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MAY 07 2019

DISTRICT II-ARTESIA O.C.D.

Form 3160-3
(June 2015)

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
702H

2. Name of Operator
DEVON ENERGY PRODUCTION COMPANY LP

6137

9. API Well No.
30-015-45978

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

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

10. Field and Pool, or Exploratory
WC-015 G-08 S233102C / WOLFCAMP

98123

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

At surface LOT 3 / 210 FNL / 2169 FWL / LAT 32.3401421 / LONG -103.7330324

At proposed prod. zone SESW / 20 FSL / 2040 FWL / LAT 32.3117542 / LONG -103.7334263

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
EDDY

13. State
NM

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

16. No of acres in lease
1280

17. Spacing Unit dedicated to this well
640

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

19. Proposed Depth
11820 feet / 22065 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3467 feet

22. Approximate date work will start*
06/19/2019

23. Estimated duration
45 days

24. Attachments

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

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	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

Approval Date: 05/03/2019

RWP 5-10-19

(Continued on page 2)

*(Instructions on page 2)

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 / 2169 FWL / TWSP: 23S / RANGE: 31E / SECTION: 1 / LAT: 32.3401421 / LONG: -103.7330324 (TVD: 0 feet, MD: 0 feet)
   PPP: LOT 3 / 100 FNL / 2040 FWL / TWSP: 23S / RANGE: 31E / SECTION: 1 / LAT: 32.340447 / LONG: -103.733447 (TVD: 11481 feet, MD: 11491 feet)
   BHL: SESW / 20 FSL / 2040 FWL / TWSP: 23S / RANGE: 31E / SECTION: 12 / LAT: 32.3117542 / LONG: -103.7334263 (TVD: 11820 feet, MD: 22065 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 702H
SURFACE HOLE FOOTAGE:	210'/N & 2169'/W
BOTTOM HOLE FOOTAGE	20'/S & 2040'/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.

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 702H
SURFACE HOLE FOOTAGE:	210'/N & 2169'/W
BOTTOM HOLE FOOTAGE	20'/S & 2040'/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**

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.

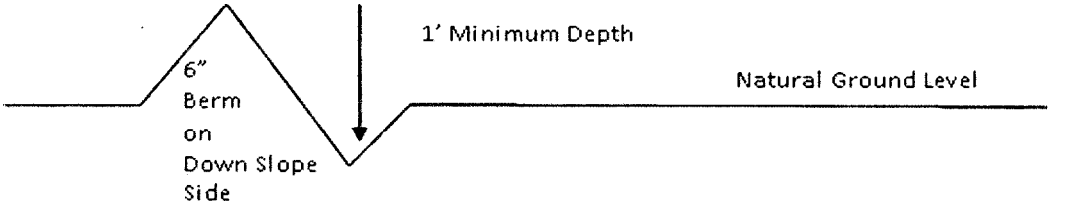
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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

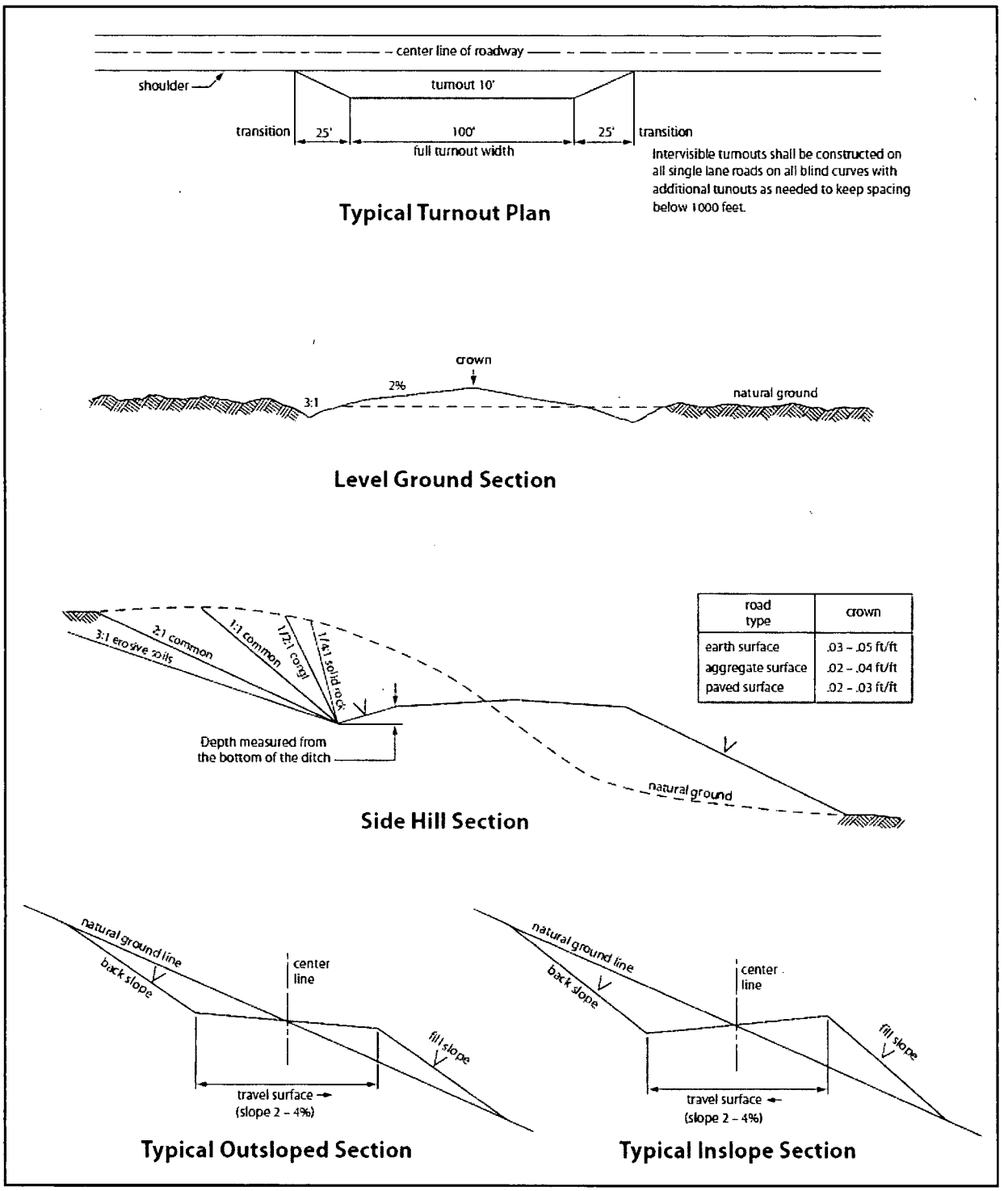


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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

AFMSS

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

Application Data Report
05/06/2019

APD ID: 10400037339 **Submission Date:** 12/14/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 702H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400037339 **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:** 702H **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:** 702H

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:** 451 FT **Distance to lease line:** 200 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: TOMB_RAIDER_1_12_FED_702H_C102_20181214152112.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: 6666

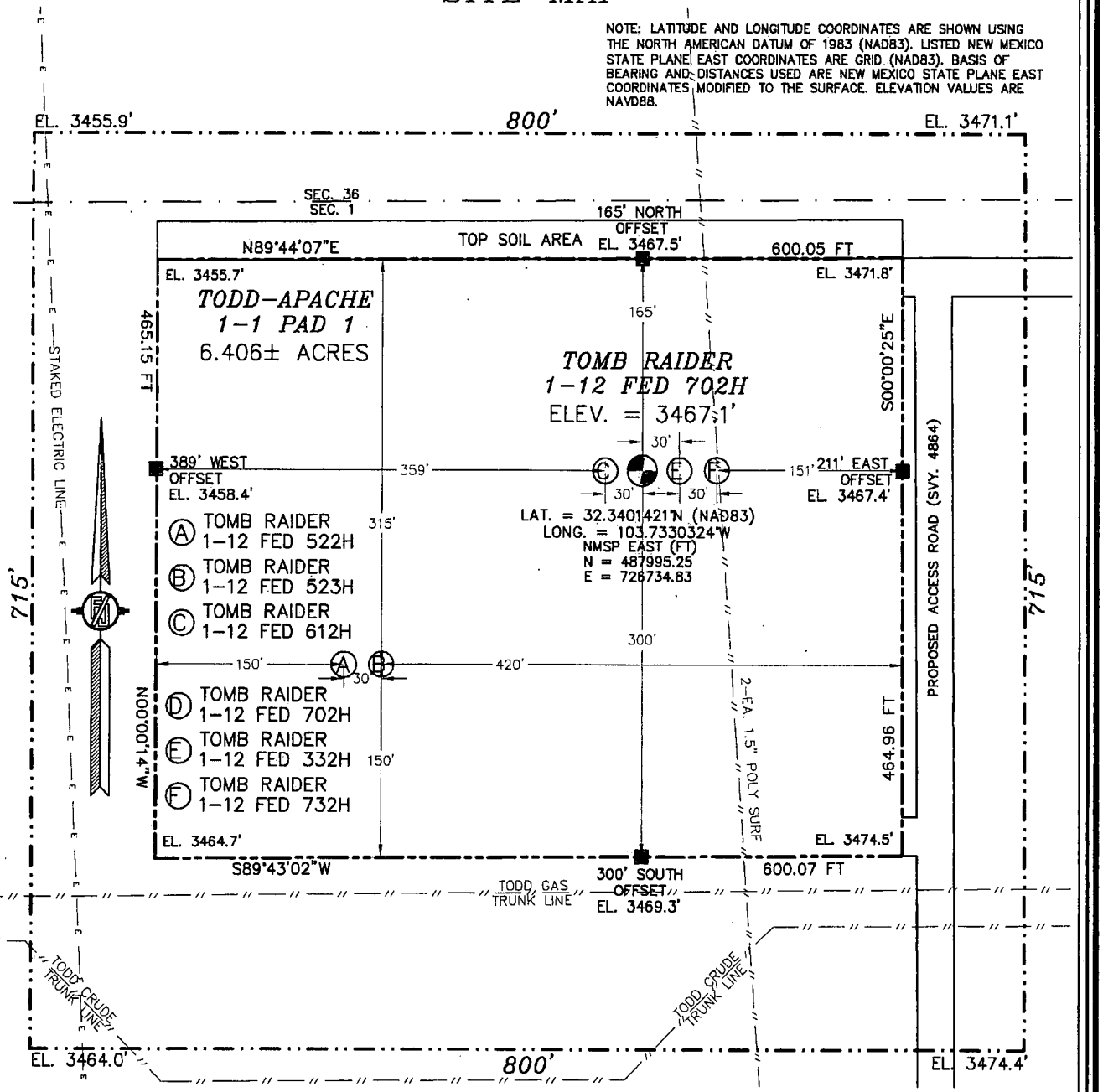
	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	210	FNL	2169	FWL	23S	31E	1	Lot 3	32.3401421	-103.7330324	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 022080	3467	0	0
KOP Leg #1	50	FNL	2040	FWL	23S	31E	1	Lot 3	32.340584	-103.733447	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 022080	-7780	11250	11247
PPP Leg #1	100	FNL	2040	FWL	23S	31E	1	Lot 3	32.340447	-103.733447	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 022080	-8014	11491	11481

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 702H

	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	2040	FWL	23S	31E	12	Aliquot SESW	32.311974	-103.733427	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 022080	-8353	21985	11820
BHL Leg #1	20	FSL	2040	FWL	23S	31E	12	Aliquot SESW	32.311754 2	-103.733426 3	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 022080	-8353	22065	11820

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 702H

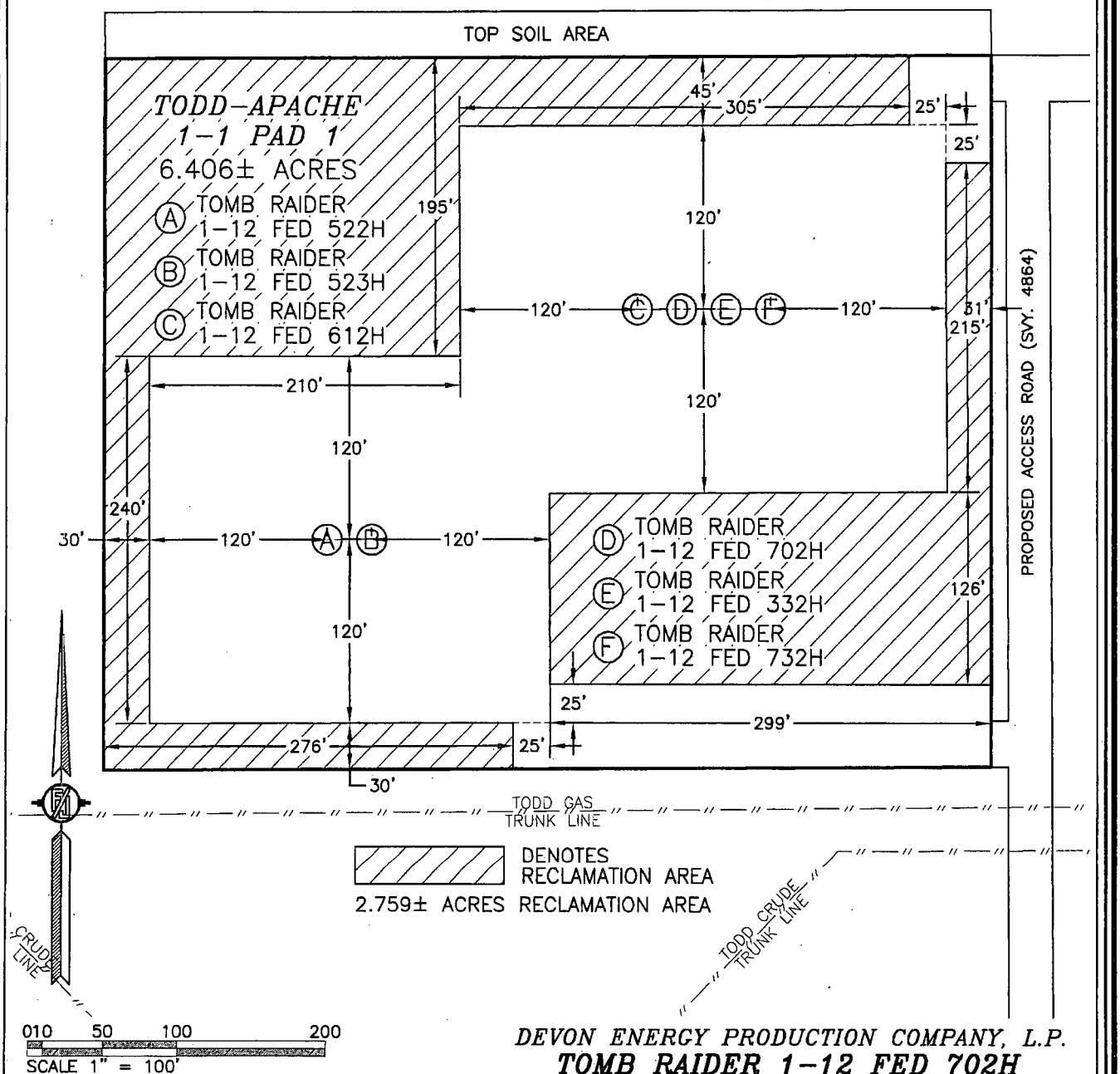
LOCATED 210 FT. FROM THE NORTH LINE AND 2169 FT. FROM THE WEST LINE OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 6, 2018

SURVEY NO. 6666

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 702H

LOCATED 210 FT. FROM THE NORTH LINE AND 2169 FT. FROM THE WEST LINE OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

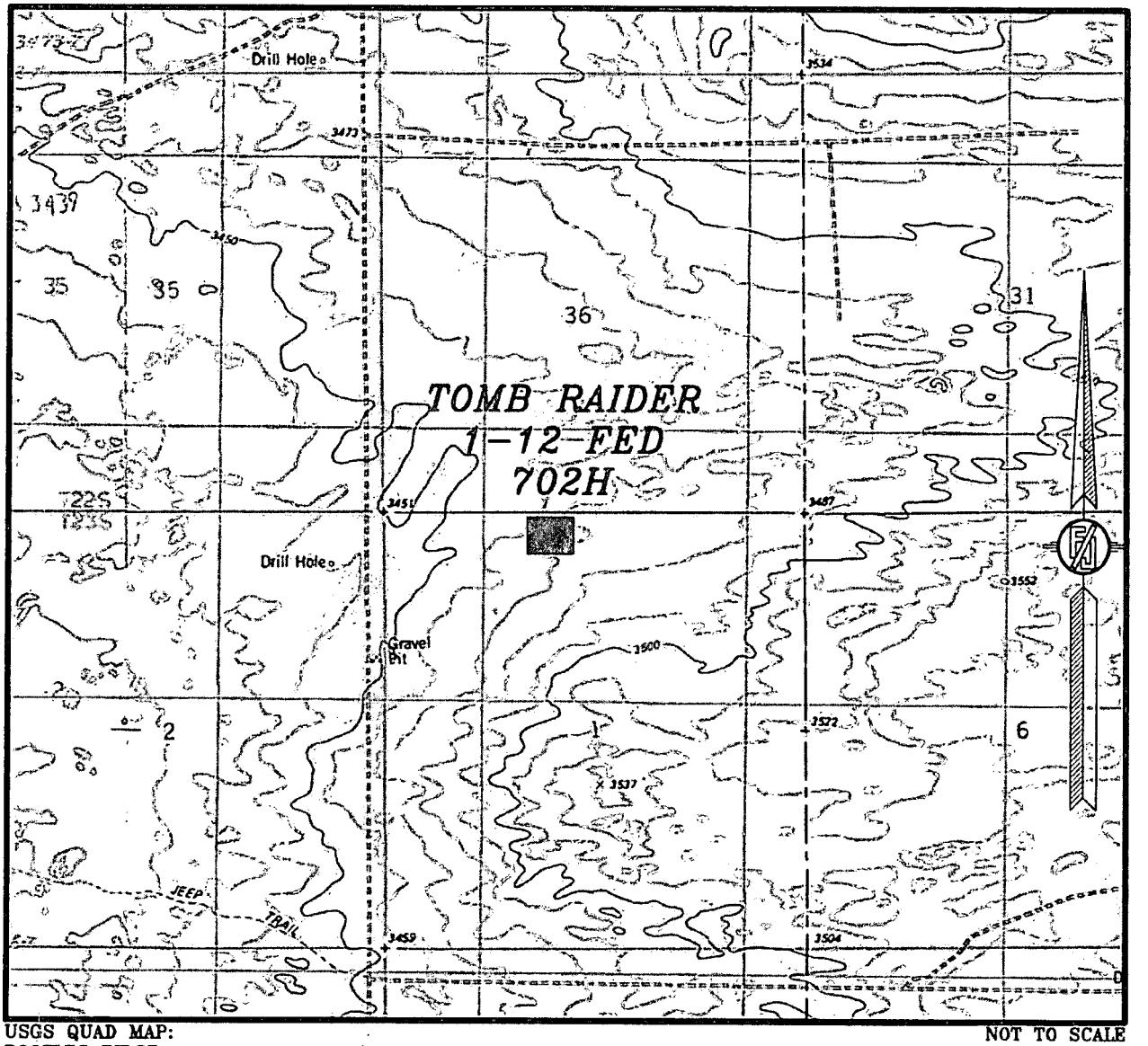
NOVEMBER 6, 2018

SURVEY NO. 6666

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

LOCATION VERIFICATION MAP



USGS QUAD MAP:
BOOTLEG RIDGE

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 702H

LOCATED 210 FT. FROM THE NORTH LINE
AND 2169 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

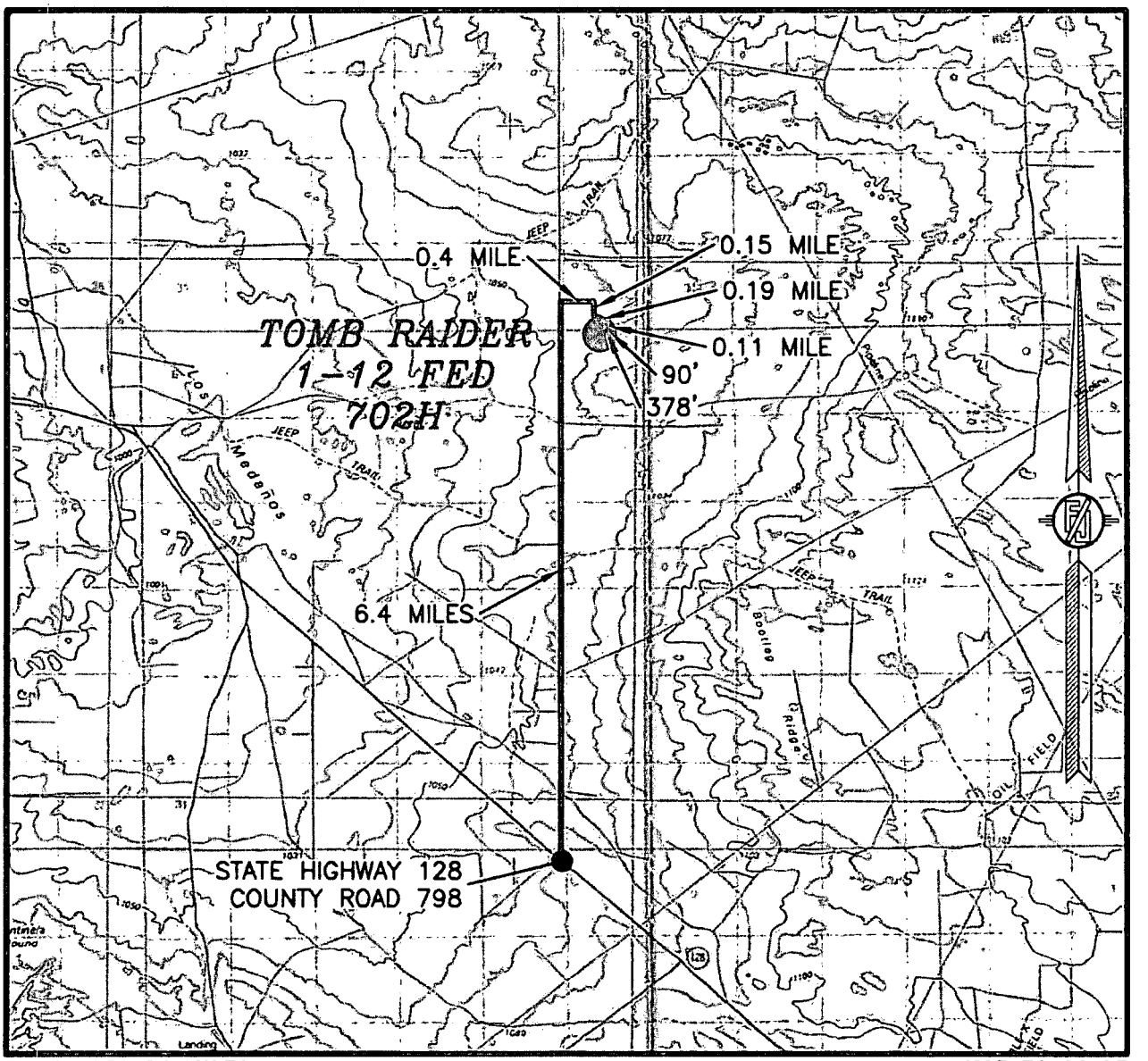
NOVEMBER 6, 2018

SURVEY NO. 6666

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 702H
LOCATED 210 FT. FROM THE NORTH LINE
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SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

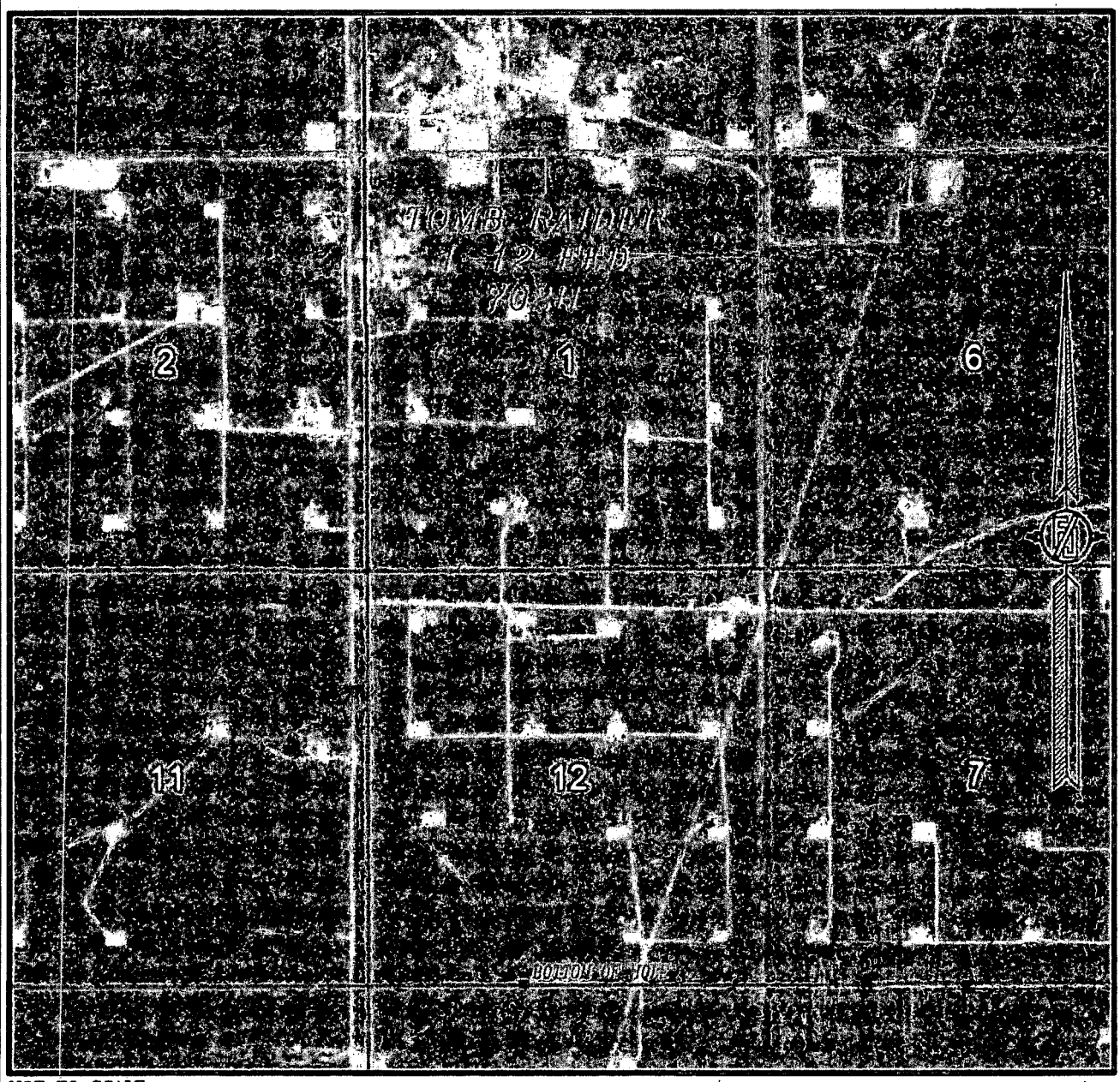
NOVEMBER 6, 2018

SURVEY NO. 6666

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 702H

LOCATED 210 FT. FROM THE NORTH LINE
AND 2169 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

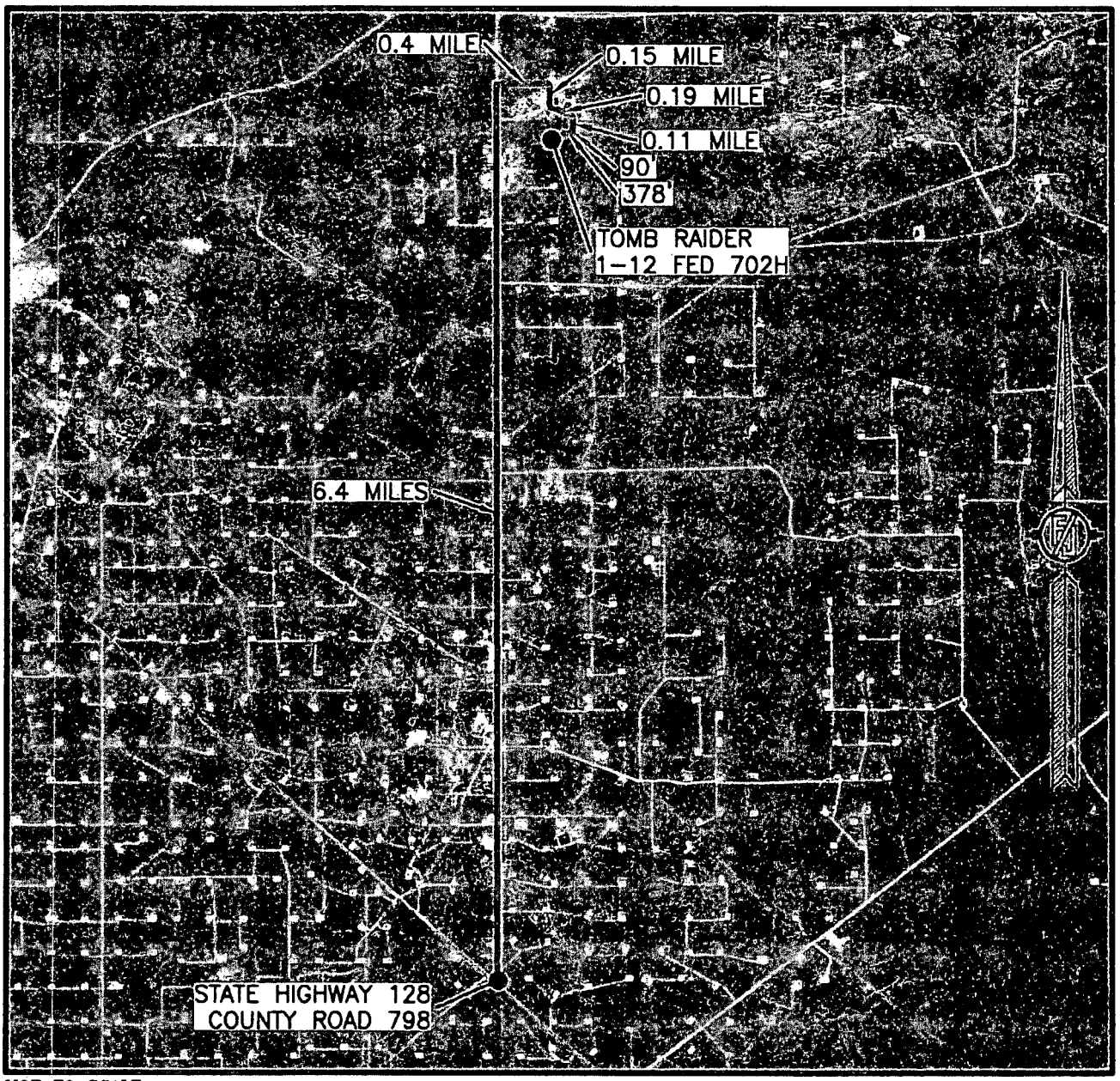
NOVEMBER 6, 2018

SURVEY NO. 6666

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 702H

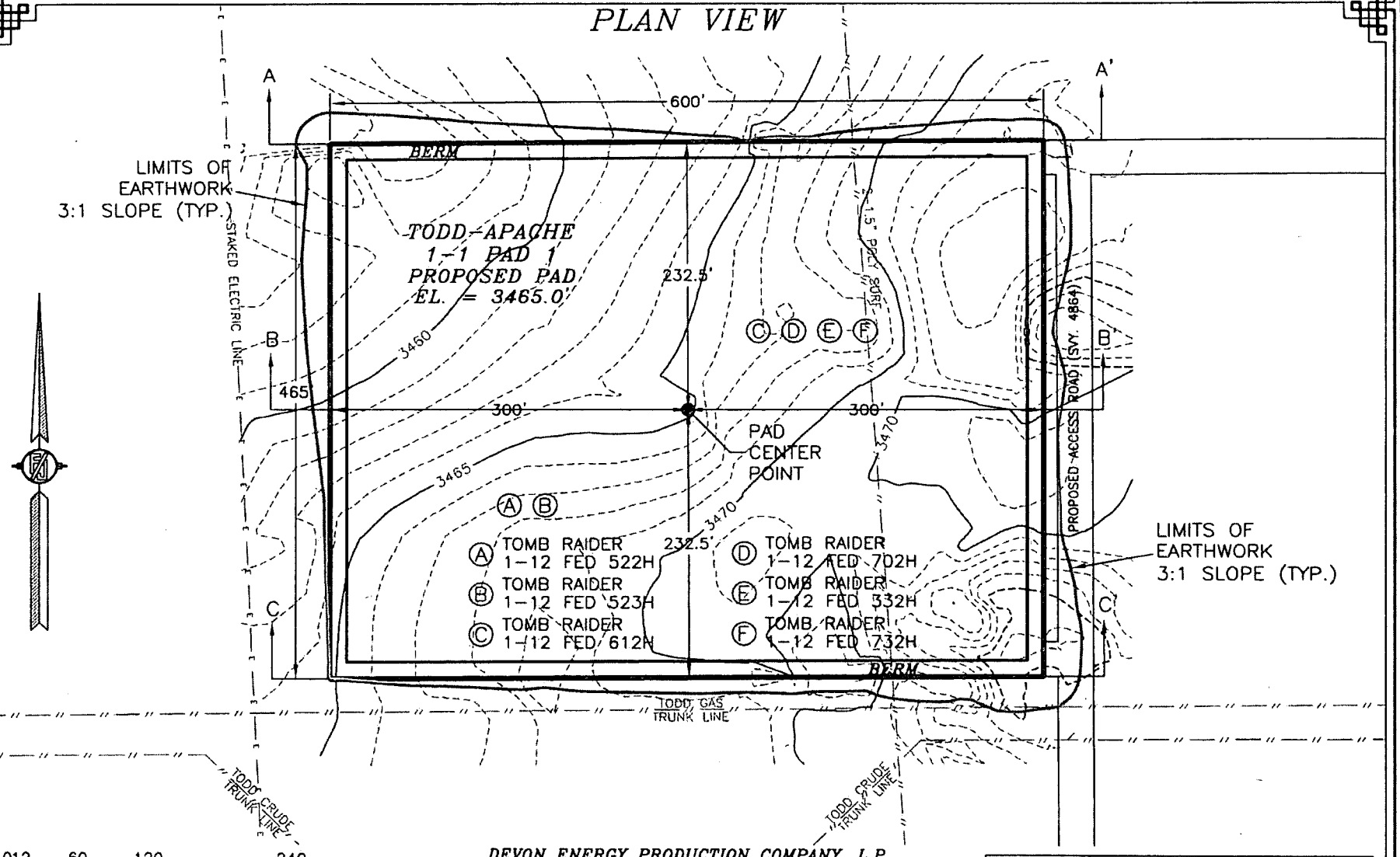
LOCATED 210 FT. FROM THE NORTH LINE
AND 2169 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 6, 2018

SURVEY NO. 6666

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 702H
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

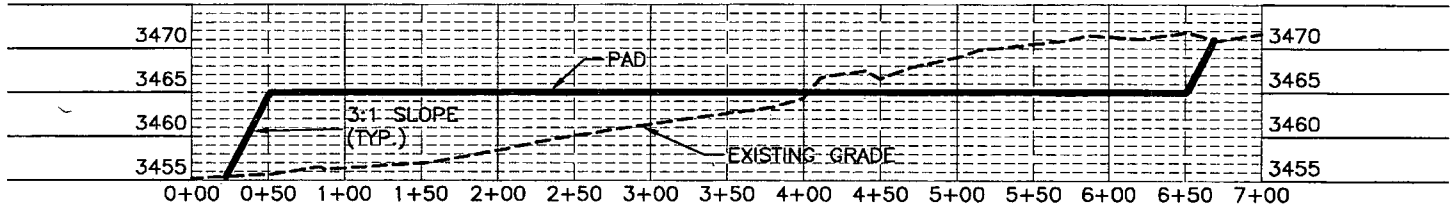
NOVEMBER 6, 2018

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

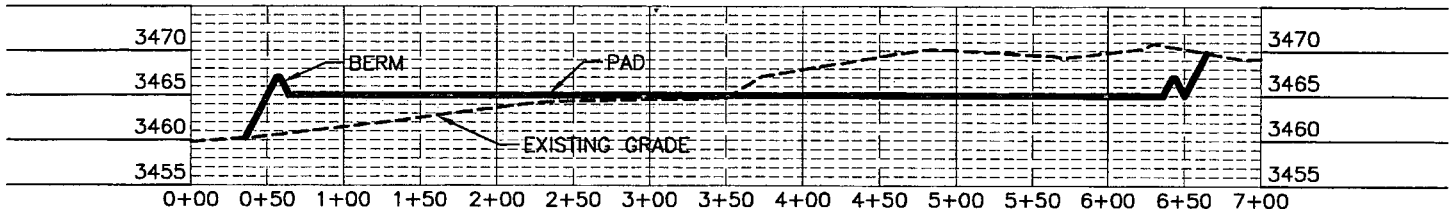
SHEET 1-2
SURVEY NO. 6666

CROSS-SECTIONS

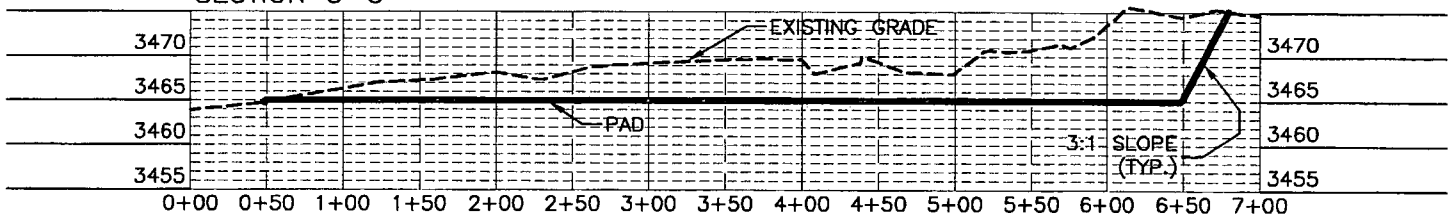
SECTION A-A'



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 702H
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. 6666

AFMSS

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

Drilling Plan Data Report

05/06/2019

APD ID: 10400037339 **Submission Date:** 12/14/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 702H

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	-8353	11820	21820	SANDSTONE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 11820

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:** 702H

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	22065	0	11820	-6768	-16768	22065	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:** 702H

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:** 702H

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	22065	792	1.33	13.2	1053	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/BRINE	9	10				2			

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 702H

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	11820	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: 6454 **Anticipated Surface Pressure:** 3853.6

Anticipated Bottom Hole Temperature(F): 171

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_702H_H2S_20181214140519.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 702H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Devon_Tomb_Raider_1_12_Fed_702H_AC_Report_Permit_Plan_1_20181214140642.pdf

Devon_Tomb_Raider_1_12_Fed_702H_Permit_Plan_1_20181214140643.pdf

Devon_Tomb_Raider_1_12_Fed_702H_Plot_Permit_Plan_1_20181214140643.pdf

Tomb_Raider_12_1_Fed_702H_Drilling_Plan_4_15_20190416141218.pdf

Other proposed operations facets description:

DRILLING PLAN-REVISED 4/16/19
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

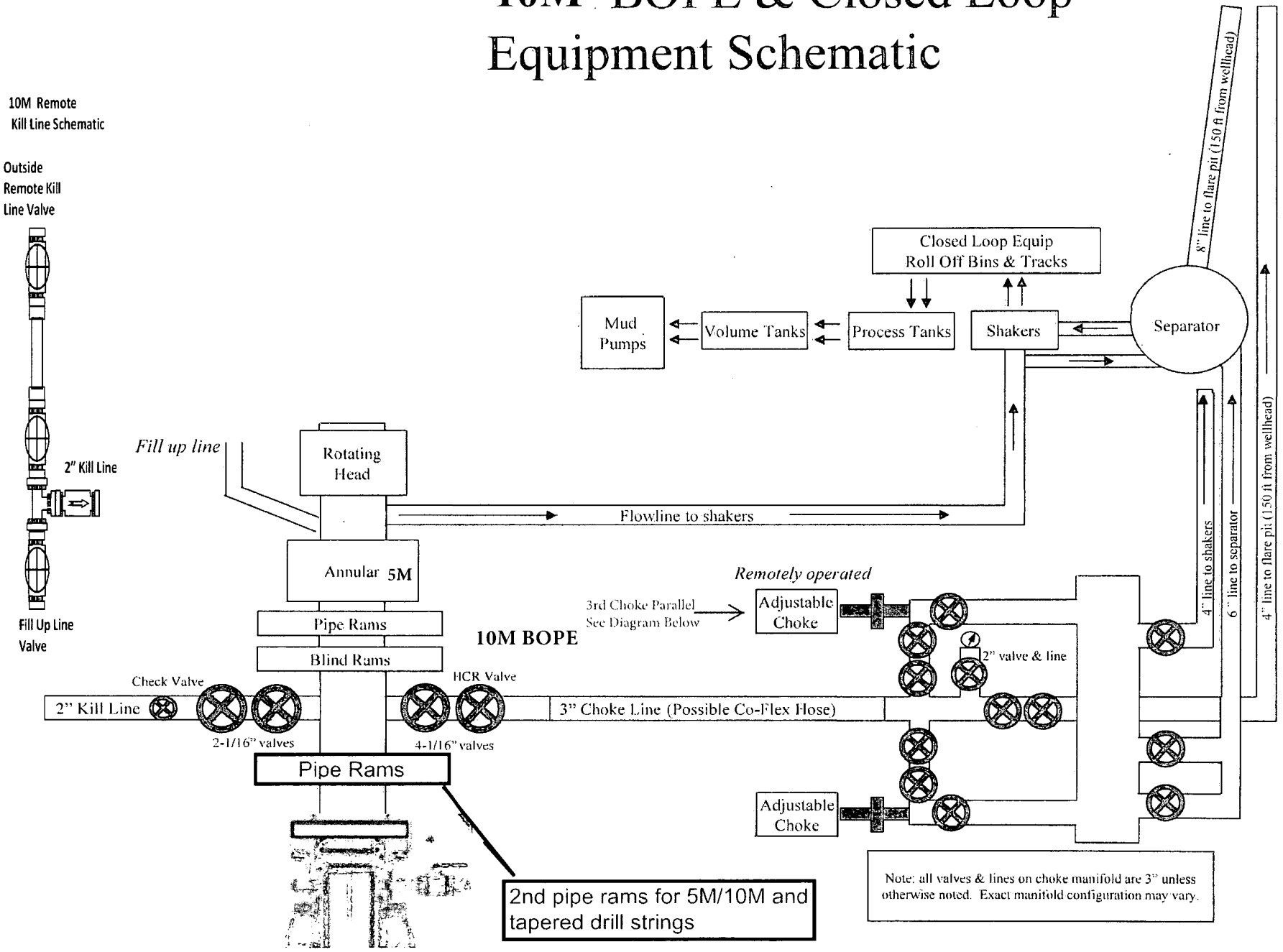
WLFMP_Wellhead_Schematic_Contingency_13.375x8.625x5.5_20181214094334.pdf

