83	658.39	651.44	6.95	94.757	
1,900.00	1,900.00	1,909.02	1,908.81	6.61		92.34	-26.93	657.87	658.42	651.32	7.11	92.659	
1,947.05	1,947.05	1,957.06	1,956.85	6.77		92.35	-27.03	657.83	658.38	651.11	7.27	90.511	
1,950.00	1,950.00	1,959.94	1,959.73	6.78		92.35	-27.03	657.83	658.38	651.10	7.28	90.380	
2,000.00	2,000.00	2,010.02	2,009.80	6.96		92.34	-26.92	657.87	658.42	650.96	7.46	88.221	
2,050.00	2,050.00	2,060.00	2,059.78	7.14		25.69	-27.02	657.86	658.22	650.58	7.64	86.162	
2,100.00	2,099.99	2,110.01	2,109.79	7.32		25.71	-26.92	657.87	657.64	649.82	7.82	84.146	
2,150.00	2,149.98	2,160.06	2,159.84	7.49		25.76	-27.03	657.87	656.66	648.67	7.99	82.194	
2,200.00	2,199.96	2,209.99	2,209.76	7.66		25.82	-26.92	657.87	655.28	647.12	8.16	80.276	
2,250.00	2,249.92	2,263.19	2,262.96	7.84		25.89	-26.80	658.04	653.68	645.35	8.34	78.409	
2,300.00	2,299.87	2,309.94	2,309.67	8.01		25.99	-26.92	657.87	651.49	642.98	8.51	76.546	
2,350.00	2,349.82	2,365.73	2,365.45	8.19		26.07	-26.80	658.03	649.65	640.97	8.69	74.800	
2,400.00	2,399.77	2,409.94	2,409.57	8.36		26.16	-26.92	657.87	647.45	638.59	8.86	73.077	
2,450.00	2,449.72	2,470.51	2,470.09	8.54		26.26	-26.84	657.93	645.58	636.54	9.03	71.465	
2,500.00	2,499.67	2,510.03	2,509.47	8.72		26.34	-26.92	657.87	643.42	634.21	9.21	69.864	
2,550.00	2,549.62	2,575.73	2,559.42	8.89		26.43	-26.92	657.87	641.40	632.02	9.38	68.345	
2,600.00	2,599.57	2,610.22	2,609.37	9.07		26.52	-26.92	657.87	639.39	629.83	9.56	66.882	
2,650.00	2,649.52	2,665.28	2,659.32	9.25		26.61	-26.92	657.87	637.37	627.64	9.74	65.469	
2,700.00	2,699.47	2,711.51	2,710.01	9.42		26.59	-25.73	658.68	636.11	626.19	9.91	64.181	
2,750.00	2,749.41	2,761.40	2,759.21	9.60		26.79	-26.92	657.87	633.35	623.27	10.09	62.789	
2,800.00	2,799.36	2,817.53	2,815.21	9.78		26.78	-25.73	658.67	632.11	621.84	10.26	61.597	
2,850.00	2,849.31	2,862.13	2,859.11	9.95		26.98	-26.92	657.87	629.34	618.90	10.44	60.287	
2,900.00	2,899.26	2,922.89	2,919.70	10.13		27.00	-25.96	658.52	628.01	617.40	10.61	59.175	
2,950.00	2,949.21	2,962.87	2,959.01	10.31		27.16	-26.92	657.87	625.33	614.54	10.79	57.946	
3,000.00	2,999.16	3,030.47	3,026.38	10.49		27.25	-26.48	658.18	623.85	612.89	10.96	56.909	
3,050.00	3,049.11	3,063.62	3,058.91	10.66		27.35	-26.92	657.87	621.33	610.19	11.14	55.751	
3,100.00	3,099.06	3,135.00	3,129.43	10.84		27.49	-26.92	657.87	619.68	608.37	11.31	54.776	
3,150.00	3,149.01	3,164.38	3,158.81	11.02		27.54	-26.92	657.87	617.34	605.84	11.50	53.689	
3,200.00	3,198.96	3,238.60	3,232.69	11.20		27.75	-27.54	657.48	615.47	603.80	11.66	52.768	
3,250.00	3,248.91	3,265.07	3,258.71	11.38		27.74	-26.92	657.87	613.36	601.50	11.85	51.750	
3,300.00	3,298.86	3,341.31	3,334.57	11.55		28.01	-28.12	657.11	611.25	599.24	12.02	50.873	
3,350.00	3,348.81	3,365.73	3,358.61	11.73		27.93	-26.92	657.87	609.38	597.17	12.21	49.922	
3,400.00	3,398.76	3,417.60	3,408.56	11.91		28.03	-26.92	657.87	607.39	595.01	12.38	49.047	
3,450.00	3,448.71	3,467.58	3,459.64	12.09		28.02	-25.72	658.61	606.05	593.48	12.56	48.248	
3,500.00	3,498.66	3,517.04	3,508.46	12.27		28.23	-26.92	657.87	603.42	590.68	12.74	47.369	
3,550.00	3,548.60	3,573.00	3,564.28	12.45		28.23	-25.80	658.64	602.14	589.23	12.91	46.626	
3,600.00	3,598.55	3,617.70	3,608.35	12.63		28.44	-26.92	657.87	599.46	586.37	13.09	45.782	
3,650.00	3,648.50	3,678.60	3,669.10	12.81		28.48	-26.10	658.47	598.10	584.84	13.27	45.083	
3,700.00	3,698.45	3,718.27	3,708.25	12.99		28.64	-26.92	657.87	595.51	582.06	13.45	44.278	
3,750.00	3,748.40	3,784.65	3,774.47	13.16		28.75	-26.58	658.18	594.03	580.41	13.62	43.621	
3,800.00	3,798.35	3,818.69	3,808.15	13.34		28.85	-26.92	657.87	591.56	577.76	13.80	42.852	
3,850.00	3,848.30	3,888.00	3,877.07	13.52		29.00	-26.92	657.87	589.90	575.93	13.97	42.224	
3,900.00	3,898.25	3,918.98	3,908.05	13.70		29.06	-26.92	657.87	587.63	573.47	14.16	41.497	
3,950.00	3,948.20	3,988.24	3,977.18	13.88		29.23	-27.12	657.65	585.78	571.45	14.33	40.890	
4,000.00	3,998.15	4,019.21	4,007.95	14.06		29.28	-26.92	657.87	583.70	569.18	14.52	40.208	
4,050.00	4,048.10	4,092.76	4,081.35	14.24		29.49	-27.43	657.23	581.62	566.95	14.68	39.630	
4,100.00	4,098.05	4,119.41	4,107.85	14.42		29.50	-26.92	657.87	579.78	564.90	14.87	38.981	
4,150.00	4,148.00	4,170.37	4,157.80	14.60		29.61	-26.92	657.87	577.82	562.77	15.05	38.389	
4,200.00	4,197.95	4,221.74	4,209.88	14.78		29.68	-26.57	658.65	576.61	561.38	15.23	37.863	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,250.00	4,247.90	4,269.79	4,257.70	14.96		29.83	-26.92	657.87	573.91	558.50	15.41	37.247	
4,300.00	4,297.85	4,327.09	4,314.94	15.14		29.92	-26.67	658.61	572.71	557.13	15.58	36.754	
4,350.00	4,347.79	4,369.93	4,357.59	15.32		30.05	-26.92	657.87	570.01	554.25	15.76	36.157	
4,400.00	4,397.74	4,427.03	4,414.65	15.50		30.14	-26.60	658.36	568.56	552.62	15.94	35.671	
4,450.00	4,447.69	4,470.03	4,457.49	15.68		30.28	-26.92	657.87	566.12	550.00	16.12	35.115	
4,500.00	4,497.64	4,526.10	4,513.53	15.86		30.37	-26.55	658.19	564.48	548.18	16.30	34.638	
4,550.00	4,547.59	4,570.12	4,557.39	16.04		30.51	-26.92	657.87	562.24	545.76	16.48	34.119	
4,600.00	4,597.54	4,626.92	4,614.14	16.22		30.61	-26.65	658.08	560.51	543.86	16.65	33.658	
4,650.00	4,647.49	4,670.20	4,657.29	16.40		30.75	-26.92	657.87	558.37	541.53	16.84	33.165	
4,700.00	4,697.44	4,727.58	4,714.62	16.58		30.87	-26.80	657.96	556.56	539.55	17.01	32.720	
4,750.00	4,747.39	4,770.26	4,757.19	16.76		30.98	-26.92	657.87	554.51	537.31	17.19	32.251	
4,800.00	4,797.34	4,831.65	4,807.14	16.94		31.10	-26.92	657.87	552.58	535.21	17.37	31.808	
4,850.00	4,847.29	4,870.30	4,857.09	17.12		31.22	-26.92	657.87	550.65	533.10	17.55	31.374	
4,900.00	4,897.24	4,926.05	4,912.78	17.30		31.38	-27.10	657.78	548.69	530.97	17.73	30.954	
4,950.00	4,947.19	4,970.57	4,957.18	17.48		31.40	-26.26	658.06	546.90	528.99	17.91	30.538	
5,000.00	4,997.14	5,022.99	5,009.56	17.66		31.63	-27.24	657.78	544.86	526.77	18.09	30.126	
5,050.00	5,047.09	5,070.79	5,057.24	17.84		31.65	-26.31	658.02	543.04	524.77	18.27	29.729	
5,100.00	5,097.04	5,120.51	5,106.84	18.02		31.84	-26.92	657.87	541.06	522.62	18.45	29.333	
5,150.00	5,146.99	5,170.91	5,157.21	18.20		31.91	-26.39	657.99	539.19	520.57	18.62	28.951	
5,200.00	5,196.93	5,220.56	5,206.73	18.38		32.09	-26.92	657.87	537.25	518.44	18.80	28.572	
5,250.00	5,246.88	5,270.34	5,256.49	18.56		32.17	-26.43	657.93	535.33	516.35	18.98	28.201	
5,300.00	5,296.83	5,320.60	5,306.63	18.74		32.35	-26.92	657.87	533.44	514.28	19.16	27.839	
5,350.00	5,346.78	5,369.22	5,355.23	18.92		32.44	-26.56	657.87	531.49	512.14	19.34	27.479	
5,400.00	5,396.73	5,420.59	5,406.53	19.10		32.61	-26.92	657.87	529.64	510.12	19.52	27.134	
5,450.00	5,446.68	5,466.96	5,452.88	19.28		32.71	-26.72	657.80	527.66	507.96	19.70	26.783	
5,500.00	5,496.63	5,520.55	5,506.43	19.46		32.88	-26.92	657.87	525.86	505.98	19.88	26.454	
5,550.00	5,546.58	5,563.49	5,549.35	19.64		32.98	-26.82	657.73	523.86	503.80	20.06	26.114	
5,600.00	5,596.53	5,620.51	5,606.33	19.82		33.14	-26.92	657.87	522.09	501.85	20.24	25.799	
5,650.00	5,646.48	5,662.83	5,648.63	20.00		33.26	-26.91	657.79	520.18	499.76	20.42	25.475	
5,700.00	5,696.43	5,719.96	5,705.74	20.18		33.43	-27.01	657.65	518.12	497.52	20.60	25.157	
5,750.00	5,746.38	5,770.41	5,756.18	20.36		33.55	-26.92	657.87	516.45	495.67	20.77	24.860	
5,800.00	5,796.33	5,819.48	5,805.24	20.54		33.70	-27.03	657.69	514.41	493.46	20.95	24.549	
5,850.00	5,846.28	5,870.33	5,856.08	20.73		33.83	-26.92	657.87	512.70	491.57	21.13	24.261	
5,900.00	5,896.23	5,919.13	5,904.88	20.91		33.98	-27.02	657.73	510.72	489.40	21.31	23.963	
5,950.00	5,946.18	5,970.24	5,955.98	21.09		34.11	-26.92	657.87	508.97	487.48	21.49	23.682	
6,000.00	5,996.12	6,018.85	6,004.58	21.27		34.27	-27.02	657.75	507.01	485.34	21.67	23.395	
6,050.00	6,046.07	6,070.15	6,055.87	21.45		34.40	-26.92	657.87	505.25	483.40	21.85	23.123	
6,100.00	6,096.02	6,118.23	6,103.95	21.63		34.55	-26.99	657.76	503.31	481.27	22.03	22.845	
6,150.00	6,145.97	6,170.06	6,155.77	21.81		34.69	-26.92	657.87	501.54	479.33	22.21	22.582	
6,200.00	6,195.92	6,218.24	6,203.95	21.99		34.84	-26.96	657.81	499.65	477.25	22.39	22.315	
6,250.00	6,245.87	6,269.97	6,255.67	22.17		34.98	-26.92	657.87	497.85	475.28	22.57	22.060	
6,300.00	6,295.82	6,317.71	6,303.41	22.35		35.13	-26.94	657.83	495.98	473.23	22.75	21.802	
6,350.00	6,345.77	6,369.88	6,355.57	22.53		35.28	-26.92	657.87	494.17	471.24	22.93	21.554	
6,400.00	6,395.72	6,416.66	6,402.35	22.71		35.42	-26.93	657.85	492.33	469.22	23.11	21.304	
6,450.00	6,445.67	6,469.58	6,455.25	22.89		35.60	-26.98	657.72	490.37	467.08	23.29	21.058	
6,500.00	6,495.62	6,519.75	6,505.42	23.07		35.74	-26.92	657.87	488.68	465.21	23.47	20.825	
6,550.00	6,545.57	6,569.22	6,554.88	23.26		35.90	-26.99	657.73	486.73	463.08	23.65	20.584	
6,600.00	6,595.52	6,619.66	6,605.32	23.44		36.05	-26.92	657.87	485.03	461.20	23.83	20.357	
6,650.00	6,645.47	6,668.80	6,654.46	23.62		36.21	-26.98	657.73	483.09	459.08	24.01	20.124	
6,700.00	6,695.42	6,719.56	6,705.22	23.80		36.36	-26.92	657.87	481.40	457.21	24.19	19.905	
6,750.00	6,745.37	6,768.58	6,754.23	23.98		36.53	-26.94	657.77	479.49	455.13	24.37	19.679	
6,800.00	6,795.31	6,819.46	6,805.11	24.16		36.68	-26.92	657.87	477.78	453.24	24.54	19.466	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,850.00	6,845.26	6,870.31	6,855.95	24.34		36.83	-26.82	657.95	476.04	451.31	24.72	19.255	
6,900.00	6,895.21	6,919.38	6,905.01	24.52		37.01	-26.92	657.87	474.18	449.28	24.90	19.040	
6,950.00	6,945.16	6,970.48	6,956.11	24.70		37.16	-26.84	657.94	472.43	447.35	25.08	18.835	
7,000.00	6,995.11	7,019.29	7,004.91	24.88		37.34	-26.92	657.87	470.59	445.33	25.26	18.627	
7,050.00	7,045.06	7,070.19	7,055.81	25.06		37.50	-26.87	657.91	468.83	443.39	25.44	18.427	
7,100.00	7,095.01	7,119.19	7,104.81	25.24		37.67	-26.92	657.87	467.02	441.40	25.62	18.226	
7,150.00	7,144.96	7,180.85	7,154.76	25.43		37.84	-26.92	657.87	465.25	439.44	25.80	18.030	
7,200.00	7,194.91	7,219.10	7,204.71	25.61		38.01	-26.92	657.87	463.47	437.49	25.98	17.837	
7,250.00	7,244.86	7,270.17	7,255.78	25.79		38.19	-26.93	657.87	461.70	435.54	26.16	17.648	
7,300.00	7,294.81	7,319.01	7,304.62	25.97		38.34	-26.76	657.92	459.94	433.60	26.34	17.460	
7,350.00	7,344.76	7,369.16	7,354.76	26.15		38.54	-26.96	657.86	458.17	431.65	26.52	17.274	
7,400.00	7,394.71	7,418.93	7,404.52	26.33		38.69	-26.77	657.92	456.42	429.71	26.70	17.092	
7,450.00	7,444.66	7,468.87	7,454.46	26.51		38.89	-26.92	657.87	454.66	427.78	26.88	16.912	
7,500.00	7,494.61	7,519.00	7,504.58	26.69		39.05	-26.82	657.93	452.94	425.88	27.06	16.736	
7,550.00	7,544.56	7,568.77	7,554.36	26.87		39.24	-26.92	657.87	451.16	423.92	27.24	16.561	
7,600.00	7,594.50	7,618.89	7,604.48	27.05		39.42	-26.86	657.91	449.44	422.02	27.42	16.389	
7,650.00	7,644.45	7,668.67	7,654.25	27.23		39.61	-26.92	657.87	447.69	420.08	27.60	16.218	
7,700.00	7,694.40	7,718.79	7,704.37	27.42		39.79	-26.88	657.90	445.97	418.19	27.78	16.052	
7,750.00	7,744.35	7,768.57	7,754.15	27.60		39.98	-26.92	657.87	444.23	416.27	27.96	15.886	
7,800.00	7,794.30	7,818.80	7,804.38	27.78		40.16	-26.88	657.90	442.52	414.38	28.14	15.724	
7,850.00	7,844.25	7,868.47	7,854.05	27.96		40.35	-26.92	657.87	440.79	412.47	28.32	15.562	
7,900.00	7,894.20	7,918.71	7,904.29	28.14		40.54	-26.89	657.89	439.09	410.58	28.50	15.404	
7,950.00	7,944.15	7,968.37	7,953.95	28.32		40.73	-26.92	657.87	437.37	408.69	28.68	15.248	
8,000.00	7,994.10	8,031.68	8,003.90	28.50		40.93	-26.92	657.87	435.67	406.80	28.87	15.093	
8,050.00	8,044.05	8,068.27	8,053.85	28.68		41.12	-26.92	657.87	433.97	404.93	29.05	14.941	
8,100.00	8,094.00	8,119.78	8,103.80	28.86		41.32	-26.92	657.87	432.28	403.05	29.23	14.791	
8,150.00	8,143.95	8,168.16	8,153.74	29.04		41.51	-26.88	657.87	430.57	401.17	29.41	14.642	
8,200.00	8,193.90	8,218.12	8,203.70	29.23		41.71	-26.92	657.87	428.91	399.32	29.59	14.497	
8,250.00	8,243.85	8,268.07	8,253.65	29.41		41.92	-26.92	657.87	427.23	397.46	29.77	14.353	
8,300.00	8,293.80	8,318.02	8,303.60	29.59		42.12	-26.92	657.87	425.56	395.61	29.95	14.210	
8,350.00	8,343.75	8,367.93	8,353.51	29.77		42.32	-26.88	657.88	423.89	393.76	30.13	14.070	
8,400.00	8,393.69	8,417.92	8,403.49	29.95		42.53	-26.92	657.87	422.23	391.92	30.31	13.931	
8,450.00	8,443.64	8,467.64	8,453.21	30.13		42.73	-26.89	657.85	420.55	390.06	30.49	13.794	
8,500.00	8,493.59	8,517.82	8,503.39	30.31		42.94	-26.92	657.87	418.93	388.26	30.67	13.660	
8,550.00	8,543.54	8,567.21	8,552.78	30.49		43.15	-26.90	657.84	417.24	386.39	30.85	13.525	
8,600.00	8,593.49	8,617.72	8,603.29	30.67		43.36	-26.92	657.87	415.64	384.61	31.03	13.395	
8,650.00	8,643.44	8,667.38	8,652.96	30.86		43.57	-26.89	657.87	414.00	382.78	31.21	13.264	
8,700.00	8,693.39	8,717.62	8,703.19	31.04		43.79	-26.92	657.87	412.38	380.99	31.39	13.137	
8,750.00	8,743.34	8,767.08	8,752.65	31.22		44.00	-26.86	657.88	410.75	379.17	31.57	13.010	
8,800.00	8,793.29	8,817.53	8,803.09	31.40		44.23	-26.92	657.87	409.14	377.39	31.75	12.885	
8,850.00	8,843.24	8,878.52	8,853.04	31.58		44.45	-26.92	657.87	407.53	375.60	31.93	12.762	
8,900.00	8,893.19	8,917.43	8,902.99	31.76		44.67	-26.92	657.87	405.93	373.82	32.11	12.640	
8,950.00	8,943.14	8,968.13	8,953.69	31.94		44.90	-26.93	657.86	404.33	372.04	32.29	12.521	
9,000.00	8,993.09	9,017.41	9,002.97	32.12		45.11	-26.86	657.95	402.79	370.32	32.48	12.403	
9,050.00	9,043.04	9,068.29	9,053.85	32.30		45.36	-26.94	657.84	401.14	368.49	32.65	12.284	
9,100.00	9,092.99	9,117.75	9,103.30	32.49		45.58	-26.94	658.01	399.71	366.88	32.84	12.173	
9,150.00	9,142.94	9,167.19	9,152.74	32.67		45.81	-26.92	657.87	398.01	364.99	33.02	12.054	
9,200.00	9,192.88	9,218.34	9,203.88	32.85		46.05	-27.01	658.03	396.62	363.43	33.20	11.948	
9,250.00	9,242.83	9,267.11	9,252.63	33.03		46.28	-26.92	657.87	394.88	361.50	33.38	11.830	
9,300.00	9,292.78	9,318.50	9,304.02	33.21		46.53	-27.04	657.98	393.48	359.92	33.56	11.725	
9,350.00	9,342.73	9,367.02	9,352.53	33.39		46.75	-26.92	657.87	391.79	358.05	33.74	11.611	
9,400.00	9,392.68	9,418.75	9,404.26	33.57		47.01	-27.02	657.95	390.36	356.44	33.92	11.508	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,450.00	9,442.63	9,466.93	9,452.43	33.75		47.24	-26.92	657.87	388.72	354.61	34.10	11.398	
9,500.00	9,492.58	9,518.51	9,504.00	33.94		47.50	-27.00	657.91	387.26	352.98	34.28	11.296	
9,550.00	9,542.53	9,566.85	9,552.33	34.12		47.73	-26.92	657.87	385.67	351.21	34.47	11.190	
9,600.00	9,592.48	9,619.90	9,605.38	34.30		48.00	-26.98	657.91	384.24	349.60	34.64	11.092	
9,650.00	9,642.43	9,666.77	9,652.23	34.48		48.22	-26.92	657.87	382.66	347.83	34.83	10.987	
9,700.00	9,692.38	9,723.27	9,702.18	34.66		48.48	-26.92	657.87	381.17	346.16	35.01	10.888	
9,750.00	9,742.33	9,766.68	9,752.13	34.84		48.73	-26.92	657.87	379.68	344.49	35.19	10.789	
9,800.00	9,792.28	9,818.67	9,804.11	35.02		48.99	-26.89	657.86	378.18	342.82	35.37	10.693	
9,850.00	9,842.23	9,866.65	9,852.09	35.20		49.27	-27.12	657.82	376.77	341.22	35.55	10.598	
9,900.00	9,892.18	9,917.40	9,902.83	35.38		49.50	-26.85	657.89	375.24	339.51	35.73	10.502	
9,950.00	9,942.13	9,966.60	9,952.02	35.57		49.79	-27.09	657.82	373.83	337.92	35.91	10.409	
10,000.00	9,992.08	10,016.46	10,001.88	35.75		50.03	-26.92	657.87	372.35	336.25	36.10	10.316	
10,050.00	10,042.02	10,066.22	10,051.63	35.93		50.32	-27.07	657.76	370.87	334.59	36.28	10.223	
10,100.00	10,091.97	10,116.38	10,101.77	36.11		50.56	-26.92	657.87	369.47	333.02	36.46	10.134	
10,150.00	10,141.92	10,165.69	10,151.08	36.29		50.86	-27.07	657.70	367.96	331.32	36.64	10.042	
10,200.00	10,191.87	10,216.30	10,201.67	36.47		51.11	-26.92	657.87	366.63	329.81	36.82	9.957	
10,250.00	10,241.82	10,265.75	10,251.12	36.65		51.40	-27.00	657.78	365.18	328.18	37.00	9.869	
10,300.00	10,291.77	10,316.20	10,301.57	36.83		51.66	-26.92	657.87	363.82	326.64	37.18	9.784	
10,350.00	10,341.72	10,365.85	10,351.22	37.02		51.94	-26.97	657.83	362.42	325.05	37.37	9.699	
10,400.00	10,391.67	10,416.11	10,401.47	37.20		52.22	-26.92	657.87	361.05	323.50	37.55	9.616	
10,450.00	10,441.62	10,465.89	10,451.25	37.38		52.50	-26.95	657.85	359.67	321.94	37.73	9.533	
10,500.00	10,491.57	10,516.01	10,501.37	37.56		52.79	-26.92	657.87	358.31	320.40	37.91	9.451	
10,550.00	10,541.52	10,570.04	10,551.32	37.74		53.07	-26.92	657.87	356.95	318.86	38.09	9.371	
10,600.00	10,591.47	10,615.91	10,601.27	37.92		53.37	-26.98	657.87	355.64	317.36	38.27	9.292	
10,650.00	10,641.42	10,666.41	10,651.77	38.10		53.66	-26.91	657.87	354.26	315.80	38.45	9.212	
10,700.00	10,691.37	10,715.79	10,701.15	38.28		53.96	-26.97	657.83	352.93	314.29	38.64	9.134	
10,750.00	10,741.32	10,765.76	10,751.12	38.47		54.24	-26.92	657.87	351.61	312.80	38.82	9.058	
10,800.00	10,791.27	10,815.52	10,800.88	38.65		54.56	-26.97	657.78	350.25	311.25	39.00	8.981	
10,850.00	10,841.21	10,865.66	10,851.01	38.83		54.84	-26.92	657.87	349.00	309.82	39.18	8.907	
10,900.00	10,891.16	10,915.57	10,900.92	39.01		55.17	-27.02	657.80	347.70	308.34	39.36	8.833	
10,950.00	10,941.11	10,965.57	10,950.91	39.19		55.45	-26.92	657.87	346.43	306.88	39.55	8.760	
11,000.00	10,991.06	11,015.18	11,000.52	39.37		55.78	-27.00	657.77	345.12	305.39	39.73	8.687	
11,050.00	11,041.02	11,065.48	11,050.82	39.55		56.05	-26.92	657.87	343.95	304.04	39.91	8.618	
11,100.00	11,090.99	11,115.07	11,100.40	39.73		56.27	-26.96	657.83	343.05	302.96	40.09	8.557	
11,150.00	11,140.98	11,165.56	11,150.78	39.91		56.38	-26.92	657.87	342.55	302.28	40.27	8.507	
11,200.00	11,190.98	11,222.30	11,207.40	40.09		123.06	-26.76	657.90	342.39	301.96	40.43	8.469	
11,212.16	11,203.14	11,236.35	11,221.41	40.13		122.95	-26.04	658.00	342.13	301.67	40.47	8.455	
11,250.00	11,240.98	11,269.47	11,250.78	40.26		123.09	-26.92	657.87	342.39	301.78	40.62	8.429	
11,300.00	11,290.98	11,322.99	11,300.78	40.44		123.09	-26.92	657.87	342.39	301.60	40.79	8.393	
11,350.00	11,340.98	11,378.09	11,350.78	40.61		123.09	-26.92	657.87	342.39	301.43	40.97	8.358	
11,400.00	11,390.98	11,400.00	11,400.78	40.78		123.09	-26.92	657.87	342.39	301.25	41.14	8.322	
11,450.00	11,440.98	11,503.47	11,450.78	40.96		123.09	-26.92	657.87	342.39	301.08	41.32	8.287	
11,500.00	11,490.98	11,500.00	11,500.78	41.13		123.09	-26.92	657.87	342.39	300.90	41.49	8.252	
11,550.00	11,540.98	11,647.65	11,550.78	41.31		-56.56	-26.92	657.87	342.39	300.72	41.67	8.217	
11,600.00	11,590.90	11,739.31	11,600.70	41.47		-57.03	-26.92	657.87	341.00	299.18	41.83	8.153	
11,650.00	11,640.41	11,839.68	11,650.21	41.63		-58.32	-26.92	657.87	337.30	295.33	41.98	8.035	
11,700.00	11,689.13	11,700.00	11,698.93	41.78		-60.43	-26.92	657.87	331.51	289.39	42.12	7.870	
11,750.00	11,736.70	21,155.00	11,727.58	41.93		-62.33	-26.92	657.87	324.54	282.30	42.24	7.683	
11,797.96	11,780.90	21,155.00	11,727.58	42.06		-62.57	-26.92	657.87	321.91	279.95	41.96	7.672	CC, ES, SF
11,800.00	11,782.75	21,155.00	11,727.58	42.07		-62.57	-26.92	657.87	321.91	279.98	41.94	7.676	
11,850.00	11,826.92	21,155.00	11,727.58	42.20		-62.29	-26.92	657.87	325.01	283.87	41.14	7.901	
11,900.00	11,868.90	21,155.00	11,727.58	42.31		-61.51	-26.92	657.87	333.65	293.64	40.01	8.339	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
11,950.00	11,908.34	21,155.00	11,727.58	42.42		-60.27	-26.92	657.87	347.36	308.58	38.78	8.957	
12,000.00	11,944.96	21,155.00	11,727.58	42.52		-58.59	-26.92	657.87	365.47	327.82	37.65	9.707	
12,050.00	11,978.47	21,155.00	11,727.58	42.61		-56.55	-26.92	657.87	387.24	350.48	36.75	10.536	
12,100.00	12,008.63	21,155.00	11,727.58	42.71		-54.21	-26.92	657.87	411.93	375.77	36.16	11.390	
12,150.00	12,035.19	21,155.00	11,727.58	42.81		-51.66	-26.92	657.87	438.89	403.00	35.89	12.229	
12,200.00	12,057.97	21,155.00	11,727.58	42.91		-48.97	-26.92	657.87	467.53	431.64	35.89	13.025	
12,250.00	12,076.78	21,155.00	11,727.58	43.03		-46.22	-26.92	657.87	497.37	461.24	36.13	13.767	
12,300.00	12,091.48	21,155.00	11,727.58	43.14		-43.49	-26.92	657.87	527.99	491.46	36.54	14.450	
12,350.00	12,101.97	21,155.00	11,727.58	43.26		-40.83	-26.92	657.87	559.06	521.99	37.07	15.080	
12,400.00	12,108.15	21,155.00	11,727.58	43.37		-38.29	-26.92	657.87	590.28	552.59	37.69	15.662	
12,450.00	12,110.00	21,155.00	11,727.58	43.49		-36.07	-26.92	657.87	621.42	583.07	38.35	16.202	
12,500.00	12,110.00	21,155.00	11,727.58	43.61		-36.07	-26.92	657.87	653.83	614.83	39.00	16.766	
12,550.00	12,110.00	21,155.00	11,727.58	43.75		-36.07	-26.92	657.87	688.34	648.76	39.58	17.392	
12,600.00	12,110.00	21,155.00	11,727.58	43.89		-36.07	-26.92	657.87	724.66	684.56	40.09	18.074	
12,650.00	12,110.00	21,155.00	11,727.58	44.04		-36.07	-26.92	657.87	762.53	721.98	40.55	18.804	
12,700.00	12,110.00	21,155.00	11,727.58	44.20		-36.07	-26.92	657.87	801.73	760.78	40.95	19.577	
12,750.00	12,110.00	21,155.00	11,727.58	44.38		-36.07	-26.92	657.87	842.07	800.77	41.31	20.386	
12,800.00	12,110.00	21,155.00	11,727.58	44.56		-36.07	-26.92	657.87	883.41	841.79	41.62	21.227	
12,850.00	12,110.00	21,155.00	11,727.58	44.77		-36.07	-26.92	657.87	925.60	883.71	41.89	22.095	
12,900.00	12,110.00	21,155.00	11,727.58	44.97		-36.07	-26.92	657.87	968.53	926.40	42.13	22.987	
12,950.00	12,110.00	21,155.00	11,727.58	45.19		-36.07	-26.92	657.87	1,012.11	969.76	42.35	23.900	
13,000.00	12,110.00	21,155.00	11,727.58	45.41		-36.07	-26.92	657.87	1,056.26	1,013.72	42.54	24.831	
13,050.00	12,110.00	21,155.00	11,727.58	45.66		-36.07	-26.92	657.87	1,100.91	1,058.20	42.71	25.777	
13,100.00	12,110.00	21,155.00	11,727.58	45.90		-36.07	-26.92	657.87	1,146.01	1,103.14	42.86	26.738	
13,150.00	12,110.00	21,155.00	11,727.58	46.16		-36.07	-26.92	657.87	1,191.49	1,148.49	43.00	27.710	
13,200.00	12,110.00	21,155.00	11,727.58	46.43		-36.07	-26.92	657.87	1,237.32	1,194.20	43.12	28.694	
13,250.00	12,110.00	21,155.00	11,727.58	46.71		-36.07	-26.92	657.87	1,283.47	1,240.23	43.23	29.687	
13,300.00	12,110.00	21,155.00	11,727.58	47.00		-36.07	-26.92	657.87	1,329.89	1,286.56	43.34	30.689	
13,350.00	12,110.00	21,155.00	11,727.58	47.30		-36.07	-26.92	657.87	1,376.56	1,333.14	43.43	31.698	
13,400.00	12,110.00	21,155.00	11,727.58	47.60		-36.07	-26.92	657.87	1,423.46	1,379.95	43.51	32.714	
13,450.00	12,110.00	21,155.00	11,727.58	47.92		-36.07	-26.92	657.87	1,470.57	1,426.98	43.59	33.736	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 187-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	9.82	9.82	0.50	0.50	92.34	-26.92	657.87	658.42				
50.00	50.00	59.93	59.93	0.50	0.51	92.35	-27.04	657.86	658.42	657.41	1.01	651.629	
100.00	100.00	110.03	110.03	0.52	0.53	92.38	-27.31	657.84	658.40	657.36	1.05	629.700	
150.00	150.00	160.14	160.13	0.59	0.56	92.42	-27.75	657.80	658.38	657.23	1.15	573.736	
200.00	200.00	211.17	211.17	0.70	0.62	92.47	-28.36	657.72	658.34	657.01	1.33	496.240	
250.00	250.00	263.28	263.27	0.84	0.75	92.53	-29.11	657.50	658.15	656.56	1.59	414.051	
300.00	300.00	314.47	314.44	0.99	0.90	92.61	-29.92	657.13	657.83	655.95	1.88	349.010	
350.00	350.00	365.21	365.18	1.15	1.05	92.68	-30.76	656.71	657.45	655.25	2.20	298.937	
400.00	400.00	415.49	415.45	1.31	1.22	92.75	-31.57	656.25	657.03	654.50	2.52	260.236	
450.00	450.00	465.68	465.64	1.48	1.38	92.82	-32.26	655.77	656.59	653.73	2.86	229.726	
500.00	500.00	514.19	514.14	1.65	1.55	92.87	-32.89	655.36	656.20	653.01	3.19	205.609	
550.00	550.00	562.79	562.73	1.82	1.71	92.93	-33.58	655.06	655.93	652.40	3.53	185.861	
600.00	600.00	612.73	612.67	1.99	1.88	93.00	-34.27	654.81	655.71	651.83	3.87	169.241	
650.00	650.00	662.67	662.61	2.16	2.06	93.05	-34.86	654.56	655.49	651.27	4.22	155.260	
700.00	700.00	712.64	712.57	2.34	2.23	93.09	-35.37	654.32	655.28	650.71	4.57	143.355	
750.00	750.00	762.61	762.54	2.51	2.41	93.13	-35.82	654.08	655.07	650.15	4.92	133.103	
800.00	800.00	813.11	813.04	2.69	2.58	93.17	-36.22	653.84	654.85	649.58	5.27	124.146	
850.00	850.00	864.66	864.58	2.87	2.77	93.21	-36.68	653.50	654.55	648.92	5.63	116.205	
900.00	900.00	915.70	915.62	3.04	2.95	93.26	-37.22	653.05	654.13	648.15	5.99	109.212	
950.00	950.00	966.32	966.23	3.22	3.13	93.32	-37.85	652.54	653.67	647.32	6.35	103.011	
1,000.00	1,000.00	1,015.66	1,015.56	3.40	3.30	93.38	-38.52	652.03	653.19	646.49	6.70	97.523	
1,050.00	1,050.00	1,064.57	1,064.46	3.58	3.47	93.44	-39.19	651.59	652.79	645.74	7.05	92.607	
1,100.00	1,100.00	1,114.77	1,114.66	3.75	3.65	93.51	-39.89	651.19	652.43	645.02	7.41	88.104	
1,150.00	1,150.00	1,165.17	1,165.05	3.93	3.83	93.57	-40.63	650.75	652.04	644.28	7.76	83.999	
1,200.00	1,200.00	1,214.98	1,214.85	4.11	4.01	93.64	-41.38	650.31	651.65	643.53	8.12	80.272	
1,250.00	1,250.00	1,265.02	1,264.88	4.29	4.19	93.71	-42.14	649.88	651.27	642.79	8.47	76.850	
1,300.00	1,300.00	1,315.67	1,315.53	4.46	4.37	93.78	-42.88	649.41	650.85	642.02	8.83	73.681	
1,350.00	1,350.00	1,365.70	1,365.55	4.64	4.55	93.84	-43.59	648.91	650.40	641.21	9.19	70.770	
1,400.00	1,400.00	1,414.89	1,414.73	4.82	4.72	93.91	-44.27	648.46	649.98	640.44	9.54	68.102	
1,450.00	1,450.00	1,464.23	1,464.07	5.00	4.90	93.97	-44.94	648.06	649.63	639.73	9.90	65.626	
1,500.00	1,500.00	1,513.75	1,513.59	5.18	5.08	94.03	-45.58	647.71	649.32	639.07	10.25	63.321	
1,550.00	1,550.00	1,563.64	1,563.47	5.36	5.26	94.08	-46.20	647.39	649.04	638.43	10.61	61.165	
1,600.00	1,600.00	1,613.80	1,613.62	5.53	5.44	94.13	-46.75	647.06	648.75	637.78	10.97	59.144	
1,650.00	1,650.00	1,663.81	1,663.64	5.71	5.62	94.18	-47.27	646.72	648.46	637.13	11.33	57.251	
1,700.00	1,700.00	1,713.76	1,713.58	5.89	5.79	94.23	-47.78	646.39	648.16	636.48	11.68	55.476	
1,750.00	1,750.00	1,762.87	1,762.68	6.07	5.97	94.28	-48.30	646.09	647.90	635.86	12.04	53.821	
1,800.00	1,800.00	1,811.80	1,811.61	6.25	6.14	94.33	-48.85	645.87	647.72	635.33	12.39	52.270	
1,850.00	1,850.00	1,861.82	1,861.63	6.43	6.32	94.38	-49.41	645.69	647.58	634.83	12.75	50.794	
1,900.00	1,900.00	1,911.93	1,911.74	6.61	6.50	94.42	-49.93	645.51	647.44	634.33	13.11	49.395	
1,950.00	1,950.00	1,960.87	1,960.67	6.78	6.68	94.46	-50.39	645.37	647.33	633.87	13.46	48.090	
2,000.00	2,000.00	2,009.93	2,009.74	6.96	6.85	94.50	-50.83	645.30	647.30	633.49	13.81	46.856	
2,020.80	2,020.80	2,030.61	2,030.41	7.04	6.93	27.85	-51.01	645.29	647.27	633.31	13.96	46.361	
2,050.00	2,050.00	2,059.64	2,059.44	7.14	7.03	27.88	-51.29	645.28	647.13	632.96	14.17	45.676	
2,100.00	2,099.99	2,108.17	2,107.96	7.32	7.20	27.95	-51.77	645.29	646.60	632.08	14.51	44.547	
2,150.00	2,149.98	2,152.74	2,152.53	7.49	7.35	28.00	-51.86	645.60	645.99	631.15	14.84	43.533	
2,200.00	2,199.96	2,197.71	2,197.50	7.66	7.50	28.02	-51.42	646.33	645.41	630.24	15.16	42.566	
2,250.00	2,249.92	2,245.64	2,245.40	7.84	7.66	28.03	-50.65	647.38	644.70	629.21	15.49	41.617	
2,300.00	2,299.87	2,293.45	2,293.19	8.01	7.81	28.03	-49.74	648.60	643.91	628.09	15.82	40.703	
2,350.00	2,349.82	2,340.67	2,340.38	8.19	7.97	27.98	-48.37	650.03	643.31	627.17	16.15	39.842	
2,400.00	2,399.77	2,388.20	2,387.83	8.36	8.12	27.88	-46.31	651.72	642.93	626.46	16.47	39.026	
2,450.00	2,449.72	2,437.34	2,436.87	8.54	8.28	27.74	-43.87	653.61	642.67	625.86	16.81	38.232	
2,500.00	2,499.67	2,485.75	2,485.18	8.72	8.44	27.59	-41.34	655.56	642.48	625.34	17.14	37.479	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 187-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,517.80	2,517.45	2,502.23	2,501.62	8.78	8.50	27.53	-40.40	656.27	642.46	625.20	17.26	37.226	
2,550.00	2,549.62	2,532.05	2,531.34	8.89	8.60	27.41	-38.55	657.65	642.52	625.05	17.47	36.784	
2,600.00	2,599.57	2,578.12	2,577.24	9.07	8.75	27.20	-35.30	660.03	642.86	625.07	17.79	36.133	
2,650.00	2,649.52	2,623.55	2,622.43	9.25	8.90	26.93	-31.52	662.71	643.54	625.43	18.11	35.530	
2,700.00	2,699.47	2,669.29	2,667.85	9.42	9.05	26.60	-27.08	665.76	644.58	626.15	18.43	34.965	
2,750.00	2,749.41	2,717.70	2,715.87	9.60	9.22	26.22	-22.02	669.21	645.86	627.08	18.77	34.407	
2,800.00	2,799.36	2,766.34	2,764.10	9.78	9.38	25.82	-16.76	672.78	647.26	628.15	19.11	33.873	
2,850.00	2,849.31	2,816.17	2,813.49	9.95	9.55	25.41	-11.30	676.47	648.74	629.28	19.45	33.349	
2,900.00	2,899.26	2,865.80	2,862.68	10.13	9.72	25.00	-5.86	680.14	650.24	630.44	19.80	32.844	
2,950.00	2,949.21	2,914.91	2,911.35	10.31	9.89	24.60	-0.46	683.81	651.81	631.67	20.14	32.362	
3,000.00	2,999.16	2,964.26	2,960.26	10.49	10.07	24.20	4.99	687.55	653.46	632.98	20.49	31.898	
3,050.00	3,049.11	3,014.09	3,009.63	10.66	10.24	23.79	10.54	691.32	655.16	634.32	20.83	31.445	
3,100.00	3,099.06	3,064.62	3,059.70	10.84	10.42	23.37	16.22	695.13	656.86	635.67	21.19	31.002	
3,150.00	3,149.01	3,115.96	3,110.58	11.02	10.60	22.95	21.97	698.90	658.50	636.95	21.55	30.564	
3,200.00	3,198.96	3,167.09	3,161.26	11.20	10.78	22.53	27.65	702.53	660.05	638.15	21.90	30.136	
3,250.00	3,248.91	3,218.10	3,211.84	11.38	10.96	22.13	33.21	706.06	661.55	639.29	22.26	29.719	
3,300.00	3,298.86	3,268.46	3,261.79	11.55	11.14	21.74	38.63	709.47	663.00	640.38	22.61	29.317	
3,350.00	3,348.81	3,318.63	3,311.56	11.73	11.32	21.36	44.04	712.84	664.44	641.47	22.97	28.929	
3,400.00	3,398.76	3,369.74	3,362.26	11.91	11.51	20.97	49.50	716.21	665.86	642.53	23.33	28.544	
3,450.00	3,448.71	3,420.97	3,413.12	12.09	11.69	20.59	54.80	719.49	667.20	643.51	23.69	28.166	
3,500.00	3,498.66	3,467.12	3,458.92	12.27	11.86	20.26	59.57	722.53	668.66	644.64	24.02	27.834	
3,550.00	3,548.60	3,513.71	3,505.13	12.45	12.03	19.92	64.47	725.83	670.39	646.03	24.36	27.521	
3,600.00	3,598.55	3,563.24	3,554.25	12.63	12.21	19.56	69.66	729.46	672.28	647.57	24.71	27.204	
3,650.00	3,648.50	3,612.82	3,603.44	12.81	12.39	19.21	74.72	733.12	674.21	649.14	25.07	26.898	
3,700.00	3,698.45	3,662.66	3,652.92	12.99	12.57	18.90	79.48	736.83	676.17	650.75	25.42	26.600	
3,750.00	3,748.40	3,713.09	3,703.01	13.16	12.75	18.61	83.85	740.61	678.14	652.36	25.78	26.307	
3,800.00	3,798.35	3,765.14	3,754.76	13.34	12.94	18.37	87.87	744.44	680.00	653.86	26.14	26.010	
3,850.00	3,848.30	3,817.79	3,807.16	13.52	13.13	18.16	91.44	748.18	681.71	655.20	26.51	25.712	
3,900.00	3,898.25	3,871.14	3,860.29	13.70	13.32	17.97	94.73	751.75	683.19	656.31	26.89	25.411	
3,950.00	3,948.20	3,922.04	3,911.00	13.88	13.51	17.81	97.63	754.98	684.49	657.25	27.24	25.124	
4,000.00	3,998.15	3,971.81	3,960.59	14.06	13.69	17.68	100.28	758.17	685.79	658.19	27.60	24.849	
4,050.00	4,048.10	4,021.53	4,010.16	14.24	13.86	17.56	102.70	761.38	687.11	659.16	27.95	24.583	
4,100.00	4,098.05	4,071.26	4,059.74	14.42	14.04	17.47	104.81	764.65	688.46	660.15	28.30	24.323	
4,150.00	4,148.00	4,120.82	4,109.14	14.60	14.22	17.40	106.64	767.96	689.82	661.17	28.66	24.072	
4,200.00	4,197.95	4,170.35	4,158.54	14.78	14.40	17.35	108.27	771.32	691.22	662.21	29.01	23.828	
4,250.00	4,247.90	4,218.98	4,207.03	14.96	14.57	17.32	109.69	774.70	692.68	663.33	29.36	23.597	
4,300.00	4,297.85	4,268.37	4,256.28	15.14	14.75	17.30	110.96	778.24	694.24	664.54	29.71	23.370	
4,350.00	4,347.79	4,325.09	4,312.85	15.32	14.95	17.26	112.59	782.01	695.55	665.46	30.10	23.112	
4,400.00	4,397.74	4,380.99	4,368.62	15.50	15.15	17.18	114.60	785.16	696.40	665.92	30.48	22.849	
4,450.00	4,447.69	4,435.81	4,423.32	15.68	15.35	17.07	116.97	787.79	696.87	666.02	30.85	22.586	
4,500.00	4,497.64	4,487.83	4,475.24	15.86	15.53	16.94	119.52	789.97	697.07	665.85	31.22	22.329	
4,550.00	4,547.59	4,538.79	4,526.09	16.04	15.72	16.80	122.10	792.02	697.20	665.62	31.58	22.079	
4,600.00	4,597.54	4,590.05	4,577.25	16.22	15.90	16.66	124.68	793.99	697.25	665.31	31.94	21.831	
4,650.00	4,647.49	4,641.35	4,628.46	16.40	16.08	16.53	127.15	795.88	697.20	664.90	32.30	21.585	
4,700.00	4,697.44	4,691.17	4,678.19	16.58	16.26	16.42	129.46	797.69	697.13	664.47	32.65	21.348	
4,750.00	4,747.39	4,741.83	4,728.76	16.76	16.44	16.30	131.73	799.53	697.05	664.04	33.01	21.115	
4,800.00	4,797.34	4,796.45	4,783.29	16.94	16.64	16.17	134.23	801.29	696.77	663.38	33.39	20.870	
4,850.00	4,847.29	4,850.31	4,837.08	17.12	16.83	16.03	136.83	802.65	696.16	662.41	33.76	20.623	
4,900.00	4,897.24	4,903.29	4,889.97	17.30	17.02	15.87	139.64	803.71	695.33	661.21	34.12	20.378	
4,950.00	4,947.19	4,954.77	4,941.36	17.48	17.20	15.69	142.56	804.52	694.33	659.85	34.48	20.136	
5,000.00	4,997.14	5,005.64	4,992.14	17.66	17.38	15.51	145.43	805.26	693.26	658.42	34.84	19.898	
5,050.00	5,047.09	5,056.25	5,042.67	17.84	17.56	15.34	148.24	805.94	692.13	656.94	35.20	19.664	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 187-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,097.04	5,106.83	5,093.17	18.02	17.74	15.17	151.02	806.57	690.97	655.42	35.56	19.433	
5,150.00	5,146.99	5,158.47	5,144.73	18.20	17.93	14.99	153.87	807.13	689.73	653.81	35.92	19.203	
5,200.00	5,196.93	5,210.38	5,196.56	18.38	18.11	14.80	156.81	807.55	688.37	652.09	36.28	18.975	
5,250.00	5,246.88	5,263.32	5,249.41	18.56	18.30	14.62	159.73	807.78	686.83	650.19	36.64	18.744	
5,300.00	5,296.83	5,317.82	5,303.84	18.74	18.49	14.43	162.55	807.78	685.05	648.04	37.01	18.511	
5,350.00	5,346.78	5,374.32	5,360.29	18.92	18.69	14.28	164.98	807.36	682.84	645.46	37.38	18.269	
5,400.00	5,396.73	5,432.34	5,418.26	19.10	18.89	14.16	166.92	806.39	680.10	642.36	37.74	18.020	
5,450.00	5,446.68	5,490.68	5,476.57	19.28	19.09	14.07	168.37	804.77	676.75	638.65	38.10	17.761	
5,500.00	5,496.63	5,540.96	5,526.81	19.46	19.26	14.03	169.14	803.17	673.13	634.67	38.45	17.506	
5,550.00	5,546.58	5,590.53	5,576.36	19.64	19.43	14.03	169.42	801.57	669.40	630.60	38.80	17.252	
5,600.00	5,596.53	5,636.66	5,622.47	19.82	19.59	14.06	169.37	800.31	665.86	626.72	39.15	17.009	
5,650.00	5,646.48	5,683.73	5,669.53	20.00	19.75	14.12	169.06	799.33	662.60	623.11	39.49	16.777	
5,700.00	5,696.43	5,732.77	5,718.56	20.18	19.91	14.19	168.64	798.44	659.45	619.61	39.84	16.552	
5,750.00	5,746.38	5,781.82	5,767.60	20.36	20.08	14.27	168.17	797.62	656.37	616.18	40.19	16.332	
5,800.00	5,796.33	5,830.88	5,816.65	20.54	20.24	14.35	167.68	796.86	653.36	612.82	40.54	16.117	
5,850.00	5,846.28	5,880.25	5,866.01	20.73	20.41	14.43	167.17	796.17	650.40	609.51	40.89	15.907	
5,900.00	5,896.23	5,929.93	5,915.68	20.91	20.58	14.52	166.62	795.49	647.47	606.23	41.24	15.701	
5,950.00	5,946.18	5,979.98	5,965.73	21.09	20.75	14.61	166.06	794.82	644.54	602.96	41.59	15.498	
6,000.00	5,996.12	6,030.25	6,015.99	21.27	20.92	14.70	165.54	794.12	641.60	599.66	41.94	15.298	
6,050.00	6,046.07	6,079.44	6,065.17	21.45	21.09	14.78	165.08	793.43	638.66	596.37	42.29	15.102	
6,100.00	6,096.02	6,128.28	6,114.01	21.63	21.26	14.86	164.66	792.81	635.80	593.16	42.64	14.912	
6,150.00	6,145.97	6,178.14	6,163.86	21.81	21.43	14.94	164.28	792.23	632.99	590.00	42.99	14.725	
6,200.00	6,195.92	6,228.22	6,213.94	21.99	21.60	15.01	163.92	791.63	630.17	586.83	43.34	14.540	
6,250.00	6,245.87	6,278.92	6,264.63	22.17	21.77	15.09	163.60	790.98	627.32	583.63	43.69	14.358	
6,300.00	6,295.82	6,329.65	6,315.36	22.35	21.95	15.16	163.33	790.25	624.40	580.36	44.04	14.177	
6,350.00	6,345.77	6,378.79	6,364.49	22.53	22.12	15.22	163.08	789.55	621.49	577.09	44.39	13.999	
6,400.00	6,395.72	6,428.16	6,413.86	22.71	22.29	15.29	162.82	788.89	618.63	573.88	44.75	13.825	
6,450.00	6,445.67	6,477.98	6,463.67	22.89	22.46	15.37	162.54	788.26	615.79	570.69	45.10	13.655	
6,500.00	6,495.62	6,527.86	6,513.54	23.07	22.63	15.44	162.23	787.63	612.96	567.51	45.45	13.487	
6,550.00	6,545.57	6,577.87	6,563.55	23.26	22.80	15.52	161.93	787.00	610.12	564.32	45.80	13.321	
6,600.00	6,595.52	6,627.46	6,613.13	23.44	22.97	15.59	161.67	786.37	607.29	561.14	46.15	13.158	
6,650.00	6,645.47	6,676.42	6,662.09	23.62	23.14	15.66	161.49	785.80	604.52	558.02	46.50	12.999	
6,700.00	6,695.42	6,722.93	6,708.60	23.80	23.30	15.71	161.44	785.35	601.88	555.03	46.85	12.846	
6,750.00	6,745.37	6,766.79	6,752.46	23.98	23.46	15.74	161.64	785.30	599.69	552.49	47.19	12.707	
6,800.00	6,795.31	6,812.49	6,798.16	24.16	23.62	15.75	162.13	785.66	597.98	550.44	47.54	12.579	
6,850.00	6,845.26	6,862.18	6,847.84	24.34	23.79	15.76	162.77	786.17	596.40	548.52	47.89	12.454	
6,900.00	6,895.21	6,912.36	6,898.01	24.52	23.96	15.76	163.45	786.70	594.85	546.61	48.24	12.330	
6,950.00	6,945.16	6,963.26	6,948.91	24.70	24.14	15.76	164.09	787.18	593.23	544.63	48.60	12.207	
7,000.00	6,995.11	7,014.54	7,000.18	24.88	24.32	15.77	164.66	787.58	591.53	542.57	48.96	12.083	
7,050.00	7,045.06	7,066.10	7,051.73	25.06	24.50	15.79	165.14	787.86	589.70	540.38	49.31	11.959	
7,100.00	7,095.01	7,115.44	7,101.07	25.24	24.67	15.81	165.56	788.07	587.80	538.13	49.66	11.835	
7,150.00	7,144.96	7,163.98	7,149.61	25.43	24.84	15.83	166.06	788.38	586.01	536.00	50.01	11.717	
7,200.00	7,194.91	7,214.42	7,200.05	25.61	25.01	15.83	166.65	788.74	584.29	533.92	50.37	11.600	
7,250.00	7,244.86	7,265.42	7,251.05	25.79	25.19	15.84	167.30	789.02	582.48	531.75	50.73	11.483	
7,300.00	7,294.81	7,315.56	7,301.17	25.97	25.37	15.83	167.97	789.24	580.61	529.53	51.08	11.367	
7,350.00	7,344.76	7,365.62	7,351.23	26.15	25.54	15.83	168.63	789.44	578.74	527.31	51.43	11.252	
7,400.00	7,394.71	7,415.33	7,400.94	26.33	25.71	15.84	169.24	789.66	576.87	525.09	51.79	11.139	
7,450.00	7,444.66	7,465.16	7,450.76	26.51	25.89	15.85	169.73	789.92	575.03	522.89	52.14	11.028	
7,500.00	7,494.61	7,515.76	7,501.37	26.69	26.06	15.88	170.13	790.17	573.16	520.66	52.50	10.918	
7,550.00	7,544.56	7,566.28	7,551.88	26.87	26.24	15.91	170.45	790.37	571.23	518.38	52.85	10.808	
7,600.00	7,594.50	7,616.58	7,602.18	27.05	26.42	15.95	170.71	790.54	569.27	516.07	53.21	10.700	
7,650.00	7,644.45	7,666.62	7,652.22	27.23	26.59	15.99	170.94	790.69	567.28	513.72	53.56	10.592	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 187-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,700.00	7,694.40	7,716.24	7,701.84	27.42	26.76	16.03	171.20	790.85	565.32	511.40	53.91	10.486	
7,750.00	7,744.35	7,766.04	7,751.64	27.60	26.94	16.07	171.48	791.03	563.37	509.11	54.27	10.382	
7,800.00	7,794.30	7,816.04	7,801.64	27.78	27.11	16.10	171.78	791.22	561.43	506.81	54.62	10.279	
7,850.00	7,844.25	7,866.63	7,852.22	27.96	27.29	16.14	172.06	791.39	559.47	504.50	54.98	10.177	
7,900.00	7,894.20	7,917.57	7,903.17	28.14	27.46	16.19	172.22	791.49	557.43	502.10	55.33	10.074	
7,950.00	7,944.15	7,967.71	7,953.30	28.32	27.64	16.25	172.30	791.54	555.33	499.64	55.69	9.972	
8,000.00	7,994.10	8,017.59	8,003.18	28.50	27.81	16.31	172.37	791.59	553.23	497.19	56.04	9.872	
8,050.00	8,044.05	8,067.84	8,053.43	28.68	27.99	16.36	172.46	791.63	551.13	494.73	56.39	9.773	
8,100.00	8,094.00	8,118.15	8,103.74	28.86	28.16	16.42	172.60	791.64	548.99	492.24	56.75	9.674	
8,150.00	8,143.95	8,168.13	8,153.73	29.04	28.34	16.47	172.73	791.63	546.84	489.73	57.10	9.576	
8,200.00	8,193.90	8,218.10	8,203.70	29.23	28.51	16.53	172.77	791.62	544.68	487.22	57.46	9.480	
8,250.00	8,243.85	8,267.77	8,253.36	29.41	28.69	16.59	172.82	791.63	542.54	484.73	57.81	9.385	
8,300.00	8,293.80	8,317.66	8,303.25	29.59	28.86	16.65	172.97	791.65	540.42	482.25	58.17	9.291	
8,350.00	8,343.75	8,368.31	8,353.90	29.77	29.04	16.70	173.13	791.63	538.26	479.74	58.52	9.198	
8,400.00	8,393.69	8,418.95	8,404.55	29.95	29.21	16.75	173.28	791.55	536.04	477.17	58.88	9.104	
8,450.00	8,443.64	8,469.60	8,455.19	30.13	29.39	16.80	173.43	791.40	533.76	474.53	59.23	9.011	
8,500.00	8,493.59	8,519.34	8,504.93	30.31	29.56	16.86	173.59	791.20	531.43	471.84	59.59	8.919	
8,550.00	8,543.54	8,568.09	8,553.68	30.49	29.73	16.90	173.79	791.09	529.19	469.25	59.94	8.829	
8,600.00	8,593.49	8,617.17	8,602.76	30.67	29.91	16.94	174.07	791.08	527.05	466.76	60.29	8.742	
8,650.00	8,643.44	8,666.50	8,652.09	30.86	30.08	16.96	174.52	791.10	524.98	464.33	60.65	8.657	
8,700.00	8,693.39	8,715.92	8,701.51	31.04	30.25	16.97	175.08	791.18	522.97	461.97	61.00	8.573	
8,750.00	8,743.34	8,765.40	8,750.98	31.22	30.43	16.99	175.56	791.31	521.00	459.64	61.35	8.492	
8,800.00	8,793.29	8,814.74	8,800.32	31.40	30.60	17.03	175.95	791.50	519.08	457.37	61.71	8.412	
8,850.00	8,843.24	8,864.04	8,849.62	31.58	30.77	17.06	176.28	791.76	517.23	455.17	62.06	8.334	
8,900.00	8,893.19	8,913.76	8,899.34	31.76	30.95	17.11	176.58	792.07	515.43	453.01	62.42	8.258	
8,950.00	8,943.14	8,963.59	8,949.16	31.94	31.12	17.15	176.86	792.40	513.64	450.86	62.77	8.183	
9,000.00	8,993.09	9,012.42	8,998.00	32.12	31.29	17.21	177.04	792.80	511.91	448.78	63.12	8.110	
9,050.00	9,043.04	9,061.22	9,046.79	32.30	31.46	17.29	177.04	793.32	510.29	446.82	63.48	8.039	
9,100.00	9,092.99	9,110.53	9,096.10	32.49	31.63	17.39	176.86	793.96	508.77	444.94	63.83	7.971	
9,150.00	9,142.94	9,160.01	9,145.57	32.67	31.80	17.52	176.51	794.68	507.31	443.14	64.18	7.905	
9,200.00	9,192.88	9,211.13	9,196.68	32.85	31.98	17.66	176.00	795.40	505.82	441.29	64.53	7.838	
9,250.00	9,242.83	9,262.04	9,247.58	33.03	32.15	17.82	175.37	796.02	504.22	439.33	64.89	7.771	
9,300.00	9,292.78	9,312.41	9,297.95	33.21	32.33	17.98	174.69	796.57	502.56	437.32	65.24	7.703	
9,350.00	9,342.73	9,363.00	9,348.53	33.39	32.50	18.15	173.97	797.08	500.86	435.26	65.59	7.636	
9,400.00	9,392.68	9,413.96	9,399.49	33.57	32.68	18.32	173.24	797.50	499.07	433.12	65.95	7.568	
9,450.00	9,442.63	9,463.65	9,449.16	33.75	32.85	18.49	172.51	797.85	497.22	430.92	66.30	7.500	
9,500.00	9,492.58	9,512.28	9,497.79	33.94	33.01	18.67	171.68	798.30	495.48	428.83	66.65	7.434	
9,550.00	9,542.53	9,562.09	9,547.58	34.12	33.18	18.86	170.75	798.88	493.85	426.85	67.00	7.371	
9,600.00	9,592.48	9,612.70	9,598.18	34.30	33.36	19.06	169.84	799.40	492.17	424.81	67.36	7.307	
9,650.00	9,642.43	9,663.88	9,649.35	34.48	33.53	19.25	168.99	799.83	490.41	422.70	67.71	7.243	
9,700.00	9,692.38	9,715.27	9,700.74	34.66	33.71	19.44	168.18	800.12	488.50	420.44	68.06	7.177	
9,750.00	9,742.33	9,767.23	9,752.69	34.84	33.89	19.62	167.36	800.22	486.43	418.01	68.42	7.110	
9,800.00	9,792.28	9,819.22	9,804.68	35.02	34.07	19.82	166.50	800.11	484.15	415.38	68.77	7.040	
9,850.00	9,842.23	9,869.07	9,854.51	35.20	34.24	20.00	165.68	799.90	481.78	412.66	69.12	6.970	
9,900.00	9,892.18	9,919.36	9,904.80	35.38	34.41	20.19	164.91	799.68	479.41	409.93	69.48	6.900	
9,950.00	9,942.13	9,970.93	9,956.36	35.57	34.59	20.37	164.16	799.33	476.92	407.09	69.83	6.830	
10,000.00	9,992.08	10,022.50	10,007.92	35.75	34.76	20.55	163.45	798.79	474.26	404.08	70.18	6.758	
10,050.00	10,042.02	10,074.09	10,059.50	35.93	34.94	20.74	162.72	798.08	471.43	400.90	70.53	6.684	
10,100.00	10,091.97	10,123.94	10,109.34	36.11	35.11	20.92	162.01	797.26	468.47	397.59	70.88	6.609	
10,150.00	10,141.92	10,172.21	10,157.60	36.29	35.28	21.08	161.45	796.59	465.65	394.42	71.24	6.537	
10,200.00	10,191.87	10,220.89	10,206.28	36.47	35.44	21.23	161.00	796.06	463.00	391.41	71.59	6.468	
10,250.00	10,241.82	10,269.90	10,255.29	36.65	35.61	21.38	160.59	795.64	460.46	388.52	71.94	6.400	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 187-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,300.00	10,291.77	10,319.21	10,304.60	36.83	35.78	21.52	160.21	795.30	458.00	385.71	72.29	6.335	
10,350.00	10,341.72	10,368.70	10,354.08	37.02	35.95	21.67	159.85	795.01	455.61	382.96	72.65	6.272	
10,400.00	10,391.67	10,417.63	10,403.01	37.20	36.12	21.81	159.52	794.79	453.29	380.29	73.00	6.209	
10,450.00	10,441.62	10,466.41	10,451.79	37.38	36.29	21.95	159.23	794.69	451.09	377.74	73.35	6.150	
10,500.00	10,491.57	10,516.06	10,501.44	37.56	36.46	22.09	158.97	794.68	448.99	375.29	73.70	6.092	
10,550.00	10,541.52	10,565.86	10,551.24	37.74	36.63	22.23	158.71	794.69	446.91	372.85	74.06	6.035	
10,600.00	10,591.47	10,616.62	10,602.00	37.92	36.81	22.38	158.46	794.66	444.79	370.38	74.41	5.977	
10,650.00	10,641.42	10,667.43	10,652.81	38.10	36.99	22.52	158.24	794.53	442.58	367.82	74.76	5.920	
10,700.00	10,691.37	10,718.42	10,703.80	38.28	37.16	22.66	158.04	794.29	440.27	365.15	75.12	5.861	
10,750.00	10,741.32	10,769.11	10,754.49	38.47	37.34	22.80	157.83	793.93	437.84	362.37	75.47	5.801	
10,800.00	10,791.27	10,818.89	10,804.27	38.65	37.51	22.96	157.51	793.56	435.39	359.56	75.82	5.742	
10,850.00	10,841.21	10,869.01	10,854.38	38.83	37.68	23.14	157.05	793.19	432.95	356.78	76.18	5.683	
10,900.00	10,891.16	10,919.79	10,905.15	39.01	37.86	23.32	156.57	792.75	430.45	353.92	76.53	5.624	
10,950.00	10,941.11	10,970.06	10,955.42	39.19	38.03	23.50	156.11	792.23	427.86	350.98	76.88	5.565	
11,000.00	10,991.06	11,019.78	11,005.14	39.37	38.21	23.68	155.65	791.71	425.29	348.05	77.24	5.506	
11,050.00	11,041.02	11,069.89	11,055.23	39.55	38.38	23.91	154.79	791.20	422.81	345.21	77.59	5.449	
11,100.00	11,090.99	11,120.10	11,105.35	39.73	38.55	24.37	151.95	790.62	420.82	342.88	77.95	5.399	
11,150.00	11,140.98	11,166.92	11,151.82	39.91	38.71	25.18	146.36	790.14	419.61	341.32	78.29	5.359	
11,178.32	11,169.30	11,192.70	11,177.13	40.01	38.79	25.86	141.46	789.98	419.42	340.93	78.49	5.344	CC
11,200.00	11,190.98	11,212.07	11,195.96	40.09	38.85	93.15	136.94	789.90	419.56	340.92	78.64	5.335	
11,250.00	11,240.98	11,251.60	11,233.81	40.26	38.98	94.69	125.59	790.04	420.80	341.85	78.94	5.330	
11,300.00	11,290.98	11,294.29	11,273.73	40.44	39.11	96.73	110.47	790.73	423.51	344.29	79.22	5.346	
11,350.00	11,340.98	11,331.59	11,307.71	40.61	39.22	98.77	95.13	791.28	427.43	348.03	79.40	5.383	
11,400.00	11,390.98	11,361.00	11,333.71	40.78	39.31	100.56	81.43	792.30	433.78	354.42	79.36	5.466	
11,450.00	11,440.98	11,392.71	11,360.91	40.96	39.39	102.63	65.22	793.98	442.68	363.46	79.22	5.588	
11,500.00	11,490.98	11,426.11	11,388.73	41.13	39.48	104.90	46.87	796.18	454.02	375.01	79.01	5.746	
11,550.00	11,540.98	11,462.44	11,418.36	41.31	39.58	-72.13	25.99	798.61	467.27	388.47	78.80	5.930	
11,600.00	11,590.90	11,498.49	11,446.65	41.47	39.68	-68.34	3.74	800.56	481.53	403.04	78.49	6.135	
11,650.00	11,640.41	11,532.21	11,471.87	41.63	39.77	-64.91	-18.60	801.89	496.03	417.99	78.04	6.356	
11,700.00	11,689.13	11,564.82	11,495.12	41.78	39.85	-61.78	-41.43	802.88	510.56	433.09	77.47	6.590	
11,750.00	11,736.70	11,597.00	11,517.07	41.93	39.94	-58.96	-64.95	803.81	524.89	448.04	76.84	6.831	
11,800.00	11,782.75	11,628.73	11,537.66	42.07	40.03	-56.43	-89.08	804.65	538.75	462.59	76.16	7.074	
11,850.00	11,826.92	11,663.60	11,558.92	42.20	40.12	-54.06	-116.69	805.30	551.86	476.30	75.56	7.304	
11,900.00	11,868.90	11,701.84	11,580.51	42.31	40.23	-51.82	-148.25	805.08	563.67	488.64	75.03	7.512	
11,950.00	11,908.34	11,738.00	11,599.41	42.42	40.33	-49.90	-179.05	803.91	573.81	499.39	74.42	7.710	
12,000.00	11,944.96	11,771.11	11,615.46	42.52	40.42	-48.33	-207.98	802.54	582.57	508.84	73.74	7.901	
12,050.00	11,978.47	11,804.43	11,630.51	42.61	40.52	-47.05	-237.68	801.44	590.14	517.03	73.11	8.072	
12,100.00	12,008.63	11,839.15	11,645.60	42.71	40.62	-46.07	-268.94	800.68	595.99	523.39	72.60	8.209	
12,150.00	12,035.19	11,868.44	11,657.70	42.81	40.71	-45.46	-295.61	800.60	600.40	528.34	72.06	8.332	
12,200.00	12,057.97	11,896.42	11,668.48	42.91	40.79	-45.11	-321.42	801.05	603.50	531.90	71.60	8.429	
12,250.00	12,076.78	11,926.00	11,678.57	43.03	40.89	-44.95	-349.22	801.77	605.41	534.11	71.30	8.491	
12,300.00	12,091.48	11,954.29	11,686.98	43.14	40.97	-44.96	-376.21	802.54	605.96	534.87	71.10	8.523	
12,350.00	12,101.97	11,973.00	11,691.92	43.26	41.03	-45.09	-394.26	803.02	605.21	534.34	70.87	8.539	
12,400.00	12,108.15	12,011.07	11,700.12	43.37	41.15	-45.50	-431.41	804.04	602.86	531.74	71.12	8.477	
12,450.00	12,110.00	12,036.00	11,704.04	43.49	41.23	-45.96	-456.02	804.75	599.53	528.21	71.31	8.407	
12,500.00	12,110.00	12,072.30	11,708.01	43.61	41.35	-46.30	-492.08	805.99	596.70	525.02	71.69	8.324	
12,550.00	12,110.00	12,115.01	11,711.60	43.75	41.49	-46.62	-534.61	807.28	594.68	522.58	72.09	8.249	
12,600.00	12,110.00	12,157.87	11,714.19	43.89	41.63	-46.85	-577.38	808.33	593.27	520.80	72.46	8.187	
12,650.00	12,110.00	12,201.39	11,715.82	44.04	41.78	-47.00	-620.86	809.15	592.45	519.63	72.82	8.136	
12,700.00	12,110.00	12,246.00	11,716.83	44.20	41.94	-47.11	-665.46	809.96	592.11	518.95	73.16	8.093	
12,711.75	12,110.00	12,256.49	11,716.98	44.25	41.98	-47.13	-675.94	810.15	592.10	518.85	73.25	8.084	
12,750.00	12,110.00	12,290.94	11,717.32	44.38	42.11	-47.19	-710.38	810.83	592.23	518.71	73.52	8.056	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 187-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,800.00	12,110.00	12,336.85	11,718.01	44.56	42.31	-47.32	-756.26	812.38	592.72	518.80	73.92	8.019	
12,850.00	12,110.00	12,382.20	11,719.18	44.77	42.50	-47.54	-801.53	814.77	593.57	519.18	74.39	7.979	
12,900.00	12,110.00	12,425.53	11,719.89	44.97	42.70	-47.73	-844.78	817.27	594.92	520.04	74.87	7.946	
12,950.00	12,110.00	12,468.88	11,719.78	45.19	42.90	-47.86	-888.06	819.67	596.82	521.48	75.34	7.922	
13,000.00	12,110.00	12,534.85	11,721.00	45.41	43.24	-48.19	-953.87	823.87	598.34	522.42	75.92	7.881	
13,050.00	12,110.00	12,585.72	11,724.29	45.66	43.52	-48.66	-1,004.48	827.85	598.90	522.28	76.62	7.817	
13,100.00	12,110.00	12,624.91	11,725.82	45.90	43.74	-48.94	-1,043.54	830.74	600.16	522.93	77.22	7.772	
13,150.00	12,110.00	12,665.17	11,725.93	46.16	43.96	-49.10	-1,083.71	833.39	602.31	524.52	77.79	7.743	
13,200.00	12,110.00	12,711.71	11,725.70	46.43	44.24	-49.27	-1,130.12	836.75	604.97	526.60	78.36	7.720	
13,250.00	12,110.00	12,760.40	11,725.88	46.71	44.53	-49.53	-1,178.63	840.96	607.90	528.90	79.00	7.695	
13,300.00	12,110.00	12,823.93	11,725.67	47.00	44.93	-49.74	-1,242.02	845.10	610.26	530.64	79.62	7.665	
13,350.00	12,110.00	12,885.95	11,724.75	47.30	45.33	-49.75	-1,304.00	846.80	611.54	531.39	80.15	7.630	
13,400.00	12,110.00	12,947.02	11,724.24	47.60	45.73	-49.73	-1,365.07	847.32	611.90	531.25	80.65	7.587	
13,411.00	12,110.00	12,960.47	11,724.19	47.67	45.82	-49.72	-1,378.52	847.30	611.86	531.09	80.77	7.576	
13,450.00	12,110.00	12,989.37	11,723.56	47.92	46.02	-49.66	-1,407.41	847.36	612.20	531.02	81.18	7.541	
13,500.00	12,110.00	13,033.35	11,722.14	48.24	46.32	-49.54	-1,451.37	847.32	612.98	531.31	81.67	7.505	
13,550.00	12,110.00	13,095.37	11,720.58	48.58	46.77	-49.41	-1,513.36	847.31	613.57	531.40	82.17	7.467	
13,600.00	12,110.00	13,151.81	11,721.06	48.91	47.19	-49.44	-1,569.80	847.56	613.20	530.43	82.77	7.408	
13,650.00	12,110.00	13,199.47	11,722.44	49.27	47.55	-49.58	-1,617.43	848.55	612.82	529.34	83.48	7.341	
13,700.00	12,110.00	13,247.40	11,724.44	49.62	47.92	-49.81	-1,665.28	850.31	612.63	528.39	84.24	7.272	
13,738.99	12,110.00	13,285.10	11,725.75	49.91	48.22	-49.96	-1,702.94	851.59	612.59	527.74	84.85	7.220	
13,750.00	12,110.00	13,295.75	11,726.05	49.99	48.31	-50.00	-1,713.59	851.92	612.59	527.58	85.01	7.206	
13,800.00	12,110.00	13,342.90	11,727.01	50.36	48.69	-50.13	-1,760.70	853.16	612.71	526.97	85.74	7.146	
13,850.00	12,110.00	13,388.91	11,727.26	50.75	49.06	-50.19	-1,806.70	854.17	613.14	526.69	86.45	7.092	
13,900.00	12,110.00	13,438.25	11,726.84	51.13	49.47	-50.19	-1,856.03	855.02	613.83	526.70	87.13	7.045	
13,950.00	12,110.00	13,491.59	11,726.24	51.53	49.92	-50.16	-1,909.37	855.54	614.34	526.54	87.80	6.997	
14,000.00	12,110.00	13,540.39	11,725.40	51.93	50.34	-50.09	-1,958.16	855.61	614.70	526.26	88.44	6.950	
14,050.00	12,110.00	13,587.12	11,723.63	52.35	50.74	-49.92	-2,004.85	855.15	615.31	526.26	89.04	6.910	
14,100.00	12,110.00	13,638.62	11,721.08	52.76	51.19	-49.66	-2,056.28	854.31	616.05	526.46	89.59	6.876	
14,150.00	12,110.00	13,692.72	11,719.44	53.19	51.67	-49.50	-2,110.35	853.90	616.51	526.31	90.21	6.835	
14,200.00	12,110.00	13,742.97	11,718.85	53.62	52.13	-49.45	-2,160.61	854.07	616.78	525.87	90.91	6.785	
14,250.00	12,110.00	13,792.90	11,718.97	54.06	52.59	-49.49	-2,210.52	854.84	617.05	525.37	91.68	6.730	
14,300.00	12,110.00	13,841.17	11,719.69	54.50	53.05	-49.60	-2,258.77	856.20	617.40	524.87	92.53	6.673	
14,350.00	12,110.00	13,889.45	11,720.98	54.95	53.50	-49.80	-2,306.99	858.21	617.89	524.45	93.44	6.613	
14,400.00	12,110.00	13,928.17	11,722.01	55.40	53.89	-49.99	-2,345.64	860.39	618.95	524.57	94.37	6.559	
14,450.00	12,110.00	13,967.65	11,722.74	55.87	54.27	-50.19	-2,385.00	863.20	620.85	525.53	95.32	6.513	
14,500.00	12,110.00	14,016.25	11,723.12	56.33	54.76	-50.42	-2,433.46	866.97	623.35	527.05	96.29	6.473	
14,550.00	12,110.00	14,069.16	11,722.61	56.81	55.29	-50.55	-2,486.28	870.06	625.67	528.46	97.20	6.437	
14,600.00	12,110.00	14,115.84	11,721.97	57.28	55.77	-50.63	-2,532.88	872.61	627.97	529.88	98.09	6.402	
14,650.00	12,110.00	14,161.62	11,722.14	57.77	56.24	-50.83	-2,578.52	876.14	630.60	531.53	99.08	6.365	
14,700.00	12,110.00	14,218.89	11,722.80	58.26	56.83	-51.13	-2,635.59	880.83	633.19	533.04	100.15	6.322	
14,750.00	12,110.00	14,278.64	11,722.87	58.75	57.46	-51.30	-2,695.25	884.08	635.04	533.90	101.14	6.279	
14,800.00	12,110.00	14,338.70	11,722.42	59.25	58.08	-51.34	-2,755.28	885.73	636.10	534.07	102.03	6.234	
14,850.00	12,110.00	14,389.40	11,721.60	59.75	58.62	-51.28	-2,805.98	886.05	636.61	533.76	102.86	6.189	
14,900.00	12,110.00	14,435.29	11,720.18	60.26	59.10	-51.17	-2,851.84	886.11	637.39	533.74	103.65	6.150	
14,950.00	12,110.00	14,489.51	11,717.89	60.77	59.67	-50.97	-2,906.01	885.83	638.28	533.91	104.37	6.115	
15,000.00	12,110.00	14,549.11	11,715.44	61.29	60.31	-50.71	-2,965.55	884.56	638.52	533.49	105.03	6.079	
15,050.00	12,110.00	14,617.38	11,714.13	61.81	61.03	-50.47	-3,033.77	882.40	637.67	531.99	105.68	6.034	
15,100.00	12,110.00	14,672.51	11,714.87	62.33	61.63	-50.40	-3,088.86	880.59	635.72	529.23	106.49	5.970	
15,150.00	12,110.00	14,720.24	11,715.96	62.86	62.14	-50.39	-3,136.57	879.45	633.83	526.44	107.39	5.902	
15,200.00	12,110.00	14,766.94	11,716.97	63.39	62.65	-50.39	-3,183.24	878.54	632.15	523.84	108.31	5.836	
15,250.00	12,110.00	14,813.05	11,716.78	63.93	63.16	-50.27	-3,229.33	877.01	630.77	521.63	109.14	5.779	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 187-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
15,300.00	12,110.00	14,859.39	11,715.47	64.47	63.67	-50.04	-3,275.61	874.91	629.69	519.82	109.87	5.731	
15,350.00	12,110.00	14,905.95	11,713.82	65.02	64.18	-49.79	-3,322.09	872.85	628.90	518.31	110.58	5.687	
15,400.00	12,110.00	14,956.85	11,711.99	65.56	64.74	-49.52	-3,372.91	870.78	628.28	517.02	111.27	5.647	
15,450.00	12,110.00	15,011.13	11,711.04	66.12	65.35	-49.33	-3,427.15	869.04	627.40	515.39	112.01	5.601	
15,500.00	12,110.00	15,055.60	11,710.53	66.67	65.85	-49.21	-3,471.60	867.81	626.49	513.65	112.85	5.552	
15,550.00	12,110.00	15,098.09	11,709.09	67.23	66.33	-49.01	-3,514.05	866.47	626.18	512.55	113.62	5.511	
15,600.00	12,110.00	15,161.26	11,707.03	67.79	67.06	-48.73	-3,577.14	864.60	625.98	511.71	114.27	5.478	
15,650.00	12,110.00	15,225.61	11,709.38	68.35	67.80	-48.83	-3,641.43	863.86	624.03	508.80	115.23	5.416	
15,700.00	12,110.00	15,269.39	11,711.93	68.92	68.32	-49.00	-3,685.14	864.08	622.08	505.69	116.38	5.345	
15,750.00	12,110.00	15,311.77	11,714.41	69.49	68.82	-49.21	-3,727.44	864.87	620.64	503.06	117.58	5.279	
15,800.00	12,110.00	15,349.62	11,715.96	70.06	69.27	-49.36	-3,765.24	865.84	620.04	501.30	118.73	5.222	
15,805.52	12,110.00	15,353.80	11,716.07	70.13	69.32	-49.37	-3,769.42	865.96	620.03	501.17	118.86	5.217	
15,850.00	12,110.00	15,387.52	11,716.57	70.64	69.72	-49.46	-3,803.12	866.98	620.42	500.60	119.82	5.178	
15,900.00	12,110.00	15,432.19	11,716.20	71.22	70.26	-49.49	-3,847.77	868.31	621.58	500.74	120.83	5.144	
15,950.00	12,110.00	15,479.43	11,714.88	71.80	70.82	-49.44	-3,894.98	869.23	622.98	501.22	121.76	5.116	
16,000.00	12,110.00	15,541.56	11,712.30	72.39	71.56	-49.24	-3,957.05	869.31	624.19	501.64	122.55	5.093	
16,050.00	12,110.00	15,604.12	11,710.00	72.97	72.31	-48.95	-4,019.55	867.59	624.09	500.87	123.22	5.065	
16,100.00	12,110.00	15,655.65	11,709.26	73.56	72.93	-48.82	-4,071.06	866.57	623.57	499.51	124.06	5.026	
16,150.00	12,110.00	15,704.17	11,709.62	74.16	73.51	-48.82	-4,119.58	866.44	623.00	497.94	125.05	4.982	Alert
16,200.00	12,110.00	15,749.76	11,709.64	74.75	74.06	-48.80	-4,165.16	866.40	622.72	496.68	126.04	4.941	Alert
16,214.20	12,110.00	15,762.70	11,709.55	74.92	74.22	-48.79	-4,178.11	866.38	622.71	496.39	126.32	4.930	Alert
16,250.00	12,110.00	15,794.92	11,709.10	75.35	74.61	-48.74	-4,210.32	866.30	622.80	495.81	126.99	4.904	Alert
16,300.00	12,110.00	15,839.48	11,707.74	75.95	75.15	-48.61	-4,254.86	865.99	623.31	495.45	127.86	4.875	Alert
16,350.00	12,110.00	15,887.93	11,705.43	76.55	75.75	-48.40	-4,303.25	865.42	624.21	495.57	128.64	4.852	Alert
16,400.00	12,110.00	15,946.05	11,704.03	77.15	76.46	-48.28	-4,361.35	865.35	624.74	495.24	129.50	4.824	Alert
16,450.00	12,110.00	15,994.99	11,704.14	77.76	77.07	-48.30	-4,410.29	865.91	624.87	494.33	130.54	4.787	Alert
16,500.00	12,110.00	16,039.47	11,703.85	78.37	77.62	-48.30	-4,454.76	866.54	625.38	493.82	131.56	4.754	Alert
16,550.00	12,110.00	16,089.46	11,702.95	78.98	78.24	-48.26	-4,504.74	867.17	626.21	493.69	132.53	4.725	Alert
16,600.00	12,110.00	16,144.15	11,701.43	79.59	78.92	-48.12	-4,559.41	866.94	626.76	493.38	133.38	4.699	Alert
16,650.00	12,110.00	16,204.41	11,699.81	80.20	79.67	-47.92	-4,619.64	865.84	626.76	492.61	134.15	4.672	Alert
16,700.00	12,110.00	16,266.09	11,699.59	80.82	80.43	-47.80	-4,681.30	864.49	625.84	490.87	134.96	4.637	Alert
16,750.00	12,110.00	16,312.98	11,699.92	81.44	81.02	-47.76	-4,728.18	863.70	624.74	488.79	135.95	4.595	Alert
16,800.00	12,110.00	16,365.17	11,700.70	82.05	81.67	-47.75	-4,780.35	863.08	623.56	486.61	136.95	4.553	Alert
16,850.00	12,110.00	16,420.46	11,701.92	82.68	82.36	-47.76	-4,835.63	862.24	622.03	484.08	137.95	4.509	Alert
16,900.00	12,110.00	16,470.81	11,703.27	83.30	83.00	-47.78	-4,885.96	861.30	620.21	481.21	138.99	4.462	Alert
16,950.00	12,110.00	16,518.89	11,704.41	83.92	83.60	-47.78	-4,934.01	860.43	618.51	478.46	140.04	4.417	Alert
17,000.00	12,110.00	16,566.69	11,705.14	84.55	84.20	-47.75	-4,981.80	859.41	616.97	475.92	141.05	4.374	Alert
17,050.00	12,110.00	16,614.35	11,704.86	85.18	84.80	-47.61	-5,029.42	857.70	615.62	473.70	141.93	4.338	Alert
17,100.00	12,110.00	16,666.25	11,703.92	85.81	85.46	-47.37	-5,081.26	855.36	614.34	471.68	142.66	4.306	Alert
17,150.00	12,110.00	16,719.74	11,703.62	86.44	86.13	-47.19	-5,134.70	853.16	612.79	469.35	143.44	4.272	Alert
17,200.00	12,110.00	16,764.50	11,703.59	87.07	86.69	-47.07	-5,179.44	851.60	611.31	466.94	144.37	4.234	Alert
17,250.00	12,110.00	16,809.08	11,703.34	87.71	87.26	-46.96	-5,224.00	850.38	610.27	464.97	145.30	4.200	Alert
17,300.00	12,110.00	16,855.09	11,702.90	88.34	87.85	-46.85	-5,270.00	849.44	609.62	463.41	146.22	4.169	Alert
17,350.00	12,110.00	16,901.33	11,702.33	88.98	88.44	-46.75	-5,316.23	848.77	609.29	462.15	147.14	4.141	Alert
17,377.62	12,110.00	16,926.77	11,701.97	89.33	88.77	-46.70	-5,341.66	848.52	609.24	461.58	147.66	4.126	Alert
17,400.00	12,110.00	16,947.34	11,701.64	89.62	89.03	-46.66	-5,362.23	848.38	609.27	461.19	148.08	4.114	Alert
17,450.00	12,110.00	16,993.30	11,700.79	90.26	89.62	-46.58	-5,408.18	848.26	609.59	460.56	149.03	4.090	Alert
17,500.00	12,110.00	17,044.96	11,700.08	90.90	90.30	-46.53	-5,459.84	848.58	610.06	460.05	150.01	4.067	Alert
17,550.00	12,110.00	17,098.35	11,700.58	91.54	90.99	-46.61	-5,513.21	849.68	610.26	459.10	151.16	4.037	Alert
17,600.00	12,110.00	17,146.09	11,701.43	92.19	91.62	-46.73	-5,560.92	850.99	610.42	458.04	152.39	4.006	Alert
17,650.00	12,110.00	17,194.32	11,701.98	92.83	92.26	-46.83	-5,609.13	852.27	610.77	457.18	153.59	3.977	Alert
17,700.00	12,110.00	17,253.60	11,702.43	93.48	93.03	-46.89	-5,668.41	853.09	610.79	456.09	154.70	3.948	Alert

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 187-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
17,750.00	12,110.00	17,312.23	11,702.92	94.13	93.80	-46.88	-5,727.03	852.74	610.06	454.37	155.69	3.918	Alert
17,800.00	12,110.00	17,369.95	11,704.79	94.77	94.56	-46.98	-5,784.72	852.66	608.68	451.85	156.83	3.881	Alert
17,850.00	12,110.00	17,411.07	11,706.61	95.42	95.10	-47.11	-5,825.80	852.93	607.21	449.07	158.14	3.840	Alert
17,896.14	12,110.00	17,445.44	11,707.32	96.03	95.56	-47.17	-5,860.16	853.35	606.77	447.49	159.28	3.809	Alert
17,900.00	12,110.00	17,448.32	11,707.34	96.08	95.60	-47.18	-5,863.04	853.40	606.77	447.40	159.37	3.807	Alert
17,950.00	12,110.00	17,492.97	11,707.21	96.73	96.19	-47.20	-5,907.68	854.21	607.29	446.80	160.49	3.784	Alert
18,000.00	12,110.00	17,556.21	11,708.39	97.38	97.03	-47.35	-5,970.88	855.66	607.27	445.54	161.73	3.755	Alert
18,050.00	12,110.00	17,609.64	11,710.61	98.04	97.74	-47.56	-6,024.26	856.89	606.47	443.38	163.09	3.719	Alert
18,100.00	12,110.00	17,660.41	11,712.29	98.69	98.42	-47.70	-6,074.99	857.53	605.60	441.23	164.37	3.684	Alert
18,150.00	12,110.00	17,708.20	11,713.63	99.35	99.06	-47.80	-6,122.76	857.98	604.78	439.16	165.62	3.652	Alert
18,200.00	12,110.00	17,755.83	11,714.96	100.00	99.69	-47.92	-6,170.37	858.67	604.15	437.26	166.89	3.620	Alert
18,233.16	12,110.00	17,782.62	11,715.56	100.44	100.05	-47.99	-6,197.15	859.18	603.97	436.23	167.73	3.601	Alert
18,250.00	12,110.00	17,796.06	11,715.73	100.66	100.23	-48.01	-6,210.58	859.47	604.01	435.87	168.15	3.592	Alert
18,300.00	12,110.00	17,835.94	11,715.73	101.32	100.77	-48.06	-6,250.45	860.47	604.71	435.40	169.31	3.572	Alert
18,350.00	12,110.00	17,881.34	11,714.93	101.98	101.38	-48.07	-6,295.82	861.75	606.11	435.71	170.41	3.557	Alert
18,400.00	12,110.00	17,930.46	11,713.63	102.64	102.04	-48.03	-6,344.92	862.91	607.65	436.20	171.45	3.544	Alert
18,450.00	12,110.00	17,987.42	11,711.52	103.31	102.80	-47.89	-6,401.83	863.48	609.04	436.68	172.36	3.534	Alert
18,500.00	12,110.00	18,051.41	11,708.08	103.97	103.65	-47.51	-6,465.69	861.63	609.58	436.72	172.86	3.527	Alert
18,550.00	12,110.00	18,139.13	11,706.26	104.63	104.80	-47.02	-6,553.22	856.48	607.90	435.11	172.79	3.518	Alert
18,600.00	12,110.00	18,176.61	11,706.34	105.30	105.29	-46.86	-6,590.63	854.14	605.28	431.47	173.81	3.482	Alert
18,650.00	12,110.00	18,216.41	11,706.01	105.96	105.81	-46.69	-6,630.38	852.14	603.51	428.76	174.74	3.454	Alert
18,700.00	12,110.00	18,266.34	11,705.49	106.63	106.47	-46.52	-6,680.27	850.29	602.29	426.74	175.55	3.431	Alert
18,750.00	12,110.00	18,320.99	11,706.22	107.30	107.20	-46.46	-6,734.90	849.01	600.75	424.25	176.50	3.404	Alert
18,800.00	12,110.00	18,364.35	11,707.16	107.97	107.78	-46.47	-6,778.25	848.38	599.27	421.61	177.66	3.373	Alert
18,850.00	12,110.00	18,407.07	11,707.47	108.64	108.35	-46.44	-6,820.97	847.91	598.39	419.63	178.76	3.347	Alert
18,900.00	12,110.00	18,453.50	11,707.34	109.30	108.97	-46.39	-6,867.39	847.58	598.00	418.21	179.79	3.326	Alert
18,950.00	12,110.00	18,501.21	11,707.23	109.98	109.62	-46.36	-6,915.10	847.53	597.82	416.98	180.84	3.306	Alert
19,000.00	12,110.00	18,555.59	11,707.69	110.65	110.36	-46.40	-6,969.48	847.99	597.62	415.64	181.98	3.284	Alert
19,050.00	12,110.00	18,612.05	11,710.04	111.32	111.12	-46.64	-7,025.87	849.45	596.90	413.47	183.42	3.254	Alert
19,100.00	12,110.00	18,662.07	11,713.02	111.99	111.81	-46.94	-7,075.76	851.24	595.93	410.90	185.03	3.221	Alert
19,150.00	12,110.00	18,702.00	11,715.63	112.66	112.36	-47.22	-7,115.57	852.84	595.03	408.37	186.66	3.188	Alert
19,172.10	12,110.00	18,722.62	11,716.76	112.96	112.65	-47.35	-7,136.15	853.73	594.82	407.45	187.37	3.175	Alert
19,200.00	12,110.00	18,740.33	11,717.31	113.34	112.89	-47.43	-7,153.82	854.55	595.06	406.91	188.15	3.163	Alert
19,250.00	12,110.00	18,772.08	11,717.30	114.01	113.33	-47.52	-7,185.53	856.13	596.68	407.36	189.33	3.152	Alert
19,300.00	12,110.00	18,813.75	11,715.71	114.69	113.91	-47.54	-7,227.11	858.45	599.73	409.33	190.40	3.150	Alert
19,350.00	12,110.00	18,886.15	11,715.99	115.36	114.92	-47.85	-7,299.32	863.35	601.88	409.68	192.20	3.132	Alert
19,400.00	12,110.00	18,932.61	11,717.78	116.04	115.57	-48.18	-7,345.62	866.86	603.17	409.31	193.87	3.111	Alert
19,450.00	12,110.00	18,977.28	11,718.80	116.72	116.19	-48.44	-7,390.15	870.13	604.92	409.51	195.41	3.096	Alert
19,500.00	12,110.00	19,029.53	11,719.34	117.40	116.92	-48.68	-7,442.28	873.61	606.85	409.89	196.96	3.081	Alert
19,550.00	12,110.00	19,083.43	11,719.58	118.07	117.67	-48.85	-7,496.11	876.48	608.47	410.07	198.41	3.067	Alert
19,600.00	12,110.00	19,127.79	11,719.51	118.75	118.29	-48.97	-7,540.41	878.72	610.19	410.48	199.71	3.055	Alert
19,650.00	12,110.00	19,172.70	11,719.17	119.43	118.91	-49.08	-7,585.24	881.24	612.32	411.32	201.01	3.046	Alert
19,700.00	12,110.00	19,220.02	11,718.13	120.11	119.57	-49.14	-7,632.49	883.69	614.77	412.55	202.22	3.040	Alert
19,750.00	12,110.00	19,267.39	11,715.92	120.79	120.23	-49.07	-7,679.77	885.40	617.43	414.21	203.21	3.038	Alert
19,800.00	12,110.00	19,361.40	11,711.15	121.48	121.51	-48.63	-7,773.64	884.30	618.43	414.76	203.67	3.036	Alert
19,850.00	12,110.00	19,409.00	11,709.24	122.16	122.15	-48.34	-7,821.13	882.01	617.73	413.43	204.30	3.024	Alert
19,900.00	12,110.00	19,456.34	11,707.50	122.84	122.78	-48.09	-7,868.41	880.15	617.26	412.27	204.99	3.011	Alert
19,924.68	12,110.00	19,476.53	11,706.80	123.18	123.06	-48.00	-7,888.58	879.54	617.17	411.77	205.40	3.005	Alert
19,950.00	12,110.00	19,497.16	11,706.08	123.52	123.34	-47.91	-7,909.19	879.13	617.26	411.43	205.83	2.999	Alert
20,000.00	12,110.00	19,537.91	11,704.68	124.21	123.90	-47.79	-7,949.92	878.95	618.02	411.29	206.73	2.989	Alert
20,050.00	12,110.00	19,582.37	11,703.06	124.89	124.51	-47.69	-7,994.35	879.44	619.41	411.75	207.66	2.983	Alert
20,100.00	12,110.00	19,628.19	11,701.02	125.58	125.14	-47.57	-8,040.11	880.02	621.16	412.62	208.54	2.979	Alert

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 187-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
20,150.00	12,110.00	19,682.31	11,698.34	126.26	125.89	-47.40	-8,094.17	880.61	623.02	413.63	209.39	2.975	Alert
20,200.00	12,110.00	19,740.46	11,695.80	126.95	126.69	-47.21	-8,152.26	880.62	624.28	414.10	210.18	2.970	Alert
20,250.00	12,110.00	19,802.12	11,693.61	127.63	127.54	-47.00	-8,213.88	879.91	624.86	413.97	210.89	2.963	Alert
20,300.00	12,110.00	19,869.96	11,693.56	128.32	128.46	-46.89	-8,281.70	878.73	623.98	412.31	211.67	2.948	Alert
20,350.00	12,110.00	19,931.15	11,694.59	129.01	129.30	-46.82	-8,342.86	876.94	622.10	409.60	212.50	2.927	Alert
20,400.00	12,110.00	19,981.45	11,695.67	129.69	129.98	-46.76	-8,393.11	875.09	619.80	406.31	213.49	2.903	Alert
20,450.00	12,110.00	20,031.76	11,696.69	130.38	130.67	-46.68	-8,443.37	873.04	617.41	402.96	214.44	2.879	Alert
20,500.00	12,110.00	20,079.56	11,697.43	131.07	131.32	-46.58	-8,491.12	871.02	615.11	399.71	215.41	2.856	Alert
20,550.00	12,110.00	20,129.83	11,697.94	131.76	132.00	-46.46	-8,541.33	868.85	612.97	396.70	216.27	2.834	Alert
20,600.00	12,110.00	20,187.10	11,698.87	132.45	132.78	-46.32	-8,598.54	866.09	610.44	393.46	216.98	2.813	Alert
20,650.00	12,110.00	20,239.21	11,700.24	133.14	133.48	-46.21	-8,650.56	863.40	607.44	389.60	217.84	2.788	Alert
20,700.00	12,110.00	20,288.16	11,701.89	133.83	134.15	-46.17	-8,699.43	861.26	604.47	385.59	218.88	2.762	Alert
20,750.00	12,110.00	20,341.44	11,704.01	134.52	134.88	-46.15	-8,752.63	859.18	601.46	381.57	219.89	2.735	Alert
20,800.00	12,110.00	20,396.72	11,706.41	135.21	135.63	-46.12	-8,807.80	856.56	598.03	377.22	220.80	2.708	Alert
20,850.00	12,110.00	20,445.97	11,708.72	135.90	136.30	-46.10	-8,856.93	854.11	594.39	372.51	221.88	2.679	Alert
20,900.00	12,110.00	20,495.16	11,711.18	136.59	136.98	-46.10	-8,906.01	851.91	590.82	367.79	223.02	2.649	Alert
20,950.00	12,110.00	20,545.70	11,713.54	137.28	137.66	-46.08	-8,956.44	849.47	587.24	363.16	224.08	2.621	Alert
21,000.00	12,110.00	20,596.22	11,715.43	137.98	138.35	-45.99	-9,006.84	846.52	583.61	358.62	224.99	2.594	Alert
21,050.00	12,110.00	20,634.54	11,716.48	138.67	138.88	-45.92	-9,045.08	844.53	580.54	354.31	226.23	2.566	Alert
21,100.00	12,110.00	20,674.82	11,717.18	139.36	139.43	-45.84	-9,085.33	842.93	578.29	350.93	227.37	2.543	Alert
21,150.00	12,110.00	20,724.73	11,717.79	140.06	140.11	-45.75	-9,135.21	841.39	576.54	348.23	228.31	2.525	Alert
21,200.00	12,110.00	20,776.76	11,718.65	140.75	140.83	-45.68	-9,187.21	839.77	574.63	345.40	229.23	2.507	Alert
21,250.00	12,110.00	20,832.42	11,720.28	141.44	141.60	-45.66	-9,242.82	838.20	572.37	342.17	230.20	2.486	Minor Risk
21,300.00	12,110.00	20,882.62	11,722.67	142.14	142.29	-45.74	-9,292.95	837.09	569.69	338.23	231.47	2.461	Minor Risk
21,350.00	12,110.00	20,920.62	11,724.15	142.83	142.82	-45.79	-9,330.92	836.65	567.70	334.76	232.93	2.437	Minor Risk
21,400.00	12,110.00	20,958.67	11,724.92	143.53	143.35	-45.83	-9,368.96	836.62	566.75	332.48	234.27	2.419	Minor Risk
21,450.00	12,110.00	21,009.89	11,725.60	144.22	144.07	-45.89	-9,420.17	837.07	566.37	330.86	235.51	2.405	Minor Risk
21,500.00	12,110.00	21,063.69	11,727.11	144.92	144.82	-46.03	-9,473.94	837.82	565.67	328.76	236.91	2.388	Minor Risk
21,548.35	12,110.00	21,102.30	11,727.91	145.59	145.36	-46.11	-9,512.54	838.42	565.30	327.04	238.26	2.373	Minor Risk
21,550.00	12,110.00	21,103.64	11,727.93	145.62	145.38	-46.11	-9,513.88	838.44	565.30	327.00	238.30	2.372	Minor Risk
21,600.00	12,110.00	21,144.50	11,727.79	146.31	145.96	-46.13	-9,554.74	839.05	565.73	326.25	239.48	2.362	Minor Risk, ES
21,650.00	12,110.00	21,192.36	11,726.68	147.01	146.63	-46.07	-9,602.58	839.63	566.74	326.27	240.47	2.357	Minor Risk
21,700.00	12,110.00	21,242.63	11,725.14	147.71	147.33	-45.95	-9,652.82	839.87	567.75	326.40	241.34	2.352	Minor Risk
21,750.00	12,110.00	21,287.02	11,723.43	148.40	147.95	-45.82	-9,697.19	839.98	568.96	326.81	242.15	2.350	Minor Risk
21,800.00	12,110.00	21,330.54	11,721.38	149.10	148.56	-45.68	-9,740.65	840.40	570.74	327.83	242.91	2.350	Minor Risk
21,850.00	12,110.00	21,383.43	11,719.01	149.80	149.31	-45.56	-9,793.47	841.46	572.80	329.00	243.81	2.349	Minor Risk
21,900.00	12,110.00	21,440.58	11,718.37	150.50	150.12	-45.64	-9,850.58	843.57	574.30	329.14	245.16	2.343	Minor Risk
21,950.00	12,110.00	21,484.82	11,718.29	151.20	150.75	-45.75	-9,894.78	845.56	575.74	329.23	246.52	2.336	Minor Risk
22,000.00	12,110.00	21,529.41	11,717.57	151.90	151.38	-45.82	-9,939.31	847.52	577.66	329.91	247.75	2.332	Minor Risk
22,050.00	12,110.00	21,574.10	11,716.25	152.60	152.01	-45.84	-9,983.94	849.48	580.04	331.17	248.87	2.331	Minor Risk
22,100.00	12,110.00	21,636.21	11,714.48	153.30	152.90	-45.83	-10,027.55	851.46	582.86	332.77	250.09	2.331	Minor Risk, SF
22,150.00	12,110.00	21,667.69	11,712.05	154.00	153.35	-45.80	-10,077.34	853.77	585.99	335.06	250.94	2.335	Minor Risk
22,200.00	12,110.00	21,717.59	11,709.62	154.70	154.06	-45.76	-10,127.13	856.08	589.13	337.13	252.00	2.338	Minor Risk
22,250.00	12,110.00	21,767.49	11,707.20	155.40	154.77	-45.73	-10,176.91	858.40	592.27	339.21	253.06	2.340	Minor Risk
22,300.00	12,110.00	21,817.39	11,704.77	156.10	155.48	-45.70	-10,226.70	860.71	595.40	341.29	254.12	2.343	Minor Risk
22,350.00	12,110.00	21,867.29	11,702.34	156.80	156.19	-45.67	-10,276.49	863.02	598.54	343.36	255.18	2.346	Minor Risk
22,358.61	12,110.00	21,875.88	11,701.92	156.92	156.31	-45.66	-10,285.06	863.42	599.08	343.72	255.36	2.346	Minor Risk

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 61H - Original Hole - Original Hole — **Offset Site Error:** 5.00 ft

Survey Program: 150-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.50	0.00	-89.64	5.72	-918.96	919.09				
50.00	50.00	37.22	37.22	0.50	0.06	-89.64	5.72	-918.92	918.94	918.38	0.56	1,645.648	
100.00	100.00	90.08	90.08	0.52	0.14	-89.64	5.69	-918.72	918.75	918.09	0.65	1,404.427	
150.00	150.00	142.95	142.95	0.59	0.22	-89.65	5.65	-918.35	918.40	917.60	0.81	1,138.514	
200.00	200.00	194.73	194.73	0.70	0.39	-89.64	5.69	-917.86	917.93	916.84	1.09	842.794	
250.00	250.00	246.35	246.34	0.84	0.57	-89.63	5.95	-917.28	917.37	915.96	1.41	651.044	
300.00	300.00	294.79	294.78	0.99	0.74	-89.61	6.17	-916.74	916.81	915.08	1.73	529.434	
350.00	350.00	343.52	343.50	1.15	0.92	-89.61	6.18	-916.26	916.32	914.26	2.06	443.970	
400.00	400.00	392.87	392.85	1.31	1.10	-89.62	6.12	-915.83	915.89	913.48	2.40	380.952	
450.00	450.00	442.44	442.43	1.48	1.27	-89.62	6.06	-915.44	915.49	912.74	2.75	333.032	
500.00	500.00	492.90	492.88	1.65	1.45	-89.62	5.99	-915.03	915.08	911.98	3.10	295.239	
550.00	550.00	543.45	543.43	1.82	1.64	-89.63	5.90	-914.59	914.65	911.19	3.45	264.961	
600.00	600.00	594.14	594.12	1.99	1.82	-89.64	5.73	-914.11	914.18	910.37	3.81	240.177	
650.00	650.00	644.66	644.64	2.16	2.00	-89.66	5.49	-913.61	913.67	909.51	4.16	219.588	
700.00	700.00	695.03	694.99	2.34	2.18	-89.67	5.21	-913.08	913.15	908.63	4.52	202.221	
750.00	750.00	745.21	745.17	2.51	2.36	-89.69	4.98	-912.54	912.61	907.74	4.87	187.372	
800.00	800.00	796.37	796.33	2.69	2.54	-89.70	4.78	-911.95	912.03	906.80	5.23	174.389	
850.00	850.00	847.54	847.49	2.87	2.72	-89.71	4.56	-911.29	911.39	905.80	5.59	163.054	
900.00	900.00	897.20	897.15	3.04	2.90	-89.73	4.34	-910.62	910.71	904.77	5.94	153.211	
950.00	950.00	946.78	946.73	3.22	3.08	-89.74	4.15	-909.99	910.07	903.77	6.30	144.481	
1,000.00	1,000.00	996.43	996.38	3.40	3.26	-89.75	3.94	-909.37	909.45	902.79	6.65	136.675	
1,050.00	1,050.00	1,046.35	1,046.29	3.58	3.44	-89.76	3.77	-908.76	908.83	901.82	7.01	129.640	
1,100.00	1,100.00	1,096.60	1,096.54	3.75	3.61	-89.77	3.70	-908.19	908.24	900.88	7.36	123.401	
1,150.00	1,150.00	1,146.20	1,146.13	3.93	3.77	-89.76	3.74	-907.83	907.85	900.15	7.70	117.919	
1,200.00	1,200.00	1,197.27	1,197.21	4.11	3.94	-89.75	3.89	-907.67	907.68	899.64	8.04	112.875	
1,250.00	1,250.00	1,246.65	1,246.58	4.29	4.11	-89.74	4.06	-907.58	907.59	899.20	8.39	108.177	
1,300.00	1,300.00	1,296.02	1,295.96	4.46	4.28	-89.73	4.22	-907.52	907.53	898.79	8.74	103.856	
1,350.00	1,350.00	1,345.40	1,345.33	4.64	4.45	-89.72	4.36	-907.50	907.51	898.42	9.09	99.870	
1,360.51	1,360.51	1,345.77	1,345.71	4.68	4.48	-89.72	4.39	-907.50	907.51	898.35	9.16	99.071 CC	
1,400.00	1,400.00	1,384.38	1,384.31	4.82	4.61	-89.72	4.49	-907.51	907.53	898.09	9.43	96.225	
1,450.00	1,450.00	1,433.19	1,433.13	5.00	4.78	-89.71	4.58	-907.59	907.61	897.83	9.77	92.861	
1,500.00	1,500.00	1,483.68	1,483.61	5.18	4.95	-89.71	4.66	-907.70	907.72	897.59	10.12	89.673	
1,550.00	1,550.00	1,534.49	1,534.42	5.36	5.12	-89.70	4.77	-907.77	907.78	897.31	10.47	86.683	
1,600.00	1,600.00	1,584.75	1,584.68	5.53	5.29	-89.69	4.91	-907.80	907.82	896.99	10.82	83.863	
1,650.00	1,650.00	1,635.00	1,634.94	5.71	5.47	-89.68	5.04	-907.82	907.84	896.66	11.18	81.219	
1,700.00	1,700.00	1,685.26	1,685.19	5.89	5.64	-89.67	5.18	-907.83	907.85	896.31	11.53	78.735	
1,750.00	1,750.00	1,735.51	1,735.45	6.07	5.82	-89.66	5.32	-907.82	907.84	895.96	11.88	76.397	
1,800.00	1,800.00	1,785.57	1,785.50	6.25	5.99	-89.65	5.47	-907.81	907.83	895.59	12.24	74.178	
1,850.00	1,850.00	1,835.68	1,835.61	6.43	6.17	-89.64	5.63	-907.79	907.81	895.21	12.59	72.087	
1,900.00	1,900.00	1,885.79	1,885.72	6.61	6.35	-89.63	5.81	-907.76	907.78	894.83	12.95	70.110	
1,950.00	1,950.00	1,935.42	1,935.35	6.78	6.52	-89.62	6.00	-907.74	907.76	894.45	13.30	68.248	
1,959.87	1,959.87	1,945.14	1,945.07	6.82	6.55	-89.62	6.04	-907.73	907.75	894.38	13.37	67.895	
2,000.00	2,000.00	1,984.65	1,984.58	6.96	6.69	-89.61	6.21	-907.75	907.77	894.12	13.65	66.494	
2,050.00	2,050.00	2,033.88	2,033.81	7.14	6.86	-156.27	6.44	-907.80	908.02	894.02	14.00	64.858 ES	
2,100.00	2,099.99	2,083.10	2,083.03	7.32	7.04	-156.27	6.70	-907.89	908.72	894.37	14.35	63.332	
2,150.00	2,149.98	2,132.57	2,132.49	7.49	7.21	-156.27	6.97	-908.03	909.85	895.16	14.69	61.918	
2,200.00	2,199.96	2,182.12	2,182.05	7.66	7.38	-156.29	7.23	-908.18	911.41	896.37	15.04	60.598	
2,250.00	2,249.92	2,231.67	2,231.59	7.84	7.55	-156.31	7.49	-908.36	913.39	898.00	15.39	59.363	
2,300.00	2,299.87	2,281.19	2,281.12	8.01	7.73	-156.35	7.74	-908.56	915.65	899.92	15.73	58.201	
2,350.00	2,349.82	2,331.31	2,331.24	8.19	7.90	-156.39	7.99	-908.77	917.92	901.84	16.08	57.080	
2,400.00	2,399.77	2,381.51	2,381.43	8.36	8.07	-156.43	8.22	-908.97	920.19	903.75	16.43	56.005	
2,450.00	2,449.72	2,431.70	2,431.63	8.54	8.25	-156.48	8.45	-909.16	922.43	905.65	16.78	54.972	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 61H - Original Hole - Original Hole — **Offset Site Error:** 5.00 ft

Survey Program: 150-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,500.00	2,499.67	2,481.90	2,481.82	8.72	8.42	-156.52	8.65	-909.33	924.67	907.54	17.13	53.981	
2,550.00	2,549.62	2,532.03	2,531.95	8.89	8.60	-156.56	8.85	-909.49	926.89	909.41	17.48	53.026	
2,600.00	2,599.57	2,582.16	2,582.08	9.07	8.77	-156.61	9.03	-909.64	929.10	911.27	17.83	52.108	
2,650.00	2,649.52	2,632.30	2,632.22	9.25	8.95	-156.65	9.19	-909.78	931.31	913.13	18.18	51.224	
2,700.00	2,699.47	2,682.63	2,682.55	9.42	9.13	-156.70	9.34	-909.91	933.50	914.97	18.53	50.369	
2,750.00	2,749.41	2,733.38	2,733.30	9.60	9.31	-156.74	9.49	-910.00	935.66	916.77	18.89	49.536	
2,800.00	2,799.36	2,784.13	2,784.05	9.78	9.48	-156.79	9.66	-910.05	937.78	918.53	19.24	48.732	
2,850.00	2,849.31	2,834.89	2,834.81	9.95	9.66	-156.83	9.84	-910.06	939.85	920.25	19.60	47.954	
2,900.00	2,899.26	2,885.31	2,885.23	10.13	9.84	-156.88	10.03	-910.03	941.89	921.93	19.95	47.203	
2,950.00	2,949.21	2,935.51	2,935.43	10.31	10.02	-156.92	10.23	-909.98	943.91	923.60	20.31	46.476	
3,000.00	2,999.16	2,985.72	2,985.64	10.49	10.20	-156.96	10.42	-909.92	945.92	925.25	20.66	45.775	
3,050.00	3,049.11	3,035.92	3,035.84	10.66	10.38	-157.00	10.63	-909.85	947.91	926.89	21.02	45.095	
3,100.00	3,099.06	3,085.42	3,085.33	10.84	10.56	-157.04	10.82	-909.78	949.91	928.54	21.37	44.445	
3,150.00	3,149.01	3,134.79	3,134.71	11.02	10.73	-157.08	11.02	-909.74	951.95	930.22	21.73	43.817	
3,200.00	3,198.96	3,184.16	3,184.08	11.20	10.91	-157.12	11.21	-909.73	954.01	931.93	22.08	43.211	
3,250.00	3,248.91	3,233.53	3,233.45	11.38	11.08	-157.16	11.40	-909.75	956.10	933.67	22.43	42.625	
3,300.00	3,298.86	3,283.00	3,282.92	11.55	11.26	-157.20	11.62	-909.80	958.22	935.44	22.78	42.059	
3,350.00	3,348.81	3,332.47	3,332.38	11.73	11.43	-157.24	11.91	-909.87	960.37	937.23	23.14	41.511	
3,400.00	3,398.76	3,381.94	3,381.85	11.91	11.61	-157.27	12.26	-909.97	962.54	939.05	23.49	40.980	
3,450.00	3,448.71	3,431.81	3,431.72	12.09	11.79	-157.29	12.68	-910.10	964.73	940.89	23.84	40.463	
3,500.00	3,498.66	3,483.04	3,482.95	12.27	11.97	-157.32	13.07	-910.18	966.89	942.69	24.20	39.950	
3,550.00	3,548.60	3,534.28	3,534.19	12.45	12.15	-157.36	13.38	-910.20	968.98	944.42	24.56	39.450	
3,600.00	3,598.55	3,585.52	3,585.42	12.63	12.33	-157.40	13.60	-910.15	971.00	946.08	24.92	38.962	
3,650.00	3,648.50	3,636.96	3,636.87	12.81	12.52	-157.44	13.73	-910.03	972.96	947.68	25.28	38.485	
3,700.00	3,698.45	3,688.58	3,688.49	12.99	12.70	-157.49	13.81	-909.81	974.83	949.19	25.64	38.018	
3,750.00	3,748.40	3,740.21	3,740.11	13.16	12.88	-157.54	13.82	-909.51	976.62	950.62	26.00	37.562	
3,800.00	3,798.35	3,791.84	3,791.74	13.34	13.06	-157.60	13.78	-909.13	978.32	951.96	26.36	37.114	
3,850.00	3,848.30	3,843.27	3,843.17	13.52	13.24	-157.65	13.69	-908.65	979.95	953.23	26.72	36.679	
3,900.00	3,898.25	3,894.67	3,894.57	13.70	13.42	-157.71	13.55	-908.11	981.50	954.42	27.07	36.253	
3,950.00	3,948.20	3,946.08	3,945.97	13.88	13.60	-157.78	13.37	-907.48	982.98	955.55	27.43	35.836	
4,000.00	3,998.15	3,997.49	3,997.38	14.06	13.78	-157.84	13.14	-906.78	984.38	956.60	27.79	35.426	
4,050.00	4,048.10	4,048.71	4,048.59	14.24	13.95	-157.91	12.82	-906.02	985.72	957.58	28.14	35.027	
4,100.00	4,098.05	4,099.95	4,099.82	14.42	14.13	-157.99	12.38	-905.18	987.00	958.50	28.50	34.635	
4,150.00	4,148.00	4,151.19	4,151.05	14.60	14.31	-158.07	11.81	-904.27	988.22	959.36	28.85	34.250	
4,200.00	4,197.95	4,199.70	4,199.55	14.78	14.48	-158.16	11.18	-903.38	989.41	960.21	29.20	33.886	
4,250.00	4,247.90	4,245.82	4,245.67	14.96	14.63	-158.23	10.62	-902.69	990.76	961.23	29.54	33.545	
4,300.00	4,297.85	4,291.95	4,291.78	15.14	14.79	-158.31	10.10	-902.18	992.32	962.45	29.87	33.219	
4,350.00	4,347.79	4,338.06	4,337.89	15.32	14.95	-158.38	9.62	-901.85	994.06	963.86	30.21	32.908	
4,400.00	4,397.74	4,385.68	4,385.51	15.50	15.11	-158.45	9.18	-901.68	995.99	965.44	30.55	32.604	
4,450.00	4,447.69	4,435.65	4,435.48	15.68	15.28	-158.53	8.73	-901.54	997.96	967.06	30.90	32.299	
4,500.00	4,497.64	4,485.62	4,485.44	15.86	15.46	-158.60	8.30	-901.39	999.92	968.67	31.25	32.001	
4,550.00	4,547.59	4,535.59	4,535.41	16.04	15.63	-158.67	7.87	-901.25	1,001.89	970.29	31.60	31.710	
4,600.00	4,597.54	4,583.35	4,583.18	16.22	15.79	-158.74	7.49	-901.14	1,003.88	971.95	31.94	31.434	
4,650.00	4,647.49	4,629.71	4,629.53	16.40	15.95	-158.80	7.18	-901.19	1,006.05	973.78	32.27	31.174	
4,700.00	4,697.44	4,676.06	4,675.88	16.58	16.11	-158.86	6.92	-901.41	1,008.39	975.78	32.61	30.926	
4,750.00	4,747.39	4,722.39	4,722.21	16.76	16.26	-158.91	6.72	-901.80	1,010.91	977.97	32.94	30.688	
4,800.00	4,797.34	4,771.65	4,771.46	16.94	16.43	-158.96	6.56	-902.35	1,013.58	980.29	33.29	30.449	
4,850.00	4,847.29	4,823.48	4,823.29	17.12	16.61	-159.02	6.39	-902.86	1,016.18	982.53	33.64	30.204	
4,900.00	4,897.24	4,875.32	4,875.13	17.30	16.79	-159.07	6.21	-903.27	1,018.68	984.68	34.00	29.961	
4,950.00	4,947.19	4,927.16	4,926.97	17.48	16.96	-159.13	6.03	-903.59	1,021.10	986.74	34.36	29.720	
5,000.00	4,997.14	4,977.90	4,977.71	17.66	17.14	-159.18	5.86	-903.83	1,023.44	988.73	34.71	29.486	
5,050.00	5,047.09	5,028.50	5,028.31	17.84	17.31	-159.24	5.73	-904.03	1,025.75	990.69	35.06	29.256	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 61H - Original Hole - Original Hole — **Offset Site Error:** 5.00 ft

Survey Program: 150-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,097.04	5,079.10	5,078.91	18.02	17.48	-159.29	5.64	-904.21	1,028.03	992.62	35.41	29.029	
5,150.00	5,146.99	5,129.71	5,129.52	18.20	17.65	-159.33	5.58	-904.35	1,030.28	994.52	35.77	28.806	
5,200.00	5,196.93	5,178.46	5,178.26	18.38	17.82	-159.38	5.54	-904.51	1,032.56	996.44	36.11	28.593	
5,250.00	5,246.88	5,227.45	5,227.25	18.56	17.99	-159.42	5.49	-904.72	1,034.87	998.41	36.46	28.385	
5,300.00	5,296.83	5,276.43	5,276.24	18.74	18.16	-159.47	5.45	-904.97	1,037.23	1,000.43	36.81	28.181	
5,350.00	5,346.78	5,325.76	5,325.57	18.92	18.33	-159.51	5.41	-905.26	1,039.64	1,002.49	37.15	27.982	
5,400.00	5,396.73	5,376.03	5,375.83	19.10	18.50	-159.56	5.38	-905.56	1,042.05	1,004.54	37.51	27.783	
5,450.00	5,446.68	5,426.29	5,426.09	19.28	18.68	-159.60	5.39	-905.85	1,044.44	1,006.58	37.86	27.587	
5,500.00	5,496.63	5,476.56	5,476.36	19.46	18.85	-159.64	5.41	-906.12	1,046.82	1,008.61	38.21	27.394	
5,550.00	5,546.58	5,526.65	5,526.45	19.64	19.03	-159.68	5.46	-906.38	1,049.18	1,010.62	38.57	27.205	
5,600.00	5,596.53	5,576.57	5,576.37	19.82	19.20	-159.72	5.48	-906.64	1,051.55	1,012.63	38.92	27.020	
5,650.00	5,646.48	5,626.48	5,626.28	20.00	19.37	-159.76	5.47	-906.89	1,053.91	1,014.64	39.27	26.838	
5,700.00	5,696.43	5,676.39	5,676.19	20.18	19.54	-159.81	5.44	-907.15	1,056.28	1,016.66	39.62	26.659	
5,750.00	5,746.38	5,726.49	5,726.28	20.36	19.72	-159.85	5.38	-907.40	1,058.65	1,018.67	39.97	26.483	
5,800.00	5,796.33	5,776.65	5,776.45	20.54	19.89	-159.89	5.34	-907.64	1,061.00	1,020.68	40.33	26.309	
5,850.00	5,846.28	5,826.82	5,826.62	20.73	20.07	-159.94	5.33	-907.88	1,063.35	1,022.67	40.68	26.139	
5,900.00	5,896.23	5,876.99	5,876.79	20.91	20.24	-159.98	5.32	-908.10	1,065.69	1,024.65	41.03	25.971	
5,950.00	5,946.18	5,926.75	5,926.54	21.09	20.41	-160.02	5.29	-908.32	1,068.02	1,026.64	41.39	25.806	
6,000.00	5,996.12	5,976.41	5,976.21	21.27	20.59	-160.07	5.16	-908.54	1,070.37	1,028.63	41.74	25.645	
6,050.00	6,046.07	6,026.00	6,025.80	21.45	20.76	-160.11	5.08	-908.78	1,072.73	1,030.64	42.09	25.487	
6,100.00	6,096.02	6,075.59	6,075.39	21.63	20.93	-160.15	5.08	-909.04	1,075.11	1,032.67	42.44	25.333	
6,150.00	6,145.97	6,115.60	6,115.39	21.81	21.07	-160.17	5.24	-909.50	1,077.77	1,035.02	42.75	25.211	
6,200.00	6,195.92	6,157.26	6,157.04	21.99	21.22	-160.18	5.61	-910.30	1,080.81	1,037.74	43.07	25.096	
6,250.00	6,245.87	6,199.56	6,199.33	22.17	21.37	-160.18	6.20	-911.43	1,084.22	1,040.83	43.38	24.991	
6,300.00	6,295.82	6,241.87	6,241.60	22.35	21.51	-160.17	7.06	-912.87	1,087.97	1,044.27	43.70	24.897	
6,350.00	6,345.77	6,283.07	6,282.75	22.53	21.66	-160.14	8.10	-914.59	1,092.08	1,048.08	44.01	24.816	
6,400.00	6,395.72	6,323.78	6,323.39	22.71	21.80	-160.11	9.19	-916.62	1,096.61	1,052.30	44.31	24.749	
6,450.00	6,445.67	6,365.69	6,365.21	22.89	21.95	-160.07	10.37	-919.06	1,101.54	1,056.92	44.62	24.689	
6,500.00	6,495.62	6,409.61	6,409.03	23.07	22.10	-160.03	11.75	-921.88	1,106.76	1,061.82	44.93	24.630	
6,550.00	6,545.57	6,452.79	6,452.07	23.26	22.25	-159.98	13.24	-924.89	1,112.24	1,067.00	45.25	24.582	
6,600.00	6,595.52	6,493.69	6,492.82	23.44	22.40	-159.92	14.71	-928.03	1,118.08	1,072.54	45.54	24.550	
6,650.00	6,645.47	6,534.50	6,533.47	23.62	22.54	-159.87	16.20	-931.49	1,124.31	1,078.48	45.84	24.529	
6,700.00	6,695.42	6,574.34	6,573.10	23.80	22.68	-159.82	17.63	-935.19	1,130.95	1,084.83	46.12	24.522	
6,750.00	6,745.37	6,614.00	6,612.53	23.98	22.82	-159.77	18.97	-939.21	1,138.01	1,091.61	46.40	24.526	
6,800.00	6,795.31	6,653.16	6,651.44	24.16	22.96	-159.72	20.22	-943.52	1,145.51	1,098.84	46.67	24.543	
6,850.00	6,845.26	6,691.85	6,689.83	24.34	23.10	-159.68	21.41	-948.13	1,153.47	1,106.53	46.94	24.573	
6,900.00	6,895.21	6,730.91	6,728.55	24.52	23.23	-159.64	22.57	-953.14	1,161.88	1,114.67	47.21	24.612	
6,950.00	6,945.16	6,774.89	6,772.11	24.70	23.39	-159.60	23.85	-959.06	1,170.61	1,123.10	47.51	24.637	
7,000.00	6,995.11	6,818.80	6,815.58	24.88	23.55	-159.55	25.12	-965.16	1,179.57	1,131.75	47.82	24.667	
7,050.00	7,045.06	6,872.33	6,868.56	25.06	23.74	-159.50	26.72	-972.64	1,188.56	1,140.35	48.20	24.656	
7,100.00	7,095.01	6,926.69	6,922.39	25.24	23.93	-159.43	28.47	-980.02	1,197.34	1,148.74	48.60	24.638	
7,150.00	7,144.96	6,967.83	6,963.11	25.43	24.08	-159.38	29.92	-985.70	1,206.22	1,157.34	48.88	24.677	
7,200.00	7,194.91	7,010.88	7,005.69	25.61	24.23	-159.32	31.56	-991.85	1,215.35	1,166.17	49.18	24.713	
7,250.00	7,244.86	7,066.16	7,060.36	25.79	24.43	-159.24	33.70	-999.76	1,224.48	1,174.90	49.58	24.697	
7,300.00	7,294.81	7,122.04	7,115.67	25.97	24.63	-159.17	35.80	-1,007.46	1,233.37	1,183.38	49.99	24.675	
7,350.00	7,344.76	7,179.22	7,172.30	26.15	24.84	-159.10	37.85	-1,014.99	1,241.95	1,191.55	50.40	24.642	
7,400.00	7,394.71	7,227.22	7,219.89	26.33	25.01	-159.05	39.50	-1,021.12	1,250.34	1,199.59	50.74	24.641	
7,450.00	7,444.66	7,269.89	7,262.15	26.51	25.17	-159.00	40.99	-1,026.75	1,258.94	1,207.90	51.04	24.666	
7,500.00	7,494.61	7,319.10	7,310.87	26.69	25.34	-158.94	42.75	-1,033.46	1,267.76	1,216.37	51.39	24.669	
7,550.00	7,544.56	7,377.93	7,369.16	26.87	25.56	-158.88	44.72	-1,041.17	1,276.31	1,224.49	51.82	24.630	
7,600.00	7,594.50	7,427.60	7,418.41	27.05	25.74	-158.83	46.35	-1,047.44	1,284.64	1,232.46	52.17	24.622	
7,650.00	7,644.45	7,475.10	7,465.49	27.23	25.91	-158.78	48.09	-1,053.51	1,293.03	1,240.51	52.51	24.623	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 61H - Original Hole - Original Hole — **Offset Site Error:** 5.00 ft

Survey Program: 150-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,700.00	7,694.40	7,517.64	7,507.63	27.42	26.07	-158.72	49.81	-1,059.07	1,301.56	1,248.75	52.81	24.645	
7,750.00	7,744.35	7,558.95	7,548.51	27.60	26.22	-158.66	51.67	-1,064.72	1,310.39	1,257.29	53.10	24.678	
7,800.00	7,794.30	7,606.19	7,595.21	27.78	26.39	-158.58	53.98	-1,071.41	1,319.46	1,266.02	53.44	24.692	
7,850.00	7,844.25	7,658.63	7,647.08	27.96	26.59	-158.50	56.46	-1,078.75	1,328.45	1,274.63	53.81	24.686	
7,900.00	7,894.20	7,714.28	7,702.15	28.14	26.79	-158.42	58.94	-1,086.36	1,337.28	1,283.06	54.22	24.665	
7,950.00	7,944.15	7,771.12	7,758.45	28.32	27.00	-158.35	61.33	-1,093.81	1,345.84	1,291.20	54.63	24.635	
8,000.00	7,994.10	7,817.25	7,804.15	28.50	27.17	-158.29	63.21	-1,099.79	1,354.33	1,299.37	54.96	24.642	
8,050.00	8,044.05	7,864.55	7,851.00	28.68	27.34	-158.24	65.15	-1,106.00	1,362.90	1,307.61	55.30	24.647	
8,100.00	8,094.00	7,916.04	7,902.01	28.86	27.53	-158.18	67.22	-1,112.75	1,371.47	1,315.80	55.67	24.636	
8,150.00	8,143.95	7,965.44	7,950.95	29.04	27.72	-158.12	69.13	-1,119.16	1,379.97	1,323.94	56.02	24.632	
8,200.00	8,193.90	8,008.18	7,993.28	29.23	27.88	-158.08	70.83	-1,124.82	1,388.60	1,332.28	56.33	24.653	
8,250.00	8,243.85	8,050.84	8,035.50	29.41	28.03	-158.02	72.63	-1,130.67	1,397.47	1,340.85	56.63	24.678	
8,300.00	8,293.80	8,109.71	8,093.77	29.59	28.25	-157.96	75.03	-1,138.68	1,406.29	1,349.24	57.06	24.647	
8,350.00	8,343.75	8,161.90	8,145.48	29.77	28.45	-157.91	76.94	-1,145.48	1,414.82	1,357.38	57.43	24.634	
8,400.00	8,393.69	8,203.07	8,186.26	29.95	28.60	-157.87	78.41	-1,150.96	1,423.50	1,365.78	57.73	24.660	
8,450.00	8,443.64	8,244.98	8,227.73	30.13	28.76	-157.83	79.93	-1,156.79	1,432.47	1,374.45	58.02	24.689	
8,500.00	8,493.59	8,296.68	8,278.88	30.31	28.95	-157.79	81.76	-1,164.04	1,441.50	1,383.11	58.39	24.685	
8,550.00	8,543.54	8,351.72	8,333.37	30.49	29.16	-157.75	83.59	-1,171.64	1,450.44	1,391.64	58.79	24.669	
8,600.00	8,593.49	8,417.46	8,398.53	30.67	29.40	-157.71	85.37	-1,180.16	1,458.95	1,399.68	59.27	24.613	
8,650.00	8,643.44	8,473.82	8,454.46	30.86	29.61	-157.70	86.65	-1,186.98	1,467.03	1,407.35	59.68	24.581	
8,700.00	8,693.39	8,528.02	8,508.27	31.04	29.82	-157.67	88.12	-1,193.36	1,474.96	1,414.89	60.07	24.553	
8,750.00	8,743.34	8,590.33	8,570.16	31.22	30.05	-157.63	89.92	-1,200.32	1,482.58	1,422.06	60.52	24.498	
8,800.00	8,793.29	8,651.20	8,630.68	31.40	30.27	-157.60	91.67	-1,206.61	1,489.78	1,428.83	60.95	24.442	
8,850.00	8,843.24	8,710.65	8,689.82	31.58	30.49	-157.56	93.61	-1,212.34	1,496.64	1,435.27	61.37	24.386 SF	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 62H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 147-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.50	0.50	-89.60	6.01	-869.00	869.14				
50.00	50.00	36.98	36.98	0.50	0.50	-89.60	6.02	-868.97	868.99	867.99	1.01	864.580	
100.00	100.00	89.07	89.07	0.52	0.52	-89.60	6.05	-868.82	868.85	867.81	1.04	839.044	
150.00	150.00	141.15	141.15	0.59	0.54	-89.60	6.12	-868.54	868.58	867.45	1.13	766.142	
200.00	200.00	191.91	191.90	0.70	0.63	-89.59	6.22	-868.18	868.23	866.90	1.33	651.967	
250.00	250.00	242.49	242.49	0.84	0.75	-89.58	6.38	-867.79	867.84	866.25	1.59	545.382	
300.00	300.00	291.98	291.97	0.99	0.89	-89.57	6.51	-867.41	867.46	865.58	1.88	461.112	
350.00	350.00	341.32	341.32	1.15	1.05	-89.57	6.57	-867.06	867.10	864.91	2.19	395.831	
400.00	400.00	389.98	389.98	1.31	1.20	-89.56	6.61	-866.77	866.80	864.29	2.51	345.316	
450.00	450.00	439.91	439.90	1.48	1.37	-89.56	6.66	-866.53	866.57	863.73	2.84	304.912	
500.00	500.00	491.87	491.86	1.65	1.54	-89.56	6.67	-866.21	866.26	863.07	3.19	271.859	
550.00	550.00	542.28	542.27	1.82	1.71	-89.56	6.65	-865.81	865.86	862.33	3.53	245.305	
600.00	600.00	591.79	591.78	1.99	1.88	-89.56	6.65	-865.44	865.49	861.61	3.87	223.471	
650.00	650.00	641.35	641.34	2.16	2.05	-89.56	6.68	-865.09	865.14	860.92	4.22	205.075	
700.00	700.00	690.93	690.92	2.34	2.23	-89.56	6.71	-864.77	864.81	860.25	4.57	189.396	
750.00	750.00	740.52	740.50	2.51	2.40	-89.55	6.77	-864.47	864.51	859.59	4.92	175.891	
800.00	800.00	789.57	789.55	2.69	2.57	-89.55	6.82	-864.21	864.25	858.98	5.26	164.216	
850.00	850.00	838.62	838.60	2.87	2.75	-89.55	6.83	-864.01	864.04	858.43	5.61	153.974	
900.00	900.00	887.81	887.79	3.04	2.92	-89.55	6.82	-863.86	863.89	857.93	5.96	144.911	
950.00	950.00	937.44	937.42	3.22	3.09	-89.55	6.80	-863.74	863.77	857.45	6.31	136.815	
1,000.00	1,000.00	987.07	987.05	3.40	3.27	-89.55	6.78	-863.64	863.66	857.00	6.67	129.567	
1,050.00	1,050.00	1,036.70	1,036.68	3.58	3.44	-89.55	6.76	-863.56	863.59	856.57	7.02	123.042	
1,100.00	1,100.00	1,086.60	1,086.58	3.75	3.62	-89.55	6.74	-863.50	863.52	856.15	7.37	117.143	
1,150.00	1,150.00	1,136.69	1,136.67	3.93	3.80	-89.56	6.68	-863.43	863.46	855.73	7.72	111.782	
1,200.00	1,200.00	1,186.78	1,186.77	4.11	3.97	-89.56	6.58	-863.36	863.39	855.31	8.08	106.885	
1,250.00	1,250.00	1,236.88	1,236.86	4.29	4.15	-89.57	6.45	-863.29	863.31	854.88	8.43	102.395	
1,300.00	1,300.00	1,287.42	1,287.40	4.46	4.32	-89.58	6.27	-863.19	863.22	854.43	8.79	98.258	
1,350.00	1,350.00	1,337.99	1,337.97	4.64	4.50	-89.60	6.05	-863.07	863.09	853.95	9.14	94.435	
1,399.26	1,399.26	1,384.78	1,384.76	4.82	4.66	-89.61	5.86	-863.01	863.03	853.56	9.47	91.091	
1,400.00	1,400.00	1,385.49	1,385.47	4.82	4.66	-89.61	5.86	-863.01	863.03	853.55	9.48	91.042	
1,450.00	1,450.00	1,433.91	1,433.89	5.00	4.82	-89.62	5.70	-863.07	863.09	853.27	9.82	87.866	
1,500.00	1,500.00	1,484.12	1,484.10	5.18	4.99	-89.63	5.54	-863.16	863.18	853.01	10.17	84.866	
1,550.00	1,550.00	1,534.33	1,534.31	5.36	5.16	-89.64	5.40	-863.24	863.25	852.74	10.52	82.063	
1,600.00	1,600.00	1,584.54	1,584.52	5.53	5.33	-89.65	5.26	-863.30	863.32	852.45	10.87	79.438	
1,650.00	1,650.00	1,634.38	1,634.36	5.71	5.50	-89.66	5.14	-863.36	863.37	852.16	11.22	76.984	
1,700.00	1,700.00	1,683.98	1,683.96	5.89	5.67	-89.67	5.05	-863.44	863.45	851.89	11.56	74.684	
1,750.00	1,750.00	1,733.58	1,733.56	6.07	5.84	-89.67	4.98	-863.54	863.55	851.65	11.91	72.520	
1,800.00	1,800.00	1,783.18	1,783.16	6.25	6.01	-89.67	4.94	-863.66	863.68	851.42	12.25	70.479	
1,850.00	1,850.00	1,834.71	1,834.69	6.43	6.18	-89.67	4.92	-863.76	863.78	851.16	12.61	68.496	
1,900.00	1,900.00	1,886.55	1,886.53	6.61	6.36	-89.68	4.86	-863.75	863.77	850.80	12.97	66.606	
1,941.99	1,941.99	1,927.51	1,927.49	6.76	6.51	-89.68	4.79	-863.73	863.75	850.48	13.26	65.130	
1,950.00	1,950.00	1,935.34	1,935.32	6.78	6.53	-89.68	4.78	-863.73	863.75	850.43	13.32	64.856	
2,000.00	2,000.00	1,984.33	1,984.31	6.96	6.71	-89.69	4.67	-863.78	863.79	850.12	13.67	63.198	
2,050.00	2,050.00	2,034.43	2,034.41	7.14	6.88	-156.37	4.55	-863.84	864.06	850.04	14.02	61.641	
2,100.00	2,099.99	2,084.83	2,084.81	7.32	7.05	-156.40	4.42	-863.90	864.71	850.34	14.37	60.179	
2,150.00	2,149.98	2,136.38	2,136.36	7.49	7.24	-156.43	4.31	-863.90	865.71	850.98	14.72	58.795	
2,200.00	2,199.96	2,187.30	2,187.28	7.66	7.42	-156.47	4.21	-863.81	867.02	851.94	15.08	57.504	
2,250.00	2,249.92	2,237.22	2,237.20	7.84	7.59	-156.53	4.07	-863.70	868.72	853.29	15.43	56.304	
2,300.00	2,299.87	2,287.12	2,287.10	8.01	7.77	-156.60	3.87	-863.60	870.67	854.89	15.78	55.174	
2,350.00	2,349.82	2,337.02	2,337.00	8.19	7.95	-156.67	3.63	-863.51	872.64	856.51	16.13	54.093	
2,400.00	2,399.77	2,385.85	2,385.83	8.36	8.12	-156.75	3.34	-863.43	874.63	858.15	16.48	53.077	
2,450.00	2,449.72	2,433.90	2,433.87	8.54	8.29	-156.82	3.06	-863.45	876.72	859.90	16.82	52.120	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 62H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 147-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,500.00	2,499.67	2,481.93	2,481.90	8.72	8.46	-156.90	2.78	-863.58	878.92	861.76	17.16	51.207	
2,550.00	2,549.62	2,529.96	2,529.93	8.89	8.62	-156.97	2.50	-863.81	881.23	863.72	17.51	50.336	
2,600.00	2,599.57	2,580.76	2,580.73	9.07	8.80	-157.05	2.22	-864.11	883.60	865.74	17.86	49.475	
2,650.00	2,649.52	2,633.11	2,633.08	9.25	8.98	-157.12	1.98	-864.29	885.85	867.63	18.22	48.627	
2,700.00	2,699.47	2,684.20	2,684.17	9.42	9.16	-157.19	1.76	-864.36	887.99	869.42	18.57	47.811	
2,750.00	2,749.41	2,735.05	2,735.02	9.60	9.34	-157.26	1.52	-864.38	890.09	871.16	18.93	47.023	
2,800.00	2,799.36	2,785.90	2,785.86	9.78	9.52	-157.34	1.26	-864.34	892.13	872.85	19.28	46.262	
2,850.00	2,849.31	2,836.75	2,836.71	9.95	9.70	-157.41	0.96	-864.26	894.13	874.49	19.64	45.525	
2,900.00	2,899.26	2,886.67	2,886.63	10.13	9.88	-157.49	0.69	-864.15	896.10	876.11	19.99	44.817	
2,950.00	2,949.21	2,936.43	2,936.40	10.31	10.06	-157.56	0.45	-864.04	898.08	877.73	20.35	44.135	
3,000.00	2,999.16	2,985.45	2,985.41	10.49	10.23	-157.62	0.23	-863.97	900.09	879.39	20.70	43.485	
3,050.00	3,049.11	3,034.87	3,034.83	10.66	10.41	-157.69	0.04	-863.95	902.15	881.10	21.05	42.855	
3,100.00	3,099.06	3,085.10	3,085.07	10.84	10.59	-157.75	-0.10	-863.93	904.21	882.80	21.41	42.239	
3,150.00	3,149.01	3,134.79	3,134.75	11.02	10.76	-157.81	-0.20	-863.90	906.27	884.50	21.76	41.648	
3,200.00	3,198.96	3,183.83	3,183.80	11.20	10.94	-157.88	-0.37	-863.91	908.36	886.25	22.11	41.081	
3,250.00	3,248.91	3,233.68	3,233.65	11.38	11.11	-157.95	-0.61	-863.95	910.49	888.03	22.47	40.529	
3,300.00	3,298.86	3,284.27	3,284.23	11.55	11.29	-158.01	-0.81	-863.97	912.60	889.78	22.82	39.988	
3,350.00	3,348.81	3,333.55	3,333.52	11.73	11.47	-158.07	-0.97	-863.98	914.70	891.53	23.17	39.472	
3,400.00	3,398.76	3,382.19	3,382.16	11.91	11.64	-158.14	-1.19	-864.05	916.87	893.35	23.52	38.978	
3,450.00	3,448.71	3,432.40	3,432.36	12.09	11.82	-158.21	-1.48	-864.16	919.08	895.20	23.88	38.491	
3,500.00	3,498.66	3,483.23	3,483.19	12.27	12.00	-158.28	-1.82	-864.23	921.24	897.01	24.24	38.013	
3,550.00	3,548.60	3,534.88	3,534.84	12.45	12.18	-158.36	-2.21	-864.23	923.34	898.75	24.60	37.539	
3,600.00	3,598.55	3,586.66	3,586.61	12.63	12.37	-158.44	-2.67	-864.12	925.35	900.39	24.96	37.074	
3,650.00	3,648.50	3,638.44	3,638.39	12.81	12.55	-158.53	-3.19	-863.91	927.25	901.93	25.32	36.619	
3,700.00	3,698.45	3,690.63	3,690.58	12.99	12.74	-158.62	-3.78	-863.59	929.06	903.37	25.69	36.171	
3,750.00	3,748.40	3,744.46	3,744.40	13.16	12.93	-158.72	-4.52	-863.07	930.69	904.64	26.06	35.720	
3,800.00	3,798.35	3,796.71	3,796.64	13.34	13.12	-158.82	-5.37	-862.36	932.14	905.72	26.42	35.282	
3,850.00	3,848.30	3,847.04	3,846.96	13.52	13.30	-158.93	-6.21	-861.63	933.55	906.77	26.78	34.863	
3,900.00	3,898.25	3,898.08	3,897.98	13.70	13.48	-159.03	-7.08	-860.85	934.92	907.78	27.14	34.451	
3,950.00	3,948.20	3,949.66	3,949.55	13.88	13.66	-159.15	-8.05	-859.98	936.22	908.72	27.50	34.045	
4,000.00	3,998.15	4,001.24	4,001.11	14.06	13.85	-159.27	-9.12	-859.02	937.43	909.57	27.86	33.646	
4,050.00	4,048.10	4,052.82	4,052.66	14.24	14.03	-159.39	-10.31	-857.96	938.57	910.34	28.22	33.254	
4,100.00	4,098.05	4,103.94	4,103.75	14.42	14.21	-159.52	-11.55	-856.83	939.63	911.04	28.58	32.872	
4,150.00	4,148.00	4,155.01	4,154.80	14.60	14.40	-159.65	-12.80	-855.63	940.63	911.69	28.95	32.497	
4,200.00	4,197.95	4,206.09	4,205.84	14.78	14.58	-159.78	-14.07	-854.38	941.58	912.28	29.31	32.129	
4,250.00	4,247.90	4,257.16	4,256.88	14.96	14.76	-159.91	-15.35	-853.06	942.48	912.81	29.67	31.769	
4,300.00	4,297.85	4,308.23	4,305.91	15.14	14.94	-160.04	-16.77	-851.79	943.38	913.36	30.02	31.424	
4,350.00	4,347.79	4,356.04	4,355.67	15.32	15.12	-160.20	-18.47	-850.51	944.31	913.93	30.38	31.085	
4,400.00	4,397.74	4,407.19	4,406.79	15.50	15.30	-160.34	-20.01	-849.17	945.22	914.48	30.74	30.749	
4,450.00	4,447.69	4,462.90	4,462.46	15.68	15.50	-160.48	-21.28	-847.59	946.00	914.88	31.11	30.404	
4,500.00	4,497.64	4,522.89	4,522.40	15.86	15.71	-160.60	-22.28	-845.34	946.31	914.81	31.50	30.042	
4,550.00	4,547.59	4,592.59	4,592.00	16.04	15.96	-160.71	-22.71	-841.70	945.85	913.95	31.90	29.648	
4,600.00	4,597.54	4,657.05	4,656.30	16.22	16.19	-160.75	-22.13	-837.16	944.41	912.13	32.28	29.254	
4,650.00	4,647.49	4,717.54	4,716.57	16.40	16.40	-160.73	-20.56	-832.23	942.37	909.72	32.65	28.863	
4,700.00	4,697.44	4,773.58	4,772.34	16.58	16.59	-160.67	-18.36	-827.23	939.90	906.89	33.01	28.475	
4,750.00	4,747.39	4,827.84	4,826.29	16.76	16.78	-160.58	-15.70	-822.09	937.12	903.75	33.36	28.089	
4,800.00	4,797.34	4,878.61	4,876.75	16.94	16.95	-160.48	-13.00	-817.18	934.23	900.51	33.71	27.710	
4,850.00	4,847.29	4,928.43	4,926.26	17.12	17.12	-160.38	-10.28	-812.33	931.30	897.24	34.06	27.339	
4,900.00	4,897.24	4,977.25	4,974.78	17.30	17.29	-160.28	-7.66	-807.62	928.43	894.01	34.41	26.977	
4,950.00	4,947.19	5,026.00	5,023.24	17.48	17.46	-160.18	-5.03	-802.98	925.61	890.85	34.76	26.625	
5,000.00	4,997.14	5,074.67	5,071.60	17.66	17.63	-160.05	-1.96	-798.43	922.87	887.75	35.11	26.281	
5,050.00	5,047.09	5,125.19	5,121.77	17.84	17.80	-159.89	1.67	-793.78	920.16	884.69	35.47	25.944	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 62H - Wellbore #1 - Wellbore #1