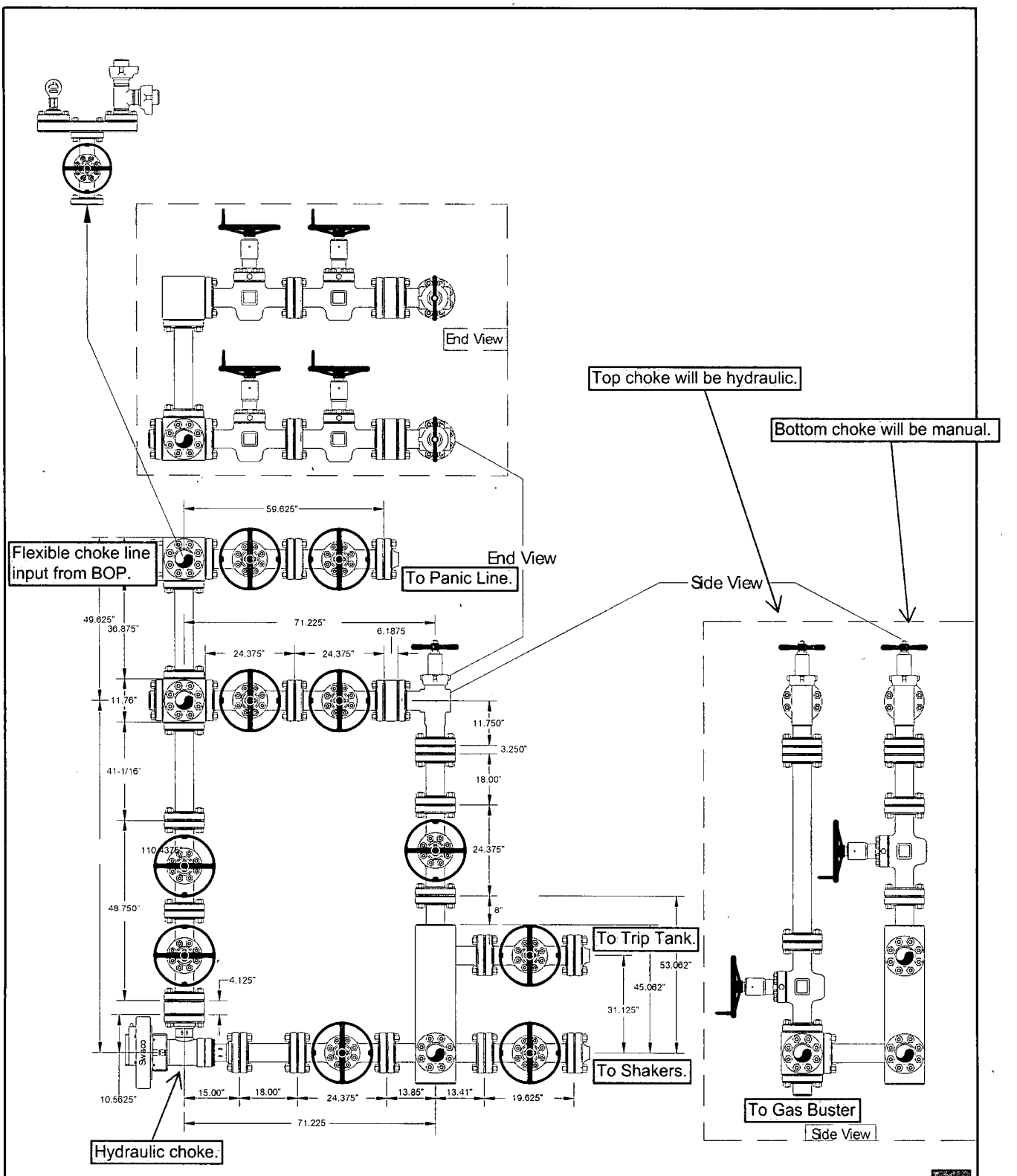
TODD_1_12_GasCapturePlan_12_13_2018_20181214140554.pdf

Other Variance attachment:

Co_flex_20181214085236.pdf

10M BOPE & Closed Loop Equipment Schematic





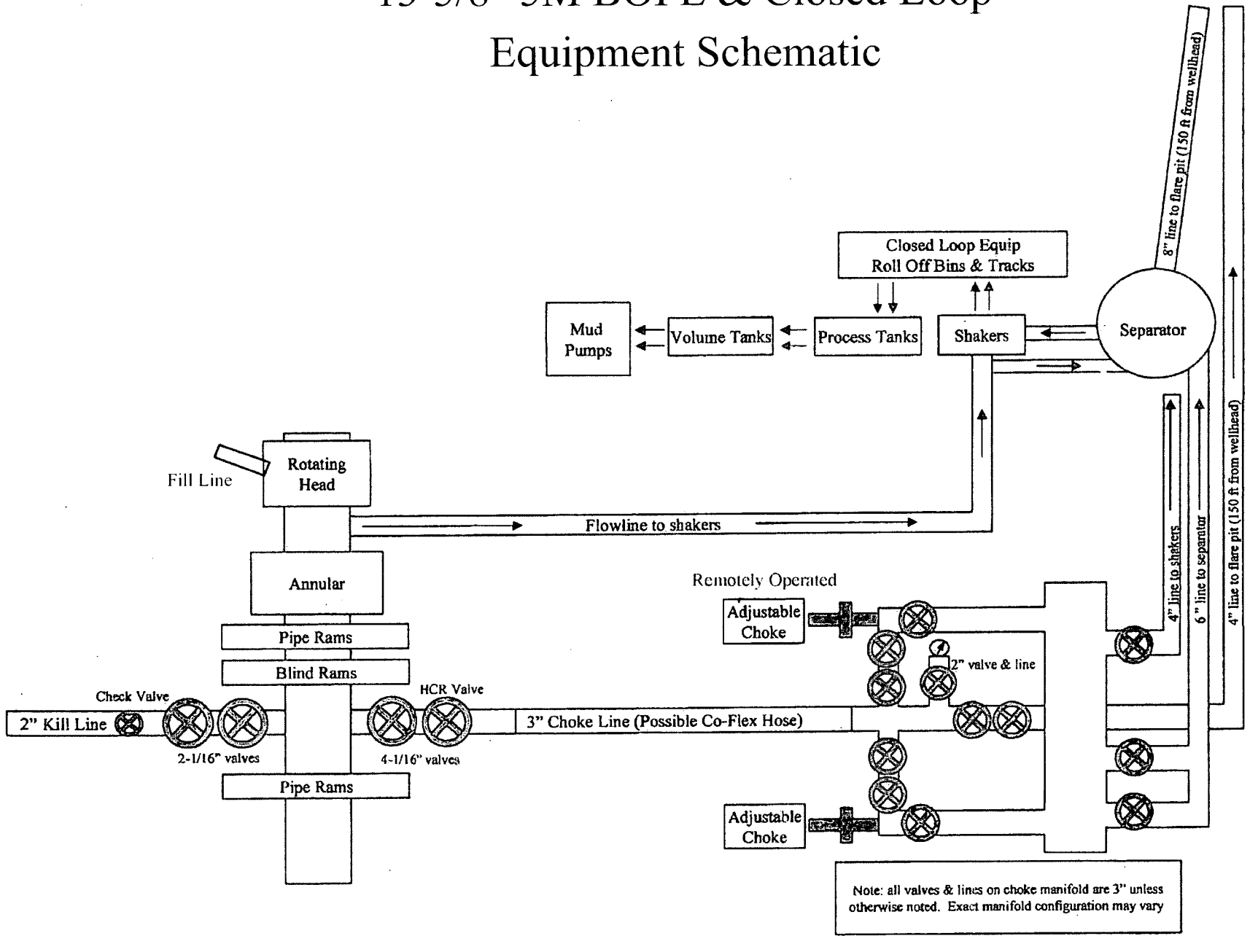
Helmerich & Payne

Flex 3 Rig w/ 3 Chokes

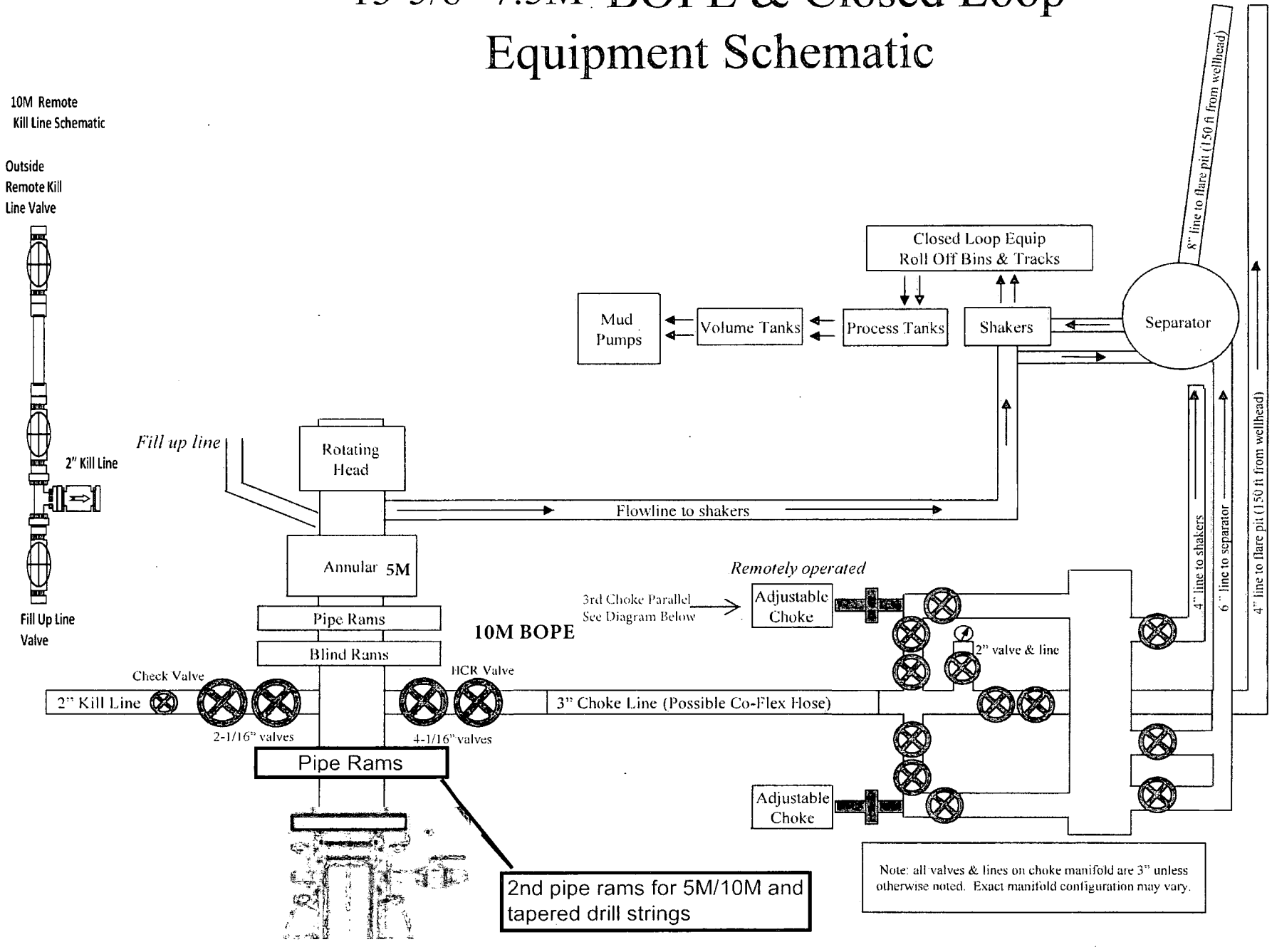
devon

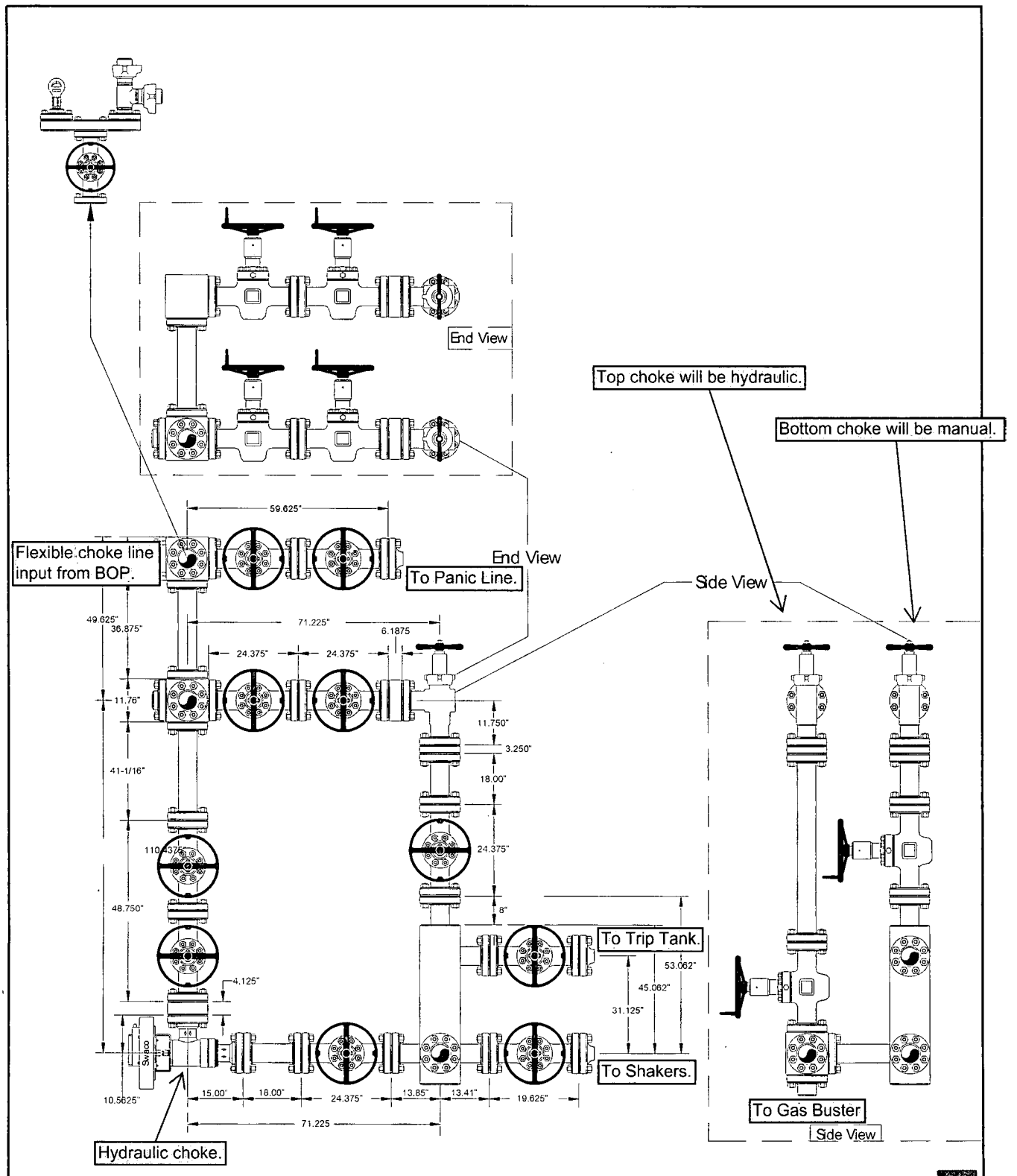
Name	Date	Working Pressure	
Mike Potts	6-23-2010	10M	J-5132-E

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



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





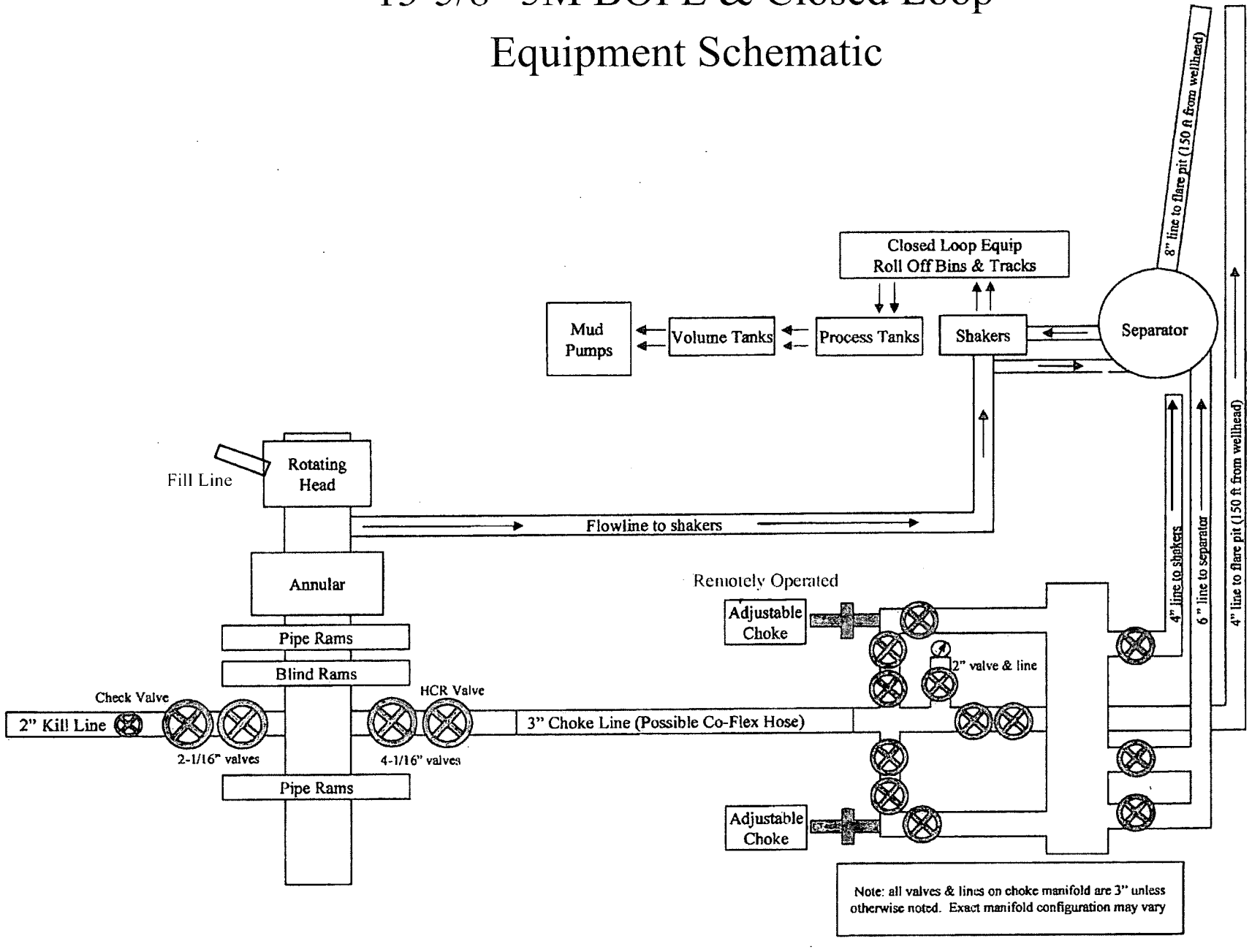
Helmerich & Payne

Flex 3 Rig w/ 3 Chokes

devon

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

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



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

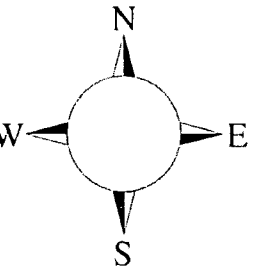
Tomb Raider 1-12 Fed 702H

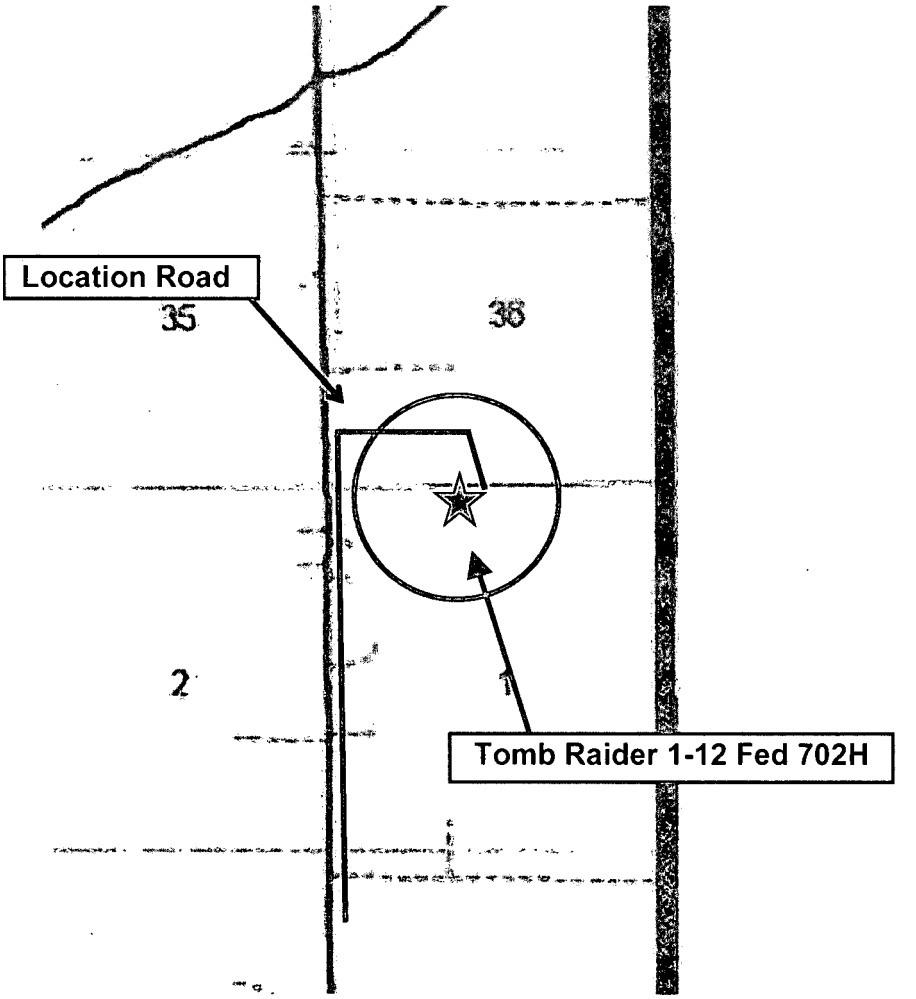
Sec-1 T-23S R-31E
210' FNL & 2169' FWL
LAT. = 32.3401421' N (NAD83)
LONG = 103.7330324' W

Eddy County NM

Tomb Raider 1-12 Fed 702H

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 702H

Wellbore #1
Permit Plan 1

Anticollision Report

30 November, 2018

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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** 11/30/2018

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	22,065.48	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	16,148.44	10,704.00	1,134.43	1,053.35	13.991	CC
Barclay Fed #1 (P&A) - Wellbore #1 - Wellbore #1	16,300.00	10,704.00	1,144.51	1,051.99	12.370	ES
Barclay Fed #1 (P&A) - Wellbore #1 - Wellbore #1	17,100.00	10,704.00	1,480.68	1,284.45	7.546	SF
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	3,884.88	3,896.77	1,103.82	1,076.73	40.741	CC
Tomb Raider 1 Fed 1H - Original - Actual	3,950.00	3,956.12	1,104.00	1,076.46	40.096	ES
Tomb Raider 1 Fed 1H - Original - Actual	9,950.00	9,934.08	1,280.71	1,212.02	18.644	SF
Tomb Raider 1 Fed 1H - Original - Plan 2	3,884.88	3,896.77	1,103.82	1,076.73	40.741	CC
Tomb Raider 1 Fed 1H - Original - Plan 2	3,950.00	3,956.12	1,104.00	1,076.46	40.096	ES
Tomb Raider 1 Fed 1H - Original - Plan 2	10,000.00	9,939.62	1,282.31	1,212.36	18.332	SF
Tomb Raider 1 Fed 1H - Original - Plan1v2	4,000.00	4,011.80	1,107.66	1,093.53	78.424	CC
Tomb Raider 1 Fed 1H - Original - Plan1v2	4,050.00	4,061.80	1,107.82	1,093.52	77.460	ES
Tomb Raider 1 Fed 1H - Original - Plan1v2	10,000.00	9,921.65	1,238.59	1,203.15	34.953	SF
Tomb Raider 1 Fed 1H - Original - PTL	3,884.88	3,896.77	1,103.82	1,076.73	40.741	CC
Tomb Raider 1 Fed 1H - Original - PTL	3,950.00	3,956.12	1,104.00	1,076.46	40.096	ES
Tomb Raider 1 Fed 1H - Original - PTL	9,950.00	9,927.87	1,280.83	1,212.15	18.648	SF
Tomb Raider 1 Fed 1H - Original - T&D	3,695.53	3,707.32	1,107.56	1,094.53	84.982	CC
Tomb Raider 1 Fed 1H - Original - T&D	4,014.27	4,042.21	1,107.67	1,093.49	78.145	ES
Tomb Raider 1 Fed 1H - Original - T&D	10,300.00	12,316.00	1,235.22	1,198.67	33.790	SF
Tomb Raider 1-12 Fed 334H - Wellbore #1 - Wellbore #1						Out of range
Tomb Raider 1-12 Fed 512H - Wellbore #1 - Wellbore #1	190.14	178.04	708.80	707.50	544.037	CC
Tomb Raider 1-12 Fed 512H - Wellbore #1 - Wellbore #1	2,450.00	2,433.73	712.11	695.27	42.278	ES
Tomb Raider 1-12 Fed 512H - Wellbore #1 - Wellbore #1	8,750.00	8,714.87	788.95	727.47	12.831	SF
Tomb Raider 1-12 Fed 514H - Wellbore #1 - Permit Plan	7,772.46	7,800.46	668.20	612.96	12.097	CC
Tomb Raider 1-12 Fed 514H - Wellbore #1 - Permit Plan	7,800.00	7,824.70	668.26	612.84	12.058	ES
Tomb Raider 1-12 Fed 514H - Wellbore #1 - Permit Plan	8,750.00	8,739.52	690.73	628.76	11.147	SF
Tomb Raider 1-12 Fed 524H - Wellbore #1 - Prelim Plan	7,939.56	8,007.67	135.69	78.43	2.370	Minor Risk, CC
Tomb Raider 1-12 Fed 524H - Wellbore #1 - Prelim Plan	8,000.00	8,067.40	135.89	78.19	2.355	Minor Risk, ES
Tomb Raider 1-12 Fed 524H - Wellbore #1 - Prelim Plan	8,150.00	8,216.02	137.69	78.92	2.343	Minor Risk, SF
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	2,500.00	2,508.70	792.11	774.57	45.173	CC
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	2,550.00	2,552.40	792.34	774.48	44.347	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 525H - Wellbore #1 - Permit Plan	9,000.00	8,937.31	1,362.42	1,299.00	21.481	SF
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	2,500.00	2,508.70	792.11	774.57	45.173	CC
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	2,550.00	2,551.80	792.37	774.50	44.357	ES
Tomb Raider 1-12 Fed 525H - Wellbore #1 - Permit Plan	8,900.00	8,835.95	1,371.87	1,309.19	21.886	SF
Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan	2,000.00	1,999.80	29.99	16.06	2.154	Minor Risk, CC
Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan	2,050.00	2,049.57	30.18	15.90	2.113	Minor Risk, ES
Tomb Raider 1-12 Fed 612H - Wellbore #1 - Permit Plan	22,065.48	21,963.82	350.35	50.18	1.167	Major Risk, SF
Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1	2,500.00	2,509.90	718.37	700.83	40.965	CC
Tomb Raider 1-12 Fed 614H - Wellbore #1 - Prelim 1	21,759.37	21,661.70	988.44	685.52	3.263	Alert, ES, SF
Tomb Raider 1-12 Fed 614H - Wellbore #1 - T&D	2,464.62	2,493.20	718.18	709.06	78.722	CC
Tomb Raider 1-12 Fed 614H - Wellbore #1 - T&D	4,000.00	4,021.16	718.37	703.74	49.124	ES
Tomb Raider 1-12 Fed 614H - Wellbore #1 - T&D	11,800.00	13,414.99	847.30	805.29	20.170	SF
Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1	1,995.63	2,005.73	707.11	693.33	51.300	CC
Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1	21,550.00	21,374.54	974.96	678.01	3.283	Alert, ES
Tomb Raider 1-12 Fed 614H - Wellbore #1 - Wellbore #1	22,065.48	21,867.07	996.41	685.90	3.209	Alert, SF
Tomb Raider 1-12 Fed 61H - Original Hole - Original Hole	6,161.99	6,132.15	811.24	768.31	18.896	CC
Tomb Raider 1-12 Fed 61H - Original Hole - Original Hole	6,200.00	6,165.28	811.35	768.17	18.791	ES
Tomb Raider 1-12 Fed 61H - Original Hole - Original Hole	9,950.00	9,849.00	1,132.84	1,063.40	16.315	SF
Tomb Raider 1-12 Fed 62H - Wellbore #1 - Wellbore #1	10,050.63	10,048.28	380.21	309.55	5.381	CC, ES
Tomb Raider 1-12 Fed 62H - Wellbore #1 - Wellbore #1	10,150.00	10,142.59	381.83	310.60	5.361	SF
Tomb Raider 1-12 Fed 714H - Original Hole - Actuals	0.00	15.09	748.33			
Tomb Raider 1-12 Fed 714H - Original Hole - Actuals	2,400.00	2,407.43	756.66	740.18	45.917	ES
Tomb Raider 1-12 Fed 714H - Original Hole - Actuals	16,500.00	16,537.82	1,497.24	1,335.92	9.281	SF
Tomb Raider 1-12 Fed 714H - Original Hole - NTL	0.00	15.09	748.33			
Tomb Raider 1-12 Fed 714H - Original Hole - NTL	2,400.00	2,407.43	756.66	740.18	45.917	ES
Tomb Raider 1-12 Fed 714H - Original Hole - NTL	9,850.00	9,886.09	1,498.96	1,429.23	21.496	SF
Tomb Raider 1-12 Fed 714H - Original Hole - T&D	553.57	574.43	748.25	746.42	408.878	CC
Tomb Raider 1-12 Fed 714H - Original Hole - T&D	4,033.02	4,078.28	748.40	734.16	52.552	ES
Tomb Raider 1-12 Fed 714H - Original Hole - T&D	11,800.00	11,790.05	877.23	835.73	21.134	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	11,600.00	21,628.00	991.39	796.66	5.091	SF
Tomb Raider 12-1 Fed 331H - Wellbore #1 - Permit Plan	11,628.91	21,610.84	991.12	796.60	5.095	CC, ES
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	11,800.00	21,807.61	1,318.65	1,124.53	6.793	SF
Tomb Raider 12-1 Fed 701H - Wellbore #1 - Permit Plan	11,900.00	21,721.13	1,316.46	1,123.19	6.812	ES
Tomb Raider 12-1 Fed 701H - Wellbore #1 - Permit Plan	21,467.45	12,168.20	1,315.66	1,125.40	6.915	CC
Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan	11,850.00	21,812.94	743.24	549.40	3.834	Alert, SF
Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan	11,950.00	21,722.44	741.28	548.40	3.843	Alert, ES
Tomb Raider 12-1 Fed 731H - Wellbore #1 - Permit Plan	21,472.03	12,213.77	740.83	550.01	3.882	Alert, CC

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 - Barclay Fed #1 (P&A) - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 5.00 ft