Offset Site Error: 5.00 ft

Survey Program: 147-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,097.04	5,176.92	5,173.12	18.02	17.98	-159.72	5.54	-788.93	917.37	881.55	35.82	25.611	
5,150.00	5,146.99	5,224.73	5,220.58	18.20	18.15	-159.55	9.17	-784.43	914.58	878.41	36.17	25.286	
5,200.00	5,196.93	5,271.50	5,267.03	18.38	18.31	-159.39	12.64	-780.18	911.95	875.43	36.52	24.973	
5,250.00	5,246.88	5,322.73	5,317.91	18.56	18.49	-159.21	16.49	-775.60	909.41	872.54	36.87	24.664	
5,300.00	5,296.83	5,375.35	5,370.13	18.74	18.67	-159.01	20.80	-770.77	906.73	869.51	37.23	24.357	
5,350.00	5,346.78	5,427.35	5,421.70	18.92	18.86	-158.79	25.35	-765.87	903.93	866.35	37.58	24.053	
5,400.00	5,396.73	5,479.28	5,473.17	19.10	19.04	-158.55	30.04	-760.85	901.02	863.09	37.94	23.752	
5,450.00	5,446.68	5,525.89	5,519.37	19.28	19.20	-158.34	34.26	-756.40	898.18	859.89	38.29	23.459	
5,500.00	5,496.63	5,573.48	5,566.57	19.46	19.37	-158.13	38.50	-751.98	895.48	856.85	38.64	23.176	
5,550.00	5,546.58	5,623.11	5,615.80	19.64	19.55	-157.90	42.94	-747.43	892.86	853.87	38.99	22.899	
5,600.00	5,596.53	5,672.43	5,664.70	19.82	19.72	-157.67	47.41	-742.92	890.27	850.92	39.35	22.627	
5,650.00	5,646.48	5,720.72	5,712.60	20.00	19.90	-157.45	51.83	-738.56	887.75	848.05	39.70	22.362	
5,700.00	5,696.43	5,769.05	5,760.53	20.18	20.07	-157.21	56.30	-734.29	885.33	845.28	40.05	22.105	
5,750.00	5,746.38	5,817.46	5,808.54	20.36	20.24	-156.98	60.79	-730.08	883.01	842.60	40.41	21.854	
5,800.00	5,796.33	5,867.25	5,857.94	20.54	20.42	-156.74	65.40	-725.83	880.77	840.01	40.76	21.608	
5,850.00	5,846.28	5,919.65	5,909.92	20.73	20.61	-156.49	70.10	-721.24	878.44	837.32	41.12	21.363	
5,900.00	5,896.23	5,976.12	5,965.94	20.91	20.81	-156.24	74.93	-716.05	875.93	834.44	41.48	21.115	
5,950.00	5,946.18	6,036.10	6,025.42	21.09	21.03	-156.00	79.70	-709.92	872.89	831.04	41.85	20.860	
6,000.00	5,996.12	6,083.48	6,072.39	21.27	21.20	-155.82	83.22	-704.84	869.62	827.42	42.20	20.607	
6,050.00	6,046.07	6,130.26	6,118.80	21.45	21.37	-155.65	86.51	-700.00	866.54	823.98	42.56	20.362	
6,100.00	6,096.02	6,176.24	6,164.45	21.63	21.54	-155.49	89.61	-695.42	863.66	820.75	42.91	20.126	
6,150.00	6,145.97	6,222.20	6,210.11	21.81	21.71	-155.35	92.62	-691.06	861.02	817.75	43.27	19.901	
6,200.00	6,195.92	6,271.07	6,258.67	21.99	21.88	-155.19	95.73	-686.56	858.53	814.91	43.62	19.681	
6,250.00	6,245.87	6,320.28	6,307.57	22.17	22.06	-155.04	98.81	-682.08	856.09	812.11	43.98	19.466	
6,300.00	6,295.82	6,376.15	6,363.11	22.35	22.27	-154.88	102.05	-676.83	853.51	809.17	44.34	19.248	
6,350.00	6,345.77	6,432.26	6,418.86	22.53	22.47	-154.76	104.80	-671.16	850.57	805.87	44.70	19.027	
6,400.00	6,395.72	6,477.77	6,464.09	22.71	22.64	-154.66	106.91	-666.61	847.66	802.60	45.06	18.812	
6,450.00	6,445.67	6,525.46	6,511.51	22.89	22.81	-154.57	109.06	-661.93	844.87	799.45	45.42	18.603	
6,500.00	6,495.62	6,572.94	6,558.72	23.07	22.99	-154.47	111.20	-657.40	842.21	796.44	45.77	18.400	
6,550.00	6,545.57	6,621.43	6,606.95	23.26	23.17	-154.38	113.40	-652.91	839.69	793.56	46.13	18.203	
6,600.00	6,595.52	6,672.01	6,657.27	23.44	23.35	-154.28	115.52	-648.23	837.18	790.69	46.49	18.008	
6,650.00	6,645.47	6,729.55	6,714.51	23.62	23.56	-154.21	117.55	-642.76	834.53	787.68	46.85	17.812	
6,700.00	6,695.42	6,795.57	6,780.12	23.80	23.80	-154.20	118.66	-635.45	831.06	783.85	47.21	17.604	
6,750.00	6,745.37	6,853.47	6,837.56	23.98	24.02	-154.22	119.16	-628.24	826.88	779.32	47.56	17.386	
6,800.00	6,795.31	6,905.55	6,889.17	24.16	24.21	-154.23	119.74	-621.31	822.26	774.34	47.91	17.161	
6,850.00	6,845.26	6,948.18	6,931.44	24.34	24.37	-154.22	120.51	-615.84	817.90	769.62	48.28	16.941	
6,900.00	6,895.21	6,992.66	6,975.59	24.52	24.54	-154.18	121.66	-610.50	813.97	765.32	48.64	16.734	
6,950.00	6,945.16	7,045.12	7,027.65	24.70	24.73	-154.13	123.13	-604.23	810.07	761.07	49.00	16.532	
7,000.00	6,995.11	7,092.04	7,074.20	24.88	24.91	-154.08	124.44	-598.53	806.08	756.72	49.36	16.331	
7,050.00	7,045.06	7,129.74	7,111.66	25.06	25.05	-154.05	125.47	-594.38	802.67	752.95	49.72	16.144	
7,100.00	7,095.01	7,167.50	7,149.24	25.24	25.19	-154.02	126.49	-590.80	800.01	749.94	50.07	15.977	
7,150.00	7,144.96	7,212.21	7,193.77	25.43	25.35	-153.98	127.79	-587.07	797.93	747.50	50.43	15.824	
7,200.00	7,194.91	7,258.10	7,239.49	25.61	25.52	-153.91	129.45	-583.47	796.11	745.33	50.78	15.678	
7,250.00	7,244.86	7,306.17	7,287.38	25.79	25.70	-153.82	131.41	-579.87	794.49	743.35	51.14	15.537	
7,300.00	7,294.81	7,354.77	7,335.81	25.97	25.87	-153.74	133.35	-576.33	792.96	741.47	51.49	15.400	
7,350.00	7,344.76	7,401.55	7,382.45	26.15	26.04	-153.67	135.14	-573.04	791.57	739.72	51.84	15.268	
7,400.00	7,394.71	7,448.03	7,428.80	26.33	26.21	-153.61	136.75	-569.99	790.40	738.20	52.20	15.143	
7,450.00	7,444.66	7,495.90	7,476.56	26.51	26.39	-153.55	138.28	-567.04	789.41	736.86	52.55	15.022	
7,500.00	7,494.61	7,544.12	7,524.67	26.69	26.56	-153.50	139.75	-564.17	788.54	735.64	52.90	14.905	
7,550.00	7,544.56	7,592.42	7,572.87	26.87	26.74	-153.46	141.16	-561.41	787.78	734.52	53.26	14.792	
7,600.00	7,594.50	7,640.74	7,621.09	27.05	26.91	-153.42	142.50	-558.76	787.13	733.52	53.61	14.682	
7,650.00	7,644.45	7,688.93	7,669.20	27.23	27.09	-153.39	143.77	-556.22	786.59	732.62	53.97	14.576	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 62H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 147-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,700.00	7,694.40	7,737.11	7,717.30	27.42	27.26	-153.36	144.99	-553.80	786.16	731.84	54.32	14.473	
7,750.00	7,744.35	7,783.40	7,763.54	27.60	27.43	-153.34	146.09	-551.64	785.91	731.24	54.67	14.377	
7,777.34	7,771.66	7,808.65	7,788.76	27.70	27.52	-153.33	146.66	-550.56	785.87	731.02	54.85	14.326	CC
7,800.00	7,794.30	7,829.58	7,809.67	27.78	27.59	-153.33	147.11	-549.71	785.90	730.88	55.01	14.286	
7,850.00	7,844.25	7,877.84	7,857.87	27.96	27.77	-153.32	148.08	-547.88	786.07	730.71	55.36	14.199	
7,900.00	7,894.20	7,926.36	7,906.36	28.14	27.94	-153.32	148.99	-546.13	786.34	730.62	55.71	14.114	ES
7,950.00	7,944.15	7,974.09	7,954.05	28.32	28.11	-153.32	149.85	-544.53	786.72	730.66	56.06	14.033	
8,000.00	7,994.10	8,021.76	8,001.69	28.50	28.28	-153.32	150.73	-543.07	787.26	730.84	56.41	13.956	
8,050.00	8,044.05	8,068.48	8,048.39	28.68	28.44	-153.32	151.58	-541.80	787.97	731.21	56.75	13.884	
8,100.00	8,094.00	8,115.16	8,095.05	28.86	28.61	-153.33	152.35	-540.73	788.89	731.79	57.10	13.817	
8,150.00	8,143.95	8,163.97	8,143.85	29.04	28.78	-153.34	153.10	-539.77	789.95	732.51	57.45	13.751	
8,200.00	8,193.90	8,212.98	8,192.84	29.23	28.95	-153.36	153.85	-538.86	791.08	733.29	57.80	13.687	
8,250.00	8,243.85	8,259.32	8,239.17	29.41	29.12	-153.37	154.48	-538.14	792.36	734.22	58.14	13.629	
8,300.00	8,293.80	8,305.64	8,285.48	29.59	29.28	-153.41	154.95	-537.65	793.87	735.39	58.47	13.576	
8,350.00	8,343.75	8,355.50	8,335.34	29.77	29.45	-153.45	155.31	-537.25	795.50	736.67	58.83	13.522	
8,400.00	8,393.69	8,405.54	8,385.38	29.95	29.63	-153.51	155.52	-536.85	797.13	737.94	59.18	13.469	
8,450.00	8,443.64	8,453.71	8,433.55	30.13	29.80	-153.56	155.71	-536.52	798.81	739.28	59.53	13.419	
8,500.00	8,493.59	8,502.04	8,481.87	30.31	29.97	-153.61	155.97	-536.29	800.60	740.73	59.87	13.371	
8,550.00	8,543.54	8,549.75	8,529.58	30.49	30.13	-153.64	156.46	-536.15	802.50	742.29	60.22	13.327	
8,600.00	8,593.49	8,599.46	8,579.29	30.67	30.30	-153.66	157.22	-536.08	804.49	743.92	60.57	13.283	
8,650.00	8,643.44	8,650.31	8,630.13	30.86	30.48	-153.68	157.98	-535.98	806.45	745.53	60.92	13.237	
8,700.00	8,693.39	8,699.24	8,679.06	31.04	30.64	-153.71	158.51	-535.89	808.39	747.12	61.27	13.194	
8,750.00	8,743.34	8,746.22	8,726.04	31.22	30.80	-153.74	158.97	-535.97	810.52	748.92	61.60	13.158	
8,800.00	8,793.29	8,793.95	8,773.76	31.40	30.97	-153.78	159.40	-536.18	812.78	750.84	61.94	13.123	
8,850.00	8,843.24	8,842.68	8,822.49	31.58	31.13	-153.82	159.78	-536.50	815.14	752.87	62.28	13.089	
8,900.00	8,893.19	8,890.14	8,869.95	31.76	31.29	-153.86	160.24	-536.91	817.62	755.01	62.61	13.059	
8,950.00	8,943.14	8,938.57	8,918.37	31.94	31.45	-153.89	160.76	-537.40	820.17	757.22	62.95	13.029	
9,000.00	8,993.09	8,988.04	8,967.84	32.12	31.62	-153.93	161.27	-538.02	822.84	759.54	63.29	13.000	
9,050.00	9,043.04	9,036.20	9,015.99	32.30	31.78	-153.97	161.64	-538.67	825.56	761.93	63.63	12.974	
9,100.00	9,092.99	9,086.06	9,065.84	32.49	31.94	-154.03	161.77	-539.43	828.34	764.37	63.98	12.948	
9,150.00	9,142.94	9,136.24	9,116.02	32.67	32.11	-154.10	161.79	-540.19	831.12	766.80	64.32	12.921	
9,200.00	9,192.88	9,185.88	9,165.66	32.85	32.27	-154.17	161.73	-540.93	833.89	769.22	64.67	12.895	
9,250.00	9,242.83	9,234.49	9,214.25	33.03	32.43	-154.25	161.53	-541.72	836.72	771.71	65.01	12.871	
9,300.00	9,292.78	9,282.43	9,262.19	33.21	32.59	-154.35	161.16	-542.58	839.63	774.29	65.34	12.850	
9,350.00	9,342.73	9,329.44	9,309.18	33.39	32.75	-154.44	160.80	-543.58	842.70	777.04	65.67	12.833	
9,400.00	9,392.68	9,377.57	9,357.30	33.57	32.91	-154.52	160.47	-544.75	845.93	779.93	66.00	12.817	
9,450.00	9,442.63	9,427.32	9,407.03	33.75	33.08	-154.61	160.15	-546.00	849.20	782.86	66.35	12.799	
9,500.00	9,492.58	9,478.53	9,458.22	33.94	33.25	-154.70	159.85	-547.26	852.46	785.76	66.70	12.780	
9,550.00	9,542.53	9,531.20	9,510.88	34.12	33.42	-154.80	159.53	-548.41	855.58	788.51	67.07	12.757	
9,600.00	9,592.48	9,583.21	9,562.88	34.30	33.59	-154.89	159.22	-549.40	858.55	791.12	67.43	12.733	
9,650.00	9,642.43	9,634.96	9,614.62	34.48	33.77	-154.97	158.90	-550.26	861.41	793.62	67.79	12.708	
9,700.00	9,692.38	9,685.10	9,664.75	34.66	33.94	-155.06	158.61	-551.03	864.21	796.08	68.13	12.684	
9,750.00	9,742.33	9,735.02	9,714.67	34.84	34.10	-155.14	158.37	-551.80	867.01	798.53	68.48	12.660	
9,800.00	9,792.28	9,789.38	9,769.02	35.02	34.29	-155.23	158.03	-552.50	869.68	800.83	68.86	12.630	
9,850.00	9,842.23	9,843.84	9,823.48	35.20	34.47	-155.34	157.47	-552.92	872.10	802.87	69.23	12.597	
9,900.00	9,892.18	9,894.36	9,873.99	35.38	34.64	-155.44	156.85	-553.18	874.39	804.80	69.59	12.566	
9,950.00	9,942.13	9,947.23	9,926.83	35.57	34.82	-155.60	155.38	-553.37	876.60	806.65	69.95	12.532	
10,000.00	9,992.08	9,994.95	9,974.23	35.75	34.98	-156.01	149.97	-553.48	878.68	808.40	70.29	12.502	
10,050.00	10,042.02	10,036.53	10,014.96	35.93	35.12	-156.60	141.64	-553.88	881.18	810.60	70.58	12.485	
10,100.00	10,091.97	10,080.98	10,057.42	36.11	35.25	-157.50	128.60	-554.65	884.25	813.38	70.87	12.476	
10,150.00	10,141.92	10,138.74	10,110.46	36.29	35.42	-159.03	105.84	-555.15	887.43	816.19	71.24	12.458	
10,200.00	10,191.87	10,189.22	10,154.07	36.47	35.54	-160.71	80.48	-554.61	890.58	819.04	71.54	12.449	SF

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 62H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 147-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,250.00	10,241.82	10,230.07	10,187.19	36.65	35.64	-162.28	56.60	-553.72	894.45	822.68	71.77	12.463	
10,300.00	10,291.77	10,265.01	10,213.74	36.83	35.71	-163.75	33.91	-552.69	899.45	827.53	71.92	12.506	
10,350.00	10,341.72	10,295.43	10,235.61	37.02	35.76	-165.12	12.80	-551.68	905.89	833.89	72.00	12.582	
10,400.00	10,391.67	10,321.44	10,253.33	37.20	35.80	-166.34	-6.21	-550.74	913.95	841.96	71.99	12.696	
10,450.00	10,441.62	10,344.06	10,267.84	37.38	35.84	-167.44	-23.54	-549.87	923.79	851.92	71.87	12.854	
10,500.00	10,491.57	10,370.02	10,283.49	37.56	35.88	-168.75	-44.22	-548.74	935.45	863.73	71.72	13.043	
10,550.00	10,541.52	10,394.72	10,297.54	37.74	35.95	-170.02	-64.49	-547.43	948.80	877.30	71.50	13.270	
10,600.00	10,591.47	10,414.51	10,308.15	37.92	36.00	-171.06	-81.15	-546.22	963.95	892.78	71.16	13.545	
10,650.00	10,641.42	10,431.87	10,316.93	38.10	36.05	-171.99	-96.07	-545.05	980.93	910.19	70.74	13.866	
10,700.00	10,691.37	10,447.83	10,324.57	38.28	36.10	-172.85	-110.04	-543.90	999.73	929.48	70.26	14.230	
10,750.00	10,741.32	10,464.15	10,332.09	38.47	36.14	-173.74	-124.47	-542.68	1,020.28	950.55	69.73	14.631	
10,800.00	10,791.27	10,479.45	10,338.92	38.65	36.19	-174.57	-138.11	-541.51	1,042.48	973.32	69.17	15.072	
10,850.00	10,841.21	10,492.00	10,344.37	38.83	36.22	-175.25	-149.38	-540.53	1,066.28	997.73	68.55	15.555	
10,900.00	10,891.16	10,508.31	10,351.25	39.01	36.27	-176.13	-164.11	-539.24	1,091.57	1,023.60	67.97	16.060	
10,950.00	10,941.11	10,521.87	10,356.80	39.19	36.31	-176.87	-176.43	-538.14	1,118.27	1,050.92	67.34	16.605	
11,000.00	10,991.06	10,539.00	10,363.59	39.37	36.36	-177.80	-192.09	-536.72	1,146.32	1,079.55	66.77	17.167	
11,050.00	11,041.02	10,539.00	10,363.59	39.55	36.36	-177.81	-192.09	-536.72	1,175.57	1,109.60	65.98	17.818	
11,100.00	11,090.99	10,554.22	10,369.38	39.73	36.41	-178.64	-206.11	-535.45	1,205.54	1,140.15	65.39	18.435	
11,150.00	11,140.98	10,562.91	10,372.57	39.91	36.44	-179.11	-214.16	-534.74	1,236.20	1,171.47	64.73	19.098	
11,200.00	11,190.98	10,571.22	10,375.55	40.09	36.46	-112.88	-221.89	-534.06	1,267.46	1,203.40	64.07	19.784	
11,250.00	11,240.98	10,586.00	10,380.63	40.26	36.51	-113.64	-235.72	-532.87	1,299.62	1,236.11	63.51	20.463	
11,300.00	11,290.98	10,586.00	10,380.63	40.44	36.51	-113.64	-235.72	-532.87	1,332.71	1,269.92	62.79	21.226	
11,350.00	11,340.98	10,586.00	10,380.63	40.61	36.51	-113.64	-235.72	-532.87	1,366.82	1,304.73	62.09	22.014	
11,400.00	11,390.98	10,586.00	10,380.63	40.78	36.51	-113.64	-235.72	-532.87	1,401.88	1,340.46	61.43	22.822	
11,450.00	11,440.98	10,604.83	10,386.76	40.96	36.57	-114.62	-253.46	-531.45	1,437.49	1,376.46	61.04	23.551	
11,500.00	11,490.98	10,610.42	10,388.50	41.13	36.59	-114.90	-258.76	-531.06	1,474.03	1,413.52	60.51	24.361	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.10	-0.10	0.50	0.50	-90.24	-0.25	-60.00	60.00				
50.00	50.00	49.90	49.90	0.50	0.50	-90.24	-0.25	-60.00	60.00	58.99	1.01	59.614	
100.00	100.00	100.10	99.90	0.52	0.52	-90.24	-0.25	-60.00	60.00	58.97	1.04	57.938	
150.00	150.00	149.90	149.90	0.59	0.59	-90.24	-0.25	-60.00	60.00	58.82	1.18	50.835	
200.00	200.00	200.10	199.90	0.70	0.70	-90.24	-0.25	-60.00	60.00	58.60	1.40	42.722	
250.00	250.00	249.90	249.90	0.84	0.84	-90.24	-0.25	-60.00	60.00	58.33	1.68	35.818	
300.00	300.00	300.10	299.90	0.99	0.99	-90.24	-0.25	-60.00	60.00	58.03	1.97	30.380	
350.00	350.00	349.90	349.90	1.15	1.15	-90.24	-0.25	-60.00	60.00	57.71	2.29	26.194	
400.00	400.00	400.10	399.90	1.31	1.31	-90.24	-0.25	-60.00	60.00	57.38	2.62	22.914	
450.00	450.00	449.90	449.90	1.48	1.48	-90.24	-0.25	-60.00	60.00	57.05	2.95	20.323	
500.00	500.00	500.10	499.90	1.65	1.65	-90.24	-0.25	-60.00	60.00	56.71	3.29	18.223	
550.00	550.00	549.90	549.90	1.82	1.82	-90.24	-0.25	-60.00	60.00	56.37	3.63	16.506	
600.00	600.00	600.10	599.90	1.99	1.99	-90.24	-0.25	-60.00	60.00	56.02	3.98	15.070	
650.00	650.00	649.90	649.90	2.16	2.16	-90.24	-0.25	-60.00	60.00	55.67	4.33	13.861	
700.00	700.00	700.10	699.90	2.34	2.34	-90.24	-0.25	-60.00	60.00	55.32	4.68	12.823	
750.00	750.00	749.90	749.90	2.51	2.51	-90.24	-0.25	-60.00	60.00	54.97	5.03	11.931	
800.00	800.00	800.10	799.90	2.69	2.69	-90.24	-0.25	-60.00	60.00	54.62	5.38	11.149	
850.00	850.00	849.90	849.90	2.87	2.87	-90.24	-0.25	-60.00	60.00	54.27	5.73	10.465	
900.00	900.00	900.10	899.90	3.04	3.04	-90.24	-0.25	-60.00	60.00	53.91	6.09	9.856	
950.00	950.00	949.90	949.90	3.22	3.22	-90.24	-0.25	-60.00	60.00	53.56	6.44	9.316	
1,000.00	1,000.00	1,000.10	999.90	3.40	3.40	-90.24	-0.25	-60.00	60.00	53.20	6.80	8.829	
1,050.00	1,050.00	1,049.90	1,049.90	3.58	3.57	-90.24	-0.25	-60.00	60.00	52.85	7.15	8.392	
1,100.00	1,100.00	1,100.10	1,099.90	3.75	3.75	-90.24	-0.25	-60.00	60.00	52.50	7.51	7.994	
1,150.00	1,150.00	1,149.90	1,149.90	3.93	3.93	-90.24	-0.25	-60.00	60.00	52.14	7.86	7.633	
1,200.00	1,200.00	1,200.10	1,199.90	4.11	4.11	-90.24	-0.25	-60.00	60.00	51.78	8.22	7.302	
1,250.00	1,250.00	1,249.90	1,249.90	4.29	4.29	-90.24	-0.25	-60.00	60.00	51.43	8.57	7.000	
1,300.00	1,300.00	1,300.10	1,299.90	4.46	4.46	-90.24	-0.25	-60.00	60.00	51.07	8.93	6.720	
1,350.00	1,350.00	1,349.90	1,349.90	4.64	4.64	-90.24	-0.25	-60.00	60.00	50.72	9.28	6.463	
1,400.00	1,400.00	1,400.10	1,399.90	4.82	4.82	-90.24	-0.25	-60.00	60.00	50.36	9.64	6.223	
1,450.00	1,450.00	1,449.90	1,449.90	5.00	5.00	-90.24	-0.25	-60.00	60.00	50.00	10.00	6.002	
1,500.00	1,500.00	1,500.10	1,499.90	5.18	5.18	-90.24	-0.25	-60.00	60.00	49.65	10.35	5.794	
1,550.00	1,550.00	1,549.90	1,549.90	5.36	5.36	-90.24	-0.25	-60.00	60.00	49.29	10.71	5.602	
1,600.00	1,600.00	1,600.10	1,599.90	5.53	5.53	-90.24	-0.25	-60.00	60.00	48.93	11.07	5.421	
1,650.00	1,650.00	1,649.90	1,649.90	5.71	5.71	-90.24	-0.25	-60.00	60.00	48.58	11.42	5.252	
1,700.00	1,700.00	1,700.10	1,699.90	5.89	5.89	-90.24	-0.25	-60.00	60.00	48.22	11.78	5.092	
1,750.00	1,750.00	1,749.90	1,749.90	6.07	6.07	-90.24	-0.25	-60.00	60.00	47.86	12.14	4.943	Alert
1,800.00	1,800.00	1,800.10	1,799.90	6.25	6.25	-90.24	-0.25	-60.00	60.00	47.50	12.50	4.801	Alert
1,850.00	1,850.00	1,849.90	1,849.90	6.43	6.43	-90.24	-0.25	-60.00	60.00	47.15	12.85	4.668	Alert
1,900.00	1,900.00	1,900.10	1,899.90	6.61	6.61	-90.24	-0.25	-60.00	60.00	46.79	13.21	4.541	Alert
1,950.00	1,950.00	1,949.90	1,949.90	6.78	6.78	-90.24	-0.25	-60.00	60.00	46.43	13.57	4.422	Alert
2,000.00	2,000.00	2,000.10	1,999.90	6.96	6.96	-90.24	-0.25	-60.00	60.00	46.07	13.93	4.308	Alert, CC
2,050.00	2,050.00	2,049.90	2,049.90	7.14	7.14	-156.99	-0.25	-60.00	60.20	45.92	14.28	4.215	Alert, ES
2,100.00	2,099.99	2,100.11	2,099.89	7.32	7.32	-157.23	-0.25	-60.00	60.80	46.17	14.64	4.154	Alert
2,150.00	2,149.98	2,149.88	2,149.88	7.49	7.50	-157.62	-0.25	-60.00	61.81	46.82	14.99	4.124	Alert
2,200.00	2,199.96	2,200.14	2,199.86	7.66	7.68	-158.14	-0.25	-60.00	63.23	47.88	15.34	4.121	Alert
2,250.00	2,249.92	2,249.82	2,249.82	7.84	7.86	-158.78	-0.25	-60.00	65.05	49.36	15.69	4.145	Alert
2,300.00	2,299.87	2,300.23	2,299.77	8.01	8.04	-159.47	-0.25	-60.00	67.15	51.10	16.05	4.184	Alert
2,350.00	2,349.82	2,349.72	2,349.72	8.19	8.21	-160.12	-0.25	-60.00	69.26	52.86	16.40	4.223	Alert
2,400.00	2,399.77	2,400.33	2,399.67	8.36	8.40	-160.73	-0.25	-60.00	71.38	54.62	16.76	4.260	Alert
2,450.00	2,449.72	2,449.62	2,449.62	8.54	8.57	-161.31	-0.25	-60.00	73.51	56.40	17.11	4.297	Alert
2,500.00	2,499.67	2,500.43	2,499.57	8.72	8.75	-161.86	-0.25	-60.00	75.64	58.18	17.46	4.332	Alert
2,550.00	2,549.62	2,549.52	2,549.52	8.89	8.93	-162.37	-0.25	-60.00	77.78	59.97	17.81	4.366	Alert

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,599.57	2,600.53	2,599.47	9.07	9.11	-162.86	-0.25	-60.00	79.93	61.76	18.17	4.399	Alert
2,650.00	2,649.52	2,649.42	2,649.42	9.25	9.29	-163.32	-0.25	-60.00	82.08	63.56	18.52	4.432	Alert
2,700.00	2,699.47	2,700.63	2,699.37	9.42	9.47	-163.76	-0.25	-60.00	84.24	65.36	18.88	4.462	Alert
2,750.00	2,749.41	2,749.31	2,749.31	9.60	9.64	-164.18	-0.25	-60.00	86.40	67.17	19.23	4.493	Alert
2,800.00	2,799.36	2,800.74	2,799.26	9.78	9.83	-164.58	-0.25	-60.00	88.57	68.98	19.59	4.521	Alert
2,850.00	2,849.31	2,849.21	2,849.21	9.95	10.00	-164.96	-0.25	-60.00	90.74	70.80	19.94	4.550	Alert
2,900.00	2,899.26	2,900.84	2,899.16	10.13	10.19	-165.32	-0.25	-60.00	92.91	72.61	20.30	4.577	Alert
2,950.00	2,949.21	2,949.11	2,949.11	10.31	10.36	-165.66	-0.25	-60.00	95.09	74.44	20.65	4.605	Alert
3,000.00	2,999.16	3,000.94	2,999.06	10.49	10.55	-165.99	-0.25	-60.00	97.27	76.26	21.01	4.629	Alert
3,050.00	3,049.11	3,049.01	3,049.01	10.66	10.72	-166.30	-0.25	-60.00	99.45	78.09	21.36	4.656	Alert
3,100.00	3,099.06	3,101.04	3,098.96	10.84	10.90	-166.60	-0.25	-60.00	101.64	79.92	21.72	4.679	Alert
3,150.00	3,149.01	3,148.91	3,148.91	11.02	11.08	-166.89	-0.25	-60.00	103.83	81.76	22.07	4.704	Alert
3,200.00	3,198.96	3,201.14	3,198.86	11.20	11.26	-167.16	-0.25	-60.00	106.02	83.59	22.44	4.725	Alert
3,250.00	3,248.91	3,248.81	3,248.81	11.38	11.43	-167.43	-0.25	-60.00	108.22	85.43	22.78	4.750	Alert
3,300.00	3,298.86	3,301.24	3,298.76	11.55	11.62	-167.68	-0.25	-60.00	110.41	87.26	23.15	4.770	Alert
3,350.00	3,348.81	3,348.71	3,348.71	11.73	11.79	-167.93	-0.25	-60.00	112.61	89.12	23.50	4.793	Alert
3,400.00	3,398.76	3,401.34	3,398.66	11.91	11.98	-168.16	-0.25	-60.00	114.81	90.95	23.86	4.812	Alert
3,450.00	3,448.71	3,448.61	3,448.61	12.09	12.15	-168.39	-0.25	-60.00	117.02	92.81	24.21	4.834	Alert
3,500.00	3,498.66	3,501.44	3,498.56	12.27	12.34	-168.61	-0.25	-60.00	119.22	94.64	24.58	4.851	Alert
3,550.00	3,548.60	3,548.50	3,548.50	12.45	12.51	-168.81	-0.25	-60.00	121.43	96.50	24.92	4.872	Alert
3,600.00	3,598.55	3,601.55	3,598.45	12.63	12.70	-169.02	-0.25	-60.00	123.63	98.34	25.29	4.889	Alert
3,650.00	3,648.50	3,648.40	3,648.40	12.81	12.86	-169.21	-0.25	-60.00	125.84	100.21	25.63	4.909	Alert
3,700.00	3,698.45	3,701.65	3,698.35	12.99	13.05	-169.40	-0.25	-60.00	128.05	102.05	26.00	4.925	Alert
3,750.00	3,748.40	3,748.30	3,748.30	13.16	13.22	-169.58	-0.25	-60.00	130.26	103.92	26.35	4.944	Alert
3,800.00	3,798.35	3,801.75	3,798.25	13.34	13.41	-169.76	-0.25	-60.00	132.48	105.76	26.72	4.959	Alert
3,850.00	3,848.30	3,848.20	3,848.20	13.52	13.58	-169.93	-0.25	-60.00	134.69	107.63	27.06	4.977	Alert
3,900.00	3,898.25	3,901.85	3,898.15	13.70	13.77	-170.09	-0.25	-60.00	136.91	109.48	27.43	4.991	Alert
3,950.00	3,948.20	3,948.10	3,948.10	13.88	13.94	-170.25	-0.25	-60.00	139.12	111.35	27.77	5.009	
4,000.00	3,998.15	3,998.05	3,998.05	14.06	14.12	-170.41	-0.25	-60.00	141.34	113.21	28.13	5.024	
4,050.00	4,048.10	4,047.37	4,047.37	14.24	14.29	-170.47	-0.06	-60.15	143.66	115.18	28.48	5.044	
4,100.00	4,098.05	4,096.64	4,096.64	14.42	14.47	-170.34	0.54	-60.64	146.22	117.38	28.83	5.071	
4,150.00	4,148.00	4,145.97	4,145.95	14.60	14.64	-170.03	1.56	-61.46	149.00	119.81	29.19	5.105	
4,200.00	4,197.95	4,204.12	4,195.83	14.78	14.85	-169.66	2.73	-62.41	151.87	122.30	29.57	5.136	
4,250.00	4,247.90	4,245.79	4,245.72	14.96	15.00	-169.30	3.91	-63.36	154.74	124.85	29.89	5.176	
4,300.00	4,297.85	4,304.30	4,295.60	15.14	15.20	-168.96	5.09	-64.31	157.63	127.35	30.28	5.206	
4,350.00	4,347.79	4,345.61	4,345.49	15.32	15.35	-168.63	6.27	-65.26	160.52	129.91	30.60	5.245	
4,400.00	4,397.74	4,404.49	4,395.38	15.50	15.56	-168.31	7.45	-66.21	163.41	132.42	30.99	5.273	
4,450.00	4,447.69	4,445.42	4,445.26	15.68	15.71	-168.00	8.63	-67.16	166.31	134.99	31.31	5.311	
4,500.00	4,497.64	4,504.67	4,495.15	15.86	15.92	-167.70	9.81	-68.11	169.21	137.51	31.70	5.338	
4,550.00	4,547.59	4,545.24	4,545.03	16.04	16.06	-167.42	10.99	-69.06	172.12	140.10	32.02	5.375	
4,600.00	4,597.54	4,604.85	4,594.92	16.22	16.27	-167.14	12.17	-70.01	175.03	142.62	32.41	5.400	
4,650.00	4,647.49	4,645.05	4,644.80	16.40	16.42	-166.87	13.35	-70.96	177.95	145.21	32.73	5.436	
4,700.00	4,697.44	4,694.96	4,694.69	16.58	16.59	-166.61	14.53	-71.91	180.87	147.78	33.09	5.466	
4,750.00	4,747.39	4,744.87	4,744.57	16.76	16.77	-166.36	15.70	-72.86	183.79	150.34	33.44	5.495	
4,800.00	4,797.34	4,805.22	4,794.46	16.94	16.99	-166.11	16.88	-73.81	186.72	152.88	33.84	5.518	
4,850.00	4,847.29	4,844.69	4,844.34	17.12	17.13	-165.88	18.06	-74.76	189.65	155.49	34.16	5.552	
4,900.00	4,897.24	4,905.40	4,894.23	17.30	17.34	-165.65	19.24	-75.71	192.58	158.03	34.55	5.574	
4,950.00	4,947.19	4,944.50	4,944.11	17.48	17.48	-165.43	20.42	-76.67	195.51	160.65	34.87	5.607	
5,000.00	4,997.14	5,005.59	4,994.00	17.66	17.70	-165.21	21.60	-77.62	198.45	163.19	35.26	5.628	
5,050.00	5,047.09	5,044.32	5,043.88	17.84	17.84	-165.00	22.78	-78.57	201.39	165.82	35.58	5.660	
5,100.00	5,097.04	5,105.77	5,093.77	18.02	18.06	-164.80	23.96	-79.52	204.34	168.36	35.98	5.680	
5,150.00	5,146.99	5,144.14	5,143.65	18.20	18.19	-164.60	25.14	-80.47	207.29	170.99	36.29	5.712	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan 1 — Offset Site Error: 5.00 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,196.93	5,205.96	5,193.54	18.38	18.41	-164.41	26.32	-81.42	210.23	173.54	36.69	5.730	
5,250.00	5,246.88	5,243.95	5,243.42	18.56	18.55	-164.22	27.49	-82.37	213.19	176.18	37.00	5.761	
5,300.00	5,296.83	5,306.14	5,293.31	18.74	18.77	-164.04	28.67	-83.32	216.14	178.74	37.40	5.779	
5,350.00	5,346.78	5,343.77	5,343.19	18.92	18.91	-163.86	29.85	-84.27	219.09	181.38	37.72	5.809	
5,400.00	5,396.73	5,406.32	5,393.08	19.10	19.13	-163.69	31.03	-85.22	222.05	183.93	38.12	5.825	
5,450.00	5,446.68	5,443.58	5,442.96	19.28	19.26	-163.52	32.21	-86.17	225.01	186.58	38.43	5.855	
5,500.00	5,496.63	5,506.51	5,492.85	19.46	19.49	-163.36	33.39	-87.12	227.97	189.14	38.83	5.871	
5,550.00	5,546.58	5,543.40	5,542.73	19.64	19.62	-163.20	34.57	-88.07	230.94	191.79	39.14	5.900	
5,600.00	5,596.53	5,606.69	5,592.62	19.82	19.84	-163.05	35.75	-89.02	233.90	194.35	39.55	5.915	
5,650.00	5,646.48	5,643.22	5,642.50	20.00	19.97	-162.90	36.93	-89.97	236.87	197.01	39.85	5.943	
5,700.00	5,696.43	5,706.88	5,692.39	20.18	20.20	-162.75	38.11	-90.92	239.84	199.57	40.26	5.957	
5,750.00	5,746.38	5,743.03	5,742.27	20.36	20.33	-162.61	39.29	-91.88	242.81	202.24	40.57	5.985	
5,800.00	5,796.33	5,807.06	5,792.16	20.54	20.56	-162.47	40.46	-92.83	245.78	204.80	40.98	5.998	
5,850.00	5,846.28	5,842.85	5,842.04	20.73	20.69	-162.33	41.64	-93.78	248.75	207.47	41.28	6.026	
5,900.00	5,896.23	5,907.24	5,891.93	20.91	20.92	-162.20	42.82	-94.73	251.72	210.03	41.69	6.038	
5,950.00	5,946.18	5,942.66	5,941.81	21.09	21.04	-162.06	44.00	-95.68	254.70	212.70	42.00	6.065	
6,000.00	5,996.12	6,007.43	5,991.70	21.27	21.28	-161.94	45.18	-96.63	257.67	215.27	42.41	6.076	
6,050.00	6,046.07	6,042.48	6,041.58	21.45	21.40	-161.81	46.36	-97.58	260.65	217.94	42.71	6.103	
6,100.00	6,096.02	6,107.61	6,091.47	21.63	21.63	-161.69	47.54	-98.53	263.63	220.51	43.12	6.114	
6,150.00	6,145.97	6,142.30	6,141.35	21.81	21.76	-161.57	48.72	-99.48	266.61	223.19	43.42	6.140	
6,200.00	6,195.92	6,207.79	6,191.24	21.99	21.99	-161.46	49.90	-100.43	269.59	225.76	43.84	6.150	
6,250.00	6,245.87	6,242.11	6,241.12	22.17	22.11	-161.34	51.08	-101.38	272.58	228.44	44.14	6.176	
6,300.00	6,295.82	6,307.98	6,291.01	22.35	22.35	-161.23	52.26	-102.33	275.56	231.01	44.55	6.185	
6,350.00	6,345.77	6,341.93	6,340.89	22.53	22.47	-161.12	53.43	-103.28	278.54	233.69	44.85	6.210	
6,400.00	6,395.72	6,408.16	6,390.78	22.71	22.71	-161.01	54.61	-104.23	281.53	236.26	45.27	6.219	
6,450.00	6,445.67	6,441.75	6,440.66	22.89	22.83	-160.91	55.79	-105.18	284.52	238.95	45.57	6.244	
6,500.00	6,495.62	6,508.35	6,490.55	23.07	23.07	-160.81	56.97	-106.13	287.50	241.52	45.98	6.252	
6,550.00	6,545.57	6,541.56	6,540.43	23.26	23.19	-160.71	58.15	-107.09	290.49	244.21	46.28	6.277	
6,600.00	6,595.52	6,608.53	6,590.32	23.44	23.43	-160.61	59.33	-108.04	293.48	246.78	46.70	6.285	
6,650.00	6,645.47	6,641.38	6,640.20	23.62	23.54	-160.51	60.51	-108.99	296.47	249.47	47.00	6.309	
6,700.00	6,695.42	6,708.71	6,690.09	23.80	23.78	-160.42	61.69	-109.94	299.46	252.05	47.41	6.316	
6,750.00	6,745.37	6,741.19	6,739.97	23.98	23.90	-160.33	62.87	-110.89	302.45	254.74	47.71	6.339	
6,800.00	6,795.31	6,808.90	6,789.86	24.16	24.14	-160.24	64.05	-111.84	305.44	257.31	48.13	6.346	
6,850.00	6,845.26	6,841.01	6,839.74	24.34	24.26	-160.15	65.22	-112.79	308.44	260.01	48.42	6.369	
6,900.00	6,895.21	6,909.08	6,889.63	24.52	24.50	-160.06	66.40	-113.74	311.43	262.58	48.85	6.376	
6,950.00	6,945.16	6,940.83	6,939.51	24.70	24.62	-159.97	67.58	-114.69	314.43	265.29	49.14	6.399	
7,000.00	6,995.11	7,009.27	6,989.40	24.88	24.86	-159.89	68.76	-115.64	317.42	267.86	49.56	6.404	
7,050.00	7,045.06	7,040.64	7,039.28	25.06	24.97	-159.81	69.94	-116.59	320.42	270.56	49.85	6.427	
7,100.00	7,095.01	7,109.45	7,089.17	25.24	25.22	-159.73	71.12	-117.54	323.41	273.13	50.28	6.432	
7,150.00	7,144.96	7,140.46	7,139.06	25.43	25.33	-159.65	72.30	-118.49	326.41	275.84	50.57	6.455	
7,200.00	7,194.91	7,209.63	7,188.94	25.61	25.58	-159.57	73.48	-119.44	329.41	278.41	51.00	6.459	
7,250.00	7,244.86	7,240.28	7,238.83	25.79	25.69	-159.49	74.66	-120.39	332.41	281.12	51.29	6.482	
7,300.00	7,294.81	7,309.82	7,288.71	25.97	25.94	-159.42	75.84	-121.34	335.40	283.69	51.71	6.486	
7,350.00	7,344.76	7,340.09	7,338.60	26.15	26.05	-159.35	77.02	-122.30	338.40	286.40	52.00	6.508	
7,400.00	7,394.71	7,390.00	7,388.48	26.33	26.23	-159.27	78.19	-123.25	341.40	289.05	52.36	6.521	
7,450.00	7,444.66	7,439.91	7,438.37	26.51	26.40	-159.20	79.37	-124.20	344.40	291.69	52.72	6.533	
7,500.00	7,494.61	7,489.82	7,488.25	26.69	26.58	-159.13	80.55	-125.15	347.41	294.33	53.07	6.546	
7,550.00	7,544.56	7,539.72	7,538.14	26.87	26.76	-159.06	81.73	-126.10	350.41	296.98	53.43	6.558	
7,600.00	7,594.50	7,589.63	7,588.02	27.05	26.94	-159.00	82.91	-127.05	353.41	299.62	53.79	6.570	
7,650.00	7,644.45	7,639.54	7,637.91	27.23	27.12	-158.93	84.09	-128.00	356.41	302.27	54.15	6.582	
7,700.00	7,694.40	7,689.45	7,687.79	27.42	27.30	-158.86	85.27	-128.95	359.41	304.91	54.50	6.594	
7,750.00	7,744.35	7,739.36	7,737.68	27.60	27.48	-158.80	86.45	-129.90	362.42	307.56	54.86	6.606	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,800.00	7,794.30	7,789.26	7,787.56	27.78	27.66	-158.74	87.63	-130.85	365.42	310.20	55.22	6.618	
7,850.00	7,844.25	7,839.17	7,837.45	27.96	27.84	-158.67	88.81	-131.80	368.43	312.85	55.58	6.629	
7,900.00	7,894.20	7,889.08	7,887.33	28.14	28.01	-158.61	89.99	-132.75	371.43	315.50	55.94	6.640	
7,950.00	7,944.15	7,938.99	7,937.22	28.32	28.19	-158.55	91.16	-133.70	374.44	318.14	56.29	6.651	
8,000.00	7,994.10	7,988.90	7,987.10	28.50	28.37	-158.49	92.34	-134.65	377.44	320.79	56.65	6.662	
8,050.00	8,044.05	8,038.80	8,036.99	28.68	28.55	-158.44	93.52	-135.60	380.45	323.44	57.01	6.673	
8,100.00	8,094.00	8,088.71	8,086.87	28.86	28.73	-158.38	94.70	-136.55	383.45	326.09	57.37	6.684	
8,150.00	8,143.95	8,138.62	8,136.76	29.04	28.91	-158.32	95.88	-137.51	386.46	328.74	57.73	6.695	
8,200.00	8,193.90	8,188.53	8,186.64	29.23	29.09	-158.27	97.06	-138.46	389.47	331.38	58.08	6.705	
8,250.00	8,243.85	8,238.44	8,236.53	29.41	29.27	-158.21	98.24	-139.41	392.48	334.03	58.44	6.716	
8,300.00	8,293.80	8,288.34	8,286.41	29.59	29.45	-158.16	99.42	-140.36	395.48	336.68	58.80	6.726	
8,350.00	8,343.75	8,338.25	8,336.30	29.77	29.63	-158.10	100.60	-141.31	398.49	339.33	59.16	6.736	
8,400.00	8,393.69	8,388.16	8,386.18	29.95	29.81	-158.05	101.78	-142.26	401.50	341.98	59.52	6.746	
8,450.00	8,443.64	8,438.07	8,436.07	30.13	29.98	-158.00	102.95	-143.21	404.51	344.63	59.87	6.756	
8,500.00	8,493.59	8,487.98	8,485.95	30.31	30.16	-157.95	104.13	-144.16	407.52	347.29	60.23	6.766	
8,550.00	8,543.54	8,537.89	8,535.84	30.49	30.34	-157.90	105.31	-145.11	410.53	349.94	60.59	6.775	
8,600.00	8,593.49	8,587.79	8,585.72	30.67	30.52	-157.85	106.49	-146.06	413.54	352.59	60.95	6.785	
8,650.00	8,643.44	8,637.70	8,635.61	30.86	30.70	-157.80	107.67	-147.01	416.55	355.24	61.31	6.794	
8,700.00	8,693.39	8,687.61	8,685.49	31.04	30.88	-157.75	108.85	-147.96	419.56	357.89	61.66	6.804	
8,750.00	8,743.34	8,737.52	8,735.38	31.22	31.06	-157.71	110.03	-148.91	422.57	360.55	62.02	6.813	
8,800.00	8,793.29	8,787.43	8,785.26	31.40	31.24	-157.66	111.21	-149.86	425.58	363.20	62.38	6.822	
8,850.00	8,843.24	8,837.33	8,835.15	31.58	31.42	-157.62	112.39	-150.81	428.59	365.85	62.74	6.831	
8,900.00	8,893.19	8,887.24	8,885.03	31.76	31.60	-157.57	113.57	-151.76	431.60	368.50	63.10	6.840	
8,950.00	8,943.14	8,937.15	8,934.92	31.94	31.78	-157.53	114.75	-152.72	434.61	371.16	63.46	6.849	
9,000.00	8,993.09	8,987.06	8,984.80	32.12	31.95	-157.48	115.92	-153.67	437.63	373.81	63.81	6.858	
9,050.00	9,043.04	9,036.97	9,034.69	32.30	32.13	-157.44	117.10	-154.62	440.64	376.47	64.17	6.866	
9,100.00	9,092.99	9,086.87	9,084.57	32.49	32.31	-157.40	118.28	-155.57	443.65	379.12	64.53	6.875	
9,150.00	9,142.94	9,136.78	9,134.46	32.67	32.49	-157.35	119.46	-156.52	446.66	381.77	64.89	6.884	
9,200.00	9,192.88	9,186.69	9,184.34	32.85	32.67	-157.31	120.64	-157.47	449.68	384.43	65.25	6.892	
9,250.00	9,242.83	9,236.60	9,234.23	33.03	32.85	-157.27	121.82	-158.42	452.69	387.08	65.61	6.900	
9,300.00	9,292.78	9,286.51	9,284.11	33.21	33.03	-157.23	123.00	-159.37	455.70	389.74	65.96	6.908	
9,350.00	9,342.73	9,336.41	9,334.00	33.39	33.21	-157.19	124.18	-160.32	458.72	392.39	66.32	6.917	
9,400.00	9,392.68	9,386.32	9,383.88	33.57	33.39	-157.15	125.36	-161.27	461.73	395.05	66.68	6.925	
9,450.00	9,442.63	9,436.23	9,433.77	33.75	33.57	-157.11	126.54	-162.22	464.74	397.71	67.04	6.932	
9,500.00	9,492.58	9,486.14	9,483.65	33.94	33.75	-157.07	127.71	-163.17	467.76	400.36	67.40	6.940	
9,550.00	9,542.53	9,536.05	9,533.54	34.12	33.93	-157.03	128.89	-164.12	470.77	403.02	67.76	6.948	
9,600.00	9,592.48	9,585.95	9,583.42	34.30	34.11	-157.00	130.07	-165.07	473.79	405.67	68.11	6.956	
9,650.00	9,642.43	9,635.86	9,633.31	34.48	34.28	-156.96	131.25	-166.02	476.80	408.33	68.47	6.963	
9,700.00	9,692.38	9,685.77	9,683.19	34.66	34.46	-156.92	132.43	-166.97	479.82	410.99	68.83	6.971	
9,750.00	9,742.33	9,735.68	9,733.08	34.84	34.64	-156.89	133.61	-167.92	482.83	413.64	69.19	6.978	
9,800.00	9,792.28	9,785.59	9,782.97	35.02	34.82	-156.85	134.79	-168.88	485.85	416.30	69.55	6.986	
9,850.00	9,842.23	9,835.50	9,832.85	35.20	35.00	-156.82	135.97	-169.83	488.86	418.96	69.91	6.993	
9,900.00	9,892.18	9,885.40	9,882.74	35.38	35.18	-156.78	137.15	-170.78	491.88	421.62	70.26	7.000	
9,950.00	9,942.13	9,935.31	9,932.62	35.57	35.36	-156.75	138.33	-171.73	494.90	424.27	70.62	7.008	
10,000.00	9,992.08	9,985.22	9,982.51	35.75	35.54	-156.71	139.51	-172.68	497.91	426.93	70.98	7.015	
10,050.00	10,042.02	10,035.13	10,032.39	35.93	35.72	-156.68	140.68	-173.63	500.93	429.59	71.34	7.022	
10,100.00	10,091.97	10,085.04	10,082.28	36.11	35.90	-156.65	141.86	-174.58	503.95	432.25	71.70	7.029	
10,150.00	10,141.92	10,134.94	10,132.16	36.29	36.08	-156.61	143.04	-175.53	506.96	434.91	72.06	7.036	
10,200.00	10,191.87	10,184.85	10,182.05	36.47	36.26	-156.58	144.22	-176.48	509.98	437.56	72.41	7.042	
10,250.00	10,241.82	10,234.76	10,231.93	36.65	36.44	-156.55	145.40	-177.43	513.00	440.22	72.77	7.049	
10,300.00	10,291.77	10,284.67	10,281.82	36.83	36.62	-156.52	146.58	-178.38	516.01	442.88	73.13	7.056	
10,350.00	10,341.72	10,334.58	10,331.70	37.02	36.79	-156.49	147.76	-179.33	519.03	445.54	73.49	7.063	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,400.00	10,391.67	10,384.48	10,381.59	37.20	36.97	-156.46	148.94	-180.28	522.05	448.20	73.85	7.069	
10,450.00	10,441.62	10,434.39	10,431.47	37.38	37.15	-156.43	150.12	-181.23	525.07	450.86	74.21	7.076	
10,500.00	10,491.57	10,484.30	10,481.36	37.56	37.33	-156.40	151.30	-182.18	528.08	453.52	74.57	7.082	
10,550.00	10,541.52	10,534.21	10,531.24	37.74	37.51	-156.37	152.48	-183.13	531.10	456.18	74.92	7.088	
10,600.00	10,591.47	10,584.12	10,581.13	37.92	37.69	-156.34	153.65	-184.09	534.12	458.84	75.28	7.095	
10,650.00	10,641.42	10,634.02	10,631.01	38.10	37.87	-156.31	154.83	-185.04	537.14	461.50	75.64	7.101	
10,700.00	10,691.37	10,683.93	10,680.90	38.28	38.05	-156.28	156.01	-185.99	540.16	464.16	76.00	7.107	
10,750.00	10,741.32	10,733.84	10,730.78	38.47	38.23	-156.25	157.19	-186.94	543.17	466.82	76.36	7.113	
10,800.00	10,791.27	10,783.75	10,780.67	38.65	38.41	-156.22	158.37	-187.89	546.19	469.48	76.72	7.120	
10,850.00	10,841.21	10,833.61	10,835.52	38.83	38.61	-156.22	159.36	-188.69	548.99	471.88	77.11	7.120	
10,900.00	10,891.16	10,883.57	10,890.47	39.01	38.80	-156.29	159.75	-189.00	551.33	473.84	77.49	7.115	
10,950.00	10,941.11	10,944.11	10,941.01	39.19	38.98	-156.38	159.75	-189.00	553.39	475.54	77.85	7.109	
11,000.00	10,991.06	11,005.94	10,990.96	39.37	39.20	-156.47	159.75	-189.00	555.46	477.21	78.25	7.099	
11,050.00	11,041.02	11,044.02	11,040.92	39.55	39.34	-156.57	159.75	-189.00	557.44	478.87	78.56	7.095	
11,100.00	11,090.99	11,106.01	11,090.89	39.73	39.56	-156.64	159.75	-189.00	558.89	479.93	78.96	7.078	
11,150.00	11,140.98	11,143.98	11,140.88	39.91	39.69	-156.68	159.75	-189.00	559.75	480.47	79.28	7.061	
11,200.00	11,190.98	11,193.98	11,190.88	40.09	39.87	-90.03	159.75	-189.00	560.00	480.37	79.63	7.032	
11,250.00	11,240.98	11,243.98	11,240.88	40.26	40.05	-90.03	159.75	-189.00	560.00	480.02	79.98	7.001	
11,300.00	11,290.98	11,294.14	11,291.00	40.44	40.22	-90.20	158.06	-188.99	559.99	479.66	80.33	6.971	
11,316.91	11,307.89	11,311.00	11,307.79	40.49	40.28	-90.36	156.52	-188.98	559.99	479.55	80.44	6.961	
11,350.00	11,340.98	11,343.67	11,340.16	40.61	40.38	-90.80	152.13	-188.95	560.01	479.35	80.66	6.943	
11,400.00	11,390.98	11,391.83	11,387.29	40.78	40.53	-91.81	142.32	-188.89	560.18	479.21	80.97	6.918	
11,450.00	11,440.98	11,438.04	11,431.59	40.96	40.66	-93.15	129.22	-188.81	560.73	479.46	81.27	6.900	
11,500.00	11,490.98	11,481.85	11,472.48	41.13	40.78	-94.75	113.53	-188.71	561.94	480.40	81.54	6.892	
11,550.00	11,540.98	11,522.97	11,509.68	41.31	40.89	83.81	96.01	-188.60	564.11	482.36	81.76	6.900	
11,600.00	11,590.90	11,562.33	11,544.01	41.47	40.99	81.74	76.78	-188.48	567.22	485.32	81.90	6.925	
11,650.00	11,640.41	11,600.78	11,576.20	41.63	41.08	79.73	55.77	-188.35	571.00	489.02	81.99	6.965	
11,700.00	11,689.13	11,638.42	11,606.28	41.78	41.16	77.80	33.14	-188.21	575.34	493.34	82.00	7.017	
11,750.00	11,736.70	11,675.38	11,634.30	41.93	41.23	75.94	9.06	-188.06	580.08	498.15	81.93	7.080	
11,800.00	11,782.75	11,711.73	11,660.29	42.07	41.31	74.18	-16.34	-187.91	585.12	503.32	81.80	7.153	
11,850.00	11,826.92	11,747.55	11,684.28	42.20	41.39	72.53	-42.93	-187.74	590.32	508.71	81.61	7.234	
11,900.00	11,868.90	11,782.90	11,706.28	42.31	41.47	70.99	-70.60	-187.57	595.56	514.21	81.36	7.320	
11,950.00	11,908.34	11,817.86	11,726.32	42.42	41.55	69.56	-99.24	-187.39	600.74	519.67	81.07	7.410	
12,000.00	11,944.96	11,850.00	11,743.17	42.52	41.63	68.32	-126.60	-187.22	605.75	525.03	80.71	7.505	
12,050.00	11,978.47	11,886.77	11,760.53	42.61	41.71	67.10	-159.01	-187.02	610.47	530.03	80.44	7.590	
12,100.00	12,008.63	11,920.82	11,774.72	42.71	41.78	66.06	-189.95	-186.83	614.85	534.73	80.12	7.674	
12,150.00	12,035.19	11,954.65	11,786.97	42.81	41.86	65.16	-221.48	-186.63	618.80	538.97	79.83	7.751	
12,200.00	12,057.97	11,988.29	11,797.29	42.91	41.93	64.39	-253.49	-186.43	622.26	542.68	79.58	7.819	
12,250.00	12,076.78	12,021.79	11,805.68	43.03	42.01	63.76	-285.92	-186.23	625.17	545.78	79.39	7.875	
12,300.00	12,091.48	12,055.17	11,812.15	43.14	42.08	63.27	-318.66	-186.03	627.49	548.23	79.25	7.917	
12,350.00	12,101.97	12,088.46	11,816.68	43.26	42.15	62.92	-351.64	-185.82	629.18	549.98	79.20	7.945	
12,400.00	12,108.15	12,121.70	11,819.29	43.37	42.22	62.70	-384.76	-185.62	630.21	550.99	79.22	7.955	
12,450.00	12,110.00	12,157.31	11,820.00	43.49	42.30	62.63	-420.37	-185.40	630.58	551.24	79.34	7.948	
12,500.00	12,110.00	12,207.31	11,820.00	43.61	42.42	62.63	-470.36	-185.08	630.57	551.03	79.54	7.928	
12,550.00	12,110.00	12,257.31	11,820.00	43.75	42.55	62.63	-520.36	-184.77	630.57	550.80	79.77	7.905	
12,600.00	12,110.00	12,307.31	11,820.00	43.89	42.68	62.63	-570.36	-184.46	630.57	550.56	80.01	7.881	
12,650.00	12,110.00	12,357.31	11,820.00	44.04	42.84	62.63	-620.36	-184.15	630.57	550.29	80.29	7.854	
12,700.00	12,110.00	12,407.31	11,820.00	44.20	42.99	62.63	-670.36	-183.84	630.57	550.01	80.57	7.827	
12,750.00	12,110.00	12,457.31	11,820.00	44.38	43.17	62.63	-720.36	-183.53	630.57	549.69	80.89	7.796	
12,800.00	12,110.00	12,507.31	11,820.00	44.56	43.35	62.63	-770.36	-183.22	630.57	549.36	81.21	7.765	
12,850.00	12,110.00	12,557.31	11,820.00	44.77	43.55	62.63	-820.36	-182.91	630.57	549.00	81.57	7.731	
12,900.00	12,110.00	12,607.31	11,820.00	44.97	43.76	62.63	-870.36	-182.60	630.57	548.64	81.93	7.696	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,950.00	12,110.00	12,657.31	11,820.00	45.19	43.98	62.63	-920.36	-182.29	630.57	548.24	82.33	7.659	
13,000.00	12,110.00	12,707.31	11,820.00	45.41	44.21	62.63	-970.35	-181.98	630.57	547.83	82.74	7.621	
13,050.00	12,110.00	12,757.31	11,820.00	45.66	44.45	62.63	-1,020.35	-181.67	630.57	547.39	83.18	7.581	
13,100.00	12,110.00	12,807.31	11,820.00	45.90	44.70	62.63	-1,070.35	-181.36	630.57	546.95	83.62	7.541	
13,150.00	12,110.00	12,857.31	11,820.00	46.16	44.96	62.63	-1,120.35	-181.05	630.57	546.47	84.10	7.498	
13,200.00	12,110.00	12,907.31	11,820.00	46.43	45.23	62.63	-1,170.35	-180.74	630.57	545.99	84.58	7.455	
13,250.00	12,110.00	12,957.31	11,820.00	46.71	45.52	62.63	-1,220.35	-180.42	630.57	545.47	85.10	7.410	
13,300.00	12,110.00	13,007.31	11,820.00	47.00	45.80	62.63	-1,270.35	-180.11	630.57	544.95	85.62	7.365	
13,350.00	12,110.00	13,057.31	11,820.00	47.30	46.11	62.63	-1,320.35	-179.80	630.57	544.40	86.17	7.318	
13,400.00	12,110.00	13,107.31	11,820.00	47.60	46.42	62.63	-1,370.35	-179.49	630.57	543.85	86.72	7.271	
13,450.00	12,110.00	13,157.31	11,820.00	47.92	46.74	62.63	-1,420.35	-179.18	630.57	543.26	87.31	7.223	
13,500.00	12,110.00	13,207.31	11,820.00	48.24	47.06	62.63	-1,470.35	-178.87	630.57	542.67	87.89	7.174	
13,550.00	12,110.00	13,257.31	11,820.00	48.58	47.41	62.63	-1,520.34	-178.56	630.56	542.05	88.51	7.124	
13,600.00	12,110.00	13,307.31	11,820.00	48.91	47.75	62.63	-1,570.34	-178.25	630.56	541.43	89.13	7.074	
13,650.00	12,110.00	13,357.31	11,820.00	49.27	48.11	62.63	-1,620.34	-177.94	630.56	540.78	89.78	7.023	
13,700.00	12,110.00	13,407.31	11,820.00	49.62	48.47	62.63	-1,670.34	-177.63	630.56	540.13	90.43	6.973	
13,750.00	12,110.00	13,457.31	11,820.00	49.99	48.84	62.63	-1,720.34	-177.32	630.56	539.45	91.11	6.921	
13,800.00	12,110.00	13,507.31	11,820.00	50.36	49.22	62.63	-1,770.34	-177.01	630.56	538.77	91.80	6.869	
13,850.00	12,110.00	13,557.31	11,820.00	50.75	49.61	62.63	-1,820.34	-176.70	630.56	538.06	92.50	6.817	
13,900.00	12,110.00	13,607.31	11,820.00	51.13	50.00	62.63	-1,870.34	-176.39	630.56	537.35	93.22	6.765	
13,950.00	12,110.00	13,657.31	11,820.00	51.53	50.41	62.63	-1,920.34	-176.08	630.56	536.61	93.95	6.712	
14,000.00	12,110.00	13,707.31	11,820.00	51.93	50.81	62.63	-1,970.34	-175.76	630.56	535.87	94.69	6.659	
14,050.00	12,110.00	13,757.31	11,820.00	52.35	51.23	62.63	-2,020.33	-175.45	630.56	535.11	95.45	6.606	
14,100.00	12,110.00	13,807.31	11,820.00	52.76	51.66	62.63	-2,070.33	-175.14	630.56	534.34	96.22	6.554	
14,150.00	12,110.00	13,857.31	11,820.00	53.19	52.09	62.63	-2,120.33	-174.83	630.56	533.55	97.00	6.500	
14,200.00	12,110.00	13,907.31	11,820.00	53.62	52.52	62.63	-2,170.33	-174.52	630.56	532.76	97.79	6.448	
14,250.00	12,110.00	13,957.31	11,820.00	54.06	52.97	62.63	-2,220.33	-174.21	630.56	531.95	98.61	6.395	
14,300.00	12,110.00	14,007.31	11,820.00	54.50	53.42	62.63	-2,270.33	-173.90	630.56	531.14	99.42	6.342	
14,350.00	12,110.00	14,057.31	11,820.00	54.95	53.87	62.63	-2,320.33	-173.59	630.56	530.30	100.25	6.290	
14,400.00	12,110.00	14,107.31	11,820.00	55.40	54.33	62.63	-2,370.33	-173.28	630.56	529.47	101.09	6.238	
14,450.00	12,110.00	14,157.31	11,820.00	55.87	54.80	62.63	-2,420.33	-172.97	630.56	528.61	101.94	6.185	
14,500.00	12,110.00	14,207.31	11,820.00	56.33	55.28	62.63	-2,470.33	-172.66	630.56	527.75	102.80	6.134	
14,550.00	12,110.00	14,257.31	11,820.00	56.81	55.76	62.63	-2,520.32	-172.35	630.56	526.88	103.68	6.082	
14,600.00	12,110.00	14,307.31	11,820.00	57.28	56.24	62.63	-2,570.32	-172.04	630.55	526.00	104.56	6.031	
14,650.00	12,110.00	14,357.31	11,820.00	57.77	56.73	62.63	-2,620.32	-171.73	630.55	525.10	105.45	5.980	
14,700.00	12,110.00	14,407.31	11,820.00	58.26	57.22	62.63	-2,670.32	-171.41	630.55	524.20	106.35	5.929	
14,750.00	12,110.00	14,457.31	11,820.00	58.75	57.73	62.63	-2,720.32	-171.10	630.55	523.29	107.26	5.879	
14,800.00	12,110.00	14,507.31	11,820.00	59.25	58.23	62.63	-2,770.32	-170.79	630.55	522.37	108.18	5.829	
14,850.00	12,110.00	14,557.31	11,820.00	59.75	58.74	62.63	-2,820.32	-170.48	630.55	521.44	109.11	5.779	
14,900.00	12,110.00	14,607.31	11,820.00	60.26	59.25	62.63	-2,870.32	-170.17	630.55	520.51	110.05	5.730	
14,950.00	12,110.00	14,657.31	11,820.00	60.77	59.77	62.63	-2,920.32	-169.86	630.55	519.56	110.99	5.681	
15,000.00	12,110.00	14,707.31	11,820.00	61.29	60.29	62.63	-2,970.32	-169.55	630.55	518.61	111.94	5.633	
15,050.00	12,110.00	14,757.31	11,820.00	61.81	60.82	62.63	-3,020.32	-169.24	630.55	517.64	112.91	5.585	
15,100.00	12,110.00	14,807.31	11,820.00	62.33	61.35	62.63	-3,070.31	-168.93	630.55	516.67	113.88	5.537	
15,150.00	12,110.00	14,857.31	11,820.00	62.86	61.89	62.63	-3,120.31	-168.62	630.55	515.69	114.86	5.490	
15,200.00	12,110.00	14,907.31	11,820.00	63.39	62.42	62.63	-3,170.31	-168.31	630.55	514.71	115.84	5.443	
15,250.00	12,110.00	14,957.31	11,820.00	63.93	62.97	62.63	-3,220.31	-168.00	630.55	513.72	116.83	5.397	
15,300.00	12,110.00	15,007.31	11,820.00	64.47	63.51	62.63	-3,270.31	-167.69	630.55	512.72	117.83	5.352	
15,350.00	12,110.00	15,057.31	11,820.00	65.02	64.06	62.63	-3,320.31	-167.38	630.55	511.71	118.83	5.306	
15,400.00	12,110.00	15,107.31	11,820.00	65.56	64.62	62.63	-3,370.31	-167.07	630.55	510.70	119.84	5.261	
15,450.00	12,110.00	15,157.31	11,820.00	66.12	65.18	62.63	-3,420.31	-166.75	630.55	509.68	120.86	5.217	
15,500.00	12,110.00	15,207.31	11,820.00	66.67	65.73	62.63	-3,470.31	-166.44	630.55	508.66	121.89	5.173	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
15,550.00	12,110.00	15,257.31	11,820.00	67.23	66.30	62.63	-3,520.31	-166.13	630.55	507.63	122.92	5.130	
15,600.00	12,110.00	15,307.31	11,820.00	67.79	66.87	62.63	-3,570.30	-165.82	630.55	506.59	123.95	5.087	
15,650.00	12,110.00	15,357.31	11,820.00	68.35	67.44	62.63	-3,620.30	-165.51	630.54	505.55	125.00	5.044	
15,700.00	12,110.00	15,407.31	11,820.00	68.92	68.01	62.63	-3,670.30	-165.20	630.54	504.50	126.04	5.003	
15,750.00	12,110.00	15,457.31	11,820.00	69.49	68.59	62.63	-3,720.30	-164.89	630.54	503.44	127.10	4.961	Alert
15,800.00	12,110.00	15,507.31	11,820.00	70.06	69.16	62.63	-3,770.30	-164.58	630.54	502.39	128.16	4.920	Alert
15,850.00	12,110.00	15,557.31	11,820.00	70.64	69.75	62.63	-3,820.30	-164.27	630.54	501.32	129.22	4.879	Alert
15,900.00	12,110.00	15,607.31	11,820.00	71.22	70.33	62.63	-3,870.30	-163.96	630.54	500.25	130.29	4.840	Alert
15,950.00	12,110.00	15,657.31	11,820.00	71.80	70.92	62.63	-3,920.30	-163.65	630.54	499.17	131.37	4.800	Alert
16,000.00	12,110.00	15,707.31	11,820.00	72.39	71.51	62.63	-3,970.30	-163.34	630.54	498.10	132.44	4.761	Alert
16,050.00	12,110.00	15,757.31	11,820.00	72.97	72.10	62.63	-4,020.30	-163.03	630.54	497.01	133.53	4.722	Alert
16,100.00	12,110.00	15,807.31	11,820.00	73.56	72.70	62.63	-4,070.30	-162.72	630.54	495.92	134.62	4.684	Alert
16,150.00	12,110.00	15,857.31	11,820.00	74.16	73.29	62.63	-4,120.29	-162.41	630.54	494.83	135.71	4.646	Alert
16,200.00	12,110.00	15,907.31	11,820.00	74.75	73.89	62.63	-4,170.29	-162.09	630.54	493.73	136.81	4.609	Alert
16,250.00	12,110.00	15,957.31	11,820.00	75.35	74.49	62.63	-4,220.29	-161.78	630.54	492.62	137.91	4.572	Alert
16,300.00	12,110.00	16,007.31	11,820.00	75.95	75.10	62.63	-4,270.29	-161.47	630.54	491.52	139.02	4.536	Alert
16,350.00	12,110.00	16,057.31	11,820.00	76.55	75.71	62.63	-4,320.29	-161.16	630.54	490.41	140.13	4.500	Alert
16,400.00	12,110.00	16,107.31	11,820.00	77.15	76.31	62.63	-4,370.29	-160.85	630.54	489.29	141.25	4.464	Alert
16,450.00	12,110.00	16,157.31	11,820.00	77.76	76.92	62.63	-4,420.29	-160.54	630.54	488.17	142.37	4.429	Alert
16,500.00	12,110.00	16,207.31	11,820.00	78.37	77.54	62.63	-4,470.29	-160.23	630.54	487.05	143.49	4.394	Alert
16,550.00	12,110.00	16,257.31	11,820.00	78.98	78.15	62.63	-4,520.29	-159.92	630.54	485.92	144.61	4.360	Alert
16,600.00	12,110.00	16,307.31	11,820.00	79.59	78.77	62.63	-4,570.29	-159.61	630.54	484.79	145.74	4.326	Alert
16,650.00	12,110.00	16,357.31	11,820.00	80.20	79.39	62.63	-4,620.28	-159.30	630.54	483.66	146.88	4.293	Alert
16,700.00	12,110.00	16,407.31	11,820.00	80.82	80.01	62.63	-4,670.28	-158.99	630.53	482.52	148.01	4.260	Alert
16,750.00	12,110.00	16,457.31	11,820.00	81.44	80.63	62.63	-4,720.28	-158.68	630.53	481.38	149.16	4.227	Alert
16,800.00	12,110.00	16,507.31	11,820.00	82.05	81.25	62.63	-4,770.28	-158.37	630.53	480.23	150.30	4.195	Alert
16,850.00	12,110.00	16,557.31	11,820.00	82.68	81.88	62.63	-4,820.28	-158.06	630.53	479.09	151.45	4.163	Alert
16,900.00	12,110.00	16,607.31	11,820.00	83.30	82.51	62.63	-4,870.28	-157.75	630.53	477.94	152.60	4.132	Alert
16,950.00	12,110.00	16,657.31	11,820.00	83.92	83.14	62.63	-4,920.28	-157.43	630.53	476.78	153.75	4.101	Alert
17,000.00	12,110.00	16,707.31	11,820.00	84.55	83.77	62.63	-4,970.28	-157.12	630.53	475.62	154.91	4.070	Alert
17,050.00	12,110.00	16,757.31	11,820.00	85.18	84.40	62.63	-5,020.28	-156.81	630.53	474.46	156.07	4.040	Alert
17,100.00	12,110.00	16,807.31	11,820.00	85.81	85.03	62.63	-5,070.28	-156.50	630.53	473.30	157.23	4.010	Alert
17,150.00	12,110.00	16,857.31	11,820.00	86.44	85.67	62.63	-5,120.27	-156.19	630.53	472.13	158.40	3.981	Alert
17,200.00	12,110.00	16,907.31	11,820.00	87.07	86.31	62.63	-5,170.27	-155.88	630.53	470.97	159.56	3.952	Alert
17,250.00	12,110.00	16,957.31	11,820.00	87.71	86.94	62.63	-5,220.27	-155.57	630.53	469.79	160.74	3.923	Alert
17,300.00	12,110.00	17,007.31	11,820.00	88.34	87.58	62.63	-5,270.27	-155.26	630.53	468.62	161.91	3.894	Alert
17,350.00	12,110.00	17,057.31	11,820.00	88.98	88.23	62.63	-5,320.27	-154.95	630.53	467.44	163.09	3.866	Alert
17,400.00	12,110.00	17,107.31	11,820.00	89.62	88.87	62.63	-5,370.27	-154.64	630.53	466.26	164.26	3.838	Alert
17,450.00	12,110.00	17,157.31	11,820.00	90.26	89.51	62.63	-5,420.27	-154.33	630.53	465.08	165.45	3.811	Alert
17,500.00	12,110.00	17,207.31	11,820.00	90.90	90.16	62.63	-5,470.27	-154.02	630.53	463.90	166.63	3.784	Alert
17,550.00	12,110.00	17,257.31	11,820.00	91.54	90.80	62.63	-5,520.27	-153.71	630.53	462.71	167.82	3.757	Alert
17,600.00	12,110.00	17,307.31	11,820.00	92.19	91.45	62.63	-5,570.27	-153.40	630.53	461.52	169.01	3.731	Alert
17,650.00	12,110.00	17,357.31	11,820.00	92.83	92.10	62.63	-5,620.27	-153.08	630.53	460.33	170.20	3.705	Alert
17,700.00	12,110.00	17,407.31	11,820.00	93.48	92.75	62.63	-5,670.26	-152.77	630.53	459.14	171.39	3.679	Alert
17,750.00	12,110.00	17,457.31	11,820.00	94.13	93.40	62.63	-5,720.26	-152.46	630.52	457.94	172.59	3.653	Alert
17,800.00	12,110.00	17,507.31	11,820.00	94.77	94.05	62.63	-5,770.26	-152.15	630.52	456.74	173.78	3.628	Alert
17,850.00	12,110.00	17,557.31	11,820.00	95.42	94.71	62.63	-5,820.26	-151.84	630.52	455.54	174.98	3.603	Alert
17,900.00	12,110.00	17,607.31	11,820.00	96.08	95.36	62.63	-5,870.26	-151.53	630.52	454.34	176.18	3.579	Alert
17,950.00	12,110.00	17,657.31	11,820.00	96.73	96.02	62.63	-5,920.26	-151.22	630.52	453.13	177.39	3.554	Alert
18,000.00	12,110.00	17,707.31	11,820.00	97.38	96.67	62.63	-5,970.26	-150.91	630.52	451.93	178.59	3.530	Alert
18,050.00	12,110.00	17,757.31	11,820.00	98.04	97.33	62.63	-6,020.26	-150.60	630.52	450.72	179.80	3.507	Alert
18,100.00	12,110.00	17,807.31	11,820.00	98.69	97.99	62.63	-6,070.26	-150.29	630.52	449.51	181.01	3.483	Alert