Survey Program: 228-INC-ONLY — **Offset Well Error:** 10.00 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
15,200.00	11,820.00	10,704.00	10,701.98	65.65	224.09	2.65	-4,411.49	-152.98	1,478.67	1,294.48	184.19	8.028	
15,250.00	11,820.00	10,704.00	10,701.98	66.22	224.09	2.65	-4,411.49	-152.98	1,447.11	1,267.26	179.85	8.046	
15,300.00	11,820.00	10,704.00	10,701.98	66.78	224.09	2.65	-4,411.49	-152.98	1,416.61	1,241.36	175.25	8.083	
15,350.00	11,820.00	10,704.00	10,701.98	67.35	224.09	2.65	-4,411.49	-152.98	1,387.24	1,216.85	170.38	8.142	
15,400.00	11,820.00	10,704.00	10,701.98	67.92	224.09	2.65	-4,411.49	-152.98	1,359.08	1,193.83	165.24	8.225	
15,450.00	11,820.00	10,704.00	10,701.98	68.50	224.09	2.65	-4,411.49	-152.98	1,332.20	1,172.37	159.83	8.335	
15,500.00	11,820.00	10,704.00	10,701.98	69.08	224.09	2.65	-4,411.49	-152.98	1,306.68	1,152.54	154.13	8.478	
15,550.00	11,820.00	10,704.00	10,701.98	69.66	224.09	2.65	-4,411.49	-152.98	1,282.60	1,134.43	148.16	8.657	
15,600.00	11,820.00	10,704.00	10,701.98	70.24	224.09	2.65	-4,411.49	-152.98	1,260.05	1,118.11	141.93	8.878	
15,650.00	11,820.00	10,704.00	10,701.98	70.83	224.09	2.65	-4,411.49	-152.98	1,239.10	1,103.64	135.46	9.147	
15,700.00	11,820.00	10,704.00	10,701.98	71.42	224.09	2.65	-4,411.49	-152.98	1,219.85	1,091.06	128.78	9.472	
15,750.00	11,820.00	10,704.00	10,701.98	72.01	224.09	2.65	-4,411.49	-152.98	1,202.37	1,080.42	121.94	9.860	
15,800.00	11,820.00	10,704.00	10,701.98	72.61	224.09	2.65	-4,411.49	-152.98	1,186.73	1,071.72	115.01	10.318	
15,850.00	11,820.00	10,704.00	10,701.98	73.21	224.09	2.65	-4,411.49	-152.98	1,173.03	1,064.94	108.09	10.852	
15,900.00	11,820.00	10,704.00	10,701.98	73.80	224.09	2.65	-4,411.49	-152.98	1,161.31	1,059.99	101.32	11.462	
15,950.00	11,820.00	10,704.00	10,701.98	74.41	224.09	2.65	-4,411.49	-152.98	1,151.65	1,056.73	94.93	12.132	
16,000.00	11,820.00	10,704.00	10,701.98	75.01	224.09	2.65	-4,411.49	-152.98	1,144.10	1,054.88	89.21	12.824	
16,050.00	11,820.00	10,704.00	10,701.98	75.62	224.09	2.65	-4,411.49	-152.98	1,138.69	1,054.06	84.64	13.454	
16,100.00	11,820.00	10,704.00	10,701.98	76.22	224.09	2.65	-4,411.49	-152.98	1,135.46	1,053.71	81.75	13.889	
16,148.44	11,820.00	10,704.00	10,701.98	76.82	224.09	2.65	-4,411.49	-152.98	1,134.43	1,053.35	81.08	13.991 CC	
16,150.00	11,820.00	10,704.00	10,701.98	76.84	224.09	2.65	-4,411.49	-152.98	1,134.43	1,053.33	81.10	13.988	
16,200.00	11,820.00	10,704.00	10,701.98	77.45	224.09	2.65	-4,411.49	-152.98	1,135.60	1,052.71	82.89	13.700	
16,250.00	11,820.00	10,704.00	10,701.98	78.06	224.09	2.65	-4,411.49	-152.98	1,138.97	1,052.08	86.88	13.109	
16,300.00	11,820.00	10,704.00	10,701.98	78.68	224.09	2.65	-4,411.49	-152.98	1,144.51	1,051.99	92.52	12.370 ES	
16,350.00	11,820.00	10,704.00	10,701.98	79.30	224.09	2.65	-4,411.49	-152.98	1,152.20	1,052.96	99.24	11.610	
16,400.00	11,820.00	10,704.00	10,701.98	79.92	224.09	2.65	-4,411.49	-152.98	1,161.99	1,055.40	106.59	10.902	
16,450.00	11,820.00	10,704.00	10,701.98	80.54	224.09	2.65	-4,411.49	-152.98	1,173.83	1,059.59	114.24	10.275	
16,500.00	11,820.00	10,704.00	10,701.98	81.16	224.09	2.65	-4,411.49	-152.98	1,187.66	1,065.67	121.99	9.736	
16,550.00	11,820.00	10,704.00	10,701.98	81.79	224.09	2.65	-4,411.49	-152.98	1,203.40	1,073.73	129.68	9.280	
16,600.00	11,820.00	10,704.00	10,701.98	82.41	224.09	2.65	-4,411.49	-152.98	1,221.00	1,083.79	137.21	8.899	
16,650.00	11,820.00	10,704.00	10,701.98	83.04	224.09	2.65	-4,411.49	-152.98	1,240.36	1,095.85	144.51	8.583	
16,700.00	11,820.00	10,704.00	10,701.98	83.67	224.09	2.65	-4,411.49	-152.98	1,261.41	1,109.87	151.54	8.324	
16,750.00	11,820.00	10,704.00	10,701.98	84.31	224.09	2.65	-4,411.49	-152.98	1,284.06	1,125.79	158.26	8.113	
16,800.00	11,820.00	10,704.00	10,701.98	84.94	224.09	2.65	-4,411.49	-152.98	1,308.23	1,143.56	164.66	7.945	
16,850.00	11,820.00	10,704.00	10,701.98	85.58	224.09	2.65	-4,411.49	-152.98	1,333.84	1,163.10	170.73	7.812	
16,900.00	11,820.00	10,704.00	10,701.98	86.21	224.09	2.65	-4,411.49	-152.98	1,360.80	1,184.33	176.47	7.711	
16,950.00	11,820.00	10,704.00	10,701.98	86.85	224.09	2.65	-4,411.49	-152.98	1,389.04	1,207.16	181.88	7.637	
17,000.00	11,820.00	10,704.00	10,701.98	87.49	224.09	2.65	-4,411.49	-152.98	1,418.48	1,231.51	186.97	7.587	
17,050.00	11,820.00	10,704.00	10,701.98	88.13	224.09	2.65	-4,411.49	-152.98	1,449.05	1,257.30	191.75	7.557	
17,100.00	11,820.00	10,704.00	10,701.98	88.77	224.09	2.65	-4,411.49	-152.98	1,480.68	1,284.45	196.23	7.546 SF	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
0.00	0.00	11.93	11.93	0.50	0.02	89.22	15.13	1,107.55	1,107.65				
50.00	50.00	62.49	62.49	0.50	0.08	89.21	15.29	1,107.53	1,107.64	1,107.05	0.59	1,891.411	
100.00	100.00	113.16	113.16	0.52	0.18	89.19	15.68	1,107.48	1,107.59	1,106.90	0.69	1,598.302	
150.00	150.00	164.26	164.25	0.59	0.35	89.17	16.07	1,107.39	1,107.51	1,106.56	0.94	1,172.740	
200.00	200.00	214.77	214.77	0.70	0.53	89.15	16.37	1,107.25	1,107.38	1,106.14	1.23	898.219	
250.00	250.00	264.35	264.35	0.84	0.70	89.14	16.64	1,107.12	1,107.25	1,105.71	1.54	718.337	
300.00	300.00	312.73	312.72	0.99	0.87	89.13	16.89	1,107.03	1,107.16	1,105.30	1.86	595.356	
316.13	316.13	327.94	327.93	1.04	0.93	89.12	16.95	1,107.02	1,107.15	1,105.19	1.96	564.034	
350.00	350.00	359.87	359.87	1.15	1.04	89.12	17.06	1,107.05	1,107.18	1,105.00	2.18	507.406	
400.00	400.00	409.92	409.91	1.31	1.21	89.11	17.21	1,107.17	1,107.30	1,104.78	2.52	439.380	
450.00	450.00	462.75	462.74	1.48	1.40	89.09	17.58	1,107.18	1,107.32	1,104.45	2.87	385.586	
500.00	500.00	513.53	513.52	1.65	1.58	89.06	18.11	1,107.10	1,107.25	1,104.03	3.22	343.959	
550.00	550.00	563.58	563.57	1.82	1.75	89.04	18.61	1,107.01	1,107.17	1,103.61	3.57	310.492	
588.35	588.35	600.17	600.15	1.95	1.88	89.02	18.98	1,106.97	1,107.14	1,103.31	3.83	289.341	
600.00	600.00	611.16	611.15	1.99	1.92	89.01	19.09	1,106.97	1,107.14	1,103.23	3.91	283.500	
650.00	650.00	658.36	658.34	2.16	2.08	88.98	19.65	1,107.05	1,107.23	1,102.99	4.24	260.873	
700.00	700.00	709.03	709.01	2.34	2.26	88.95	20.24	1,107.19	1,107.38	1,102.79	4.60	240.937	
750.00	750.00	760.22	760.19	2.51	2.44	88.93	20.68	1,107.29	1,107.48	1,102.53	4.95	223.717	
800.00	800.00	812.31	812.28	2.69	2.62	88.91	21.12	1,107.31	1,107.51	1,102.20	5.31	208.642	
850.00	850.00	863.91	863.88	2.87	2.80	88.88	21.70	1,107.23	1,107.44	1,101.78	5.66	195.497	
900.00	900.00	914.09	914.06	3.04	2.98	88.85	22.28	1,107.12	1,107.34	1,101.33	6.02	184.042	
950.00	950.00	963.12	963.08	3.22	3.15	88.82	22.80	1,107.01	1,107.25	1,100.88	6.36	173.959	
973.00	973.00	984.84	984.80	3.30	3.23	88.81	23.00	1,107.00	1,107.23	1,100.71	6.52	169.762	
1,000.00	1,000.00	1,010.33	1,010.29	3.40	3.32	88.80	23.21	1,107.01	1,107.25	1,100.55	6.71	165.090	
1,050.00	1,050.00	1,060.00	1,059.96	3.58	3.49	88.78	23.53	1,107.11	1,107.36	1,100.30	7.06	156.902	
1,100.00	1,100.00	1,113.25	1,113.21	3.75	3.68	88.76	23.94	1,107.11	1,107.37	1,099.95	7.42	149.220	
1,150.00	1,150.00	1,162.08	1,162.03	3.93	3.85	88.74	24.36	1,107.03	1,107.30	1,099.53	7.77	142.526	
1,153.27	1,153.27	1,165.11	1,165.07	3.94	3.86	88.74	24.38	1,107.03	1,107.30	1,099.51	7.79	142.119	
1,200.00	1,200.00	1,208.51	1,208.47	4.11	4.01	88.73	24.63	1,107.09	1,107.37	1,099.26	8.11	136.561	
1,250.00	1,250.00	1,257.44	1,257.40	4.29	4.18	88.72	24.77	1,107.28	1,107.56	1,099.11	8.46	130.955	
1,300.00	1,300.00	1,307.83	1,307.78	4.46	4.36	88.71	24.86	1,107.47	1,107.75	1,098.94	8.81	125.717	
1,350.00	1,350.00	1,360.39	1,360.34	4.64	4.54	88.71	24.94	1,107.61	1,107.89	1,098.72	9.17	120.776	
1,400.00	1,400.00	1,413.58	1,413.53	4.82	4.73	88.70	25.14	1,107.60	1,107.88	1,098.35	9.54	116.168	
1,450.00	1,450.00	1,464.32	1,464.27	5.00	4.91	88.68	25.45	1,107.49	1,107.79	1,097.90	9.89	111.986	
1,500.00	1,500.00	1,515.09	1,515.04	5.18	5.08	88.66	25.93	1,107.35	1,107.66	1,097.41	10.25	108.088	
1,550.00	1,550.00	1,564.08	1,564.03	5.36	5.26	88.64	26.32	1,107.23	1,107.54	1,096.95	10.60	104.514	
1,600.00	1,600.00	1,613.52	1,613.46	5.53	5.43	88.63	26.56	1,107.14	1,107.46	1,096.51	10.95	101.155	
1,650.00	1,650.00	1,663.46	1,663.41	5.71	5.60	88.62	26.75	1,107.06	1,107.38	1,096.08	11.30	97.991	
1,700.00	1,700.00	1,712.36	1,712.31	5.89	5.78	88.61	26.90	1,107.00	1,107.32	1,095.67	11.65	95.049	
1,709.47	1,709.47	1,721.32	1,721.27	5.93	5.81	88.61	26.92	1,106.99	1,107.32	1,095.60	11.72	94.521	
1,750.00	1,750.00	1,759.67	1,759.62	6.07	5.94	88.61	26.94	1,107.03	1,107.36	1,095.37	11.99	92.329	
1,800.00	1,800.00	1,808.05	1,807.99	6.25	6.11	88.61	26.88	1,107.18	1,107.51	1,095.17	12.34	89.742	
1,850.00	1,850.00	1,857.91	1,857.86	6.43	6.28	88.61	26.78	1,107.35	1,107.68	1,094.99	12.69	87.262	
1,900.00	1,900.00	1,908.03	1,907.98	6.61	6.46	88.62	26.69	1,107.53	1,107.86	1,094.81	13.05	84.910	
1,950.00	1,950.00	1,958.39	1,958.33	6.78	6.63	88.62	26.59	1,107.70	1,108.03	1,094.62	13.40	82.676	
2,000.00	2,000.00	2,012.57	2,012.52	6.96	6.82	88.63	26.52	1,107.80	1,108.12	1,094.35	13.77	80.473	
2,050.00	2,050.00	2,068.57	2,068.52	7.14	7.01	88.63	26.53	1,107.61	1,107.95	1,093.80	14.14	78.334	
2,100.00	2,100.00	2,117.23	2,117.17	7.32	7.18	88.63	26.58	1,107.34	1,107.68	1,093.18	14.49	76.431	
2,150.00	2,150.00	2,166.15	2,166.10	7.50	7.35	88.62	26.63	1,107.13	1,107.46	1,092.62	14.84	74.618	
2,200.00	2,200.00	2,217.34	2,217.28	7.68	7.53	88.62	26.67	1,106.91	1,107.24	1,092.04	15.20	72.849	
2,250.00	2,250.00	2,267.18	2,267.13	7.86	7.71	88.62	26.65	1,106.64	1,106.98	1,091.42	15.55	71.179	
2,300.00	2,300.00	2,313.15	2,313.09	8.04	7.87	88.62	26.62	1,106.51	1,106.83	1,090.93	15.89	69.650	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
2,316.04	2,316.04	2,327.89	2,327.84	8.09	7.92	88.62	26.61	1,106.50	1,106.82	1,090.82	16.00	69.175	
2,350.00	2,350.00	2,360.90	2,360.84	8.22	8.03	88.62	26.58	1,106.53	1,106.85	1,090.61	16.24	68.169	
2,400.00	2,400.00	2,414.98	2,414.92	8.39	8.22	88.63	26.55	1,106.48	1,106.80	1,090.20	16.60	66.657	
2,450.00	2,450.00	2,467.11	2,467.06	8.57	8.40	88.63	26.53	1,106.26	1,106.59	1,089.62	16.97	65.227	
2,500.00	2,500.00	2,517.21	2,517.15	8.75	8.58	88.63	26.51	1,106.02	1,106.35	1,089.03	17.32	63.881	
2,550.00	2,550.00	2,564.70	2,564.64	8.93	8.74	88.63	26.47	1,105.82	1,106.14	1,088.48	17.66	62.622	
2,584.59	2,584.59	2,596.45	2,596.39	9.05	8.85	88.63	26.44	1,105.78	1,106.10	1,088.20	17.90	61.799	
2,600.00	2,600.00	2,610.59	2,610.54	9.11	8.90	88.63	26.42	1,105.79	1,106.11	1,088.10	18.00	61.441	
2,650.00	2,650.00	2,658.58	2,658.52	9.29	9.07	88.64	26.35	1,105.91	1,106.23	1,087.88	18.35	60.288	
2,700.00	2,700.00	2,708.07	2,708.01	9.47	9.24	88.64	26.27	1,106.07	1,106.39	1,087.69	18.70	59.162	
2,750.00	2,750.00	2,760.22	2,760.16	9.65	9.42	88.64	26.19	1,106.22	1,106.53	1,087.47	19.06	58.049	
2,800.00	2,800.00	2,813.58	2,813.52	9.83	9.61	88.64	26.19	1,106.22	1,106.53	1,087.10	19.43	56.958	
2,850.00	2,850.00	2,863.69	2,863.63	10.00	9.78	88.64	26.23	1,106.13	1,106.44	1,086.66	19.78	55.935	
2,900.00	2,900.00	2,913.60	2,913.54	10.18	9.96	88.64	26.28	1,106.05	1,106.36	1,086.23	20.13	54.949	
2,950.00	2,950.00	2,964.17	2,964.11	10.36	10.13	88.63	26.35	1,105.96	1,106.27	1,085.78	20.49	53.991	
3,000.00	3,000.00	3,013.92	3,013.86	10.54	10.31	88.63	26.45	1,105.84	1,106.16	1,085.32	20.84	53.072	
3,030.02	3,030.02	3,041.88	3,041.82	10.65	10.41	88.63	26.51	1,105.81	1,106.13	1,085.08	21.05	52.554	
3,050.00	3,050.00	3,060.49	3,060.43	10.72	10.47	88.63	26.54	1,105.82	1,106.14	1,084.96	21.18	52.216	
3,100.00	3,100.00	3,107.77	3,107.71	10.90	10.64	88.62	26.62	1,105.95	1,106.28	1,084.75	21.53	51.388	
3,150.00	3,150.00	3,158.00	3,157.94	11.08	10.81	88.62	26.69	1,106.13	1,106.46	1,084.58	21.88	50.564	
3,200.00	3,200.00	3,210.24	3,210.18	11.26	10.99	88.61	26.75	1,106.29	1,106.61	1,084.37	22.24	49.749	
3,250.00	3,250.00	3,266.54	3,266.48	11.44	11.19	88.61	26.89	1,106.21	1,106.54	1,083.93	22.62	48.921	
3,300.00	3,300.00	3,318.78	3,318.71	11.62	11.37	88.60	27.10	1,105.90	1,106.25	1,083.27	22.98	48.139	
3,350.00	3,350.00	3,368.99	3,368.92	11.80	11.55	88.58	27.38	1,105.57	1,105.93	1,082.60	23.33	47.394	
3,400.00	3,400.00	3,416.06	3,416.00	11.97	11.71	88.57	27.67	1,105.31	1,105.67	1,081.99	23.68	46.695	
3,450.00	3,450.00	3,462.37	3,462.31	12.15	11.88	88.55	27.93	1,105.21	1,105.56	1,081.54	24.02	46.028	
3,456.85	3,456.85	3,468.71	3,468.65	12.18	11.90	88.55	27.96	1,105.20	1,105.56	1,081.49	24.07	45.939	
3,500.00	3,500.00	3,512.19	3,512.12	12.33	12.05	88.54	28.17	1,105.20	1,105.56	1,081.19	24.37	45.361	
3,550.00	3,550.00	3,562.98	3,562.92	12.51	12.23	88.53	28.37	1,105.16	1,105.52	1,080.80	24.73	44.706	
3,600.00	3,600.00	3,617.03	3,616.97	12.69	12.42	88.52	28.61	1,105.00	1,105.39	1,080.29	25.10	44.046	
3,650.00	3,650.00	3,671.29	3,671.22	12.87	12.61	88.50	28.93	1,104.64	1,105.06	1,079.59	25.46	43.396	
3,700.00	3,700.00	3,719.51	3,719.44	13.05	12.78	88.48	29.28	1,104.29	1,104.70	1,078.89	25.81	42.798	
3,750.00	3,750.00	3,768.66	3,768.59	13.23	12.95	88.46	29.70	1,103.95	1,104.37	1,078.21	26.16	42.211	
3,800.00	3,800.00	3,817.54	3,817.46	13.41	13.12	88.43	30.21	1,103.66	1,104.09	1,077.58	26.51	41.644	
3,850.00	3,850.00	3,865.05	3,864.97	13.59	13.29	88.40	30.80	1,103.44	1,103.87	1,077.01	26.86	41.100	
3,884.88	3,884.88	3,896.77	3,896.68	13.71	13.40	88.38	31.21	1,103.38	1,103.82	1,076.73	27.09	40.741 CC	
3,900.00	3,900.00	3,910.52	3,910.43	13.77	13.45	88.37	31.39	1,103.38	1,103.83	1,076.64	27.20	40.588	
3,950.00	3,950.00	3,956.12	3,956.03	13.94	13.60	88.34	31.98	1,103.52	1,104.00	1,076.46	27.53	40.096 ES	
4,000.00	4,000.00	4,002.00	4,001.90	14.12	13.77	88.32	32.42	1,103.83	1,104.35	1,076.48	27.87	39.621	
4,050.00	4,050.00	4,047.84	4,047.75	14.30	13.93	127.19	32.66	1,104.32	1,105.06	1,076.85	28.21	39.173	
4,100.00	4,099.99	4,093.62	4,093.51	14.48	14.09	127.20	32.78	1,104.99	1,106.28	1,077.74	28.55	38.755	
4,150.00	4,149.97	4,139.18	4,139.07	14.66	14.24	127.24	32.81	1,105.83	1,108.02	1,079.14	28.88	38.367	
4,200.00	4,199.95	4,184.17	4,184.05	14.83	14.40	127.30	32.69	1,106.85	1,110.08	1,080.87	29.21	38.002	
4,250.00	4,249.93	4,229.65	4,229.51	15.01	14.56	127.37	32.40	1,108.09	1,112.35	1,082.81	29.54	37.651	
4,300.00	4,299.90	4,277.57	4,277.41	15.19	14.73	127.46	31.96	1,109.54	1,114.77	1,084.88	29.89	37.300	
4,350.00	4,349.88	4,325.34	4,325.15	15.37	14.89	127.55	31.38	1,111.06	1,117.28	1,087.05	30.23	36.961	
4,400.00	4,399.86	4,372.60	4,372.37	15.54	15.06	127.65	30.62	1,112.68	1,119.90	1,089.33	30.57	36.636	
4,450.00	4,449.84	4,420.49	4,420.22	15.72	15.23	127.76	29.65	1,114.43	1,122.64	1,091.72	30.91	36.318	
4,500.00	4,499.81	4,470.52	4,470.20	15.90	15.40	127.87	28.62	1,116.30	1,125.41	1,094.15	31.26	35.998	
4,550.00	4,549.79	4,519.07	4,518.71	16.08	15.57	127.98	27.69	1,118.11	1,128.19	1,096.58	31.61	35.693	
4,600.00	4,599.77	4,565.03	4,564.63	16.26	15.73	128.07	26.99	1,119.94	1,131.11	1,099.17	31.94	35.411	
4,650.00	4,649.74	4,614.08	4,613.63	16.43	15.91	128.16	26.46	1,122.05	1,134.19	1,101.90	32.29	35.125	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
4,700.00	4,699.72	4,669.46	4,668.97	16.61	16.10	128.26	25.87	1,124.26	1,137.12	1,104.45	32.67	34.811	
4,750.00	4,749.70	4,723.75	4,723.22	16.79	16.29	128.36	25.20	1,126.18	1,139.82	1,106.79	33.04	34.502	
4,800.00	4,799.67	4,777.43	4,776.86	16.97	16.48	128.47	24.38	1,127.90	1,142.36	1,108.96	33.40	34.198	
4,850.00	4,849.65	4,827.08	4,826.48	17.15	16.65	128.57	23.54	1,129.41	1,144.82	1,111.07	33.75	33.916	
4,900.00	4,899.63	4,876.25	4,875.62	17.32	16.82	128.67	22.75	1,130.93	1,147.31	1,113.21	34.10	33.642	
4,950.00	4,949.61	4,928.34	4,927.68	17.50	17.01	128.77	22.00	1,132.51	1,149.78	1,115.31	34.46	33.361	
5,000.00	4,999.58	4,980.48	4,979.80	17.68	17.19	128.86	21.40	1,133.99	1,152.14	1,117.32	34.83	33.083	
5,050.00	5,049.56	5,031.63	5,030.92	17.86	17.37	128.94	20.91	1,135.37	1,154.45	1,119.26	35.18	32.812	
5,100.00	5,099.54	5,082.15	5,081.43	18.04	17.54	129.02	20.47	1,136.68	1,156.70	1,121.16	35.54	32.548	
5,150.00	5,149.51	5,131.31	5,130.57	18.21	17.71	129.11	19.93	1,137.96	1,158.96	1,123.07	35.89	32.295	
5,200.00	5,199.49	5,182.61	5,181.85	18.39	17.89	129.20	19.19	1,139.31	1,161.24	1,125.00	36.24	32.039	
5,250.00	5,249.47	5,236.41	5,235.63	18.57	18.08	129.31	18.31	1,140.58	1,163.39	1,126.77	36.61	31.775	
5,300.00	5,299.44	5,286.90	5,286.10	18.75	18.26	129.40	17.53	1,141.65	1,165.42	1,128.45	36.97	31.525	
5,350.00	5,349.42	5,336.14	5,335.33	18.93	18.43	129.48	17.17	1,142.73	1,167.48	1,130.16	37.32	31.285	
5,400.00	5,399.40	5,387.31	5,386.48	19.11	18.61	129.54	17.13	1,143.84	1,169.53	1,131.86	37.67	31.043	
5,450.00	5,449.38	5,438.89	5,438.05	19.28	18.79	129.59	17.29	1,144.90	1,171.52	1,133.49	38.03	30.802	
5,500.00	5,499.35	5,489.19	5,488.34	19.46	18.96	129.64	17.33	1,145.89	1,173.47	1,135.08	38.39	30.569	
5,550.00	5,549.33	5,539.70	5,538.84	19.64	19.14	129.72	16.96	1,146.85	1,175.40	1,136.66	38.74	30.339	
5,600.00	5,599.31	5,591.45	5,590.58	19.82	19.32	129.80	16.45	1,147.79	1,177.28	1,138.18	39.10	30.108	
5,650.00	5,649.28	5,643.65	5,642.77	20.00	19.50	129.88	15.99	1,148.65	1,179.09	1,139.62	39.46	29.878	
5,700.00	5,699.26	5,696.72	5,695.84	20.18	19.69	129.96	15.66	1,149.39	1,180.77	1,140.94	39.83	29.646	
5,750.00	5,749.24	5,748.30	5,747.41	20.36	19.87	130.02	15.47	1,150.01	1,182.34	1,142.15	40.19	29.420	
5,800.00	5,799.21	5,798.75	5,797.86	20.53	20.05	130.09	15.33	1,150.58	1,183.88	1,143.34	40.54	29.201	
5,850.00	5,849.19	5,849.12	5,848.22	20.71	20.22	130.15	15.18	1,151.12	1,185.41	1,144.51	40.90	28.985	
5,900.00	5,899.17	5,899.45	5,898.55	20.89	20.40	130.22	14.87	1,151.65	1,186.92	1,145.67	41.25	28.773	
5,950.00	5,949.14	5,950.41	5,949.51	21.07	20.57	130.30	14.46	1,152.15	1,188.40	1,146.80	41.61	28.562	
6,000.00	5,999.12	6,001.49	6,000.59	21.25	20.75	130.37	14.08	1,152.61	1,189.84	1,147.88	41.96	28.353	
6,050.00	6,049.10	6,051.30	6,050.39	21.43	20.93	130.44	13.72	1,153.04	1,191.27	1,148.95	42.32	28.151	
6,100.00	6,099.08	6,101.43	6,100.52	21.61	21.10	130.52	13.35	1,153.47	1,192.70	1,150.02	42.67	27.951	
6,150.00	6,149.05	6,153.25	6,152.34	21.79	21.28	130.59	13.10	1,153.88	1,194.08	1,151.05	43.03	27.749	
6,200.00	6,199.03	6,204.58	6,203.66	21.96	21.46	130.64	13.06	1,154.20	1,195.39	1,152.00	43.39	27.551	
6,250.00	6,249.01	6,254.91	6,253.99	22.14	21.64	130.70	13.07	1,154.50	1,196.67	1,152.92	43.74	27.357	
6,300.00	6,298.98	6,304.78	6,303.86	22.32	21.81	130.75	13.07	1,154.78	1,197.94	1,153.84	44.10	27.167	
6,350.00	6,348.96	6,354.14	6,353.21	22.50	21.98	130.81	12.91	1,155.07	1,199.23	1,154.79	44.45	26.981	
6,400.00	6,398.94	6,404.00	6,403.07	22.68	22.16	130.88	12.60	1,155.38	1,200.55	1,155.75	44.80	26.798	
6,450.00	6,448.91	6,454.23	6,453.30	22.86	22.33	130.95	12.30	1,155.69	1,201.86	1,156.70	45.15	26.617	
6,500.00	6,498.89	6,505.52	6,504.59	23.04	22.51	131.02	12.05	1,155.97	1,203.14	1,157.63	45.51	26.436	
6,550.00	6,548.87	6,557.24	6,556.31	23.22	22.69	131.08	11.95	1,156.19	1,204.35	1,158.48	45.87	26.255	
6,600.00	6,598.85	6,608.55	6,607.63	23.40	22.87	131.14	11.93	1,156.35	1,205.50	1,159.27	46.23	26.077	
6,650.00	6,648.82	6,659.83	6,658.90	23.57	23.05	131.19	11.89	1,156.45	1,206.60	1,160.01	46.59	25.900	
6,700.00	6,698.80	6,708.05	6,707.12	23.75	23.22	131.25	11.76	1,156.55	1,207.71	1,160.78	46.93	25.732	
6,750.00	6,748.78	6,756.66	6,755.73	23.93	23.39	131.32	11.50	1,156.71	1,208.89	1,161.61	47.28	25.567	
6,800.00	6,798.75	6,806.21	6,805.28	24.11	23.56	131.38	11.19	1,156.91	1,210.10	1,162.47	47.63	25.404	
6,850.00	6,848.73	6,855.84	6,854.91	24.29	23.73	131.45	10.91	1,157.12	1,211.33	1,163.35	47.99	25.243	
6,900.00	6,898.71	6,905.73	6,904.80	24.47	23.91	131.51	10.77	1,157.35	1,212.57	1,164.23	48.34	25.085	
6,950.00	6,948.68	6,955.49	6,954.56	24.65	24.08	131.56	10.81	1,157.58	1,213.81	1,165.12	48.69	24.929	
7,000.00	6,998.66	7,005.05	7,004.11	24.83	24.25	131.61	10.83	1,157.84	1,215.07	1,166.03	49.04	24.775	
7,050.00	7,048.64	7,053.94	7,053.00	25.01	24.42	131.67	10.78	1,158.10	1,216.36	1,166.97	49.39	24.626	
7,100.00	7,098.62	7,102.14	7,101.20	25.19	24.59	131.73	10.55	1,158.42	1,217.71	1,167.97	49.74	24.482	
7,150.00	7,148.59	7,152.60	7,151.66	25.37	24.77	131.80	10.14	1,158.80	1,219.11	1,169.02	50.09	24.336	
7,200.00	7,198.57	7,204.89	7,203.95	25.54	24.95	131.87	9.87	1,159.11	1,220.43	1,169.98	50.46	24.188	
7,250.00	7,248.55	7,254.41	7,253.47	25.72	25.12	131.93	9.71	1,159.35	1,221.71	1,170.90	50.81	24.045	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,300.00	7,298.52	7,303.06	7,302.12	25.90	25.29	131.99	9.54	1,159.65	1,223.03	1,171.87	51.16	23.907	
7,350.00	7,348.50	7,350.41	7,349.47	26.08	25.46	132.05	9.23	1,159.99	1,224.43	1,172.93	51.50	23.775	
7,400.00	7,398.48	7,397.49	7,396.54	26.26	25.62	132.13	8.62	1,160.43	1,225.95	1,174.10	51.84	23.647	
7,450.00	7,448.45	7,446.62	7,445.66	26.44	25.80	132.22	7.72	1,160.95	1,227.55	1,175.36	52.19	23.519	
7,500.00	7,498.43	7,496.11	7,495.13	26.62	25.97	132.32	6.67	1,161.49	1,229.18	1,176.63	52.54	23.393	
7,550.00	7,548.41	7,549.09	7,548.10	26.80	26.15	132.42	5.54	1,162.01	1,230.75	1,177.84	52.91	23.261	
7,600.00	7,598.38	7,602.24	7,601.24	26.98	26.34	132.52	4.58	1,162.40	1,232.21	1,178.93	53.28	23.129	
7,650.00	7,648.36	7,650.89	7,649.88	27.16	26.51	132.61	3.67	1,162.74	1,233.64	1,180.02	53.62	23.005	
7,700.00	7,698.34	7,699.51	7,698.49	27.34	26.68	132.71	2.64	1,163.10	1,235.10	1,181.13	53.97	22.884	
7,750.00	7,748.32	7,746.35	7,745.31	27.52	26.84	132.81	1.53	1,163.52	1,236.67	1,182.36	54.31	22.769	
7,800.00	7,798.29	7,793.37	7,792.31	27.70	27.00	132.91	0.29	1,164.06	1,238.36	1,183.71	54.66	22.658	
7,850.00	7,848.27	7,840.85	7,839.77	27.87	27.17	133.02	-0.94	1,164.70	1,240.17	1,185.17	55.00	22.549	
7,900.00	7,898.25	7,891.04	7,889.94	28.05	27.35	133.12	-2.16	1,165.47	1,242.05	1,186.70	55.35	22.439	
7,950.00	7,948.22	7,946.75	7,945.63	28.23	27.54	133.23	-3.36	1,166.15	1,243.78	1,188.05	55.73	22.318	
8,000.00	7,998.20	7,998.05	7,996.92	28.41	27.72	133.33	-4.34	1,166.61	1,245.35	1,189.26	56.09	22.203	
8,050.00	8,048.18	8,046.97	8,045.83	28.59	27.89	133.42	-5.36	1,167.07	1,246.93	1,190.50	56.44	22.094	
8,100.00	8,098.15	8,095.64	8,094.48	28.77	28.06	133.52	-6.49	1,167.56	1,248.57	1,191.78	56.79	21.987	
8,150.00	8,148.13	8,144.21	8,143.03	28.95	28.23	133.63	-7.76	1,168.08	1,250.26	1,193.13	57.13	21.883	
8,200.00	8,198.11	8,195.00	8,193.81	29.13	28.41	133.74	-9.19	1,168.64	1,251.98	1,194.49	57.49	21.777	
8,250.00	8,248.09	8,246.34	8,245.12	29.31	28.59	133.86	-10.63	1,169.15	1,253.65	1,195.80	57.85	21.671	
8,300.00	8,298.06	8,301.23	8,299.99	29.49	28.78	133.98	-12.10	1,169.56	1,255.19	1,196.97	58.22	21.558	
8,350.00	8,348.04	8,355.87	8,354.61	29.67	28.97	134.09	-13.41	1,169.77	1,256.54	1,197.95	58.59	21.445	
8,400.00	8,398.02	8,409.67	8,408.40	29.85	29.16	134.20	-14.59	1,169.80	1,257.73	1,198.77	58.96	21.331	
8,450.00	8,447.99	8,459.01	8,457.73	30.03	29.33	134.29	-15.62	1,169.73	1,258.82	1,199.51	59.31	21.224	
8,500.00	8,497.97	8,504.56	8,503.27	30.21	29.49	134.38	-16.68	1,169.79	1,260.05	1,200.40	59.65	21.124	
8,550.00	8,547.95	8,554.67	8,553.36	30.39	29.66	134.49	-17.96	1,169.97	1,261.41	1,201.41	60.00	21.022	
8,600.00	8,597.92	8,609.62	8,608.29	30.57	29.85	134.60	-19.27	1,170.01	1,262.63	1,202.26	60.38	20.913	
8,650.00	8,647.90	8,664.11	8,662.77	30.74	30.04	134.71	-20.42	1,169.85	1,263.67	1,202.92	60.74	20.803	
8,700.00	8,697.88	8,718.48	8,717.14	30.92	30.23	134.81	-21.35	1,169.53	1,264.53	1,203.41	61.11	20.692	
8,750.00	8,747.86	8,766.16	8,764.80	31.10	30.40	134.89	-22.13	1,169.22	1,265.36	1,203.90	61.46	20.589	
8,800.00	8,797.83	8,814.26	8,812.89	31.28	30.57	134.98	-23.00	1,168.97	1,266.26	1,204.46	61.80	20.488	
8,850.00	8,847.81	8,862.78	8,861.41	31.46	30.74	135.06	-23.81	1,168.78	1,267.24	1,205.08	62.15	20.389	
8,900.00	8,897.79	8,910.65	8,909.27	31.64	30.90	135.14	-24.43	1,168.67	1,268.27	1,205.77	62.50	20.293	
8,950.00	8,947.76	8,955.53	8,954.16	31.82	31.06	135.20	-24.94	1,168.72	1,269.46	1,206.63	62.83	20.204	
9,000.00	8,997.74	9,001.45	9,000.07	32.00	31.22	135.27	-25.44	1,168.95	1,270.85	1,207.68	63.17	20.117	
9,050.00	9,047.72	9,056.97	9,055.58	32.18	31.41	135.35	-26.02	1,169.18	1,272.19	1,208.65	63.55	20.020	
9,100.00	9,097.69	9,114.11	9,112.73	32.36	31.61	135.43	-26.57	1,169.15	1,273.30	1,209.38	63.93	19.919	
9,150.00	9,147.67	9,173.61	9,172.22	32.54	31.82	135.50	-26.87	1,168.74	1,274.07	1,209.76	64.31	19.812	
9,200.00	9,197.65	9,225.83	9,224.44	32.72	32.00	135.56	-27.07	1,168.12	1,274.59	1,209.92	64.67	19.709	
9,250.00	9,247.62	9,276.62	9,275.21	32.90	32.18	135.64	-27.65	1,167.44	1,275.07	1,210.04	65.03	19.609	
9,300.00	9,297.60	9,337.75	9,336.33	33.08	32.39	135.74	-28.50	1,166.31	1,275.32	1,209.91	65.41	19.497	
9,350.00	9,347.58	9,396.58	9,395.13	33.26	32.59	135.83	-29.19	1,164.74	1,275.15	1,209.37	65.79	19.383	
9,400.00	9,397.56	9,452.67	9,451.19	33.44	32.79	135.93	-29.85	1,162.94	1,274.72	1,208.57	66.15	19.269	
9,450.00	9,447.53	9,510.50	9,508.98	33.62	32.99	136.03	-30.63	1,160.76	1,274.02	1,207.50	66.52	19.151	
9,500.00	9,497.51	9,564.14	9,562.56	33.80	33.17	136.13	-31.51	1,158.42	1,273.05	1,206.18	66.87	19.037	
9,550.00	9,547.49	9,608.95	9,607.32	33.98	33.25	136.22	-32.30	1,156.53	1,272.16	1,205.02	67.14	18.948	
9,600.00	9,597.46	9,652.97	9,651.30	34.16	33.31	136.31	-33.23	1,154.82	1,271.47	1,204.08	67.39	18.867	
9,650.00	9,647.44	9,689.09	9,687.33	34.34	33.32	136.44	-35.22	1,153.51	1,271.14	1,203.55	67.58	18.808	
9,650.34	9,647.78	9,689.29	9,687.54	34.34	33.32	136.45	-35.23	1,153.50	1,271.14	1,203.55	67.59	18.808	
9,700.00	9,697.42	9,721.64	9,719.68	34.52	33.32	136.64	-38.74	1,152.57	1,271.52	1,203.74	67.78	18.761	
9,750.00	9,747.39	9,758.38	9,755.91	34.69	33.32	136.94	-44.68	1,151.63	1,272.47	1,204.51	67.96	18.724	
9,800.00	9,797.37	9,798.72	9,795.15	34.87	33.32	137.40	-53.99	1,150.57	1,273.96	1,205.82	68.14	18.696	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
9,850.00	9,847.35	9,831.84	9,826.83	35.05	33.33	137.86	-63.56	1,149.66	1,275.96	1,207.65	68.31	18.679	
9,900.00	9,897.33	9,890.46	9,881.89	35.23	33.34	138.81	-83.57	1,147.74	1,278.39	1,209.88	68.51	18.660	
9,950.00	9,947.30	9,934.08	9,922.10	35.41	33.36	139.60	-100.33	1,145.61	1,280.71	1,212.02	68.69	18.644	SF
10,000.00	9,997.28	9,964.70	9,949.75	35.59	33.37	140.21	-113.39	1,144.10	1,283.74	1,214.89	68.85	18.644	
10,050.00	10,047.26	9,992.00	9,973.77	35.77	33.39	140.81	-126.30	1,142.78	1,287.69	1,218.70	68.99	18.664	
10,100.00	10,097.23	10,023.00	10,000.20	35.95	33.41	141.55	-142.42	1,141.29	1,292.65	1,223.52	69.13	18.700	
10,150.00	10,147.21	10,040.95	10,015.04	36.13	33.43	142.01	-152.48	1,140.49	1,298.74	1,229.55	69.19	18.770	
10,200.00	10,197.19	10,055.00	10,026.35	36.31	33.44	142.38	-160.79	1,139.91	1,306.14	1,236.94	69.20	18.874	
10,250.00	10,247.16	10,078.95	10,045.02	36.49	33.47	143.05	-175.77	1,139.01	1,314.80	1,245.56	69.24	18.990	
10,300.00	10,297.14	10,097.64	10,059.02	36.67	33.49	143.60	-188.13	1,138.36	1,324.78	1,255.57	69.21	19.142	
10,350.00	10,347.12	10,118.00	10,073.67	36.85	33.52	144.23	-202.25	1,137.66	1,336.07	1,266.91	69.16	19.318	
10,400.00	10,397.10	10,132.28	10,083.57	37.03	33.54	144.68	-212.53	1,137.18	1,348.66	1,279.62	69.04	19.533	
10,450.00	10,447.07	10,149.00	10,094.78	37.21	33.56	145.21	-224.92	1,136.63	1,362.59	1,293.67	68.91	19.773	
10,500.00	10,497.05	10,159.74	10,101.76	37.39	33.58	145.57	-233.08	1,136.31	1,377.86	1,309.16	68.71	20.055	
10,550.00	10,547.03	10,170.78	10,108.72	37.57	33.60	145.93	-241.64	1,136.03	1,394.51	1,326.04	68.47	20.367	
10,600.00	10,597.00	10,181.00	10,114.99	37.75	33.62	146.28	-249.71	1,135.81	1,412.50	1,344.30	68.20	20.711	
10,650.00	10,646.98	10,190.70	10,120.77	37.93	33.64	146.61	-257.50	1,135.65	1,431.81	1,363.91	67.90	21.086	
10,700.00	10,696.96	10,199.71	10,125.99	38.11	33.66	146.92	-264.84	1,135.54	1,452.41	1,384.83	67.58	21.492	
10,750.00	10,746.93	10,212.00	10,132.88	38.29	33.69	147.35	-275.02	1,135.45	1,474.26	1,406.99	67.27	21.916	
10,800.00	10,796.91	10,212.00	10,132.88	38.47	33.69	147.41	-275.02	1,135.45	1,497.29	1,430.46	66.82	22.408	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	11.93	11.93	0.50	0.02	89.22	15.13	1,107.55	1,107.65				
50.00	50.00	62.49	62.49	0.50	0.08	89.21	15.29	1,107.53	1,107.64	1,107.05	0.59	1,891.411	
100.00	100.00	113.16	113.16	0.52	0.18	89.19	15.68	1,107.48	1,107.59	1,106.90	0.69	1,598.302	
150.00	150.00	164.26	164.25	0.59	0.35	89.17	16.07	1,107.39	1,107.51	1,106.56	0.94	1,172.740	
200.00	200.00	214.77	214.77	0.70	0.53	89.15	16.37	1,107.25	1,107.38	1,106.14	1.23	898.219	
250.00	250.00	264.35	264.35	0.84	0.70	89.14	16.64	1,107.12	1,107.25	1,105.71	1.54	718.337	
300.00	300.00	312.73	312.72	0.99	0.87	89.13	16.89	1,107.03	1,107.16	1,105.30	1.86	595.356	
316.13	316.13	327.94	327.93	1.04	0.93	89.12	16.95	1,107.02	1,107.15	1,105.19	1.96	564.034	
350.00	350.00	359.87	359.87	1.15	1.04	89.12	17.06	1,107.05	1,107.18	1,105.00	2.18	507.406	
400.00	400.00	409.92	409.91	1.31	1.21	89.11	17.21	1,107.17	1,107.30	1,104.78	2.52	439.380	
450.00	450.00	462.75	462.74	1.48	1.40	89.09	17.58	1,107.18	1,107.32	1,104.45	2.87	385.586	
500.00	500.00	513.53	513.52	1.65	1.58	89.06	18.11	1,107.10	1,107.25	1,104.03	3.22	343.959	
550.00	550.00	563.58	563.57	1.82	1.75	89.04	18.61	1,107.01	1,107.17	1,103.61	3.57	310.492	
588.35	588.35	600.17	600.15	1.95	1.88	89.02	18.98	1,106.97	1,107.14	1,103.31	3.83	289.341	
600.00	600.00	611.16	611.15	1.99	1.92	89.01	19.09	1,106.97	1,107.14	1,103.23	3.91	283.500	
650.00	650.00	658.36	658.34	2.16	2.08	88.98	19.65	1,107.05	1,107.23	1,102.99	4.24	260.873	
700.00	700.00	709.03	709.01	2.34	2.26	88.95	20.24	1,107.19	1,107.38	1,102.79	4.60	240.937	
750.00	750.00	760.22	760.19	2.51	2.44	88.93	20.68	1,107.29	1,107.48	1,102.53	4.95	223.717	
800.00	800.00	812.31	812.28	2.69	2.62	88.91	21.12	1,107.31	1,107.51	1,102.20	5.31	208.642	
850.00	850.00	863.91	863.88	2.87	2.80	88.88	21.70	1,107.23	1,107.44	1,101.78	5.66	195.497	
900.00	900.00	914.09	914.06	3.04	2.98	88.85	22.28	1,107.12	1,107.34	1,101.33	6.02	184.042	
950.00	950.00	963.12	963.08	3.22	3.15	88.82	22.80	1,107.01	1,107.25	1,100.88	6.36	173.959	
973.00	973.00	984.84	984.80	3.30	3.23	88.81	23.00	1,107.00	1,107.23	1,100.71	6.52	169.762	
1,000.00	1,000.00	1,010.33	1,010.29	3.40	3.32	88.80	23.21	1,107.01	1,107.25	1,100.55	6.71	165.090	
1,050.00	1,050.00	1,060.00	1,059.96	3.58	3.49	88.78	23.53	1,107.11	1,107.36	1,100.30	7.06	156.902	
1,100.00	1,100.00	1,113.25	1,113.21	3.75	3.68	88.76	23.94	1,107.11	1,107.37	1,099.95	7.42	149.220	
1,150.00	1,150.00	1,162.08	1,162.03	3.93	3.85	88.74	24.36	1,107.03	1,107.30	1,099.53	7.77	142.526	
1,153.27	1,153.27	1,165.11	1,165.07	3.94	3.86	88.74	24.38	1,107.03	1,107.30	1,099.51	7.79	142.119	
1,200.00	1,200.00	1,208.51	1,208.47	4.11	4.01	88.73	24.63	1,107.09	1,107.37	1,099.26	8.11	136.561	
1,250.00	1,250.00	1,257.44	1,257.40	4.29	4.18	88.72	24.77	1,107.28	1,107.56	1,099.11	8.46	130.955	
1,300.00	1,300.00	1,307.83	1,307.78	4.46	4.36	88.71	24.86	1,107.47	1,107.75	1,098.94	8.81	125.717	
1,350.00	1,350.00	1,360.39	1,360.34	4.64	4.54	88.71	24.94	1,107.61	1,107.89	1,098.72	9.17	120.776	
1,400.00	1,400.00	1,413.58	1,413.53	4.82	4.73	88.70	25.14	1,107.60	1,107.88	1,098.35	9.54	116.168	
1,450.00	1,450.00	1,464.32	1,464.27	5.00	4.91	88.68	25.45	1,107.49	1,107.79	1,097.90	9.89	111.986	
1,500.00	1,500.00	1,515.09	1,515.04	5.18	5.08	88.66	25.93	1,107.35	1,107.66	1,097.41	10.25	108.088	
1,550.00	1,550.00	1,564.08	1,564.03	5.36	5.26	88.64	26.32	1,107.23	1,107.54	1,096.95	10.60	104.514	
1,600.00	1,600.00	1,613.52	1,613.46	5.53	5.43	88.63	26.56	1,107.14	1,107.46	1,096.51	10.95	101.155	
1,650.00	1,650.00	1,663.46	1,663.41	5.71	5.60	88.62	26.75	1,107.06	1,107.38	1,096.08	11.30	97.991	
1,700.00	1,700.00	1,712.36	1,712.31	5.89	5.78	88.61	26.90	1,107.00	1,107.32	1,095.67	11.65	95.049	
1,709.47	1,709.47	1,721.32	1,721.27	5.93	5.81	88.61	26.92	1,106.99	1,107.32	1,095.60	11.72	94.521	
1,750.00	1,750.00	1,759.67	1,759.62	6.07	5.94	88.61	26.94	1,107.03	1,107.36	1,095.37	11.99	92.329	
1,800.00	1,800.00	1,808.05	1,807.99	6.25	6.11	88.61	26.88	1,107.18	1,107.51	1,095.17	12.34	89.742	
1,850.00	1,850.00	1,857.91	1,857.86	6.43	6.28	88.61	26.78	1,107.35	1,107.68	1,094.99	12.69	87.262	
1,900.00	1,900.00	1,908.03	1,907.98	6.61	6.46	88.62	26.69	1,107.53	1,107.86	1,094.81	13.05	84.910	
1,950.00	1,950.00	1,958.39	1,958.33	6.78	6.63	88.62	26.59	1,107.70	1,108.03	1,094.62	13.40	82.676	
2,000.00	2,000.00	2,012.57	2,012.52	6.96	6.82	88.63	26.52	1,107.80	1,108.12	1,094.35	13.77	80.473	
2,050.00	2,050.00	2,068.57	2,068.52	7.14	7.01	88.63	26.53	1,107.61	1,107.95	1,093.80	14.14	78.334	
2,100.00	2,100.00	2,117.23	2,117.17	7.32	7.18	88.63	26.58	1,107.34	1,107.68	1,093.18	14.49	76.431	
2,150.00	2,150.00	2,166.15	2,166.10	7.50	7.35	88.62	26.63	1,107.13	1,107.46	1,092.62	14.84	74.618	
2,200.00	2,200.00	2,217.34	2,217.28	7.68	7.53	88.62	26.67	1,106.91	1,107.24	1,092.04	15.20	72.849	
2,250.00	2,250.00	2,267.18	2,267.13	7.86	7.71	88.62	26.65	1,106.64	1,106.98	1,091.42	15.55	71.179	
2,300.00	2,300.00	2,313.15	2,313.09	8.04	7.87	88.62	26.62	1,106.51	1,106.83	1,090.93	15.89	69.650	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
2,316.04	2,316.04	2,327.89	2,327.84	8.09	7.92	88.62	26.61	1,106.50	1,106.82	1,090.82	16.00	69.175	
2,350.00	2,350.00	2,360.90	2,360.84	8.22	8.03	88.62	26.58	1,106.53	1,106.85	1,090.61	16.24	68.169	
2,400.00	2,400.00	2,414.98	2,414.92	8.39	8.22	88.63	26.55	1,106.48	1,106.80	1,090.20	16.60	66.657	
2,450.00	2,450.00	2,467.11	2,467.06	8.57	8.40	88.63	26.53	1,106.26	1,106.59	1,089.62	16.97	65.227	
2,500.00	2,500.00	2,517.21	2,517.15	8.75	8.58	88.63	26.51	1,106.02	1,106.35	1,089.03	17.32	63.881	
2,550.00	2,550.00	2,564.70	2,564.64	8.93	8.74	88.63	26.47	1,105.82	1,106.14	1,088.48	17.66	62.622	
2,584.59	2,584.59	2,596.45	2,596.39	9.05	8.85	88.63	26.44	1,105.78	1,106.10	1,088.20	17.90	61.799	
2,600.00	2,600.00	2,610.59	2,610.54	9.11	8.90	88.63	26.42	1,105.79	1,106.11	1,088.10	18.00	61.441	
2,650.00	2,650.00	2,658.58	2,658.52	9.29	9.07	88.64	26.35	1,105.91	1,106.23	1,087.88	18.35	60.288	
2,700.00	2,700.00	2,708.07	2,708.01	9.47	9.24	88.64	26.27	1,106.07	1,106.39	1,087.69	18.70	59.162	
2,750.00	2,750.00	2,760.22	2,760.16	9.65	9.42	88.64	26.19	1,106.22	1,106.53	1,087.47	19.06	58.049	
2,800.00	2,800.00	2,813.58	2,813.52	9.83	9.61	88.64	26.19	1,106.22	1,106.53	1,087.10	19.43	56.958	
2,850.00	2,850.00	2,863.69	2,863.63	10.00	9.78	88.64	26.23	1,106.13	1,106.44	1,086.66	19.78	55.935	
2,900.00	2,900.00	2,913.60	2,913.54	10.18	9.96	88.64	26.28	1,106.05	1,106.36	1,086.23	20.13	54.949	
2,950.00	2,950.00	2,964.17	2,964.11	10.36	10.13	88.63	26.35	1,105.96	1,106.27	1,085.78	20.49	53.991	
3,000.00	3,000.00	3,013.92	3,013.86	10.54	10.31	88.63	26.45	1,105.84	1,106.16	1,085.32	20.84	53.072	
3,030.02	3,030.02	3,041.88	3,041.82	10.65	10.41	88.63	26.51	1,105.81	1,106.13	1,085.08	21.05	52.554	
3,050.00	3,050.00	3,060.49	3,060.43	10.72	10.47	88.63	26.54	1,105.82	1,106.14	1,084.96	21.18	52.216	
3,100.00	3,100.00	3,107.77	3,107.71	10.90	10.64	88.62	26.62	1,105.95	1,106.28	1,084.75	21.53	51.388	
3,150.00	3,150.00	3,158.00	3,157.94	11.08	10.81	88.62	26.69	1,106.13	1,106.46	1,084.58	21.88	50.564	
3,200.00	3,200.00	3,210.24	3,210.18	11.26	10.99	88.61	26.75	1,106.29	1,106.61	1,084.37	22.24	49.749	
3,250.00	3,250.00	3,266.54	3,266.48	11.44	11.19	88.61	26.89	1,106.21	1,106.54	1,083.93	22.62	48.921	
3,300.00	3,300.00	3,318.78	3,318.71	11.62	11.37	88.60	27.10	1,105.90	1,106.25	1,083.27	22.98	48.139	
3,350.00	3,350.00	3,368.99	3,368.92	11.80	11.55	88.58	27.38	1,105.57	1,105.93	1,082.60	23.33	47.394	
3,400.00	3,400.00	3,416.06	3,416.00	11.97	11.71	88.57	27.67	1,105.31	1,105.67	1,081.99	23.68	46.695	
3,450.00	3,450.00	3,462.37	3,462.31	12.15	11.88	88.55	27.93	1,105.21	1,105.56	1,081.54	24.02	46.028	