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
18,150.00	12,110.00	17,857.31	11,820.00	99.35	98.65	62.63	-6,120.26	-149.98	630.52	448.30	182.22	3.460	Alert
18,200.00	12,110.00	17,907.31	11,820.00	100.00	99.31	62.63	-6,170.25	-149.67	630.52	447.08	183.44	3.437	Alert
18,250.00	12,110.00	17,957.31	11,820.00	100.66	99.97	62.63	-6,220.25	-149.36	630.52	445.87	184.65	3.415	Alert
18,300.00	12,110.00	18,007.31	11,820.00	101.32	100.63	62.63	-6,270.25	-149.05	630.52	444.65	185.87	3.392	Alert
18,350.00	12,110.00	18,057.31	11,820.00	101.98	101.30	62.63	-6,320.25	-148.74	630.52	443.43	187.09	3.370	Alert
18,400.00	12,110.00	18,107.31	11,820.00	102.64	101.96	62.63	-6,370.25	-148.42	630.52	442.21	188.31	3.348	Alert
18,450.00	12,110.00	18,157.31	11,820.00	103.31	102.63	62.63	-6,420.25	-148.11	630.52	440.99	189.53	3.327	Alert
18,500.00	12,110.00	18,207.31	11,820.00	103.97	103.29	62.63	-6,470.25	-147.80	630.52	439.76	190.75	3.305	Alert
18,550.00	12,110.00	18,257.31	11,820.00	104.63	103.96	62.63	-6,520.25	-147.49	630.52	438.54	191.98	3.284	Alert
18,600.00	12,110.00	18,307.31	11,820.00	105.30	104.63	62.63	-6,570.25	-147.18	630.52	437.31	193.21	3.263	Alert
18,650.00	12,110.00	18,357.31	11,820.00	105.96	105.30	62.63	-6,620.25	-146.87	630.52	436.08	194.44	3.243	Alert
18,700.00	12,110.00	18,407.31	11,820.00	106.63	105.97	62.63	-6,670.24	-146.56	630.52	434.85	195.67	3.222	Alert
18,750.00	12,110.00	18,457.31	11,820.00	107.30	106.64	62.63	-6,720.24	-146.25	630.52	433.62	196.90	3.202	Alert
18,800.00	12,110.00	18,507.31	11,820.00	107.97	107.31	62.63	-6,770.24	-145.94	630.52	432.38	198.13	3.182	Alert
18,850.00	12,110.00	18,557.31	11,820.00	108.64	107.98	62.63	-6,820.24	-145.63	630.51	431.15	199.37	3.163	Alert
18,900.00	12,110.00	18,607.31	11,820.00	109.30	108.65	62.63	-6,870.24	-145.32	630.51	429.91	200.60	3.143	Alert
18,950.00	12,110.00	18,657.31	11,820.00	109.98	109.33	62.63	-6,920.24	-145.01	630.51	428.68	201.84	3.124	Alert
19,000.00	12,110.00	18,707.31	11,820.00	110.65	110.00	62.63	-6,970.24	-144.70	630.51	427.44	203.08	3.105	Alert
19,050.00	12,110.00	18,757.31	11,820.00	111.32	110.67	62.63	-7,020.24	-144.39	630.51	426.20	204.32	3.086	Alert
19,100.00	12,110.00	18,807.31	11,820.00	111.99	111.35	62.63	-7,070.24	-144.08	630.51	424.95	205.56	3.067	Alert
19,150.00	12,110.00	18,857.31	11,820.00	112.66	112.02	62.63	-7,120.24	-143.76	630.51	423.71	206.80	3.049	Alert
19,200.00	12,110.00	18,907.31	11,820.00	113.34	112.70	62.63	-7,170.24	-143.45	630.51	422.47	208.04	3.031	Alert
19,250.00	12,110.00	18,957.31	11,820.00	114.01	113.38	62.63	-7,220.23	-143.14	630.51	421.22	209.29	3.013	Alert
19,300.00	12,110.00	19,007.31	11,820.00	114.69	114.06	62.63	-7,270.23	-142.83	630.51	419.98	210.53	2.995	Alert
19,350.00	12,110.00	19,057.31	11,820.00	115.36	114.74	62.63	-7,320.23	-142.52	630.51	418.73	211.78	2.977	Alert
19,400.00	12,110.00	19,107.31	11,820.00	116.04	115.41	62.63	-7,370.23	-142.21	630.51	417.48	213.03	2.960	Alert
19,450.00	12,110.00	19,157.31	11,820.00	116.72	116.09	62.63	-7,420.23	-141.90	630.51	416.23	214.28	2.942	Alert
19,500.00	12,110.00	19,207.31	11,820.00	117.40	116.77	62.63	-7,470.23	-141.59	630.51	414.98	215.53	2.925	Alert
19,550.00	12,110.00	19,257.31	11,820.00	118.07	117.46	62.63	-7,520.23	-141.28	630.51	413.72	216.78	2.908	Alert
19,600.00	12,110.00	19,307.31	11,820.00	118.75	118.14	62.63	-7,570.23	-140.97	630.51	412.47	218.04	2.892	Alert
19,650.00	12,110.00	19,357.31	11,820.00	119.43	118.82	62.63	-7,620.23	-140.66	630.51	411.22	219.29	2.875	Alert
19,700.00	12,110.00	19,407.31	11,820.00	120.11	119.50	62.63	-7,670.23	-140.35	630.51	409.96	220.55	2.859	Alert
19,750.00	12,110.00	19,457.31	11,820.00	120.79	120.18	62.63	-7,720.22	-140.04	630.51	408.70	221.80	2.843	Alert
19,800.00	12,110.00	19,507.31	11,820.00	121.48	120.87	62.63	-7,770.22	-139.73	630.51	407.45	223.06	2.827	Alert
19,850.00	12,110.00	19,557.31	11,820.00	122.16	121.55	62.63	-7,820.22	-139.41	630.51	406.19	224.32	2.811	Alert
19,900.00	12,110.00	19,607.31	11,820.00	122.84	122.24	62.63	-7,870.22	-139.10	630.50	404.93	225.58	2.795	Alert
19,950.00	12,110.00	19,657.31	11,820.00	123.52	122.92	62.63	-7,920.22	-138.79	630.50	403.67	226.84	2.780	Alert
20,000.00	12,110.00	19,707.31	11,820.00	124.21	123.61	62.63	-7,970.22	-138.48	630.50	402.41	228.10	2.764	Alert
20,050.00	12,110.00	19,757.31	11,820.00	124.89	124.29	62.63	-8,020.22	-138.17	630.50	401.14	229.36	2.749	Alert
20,100.00	12,110.00	19,807.31	11,820.00	125.58	124.98	62.63	-8,070.22	-137.86	630.50	399.88	230.62	2.734	Alert
20,150.00	12,110.00	19,857.31	11,820.00	126.26	125.67	62.63	-8,120.22	-137.55	630.50	398.61	231.89	2.719	Alert
20,200.00	12,110.00	19,907.31	11,820.00	126.95	126.36	62.63	-8,170.22	-137.24	630.50	397.35	233.15	2.704	Alert
20,250.00	12,110.00	19,957.31	11,820.00	127.63	127.04	62.63	-8,220.22	-136.93	630.50	396.08	234.42	2.690	Alert
20,300.00	12,110.00	20,007.31	11,820.00	128.32	127.73	62.63	-8,270.21	-136.62	630.50	394.82	235.68	2.675	Alert
20,350.00	12,110.00	20,057.31	11,820.00	129.01	128.42	62.63	-8,320.21	-136.31	630.50	393.55	236.95	2.661	Alert
20,400.00	12,110.00	20,107.31	11,820.00	129.69	129.11	62.63	-8,370.21	-136.00	630.50	392.28	238.22	2.647	Alert
20,450.00	12,110.00	20,157.31	11,820.00	130.38	129.80	62.63	-8,420.21	-135.69	630.50	391.01	239.49	2.633	Alert
20,500.00	12,110.00	20,207.31	11,820.00	131.07	130.49	62.63	-8,470.21	-135.38	630.50	389.74	240.76	2.619	Alert
20,550.00	12,110.00	20,257.31	11,820.00	131.76	131.18	62.63	-8,520.21	-135.07	630.50	388.47	242.03	2.605	Alert
20,600.00	12,110.00	20,307.31	11,820.00	132.45	131.87	62.63	-8,570.21	-134.75	630.50	387.20	243.30	2.591	Alert
20,650.00	12,110.00	20,357.31	11,820.00	133.14	132.57	62.63	-8,620.21	-134.44	630.50	385.92	244.57	2.578	Alert
20,700.00	12,110.00	20,407.31	11,820.00	133.83	133.26	62.63	-8,670.21	-134.13	630.50	384.65	245.85	2.565	Alert

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 702H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 5.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
20,750.00	12,110.00	20,457.31	11,820.00	134.52	133.95	62.63	-8,720.21	-133.82	630.50	383.38	247.12	2.551	Alert
20,800.00	12,110.00	20,507.31	11,820.00	135.21	134.64	62.63	-8,770.20	-133.51	630.50	382.10	248.39	2.538	Alert
20,850.00	12,110.00	20,557.31	11,820.00	135.90	135.34	62.63	-8,820.20	-133.20	630.50	380.83	249.67	2.525	Alert
20,900.00	12,110.00	20,607.31	11,820.00	136.59	136.03	62.63	-8,870.20	-132.89	630.50	379.55	250.95	2.512	Alert
20,950.00	12,110.00	20,657.31	11,820.00	137.28	136.72	62.63	-8,920.20	-132.58	630.49	378.27	252.22	2.500	Minor Risk
21,000.00	12,110.00	20,707.31	11,820.00	137.98	137.42	62.63	-8,970.20	-132.27	630.49	376.99	253.50	2.487	Minor Risk
21,050.00	12,110.00	20,757.31	11,820.00	138.67	138.11	62.63	-9,020.20	-131.96	630.49	375.72	254.78	2.475	Minor Risk
21,100.00	12,110.00	20,807.31	11,820.00	139.36	138.81	62.63	-9,070.20	-131.65	630.49	374.44	256.06	2.462	Minor Risk
21,150.00	12,110.00	20,857.31	11,820.00	140.06	139.50	62.63	-9,120.20	-131.34	630.49	373.16	257.34	2.450	Minor Risk
21,200.00	12,110.00	20,907.31	11,820.00	140.75	140.20	62.63	-9,170.20	-131.03	630.49	371.88	258.62	2.438	Minor Risk
21,250.00	12,110.00	20,957.31	11,820.00	141.44	140.89	62.63	-9,220.20	-130.72	630.49	370.60	259.90	2.426	Minor Risk
21,300.00	12,110.00	21,007.31	11,820.00	142.14	141.59	62.63	-9,270.19	-130.41	630.49	369.31	261.18	2.414	Minor Risk
21,350.00	12,110.00	21,057.31	11,820.00	142.83	142.29	62.63	-9,320.19	-130.09	630.49	368.03	262.46	2.402	Minor Risk
21,400.00	12,110.00	21,107.31	11,820.00	143.53	142.98	62.63	-9,370.19	-129.78	630.49	366.75	263.74	2.391	Minor Risk
21,450.00	12,110.00	21,157.31	11,820.00	144.22	143.68	62.63	-9,420.19	-129.47	630.49	365.46	265.03	2.379	Minor Risk
21,500.00	12,110.00	21,207.31	11,820.00	144.92	144.38	62.63	-9,470.19	-129.16	630.49	364.18	266.31	2.368	Minor Risk
21,550.00	12,110.00	21,257.31	11,820.00	145.62	145.08	62.63	-9,520.19	-128.85	630.49	362.90	267.59	2.356	Minor Risk
21,600.00	12,110.00	21,307.31	11,820.00	146.31	145.78	62.63	-9,570.19	-128.54	630.49	361.61	268.88	2.345	Minor Risk
21,650.00	12,110.00	21,357.31	11,820.00	147.01	146.47	62.63	-9,620.19	-128.23	630.49	360.32	270.16	2.334	Minor Risk
21,700.00	12,110.00	21,407.31	11,820.00	147.71	147.17	62.63	-9,670.19	-127.92	630.49	359.04	271.45	2.323	Minor Risk
21,750.00	12,110.00	21,457.31	11,820.00	148.40	147.87	62.63	-9,720.19	-127.61	630.49	357.75	272.74	2.312	Minor Risk
21,800.00	12,110.00	21,507.31	11,820.00	149.10	148.57	62.63	-9,770.19	-127.30	630.49	356.46	274.02	2.301	Minor Risk
21,850.00	12,110.00	21,557.31	11,820.00	149.80	149.27	62.63	-9,820.18	-126.99	630.49	355.17	275.31	2.290	Minor Risk
21,900.00	12,110.00	21,607.31	11,820.00	150.50	149.97	62.63	-9,870.18	-126.68	630.49	353.89	276.60	2.279	Minor Risk
21,950.00	12,110.00	21,657.31	11,820.00	151.20	150.67	62.63	-9,920.18	-126.37	630.49	352.60	277.89	2.269	Minor Risk
22,000.00	12,110.00	21,707.31	11,820.00	151.90	151.37	62.63	-9,970.18	-126.06	630.48	351.31	279.18	2.258	Minor Risk
22,050.00	12,110.00	21,757.31	11,820.00	152.60	152.07	62.63	-10,020.18	-125.75	630.48	350.02	280.47	2.248	Minor Risk
22,100.00	12,110.00	21,807.31	11,820.00	153.30	152.77	62.63	-10,070.18	-125.43	630.48	348.73	281.76	2.238	Minor Risk
22,150.00	12,110.00	21,857.31	11,820.00	154.00	153.48	62.63	-10,120.18	-125.12	630.48	347.43	283.05	2.227	Minor Risk
22,200.00	12,110.00	21,907.31	11,820.00	154.70	154.18	62.63	-10,170.18	-124.81	630.48	346.14	284.34	2.217	Minor Risk
22,250.00	12,110.00	21,957.31	11,820.00	155.40	154.88	62.63	-10,220.18	-124.50	630.48	344.85	285.63	2.207	Minor Risk
22,300.00	12,110.00	22,007.31	11,820.00	156.10	155.58	62.63	-10,270.18	-124.19	630.48	343.56	286.92	2.197	Minor Risk
22,350.00	12,110.00	22,057.31	11,820.00	156.80	156.28	62.63	-10,320.17	-123.88	630.48	342.27	288.22	2.188	Minor Risk
22,358.61	12,110.00	22,065.92	11,820.00	156.92	156.40	62.63	-10,328.78	-123.83	630.48	342.04	288.44	2.186	Minor Risk, SF

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - Actuals — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	15.04	15.04	0.50	0.02	92.23	-26.75	687.86	688.38				
50.00	50.00	63.23	63.23	0.50	0.09	92.23	-26.78	687.96	688.48	687.89	0.60	1,155.309	
100.00	100.00	111.42	111.42	0.52	0.17	92.23	-26.83	688.19	688.72	688.04	0.68	1,007.960	
150.00	150.00	159.61	159.61	0.59	0.24	92.24	-26.92	688.54	689.09	688.26	0.83	832.938	
200.00	200.00	208.33	208.33	0.70	0.35	92.25	-27.03	689.02	689.58	688.53	1.05	654.179	
250.00	250.00	257.82	257.82	0.84	0.53	92.24	-27.02	689.56	690.13	688.76	1.37	504.969	
300.00	300.00	307.82	307.81	0.99	0.71	92.23	-26.89	690.13	690.70	689.01	1.70	407.478	
350.00	350.00	358.26	358.24	1.15	0.89	92.23	-26.85	690.69	691.25	689.22	2.03	339.900	
400.00	400.00	408.39	408.37	1.31	1.07	92.23	-26.90	691.21	691.77	689.40	2.38	291.043	
450.00	450.00	458.38	458.36	1.48	1.25	92.23	-26.94	691.73	692.30	689.57	2.72	254.212	
500.00	500.00	508.92	508.89	1.65	1.43	92.23	-26.98	692.25	692.80	689.73	3.07	225.359	
550.00	550.00	559.57	559.55	1.82	1.61	92.23	-26.99	692.71	693.26	689.84	3.43	202.272	
600.00	600.00	611.05	611.02	1.99	1.80	92.23	-27.02	693.11	693.65	689.86	3.78	183.286	
650.00	650.00	662.53	662.51	2.16	1.98	92.24	-27.11	693.39	693.92	689.78	4.14	167.507	
700.00	700.00	711.21	711.19	2.34	2.15	92.25	-27.20	693.66	694.21	689.72	4.49	154.554	
750.00	750.00	760.29	760.26	2.51	2.33	92.25	-27.26	694.01	694.56	689.72	4.84	143.422	
800.00	800.00	810.01	809.98	2.69	2.51	92.25	-27.29	694.42	694.97	689.78	5.20	133.734	
850.00	850.00	862.11	862.08	2.87	2.69	92.25	-27.33	694.76	695.30	689.74	5.56	125.062	
900.00	900.00	913.59	913.56	3.04	2.88	92.26	-27.37	694.95	695.49	689.57	5.92	117.472	
950.00	950.00	964.30	964.27	3.22	3.06	92.26	-27.37	695.07	695.61	689.33	6.28	110.795	
1,000.00	1,000.00	1,015.31	1,015.28	3.40	3.24	92.25	-27.33	695.14	695.68	689.04	6.63	104.891	
1,050.00	1,050.00	1,066.49	1,066.45	3.58	3.41	92.25	-27.29	695.12	695.66	688.67	6.98	99.605	
1,100.00	1,100.00	1,116.77	1,116.73	3.75	3.58	92.25	-27.25	695.04	695.58	688.25	7.33	94.918	
1,150.00	1,150.00	1,166.84	1,166.81	3.93	3.74	92.24	-27.23	694.96	695.49	687.82	7.67	90.668	
1,200.00	1,200.00	1,215.65	1,215.62	4.11	3.91	92.24	-27.24	694.92	695.45	687.43	8.02	86.754	
1,200.73	1,200.73	1,216.36	1,216.33	4.11	3.91	92.24	-27.24	694.92	695.45	687.43	8.02	86.699	
1,250.00	1,250.00	1,264.51	1,264.47	4.29	4.08	92.25	-27.27	694.96	695.49	687.13	8.36	83.163	
1,300.00	1,300.00	1,313.76	1,313.73	4.46	4.25	92.25	-27.31	695.06	695.60	686.88	8.72	79.801	
1,350.00	1,350.00	1,363.39	1,363.36	4.64	4.43	92.25	-27.33	695.22	695.76	686.69	9.07	76.693	
1,400.00	1,400.00	1,414.07	1,414.04	4.82	4.61	92.25	-27.35	695.35	695.89	686.46	9.43	73.785	
1,450.00	1,450.00	1,464.91	1,464.87	5.00	4.79	92.25	-27.36	695.44	695.98	686.19	9.79	71.094	
1,500.00	1,500.00	1,515.94	1,515.91	5.18	4.97	92.25	-27.28	695.46	695.99	685.85	10.15	68.598	
1,550.00	1,550.00	1,566.34	1,566.31	5.36	5.14	92.24	-27.14	695.42	695.95	685.45	10.50	66.299	
1,600.00	1,600.00	1,616.43	1,616.39	5.53	5.31	92.23	-27.12	695.37	695.90	685.05	10.85	64.163	
1,650.00	1,650.00	1,665.95	1,665.91	5.71	5.48	92.24	-27.19	695.32	695.85	684.66	11.19	62.162	
1,676.88	1,676.88	1,692.52	1,692.48	5.81	5.57	92.24	-27.23	695.31	695.85	684.47	11.38	61.138	
1,700.00	1,700.00	1,715.36	1,715.33	5.89	5.65	92.25	-27.27	695.32	695.85	684.31	11.54	60.285	
1,750.00	1,750.00	1,765.07	1,765.03	6.07	5.83	92.25	-27.35	695.34	695.88	683.99	11.90	58.496	
1,800.00	1,800.00	1,814.83	1,814.79	6.25	6.00	92.26	-27.42	695.39	695.93	683.68	12.25	56.811	
1,850.00	1,850.00	1,865.28	1,865.25	6.43	6.18	92.26	-27.46	695.43	695.98	683.37	12.61	55.209	
1,900.00	1,900.00	1,915.63	1,915.60	6.61	6.36	92.26	-27.47	695.44	695.99	683.02	12.96	53.697	
1,950.00	1,950.00	1,965.63	1,965.60	6.78	6.53	92.26	-27.47	695.44	695.99	682.67	13.31	52.277	
1,950.02	1,950.02	1,965.66	1,965.62	6.78	6.53	92.26	-27.47	695.44	695.99	682.67	13.31	52.276	
2,000.00	2,000.00	2,015.21	2,015.18	6.96	6.70	92.26	-27.47	695.45	695.99	682.33	13.66	50.934	
2,050.00	2,050.00	2,063.94	2,063.91	7.14	6.87	25.60	-27.48	695.52	695.87	681.86	14.01	49.665	
2,100.00	2,099.99	2,113.63	2,113.60	7.32	7.05	25.63	-27.50	695.67	695.43	681.07	14.36	48.422	
2,150.00	2,149.98	2,164.62	2,164.59	7.49	7.23	25.67	-27.47	695.78	694.56	679.84	14.72	47.198	
2,200.00	2,199.96	2,214.98	2,214.95	7.66	7.40	25.72	-27.41	695.84	693.23	678.16	15.07	46.010	
2,250.00	2,249.92	2,264.88	2,264.85	7.84	7.58	25.80	-27.42	695.88	691.51	676.09	15.42	44.855	
2,300.00	2,299.87	2,315.07	2,315.04	8.01	7.76	25.89	-27.48	695.92	689.53	673.76	15.77	43.729	
2,350.00	2,349.82	2,365.39	2,365.36	8.19	7.94	25.97	-27.51	695.94	687.52	671.40	16.12	42.648	
2,400.00	2,399.77	2,407.82	2,407.78	8.36	8.09	26.04	-27.44	696.13	685.73	669.29	16.45	41.696	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - Actuals — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,450.00	2,449.72	2,448.65	2,448.61	8.54	8.23	26.08	-27.18	696.87	684.60	667.83	16.76	40.839	
2,500.00	2,499.67	2,488.94	2,488.87	8.72	8.38	26.10	-26.74	698.15	684.14	667.07	17.08	40.065	
2,506.08	2,505.75	2,493.78	2,493.71	8.74	8.39	26.11	-26.68	698.34	684.14	667.02	17.11	39.976	CC, ES
2,550.00	2,549.62	2,528.72	2,528.60	8.89	8.52	26.11	-26.14	700.01	684.42	667.04	17.38	39.372	
2,600.00	2,599.57	2,568.85	2,568.65	9.07	8.66	26.10	-25.36	702.50	685.45	667.76	17.69	38.749	
2,650.00	2,649.52	2,610.52	2,610.19	9.25	8.81	26.07	-24.33	705.63	687.13	669.13	18.00	38.173	
2,700.00	2,699.47	2,652.15	2,651.64	9.42	8.96	26.02	-23.03	709.28	689.41	671.10	18.31	37.654	
2,750.00	2,749.41	2,696.79	2,696.03	9.60	9.12	25.94	-21.36	713.64	692.20	673.56	18.63	37.150	
2,800.00	2,799.36	2,741.69	2,740.64	9.78	9.28	25.83	-19.42	718.37	695.34	676.39	18.96	36.681	
2,850.00	2,849.31	2,787.45	2,786.06	9.95	9.44	25.71	-17.28	723.50	698.83	679.54	19.29	36.236	
2,900.00	2,899.26	2,833.39	2,831.63	10.13	9.61	25.60	-15.24	728.89	702.59	682.98	19.62	35.819	
2,950.00	2,949.21	2,879.60	2,877.46	10.31	9.78	25.50	-13.36	734.57	706.63	686.68	19.95	35.426	
3,000.00	2,999.16	2,925.88	2,923.34	10.49	9.95	25.43	-11.80	740.46	710.91	690.64	20.28	35.059	
3,050.00	3,049.11	2,974.20	2,971.21	10.66	10.12	25.38	-10.44	746.80	715.40	694.77	20.62	34.690	
3,100.00	3,099.06	3,023.23	3,019.80	10.84	10.30	25.32	-9.10	753.29	719.94	698.96	20.97	34.328	
3,150.00	3,149.01	3,075.95	3,072.04	11.02	10.50	25.27	-7.65	760.21	724.43	703.08	21.35	33.938	
3,200.00	3,198.96	3,129.75	3,125.39	11.20	10.70	25.21	-6.14	766.99	728.67	706.94	21.73	33.538	
3,250.00	3,248.91	3,186.06	3,181.27	11.38	10.91	25.15	-4.49	773.70	732.54	710.42	22.12	33.114	
3,300.00	3,298.86	3,239.39	3,234.25	11.55	11.11	25.09	-2.88	779.62	736.01	713.51	22.50	32.713	
3,350.00	3,348.81	3,287.38	3,281.92	11.73	11.28	25.03	-1.39	784.96	739.50	716.65	22.84	32.371	
3,400.00	3,398.76	3,333.21	3,327.43	11.91	11.45	24.98	0.07	790.19	743.13	719.96	23.18	32.064	
3,450.00	3,448.71	3,375.53	3,369.40	12.09	11.61	24.91	1.58	795.40	747.21	723.72	23.49	31.815	
3,500.00	3,498.66	3,418.17	3,411.63	12.27	11.77	24.83	3.30	801.08	751.78	727.98	23.80	31.592	
3,550.00	3,548.60	3,462.56	3,455.53	12.45	11.94	24.73	5.22	807.34	756.75	732.64	24.12	31.379	
3,600.00	3,598.55	3,507.32	3,499.75	12.63	12.11	24.63	7.23	813.98	762.08	737.64	24.44	31.183	
3,650.00	3,648.50	3,561.98	3,553.75	12.81	12.32	24.51	9.64	822.06	767.40	742.57	24.83	30.906	
3,700.00	3,698.45	3,614.95	3,606.14	12.99	12.53	24.41	11.82	829.57	772.42	747.21	25.21	30.640	
3,750.00	3,748.40	3,664.25	3,654.92	13.16	12.71	24.34	13.60	836.51	777.39	751.82	25.56	30.409	
3,800.00	3,798.35	3,713.63	3,703.78	13.34	12.90	24.28	15.10	843.48	782.38	756.46	25.92	30.185	
3,850.00	3,848.30	3,763.13	3,752.77	13.52	13.10	24.26	16.28	850.48	787.40	761.12	26.28	29.966	
3,900.00	3,898.25	3,815.09	3,804.20	13.70	13.30	24.25	17.19	857.79	792.39	765.74	26.65	29.734	
3,950.00	3,948.20	3,869.38	3,857.99	13.88	13.50	24.26	17.97	865.17	797.13	770.09	27.04	29.482	
4,000.00	3,998.15	3,923.14	3,911.28	14.06	13.71	24.28	18.59	872.18	801.60	774.18	27.42	29.232	
4,050.00	4,048.10	3,976.77	3,964.48	14.24	13.92	24.31	19.04	878.92	805.84	778.03	27.80	28.982	
4,100.00	4,098.05	4,026.32	4,013.66	14.42	14.11	24.35	19.22	885.04	809.96	781.80	28.16	28.761	
4,150.00	4,148.00	4,076.00	4,062.96	14.60	14.30	24.41	19.14	891.17	814.10	785.58	28.52	28.545	
4,200.00	4,197.95	4,123.42	4,110.00	14.78	14.48	24.48	19.03	897.11	818.33	789.47	28.86	28.352	
4,250.00	4,247.90	4,171.38	4,157.57	14.96	14.67	24.53	19.03	903.24	822.69	793.47	29.21	28.164	
4,300.00	4,297.85	4,221.16	4,206.93	15.14	14.86	24.55	19.51	909.66	827.09	797.52	29.57	27.971	
4,350.00	4,347.79	4,272.55	4,257.87	15.32	15.06	24.52	20.72	916.30	831.48	801.54	29.94	27.772	
4,400.00	4,397.74	4,328.53	4,313.40	15.50	15.27	24.47	22.40	923.23	835.61	805.27	30.34	27.543	
4,450.00	4,447.69	4,384.60	4,369.05	15.68	15.49	24.41	24.22	929.77	839.37	808.64	30.74	27.310	
4,500.00	4,497.64	4,440.74	4,424.84	15.86	15.70	24.36	25.84	935.90	842.76	811.63	31.13	27.071	
4,550.00	4,547.59	4,490.84	4,474.64	16.04	15.90	24.32	27.20	941.15	845.94	814.45	31.49	26.861	
4,600.00	4,597.54	4,540.30	4,523.81	16.22	16.08	24.28	28.63	946.37	849.14	817.29	31.85	26.661	
4,650.00	4,647.49	4,585.33	4,568.55	16.40	16.26	24.24	30.06	951.26	852.51	820.33	32.18	26.490	
4,700.00	4,697.44	4,630.43	4,613.32	16.58	16.43	24.18	31.70	956.41	856.15	823.64	32.51	26.332	
4,750.00	4,747.39	4,673.08	4,655.62	16.76	16.60	24.11	33.48	961.58	860.14	827.31	32.83	26.200	
4,800.00	4,797.34	4,715.51	4,697.64	16.94	16.76	24.02	35.53	967.08	864.55	831.41	33.14	26.086	
4,850.00	4,847.29	4,759.66	4,741.31	17.12	16.94	23.91	37.92	973.15	869.35	835.89	33.46	25.978	
4,900.00	4,897.24	4,804.34	4,785.45	17.30	17.11	23.79	40.49	979.54	874.45	840.66	33.79	25.879	
4,950.00	4,947.19	4,851.83	4,832.34	17.48	17.30	23.65	43.33	986.57	879.78	845.65	34.13	25.774	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - Actuals — Offset Site Error: 5.00 ft

Survey Program: 188-MWD+HDGM — Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,997.14	4,900.88	4,880.76	17.66	17.50	23.52	46.20	993.87	885.17	850.68	34.49	25.664	
5,050.00	5,047.09	4,952.22	4,931.44	17.84	17.70	23.39	49.08	1,001.49	890.56	855.69	34.86	25.544	
5,100.00	5,097.04	5,004.42	4,983.01	18.02	17.91	23.27	51.82	1,009.11	895.81	860.57	35.24	25.419	
5,150.00	5,146.99	5,054.73	5,032.73	18.20	18.11	23.17	54.34	1,016.37	900.98	865.37	35.61	25.303	
5,200.00	5,196.93	5,104.92	5,082.34	18.38	18.31	23.07	56.78	1,023.58	906.12	870.15	35.97	25.190	
5,250.00	5,246.88	5,154.94	5,131.78	18.56	18.51	22.98	59.12	1,030.74	911.24	874.91	36.34	25.079	
5,300.00	5,296.83	5,204.81	5,181.09	18.74	18.71	22.90	61.36	1,037.87	916.35	879.66	36.70	24.970	
5,350.00	5,346.78	5,254.01	5,229.74	18.92	18.91	22.82	63.46	1,044.92	921.48	884.42	37.06	24.868	
5,400.00	5,396.73	5,304.82	5,279.98	19.10	19.11	22.75	65.53	1,052.22	926.62	889.20	37.42	24.760	
5,450.00	5,446.68	5,359.29	5,333.88	19.28	19.33	22.69	67.53	1,059.84	931.58	893.76	37.82	24.633	
5,500.00	5,496.63	5,413.36	5,387.42	19.46	19.54	22.65	69.30	1,067.14	936.29	898.08	38.21	24.505	
5,550.00	5,546.58	5,467.15	5,440.72	19.64	19.76	22.60	71.07	1,074.18	940.79	902.19	38.60	24.375	
5,600.00	5,596.53	5,519.92	5,493.04	19.82	19.97	22.55	72.89	1,080.88	945.10	906.12	38.98	24.248	
5,650.00	5,646.48	5,572.51	5,545.18	20.00	20.17	22.49	74.86	1,087.41	949.26	909.90	39.36	24.120	
5,700.00	5,696.43	5,622.01	5,594.26	20.18	20.37	22.43	76.78	1,093.49	953.36	913.65	39.72	24.005	
5,750.00	5,746.38	5,671.96	5,643.80	20.36	20.56	22.37	78.68	1,099.63	957.47	917.40	40.08	23.890	
5,800.00	5,796.33	5,723.16	5,694.58	20.54	20.77	22.32	80.56	1,105.88	961.54	921.09	40.45	23.772	
5,850.00	5,846.28	5,774.06	5,745.08	20.73	20.97	22.27	82.33	1,112.03	965.54	924.72	40.82	23.656	
5,900.00	5,896.23	5,824.41	5,795.04	20.91	21.16	22.23	83.98	1,118.08	969.51	928.32	41.18	23.542	
5,950.00	5,946.18	5,874.91	5,845.15	21.09	21.36	22.19	85.56	1,124.12	973.44	931.89	41.55	23.430	
6,000.00	5,996.12	5,925.54	5,895.40	21.27	21.56	22.16	87.11	1,130.13	977.34	935.43	41.91	23.318	
6,050.00	6,046.07	5,976.09	5,945.58	21.45	21.76	22.13	88.61	1,136.10	981.20	938.92	42.28	23.207	
6,100.00	6,096.02	6,026.60	5,995.72	21.63	21.96	22.10	90.04	1,142.03	985.03	942.38	42.65	23.098	
6,150.00	6,145.97	6,075.84	6,044.60	21.81	22.15	22.08	91.39	1,147.81	988.84	945.84	43.00	22.995	
6,200.00	6,195.92	6,124.70	6,093.09	21.99	22.34	22.06	92.71	1,153.58	992.71	949.35	43.36	22.895	
6,250.00	6,245.87	6,172.24	6,140.28	22.17	22.53	22.03	94.06	1,159.28	996.65	952.94	43.71	22.803	
6,300.00	6,295.82	6,219.53	6,187.19	22.35	22.71	22.00	95.63	1,165.05	1,000.72	956.67	44.05	22.716	
6,350.00	6,345.77	6,270.64	6,237.87	22.53	22.92	21.95	97.46	1,171.33	1,004.83	960.41	44.42	22.620	
6,400.00	6,395.72	6,322.27	6,289.09	22.71	23.12	21.91	99.26	1,177.59	1,008.86	964.06	44.80	22.521	
6,450.00	6,445.67	6,373.36	6,339.78	22.89	23.32	21.87	100.95	1,183.71	1,012.81	967.65	45.17	22.424	
6,500.00	6,495.62	6,424.39	6,390.43	23.07	23.52	21.84	102.49	1,189.76	1,016.70	971.17	45.54	22.328	
6,550.00	6,545.57	6,475.00	6,440.67	23.26	23.72	21.81	103.95	1,195.72	1,020.54	974.64	45.90	22.233	
6,600.00	6,595.52	6,526.27	6,491.56	23.44	23.92	21.79	105.37	1,201.71	1,024.35	978.07	46.27	22.137	
6,650.00	6,645.47	6,578.65	6,543.58	23.62	24.13	21.77	106.69	1,207.73	1,028.04	981.39	46.65	22.038	
6,700.00	6,695.42	6,630.56	6,595.15	23.80	24.33	21.76	107.86	1,213.58	1,031.62	984.60	47.02	21.939	
6,750.00	6,745.37	6,682.11	6,646.37	23.98	24.53	21.76	108.91	1,219.30	1,035.12	987.72	47.39	21.841	
6,800.00	6,795.31	6,733.69	6,697.63	24.16	24.73	21.77	109.85	1,224.95	1,038.53	990.77	47.77	21.742	
6,850.00	6,845.26	6,785.29	6,748.92	24.34	24.93	21.78	110.68	1,230.51	1,041.86	993.73	48.14	21.644	
6,900.00	6,895.21	6,839.00	6,802.33	24.52	25.14	21.79	111.43	1,236.17	1,045.07	996.55	48.52	21.539	
6,950.00	6,945.16	6,892.89	6,855.94	24.70	25.34	21.81	112.05	1,241.65	1,048.08	999.18	48.90	21.432	
7,000.00	6,995.11	6,945.51	6,908.30	24.88	25.55	21.84	112.54	1,246.84	1,050.94	1,001.66	49.28	21.327	
7,050.00	7,045.06	6,998.83	6,961.37	25.06	25.75	21.88	112.90	1,251.95	1,053.66	1,004.00	49.66	21.219	
7,100.00	7,095.01	7,052.94	7,015.25	25.24	25.95	21.92	113.13	1,256.94	1,056.19	1,006.15	50.04	21.108	
7,150.00	7,144.96	7,106.41	7,068.51	25.43	26.16	21.97	113.22	1,261.67	1,058.53	1,008.12	50.42	20.996	
7,200.00	7,194.91	7,159.52	7,121.43	25.61	26.36	22.03	113.17	1,266.21	1,060.73	1,009.93	50.79	20.884	
7,250.00	7,244.86	7,213.99	7,175.71	25.79	26.56	22.10	112.94	1,270.68	1,062.74	1,011.57	51.17	20.768	
7,300.00	7,294.81	7,268.68	7,230.23	25.97	26.76	22.18	112.48	1,274.93	1,064.54	1,012.99	51.55	20.649	
7,350.00	7,344.76	7,322.44	7,283.84	26.15	26.96	22.26	111.84	1,278.90	1,066.14	1,014.21	51.93	20.531	
7,400.00	7,394.71	7,376.76	7,338.03	26.33	27.16	22.36	111.03	1,282.71	1,067.55	1,015.25	52.31	20.410	
7,450.00	7,444.66	7,431.79	7,392.93	26.51	27.36	22.47	110.09	1,286.32	1,068.74	1,016.06	52.68	20.286	
7,500.00	7,494.61	7,487.04	7,448.06	26.69	27.56	22.58	109.03	1,289.68	1,069.70	1,016.63	53.06	20.159	
7,550.00	7,544.56	7,542.39	7,503.31	26.87	27.76	22.69	107.87	1,292.77	1,070.40	1,016.96	53.44	20.030	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - Actuals

Offset Site Error: 5.00 ft

Survey Program: 188-MWD+HDGM

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,600.00	7,594.50	7,596.19	7,557.03	27.05	27.95	22.81	106.67	1,295.54	1,070.89	1,017.08	53.81	19.901	
7,650.00	7,644.45	7,649.96	7,610.72	27.23	28.14	22.92	105.43	1,298.12	1,071.21	1,017.03	54.18	19.772	
7,700.00	7,694.40	7,700.80	7,661.49	27.42	28.32	23.04	104.24	1,300.46	1,071.44	1,016.90	54.54	19.645	
7,750.00	7,744.35	7,752.77	7,713.40	27.60	28.50	23.15	103.00	1,302.78	1,071.60	1,016.70	54.90	19.518	
7,800.00	7,794.30	7,805.92	7,766.48	27.78	28.69	23.27	101.76	1,305.01	1,071.63	1,016.36	55.27	19.390	
7,850.00	7,844.25	7,858.16	7,818.68	27.96	28.87	23.38	100.57	1,307.07	1,071.53	1,015.90	55.63	19.261	
7,900.00	7,894.20	7,909.76	7,870.23	28.14	29.05	23.50	99.36	1,309.01	1,071.35	1,015.36	55.99	19.134	
7,950.00	7,944.15	7,960.93	7,921.34	28.32	29.23	23.61	98.11	1,310.86	1,071.10	1,014.75	56.35	19.008	
8,000.00	7,994.10	8,011.93	7,972.30	28.50	29.41	23.73	96.80	1,312.66	1,070.81	1,014.10	56.71	18.882	
8,050.00	8,044.05	8,065.29	8,025.61	28.68	29.59	23.86	95.40	1,314.43	1,070.43	1,013.36	57.07	18.755	
8,100.00	8,094.00	8,118.96	8,079.23	28.86	29.78	23.98	94.01	1,316.03	1,069.88	1,012.44	57.44	18.626	
8,150.00	8,143.95	8,169.80	8,130.04	29.04	29.95	24.10	92.66	1,317.45	1,069.23	1,011.44	57.80	18.500	
8,200.00	8,193.90	8,220.73	8,180.93	29.23	30.13	24.23	91.31	1,318.81	1,068.53	1,010.38	58.15	18.375	
8,250.00	8,243.85	8,271.33	8,231.51	29.41	30.30	24.32	90.46	1,320.13	1,067.80	1,009.29	58.51	18.250	
8,300.00	8,293.80	8,317.74	8,277.90	29.59	30.46	24.38	90.22	1,321.37	1,067.10	1,008.24	58.86	18.130	
8,350.00	8,343.75	8,360.16	8,320.29	29.77	30.61	24.41	90.36	1,322.78	1,066.70	1,007.51	59.20	18.020	
8,400.00	8,393.69	8,408.07	8,368.17	29.95	30.78	24.43	90.91	1,324.68	1,066.63	1,007.08	59.55	17.912	
8,450.00	8,443.64	8,469.01	8,429.05	30.13	31.00	24.41	92.29	1,326.74	1,066.25	1,006.31	59.93	17.790	
8,500.00	8,493.59	8,522.11	8,482.11	30.31	31.19	24.37	93.96	1,328.15	1,065.49	1,005.20	60.30	17.671	
8,550.00	8,543.54	8,572.43	8,532.39	30.49	31.36	24.34	95.47	1,329.45	1,064.71	1,004.05	60.65	17.554	
8,600.00	8,593.49	8,628.03	8,587.96	30.67	31.56	24.31	97.02	1,330.74	1,063.80	1,002.78	61.02	17.433	
8,650.00	8,643.44	8,685.09	8,644.99	30.86	31.75	24.29	98.50	1,331.73	1,062.59	1,001.20	61.39	17.309	
8,700.00	8,693.39	8,744.80	8,704.67	31.04	31.95	24.27	99.94	1,332.27	1,060.97	999.21	61.76	17.180	
8,750.00	8,743.34	8,801.85	8,761.71	31.22	32.14	24.26	101.17	1,332.30	1,058.93	996.82	62.11	17.048	
8,800.00	8,793.29	8,857.32	8,817.17	31.40	32.33	24.27	102.01	1,332.03	1,056.62	994.16	62.46	16.915	
8,850.00	8,843.24	8,911.15	8,871.00	31.58	32.50	24.31	102.38	1,331.51	1,054.08	991.28	62.81	16.782	
8,900.00	8,893.19	8,964.87	8,924.71	31.76	32.67	24.37	102.22	1,330.79	1,051.37	988.21	63.15	16.648	
8,950.00	8,943.14	9,014.71	8,974.55	31.94	32.82	24.44	101.84	1,330.05	1,048.58	985.09	63.49	16.515	
9,000.00	8,993.09	9,064.75	9,024.58	32.12	32.98	24.52	101.33	1,329.27	1,045.77	981.94	63.84	16.382	
9,050.00	9,043.04	9,113.85	9,073.67	32.30	33.13	24.59	101.03	1,328.54	1,042.99	978.81	64.18	16.252	
9,100.00	9,092.99	9,162.12	9,121.94	32.49	33.28	24.64	101.02	1,327.87	1,040.25	975.73	64.52	16.123	
9,150.00	9,142.94	9,209.05	9,168.87	32.67	33.43	24.69	100.99	1,327.34	1,037.63	972.78	64.86	15.998	
9,200.00	9,192.88	9,257.26	9,217.08	32.85	33.58	24.75	100.88	1,326.91	1,035.15	969.95	65.20	15.877	
9,250.00	9,242.83	9,307.34	9,267.15	33.03	33.74	24.81	100.77	1,326.49	1,032.69	967.15	65.54	15.756	
9,300.00	9,292.78	9,355.56	9,315.37	33.21	33.89	24.86	100.69	1,326.10	1,030.25	964.36	65.88	15.637	
9,350.00	9,342.73	9,401.99	9,361.80	33.39	34.04	24.91	100.66	1,325.86	1,027.95	961.73	66.22	15.522	
9,400.00	9,392.68	9,449.46	9,409.27	33.57	34.19	24.96	100.67	1,325.77	1,025.82	959.25	66.57	15.410	
9,450.00	9,442.63	9,498.04	9,457.85	33.75	34.35	25.02	100.57	1,325.75	1,023.76	956.85	66.91	15.300	
9,500.00	9,492.58	9,545.97	9,505.78	33.94	34.51	25.08	100.42	1,325.81	1,021.79	954.53	67.26	15.191	
9,550.00	9,542.53	9,593.35	9,553.15	34.12	34.67	25.11	100.84	1,325.99	1,019.93	952.32	67.61	15.086	
9,600.00	9,592.48	9,641.64	9,601.44	34.30	34.83	25.10	101.81	1,326.31	1,018.19	950.23	67.96	14.982	
9,650.00	9,642.43	9,690.71	9,650.50	34.48	35.00	25.10	102.86	1,326.68	1,016.50	948.19	68.31	14.880	
9,700.00	9,692.38	9,740.31	9,700.08	34.66	35.17	25.09	103.90	1,327.09	1,014.85	946.18	68.67	14.780	
9,750.00	9,742.33	9,790.22	9,749.98	34.84	35.34	25.09	104.89	1,327.51	1,013.20	944.18	69.02	14.680	
9,800.00	9,792.28	9,838.73	9,798.47	35.02	35.51	25.09	105.85	1,327.95	1,011.58	942.21	69.37	14.582	
9,850.00	9,842.23	9,886.70	9,846.43	35.20	35.68	25.08	106.87	1,328.48	1,010.06	940.34	69.72	14.487	
9,900.00	9,892.18	9,936.20	9,895.92	35.38	35.85	25.07	108.01	1,329.09	1,008.61	938.53	70.08	14.393	
9,950.00	9,942.13	9,986.55	9,946.25	35.57	36.02	25.05	109.24	1,329.71	1,007.15	936.72	70.43	14.300	
10,000.00	9,992.08	10,039.72	9,999.40	35.75	36.20	25.04	110.48	1,330.29	1,005.62	934.83	70.79	14.206	
10,050.00	10,042.02	10,093.71	10,053.38	35.93	36.39	25.04	111.43	1,330.65	1,003.89	932.74	71.15	14.110	
10,100.00	10,091.97	10,141.22	10,100.89	36.11	36.55	25.05	112.19	1,330.94	1,002.13	930.63	71.50	14.016	
10,150.00	10,141.92	10,188.97	10,148.63	36.29	36.72	25.05	113.05	1,331.34	1,000.48	928.63	71.85	13.924	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - Actuals — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,191.87	10,237.19	10,196.83	36.47	36.88	25.05	114.01	1,331.84	998.93	926.73	72.20	13.835	
10,250.00	10,241.82	10,285.74	10,245.36	36.65	37.05	25.04	115.07	1,332.43	997.47	924.91	72.56	13.747	
10,300.00	10,291.77	10,337.45	10,297.06	36.83	37.23	25.03	116.24	1,333.04	995.99	923.08	72.91	13.660	
10,350.00	10,341.72	10,388.45	10,348.04	37.02	37.41	25.02	117.38	1,333.57	994.43	921.16	73.27	13.572	
10,400.00	10,391.67	10,437.55	10,397.13	37.20	37.58	25.02	118.26	1,334.07	992.88	919.26	73.62	13.486	
10,450.00	10,441.62	10,487.75	10,447.32	37.38	37.75	25.04	118.86	1,334.61	991.37	917.39	73.98	13.400	
10,500.00	10,491.57	10,540.08	10,499.65	37.56	37.94	25.07	119.23	1,335.09	989.77	915.43	74.34	13.314	
10,550.00	10,541.52	10,589.42	10,548.99	37.74	38.11	25.12	119.34	1,335.44	988.09	913.39	74.70	13.228	
10,600.00	10,591.47	10,636.25	10,595.82	37.92	38.27	25.18	119.24	1,335.90	986.54	911.50	75.05	13.145	
10,650.00	10,641.42	10,683.10	10,642.66	38.10	38.43	25.25	118.93	1,336.50	985.16	909.76	75.40	13.066	
10,700.00	10,691.37	10,729.95	10,689.51	38.28	38.59	25.33	118.40	1,337.24	983.93	908.18	75.75	12.989	
10,750.00	10,741.32	10,778.70	10,738.24	38.47	38.76	25.43	117.63	1,338.13	982.84	906.74	76.10	12.915	
10,800.00	10,791.27	10,828.85	10,788.38	38.65	38.93	25.53	116.75	1,339.04	981.75	905.30	76.46	12.841	
10,850.00	10,841.21	10,879.55	10,839.06	38.83	39.11	25.64	115.81	1,339.95	980.65	903.84	76.81	12.767	
10,900.00	10,891.16	10,930.48	10,889.98	39.01	39.28	25.75	114.95	1,340.81	979.51	902.33	77.17	12.693	
10,950.00	10,941.11	10,987.39	10,946.87	39.19	39.48	25.86	114.20	1,341.58	978.18	900.65	77.54	12.616	
11,000.00	10,991.06	11,045.49	11,004.97	39.37	39.68	25.94	113.84	1,341.91	976.46	898.55	77.90	12.534	
11,050.00	11,041.02	11,096.22	11,055.70	39.55	39.85	26.00	113.68	1,342.01	974.62	896.37	78.25	12.455	
11,100.00	11,090.99	11,147.39	11,106.87	39.73	40.02	26.04	113.58	1,342.01	973.20	894.59	78.60	12.381	
11,150.00	11,140.98	11,197.19	11,156.67	39.91	40.18	26.06	113.54	1,341.99	972.35	893.41	78.95	12.316	
11,200.00	11,190.98	11,249.52	11,209.00	40.09	40.35	92.74	113.54	1,341.96	972.07	892.78	79.29	12.259	
11,250.00	11,240.98	11,304.34	11,263.82	40.26	40.53	92.74	113.62	1,341.69	971.82	892.19	79.64	12.203	
11,300.00	11,290.98	11,356.77	11,316.25	40.44	40.70	92.74	113.61	1,341.22	971.38	891.40	79.98	12.146	
11,350.00	11,340.98	11,408.54	11,368.02	40.61	40.87	92.76	113.20	1,340.64	970.83	890.51	80.32	12.087	
11,400.00	11,390.98	11,455.62	11,415.06	40.78	41.02	92.85	111.77	1,340.08	970.31	889.65	80.66	12.030	
11,450.00	11,440.98	11,502.26	11,461.58	40.96	41.17	93.05	108.45	1,339.58	969.96	888.96	81.00	11.975	
11,500.00	11,490.98	11,554.93	11,513.78	41.13	41.33	93.46	101.56	1,338.85	969.64	888.30	81.34	11.920	
11,550.00	11,540.98	11,606.26	11,563.94	41.31	41.49	-85.56	90.82	1,337.76	969.26	887.57	81.69	11.865	
11,600.00	11,590.90	11,644.00	11,600.14	41.47	41.61	-85.06	80.18	1,336.96	969.05	887.05	82.01	11.817	
11,611.29	11,602.13	11,652.34	11,608.03	41.51	41.63	-84.95	77.51	1,336.81	969.04	886.97	82.08	11.807	
11,650.00	11,640.41	11,678.76	11,632.80	41.63	41.70	-84.61	68.31	1,336.46	969.18	886.88	82.30	11.776	
11,700.00	11,689.13	11,707.53	11,659.25	41.78	41.78	-84.24	56.99	1,336.38	969.84	887.29	82.55	11.748	
11,750.00	11,736.70	11,742.00	11,690.06	41.93	41.88	-83.81	41.58	1,337.08	971.37	888.58	82.80	11.732	
11,800.00	11,782.75	11,761.81	11,707.28	42.07	41.93	-83.49	31.83	1,337.83	973.50	890.56	82.94	11.737	
11,850.00	11,826.92	11,794.05	11,734.49	42.20	42.01	-83.09	14.60	1,339.44	976.24	893.12	83.12	11.745	
11,900.00	11,868.90	11,835.27	11,768.15	42.31	42.11	-82.72	-9.08	1,341.76	979.10	895.75	83.34	11.748	
11,950.00	11,908.34	11,879.00	11,802.39	42.42	42.21	-82.46	-36.15	1,344.15	981.68	898.10	83.57	11.746	
12,000.00	11,944.96	11,916.74	11,830.31	42.52	42.29	-82.24	-61.44	1,346.24	984.17	900.40	83.77	11.749	
12,050.00	11,978.47	11,999.08	11,884.24	42.61	42.44	-82.03	-123.41	1,349.64	986.41	902.23	84.19	11.717	
12,100.00	12,008.63	12,081.93	11,926.89	42.71	42.58	-81.58	-194.25	1,347.02	985.12	900.59	84.53	11.654	
12,150.00	12,035.19	12,119.32	11,941.49	42.81	42.63	-81.41	-228.60	1,344.86	983.15	898.45	84.70	11.608	
12,200.00	12,057.97	12,158.00	11,954.21	42.91	42.68	-81.27	-265.06	1,342.81	981.25	896.38	84.87	11.562	
12,250.00	12,076.78	12,190.00	11,963.07	43.03	42.73	-81.24	-295.77	1,341.44	979.56	894.53	85.02	11.521	
12,300.00	12,091.48	12,216.35	11,969.01	43.14	42.78	-81.27	-321.43	1,340.68	978.26	893.09	85.18	11.485	
12,350.00	12,101.97	12,237.00	11,972.75	43.26	42.82	-81.30	-341.73	1,340.23	977.36	892.03	85.33	11.453	
12,384.23	12,106.67	12,256.61	11,975.35	43.34	42.86	-81.30	-361.16	1,340.09	977.08	891.62	85.46	11.433	
12,400.00	12,108.15	12,262.57	11,975.92	43.37	42.88	-81.30	-367.10	1,340.15	977.13	891.61	85.52	11.426	
12,450.00	12,110.00	12,284.00	11,977.07	43.49	42.92	-81.26	-388.49	1,340.71	977.90	892.18	85.72	11.408	
12,500.00	12,110.00	12,333.81	11,977.45	43.61	43.05	-81.30	-438.27	1,342.41	979.22	893.23	85.98	11.388	
12,550.00	12,110.00	12,391.31	11,976.19	43.75	43.21	-81.23	-495.73	1,343.69	980.18	893.91	86.27	11.362	
12,600.00	12,110.00	12,448.68	11,973.09	43.89	43.38	-81.05	-553.01	1,344.25	980.77	894.23	86.54	11.333	
12,650.00	12,110.00	12,505.79	11,968.20	44.04	43.56	-80.77	-609.91	1,344.07	980.99	894.17	86.82	11.300	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - Actuals — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,700.00	12,110.00	12,547.85	11,967.10	44.20	43.72	-80.71	-651.99	1,344.59	981.46	894.30	87.16	11.261	
12,750.00	12,110.00	12,594.92	11,966.46	44.38	43.90	-80.67	-699.04	1,345.28	981.98	894.46	87.52	11.220	
12,800.00	12,110.00	12,641.57	11,966.38	44.56	44.08	-80.67	-745.69	1,346.20	982.67	894.78	87.89	11.181	
12,850.00	12,110.00	12,693.73	11,966.70	44.77	44.30	-80.70	-797.83	1,347.40	983.44	895.14	88.30	11.137	
12,900.00	12,110.00	12,749.83	11,967.09	44.97	44.54	-80.73	-853.92	1,348.38	983.95	895.22	88.73	11.089	
12,950.00	12,110.00	12,810.41	11,967.62	45.19	44.82	-80.76	-914.50	1,348.96	984.05	894.84	89.20	11.031	
13,000.00	12,110.00	12,869.12	11,968.42	45.41	45.11	-80.80	-973.20	1,348.93	983.60	893.92	89.68	10.968	
13,050.00	12,110.00	12,923.33	11,970.00	45.66	45.38	-80.89	-1,027.39	1,348.71	982.87	892.67	90.19	10.897	
13,100.00	12,110.00	12,981.04	11,972.52	45.90	45.69	-81.03	-1,085.04	1,348.30	981.87	891.14	90.73	10.822	
13,150.00	12,110.00	13,041.11	11,975.07	46.16	46.02	-81.16	-1,145.04	1,347.27	980.38	889.09	91.29	10.740	
13,200.00	12,110.00	13,084.74	11,976.69	46.43	46.28	-81.25	-1,188.64	1,346.40	978.81	886.97	91.84	10.658	
13,250.00	12,110.00	13,128.70	11,978.01	46.71	46.53	-81.31	-1,232.57	1,345.75	977.54	885.13	92.42	10.578	
13,300.00	12,110.00	13,178.86	11,979.06	47.00	46.84	-81.37	-1,282.71	1,345.11	976.45	883.44	93.01	10.498	
13,350.00	12,110.00	13,230.06	11,979.58	47.30	47.16	-81.39	-1,333.91	1,344.32	975.30	881.68	93.62	10.417	
13,400.00	12,110.00	13,274.82	11,979.42	47.60	47.45	-81.37	-1,378.66	1,343.63	974.26	880.02	94.24	10.338	
13,450.00	12,110.00	13,319.69	11,978.56	47.92	47.74	-81.31	-1,423.52	1,343.07	973.48	878.60	94.88	10.260	
13,500.00	12,110.00	13,369.00	11,977.00	48.24	48.08	-81.21	-1,472.80	1,342.51	972.86	877.33	95.53	10.183	
13,550.00	12,110.00	13,418.63	11,975.00	48.58	48.42	-81.09	-1,522.39	1,341.91	972.26	876.05	96.20	10.106	
13,600.00	12,110.00	13,466.64	11,972.77	48.91	48.77	-80.95	-1,570.34	1,341.33	971.72	874.83	96.89	10.029	
13,650.00	12,110.00	13,514.66	11,970.38	49.27	49.12	-80.80	-1,618.30	1,340.82	971.29	873.70	97.59	9.953	
13,683.01	12,110.00	13,540.33	11,968.96	49.50	49.32	-80.72	-1,643.93	1,340.66	971.17	873.11	98.06	9.904	
13,700.00	12,110.00	13,553.77	11,968.15	49.62	49.42	-80.67	-1,657.35	1,340.64	971.20	872.90	98.30	9.880	
13,750.00	12,110.00	13,593.31	11,965.53	49.99	49.72	-80.52	-1,696.80	1,340.81	971.66	872.64	99.01	9.813	
13,800.00	12,110.00	13,635.11	11,962.74	50.36	50.05	-80.36	-1,738.50	1,341.42	972.62	872.87	99.74	9.751	
13,850.00	12,110.00	13,678.22	11,961.17	50.75	50.40	-80.28	-1,781.56	1,342.58	973.95	873.44	100.50	9.691	
13,900.00	12,110.00	13,722.08	11,960.86	51.13	50.75	-80.27	-1,825.39	1,344.29	975.62	874.34	101.28	9.633	
13,950.00	12,110.00	13,766.73	11,960.67	51.53	51.12	-80.28	-1,869.99	1,346.30	977.57	875.50	102.08	9.577	
14,000.00	12,110.00	13,819.67	11,960.48	51.93	51.57	-80.29	-1,922.87	1,348.90	979.72	876.81	102.91	9.520	
14,050.00	12,110.00	13,886.98	11,962.14	52.35	52.15	-80.41	-1,990.09	1,351.64	981.22	877.41	103.82	9.451	
14,100.00	12,110.00	13,940.15	11,964.28	52.76	52.63	-80.55	-2,043.20	1,353.37	982.19	877.49	104.70	9.381	
14,150.00	12,110.00	13,992.70	11,965.92	53.19	53.09	-80.65	-2,095.70	1,354.86	983.02	877.43	105.59	9.310	
14,200.00	12,110.00	14,031.72	11,967.13	53.62	53.45	-80.73	-2,134.68	1,356.18	984.13	877.67	106.45	9.245	
14,250.00	12,110.00	14,072.62	11,968.54	54.06	53.83	-80.83	-2,175.52	1,357.96	985.69	878.35	107.33	9.183	
14,300.00	12,110.00	14,118.14	11,969.95	54.50	54.26	-80.92	-2,220.95	1,360.24	987.61	879.37	108.24	9.125	
14,350.00	12,110.00	14,164.54	11,970.65	54.95	54.69	-80.98	-2,267.29	1,362.62	989.72	880.56	109.15	9.067	
14,400.00	12,110.00	14,207.00	11,970.74	55.40	55.10	-81.01	-2,309.69	1,364.93	992.08	882.03	110.06	9.014	
14,450.00	12,110.00	14,248.42	11,970.58	55.87	55.50	-81.02	-2,351.03	1,367.50	994.87	883.91	110.96	8.966	
14,500.00	12,110.00	14,313.10	11,970.04	56.33	56.14	-81.02	-2,415.57	1,371.54	997.78	885.80	111.98	8.910	
14,550.00	12,110.00	14,383.74	11,969.65	56.81	56.84	-81.02	-2,486.16	1,374.19	999.31	886.28	113.02	8.842	
14,600.00	12,110.00	14,433.35	11,969.38	57.28	57.33	-81.01	-2,535.75	1,375.70	1,000.54	886.55	113.99	8.777	
14,650.00	12,110.00	14,481.62	11,969.03	57.77	57.82	-81.01	-2,583.99	1,377.19	1,001.82	886.85	114.97	8.714	
14,700.00	12,110.00	14,528.55	11,968.14	58.26	58.30	-80.97	-2,630.89	1,378.68	1,003.23	887.28	115.95	8.652	
14,750.00	12,110.00	14,571.31	11,966.81	58.75	58.74	-80.90	-2,673.60	1,380.12	1,004.84	887.92	116.92	8.594	
14,800.00	12,110.00	14,609.86	11,965.10	59.25	59.15	-80.82	-2,712.09	1,381.74	1,006.97	889.09	117.88	8.542	
14,850.00	12,110.00	14,649.54	11,962.84	59.75	59.57	-80.71	-2,751.64	1,383.79	1,009.67	890.83	118.84	8.496	
14,900.00	12,110.00	14,722.05	11,957.93	60.26	60.34	-80.46	-2,823.92	1,386.90	1,012.04	892.09	119.95	8.437	
14,950.00	12,110.00	14,818.50	11,955.56	60.77	61.38	-80.33	-2,920.24	1,388.57	1,012.86	891.75	121.11	8.363	
15,000.00	12,110.00	14,868.27	11,958.74	61.29	61.92	-80.51	-2,969.91	1,388.71	1,012.17	889.99	122.19	8.284	
15,041.48	12,110.00	14,900.51	11,959.91	61.72	62.27	-80.58	-3,002.13	1,388.96	1,011.98	888.92	123.06	8.224	
15,050.00	12,110.00	14,907.13	11,960.04	61.81	62.34	-80.58	-3,008.75	1,389.03	1,011.99	888.75	123.24	8.212	
15,100.00	12,110.00	14,953.83	11,960.33	62.33	62.85	-80.60	-3,055.44	1,389.65	1,012.28	887.98	124.30	8.144	
15,150.00	12,110.00	15,011.56	11,962.27	62.86	63.48	-80.72	-3,113.13	1,390.40	1,012.34	886.94	125.41	8.073	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - Actuals — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
15,177.50	12,110.00	15,043.22	11,964.31	63.15	63.83	-80.83	-3,144.72	1,390.78	1,012.22	886.20	126.02	8.032	
15,200.00	12,110.00	15,057.18	11,964.72	63.39	63.99	-80.85	-3,158.68	1,391.00	1,012.26	885.76	126.50	8.002	
15,250.00	12,110.00	15,099.23	11,965.80	63.93	64.46	-80.92	-3,200.71	1,391.68	1,012.56	884.97	127.58	7.936	
15,300.00	12,110.00	15,147.26	11,965.68	64.47	65.00	-80.92	-3,248.72	1,392.56	1,013.16	884.49	128.67	7.874	
15,350.00	12,110.00	15,200.54	11,964.72	65.02	65.60	-80.87	-3,301.99	1,393.28	1,013.67	883.89	129.78	7.811	
15,400.00	12,110.00	15,250.28	11,963.14	65.56	66.16	-80.78	-3,351.70	1,393.75	1,014.08	883.21	130.87	7.749	
15,450.00	12,110.00	15,298.89	11,961.00	66.12	66.72	-80.66	-3,400.27	1,394.17	1,014.56	882.59	131.97	7.688	
15,500.00	12,110.00	15,409.37	11,955.44	66.67	67.97	-80.33	-3,510.56	1,392.02	1,013.86	880.82	133.05	7.620	
15,550.00	12,110.00	15,598.78	11,947.42	67.23	70.03	-79.66	-3,698.48	1,371.39	1,010.16	877.21	132.95	7.598	
15,600.00	12,110.00	15,645.98	11,947.51	67.79	70.53	-79.57	-3,744.90	1,362.83	1,000.91	866.90	134.02	7.469	
15,650.00	12,110.00	15,694.94	11,947.79	68.35	71.04	-79.49	-3,793.07	1,354.07	991.76	856.69	135.07	7.342	
15,700.00	12,110.00	15,753.29	11,947.95	68.92	71.66	-79.38	-3,850.41	1,343.28	982.34	846.36	135.99	7.224	
15,750.00	12,110.00	15,812.00	11,948.37	69.49	72.28	-79.27	-3,908.00	1,331.92	972.47	835.57	136.89	7.104	
15,800.00	12,110.00	15,870.95	11,952.48	70.06	72.91	-79.39	-3,965.70	1,320.60	962.08	824.25	137.83	6.980	
15,850.00	12,110.00	15,884.00	11,953.94	70.64	73.06	-79.45	-3,978.43	1,318.15	952.13	812.60	139.53	6.824	
15,900.00	12,110.00	15,927.33	11,959.07	71.22	73.55	-79.67	-4,020.86	1,311.02	942.74	801.95	140.79	6.696	
15,950.00	12,110.00	15,953.31	11,962.22	71.80	73.84	-79.83	-4,046.42	1,307.62	934.89	792.61	142.28	6.571	
16,000.00	12,110.00	15,979.00	11,965.38	72.39	74.13	-79.99	-4,071.77	1,304.90	928.28	784.55	143.72	6.459	
16,050.00	12,110.00	16,002.76	11,967.98	72.97	74.41	-80.13	-4,095.31	1,302.97	923.01	777.86	145.15	6.359	
16,100.00	12,110.00	16,026.34	11,969.89	73.56	74.69	-80.23	-4,118.77	1,301.61	919.17	772.67	146.50	6.274	
16,150.00	12,110.00	16,050.08	11,971.13	74.16	74.98	-80.29	-4,142.46	1,300.81	916.75	768.97	147.78	6.203	
16,200.00	12,110.00	16,073.00	11,971.68	74.75	75.25	-80.32	-4,165.37	1,300.57	915.76	766.79	148.97	6.147	
16,229.11	12,110.00	16,097.91	11,971.96	75.10	75.56	-80.34	-4,190.28	1,300.69	915.67	766.00	149.67	6.118	
16,250.00	12,110.00	16,114.71	11,972.18	75.35	75.76	-80.36	-4,207.08	1,300.87	915.72	765.55	150.17	6.098	
16,300.00	12,110.00	16,154.91	11,972.83	75.95	76.26	-80.40	-4,247.26	1,301.63	916.21	764.86	151.35	6.054	
16,350.00	12,110.00	16,191.33	11,973.38	76.55	76.71	-80.44	-4,283.66	1,302.75	917.31	764.80	152.51	6.015	
16,400.00	12,110.00	16,225.90	11,973.27	77.15	77.15	-80.45	-4,318.20	1,304.30	919.23	765.60	153.63	5.983	
16,450.00	12,110.00	16,262.00	11,972.47	77.76	77.60	-80.42	-4,354.23	1,306.42	921.99	767.26	154.73	5.959	
16,500.00	12,110.00	16,306.62	11,970.79	78.37	78.17	-80.35	-4,398.72	1,309.39	925.27	769.39	155.89	5.935	
16,550.00	12,110.00	16,353.34	11,968.54	78.98	78.77	-80.24	-4,445.27	1,312.57	928.73	771.67	157.07	5.913	
16,600.00	12,110.00	16,400.92	11,966.36	79.59	79.38	-80.14	-4,492.68	1,315.97	932.35	774.09	158.26	5.891	
16,650.00	12,110.00	16,448.61	11,965.14	80.20	79.99	-80.10	-4,540.21	1,319.66	936.07	776.61	159.47	5.870	
16,700.00	12,110.00	16,494.45	11,964.57	80.82	80.59	-80.10	-4,585.89	1,323.47	939.96	779.30	160.66	5.850	
16,750.00	12,110.00	16,540.15	11,964.17	81.44	81.18	-80.12	-4,631.41	1,327.49	944.07	782.21	161.87	5.832	
16,800.00	12,110.00	16,585.70	11,964.23	82.05	81.78	-80.16	-4,676.75	1,331.79	948.40	785.32	163.08	5.816	
16,850.00	12,110.00	16,631.15	11,965.17	82.68	82.37	-80.26	-4,721.95	1,336.43	952.96	788.66	164.30	5.800	
16,900.00	12,110.00	16,692.50	11,967.34	83.30	83.18	-80.45	-4,782.94	1,342.70	957.42	791.65	165.77	5.776	
16,950.00	12,110.00	16,758.19	11,969.69	83.92	84.05	-80.64	-4,848.34	1,348.37	961.09	793.82	167.27	5.746	
17,000.00	12,110.00	16,824.69	11,968.77	84.55	84.92	-80.63	-4,914.70	1,352.44	963.91	795.22	168.69	5.714	
17,050.00	12,110.00	16,860.71	11,967.33	85.18	85.40	-80.56	-4,950.64	1,354.40	966.63	796.81	169.82	5.692	
17,100.00	12,110.00	16,895.11	11,966.63	85.81	85.85	-80.54	-4,984.93	1,356.95	970.15	799.23	170.91	5.676	
17,150.00	12,110.00	16,932.89	11,966.59	86.44	86.35	-80.57	-5,022.54	1,360.48	974.44	802.41	172.04	5.664	
17,200.00	12,110.00	16,985.77	11,966.23	87.07	87.06	-80.59	-5,075.19	1,365.52	978.90	805.53	173.37	5.646	
17,250.00	12,110.00	17,050.99	11,964.85	87.71	87.93	-80.56	-5,140.15	1,371.15	983.06	808.22	174.85	5.622	
17,300.00	12,110.00	17,129.21	11,964.23	88.34	88.97	-80.57	-5,218.21	1,376.00	985.85	809.43	176.42	5.588	
17,350.00	12,110.00	17,194.65	11,963.68	88.98	89.84	-80.56	-5,283.60	1,378.66	987.62	809.80	177.81	5.554	
17,400.00	12,110.00	17,231.74	11,963.22	89.62	90.33	-80.54	-5,320.66	1,379.97	989.19	810.18	179.01	5.526	
17,450.00	12,110.00	17,262.84	11,962.98	90.26	90.75	-80.55	-5,351.71	1,381.69	991.69	811.56	180.13	5.505	
17,500.00	12,110.00	17,300.00	11,962.89	90.90	91.24	-80.57	-5,388.75	1,384.58	995.17	813.89	181.29	5.489	
17,550.00	12,110.00	17,337.79	11,962.92	91.54	91.76	-80.60	-5,426.38	1,388.01	999.28	816.84	182.44	5.477	
17,600.00	12,110.00	17,384.89	11,962.96	92.19	92.40	-80.64	-5,473.28	1,392.40	1,003.56	819.85	183.72	5.463	
17,650.00	12,110.00	17,447.39	11,963.07	92.83	93.25	-80.69	-5,535.53	1,397.99	1,007.68	822.46	185.22	5.441	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - Actuals — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
17,700.00	12,110.00	17,509.79	11,963.23	93.48	94.10	-80.74	-5,597.75	1,402.67	1,011.04	824.35	186.69	5.416	
17,750.00	12,110.00	17,566.04	11,962.94	94.13	94.86	-80.75	-5,653.88	1,406.33	1,013.99	825.91	188.08	5.391	
17,800.00	12,110.00	17,618.45	11,962.04	94.77	95.57	-80.73	-5,706.20	1,409.39	1,016.70	827.29	189.41	5.368	
17,850.00	12,110.00	17,669.30	11,960.26	95.42	96.26	-80.65	-5,756.94	1,412.14	1,019.35	828.64	190.71	5.345	
17,900.00	12,110.00	17,727.38	11,958.69	96.08	97.05	-80.59	-5,814.92	1,415.13	1,021.81	829.72	192.09	5.320	
17,950.00	12,110.00	17,822.78	11,960.55	96.73	98.34	-80.72	-5,910.21	1,418.85	1,023.58	829.89	193.69	5.285	
18,000.00	12,110.00	17,913.03	11,959.05	97.38	99.53	-80.61	-6,000.41	1,416.82	1,022.04	827.12	194.92	5.243	
18,050.00	12,110.00	17,973.40	11,957.66	98.04	100.33	-80.51	-6,060.71	1,414.27	1,019.84	823.70	196.14	5.200	
18,100.00	12,110.00	18,030.89	11,957.04	98.69	101.08	-80.45	-6,118.13	1,411.45	1,017.21	819.84	197.37	5.154	
18,150.00	12,110.00	18,079.52	11,957.03	99.35	101.71	-80.42	-6,166.69	1,408.90	1,014.32	815.65	198.67	5.106	
18,200.00	12,110.00	18,121.96	11,956.67	100.00	102.27	-80.38	-6,209.08	1,406.88	1,011.74	811.73	200.00	5.059	
18,250.00	12,110.00	18,163.25	11,955.94	100.66	102.81	-80.32	-6,250.33	1,405.17	1,009.54	808.20	201.34	5.014	
18,300.00	12,110.00	18,202.72	11,955.28	101.32	103.34	-80.27	-6,289.77	1,403.93	1,007.83	805.16	202.67	4.973	Alert
18,350.00	12,110.00	18,242.52	11,954.74	101.98	103.86	-80.23	-6,329.56	1,403.13	1,006.64	802.65	204.00	4.935	Alert
18,400.00	12,110.00	18,336.76	11,955.80	102.64	105.12	-80.25	-6,423.74	1,399.99	1,004.60	799.50	205.10	4.898	Alert
18,450.00	12,110.00	18,388.86	11,958.12	103.31	105.81	-80.35	-6,475.71	1,397.33	1,001.40	794.98	206.43	4.851	Alert
18,500.00	12,110.00	18,440.74	11,961.52	103.97	106.49	-80.52	-6,527.42	1,394.76	998.11	790.33	207.78	4.804	Alert
18,550.00	12,110.00	18,473.77	11,963.59	104.63	106.94	-80.62	-6,560.35	1,393.45	995.28	786.00	209.28	4.756	Alert
18,600.00	12,110.00	18,509.86	11,965.52	105.30	107.42	-80.72	-6,596.38	1,392.42	993.13	782.42	210.71	4.713	Alert
18,650.00	12,110.00	18,559.96	11,967.45	105.96	108.09	-80.82	-6,646.43	1,391.38	991.49	779.41	212.07	4.675	Alert
18,700.00	12,110.00	18,621.33	11,968.34	106.63	108.92	-80.84	-6,707.75	1,389.31	989.40	776.05	213.35	4.637	Alert
18,750.00	12,110.00	18,680.84	11,967.55	107.30	109.71	-80.77	-6,767.19	1,386.39	986.78	772.21	214.57	4.599	Alert
18,800.00	12,110.00	18,730.48	11,965.72	107.97	110.37	-80.63	-6,816.70	1,383.39	983.79	767.93	215.85	4.558	Alert
18,850.00	12,110.00	18,767.02	11,964.84	108.64	110.86	-80.56	-6,853.19	1,381.62	981.28	764.03	217.25	4.517	Alert
18,900.00	12,110.00	18,803.64	11,964.76	109.30	111.35	-80.54	-6,889.79	1,380.48	979.46	760.82	218.64	4.480	Alert
18,950.00	12,110.00	18,838.43	11,965.36	109.98	111.82	-80.57	-6,924.57	1,380.01	978.36	758.33	220.03	4.447	Alert
18,994.15	12,110.00	18,868.80	11,966.31	110.57	112.24	-80.63	-6,954.92	1,380.14	978.05	756.82	221.23	4.421	Alert
19,000.00	12,110.00	18,872.82	11,966.47	110.65	112.30	-80.64	-6,958.94	1,380.20	978.05	756.67	221.38	4.418	Alert
19,050.00	12,110.00	18,907.93	11,968.13	111.32	112.78	-80.74	-6,994.00	1,381.04	978.55	755.84	222.71	4.394	Alert
19,100.00	12,110.00	18,950.58	11,970.20	111.99	113.38	-80.87	-7,036.57	1,382.54	979.59	755.52	224.07	4.372	Alert
19,150.00	12,110.00	18,993.25	11,971.91	112.66	113.97	-80.98	-7,079.17	1,384.31	981.02	755.60	225.41	4.352	Alert
19,200.00	12,110.00	19,035.92	11,973.55	113.34	114.57	-81.09	-7,121.76	1,386.38	982.81	756.07	226.75	4.334	Alert
19,250.00	12,110.00	19,078.53	11,975.53	114.01	115.17	-81.23	-7,164.25	1,388.82	984.98	756.90	228.08	4.319	Alert
19,300.00	12,110.00	19,123.32	11,977.68	114.69	115.81	-81.37	-7,208.90	1,391.70	987.49	758.06	229.43	4.304	Alert
19,350.00	12,110.00	19,169.33	11,978.97	115.36	116.46	-81.47	-7,254.78	1,394.72	990.22	759.43	230.79	4.291	Alert
19,400.00	12,110.00	19,217.28	11,979.45	116.04	117.14	-81.52	-7,302.63	1,397.89	993.11	760.96	232.15	4.278	Alert
19,450.00	12,110.00	19,266.44	11,979.80	116.72	117.83	-81.57	-7,351.68	1,401.17	996.05	762.53	233.52	4.265	Alert
19,500.00	12,110.00	19,318.71	11,980.10	117.40	118.57	-81.61	-7,403.83	1,404.63	998.97	764.03	234.94	4.252	Alert
19,550.00	12,110.00	19,372.31	11,980.34	118.07	119.33	-81.65	-7,457.33	1,407.97	1,001.73	765.34	236.38	4.238	Alert
19,600.00	12,110.00	19,431.45	11,980.01	118.75	120.17	-81.66	-7,516.38	1,411.20	1,004.16	766.30	237.87	4.222	Alert
19,650.00	12,110.00	19,490.21	11,978.51	119.43	121.00	-81.59	-7,575.06	1,413.69	1,006.13	766.83	239.31	4.204	Alert
19,700.00	12,110.00	19,547.70	11,976.62	120.11	121.80	-81.49	-7,632.49	1,415.60	1,007.71	767.00	240.71	4.186	Alert
19,750.00	12,110.00	19,617.76	11,974.63	120.79	122.78	-81.39	-7,702.51	1,417.09	1,008.70	766.53	242.16	4.165	Alert
19,800.00	12,110.00	19,677.46	11,974.17	121.48	123.62	-81.37	-7,762.20	1,417.38	1,008.65	765.10	243.55	4.141	Alert
19,810.20	12,110.00	19,686.02	11,974.15	121.61	123.73	-81.36	-7,770.76	1,417.42	1,008.64	764.82	243.83	4.137	Alert
19,850.00	12,110.00	19,719.40	11,974.09	122.16	124.20	-81.36	-7,804.14	1,417.73	1,008.77	763.87	244.90	4.119	Alert
19,900.00	12,110.00	19,762.08	11,974.06	122.84	124.80	-81.36	-7,846.81	1,418.43	1,009.28	763.05	246.24	4.099	Alert
19,950.00	12,110.00	19,807.38	11,974.20	123.52	125.43	-81.38	-7,892.10	1,419.47	1,010.08	762.49	247.59	4.080	Alert
20,000.00	12,110.00	19,852.79	11,974.57	124.21	126.07	-81.41	-7,937.49	1,420.75	1,011.11	762.16	248.95	4.062	Alert
20,050.00	12,110.00	19,898.91	11,975.16	124.89	126.72	-81.45	-7,983.59	1,422.28	1,012.35	762.03	250.32	4.044	Alert
20,100.00	12,110.00	19,946.98	11,975.97	125.58	127.40	-81.51	-8,031.61	1,424.08	1,013.77	762.06	251.70	4.028	Alert
20,150.00	12,110.00	20,015.54	11,977.20	126.26	128.37	-81.59	-8,100.13	1,426.03	1,014.74	761.50	253.23	4.007	Alert

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - Actuals — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
20,200.00	12,110.00	20,068.36	11,978.12	126.95	129.12	-81.65	-8,152.94	1,426.85	1,015.07	760.42	254.65	3.986	Alert
20,250.00	12,110.00	20,114.94	11,979.01	127.63	129.78	-81.70	-8,199.50	1,427.70	1,015.53	759.49	256.04	3.966	Alert
20,300.00	12,110.00	20,161.51	11,979.98	128.32	130.43	-81.76	-8,246.05	1,428.72	1,016.15	758.73	257.42	3.947	Alert
20,350.00	12,110.00	20,208.06	11,981.03	129.01	131.09	-81.83	-8,292.58	1,429.91	1,016.95	758.14	258.81	3.929	Alert
20,400.00	12,110.00	20,308.76	11,983.03	129.69	132.50	-81.94	-8,393.23	1,430.54	1,017.04	756.78	260.26	3.908	Alert
20,450.00	12,110.00	20,367.96	11,983.62	130.38	133.32	-81.95	-8,452.41	1,428.66	1,015.07	753.49	261.57	3.881	Alert
20,500.00	12,110.00	20,421.14	11,983.70	131.07	134.05	-81.94	-8,505.55	1,426.70	1,012.92	750.01	262.91	3.853	Alert
20,550.00	12,110.00	20,461.68	11,983.89	131.76	134.62	-81.94	-8,546.06	1,425.39	1,010.98	746.63	264.35	3.824	Alert
20,600.00	12,110.00	20,503.91	11,984.43	132.45	135.20	-81.96	-8,588.28	1,424.39	1,009.41	743.64	265.78	3.798	Alert
20,650.00	12,110.00	20,569.25	11,985.38	133.14	136.11	-81.99	-8,653.60	1,422.67	1,007.71	740.64	267.07	3.773	Alert
20,700.00	12,110.00	20,624.80	11,985.77	133.83	136.87	-82.00	-8,709.09	1,420.37	1,005.29	736.90	268.39	3.746	Alert
20,750.00	12,110.00	20,668.94	11,985.41	134.52	137.48	-81.96	-8,753.19	1,418.57	1,003.02	733.22	269.81	3.718	Alert
20,800.00	12,110.00	20,716.76	11,984.27	135.21	138.14	-81.88	-8,800.97	1,416.76	1,001.01	729.85	271.16	3.692	Alert
20,850.00	12,110.00	20,770.98	11,982.22	135.90	138.89	-81.74	-8,855.09	1,414.48	998.89	726.44	272.45	3.666	Alert
20,900.00	12,110.00	20,823.78	11,979.70	136.59	139.62	-81.57	-8,907.78	1,411.98	996.58	722.85	273.73	3.641	Alert
20,950.00	12,110.00	20,875.82	11,977.45	137.28	140.34	-81.42	-8,959.71	1,409.42	994.16	719.14	275.02	3.615	Alert
21,000.00	12,110.00	20,921.23	11,975.69	137.98	140.96	-81.30	-9,005.03	1,407.25	991.78	715.39	276.38	3.588	Alert
21,050.00	12,110.00	20,965.07	11,974.08	138.67	141.57	-81.19	-9,048.80	1,405.42	989.69	711.93	277.76	3.563	Alert
21,100.00	12,110.00	21,007.44	11,972.54	139.36	142.16	-81.08	-9,091.12	1,403.95	987.95	708.80	279.15	3.539	Alert
21,150.00	12,110.00	21,049.05	11,970.81	140.06	142.74	-80.97	-9,132.67	1,402.81	986.62	706.10	280.52	3.517	Alert
21,200.00	12,110.00	21,089.73	11,968.92	140.75	143.31	-80.85	-9,173.31	1,402.03	985.73	703.85	281.87	3.497	Alert
21,250.00	12,110.00	21,128.91	11,967.25	141.44	143.86	-80.75	-9,212.45	1,401.71	985.36	702.15	283.21	3.479	Alert
21,258.16	12,110.00	21,135.31	11,967.01	141.56	143.95	-80.74	-9,218.84	1,401.70	985.35	701.92	283.43	3.477	Alert
21,300.00	12,110.00	21,170.00	11,965.77	142.14	144.44	-80.67	-9,253.51	1,401.89	985.55	701.01	284.54	3.464	Alert
21,350.00	12,110.00	21,214.57	11,965.33	142.83	145.08	-80.65	-9,298.07	1,402.60	986.10	700.21	285.90	3.449	Alert
21,400.00	12,110.00	21,261.31	11,967.05	143.53	145.75	-80.75	-9,344.76	1,403.85	986.83	699.50	287.33	3.434	Alert
21,450.00	12,110.00	21,310.51	11,969.96	144.22	146.46	-80.93	-9,393.84	1,405.46	987.66	698.85	288.81	3.420	Alert
21,500.00	12,110.00	21,360.00	11,972.31	144.92	147.17	-81.08	-9,443.25	1,407.00	988.53	698.25	290.28	3.405	Alert
21,550.00	12,110.00	21,405.82	11,974.27	145.62	147.83	-81.20	-9,489.00	1,408.51	989.52	697.80	291.71	3.392	Alert
21,600.00	12,110.00	21,451.68	11,976.36	146.31	148.49	-81.33	-9,534.79	1,410.22	990.72	697.57	293.14	3.380	Alert
21,650.00	12,110.00	21,519.83	11,977.81	147.01	149.47	-81.43	-9,602.89	1,412.07	991.59	696.88	294.71	3.365	Alert
21,700.00	12,110.00	21,577.71	11,976.44	147.71	150.29	-81.35	-9,660.74	1,412.32	991.67	695.57	296.10	3.349	Alert
21,750.00	12,110.00	21,627.70	11,974.79	148.40	151.00	-81.25	-9,710.71	1,412.37	991.66	694.21	297.45	3.334	Alert
21,774.82	12,110.00	21,652.52	11,973.89	148.75	151.35	-81.20	-9,735.51	1,412.39	991.66	693.54	298.12	3.326	Alert
21,800.00	12,110.00	21,675.68	11,973.04	149.10	151.68	-81.15	-9,758.66	1,412.43	991.69	692.90	298.80	3.319	Alert
21,850.00	12,110.00	21,722.78	11,971.25	149.80	152.35	-81.05	-9,805.72	1,412.61	991.87	691.73	300.14	3.305	Alert
21,900.00	12,110.00	21,774.96	11,969.44	150.50	153.10	-80.94	-9,857.87	1,412.89	992.10	690.61	301.49	3.291	Alert
21,950.00	12,110.00	21,829.37	11,968.41	151.20	153.87	-80.88	-9,912.27	1,413.09	992.13	689.26	302.87	3.276	Alert
21,964.52	12,110.00	21,845.18	11,968.29	151.40	154.10	-80.88	-9,928.08	1,413.13	992.09	688.82	303.27	3.271	Alert
22,000.00	12,110.00	21,874.04	11,968.46	151.90	154.51	-80.89	-9,956.94	1,413.42	992.17	687.91	304.26	3.261	Alert
22,050.00	12,110.00	21,918.37	11,969.55	152.60	155.15	-80.95	-10,001.25	1,414.16	992.50	686.82	305.68	3.247	Alert
22,100.00	12,110.00	21,964.98	11,971.39	153.30	155.82	-81.07	-10,047.80	1,415.28	993.07	685.94	307.12	3.233	Alert
22,150.00	12,110.00	22,012.07	11,973.17	154.00	156.50	-81.18	-10,094.84	1,416.53	993.79	685.22	308.57	3.221	Alert
22,200.00	12,110.00	22,065.93	11,975.03	154.70	157.27	-81.29	-10,148.66	1,417.94	994.52	684.46	310.06	3.207	Alert
22,250.00	12,110.00	22,121.41	11,976.67	155.40	158.07	-81.39	-10,204.10	1,419.06	994.98	683.43	311.55	3.194	Alert
22,300.00	12,110.00	22,164.79	11,977.84	156.10	158.70	-81.46	-10,247.45	1,419.97	995.51	682.55	312.96	3.181	Alert
22,350.00	12,110.00	22,214.02	11,979.14	156.80	159.41	-81.55	-10,296.65	1,421.16	996.20	681.80	314.40	3.169	Alert
22,358.61	12,110.00	22,222.62	11,979.37	156.92	159.53	-81.56	-10,305.25	1,421.37	996.32	681.67	314.65	3.166	Alert, SF

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - NTL — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	15.04	15.04	0.50	0.02	92.23	-26.75	687.86	688.38				
50.00	50.00	63.23	63.23	0.50	0.09	92.23	-26.78	687.96	688.48	687.89	0.60	1,155.309	
100.00	100.00	111.42	111.42	0.52	0.17	92.23	-26.83	688.19	688.72	688.04	0.68	1,007.960	
150.00	150.00	159.61	159.61	0.59	0.24	92.24	-26.92	688.54	689.09	688.26	0.83	832.938	
200.00	200.00	208.33	208.33	0.70	0.35	92.25	-27.03	689.02	689.58	688.53	1.05	654.179	
250.00	250.00	257.82	257.82	0.84	0.53	92.24	-27.02	689.56	690.13	688.76	1.37	504.969	
300.00	300.00	307.82	307.81	0.99	0.71	92.23	-26.89	690.13	690.70	689.01	1.70	407.478	
350.00	350.00	358.26	358.24	1.15	0.89	92.23	-26.85	690.69	691.25	689.22	2.03	339.900	
400.00	400.00	408.39	408.37	1.31	1.07	92.23	-26.90	691.21	691.77	689.40	2.38	291.043	
450.00	450.00	458.38	458.36	1.48	1.25	92.23	-26.94	691.73	692.30	689.57	2.72	254.212	
500.00	500.00	508.92	508.89	1.65	1.43	92.23	-26.98	692.25	692.80	689.73	3.07	225.359	
550.00	550.00	559.57	559.55	1.82	1.61	92.23	-26.99	692.71	693.26	689.84	3.43	202.272	
600.00	600.00	611.05	611.02	1.99	1.80	92.23	-27.02	693.11	693.65	689.86	3.78	183.286	
650.00	650.00	662.53	662.51	2.16	1.98	92.24	-27.11	693.39	693.92	689.78	4.14	167.507	
700.00	700.00	711.21	711.19	2.34	2.15	92.25	-27.20	693.66	694.21	689.72	4.49	154.554	
750.00	750.00	760.29	760.26	2.51	2.33	92.25	-27.26	694.01	694.56	689.72	4.84	143.422	
800.00	800.00	810.01	809.98	2.69	2.51	92.25	-27.29	694.42	694.97	689.78	5.20	133.734	
850.00	850.00	862.11	862.08	2.87	2.69	92.25	-27.33	694.76	695.30	689.74	5.56	125.062	
900.00	900.00	913.59	913.56	3.04	2.88	92.26	-27.37	694.95	695.49	689.57	5.92	117.472	
950.00	950.00	964.30	964.27	3.22	3.06	92.26	-27.37	695.07	695.61	689.33	6.28	110.795	
1,000.00	1,000.00	1,015.31	1,015.28	3.40	3.24	92.25	-27.33	695.14	695.68	689.04	6.63	104.891	
1,050.00	1,050.00	1,066.49	1,066.45	3.58	3.41	92.25	-27.29	695.12	695.66	688.67	6.98	99.605	
1,100.00	1,100.00	1,116.77	1,116.73	3.75	3.58	92.25	-27.25	695.04	695.58	688.25	7.33	94.918	
1,150.00	1,150.00	1,166.84	1,166.81	3.93	3.74	92.24	-27.23	694.96	695.49	687.82	7.67	90.668	
1,200.00	1,200.00	1,215.65	1,215.62	4.11	3.91	92.24	-27.24	694.92	695.45	687.43	8.02	86.754	
1,200.73	1,200.73	1,216.36	1,216.33	4.11	3.91	92.24	-27.24	694.92	695.45	687.43	8.02	86.699	
1,250.00	1,250.00	1,264.51	1,264.47	4.29	4.08	92.25	-27.27	694.96	695.49	687.13	8.36	83.163	
1,300.00	1,300.00	1,313.76	1,313.73	4.46	4.25	92.25	-27.31	695.06	695.60	686.88	8.72	79.801	
1,350.00	1,350.00	1,363.39	1,363.36	4.64	4.43	92.25	-27.33	695.22	695.76	686.69	9.07	76.693	
1,400.00	1,400.00	1,414.07	1,414.04	4.82	4.61	92.25	-27.35	695.35	695.89	686.46	9.43	73.785	
1,450.00	1,450.00	1,464.91	1,464.87	5.00	4.79	92.25	-27.36	695.44	695.98	686.19	9.79	71.094	
1,500.00	1,500.00	1,515.94	1,515.91	5.18	4.97	92.25	-27.28	695.46	695.99	685.85	10.15	68.598	
1,550.00	1,550.00	1,566.34	1,566.31	5.36	5.14	92.24	-27.14	695.42	695.95	685.45	10.50	66.299	
1,600.00	1,600.00	1,616.43	1,616.39	5.53	5.31	92.23	-27.12	695.37	695.90	685.05	10.85	64.163	
1,650.00	1,650.00	1,665.95	1,665.91	5.71	5.48	92.24	-27.19	695.32	695.85	684.66	11.19	62.162	
1,676.88	1,676.88	1,692.52	1,692.48	5.81	5.57	92.24	-27.23	695.31	695.85	684.47	11.38	61.138	
1,700.00	1,700.00	1,715.36	1,715.33	5.89	5.65	92.25	-27.27	695.32	695.85	684.31	11.54	60.285	
1,750.00	1,750.00	1,765.07	1,765.03	6.07	5.83	92.25	-27.35	695.34	695.88	683.99	11.90	58.496	
1,800.00	1,800.00	1,814.83	1,814.79	6.25	6.00	92.26	-27.42	695.39	695.93	683.68	12.25	56.811	
1,850.00	1,850.00	1,865.28	1,865.25	6.43	6.18	92.26	-27.46	695.43	695.98	683.37	12.61	55.209	
1,900.00	1,900.00	1,915.63	1,915.60	6.61	6.36	92.26	-27.47	695.44	695.99	683.02	12.96	53.697	
1,950.00	1,950.00	1,965.63	1,965.60	6.78	6.53	92.26	-27.47	695.44	695.99	682.67	13.31	52.277	
1,950.02	1,950.02	1,965.66	1,965.62	6.78	6.53	92.26	-27.47	695.44	695.99	682.67	13.31	52.276	
2,000.00	2,000.00	2,015.21	2,015.18	6.96	6.70	92.26	-27.47	695.45	695.99	682.33	13.66	50.934	
2,050.00	2,050.00	2,063.94	2,063.91	7.14	6.87	25.60	-27.48	695.52	695.87	681.86	14.01	49.665	
2,100.00	2,099.99	2,113.63	2,113.60	7.32	7.05	25.63	-27.50	695.67	695.43	681.07	14.36	48.422	
2,150.00	2,149.98	2,164.62	2,164.59	7.49	7.23	25.67	-27.47	695.78	694.56	679.84	14.72	47.198	
2,200.00	2,199.96	2,214.98	2,214.95	7.66	7.40	25.72	-27.41	695.84	693.23	678.16	15.07	46.010	
2,250.00	2,249.92	2,264.88	2,264.85	7.84	7.58	25.80	-27.42	695.88	691.51	676.09	15.42	44.855	
2,300.00	2,299.87	2,315.07	2,315.04	8.01	7.76	25.89	-27.48	695.92	689.53	673.76	15.77	43.729	
2,350.00	2,349.82	2,365.39	2,365.36	8.19	7.94	25.97	-27.51	695.94	687.52	671.40	16.12	42.648	
2,400.00	2,399.77	2,407.82	2,407.78	8.36	8.09	26.04	-27.44	696.13	685.73	669.29	16.45	41.696	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - NTL — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,450.00	2,449.72	2,448.65	2,448.61	8.54	8.23	26.08	-27.18	696.87	684.60	667.83	16.76	40.839	
2,500.00	2,499.67	2,488.94	2,488.87	8.72	8.38	26.10	-26.74	698.15	684.14	667.07	17.08	40.065	
2,506.08	2,505.75	2,493.78	2,493.71	8.74	8.39	26.11	-26.68	698.34	684.14	667.02	17.11	39.976	CC, ES
2,550.00	2,549.62	2,528.72	2,528.60	8.89	8.52	26.11	-26.14	700.01	684.42	667.04	17.38	39.372	
2,600.00	2,599.57	2,568.85	2,568.65	9.07	8.66	26.10	-25.36	702.50	685.45	667.76	17.69	38.749	
2,650.00	2,649.52	2,610.52	2,610.19	9.25	8.81	26.07	-24.33	705.63	687.13	669.13	18.00	38.173	
2,700.00	2,699.47	2,652.15	2,651.64	9.42	8.96	26.02	-23.03	709.28	689.41	671.10	18.31	37.654	
2,750.00	2,749.41	2,696.79	2,696.03	9.60	9.12	25.94	-21.36	713.64	692.20	673.56	18.63	37.150	
2,800.00	2,799.36	2,741.69	2,740.64	9.78	9.28	25.83	-19.42	718.37	695.34	676.39	18.96	36.681	
2,850.00	2,849.31	2,787.45	2,786.06	9.95	9.44	25.71	-17.28	723.50	698.83	679.54	19.29	36.236	
2,900.00	2,899.26	2,833.39	2,831.63	10.13	9.61	25.60	-15.24	728.89	702.59	682.98	19.62	35.819	
2,950.00	2,949.21	2,879.60	2,877.46	10.31	9.78	25.50	-13.36	734.57	706.63	686.68	19.95	35.426	
3,000.00	2,999.16	2,925.88	2,923.34	10.49	9.95	25.43	-11.80	740.46	710.91	690.64	20.28	35.059	
3,050.00	3,049.11	2,974.20	2,971.21	10.66	10.12	25.38	-10.44	746.80	715.40	694.77	20.62	34.690	
3,100.00	3,099.06	3,023.23	3,019.80	10.84	10.30	25.32	-9.10	753.29	719.94	698.96	20.97	34.328	
3,150.00	3,149.01	3,075.95	3,072.04	11.02	10.50	25.27	-7.65	760.21	724.43	703.08	21.35	33.938	
3,200.00	3,198.96	3,129.75	3,125.39	11.20	10.70	25.21	-6.14	766.99	728.67	706.94	21.73	33.538	
3,250.00	3,248.91	3,186.06	3,181.27	11.38	10.91	25.15	-4.49	773.70	732.54	710.42	22.12	33.114	
3,300.00	3,298.86	3,239.39	3,234.25	11.55	11.11	25.09	-2.88	779.62	736.01	713.51	22.50	32.713	
3,350.00	3,348.81	3,287.38	3,281.92	11.73	11.28	25.03	-1.39	784.96	739.50	716.65	22.84	32.371	
3,400.00	3,398.76	3,333.21	3,327.43	11.91	11.45	24.98	0.07	790.19	743.13	719.96	23.18	32.064	
3,450.00	3,448.71	3,375.53	3,369.40	12.09	11.61	24.91	1.58	795.40	747.21	723.72	23.49	31.815	
3,500.00	3,498.66	3,418.17	3,411.63	12.27	11.77	24.83	3.30	801.08	751.78	727.98	23.80	31.592	
3,550.00	3,548.60	3,462.56	3,455.53	12.45	11.94	24.73	5.22	807.34	756.75	732.64	24.12	31.379	
3,600.00	3,598.55	3,507.32	3,499.75	12.63	12.11	24.63	7.23	813.98	762.08	737.64	24.44	31.183	
3,650.00	3,648.50	3,561.98	3,553.75	12.81	12.32	24.51	9.64	822.06	767.40	742.57	24.83	30.906	
3,700.00	3,698.45	3,614.95	3,606.14	12.99	12.53	24.41	11.82	829.57	772.42	747.21	25.21	30.640	
3,750.00	3,748.40	3,664.25	3,654.92	13.16	12.71	24.34	13.60	836.51	777.39	751.82	25.56	30.409	
3,800.00	3,798.35	3,713.63	3,703.78	13.34	12.90	24.28	15.10	843.48	782.38	756.46	25.92	30.185	
3,850.00	3,848.30	3,763.13	3,752.77	13.52	13.10	24.26	16.28	850.48	787.40	761.12	26.28	29.966	
3,900.00	3,898.25	3,815.09	3,804.20	13.70	13.30	24.25	17.19	857.79	792.39	765.74	26.65	29.734	
3,950.00	3,948.20	3,869.38	3,857.99	13.88	13.50	24.26	17.97	865.17	797.13	770.09	27.04	29.482	
4,000.00	3,998.15	3,923.14	3,911.28	14.06	13.71	24.28	18.59	872.18	801.60	774.18	27.42	29.232	
4,050.00	4,048.10	3,976.77	3,964.48	14.24	13.92	24.31	19.04	878.92	805.84	778.03	27.80	28.982	
4,100.00	4,098.05	4,026.32	4,013.66	14.42	14.11	24.35	19.22	885.04	809.96	781.80	28.16	28.761	
4,150.00	4,148.00	4,076.00	4,062.96	14.60	14.30	24.41	19.14	891.17	814.10	785.58	28.52	28.545	
4,200.00	4,197.95	4,123.42	4,110.00	14.78	14.48	24.48	19.03	897.11	818.33	789.47	28.86	28.352	
4,250.00	4,247.90	4,171.38	4,157.57	14.96	14.67	24.53	19.03	903.24	822.69	793.47	29.21	28.164	
4,300.00	4,297.85	4,221.16	4,206.93	15.14	14.86	24.55	19.51	909.66	827.09	797.52	29.57	27.971	
4,350.00	4,347.79	4,272.55	4,257.87	15.32	15.06	24.52	20.72	916.30	831.48	801.54	29.94	27.772	
4,400.00	4,397.74	4,328.53	4,313.40	15.50	15.27	24.47	22.40	923.23	835.61	805.27	30.34	27.543	
4,450.00	4,447.69	4,384.60	4,369.05	15.68	15.49	24.41	24.22	929.77	839.37	808.64	30.74	27.310	
4,500.00	4,497.64	4,440.74	4,424.84	15.86	15.70	24.36	25.84	935.90	842.76	811.63	31.13	27.071	
4,550.00	4,547.59	4,490.84	4,474.64	16.04	15.90	24.32	27.20	941.15	845.94	814.45	31.49	26.861	
4,600.00	4,597.54	4,540.30	4,523.81	16.22	16.08	24.28	28.63	946.37	849.14	817.29	31.85	26.661	
4,650.00	4,647.49	4,585.33	4,568.55	16.40	16.26	24.24	30.06	951.26	852.51	820.33	32.18	26.490	
4,700.00	4,697.44	4,630.43	4,613.32	16.58	16.43	24.18	31.70	956.41	856.15	823.64	32.51	26.332	
4,750.00	4,747.39	4,673.08	4,655.62	16.76	16.60	24.11	33.48	961.58	860.14	827.31	32.83	26.200	
4,800.00	4,797.34	4,715.51	4,697.64	16.94	16.76	24.02	35.53	967.08	864.55	831.41	33.14	26.086	
4,850.00	4,847.29	4,759.66	4,741.31	17.12	16.94	23.91	37.92	973.15	869.35	835.89	33.46	25.978	
4,900.00	4,897.24	4,804.34	4,785.45	17.30	17.11	23.79	40.49	979.54	874.45	840.66	33.79	25.879	
4,950.00	4,947.19	4,851.83	4,832.34	17.48	17.30	23.65	43.33	986.57	879.78	845.65	34.13	25.774	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - NTL — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,997.14	4,900.88	4,880.76	17.66	17.50	23.52	46.20	993.87	885.17	850.68	34.49	25.664	
5,050.00	5,047.09	4,952.22	4,931.44	17.84	17.70	23.39	49.08	1,001.49	890.56	855.69	34.86	25.544	
5,100.00	5,097.04	5,004.42	4,983.01	18.02	17.91	23.27	51.82	1,009.11	895.81	860.57	35.24	25.419	
5,150.00	5,146.99	5,054.73	5,032.73	18.20	18.11	23.17	54.34	1,016.37	900.98	865.37	35.61	25.303	
5,200.00	5,196.93	5,104.92	5,082.34	18.38	18.31	23.07	56.78	1,023.58	906.12	870.15	35.97	25.190	
5,250.00	5,246.88	5,154.94	5,131.78	18.56	18.51	22.98	59.12	1,030.74	911.24	874.91	36.34	25.079	
5,300.00	5,296.83	5,204.81	5,181.09	18.74	18.71	22.90	61.36	1,037.87	916.35	879.66	36.70	24.970	
5,350.00	5,346.78	5,254.01	5,229.74	18.92	18.91	22.82	63.46	1,044.92	921.48	884.42	37.06	24.868	
5,400.00	5,396.73	5,304.82	5,279.98	19.10	19.11	22.75	65.53	1,052.22	926.62	889.20	37.42	24.760	
5,450.00	5,446.68	5,359.29	5,333.88	19.28	19.33	22.69	67.53	1,059.84	931.58	893.76	37.82	24.633	
5,500.00	5,496.63	5,413.36	5,387.42	19.46	19.54	22.65	69.30	1,067.14	936.29	898.08	38.21	24.505	
5,550.00	5,546.58	5,467.15	5,440.72	19.64	19.76	22.60	71.07	1,074.18	940.79	902.19	38.60	24.375	
5,600.00	5,596.53	5,519.92	5,493.04	19.82	19.97	22.55	72.89	1,080.88	945.10	906.12	38.98	24.248	
5,650.00	5,646.48	5,572.51	5,545.18	20.00	20.17	22.49	74.86	1,087.41	949.26	909.90	39.36	24.120	
5,700.00	5,696.43	5,622.01	5,594.26	20.18	20.37	22.43	76.78	1,093.49	953.36	913.65	39.72	24.005	
5,750.00	5,746.38	5,671.96	5,643.80	20.36	20.56	22.37	78.68	1,099.63	957.47	917.40	40.08	23.890	
5,800.00	5,796.33	5,723.16	5,694.58	20.54	20.77	22.32	80.56	1,105.88	961.54	921.09	40.45	23.772	
5,850.00	5,846.28	5,774.06	5,745.08	20.73	20.97	22.27	82.33	1,112.03	965.54	924.72	40.82	23.656	
5,900.00	5,896.23	5,824.41	5,795.04	20.91	21.16	22.23	83.98	1,118.08	969.51	928.32	41.18	23.542	
5,950.00	5,946.18	5,874.91	5,845.15	21.09	21.36	22.19	85.56	1,124.12	973.44	931.89	41.55	23.430	
6,000.00	5,996.12	5,925.54	5,895.40	21.27	21.56	22.16	87.11	1,130.13	977.34	935.43	41.91	23.318	
6,050.00	6,046.07	5,976.09	5,945.58	21.45	21.76	22.13	88.61	1,136.10	981.20	938.92	42.28	23.207	
6,100.00	6,096.02	6,026.60	5,995.72	21.63	21.96	22.10	90.04	1,142.03	985.03	942.38	42.65	23.098	
6,150.00	6,145.97	6,075.84	6,044.60	21.81	22.15	22.08	91.39	1,147.81	988.84	945.84	43.00	22.995	
6,200.00	6,195.92	6,124.70	6,093.09	21.99	22.34	22.06	92.71	1,153.58	992.71	949.35	43.36	22.895	
6,250.00	6,245.87	6,172.24	6,140.28	22.17	22.53	22.03	94.06	1,159.28	996.65	952.94	43.71	22.803	
6,300.00	6,295.82	6,219.53	6,187.19	22.35	22.71	22.00	95.63	1,165.05	1,000.72	956.67	44.05	22.716	
6,350.00	6,345.77	6,270.64	6,237.87	22.53	22.92	21.95	97.46	1,171.33	1,004.83	960.41	44.42	22.620	
6,400.00	6,395.72	6,322.27	6,289.09	22.71	23.12	21.91	99.26	1,177.59	1,008.86	964.06	44.80	22.521	
6,450.00	6,445.67	6,373.36	6,339.78	22.89	23.32	21.87	100.95	1,183.71	1,012.81	967.65	45.17	22.424	
6,500.00	6,495.62	6,424.39	6,390.43	23.07	23.52	21.84	102.49	1,189.76	1,016.70	971.17	45.54	22.328	
6,550.00	6,545.57	6,475.00	6,440.67	23.26	23.72	21.81	103.95	1,195.72	1,020.54	974.64	45.90	22.233	
6,600.00	6,595.52	6,526.27	6,491.56	23.44	23.92	21.79	105.37	1,201.71	1,024.35	978.07	46.27	22.137	
6,650.00	6,645.47	6,578.65	6,543.58	23.62	24.13	21.77	106.69	1,207.73	1,028.04	981.39	46.65	22.038	
6,700.00	6,695.42	6,630.56	6,595.15	23.80	24.33	21.76	107.86	1,213.58	1,031.62	984.60	47.02	21.939	
6,750.00	6,745.37	6,682.11	6,646.37	23.98	24.53	21.76	108.91	1,219.30	1,035.12	987.72	47.39	21.841	
6,800.00	6,795.31	6,733.69	6,697.63	24.16	24.73	21.77	109.85	1,224.95	1,038.53	990.77	47.77	21.742	
6,850.00	6,845.26	6,785.29	6,748.92	24.34	24.93	21.78	110.68	1,230.51	1,041.86	993.73	48.14	21.644	
6,900.00	6,895.21	6,839.00	6,802.33	24.52	25.14	21.79	111.43	1,236.17	1,045.07	996.55	48.52	21.539	
6,950.00	6,945.16	6,892.89	6,855.94	24.70	25.34	21.81	112.05	1,241.65	1,048.08	999.18	48.90	21.432	
7,000.00	6,995.11	6,945.51	6,908.30	24.88	25.55	21.84	112.54	1,246.84	1,050.94	1,001.66	49.28	21.327	
7,050.00	7,045.06	6,998.83	6,961.37	25.06	25.75	21.88	112.90	1,251.95	1,053.66	1,004.00	49.66	21.219	
7,100.00	7,095.01	7,052.94	7,015.25	25.24	25.95	21.92	113.13	1,256.94	1,056.19	1,006.15	50.04	21.108	
7,150.00	7,144.96	7,106.41	7,068.51	25.43	26.16	21.97	113.22	1,261.67	1,058.53	1,008.12	50.42	20.996	
7,200.00	7,194.91	7,159.52	7,121.43	25.61	26.36	22.03	113.17	1,266.21	1,060.73	1,009.93	50.79	20.884	
7,250.00	7,244.86	7,213.99	7,175.71	25.79	26.56	22.10	112.94	1,270.68	1,062.74	1,011.57	51.17	20.768	
7,300.00	7,294.81	7,268.68	7,230.23	25.97	26.76	22.18	112.48	1,274.93	1,064.54	1,012.99	51.55	20.649	
7,350.00	7,344.76	7,322.44	7,283.84	26.15	26.96	22.26	111.84	1,278.90	1,066.14	1,014.21	51.93	20.531	
7,400.00	7,394.71	7,376.76	7,338.03	26.33	27.16	22.36	111.03	1,282.71	1,067.55	1,015.25	52.31	20.410	
7,450.00	7,444.66	7,431.79	7,392.93	26.51	27.36	22.47	110.09	1,286.32	1,068.74	1,016.06	52.68	20.286	
7,500.00	7,494.61	7,487.04	7,448.06	26.69	27.56	22.58	109.03	1,289.68	1,069.70	1,016.63	53.06	20.159	
7,550.00	7,544.56	7,542.39	7,503.31	26.87	27.76	22.69	107.87	1,292.77	1,070.40	1,016.96	53.44	20.030	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - NTL — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,600.00	7,594.50	7,596.19	7,557.03	27.05	27.95	22.81	106.67	1,295.54	1,070.89	1,017.08	53.81	19.901	
7,650.00	7,644.45	7,649.96	7,610.72	27.23	28.14	22.92	105.43	1,298.12	1,071.21	1,017.03	54.18	19.772	
7,700.00	7,694.40	7,700.80	7,661.49	27.42	28.32	23.04	104.24	1,300.46	1,071.44	1,016.90	54.54	19.645	
7,750.00	7,744.35	7,752.77	7,713.40	27.60	28.50	23.15	103.00	1,302.78	1,071.60	1,016.70	54.90	19.518	
7,800.00	7,794.30	7,805.92	7,766.48	27.78	28.69	23.27	101.76	1,305.01	1,071.63	1,016.36	55.27	19.390	
7,850.00	7,844.25	7,858.16	7,818.68	27.96	28.87	23.38	100.57	1,307.07	1,071.53	1,015.90	55.63	19.261	
7,900.00	7,894.20	7,909.76	7,870.23	28.14	29.05	23.50	99.36	1,309.01	1,071.35	1,015.36	55.99	19.134	
7,950.00	7,944.15	7,960.93	7,921.34	28.32	29.23	23.61	98.11	1,310.86	1,071.10	1,014.75	56.35	19.008	
8,000.00	7,994.10	8,011.93	7,972.30	28.50	29.41	23.73	96.80	1,312.66	1,070.81	1,014.10	56.71	18.882	
8,050.00	8,044.05	8,065.29	8,025.61	28.68	29.59	23.86	95.40	1,314.43	1,070.43	1,013.36	57.07	18.755	
8,100.00	8,094.00	8,118.96	8,079.23	28.86	29.78	23.98	94.01	1,316.03	1,069.88	1,012.44	57.44	18.626	
8,150.00	8,143.95	8,169.80	8,130.04	29.04	29.95	24.10	92.66	1,317.45	1,069.23	1,011.44	57.80	18.500	
8,200.00	8,193.90	8,220.73	8,180.93	29.23	30.13	24.23	91.31	1,318.81	1,068.53	1,010.38	58.15	18.375	
8,250.00	8,243.85	8,271.33	8,231.51	29.41	30.30	24.32	90.46	1,320.13	1,067.80	1,009.29	58.51	18.250	
8,300.00	8,293.80	8,317.74	8,277.90	29.59	30.46	24.38	90.22	1,321.37	1,067.10	1,008.24	58.86	18.130	
8,350.00	8,343.75	8,360.16	8,320.29	29.77	30.61	24.41	90.36	1,322.78	1,066.70	1,007.51	59.20	18.020	
8,400.00	8,393.69	8,408.07	8,368.17	29.95	30.78	24.43	90.91	1,324.68	1,066.63	1,007.08	59.55	17.912	
8,450.00	8,443.64	8,469.01	8,429.05	30.13	31.00	24.41	92.29	1,326.74	1,066.25	1,006.31	59.93	17.790	
8,500.00	8,493.59	8,522.11	8,482.11	30.31	31.19	24.37	93.96	1,328.15	1,065.49	1,005.20	60.30	17.671	
8,550.00	8,543.54	8,572.43	8,532.39	30.49	31.36	24.34	95.47	1,329.45	1,064.71	1,004.05	60.65	17.554	
8,600.00	8,593.49	8,628.03	8,587.96	30.67	31.56	24.31	97.02	1,330.74	1,063.80	1,002.78	61.02	17.433	
8,650.00	8,643.44	8,685.09	8,644.99	30.86	31.75	24.29	98.50	1,331.73	1,062.59	1,001.20	61.39	17.309	
8,700.00	8,693.39	8,744.80	8,704.67	31.04	31.95	24.27	99.94	1,332.27	1,060.97	999.21	61.76	17.180	
8,750.00	8,743.34	8,801.85	8,761.71	31.22	32.14	24.26	101.17	1,332.30	1,058.93	996.82	62.11	17.048	
8,800.00	8,793.29	8,857.32	8,817.17	31.40	32.33	24.27	102.01	1,332.03	1,056.62	994.16	62.46	16.915	
8,850.00	8,843.24	8,911.15	8,871.00	31.58	32.50	24.31	102.38	1,331.51	1,054.08	991.28	62.81	16.782	
8,900.00	8,893.19	8,964.87	8,924.71	31.76	32.67	24.37	102.22	1,330.79	1,051.37	988.21	63.15	16.648	
8,950.00	8,943.14	9,014.71	8,974.55	31.94	32.82	24.44	101.84	1,330.05	1,048.58	985.09	63.49	16.515	
9,000.00	8,993.09	9,064.75	9,024.58	32.12	32.98	24.52	101.33	1,329.27	1,045.77	981.94	63.84	16.382	
9,050.00	9,043.04	9,113.85	9,073.67	32.30	33.13	24.59	101.03	1,328.54	1,042.99	978.81	64.18	16.252	
9,100.00	9,092.99	9,162.12	9,121.94	32.49	33.28	24.64	101.02	1,327.87	1,040.25	975.73	64.52	16.123	
9,150.00	9,142.94	9,209.05	9,168.87	32.67	33.43	24.69	100.99	1,327.34	1,037.63	972.78	64.86	15.998	
9,200.00	9,192.88	9,257.26	9,217.08	32.85	33.58	24.75	100.88	1,326.91	1,035.15	969.95	65.20	15.877	
9,250.00	9,242.83	9,307.34	9,267.15	33.03	33.74	24.81	100.77	1,326.49	1,032.69	967.15	65.54	15.756	
9,300.00	9,292.78	9,355.56	9,315.37	33.21	33.89	24.86	100.69	1,326.10	1,030.25	964.36	65.88	15.637	
9,350.00	9,342.73	9,401.99	9,361.80	33.39	34.04	24.91	100.66	1,325.86	1,027.95	961.73	66.22	15.522	
9,400.00	9,392.68	9,449.46	9,409.27	33.57	34.19	24.96	100.67	1,325.77	1,025.82	959.25	66.57	15.410	
9,450.00	9,442.63	9,498.04	9,457.85	33.75	34.35	25.02	100.57	1,325.75	1,023.76	956.85	66.91	15.300	
9,500.00	9,492.58	9,545.97	9,505.78	33.94	34.51	25.08	100.42	1,325.81	1,021.79	954.53	67.26	15.191	
9,550.00	9,542.53	9,593.35	9,553.15	34.12	34.67	25.11	100.84	1,325.99	1,019.93	952.32	67.61	15.086	
9,600.00	9,592.48	9,641.64	9,601.44	34.30	34.83	25.10	101.81	1,326.31	1,018.19	950.23	67.96	14.982	
9,650.00	9,642.43	9,690.71	9,650.50	34.48	35.00	25.10	102.86	1,326.68	1,016.50	948.19	68.31	14.880	
9,700.00	9,692.38	9,740.31	9,700.08	34.66	35.17	25.09	103.90	1,327.09	1,014.85	946.18	68.67	14.780	
9,750.00	9,742.33	9,790.22	9,749.98	34.84	35.34	25.09	104.89	1,327.51	1,013.20	944.18	69.02	14.680	
9,800.00	9,792.28	9,838.73	9,798.47	35.02	35.51	25.09	105.85	1,327.95	1,011.56	942.21	69.37	14.582	
9,850.00	9,842.23	9,886.70	9,846.43	35.20	35.68	25.08	106.87	1,328.48	1,010.06	940.34	69.72	14.487	
9,900.00	9,892.18	9,936.20	9,895.92	35.38	35.85	25.07	108.01	1,329.09	1,008.61	938.53	70.08	14.393	
9,950.00	9,942.13	9,986.55	9,946.25	35.57	36.02	25.05	109.24	1,329.71	1,007.15	936.72	70.43	14.300	
10,000.00	9,992.08	10,039.72	9,999.40	35.75	36.20	25.04	110.48	1,330.29	1,005.62	934.83	70.79	14.206	
10,050.00	10,042.02	10,093.71	10,053.38	35.93	36.39	25.04	111.43	1,330.65	1,003.89	932.74	71.15	14.110	
10,100.00	10,091.97	10,141.22	10,100.89	36.11	36.55	25.05	112.19	1,330.94	1,002.13	930.63	71.50	14.016	
10,150.00	10,141.92	10,188.97	10,148.63	36.29	36.72	25.05	113.05	1,331.34	1,000.48	928.63	71.85	13.924	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - NTL — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,191.87	10,237.19	10,196.83	36.47	36.88	25.05	114.01	1,331.84	998.93	926.73	72.20	13.835	
10,250.00	10,241.82	10,285.74	10,245.36	36.65	37.05	25.04	115.07	1,332.43	997.47	924.91	72.56	13.747	
10,300.00	10,291.77	10,337.45	10,297.06	36.83	37.23	25.03	116.24	1,333.04	995.99	923.08	72.91	13.660	
10,350.00	10,341.72	10,388.45	10,348.04	37.02	37.41	25.02	117.38	1,333.57	994.43	921.16	73.27	13.572	
10,400.00	10,391.67	10,437.55	10,397.13	37.20	37.58	25.02	118.26	1,334.07	992.88	919.26	73.62	13.486	
10,450.00	10,441.62	10,487.75	10,447.32	37.38	37.75	25.04	118.86	1,334.61	991.37	917.39	73.98	13.400	
10,500.00	10,491.57	10,540.08	10,499.65	37.56	37.94	25.07	119.23	1,335.09	989.77	915.43	74.34	13.314	
10,550.00	10,541.52	10,589.42	10,548.99	37.74	38.11	25.12	119.34	1,335.44	988.09	913.39	74.70	13.228	
10,600.00	10,591.47	10,636.25	10,595.82	37.92	38.27	25.18	119.24	1,335.90	986.54	911.50	75.05	13.145	
10,650.00	10,641.42	10,683.10	10,642.66	38.10	38.43	25.25	118.93	1,336.50	985.16	909.76	75.40	13.066	
10,700.00	10,691.37	10,729.95	10,689.51	38.28	38.59	25.33	118.40	1,337.24	983.93	908.18	75.75	12.989	
10,750.00	10,741.32	10,778.70	10,738.24	38.47	38.76	25.43	117.63	1,338.13	982.84	906.74	76.10	12.915	
10,800.00	10,791.27	10,828.85	10,788.38	38.65	38.93	25.53	116.75	1,339.04	981.75	905.30	76.46	12.841	
10,850.00	10,841.21	10,879.55	10,839.06	38.83	39.11	25.64	115.81	1,339.95	980.65	903.84	76.81	12.767	
10,900.00	10,891.16	10,930.48	10,889.98	39.01	39.28	25.75	114.95	1,340.81	979.51	902.33	77.17	12.693	
10,950.00	10,941.11	10,987.39	10,946.87	39.19	39.48	25.86	114.20	1,341.58	978.18	900.65	77.54	12.616	
11,000.00	10,991.06	11,045.49	11,004.97	39.37	39.68	25.94	113.84	1,341.91	976.46	898.55	77.90	12.534	
11,050.00	11,041.02	11,096.22	11,055.70	39.55	39.85	26.00	113.68	1,342.01	974.62	896.37	78.25	12.455	
11,100.00	11,090.99	11,147.39	11,106.87	39.73	40.02	26.04	113.58	1,342.01	973.20	894.59	78.60	12.381	
11,150.00	11,140.98	11,197.19	11,156.67	39.91	40.18	26.06	113.54	1,341.99	972.35	893.41	78.95	12.316	
11,200.00	11,190.98	11,249.52	11,209.00	40.09	40.35	92.74	113.54	1,341.96	972.07	892.78	79.29	12.259	
11,250.00	11,240.98	11,304.34	11,263.82	40.26	40.53	92.74	113.62	1,341.69	971.82	892.19	79.64	12.203	
11,300.00	11,290.98	11,356.77	11,316.25	40.44	40.70	92.74	113.61	1,341.22	971.38	891.40	79.98	12.146	
11,350.00	11,340.98	11,408.54	11,368.02	40.61	40.87	92.76	113.20	1,340.64	970.83	890.51	80.32	12.087	
11,400.00	11,390.98	11,455.62	11,415.06	40.78	41.02	92.85	111.77	1,340.08	970.31	889.65	80.66	12.030	
11,450.00	11,440.98	11,502.26	11,461.58	40.96	41.17	93.05	108.45	1,339.58	969.96	888.96	81.00	11.975	
11,500.00	11,490.98	11,554.93	11,513.78	41.13	41.33	93.46	101.56	1,338.85	969.64	888.30	81.34	11.920	
11,550.00	11,540.98	11,606.26	11,563.94	41.31	41.49	-85.56	90.82	1,337.76	969.26	887.57	81.69	11.865	
11,600.00	11,590.90	11,644.00	11,600.14	41.47	41.61	-85.06	80.18	1,336.96	969.05	887.05	82.01	11.817	
11,611.29	11,602.13	11,652.34	11,608.03	41.51	41.63	-84.95	77.51	1,336.81	969.04	886.97	82.08	11.807	
11,650.00	11,640.41	11,678.76	11,632.80	41.63	41.70	-84.61	68.31	1,336.46	969.18	886.88	82.30	11.776	
11,700.00	11,689.13	11,707.53	11,659.25	41.78	41.78	-84.24	56.99	1,336.38	969.84	887.29	82.55	11.748	
11,750.00	11,736.70	11,742.00	11,690.06	41.93	41.88	-83.81	41.58	1,337.08	971.37	888.58	82.80	11.732 SF	
11,800.00	11,782.75	11,761.81	11,707.28	42.07	41.93	-83.49	31.83	1,337.83	973.50	890.56	82.94	11.737	
11,850.00	11,826.92	11,794.05	11,734.49	42.20	42.01	-83.09	14.60	1,339.44	976.24	893.12	83.12	11.745	
11,900.00	11,868.90	11,835.27	11,768.15	42.31	42.11	-82.72	-9.08	1,341.76	979.10	895.75	83.34	11.748	
11,950.00	11,908.34	11,879.00	11,802.39	42.42	42.21	-82.46	-36.15	1,344.15	981.68	898.10	83.57	11.746	
12,000.00	11,944.96	11,916.74	11,830.31	42.52	42.29	-82.24	-61.44	1,346.24	984.17	900.40	83.77	11.749	
12,050.00	11,978.47	11,956.98	11,858.20	42.61	43.07	-82.08	-90.34	1,348.75	986.80	902.84	83.96	11.754	
12,100.00	12,008.63	11,993.00	11,882.86	42.71	44.56	-82.07	-116.50	1,351.04	989.09	904.99	84.10	11.761	
12,150.00	12,035.19	11,993.00	11,882.86	42.81	44.56	-81.72	-116.50	1,351.04	992.64	908.56	84.08	11.806	
12,200.00	12,057.97	11,993.00	11,882.86	42.91	44.56	-81.18	-116.50	1,351.04	998.07	914.00	84.07	11.872	
12,250.00	12,076.78	11,993.00	11,882.86	43.03	44.56	-80.46	-116.50	1,351.04	1,005.29	921.20	84.09	11.954	
12,300.00	12,091.48	11,993.00	11,882.86	43.14	44.56	-79.56	-116.50	1,351.04	1,014.22	930.06	84.16	12.051	
12,350.00	12,101.97	11,993.00	11,882.86	43.26	44.56	-78.51	-116.50	1,351.04	1,024.75	940.47	84.28	12.159	
12,400.00	12,108.15	11,993.00	11,882.86	43.37	44.56	-77.30	-116.50	1,351.04	1,036.74	952.29	84.45	12.276	
12,450.00	12,110.00	11,993.00	11,882.86	43.49	44.56	-76.07	-116.50	1,351.04	1,050.07	965.39	84.67	12.401	
12,500.00	12,110.00	11,993.00	11,882.86	43.61	44.56	-76.07	-116.50	1,351.04	1,065.16	980.24	84.93	12.542	
12,550.00	12,110.00	11,993.00	11,882.86	43.75	44.56	-76.07	-116.50	1,351.04	1,082.36	997.17	85.20	12.705	
12,600.00	12,110.00	11,993.00	11,882.86	43.89	44.56	-76.07	-116.50	1,351.04	1,101.56	1,016.10	85.46	12.889	
12,650.00	12,110.00	11,993.00	11,882.86	44.04	44.56	-76.07	-116.50	1,351.04	1,122.66	1,036.92	85.75	13.093	
12,700.00	12,110.00	11,993.00	11,882.86	44.20	44.56	-76.07	-116.50	1,351.04	1,145.56	1,059.54	86.02	13.317	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - NTL — **Offset Site Error:** 5.00 ft

Survey Program: 188-MWD+HDGM — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,750.00	12,110.00	11,993.00	11,882.86	44.38	44.56	-76.07	-116.50	1,351.04	1,170.14	1,083.84	86.30	13.559	
12,800.00	12,110.00	11,993.00	11,882.86	44.56	44.56	-76.07	-116.50	1,351.04	1,196.31	1,109.75	86.57	13.820	
12,850.00	12,110.00	11,993.00	11,882.86	44.77	44.56	-76.07	-116.50	1,351.04	1,223.97	1,137.14	86.83	14.096	
12,900.00	12,110.00	11,993.00	11,882.86	44.97	44.56	-76.07	-116.50	1,351.04	1,253.01	1,165.93	87.08	14.388	
12,950.00	12,110.00	11,993.00	11,882.86	45.19	44.56	-76.07	-116.50	1,351.04	1,283.34	1,196.01	87.33	14.695	
13,000.00	12,110.00	11,993.00	11,882.86	45.41	44.56	-76.07	-116.50	1,351.04	1,314.88	1,227.31	87.56	15.016	
13,050.00	12,110.00	11,993.00	11,882.86	45.66	44.56	-76.07	-116.50	1,351.04	1,347.53	1,259.74	87.79	15.350	
13,100.00	12,110.00	11,993.00	11,882.86	45.90	44.56	-76.07	-116.50	1,351.04	1,381.22	1,293.22	88.00	15.696	
13,150.00	12,110.00	11,993.00	11,882.86	46.16	44.56	-76.07	-116.50	1,351.04	1,415.87	1,327.67	88.20	16.053	
13,200.00	12,110.00	11,993.00	11,882.86	46.43	44.56	-76.07	-116.50	1,351.04	1,451.42	1,363.04	88.39	16.421	
13,250.00	12,110.00	11,993.00	11,882.86	46.71	44.56	-76.07	-116.50	1,351.04	1,487.80	1,399.24	88.57	16.798	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	15.60	15.60	0.50		92.23	-26.75	687.85	688.37				
50.00	50.00	65.60	65.60	0.50		92.23	-26.75	687.85	688.37	687.87	0.50	1,371.247	
100.00	100.00	115.60	115.60	0.52		92.23	-26.75	687.85	688.37	687.85	0.52	1,329.530	
150.00	150.00	165.60	165.60	0.59		92.23	-26.75	687.85	688.37	687.78	0.59	1,166.255	
200.00	200.00	215.60	215.60	0.70		92.23	-26.75	687.85	688.37	687.67	0.70	980.442	
250.00	250.00	268.16	268.15	0.84		92.23	-26.76	687.91	688.43	687.59	0.84	821.762	
274.53	274.53	294.71	294.70	0.91		92.23	-26.73	687.77	688.31	687.40	0.91	756.464	
300.00	300.00	315.61	315.60	0.99		92.23	-26.75	687.85	688.37	687.38	0.99	697.201	
350.00	350.00	382.38	365.60	1.15		92.23	-26.75	687.85	688.37	687.23	1.15	600.940	
400.00	400.00	415.62	415.60	1.31		92.23	-26.75	687.85	688.37	687.06	1.31	525.840	
450.00	450.00	469.40	469.38	1.48		92.23	-26.75	687.84	688.37	686.89	1.48	466.261	
460.66	460.66	480.96	480.94	1.51		92.23	-26.74	687.77	688.30	686.79	1.51	455.110	
500.00	500.00	515.80	515.78	1.65		92.23	-26.76	687.97	688.49	686.85	1.65	418.260	
550.00	550.00	570.00	569.98	1.82		92.23	-26.75	687.79	688.33	686.51	1.82	378.681	
553.65	553.65	573.96	573.94	1.83		92.23	-26.74	687.77	688.30	686.47	1.83	376.063	
600.00	600.00	616.21	616.19	1.99		92.23	-26.75	687.95	688.47	686.48	1.99	345.860	
650.00	650.00	665.63	665.60	2.16		92.23	-26.75	687.85	688.37	686.21	2.16	318.019	
700.00	700.00	715.63	715.60	2.34		92.23	-26.75	687.85	688.37	686.03	2.34	294.262	
750.00	750.00	766.54	766.52	2.51		92.23	-26.78	687.91	688.43	685.92	2.51	273.763	
800.00	800.00	815.63	815.60	2.69		92.23	-26.75	687.85	688.37	685.68	2.69	255.844	
850.00	850.00	867.07	867.04	2.87		92.23	-26.75	687.93	688.45	685.58	2.87	240.137	
900.00	900.00	915.63	915.60	3.04		92.23	-26.75	687.85	688.37	685.33	3.04	226.174	
950.00	950.00	966.38	966.35	3.22		92.23	-26.76	687.87	688.39	685.17	3.22	213.755	
1,000.00	1,000.00	1,015.63	1,015.60	3.40		92.23	-26.75	687.85	688.37	684.97	3.40	202.601	
1,050.00	1,050.00	1,066.05	1,066.01	3.58		92.23	-26.75	687.86	688.38	684.80	3.58	192.551	
1,100.00	1,100.00	1,115.63	1,115.60	3.75		92.23	-26.75	687.85	688.37	684.62	3.75	183.438	
1,105.87	1,105.87	1,121.50	1,121.47	3.77		92.23	-26.74	687.83	688.35	684.58	3.77	182.420	
1,106.59	1,106.59	1,122.22	1,122.19	3.78		92.23	-26.74	687.83	688.35	684.58	3.78	182.296	
1,150.00	1,150.00	1,165.12	1,165.09	3.93		92.23	-26.75	687.85	688.37	684.44	3.93	175.144	
1,197.59	1,197.59	1,213.22	1,213.18	4.10		92.23	-26.75	687.83	688.35	684.25	4.10	167.908	
1,200.00	1,200.00	1,215.60	1,215.57	4.11		92.23	-26.75	687.83	688.35	684.24	4.11	167.557	
1,250.00	1,250.00	1,265.63	1,265.60	4.29		92.23	-26.75	687.85	688.37	684.09	4.29	160.605	
1,300.00	1,300.00	1,315.76	1,315.73	4.46		92.23	-26.76	687.87	688.39	683.92	4.46	154.203	
1,350.00	1,350.00	1,365.63	1,365.60	4.64		92.23	-26.75	687.85	688.37	683.73	4.64	148.282	
1,400.00	1,400.00	1,416.16	1,416.12	4.82		92.23	-26.75	687.88	688.40	683.58	4.82	142.806	
1,450.00	1,450.00	1,465.63	1,465.60	5.00		92.23	-26.75	687.85	688.37	683.37	5.00	137.706	
1,500.00	1,500.00	1,516.00	1,515.97	5.18		92.23	-26.75	687.86	688.38	683.21	5.18	132.964	
1,550.00	1,550.00	1,565.63	1,565.60	5.36		92.23	-26.75	687.85	688.37	683.02	5.36	128.532	
1,562.87	1,562.87	1,578.50	1,578.47	5.40		92.22	-26.71	687.84	688.36	682.96	5.40	127.437	
1,600.00	1,600.00	1,615.37	1,615.34	5.53		92.23	-26.74	687.85	688.37	682.83	5.53	124.386	
1,650.00	1,650.00	1,665.63	1,665.60	5.71		92.23	-26.75	687.85	688.37	682.66	5.71	120.499	
1,655.93	1,655.93	1,671.55	1,671.51	5.73		92.23	-26.76	687.84	688.36	682.62	5.73	120.052	
1,700.00	1,700.00	1,715.24	1,715.21	5.89		92.23	-26.75	687.85	688.37	682.48	5.89	116.847	
1,750.00	1,750.00	1,765.64	1,765.61	6.07		92.23	-26.77	687.86	688.38	682.31	6.07	113.409	
1,800.00	1,800.00	1,815.78	1,815.75	6.25		92.23	-26.75	687.85	688.37	682.12	6.25	110.166	
1,804.84	1,804.84	1,820.64	1,820.60	6.27		92.23	-26.74	687.85	688.37	682.10	6.27	109.862	
1,850.00	1,850.00	1,865.70	1,865.67	6.43		92.23	-26.77	687.86	688.39	681.96	6.43	107.106	
1,900.00	1,900.00	1,915.63	1,915.60	6.61		92.23	-26.75	687.85	688.37	681.77	6.61	104.206	
1,950.00	1,950.00	1,965.63	1,965.60	6.78		92.23	-26.75	687.85	688.37	681.59	6.78	101.461	
2,000.00	2,000.00	2,015.63	2,015.60	6.96		92.23	-26.75	687.85	688.37	681.41	6.96	98.856	
2,050.00	2,050.00	2,065.63	2,065.60	7.14		25.56	-26.75	687.85	688.17	681.04	7.14	96.391	
2,100.00	2,099.99	2,115.63	2,115.59	7.32		25.59	-26.75	687.85	687.58	680.27	7.32	93.991	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,150.00	2,149.98	2,166.31	2,166.28	7.49		25.64	-26.75	687.88	686.63	679.14	7.49	91.683	
2,200.00	2,199.96	2,215.59	2,215.56	7.66		25.70	-26.75	687.85	685.22	677.56	7.66	89.422	
2,250.00	2,249.92	2,265.75	2,265.72	7.84		25.77	-26.74	687.86	683.46	675.62	7.84	87.210	
2,300.00	2,299.87	2,315.51	2,315.47	8.01		25.86	-26.75	687.85	681.44	673.42	8.01	85.061	
2,350.00	2,349.82	2,382.55	2,365.42	8.19		25.94	-26.75	687.85	679.41	671.23	8.19	83.002	
2,400.00	2,399.77	2,415.40	2,415.37	8.36		26.02	-26.75	687.85	677.39	669.03	8.36	81.029	
2,450.00	2,449.72	2,470.63	2,465.32	8.54		26.11	-26.75	687.85	675.37	666.83	8.53	79.132	
2,500.00	2,499.67	2,515.57	2,515.52	8.72		26.18	-26.62	688.21	673.71	665.00	8.71	77.353	
2,550.00	2,549.62	2,579.84	2,579.76	8.89		26.31	-26.87	687.49	671.14	662.26	8.88	75.558	
2,600.00	2,599.57	2,621.47	2,621.25	9.07		26.35	-26.53	688.58	670.06	661.00	9.06	73.963	
2,650.00	2,649.52	2,665.65	2,665.12	9.25		26.45	-26.75	687.85	667.30	658.06	9.24	72.253	
2,700.00	2,699.47	2,741.27	2,740.60	9.42		26.56	-26.62	688.21	666.13	656.72	9.40	70.837	
2,750.00	2,749.41	2,766.12	2,765.01	9.60		26.62	-26.75	687.85	663.27	653.69	9.59	69.185	
2,800.00	2,799.36	2,800.00	2,814.96	9.78		26.71	-26.75	687.85	661.26	651.50	9.76	67.732	
2,850.00	2,849.31	2,866.75	2,864.91	9.95		26.80	-26.75	687.85	659.25	649.31	9.94	66.329	
2,900.00	2,899.26	2,938.00	2,935.35	10.13		26.92	-26.75	687.85	657.57	647.46	10.11	65.048	
2,950.00	2,949.21	2,967.47	2,964.81	10.31		26.97	-26.75	687.85	655.24	644.95	10.29	63.667	
3,000.00	2,999.16	3,033.00	3,029.48	10.49		27.09	-26.75	687.85	653.40	642.94	10.46	62.443	
3,050.00	3,049.11	3,068.23	3,064.71	10.66		27.15	-26.75	687.85	651.23	640.59	10.64	61.179	
3,100.00	3,099.06	3,135.00	3,114.66	10.84		27.24	-26.75	687.85	649.23	638.41	10.82	59.995	
3,150.00	3,149.01	3,168.95	3,164.61	11.02		27.33	-26.75	687.85	647.23	636.23	11.00	58.848	
3,200.00	3,198.96	3,224.42	3,214.56	11.20		27.43	-26.75	687.85	645.24	634.06	11.18	57.738	
3,250.00	3,248.91	3,270.49	3,265.39	11.38		27.48	-26.39	689.14	644.50	633.14	11.35	56.773	
3,300.00	3,298.86	3,320.12	3,314.46	11.55		27.61	-26.75	687.85	641.24	629.72	11.53	55.618	
3,350.00	3,348.81	3,394.58	3,388.76	11.73		27.73	-26.55	688.56	640.41	628.71	11.69	54.761	
3,400.00	3,398.76	3,420.82	3,414.36	11.91		27.80	-26.75	687.85	637.26	625.38	11.88	53.624	
3,450.00	3,448.71	3,505.00	3,497.46	12.09		27.96	-26.75	687.85	636.14	624.10	12.04	52.834	
3,500.00	3,498.66	3,521.80	3,514.26	12.27		27.99	-26.75	687.85	633.28	621.05	12.24	51.744	
3,550.00	3,548.60	3,599.00	3,590.36	12.45		28.13	-26.75	687.85	631.84	619.44	12.40	50.951	
3,600.00	3,598.55	3,622.79	3,614.15	12.63		28.18	-26.75	687.85	629.31	616.72	12.59	49.970	
3,650.00	3,648.50	3,693.00	3,683.37	12.81		28.31	-26.75	687.85	627.63	614.87	12.76	49.182	
3,700.00	3,698.45	3,723.69	3,714.05	12.99		28.37	-26.75	687.85	625.35	612.40	12.95	48.293	
3,750.00	3,748.40	3,787.00	3,776.40	13.16		28.50	-26.75	687.85	623.50	610.38	13.12	47.518	
3,800.00	3,798.35	3,824.56	3,813.95	13.34		28.57	-26.75	687.85	621.40	608.09	13.30	46.705	
3,850.00	3,848.30	3,888.59	3,863.90	13.52		28.67	-26.75	687.85	619.42	605.94	13.48	45.942	
3,900.00	3,898.25	3,925.36	3,913.85	13.70		28.77	-26.75	687.85	617.45	603.79	13.66	45.199	
3,950.00	3,948.20	3,976.07	3,963.80	13.88		28.87	-26.75	687.85	615.48	601.64	13.84	44.475	
4,000.00	3,998.15	4,041.72	4,029.32	14.06		28.99	-26.68	689.06	614.90	600.89	14.01	43.897	
4,050.00	4,048.10	4,076.70	4,063.70	14.24		29.08	-26.75	687.85	611.54	597.35	14.19	43.082	
4,100.00	4,098.05	4,170.24	4,156.97	14.42		29.27	-26.74	687.41	610.67	596.34	14.33	42.623	
4,150.00	4,148.00	4,177.35	4,163.60	14.60		29.28	-26.75	687.85	607.61	593.06	14.55	41.756	
4,200.00	4,197.95	4,258.00	4,243.45	14.78		29.45	-26.75	687.85	606.39	591.69	14.70	41.242	
4,250.00	4,247.90	4,278.05	4,263.50	14.96		29.49	-26.75	687.85	603.69	588.78	14.91	40.495	
4,300.00	4,297.85	4,352.00	4,336.69	15.14		29.65	-26.75	687.85	602.18	587.12	15.07	39.965	
4,350.00	4,347.79	4,378.71	4,363.39	15.32		29.70	-26.75	687.85	599.78	584.51	15.26	39.292	
4,400.00	4,397.74	4,400.00	4,413.34	15.50		29.81	-26.75	687.85	597.83	582.38	15.44	38.711	
4,450.00	4,447.69	4,479.23	4,463.29	15.68		29.92	-26.75	687.85	595.87	580.25	15.62	38.144	
4,500.00	4,497.64	4,548.27	4,513.24	15.86		30.02	-26.75	687.85	593.93	578.13	15.80	37.590	
4,550.00	4,547.59	4,579.68	4,563.19	16.04		30.13	-26.75	687.85	591.98	576.00	15.98	37.048	
4,600.00	4,597.54	4,635.73	4,613.14	16.22		30.24	-26.75	687.85	590.03	573.88	16.16	36.518	
4,650.00	4,647.49	4,683.16	4,665.94	16.40		30.30	-26.31	689.19	589.38	573.04	16.33	36.082	
4,700.00	4,697.44	4,731.02	4,713.04	16.58		30.46	-26.75	687.85	586.15	569.64	16.51	35.493	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,750.00	4,747.39	4,818.85	4,800.54	16.76		30.66	-26.74	687.88	585.44	568.80	16.65	35.170	
4,800.00	4,797.34	4,832.03	4,812.94	16.94		30.69	-26.75	687.85	582.28	565.40	16.87	34.511	
4,850.00	4,847.29	4,914.00	4,893.70	17.12		30.87	-26.75	687.85	581.16	564.15	17.01	34.156	
4,900.00	4,897.24	4,933.14	4,912.84	17.30		30.92	-26.75	687.85	578.41	561.18	17.23	33.571	
4,950.00	4,947.19	5,008.00	4,986.55	17.48		31.09	-26.75	687.85	576.97	559.59	17.38	33.191	
5,000.00	4,997.14	5,034.19	5,012.74	17.66		31.15	-26.75	687.85	574.56	556.97	17.59	32.669	
5,050.00	5,047.09	5,102.00	5,079.45	17.84		31.30	-26.75	687.85	572.88	555.13	17.75	32.274	
5,100.00	5,097.04	5,135.18	5,112.64	18.02		31.38	-26.75	687.85	570.71	552.76	17.95	31.803	
5,150.00	5,146.99	5,203.81	5,162.59	18.20		31.50	-26.75	687.85	568.79	550.67	18.12	31.383	
5,200.00	5,196.93	5,236.14	5,212.53	18.38		31.62	-26.75	687.85	566.87	548.57	18.30	30.971	
5,250.00	5,246.88	5,288.86	5,262.48	18.56		31.74	-26.75	687.85	564.96	546.48	18.48	30.568	
5,300.00	5,296.83	5,350.13	5,325.30	18.74		31.82	-26.33	689.34	564.60	545.95	18.65	30.275	
5,350.00	5,346.78	5,388.02	5,362.38	18.92		31.98	-26.75	687.85	561.14	542.30	18.84	29.784	
5,400.00	5,396.73	5,471.94	5,446.03	19.10		32.17	-26.70	688.08	560.46	541.49	18.97	29.545	
5,450.00	5,446.68	5,488.79	5,462.28	19.28		32.22	-26.75	687.85	557.32	538.13	19.20	29.030	
5,500.00	5,496.63	5,585.88	5,558.98	19.46		32.52	-27.09	686.54	556.15	536.86	19.29	28.830	
5,550.00	5,546.58	5,589.48	5,562.18	19.64		32.47	-26.75	687.85	553.52	533.97	19.56	28.303	
5,600.00	5,596.53	5,600.00	5,612.13	19.82		32.60	-26.75	687.85	551.62	531.89	19.74	27.950	
5,650.00	5,646.48	5,690.16	5,662.08	20.00		32.72	-26.75	687.85	549.73	529.82	19.92	27.604	
5,700.00	5,696.43	5,700.00	5,712.03	20.18		32.85	-26.75	687.85	547.84	527.74	20.09	27.263	
5,750.00	5,746.38	5,790.82	5,761.98	20.36		32.98	-26.75	687.85	545.95	525.68	20.27	26.929	
5,800.00	5,796.33	5,858.50	5,811.93	20.54		33.11	-26.75	687.85	544.06	523.61	20.45	26.601	
5,850.00	5,846.28	5,891.45	5,861.88	20.73		33.24	-26.75	687.85	542.18	521.55	20.63	26.278	
5,900.00	5,896.23	5,945.89	5,911.83	20.91		33.37	-26.75	687.85	540.30	519.49	20.81	25.962	
5,950.00	5,946.18	5,994.62	5,964.25	21.09		33.44	-26.40	689.22	539.72	518.73	20.99	25.714	
6,000.00	5,996.12	6,042.70	6,011.72	21.27		33.63	-26.75	687.85	536.55	515.38	21.17	25.344	
6,050.00	6,046.07	6,106.72	6,075.61	21.45		33.76	-26.50	688.91	535.86	514.52	21.33	25.119	
6,100.00	6,096.02	6,143.29	6,111.62	21.63		33.90	-26.75	687.85	532.81	511.28	21.53	24.748	
6,150.00	6,145.97	6,221.48	6,189.60	21.81		34.10	-26.71	688.02	531.84	510.18	21.66	24.552	
6,200.00	6,195.92	6,243.92	6,211.52	21.99		34.17	-26.75	687.85	529.08	507.19	21.89	24.172	
6,250.00	6,245.87	6,250.00	6,261.47	22.17		34.31	-26.75	687.85	527.22	505.15	22.07	23.891	
6,300.00	6,295.82	6,344.57	6,311.42	22.35		34.45	-26.75	687.85	525.36	503.11	22.25	23.615	
6,350.00	6,345.77	6,350.00	6,361.37	22.53		34.59	-26.75	687.85	523.51	501.08	22.43	23.343	
6,400.00	6,395.72	6,445.20	6,411.32	22.71		34.73	-26.75	687.85	521.66	499.05	22.61	23.076	
6,450.00	6,445.67	6,450.00	6,461.27	22.89		34.87	-26.75	687.85	519.81	497.02	22.79	22.813	
6,500.00	6,495.62	6,545.79	6,511.22	23.07		35.01	-26.75	687.85	517.96	495.00	22.97	22.554	
6,550.00	6,545.57	6,605.61	6,561.17	23.26		35.15	-26.75	687.85	516.12	492.98	23.14	22.300	
6,600.00	6,595.52	6,646.34	6,611.12	23.44		35.30	-26.75	687.85	514.28	490.96	23.32	22.049	
6,650.00	6,645.47	6,696.88	6,661.07	23.62		35.44	-26.75	687.85	512.45	488.95	23.50	21.803	
6,700.00	6,695.42	6,754.14	6,718.22	23.80		35.56	-26.54	689.05	511.80	488.12	23.68	21.617	
6,750.00	6,745.37	6,797.36	6,760.97	23.98		35.74	-26.75	687.85	508.79	484.93	23.86	21.321	
6,800.00	6,795.31	6,861.72	6,825.22	24.16		35.89	-26.63	688.72	507.99	483.96	24.02	21.146	
6,850.00	6,845.26	6,897.77	6,860.86	24.34		36.03	-26.75	687.85	505.14	480.92	24.22	20.854	
6,900.00	6,895.21	6,966.21	6,929.17	24.52		36.22	-26.70	688.36	504.14	479.77	24.37	20.685	
6,950.00	6,945.16	6,998.13	6,960.76	24.70		36.34	-26.75	687.85	501.51	476.93	24.58	20.401	
7,000.00	6,995.11	7,070.88	7,033.37	24.88		36.56	-26.75	687.89	500.25	475.53	24.72	20.237	
7,050.00	7,045.06	7,098.43	7,060.66	25.06		36.64	-26.75	687.85	497.89	472.95	24.94	19.962	
7,100.00	7,095.01	7,172.71	7,134.80	25.24		36.88	-26.76	687.57	496.41	471.33	25.07	19.798	
7,150.00	7,144.96	7,198.68	7,160.56	25.43		36.95	-26.75	687.85	494.29	468.99	25.30	19.536	
7,200.00	7,194.91	7,274.55	7,236.28	25.61		37.21	-26.73	687.25	492.58	467.15	25.43	19.371	
7,250.00	7,244.86	7,298.89	7,260.46	25.79		37.27	-26.75	687.85	490.70	465.04	25.66	19.122	
7,300.00	7,294.81	7,360.91	7,310.41	25.97		37.43	-26.75	687.85	488.91	463.07	25.84	18.920	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,350.00	7,344.76	7,399.04	7,360.36	26.15		37.59	-26.75	687.85	487.13	461.11	26.02	18.720	
7,400.00	7,394.71	7,449.21	7,410.31	26.33		37.75	-26.75	687.85	485.35	459.14	26.20	18.524	
7,450.00	7,444.66	7,500.52	7,461.59	26.51		37.92	-26.97	688.58	484.33	457.95	26.38	18.360	
7,500.00	7,494.61	7,549.29	7,510.21	26.69		38.08	-26.75	687.85	481.80	455.23	26.56	18.139	
7,550.00	7,544.56	7,602.43	7,563.33	26.87		38.27	-27.00	688.45	480.68	453.94	26.74	17.978	
7,600.00	7,594.50	7,649.33	7,610.10	27.05		38.41	-26.75	687.85	478.26	451.34	26.92	17.765	
7,650.00	7,644.45	7,703.78	7,664.53	27.23		38.61	-26.99	688.33	477.05	449.95	27.10	17.606	
7,700.00	7,694.40	7,749.35	7,710.00	27.42		38.75	-26.75	687.85	474.74	447.46	27.28	17.402	
7,750.00	7,744.35	7,805.43	7,766.05	27.60		38.95	-26.96	688.23	473.45	446.00	27.45	17.246	
7,800.00	7,794.30	7,849.36	7,809.90	27.78		39.09	-26.75	687.85	471.24	443.60	27.64	17.048	
7,850.00	7,844.25	7,906.00	7,866.52	27.96		39.30	-26.91	688.12	469.85	442.04	27.81	16.894	
7,900.00	7,894.20	7,949.35	7,909.80	28.14		39.44	-26.75	687.85	467.76	439.76	28.00	16.705	
7,950.00	7,944.15	8,006.79	7,967.21	28.32		39.65	-26.87	688.03	466.29	438.12	28.17	16.552	
8,000.00	7,994.10	8,049.34	8,009.70	28.50		39.79	-26.75	687.85	464.29	435.93	28.36	16.370	
8,050.00	8,044.05	8,107.99	8,068.32	28.68		40.00	-26.80	687.92	462.72	434.19	28.53	16.220	
8,100.00	8,094.00	8,149.32	8,109.60	28.86		40.15	-26.75	687.85	460.84	432.12	28.72	16.045	
8,150.00	8,143.95	8,208.71	8,168.96	29.04		40.35	-26.64	687.73	459.07	430.19	28.89	15.892	
8,200.00	8,193.90	8,249.44	8,209.64	29.23		40.54	-27.08	688.17	457.81	428.72	29.08	15.741	
8,250.00	8,243.85	8,309.07	8,269.26	29.41		40.71	-26.54	687.65	455.56	426.31	29.25	15.577	
8,300.00	8,293.80	8,350.13	8,310.29	29.59		40.88	-26.80	688.15	454.30	424.85	29.44	15.430	
8,350.00	8,343.75	8,407.24	8,367.39	29.77		41.10	-26.70	687.59	452.11	422.49	29.61	15.268	
8,400.00	8,393.69	8,451.62	8,411.72	29.95		41.23	-26.62	688.30	451.00	421.20	29.80	15.134	
8,450.00	8,443.64	8,499.22	8,459.24	30.13		41.44	-26.75	687.85	448.92	418.93	29.98	14.971	
8,500.00	8,493.59	8,550.48	8,510.49	30.31		41.59	-26.43	688.11	447.38	417.22	30.16	14.832	
8,550.00	8,543.54	8,599.19	8,559.14	30.49		41.83	-26.75	687.85	445.55	415.21	30.35	14.683	
8,600.00	8,593.49	8,650.94	8,610.88	30.67		41.99	-26.51	688.07	444.01	413.48	30.52	14.546	
8,650.00	8,643.44	8,699.14	8,659.04	30.86		42.21	-26.75	687.85	442.21	411.50	30.71	14.401	
8,700.00	8,693.39	8,750.01	8,709.90	31.04		42.39	-26.57	687.96	440.59	409.70	30.89	14.265	
8,750.00	8,743.34	8,799.07	8,758.94	31.22		42.61	-26.75	687.85	438.88	407.82	31.07	14.127	
8,800.00	8,793.29	8,847.97	8,807.83	31.40		42.79	-26.63	687.86	437.20	405.95	31.25	13.991	
8,850.00	8,843.24	8,898.99	8,858.84	31.58		43.01	-26.75	687.85	435.58	404.15	31.43	13.860	
8,900.00	8,893.19	8,946.86	8,906.70	31.76		43.20	-26.71	687.83	433.91	402.30	31.61	13.726	
8,950.00	8,943.14	8,998.89	8,958.74	31.94		43.42	-26.75	687.85	432.30	400.51	31.79	13.599	
9,000.00	8,993.09	9,046.50	9,006.34	32.12		43.61	-26.76	687.83	430.66	398.69	31.97	13.470	
9,050.00	9,043.04	9,098.70	9,058.53	32.30		43.85	-26.88	687.67	428.92	396.77	32.15	13.341	
9,100.00	9,092.99	9,148.77	9,108.59	32.49		44.04	-26.75	687.85	427.42	395.09	32.33	13.220	
9,150.00	9,142.94	9,198.24	9,158.06	32.67		44.25	-26.74	687.69	425.66	393.15	32.51	13.092	
9,200.00	9,192.88	9,248.67	9,208.48	32.85		44.46	-26.75	687.85	424.20	391.51	32.69	12.975	
9,250.00	9,242.83	9,298.21	9,258.02	33.03		44.68	-26.78	687.76	422.52	389.65	32.87	12.853	
9,300.00	9,292.78	9,348.58	9,308.38	33.21		44.89	-26.75	687.85	421.00	387.94	33.05	12.737	
9,350.00	9,342.73	9,397.91	9,357.72	33.39		45.11	-26.77	687.77	419.34	386.10	33.24	12.617	
9,400.00	9,392.68	9,448.48	9,408.28	33.57		45.32	-26.75	687.85	417.82	384.41	33.42	12.504	
9,450.00	9,442.63	9,498.24	9,458.04	33.75		45.54	-26.74	687.84	416.23	382.63	33.60	12.389	
9,500.00	9,492.58	9,548.38	9,508.18	33.94		45.77	-26.75	687.85	414.67	380.89	33.78	12.276	
9,550.00	9,542.53	9,598.70	9,558.51	34.12		45.99	-26.78	687.86	413.12	379.16	33.96	12.166	
9,600.00	9,592.48	9,648.28	9,608.08	34.30		46.21	-26.75	687.85	411.54	377.40	34.14	12.055	
9,650.00	9,642.43	9,697.88	9,657.67	34.48		46.42	-26.64	687.88	409.98	375.66	34.32	11.945	
9,700.00	9,692.38	9,748.20	9,707.98	34.66		46.67	-26.75	687.85	408.44	373.94	34.50	11.838	
9,750.00	9,742.33	9,798.04	9,757.81	34.84		46.89	-26.69	687.87	406.90	372.22	34.68	11.732	
9,800.00	9,792.28	9,848.13	9,807.88	35.02		47.13	-26.75	687.85	405.37	370.50	34.86	11.627	
9,850.00	9,842.23	9,898.08	9,857.82	35.20		47.36	-26.70	687.87	403.84	368.79	35.04	11.524	
9,900.00	9,892.18	9,948.05	9,907.78	35.38		47.60	-26.75	687.85	402.32	367.09	35.23	11.421	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,950.00	9,942.13	9,998.45	9,958.16	35.57		47.84	-26.76	687.85	400.80	365.40	35.41	11.320	
10,000.00	9,992.08	10,047.99	10,007.68	35.75		48.03	-26.46	687.99	399.30	363.71	35.59	11.220	
10,050.00	10,042.02	10,098.04	10,057.72	35.93		48.33	-26.83	687.81	397.79	362.03	35.77	11.121	
10,100.00	10,091.97	10,147.83	10,107.50	36.11		48.53	-26.58	687.91	396.28	360.33	35.95	11.023	
10,150.00	10,141.92	10,197.87	10,157.52	36.29		48.81	-26.75	687.85	394.82	358.69	36.13	10.927	
10,200.00	10,191.87	10,247.84	10,207.49	36.47		49.02	-26.55	687.95	393.34	357.03	36.31	10.832	
10,250.00	10,241.82	10,297.80	10,257.42	36.65		49.30	-26.75	687.85	391.87	355.37	36.49	10.738	
10,300.00	10,291.77	10,347.88	10,307.50	36.83		49.51	-26.53	687.98	390.42	353.74	36.67	10.645	
10,350.00	10,341.72	10,397.73	10,357.32	37.02		49.80	-26.75	687.85	388.95	352.09	36.86	10.553	
10,400.00	10,391.67	10,447.55	10,407.14	37.20		50.02	-26.56	687.93	387.49	350.45	37.04	10.462	
10,450.00	10,441.62	10,497.64	10,457.22	37.38		50.31	-26.75	687.85	386.06	348.84	37.22	10.373	
10,500.00	10,491.57	10,548.21	10,507.79	37.56		50.56	-26.68	687.92	384.65	347.26	37.40	10.285	
10,550.00	10,541.52	10,597.55	10,557.12	37.74		50.83	-26.75	687.85	383.20	345.62	37.58	10.196	
10,600.00	10,591.47	10,664.50	10,607.07	37.92		51.09	-26.75	687.85	381.78	344.02	37.76	10.110	
10,650.00	10,641.42	10,697.45	10,657.02	38.10		51.35	-26.75	687.85	380.37	342.42	37.94	10.024	
10,700.00	10,691.37	10,752.58	10,706.97	38.28		51.62	-26.75	687.85	378.97	340.84	38.13	9.940	
10,750.00	10,741.32	10,797.41	10,756.95	38.47		51.90	-26.94	688.07	377.86	339.55	38.31	9.864	
10,800.00	10,791.27	10,852.68	10,812.21	38.65		52.18	-26.67	687.76	376.11	337.64	38.48	9.774	
10,850.00	10,841.21	10,897.94	10,857.45	38.83		52.44	-26.97	688.06	375.11	336.43	38.67	9.700	
10,900.00	10,891.16	10,953.37	10,912.88	39.01		52.72	-26.59	687.70	373.29	334.45	38.84	9.611	
10,950.00	10,941.11	10,998.30	10,957.78	39.19		52.99	-26.92	688.03	372.33	333.29	39.03	9.539	
11,000.00	10,991.06	11,047.18	11,006.66	39.37		53.25	-26.75	687.85	370.73	331.52	39.22	9.454	
11,050.00	11,041.02	11,097.46	11,056.94	39.55		53.52	-26.79	687.89	369.50	330.10	39.40	9.379	
11,100.00	11,090.99	11,147.11	11,106.59	39.73		53.70	-26.75	687.85	368.50	328.93	39.58	9.311	
11,150.00	11,140.98	11,197.14	11,156.62	39.91		53.81	-26.77	687.85	367.96	328.20	39.76	9.256	
11,200.00	11,190.98	11,247.10	11,206.58	40.09		120.51	-26.75	687.85	367.79	327.86	39.93	9.210	
11,250.00	11,240.98	11,297.10	11,256.58	40.26		120.51	-26.75	687.85	367.79	327.68	40.11	9.170	
11,300.00	11,290.98	11,347.10	11,306.58	40.44		120.51	-26.75	687.85	367.79	327.51	40.28	9.131	
11,317.50	11,308.48	11,364.57	11,324.05	40.50		120.52	-26.72	687.75	367.69	327.35	40.34	9.114	
11,350.00	11,340.98	11,396.04	11,355.52	40.61		120.52	-26.74	687.80	367.74	327.28	40.46	9.090	
11,400.00	11,390.98	11,447.11	11,406.58	40.78		120.51	-26.75	687.85	367.79	327.16	40.63	9.052	
11,409.82	11,400.80	11,456.93	11,416.39	40.82		120.54	-26.89	687.71	367.74	327.07	40.66	9.043	
11,450.00	11,440.98	11,496.40	11,455.87	40.96		120.52	-26.79	687.81	367.78	326.97	40.81	9.013	
11,500.00	11,490.98	11,547.27	11,506.58	41.13		120.51	-26.75	687.85	367.79	326.81	40.98	8.975	
11,550.00	11,540.98	11,606.25	11,565.40	41.31		-59.22	-26.22	687.91	367.67	326.54	41.13	8.938	
11,600.00	11,590.90	11,650.36	11,606.50	41.47		-59.58	-26.75	687.85	366.50	325.18	41.31	8.871	
11,650.00	11,640.41	11,702.89	11,656.01	41.63		-60.81	-26.75	687.85	363.06	321.59	41.47	8.755	
11,700.00	11,689.13	11,756.67	11,704.73	41.78		-62.82	-26.75	687.85	357.68	316.07	41.61	8.596	
11,750.00	11,736.70	11,750.00	11,752.30	41.93		-65.60	-26.75	687.85	350.72	308.98	41.74	8.402	
11,800.00	11,782.75	11,883.05	11,798.35	42.07		-69.11	-26.75	687.85	342.70	300.83	41.87	8.185	
11,850.00	11,826.92	11,942.37	11,842.52	42.20		-73.28	-26.75	687.85	334.29	292.31	41.99	7.962	
11,900.00	11,868.90	11,900.00	11,884.50	42.31		-77.93	-26.75	687.85	326.37	284.27	42.10	7.752	
11,950.00	11,908.34	12,068.59	11,923.94	42.42		-82.83	-26.75	687.85	319.96	277.75	42.21	7.579	
12,000.00	11,944.96	15,308.03	11,960.56	42.52		-87.69	-26.75	687.85	316.21	273.87	42.34	7.469	
12,029.79	11,965.32	20,700.69	11,982.21	42.57		-90.55	-27.26	687.83	315.68	273.27	42.41	7.444	CC, ES, SF
12,050.00	11,978.47	20,602.00	11,985.69	42.61		-91.02	-26.75	687.85	316.37	273.89	42.48	7.447	
12,100.00	12,008.63	20,602.00	11,985.69	42.71		-90.31	-26.75	687.85	323.43	280.90	42.53	7.605	
12,150.00	12,035.19	20,602.00	11,985.69	42.81		-88.80	-26.75	687.85	337.84	295.41	42.43	7.961	
12,200.00	12,057.97	20,602.00	11,985.69	42.91		-86.51	-26.75	687.85	358.61	316.31	42.31	8.476	
12,250.00	12,076.78	20,602.00	11,985.69	43.03		-83.48	-26.75	687.85	384.58	342.35	42.23	9.108	
12,300.00	12,091.48	20,602.00	11,985.69	43.14		-79.76	-26.75	687.85	414.59	372.37	42.22	9.820	
12,350.00	12,101.97	20,602.00	11,985.69	43.26		-75.46	-26.75	687.85	447.62	405.33	42.28	10.586	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 01-T23S-R31E - Tomb Raider 1-12 Fed 714H - Original Hole - T&D — **Offset Site Error:** 5.00 ft