3,456.85	3,456.85	3,468.71	3,468.65	12.18	11.90	88.55	27.96	1,105.20	1,105.56	1,081.49	24.07	45.939	
3,500.00	3,500.00	3,512.19	3,512.12	12.33	12.05	88.54	28.17	1,105.20	1,105.56	1,081.19	24.37	45.361	
3,550.00	3,550.00	3,562.98	3,562.92	12.51	12.23	88.53	28.37	1,105.16	1,105.52	1,080.80	24.73	44.706	
3,600.00	3,600.00	3,617.03	3,616.97	12.69	12.42	88.52	28.61	1,105.00	1,105.39	1,080.29	25.10	44.046	
3,650.00	3,650.00	3,671.29	3,671.22	12.87	12.61	88.50	28.93	1,104.64	1,105.06	1,079.59	25.46	43.396	
3,700.00	3,700.00	3,719.51	3,719.44	13.05	12.78	88.48	29.28	1,104.29	1,104.70	1,078.89	25.81	42.798	
3,750.00	3,750.00	3,768.66	3,768.59	13.23	12.95	88.46	29.70	1,103.95	1,104.37	1,078.21	26.16	42.211	
3,800.00	3,800.00	3,817.54	3,817.46	13.41	13.12	88.43	30.21	1,103.66	1,104.09	1,077.58	26.51	41.644	
3,850.00	3,850.00	3,865.05	3,864.97	13.59	13.29	88.40	30.80	1,103.44	1,103.87	1,077.01	26.86	41.100	
3,884.88	3,884.88	3,896.77	3,896.68	13.71	13.40	88.38	31.21	1,103.38	1,103.82	1,076.73	27.09	40.741	CC
3,900.00	3,900.00	3,910.52	3,910.43	13.77	13.45	88.37	31.39	1,103.38	1,103.83	1,076.64	27.20	40.588	
3,950.00	3,950.00	3,956.12	3,956.03	13.94	13.60	88.34	31.98	1,103.52	1,104.00	1,076.46	27.53	40.096	ES
4,000.00	4,000.00	4,002.00	4,001.90	14.12	13.77	88.32	32.42	1,103.83	1,104.35	1,076.48	27.87	39.621	
4,050.00	4,050.00	4,047.84	4,047.75	14.30	13.93	127.19	32.66	1,104.32	1,105.06	1,076.85	28.21	39.173	
4,100.00	4,099.99	4,093.62	4,093.51	14.48	14.09	127.20	32.78	1,104.99	1,106.28	1,077.74	28.55	38.755	
4,150.00	4,149.97	4,139.18	4,139.07	14.66	14.24	127.24	32.81	1,105.83	1,108.02	1,079.14	28.88	38.367	
4,200.00	4,199.95	4,184.17	4,184.05	14.83	14.40	127.30	32.69	1,106.85	1,110.08	1,080.87	29.21	38.002	
4,250.00	4,249.93	4,229.65	4,229.51	15.01	14.56	127.37	32.40	1,108.09	1,112.35	1,082.81	29.54	37.651	
4,300.00	4,299.90	4,277.57	4,277.41	15.19	14.73	127.46	31.96	1,109.54	1,114.77	1,084.88	29.89	37.300	
4,350.00	4,349.88	4,325.34	4,325.15	15.37	14.89	127.55	31.38	1,111.06	1,117.28	1,087.05	30.23	36.961	
4,400.00	4,399.86	4,372.60	4,372.37	15.54	15.06	127.65	30.62	1,112.68	1,119.90	1,089.33	30.57	36.636	
4,450.00	4,449.84	4,420.49	4,420.22	15.72	15.23	127.76	29.65	1,114.43	1,122.64	1,091.72	30.91	36.318	
4,500.00	4,499.81	4,470.52	4,470.20	15.90	15.40	127.87	28.62	1,116.30	1,125.41	1,094.15	31.26	35.998	
4,550.00	4,549.79	4,519.07	4,518.71	16.08	15.57	127.98	27.69	1,118.11	1,128.19	1,096.58	31.61	35.693	
4,600.00	4,599.77	4,565.03	4,564.63	16.26	15.73	128.07	26.99	1,119.94	1,131.11	1,099.17	31.94	35.411	
4,650.00	4,649.74	4,614.08	4,613.63	16.43	15.91	128.16	26.46	1,122.05	1,134.19	1,101.90	32.29	35.125	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
4,700.00	4,699.72	4,669.46	4,668.97	16.61	16.10	128.26	25.87	1,124.26	1,137.12	1,104.45	32.67	34.811	
4,750.00	4,749.70	4,723.75	4,723.22	16.79	16.29	128.36	25.20	1,126.18	1,139.82	1,106.79	33.04	34.502	
4,800.00	4,799.67	4,777.43	4,776.86	16.97	16.48	128.47	24.38	1,127.90	1,142.36	1,108.96	33.40	34.198	
4,850.00	4,849.65	4,827.08	4,826.48	17.15	16.65	128.57	23.54	1,129.41	1,144.82	1,111.07	33.75	33.916	
4,900.00	4,899.63	4,876.25	4,875.62	17.32	16.82	128.67	22.75	1,130.93	1,147.31	1,113.21	34.10	33.642	
4,950.00	4,949.61	4,928.34	4,927.68	17.50	17.01	128.77	22.00	1,132.51	1,149.78	1,115.31	34.46	33.361	
5,000.00	4,999.58	4,980.48	4,979.80	17.68	17.19	128.86	21.40	1,133.99	1,152.14	1,117.32	34.83	33.083	
5,050.00	5,049.56	5,031.63	5,030.92	17.86	17.37	128.94	20.91	1,135.37	1,154.45	1,119.26	35.18	32.812	
5,100.00	5,099.54	5,082.15	5,081.43	18.04	17.54	129.02	20.47	1,136.68	1,156.70	1,121.16	35.54	32.548	
5,150.00	5,149.51	5,131.31	5,130.57	18.21	17.71	129.11	19.93	1,137.96	1,158.96	1,123.07	35.89	32.295	
5,200.00	5,199.49	5,182.61	5,181.85	18.39	17.89	129.20	19.19	1,139.31	1,161.24	1,125.00	36.24	32.039	
5,250.00	5,249.47	5,236.41	5,235.63	18.57	18.08	129.31	18.31	1,140.58	1,163.39	1,126.77	36.61	31.775	
5,300.00	5,299.44	5,286.90	5,286.10	18.75	18.26	129.40	17.53	1,141.65	1,165.42	1,128.45	36.97	31.525	
5,350.00	5,349.42	5,336.14	5,335.33	18.93	18.43	129.48	17.17	1,142.73	1,167.48	1,130.16	37.32	31.285	
5,400.00	5,399.40	5,387.31	5,386.48	19.11	18.61	129.54	17.13	1,143.84	1,169.53	1,131.86	37.67	31.043	
5,450.00	5,449.38	5,438.89	5,438.05	19.28	18.79	129.59	17.29	1,144.90	1,171.52	1,133.49	38.03	30.802	
5,500.00	5,499.35	5,489.19	5,488.34	19.46	18.97	129.64	17.33	1,145.89	1,173.47	1,135.08	38.39	30.569	
5,550.00	5,549.33	5,539.70	5,538.84	19.64	19.14	129.72	16.96	1,146.85	1,175.40	1,136.66	38.74	30.339	
5,600.00	5,599.31	5,591.45	5,590.58	19.82	19.32	129.80	16.45	1,147.79	1,177.28	1,138.18	39.10	30.108	
5,650.00	5,649.28	5,643.65	5,642.77	20.00	19.50	129.88	15.99	1,148.65	1,179.09	1,139.62	39.46	29.878	
5,700.00	5,699.26	5,696.72	5,695.84	20.18	19.69	129.96	15.66	1,149.39	1,180.77	1,140.94	39.83	29.646	
5,750.00	5,749.24	5,748.30	5,747.41	20.36	19.87	130.02	15.47	1,150.01	1,182.34	1,142.15	40.19	29.420	
5,800.00	5,799.21	5,798.75	5,797.86	20.53	20.05	130.09	15.33	1,150.58	1,183.88	1,143.34	40.54	29.201	
5,850.00	5,849.19	5,849.12	5,848.22	20.71	20.22	130.15	15.18	1,151.12	1,185.41	1,144.51	40.90	28.985	
5,900.00	5,899.17	5,899.45	5,898.55	20.89	20.40	130.22	14.87	1,151.65	1,186.92	1,145.67	41.25	28.773	
5,950.00	5,949.14	5,950.41	5,949.51	21.07	20.57	130.30	14.46	1,152.15	1,188.40	1,146.80	41.61	28.562	
6,000.00	5,999.12	6,001.49	6,000.59	21.25	20.75	130.37	14.08	1,152.61	1,189.84	1,147.88	41.96	28.353	
6,050.00	6,049.10	6,051.30	6,050.39	21.43	20.93	130.44	13.72	1,153.04	1,191.27	1,148.95	42.32	28.151	
6,100.00	6,099.08	6,101.43	6,100.52	21.61	21.10	130.52	13.35	1,153.47	1,192.70	1,150.02	42.67	27.951	
6,150.00	6,149.05	6,153.25	6,152.34	21.79	21.28	130.59	13.10	1,153.88	1,194.08	1,151.05	43.03	27.749	
6,200.00	6,199.03	6,204.58	6,203.66	21.96	21.46	130.64	13.06	1,154.20	1,195.39	1,152.00	43.39	27.551	
6,250.00	6,249.01	6,254.91	6,253.99	22.14	21.64	130.70	13.07	1,154.50	1,196.67	1,152.92	43.74	27.357	
6,300.00	6,298.98	6,304.78	6,303.86	22.32	21.81	130.75	13.07	1,154.78	1,197.94	1,153.84	44.10	27.167	
6,350.00	6,348.96	6,354.14	6,353.21	22.50	21.98	130.81	12.91	1,155.07	1,199.23	1,154.79	44.45	26.981	
6,400.00	6,398.94	6,404.00	6,403.07	22.68	22.16	130.88	12.60	1,155.38	1,200.55	1,155.75	44.80	26.798	
6,450.00	6,448.91	6,454.23	6,453.30	22.86	22.33	130.95	12.30	1,155.69	1,201.86	1,156.70	45.15	26.617	
6,500.00	6,498.89	6,505.52	6,504.59	23.04	22.51	131.02	12.05	1,155.97	1,203.14	1,157.63	45.51	26.436	
6,550.00	6,548.87	6,557.24	6,556.31	23.22	22.69	131.08	11.95	1,156.19	1,204.35	1,158.48	45.87	26.255	
6,600.00	6,598.85	6,608.55	6,607.63	23.40	22.87	131.14	11.93	1,156.35	1,205.50	1,159.27	46.23	26.077	
6,650.00	6,648.82	6,659.83	6,658.90	23.57	23.05	131.19	11.89	1,156.45	1,206.60	1,160.01	46.59	25.900	
6,700.00	6,698.80	6,708.05	6,707.12	23.75	23.22	131.25	11.76	1,156.55	1,207.71	1,160.78	46.93	25.732	
6,750.00	6,748.78	6,756.66	6,755.73	23.93	23.39	131.32	11.50	1,156.71	1,208.89	1,161.61	47.28	25.567	
6,800.00	6,798.75	6,806.21	6,805.28	24.11	23.56	131.38	11.19	1,156.91	1,210.10	1,162.47	47.63	25.404	
6,850.00	6,848.73	6,855.84	6,854.91	24.29	23.73	131.45	10.91	1,157.12	1,211.33	1,163.35	47.99	25.243	
6,900.00	6,898.71	6,905.73	6,904.80	24.47	23.91	131.51	10.77	1,157.35	1,212.57	1,164.23	48.34	25.085	
6,950.00	6,948.68	6,955.49	6,954.56	24.65	24.08	131.56	10.81	1,157.58	1,213.81	1,165.12	48.69	24.929	
7,000.00	6,998.66	7,005.05	7,004.11	24.83	24.25	131.61	10.83	1,157.84	1,215.07	1,166.03	49.04	24.775	
7,050.00	7,048.64	7,053.94	7,053.00	25.01	24.42	131.67	10.78	1,158.10	1,216.36	1,166.97	49.39	24.626	
7,100.00	7,098.62	7,102.14	7,101.20	25.19	24.59	131.73	10.55	1,158.42	1,217.71	1,167.97	49.74	24.482	
7,150.00	7,148.59	7,152.60	7,151.66	25.37	24.77	131.80	10.14	1,158.80	1,219.11	1,169.02	50.09	24.336	
7,200.00	7,198.57	7,204.89	7,203.95	25.54	24.95	131.87	9.87	1,159.11	1,220.43	1,169.98	50.46	24.188	
7,250.00	7,248.55	7,254.41	7,253.47	25.72	25.12	131.93	9.71	1,159.35	1,221.71	1,170.90	50.81	24.045	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,300.00	7,298.52	7,303.06	7,302.12	25.90	25.29	131.99	9.54	1,159.65	1,223.03	1,171.87	51.16	23.907	
7,350.00	7,348.50	7,350.41	7,349.47	26.08	25.46	132.05	9.23	1,159.99	1,224.43	1,172.93	51.50	23.775	
7,400.00	7,398.48	7,397.49	7,396.54	26.26	25.62	132.13	8.62	1,160.43	1,225.95	1,174.10	51.84	23.647	
7,450.00	7,448.45	7,446.62	7,445.66	26.44	25.80	132.22	7.72	1,160.95	1,227.55	1,175.36	52.19	23.519	
7,500.00	7,498.43	7,496.11	7,495.13	26.62	25.97	132.32	6.67	1,161.49	1,229.18	1,176.63	52.54	23.393	
7,550.00	7,548.41	7,549.09	7,548.10	26.80	26.15	132.42	5.54	1,162.01	1,230.75	1,177.84	52.91	23.261	
7,600.00	7,598.38	7,602.24	7,601.24	26.98	26.34	132.52	4.58	1,162.40	1,232.21	1,178.93	53.28	23.129	
7,650.00	7,648.36	7,650.89	7,649.88	27.16	26.51	132.61	3.67	1,162.74	1,233.64	1,180.02	53.62	23.005	
7,700.00	7,698.34	7,699.51	7,698.49	27.34	26.68	132.71	2.64	1,163.10	1,235.10	1,181.13	53.97	22.884	
7,750.00	7,748.32	7,746.35	7,745.31	27.52	26.84	132.81	1.53	1,163.52	1,236.67	1,182.36	54.31	22.769	
7,800.00	7,798.29	7,793.37	7,792.31	27.70	27.00	132.91	0.29	1,164.06	1,238.36	1,183.71	54.66	22.658	
7,850.00	7,848.27	7,840.85	7,839.77	27.87	27.17	133.02	-0.94	1,164.70	1,240.17	1,185.17	55.00	22.549	
7,900.00	7,898.25	7,891.04	7,889.94	28.05	27.35	133.12	-2.16	1,165.47	1,242.05	1,186.70	55.35	22.439	
7,950.00	7,948.22	7,946.75	7,945.63	28.23	27.54	133.23	-3.36	1,166.15	1,243.78	1,188.05	55.73	22.318	
8,000.00	7,998.20	7,998.05	7,996.92	28.41	27.72	133.33	-4.34	1,166.61	1,245.35	1,189.26	56.09	22.203	
8,050.00	8,048.18	8,046.97	8,045.83	28.59	27.89	133.42	-5.36	1,167.07	1,246.93	1,190.50	56.44	22.094	
8,100.00	8,098.15	8,095.64	8,094.48	28.77	28.06	133.52	-6.49	1,167.56	1,248.57	1,191.78	56.79	21.987	
8,150.00	8,148.13	8,144.21	8,143.03	28.95	28.23	133.63	-7.76	1,168.08	1,250.26	1,193.13	57.13	21.883	
8,200.00	8,198.11	8,195.00	8,193.81	29.13	28.41	133.74	-9.19	1,168.64	1,251.98	1,194.49	57.49	21.777	
8,250.00	8,248.09	8,246.34	8,245.12	29.31	28.59	133.86	-10.63	1,169.15	1,253.65	1,195.80	57.85	21.671	
8,300.00	8,298.06	8,301.23	8,299.99	29.49	28.78	133.98	-12.10	1,169.56	1,255.19	1,196.97	58.22	21.558	
8,350.00	8,348.04	8,355.87	8,354.61	29.67	28.97	134.09	-13.41	1,169.77	1,256.54	1,197.95	58.59	21.445	
8,400.00	8,398.02	8,409.67	8,408.40	29.85	29.16	134.20	-14.59	1,169.80	1,257.73	1,198.77	58.96	21.331	
8,450.00	8,447.99	8,459.01	8,457.73	30.03	29.33	134.29	-15.62	1,169.73	1,258.82	1,199.51	59.31	21.224	
8,500.00	8,497.97	8,504.56	8,503.27	30.21	29.49	134.38	-16.68	1,169.79	1,260.05	1,200.40	59.65	21.124	
8,550.00	8,547.95	8,554.67	8,553.36	30.39	29.66	134.49	-17.96	1,169.97	1,261.41	1,201.41	60.00	21.022	
8,600.00	8,597.92	8,609.62	8,608.29	30.57	29.85	134.60	-19.27	1,170.01	1,262.63	1,202.26	60.38	20.913	
8,650.00	8,647.90	8,664.11	8,662.77	30.74	30.04	134.71	-20.42	1,169.85	1,263.67	1,202.92	60.74	20.803	
8,700.00	8,697.88	8,718.48	8,717.14	30.92	30.23	134.81	-21.35	1,169.53	1,264.53	1,203.41	61.11	20.692	
8,750.00	8,747.86	8,766.16	8,764.80	31.10	30.40	134.89	-22.13	1,169.22	1,265.36	1,203.90	61.46	20.589	
8,800.00	8,797.83	8,814.26	8,812.89	31.28	30.57	134.98	-23.00	1,168.97	1,266.26	1,204.46	61.80	20.488	
8,850.00	8,847.81	8,862.78	8,861.41	31.46	30.74	135.06	-23.81	1,168.78	1,267.24	1,205.08	62.15	20.389	
8,900.00	8,897.79	8,910.65	8,909.27	31.64	30.90	135.14	-24.43	1,168.67	1,268.27	1,205.77	62.50	20.293	
8,950.00	8,947.76	8,955.53	8,954.16	31.82	31.06	135.20	-24.94	1,168.72	1,269.46	1,206.63	62.83	20.204	
9,000.00	8,997.74	9,001.45	9,000.07	32.00	31.22	135.27	-25.44	1,168.95	1,270.85	1,207.68	63.17	20.117	
9,050.00	9,047.72	9,056.97	9,055.58	32.18	31.41	135.35	-26.02	1,169.18	1,272.19	1,208.65	63.55	20.020	
9,100.00	9,097.69	9,114.11	9,112.73	32.36	31.61	135.43	-26.57	1,169.15	1,273.30	1,209.38	63.93	19.919	
9,150.00	9,147.67	9,173.61	9,172.22	32.54	31.82	135.50	-26.87	1,168.74	1,274.07	1,209.76	64.31	19.812	
9,200.00	9,197.65	9,225.83	9,224.44	32.72	32.00	135.56	-27.07	1,168.12	1,274.59	1,209.92	64.67	19.709	
9,250.00	9,247.62	9,276.62	9,275.21	32.90	32.18	135.64	-27.65	1,167.44	1,275.07	1,210.04	65.03	19.609	
9,300.00	9,297.60	9,337.75	9,336.33	33.08	32.39	135.74	-28.50	1,166.31	1,275.32	1,209.91	65.41	19.497	
9,350.00	9,347.58	9,396.58	9,395.13	33.26	32.59	135.83	-29.19	1,164.74	1,275.15	1,209.37	65.79	19.383	
9,400.00	9,397.56	9,452.67	9,451.19	33.44	32.79	135.93	-29.85	1,162.94	1,274.72	1,208.57	66.15	19.269	
9,450.00	9,447.53	9,510.50	9,508.98	33.62	32.99	136.03	-30.63	1,160.76	1,274.02	1,207.50	66.52	19.151	
9,500.00	9,497.51	9,564.87	9,563.29	33.80	33.18	136.13	-31.52	1,158.39	1,273.05	1,206.16	66.89	19.033	
9,550.00	9,547.49	9,614.81	9,613.17	33.98	33.35	136.23	-32.30	1,156.16	1,272.02	1,204.79	67.24	18.918	
9,600.00	9,597.46	9,661.44	9,659.75	34.16	33.51	136.32	-33.13	1,154.07	1,271.02	1,203.44	67.58	18.806	
9,650.00	9,647.44	9,700.00	9,698.18	34.34	33.65	136.48	-35.71	1,152.37	1,270.36	1,202.45	67.91	18.706	
9,693.52	9,690.94	9,732.93	9,730.80	34.49	33.76	136.71	-39.88	1,150.94	1,270.17	1,201.98	68.19	18.626	
9,700.00	9,697.42	9,737.79	9,735.60	34.52	33.78	136.75	-40.65	1,150.73	1,270.18	1,201.94	68.24	18.615	
9,750.00	9,747.39	9,774.78	9,771.86	34.69	33.91	137.11	-47.78	1,149.15	1,270.51	1,201.96	68.55	18.534	
9,800.00	9,797.37	9,810.64	9,806.52	34.87	34.04	137.56	-56.83	1,147.66	1,271.42	1,202.56	68.86	18.464	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
9,850.00	9,847.35	9,845.18	9,839.33	35.05	34.17	138.07	-67.50	1,146.26	1,272.98	1,203.83	69.16	18.407	
9,900.00	9,897.33	9,878.25	9,870.12	35.23	34.29	138.64	-79.49	1,144.97	1,275.26	1,205.82	69.44	18.365	
9,950.00	9,947.30	9,909.75	9,898.78	35.41	34.41	139.25	-92.48	1,143.77	1,278.35	1,208.64	69.71	18.339	
10,000.00	9,997.28	9,939.62	9,925.30	35.59	34.53	139.89	-106.19	1,142.68	1,282.31	1,212.36	69.95	18.332 SF	
10,050.00	10,047.26	9,967.85	9,949.70	35.77	34.65	140.54	-120.36	1,141.68	1,287.22	1,217.05	70.16	18.346	
10,100.00	10,097.23	10,000.00	9,976.63	35.95	34.78	141.34	-137.88	1,140.60	1,293.18	1,222.78	70.39	18.371	
10,150.00	10,147.21	10,019.48	9,992.47	36.13	34.87	141.85	-149.19	1,139.96	1,300.18	1,229.68	70.50	18.442	
10,200.00	10,197.19	10,050.00	10,016.53	36.31	35.01	142.69	-167.94	1,139.01	1,308.38	1,237.70	70.68	18.511	
10,250.00	10,247.16	10,065.00	10,027.99	36.49	35.08	143.12	-177.60	1,138.57	1,317.70	1,247.01	70.69	18.639	
10,300.00	10,297.14	10,085.64	10,043.36	36.67	35.19	143.73	-191.37	1,137.97	1,328.28	1,257.55	70.73	18.780	
10,350.00	10,347.12	10,100.00	10,053.77	36.85	35.26	144.17	-201.26	1,137.57	1,340.12	1,269.45	70.66	18.964	
10,400.00	10,397.10	10,123.09	10,069.99	37.03	35.39	144.88	-217.67	1,136.96	1,353.19	1,282.51	70.68	19.146	
10,450.00	10,447.07	10,140.05	10,081.50	37.21	35.48	145.42	-230.12	1,136.53	1,367.54	1,296.96	70.59	19.374	
10,500.00	10,497.05	10,150.00	10,088.08	37.39	35.54	145.75	-237.58	1,136.29	1,383.20	1,312.83	70.38	19.654	
10,550.00	10,547.03	10,170.89	10,101.50	37.57	35.67	146.43	-253.58	1,135.80	1,400.07	1,329.78	70.29	19.918	
10,600.00	10,597.00	10,184.91	10,110.18	37.75	35.76	146.90	-264.58	1,135.48	1,418.22	1,348.13	70.09	20.235	
10,650.00	10,646.98	10,200.00	10,119.24	37.93	35.85	147.41	-276.65	1,135.16	1,437.60	1,367.73	69.87	20.574	
10,700.00	10,696.96	10,200.00	10,119.24	38.11	35.85	147.41	-276.65	1,135.16	1,458.27	1,388.84	69.43	21.004	
10,750.00	10,746.93	10,222.15	10,131.97	38.29	36.01	148.17	-294.77	1,134.72	1,479.94	1,410.65	69.29	21.358	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	11.80	11.80	0.50	0.00	89.22	15.12	1,107.55	1,107.66				
50.00	50.00	61.80	61.80	0.50	0.00	89.22	15.12	1,107.55	1,107.66	1,107.15	0.50	2,205.925	
100.00	100.00	111.80	111.80	0.52	0.00	89.22	15.12	1,107.55	1,107.66	1,107.14	0.52	2,138.515	
150.00	150.00	161.80	161.80	0.59	0.00	89.22	15.12	1,107.55	1,107.66	1,107.07	0.59	1,875.980	
200.00	200.00	211.80	211.80	0.70	0.00	89.22	15.12	1,107.55	1,107.66	1,106.95	0.70	1,577.175	
250.00	250.00	261.80	261.80	0.84	0.00	89.22	15.12	1,107.55	1,107.66	1,106.82	0.84	1,321.920	
300.00	300.00	311.80	311.80	0.99	0.00	89.22	15.12	1,107.55	1,107.66	1,106.67	0.99	1,121.636	
350.00	350.00	361.80	361.80	1.15	0.00	89.22	15.12	1,107.55	1,107.66	1,106.51	1.15	966.802	
400.00	400.00	411.80	411.80	1.31	0.00	89.22	15.12	1,107.55	1,107.66	1,106.35	1.31	845.997	
450.00	450.00	461.80	461.80	1.48	0.00	89.22	15.12	1,107.55	1,107.66	1,106.18	1.48	750.177	
500.00	500.00	511.80	511.80	1.65	0.00	89.22	15.12	1,107.55	1,107.66	1,106.01	1.65	672.820	
550.00	550.00	561.80	561.80	1.82	0.00	89.22	15.12	1,107.55	1,107.66	1,105.84	1.82	609.315	
600.00	600.00	611.80	611.80	1.99	0.00	89.22	15.12	1,107.55	1,107.66	1,105.66	1.99	556.386	
650.00	650.00	661.80	661.80	2.16	0.00	89.22	15.12	1,107.55	1,107.66	1,105.49	2.16	511.676	
700.00	700.00	711.80	711.80	2.34	0.00	89.22	15.12	1,107.55	1,107.66	1,105.32	2.34	473.455	
750.00	750.00	761.80	761.80	2.51	0.00	89.22	15.12	1,107.55	1,107.66	1,105.14	2.51	440.437	
800.00	800.00	811.80	811.80	2.69	0.00	89.22	15.12	1,107.55	1,107.66	1,104.96	2.69	411.646	
850.00	850.00	861.80	861.80	2.87	0.00	89.22	15.12	1,107.55	1,107.66	1,104.79	2.87	386.333	
900.00	900.00	911.80	911.80	3.04	0.00	89.22	15.12	1,107.55	1,107.66	1,104.61	3.04	363.911	
950.00	950.00	961.80	961.80	3.22	0.00	89.22	15.12	1,107.55	1,107.66	1,104.43	3.22	343.919	
1,000.00	1,000.00	1,011.80	1,011.80	3.40	0.00	89.22	15.12	1,107.55	1,107.66	1,104.26	3.40	325.986	
1,050.00	1,050.00	1,061.80	1,061.80	3.58	0.00	89.22	15.12	1,107.55	1,107.66	1,104.08	3.58	309.813	
1,100.00	1,100.00	1,111.80	1,111.80	3.75	0.00	89.22	15.12	1,107.55	1,107.66	1,103.90	3.75	295.154	
1,150.00	1,150.00	1,161.80	1,161.80	3.93	0.00	89.22	15.12	1,107.55	1,107.66	1,103.72	3.93	281.809	
1,200.00	1,200.00	1,211.80	1,211.80	4.11	0.00	89.22	15.12	1,107.55	1,107.66	1,103.55	4.11	269.610	
1,250.00	1,250.00	1,261.80	1,261.80	4.29	0.00	89.22	15.12	1,107.55	1,107.66	1,103.37	4.29	258.417	
1,300.00	1,300.00	1,311.80	1,311.80	4.46	0.00	89.22	15.12	1,107.55	1,107.66	1,103.19	4.46	248.110	
1,350.00	1,350.00	1,361.80	1,361.80	4.64	0.00	89.22	15.12	1,107.55	1,107.66	1,103.01	4.64	238.589	
1,400.00	1,400.00	1,411.80	1,411.80	4.82	0.00	89.22	15.12	1,107.55	1,107.66	1,102.83	4.82	229.768	
1,450.00	1,450.00	1,461.80	1,461.80	5.00	0.00	89.22	15.12	1,107.55	1,107.66	1,102.66	5.00	221.573	
1,500.00	1,500.00	1,511.80	1,511.80	5.18	0.00	89.22	15.12	1,107.55	1,107.66	1,102.48	5.18	213.939	
1,550.00	1,550.00	1,561.80	1,561.80	5.36	0.00	89.22	15.12	1,107.55	1,107.66	1,102.30	5.36	206.812	
1,600.00	1,600.00	1,611.80	1,611.80	5.53	0.00	89.22	15.12	1,107.55	1,107.66	1,102.12	5.53	200.143	
1,650.00	1,650.00	1,661.80	1,661.80	5.71	0.00	89.22	15.12	1,107.55	1,107.66	1,101.94	5.71	193.888	
1,700.00	1,700.00	1,711.80	1,711.80	5.89	0.00	89.22	15.12	1,107.55	1,107.66	1,101.76	5.89	188.011	
1,750.00	1,750.00	1,761.80	1,761.80	6.07	0.00	89.22	15.12	1,107.55	1,107.66	1,101.59	6.07	182.479	
1,800.00	1,800.00	1,811.80	1,811.80	6.25	0.00	89.22	15.12	1,107.55	1,107.66	1,101.41	6.25	177.262	
1,850.00	1,850.00	1,861.80	1,861.80	6.43	0.00	89.22	15.12	1,107.55	1,107.66	1,101.23	6.43	172.335	
1,900.00	1,900.00	1,911.80	1,911.80	6.61	0.00	89.22	15.12	1,107.55	1,107.66	1,101.05	6.61	167.673	
1,950.00	1,950.00	1,961.80	1,961.80	6.78	0.00	89.22	15.12	1,107.55	1,107.66	1,100.87	6.78	163.255	
2,000.00	2,000.00	2,011.80	2,011.80	6.96	0.00	89.22	15.12	1,107.55	1,107.66	1,100.69	6.96	159.065	
2,050.00	2,050.00	2,061.80	2,061.80	7.14	0.00	89.22	15.12	1,107.55	1,107.66	1,100.51	7.14	155.083	
2,100.00	2,100.00	2,111.80	2,111.80	7.32	0.00	89.22	15.12	1,107.55	1,107.66	1,100.33	7.32	151.295	
2,150.00	2,150.00	2,161.80	2,161.80	7.50	0.00	89.22	15.12	1,107.55	1,107.66	1,100.16	7.50	147.688	
2,200.00	2,200.00	2,211.80	2,211.80	7.68	0.00	89.22	15.12	1,107.55	1,107.66	1,099.98	7.68	144.248	
2,250.00	2,250.00	2,261.80	2,261.80	7.86	0.00	89.22	15.12	1,107.55	1,107.66	1,099.80	7.86	140.965	
2,300.00	2,300.00	2,311.80	2,311.80	8.04	0.00	89.22	15.12	1,107.55	1,107.66	1,099.62	8.04	137.827	
2,350.00	2,350.00	2,361.80	2,361.80	8.22	0.00	89.22	15.12	1,107.55	1,107.66	1,099.44	8.22	134.826	
2,400.00	2,400.00	2,411.80	2,411.80	8.39	0.00	89.22	15.12	1,107.55	1,107.66	1,099.26	8.39	131.952	
2,450.00	2,450.00	2,461.80	2,461.80	8.57	0.00	89.22	15.12	1,107.55	1,107.66	1,099.08	8.57	129.198	
2,500.00	2,500.00	2,511.80	2,511.80	8.75	0.00	89.22	15.12	1,107.55	1,107.66	1,098.90	8.75	126.557	
2,550.00	2,550.00	2,561.80	2,561.80	8.93	0.00	89.22	15.12	1,107.55	1,107.66	1,098.72	8.93	124.021	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	2,600.00	2,611.80	2,611.80	9.11	0.00	89.22	15.12	1,107.55	1,107.66	1,098.55	9.11	121.585	
2,650.00	2,650.00	2,661.80	2,661.80	9.29	0.00	89.22	15.12	1,107.55	1,107.66	1,098.37	9.29	119.242	
2,700.00	2,700.00	2,711.80	2,711.80	9.47	0.00	89.22	15.12	1,107.55	1,107.66	1,098.19	9.47	116.988	
2,750.00	2,750.00	2,761.80	2,761.80	9.65	0.00	89.22	15.12	1,107.55	1,107.66	1,098.01	9.65	114.818	
2,800.00	2,800.00	2,811.80	2,811.80	9.83	0.00	89.22	15.12	1,107.55	1,107.66	1,097.83	9.83	112.726	
2,850.00	2,850.00	2,861.80	2,861.80	10.00	0.00	89.22	15.12	1,107.55	1,107.66	1,097.65	10.01	110.709	
2,900.00	2,900.00	2,911.80	2,911.80	10.18	0.00	89.22	15.12	1,107.55	1,107.66	1,097.47	10.18	108.763	
2,950.00	2,950.00	2,961.80	2,961.80	10.36	0.00	89.22	15.12	1,107.55	1,107.66	1,097.29	10.36	106.884	
3,000.00	3,000.00	3,011.80	3,011.80	10.54	0.00	89.22	15.12	1,107.55	1,107.66	1,097.11	10.54	105.069	
3,050.00	3,050.00	3,061.80	3,061.80	10.72	0.00	89.22	15.12	1,107.55	1,107.66	1,096.93	10.72	103.314	
3,100.00	3,100.00	3,111.80	3,111.80	10.90	0.00	89.22	15.12	1,107.55	1,107.66	1,096.76	10.90	101.617	
3,150.00	3,150.00	3,161.80	3,161.80	11.08	0.00	89.22	15.12	1,107.55	1,107.66	1,096.58	11.08	99.975	
3,200.00	3,200.00	3,211.80	3,211.80	11.26	0.00	89.22	15.12	1,107.55	1,107.66	1,096.40	11.26	98.385	
3,250.00	3,250.00	3,261.80	3,261.80	11.44	0.00	89.22	15.12	1,107.55	1,107.66	1,096.22	11.44	96.845	
3,300.00	3,300.00	3,311.80	3,311.80	11.62	0.00	89.22	15.12	1,107.55	1,107.66	1,096.04	11.62	95.352	
3,350.00	3,350.00	3,361.80	3,361.80	11.80	0.00	89.22	15.12	1,107.55	1,107.66	1,095.86	11.80	93.904	
3,400.00	3,400.00	3,411.80	3,411.80	11.97	0.00	89.22	15.12	1,107.55	1,107.66	1,095.68	11.97	92.500	
3,450.00	3,450.00	3,461.80	3,461.80	12.15	0.00	89.22	15.12	1,107.55	1,107.66	1,095.50	12.15	91.137	
3,500.00	3,500.00	3,511.80	3,511.80	12.33	0.00	89.22	15.12	1,107.55	1,107.66	1,095.32	12.33	89.814	
3,550.00	3,550.00	3,561.80	3,561.80	12.51	0.00	89.22	15.12	1,107.55	1,107.66	1,095.14	12.51	88.528	
3,600.00	3,600.00	3,611.80	3,611.80	12.69	0.00	89.22	15.12	1,107.55	1,107.66	1,094.96	12.69	87.279	
3,650.00	3,650.00	3,661.80	3,661.80	12.87	0.00	89.22	15.12	1,107.55	1,107.66	1,094.79	12.87	86.064	
3,700.00	3,700.00	3,711.80	3,711.80	13.05	0.00	89.22	15.12	1,107.55	1,107.66	1,094.61	13.05	84.883	
3,750.00	3,750.00	3,761.80	3,761.80	13.23	0.00	89.22	15.12	1,107.55	1,107.66	1,094.43	13.23	83.734	
3,800.00	3,800.00	3,811.80	3,811.80	13.41	0.00	89.22	15.12	1,107.55	1,107.66	1,094.25	13.41	82.615	
3,850.00	3,850.00	3,861.80	3,861.80	13.59	0.00	89.22	15.12	1,107.55	1,107.66	1,094.07	13.59	81.526	
3,900.00	3,900.00	3,911.80	3,911.80	13.77	0.00	89.22	15.12	1,107.55	1,107.66	1,093.89	13.77	80.465	
3,950.00	3,950.00	3,961.80	3,961.80	13.94	0.00	89.22	15.12	1,107.55	1,107.66	1,093.71	13.94	79.432	
4,000.00	4,000.00	4,011.80	4,011.80	14.12	0.00	89.22	15.12	1,107.55	1,107.66	1,093.53	14.12	78.424 CC	
4,050.00	4,050.00	4,061.80	4,061.80	14.30	0.00	128.10	15.12	1,107.55	1,107.82	1,093.52	14.30	77.460 ES	
4,100.00	4,099.99	4,111.79	4,111.79	14.48	0.00	128.13	15.12	1,107.55	1,108.33	1,093.85	14.48	76.543	
4,150.00	4,149.97	4,161.77	4,161.77	14.66	0.00	128.18	15.12	1,107.55	1,109.16	1,094.51	14.66	75.676	
4,200.00	4,199.95	4,211.75	4,211.75	14.83	0.00	128.24	15.12	1,107.55	1,110.10	1,095.27	14.83	74.837	
4,250.00	4,249.93	4,261.73	4,261.73	15.01	0.00	128.30	15.12	1,107.55	1,111.04	1,096.03	15.01	74.017	
4,300.00	4,299.90	4,311.70	4,311.70	15.19	0.00	128.37	15.12	1,107.55	1,111.98	1,096.80	15.19	73.217	
4,350.00	4,349.88	4,361.68	4,361.68	15.37	0.00	128.43	15.12	1,107.55	1,112.93	1,097.56	15.36	72.434	
4,400.00	4,399.86	4,411.66	4,411.66	15.54	0.00	128.49	15.12	1,107.55	1,113.87	1,098.33	15.54	71.670	
4,450.00	4,449.84	4,461.64	4,461.64	15.72	0.00	128.55	15.12	1,107.55	1,114.82	1,099.10	15.72	70.922	
4,500.00	4,499.81	4,511.61	4,511.61	15.90	0.00	128.61	15.12	1,107.55	1,115.76	1,099.87	15.90	70.191	
4,550.00	4,549.79	4,561.59	4,561.59	16.08	0.00	128.67	15.12	1,107.55	1,116.71	1,100.64	16.07	69.475	
4,600.00	4,599.77	4,611.57	4,611.57	16.26	0.00	128.73	15.12	1,107.55	1,117.66	1,101.41	16.25	68.776	
4,650.00	4,649.74	4,661.54	4,661.54	16.43	0.00	128.79	15.12	1,107.55	1,118.61	1,102.18	16.43	68.091	
4,700.00	4,699.72	4,711.52	4,711.52	16.61	0.00	128.85	15.12	1,107.55	1,119.56	1,102.96	16.61	67.421	
4,750.00	4,749.70	4,761.50	4,761.50	16.79	0.00	128.91	15.12	1,107.55	1,120.51	1,103.73	16.78	66.765	
4,800.00	4,799.67	4,811.47	4,811.47	16.97	0.00	128.97	15.12	1,107.55	1,121.47	1,104.51	16.96	66.122	
4,850.00	4,849.65	4,861.45	4,861.45	17.15	0.00	129.03	15.12	1,107.55	1,122.42	1,105.28	17.14	65.493	
4,900.00	4,899.63	4,911.43	4,911.43	17.32	0.00	129.09	15.12	1,107.55	1,123.38	1,106.06	17.32	64.876	
4,950.00	4,949.61	4,961.41	4,961.41	17.50	0.00	129.15	15.12	1,107.55	1,124.34	1,106.84	17.49	64.272	
5,000.00	4,999.58	5,011.38	5,011.38	17.68	0.00	129.21	15.12	1,107.55	1,125.30	1,107.62	17.67	63.680	
5,050.00	5,049.56	5,061.36	5,061.36	17.86	0.00	129.27	15.12	1,107.55	1,126.26	1,108.41	17.85	63.100	
5,100.00	5,099.54	5,111.34	5,111.34	18.04	0.00	129.33	15.12	1,107.55	1,127.22	1,109.19	18.03	62.531	
5,150.00	5,149.51	5,161.31	5,161.31	18.21	0.00	129.39	15.12	1,107.55	1,128.18	1,109.98	18.20	61.973	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	5,199.49	5,211.29	5,211.29	18.39	0.00	129.45	15.12	1,107.55	1,129.14	1,110.76	18.38	61.426	
5,250.00	5,249.47	5,261.27	5,261.27	18.57	0.00	129.51	15.12	1,107.55	1,130.11	1,111.55	18.56	60.889	
5,300.00	5,299.44	5,311.24	5,311.24	18.75	0.00	129.57	15.12	1,107.55	1,131.08	1,112.34	18.74	60.362	
5,350.00	5,349.42	5,361.22	5,361.22	18.93	0.00	129.63	15.12	1,107.55	1,132.04	1,113.13	18.92	59.846	
5,400.00	5,399.40	5,411.20	5,411.20	19.11	0.00	129.69	15.12	1,107.55	1,133.01	1,113.92	19.09	59.339	
5,450.00	5,449.38	5,461.18	5,461.18	19.28	0.00	129.75	15.12	1,107.55	1,133.98	1,114.71	19.27	58.841	
5,500.00	5,499.35	5,511.15	5,511.15	19.46	0.00	129.81	15.12	1,107.55	1,134.95	1,115.50	19.45	58.352	
5,550.00	5,549.33	5,561.13	5,561.13	19.64	0.00	129.87	15.12	1,107.55	1,135.92	1,116.30	19.63	57.872	
5,600.00	5,599.31	5,611.11	5,611.11	19.82	0.00	129.92	15.12	1,107.55	1,136.90	1,117.09	19.81	57.401	
5,650.00	5,649.28	5,661.08	5,661.08	20.00	0.00	129.98	15.12	1,107.55	1,137.87	1,117.89	19.98	56.938	
5,700.00	5,699.26	5,711.06	5,711.06	20.18	0.00	130.04	15.12	1,107.55	1,138.85	1,118.69	20.16	56.484	
5,750.00	5,749.24	5,761.04	5,761.04	20.36	0.00	130.10	15.12	1,107.55	1,139.83	1,119.48	20.34	56.037	
5,800.00	5,799.21	5,811.01	5,811.01	20.53	0.00	130.16	15.12	1,107.55	1,140.80	1,120.28	20.52	55.598	
5,850.00	5,849.19	5,860.99	5,860.99	20.71	0.00	130.22	15.12	1,107.55	1,141.78	1,121.09	20.70	55.166	
5,900.00	5,899.17	5,910.97	5,910.97	20.89	0.00	130.27	15.12	1,107.55	1,142.76	1,121.89	20.88	54.742	
5,950.00	5,949.14	5,960.94	5,960.94	21.07	0.00	130.33	15.12	1,107.55	1,143.75	1,122.69	21.05	54.325	
6,000.00	5,999.12	6,010.92	6,010.92	21.25	0.00	130.39	15.12	1,107.55	1,144.73	1,123.50	21.23	53.916	
6,050.00	6,049.10	6,060.90	6,060.90	21.43	0.00	130.45	15.12	1,107.55	1,145.71	1,124.30	21.41	53.512	
6,100.00	6,099.08	6,110.88	6,110.88	21.61	0.00	130.51	15.12	1,107.55	1,146.70	1,125.11	21.59	53.116	
6,150.00	6,149.05	6,160.85	6,160.85	21.79	0.00	130.56	15.12	1,107.55	1,147.68	1,125.92	21.77	52.726	
6,200.00	6,199.03	6,210.83	6,210.83	21.96	0.00	130.62	15.12	1,107.55	1,148.67	1,126.73	21.95	52.343	
6,250.00	6,249.01	6,260.81	6,260.81	22.14	0.00	130.68	15.12	1,107.55	1,149.66	1,127.54	22.12	51.965	
6,300.00	6,298.98	6,310.78	6,310.78	22.32	0.00	130.74	15.12	1,107.55	1,150.65	1,128.35	22.30	51.594	
6,350.00	6,348.96	6,360.76	6,360.76	22.50	0.00	130.79	15.12	1,107.55	1,151.64	1,129.16	22.48	51.228	
6,400.00	6,398.94	6,410.74	6,410.74	22.68	0.00	130.85	15.12	1,107.55	1,152.63	1,129.97	22.66	50.869	
6,450.00	6,448.91	6,460.71	6,460.71	22.86	0.00	130.91	15.12	1,107.55	1,153.63	1,130.79	22.84	50.515	
6,500.00	6,498.89	6,510.69	6,510.69	23.04	0.00	130.96	15.12	1,107.55	1,154.62	1,131.60	23.02	50.166	
6,550.00	6,548.87	6,560.67	6,560.67	23.22	0.00	131.02	15.12	1,107.55	1,155.62	1,132.42	23.19	49.823	
6,600.00	6,598.85	6,610.65	6,610.65	23.40	0.00	131.08	15.12	1,107.55	1,156.61	1,133.24	23.37	49.485	
6,650.00	6,648.82	6,660.62	6,660.62	23.57	0.00	131.13	15.12	1,107.55	1,157.61	1,134.06	23.55	49.152	
6,700.00	6,698.80	6,710.60	6,710.60	23.75	0.00	131.19	15.12	1,107.55	1,158.61	1,134.88	23.73	48.825	
6,750.00	6,748.78	6,760.58	6,760.58	23.93	0.00	131.25	15.12	1,107.55	1,159.61	1,135.70	23.91	48.502	
6,800.00	6,798.75	6,810.55	6,810.55	24.11	0.00	131.30	15.12	1,107.55	1,160.61	1,136.52	24.09	48.184	
6,850.00	6,848.73	6,860.53	6,860.53	24.29	0.00	131.36	15.12	1,107.55	1,161.61	1,137.35	24.27	47.870	
6,900.00	6,898.71	6,910.51	6,910.51	24.47	0.00	131.42	15.12	1,107.55	1,162.62	1,138.17	24.44	47.562	
6,950.00	6,948.68	6,960.48	6,960.48	24.65	0.00	131.47	15.12	1,107.55	1,163.62	1,139.00	24.62	47.257	
7,000.00	6,998.66	7,010.46	7,010.46	24.83	0.00	131.53	15.12	1,107.55	1,164.63	1,139.83	24.80	46.958	
7,050.00	7,048.64	7,060.44	7,060.44	25.01	0.00	131.58	15.12	1,107.55	1,165.63	1,140.65	24.98	46.662	
7,100.00	7,098.62	7,110.42	7,110.42	25.19	0.00	131.64	15.12	1,107.55	1,166.64	1,141.48	25.16	46.371	
7,150.00	7,148.59	7,160.39	7,160.39	25.37	0.00	131.69	15.12	1,107.55	1,167.65	1,142.31	25.34	46.083	
7,200.00	7,198.57	7,210.37	7,210.37	25.54	0.00	131.75	15.12	1,107.55	1,168.66	1,143.14	25.52	45.800	
7,250.00	7,248.55	7,260.35	7,260.35	25.72	0.00	131.81	15.12	1,107.55	1,169.67	1,143.98	25.70	45.521	
7,300.00	7,298.52	7,310.32	7,310.32	25.90	0.00	131.86	15.12	1,107.55	1,170.68	1,144.81	25.87	45.246	
7,350.00	7,348.50	7,360.30	7,360.30	26.08	0.00	131.92	15.12	1,107.55	1,171.70	1,145.65	26.05	44.974	
7,400.00	7,398.48	7,410.28	7,410.28	26.26	0.00	131.97	15.12	1,107.55	1,172.71	1,146.48	26.23	44.707	
7,450.00	7,448.45	7,460.25	7,460.25	26.44	0.00	132.03	15.12	1,107.55	1,173.73	1,147.32	26.41	44.442	
7,500.00	7,498.43	7,510.23	7,510.23	26.62	0.00	132.08	15.12	1,107.55	1,174.74	1,148.16	26.59	44.182	
7,550.00	7,548.41	7,560.21	7,560.21	26.80	0.00	132.14	15.12	1,107.55	1,175.76	1,148.99	26.77	43.925	
7,600.00	7,598.38	7,610.18	7,610.18	26.98	0.00	132.19	15.12	1,107.55	1,176.78	1,149.83	26.95	43.671	
7,650.00	7,648.36	7,660.16	7,660.16	27.16	0.00	132.25	15.12	1,107.55	1,177.80	1,150.68	27.13	43.421	
7,700.00	7,698.34	7,710.14	7,710.14	27.34	0.00	132.30	15.12	1,107.55	1,178.82	1,151.52	27.30	43.174	
7,750.00	7,748.32	7,760.12	7,760.12	27.52	0.00	132.35	15.12	1,107.55	1,179.84	1,152.36	27.48	42.930	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	7,798.29	7,810.09	7,810.09	27.70	0.00	132.41	15.12	1,107.55	1,180.87	1,153.20	27.66	42.690	
7,850.00	7,848.27	7,860.07	7,860.07	27.87	0.00	132.46	15.12	1,107.55	1,181.89	1,154.05	27.84	42.452	
7,900.00	7,898.25	7,910.05	7,910.05	28.05	0.00	132.52	15.12	1,107.55	1,182.92	1,154.90	28.02	42.218	
7,950.00	7,948.22	7,960.02	7,960.02	28.23	0.00	132.57	15.12	1,107.55	1,183.94	1,155.74	28.20	41.986	
8,000.00	7,998.20	8,010.00	8,010.00	28.41	0.00	132.63	15.12	1,107.55	1,184.97	1,156.59	28.38	41.758	
8,050.00	8,048.18	8,059.98	8,059.98	28.59	0.00	132.68	15.12	1,107.55	1,186.00	1,157.44	28.56	41.532	
8,100.00	8,098.15	8,109.95	8,109.95	28.77	0.00	132.73	15.12	1,107.55	1,187.03	1,158.29	28.73	41.310	
8,150.00	8,148.13	8,159.93	8,159.93	28.95	0.00	132.79	15.12	1,107.55	1,188.06	1,159.14	28.91	41.090	
8,200.00	8,198.11	8,209.91	8,209.91	29.13	0.00	132.84	15.12	1,107.55	1,189.09	1,160.00	29.09	40.872	
8,250.00	8,248.09	8,259.89	8,259.89	29.31	0.00	132.89	15.12	1,107.55	1,190.12	1,160.85	29.27	40.658	
8,300.00	8,298.06	8,309.86	8,309.86	29.49	0.00	132.95	15.12	1,107.55	1,191.16	1,161.70	29.45	40.446	
8,350.00	8,348.04	8,359.84	8,359.84	29.67	0.00	133.00	15.12	1,107.55	1,192.19	1,162.56	29.63	40.237	
8,400.00	8,398.02	8,409.82	8,409.82	29.85	0.00	133.05	15.12	1,107.55	1,193.23	1,163.42	29.81	40.030	
8,450.00	8,447.99	8,459.79	8,459.79	30.03	0.00	133.11	15.12	1,107.55	1,194.26	1,164.27	29.99	39.826	
8,500.00	8,497.97	8,509.77	8,509.77	30.21	0.00	133.16	15.12	1,107.55	1,195.30	1,165.13	30.17	39.624	
8,550.00	8,547.95	8,559.75	8,559.75	30.39	0.00	133.21	15.12	1,107.55	1,196.34	1,165.99	30.35	39.424	
8,600.00	8,597.92	8,609.72	8,609.72	30.57	0.00	133.27	15.12	1,107.55	1,197.38	1,166.85	30.52	39.227	
8,650.00	8,647.90	8,659.70	8,659.70	30.74	0.00	133.32	15.12	1,107.55	1,198.42	1,167.72	30.70	39.032	
8,700.00	8,697.88	8,709.68	8,709.68	30.92	0.00	133.37	15.12	1,107.55	1,199.46	1,168.58	30.88	38.840	
8,750.00	8,747.86	8,759.66	8,759.66	31.10	0.00	133.42	15.12	1,107.55	1,200.50	1,169.44	31.06	38.650	
8,800.00	8,797.83	8,809.63	8,809.63	31.28	0.00	133.48	15.12	1,107.55	1,201.55	1,170.31	31.24	38.462	
8,850.00	8,847.81	8,859.61	8,859.61	31.46	0.00	133.53	15.12	1,107.55	1,202.59	1,171.17	31.42	38.276	
8,900.00	8,897.79	8,909.59	8,909.59	31.64	0.00	133.58	15.12	1,107.55	1,203.64	1,172.04	31.60	38.092	
8,950.00	8,947.76	8,959.56	8,959.56	31.82	0.00	133.63	15.12	1,107.55	1,204.68	1,172.91	31.78	37.911	
9,000.00	8,997.74	9,009.54	9,009.54	32.00	0.00	133.69	15.12	1,107.55	1,205.73	1,173.78	31.96	37.731	
9,050.00	9,047.72	9,059.52	9,059.52	32.18	0.00	133.74	15.12	1,107.55	1,206.78	1,174.65	32.14	37.553	
9,100.00	9,097.69	9,109.49	9,109.49	32.36	0.00	133.79	15.12	1,107.55	1,207.83	1,175.52	32.31	37.378	
9,150.00	9,147.67	9,159.47	9,159.47	32.54	0.00	133.84	15.12	1,107.55	1,208.88	1,176.39	32.49	37.204	
9,200.00	9,197.65	9,209.45	9,209.45	32.72	0.00	133.89	15.12	1,107.55	1,209.93	1,177.26	32.67	37.033	
9,250.00	9,247.62	9,259.42	9,259.42	32.90	0.00	133.95	15.12	1,107.55	1,210.99	1,178.13	32.85	36.863	
9,300.00	9,297.60	9,309.40	9,309.40	33.08	0.00	134.00	15.12	1,107.55	1,212.04	1,179.01	33.03	36.695	
9,350.00	9,347.58	9,359.38	9,359.38	33.26	0.00	134.05	15.12	1,107.55	1,213.09	1,179.89	33.21	36.529	
9,400.00	9,397.56	9,409.36	9,409.36	33.44	0.00	134.10	15.12	1,107.55	1,214.15	1,180.76	33.39	36.364	
9,450.00	9,447.53	9,459.33	9,459.33	33.62	0.00	134.15	15.12	1,107.55	1,215.21	1,181.64	33.57	36.202	
9,500.00	9,497.51	9,509.31	9,509.31	33.80	0.00	134.20	15.12	1,107.55	1,216.26	1,182.52	33.75	36.041	
9,550.00	9,547.49	9,559.29	9,559.29	33.98	0.00	134.25	15.12	1,107.55	1,217.32	1,183.40	33.93	35.882	
9,600.00	9,597.46	9,609.26	9,609.26	34.16	0.00	134.31	15.12	1,107.55	1,218.38	1,184.28	34.10	35.725	
9,650.00	9,647.44	9,659.24	9,659.24	34.34	0.00	134.36	15.12	1,107.55	1,219.44	1,185.16	34.28	35.569	
9,700.00	9,697.42	9,700.00	9,699.97	34.52	0.00	134.46	13.80	1,107.57	1,220.68	1,186.22	34.46	35.423	
9,750.00	9,747.39	9,740.22	9,739.97	34.69	0.00	134.69	9.66	1,107.61	1,222.32	1,187.69	34.63	35.292	
9,800.00	9,797.37	9,779.39	9,778.55	34.87	0.00	135.05	2.94	1,107.69	1,224.41	1,189.60	34.81	35.178	
9,850.00	9,847.35	9,817.34	9,815.41	35.05	0.00	135.50	-6.07	1,107.79	1,227.00	1,192.02	34.97	35.084	
9,900.00	9,897.33	9,853.82	9,850.21	35.23	0.00	136.04	-17.01	1,107.91	1,230.16	1,195.03	35.14	35.012	
9,950.00	9,947.30	9,888.63	9,882.69	35.41	0.00	136.65	-29.49	1,108.05	1,234.00	1,198.71	35.29	34.967	
10,000.00	9,997.28	9,921.65	9,912.75	35.59	0.00	137.31	-43.13	1,108.21	1,238.59	1,203.15	35.44	34.953 SF	
10,050.00	10,047.26	9,950.00	9,937.91	35.77	0.00	137.93	-56.21	1,108.36	1,244.03	1,208.47	35.56	34.980	
10,100.00	10,097.23	9,982.08	9,965.54	35.95	0.00	138.70	-72.49	1,108.54	1,250.40	1,214.71	35.69	35.035	
10,150.00	10,147.21	10,009.51	9,988.42	36.13	0.00	139.40	-87.61	1,108.71	1,257.79	1,222.00	35.79	35.140	
10,200.00	10,197.19	10,035.14	10,009.12	36.31	0.00	140.10	-102.72	1,108.88	1,266.27	1,230.39	35.88	35.291	
10,250.00	10,247.16	10,059.05	10,027.80	36.49	0.00	140.79	-117.64	1,109.05	1,275.89	1,239.95	35.95	35.493	
10,300.00	10,297.14	10,081.34	10,044.64	36.67	0.00	141.46	-132.24	1,109.21	1,286.71	1,250.72	36.00	35.747	
10,350.00	10,347.12	10,100.00	10,058.30	36.85	0.00	142.03	-144.95	1,109.35	1,298.77	1,262.76	36.01	36.063	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
10,400.00	10,397.10	10,121.43	10,073.46	37.03	0.00	142.72	-160.10	1,109.52	1,312.08	1,276.05	36.03	36.419	
10,450.00	10,447.07	10,139.45	10,085.76	37.21	0.00	143.30	-173.26	1,109.67	1,326.67	1,290.65	36.01	36.839	
10,500.00	10,497.05	10,150.00	10,092.77	37.39	0.00	143.65	-181.15	1,109.76	1,342.56	1,306.61	35.95	37.343	
10,550.00	10,547.03	10,171.90	10,106.85	37.57	0.00	144.39	-197.92	1,109.95	1,359.68	1,323.76	35.93	37.848	
10,600.00	10,597.00	10,186.52	10,115.89	37.75	0.00	144.90	-209.41	1,110.08	1,378.09	1,342.24	35.85	38.435	
10,650.00	10,646.98	10,200.00	10,123.96	37.93	0.00	145.37	-220.21	1,110.20	1,397.75	1,361.99	35.77	39.078	
10,700.00	10,696.96	10,212.98	10,131.49	38.11	0.00	145.83	-230.77	1,110.32	1,418.64	1,382.97	35.67	39.773	
10,750.00	10,746.93	10,224.95	10,138.22	38.29	0.00	146.25	-240.68	1,110.43	1,440.72	1,405.17	35.56	40.519	
10,800.00	10,796.91	10,236.19	10,144.35	38.47	0.00	146.72	-250.10	1,110.54	1,463.94	1,428.51	35.43	41.314	
10,850.00	10,846.90	10,250.00	10,151.62	38.65	0.00	147.44	-261.83	1,110.67	1,487.94	1,452.62	35.32	42.130	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	11.93	11.93	0.50	0.02	89.22	15.13	1,107.55	1,107.65				
50.00	50.00	62.49	62.49	0.50	0.08	89.21	15.29	1,107.53	1,107.64	1,107.05	0.59	1,891.411	
100.00	100.00	113.16	113.16	0.52	0.18	89.19	15.68	1,107.48	1,107.59	1,106.90	0.69	1,598.302	
150.00	150.00	164.26	164.25	0.59	0.35	89.17	16.07	1,107.39	1,107.51	1,106.56	0.94	1,172.740	
200.00	200.00	214.77	214.77	0.70	0.53	89.15	16.37	1,107.25	1,107.38	1,106.14	1.23	898.219	
250.00	250.00	264.35	264.35	0.84	0.70	89.14	16.64	1,107.12	1,107.25	1,105.71	1.54	718.337	
300.00	300.00	312.73	312.72	0.99	0.87	89.13	16.89	1,107.03	1,107.16	1,105.30	1.86	595.356	
316.13	316.13	327.94	327.93	1.04	0.93	89.12	16.95	1,107.02	1,107.15	1,105.19	1.96	564.034	
350.00	350.00	359.87	359.87	1.15	1.04	89.12	17.06	1,107.05	1,107.18	1,105.00	2.18	507.406	
400.00	400.00	409.92	409.91	1.31	1.21	89.11	17.21	1,107.17	1,107.30	1,104.78	2.52	439.380	
450.00	450.00	462.75	462.74	1.48	1.40	89.09	17.58	1,107.18	1,107.32	1,104.45	2.87	385.586	
500.00	500.00	513.53	513.52	1.65	1.58	89.06	18.11	1,107.10	1,107.25	1,104.03	3.22	343.959	
550.00	550.00	563.58	563.57	1.82	1.75	89.04	18.61	1,107.01	1,107.17	1,103.61	3.57	310.492	
588.35	588.35	600.17	600.15	1.95	1.88	89.02	18.98	1,106.97	1,107.14	1,103.31	3.83	289.341	
600.00	600.00	611.16	611.15	1.99	1.92	89.01	19.09	1,106.97	1,107.14	1,103.23	3.91	283.500	
650.00	650.00	658.36	658.34	2.16	2.08	88.98	19.65	1,107.05	1,107.23	1,102.99	4.24	260.873	
700.00	700.00	709.03	709.01	2.34	2.26	88.95	20.24	1,107.19	1,107.38	1,102.79	4.60	240.937	
750.00	750.00	760.22	760.19	2.51	2.44	88.93	20.68	1,107.29	1,107.48	1,102.53	4.95	223.717	
800.00	800.00	812.31	812.28	2.69	2.62	88.91	21.12	1,107.31	1,107.51	1,102.20	5.31	208.642	
850.00	850.00	863.91	863.88	2.87	2.80	88.88	21.70	1,107.23	1,107.44	1,101.78	5.66	195.497	
900.00	900.00	914.09	914.06	3.04	2.98	88.85	22.28	1,107.12	1,107.34	1,101.33	6.02	184.042	
950.00	950.00	963.12	963.08	3.22	3.15	88.82	22.80	1,107.01	1,107.25	1,100.88	6.36	173.959	
973.00	973.00	984.84	984.80	3.30	3.23	88.81	23.00	1,107.00	1,107.23	1,100.71	6.52	169.762	
1,000.00	1,000.00	1,010.33	1,010.29	3.40	3.32	88.80	23.21	1,107.01	1,107.25	1,100.55	6.71	165.090	
1,050.00	1,050.00	1,060.00	1,059.96	3.58	3.49	88.78	23.53	1,107.11	1,107.36	1,100.30	7.06	156.902	
1,100.00	1,100.00	1,113.25	1,113.21	3.75	3.68	88.76	23.94	1,107.11	1,107.37	1,099.95	7.42	149.220	
1,150.00	1,150.00	1,162.08	1,162.03	3.93	3.85	88.74	24.36	1,107.03	1,107.30	1,099.53	7.77	142.526	
1,153.27	1,153.27	1,165.11	1,165.07	3.94	3.86	88.74	24.38	1,107.03	1,107.30	1,099.51	7.79	142.119	
1,200.00	1,200.00	1,208.51	1,208.47	4.11	4.01	88.73	24.63	1,107.09	1,107.37	1,099.26	8.11	136.561	
1,250.00	1,250.00	1,257.44	1,257.40	4.29	4.18	88.72	24.77	1,107.28	1,107.56	1,099.11	8.46	130.955	
1,300.00	1,300.00	1,307.83	1,307.78	4.46	4.36	88.71	24.86	1,107.47	1,107.75	1,098.94	8.81	125.717	
1,350.00	1,350.00	1,360.39	1,360.34	4.64	4.54	88.71	24.94	1,107.61	1,107.89	1,098.72	9.17	120.776	
1,400.00	1,400.00	1,413.58	1,413.53	4.82	4.73	88.70	25.14	1,107.60	1,107.88	1,098.35	9.54	116.168	
1,450.00	1,450.00	1,464.32	1,464.27	5.00	4.91	88.68	25.45	1,107.49	1,107.79	1,097.90	9.89	111.986	
1,500.00	1,500.00	1,515.09	1,515.04	5.18	5.08	88.66	25.93	1,107.35	1,107.66	1,097.41	10.25	108.088	
1,550.00	1,550.00	1,564.08	1,564.03	5.36	5.26	88.64	26.32	1,107.23	1,107.54	1,096.95	10.60	104.514	
1,600.00	1,600.00	1,613.52	1,613.46	5.53	5.43	88.63	26.56	1,107.14	1,107.46	1,096.51	10.95	101.155	
1,650.00	1,650.00	1,663.46	1,663.41	5.71	5.60	88.62	26.75	1,107.06	1,107.38	1,096.08	11.30	97.991	
1,700.00	1,700.00	1,712.36	1,712.31	5.89	5.78	88.61	26.90	1,107.00	1,107.32	1,095.67	11.65	95.049	
1,709.47	1,709.47	1,721.32	1,721.27	5.93	5.81	88.61	26.92	1,106.99	1,107.32	1,095.60	11.72	94.521	
1,750.00	1,750.00	1,759.67	1,759.62	6.07	5.94	88.61	26.94	1,107.03	1,107.36	1,095.37	11.99	92.329	
1,800.00	1,800.00	1,808.05	1,807.99	6.25	6.11	88.61	26.88	1,107.18	1,107.51	1,095.17	12.34	89.742	
1,850.00	1,850.00	1,857.91	1,857.86	6.43	6.28	88.61	26.78	1,107.35	1,107.68	1,094.99	12.69	87.262	
1,900.00	1,900.00	1,908.03	1,907.98	6.61	6.46	88.62	26.69	1,107.53	1,107.86	1,094.81	13.05	84.910	
1,950.00	1,950.00	1,958.39	1,958.33	6.78	6.63	88.62	26.59	1,107.70	1,108.03	1,094.62	13.40	82.676	
2,000.00	2,000.00	2,012.57	2,012.52	6.96	6.82	88.63	26.52	1,107.80	1,108.12	1,094.35	13.77	80.473	
2,050.00	2,050.00	2,068.57	2,068.52	7.14	7.01	88.63	26.53	1,107.61	1,107.95	1,093.80	14.14	78.334	
2,100.00	2,100.00	2,117.23	2,117.17	7.32	7.18	88.63	26.58	1,107.34	1,107.68	1,093.18	14.49	76.431	
2,150.00	2,150.00	2,166.15	2,166.10	7.50	7.35	88.62	26.63	1,107.13	1,107.46	1,092.62	14.84	74.618	
2,200.00	2,200.00	2,217.34	2,217.28	7.68	7.53	88.62	26.67	1,106.91	1,107.24	1,092.04	15.20	72.849	
2,250.00	2,250.00	2,267.18	2,267.13	7.86	7.71	88.62	26.65	1,106.64	1,106.98	1,091.42	15.55	71.179	
2,300.00	2,300.00	2,313.15	2,313.09	8.04	7.87	88.62	26.62	1,106.51	1,106.83	1,090.93	15.89	69.650	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
2,316.04	2,316.04	2,327.89	2,327.84	8.09	7.92	88.62	26.61	1,106.50	1,106.82	1,090.82	16.00	69.175	
2,350.00	2,350.00	2,360.90	2,360.84	8.22	8.03	88.62	26.58	1,106.53	1,106.85	1,090.61	16.24	68.169	
2,400.00	2,400.00	2,414.98	2,414.92	8.39	8.22	88.63	26.55	1,106.48	1,106.80	1,090.20	16.60	66.657	
2,450.00	2,450.00	2,467.11	2,467.06	8.57	8.40	88.63	26.53	1,106.26	1,106.59	1,089.62	16.97	65.227	
2,500.00	2,500.00	2,517.21	2,517.15	8.75	8.58	88.63	26.51	1,106.02	1,106.35	1,089.03	17.32	63.881	
2,550.00	2,550.00	2,564.70	2,564.64	8.93	8.74	88.63	26.47	1,105.82	1,106.14	1,088.48	17.66	62.622	
2,584.59	2,584.59	2,596.45	2,596.39	9.05	8.85	88.63	26.44	1,105.78	1,106.10	1,088.20	17.90	61.799	
2,600.00	2,600.00	2,610.59	2,610.54	9.11	8.90	88.63	26.42	1,105.79	1,106.11	1,088.10	18.00	61.441	
2,650.00	2,650.00	2,658.58	2,658.52	9.29	9.07	88.64	26.35	1,105.91	1,106.23	1,087.88	18.35	60.288	
2,700.00	2,700.00	2,708.07	2,708.01	9.47	9.24	88.64	26.27	1,106.07	1,106.39	1,087.69	18.70	59.162	
2,750.00	2,750.00	2,760.22	2,760.16	9.65	9.42	88.64	26.19	1,106.22	1,106.53	1,087.47	19.06	58.049	
2,800.00	2,800.00	2,813.58	2,813.52	9.83	9.61	88.64	26.19	1,106.22	1,106.53	1,087.10	19.43	56.958	
2,850.00	2,850.00	2,863.69	2,863.63	10.00	9.78	88.64	26.23	1,106.13	1,106.44	1,086.66	19.78	55.935	
2,900.00	2,900.00	2,913.60	2,913.54	10.18	9.96	88.64	26.28	1,106.05	1,106.36	1,086.23	20.13	54.949	
2,950.00	2,950.00	2,964.17	2,964.11	10.36	10.13	88.63	26.35	1,105.96	1,106.27	1,085.78	20.49	53.991	
3,000.00	3,000.00	3,013.92	3,013.86	10.54	10.31	88.63	26.45	1,105.84	1,106.16	1,085.32	20.84	53.072	
3,030.02	3,030.02	3,041.88	3,041.82	10.65	10.41	88.63	26.51	1,105.81	1,106.13	1,085.08	21.05	52.554	
3,050.00	3,050.00	3,060.49	3,060.43	10.72	10.47	88.63	26.54	1,105.82	1,106.14	1,084.96	21.18	52.216	
3,100.00	3,100.00	3,107.77	3,107.71	10.90	10.64	88.62	26.62	1,105.95	1,106.28	1,084.75	21.53	51.388	
3,150.00	3,150.00	3,158.00	3,157.94	11.08	10.81	88.62	26.69	1,106.13	1,106.46	1,084.58	21.88	50.564	
3,200.00	3,200.00	3,210.24	3,210.18	11.26	10.99	88.61	26.75	1,106.29	1,106.61	1,084.37	22.24	49.749	
3,250.00	3,250.00	3,266.54	3,266.48	11.44	11.19	88.61	26.89	1,106.21	1,106.54	1,083.93	22.62	48.921	
3,300.00	3,300.00	3,318.78	3,318.71	11.62	11.37	88.60	27.10	1,105.90	1,106.25	1,083.27	22.98	48.139	
3,350.00	3,350.00	3,368.99	3,368.92	11.80	11.55	88.58	27.38	1,105.57	1,105.93	1,082.60	23.33	47.394	
3,400.00	3,400.00	3,416.06	3,416.00	11.97	11.71	88.57	27.67	1,105.31	1,105.67	1,081.99	23.68	46.695	
3,450.00	3,450.00	3,462.37	3,462.31	12.15	11.88	88.55	27.93	1,105.21	1,105.56	1,081.54	24.02	46.028	
3,456.85	3,456.85	3,468.71	3,468.65	12.18	11.90	88.55	27.96	1,105.20	1,105.56	1,081.49	24.07	45.939	
3,500.00	3,500.00	3,512.19	3,512.12	12.33	12.05	88.54	28.17	1,105.20	1,105.56	1,081.19	24.37	45.361	
3,550.00	3,550.00	3,562.98	3,562.92	12.51	12.23	88.53	28.37	1,105.16	1,105.52	1,080.80	24.73	44.706	
3,600.00	3,600.00	3,617.03	3,616.97	12.69	12.42	88.52	28.61	1,105.00	1,105.39	1,080.29	25.10	44.046	
3,650.00	3,650.00	3,671.29	3,671.22	12.87	12.61	88.50	28.93	1,104.64	1,105.06	1,079.59	25.46	43.396	
3,700.00	3,700.00	3,719.51	3,719.44	13.05	12.78	88.48	29.28	1,104.29	1,104.70	1,078.89	25.81	42.798	
3,750.00	3,750.00	3,768.66	3,768.59	13.23	12.95	88.46	29.70	1,103.95	1,104.37	1,078.21	26.16	42.211	
3,800.00	3,800.00	3,817.54	3,817.46	13.41	13.12	88.43	30.21	1,103.66	1,104.09	1,077.58	26.51	41.644	
3,850.00	3,850.00	3,865.05	3,864.97	13.59	13.29	88.40	30.80	1,103.44	1,103.87	1,077.01	26.86	41.100	
3,884.88	3,884.88	3,896.77	3,896.68	13.71	13.40	88.38	31.21	1,103.38	1,103.82	1,076.73	27.09	40.741 CC	
3,900.00	3,900.00	3,910.52	3,910.43	13.77	13.45	88.37	31.39	1,103.38	1,103.83	1,076.64	27.20	40.588	
3,950.00	3,950.00	3,956.12	3,956.03	13.94	13.60	88.34	31.98	1,103.52	1,104.00	1,076.46	27.53	40.096 ES	
4,000.00	4,000.00	4,002.00	4,001.90	14.12	13.77	88.32	32.42	1,103.83	1,104.35	1,076.48	27.87	39.621	
4,050.00	4,050.00	4,047.84	4,047.75	14.30	13.93	127.19	32.66	1,104.32	1,105.06	1,076.85	28.21	39.173	
4,100.00	4,099.99	4,093.62	4,093.51	14.48	14.09	127.20	32.78	1,104.99	1,106.28	1,077.74	28.55	38.755	
4,150.00	4,149.97	4,139.18	4,139.07	14.66	14.24	127.24	32.81	1,105.83	1,108.02	1,079.14	28.88	38.367	
4,200.00	4,199.95	4,184.17	4,184.05	14.83	14.40	127.30	32.69	1,106.85	1,110.08	1,080.87	29.21	38.002	
4,250.00	4,249.93	4,229.65	4,229.51	15.01	14.56	127.37	32.40	1,108.09	1,112.35	1,082.81	29.54	37.651	
4,300.00	4,299.90	4,277.57	4,277.41	15.19	14.73	127.46	31.96	1,109.54	1,114.77	1,084.88	29.89	37.300	
4,350.00	4,349.88	4,325.34	4,325.15	15.37	14.89	127.55	31.38	1,111.06	1,117.28	1,087.05	30.23	36.961	
4,400.00	4,399.86	4,372.60	4,372.37	15.54	15.06	127.65	30.62	1,112.68	1,119.90	1,089.33	30.57	36.636	
4,450.00	4,449.84	4,420.49	4,420.22	15.72	15.23	127.76	29.65	1,114.43	1,122.64	1,091.72	30.91	36.318	
4,500.00	4,499.81	4,470.52	4,470.20	15.90	15.40	127.87	28.62	1,116.30	1,125.41	1,094.15	31.26	35.998	
4,550.00	4,549.79	4,519.07	4,518.71	16.08	15.57	127.98	27.69	1,118.11	1,128.19	1,096.58	31.61	35.693	
4,600.00	4,599.77	4,565.03	4,564.63	16.26	15.73	128.07	26.99	1,119.94	1,131.11	1,099.17	31.94	35.411	
4,650.00	4,649.74	4,614.08	4,613.63	16.43	15.91	128.16	26.46	1,122.05	1,134.19	1,101.90	32.29	35.125	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
4,700.00	4,699.72	4,669.46	4,668.97	16.61	16.10	128.26	25.87	1,124.26	1,137.12	1,104.45	32.67	34.811	
4,750.00	4,749.70	4,723.75	4,723.22	16.79	16.29	128.36	25.20	1,126.18	1,139.82	1,106.79	33.04	34.502	
4,800.00	4,799.67	4,777.43	4,776.86	16.97	16.48	128.47	24.38	1,127.90	1,142.36	1,108.96	33.40	34.198	
4,850.00	4,849.65	4,827.08	4,826.48	17.15	16.65	128.57	23.54	1,129.41	1,144.82	1,111.07	33.75	33.916	
4,900.00	4,899.63	4,876.25	4,875.62	17.32	16.82	128.67	22.75	1,130.93	1,147.31	1,113.21	34.10	33.642	
4,950.00	4,949.61	4,928.34	4,927.68	17.50	17.01	128.77	22.00	1,132.51	1,149.78	1,115.31	34.46	33.361	
5,000.00	4,999.58	4,980.48	4,979.80	17.68	17.19	128.86	21.40	1,133.99	1,152.14	1,117.32	34.83	33.083	
5,050.00	5,049.56	5,031.63	5,030.92	17.86	17.37	128.94	20.91	1,135.37	1,154.45	1,119.26	35.18	32.812	
5,100.00	5,099.54	5,082.15	5,081.43	18.04	17.54	129.02	20.47	1,136.68	1,156.70	1,121.16	35.54	32.548	
5,150.00	5,149.51	5,131.31	5,130.57	18.21	17.71	129.11	19.93	1,137.96	1,158.96	1,123.07	35.89	32.295	
5,200.00	5,199.49	5,182.61	5,181.85	18.39	17.89	129.20	19.19	1,139.31	1,161.24	1,125.00	36.24	32.039	
5,250.00	5,249.47	5,236.41	5,235.63	18.57	18.08	129.31	18.31	1,140.58	1,163.39	1,126.77	36.61	31.775	
5,300.00	5,299.44	5,286.90	5,286.10	18.75	18.26	129.40	17.53	1,141.65	1,165.42	1,128.45	36.97	31.525	
5,350.00	5,349.42	5,336.14	5,335.33	18.93	18.43	129.48	17.17	1,142.73	1,167.48	1,130.16	37.32	31.285	
5,400.00	5,399.40	5,387.31	5,386.48	19.11	18.61	129.54	17.13	1,143.84	1,169.53	1,131.86	37.67	31.043	
5,450.00	5,449.38	5,438.89	5,438.05	19.28	18.79	129.59	17.29	1,144.90	1,171.52	1,133.49	38.03	30.802	
5,500.00	5,499.35	5,489.19	5,488.34	19.46	18.97	129.64	17.33	1,145.89	1,173.47	1,135.08	38.39	30.569	
5,550.00	5,549.33	5,539.70	5,538.84	19.64	19.14	129.72	16.96	1,146.85	1,175.40	1,136.66	38.74	30.339	
5,600.00	5,599.31	5,591.45	5,590.58	19.82	19.32	129.80	16.45	1,147.79	1,177.28	1,138.18	39.10	30.108	
5,650.00	5,649.28	5,643.65	5,642.77	20.00	19.50	129.88	15.99	1,148.65	1,179.09	1,139.62	39.46	29.878	
5,700.00	5,699.26	5,696.72	5,695.84	20.18	19.69	129.96	15.66	1,149.39	1,180.77	1,140.94	39.83	29.646	
5,750.00	5,749.24	5,748.30	5,747.41	20.36	19.87	130.02	15.47	1,150.01	1,182.34	1,142.15	40.19	29.420	
5,800.00	5,799.21	5,798.75	5,797.86	20.53	20.05	130.09	15.33	1,150.58	1,183.88	1,143.34	40.54	29.201	
5,850.00	5,849.19	5,849.12	5,848.22	20.71	20.22	130.15	15.18	1,151.12	1,185.41	1,144.51	40.90	28.985	
5,900.00	5,899.17	5,899.45	5,898.55	20.89	20.40	130.22	14.87	1,151.65	1,186.92	1,145.67	41.25	28.773	
5,950.00	5,949.14	5,950.41	5,949.51	21.07	20.57	130.30	14.46	1,152.15	1,188.40	1,146.80	41.61	28.562	
6,000.00	5,999.12	6,001.49	6,000.59	21.25	20.75	130.37	14.08	1,152.61	1,189.84	1,147.88	41.96	28.353	
6,050.00	6,049.10	6,051.30	6,050.39	21.43	20.93	130.44	13.72	1,153.04	1,191.27	1,148.95	42.32	28.151	
6,100.00	6,099.08	6,101.43	6,100.52	21.61	21.10	130.52	13.35	1,153.47	1,192.70	1,150.02	42.67	27.951	
6,150.00	6,149.05	6,153.25	6,152.34	21.79	21.28	130.59	13.10	1,153.88	1,194.08	1,151.05	43.03	27.749	
6,200.00	6,199.03	6,204.58	6,203.66	21.96	21.46	130.64	13.06	1,154.20	1,195.39	1,152.00	43.39	27.551	
6,250.00	6,249.01	6,254.91	6,253.99	22.14	21.64	130.70	13.07	1,154.50	1,196.67	1,152.92	43.74	27.357	
6,300.00	6,298.98	6,304.78	6,303.86	22.32	21.81	130.75	13.07	1,154.78	1,197.94	1,153.84	44.10	27.167	
6,350.00	6,348.96	6,354.14	6,353.21	22.50	21.98	130.81	12.91	1,155.07	1,199.23	1,154.79	44.45	26.981	
6,400.00	6,398.94	6,404.00	6,403.07	22.68	22.16	130.88	12.60	1,155.38	1,200.55	1,155.75	44.80	26.798	
6,450.00	6,448.91	6,454.23	6,453.30	22.86	22.33	130.95	12.30	1,155.69	1,201.86	1,156.70	45.15	26.617	
6,500.00	6,498.89	6,505.52	6,504.59	23.04	22.51	131.02	12.05	1,155.97	1,203.14	1,157.63	45.51	26.436	
6,550.00	6,548.87	6,557.24	6,556.31	23.22	22.69	131.08	11.95	1,156.19	1,204.35	1,158.48	45.87	26.255	
6,600.00	6,598.85	6,608.55	6,607.63	23.40	22.87	131.14	11.93	1,156.35	1,205.50	1,159.27	46.23	26.077	
6,650.00	6,648.82	6,659.83	6,658.90	23.57	23.05	131.19	11.89	1,156.45	1,206.60	1,160.01	46.59	25.900	
6,700.00	6,698.80	6,708.05	6,707.12	23.75	23.22	131.25	11.76	1,156.55	1,207.71	1,160.78	46.93	25.732	
6,750.00	6,748.78	6,756.66	6,755.73	23.93	23.39	131.32	11.50	1,156.71	1,208.89	1,161.61	47.28	25.567	
6,800.00	6,798.75	6,806.21	6,805.28	24.11	23.56	131.38	11.19	1,156.91	1,210.10	1,162.47	47.63	25.404	
6,850.00	6,848.73	6,855.84	6,854.91	24.29	23.73	131.45	10.91	1,157.12	1,211.33	1,163.35	47.99	25.243	
6,900.00	6,898.71	6,905.73	6,904.80	24.47	23.91	131.51	10.77	1,157.35	1,212.57	1,164.23	48.34	25.085	
6,950.00	6,948.68	6,955.49	6,954.56	24.65	24.08	131.56	10.81	1,157.58	1,213.81	1,165.12	48.69	24.929	
7,000.00	6,998.66	7,005.05	7,004.11	24.83	24.25	131.61	10.83	1,157.84	1,215.07	1,166.03	49.04	24.775	
7,050.00	7,048.64	7,053.94	7,053.00	25.01	24.42	131.67	10.78	1,158.10	1,216.36	1,166.97	49.39	24.626	
7,100.00	7,098.62	7,102.14	7,101.20	25.19	24.59	131.73	10.55	1,158.42	1,217.71	1,167.97	49.74	24.482	
7,150.00	7,148.59	7,152.60	7,151.66	25.37	24.77	131.80	10.14	1,158.80	1,219.11	1,169.02	50.09	24.336	
7,200.00	7,198.57	7,204.89	7,203.95	25.54	24.95	131.87	9.87	1,159.11	1,220.43	1,169.98	50.46	24.188	
7,250.00	7,248.55	7,254.41	7,253.47	25.72	25.12	131.93	9.71	1,159.35	1,221.71	1,170.90	50.81	24.045	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,300.00	7,298.52	7,303.06	7,302.12	25.90	25.29	131.99	9.54	1,159.65	1,223.03	1,171.87	51.16	23.907	
7,350.00	7,348.50	7,350.41	7,349.47	26.08	25.46	132.05	9.23	1,159.99	1,224.43	1,172.93	51.50	23.775	
7,400.00	7,398.48	7,397.49	7,396.54	26.26	25.62	132.13	8.62	1,160.43	1,225.95	1,174.10	51.84	23.647	
7,450.00	7,448.45	7,446.62	7,445.66	26.44	25.80	132.22	7.72	1,160.95	1,227.55	1,175.36	52.19	23.519	
7,500.00	7,498.43	7,496.11	7,495.13	26.62	25.97	132.32	6.67	1,161.49	1,229.18	1,176.63	52.54	23.393	
7,550.00	7,548.41	7,549.09	7,548.10	26.80	26.15	132.42	5.54	1,162.01	1,230.75	1,177.84	52.91	23.261	
7,600.00	7,598.38	7,602.24	7,601.24	26.98	26.34	132.52	4.58	1,162.40	1,232.21	1,178.93	53.28	23.129	
7,650.00	7,648.36	7,650.89	7,649.88	27.16	26.51	132.61	3.67	1,162.74	1,233.64	1,180.02	53.62	23.005	
7,700.00	7,698.34	7,699.51	7,698.49	27.34	26.68	132.71	2.64	1,163.10	1,235.10	1,181.13	53.97	22.884	
7,750.00	7,748.32	7,746.35	7,745.31	27.52	26.84	132.81	1.53	1,163.52	1,236.67	1,182.36	54.31	22.769	
7,800.00	7,798.29	7,793.37	7,792.31	27.70	27.00	132.91	0.29	1,164.06	1,238.36	1,183.71	54.66	22.658	
7,850.00	7,848.27	7,840.85	7,839.77	27.87	27.17	133.02	-0.94	1,164.70	1,240.17	1,185.17	55.00	22.549	
7,900.00	7,898.25	7,891.04	7,889.94	28.05	27.35	133.12	-2.16	1,165.47	1,242.05	1,186.70	55.35	22.439	
7,950.00	7,948.22	7,946.75	7,945.63	28.23	27.54	133.23	-3.36	1,166.15	1,243.78	1,188.05	55.73	22.318	
8,000.00	7,998.20	7,998.05	7,996.92	28.41	27.72	133.33	-4.34	1,166.61	1,245.35	1,189.26	56.09	22.203	
8,050.00	8,048.18	8,046.97	8,045.83	28.59	27.89	133.42	-5.36	1,167.07	1,246.93	1,190.50	56.44	22.094	
8,100.00	8,098.15	8,095.64	8,094.48	28.77	28.06	133.52	-6.49	1,167.56	1,248.57	1,191.78	56.79	21.987	
8,150.00	8,148.13	8,144.21	8,143.03	28.95	28.23	133.63	-7.76	1,168.08	1,250.26	1,193.13	57.13	21.883	
8,200.00	8,198.11	8,195.00	8,193.81	29.13	28.41	133.74	-9.19	1,168.64	1,251.98	1,194.49	57.49	21.777	
8,250.00	8,248.09	8,246.34	8,245.12	29.31	28.59	133.86	-10.63	1,169.15	1,253.65	1,195.80	57.85	21.671	
8,300.00	8,298.06	8,301.23	8,299.99	29.49	28.78	133.98	-12.10	1,169.56	1,255.19	1,196.97	58.22	21.558	
8,350.00	8,348.04	8,355.87	8,354.61	29.67	28.97	134.09	-13.41	1,169.77	1,256.54	1,197.95	58.59	21.445	
8,400.00	8,398.02	8,409.67	8,408.40	29.85	29.16	134.20	-14.59	1,169.80	1,257.73	1,198.77	58.96	21.331	
8,450.00	8,447.99	8,459.01	8,457.73	30.03	29.33	134.29	-15.62	1,169.73	1,258.82	1,199.51	59.31	21.224	
8,500.00	8,497.97	8,504.56	8,503.27	30.21	29.49	134.38	-16.68	1,169.79	1,260.05	1,200.40	59.65	21.124	
8,550.00	8,547.95	8,554.67	8,553.36	30.39	29.66	134.49	-17.96	1,169.97	1,261.41	1,201.41	60.00	21.022	
8,600.00	8,597.92	8,609.62	8,608.29	30.57	29.85	134.60	-19.27	1,170.01	1,262.63	1,202.26	60.38	20.913	
8,650.00	8,647.90	8,664.11	8,662.77	30.74	30.04	134.71	-20.42	1,169.85	1,263.67	1,202.92	60.74	20.803	
8,700.00	8,697.88	8,718.48	8,717.14	30.92	30.23	134.81	-21.35	1,169.53	1,264.53	1,203.41	61.11	20.692	
8,750.00	8,747.86	8,766.16	8,764.80	31.10	30.40	134.89	-22.13	1,169.22	1,265.36	1,203.90	61.46	20.589	
8,800.00	8,797.83	8,814.26	8,812.89	31.28	30.57	134.98	-23.00	1,168.97	1,266.26	1,204.46	61.80	20.488	
8,850.00	8,847.81	8,862.78	8,861.41	31.46	30.74	135.06	-23.81	1,168.78	1,267.24	1,205.08	62.15	20.389	
8,900.00	8,897.79	8,910.65	8,909.27	31.64	30.90	135.14	-24.43	1,168.67	1,268.27	1,205.77	62.50	20.293	
8,950.00	8,947.76	8,955.53	8,954.16	31.82	31.06	135.20	-24.94	1,168.72	1,269.46	1,206.63	62.83	20.204	
9,000.00	8,997.74	9,001.45	9,000.07	32.00	31.22	135.27	-25.44	1,168.95	1,270.85	1,207.68	63.17	20.117	
9,050.00	9,047.72	9,056.97	9,055.58	32.18	31.41	135.35	-26.02	1,169.18	1,272.19	1,208.65	63.55	20.020	
9,100.00	9,097.69	9,114.11	9,112.73	32.36	31.61	135.43	-26.57	1,169.15	1,273.30	1,209.38	63.93	19.919	
9,150.00	9,147.67	9,173.61	9,172.22	32.54	31.82	135.50	-26.87	1,168.74	1,274.07	1,209.76	64.31	19.812	
9,200.00	9,197.65	9,225.83	9,224.44	32.72	32.00	135.56	-27.07	1,168.12	1,274.59	1,209.92	64.67	19.709	
9,250.00	9,247.62	9,276.62	9,275.21	32.90	32.18	135.64	-27.65	1,167.44	1,275.07	1,210.04	65.03	19.609	
9,300.00	9,297.60	9,337.75	9,336.33	33.08	32.39	135.74	-28.50	1,166.31	1,275.32	1,209.91	65.41	19.497	
9,350.00	9,347.58	9,396.58	9,395.13	33.26	32.59	135.83	-29.19	1,164.74	1,275.15	1,209.37	65.79	19.383	
9,400.00	9,397.56	9,452.67	9,451.19	33.44	32.79	135.93	-29.85	1,162.94	1,274.72	1,208.57	66.15	19.269	
9,450.00	9,447.53	9,510.50	9,508.98	33.62	32.99	136.03	-30.63	1,160.76	1,274.02	1,207.50	66.52	19.151	
9,500.00	9,497.51	9,564.14	9,562.56	33.80	33.17	136.13	-31.51	1,158.42	1,273.05	1,206.18	66.87	19.037	
9,550.00	9,547.49	9,608.95	9,607.32	33.98	33.25	136.22	-32.30	1,156.53	1,272.16	1,205.02	67.14	18.948	
9,600.00	9,597.46	9,652.97	9,651.30	34.16	33.31	136.31	-33.23	1,154.82	1,271.47	1,204.08	67.39	18.867	
9,650.00	9,647.44	9,689.09	9,687.33	34.34	33.32	136.44	-35.22	1,153.51	1,271.14	1,203.55	67.58	18.808	
9,650.34	9,647.78	9,689.29	9,687.54	34.34	33.32	136.45	-35.23	1,153.50	1,271.14	1,203.55	67.59	18.808	
9,700.00	9,697.42	9,721.64	9,719.68	34.52	33.32	136.64	-38.74	1,152.57	1,271.52	1,203.74	67.78	18.761	
9,750.00	9,747.39	9,758.38	9,755.91	34.69	33.32	136.94	-44.68	1,151.63	1,272.47	1,204.51	67.96	18.724	
9,800.00	9,797.37	9,798.72	9,795.15	34.87	33.32	137.40	-53.99	1,150.57	1,273.96	1,205.82	68.14	18.696	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,850.00	9,847.35	9,831.84	9,826.83	35.05	33.33	137.86	-63.56	1,149.66	1,275.96	1,207.65	68.31	18.679	
9,900.00	9,897.33	9,890.46	9,881.89	35.23	33.34	138.81	-83.57	1,147.74	1,278.39	1,209.88	68.51	18.660	
9,950.00	9,947.30	9,927.87	9,916.43	35.41	33.36	139.49	-97.85	1,146.03	1,280.83	1,212.15	68.68	18.648	SF
10,000.00	9,997.28	9,956.00	9,942.05	35.59	33.37	140.03	-109.39	1,144.84	1,284.06	1,215.22	68.84	18.654	
10,050.00	10,047.26	9,987.32	9,969.98	35.77	33.39	140.68	-123.49	1,143.61	1,288.18	1,219.20	68.98	18.675	
10,100.00	10,097.23	10,013.33	9,992.48	35.95	33.40	141.27	-136.50	1,142.63	1,293.33	1,224.24	69.09	18.718	
10,150.00	10,147.21	10,037.73	10,012.95	36.13	33.42	141.88	-149.73	1,141.75	1,299.57	1,230.39	69.18	18.785	
10,200.00	10,197.19	10,060.55	10,031.51	36.31	33.45	142.47	-163.00	1,140.96	1,306.96	1,237.73	69.24	18.877	
10,250.00	10,247.16	10,081.86	10,048.27	36.49	33.47	143.06	-176.13	1,140.26	1,315.55	1,246.29	69.26	18.995	
10,300.00	10,297.14	10,100.00	10,062.10	36.67	33.49	143.58	-187.85	1,139.68	1,325.38	1,256.15	69.23	19.145	
10,350.00	10,347.12	10,120.26	10,077.04	36.85	33.52	144.18	-201.53	1,139.06	1,336.48	1,267.29	69.19	19.316	
10,400.00	10,397.10	10,137.53	10,089.33	37.03	33.54	144.71	-213.64	1,138.56	1,348.88	1,279.78	69.10	19.521	
10,450.00	10,447.07	10,150.00	10,097.94	37.21	33.56	145.10	-222.66	1,138.22	1,362.59	1,293.65	68.94	19.765	
10,500.00	10,497.05	10,168.62	10,110.39	37.39	33.59	145.70	-236.50	1,137.72	1,377.59	1,308.78	68.81	20.021	
10,550.00	10,547.03	10,182.62	10,119.41	37.57	33.62	146.16	-247.20	1,137.37	1,393.90	1,325.29	68.61	20.318	
10,600.00	10,597.00	10,200.00	10,130.18	37.75	33.65	146.74	-260.83	1,136.95	1,411.51	1,343.10	68.41	20.633	
10,650.00	10,646.98	10,200.00	10,130.18	37.93	33.65	146.74	-260.83	1,136.95	1,430.41	1,362.38	68.03	21.026	
10,700.00	10,696.96	10,219.35	10,141.62	38.11	33.70	147.40	-276.43	1,136.51	1,450.47	1,382.65	67.82	21.388	
10,750.00	10,746.93	10,230.07	10,147.70	38.29	33.72	147.77	-285.25	1,136.28	1,471.80	1,404.29	67.50	21.804	
10,800.00	10,796.91	10,250.00	10,158.50	38.47	33.77	148.53	-302.00	1,135.89	1,494.36	1,427.10	67.26	22.217	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	11.80	11.80	0.50		89.22	15.12	1,107.55	1,107.66				
50.00	50.00	61.80	61.80	0.50		89.22	15.12	1,107.55	1,107.66	1,107.15	0.50	2,206.468	
100.00	100.00	111.80	111.80	0.52		89.22	15.12	1,107.55	1,107.66	1,107.14	0.52	2,139.341	
138.25	138.25	150.04	150.04	0.57		89.21	15.23	1,107.54	1,107.64	1,107.07	0.57	1,946.717	
150.00	150.00	161.64	161.64	0.59		89.21	15.22	1,107.54	1,107.64	1,107.05	0.59	1,876.596	
200.00	200.00	211.80	211.80	0.70		89.22	15.12	1,107.55	1,107.66	1,106.95	0.70	1,577.625	
231.62	231.62	243.39	243.39	0.79		89.21	15.18	1,107.52	1,107.62	1,106.84	0.79	1,409.508	
250.00	250.00	261.17	261.17	0.84		89.22	15.17	1,107.52	1,107.63	1,106.79	0.84	1,322.201	
300.00	300.00	311.81	311.80	0.99		89.22	15.12	1,107.55	1,107.66	1,106.67	0.99	1,121.863	
324.79	324.79	336.59	336.58	1.06		89.21	15.18	1,107.53	1,107.63	1,106.57	1.06	1,040.105	
350.00	350.00	361.17	361.17	1.15		89.22	15.16	1,107.53	1,107.64	1,106.49	1.15	966.954	
400.00	400.00	411.81	411.80	1.31		89.22	15.12	1,107.55	1,107.66	1,106.35	1.31	846.126	
450.00	450.00	462.98	462.98	1.48		89.22	15.13	1,107.57	1,107.67	1,106.20	1.48	750.290	
500.00	500.00	511.81	511.80	1.65		89.22	15.12	1,107.55	1,107.66	1,106.01	1.65	672.902	
511.79	511.79	523.60	523.59	1.69		89.21	15.24	1,107.53	1,107.64	1,105.95	1.69	656.799	
550.00	550.00	561.10	561.09	1.82		89.22	15.16	1,107.55	1,107.65	1,105.83	1.82	609.378	
600.00	600.00	611.81	611.80	1.99		89.22	15.12	1,107.55	1,107.66	1,105.66	1.99	556.442	
607.12	607.12	618.90	618.88	2.02		89.21	15.23	1,107.53	1,107.64	1,105.62	2.02	549.607	
650.00	650.00	660.94	660.92	2.16		89.22	15.13	1,107.55	1,107.65	1,105.49	2.16	511.722	
700.00	700.00	711.87	711.85	2.34		89.21	15.27	1,107.59	1,107.69	1,105.35	2.34	473.512	
750.00	750.00	763.90	763.88	2.51		89.22	15.08	1,107.54	1,107.65	1,105.13	2.51	440.468	
752.98	752.98	767.00	766.98	2.53		89.22	15.05	1,107.54	1,107.64	1,105.12	2.53	438.639	
800.00	800.00	811.96	811.93	2.69		89.21	15.20	1,107.57	1,107.67	1,104.98	2.69	411.683	
850.00	850.00	861.83	861.80	2.87		89.22	15.12	1,107.55	1,107.66	1,104.79	2.87	386.360	
888.00	888.00	899.78	899.75	3.00		89.21	15.26	1,107.53	1,107.63	1,104.63	3.00	369.074	
900.00	900.00	911.51	911.48	3.04		89.21	15.25	1,107.53	1,107.63	1,104.59	3.04	363.928	
950.00	950.00	961.84	961.80	3.22		89.22	15.12	1,107.55	1,107.66	1,104.43	3.22	343.940	
981.30	981.30	993.09	993.05	3.33		89.21	15.25	1,107.52	1,107.63	1,104.30	3.33	332.486	
1,000.00	1,000.00	1,011.31	1,011.27	3.40		89.21	15.22	1,107.53	1,107.63	1,104.24	3.40	325.999	
1,050.00	1,050.00	1,061.84	1,061.80	3.58		89.22	15.12	1,107.55	1,107.66	1,104.08	3.58	309.830	
1,100.00	1,100.00	1,112.75	1,112.71	3.75		89.22	15.16	1,107.57	1,107.68	1,103.92	3.75	295.176	
1,150.00	1,150.00	1,161.84	1,161.80	3.93		89.22	15.12	1,107.55	1,107.66	1,103.73	3.93	281.824	
1,167.44	1,167.44	1,179.26	1,179.22	3.99		89.21	15.23	1,107.52	1,107.63	1,103.63	3.99	277.440	
1,200.00	1,200.00	1,210.92	1,210.88	4.11		89.21	15.18	1,107.54	1,107.64	1,103.53	4.11	269.620	
1,250.00	1,250.00	1,261.84	1,261.80	4.29		89.22	15.12	1,107.55	1,107.66	1,103.37	4.29	258.429	
1,300.00	1,300.00	1,326.57	1,311.80	4.46		89.22	15.12	1,107.55	1,107.66	1,103.19	4.46	248.121	
1,350.00	1,350.00	1,361.85	1,361.80	4.64		89.22	15.12	1,107.55	1,107.66	1,103.01	4.64	238.599	
1,400.00	1,400.00	1,413.84	1,413.80	4.82		89.22	15.12	1,107.55	1,107.66	1,102.83	4.82	229.778	
1,447.79	1,447.79	1,459.64	1,459.59	4.99		89.22	15.17	1,107.53	1,107.64	1,102.65	4.99	221.927	
1,450.00	1,450.00	1,461.81	1,461.76	5.00		89.22	15.17	1,107.53	1,107.64	1,102.64	5.00	221.578	
1,500.00	1,500.00	1,511.85	1,511.80	5.18		89.22	15.12	1,107.55	1,107.66	1,102.48	5.18	213.948	
1,541.49	1,541.49	1,553.34	1,553.29	5.33		89.21	15.24	1,107.52	1,107.62	1,102.30	5.33	207.993	
1,550.00	1,550.00	1,561.56	1,561.51	5.36		89.21	15.24	1,107.52	1,107.62	1,102.27	5.36	206.814	
1,600.00	1,600.00	1,611.85	1,611.80	5.53		89.22	15.12	1,107.55	1,107.66	1,102.12	5.53	200.150	
1,635.20	1,635.20	1,647.05	1,646.99	5.66		89.22	15.17	1,107.53	1,107.64	1,101.98	5.66	195.703	
1,650.00	1,650.00	1,661.58	1,661.53	5.71		89.22	15.16	1,107.53	1,107.64	1,101.93	5.71	193.892	
1,700.00	1,700.00	1,711.85	1,711.80	5.89		89.22	15.12	1,107.55	1,107.66	1,101.76	5.89	188.018	
1,728.66	1,728.66	1,740.51	1,740.46	5.99		89.22	15.16	1,107.53	1,107.64	1,101.64	5.99	184.803	
1,750.00	1,750.00	1,761.49	1,761.44	6.07		89.22	15.15	1,107.54	1,107.64	1,101.57	6.07	182.483	
1,800.00	1,800.00	1,811.85	1,811.80	6.25		89.22	15.12	1,107.55	1,107.66	1,101.41	6.25	177.268	
1,850.00	1,850.00	1,863.02	1,862.97	6.43		89.22	15.11	1,107.58	1,107.68	1,101.25	6.43	172.344	
1,900.00	1,900.00	1,911.85	1,911.80	6.61		89.22	15.12	1,107.55	1,107.66	1,101.05	6.61	167.678	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	1,963.39	1,963.34	6.78		89.22	15.11	1,107.57	1,107.67	1,100.89	6.78	163.263	
1,972.02	1,972.02	1,986.41	1,986.36	6.86		89.22	15.13	1,107.53	1,107.63	1,100.77	6.86	161.385	
2,000.00	2,000.00	2,011.85	2,011.80	6.96		89.22	15.12	1,107.55	1,107.66	1,100.69	6.96	159.069	
2,050.00	2,050.00	2,074.49	2,061.80	7.14		89.22	15.12	1,107.55	1,107.66	1,100.51	7.14	155.087	
2,100.00	2,100.00	2,111.85	2,111.80	7.32		89.22	15.12	1,107.55	1,107.66	1,100.33	7.32	151.299	
2,106.56	2,106.56	2,118.19	2,118.13	7.34		89.22	15.13	1,107.48	1,107.59	1,100.24	7.34	150.806	
2,150.00	2,150.00	2,158.73	2,158.68	7.50		89.22	15.12	1,107.54	1,107.65	1,100.15	7.50	147.692	
2,196.74	2,196.74	2,208.60	2,208.54	7.67		89.22	15.13	1,107.51	1,107.61	1,099.94	7.67	144.465	
2,200.00	2,200.00	2,211.72	2,211.66	7.68		89.22	15.13	1,107.51	1,107.61	1,099.93	7.68	144.246	
2,250.00	2,250.00	2,261.86	2,261.80	7.86		89.22	15.12	1,107.55	1,107.66	1,099.80	7.86	140.968	
2,290.38	2,290.38	2,302.24	2,302.18	8.00		89.22	15.11	1,107.49	1,107.59	1,099.59	8.00	138.415	
2,300.00	2,300.00	2,311.24	2,311.19	8.04		89.22	15.11	1,107.49	1,107.59	1,099.55	8.04	137.822	
2,350.00	2,350.00	2,361.86	2,361.80	8.22		89.22	15.12	1,107.55	1,107.66	1,099.44	8.22	134.829	
2,400.00	2,400.00	2,412.18	2,412.13	8.39		89.22	15.11	1,107.57	1,107.67	1,099.28	8.39	131.957	
2,450.00	2,450.00	2,461.86	2,461.80	8.57		89.22	15.12	1,107.55	1,107.66	1,099.08	8.57	129.201	
2,477.61	2,477.61	2,489.46	2,489.40	8.67		89.22	15.12	1,107.50	1,107.60	1,098.93	8.67	127.723	
2,500.00	2,500.00	2,510.68	2,510.62	8.75		89.22	15.12	1,107.51	1,107.61	1,098.86	8.75	126.555	
2,550.00	2,550.00	2,561.86	2,561.80	8.93		89.22	15.12	1,107.55	1,107.66	1,098.72	8.93	124.024	
2,571.23	2,571.23	2,583.09	2,583.03	9.01		89.22	15.11	1,107.50	1,107.60	1,098.59	9.01	122.971	
2,600.00	2,600.00	2,610.30	2,610.24	9.11		89.22	15.12	1,107.51	1,107.62	1,098.51	9.11	121.584	
2,650.00	2,650.00	2,661.86	2,661.80	9.29		89.22	15.12	1,107.55	1,107.66	1,098.37	9.29	119.245	
2,700.00	2,700.00	2,713.03	2,712.97	9.47		89.22	15.11	1,107.57	1,107.67	1,098.20	9.47	116.992	
2,720.73	2,720.73	2,734.45	2,734.39	9.54		89.22	15.13	1,107.54	1,107.64	1,098.10	9.54	116.079	
2,750.00	2,750.00	2,761.86	2,761.80	9.65		89.22	15.12	1,107.55	1,107.66	1,098.01	9.65	114.820	
2,800.00	2,800.00	2,822.40	2,811.80	9.83		89.22	15.12	1,107.55	1,107.66	1,097.83	9.83	112.728	
2,850.00	2,850.00	2,861.86	2,861.80	10.00		89.22	15.12	1,107.55	1,107.66	1,097.65	10.00	110.711	
2,900.00	2,900.00	2,911.86	2,911.80	10.18		89.22	15.12	1,107.55	1,107.66	1,097.47	10.18	108.765	
2,945.75	2,945.75	2,957.61	2,957.55	10.35		89.22	15.13	1,107.53	1,107.64	1,097.29	10.35	107.042	
2,950.00	2,950.00	2,961.78	2,961.72	10.36		89.22	15.13	1,107.53	1,107.64	1,097.27	10.36	106.885	
3,000.00	3,000.00	3,011.86	3,011.80	10.54		89.22	15.12	1,107.55	1,107.66	1,097.11	10.54	105.071	
3,039.40	3,039.40	3,051.26	3,051.19	10.68		89.22	15.14	1,107.52	1,107.63	1,096.94	10.68	103.681	
3,050.00	3,050.00	3,061.55	3,061.49	10.72		89.22	15.14	1,107.52	1,107.63	1,096.91	10.72	103.314	
3,100.00	3,100.00	3,111.86	3,111.80	10.90		89.22	15.12	1,107.55	1,107.66	1,096.76	10.90	101.619	
3,150.00	3,150.00	3,162.64	3,162.58	11.08		89.22	15.14	1,107.59	1,107.69	1,096.61	11.08	99.980	
3,200.00	3,200.00	3,211.86	3,211.80	11.26		89.22	15.12	1,107.55	1,107.66	1,096.40	11.26	98.387	
3,250.00	3,250.00	3,262.83	3,262.76	11.44		89.22	15.13	1,107.58	1,107.68	1,096.25	11.44	96.849	
3,300.00	3,300.00	3,311.86	3,311.80	11.62		89.22	15.12	1,107.55	1,107.66	1,096.04	11.62	95.354	
3,320.31	3,320.31	3,332.16	3,332.10	11.69		89.22	15.17	1,107.48	1,107.58	1,095.89	11.69	94.754	
3,350.00	3,350.00	3,359.83	3,359.77	11.80		89.22	15.15	1,107.50	1,107.61	1,095.82	11.80	93.902	
3,400.00	3,400.00	3,411.87	3,411.80	11.97		89.22	15.12	1,107.55	1,107.66	1,095.68	11.97	92.502	
3,413.79	3,413.79	3,425.66	3,425.59	12.02		89.21	15.19	1,107.47	1,107.58	1,095.55	12.02	92.115	
3,450.00	3,450.00	3,459.25	3,459.18	12.15		89.22	15.16	1,107.51	1,107.62	1,095.47	12.15	91.136	
3,500.00	3,500.00	3,511.87	3,511.80	12.33		89.22	15.12	1,107.55	1,107.66	1,095.32	12.33	89.815	
3,550.00	3,550.00	3,570.31	3,561.80	12.51		89.22	15.12	1,107.55	1,107.66	1,095.14	12.51	88.530	
3,600.00	3,600.00	3,611.87	3,611.80	12.69		89.22	15.12	1,107.55	1,107.66	1,094.96	12.69	87.280	
3,650.00	3,650.00	3,661.87	3,661.80	12.87		89.22	15.12	1,107.55	1,107.66	1,094.79	12.87	86.066	
3,695.53	3,695.53	3,707.32	3,707.25	13.03		89.21	15.19	1,107.46	1,107.56	1,094.53	13.03	84.982	CC
3,700.00	3,700.00	3,711.42	3,711.35	13.05		89.21	15.19	1,107.46	1,107.57	1,094.52	13.05	84.877	
3,750.00	3,750.00	3,761.88	3,761.80	13.23		89.22	15.12	1,107.55	1,107.66	1,094.43	13.23	83.735	
3,788.74	3,788.74	3,800.58	3,800.51	13.37		89.21	15.22	1,107.47	1,107.58	1,094.21	13.37	82.860	
3,800.00	3,800.00	3,811.02	3,810.95	13.41		89.21	15.22	1,107.48	1,107.58	1,094.18	13.41	82.611	
3,850.00	3,850.00	3,861.88	3,861.80	13.59		89.22	15.12	1,107.55	1,107.66	1,094.07	13.59	81.527	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