Survey Program: — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,400.00	12,108.15	20,602.00	11,985.69	43.37		-70.72	-26.75	687.85	482.83	440.42	42.41	11.385	
12,450.00	12,110.00	20,602.00	11,985.69	43.49		-66.10	-26.75	687.85	519.54	476.97	42.57	12.203	
12,500.00	12,110.00	20,602.00	11,985.69	43.61		-66.10	-26.75	687.85	557.89	515.16	42.73	13.055	
12,550.00	12,110.00	20,602.00	11,985.69	43.75		-66.10	-26.75	687.85	597.96	555.09	42.87	13.949	
12,600.00	12,110.00	20,602.00	11,985.69	43.89		-66.10	-26.75	687.85	639.44	596.45	42.98	14.877	
12,650.00	12,110.00	20,602.00	11,985.69	44.04		-66.10	-26.75	687.85	682.05	638.97	43.08	15.832	
12,700.00	12,110.00	20,602.00	11,985.69	44.20		-66.10	-26.75	687.85	725.61	682.45	43.16	16.812	
12,750.00	12,110.00	20,602.00	11,985.69	44.38		-66.10	-26.75	687.85	769.96	726.72	43.23	17.810	
12,800.00	12,110.00	20,602.00	11,985.69	44.56		-66.10	-26.75	687.85	814.95	771.66	43.29	18.825	
12,850.00	12,110.00	20,602.00	11,985.69	44.77		-66.10	-26.75	687.85	860.51	817.16	43.34	19.853	
12,900.00	12,110.00	20,602.00	11,985.69	44.97		-66.10	-26.75	687.85	906.53	863.14	43.39	20.893	
12,950.00	12,110.00	20,602.00	11,985.69	45.19		-66.10	-26.75	687.85	952.95	909.52	43.43	21.942	
13,000.00	12,110.00	20,602.00	11,985.69	45.41		-66.10	-26.75	687.85	999.71	956.25	43.47	22.999	
13,050.00	12,110.00	20,602.00	11,985.69	45.66		-66.10	-26.75	687.85	1,046.78	1,003.28	43.50	24.064	
13,100.00	12,110.00	20,602.00	11,985.69	45.90		-66.10	-26.75	687.85	1,094.10	1,050.57	43.53	25.135	
13,150.00	12,110.00	20,602.00	11,985.69	46.16		-66.10	-26.75	687.85	1,141.66	1,098.10	43.56	26.211	
13,200.00	12,110.00	20,602.00	11,985.69	46.43		-66.10	-26.75	687.85	1,189.41	1,145.83	43.58	27.292	
13,250.00	12,110.00	20,602.00	11,985.69	46.71		-66.10	-26.75	687.85	1,237.34	1,193.74	43.60	28.377	
13,300.00	12,110.00	20,602.00	11,985.69	47.00		-66.10	-26.75	687.85	1,285.43	1,241.81	43.63	29.465	
13,350.00	12,110.00	20,602.00	11,985.69	47.30		-66.10	-26.75	687.85	1,333.66	1,290.02	43.65	30.556	
13,400.00	12,110.00	20,602.00	11,985.69	47.60		-66.10	-26.75	687.85	1,382.02	1,338.35	43.67	31.650	
13,450.00	12,110.00	20,602.00	11,985.69	47.92		-66.10	-26.75	687.85	1,430.49	1,386.80	43.68	32.746	
13,500.00	12,110.00	20,602.00	11,985.69	48.24		-66.10	-26.75	687.85	1,479.06	1,435.36	43.70	33.844	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 12-T23S-R31E - Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan 1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
11,400.00	11,390.98	22,312.56	12,110.00	41.09	155.68	-90.37	151.59	-931.50	1,477.58	1,294.67	182.91	8.078	
11,450.00	11,440.98	22,312.56	12,110.00	41.26	155.68	-90.37	151.59	-931.50	1,454.64	1,269.88	184.76	7.873	
11,500.00	11,490.98	22,312.56	12,110.00	41.44	155.68	-90.37	151.59	-931.50	1,433.08	1,246.52	186.56	7.682	
11,550.00	11,540.98	22,312.55	12,110.00	41.61	155.68	90.15	151.58	-931.50	1,412.96	1,224.67	188.29	7.504	
11,600.00	11,590.90	22,310.02	12,110.00	41.77	155.65	92.04	149.05	-931.48	1,394.37	1,204.48	189.89	7.343	
11,650.00	11,640.41	22,303.16	12,110.00	41.93	155.55	93.54	142.19	-931.44	1,377.47	1,186.15	191.32	7.200	
11,700.00	11,689.13	22,292.00	12,110.00	42.08	155.39	94.64	131.03	-931.36	1,362.40	1,169.84	192.55	7.075	
11,750.00	11,736.70	22,276.65	12,110.00	42.23	155.18	95.36	115.68	-931.26	1,349.21	1,155.64	193.57	6.970	
11,800.00	11,782.75	22,257.20	12,110.00	42.36	154.91	95.74	96.23	-931.14	1,337.94	1,143.57	194.37	6.883	
11,850.00	11,826.92	22,233.82	12,110.00	42.49	154.58	95.79	72.85	-930.99	1,328.53	1,133.59	194.94	6.815	
11,900.00	11,868.90	22,206.67	12,110.00	42.61	154.20	95.57	45.70	-930.81	1,320.90	1,125.60	195.30	6.764	
11,950.00	11,908.34	22,175.97	12,110.00	42.71	153.77	95.11	15.00	-930.61	1,314.90	1,119.46	195.45	6.728	
12,000.00	11,944.96	22,141.95	12,110.00	42.81	153.30	94.48	-19.02	-930.40	1,310.38	1,114.97	195.41	6.706	
12,050.00	11,978.47	22,104.86	12,110.00	42.90	152.78	93.72	-56.10	-930.16	1,307.12	1,111.91	195.20	6.696 SF	
12,100.00	12,008.63	22,065.00	12,110.00	43.00	152.23	92.88	-95.96	-929.90	1,304.91	1,110.05	194.87	6.696	
12,150.00	12,035.19	22,022.66	12,110.00	43.10	151.64	92.03	-138.30	-929.62	1,303.54	1,109.13	194.42	6.705	
12,200.00	12,057.97	21,978.17	12,110.00	43.20	151.02	91.22	-182.80	-929.34	1,302.80	1,108.91	193.89	6.719	
12,250.00	12,076.78	21,931.86	12,110.00	43.32	150.37	90.48	-229.10	-929.04	1,302.48	1,109.17	193.31	6.738	
12,293.54	12,089.82	21,909.67	12,110.00	43.41	150.06	89.94	-270.63	-928.77	1,302.42	1,109.37	193.05	6.747	
12,300.00	12,091.48	21,884.09	12,110.00	43.43	149.71	89.87	-276.88	-928.73	1,302.42	1,109.72	192.70	6.759	
12,350.00	12,101.97	21,835.21	12,110.00	43.55	149.03	89.42	-325.75	-928.41	1,302.47	1,110.40	192.07	6.781	
12,400.00	12,108.15	21,785.61	12,110.00	43.66	148.33	89.14	-375.35	-928.09	1,302.54	1,111.08	191.46	6.803	
12,450.00	12,110.00	21,735.66	12,110.00	43.78	147.64	89.06	-425.30	-927.77	1,302.55	1,111.70	190.86	6.825	
12,500.00	12,110.00	21,685.66	12,110.00	43.90	146.95	89.06	-475.30	-927.45	1,302.54	1,112.27	190.27	6.846	
12,550.00	12,110.00	21,635.66	12,110.00	44.03	146.25	89.06	-525.29	-927.13	1,302.53	1,112.82	189.71	6.866	
12,600.00	12,110.00	21,585.66	12,110.00	44.17	145.56	89.06	-575.29	-926.80	1,302.51	1,113.37	189.14	6.887	
12,650.00	12,110.00	21,535.66	12,110.00	44.33	144.86	89.06	-625.29	-926.48	1,302.50	1,113.90	188.60	6.906	
12,700.00	12,110.00	21,485.66	12,110.00	44.49	144.17	89.06	-675.29	-926.16	1,302.49	1,114.43	188.06	6.926	
12,750.00	12,110.00	21,435.66	12,110.00	44.66	143.48	89.06	-725.29	-925.83	1,302.48	1,114.94	187.54	6.945	
12,800.00	12,110.00	21,385.66	12,110.00	44.84	142.78	89.06	-775.29	-925.51	1,302.46	1,115.45	187.02	6.964	
12,850.00	12,110.00	21,335.66	12,110.00	45.04	142.09	89.06	-825.29	-925.19	1,302.45	1,115.93	186.52	6.983	
12,900.00	12,110.00	21,285.66	12,110.00	45.25	141.40	89.06	-875.29	-924.87	1,302.44	1,116.41	186.03	7.001	
12,950.00	12,110.00	21,235.66	12,110.00	45.47	140.71	89.06	-925.29	-924.54	1,302.43	1,116.87	185.55	7.019	
13,000.00	12,110.00	21,185.66	12,110.00	45.69	140.01	89.06	-975.28	-924.22	1,302.41	1,117.33	185.08	7.037	
13,050.00	12,110.00	21,135.66	12,110.00	45.93	139.32	89.06	-1,025.28	-923.90	1,302.40	1,117.77	184.63	7.054	
13,100.00	12,110.00	21,085.66	12,110.00	46.17	138.63	89.06	-1,075.28	-923.57	1,302.39	1,118.21	184.18	7.071	
13,150.00	12,110.00	21,035.66	12,110.00	46.43	137.94	89.06	-1,125.28	-923.25	1,302.37	1,118.63	183.75	7.088	
13,200.00	12,110.00	20,985.66	12,110.00	46.70	137.25	89.06	-1,175.28	-922.93	1,302.36	1,119.05	183.32	7.104	
13,250.00	12,110.00	20,935.66	12,110.00	46.98	136.56	89.06	-1,225.28	-922.61	1,302.35	1,119.44	182.91	7.120	
13,300.00	12,110.00	20,885.66	12,110.00	47.26	135.87	89.06	-1,275.28	-922.28	1,302.34	1,119.84	182.50	7.136	
13,350.00	12,110.00	20,835.66	12,110.00	47.56	135.19	89.06	-1,325.28	-921.96	1,302.32	1,120.22	182.11	7.151	
13,400.00	12,110.00	20,785.66	12,110.00	47.86	134.50	89.06	-1,375.28	-921.64	1,302.31	1,120.59	181.72	7.167	
13,450.00	12,110.00	20,735.66	12,110.00	48.18	133.81	89.06	-1,425.28	-921.31	1,302.30	1,120.95	181.35	7.181	
13,500.00	12,110.00	20,685.66	12,110.00	48.50	133.12	89.06	-1,475.27	-920.99	1,302.29	1,121.31	180.97	7.196	
13,550.00	12,110.00	20,635.66	12,110.00	48.83	132.44	89.06	-1,525.27	-920.67	1,302.27	1,121.65	180.62	7.210	
13,600.00	12,110.00	20,585.66	12,110.00	49.17	131.75	89.06	-1,575.27	-920.35	1,302.26	1,121.99	180.27	7.224	
13,650.00	12,110.00	20,535.66	12,110.00	49.52	131.06	89.06	-1,625.27	-920.02	1,302.25	1,122.31	179.93	7.237	
13,700.00	12,110.00	20,485.66	12,110.00	49.87	130.38	89.06	-1,675.27	-919.70	1,302.23	1,122.63	179.60	7.251	
13,750.00	12,110.00	20,435.66	12,110.00	50.24	129.69	89.06	-1,725.27	-919.38	1,302.22	1,122.94	179.28	7.264	
13,800.00	12,110.00	20,385.66	12,110.00	50.61	129.01	89.06	-1,775.27	-919.05	1,302.21	1,123.25	178.96	7.276	
13,850.00	12,110.00	20,335.66	12,110.00	50.99	128.32	89.06	-1,825.27	-918.73	1,302.20	1,123.53	178.66	7.289	
13,900.00	12,110.00	20,285.66	12,110.00	51.38	127.64	89.06	-1,875.27	-918.41	1,302.18	1,123.82	178.36	7.301	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 12-T23S-R31E - Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan 1 — Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,950.00	12,110.00	20,235.66	12,110.00	51.78	126.96	89.06	-1,925.27	-918.08	1,302.17	1,124.10	178.08	7.312	
14,000.00	12,110.00	20,185.66	12,110.00	52.17	126.27	89.06	-1,975.26	-917.76	1,302.16	1,124.37	177.79	7.324	
14,050.00	12,110.00	20,135.66	12,110.00	52.59	125.59	89.06	-2,025.26	-917.44	1,302.15	1,124.63	177.52	7.335	
14,100.00	12,110.00	20,085.66	12,110.00	53.00	124.91	89.06	-2,075.26	-917.12	1,302.13	1,124.88	177.25	7.346	
14,150.00	12,110.00	20,035.66	12,110.00	53.43	124.23	89.06	-2,125.26	-916.79	1,302.12	1,125.13	176.99	7.357	
14,200.00	12,110.00	19,985.66	12,110.00	53.85	123.55	89.06	-2,175.26	-916.47	1,302.11	1,125.37	176.74	7.368	
14,250.00	12,110.00	19,935.66	12,110.00	54.29	122.87	89.06	-2,225.26	-916.15	1,302.09	1,125.60	176.49	7.378	
14,300.00	12,110.00	19,885.66	12,110.00	54.73	122.19	89.06	-2,275.26	-915.82	1,302.08	1,125.83	176.25	7.388	
14,350.00	12,110.00	19,835.66	12,110.00	55.18	121.51	89.06	-2,325.26	-915.50	1,302.07	1,126.05	176.02	7.397	
14,400.00	12,110.00	19,785.66	12,110.00	55.63	120.83	89.06	-2,375.26	-915.18	1,302.06	1,126.26	175.79	7.407	
14,450.00	12,110.00	19,735.66	12,110.00	56.09	120.16	89.06	-2,425.25	-914.86	1,302.04	1,126.47	175.58	7.416	
14,500.00	12,110.00	19,685.66	12,110.00	56.55	119.48	89.06	-2,475.25	-914.53	1,302.03	1,126.67	175.36	7.425	
14,550.00	12,110.00	19,635.66	12,110.00	57.03	118.80	89.06	-2,525.25	-914.21	1,302.02	1,126.86	175.16	7.433	
14,600.00	12,110.00	19,585.66	12,110.00	57.50	118.13	89.06	-2,575.25	-913.89	1,302.01	1,127.05	174.95	7.442	
14,650.00	12,110.00	19,535.66	12,110.00	57.99	117.45	89.06	-2,625.25	-913.56	1,301.99	1,127.23	174.76	7.450	
14,700.00	12,110.00	19,485.66	12,110.00	58.47	116.78	89.06	-2,675.25	-913.24	1,301.98	1,127.41	174.57	7.458	
14,750.00	12,110.00	19,435.66	12,110.00	58.96	116.10	89.06	-2,725.25	-912.92	1,301.97	1,127.58	174.39	7.466	
14,800.00	12,110.00	19,385.66	12,110.00	59.46	115.43	89.06	-2,775.25	-912.60	1,301.95	1,127.75	174.21	7.474	
14,850.00	12,110.00	19,335.66	12,110.00	59.96	114.76	89.06	-2,825.25	-912.27	1,301.94	1,127.90	174.04	7.481	
14,900.00	12,110.00	19,285.66	12,110.00	60.46	114.09	89.06	-2,875.25	-911.95	1,301.93	1,128.06	173.87	7.488	
14,950.00	12,110.00	19,235.66	12,110.00	60.98	113.42	89.06	-2,925.24	-911.63	1,301.92	1,128.21	173.71	7.495	
15,000.00	12,110.00	19,185.66	12,110.00	61.49	112.75	89.06	-2,975.24	-911.30	1,301.90	1,128.35	173.55	7.502	
15,050.00	12,110.00	19,135.66	12,110.00	62.01	112.08	89.06	-3,025.24	-910.98	1,301.89	1,128.49	173.40	7.508	
15,100.00	12,110.00	19,085.66	12,110.00	62.53	111.41	89.06	-3,075.24	-910.66	1,301.88	1,128.63	173.25	7.514	
15,150.00	12,110.00	19,035.66	12,110.00	63.06	110.74	89.06	-3,125.24	-910.34	1,301.87	1,128.76	173.11	7.521	
15,200.00	12,110.00	18,985.66	12,110.00	63.59	110.07	89.06	-3,175.24	-910.01	1,301.85	1,128.88	172.97	7.527	
15,250.00	12,110.00	18,935.66	12,110.00	64.13	109.41	89.06	-3,225.24	-909.69	1,301.84	1,129.00	172.84	7.532	
15,300.00	12,110.00	18,885.66	12,110.00	64.66	108.74	89.06	-3,275.24	-909.37	1,301.83	1,129.12	172.71	7.538	
15,350.00	12,110.00	18,835.66	12,110.00	65.21	108.07	89.06	-3,325.24	-909.04	1,301.81	1,129.23	172.59	7.543	
15,400.00	12,110.00	18,785.66	12,110.00	65.75	107.41	89.06	-3,375.23	-908.72	1,301.80	1,129.34	172.46	7.548	
15,450.00	12,110.00	18,735.66	12,110.00	66.30	106.75	89.06	-3,425.23	-908.40	1,301.79	1,129.44	172.35	7.553	
15,500.00	12,110.00	18,685.66	12,110.00	66.86	106.08	89.06	-3,475.23	-908.08	1,301.78	1,129.54	172.24	7.558	
15,550.00	12,110.00	18,635.66	12,110.00	67.41	105.42	89.06	-3,525.23	-907.75	1,301.76	1,129.63	172.13	7.563	
15,600.00	12,110.00	18,585.66	12,110.00	67.97	104.76	89.06	-3,575.23	-907.43	1,301.75	1,129.72	172.03	7.567	
15,650.00	12,110.00	18,535.66	12,110.00	68.54	104.10	89.06	-3,625.23	-907.11	1,301.74	1,129.81	171.93	7.571	
15,700.00	12,110.00	18,485.66	12,110.00	69.10	103.44	89.06	-3,675.23	-906.78	1,301.72	1,129.89	171.83	7.575	
15,750.00	12,110.00	18,435.66	12,110.00	69.67	102.79	89.06	-3,725.23	-906.46	1,301.71	1,129.97	171.75	7.579	
15,800.00	12,110.00	18,385.66	12,110.00	70.24	102.13	89.06	-3,775.23	-906.14	1,301.70	1,130.04	171.66	7.583	
15,850.00	12,110.00	18,335.66	12,110.00	70.82	101.47	89.06	-3,825.23	-905.82	1,301.69	1,130.11	171.58	7.587	
15,900.00	12,110.00	18,285.66	12,110.00	71.40	100.82	89.06	-3,875.22	-905.49	1,301.67	1,130.18	171.49	7.590	
15,950.00	12,110.00	18,235.66	12,110.00	71.98	100.17	89.06	-3,925.22	-905.17	1,301.66	1,130.24	171.42	7.593	
16,000.00	12,110.00	18,185.66	12,110.00	72.56	99.51	89.06	-3,975.22	-904.85	1,301.65	1,130.30	171.35	7.597	
16,050.00	12,110.00	18,135.66	12,110.00	73.15	98.86	89.06	-4,025.22	-904.52	1,301.64	1,130.35	171.28	7.599	
16,100.00	12,110.00	18,085.66	12,110.00	73.73	98.21	89.06	-4,075.22	-904.20	1,301.62	1,130.41	171.21	7.602	
16,150.00	12,110.00	18,035.66	12,110.00	74.32	97.56	89.06	-4,125.22	-903.88	1,301.61	1,130.46	171.16	7.605	
16,200.00	12,110.00	17,985.66	12,110.00	74.92	96.91	89.06	-4,175.22	-903.56	1,301.60	1,130.50	171.10	7.607	
16,250.00	12,110.00	17,935.66	12,110.00	75.51	96.27	89.06	-4,225.22	-903.23	1,301.58	1,130.54	171.04	7.610	
16,300.00	12,110.00	17,885.66	12,110.00	76.11	95.62	89.06	-4,275.22	-902.91	1,301.57	1,130.58	170.99	7.612	
16,350.00	12,110.00	17,835.66	12,110.00	76.71	94.97	89.06	-4,325.21	-902.59	1,301.56	1,130.61	170.95	7.614	
16,400.00	12,110.00	17,785.66	12,110.00	77.31	94.33	89.06	-4,375.21	-902.26	1,301.55	1,130.65	170.90	7.616	
16,450.00	12,110.00	17,735.66	12,110.00	77.92	93.69	89.06	-4,425.21	-901.94	1,301.53	1,130.67	170.86	7.617	
16,500.00	12,110.00	17,685.66	12,110.00	78.52	93.05	89.06	-4,475.21	-901.62	1,301.52	1,130.70	170.82	7.619	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 12-T23S-R31E - Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan 1 — Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
16,550.00	12,110.00	17,635.66	12,110.00	79.13	92.41	89.06	-4,525.21	-901.29	1,301.51	1,130.72	170.79	7.620	
16,600.00	12,110.00	17,585.66	12,110.00	79.74	91.77	89.06	-4,575.21	-900.97	1,301.50	1,130.74	170.76	7.622	
16,650.00	12,110.00	17,535.66	12,110.00	80.36	91.13	89.06	-4,625.21	-900.65	1,301.48	1,130.75	170.73	7.623	
16,700.00	12,110.00	17,485.66	12,110.00	80.97	90.50	89.06	-4,675.21	-900.33	1,301.47	1,130.76	170.71	7.624	
16,750.00	12,110.00	17,435.66	12,110.00	81.59	89.86	89.06	-4,725.21	-900.00	1,301.46	1,130.77	170.69	7.625	
16,800.00	12,110.00	17,385.66	12,110.00	82.21	89.23	89.06	-4,775.21	-899.68	1,301.44	1,130.77	170.67	7.625	
16,850.00	12,110.00	17,335.66	12,110.00	82.83	88.60	89.06	-4,825.20	-899.36	1,301.43	1,130.77	170.66	7.626	
16,900.00	12,110.00	17,285.66	12,110.00	83.45	87.97	89.06	-4,875.20	-899.03	1,301.42	1,130.77	170.65	7.626	
16,950.00	12,110.00	17,235.66	12,110.00	84.07	87.34	89.06	-4,925.20	-898.71	1,301.41	1,130.77	170.64	7.627	
17,000.00	12,110.00	17,185.66	12,110.00	84.70	86.71	89.06	-4,975.20	-898.39	1,301.39	1,130.76	170.63	7.627	
17,050.00	12,110.00	17,135.66	12,110.00	85.33	86.09	89.06	-5,025.20	-898.07	1,301.38	1,130.75	170.63	7.627	
17,100.00	12,110.00	17,085.66	12,110.00	85.95	85.46	89.06	-5,075.20	-897.74	1,301.37	1,130.73	170.63	7.627	
17,150.00	12,110.00	17,035.66	12,110.00	86.58	84.84	89.06	-5,125.20	-897.42	1,301.36	1,130.72	170.64	7.626	
17,200.00	12,110.00	16,985.66	12,110.00	87.22	84.22	89.06	-5,175.20	-897.10	1,301.34	1,130.70	170.65	7.626	
17,250.00	12,110.00	16,935.66	12,110.00	87.85	83.60	89.06	-5,225.20	-896.77	1,301.33	1,130.67	170.66	7.625	
17,300.00	12,110.00	16,885.66	12,110.00	88.48	82.99	89.06	-5,275.20	-896.45	1,301.32	1,130.64	170.67	7.625	
17,350.00	12,110.00	16,835.66	12,110.00	89.12	82.37	89.06	-5,325.19	-896.13	1,301.30	1,130.61	170.69	7.624	
17,400.00	12,110.00	16,785.66	12,110.00	89.76	81.76	89.06	-5,375.19	-895.81	1,301.29	1,130.58	170.71	7.623	
17,450.00	12,110.00	16,735.66	12,110.00	90.40	81.15	89.06	-5,425.19	-895.48	1,301.28	1,130.54	170.74	7.622	
17,500.00	12,110.00	16,685.66	12,110.00	91.04	80.54	89.06	-5,475.19	-895.16	1,301.27	1,130.50	170.76	7.620	
17,550.00	12,110.00	16,635.66	12,110.00	91.68	79.93	89.06	-5,525.19	-894.84	1,301.25	1,130.46	170.80	7.619	
17,600.00	12,110.00	16,585.66	12,110.00	92.32	79.33	89.06	-5,575.19	-894.51	1,301.24	1,130.41	170.83	7.617	
17,650.00	12,110.00	16,535.66	12,110.00	92.97	78.73	89.06	-5,625.19	-894.19	1,301.23	1,130.36	170.87	7.615	
17,700.00	12,110.00	16,485.66	12,110.00	93.61	78.13	89.06	-5,675.19	-893.87	1,301.22	1,130.31	170.91	7.614	
17,750.00	12,110.00	16,435.66	12,110.00	94.26	77.53	89.06	-5,725.19	-893.55	1,301.20	1,130.25	170.95	7.611	
17,800.00	12,110.00	16,385.66	12,110.00	94.91	76.93	89.06	-5,775.18	-893.22	1,301.19	1,130.19	171.00	7.609	
17,850.00	12,110.00	16,335.66	12,110.00	95.56	76.34	89.06	-5,825.18	-892.90	1,301.18	1,130.13	171.05	7.607	
17,900.00	12,110.00	16,285.66	12,110.00	96.21	75.75	89.06	-5,875.18	-892.58	1,301.16	1,130.06	171.11	7.604	
17,950.00	12,110.00	16,235.66	12,110.00	96.86	75.16	89.06	-5,925.18	-892.25	1,301.15	1,129.99	171.16	7.602	
18,000.00	12,110.00	16,185.66	12,110.00	97.51	74.57	89.06	-5,975.18	-891.93	1,301.14	1,129.91	171.22	7.599	
18,050.00	12,110.00	16,135.66	12,110.00	98.16	73.99	89.06	-6,025.18	-891.61	1,301.13	1,129.84	171.29	7.596	
18,100.00	12,110.00	16,085.66	12,110.00	98.82	73.40	89.06	-6,075.18	-891.29	1,301.11	1,129.76	171.36	7.593	
18,150.00	12,110.00	16,035.66	12,110.00	99.47	72.83	89.06	-6,125.18	-890.96	1,301.10	1,129.67	171.43	7.590	
18,200.00	12,110.00	15,985.66	12,110.00	100.13	72.25	89.06	-6,175.18	-890.64	1,301.09	1,129.58	171.51	7.586	
18,250.00	12,110.00	15,935.66	12,110.00	100.79	71.68	89.06	-6,225.18	-890.32	1,301.08	1,129.49	171.59	7.583	
18,300.00	12,110.00	15,885.66	12,110.00	101.45	71.11	89.06	-6,275.17	-889.99	1,301.06	1,129.39	171.67	7.579	
18,350.00	12,110.00	15,835.66	12,110.00	102.11	70.54	89.06	-6,325.17	-889.67	1,301.05	1,129.29	171.76	7.575	
18,400.00	12,110.00	15,785.66	12,110.00	102.77	69.97	89.06	-6,375.17	-889.35	1,301.04	1,129.19	171.85	7.571	
18,450.00	12,110.00	15,735.66	12,110.00	103.43	69.41	89.06	-6,425.17	-889.03	1,301.02	1,129.08	171.94	7.567	
18,500.00	12,110.00	15,685.66	12,110.00	104.09	68.85	89.06	-6,475.17	-888.70	1,301.01	1,128.97	172.04	7.562	
18,550.00	12,110.00	15,635.66	12,110.00	104.75	68.30	89.06	-6,525.17	-888.38	1,301.00	1,128.85	172.15	7.558	
18,600.00	12,110.00	15,585.66	12,110.00	105.42	67.75	89.06	-6,575.17	-888.06	1,300.99	1,128.73	172.25	7.553	
18,650.00	12,110.00	15,535.66	12,110.00	106.08	67.20	89.06	-6,625.17	-887.73	1,300.97	1,128.61	172.36	7.548	
18,700.00	12,110.00	15,485.66	12,110.00	106.75	66.65	89.06	-6,675.17	-887.41	1,300.96	1,128.48	172.48	7.543	
18,750.00	12,110.00	15,435.66	12,110.00	107.41	66.11	89.06	-6,725.16	-887.09	1,300.95	1,128.35	172.60	7.537	
18,800.00	12,110.00	15,385.66	12,110.00	108.08	65.57	89.06	-6,775.16	-886.77	1,300.94	1,128.21	172.72	7.532	
18,850.00	12,110.00	15,335.66	12,110.00	108.75	65.04	89.06	-6,825.16	-886.44	1,300.92	1,128.07	172.85	7.526	
18,900.00	12,110.00	15,285.66	12,110.00	109.42	64.51	89.06	-6,875.16	-886.12	1,300.91	1,127.92	172.99	7.520	
18,950.00	12,110.00	15,235.66	12,110.00	110.09	63.98	89.06	-6,925.16	-885.80	1,300.90	1,127.77	173.12	7.514	
19,000.00	12,110.00	15,185.66	12,110.00	110.76	63.46	89.06	-6,975.16	-885.47	1,300.88	1,127.62	173.27	7.508	
19,050.00	12,110.00	15,135.66	12,110.00	111.43	62.94	89.06	-7,025.16	-885.15	1,300.87	1,127.46	173.41	7.502	
19,100.00	12,110.00	15,085.66	12,110.00	112.10	62.43	89.06	-7,075.16	-884.83	1,300.86	1,127.29	173.57	7.495	

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

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 12-T23S-R31E - Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
19,150.00	12,110.00	15,035.66	12,110.00	112.77	61.92	89.06	-7,125.16	-884.50	1,300.85	1,127.12	173.72	7.488	
19,200.00	12,110.00	14,985.66	12,110.00	113.45	61.41	89.06	-7,175.16	-884.18	1,300.83	1,126.95	173.88	7.481	
19,250.00	12,110.00	14,935.66	12,110.00	114.12	60.91	89.06	-7,225.15	-883.86	1,300.82	1,126.77	174.05	7.474	
19,300.00	12,110.00	14,885.66	12,110.00	114.80	60.41	89.06	-7,275.15	-883.54	1,300.81	1,126.58	174.23	7.466	
19,350.00	12,110.00	14,835.66	12,110.00	115.47	59.92	89.06	-7,325.15	-883.21	1,300.80	1,126.39	174.40	7.458	
19,400.00	12,110.00	14,785.66	12,110.00	116.15	59.44	89.06	-7,375.15	-882.89	1,300.78	1,126.20	174.59	7.451	
19,450.00	12,110.00	14,735.66	12,110.00	116.83	58.96	89.06	-7,425.15	-882.57	1,300.77	1,125.99	174.78	7.442	
19,500.00	12,110.00	14,685.66	12,110.00	117.50	58.48	89.06	-7,475.15	-882.24	1,300.76	1,125.79	174.97	7.434	
19,550.00	12,110.00	14,635.66	12,110.00	118.18	58.01	89.06	-7,525.15	-881.92	1,300.74	1,125.57	175.17	7.425	
19,600.00	12,110.00	14,585.66	12,110.00	118.86	57.54	89.06	-7,575.15	-881.60	1,300.73	1,125.35	175.38	7.417	
19,650.00	12,110.00	14,535.66	12,110.00	119.54	57.08	89.06	-7,625.15	-881.28	1,300.72	1,125.13	175.59	7.408	
19,700.00	12,110.00	14,485.66	12,110.00	120.22	56.63	89.06	-7,675.15	-880.95	1,300.71	1,124.90	175.81	7.398	
19,750.00	12,110.00	14,435.66	12,110.00	120.90	56.18	89.06	-7,725.14	-880.63	1,300.69	1,124.66	176.04	7.389	
19,800.00	12,110.00	14,385.66	12,110.00	121.58	55.74	89.06	-7,775.14	-880.31	1,300.68	1,124.41	176.27	7.379	
19,850.00	12,110.00	14,335.66	12,110.00	122.26	55.30	89.06	-7,825.14	-879.98	1,300.67	1,124.16	176.51	7.369	
19,900.00	12,110.00	14,285.66	12,110.00	122.94	54.87	89.06	-7,875.14	-879.66	1,300.66	1,123.90	176.75	7.359	
19,950.00	12,110.00	14,235.66	12,110.00	123.62	54.44	89.06	-7,925.14	-879.34	1,300.64	1,123.64	177.01	7.348	
20,000.00	12,110.00	14,185.66	12,110.00	124.31	54.03	89.06	-7,975.14	-879.02	1,300.63	1,123.37	177.26	7.337	
20,050.00	12,110.00	14,135.66	12,110.00	124.99	53.62	89.06	-8,025.14	-878.69	1,300.62	1,123.09	177.53	7.326	
20,100.00	12,110.00	14,085.66	12,110.00	125.67	53.21	89.06	-8,075.14	-878.37	1,300.60	1,122.80	177.80	7.315	
20,150.00	12,110.00	14,035.66	12,110.00	126.36	52.81	89.06	-8,125.14	-878.05	1,300.59	1,122.51	178.09	7.303	
20,200.00	12,110.00	13,985.66	12,110.00	127.04	52.42	89.06	-8,175.13	-877.72	1,300.58	1,122.21	178.37	7.291	
20,250.00	12,110.00	13,935.66	12,110.00	127.73	52.04	89.06	-8,225.13	-877.40	1,300.57	1,121.89	178.67	7.279	
20,300.00	12,110.00	13,885.66	12,110.00	128.42	51.67	89.06	-8,275.13	-877.08	1,300.55	1,121.58	178.97	7.267	
20,350.00	12,110.00	13,835.66	12,110.00	129.10	51.30	89.06	-8,325.13	-876.76	1,300.54	1,121.25	179.29	7.254	
20,400.00	12,110.00	13,785.66	12,110.00	129.79	50.94	89.06	-8,375.13	-876.43	1,300.53	1,120.92	179.61	7.241	
20,450.00	12,110.00	13,735.66	12,110.00	130.48	50.59	89.06	-8,425.13	-876.11	1,300.52	1,120.58	179.94	7.228	
20,500.00	12,110.00	13,685.66	12,110.00	131.16	50.24	89.06	-8,475.13	-875.79	1,300.50	1,120.23	180.28	7.214	
20,550.00	12,110.00	13,635.66	12,110.00	131.85	49.91	89.06	-8,525.13	-875.46	1,300.49	1,119.86	180.62	7.200	
20,600.00	12,110.00	13,585.66	12,110.00	132.54	49.58	89.06	-8,575.13	-875.14	1,300.48	1,119.50	180.98	7.186	
20,650.00	12,110.00	13,535.66	12,110.00	133.23	49.27	89.06	-8,625.13	-874.82	1,300.46	1,119.12	181.35	7.171	
20,700.00	12,110.00	13,485.66	12,110.00	133.92	48.96	89.06	-8,675.12	-874.50	1,300.45	1,118.73	181.72	7.156	
20,750.00	12,110.00	13,435.66	12,110.00	134.61	48.66	89.06	-8,725.12	-874.17	1,300.44	1,118.33	182.10	7.141	
20,800.00	12,110.00	13,385.66	12,110.00	135.30	48.37	89.06	-8,775.12	-873.85	1,300.43	1,117.93	182.50	7.126	
20,850.00	12,110.00	13,335.66	12,110.00	135.99	48.09	89.06	-8,825.12	-873.53	1,300.41	1,117.51	182.90	7.110	
20,900.00	12,110.00	13,285.66	12,110.00	136.68	47.81	89.06	-8,875.12	-873.20	1,300.40	1,117.09	183.31	7.094	
20,950.00	12,110.00	13,235.66	12,110.00	137.37	47.55	89.06	-8,925.12	-872.88	1,300.39	1,116.65	183.74	7.077	
21,000.00	12,110.00	13,185.66	12,110.00	138.07	47.30	89.06	-8,975.12	-872.56	1,300.37	1,116.20	184.17	7.061	
21,050.00	12,110.00	13,135.66	12,110.00	138.76	47.06	89.06	-9,025.12	-872.24	1,300.36	1,115.75	184.62	7.044	
21,100.00	12,110.00	13,085.66	12,110.00	139.45	46.83	89.06	-9,075.12	-871.91	1,300.35	1,115.28	185.07	7.026	
21,150.00	12,110.00	13,035.66	12,110.00	140.14	46.61	89.06	-9,125.11	-871.59	1,300.34	1,114.80	185.54	7.008	
21,200.00	12,110.00	12,985.66	12,110.00	140.84	46.40	89.06	-9,175.11	-871.27	1,300.32	1,114.31	186.01	6.991	
21,250.00	12,110.00	12,935.66	12,110.00	141.53	46.21	89.06	-9,225.11	-870.94	1,300.31	1,113.81	186.50	6.972	
21,300.00	12,110.00	12,885.66	12,110.00	142.23	46.02	89.06	-9,275.11	-870.62	1,300.30	1,113.30	187.00	6.954	
21,350.00	12,110.00	12,835.66	12,110.00	142.92	45.85	89.06	-9,325.11	-870.30	1,300.29	1,112.77	187.51	6.934	
21,400.00	12,110.00	12,785.66	12,110.00	143.62	45.69	89.06	-9,375.11	-869.98	1,300.27	1,112.24	188.03	6.915	
21,450.00	12,110.00	12,735.66	12,110.00	144.31	45.54	89.06	-9,425.11	-869.65	1,300.26	1,111.69	188.57	6.895	
21,500.00	12,110.00	12,685.66	12,110.00	145.01	45.40	89.06	-9,475.11	-869.33	1,300.25	1,111.14	189.11	6.876	
21,550.00	12,110.00	12,635.66	12,110.00	145.70	45.28	89.06	-9,525.11	-869.01	1,300.23	1,110.56	189.67	6.855	
21,600.00	12,110.00	12,585.66	12,110.00	146.40	45.17	89.06	-9,575.11	-868.68	1,300.22	1,109.99	190.24	6.835	
21,650.00	12,110.00	12,535.66	12,110.00	147.09	45.07	89.06	-9,625.10	-868.36	1,300.21	1,109.39	190.82	6.814	
21,690.21	12,110.00	12,496.27	12,110.00	147.66	45.00	89.06	-9,665.31	-868.10	1,300.20	1,108.91	191.29	6.797	CC

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

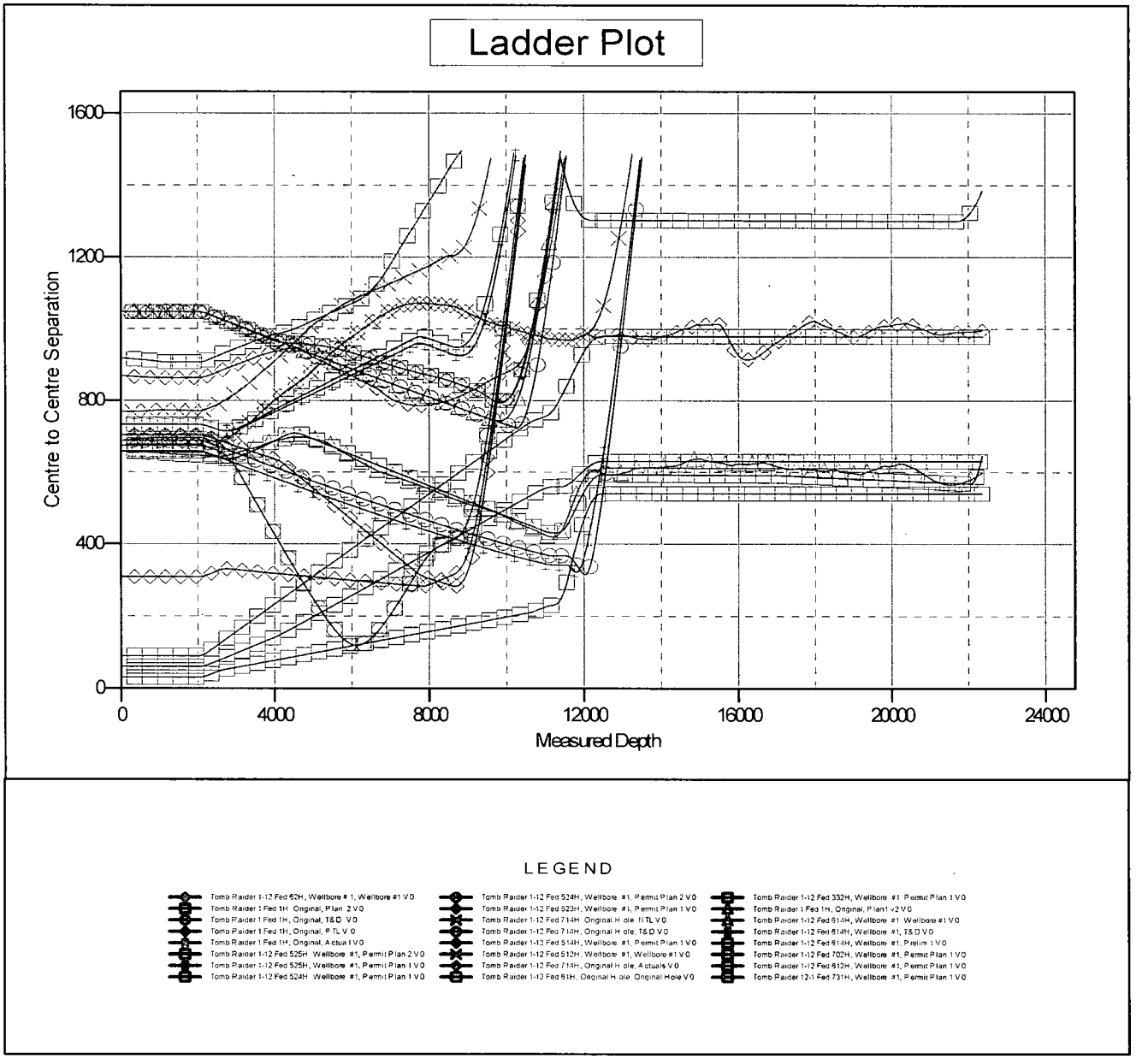
Offset Design Sec 12-T23S-R31E - Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
21,700.00	12,110.00	12,495.87	12,110.00	147.79	45.00	89.06	-9,664.90	-868.10	1,300.24	1,108.83	191.40	6.793	ES
21,750.00	12,110.00	12,463.85	12,109.14	148.49	44.95	89.02	-9,696.90	-868.23	1,300.84	1,108.87	191.97	6.776	
21,800.00	12,110.00	12,437.40	12,107.14	149.19	44.91	88.93	-9,723.26	-868.83	1,302.36	1,109.89	192.47	6.767	
21,850.00	12,110.00	12,411.23	12,104.01	149.88	44.87	88.80	-9,749.23	-869.88	1,304.80	1,111.87	192.92	6.763	
21,900.00	12,110.00	12,385.42	12,099.81	150.58	44.83	88.61	-9,774.65	-871.33	1,308.16	1,114.84	193.31	6.767	
21,950.00	12,110.00	12,360.08	12,094.63	151.28	44.79	88.39	-9,799.38	-873.18	1,312.46	1,118.82	193.64	6.778	
22,000.00	12,110.00	12,335.31	12,088.55	151.98	44.75	88.12	-9,823.29	-875.37	1,317.72	1,123.82	193.90	6.796	
22,050.00	12,110.00	12,311.17	12,081.68	152.68	44.71	87.83	-9,846.29	-877.88	1,323.96	1,129.88	194.09	6.822	
22,100.00	12,110.00	12,287.73	12,074.12	153.38	44.68	87.50	-9,868.30	-880.66	1,331.21	1,137.02	194.20	6.855	
22,150.00	12,110.00	12,265.04	12,065.99	154.08	44.64	87.16	-9,889.27	-883.67	1,339.49	1,145.26	194.22	6.897	
22,200.00	12,110.00	12,250.00	12,060.16	154.78	44.62	86.91	-9,902.96	-885.83	1,348.84	1,154.78	194.06	6.951	
22,250.00	12,110.00	12,222.05	12,048.43	155.48	44.57	86.41	-9,927.95	-890.21	1,359.19	1,165.18	194.02	7.006	
22,300.00	12,110.00	12,200.00	12,038.36	156.18	44.53	85.99	-9,947.20	-893.98	1,370.66	1,176.85	193.81	7.072	
22,350.00	12,110.00	12,182.33	12,029.78	156.88	44.49	85.63	-9,962.30	-897.20	1,383.22	1,189.77	193.45	7.150	
22,358.61	12,110.00	12,179.07	12,028.15	157.00	44.49	85.57	-9,965.06	-897.81	1,385.49	1,192.11	193.38	7.164	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

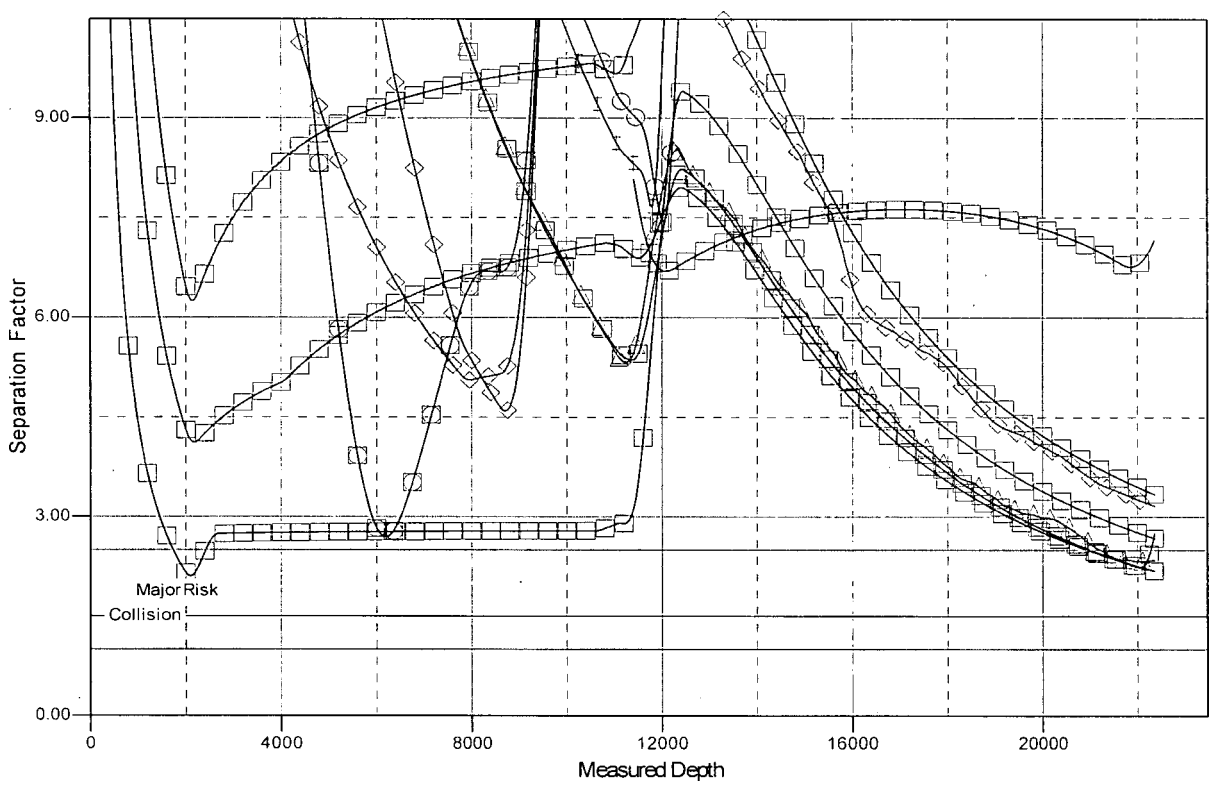
Reference Depths are relative to RKB @ 3492.20ft	Coordinates are relative to: Tomb Raider 1-12 Fed 732H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is -104.333334	Grid Convergence at Surface is: 0.32°



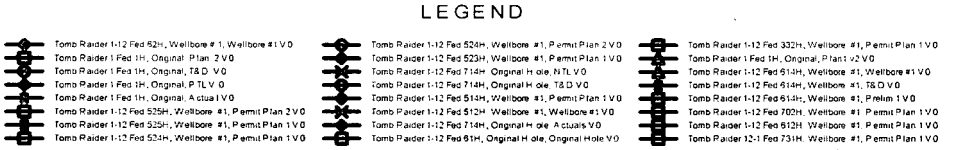
Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.20ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.20ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to RKB @ 3492.20ft	Coordinates are relative to: Tomb Raider 1-12 Fed 732H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is -104.333334	Grid Convergence at Surface is: 0.32°

Separation Factor Plot



LEGEND



WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)
Sec 01-T23S-R31E
Tomb Raider 1-12 Fed 732H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

04 December, 2018

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.20ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.20ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Project Eddy County (NAD 83 NM Eastern)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Sec 01-T23S-R31E

Site Position:		**Northing:**	488,170.26 usft	**Latitude:**	32.340736
From:	Map	**Easting:**	719,281.88 usft	**Longitude:**	-103.757161
Position Uncertainty:	5.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.31 °

Well Tomb Raider 1-12 Fed 732H

Well Position	**+N/-S**	0.00 ft	**Northing:**	487,995.50 usft	**Latitude:**	32.340142
	+E/-W	0.00 ft	**Easting:**	726,794.83 usft	**Longitude:**	-103.732838
Position Uncertainty		0.50 ft	**Wellhead Elevation:**		**Ground Level:**	3,467.20 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/29/2018	6.88	60.12	47,840.30551610

Design Permit Plan 1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	177.58

Plan Survey Tool Program **Date** 12/4/2018

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,358.61	Permit Plan 1 (Wellbore #1)	MWD+HDGM OWSG MWD + HDGM	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,257.84	2.58	66.67	2,257.75	2.30	5.33	1.00	1.00	0.00	66.67	
11,024.13	2.58	66.67	11,015.16	158.47	367.45	0.00	0.00	0.00	0.00	
11,196.02	0.00	0.00	11,187.00	160.00	371.00	1.50	-1.50	0.00	180.00	
11,546.06	0.00	0.00	11,537.04	160.00	371.00	0.00	0.00	0.00	0.00	
12,446.06	90.00	179.64	12,110.00	-412.95	374.55	10.00	10.00	0.00	179.64	PBHL - Tomb Raider
22,358.61	90.00	179.64	12,110.00	-10,325.30	436.04	0.00	0.00	0.00	0.00	PBHL - Tomb Raider

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.20ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.20ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
0.00	0.00	0.00	0.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
100.00	0.00	0.00	100.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
200.00	0.00	0.00	200.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
300.00	0.00	0.00	300.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
400.00	0.00	0.00	400.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
500.00	0.00	0.00	500.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
600.00	0.00	0.00	600.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
700.00	0.00	0.00	700.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
800.00	0.00	0.00	800.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
900.00	0.00	0.00	900.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
1,000.00	0.00	0.00	1,000.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
1,100.00	0.00	0.00	1,100.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
1,200.00	0.00	0.00	1,200.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
1,300.00	0.00	0.00	1,300.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
1,400.00	0.00	0.00	1,400.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
1,500.00	0.00	0.00	1,500.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
1,600.00	0.00	0.00	1,600.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
1,700.00	0.00	0.00	1,700.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
1,800.00	0.00	0.00	1,800.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
1,900.00	0.00	0.00	1,900.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
2,000.00	0.00	0.00	2,000.00	0.00	0.00	487,995.50	726,794.83	32.340142	-103.732838
2,100.00	1.00	66.67	2,099.99	0.35	0.80	487,995.85	726,795.63	32.340143	-103.732836
2,200.00	2.00	66.67	2,199.96	1.38	3.20	487,996.88	726,798.03	32.340146	-103.732828
2,257.84	2.58	66.67	2,257.75	2.30	5.33	487,997.80	726,800.15	32.340148	-103.732821
2,300.00	2.58	66.67	2,299.87	3.05	7.07	487,998.55	726,801.89	32.340150	-103.732815
2,400.00	2.58	66.67	2,399.77	4.83	11.20	488,000.33	726,806.03	32.340155	-103.732802
2,500.00	2.58	66.67	2,499.67	6.61	15.33	488,002.11	726,810.16	32.340160	-103.732789
2,600.00	2.58	66.67	2,599.57	8.39	19.46	488,003.89	726,814.29	32.340165	-103.732775
2,700.00	2.58	66.67	2,699.47	10.17	23.59	488,005.68	726,818.42	32.340170	-103.732762
2,800.00	2.58	66.67	2,799.36	11.96	27.72	488,007.46	726,822.55	32.340174	-103.732748
2,900.00	2.58	66.67	2,899.26	13.74	31.85	488,009.24	726,826.68	32.340179	-103.732735
3,000.00	2.58	66.67	2,999.16	15.52	35.98	488,011.02	726,830.81	32.340184	-103.732722
3,100.00	2.58	66.67	3,099.06	17.30	40.11	488,012.80	726,834.94	32.340189	-103.732708
3,200.00	2.58	66.67	3,198.96	19.08	44.25	488,014.58	726,839.07	32.340194	-103.732695
3,300.00	2.58	66.67	3,298.86	20.86	48.38	488,016.36	726,843.20	32.340199	-103.732681
3,400.00	2.58	66.67	3,398.76	22.64	52.51	488,018.15	726,847.33	32.340203	-103.732668
3,500.00	2.58	66.67	3,498.66	24.43	56.64	488,019.93	726,851.46	32.340208	-103.732655
3,600.00	2.58	66.67	3,598.55	26.21	60.77	488,021.71	726,855.60	32.340213	-103.732641
3,700.00	2.58	66.67	3,698.45	27.99	64.90	488,023.49	726,859.73	32.340218	-103.732628
3,800.00	2.58	66.67	3,798.35	29.77	69.03	488,025.27	726,863.86	32.340223	-103.732614
3,900.00	2.58	66.67	3,898.25	31.55	73.16	488,027.05	726,867.99	32.340228	-103.732601
4,000.00	2.58	66.67	3,998.15	33.33	77.29	488,028.83	726,872.12	32.340232	-103.732588
4,100.00	2.58	66.67	4,098.05	35.12	81.42	488,030.62	726,876.25	32.340237	-103.732574
4,200.00	2.58	66.67	4,197.95	36.90	85.55	488,032.40	726,880.38	32.340242	-103.732561
4,300.00	2.58	66.67	4,297.85	38.68	89.69	488,034.18	726,884.51	32.340247	-103.732547
4,400.00	2.58	66.67	4,397.74	40.46	93.82	488,035.96	726,888.64	32.340252	-103.732534
4,500.00	2.58	66.67	4,497.64	42.24	97.95	488,037.74	726,892.77	32.340257	-103.732521
4,600.00	2.58	66.67	4,597.54	44.02	102.08	488,039.52	726,896.90	32.340261	-103.732507
4,700.00	2.58	66.67	4,697.44	45.80	106.21	488,041.31	726,901.03	32.340266	-103.732494
4,800.00	2.58	66.67	4,797.34	47.59	110.34	488,043.09	726,905.17	32.340271	-103.732480
4,900.00	2.58	66.67	4,897.24	49.37	114.47	488,044.87	726,909.30	32.340276	-103.732467
5,000.00	2.58	66.67	4,997.14	51.15	118.60	488,046.65	726,913.43	32.340281	-103.732453
5,100.00	2.58	66.67	5,097.04	52.93	122.73	488,048.43	726,917.56	32.340286	-103.732440
5,200.00	2.58	66.67	5,196.93	54.71	126.86	488,050.21	726,921.69	32.340290	-103.732427
5,300.00	2.58	66.67	5,296.83	56.49	130.99	488,051.99	726,925.82	32.340295	-103.732413

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.20ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.20ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
5,400.00	2.58	66.67	5,396.73	58.27	135.12	488,053.78	726,929.95	32.340300	-103.732400
5,500.00	2.58	66.67	5,496.63	60.06	139.26	488,055.56	726,934.08	32.340305	-103.732386
5,600.00	2.58	66.67	5,596.53	61.84	143.39	488,057.34	726,938.21	32.340310	-103.732373
5,700.00	2.58	66.67	5,696.43	63.62	147.52	488,059.12	726,942.34	32.340315	-103.732360
5,800.00	2.58	66.67	5,796.33	65.40	151.65	488,060.90	726,946.47	32.340319	-103.732346
5,900.00	2.58	66.67	5,896.23	67.18	155.78	488,062.68	726,950.60	32.340324	-103.732333
6,000.00	2.58	66.67	5,996.12	68.96	159.91	488,064.46	726,954.74	32.340329	-103.732319
6,100.00	2.58	66.67	6,096.02	70.75	164.04	488,066.25	726,958.87	32.340334	-103.732306
6,200.00	2.58	66.67	6,195.92	72.53	168.17	488,068.03	726,963.00	32.340339	-103.732293
6,300.00	2.58	66.67	6,295.82	74.31	172.30	488,069.81	726,967.13	32.340344	-103.732279
6,400.00	2.58	66.67	6,395.72	76.09	176.43	488,071.59	726,971.26	32.340348	-103.732266
6,500.00	2.58	66.67	6,495.62	77.87	180.56	488,073.37	726,975.39	32.340353	-103.732252
6,600.00	2.58	66.67	6,595.52	79.65	184.69	488,075.15	726,979.52	32.340358	-103.732239
6,700.00	2.58	66.67	6,695.42	81.43	188.83	488,076.93	726,983.65	32.340363	-103.732226
6,800.00	2.58	66.67	6,795.31	83.22	192.96	488,078.72	726,987.78	32.340368	-103.732212
6,900.00	2.58	66.67	6,895.21	85.00	197.09	488,080.50	726,991.91	32.340373	-103.732199
7,000.00	2.58	66.67	6,995.11	86.78	201.22	488,082.28	726,996.04	32.340377	-103.732185
7,100.00	2.58	66.67	7,095.01	88.56	205.35	488,084.06	727,000.17	32.340382	-103.732172
7,200.00	2.58	66.67	7,194.91	90.34	209.48	488,085.84	727,004.31	32.340387	-103.732159
7,300.00	2.58	66.67	7,294.81	92.12	213.61	488,087.62	727,008.44	32.340392	-103.732145
7,400.00	2.58	66.67	7,394.71	93.90	217.74	488,089.41	727,012.57	32.340397	-103.732132
7,500.00	2.58	66.67	7,494.61	95.69	221.87	488,091.19	727,016.70	32.340402	-103.732118
7,600.00	2.58	66.67	7,594.50	97.47	226.00	488,092.97	727,020.83	32.340406	-103.732105
7,700.00	2.58	66.67	7,694.40	99.25	230.13	488,094.75	727,024.96	32.340411	-103.732091
7,800.00	2.58	66.67	7,794.30	101.03	234.27	488,096.53	727,029.09	32.340416	-103.732078
7,900.00	2.58	66.67	7,894.20	102.81	238.40	488,098.31	727,033.22	32.340421	-103.732065
8,000.00	2.58	66.67	7,994.10	104.59	242.53	488,100.09	727,037.35	32.340426	-103.732051
8,100.00	2.58	66.67	8,094.00	106.38	246.66	488,101.88	727,041.48	32.340431	-103.732038
8,200.00	2.58	66.67	8,193.90	108.16	250.79	488,103.66	727,045.61	32.340435	-103.732024
8,300.00	2.58	66.67	8,293.80	109.94	254.92	488,105.44	727,049.75	32.340440	-103.732011
8,400.00	2.58	66.67	8,393.69	111.72	259.05	488,107.22	727,053.88	32.340445	-103.731998
8,500.00	2.58	66.67	8,493.59	113.50	263.18	488,109.00	727,058.01	32.340450	-103.731984
8,600.00	2.58	66.67	8,593.49	115.28	267.31	488,110.78	727,062.14	32.340455	-103.731971
8,700.00	2.58	66.67	8,693.39	117.06	271.44	488,112.56	727,066.27	32.340460	-103.731957
8,800.00	2.58	66.67	8,793.29	118.85	275.57	488,114.35	727,070.40	32.340464	-103.731944
8,900.00	2.58	66.67	8,893.19	120.63	279.70	488,116.13	727,074.53	32.340469	-103.731931
9,000.00	2.58	66.67	8,993.09	122.41	283.84	488,117.91	727,078.66	32.340474	-103.731917
9,100.00	2.58	66.67	9,092.99	124.19	287.97	488,119.69	727,082.79	32.340479	-103.731904
9,200.00	2.58	66.67	9,192.88	125.97	292.10	488,121.47	727,086.92	32.340484	-103.731890
9,300.00	2.58	66.67	9,292.78	127.75	296.23	488,123.25	727,091.05	32.340489	-103.731877
9,400.00	2.58	66.67	9,392.68	129.53	300.36	488,125.04	727,095.18	32.340493	-103.731864
9,500.00	2.58	66.67	9,492.58	131.32	304.49	488,126.82	727,099.32	32.340498	-103.731850
9,600.00	2.58	66.67	9,592.48	133.10	308.62	488,128.60	727,103.45	32.340503	-103.731837
9,700.00	2.58	66.67	9,692.38	134.88	312.75	488,130.38	727,107.58	32.340508	-103.731823
9,800.00	2.58	66.67	9,792.28	136.66	316.88	488,132.16	727,111.71	32.340513	-103.731810
9,900.00	2.58	66.67	9,892.18	138.44	321.01	488,133.94	727,115.84	32.340518	-103.731797
10,000.00	2.58	66.67	9,992.08	140.22	325.14	488,135.72	727,119.97	32.340522	-103.731783
10,100.00	2.58	66.67	10,091.97	142.01	329.27	488,137.51	727,124.10	32.340527	-103.731770
10,200.00	2.58	66.67	10,191.87	143.79	333.41	488,139.29	727,128.23	32.340532	-103.731756
10,300.00	2.58	66.67	10,291.77	145.57	337.54	488,141.07	727,132.36	32.340537	-103.731743
10,400.00	2.58	66.67	10,391.67	147.35	341.67	488,142.85	727,136.49	32.340542	-103.731729
10,500.00	2.58	66.67	10,491.57	149.13	345.80	488,144.63	727,140.62	32.340547	-103.731716
10,600.00	2.58	66.67	10,591.47	150.91	349.93	488,146.41	727,144.75	32.340551	-103.731703
10,700.00	2.58	66.67	10,691.37	152.69	354.06	488,148.19	727,148.89	32.340556	-103.731689
10,800.00	2.58	66.67	10,791.27	154.48	358.19	488,149.98	727,153.02	32.340561	-103.731676