3,882.00	3,882.00	3,893.88	3,893.79	13.70		89.21	15.27	1,107.49	1,107.60	1,093.90	13.70	80.841	
3,900.00	3,900.00	3,910.92	3,910.83	13.77		89.21	15.25	1,107.50	1,107.61	1,093.84	13.77	80.463	
3,950.00	3,950.00	3,961.89	3,961.80	13.94		89.22	15.12	1,107.55	1,107.66	1,093.71	13.94	79.433	
4,000.00	4,000.00	4,013.01	4,012.92	14.12		89.21	15.23	1,107.58	1,107.69	1,093.56	14.12	78.428	
4,014.27	4,014.27	4,042.21	4,026.07	14.17		128.10	15.12	1,107.55	1,107.67	1,093.49	14.17	78.145 ES	
4,050.00	4,050.00	4,061.90	4,061.80	14.30		128.10	15.12	1,107.55	1,107.82	1,093.52	14.30	77.461	
4,100.00	4,099.99	4,116.76	4,116.66	14.48		128.14	15.14	1,107.61	1,108.40	1,093.92	14.48	76.549	
4,150.00	4,149.97	4,161.88	4,161.77	14.66		128.18	15.12	1,107.55	1,109.16	1,094.51	14.66	75.677	
4,200.00	4,199.95	4,222.99	4,222.88	14.83		128.26	15.12	1,107.54	1,110.14	1,095.31	14.83	74.844	
4,250.00	4,249.93	4,261.87	4,261.73	15.01		128.30	15.12	1,107.55	1,111.04	1,096.03	15.01	74.018	
4,300.00	4,299.90	4,318.21	4,311.70	15.19		128.37	15.12	1,107.55	1,111.98	1,096.80	15.19	73.218	
4,350.00	4,349.88	4,361.90	4,361.70	15.37		128.44	14.97	1,107.93	1,113.31	1,097.94	15.36	72.460	
4,400.00	4,399.86	4,411.92	4,411.66	15.54		128.49	15.12	1,107.55	1,113.87	1,098.33	15.54	71.671	
4,450.00	4,449.84	4,467.09	4,466.81	15.72		128.57	14.89	1,107.96	1,115.24	1,099.52	15.72	70.950	
4,500.00	4,499.81	4,511.96	4,511.61	15.90		128.61	15.12	1,107.55	1,115.76	1,099.87	15.90	70.192	
4,550.00	4,549.79	4,572.19	4,571.83	16.08		128.69	14.95	1,107.88	1,117.08	1,101.01	16.07	69.501	
4,600.00	4,599.77	4,612.00	4,611.57	16.26		128.73	15.12	1,107.55	1,117.66	1,101.41	16.25	68.777	
4,650.00	4,649.74	4,683.49	4,683.03	16.43		128.82	15.09	1,107.68	1,118.94	1,102.51	16.43	68.120	
4,662.01	4,661.75	4,662.01	4,673.55	16.48		128.81	15.12	1,107.55	1,118.84	1,102.37	16.47	67.929	
4,700.00	4,699.72	4,712.03	4,711.52	16.61		128.85	15.12	1,107.55	1,119.56	1,102.96	16.61	67.422	
4,750.00	4,749.70	4,781.42	4,780.89	16.79		128.94	15.11	1,107.58	1,120.71	1,103.93	16.78	66.783	
4,800.00	4,799.67	4,812.05	4,811.47	16.97		128.97	15.12	1,107.55	1,121.47	1,104.51	16.96	66.123	
4,850.00	4,849.65	4,880.31	4,879.72	17.15		129.05	15.15	1,107.50	1,122.52	1,105.38	17.14	65.504	
4,900.00	4,899.63	4,912.06	4,911.43	17.32		129.09	15.12	1,107.55	1,123.38	1,106.06	17.32	64.877	
4,950.00	4,949.61	4,985.46	4,984.81	17.50		129.18	15.26	1,107.28	1,124.30	1,106.81	17.49	64.279	
4,952.66	4,952.26	4,989.75	4,989.09	17.51		129.18	15.30	1,107.19	1,124.30	1,106.80	17.50	64.246	
5,000.00	4,999.58	5,012.06	5,011.38	17.68		129.21	15.12	1,107.55	1,125.30	1,107.62	17.67	63.681	
5,050.00	5,049.56	5,065.95	5,061.36	17.86		129.27	15.12	1,107.55	1,126.26	1,108.41	17.85	63.100	
5,100.00	5,099.54	5,112.61	5,111.89	18.04		129.34	15.03	1,107.85	1,127.52	1,109.49	18.03	62.548	
5,150.00	5,149.51	5,162.07	5,161.31	18.21		129.39	15.12	1,107.55	1,128.18	1,109.98	18.20	61.973	
5,200.00	5,199.49	5,215.74	5,214.98	18.39		129.46	14.96	1,107.85	1,129.45	1,111.07	18.38	61.443	
5,250.00	5,249.47	5,262.06	5,261.27	18.57		129.51	15.12	1,107.55	1,130.11	1,111.55	18.56	60.890	
5,300.00	5,299.44	5,316.89	5,316.09	18.75		129.59	14.95	1,107.76	1,131.29	1,112.56	18.74	60.374	
5,350.00	5,349.42	5,362.04	5,361.22	18.93		129.63	15.12	1,107.55	1,132.04	1,113.13	18.92	59.846	
5,400.00	5,399.40	5,419.55	5,418.73	19.11		129.70	15.11	1,107.72	1,133.20	1,114.11	19.09	59.349	
5,450.00	5,449.38	5,462.02	5,461.18	19.28		129.75	15.12	1,107.55	1,133.98	1,114.71	19.27	58.841	
5,500.00	5,499.35	5,520.39	5,519.54	19.46		129.82	15.15	1,107.65	1,135.08	1,115.63	19.45	58.359	
5,550.00	5,549.33	5,561.99	5,561.13	19.64		129.87	15.12	1,107.55	1,135.92	1,116.30	19.63	57.873	
5,600.00	5,599.31	5,622.09	5,621.22	19.82		129.94	15.10	1,107.59	1,136.98	1,117.17	19.81	57.406	
5,650.00	5,649.28	5,661.96	5,661.08	20.00		129.98	15.12	1,107.55	1,137.87	1,117.89	19.98	56.939	
5,700.00	5,699.26	5,726.75	5,711.06	20.18		130.04	15.12	1,107.55	1,138.85	1,118.69	20.16	56.484	
5,750.00	5,749.24	5,761.93	5,761.04	20.36		130.10	15.12	1,107.55	1,139.83	1,119.48	20.34	56.037	
5,800.00	5,799.21	5,819.59	5,818.69	20.53		130.17	15.13	1,107.51	1,140.79	1,120.27	20.52	55.597	
5,850.00	5,849.19	5,862.21	5,861.32	20.71		130.22	15.10	1,107.68	1,141.91	1,121.21	20.70	55.173	
5,900.00	5,899.17	5,919.96	5,919.06	20.89		130.28	15.14	1,107.47	1,142.71	1,121.83	20.88	54.740	
5,950.00	5,949.14	5,963.09	5,962.19	21.07		130.34	15.03	1,107.67	1,143.86	1,122.81	21.05	54.331	
6,000.00	5,999.12	6,011.83	6,010.92	21.25		130.39	15.12	1,107.55	1,144.73	1,123.50	21.23	53.916	
6,050.00	6,049.10	6,063.58	6,062.67	21.43		130.45	15.05	1,107.64	1,145.80	1,124.39	21.41	53.517	
6,100.00	6,099.08	6,111.79	6,110.88	21.61		130.51	15.12	1,107.55	1,146.70	1,125.11	21.59	53.117	
6,150.00	6,149.05	6,164.38	6,163.46	21.79		130.57	15.05	1,107.63	1,147.76	1,126.00	21.77	52.730	
6,200.00	6,199.03	6,211.75	6,210.83	21.96		130.62	15.12	1,107.55	1,148.67	1,126.73	21.95	52.343	
6,250.00	6,249.01	6,263.95	6,263.03	22.14		130.68	15.12	1,107.59	1,149.70	1,127.58	22.12	51.967	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
6,300.00	6,298.98	6,311.70	6,310.78	22.32		130.74	15.12	1,107.55	1,150.65	1,128.35	22.30	51.594	
6,350.00	6,348.96	6,364.15	6,363.23	22.50		130.80	15.12	1,107.58	1,151.67	1,129.19	22.48	51.230	
6,400.00	6,398.94	6,411.66	6,410.74	22.68		130.85	15.12	1,107.55	1,152.63	1,129.97	22.66	50.869	
6,450.00	6,448.91	6,474.98	6,460.71	22.86		130.91	15.12	1,107.55	1,153.63	1,130.79	22.84	50.515	
6,500.00	6,498.89	6,511.62	6,510.69	23.04		130.96	15.12	1,107.55	1,154.62	1,131.61	23.02	50.167	
6,550.00	6,548.87	6,565.41	6,564.48	23.22		131.02	15.13	1,107.54	1,155.61	1,132.42	23.19	49.823	
6,600.00	6,598.85	6,611.70	6,610.77	23.40		131.08	15.12	1,107.59	1,156.65	1,133.28	23.37	49.487	
6,650.00	6,648.82	6,663.93	6,663.00	23.57		131.14	15.12	1,107.54	1,157.60	1,134.05	23.55	49.152	
6,700.00	6,698.80	6,711.70	6,710.77	23.75		131.19	15.11	1,107.57	1,158.63	1,134.90	23.73	48.826	
6,750.00	6,748.78	6,761.51	6,760.58	23.93		131.25	15.12	1,107.55	1,159.61	1,135.70	23.91	48.502	
6,800.00	6,798.75	6,812.29	6,811.36	24.11		131.31	15.05	1,107.59	1,160.65	1,136.57	24.09	48.186	
6,850.00	6,848.73	6,861.46	6,860.53	24.29		131.36	15.12	1,107.55	1,161.61	1,137.35	24.27	47.871	
6,900.00	6,898.71	6,912.78	6,911.84	24.47		131.42	15.07	1,107.59	1,162.66	1,138.21	24.44	47.563	
6,950.00	6,948.68	6,961.42	6,960.48	24.65		131.47	15.12	1,107.55	1,163.62	1,139.00	24.62	47.258	
7,000.00	6,998.66	7,013.16	7,012.23	24.83		131.53	15.13	1,107.59	1,164.66	1,139.86	24.80	46.959	
7,050.00	7,048.64	7,061.37	7,060.44	25.01		131.58	15.12	1,107.55	1,165.63	1,140.65	24.98	46.662	
7,100.00	7,098.62	7,113.84	7,112.91	25.19		131.64	15.12	1,107.58	1,166.67	1,141.51	25.16	46.372	
7,150.00	7,148.59	7,161.33	7,160.39	25.37		131.69	15.12	1,107.55	1,167.65	1,142.31	25.34	46.084	
7,200.00	7,198.57	7,223.23	7,210.37	25.54		131.75	15.12	1,107.55	1,168.66	1,143.14	25.52	45.801	
7,250.00	7,248.55	7,261.29	7,260.35	25.72		131.81	15.12	1,107.55	1,169.67	1,143.98	25.69	45.522	
7,300.00	7,298.52	7,314.29	7,313.35	25.90		131.86	15.12	1,107.54	1,170.68	1,144.81	25.87	45.245	
7,350.00	7,348.50	7,361.58	7,360.63	26.08		131.92	15.07	1,107.63	1,171.78	1,145.73	26.05	44.978	
7,400.00	7,398.48	7,416.29	7,415.34	26.26		131.98	15.15	1,107.51	1,172.68	1,146.45	26.23	44.705	
7,450.00	7,448.45	7,462.90	7,461.94	26.44		132.04	14.93	1,107.67	1,173.86	1,147.45	26.41	44.447	
7,500.00	7,498.43	7,511.21	7,510.23	26.62		132.08	15.12	1,107.55	1,174.74	1,148.16	26.59	44.182	
7,550.00	7,548.41	7,564.18	7,563.19	26.80		132.15	14.90	1,107.66	1,175.89	1,149.12	26.77	43.929	
7,600.00	7,598.38	7,611.18	7,610.18	26.98		132.19	15.12	1,107.55	1,176.78	1,149.83	26.95	43.671	
7,650.00	7,648.36	7,663.62	7,662.62	27.16		132.26	14.98	1,107.61	1,177.87	1,150.74	27.13	43.423	
7,700.00	7,698.34	7,711.16	7,710.14	27.34		132.30	15.12	1,107.55	1,178.82	1,151.52	27.30	43.174	
7,750.00	7,748.32	7,764.70	7,763.68	27.52		132.36	14.99	1,107.60	1,179.90	1,152.42	27.48	42.932	
7,800.00	7,798.29	7,811.14	7,810.09	27.70		132.41	15.12	1,107.55	1,180.87	1,153.21	27.66	42.690	
7,850.00	7,848.27	7,868.54	7,867.48	27.87		132.47	15.07	1,107.58	1,181.94	1,154.10	27.84	42.453	
7,900.00	7,898.25	7,911.14	7,910.05	28.05		132.52	15.12	1,107.55	1,182.92	1,154.90	28.02	42.218	
7,950.00	7,948.22	7,973.12	7,972.02	28.23		132.58	15.21	1,107.49	1,183.94	1,155.74	28.20	41.985	
8,000.00	7,998.20	8,011.12	8,010.00	28.41		132.63	15.12	1,107.55	1,184.97	1,156.59	28.38	41.758	
8,050.00	8,048.18	8,067.99	8,066.86	28.59		132.68	15.20	1,107.51	1,185.97	1,157.42	28.56	41.531	
8,100.00	8,098.15	8,111.86	8,110.71	28.77		132.75	14.86	1,107.67	1,187.16	1,158.42	28.73	41.314	
8,150.00	8,148.13	8,170.36	8,169.20	28.95		132.79	15.34	1,107.45	1,187.98	1,159.07	28.91	41.086	
8,200.00	8,198.11	8,213.34	8,212.15	29.13		132.86	14.82	1,107.68	1,189.24	1,160.14	29.09	40.877	
8,250.00	8,248.09	8,261.11	8,259.89	29.31		132.89	15.12	1,107.55	1,190.12	1,160.85	29.27	40.658	
8,300.00	8,298.06	8,314.04	8,312.81	29.49		132.96	14.85	1,107.64	1,191.27	1,161.82	29.45	40.450	
8,350.00	8,348.04	8,361.09	8,359.84	29.67		133.00	15.12	1,107.55	1,192.19	1,162.56	29.63	40.237	
8,400.00	8,398.02	8,412.60	8,411.34	29.85		133.07	14.93	1,107.58	1,193.27	1,163.46	29.81	40.031	
8,450.00	8,447.99	8,461.07	8,459.79	30.03		133.11	15.12	1,107.55	1,194.26	1,164.27	29.99	39.826	
8,500.00	8,497.97	8,510.85	8,509.57	30.21		133.17	14.98	1,107.54	1,195.30	1,165.13	30.17	39.624	
8,550.00	8,547.95	8,561.05	8,559.75	30.39		133.21	15.12	1,107.55	1,196.34	1,165.99	30.34	39.425	
8,600.00	8,597.92	8,614.39	8,613.08	30.57		133.27	15.03	1,107.57	1,197.40	1,166.88	30.52	39.228	
8,650.00	8,647.90	8,661.03	8,659.70	30.74		133.32	15.12	1,107.55	1,198.42	1,167.72	30.70	39.033	
8,700.00	8,697.88	8,710.98	8,709.64	30.92		133.37	15.08	1,107.55	1,199.46	1,168.58	30.88	38.840	
8,750.00	8,747.86	8,761.00	8,759.66	31.10		133.42	15.12	1,107.55	1,200.50	1,169.44	31.06	38.650	
8,800.00	8,797.83	8,811.00	8,809.63	31.28		133.48	15.12	1,107.55	1,201.55	1,170.31	31.24	38.462	
8,850.00	8,847.81	8,860.77	8,859.40	31.46		133.54	14.90	1,107.50	1,202.56	1,171.14	31.42	38.275	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
8,900.00	8,897.79	8,910.96	8,909.59	31.64		133.58	15.12	1,107.55	1,203.64	1,172.04	31.60	38.092	
8,950.00	8,947.76	8,960.83	8,959.45	31.82		133.64	14.99	1,107.53	1,204.68	1,172.90	31.78	37.911	
9,000.00	8,997.74	9,010.92	9,009.54	32.00		133.69	15.12	1,107.55	1,205.73	1,173.78	31.96	37.731	
9,050.00	9,047.72	9,062.88	9,061.50	32.18		133.75	15.02	1,107.62	1,206.86	1,174.72	32.14	37.555	
9,100.00	9,097.69	9,110.88	9,109.49	32.36		133.79	15.12	1,107.55	1,207.83	1,175.52	32.31	37.378	
9,150.00	9,147.67	9,160.96	9,159.57	32.54		133.85	15.03	1,107.55	1,208.88	1,176.39	32.49	37.204	
9,200.00	9,197.65	9,210.84	9,209.45	32.72		133.89	15.12	1,107.55	1,209.93	1,177.26	32.67	37.033	
9,250.00	9,247.62	9,256.91	9,255.52	32.90		133.94	15.11	1,107.46	1,210.90	1,178.05	32.85	36.862	
9,300.00	9,297.60	9,310.81	9,309.40	33.08		134.00	15.12	1,107.55	1,212.04	1,179.01	33.03	36.695	
9,350.00	9,347.58	9,355.53	9,354.13	33.26		134.05	15.02	1,107.46	1,213.03	1,179.82	33.21	36.528	
9,400.00	9,397.56	9,410.79	9,409.36	33.44		134.10	15.12	1,107.55	1,214.15	1,180.76	33.39	36.365	
9,450.00	9,447.53	9,449.77	9,448.33	33.62		134.14	15.05	1,107.39	1,215.10	1,181.53	33.56	36.203	
9,500.00	9,497.51	9,506.13	9,504.64	33.80		134.20	15.02	1,107.26	1,216.00	1,182.25	33.75	36.035	
9,550.00	9,547.49	9,560.86	9,559.29	33.98		134.25	15.12	1,107.55	1,217.32	1,183.40	33.93	35.882	
9,600.00	9,597.46	9,607.49	9,605.90	34.16		134.31	14.95	1,107.07	1,217.92	1,183.82	34.10	35.712	
9,650.00	9,647.44	9,660.91	9,659.24	34.34		134.36	15.12	1,107.55	1,219.44	1,185.16	34.28	35.569	
9,700.00	9,697.42	9,701.29	9,699.56	34.52		134.41	14.94	1,107.45	1,220.46	1,186.00	34.46	35.417	
9,750.00	9,747.39	9,759.96	9,757.73	34.69		134.48	14.54	1,107.46	1,221.54	1,186.89	34.64	35.262	
9,800.00	9,797.37	9,812.91	9,809.17	34.87		134.51	15.12	1,107.55	1,222.63	1,187.81	34.82	35.112	
9,850.00	9,847.35	9,866.09	9,859.15	35.05		134.56	15.12	1,107.55	1,223.70	1,188.70	35.00	34.963	
9,900.00	9,897.33	9,917.05	9,907.58	35.23		134.67	13.92	1,107.41	1,224.74	1,189.56	35.18	34.815	
9,950.00	9,947.30	9,973.66	9,959.10	35.41		134.66	15.12	1,107.55	1,225.83	1,190.47	35.36	34.669	
10,000.00	9,997.28	10,031.88	10,009.08	35.59		134.71	15.12	1,107.55	1,226.89	1,191.36	35.54	34.524	
10,050.00	10,047.26	10,094.70	10,059.06	35.77		134.76	15.12	1,107.55	1,227.96	1,192.25	35.72	34.381	
10,100.00	10,097.23	10,100.00	10,109.03	35.95		134.81	15.12	1,107.55	1,229.03	1,193.14	35.90	34.239	
10,150.00	10,147.21	10,150.00	10,159.01	36.13		134.86	15.12	1,107.55	1,230.10	1,194.03	36.07	34.099	
10,200.00	10,197.19	10,200.00	10,208.99	36.31		134.91	15.12	1,107.55	1,231.17	1,194.92	36.25	33.960	
10,250.00	10,247.16	12,316.00	10,240.39	36.49		134.94	15.12	1,107.55	1,232.38	1,195.96	36.43	33.833	
10,300.00	10,297.14	12,316.00	10,240.39	36.67		134.94	15.12	1,107.55	1,235.22	1,198.67	36.56	33.790 SF	
10,350.00	10,347.12	12,316.00	10,240.39	36.85		134.94	15.12	1,107.55	1,240.07	1,203.42	36.65	33.840	
10,400.00	10,397.10	12,316.00	10,240.39	37.03		134.94	15.12	1,107.55	1,246.90	1,210.21	36.69	33.981	
10,450.00	10,447.07	12,316.00	10,240.39	37.21		134.94	15.12	1,107.55	1,255.70	1,218.99	36.70	34.211	
10,500.00	10,497.05	12,316.00	10,240.39	37.39		134.94	15.12	1,107.55	1,266.40	1,229.72	36.68	34.527	
10,550.00	10,547.03	12,316.00	10,240.39	37.57		134.94	15.12	1,107.55	1,278.97	1,242.35	36.62	34.926	
10,600.00	10,597.00	12,316.00	10,240.39	37.75		134.94	15.12	1,107.55	1,293.36	1,256.83	36.53	35.405	
10,650.00	10,646.98	12,316.00	10,240.39	37.93		134.94	15.12	1,107.55	1,309.49	1,273.08	36.42	35.960	
10,700.00	10,696.96	12,316.00	10,240.39	38.11		134.94	15.12	1,107.55	1,327.32	1,291.04	36.28	36.589	
10,750.00	10,746.93	12,316.00	10,240.39	38.29		134.94	15.12	1,107.55	1,346.76	1,310.64	36.12	37.287	
10,800.00	10,796.91	12,316.00	10,240.39	38.47		135.02	15.12	1,107.55	1,367.74	1,331.80	35.94	38.052	
10,850.00	10,846.90	12,316.00	10,240.39	38.65		135.28	15.12	1,107.55	1,389.88	1,354.13	35.76	38.872	
10,900.10	10,897.00	12,316.00	10,240.39	38.83		96.68	15.12	1,107.55	1,413.09	1,377.54	35.55	39.744	
10,950.00	10,946.90	12,316.00	10,240.39	39.00		96.68	15.12	1,107.55	1,437.37	1,402.02	35.35	40.665	
11,000.00	10,996.90	12,316.00	10,240.39	39.18		96.68	15.12	1,107.55	1,462.99	1,427.86	35.13	41.640	
11,050.00	11,046.90	12,316.00	10,240.39	39.36		96.68	15.12	1,107.55	1,489.86	1,454.94	34.92	42.665	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	-89.46	6.63	-708.91	709.05				
50.00	50.00	38.27	38.27	0.50	0.50	-89.46	6.63	-708.90	708.93	707.93	1.00	705.516	
100.00	100.00	88.75	88.75	0.52	0.52	-89.47	6.61	-708.86	708.89	707.86	1.03	686.346	
150.00	150.00	138.63	138.63	0.59	0.55	-89.47	6.58	-708.79	708.82	707.68	1.14	619.539	
190.14	190.14	178.04	178.04	0.68	0.63	-89.47	6.58	-708.77	708.80	707.50	1.30	544.037 CC	
200.00	200.00	187.72	187.72	0.70	0.65	-89.47	6.59	-708.77	708.80	707.45	1.35	525.839	
250.00	250.00	236.82	236.82	0.84	0.77	-89.46	6.65	-708.81	708.85	707.24	1.60	442.207	
300.00	300.00	285.92	285.92	0.99	0.90	-89.45	6.76	-708.92	708.96	707.07	1.89	375.349	
350.00	350.00	335.04	335.04	1.15	1.05	-89.44	6.88	-709.09	709.13	706.93	2.19	323.253	
400.00	400.00	385.11	385.11	1.31	1.21	-89.44	6.99	-709.30	709.34	706.83	2.51	282.140	
450.00	450.00	436.32	436.32	1.48	1.37	-89.43	7.03	-709.46	709.50	706.65	2.85	249.193	
500.00	500.00	485.47	485.47	1.65	1.53	-89.43	7.02	-709.57	709.61	706.43	3.18	223.166	
550.00	550.00	533.55	533.54	1.82	1.70	-89.43	7.05	-709.80	709.85	706.34	3.51	202.066	
600.00	600.00	582.81	582.81	1.99	1.86	-89.42	7.14	-710.14	710.20	706.34	3.85	184.284	
650.00	650.00	632.50	632.50	2.16	2.03	-89.41	7.31	-710.51	710.57	706.37	4.20	169.242	
700.00	700.00	681.50	681.50	2.34	2.20	-89.40	7.48	-710.91	710.98	706.44	4.54	156.504	
750.00	750.00	730.50	730.49	2.51	2.37	-89.39	7.56	-711.39	711.47	706.58	4.89	145.538	
800.00	800.00	781.41	781.40	2.69	2.55	-89.38	7.64	-711.88	711.95	706.71	5.24	135.814	
850.00	850.00	832.32	832.31	2.87	2.73	-89.37	7.81	-712.31	712.38	706.78	5.60	127.288	
900.00	900.00	883.23	883.22	3.04	2.91	-89.35	8.06	-712.68	712.74	706.79	5.95	119.751	
950.00	950.00	934.14	934.12	3.22	3.09	-89.33	8.30	-712.98	713.04	706.73	6.31	113.038	
1,000.00	1,000.00	985.41	985.39	3.40	3.27	-89.32	8.47	-713.21	713.27	706.60	6.67	107.016	
1,050.00	1,050.00	1,037.44	1,037.42	3.58	3.45	-89.31	8.63	-713.32	713.37	706.35	7.02	101.565	
1,100.00	1,100.00	1,088.70	1,088.68	3.75	3.63	-89.29	8.80	-713.29	713.35	705.97	7.38	96.679	
1,150.00	1,150.00	1,139.25	1,139.23	3.93	3.80	-89.28	8.95	-713.22	713.27	705.54	7.73	92.277	
1,200.00	1,200.00	1,189.31	1,189.29	4.11	3.97	-89.27	9.07	-713.11	713.17	705.09	8.08	88.288	
1,250.00	1,250.00	1,239.18	1,239.16	4.29	4.14	-89.27	9.12	-713.02	713.08	704.65	8.42	84.640	
1,300.00	1,300.00	1,289.23	1,289.21	4.46	4.31	-89.26	9.17	-712.93	712.99	704.22	8.77	81.261	
1,350.00	1,350.00	1,339.35	1,339.33	4.64	4.48	-89.25	9.35	-712.83	712.90	703.77	9.12	78.134	
1,400.00	1,400.00	1,390.43	1,390.41	4.82	4.66	-89.24	9.49	-712.69	712.76	703.28	9.48	75.206	
1,450.00	1,450.00	1,441.52	1,441.49	5.00	4.83	-89.24	9.43	-712.47	712.54	702.71	9.83	72.480	
1,500.00	1,500.00	1,488.71	1,488.69	5.18	4.99	-89.25	9.31	-712.36	712.42	702.25	10.17	70.053	
1,518.48	1,518.48	1,506.40	1,506.38	5.24	5.05	-89.26	9.26	-712.35	712.41	702.11	10.30	69.194	
1,550.00	1,550.00	1,537.47	1,537.45	5.36	5.16	-89.26	9.16	-712.37	712.43	701.91	10.51	67.758	
1,600.00	1,600.00	1,588.49	1,588.47	5.53	5.33	-89.27	9.04	-712.37	712.42	701.56	10.87	65.557	
1,650.00	1,650.00	1,639.20	1,639.18	5.71	5.51	-89.28	9.00	-712.30	712.35	701.13	11.22	63.491	
1,700.00	1,700.00	1,689.55	1,689.52	5.89	5.68	-89.27	9.05	-712.19	712.25	700.68	11.57	61.549	
1,750.00	1,750.00	1,740.31	1,740.29	6.07	5.86	-89.26	9.15	-712.05	712.12	700.19	11.93	59.710	
1,800.00	1,800.00	1,791.36	1,791.33	6.25	6.03	-89.26	9.17	-711.84	711.91	699.63	12.28	57.965	
1,850.00	1,850.00	1,839.78	1,839.76	6.43	6.20	-89.26	9.15	-711.64	711.70	699.07	12.63	56.356	
1,888.00	1,888.00	1,875.92	1,875.90	6.56	6.33	-89.26	9.15	-711.60	711.65	698.76	12.89	55.208	
1,900.00	1,900.00	1,887.34	1,887.31	6.61	6.37	-89.26	9.16	-711.60	711.66	698.69	12.97	54.857	
1,950.00	1,950.00	1,938.12	1,938.09	6.78	6.55	-89.26	9.20	-711.64	711.70	698.37	13.33	53.394	
2,000.00	2,000.00	1,989.83	1,989.80	6.96	6.73	-89.25	9.29	-711.56	711.62	697.94	13.69	51.986	
2,050.00	2,050.00	2,038.28	2,038.26	7.14	6.90	-89.24	9.42	-711.48	711.54	697.50	14.04	50.689	
2,060.50	2,060.50	2,048.43	2,048.40	7.18	6.93	-89.24	9.46	-711.48	711.54	697.43	14.11	50.426	
2,100.00	2,100.00	2,086.59	2,086.57	7.32	7.07	-89.22	9.63	-711.51	711.58	697.19	14.39	49.464	
2,150.00	2,150.00	2,135.40	2,135.38	7.50	7.24	-89.21	9.79	-711.64	711.71	696.97	14.74	48.299	
2,200.00	2,200.00	2,184.52	2,184.49	7.68	7.41	-89.21	9.79	-711.85	711.93	696.84	15.09	47.191	
2,250.00	2,250.00	2,236.91	2,236.89	7.86	7.59	-89.22	9.73	-712.02	712.08	696.64	15.45	46.101	
2,300.00	2,300.00	2,288.70	2,288.67	8.04	7.77	-89.22	9.66	-712.01	712.08	696.27	15.80	45.057	
2,350.00	2,350.00	2,339.00	2,338.97	8.22	7.94	-89.23	9.61	-711.95	712.01	695.86	16.16	44.070	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
2,395.10	2,395.10	2,383.02	2,383.00	8.38	8.09	-89.23	9.61	-711.89	711.95	695.48	16.47	43.227	
2,400.00	2,400.00	2,387.55	2,387.53	8.39	8.11	-89.23	9.62	-711.89	711.95	695.45	16.50	43.139	
2,450.00	2,450.00	2,433.73	2,433.70	8.57	8.27	-89.21	9.79	-712.03	712.11	695.27	16.84	42.278 ES	
2,500.00	2,500.00	2,480.42	2,480.39	8.75	8.43	-89.18	10.15	-712.42	712.53	695.35	17.19	41.462	
2,550.00	2,550.00	2,527.91	2,527.88	8.93	8.60	-89.14	10.65	-713.00	713.15	695.62	17.53	40.680	
2,600.00	2,600.00	2,574.40	2,574.35	9.11	8.77	-89.09	11.28	-713.74	713.95	696.08	17.87	39.948	
2,650.00	2,650.00	2,619.42	2,619.35	9.29	8.92	-89.04	12.03	-714.74	715.08	696.87	18.21	39.275	
2,700.00	2,700.00	2,665.69	2,665.60	9.47	9.09	-88.96	12.94	-716.07	716.53	697.99	18.55	38.634	
2,750.00	2,750.00	2,714.68	2,714.56	9.65	9.26	-88.89	13.93	-717.61	718.12	699.23	18.90	38.001	
2,800.00	2,800.00	2,765.00	2,764.83	9.83	9.44	-88.81	14.93	-719.24	719.77	700.51	19.25	37.383	
2,850.00	2,850.00	2,817.30	2,817.11	10.00	9.62	-88.73	15.94	-720.81	721.29	701.67	19.62	36.765	
2,900.00	2,900.00	2,868.42	2,868.20	10.18	9.80	-88.66	16.92	-722.21	722.67	702.70	19.98	36.172	
2,950.00	2,950.00	2,918.77	2,918.52	10.36	9.98	-88.58	17.92	-723.54	724.02	703.69	20.34	35.603	
3,000.00	3,000.00	2,965.44	2,965.16	10.54	10.15	-88.50	18.94	-724.84	725.44	704.76	20.68	35.083	
3,050.00	3,050.00	3,010.63	3,010.31	10.72	10.31	-88.41	20.16	-726.37	727.17	706.16	21.01	34.606	
3,100.00	3,100.00	3,058.13	3,057.75	10.90	10.48	-88.30	21.66	-728.24	729.19	707.83	21.36	34.141	
3,150.00	3,150.00	3,106.94	3,106.49	11.08	10.65	-88.18	23.26	-730.25	731.29	709.58	21.71	33.687	
3,200.00	3,200.00	3,155.11	3,154.58	11.26	10.82	-88.06	24.85	-732.32	733.50	711.44	22.06	33.256	
3,250.00	3,250.00	3,203.01	3,202.41	11.44	10.99	-87.95	26.32	-734.51	735.84	713.43	22.40	32.846	
3,300.00	3,300.00	3,251.75	3,251.08	11.62	11.17	-87.85	27.68	-736.86	738.30	715.54	22.75	32.449	
3,350.00	3,350.00	3,300.77	3,300.02	11.80	11.34	-87.76	28.94	-739.29	740.82	717.72	23.10	32.064	
3,400.00	3,400.00	3,351.26	3,350.43	11.97	11.52	-87.67	30.19	-741.81	743.37	719.91	23.46	31.683	
3,450.00	3,450.00	3,402.04	3,401.13	12.15	11.70	-87.57	31.57	-744.29	745.86	722.04	23.82	31.308	
3,500.00	3,500.00	3,448.20	3,447.21	12.33	11.87	-87.48	32.91	-746.62	748.45	724.29	24.16	30.977	
3,550.00	3,550.00	3,494.24	3,493.16	12.51	12.03	-87.38	34.31	-749.18	751.30	726.80	24.50	30.668	
3,600.00	3,600.00	3,546.17	3,544.98	12.69	12.22	-87.27	35.87	-752.14	754.22	729.36	24.86	30.333	
3,650.00	3,650.00	3,598.79	3,597.51	12.87	12.41	-87.17	37.32	-754.99	756.99	731.75	25.23	29.998	
3,700.00	3,700.00	3,653.24	3,651.87	13.05	12.60	-87.07	38.72	-757.66	759.51	733.89	25.61	29.654	
3,750.00	3,750.00	3,705.12	3,703.69	13.23	12.79	-86.99	39.98	-759.95	761.76	735.79	25.98	29.323	
3,800.00	3,800.00	3,753.39	3,751.89	13.41	12.96	-86.89	41.35	-762.10	764.07	737.74	26.33	29.022	
3,850.00	3,850.00	3,800.29	3,798.72	13.59	13.13	-86.78	42.93	-764.29	766.50	739.83	26.67	28.741	
3,900.00	3,900.00	3,845.78	3,844.11	13.77	13.29	-86.67	44.65	-766.65	769.20	742.20	27.00	28.484	
3,950.00	3,950.00	3,893.49	3,891.71	13.94	13.47	-86.53	46.59	-769.37	772.16	744.81	27.35	28.232	
4,000.00	4,000.00	3,944.60	3,942.70	14.12	13.65	-86.41	48.50	-772.28	775.12	747.40	27.71	27.969	
4,050.00	4,050.00	3,994.92	3,992.91	14.30	13.83	-47.41	50.15	-775.09	777.83	749.75	28.07	27.709	
4,100.00	4,099.99	4,044.63	4,042.52	14.48	14.01	-47.34	51.62	-777.88	780.17	751.75	28.43	27.445	
4,150.00	4,149.97	4,091.98	4,089.77	14.66	14.18	-47.31	52.96	-780.60	782.22	753.46	28.77	27.191	
4,200.00	4,199.95	4,138.15	4,135.83	14.83	14.35	-47.29	54.45	-783.46	784.39	755.29	29.10	26.952	
4,250.00	4,249.93	4,187.00	4,184.54	15.01	14.53	-47.26	56.20	-786.66	786.75	757.29	29.45	26.712	
4,300.00	4,299.90	4,237.40	4,234.80	15.19	14.71	-47.22	58.07	-789.94	789.09	759.28	29.81	26.470	
4,350.00	4,349.88	4,291.94	4,289.20	15.37	14.91	-47.18	60.08	-793.35	791.31	761.12	30.19	26.210	
4,400.00	4,399.86	4,347.76	4,344.90	15.54	15.11	-47.15	61.90	-796.45	793.16	762.59	30.58	25.940	
4,450.00	4,449.84	4,394.78	4,391.82	15.72	15.28	-47.13	63.42	-799.00	794.95	764.03	30.92	25.712	
4,500.00	4,499.81	4,442.84	4,439.78	15.90	15.45	-47.10	65.09	-801.73	796.88	765.61	31.26	25.489	
4,550.00	4,549.79	4,493.73	4,490.55	16.08	15.64	-47.07	66.91	-804.65	798.82	767.20	31.62	25.260	
4,600.00	4,599.77	4,543.59	4,540.31	16.26	15.82	-47.03	68.69	-807.45	800.72	768.74	31.98	25.038	
4,650.00	4,649.74	4,590.64	4,587.24	16.43	15.99	-47.00	70.41	-810.20	802.74	770.42	32.32	24.836	
4,700.00	4,699.72	4,638.12	4,634.59	16.61	16.16	-46.96	72.18	-813.15	804.93	772.27	32.66	24.642	
4,750.00	4,749.70	4,686.81	4,683.15	16.79	16.34	-46.92	74.04	-816.27	807.23	774.22	33.01	24.451	
4,800.00	4,799.67	4,737.25	4,733.44	16.97	16.52	-46.88	76.02	-819.55	809.59	776.22	33.37	24.258	
4,850.00	4,849.65	4,791.12	4,787.17	17.15	16.72	-46.84	78.06	-822.88	811.78	778.03	33.75	24.052	
4,900.00	4,899.63	4,845.54	4,841.47	17.32	16.92	-46.80	80.02	-825.98	813.71	779.58	34.13	23.841	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
4,950.00	4,949.61	4,900.35	4,896.17	17.50	17.12	-46.77	81.87	-828.79	815.36	780.85	34.51	23.625	
5,000.00	4,999.58	4,954.04	4,949.79	17.68	17.31	-46.75	83.55	-831.26	816.74	781.85	34.89	23.411	
5,050.00	5,049.56	5,007.60	5,003.27	17.86	17.50	-46.74	85.08	-833.51	817.90	782.64	35.26	23.196	
5,100.00	5,099.54	5,058.27	5,053.89	18.04	17.69	-46.73	86.42	-835.52	818.94	783.32	35.62	22.990	
5,150.00	5,149.51	5,109.29	5,104.85	18.21	17.87	-46.74	87.67	-837.49	819.92	783.93	35.98	22.787	
5,200.00	5,199.49	5,160.35	5,155.86	18.39	18.06	-46.75	88.74	-839.41	820.83	784.49	36.34	22.585	
5,250.00	5,249.47	5,212.16	5,207.63	18.57	18.24	-46.78	89.62	-841.29	821.67	784.96	36.71	22.384	
5,300.00	5,299.44	5,264.91	5,260.35	18.75	18.43	-46.82	90.38	-843.06	822.36	785.28	37.08	22.180	
5,350.00	5,349.42	5,316.17	5,311.58	18.93	18.62	-46.86	90.99	-844.65	822.91	785.47	37.44	21.980	
5,400.00	5,399.40	5,366.64	5,362.02	19.11	18.80	-46.91	91.52	-846.18	823.42	785.62	37.80	21.785	
5,450.00	5,449.38	5,416.52	5,411.88	19.28	18.98	-46.96	91.96	-847.68	823.92	785.76	38.15	21.595	
5,500.00	5,499.35	5,466.26	5,461.59	19.46	19.15	-47.02	92.32	-849.20	824.43	785.92	38.51	21.409	
5,550.00	5,549.33	5,518.64	5,513.95	19.64	19.34	-47.09	92.67	-850.74	824.89	786.01	38.87	21.219	
5,600.00	5,599.31	5,571.31	5,566.60	19.82	19.53	-47.15	93.08	-852.11	825.19	785.95	39.24	21.029	
5,650.00	5,649.28	5,620.78	5,616.05	20.00	19.71	-47.20	93.46	-853.35	825.43	785.84	39.60	20.847	
5,700.00	5,699.26	5,671.21	5,666.46	20.18	19.89	-47.26	93.79	-854.63	825.68	785.73	39.95	20.666	
5,750.00	5,749.24	5,723.66	5,718.90	20.36	20.07	-47.33	94.12	-855.84	825.83	785.51	40.32	20.482	
5,800.00	5,799.21	5,775.83	5,771.06	20.53	20.26	-47.39	94.45	-856.90	825.84	785.15	40.68	20.299	
5,850.00	5,849.19	5,827.61	5,822.83	20.71	20.45	-47.45	94.80	-857.83	825.73	784.68	41.05	20.116	
5,900.00	5,899.17	5,879.84	5,875.05	20.89	20.63	-47.51	95.16	-858.65	825.50	784.09	41.41	19.934	
5,950.00	5,949.14	5,932.36	5,927.57	21.07	20.82	-47.57	95.56	-859.31	825.13	783.35	41.78	19.751	
6,000.00	5,999.12	5,984.53	5,979.74	21.25	21.01	-47.62	95.97	-859.81	824.61	782.47	42.14	19.568	
6,050.00	6,049.10	6,036.22	6,031.42	21.43	21.19	-47.67	96.40	-860.18	823.98	781.47	42.50	19.386	
6,100.00	6,099.08	6,085.68	6,080.87	21.61	21.37	-47.72	96.83	-860.50	823.30	780.44	42.86	19.210	
6,150.00	6,149.05	6,134.73	6,129.93	21.79	21.54	-47.77	97.28	-860.86	822.68	779.46	43.21	19.038	
6,200.00	6,199.03	6,185.63	6,180.82	21.96	21.72	-47.82	97.76	-861.25	822.06	778.49	43.57	18.867	
6,250.00	6,249.01	6,236.65	6,231.84	22.14	21.90	-47.86	98.29	-861.56	821.38	777.45	43.93	18.697	
6,300.00	6,298.98	6,285.25	6,280.43	22.32	22.08	-47.91	98.79	-861.88	820.72	776.44	44.28	18.534	
6,350.00	6,348.96	6,334.33	6,329.51	22.50	22.25	-47.95	99.23	-862.28	820.13	775.50	44.64	18.373	
6,400.00	6,398.94	6,384.78	6,379.96	22.68	22.43	-48.00	99.69	-862.69	819.55	774.55	45.00	18.214	
6,450.00	6,448.91	6,435.24	6,430.41	22.86	22.61	-48.05	100.17	-863.08	818.94	773.59	45.35	18.057	
6,500.00	6,498.89	6,485.69	6,480.85	23.04	22.79	-48.10	100.67	-863.43	818.30	772.59	45.71	17.901	
6,550.00	6,548.87	6,536.41	6,531.57	23.22	22.97	-48.14	101.20	-863.75	817.64	771.56	46.07	17.747	
6,600.00	6,598.85	6,587.47	6,582.63	23.40	23.15	-48.19	101.71	-864.02	816.91	770.48	46.43	17.594	
6,650.00	6,648.82	6,638.92	6,634.08	23.57	23.34	-48.24	102.19	-864.21	816.11	769.32	46.79	17.442	
6,700.00	6,698.80	6,690.65	6,685.81	23.75	23.52	-48.29	102.55	-864.31	815.21	768.05	47.15	17.289	
6,750.00	6,748.78	6,739.80	6,734.96	23.93	23.69	-48.35	102.81	-864.35	814.26	766.75	47.50	17.141	
6,800.00	6,798.75	6,788.15	6,783.31	24.11	23.86	-48.41	103.08	-864.49	813.41	765.55	47.86	16.997	
6,850.00	6,848.73	6,837.41	6,832.56	24.29	24.04	-48.47	103.36	-864.71	812.63	764.42	48.21	16.856	
6,900.00	6,898.71	6,886.87	6,882.02	24.47	24.21	-48.53	103.68	-864.96	811.89	763.33	48.57	16.717	
6,950.00	6,948.68	6,936.95	6,932.10	24.65	24.39	-48.58	104.07	-865.22	811.17	762.25	48.92	16.581	
7,000.00	6,998.66	6,987.08	6,982.23	24.83	24.57	-48.63	104.58	-865.47	810.44	761.16	49.28	16.446	
7,050.00	7,048.64	7,036.14	7,031.28	25.01	24.75	-48.67	105.12	-865.74	809.73	760.10	49.63	16.314	
7,100.00	7,098.62	7,085.34	7,080.48	25.19	24.92	-48.72	105.62	-866.07	809.08	759.09	49.99	16.185	
7,150.00	7,148.59	7,135.24	7,130.38	25.37	25.10	-48.76	106.08	-866.42	808.46	758.11	50.35	16.058	
7,200.00	7,198.57	7,184.97	7,180.10	25.54	25.28	-48.82	106.47	-866.79	807.84	757.14	50.70	15.933	
7,250.00	7,248.55	7,234.18	7,229.31	25.72	25.45	-48.87	106.84	-867.18	807.26	756.20	51.06	15.811	
7,300.00	7,298.52	7,283.96	7,279.09	25.90	25.63	-48.93	107.24	-867.63	806.72	755.31	51.41	15.691	
7,350.00	7,348.50	7,334.90	7,330.02	26.08	25.81	-48.98	107.65	-868.04	806.15	754.38	51.77	15.571	
7,400.00	7,398.48	7,385.06	7,380.18	26.26	25.99	-49.04	108.04	-868.41	805.53	753.40	52.13	15.452	
7,450.00	7,448.45	7,434.39	7,429.50	26.44	26.17	-49.09	108.45	-868.79	804.94	752.46	52.49	15.336	
7,500.00	7,498.43	7,484.29	7,479.41	26.62	26.35	-49.14	108.86	-869.21	804.38	751.54	52.84	15.222	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,550.00	7,548.41	7,534.64	7,529.75	26.80	26.53	-49.21	109.15	-869.63	803.81	750.61	53.20	15.109	
7,600.00	7,598.38	7,584.94	7,580.05	26.98	26.71	-49.27	109.35	-870.02	803.22	749.66	53.56	14.996	
7,650.00	7,648.36	7,635.23	7,630.34	27.16	26.88	-49.34	109.58	-870.39	802.61	748.69	53.92	14.885	
7,700.00	7,698.34	7,685.57	7,680.67	27.34	27.06	-49.41	109.81	-870.75	801.98	747.70	54.28	14.775	
7,750.00	7,748.32	7,735.92	7,731.02	27.52	27.24	-49.48	109.98	-871.08	801.33	746.69	54.64	14.667	
7,800.00	7,798.29	7,784.99	7,780.09	27.70	27.42	-49.55	110.08	-871.42	800.69	745.70	54.99	14.561	
7,850.00	7,848.27	7,834.03	7,829.13	27.87	27.59	-49.63	110.11	-871.83	800.12	744.78	55.34	14.457	
7,900.00	7,898.25	7,881.90	7,877.00	28.05	27.76	-49.72	110.07	-872.31	799.65	743.95	55.69	14.358	
7,950.00	7,948.22	7,930.04	7,925.13	28.23	27.93	-49.80	109.99	-872.93	799.30	743.26	56.04	14.263	
8,000.00	7,998.20	7,979.98	7,975.07	28.41	28.11	-49.90	109.90	-873.62	799.01	742.61	56.40	14.168	
8,050.00	8,048.18	8,029.48	8,024.57	28.59	28.28	-49.98	109.82	-874.31	798.73	741.98	56.75	14.074	
8,100.00	8,098.15	8,077.41	8,072.49	28.77	28.45	-50.07	109.72	-875.06	798.54	741.44	57.10	13.985	
8,150.00	8,148.13	8,126.08	8,121.15	28.95	28.62	-50.16	109.58	-875.95	798.47	741.02	57.45	13.899	
8,200.00	8,198.11	8,176.86	8,171.92	29.13	28.80	-50.26	109.41	-876.87	798.41	740.60	57.81	13.811	
8,250.00	8,248.09	8,226.86	8,221.91	29.31	28.98	-50.36	109.23	-877.74	798.31	740.15	58.16	13.725	
8,300.00	8,298.06	8,275.71	8,270.75	29.49	29.15	-50.46	109.00	-878.64	798.26	739.74	58.51	13.642	
8,308.93	8,306.99	8,284.43	8,279.48	29.52	29.18	-50.48	108.94	-878.81	798.26	739.68	58.58	13.627	
8,350.00	8,348.04	8,325.50	8,320.53	29.67	29.33	-50.57	108.69	-879.62	798.27	739.40	58.87	13.560	
8,400.00	8,398.02	8,376.74	8,371.76	29.85	29.51	-50.67	108.40	-880.57	798.24	739.01	59.23	13.477	
8,450.00	8,447.99	8,443.88	8,438.84	30.03	29.74	-50.95	106.15	-881.23	797.80	738.17	59.63	13.379	
8,500.00	8,497.97	8,515.99	8,510.10	30.21	29.97	-51.83	95.55	-879.91	795.94	735.94	60.01	13.264	
8,550.00	8,547.95	8,580.66	8,572.04	30.39	30.17	-53.26	77.38	-877.08	793.07	732.72	60.35	13.141	
8,600.00	8,597.92	8,621.49	8,609.67	30.57	30.28	-54.47	61.69	-874.86	790.23	729.55	60.69	13.022	
8,650.00	8,647.90	8,658.33	8,642.41	30.74	30.38	-55.75	44.93	-873.05	788.38	727.37	61.01	12.923	
8,693.60	8,691.48	8,678.00	8,659.36	30.90	30.43	-56.51	34.99	-872.16	787.85	726.62	61.23	12.868	
8,700.00	8,697.88	8,689.49	8,669.08	30.92	30.46	-56.97	28.88	-871.69	787.80	726.52	61.28	12.855	
8,750.00	8,747.86	8,714.87	8,690.02	31.10	30.51	-58.05	14.57	-870.90	788.95	727.47	61.49	12.831 SF	
8,800.00	8,797.83	8,738.43	8,708.78	31.28	30.57	-59.11	0.33	-870.48	792.03	730.42	61.61	12.855	
8,850.00	8,847.81	8,772.00	8,734.29	31.46	30.65	-60.73	-21.49	-870.37	797.30	735.56	61.74	12.913	
8,900.00	8,897.79	8,782.47	8,741.94	31.64	30.67	-61.25	-28.63	-870.44	804.36	742.76	61.61	13.056	
8,950.00	8,947.76	8,805.46	8,758.25	31.82	30.72	-62.42	-44.84	-870.64	813.58	752.08	61.50	13.229	
9,000.00	8,997.74	8,826.53	8,772.58	32.00	30.77	-63.53	-60.27	-870.89	824.82	763.53	61.29	13.457	
9,050.00	9,047.72	8,845.84	8,785.18	32.18	30.82	-64.57	-74.90	-871.16	838.11	777.12	60.99	13.741	
9,100.00	9,097.69	8,866.00	8,797.78	32.36	30.88	-65.68	-90.64	-871.50	853.47	792.83	60.64	14.074	
9,150.00	9,147.67	8,866.00	8,797.78	32.54	30.88	-65.68	-90.64	-871.50	871.03	811.10	59.93	14.534	
9,200.00	9,197.65	8,891.18	8,812.59	32.72	30.95	-67.09	-110.99	-872.05	890.28	830.73	59.55	14.951	
9,250.00	9,247.62	8,903.22	8,819.27	32.90	30.98	-67.77	-121.00	-872.37	911.66	852.74	58.92	15.473	
9,300.00	9,297.60	8,914.31	8,825.19	33.08	31.01	-68.40	-130.37	-872.71	934.90	876.65	58.25	16.050	
9,350.00	9,347.58	8,924.56	8,830.47	33.26	31.04	-68.99	-139.15	-873.06	959.90	902.36	57.55	16.681	
9,400.00	9,397.56	8,934.05	8,835.17	33.44	31.06	-69.53	-147.39	-873.41	986.57	929.74	56.82	17.363	
9,450.00	9,447.53	8,960.00	8,847.16	33.62	31.13	-71.03	-170.37	-874.49	1,015.17	958.80	56.37	18.009	
9,500.00	9,497.51	8,960.00	8,847.16	33.80	31.13	-71.03	-170.37	-874.49	1,044.56	989.05	55.50	18.819	
9,550.00	9,547.49	8,960.00	8,847.16	33.98	31.13	-71.03	-170.37	-874.49	1,075.47	1,020.81	54.65	19.678	
9,600.00	9,597.46	8,960.00	8,847.16	34.16	31.13	-71.03	-170.37	-874.49	1,107.77	1,053.95	53.83	20.581	
9,650.00	9,647.44	8,960.00	8,847.16	34.34	31.13	-71.03	-170.37	-874.49	1,141.36	1,088.33	53.03	21.524	
9,700.00	9,697.42	8,960.00	8,847.16	34.52	31.13	-71.03	-170.37	-874.49	1,176.11	1,123.85	52.26	22.505	
9,750.00	9,747.39	8,960.00	8,847.16	34.69	31.13	-71.03	-170.37	-874.49	1,211.92	1,160.39	51.53	23.518	
9,800.00	9,797.37	8,991.93	8,860.14	34.87	31.22	-72.88	-199.50	-876.01	1,247.43	1,196.10	51.34	24.298	
9,850.00	9,847.35	8,997.41	8,862.17	35.05	31.23	-73.20	-204.58	-876.29	1,284.64	1,233.88	50.76	25.308	
9,900.00	9,897.33	9,002.57	8,864.03	35.23	31.25	-73.50	-209.39	-876.55	1,322.62	1,272.40	50.21	26.340	
9,950.00	9,947.30	9,007.44	8,865.74	35.41	31.26	-73.78	-213.94	-876.80	1,361.31	1,311.61	49.70	27.392	
10,000.00	9,997.28	9,012.03	8,867.31	35.59	31.27	-74.04	-218.25	-877.04	1,400.67	1,351.46	49.21	28.462	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
10,050.00	10,047.26	9,016.38	8,868.76	35.77	31.29	-74.29	-222.34	-877.27	1,440.63	1,391.88	48.76	29.548	
10,100.00	10,097.23	9,020.50	8,870.09	35.95	31.30	-74.53	-226.23	-877.49	1,481.17	1,432.84	48.33	30.647	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	8.60	8.60	0.50	0.50	101.08	-146.52	748.51	762.72				
50.00	50.00	58.60	58.60	0.50	0.51	101.08	-146.52	748.51	762.72	761.71	1.01	756.535	
100.00	100.00	108.60	108.60	0.52	0.53	101.08	-146.52	748.51	762.72	761.67	1.04	730.322	
150.00	150.00	158.60	158.60	0.59	0.61	101.08	-146.52	748.51	762.72	761.52	1.20	636.964	
200.00	200.00	208.60	208.60	0.70	0.72	101.08	-146.52	748.51	762.72	761.29	1.43	534.797	
250.00	250.00	258.60	258.60	0.84	0.86	101.08	-146.52	748.51	762.72	761.02	1.70	448.562	
300.00	300.00	308.60	308.60	0.99	1.01	101.08	-146.52	748.51	762.72	760.72	2.00	381.097	
350.00	350.00	358.60	358.60	1.15	1.17	101.08	-146.52	748.51	762.72	760.40	2.32	328.928	
400.00	400.00	408.60	408.60	1.31	1.34	101.08	-146.52	748.51	762.72	760.07	2.65	288.174	
450.00	450.00	458.60	458.60	1.48	1.51	101.08	-146.52	748.51	762.72	759.74	2.98	255.800	
500.00	500.00	508.60	508.60	1.65	1.68	101.08	-146.52	748.51	762.72	759.40	3.32	229.625	
550.00	550.00	558.60	558.60	1.82	1.85	101.08	-146.52	748.51	762.72	759.05	3.67	208.108	
600.00	600.00	608.60	608.60	1.99	2.02	101.08	-146.52	748.51	762.72	758.71	4.01	190.154	
650.00	650.00	658.60	658.60	2.16	2.19	101.08	-146.52	748.51	762.72	758.36	4.36	174.970	
700.00	700.00	708.60	708.60	2.34	2.37	101.08	-146.52	748.51	762.72	758.01	4.71	161.979	
750.00	750.00	758.60	758.60	2.51	2.54	101.08	-146.52	748.51	762.72	757.66	5.06	150.746	
800.00	800.00	808.60	808.60	2.69	2.72	101.08	-146.52	748.51	762.72	757.31	5.41	140.944	
850.00	850.00	858.60	858.60	2.87	2.90	101.08	-146.52	748.51	762.72	756.95	5.76	132.321	
900.00	900.00	908.60	908.60	3.04	3.07	101.08	-146.52	748.51	762.72	756.60	6.12	124.678	
950.00	950.00	958.60	958.60	3.22	3.25	101.08	-146.52	748.51	762.72	756.25	6.47	117.859	
1,000.00	1,000.00	1,008.60	1,008.60	3.40	3.43	101.08	-146.52	748.51	762.72	755.89	6.83	111.740	
1,050.00	1,050.00	1,058.60	1,058.60	3.58	3.61	101.08	-146.52	748.51	762.72	755.54	7.18	106.219	
1,100.00	1,100.00	1,108.60	1,108.60	3.75	3.78	101.08	-146.52	748.51	762.72	755.18	7.54	101.213	
1,150.00	1,150.00	1,158.60	1,158.60	3.93	3.96	101.08	-146.52	748.51	762.72	754.83	7.89	96.654	
1,200.00	1,200.00	1,208.60	1,208.60	4.11	4.14	101.08	-146.52	748.51	762.72	754.47	8.25	92.485	
1,250.00	1,250.00	1,258.60	1,258.60	4.29	4.32	101.08	-146.52	748.51	762.72	754.11	8.60	88.659	
1,300.00	1,300.00	1,308.60	1,308.60	4.46	4.49	101.08	-146.52	748.51	762.72	753.76	8.96	85.134	
1,350.00	1,350.00	1,358.60	1,358.60	4.64	4.67	101.08	-146.52	748.51	762.72	753.40	9.32	81.878	
1,400.00	1,400.00	1,408.60	1,408.60	4.82	4.85	101.08	-146.52	748.51	762.72	753.05	9.67	78.860	
1,450.00	1,450.00	1,458.60	1,458.60	5.00	5.03	101.08	-146.52	748.51	762.72	752.69	10.03	76.056	
1,500.00	1,500.00	1,508.60	1,508.60	5.18	5.21	101.08	-146.52	748.51	762.72	752.33	10.39	73.443	
1,550.00	1,550.00	1,558.60	1,558.60	5.36	5.39	101.08	-146.52	748.51	762.72	751.98	10.74	71.003	
1,600.00	1,600.00	1,608.60	1,608.60	5.53	5.56	101.08	-146.52	748.51	762.72	751.62	11.10	68.720	
1,650.00	1,650.00	1,658.60	1,658.60	5.71	5.74	101.08	-146.52	748.51	762.72	751.26	11.46	66.578	
1,700.00	1,700.00	1,708.60	1,708.60	5.89	5.92	101.08	-146.52	748.51	762.72	750.90	11.81	64.565	
1,750.00	1,750.00	1,758.60	1,758.60	6.07	6.10	101.08	-146.52	748.51	762.72	750.55	12.17	62.670	
1,800.00	1,800.00	1,808.60	1,808.60	6.25	6.28	101.08	-146.52	748.51	762.72	750.19	12.53	60.883	
1,850.00	1,850.00	1,858.60	1,858.60	6.43	6.46	101.08	-146.52	748.51	762.72	749.83	12.89	59.194	
1,900.00	1,900.00	1,908.60	1,908.60	6.61	6.64	101.08	-146.52	748.51	762.72	749.47	13.24	57.596	
1,950.00	1,950.00	1,958.60	1,958.60	6.78	6.82	101.08	-146.52	748.51	762.72	749.12	13.60	56.082	
2,000.00	2,000.00	2,008.60	2,008.60	6.96	6.99	101.08	-146.52	748.51	762.72	748.76	13.96	54.646	
2,050.00	2,050.00	2,058.60	2,058.60	7.14	7.17	101.08	-146.52	748.51	762.72	748.40	14.32	53.281	
2,100.00	2,100.00	2,108.60	2,108.60	7.32	7.35	101.08	-146.52	748.51	762.72	748.04	14.67	51.982	
2,150.00	2,150.00	2,158.60	2,158.60	7.50	7.53	101.08	-146.52	748.51	762.72	747.69	15.03	50.745	
2,200.00	2,200.00	2,208.60	2,208.60	7.68	7.71	101.08	-146.52	748.51	762.72	747.33	15.39	49.566	
2,250.00	2,250.00	2,258.60	2,258.60	7.86	7.89	101.08	-146.52	748.51	762.72	746.97	15.75	48.440	
2,300.00	2,300.00	2,308.60	2,308.60	8.04	8.07	101.08	-146.52	748.51	762.72	746.61	16.10	47.363	
2,350.00	2,350.00	2,358.60	2,358.60	8.22	8.25	101.08	-146.52	748.51	762.72	746.26	16.46	46.334	
2,400.00	2,400.00	2,408.60	2,408.60	8.39	8.42	101.08	-146.52	748.51	762.72	745.90	16.82	45.348	
2,450.00	2,450.00	2,458.60	2,458.60	8.57	8.60	101.08	-146.52	748.51	762.72	745.54	17.18	44.403	
2,500.00	2,500.00	2,508.60	2,508.60	8.75	8.78	101.08	-146.52	748.51	762.72	745.18	17.53	43.497	
2,550.00	2,550.00	2,558.60	2,558.60	8.93	8.96	101.08	-146.52	748.51	762.72	744.82	17.89	42.627	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	2,600.00	2,608.60	2,608.60	9.11	9.14	101.08	-146.52	748.51	762.72	744.47	18.25	41.791	
2,650.00	2,650.00	2,658.60	2,658.60	9.29	9.32	101.08	-146.52	748.51	762.72	744.11	18.61	40.987	
2,700.00	2,700.00	2,708.60	2,708.60	9.47	9.50	101.08	-146.52	748.51	762.72	743.75	18.97	40.214	
2,750.00	2,750.00	2,758.60	2,758.60	9.65	9.68	101.08	-146.52	748.51	762.72	743.39	19.32	39.469	
2,800.00	2,800.00	2,808.60	2,808.60	9.83	9.86	101.08	-146.52	748.51	762.72	743.03	19.68	38.751	
2,850.00	2,850.00	2,858.60	2,858.60	10.00	10.04	101.08	-146.52	748.51	762.72	742.68	20.04	38.059	
2,900.00	2,900.00	2,908.60	2,908.60	10.18	10.21	101.08	-146.52	748.51	762.72	742.32	20.40	37.391	
2,950.00	2,950.00	2,958.60	2,958.60	10.36	10.39	101.08	-146.52	748.51	762.72	741.96	20.76	36.746	
3,000.00	3,000.00	3,008.60	3,008.60	10.54	10.57	101.08	-146.52	748.51	762.72	741.60	21.11	36.123	
3,050.00	3,050.00	3,058.60	3,058.60	10.72	10.75	101.08	-146.52	748.51	762.72	741.24	21.47	35.520	
3,100.00	3,100.00	3,108.60	3,108.60	10.90	10.93	101.08	-146.52	748.51	762.72	740.89	21.83	34.938	
3,150.00	3,150.00	3,158.60	3,158.60	11.08	11.11	101.08	-146.52	748.51	762.72	740.53	22.19	34.374	
3,200.00	3,200.00	3,208.60	3,208.60	11.26	11.29	101.08	-146.52	748.51	762.72	740.17	22.55	33.828	
3,250.00	3,250.00	3,258.60	3,258.60	11.44	11.47	101.08	-146.52	748.51	762.72	739.81	22.91	33.299	
3,300.00	3,300.00	3,308.60	3,308.60	11.62	11.65	101.08	-146.52	748.51	762.72	739.45	23.26	32.786	
3,350.00	3,350.00	3,358.60	3,358.60	11.80	11.83	101.08	-146.52	748.51	762.72	739.10	23.62	32.289	
3,400.00	3,400.00	3,408.60	3,408.60	11.97	12.01	101.08	-146.52	748.51	762.72	738.74	23.98	31.807	
3,450.00	3,450.00	3,458.60	3,458.60	12.15	12.18	101.08	-146.52	748.51	762.72	738.38	24.34	31.339	
3,500.00	3,500.00	3,508.60	3,508.60	12.33	12.36	101.08	-146.52	748.51	762.72	738.02	24.70	30.884	
3,550.00	3,550.00	3,558.60	3,558.60	12.51	12.54	101.08	-146.52	748.51	762.72	737.66	25.05	30.443	
3,600.00	3,600.00	3,608.60	3,608.60	12.69	12.72	101.08	-146.52	748.51	762.72	737.30	25.41	30.014	
3,650.00	3,650.00	3,658.60	3,658.60	12.87	12.90	101.08	-146.52	748.51	762.72	736.95	25.77	29.596	
3,700.00	3,700.00	3,708.60	3,708.60	13.05	13.08	101.08	-146.52	748.51	762.72	736.59	26.13	29.191	
3,750.00	3,750.00	3,758.60	3,758.60	13.23	13.26	101.08	-146.52	748.51	762.72	736.23	26.49	28.796	
3,800.00	3,800.00	3,808.60	3,808.60	13.41	13.44	101.08	-146.52	748.51	762.72	735.87	26.85	28.412	
3,850.00	3,850.00	3,858.60	3,858.60	13.59	13.62	101.08	-146.52	748.51	762.72	735.51	27.20	28.038	
3,900.00	3,900.00	3,908.60	3,908.60	13.77	13.80	101.08	-146.52	748.51	762.72	735.16	27.56	27.673	
3,950.00	3,950.00	3,958.60	3,958.60	13.94	13.98	101.08	-146.52	748.51	762.72	734.80	27.92	27.318	
4,000.00	4,000.00	4,009.97	4,009.97	14.12	14.16	101.08	-146.51	748.50	762.71	734.43	28.28	26.967	
4,050.00	4,050.00	4,067.92	4,067.92	14.30	14.37	139.95	-146.16	748.16	762.57	733.90	28.66	26.603	
4,100.00	4,099.99	4,125.87	4,125.85	14.48	14.57	139.94	-145.29	747.30	762.32	733.28	29.04	26.247	
4,150.00	4,149.97	4,183.81	4,183.76	14.66	14.78	139.94	-143.89	745.93	761.96	732.55	29.42	25.902	
4,200.00	4,199.95	4,241.74	4,241.63	14.83	14.98	139.91	-141.97	744.05	761.21	731.42	29.79	25.554	
4,250.00	4,249.93	4,302.99	4,296.80	15.01	15.20	139.85	-139.68	741.79	759.97	729.79	30.17	25.187	
4,300.00	4,299.90	4,346.99	4,346.69	15.19	15.35	139.80	-137.50	739.65	758.61	728.10	30.51	24.868	
4,350.00	4,349.88	4,396.96	4,396.57	15.37	15.53	139.74	-135.32	737.51	757.25	726.39	30.86	24.539	
4,400.00	4,399.86	4,446.94	4,446.45	15.54	15.71	139.68	-133.14	735.37	755.89	724.68	31.21	24.218	
4,450.00	4,449.84	4,503.09	4,496.33	15.72	15.91	139.62	-130.96	733.23	754.54	722.95	31.59	23.887	
4,500.00	4,499.81	4,546.89	4,546.22	15.90	16.06	139.57	-128.78	731.09	753.18	721.26	31.92	23.596	
4,550.00	4,549.79	4,603.14	4,596.10	16.08	16.26	139.51	-126.60	728.95	751.82	719.53	32.30	23.279	
4,600.00	4,599.77	4,646.84	4,645.98	16.26	16.42	139.45	-124.42	726.80	750.47	717.84	32.63	23.001	
4,650.00	4,649.74	4,703.18	4,695.86	16.43	16.62	139.39	-122.24	724.66	749.12	716.11	33.00	22.697	
4,700.00	4,699.72	4,746.79	4,745.74	16.61	16.77	139.33	-120.06	722.52	747.76	714.43	33.34	22.431	
4,750.00	4,749.70	4,803.23	4,795.63	16.79	16.98	139.27	-117.89	720.38	746.41	712.70	33.71	22.140	
4,800.00	4,799.67	4,846.74	4,845.51	16.97	17.13	139.21	-115.71	718.24	745.06	711.01	34.05	21.884	
4,850.00	4,849.65	4,903.28	4,895.39	17.15	17.33	139.15	-113.53	716.10	743.71	709.28	34.42	21.605	
4,900.00	4,899.63	4,946.70	4,945.27	17.32	17.49	139.10	-111.35	713.96	742.36	707.60	34.76	21.360	
4,950.00	4,949.61	5,003.33	4,995.16	17.50	17.69	139.04	-109.17	711.82	741.01	705.88	35.13	21.091	
5,000.00	4,999.58	5,046.65	5,045.04	17.68	17.85	138.98	-106.99	709.68	739.66	704.20	35.47	20.856	
5,050.00	5,049.56	5,103.38	5,094.92	17.86	18.05	138.92	-104.81	707.53	738.31	702.47	35.84	20.598	
5,100.00	5,099.54	5,146.60	5,144.80	18.04	18.20	138.85	-102.63	705.39	736.97	700.79	36.18	20.372	
5,150.00	5,149.51	5,203.43	5,194.69	18.21	18.41	138.79	-100.45	703.25	735.62	699.07	36.56	20.123	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	5,199.49	5,246.55	5,244.57	18.39	18.56	138.73	-98.27	701.11	734.28	697.39	36.89	19.906	
5,250.00	5,249.47	5,303.47	5,294.45	18.57	18.77	138.67	-96.09	698.97	732.93	695.67	37.27	19.667	
5,300.00	5,299.44	5,346.50	5,344.33	18.75	18.92	138.61	-93.91	696.83	731.59	693.99	37.60	19.458	
5,350.00	5,349.42	5,403.52	5,394.22	18.93	19.12	138.55	-91.73	694.69	730.25	692.27	37.98	19.227	
5,400.00	5,399.40	5,446.45	5,444.10	19.11	19.28	138.49	-89.55	692.55	728.91	690.60	38.31	19.026	
5,450.00	5,449.38	5,503.57	5,493.98	19.28	19.48	138.43	-87.37	690.41	727.57	688.87	38.69	18.804	
5,500.00	5,499.35	5,546.40	5,543.86	19.46	19.64	138.36	-85.19	688.26	726.23	687.20	39.02	18.610	
5,550.00	5,549.33	5,603.62	5,593.74	19.64	19.84	138.30	-83.01	686.12	724.89	685.48	39.40	18.396	
5,600.00	5,599.31	5,646.36	5,643.63	19.82	20.00	138.24	-80.83	683.98	723.55	683.81	39.74	18.209	
5,650.00	5,649.28	5,703.67	5,693.51	20.00	20.20	138.18	-78.65	681.84	722.21	682.09	40.12	18.002	
5,700.00	5,699.26	5,746.31	5,743.39	20.18	20.36	138.11	-76.48	679.70	720.87	680.43	40.45	17.822	
5,750.00	5,749.24	5,803.72	5,793.27	20.36	20.56	138.05	-74.30	677.56	719.54	678.71	40.83	17.622	
5,800.00	5,799.21	5,846.26	5,843.16	20.53	20.72	137.98	-72.12	675.42	718.20	677.04	41.16	17.449	
5,850.00	5,849.19	5,903.76	5,893.04	20.71	20.92	137.92	-69.94	673.28	716.87	675.33	41.54	17.255	
5,900.00	5,899.17	5,946.21	5,942.92	20.89	21.08	137.86	-67.76	671.14	715.54	673.66	41.87	17.088	
5,950.00	5,949.14	6,003.81	5,992.80	21.07	21.28	137.79	-65.58	669.00	714.21	671.95	42.26	16.901	
6,000.00	5,999.12	6,046.16	6,042.69	21.25	21.44	137.73	-63.40	666.85	712.88	670.29	42.59	16.739	
6,050.00	6,049.10	6,096.14	6,092.57	21.43	21.62	137.66	-61.22	664.71	711.55	668.60	42.95	16.569	
6,100.00	6,099.08	6,146.11	6,142.45	21.61	21.80	137.60	-59.04	662.57	710.22	666.91	43.30	16.401	
6,150.00	6,149.05	6,196.09	6,192.33	21.79	21.98	137.53	-56.86	660.43	708.89	665.23	43.66	16.237	
6,200.00	6,199.03	6,246.07	6,242.21	21.96	22.16	137.47	-54.68	658.29	707.56	663.54	44.02	16.075	
6,250.00	6,249.01	6,303.96	6,292.10	22.14	22.37	137.40	-52.50	656.15	706.23	661.83	44.40	15.905	
6,300.00	6,298.98	6,346.02	6,341.98	22.32	22.52	137.34	-50.32	654.01	704.91	660.18	44.73	15.759	
6,350.00	6,348.96	6,404.01	6,391.86	22.50	22.73	137.27	-48.14	651.87	703.58	658.47	45.12	15.595	
6,400.00	6,398.94	6,445.97	6,441.74	22.68	22.88	137.20	-45.96	649.73	702.26	656.81	45.45	15.453	
6,450.00	6,448.91	6,504.05	6,491.63	22.86	23.09	137.14	-43.78	647.58	700.94	655.11	45.83	15.293	
6,500.00	6,498.89	6,545.92	6,541.51	23.04	23.24	137.07	-41.60	645.44	699.62	653.46	46.16	15.156	
6,550.00	6,548.87	6,595.90	6,591.39	23.22	23.42	137.00	-39.42	643.30	698.30	651.78	46.52	15.011	
6,600.00	6,598.85	6,645.87	6,641.27	23.40	23.60	136.93	-37.25	641.16	696.98	650.10	46.88	14.868	
6,650.00	6,648.82	6,704.15	6,691.16	23.57	23.81	136.87	-35.07	639.02	695.66	648.39	47.26	14.719	
6,700.00	6,698.80	6,745.82	6,741.04	23.75	23.96	136.80	-32.89	636.88	694.34	646.75	47.59	14.589	
6,750.00	6,748.78	6,804.20	6,790.92	23.93	24.17	136.73	-30.71	634.74	693.02	645.04	47.98	14.444	
6,800.00	6,798.75	6,845.78	6,840.80	24.11	24.32	136.66	-28.53	632.60	691.71	643.40	48.31	14.319	
6,850.00	6,848.73	6,904.25	6,890.69	24.29	24.54	136.59	-26.35	630.46	690.39	641.70	48.70	14.178	
6,900.00	6,898.71	6,945.73	6,940.57	24.47	24.69	136.52	-24.17	628.32	689.08	640.05	49.02	14.056	
6,950.00	6,948.68	7,004.30	6,990.45	24.65	24.90	136.45	-21.99	626.17	687.77	638.35	49.41	13.919	
7,000.00	6,998.66	7,045.68	7,040.33	24.83	25.05	136.38	-19.81	624.03	686.45	636.71	49.74	13.801	
7,050.00	7,048.64	7,104.35	7,090.21	25.01	25.26	136.31	-17.63	621.89	685.14	635.01	50.13	13.668	
7,100.00	7,098.62	7,145.63	7,140.10	25.19	25.41	136.24	-15.45	619.75	683.83	633.38	50.46	13.553	
7,150.00	7,148.59	7,195.61	7,189.98	25.37	25.59	136.17	-13.27	617.61	682.52	631.71	50.81	13.432	
7,200.00	7,198.57	7,245.58	7,239.86	25.54	25.77	136.10	-11.09	615.47	681.22	630.04	51.17	13.312	
7,250.00	7,248.55	7,304.44	7,289.74	25.72	25.99	136.03	-8.91	613.33	679.91	628.35	51.56	13.186	
7,300.00	7,298.52	7,345.53	7,339.63	25.90	26.13	135.96	-6.73	611.19	678.60	626.72	51.89	13.078	
7,350.00	7,348.50	7,404.49	7,389.51	26.08	26.35	135.89	-4.55	609.05	677.30	625.02	52.28	12.955	
7,400.00	7,398.48	7,445.49	7,439.39	26.26	26.50	135.82	-2.37	606.90	676.00	623.39	52.61	12.850	
7,450.00	7,448.45	7,504.54	7,489.27	26.44	26.71	135.74	-0.19	604.76	674.69	621.70	53.00	12.731	
7,500.00	7,498.43	7,545.44	7,539.16	26.62	26.86	135.67	1.99	602.62	673.39	620.07	53.32	12.629	
7,550.00	7,548.41	7,595.41	7,589.04	26.80	27.04	135.60	4.16	600.48	672.09	618.41	53.68	12.520	
7,600.00	7,598.38	7,645.39	7,638.92	26.98	27.22	135.53	6.34	598.34	670.79	616.75	54.04	12.413	
7,650.00	7,648.36	7,692.68	7,686.13	27.16	27.39	135.46	8.37	596.35	669.54	615.15	54.39	12.309	
7,700.00	7,698.34	7,736.68	7,730.07	27.34	27.55	135.42	9.95	594.80	668.67	613.93	54.74	12.215	
7,750.00	7,748.32	7,780.69	7,774.05	27.52	27.71	135.41	11.16	593.61	668.24	613.16	55.08	12.132	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,772.46	7,770.77	7,800.46	7,793.81	27.60	27.78	135.41	11.59	593.18	668.20	612.96	55.24	12.097	CC
7,800.00	7,798.29	7,824.70	7,818.04	27.70	27.87	135.43	12.02	592.77	668.26	612.84	55.42	12.058	ES
7,850.00	7,848.27	7,868.71	7,862.04	27.87	28.03	135.47	12.51	592.28	668.73	612.98	55.76	11.994	
7,900.00	7,898.25	7,913.51	7,906.85	28.05	28.19	135.54	12.65	592.15	669.65	613.56	56.09	11.939	
7,950.00	7,948.22	7,963.49	7,956.82	28.23	28.36	135.63	12.65	592.15	670.73	614.29	56.45	11.883	
8,000.00	7,998.20	8,013.47	8,006.80	28.41	28.54	135.72	12.65	592.15	671.82	615.02	56.80	11.827	
8,050.00	8,048.18	8,063.44	8,056.78	28.59	28.72	135.81	12.65	592.15	672.91	615.75	57.16	11.772	
8,100.00	8,098.15	8,113.42	8,106.75	28.77	28.90	135.90	12.65	592.15	674.00	616.48	57.52	11.718	
8,150.00	8,148.13	8,163.40	8,156.73	28.95	29.07	135.99	12.65	592.15	675.09	617.21	57.87	11.665	
8,200.00	8,198.11	8,213.37	8,206.71	29.13	29.25	136.08	12.65	592.15	676.18	617.95	58.23	11.612	
8,250.00	8,248.09	8,263.35	8,256.69	29.31	29.43	136.17	12.65	592.15	677.27	618.69	58.59	11.560	
8,300.00	8,298.06	8,313.33	8,306.66	29.49	29.61	136.26	12.65	592.15	678.37	619.43	58.94	11.509	
8,350.00	8,348.04	8,363.31	8,356.64	29.67	29.78	136.35	12.65	592.15	679.47	620.17	59.30	11.458	
8,400.00	8,398.02	8,413.28	8,406.62	29.85	29.96	136.43	12.65	592.15	680.57	620.91	59.66	11.408	
8,450.00	8,447.99	8,463.26	8,456.59	30.03	30.14	136.52	12.65	592.15	681.67	621.65	60.01	11.358	
8,500.00	8,497.97	8,513.24	8,506.57	30.21	30.32	136.61	12.65	592.15	682.77	622.40	60.37	11.310	
8,550.00	8,547.95	8,563.21	8,556.55	30.39	30.50	136.70	12.65	592.15	683.87	623.14	60.73	11.261	
8,600.00	8,597.92	8,613.19	8,606.52	30.57	30.67	136.78	12.65	592.15	684.98	623.89	61.08	11.214	
8,650.00	8,647.90	8,656.54	8,649.85	30.74	30.82	136.96	11.40	592.16	686.30	624.90	61.40	11.178	
8,700.00	8,697.88	8,698.52	8,691.60	30.92	30.95	137.39	7.09	592.18	688.19	626.49	61.69	11.155	
8,750.00	8,747.86	8,739.52	8,731.96	31.10	31.08	138.04	-0.04	592.22	690.73	628.76	61.97	11.147	SF
8,800.00	8,797.83	8,779.16	8,770.40	31.28	31.19	138.90	-9.67	592.28	694.03	631.82	62.22	11.155	
8,850.00	8,847.81	8,817.15	8,806.54	31.46	31.30	139.90	-21.38	592.34	698.25	635.82	62.43	11.184	
8,900.00	8,897.79	8,853.29	8,840.13	31.64	31.40	141.03	-34.71	592.42	703.55	640.94	62.60	11.238	
8,950.00	8,947.76	8,887.44	8,871.03	31.82	31.49	142.23	-49.23	592.50	710.07	647.35	62.72	11.321	
9,000.00	8,997.74	8,919.54	8,899.24	32.00	31.57	143.48	-64.53	592.59	717.99	655.22	62.77	11.438	
9,050.00	9,047.72	8,950.00	8,925.18	32.18	31.64	144.76	-80.49	592.68	727.44	664.68	62.76	11.591	
9,100.00	9,097.69	8,977.61	8,947.93	32.36	31.70	145.99	-96.13	592.76	738.54	675.88	62.65	11.787	
9,150.00	9,147.67	9,000.00	8,965.81	32.54	31.75	147.03	-109.61	592.84	751.38	688.97	62.41	12.039	
9,200.00	9,197.65	9,027.94	8,987.36	32.72	31.81	148.39	-127.39	592.94	765.98	703.78	62.20	12.315	
9,250.00	9,247.62	9,050.00	9,003.74	32.90	31.85	149.49	-142.16	593.02	782.42	720.58	61.84	12.652	
9,300.00	9,297.60	9,071.35	9,019.05	33.08	31.89	150.59	-157.04	593.11	800.67	739.25	61.42	13.035	
9,350.00	9,347.58	9,090.75	9,032.47	33.26	31.93	151.60	-171.05	593.19	820.73	759.80	60.93	13.470	
9,400.00	9,397.56	9,108.77	9,044.50	33.44	31.96	152.56	-184.47	593.26	842.54	782.17	60.38	13.955	
9,450.00	9,447.53	9,125.52	9,055.30	33.62	32.00	153.46	-197.27	593.33	866.05	806.28	59.78	14.489	
9,500.00	9,497.51	9,150.00	9,070.40	33.80	32.06	154.78	-216.53	593.44	891.28	831.96	59.32	15.024	
9,550.00	9,547.49	9,150.00	9,070.40	33.98	32.06	154.78	-216.53	593.44	917.92	859.56	58.36	15.729	
9,600.00	9,597.46	9,169.14	9,081.63	34.16	32.10	155.82	-232.03	593.53	946.04	888.24	57.80	16.368	
9,650.00	9,647.44	9,181.77	9,088.75	34.34	32.13	156.51	-242.46	593.59	975.58	918.46	57.11	17.081	
9,700.00	9,697.42	9,200.00	9,098.62	34.52	32.18	157.51	-257.78	593.67	1,006.45	949.89	56.57	17.793	
9,750.00	9,747.39	9,200.00	9,098.62	34.69	32.18	157.51	-257.78	593.67	1,038.47	982.81	55.66	18.657	
9,800.00	9,797.37	9,215.00	9,106.38	34.87	32.21	158.33	-270.63	593.75	1,071.61	1,016.51	55.10	19.449	
9,850.00	9,847.35	9,224.73	9,111.22	35.05	32.24	158.86	-279.06	593.79	1,105.82	1,051.36	54.46	20.307	
9,900.00	9,897.33	9,233.88	9,115.65	35.23	32.26	159.36	-287.07	593.84	1,141.00	1,087.16	53.84	21.194	
9,950.00	9,947.30	9,250.00	9,123.14	35.41	32.30	160.23	-301.34	593.92	1,177.14	1,123.76	53.39	22.050	
10,000.00	9,997.28	9,250.00	9,123.14	35.59	32.30	160.23	-301.34	593.92	1,214.00	1,161.34	52.66	23.054	
10,050.00	10,047.26	9,250.00	9,123.14	35.77	32.30	160.23	-301.34	593.92	1,251.76	1,199.79	51.98	24.084	
10,100.00	10,097.23	9,265.50	9,129.96	35.95	32.34	161.07	-315.27	594.00	1,290.09	1,238.48	51.62	24.994	
10,150.00	10,147.21	9,272.35	9,132.85	36.13	32.36	161.44	-321.47	594.03	1,329.17	1,278.03	51.13	25.995	
10,200.00	10,197.19	9,278.84	9,135.52	36.31	32.38	161.78	-327.39	594.07	1,368.85	1,318.18	50.68	27.012	
10,250.00	10,247.16	9,300.00	9,143.76	36.49	32.43	162.91	-346.87	594.18	1,409.36	1,358.86	50.50	27.908	
10,300.00	10,297.14	9,300.00	9,143.76	36.67	32.43	162.91	-346.87	594.18	1,449.98	1,399.99	50.00	29.001	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	10,347.12	9,300.00	9,143.76	36.85	32.43	162.91	-346.87	594.18	1,491.18	1,441.65	49.53	30.106	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 - Prelim Plan 3 — 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	8.50	8.50	0.50	0.50	101.54	-146.72	718.49	733.32				
50.00	50.00	58.50	58.50	0.50	0.51	101.54	-146.72	718.49	733.32	732.31	1.01	727.391	
100.00	100.00	108.50	108.50	0.52	0.53	101.54	-146.72	718.49	733.32	732.27	1.04	702.248	
150.00	150.00	158.50	158.50	0.59	0.61	101.54	-146.72	718.49	733.32	732.12	1.20	612.517	
200.00	200.00	208.50	208.50	0.70	0.72	101.54	-146.72	718.49	733.32	731.89	1.43	514.277	
250.00	250.00	258.50	258.50	0.84	0.86	101.54	-146.72	718.49	733.32	731.62	1.70	431.347	
300.00	300.00	308.50	308.50	0.99	1.01	101.54	-146.72	718.49	733.32	731.32	2.00	366.465	
350.00	350.00	358.50	358.50	1.15	1.17	101.54	-146.72	718.49	733.32	731.00	2.32	316.294	
400.00	400.00	408.50	408.50	1.31	1.34	101.54	-146.72	718.49	733.32	730.67	2.65	277.102	
450.00	450.00	458.50	458.50	1.48	1.51	101.54	-146.72	718.49	733.32	730.34	2.98	245.968	
500.00	500.00	508.50	508.50	1.65	1.68	101.54	-146.72	718.49	733.32	730.00	3.32	220.797	
550.00	550.00	558.50	558.50	1.82	1.85	101.54	-146.72	718.49	733.32	729.65	3.66	200.106	
600.00	600.00	608.50	608.50	1.99	2.02	101.54	-146.72	718.49	733.32	729.31	4.01	182.840	
650.00	650.00	658.50	658.50	2.16	2.19	101.54	-146.72	718.49	733.32	728.96	4.36	168.240	
700.00	700.00	708.50	708.50	2.34	2.37	101.54	-146.72	718.49	733.32	728.61	4.71	155.747	
750.00	750.00	758.50	758.50	2.51	2.54	101.54	-146.72	718.49	733.32	728.26	5.06	144.946	
800.00	800.00	808.50	808.50	2.69	2.72	101.54	-146.72	718.49	733.32	727.91	5.41	135.520	
850.00	850.00	858.50	858.50	2.87	2.90	101.54	-146.72	718.49	733.32	727.56	5.76	127.228	
900.00	900.00	908.50	908.50	3.04	3.07	101.54	-146.72	718.49	733.32	727.20	6.12	119.879	
950.00	950.00	958.50	958.50	3.22	3.25	101.54	-146.72	718.49	733.32	726.85	6.47	113.323	
1,000.00	1,000.00	1,008.50	1,008.50	3.40	3.43	101.54	-146.72	718.49	733.32	726.49	6.83	107.439	
1,050.00	1,050.00	1,058.50	1,058.50	3.58	3.61	101.54	-146.72	718.49	733.32	726.14	7.18	102.130	
1,100.00	1,100.00	1,108.50	1,108.50	3.75	3.78	101.54	-146.72	718.49	733.32	725.78	7.54	97.316	
1,150.00	1,150.00	1,158.50	1,158.50	3.93	3.96	101.54	-146.72	718.49	733.32	725.43	7.89	92.933	
1,200.00	1,200.00	1,208.50	1,208.50	4.11	4.14	101.54	-146.72	718.49	733.32	725.07	8.25	88.924	
1,250.00	1,250.00	1,258.50	1,258.50	4.29	4.32	101.54	-146.72	718.49	733.32	724.72	8.60	85.245	
1,300.00	1,300.00	1,308.50	1,308.50	4.46	4.49	101.54	-146.72	718.49	733.32	724.36	8.96	81.856	
1,350.00	1,350.00	1,358.50	1,358.50	4.64	4.67	101.54	-146.72	718.49	733.32	724.00	9.31	78.725	
1,400.00	1,400.00	1,408.50	1,408.50	4.82	4.85	101.54	-146.72	718.49	733.32	723.65	9.67	75.823	
1,450.00	1,450.00	1,458.50	1,458.50	5.00	5.03	101.54	-146.72	718.49	733.32	723.29	10.03	73.127	
1,500.00	1,500.00	1,508.50	1,508.50	5.18	5.21	101.54	-146.72	718.49	733.32	722.93	10.38	70.615	
1,550.00	1,550.00	1,558.50	1,558.50	5.36	5.39	101.54	-146.72	718.49	733.32	722.58	10.74	68.269	
1,600.00	1,600.00	1,608.50	1,608.50	5.53	5.56	101.54	-146.72	718.49	733.32	722.22	11.10	66.073	
1,650.00	1,650.00	1,658.50	1,658.50	5.71	5.74	101.54	-146.72	718.49	733.32	721.86	11.46	64.014	
1,700.00	1,700.00	1,708.50	1,708.50	5.89	5.92	101.54	-146.72	718.49	733.32	721.51	11.81	62.078	
1,750.00	1,750.00	1,758.50	1,758.50	6.07	6.10	101.54	-146.72	718.49	733.32	721.15	12.17	60.256	
1,800.00	1,800.00	1,808.50	1,808.50	6.25	6.28	101.54	-146.72	718.49	733.32	720.79	12.53	58.538	
1,850.00	1,850.00	1,858.50	1,858.50	6.43	6.46	101.54	-146.72	718.49	733.32	720.43	12.88	56.914	
1,900.00	1,900.00	1,908.50	1,908.50	6.61	6.64	101.54	-146.72	718.49	733.32	720.08	13.24	55.378	
1,950.00	1,950.00	1,958.50	1,958.50	6.78	6.81	101.54	-146.72	718.49	733.32	719.72	13.60	53.922	
2,000.00	2,000.00	2,008.50	2,008.50	6.96	6.99	101.54	-146.72	718.49	733.32	719.36	13.96	52.541	
2,050.00	2,050.00	2,058.50	2,058.50	7.14	7.17	101.54	-146.72	718.49	733.32	719.00	14.31	51.228	
2,100.00	2,100.00	2,108.50	2,108.50	7.32	7.35	101.54	-146.72	718.49	733.32	718.65	14.67	49.980	
2,150.00	2,150.00	2,158.50	2,158.50	7.50	7.53	101.54	-146.72	718.49	733.32	718.29	15.03	48.790	
2,200.00	2,200.00	2,208.50	2,208.50	7.68	7.71	101.54	-146.72	718.49	733.32	717.93	15.39	47.656	
2,250.00	2,250.00	2,258.50	2,258.50	7.86	7.89	101.54	-146.72	718.49	733.32	717.57	15.75	46.574	
2,300.00	2,300.00	2,308.50	2,308.50	8.04	8.07	101.54	-146.72	718.49	733.32	717.22	16.10	45.539	
2,350.00	2,350.00	2,358.50	2,358.50	8.22	8.25	101.54	-146.72	718.49	733.32	716.86	16.46	44.549	
2,400.00	2,400.00	2,408.50	2,408.50	8.39	8.42	101.54	-146.72	718.49	733.32	716.50	16.82	43.601	
2,450.00	2,450.00	2,458.50	2,458.50	8.57	8.60	101.54	-146.72	718.49	733.32	716.14	17.18	42.693	
2,500.00	2,500.00	2,510.11	2,510.11	8.75	8.79	101.54	-146.72	718.48	733.31	715.77	17.54	41.809	
2,550.00	2,550.00	2,569.61	2,569.60	8.93	9.00	101.54	-146.65	717.97	732.88	714.95	17.92	40.886	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 - Prelim Plan 3 — **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	2,600.00	2,629.07	2,629.06	9.11	9.20	101.55	-146.48	716.69	731.79	713.49	18.31	39.976	
2,650.00	2,650.00	2,688.50	2,688.45	9.29	9.41	101.56	-146.20	714.65	730.07	711.39	18.68	39.080	
2,700.00	2,700.00	2,747.86	2,747.74	9.47	9.61	101.58	-145.82	711.85	727.69	708.64	19.05	38.190	
2,750.00	2,750.00	2,807.14	2,806.91	9.65	9.82	101.60	-145.34	708.30	724.67	705.25	19.42	37.307	
2,800.00	2,800.00	2,866.32	2,865.93	9.83	10.02	101.62	-144.76	703.99	721.01	701.22	19.79	36.430	
2,850.00	2,850.00	2,925.37	2,924.76	10.00	10.23	101.65	-144.08	698.95	716.71	696.55	20.16	35.558	
2,900.00	2,900.00	2,984.28	2,983.38	10.18	10.43	101.68	-143.30	693.16	711.77	691.25	20.52	34.692	
2,950.00	2,950.00	3,043.03	3,041.76	10.36	10.64	101.72	-142.42	686.65	706.19	685.32	20.87	33.831	
3,000.00	3,000.00	3,101.61	3,099.88	10.54	10.84	101.76	-141.44	679.42	699.98	678.75	21.23	32.975	
3,050.00	3,050.00	3,159.98	3,157.71	10.72	11.05	101.81	-140.37	671.49	693.14	671.56	21.58	32.123	
3,100.00	3,100.00	3,218.15	3,215.21	10.90	11.26	101.86	-139.21	662.85	685.67	663.74	21.92	31.276	
3,150.00	3,150.00	3,264.93	3,261.46	11.08	11.42	101.90	-138.26	655.83	678.11	655.83	22.27	30.443	
3,200.00	3,200.00	3,314.35	3,310.30	11.26	11.60	101.95	-137.25	648.37	670.51	647.89	22.62	29.637	
3,250.00	3,250.00	3,363.77	3,359.14	11.44	11.77	102.00	-136.25	640.92	662.92	639.95	22.97	28.854	
3,300.00	3,300.00	3,413.18	3,407.98	11.62	11.95	102.05	-135.24	633.46	655.33	632.01	23.33	28.095	
3,350.00	3,350.00	3,462.60	3,456.82	11.80	12.13	102.10	-134.23	626.01	647.74	624.07	23.68	27.358	
3,400.00	3,400.00	3,512.02	3,505.66	11.97	12.30	102.15	-133.22	618.55	640.15	616.12	24.03	26.642	
3,450.00	3,450.00	3,561.44	3,554.51	12.15	12.48	102.21	-132.22	611.10	632.56	608.18	24.38	25.946	
3,500.00	3,500.00	3,610.85	3,603.35	12.33	12.66	102.26	-131.21	603.64	624.98	600.24	24.73	25.270	
3,550.00	3,550.00	3,660.27	3,652.19	12.51	12.84	102.32	-130.20	596.19	617.39	592.30	25.08	24.612	
3,600.00	3,600.00	3,709.69	3,701.03	12.69	13.02	102.38	-129.20	588.73	609.80	584.36	25.44	23.973	
3,650.00	3,650.00	3,759.11	3,749.87	12.87	13.20	102.44	-128.19	581.27	602.21	576.42	25.79	23.350	
3,700.00	3,700.00	3,808.52	3,798.71	13.05	13.37	102.50	-127.18	573.82	594.63	568.48	26.14	22.744	
3,750.00	3,750.00	3,857.94	3,847.55	13.23	13.55	102.56	-126.18	566.36	587.04	560.55	26.50	22.155	
3,800.00	3,800.00	3,907.36	3,896.39	13.41	13.73	102.62	-125.17	558.91	579.46	552.61	26.85	21.580	
3,850.00	3,850.00	3,956.77	3,945.24	13.59	13.91	102.69	-124.16	551.45	571.87	544.67	27.21	21.021	
3,900.00	3,900.00	4,006.19	3,994.08	13.77	14.09	102.76	-123.16	544.00	564.29	536.73	27.56	20.475	
3,950.00	3,950.00	4,055.61	4,042.92	13.94	14.28	102.83	-122.15	536.54	556.71	528.79	27.91	19.943	
4,000.00	4,000.00	4,105.03	4,091.76	14.12	14.46	102.90	-121.14	529.09	549.13	520.86	28.27	19.425	
4,050.00	4,050.00	4,154.47	4,140.63	14.30	14.64	141.92	-120.14	521.63	541.76	513.14	28.62	18.927	
4,100.00	4,099.99	4,203.97	4,189.55	14.48	14.82	142.11	-119.13	514.16	534.82	505.84	28.98	18.456	
4,150.00	4,149.97	4,253.52	4,238.52	14.66	15.00	142.32	-118.12	506.68	528.30	498.96	29.33	18.011	
4,200.00	4,199.95	4,303.08	4,287.51	14.83	15.18	142.50	-117.11	499.21	521.91	492.22	29.69	17.581	
4,250.00	4,249.93	4,352.65	4,336.49	15.01	15.37	142.69	-116.10	491.73	515.53	485.49	30.04	17.161	
4,300.00	4,299.90	4,402.21	4,385.48	15.19	15.55	142.88	-115.09	484.25	509.16	478.76	30.40	16.751	
4,350.00	4,349.88	4,451.77	4,434.46	15.37	15.73	143.08	-114.08	476.78	502.79	472.04	30.75	16.350	
4,400.00	4,399.86	4,501.33	4,483.45	15.54	15.91	143.28	-113.07	469.30	496.42	465.32	31.11	15.958	
4,450.00	4,449.84	4,550.89	4,532.43	15.72	16.10	143.49	-112.06	461.82	490.07	458.61	31.46	15.576	
4,500.00	4,499.81	4,600.46	4,581.42	15.90	16.28	143.71	-111.05	454.34	483.72	451.90	31.82	15.202	
4,550.00	4,549.79	4,650.02	4,630.40	16.08	16.46	143.93	-110.04	446.87	477.38	445.20	32.18	14.836	
4,600.00	4,599.77	4,699.58	4,679.38	16.26	16.65	144.15	-109.03	439.39	471.04	438.51	32.53	14.479	
4,650.00	4,649.74	4,749.14	4,728.37	16.43	16.83	144.39	-108.02	431.91	464.71	431.82	32.89	14.129	
4,700.00	4,699.72	4,798.71	4,777.35	16.61	17.01	144.62	-107.01	424.43	458.39	425.15	33.25	13.787	
4,750.00	4,749.70	4,848.27	4,826.34	16.79	17.20	144.87	-106.00	416.96	452.08	418.48	33.60	13.453	
4,800.00	4,799.67	4,902.17	4,875.32	16.97	17.40	145.12	-104.99	409.48	445.78	411.80	33.98	13.120	
4,850.00	4,849.65	4,947.39	4,924.31	17.15	17.57	145.38	-103.98	402.00	439.48	405.16	34.32	12.805	
4,900.00	4,899.63	4,996.95	4,973.29	17.32	17.75	145.65	-102.97	394.53	433.19	398.52	34.68	12.492	
4,950.00	4,949.61	5,046.52	5,022.28	17.50	17.94	145.92	-101.96	387.05	426.92	391.88	35.04	12.185	
5,000.00	4,999.58	5,096.08	5,071.26	17.68	18.12	146.21	-100.95	379.57	420.65	385.26	35.40	11.884	
5,050.00	5,049.56	5,145.64	5,120.25	17.86	18.31	146.50	-99.94	372.09	414.39	378.64	35.75	11.590	
5,100.00	5,099.54	5,195.20	5,169.23	18.04	18.49	146.80	-98.93	364.62	408.15	372.04	36.11	11.302	
5,150.00	5,149.51	5,244.77	5,218.21	18.21	18.68	147.11	-97.93	357.14	401.92	365.44	36.47	11.020	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 - Prelim Plan 3 — **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	5,199.49	5,305.67	5,267.20	18.39	18.90	147.43	-96.92	349.66	395.69	358.82	36.87	10.731	
5,250.00	5,249.47	5,343.89	5,316.18	18.57	19.05	147.76	-95.91	342.19	389.48	352.29	37.19	10.472	
5,300.00	5,299.44	5,393.45	5,365.17	18.75	19.23	148.10	-94.90	334.71	383.29	345.74	37.55	10.207	
5,350.00	5,349.42	5,443.01	5,414.15	18.93	19.42	148.45	-93.89	327.23	377.11	339.19	37.91	9.947	
5,400.00	5,399.40	5,492.58	5,463.14	19.11	19.60	148.81	-92.88	319.75	370.94	332.66	38.27	9.692	
5,450.00	5,449.38	5,542.14	5,512.12	19.28	19.79	149.19	-91.87	312.28	364.78	326.15	38.63	9.442	
5,500.00	5,499.35	5,608.30	5,561.11	19.46	20.03	149.57	-90.86	304.80	358.65	319.59	39.06	9.183	
5,550.00	5,549.33	5,641.26	5,610.09	19.64	20.16	149.98	-89.85	297.32	352.53	313.17	39.36	8.957	
5,600.00	5,599.31	5,709.17	5,659.08	19.82	20.41	150.39	-88.84	289.84	346.43	306.64	39.79	8.707	
5,650.00	5,649.28	5,740.39	5,708.06	20.00	20.53	150.82	-87.83	282.37	340.34	300.26	40.08	8.492	
5,700.00	5,699.26	5,789.95	5,757.04	20.18	20.72	151.27	-86.82	274.89	334.28	293.84	40.44	8.266	
5,750.00	5,749.24	5,839.51	5,806.03	20.36	20.90	151.73	-85.81	267.41	328.23	287.43	40.80	8.044	
5,800.00	5,799.21	5,889.07	5,855.01	20.53	21.09	152.21	-84.80	259.94	322.21	281.05	41.17	7.827	
5,850.00	5,849.19	5,938.64	5,904.00	20.71	21.27	152.71	-83.79	252.46	316.21	274.68	41.53	7.614	
5,900.00	5,899.17	5,988.20	5,952.98	20.89	21.46	153.23	-82.78	244.98	310.24	268.35	41.89	7.405	
5,950.00	5,949.14	6,037.76	6,001.97	21.07	21.65	153.76	-81.77	237.50	304.29	262.04	42.26	7.201	
6,000.00	5,999.12	6,087.32	6,050.95	21.25	21.83	154.32	-80.76	230.03	298.37	255.75	42.62	7.000	
6,050.00	6,049.10	6,136.89	6,099.94	21.43	22.02	154.90	-79.75	222.55	292.48	249.49	42.99	6.804	
6,100.00	6,099.08	6,186.45	6,148.92	21.61	22.21	155.51	-78.74	215.07	286.62	243.27	43.35	6.611	
6,150.00	6,149.05	6,236.01	6,197.91	21.79	22.39	156.14	-77.73	207.60	280.80	237.08	43.72	6.423	
6,200.00	6,199.03	6,285.57	6,246.89	21.96	22.58	156.79	-76.72	200.12	275.00	230.92	44.08	6.238	
6,250.00	6,249.01	6,335.13	6,295.87	22.14	22.77	157.48	-75.71	192.64	269.25	224.80	44.45	6.057	
6,300.00	6,298.98	6,384.70	6,344.86	22.32	22.95	158.19	-74.70	185.16	263.53	218.72	44.82	5.880	
6,350.00	6,348.96	6,434.26	6,393.84	22.50	23.14	158.94	-73.69	177.69	257.86	212.67	45.19	5.707	
6,400.00	6,398.94	6,483.82	6,442.83	22.68	23.33	159.72	-72.68	170.21	252.23	206.68	45.55	5.537	
6,450.00	6,448.91	6,533.38	6,491.81	22.86	23.51	160.53	-71.67	162.73	246.66	200.73	45.92	5.371	
6,500.00	6,498.89	6,582.94	6,540.80	23.04	23.70	161.38	-70.66	155.25	241.13	194.83	46.29	5.209	
6,550.00	6,548.87	6,632.51	6,589.78	23.22	23.89	162.27	-69.65	147.78	235.66	188.99	46.66	5.050	
6,600.00	6,598.85	6,682.07	6,638.77	23.40	24.08	163.21	-68.64	140.30	230.24	183.21	47.04	4.895	Alert
6,650.00	6,648.82	6,731.63	6,687.75	23.57	24.26	164.18	-67.63	132.82	224.89	177.49	47.41	4.744	Alert
6,700.00	6,698.80	6,781.19	6,736.73	23.75	24.45	165.21	-66.62	125.35	219.61	171.83	47.78	4.596	Alert
6,750.00	6,748.78	6,830.76	6,785.72	23.93	24.64	166.28	-65.62	117.87	214.41	166.25	48.16	4.452	Alert
6,800.00	6,798.75	6,880.32	6,834.70	24.11	24.82	167.41	-64.61	110.39	209.28	160.75	48.53	4.312	Alert
6,850.00	6,848.73	6,929.88	6,883.69	24.29	25.01	168.59	-63.60	102.91	204.23	155.33	48.91	4.176	Alert
6,900.00	6,898.71	6,979.44	6,932.67	24.47	25.20	169.83	-62.59	95.44	199.28	150.00	49.28	4.044	Alert
6,950.00	6,948.68	7,029.00	6,981.66	24.65	25.39	171.13	-61.58	87.96	194.42	144.76	49.66	3.915	Alert
7,000.00	6,998.66	7,078.57	7,030.64	24.83	25.57	172.50	-60.57	80.48	189.67	139.63	50.04	3.790	Alert
7,050.00	7,048.64	7,128.13	7,079.63	25.01	25.76	173.94	-59.56	73.01	185.04	134.62	50.42	3.670	Alert
7,100.00	7,098.62	7,177.69	7,128.61	25.19	25.95	175.45	-58.55	65.53	180.52	129.72	50.80	3.553	Alert
7,150.00	7,148.59	7,227.25	7,177.60	25.37	26.14	177.03	-57.54	58.05	176.14	124.96	51.19	3.441	Alert
7,200.00	7,198.57	7,276.82	7,226.58	25.54	26.32	178.70	-56.53	50.57	171.90	120.33	51.57	3.333	Alert
7,250.00	7,248.55	7,326.38	7,275.56	25.72	26.51	-179.56	-55.52	43.10	167.82	115.86	51.96	3.230	Alert
7,300.00	7,298.52	7,375.94	7,324.55	25.90	26.70	-177.73	-54.51	35.62	163.89	111.55	52.34	3.131	Alert
7,350.00	7,348.50	7,425.50	7,373.53	26.08	26.89	-175.81	-53.50	28.14	160.15	107.42	52.73	3.037	Alert
7,400.00	7,398.48	7,475.06	7,422.52	26.26	27.07	-173.80	-52.49	20.66	156.59	103.47	53.12	2.948	Alert
7,450.00	7,448.45	7,524.63	7,471.50	26.44	27.26	-171.71	-51.48	13.19	153.23	99.72	53.51	2.864	Alert
7,500.00	7,498.43	7,574.19	7,520.49	26.62	27.45	-169.53	-50.47	5.71	150.09	96.19	53.90	2.785	Alert
7,550.00	7,548.41	7,623.75	7,569.47	26.80	27.64	-167.25	-49.46	-1.77	147.18	92.89	54.29	2.711	Alert
7,600.00	7,598.38	7,673.31	7,618.46	26.98	27.83	-164.90	-48.45	-9.24	144.51	89.84	54.68	2.643	Alert
7,650.00	7,648.36	7,722.88	7,667.44	27.16	28.01	-162.45	-47.44	-16.72	142.10	87.04	55.07	2.581	Alert
7,700.00	7,698.34	7,772.44	7,716.43	27.34	28.20	-159.93	-46.43	-24.20	139.96	84.51	55.45	2.524	Alert
7,750.00	7,748.32	7,821.31	7,764.77	27.52	28.39	-157.49	-45.47	-31.29	138.22	82.38	55.84	2.475	Minor Risk