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.20ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.20ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
10,900.00	2.58	66.67	10,891.16	156.26	362.32	488,151.76	727,157.15	32.340566	-103.731662
11,000.00	2.58	66.67	10,991.06	158.04	366.45	488,153.54	727,161.28	32.340571	-103.731649
11,024.13	2.58	66.67	11,015.16	158.47	367.45	488,153.97	727,162.27	32.340572	-103.731646
11,100.00	1.44	66.67	11,090.99	159.52	369.89	488,155.02	727,164.72	32.340575	-103.731638
11,196.02	0.00	0.00	11,187.00	160.00	371.00	488,155.50	727,165.83	32.340576	-103.731634
11,200.00	0.00	0.00	11,190.98	160.00	371.00	488,155.50	727,165.83	32.340576	-103.731634
11,300.00	0.00	0.00	11,290.98	160.00	371.00	488,155.50	727,165.83	32.340576	-103.731634
11,400.00	0.00	0.00	11,390.98	160.00	371.00	488,155.50	727,165.83	32.340576	-103.731634
11,500.00	0.00	0.00	11,490.98	160.00	371.00	488,155.50	727,165.83	32.340576	-103.731634
11,546.06	0.00	0.00	11,537.04	160.00	371.00	488,155.50	727,165.83	32.340576	-103.731634
KOP @ 11546' MD, 50' FNL, 2600' FWL									
11,600.00	5.39	179.64	11,590.90	157.46	371.02	488,152.96	727,165.84	32.340569	-103.731634
11,700.00	15.39	179.64	11,689.13	139.44	371.13	488,134.95	727,165.95	32.340519	-103.731634
11,787.51	24.14	179.64	11,771.41	109.87	371.31	488,105.38	727,166.14	32.340438	-103.731634
FTP @ 11787' MD, 100' FNL, 2600' FWL									
11,800.00	25.39	179.64	11,782.75	104.64	371.34	488,100.14	727,166.17	32.340424	-103.731634
11,900.00	35.39	179.64	11,868.90	54.11	371.66	488,049.61	727,166.48	32.340285	-103.731634
12,000.00	45.39	179.64	11,944.96	-10.61	372.06	487,984.89	727,166.88	32.340107	-103.731634
12,100.00	55.39	179.64	12,008.63	-87.55	372.54	487,907.95	727,167.36	32.339896	-103.731634
12,200.00	65.39	179.64	12,057.97	-174.38	373.07	487,821.12	727,167.90	32.339657	-103.731634
12,300.00	75.39	179.64	12,091.48	-268.47	373.66	487,727.04	727,168.48	32.339398	-103.731633
12,400.00	85.39	179.64	12,108.15	-366.94	374.27	487,628.57	727,169.09	32.339128	-103.731633
12,446.06	90.00	179.64	12,110.00	-412.95	374.55	487,582.55	727,169.38	32.339001	-103.731633
12,500.00	90.00	179.64	12,110.00	-466.89	374.89	487,528.62	727,169.71	32.338853	-103.731633
12,600.00	90.00	179.64	12,110.00	-566.88	375.51	487,428.62	727,170.33	32.338578	-103.731633
12,700.00	90.00	179.64	12,110.00	-666.88	376.13	487,328.62	727,170.95	32.338303	-103.731633
12,800.00	90.00	179.64	12,110.00	-766.88	376.75	487,228.62	727,171.57	32.338028	-103.731633
12,900.00	90.00	179.64	12,110.00	-866.88	377.37	487,128.63	727,172.20	32.337753	-103.731632
13,000.00	90.00	179.64	12,110.00	-966.88	377.99	487,028.63	727,172.82	32.337478	-103.731632
13,100.00	90.00	179.64	12,110.00	-1,066.87	378.61	486,928.63	727,173.44	32.337204	-103.731632
13,200.00	90.00	179.64	12,110.00	-1,166.87	379.23	486,828.63	727,174.06	32.336929	-103.731632
13,300.00	90.00	179.64	12,110.00	-1,266.87	379.85	486,728.63	727,174.68	32.336654	-103.731632
13,400.00	90.00	179.64	12,110.00	-1,366.87	380.47	486,628.64	727,175.30	32.336379	-103.731631
13,500.00	90.00	179.64	12,110.00	-1,466.87	381.09	486,528.64	727,175.92	32.336104	-103.731631
13,600.00	90.00	179.64	12,110.00	-1,566.86	381.71	486,428.64	727,176.54	32.335829	-103.731631
13,700.00	90.00	179.64	12,110.00	-1,666.86	382.33	486,328.64	727,177.16	32.335554	-103.731631
13,800.00	90.00	179.64	12,110.00	-1,766.86	382.95	486,228.64	727,177.78	32.335279	-103.731631
13,900.00	90.00	179.64	12,110.00	-1,866.86	383.57	486,128.65	727,178.40	32.335005	-103.731630
14,000.00	90.00	179.64	12,110.00	-1,966.86	384.19	486,028.65	727,179.02	32.334730	-103.731630
14,100.00	90.00	179.64	12,110.00	-2,066.85	384.81	485,928.65	727,179.64	32.334455	-103.731630
14,200.00	90.00	179.64	12,110.00	-2,166.85	385.43	485,828.65	727,180.26	32.334180	-103.731630
14,300.00	90.00	179.64	12,110.00	-2,266.85	386.05	485,728.66	727,180.88	32.333905	-103.731630
14,400.00	90.00	179.64	12,110.00	-2,366.85	386.67	485,628.66	727,181.50	32.333630	-103.731629
14,500.00	90.00	179.64	12,110.00	-2,466.85	387.29	485,528.66	727,182.12	32.333355	-103.731629
14,600.00	90.00	179.64	12,110.00	-2,566.84	387.91	485,428.66	727,182.74	32.333080	-103.731629
14,700.00	90.00	179.64	12,110.00	-2,666.84	388.54	485,328.66	727,183.36	32.332806	-103.731629
14,800.00	90.00	179.64	12,110.00	-2,766.84	389.16	485,228.67	727,183.98	32.332531	-103.731629
14,900.00	90.00	179.64	12,110.00	-2,866.84	389.78	485,128.67	727,184.60	32.332256	-103.731629
15,000.00	90.00	179.64	12,110.00	-2,966.84	390.40	485,028.67	727,185.22	32.331981	-103.731628
15,100.00	90.00	179.64	12,110.00	-3,066.84	391.02	484,928.67	727,185.84	32.331706	-103.731628
15,200.00	90.00	179.64	12,110.00	-3,166.83	391.64	484,828.67	727,186.46	32.331431	-103.731628
15,300.00	90.00	179.64	12,110.00	-3,266.83	392.26	484,728.68	727,187.08	32.331156	-103.731628
15,400.00	90.00	179.64	12,110.00	-3,366.83	392.88	484,628.68	727,187.70	32.330881	-103.731628
15,500.00	90.00	179.64	12,110.00	-3,466.83	393.50	484,528.68	727,188.32	32.330607	-103.731627

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.20ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.20ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
15,600.00	90.00	179.64	12,110.00	-3,566.83	394.12	484,428.68	727,188.94	32.330332	-103.731627
15,700.00	90.00	179.64	12,110.00	-3,666.82	394.74	484,328.68	727,189.56	32.330057	-103.731627
15,800.00	90.00	179.64	12,110.00	-3,766.82	395.36	484,228.69	727,190.18	32.329782	-103.731627
15,900.00	90.00	179.64	12,110.00	-3,866.82	395.98	484,128.69	727,190.80	32.329507	-103.731627
16,000.00	90.00	179.64	12,110.00	-3,966.82	396.60	484,028.69	727,191.42	32.329232	-103.731626
16,100.00	90.00	179.64	12,110.00	-4,066.82	397.22	483,928.69	727,192.04	32.328957	-103.731626
16,200.00	90.00	179.64	12,110.00	-4,166.81	397.84	483,828.70	727,192.66	32.328682	-103.731626
16,300.00	90.00	179.64	12,110.00	-4,266.81	398.46	483,728.70	727,193.29	32.328408	-103.731626
16,400.00	90.00	179.64	12,110.00	-4,366.81	399.08	483,628.70	727,193.91	32.328133	-103.731626
16,500.00	90.00	179.64	12,110.00	-4,466.81	399.70	483,528.70	727,194.53	32.327858	-103.731626
16,600.00	90.00	179.64	12,110.00	-4,566.81	400.32	483,428.70	727,195.15	32.327583	-103.731625
16,700.00	90.00	179.64	12,110.00	-4,666.80	400.94	483,328.71	727,195.77	32.327308	-103.731625
16,800.00	90.00	179.64	12,110.00	-4,766.80	401.56	483,228.71	727,196.39	32.327033	-103.731625
16,900.00	90.00	179.64	12,110.00	-4,866.80	402.18	483,128.71	727,197.01	32.326758	-103.731625
17,000.00	90.00	179.64	12,110.00	-4,966.80	402.80	483,028.71	727,197.63	32.326483	-103.731625
17,100.00	90.00	179.64	12,110.00	-5,066.80	403.42	482,928.71	727,198.25	32.326209	-103.731624
17,104.00	90.00	179.64	12,110.00	-5,070.80	403.45	482,924.71	727,198.27	32.326198	-103.731624
Cross Section @ 17104' MD, 0' FNL, 2600' FWL									
17,200.00	90.00	179.64	12,110.00	-5,166.79	404.04	482,828.72	727,198.87	32.325934	-103.731624
17,300.00	90.00	179.64	12,110.00	-5,266.79	404.66	482,728.72	727,199.49	32.325659	-103.731624
17,400.00	90.00	179.64	12,110.00	-5,366.79	405.28	482,628.72	727,200.11	32.325384	-103.731624
17,500.00	90.00	179.64	12,110.00	-5,466.79	405.90	482,528.72	727,200.73	32.325109	-103.731624
17,600.00	90.00	179.64	12,110.00	-5,566.79	406.52	482,428.73	727,201.35	32.324834	-103.731623
17,700.00	90.00	179.64	12,110.00	-5,666.79	407.14	482,328.73	727,201.97	32.324559	-103.731623
17,800.00	90.00	179.64	12,110.00	-5,766.78	407.76	482,228.73	727,202.59	32.324284	-103.731623
17,900.00	90.00	179.64	12,110.00	-5,866.78	408.38	482,128.73	727,203.21	32.324010	-103.731623
18,000.00	90.00	179.64	12,110.00	-5,966.78	409.00	482,028.73	727,203.83	32.323735	-103.731623
18,100.00	90.00	179.64	12,110.00	-6,066.78	409.63	481,928.74	727,204.45	32.323460	-103.731622
18,200.00	90.00	179.64	12,110.00	-6,166.78	410.25	481,828.74	727,205.07	32.323185	-103.731622
18,300.00	90.00	179.64	12,110.00	-6,266.77	410.87	481,728.74	727,205.69	32.322910	-103.731622
18,400.00	90.00	179.64	12,110.00	-6,366.77	411.49	481,628.74	727,206.31	32.322635	-103.731622
18,500.00	90.00	179.64	12,110.00	-6,466.77	412.11	481,528.74	727,206.93	32.322360	-103.731622
18,600.00	90.00	179.64	12,110.00	-6,566.77	412.73	481,428.75	727,207.55	32.322085	-103.731622
18,700.00	90.00	179.64	12,110.00	-6,666.77	413.35	481,328.75	727,208.17	32.321811	-103.731621
18,800.00	90.00	179.64	12,110.00	-6,766.76	413.97	481,228.75	727,208.79	32.321536	-103.731621
18,900.00	90.00	179.64	12,110.00	-6,866.76	414.59	481,128.75	727,209.41	32.321261	-103.731621
19,000.00	90.00	179.64	12,110.00	-6,966.76	415.21	481,028.75	727,210.03	32.320986	-103.731621
19,100.00	90.00	179.64	12,110.00	-7,066.76	415.83	480,928.76	727,210.65	32.320711	-103.731621
19,200.00	90.00	179.64	12,110.00	-7,166.76	416.45	480,828.76	727,211.27	32.320436	-103.731620
19,300.00	90.00	179.64	12,110.00	-7,266.75	417.07	480,728.76	727,211.89	32.320161	-103.731620
19,400.00	90.00	179.64	12,110.00	-7,366.75	417.69	480,628.76	727,212.51	32.319886	-103.731620
19,500.00	90.00	179.64	12,110.00	-7,466.75	418.31	480,528.77	727,213.13	32.319612	-103.731620
19,600.00	90.00	179.64	12,110.00	-7,566.75	418.93	480,428.77	727,213.75	32.319337	-103.731620
19,700.00	90.00	179.64	12,110.00	-7,666.75	419.55	480,328.77	727,214.38	32.319062	-103.731619
19,800.00	90.00	179.64	12,110.00	-7,766.74	420.17	480,228.77	727,215.00	32.318787	-103.731619
19,900.00	90.00	179.64	12,110.00	-7,866.74	420.79	480,128.77	727,215.62	32.318512	-103.731619
20,000.00	90.00	179.64	12,110.00	-7,966.74	421.41	480,028.78	727,216.24	32.318237	-103.731619
20,100.00	90.00	179.64	12,110.00	-8,066.74	422.03	479,928.78	727,216.86	32.317962	-103.731619
20,200.00	90.00	179.64	12,110.00	-8,166.74	422.65	479,828.78	727,217.48	32.317687	-103.731618
20,300.00	90.00	179.64	12,110.00	-8,266.74	423.27	479,728.78	727,218.10	32.317413	-103.731618
20,400.00	90.00	179.64	12,110.00	-8,366.73	423.89	479,628.78	727,218.72	32.317138	-103.731618
20,500.00	90.00	179.64	12,110.00	-8,466.73	424.51	479,528.79	727,219.34	32.316863	-103.731618
20,600.00	90.00	179.64	12,110.00	-8,566.73	425.13	479,428.79	727,219.96	32.316588	-103.731618
20,700.00	90.00	179.64	12,110.00	-8,666.73	425.75	479,328.79	727,220.58	32.316313	-103.731618

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 732H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.20ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.20ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 732H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
20,800.00	90.00	179.64	12,110.00	-8,766.73	426.37	479,228.79	727,221.20	32.316038	-103.731617
20,900.00	90.00	179.64	12,110.00	-8,866.72	426.99	479,128.80	727,221.82	32.315763	-103.731617
21,000.00	90.00	179.64	12,110.00	-8,966.72	427.61	479,028.80	727,222.44	32.315488	-103.731617
21,100.00	90.00	179.64	12,110.00	-9,066.72	428.23	478,928.80	727,223.06	32.315214	-103.731617
21,200.00	90.00	179.64	12,110.00	-9,166.72	428.85	478,828.80	727,223.68	32.314939	-103.731617
21,300.00	90.00	179.64	12,110.00	-9,266.72	429.47	478,728.80	727,224.30	32.314664	-103.731616
21,400.00	90.00	179.64	12,110.00	-9,366.71	430.09	478,628.81	727,224.92	32.314389	-103.731616
21,500.00	90.00	179.64	12,110.00	-9,466.71	430.72	478,528.81	727,225.54	32.314114	-103.731616
21,600.00	90.00	179.64	12,110.00	-9,566.71	431.34	478,428.81	727,226.16	32.313839	-103.731616
21,700.00	90.00	179.64	12,110.00	-9,666.71	431.96	478,328.81	727,226.78	32.313564	-103.731616
21,800.00	90.00	179.64	12,110.00	-9,766.71	432.58	478,228.81	727,227.40	32.313289	-103.731615
21,900.00	90.00	179.64	12,110.00	-9,866.70	433.20	478,128.82	727,228.02	32.313015	-103.731615
22,000.00	90.00	179.64	12,110.00	-9,966.70	433.82	478,028.82	727,228.64	32.312740	-103.731615
22,100.00	90.00	179.64	12,110.00	-10,066.70	434.44	477,928.82	727,229.26	32.312465	-103.731615
22,200.00	90.00	179.64	12,110.00	-10,166.70	435.06	477,828.82	727,229.88	32.312190	-103.731615
22,278.60	90.00	179.64	12,110.00	-10,245.30	435.54	477,750.22	727,230.37	32.311974	-103.731615
LTP @ 22278' MD, 100' FSL, 2600' FWL									
22,300.00	90.00	179.64	12,110.00	-10,266.70	435.68	477,728.82	727,230.50	32.311915	-103.731614
22,358.60	90.00	179.64	12,110.00	-10,325.30	436.04	477,670.23	727,230.87	32.311754	-103.731614
PBHL; 20' FSL, 2600' FWL									
22,358.61	90.00	179.64	12,110.00	-10,325.30	436.04	477,670.22	727,230.87	32.311754	-103.731614

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - Tomb Raider 1-1	0.00	0.00	0.00	-10,325.30	436.04	477,670.22	727,230.87	32.311754	-103.731614
- plan misses target center by 10334.50ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
11,546.06	11,537.04	160.00	371.00	KOP @ 11546' MD, 50' FNL, 2600' FWL
11,787.51	11,771.41	109.87	371.31	FTP @ 11787' MD, 100' FNL, 2600' FWL
17,104.00	12,110.00	-5,070.80	403.45	Cross Section @ 17104' MD, 0' FNL, 2600' FWL
22,278.60	12,110.00	-10,245.30	435.54	LTP @ 22278' MD, 100' FSL, 2600' FWL
22,358.60	12,110.00	-10,325.30	436.04	PBHL; 20' FSL, 2600' FWL

Devon Energy

WELL DETAILS: Tomb Raider 1-12 Fed 732H

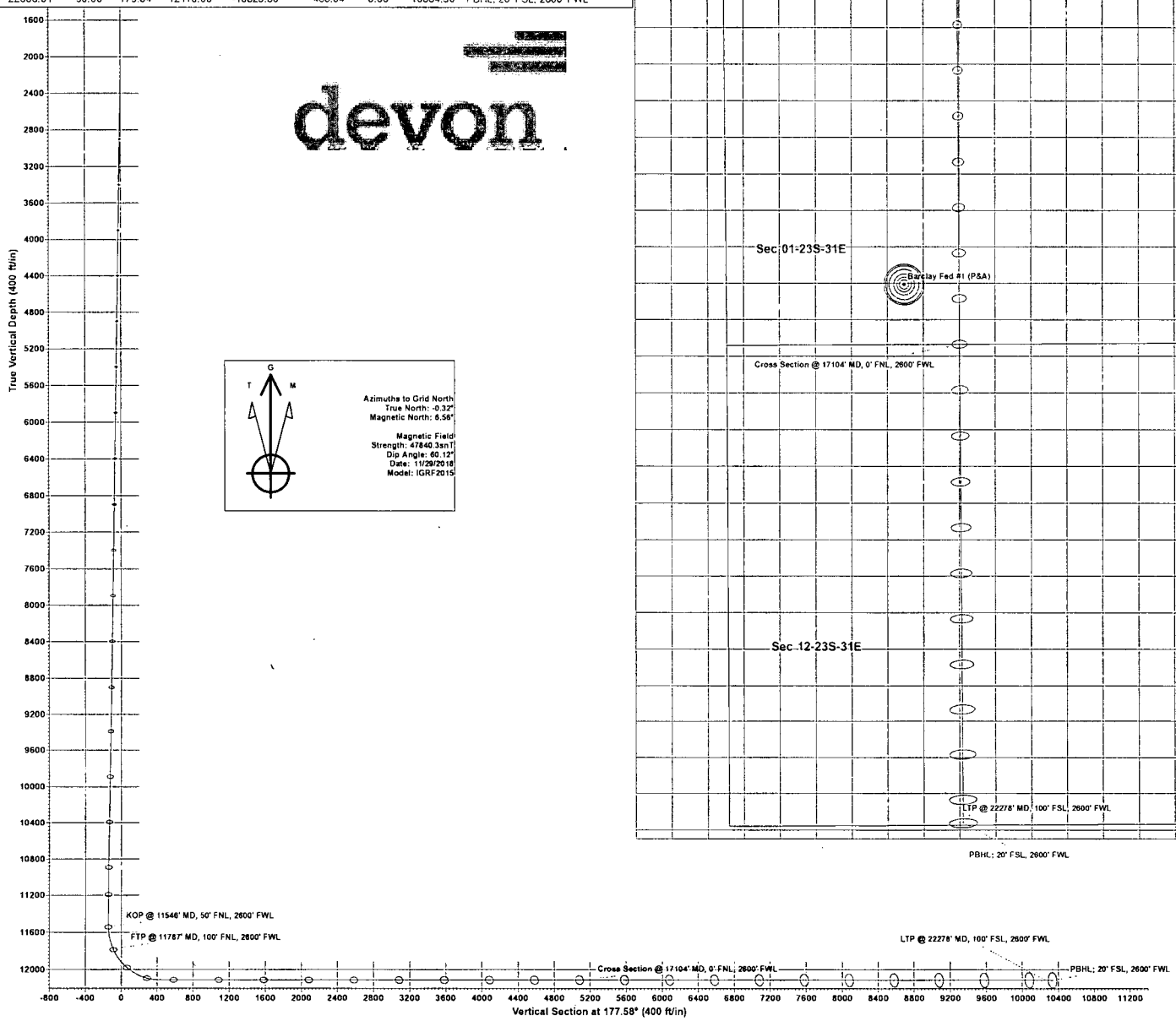
RKB @ 3492.20ft
3467.20

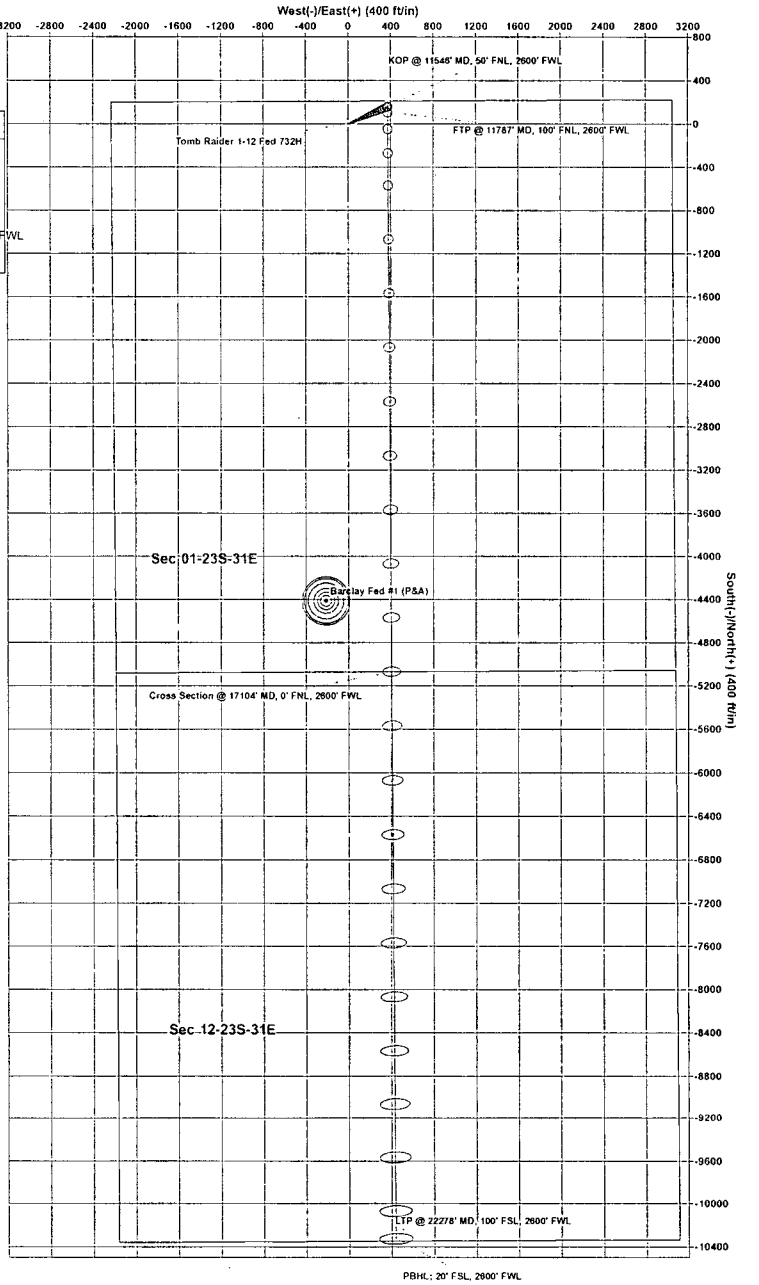
Northing	Easting	Latitude	Longitude
487995.50	726794.83	32.340142	-103.732838

SECTION DETAILS Permit Plan 1

	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Annotation
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	
	2257.84	2.58	66.67	2257.75	2.30	5.33	1.00	-2.07	
	11024.13	2.58	66.67	11015.16	158.47	367.45	0.00	-142.82	
5	11196.02	0.00	0.00	11187.00	160.00	371.00	1.50	-144.20	
6	11546.06	0.00	0.00	11537.04	160.00	371.00	0.00	-144.20	KOP @ 11546' MD, 50' FNL, 2600' FWL
7	12446.06	90.00	179.64	12110.00	-412.95	374.55	10.00	428.38	
8	22358.61	90.00	179.64	12110.00	-10325.30	436.04	0.00	10334.50	PBHL; 20' FSL, 2600' FWL

devon





Tomb Raider 12-1 Fed 731H

1. Geologic Formations

TVD of target	12110	Pilot hole depth	N/A
MD at TD:	22358	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	766		
Salado	1141		
Base of Salt	4451		
Delaware	4481		
L Brushy Canyon	8061		
Bone Spring	8356		
Leonard 'A'	8461		
Leonard 'B'	8976		
Leonard 'C'	9171		
1st BSPG Sand	9421		
2nd BSPG Sand	9981		
3rd BSPG Lime	10496		
3rd BSPG Sand	11206		
Wolfcamp	11651		
Wolfcamp 100	11780		
LP	11820		

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

Devon - Internal

2. Casing Program (Primary Design)

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Wt (PPF)	Grade	Conn	Min SF Collapse	Min SF Burst	Min SF Tension
14.75"	0	791	10.75"	40.5	J-55	STC	1.125	1.25	1.6
9.875"	0	11231	7.625"	29.7	P110	BTC	1.125	1.25	1.6
6.75"	0	TD	5.5"	20	P110	Vam SG	1.125	1.25	1.6
				BLM Minimum Safety Factor			1.125	1.00	1.6 Dry 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.
- Int casing shoe will be selected based on drilling data / gamma, setting depth with be revised accordingly if needed.
- A variance is requested to wave the centralizer requirement for the Intermediate casing and production casing.

Casing Program (Alternate Design)

Hole Size	Casing Interval - From	Casing Interval - To	Csg. Size	Wt. (PPF)	Grade	Conn	Min SF Collapse	Min SF Burst	Min SF Tension
17.5"	0	Same as above	13.375"	48	H-40	STC	1.125	1.25	1.6
10.625"	0	Same as above	8.625"	32	P110EC	BTC	1.125	1.25	1.6
7.875"	0	TD	5.5"	17	P110	BTC	1.125	1.25	1.6
				BLM Minimum Safety Factor			1.125	1.00	1.6 Dry 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.
- Int 1 casing shoe will be selected based on drilling data / gamma, setting depth with be revised accordingly if needed.
- If 9.875" hole is drilled for intermediate 1, the 8.625" connection will change from BTC to TLW
- A variance is requested to wave the centralizer requirement for the Intermediate casing and production casing.
- 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.

Tomb Raider 12-1 Fed 731H

	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 3rd 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 2nd 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?	

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	513	Surf	13.2	1.33	Lead: Class C Cement + additives
Int 1	1067	Surf	9	3.31	Lead: Class C Cement + additives
	847	4000' above shoe	13.2	1.33	Tail: Class H / C + additives
Int 1 Two Stage w DV @ ~4500	540	Surf	9	3.31	1st stage Lead: Class C Cement + additives
	55	500' above shoe	13.2	1.33	1st stage Tail: Class H / C + additives
	560	Surf	9	3.31	2st stage Lead: Class C Cement + additives
	55	500' above DV	13.2	1.33	2st stage Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	13.2	1.33	Squeeze Lead: Class C Cement + additives
	1067	Surf	9	3.31	Lead: Class C Cement + additives
	847	4000' above shoe	13.2	1.33	Tail: Class H / C + additives
Production	811	500' tieback	13.2	1.33	Lead: 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	50%
Intermediate 1	30%
Intermediate 1 (Two Stage)	25%
Prod	10%

Cementing Program (Alternate Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	660	Surf	13.2	1.33	Lead: Class C Cement + additives
Int 1	1147	Surf	9	3.31	Lead: Class C Cement + additives
	831	4000' above shoe	13.2	1.33	Tail: Class H / C + additives
Int 1 Two Stage w DV @ ~4500	580	Surf	9	3.31	1st stage Lead: Class C Cement + additives
	55	500' above shoe	13.2	1.33	1st stage Tail: Class H / C + additives
	590	Surf	9	3.31	2st stage Lead: Class C Cement + additives
	55	500' above DV	13.2	1.33	2st stage Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	13.2	1.33	Squeeze Lead: Class C Cement + additives
	1147	Surf	9	3.31	Lead: Class C Cement + additives
	831	4000' above shoe	13.2	1.33	Tail: Class H / C + additives
Production	1648	500' tieback	13.2	1.33	Lead: 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	50%
Intermediate 1	30%
Intermediate 1 (Two Stage)	25%
Prod	10%

4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
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"	10M	Annular (5M)	X	100% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram		
			Double Ram	X	
			Other *		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other *		
N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.				

Devon - Internal

5. Mud Program (3 String Design)

Section	Type	Weight (ppg)	Vis	Water Loss
Surface	FW Gel	8.5 - 9	28-34	N/C
Intermediate	DBE / Cut Brine	9 - 10	28-34	N/C
Production	OBM	10-10.5	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 fromTD 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	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	6612 psi
Abnormal Temperature	No

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

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S 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	H2S is present
Y	H2S Plan attached

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 nippled 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

_x_ Directional Plan

___ Other, describe

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 nippled 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.

CASING PERFORMANCE Data Sheet

vallourec

O.D.	PE LB/FT	T&C LB/FT	GRADE
8.625	31.13	32.00	P110EC

Grade - Material Properties

Minimum Yield Strength:	125	ksi
Maximum Yield Strength:	140	ksi
Minimum Tensile Strength:	135	ksi

Pipe Body Data (PE)

Geometry

Nominal ID:	7.921	inch
Wall:	0.352	inch
Min. Wall % (API = 87.5%):	87.5	%
API Drift:	7.796	inch
Special Drift*:	7.875	inch

Performance

Pipe Body Yield Strength:	1,144	kips
Collapse Resistance:	3,470	psi
Internal Yield Pressure (*API Historical*):	8,930	psi

API Connection Data

SC Internal Pressure:	8,930	psi
SC Joint Strength:	793	kips
LC Internal Pressure:	8,930	psi
LC Joint Strength:	887	kips
BC Internal Pressure:	8,930	psi
BC Joint Strength:	1,121	kips

SC Torque (ft-lbs)

minimum:	optimum:	maximum:
5,950	7,933	9,916

LC Torque (ft-lbs)

minimum:	optimum:	maximum:
6,651	8,868	11,085

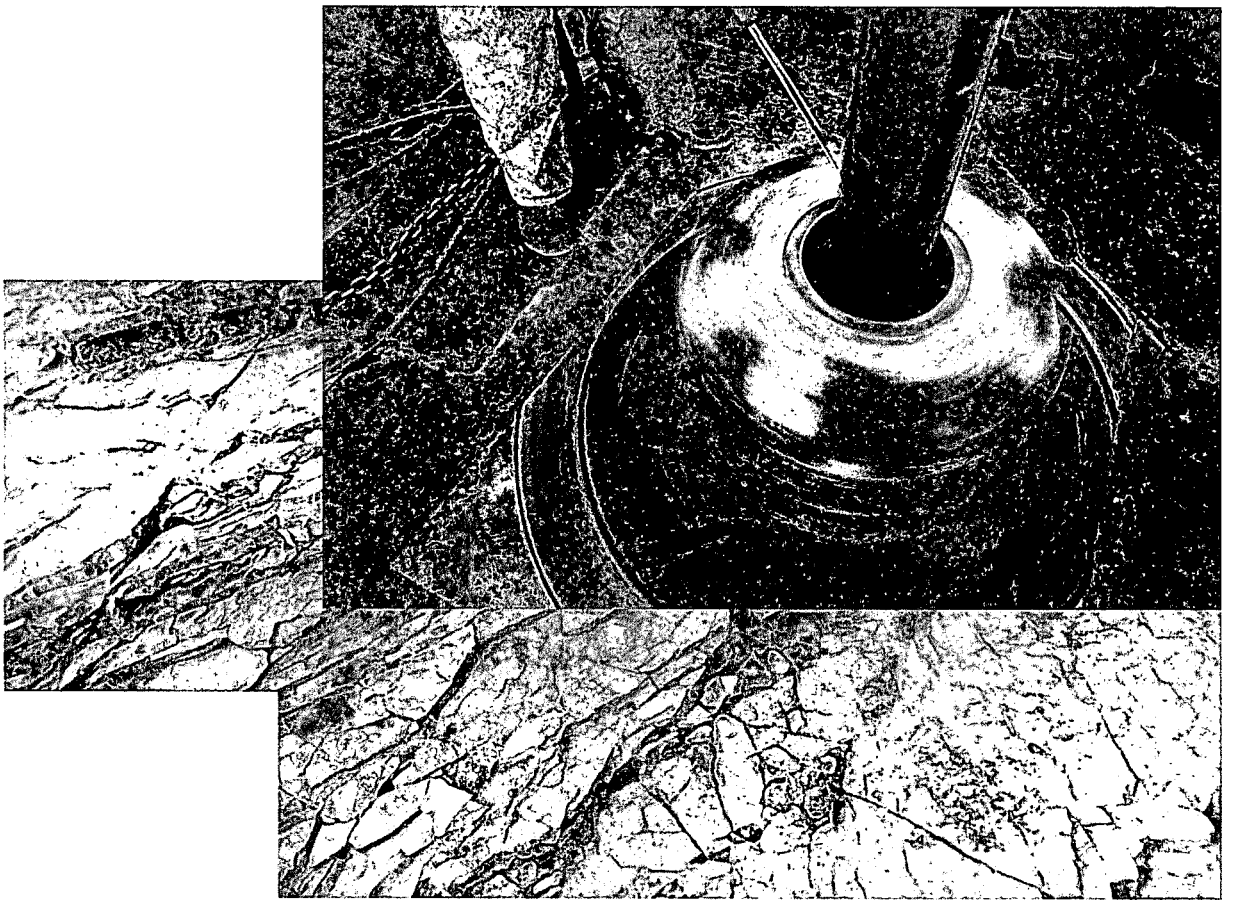
*Special drift must be ordered or API drift will be used for actual drifting of product.

**If above API connections do not suit your needs, VAM® premium connections are available up to 100% of pipe body ratings.

This data sheet is for informational purposes only. While every effort has been made to ensure the accuracy of all data and that the information contained herein is correct, this material is presented as a reference guide only. Vallourec assumes no responsibility for the results obtained through the use of this material.

devon

Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
June 2010

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.

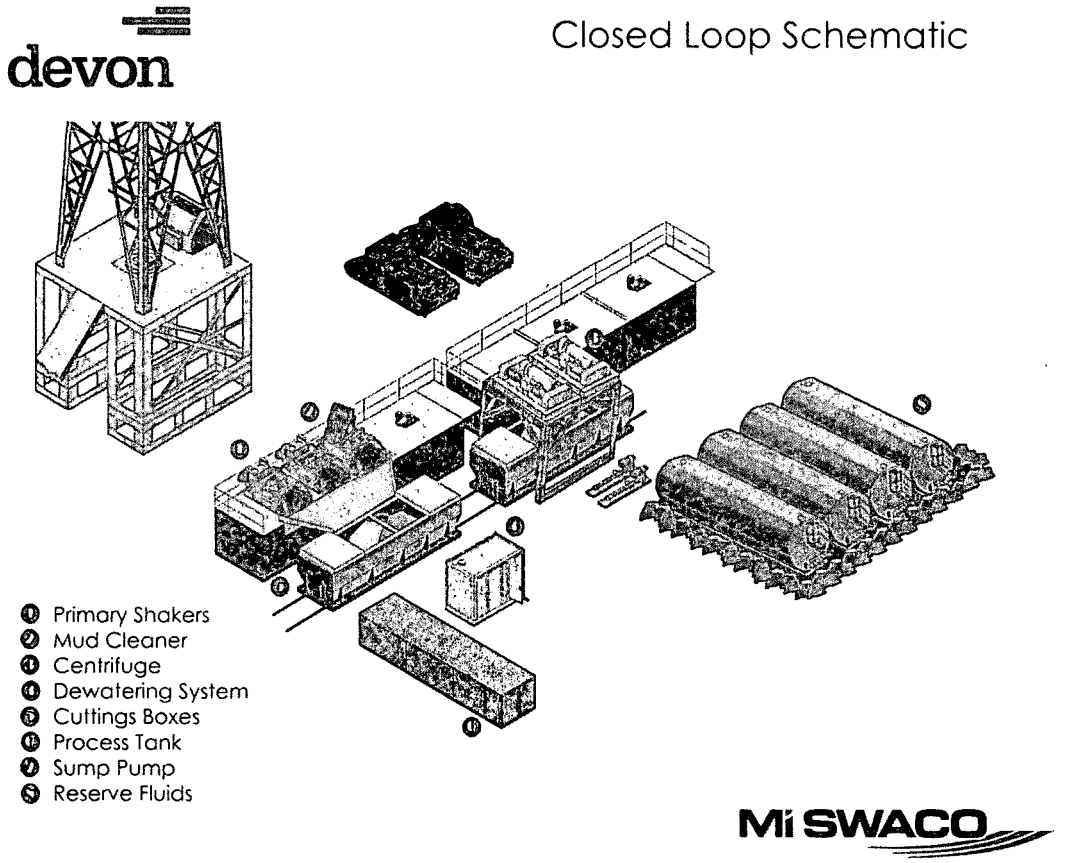
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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.



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

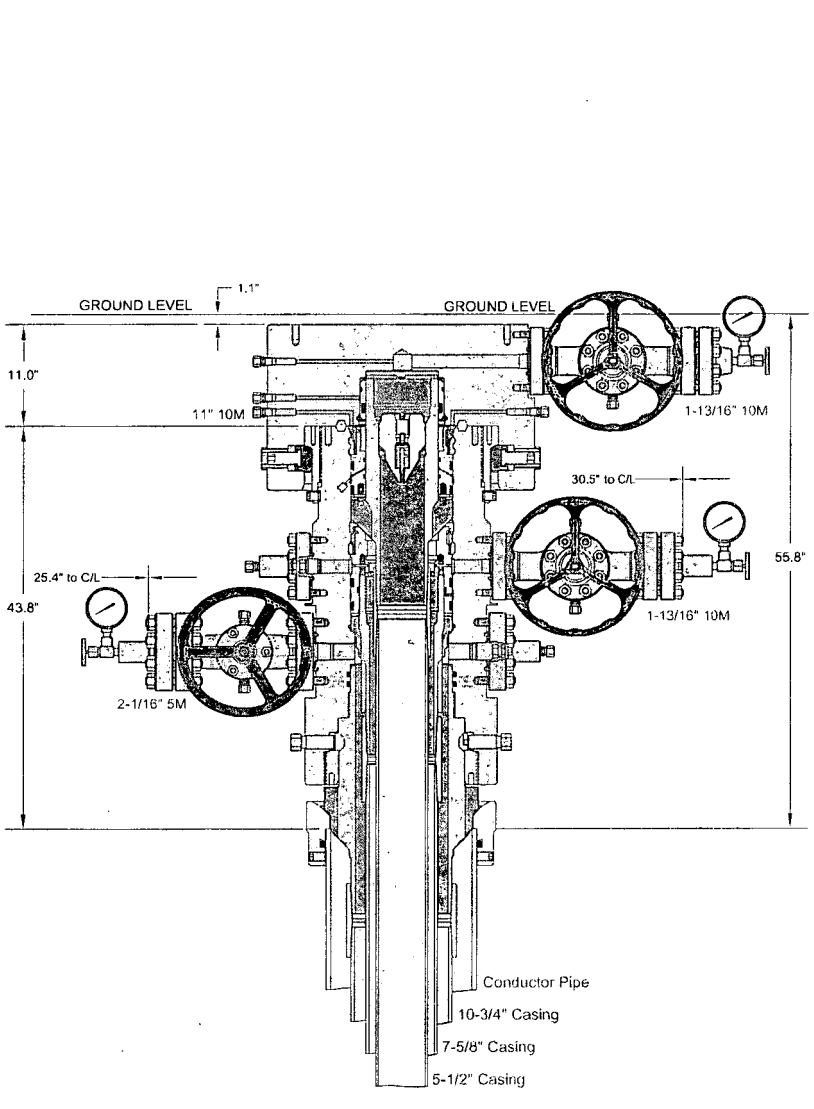
dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

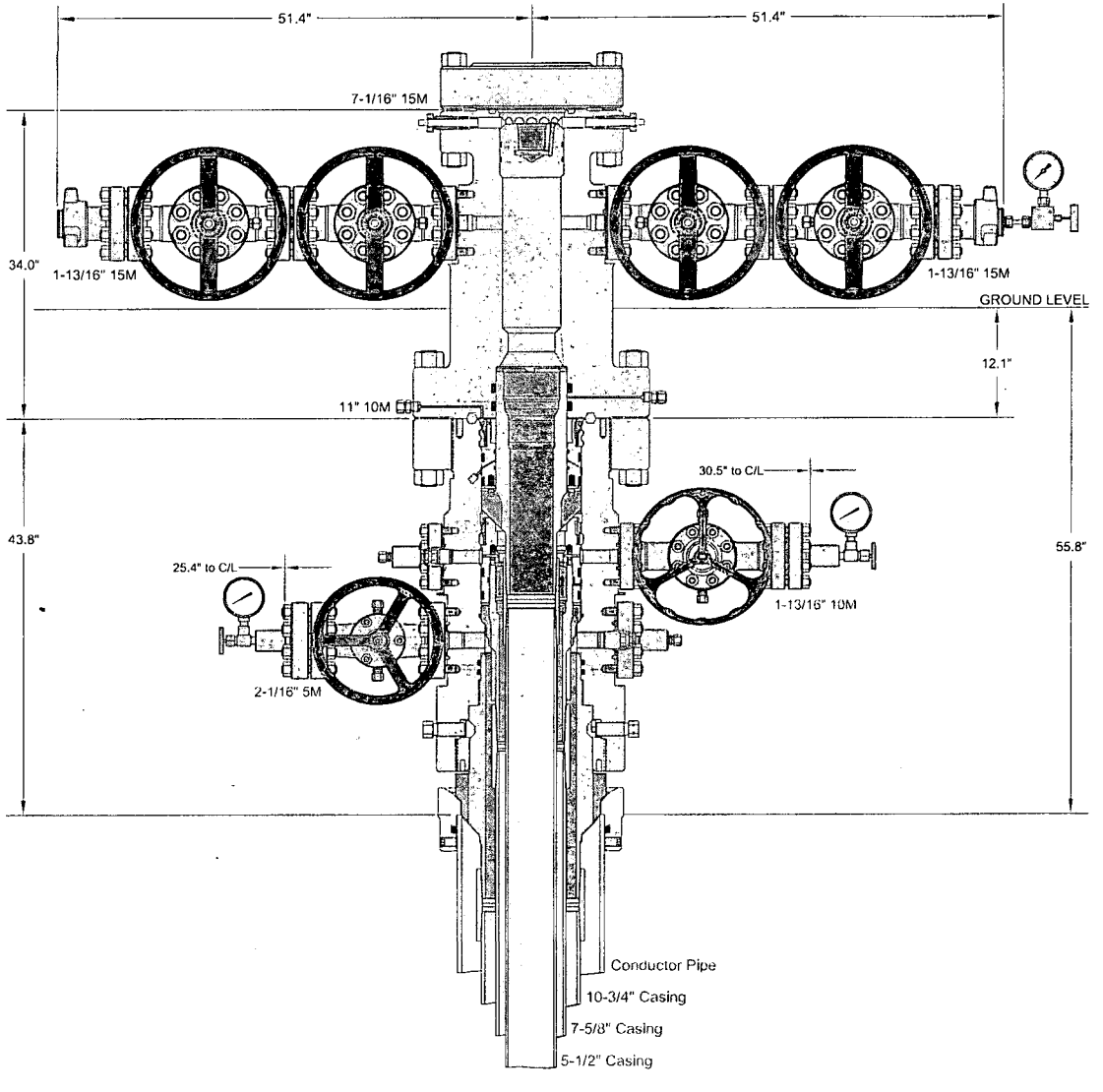
These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the 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.





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ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

DEVON ENERGY CORPORATION

10-3/4" x 7-5/8" x 5-1/2" 5M MBU-T-CFL-R-DBLO Wellhead System
With 7-5/8" & 5-1/2" Pin Down Rotating Mandrel Hangers,
13-5/8" 5M x 11" 10M DSPA & 11" 10M x 7-1/16" 15M Tubing Head

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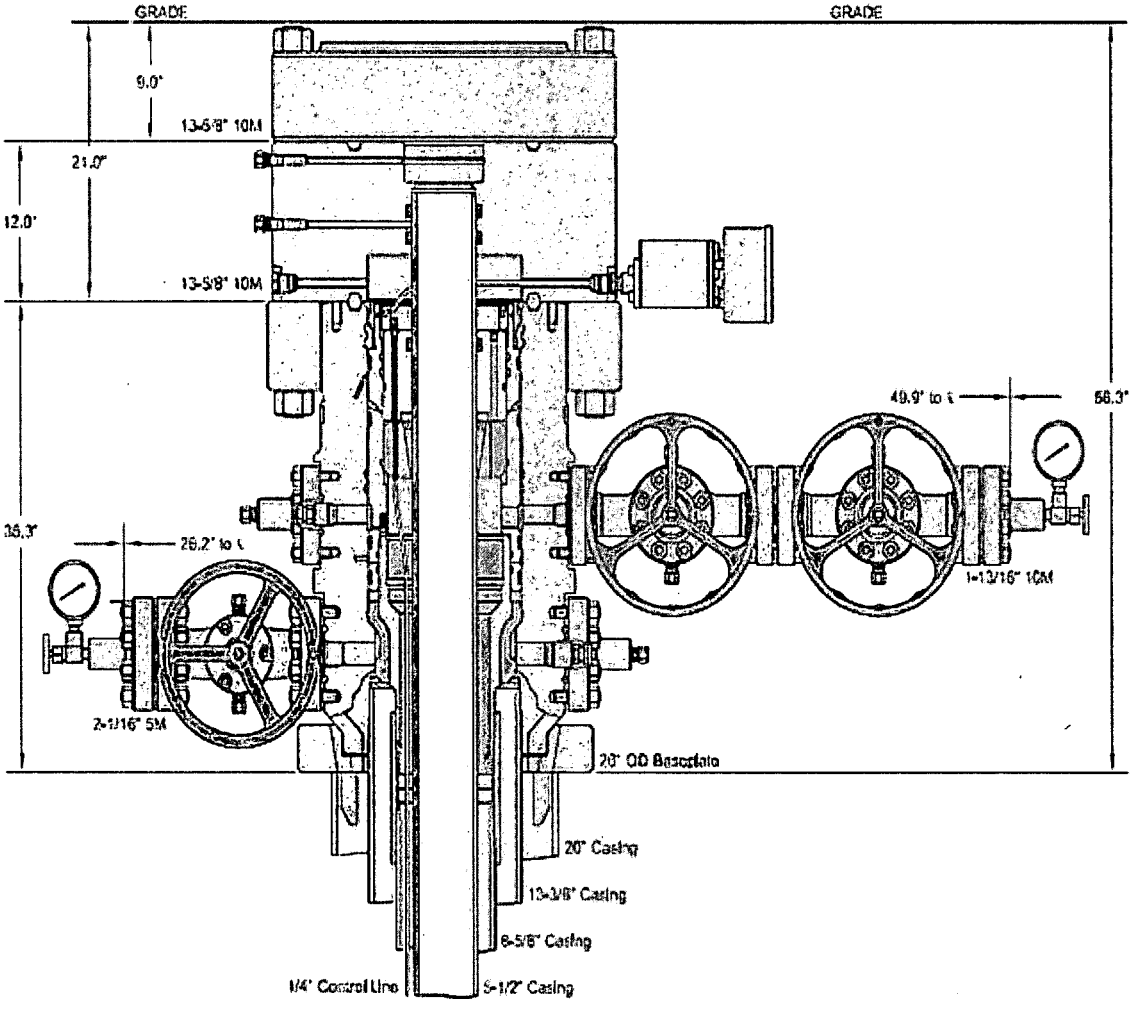
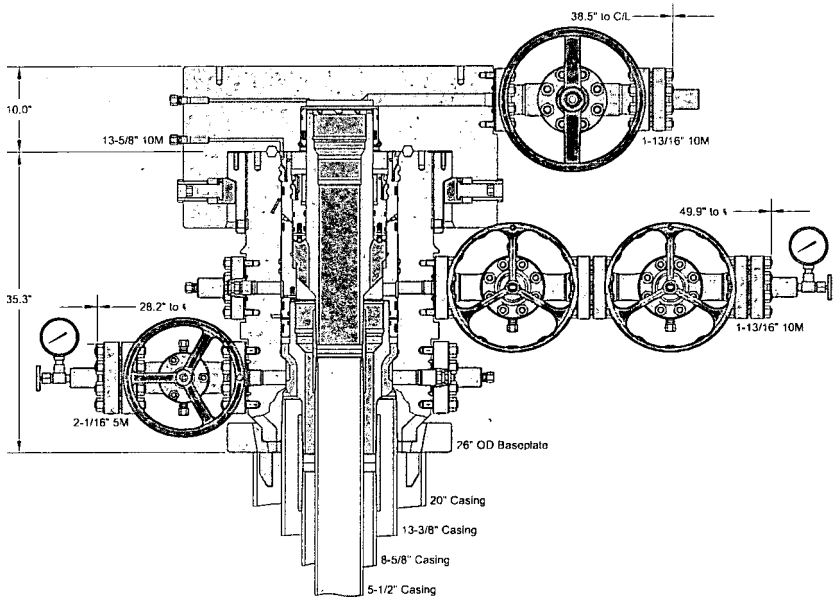
APPRV		
DRAWING NO.	ODE0001804	

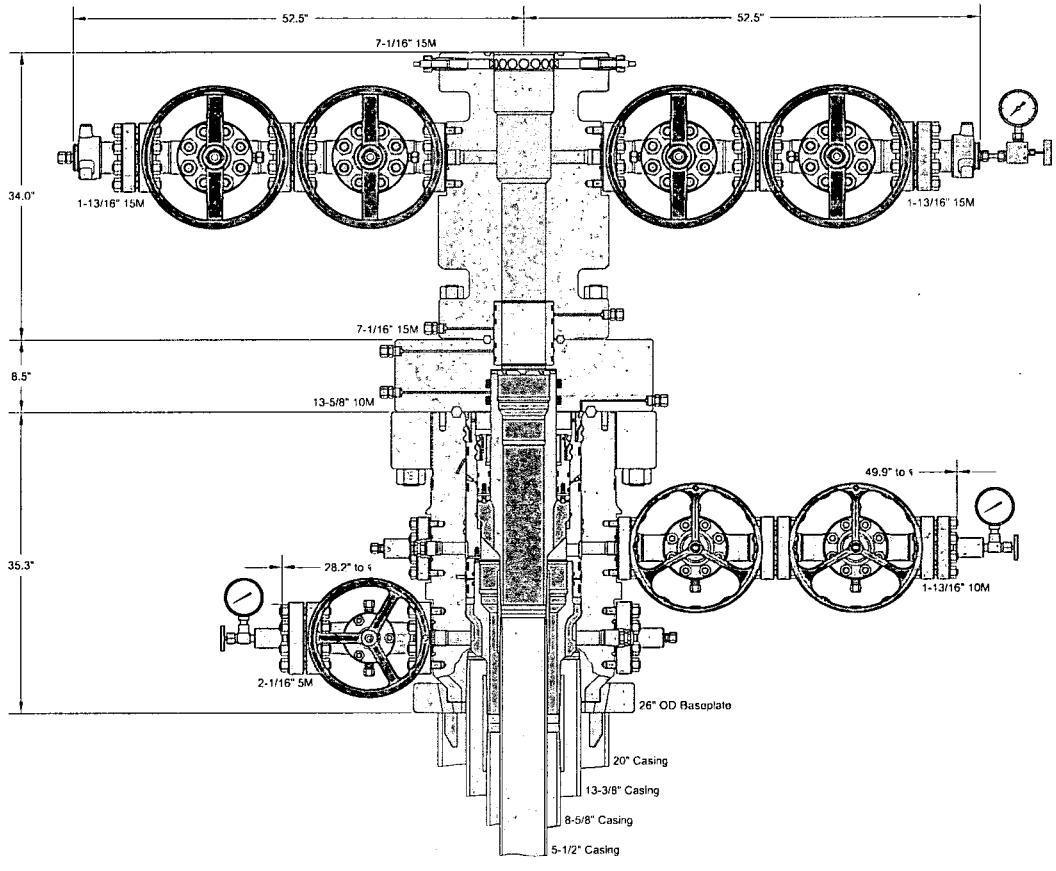
A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.
Devon proposes using a multi-bowl wellhead assembly. 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 surface casing, a 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 intermediate casing with a mandrel hanger, the BOP/BOPE system with a minimum rating of 10M 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.

MB Verb 5M WLFMP Alt Design







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CACTUS WELLHEAD LLC

DEVON ENERGY CORPORATION
DELAWARE BASIN

13-3/8" x 8-5/8" x 5-1/2" 10M MBU-3T Wellhead System
With 8-5/8" And 5-1/2" Mandrel Casing Hangers
And 7-1/16" 15M x 7-1/16" 15M CTH-EN Tubing Head

DRAWN	DLE	01NOV18
APPRV		
DRAWING NO.	HBE0000013	

Continental CONTITECH

Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly it is good practice to use lifting & safety equipment but not mandatory

Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

ContiTech Beattie Corp,
11535 Brittmoore Park Drive,
Houston, TX 77041
Phone: +1 (832) 327-0141
Fax: +1 (832) 327-0148
www.contitechbeattie.com

R16 212

PHOENIX

QUALITY DOCUMENT

PHOENIX RUBBER INDUSTRIAL LTD.

6728 Szeged, Budapesti út 10. Hungary • H-6701 Szeged, P. O. Box 152
Phone: (3662) 566-737 • Fax: (3662) 566-738

SALES & MARKETING: H-1092 Budapest, Ráday u. 42-44. Hungary • H-1440 Budapest, P. O. Box 26
Phone: (361) 456-4200 · Fax: (361) 217-2972, 456-4273 · www.taurusemerge.hu

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°:	552	
PURCHASER:	Phoenix Beattie Co.			P.O. N°:	1519FA-871	
PHOENIX RUBBER order N°:	170466	HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	34128	NOMINAL / ACTUAL LENGTH:		11,43 m		
W.P. 68,96 MPa	10000 psi	T.P. 103,4 MPa	15000 psi	Duration:	60	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 25 MPa

COUPLINGS

Type	Serial N°	Quality	Heat N°
3" coupling with	720 719	AISI 4130	C7626
4 1/16" Flange end		AISI 4130	47357

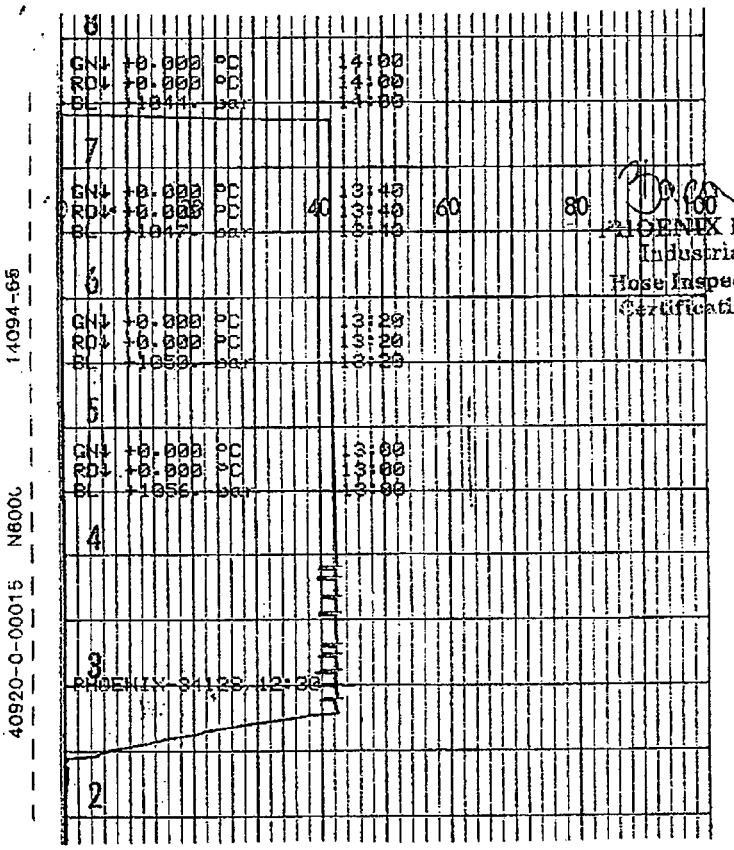
API Spec 16 C
Temperature rate:"B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

Date:	Inspector	Quality Control
29. April. 2002.		PHOENIX RUBBER Industrial Ltd. Hose Inspection and Verification Dept.

VERIFIED TRUE COPY
PHOENIX RUBBER Q.C.



PHOENIX RUBBER
Industrial Ltd.
Hose Inspection and
Certification Dept.

VERIFIED TRUE COPY
PHOENIX RUBBER G.C.

APD ID: 10400037342 **Submission Date:** 12/14/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

TOMB_RAIDER_1_12_FED_732H_EX_RD_20181214144602.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

AA000055129_ACCESS_TA_1_1_PAD_1_CTB_1_P_20181214144637.pdf

New road type: COLLECTOR,RESOURCE

Length: 1670 Feet **Width (ft.):** 30

Max slope (%): 4 **Max grade (%):** 6

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 20

New road access erosion control: Water Drainage Ditch

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

Access surfacing type: GRAVEL

Access topsoil source: ONSITE

Access surfacing type description:

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: See attached Interim reclamation diagram.

Access other construction information:

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: CULVERT,OTHER

Drainage Control comments: na

Road Drainage Control Structures (DCS) description: Culvert installed when deemed necessary, per conditions of approval

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

TOMB_RAIDER_1_12_FED_732H_OneMileBuffer_WA017301158_20181214144710.pdf

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: All flowlines will be buried going to the TODD -APACHE 1-1 CTB 1. Please attached CTB.

Section 5 - Location and Types of Water Supply

Water Source Table

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

Water source use type: STIMULATION **Water source type:** RECYCLED

Describe type:

Source latitude: **Source longitude:**

Source datum:

Water source permit type: OTHER

Source land ownership: FEDERAL

Water source transport method: PIPELINE

Source transportation land ownership: FEDERAL

Water source volume (barrels): 500000 **Source volume (acre-feet):** 64.44655

Source volume (gal): 21000000

Water source and transportation map:

TOMB_RAIDER_1_12_FED_332H_612H_702H_732H_water_map_20181214141343.pdf

Water source comments: The attached Water Transfer Map is a proposal only and the final route and documentation will be provided by a Devon contractor prior to installation. When available Devon will always follow existing disturbance.
New water well? NO

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Dirt fill and caliche will be used to construct well pad. Map attached.

Construction Materials source location attachment:

Todd_Apache_1_1_Pad_1_Caliche_Map_20181214141409.pdf

Section 7 - Methods for Handling Waste

Waste type: PRODUCED WATER

Waste content description: Average produced BWPD over the first year of production

Amount of waste: 1000 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: Multiple methods for handling waste will be utilized. Via trucking, Dvn owned disposal system and or third party pipeline take away.

Waste type: COMPLETIONS/STIMULATION

Waste content description: Flow back water during completion operations.

Amount of waste: 3000 barrels

Waste disposal frequency : One Time Only

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Various disposal locations in Lea and Eddy counties.

Waste type: FLOWBACK

Waste content description: Average produced BWPD over the flowback period (first 30 days of production).

Amount of waste: 2000 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION **Disposal location ownership:** STATE

Disposal type description:

Disposal location description: Produced water during flowback will be disposed of at various disposals in Lea and Eddy County.

Waste type: DRILLING

Waste content description: Water Based Cuttings

Amount of waste: 1649 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: All cuttings will disposed of at R360, Sundance, or equivalent.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

RIGLAYOUT_20181214144819.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** TODD-APACHE 1-1 PAD

Multiple Well Pad Number: 1

Recontouring attachment:

TOMB_RAIDER_1_12_FED_732H_RECLAMATION_20181214144834.pdf

Drainage/Erosion control construction: All areas disturbed shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable.
Drainage/Erosion control reclamation: Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area then shall be reseeded in the first favorable growing season.

Well pad proposed disturbance (acres): 6.406
Road proposed disturbance (acres): 1.15
Powerline proposed disturbance (acres): 0.032
Pipeline proposed disturbance (acres): 0.168
Other proposed disturbance (acres): 5.74
Total proposed disturbance: 13.496

Well pad interim reclamation (acres): 2.759
Road interim reclamation (acres): 0
Powerline interim reclamation (acres): 0
Pipeline interim reclamation (acres): 0
Other interim reclamation (acres): 0
Total interim reclamation: 2.759

Well pad long term disturbance (acres): 3.647
Road long term disturbance (acres): 1.15
Powerline long term disturbance (acres): 0.032
Pipeline long term disturbance (acres): 0.0168
Other long term disturbance (acres): 5.74
Total long term disturbance: 10.5858

Disturbance Comments:

Reconstruction method: Operator will use Best Management Practices"BMP" to mechanically recontour to obtain the desired outcome.
Topsoil redistribution: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.
Soil treatment: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.
Existing Vegetation at the well pad: Shinnery, yucca, grasses and mesquite.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary	
Seed Type	**Pounds/Acre**

Total pounds/Acre:

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: JACOB **Last Name:** OCHOA

Phone: (575)748-9934 **Email:** JACOB.OCHOA@DVN.COM

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Maintain weeds on an as need basis.

Weed treatment plan attachment:

Monitoring plan description: Monitor as needed.

Monitoring plan attachment:

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 732H

SUPO Additional Information: ALL FLOWLINES ARE BURIED

Use a previously conducted onsite? YES

Previous Onsite information: 7/2016-Todd Apache MDP 1-Wellpad 1

Other SUPO Attachment

AA000056016_TODD_APACHE_1_1_CTB_1_R2_20181214141816.pdf

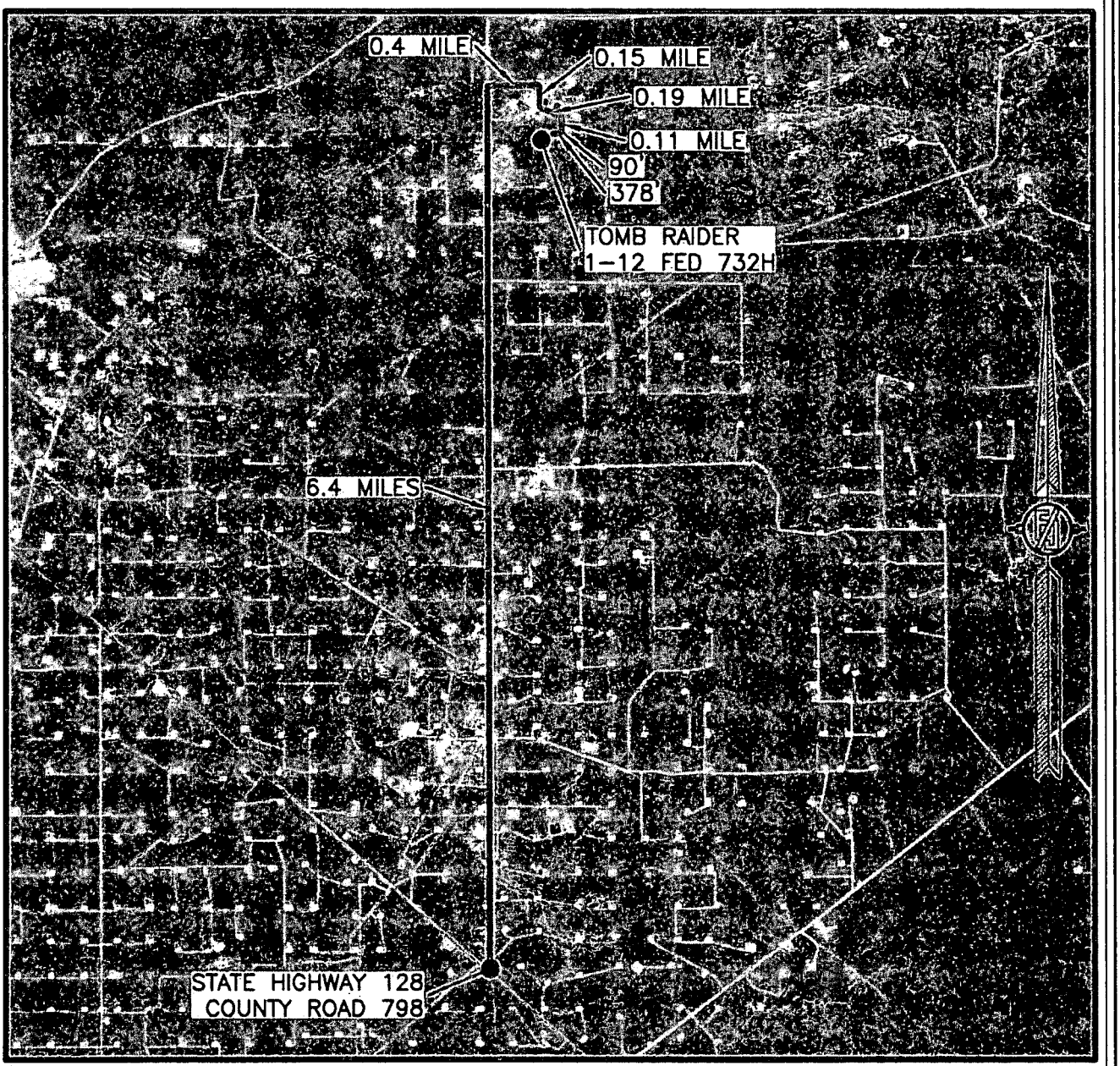
EL7834_FINAL_TODD_APACHE_1_1_PAD_1_PAD_ELECTRIC_P_20181214141817.PDF

Pay.gov___Receipt_332H_702H_732H_612H_20181214152254.pdf

7660153F_6FL_1GL_TA_1_1_PAD_1_TA_1_1_CTB_1_P_BURIED_20190416132013.pdf

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOV. 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 732H

LOCATED 210 FT. FROM THE NORTH LINE
AND 2229 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 6, 2018

SURVEY NO. 6664

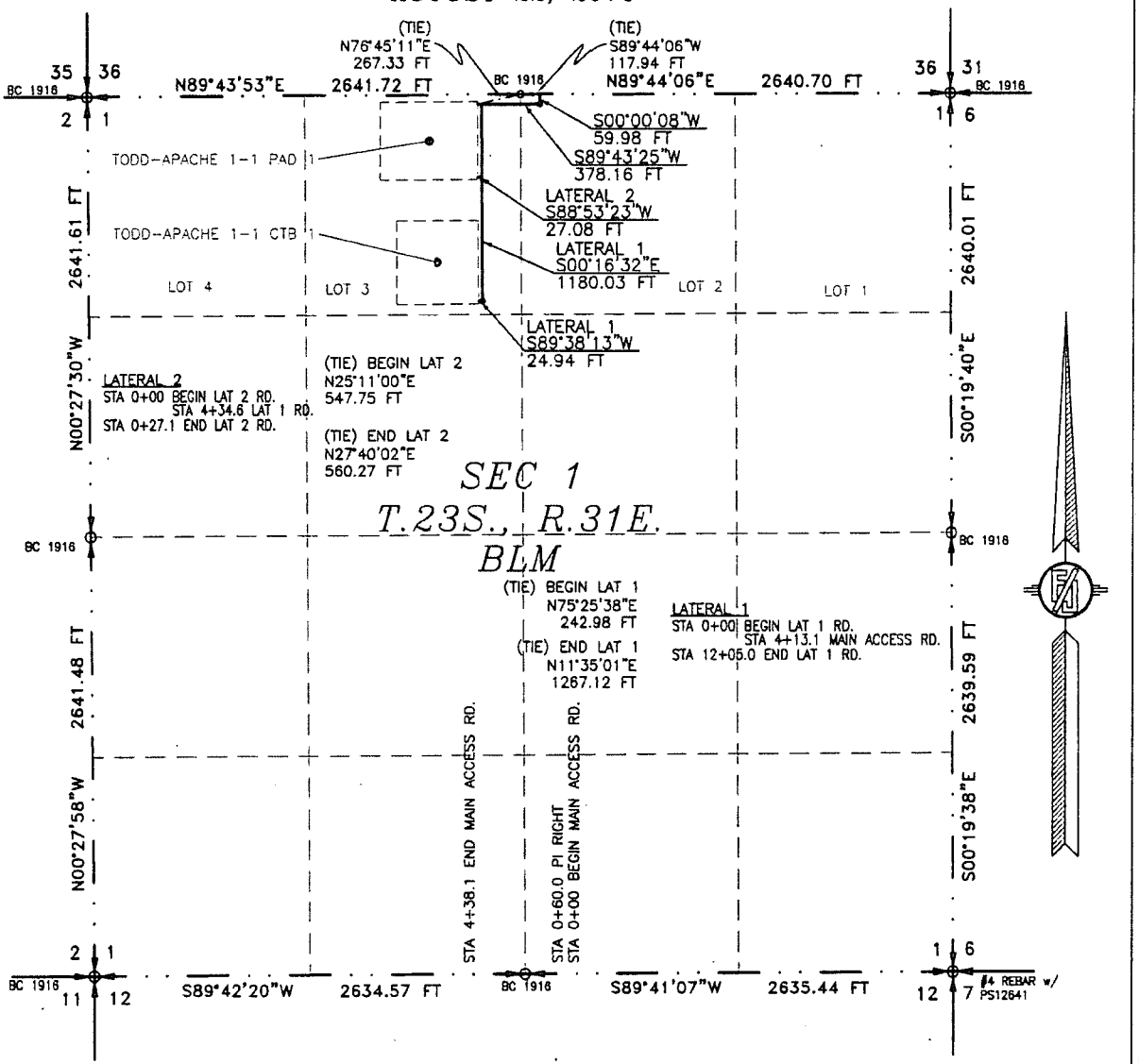
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT (AA000055129)

ACCESS ROAD TO THE TODD-APACHE 1-1 PAD 1 & TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 22, 2016



SEE NEXT SHEET (2-4) FOR DESCRIPTION

1000 0 1000
Scale: 1" = 1000'

GENERAL NOTES

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

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

SURVEYOR CERTIFICATE

I, FILIMON 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 22 DAY OF AUGUST 2016

FILIMON F. JARAMILLO, PLS 12797
301 SOUTH CANAL
(575) 234-3341

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

SHEET: 1-4

SURVEY NO. 4864

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT (AA000055129)

ACCESS ROAD TO THE TODD-APACHE 1-1 PAD 1 & TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 22, 2016

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

MAIN ACCESS ROAD
BEGINNING AT A POINT WITHIN LOT 2 OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S89°44'06"W, A DISTANCE OF 117.94 FEET;
THENCE S00°00'08"W A DISTANCE OF 59.98 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S89°43'25"W A DISTANCE OF 378.16 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N76°45'11"E, A DISTANCE OF 267.33 FEET;

SAID STRIP OF LAND BEING 438.14 FEET OR 26.56 RODS IN LENGTH, CONTAINING 0.301 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 2 177.52 L.F. 10.76 RODS 0.122 ACRES
LOT 3 260.62 L.F. 15.80 RODS 0.179 ACRES

LATERAL 1 ACCESS ROAD
BEGINNING AT A POINT WITHIN LOT 3 OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N75°25'38"E, A DISTANCE OF 242.98 FEET;
THENCE S00°16'32"E A DISTANCE OF 1180.03 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S89°38'13"W A DISTANCE OF 24.94 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N11°35'01"E, A DISTANCE OF 1267.12 FEET;

SAID STRIP OF LAND BEING 1204.97 FEET OR 73.03 RODS IN LENGTH, CONTAINING 0.830 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 3 1204.97 L.F. 73.03 RODS 0.830 ACRES

LATERAL 2 ACCESS ROAD
BEGINNING AT A POINT WITHIN LOT 3 OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N25°11'00"E, A DISTANCE OF 547.75 FEET;
THENCE S88°53'23"W A DISTANCE OF 27.08 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N27°40'02"E, A DISTANCE OF 560.27 FEET;

SAID STRIP OF LAND BEING 27.08 FEET OR 1.64 RODS IN LENGTH, CONTAINING 0.019 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 3 27.08 L.F. 1.64 RODS 0.019 ACRES

GENERAL NOTES

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

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

SURVEYOR CERTIFICATE

I, FILIMON 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 22nd DAY OF AUGUST, 2016.