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 - Prelim Plan 3 — **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
7,800.00	7,798.29	7,870.29	7,813.31	27.70	28.57	-155.22	-44.60	-37.78	136.99	80.76	56.23	2.436	Minor Risk
7,850.00	7,848.27	7,919.41	7,862.07	27.87	28.75	-153.16	-43.80	-43.68	136.20	79.60	56.60	2.406	Minor Risk
7,900.00	7,898.25	7,968.64	7,911.01	28.05	28.93	-151.32	-43.09	-48.96	135.79	78.82	56.97	2.383	Minor Risk
7,939.56	7,937.79	8,007.67	7,949.86	28.20	29.08	-150.05	-42.58	-52.70	135.69	78.43	57.26	2.370	Minor Risk, CC
7,950.00	7,948.22	8,017.98	7,960.12	28.23	29.12	-149.73	-42.46	-53.62	135.70	78.36	57.34	2.367	Minor Risk
8,000.00	7,998.20	8,067.40	8,009.38	28.41	29.29	-148.40	-41.91	-57.66	135.89	78.19	57.70	2.355	Minor Risk, ES
8,050.00	8,048.18	8,116.90	8,058.75	28.59	29.47	-147.33	-41.45	-61.08	136.30	78.24	58.06	2.348	Minor Risk
8,100.00	8,098.15	8,166.44	8,108.21	28.77	29.65	-146.53	-41.08	-63.86	136.91	78.50	58.42	2.344	Minor Risk
8,150.00	8,148.13	8,216.02	8,157.75	28.95	29.83	-146.00	-40.78	-66.01	137.69	78.92	58.77	2.343	Minor Risk, SF
8,200.00	8,198.11	8,265.62	8,207.33	29.13	30.00	-145.73	-40.58	-67.52	138.61	79.49	59.12	2.345	Minor Risk
8,250.00	8,248.09	8,315.23	8,256.92	29.31	30.17	-145.72	-40.46	-68.40	139.68	80.20	59.47	2.349	Minor Risk
8,300.00	8,298.06	8,364.87	8,306.56	29.49	30.34	-145.97	-40.43	-68.64	140.88	81.06	59.82	2.355	Minor Risk
8,350.00	8,348.04	8,414.85	8,356.54	29.67	30.51	-146.31	-40.43	-68.64	142.14	81.97	60.17	2.362	Minor Risk
8,400.00	8,398.02	8,464.82	8,406.52	29.85	30.69	-146.65	-40.43	-68.64	143.41	82.89	60.52	2.370	Minor Risk
8,450.00	8,447.99	8,514.80	8,456.49	30.03	30.86	-146.98	-40.43	-68.64	144.68	83.81	60.87	2.377	Minor Risk
8,500.00	8,497.97	8,564.78	8,506.47	30.21	31.03	-147.31	-40.43	-68.64	145.95	84.73	61.22	2.384	Minor Risk
8,550.00	8,547.95	8,614.75	8,556.45	30.39	31.20	-147.62	-40.43	-68.64	147.23	85.66	61.57	2.391	Minor Risk
8,600.00	8,597.92	8,664.73	8,606.42	30.57	31.37	-147.94	-40.43	-68.64	148.51	86.60	61.92	2.399	Minor Risk
8,650.00	8,647.90	8,705.52	8,647.19	30.74	31.50	-148.14	-41.51	-68.63	151.15	89.07	62.09	2.435	Minor Risk
8,700.00	8,697.88	8,744.70	8,686.18	30.92	31.63	-148.21	-45.25	-68.61	157.18	95.16	62.02	2.534	Alert
8,750.00	8,747.86	8,783.06	8,724.03	31.10	31.75	-148.17	-51.48	-68.57	166.52	104.77	61.75	2.697	Alert
8,800.00	8,797.83	8,820.31	8,760.30	31.28	31.86	-148.03	-59.94	-68.51	179.07	117.77	61.30	2.921	Alert
8,850.00	8,847.81	8,856.20	8,794.65	31.46	31.97	-147.83	-70.31	-68.45	194.66	133.97	60.69	3.208	Alert
8,900.00	8,897.79	8,890.52	8,826.83	31.64	32.07	-147.60	-82.21	-68.37	213.11	153.17	59.95	3.555	Alert
8,950.00	8,947.76	8,923.16	8,856.73	31.82	32.16	-147.35	-95.30	-68.29	234.24	175.14	59.11	3.963	Alert
9,000.00	8,997.74	8,950.00	8,880.72	32.00	32.23	-147.13	-107.33	-68.21	257.89	200.06	57.83	4.459	Alert
9,050.00	9,047.72	8,983.11	8,909.50	32.18	32.31	-146.86	-123.70	-68.11	283.71	226.46	57.26	4.955	Alert
9,100.00	9,097.69	9,010.42	8,932.50	32.36	32.38	-146.64	-138.43	-68.02	311.66	255.37	56.29	5.536	
9,150.00	9,147.67	9,036.01	8,953.38	32.54	32.44	-146.43	-153.20	-67.92	341.48	286.15	55.33	6.172	
9,200.00	9,197.65	9,059.92	8,972.28	32.72	32.49	-146.24	-167.85	-67.83	373.01	318.63	54.38	6.859	
9,250.00	9,247.62	9,082.26	8,989.38	32.90	32.53	-146.06	-182.23	-67.74	406.08	352.62	53.46	7.596	
9,300.00	9,297.60	9,100.00	9,002.54	33.08	32.57	-145.93	-194.11	-67.67	440.56	388.20	52.36	8.414	
9,350.00	9,347.58	9,122.55	9,018.74	33.26	32.61	-145.76	-209.80	-67.57	476.25	424.51	51.74	9.204	
9,400.00	9,397.56	9,140.70	9,031.31	33.44	32.64	-145.64	-222.88	-67.48	513.09	462.14	50.95	10.071	
9,450.00	9,447.53	9,150.00	9,037.60	33.62	32.66	-145.57	-229.74	-67.44	551.05	501.31	49.74	11.079	
9,500.00	9,497.51	9,173.46	9,052.94	33.80	32.69	-145.41	-247.48	-67.33	589.73	540.22	49.51	11.912	
9,550.00	9,547.49	9,188.25	9,062.24	33.98	32.72	-145.32	-258.98	-67.25	629.33	580.48	48.86	12.881	
9,600.00	9,597.46	9,200.00	9,069.42	34.16	32.74	-145.24	-268.29	-67.20	669.70	621.55	48.15	13.908	
9,650.00	9,647.44	9,215.04	9,078.31	34.34	32.75	-145.15	-280.41	-67.12	710.73	663.02	47.70	14.899	
9,700.00	9,697.42	9,227.19	9,085.27	34.52	32.77	-145.08	-290.37	-67.06	752.38	705.19	47.19	15.942	
9,750.00	9,747.39	9,250.00	9,097.75	34.69	32.80	-144.95	-309.47	-66.94	794.79	747.58	47.21	16.834	
9,800.00	9,797.37	9,250.00	9,097.75	34.87	32.80	-144.95	-309.47	-66.94	837.32	791.00	46.32	18.076	
9,850.00	9,847.35	9,250.00	9,097.75	35.05	32.80	-144.95	-309.47	-66.94	880.63	835.09	45.54	19.338	
9,900.00	9,897.33	9,268.88	9,107.50	35.23	32.82	-144.84	-325.63	-66.83	924.12	878.58	45.54	20.292	
9,950.00	9,947.30	9,277.84	9,111.94	35.41	32.83	-144.80	-333.41	-66.78	968.12	922.91	45.21	21.413	
10,000.00	9,997.28	9,300.00	9,122.39	35.59	32.85	-144.68	-352.95	-66.66	1,012.73	967.35	45.38	22.317	
10,050.00	10,047.26	9,300.00	9,122.39	35.77	32.85	-144.68	-352.95	-66.66	1,057.20	1,012.36	44.84	23.577	
10,100.00	10,097.23	9,300.00	9,122.39	35.95	32.85	-144.68	-352.95	-66.66	1,102.15	1,057.78	44.37	24.842	
10,150.00	10,147.21	9,300.00	9,122.39	36.13	32.85	-144.68	-352.95	-66.66	1,147.51	1,103.56	43.95	26.108	
10,200.00	10,197.19	9,315.82	9,129.39	36.31	32.86	-144.60	-367.14	-66.57	1,192.92	1,148.90	44.02	27.102	
10,250.00	10,247.16	9,322.28	9,132.13	36.49	32.87	-144.57	-372.99	-66.53	1,238.67	1,194.82	43.85	28.249	
10,300.00	10,297.14	9,328.42	9,134.68	36.67	32.87	-144.54	-378.58	-66.50	1,284.65	1,240.95	43.70	29.397	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 - Prelim Plan 3 — **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	10,347.12	9,350.00	9,143.15	36.85	32.89	-144.44	-398.43	-66.37	1,331.13	1,287.18	43.95	30.287	
10,400.00	10,397.10	9,350.00	9,143.15	37.03	32.89	-144.44	-398.43	-66.37	1,377.31	1,333.62	43.69	31.521	
10,450.00	10,447.07	9,350.00	9,143.15	37.21	32.89	-144.44	-398.43	-66.37	1,423.75	1,380.28	43.47	32.750	
10,500.00	10,497.05	9,350.00	9,143.15	37.39	32.89	-144.44	-398.43	-66.37	1,470.43	1,427.15	43.28	33.972	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	8.70	8.70	0.50	0.50	100.65	-146.41	778.46	792.11				
50.00	50.00	58.70	58.70	0.50	0.51	100.65	-146.41	778.46	792.11	791.10	1.01	785.674	
100.00	100.00	108.70	108.70	0.52	0.53	100.65	-146.41	778.46	792.11	791.07	1.04	758.385	
150.00	150.00	158.70	158.70	0.59	0.61	100.65	-146.41	778.46	792.11	790.91	1.20	661.398	
200.00	200.00	208.70	208.70	0.70	0.72	100.65	-146.41	778.46	792.11	790.68	1.43	555.305	
250.00	250.00	258.70	258.70	0.84	0.86	100.65	-146.41	778.46	792.11	790.41	1.70	465.769	
300.00	300.00	308.70	308.70	0.99	1.01	100.65	-146.41	778.46	792.11	790.11	2.00	395.721	
350.00	350.00	358.70	358.70	1.15	1.17	100.65	-146.41	778.46	792.11	789.79	2.32	341.556	
400.00	400.00	408.70	408.70	1.31	1.34	100.65	-146.41	778.46	792.11	789.46	2.65	299.242	
450.00	450.00	458.70	458.70	1.48	1.51	100.65	-146.41	778.46	792.11	789.13	2.98	265.628	
500.00	500.00	508.70	508.70	1.65	1.68	100.65	-146.41	778.46	792.11	788.79	3.32	238.450	
550.00	550.00	558.70	558.70	1.82	1.85	100.65	-146.41	778.46	792.11	788.44	3.67	216.108	
600.00	600.00	608.70	608.70	1.99	2.02	100.65	-146.41	778.46	792.11	788.10	4.01	197.464	
650.00	650.00	658.70	658.70	2.16	2.19	100.65	-146.41	778.46	792.11	787.75	4