FILIMON F. JARAMILLO, PLS 12797
301 SOUTH CANAL
(575) 234-3341

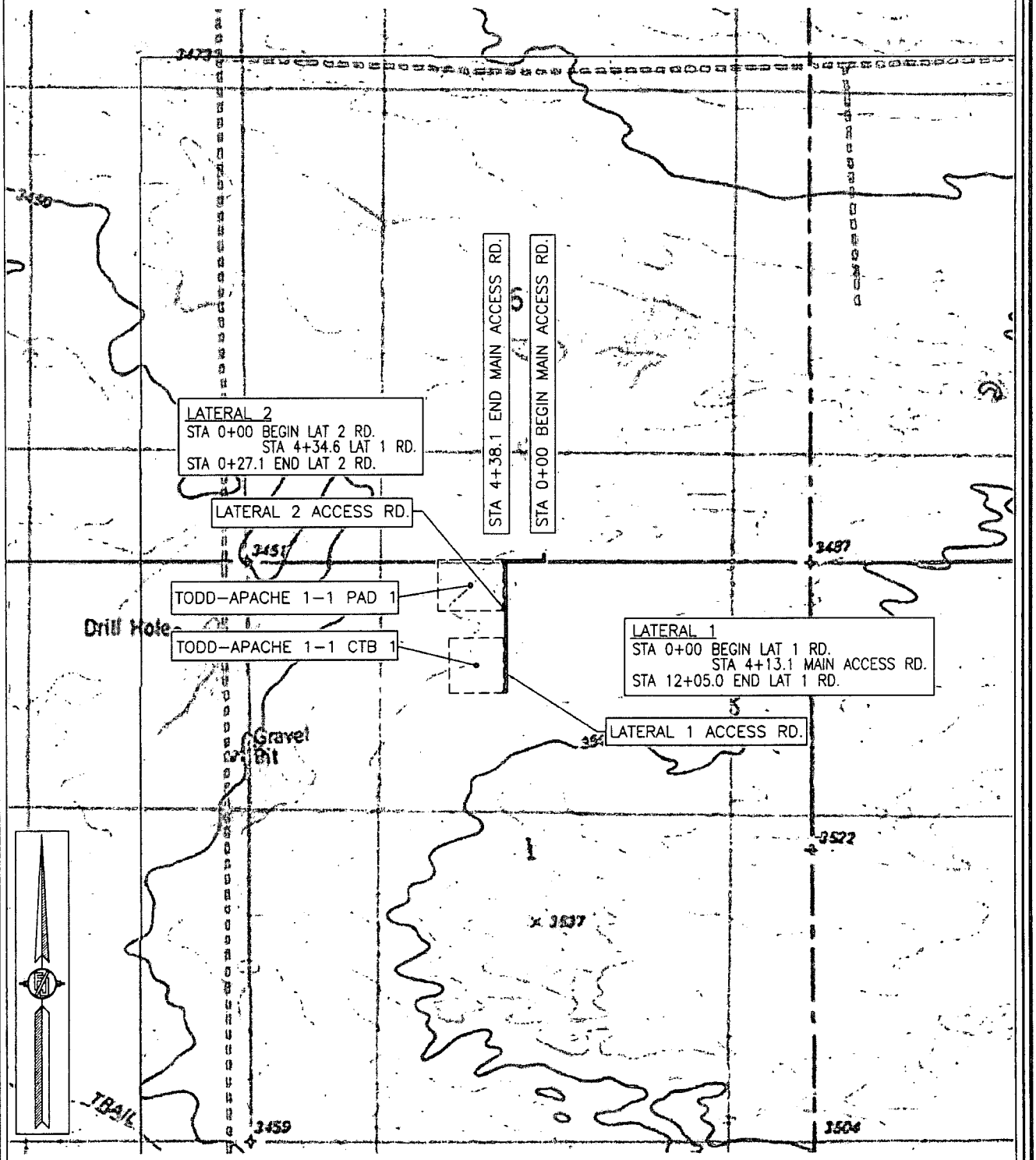
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

ACCESS ROAD PLAT (AA000055129)

ACCESS ROAD TO THE TODD-APACHE 1-1 PAD 1 & TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 22, 2016



SHEET: 3-4

SURVEY NO. 4864

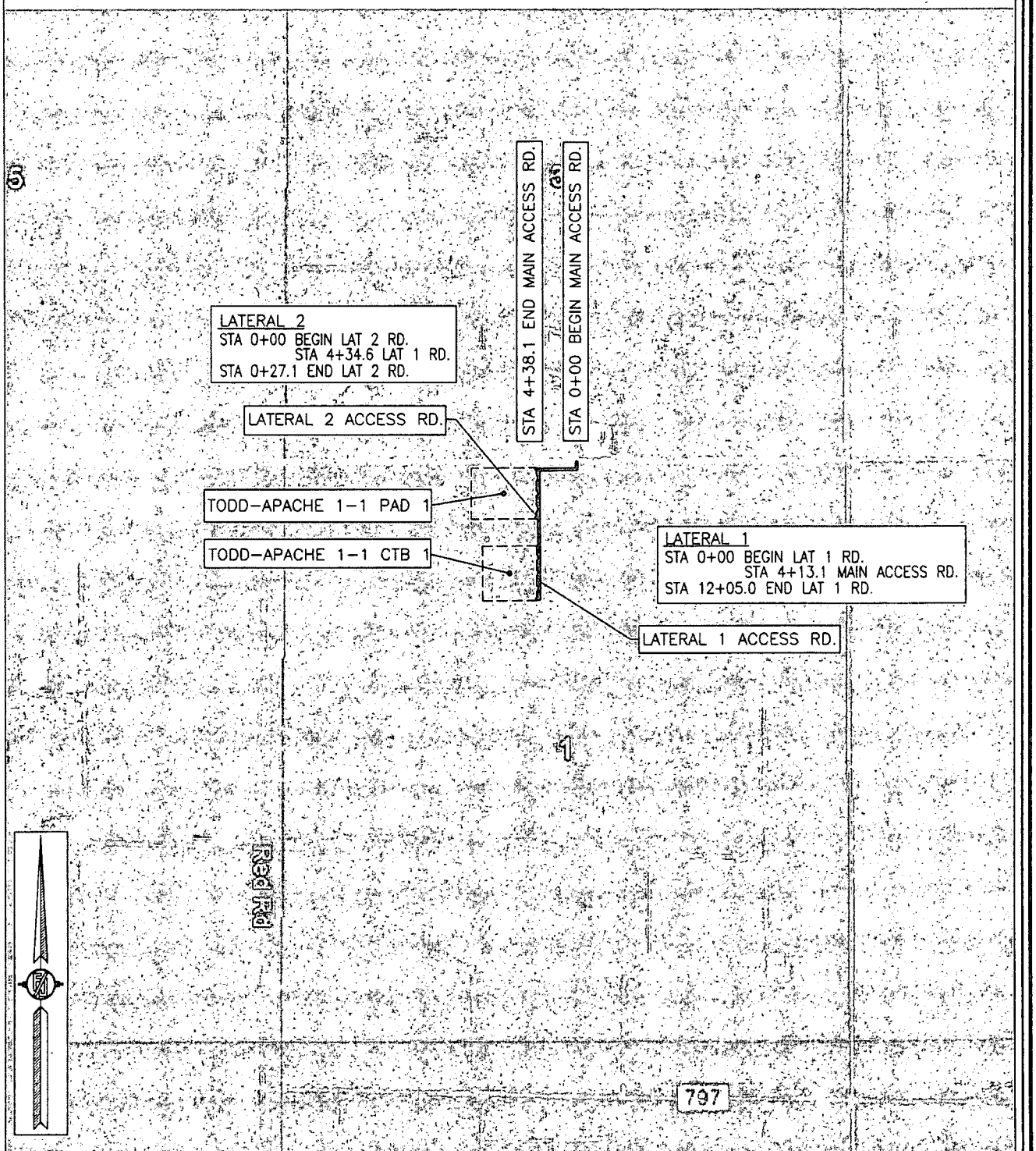
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT (AA000055129)

ACCESS ROAD TO THE TODD-APACHE 1-1 PAD 1 & TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 22, 2016



SHEET: 4-4 SURVEY NO. 4864

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

PLAT

One Mile Radius Map

devon

This map is for illustrative purposes only and is neither a legally recorded map nor a survey and is not intended to be used as one. Devon makes no warranty,representation, or guarantee of any kind regarding this map.

USA Contiguous Equidistant Conic
Datum: North American 1983
Created by: FME Server
Map is current as of 12/12/2018

N

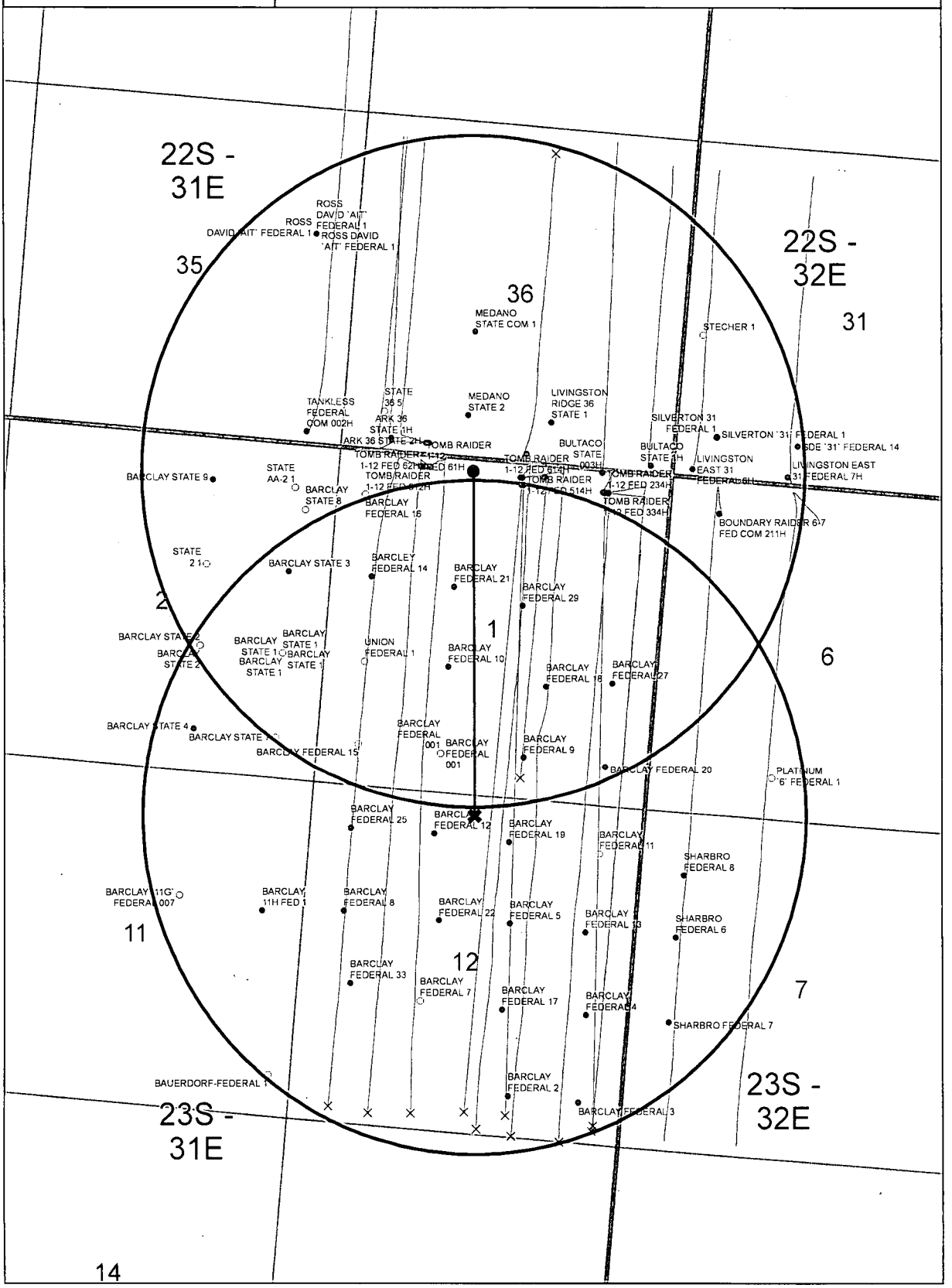
Miles
0 0.255 1 inch = 0.34 miles

TOMB RAIDER 1-12 FED 732H
WA017301158

TOMB RAIDER 1-12 FED 62H
Nearest wellbore to SHL: 457 ft.

TOMB RAIDER 1-12 FED 514H
Nearest wellbore to BHL: 262 ft.

- ○ Unknown SHL
- • Active SHL
- ○ Inactive SHL
- × BHL



TOMB RAIDER 1-12 FED
332H/612H/702H/732H

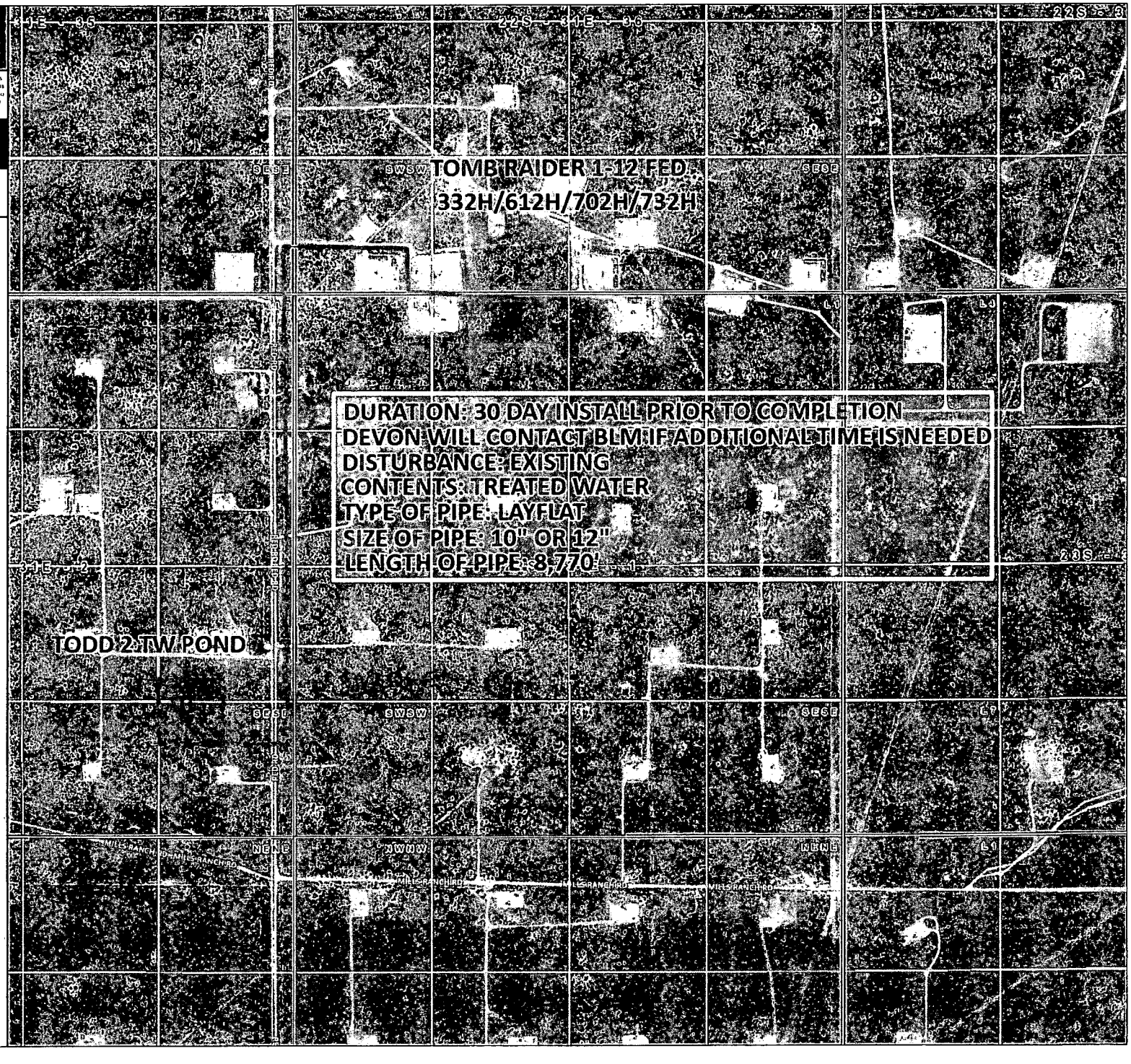
devon

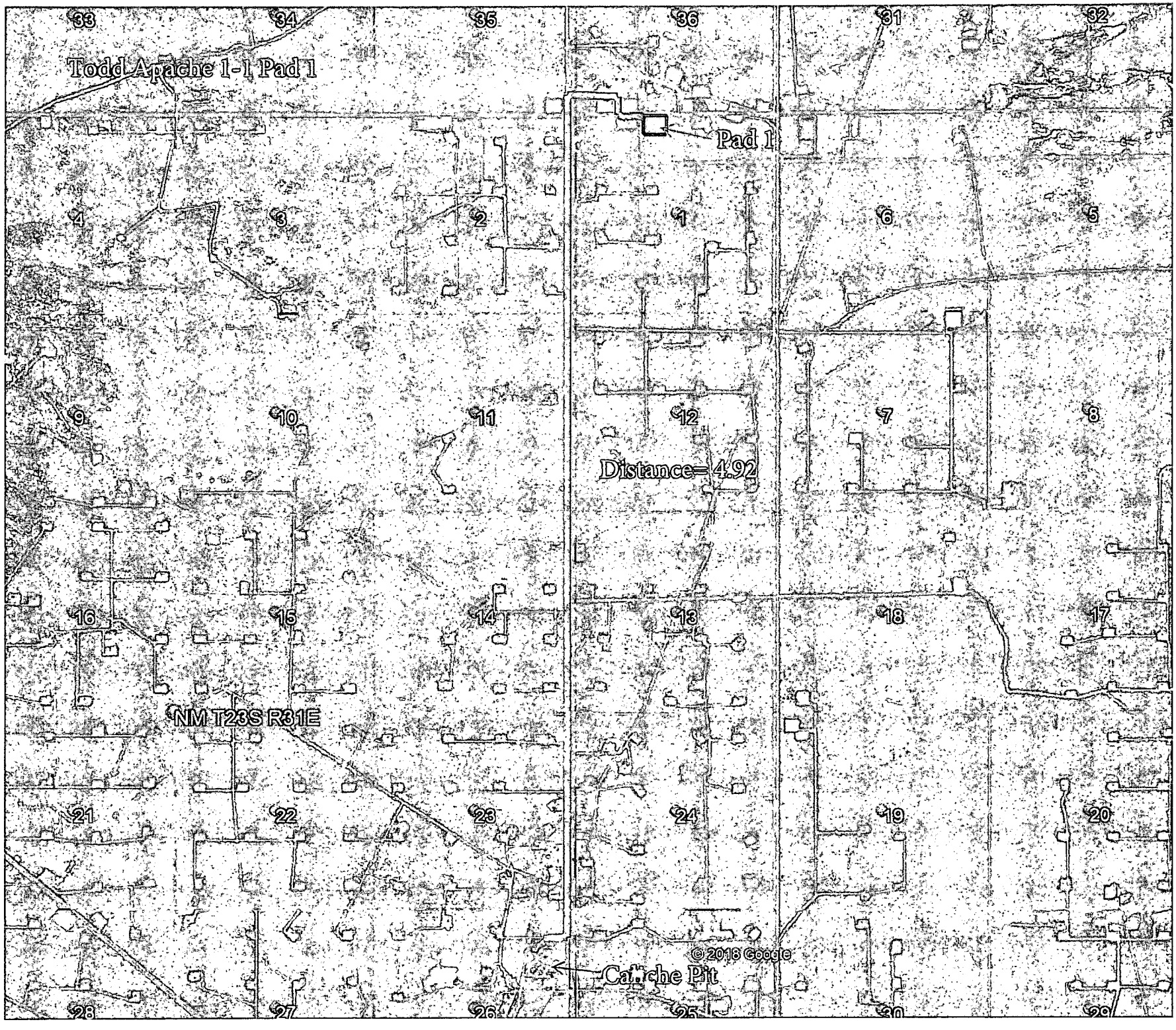
This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere
Prepared by: _User
Map is current as of: 07-Dec-2018

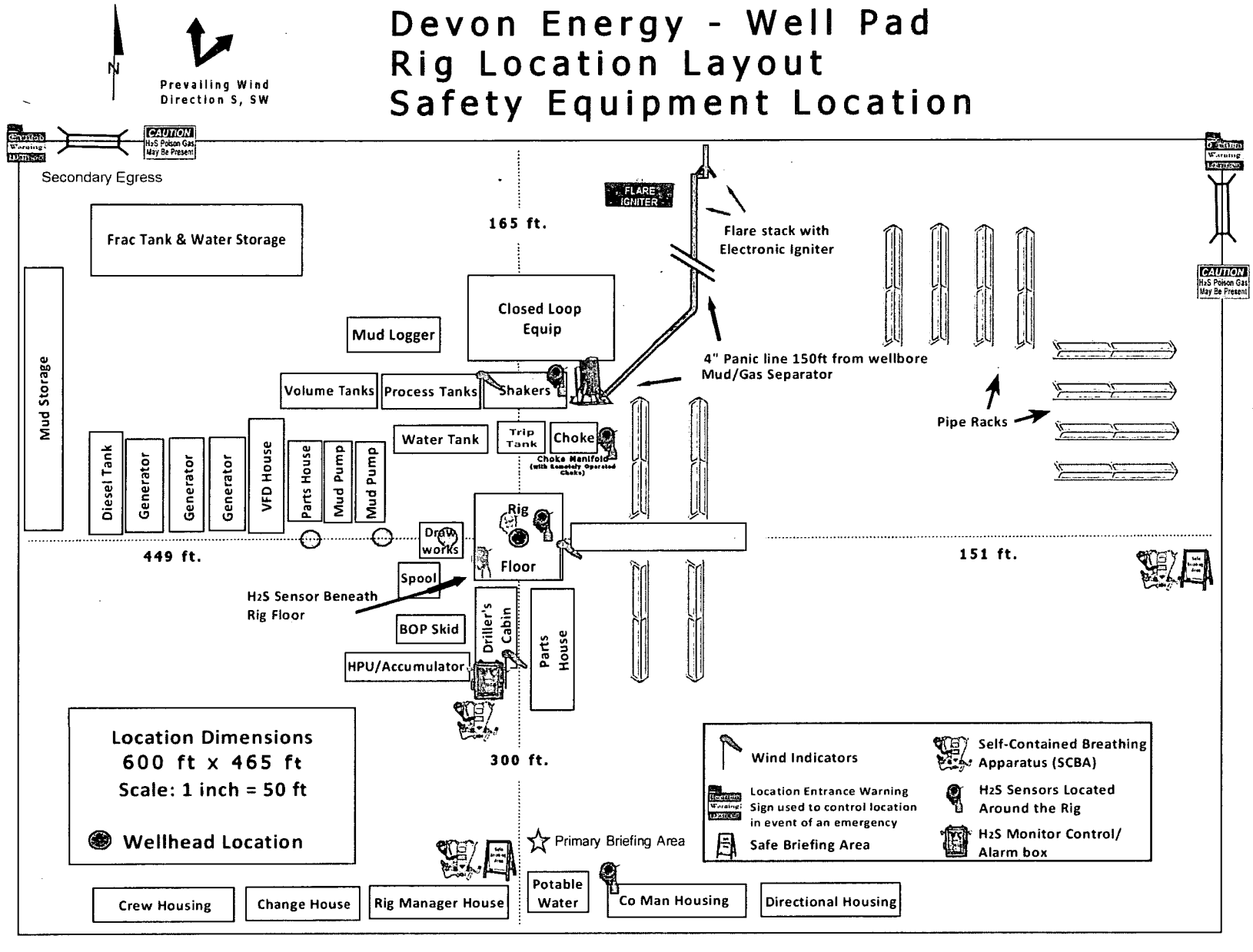
N

Miles
0 0.07 0.14 0.28 1: 14,228

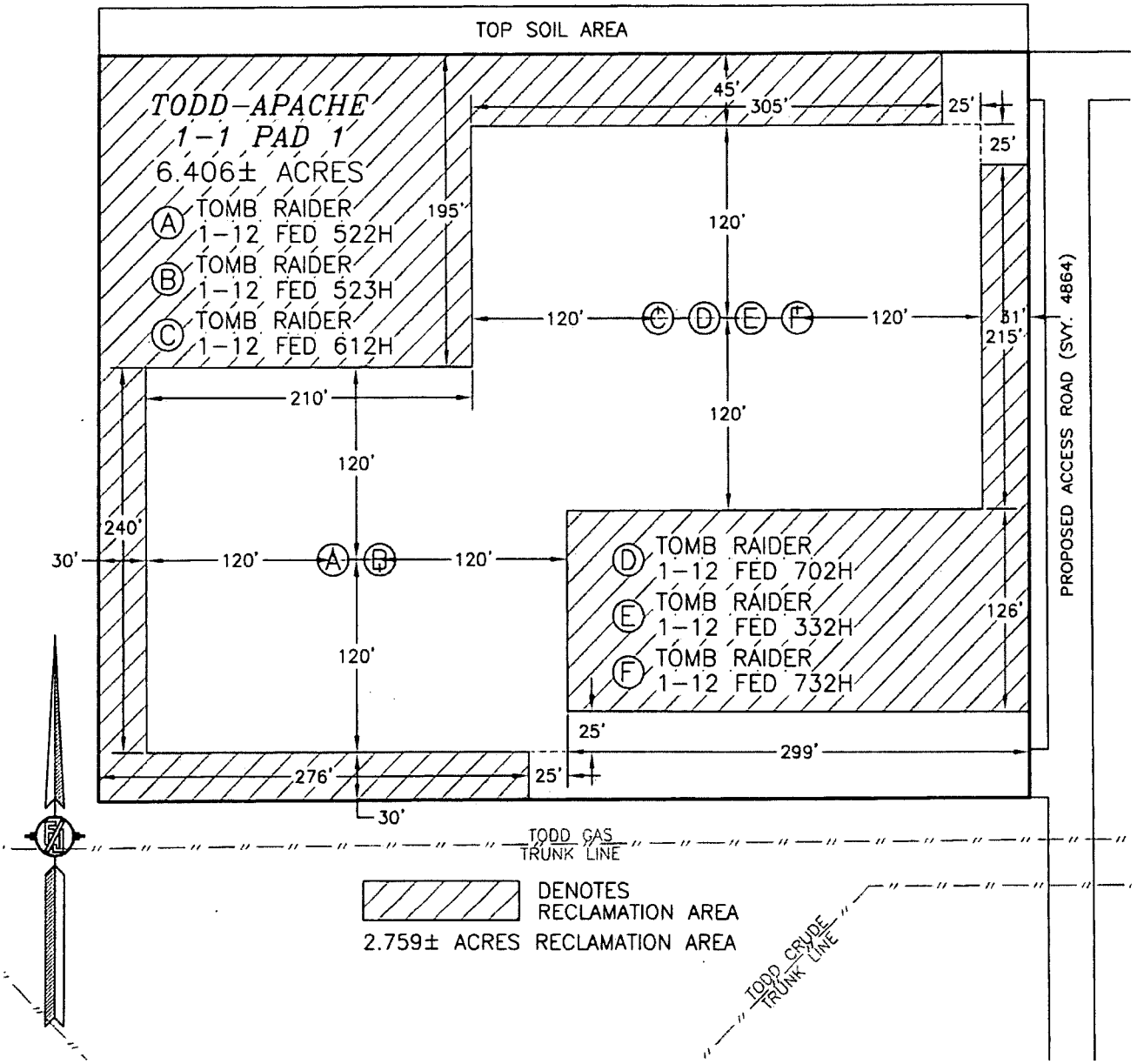



Todd Apache 1-1 Pad 1
Pad 1
Distance= 4.92
NM T23S R31E
Caliche Pit
© 2016 Google

Devon Energy - Well Pad
Rig Location Layout
Safety Equipment Location



SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
INTERIM SITE RECLAMATION



DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 732H

LOCATED 210 FT. FROM THE NORTH LINE AND 2229 FT. FROM THE WEST LINE OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 6, 2018

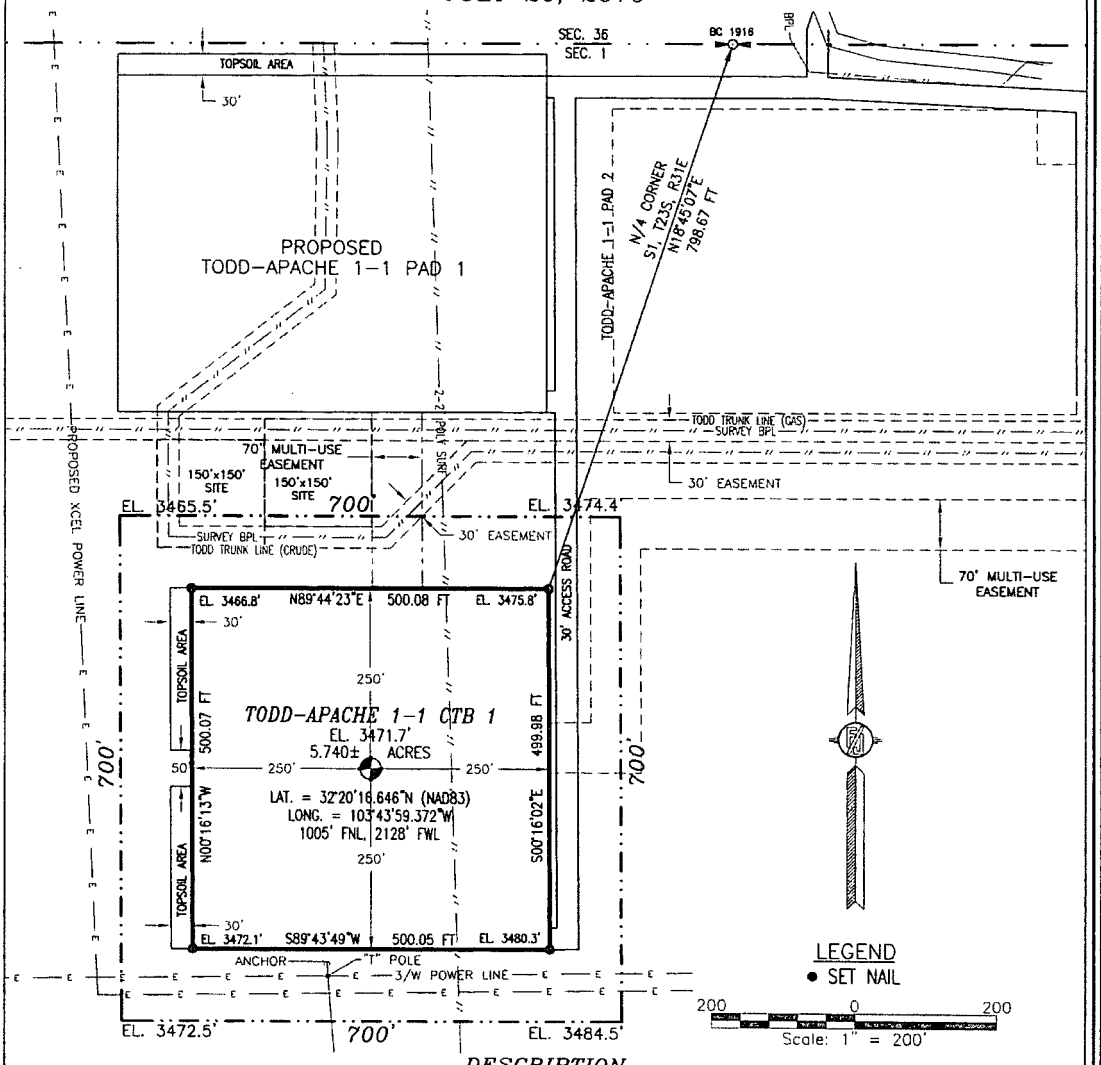
SURVEY NO. 6664

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

TODD-APACHE 1-1 CTB 1 (AA000056016)

DEVON ENERGY PRODUCTION COMPANY, L.P.
IN LOT 3 OF
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JULY 20, 2016



DESCRIPTION

A CERTAIN PIECE OR PARCEL OF LAND AND REAL ESTATE LYING IN LOT 3 OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST N.M.P.M., EDDY COUNTY, NEW MEXICO.

BEGINNING AT THE NORTHEAST CORNER OF THE PARCEL, WHENCE THE NORTH QUARTER CORNER OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N18°45'07"E, A DISTANCE OF 798.67 FEET;
THENCE S00°16'02"E A DISTANCE OF 499.98 FEET TO THE SOUTHEAST CORNER OF THE PARCEL;
THENCE S89°43'49"W A DISTANCE OF 500.05 FEET TO THE SOUTHWEST CORNER OF THE PARCEL;
THENCE N00°16'13"W A DISTANCE OF 500.07 FEET TO THE NORTHWEST CORNER OF THE PARCEL;
THENCE N89°44'23"E A DISTANCE OF 500.08 FEET TO THE NORTHEAST CORNER OF THE PARCEL, TO THE POINT OF BEGINNING;
CONTAINING 5.740 ACRES MORE OR LESS.

GENERAL NOTES

1.) THE INTENT OF THIS SURVEY IS TO ACQUIRE A BUSINESS LEASE FOR THE PURPOSE OF BUILDING A CENTRAL TANK BATTERY

2.) BASIS OF BEARING IS NEW MEXICO STATE PLANE EAST ZONE MODIFIED TO THE SURFACE (NAD83)

DRIVING DIRECTION: FROM STATE HIGHWAY 128 AND CR 798 (RED ROAD) GO NORTH ON CR 798 6.4 MILES, TURN RIGHT ON CALICHE ROAD AND GO EAST 0.4 OF A MILE, BEND RIGHT AND GO SOUTH 0.15 OF A MILE, BEND LEFT AND GO SOUTHEAST 0.19 OF A MILE, TURN RIGHT AND GO SOUTH 0.11 OF A MILE TO A PROPOSED ROAD SURVEY WHERE ROAD BENDS LEFT. FOLLOW FLAGS SOUTH 90', THEN WEST 378', THEN SOUTH 1180', THEN WEST 25' TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

SURVEYOR CERTIFICATE

I, FILIMON 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 29TH DAY OF JULY, 2016

FILIMON F. JARAMILLO, NEW MEXICO PS. 12797

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

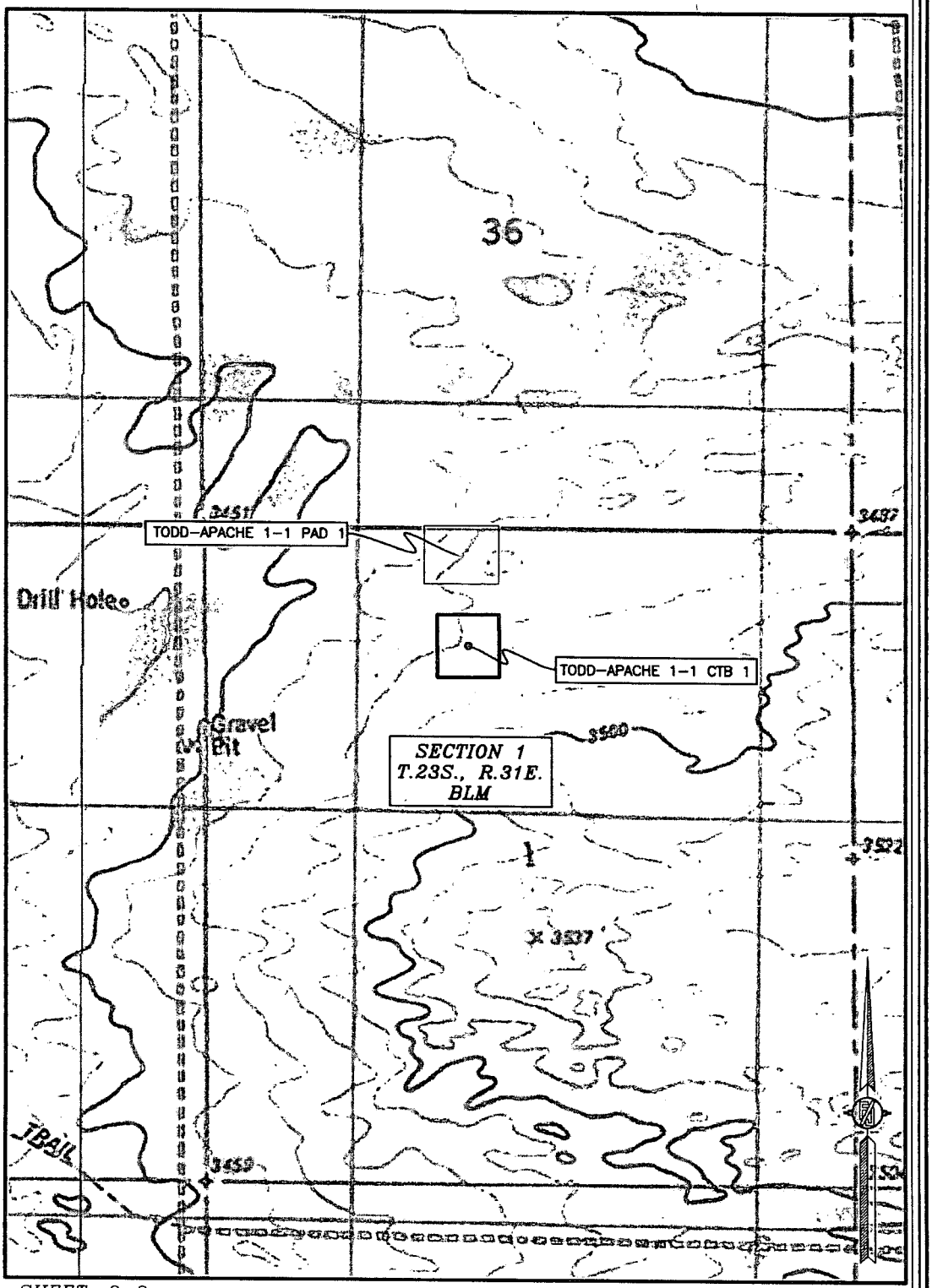
TODD–APACHE 1–1 CTB 1 (AA000056016)

DEVON ENERGY PRODUCTION COMPANY, L.P.

IN LOT 3 OF
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JULY 20, 2016

QUAD MAP



SHEET: 2–3

SURVEY NO. 4527D

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

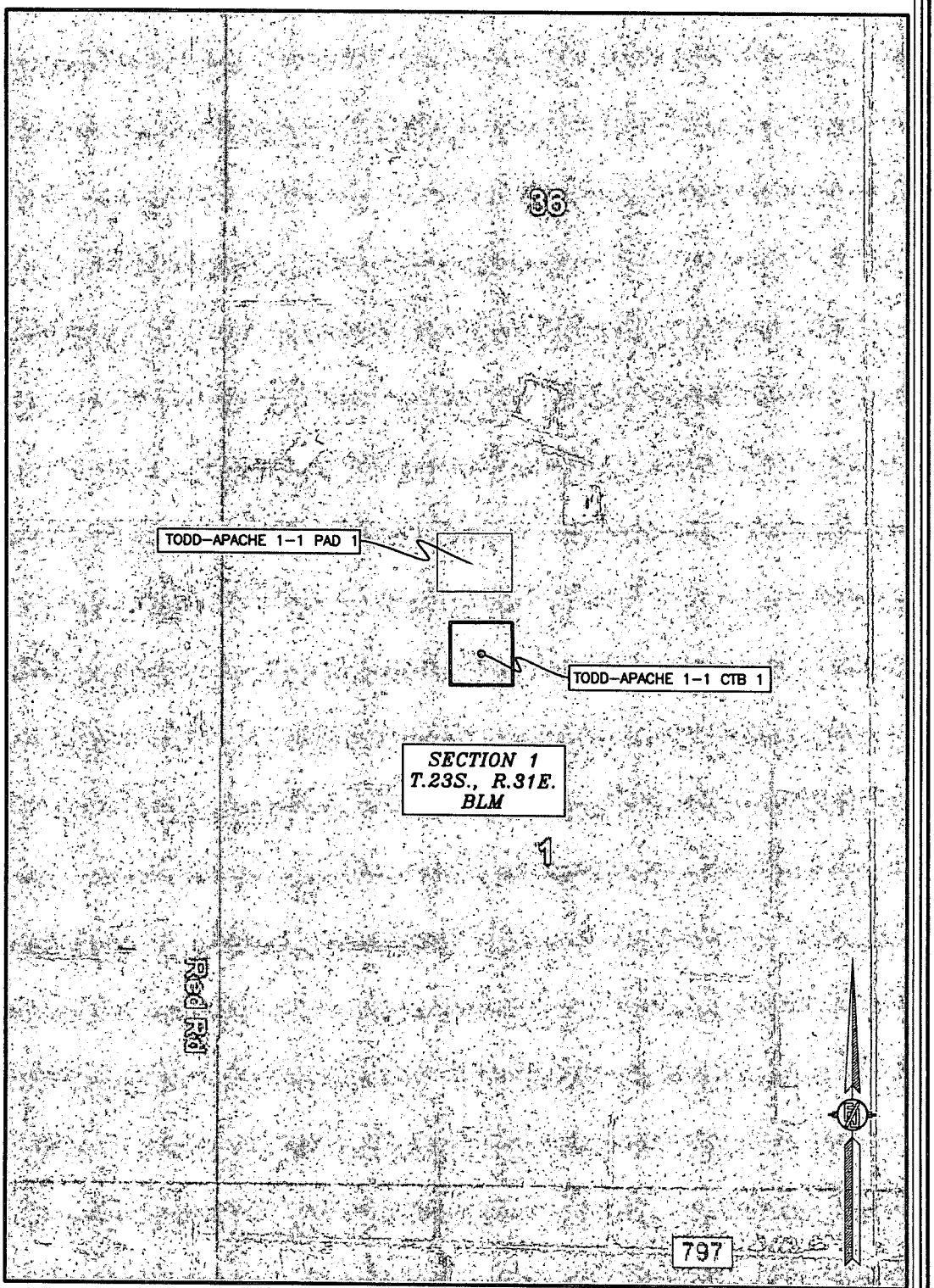
TODD-APACHE 1-1 CTB 1 (AA000056016)

DEVON ENERGY PRODUCTION COMPANY, L.P.

IN LOT 3 OF
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JULY 20, 2016

AERIAL PHOTO

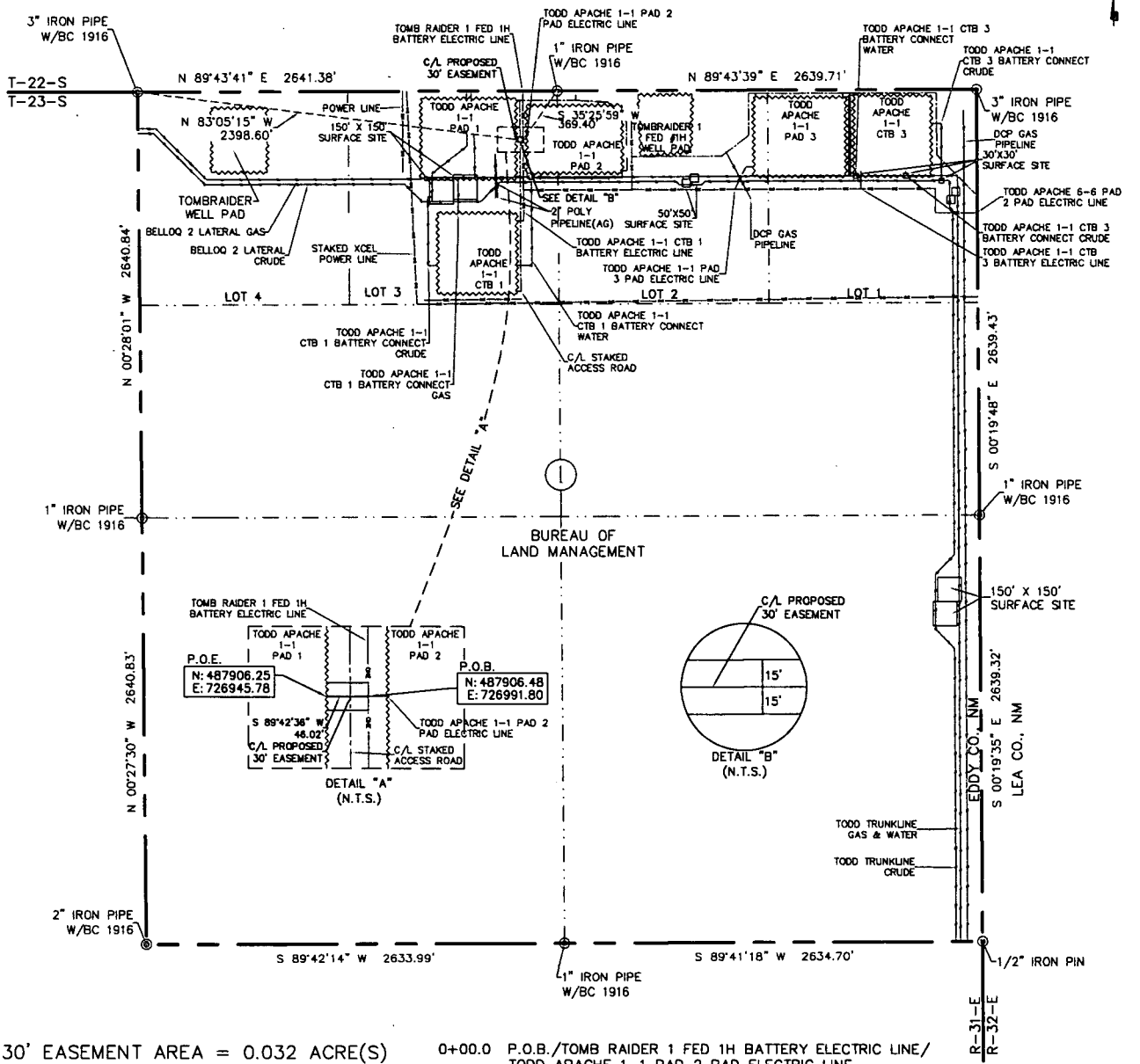


SHEET: 3-3

SURVEY NO. 4527D

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

EXHIBIT "A"
PAGE 1 of 4
ELECTRIC LINE PLAT
SECTION 1, T23S–R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.032 ACRE(S)
46.02 FEET OR 2.79 RODS

0+00.0 P.O.B./TOMB RAIDER 1 FED 1H BATTERY ELECTRIC LINE/ TODD APACHE 1-1 PAD 2 PAD ELECTRIC LINE
0+19.9 C/L STAKED ACCESS ROAD
0+46.0 P.O.E./TODD APACHE 1-1 PAD 1

SEE THE ATTACHED LEGAL DESCRIPTION
Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

0 1000 2000

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

B.L. LAMAN
NEW MEXICO
22404
PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-05-2016
571 State Street, Jasper, TX.
(409) 202-5111 75951
Employee of Horizonrow, LLC

HORIZON ROW LLC	DEVON ENERGY PRODUCTION COMPANY, L.P.	LINE NUMBER: EL7834
Drawn for: devon	TODD APACHE 1-1 PAD 1 PAD ELECTRIC LINE	WBS NUMBER: XX-117680
		SCALE: 1" = 1000'
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 1, T23S-R31E, N.M.P.M.	REVISIONS:
Drawn by: CHRIS MAAS	Date: 08/04/2016	SHEET: 1 OF 4

SECTION 1, T23S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of Lot 3 of Section 1, Township 23 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC 1916 for the north quarter corner of Section 1, T23S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence S 35°25'59" W a distance of 369.40' to the **Point of Beginning** of this easement having coordinates of Northing=487906.48, Easting=726991.80 feet, and continuing the following course;

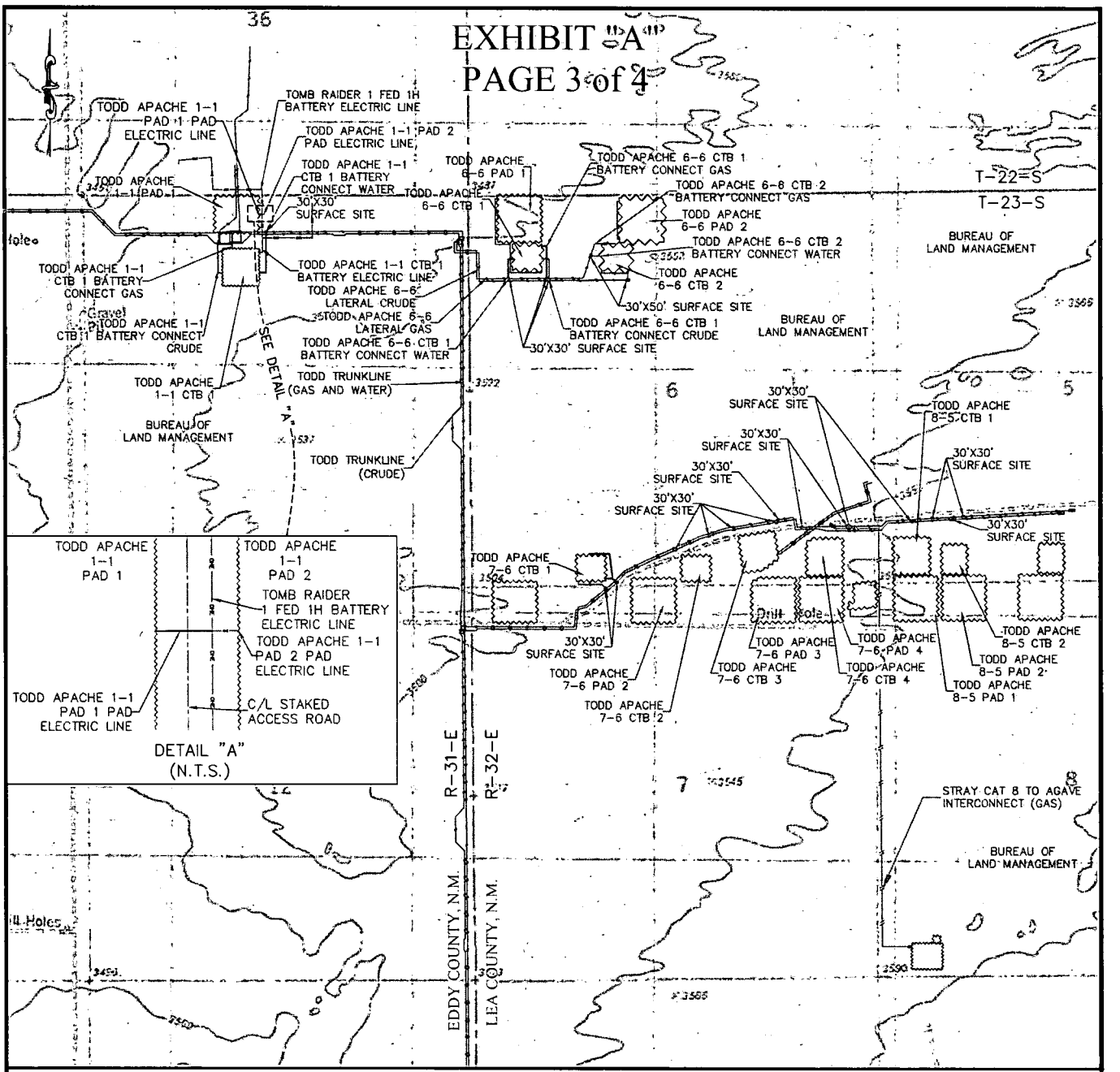
Thence S 89°42'36" W a distance of 46.02' to the **Point of Ending** having coordinates of Northing=487906.25, Easting=726945.78 feet in Lot 3, from said point a 3" iron pipe w/ BC 1916 for the northwest corner of Section 1, T23S-R31E bears N 83°05'15" W a distance of 2398.60', covering **46.02' or 2.79 rods** and having an area of **0.032 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

B.L. Laman PLS 22404
Date Signed: 08/05/2016
Horizon Row, LLC
571 State Street, Jasper, TX
(409) 202-5111 75951
Employee of Horizon Row, LLC

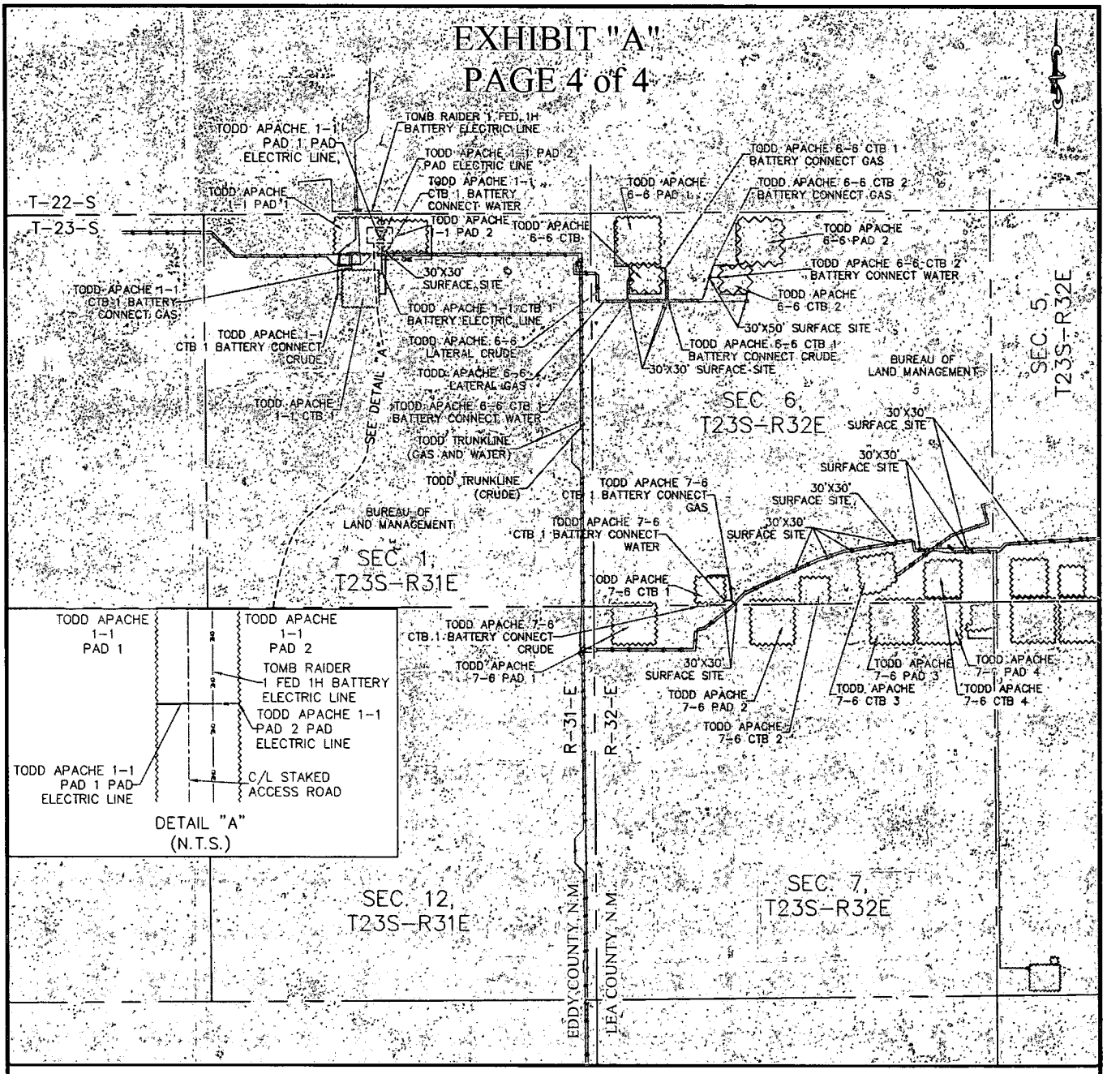


QUAD MAP

SECTION 1, T23S-R31E, N.M.P.M.;
EDDY COUNTY, NEW MEXICO

HORIZON ROW LLC	Drawn for:		LINE NUMBER: EL7834
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER: XX-117680
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: CHRIS MAAS	Date: 08/04/2016	devon	REVISIONS:
			SHEET: 3 OF 4

EXHIBIT "A"
PAGE 4 of 4



AERIAL MAP

SECTION 1, T23S-R31E, N.M.P.M.;
EDDY COUNTY, NEW MEXICO

HORIZON ROW LLC	Drawn for: devon	LINE NUMBER: EL7834
DEVON ENERGY PRODUCTION CO., L.P.		WBS NUMBER: XX-117680
PROPOSED 30' EASEMENT		SCALE: 1" = 2000'
Drawn by: CHRIS MAAS / Date: 08/04/2016		REVISIONS:
		SHEET: 4 OF 4

Pay.gov

Receipt

Tracking Information

Pay.gov Tracking ID: 26E4A189

Agency Tracking ID: 75636331050

Form Name: Bureau of Land Management (BLM) Application for Permit to Drill (APD) Fee

Application Name: BLM Oil and Gas Online Payment

Payment Information

Payment Type: Bank account (ACH)

Payment Amount: $40,200.00

Transaction Date: 12/14/2018 05:13:02 PM EST

Payment Date: 12/17/2018

Company: DEVON ENERGY PRODUCTION CO., L.P.

APD IDs: 10400037343, 10400037342, 10400037339, 10400037335

Lease Numbers: NMNM022080, NMNM022080, NMNM022080, NMNM022080

Well Numbers: 612H, 732H, 702H, 332H

Note: You will need your Pay.gov Tracking ID to complete your APD transaction in AFMSS II. Please ensure you write this number down upon completion of payment.

Account Information

Account Holder Name: Devon Energy Production Company, L.P.

Routing Number: 061000052

Account Number: **********9892

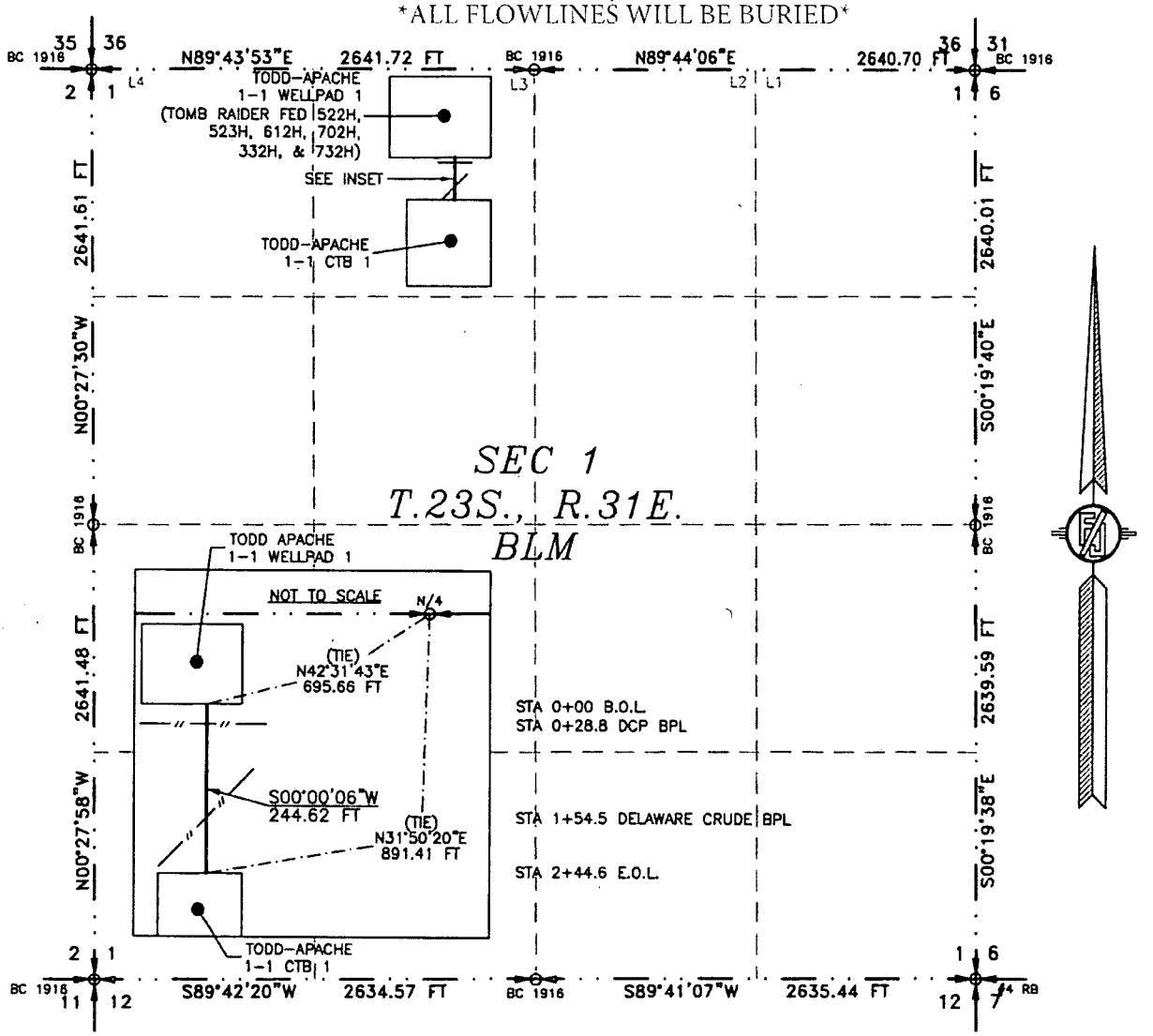
FLOWINE PLAT

SIX-8" COMPOSITE FLOWLINES AND ONE-8" GAS LIFT LINE BURIED IN THE SAME DITCH FROM TODD-APACHE 1-1 WELLPAD 1 (TOMB RAIDER FED 522H, 523H, 612H, 702H, 332H, & 732H) TO TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
NOVEMBER 6, 2018

ALL FLOWLINES WILL BE BURIED



SEE NEXT SHEET (2-4) FOR DESCRIPTION

1000 0 1000

Scale: 1" = 1000'

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.

SURVEYOR CERTIFICATE

I, FILIMON 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 20 DAY OF NOVEMBER 2018

FILIMON F. JARAMILLO, PLS 12797
301 SOUTH CANAL
(575) 234-3341

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

SHEET: 1-4

SURVEY NO. 6668

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

FLOWINE PLAT

SIX-8" COMPOSITE FLOWLINES AND ONE-8" GAS LIFT LINE BURIED IN THE SAME DITCH FROM TODD-APACHE 1-1 WELLPAD 1 (TOMB RAIDER FED 522H, 523H, 612H, 702H, 332H, & 732H) TO TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF A PIPELINE CROSSING

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 6, 2018

ALL FLOWLINES WILL BE BURIED

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN LOT 3 OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N42°31'43"E, A DISTANCE OF 695.66 FEET;
THENCE S00°00'06"W A DISTANCE OF 244.62 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N31° 50'20"E, A DISTANCE OF 891.41 FEET;

SAID STRIP OF LAND BEING 244.62 FEET OR 14.83 RODS IN LENGTH, CONTAINING 0.168 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 3	244.62 L.F.	14.83 RODS	0.168 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.

SURVEYOR CERTIFICATE

I, FILIMON 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 20 DAY OF NOVEMBER 2018

FILIMON F. JARAMILLO NEW MEXICO 12797

FILIMON F. JARAMILLO PLS. 12797
301 SOUTH CANAL
(575) 234-3341

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

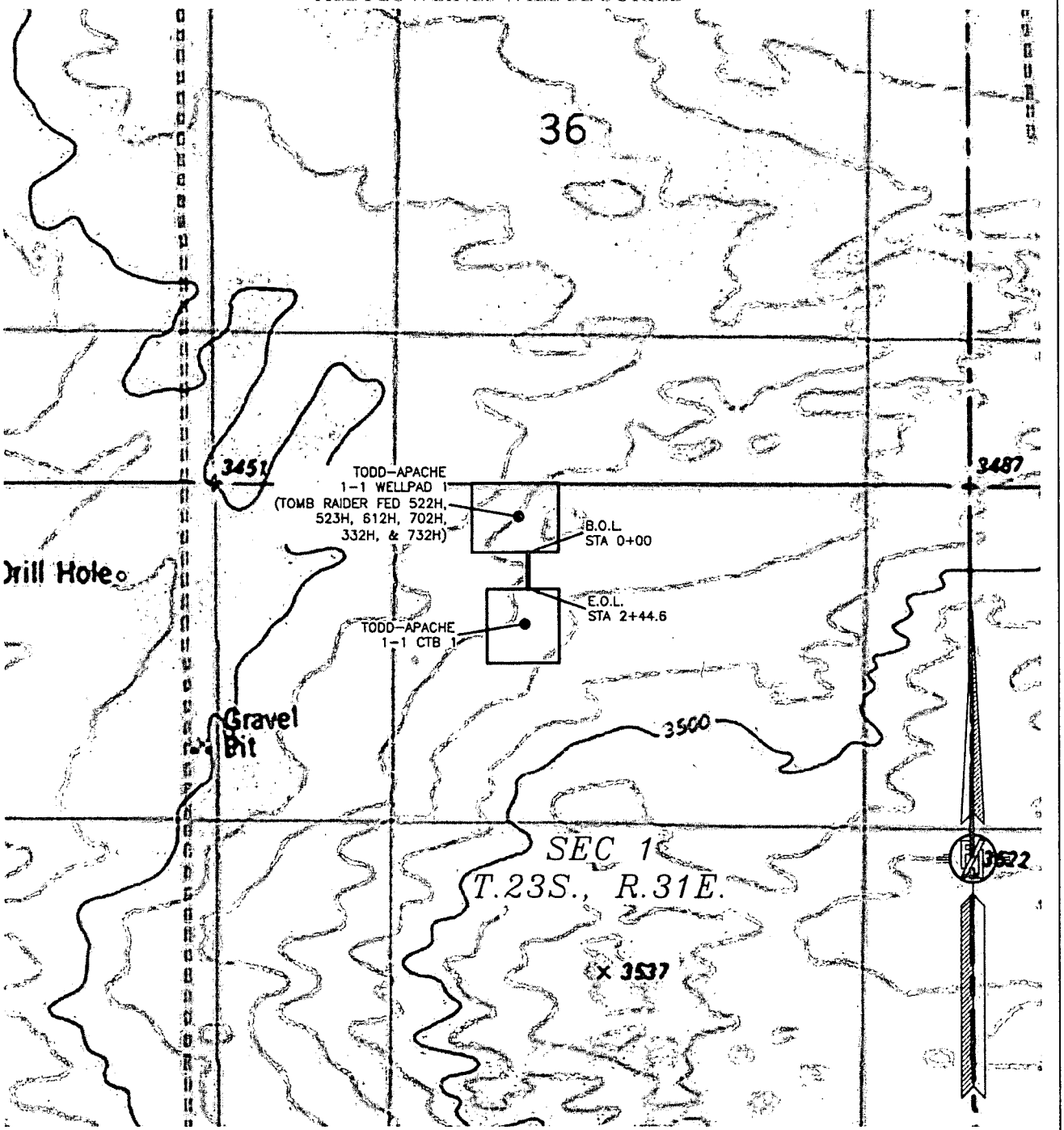
FLOWINE PLAT

SIX-8" COMPOSITE FLOWLINES AND ONE-8" GAS LIFT LINE BURIED IN THE SAME DITCH FROM TODD-APACHE 1-1 WELLPAD 1 (TOMB RAIDER FED 522H, 523H, 612H, 702H, 332H, & 732H) TO TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
NOVEMBER 6, 2018

ALL FLOWLINES WILL BE BURIED



SHEET: 3-4

SURVEY NO. 6668

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

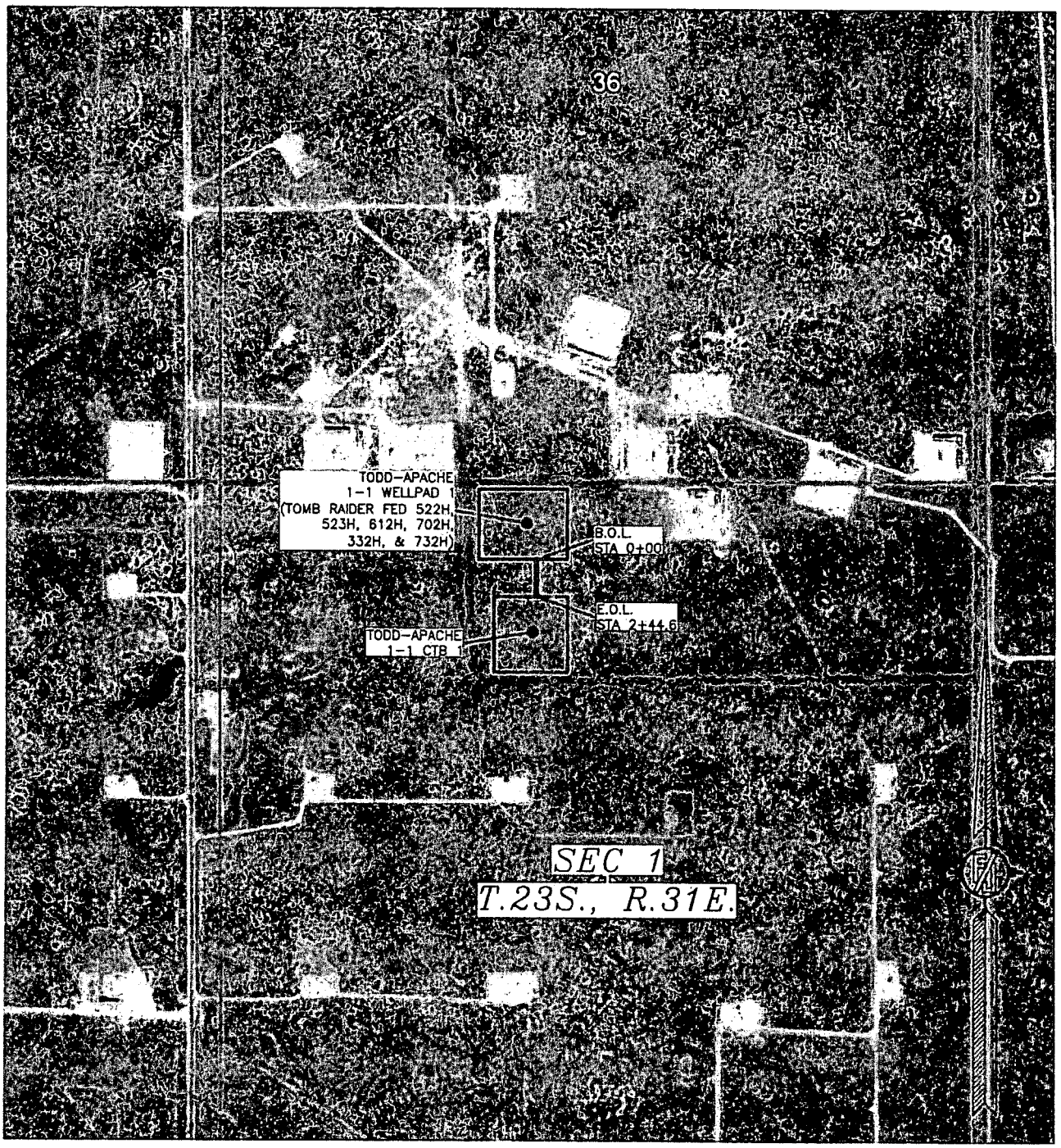
FLOWINE PLAT

SIX-8" COMPOSITE FLOWLINES AND ONE-8" GAS LIFT LINE BURIED IN THE SAME DITCH FROM TODD-APACHE 1-1 WELLPAD 1 (TOMB RAIDER FED 522H, 523H, 612H, 702H, 332H, & 732H) TO TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
NOVEMBER 6, 2018

ALL FLOWLINES WILL BE BURIED



SHEET: 4-4

SURVEY NO. 6668

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

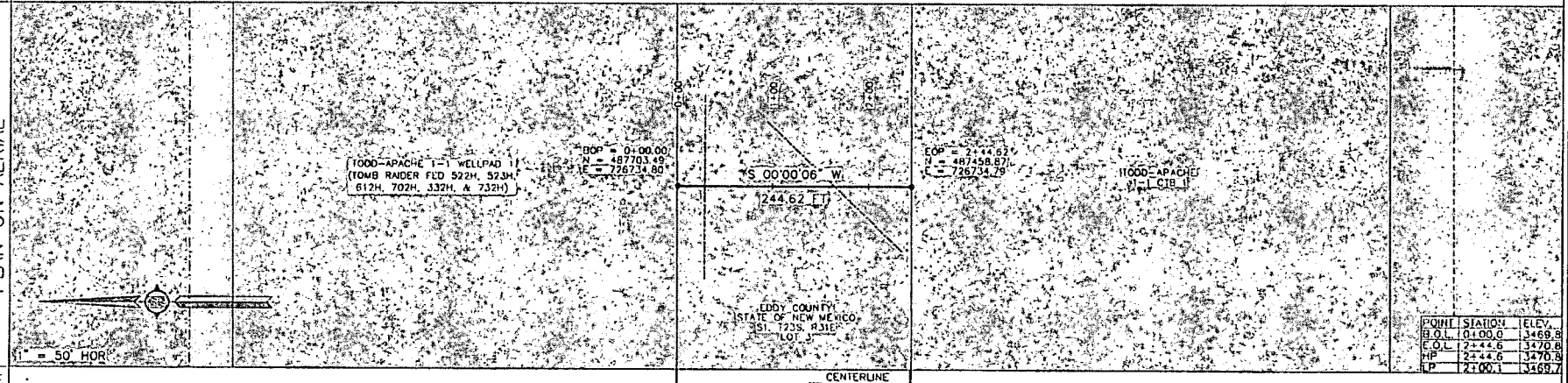
ALL FLOWLINES WILL BE BURIED

S1, T23S, R31E

EDDY COUNTY, STATE OF NEW MEXICO
BUREAU OF LAND MANAGEMENT LAND
244.62 L.F.
14.83 RODS

OWNERSHIP

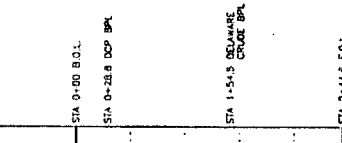
PLAN ON AERIAL



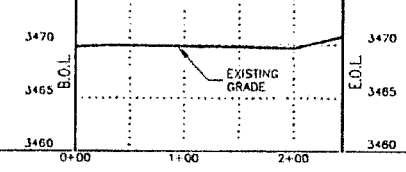
POINT	STATION	ELEV.
B.O.L.	0+00.0	3469.9
E.O.L.	2+44.6	3470.8
HP	2+44.6	3470.8
LP	2+00.1	3469.7

EASEMENT

STATIONING



PROFILE



LEGEND

- CENTERLINE
- EASEMENT
- SECTION LINE
- QUARTER LINE
- EXISTING PIPELINE
- EXISTING POWER LINE
- EXISTING FENCE LINE
- 5' CONTOUR LINE

PIPE SPECIFICATIONS AND TEST REQUIREMENTS

FROM	TO	LIN. FT	O.D.	W.T.	GRADE	O.P.	TEST PRESS. MIN	TEST DUR. HR.

BILL OF MATERIAL

X-RAY REQUIREMENTS

RECORD

SCALE
1"=50'

APPROVED FOR CONSTRUCTION
NOVEMBER 6, 2018

DEVON ENERGY PRODUCTION COMPANY, L.P.

SIX-8" COMPOSITE FLOWLINES AND ONE-8" GAS LIFT LINE BURIED IN THE SAME DITCH FROM TODD-APACHE 1-1 WELLPAD 1 (TOMB RAIDER FED 522H, 523H, 612H, 702H, 332H, & 732H) TO TODD-APACHE 1-1 CTB 1

NOVEMBER 6, 2018

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

SURVEY NO. 6668
SHEET: 1-1

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

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:

Decribe 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 type:

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:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

05/06/2019

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: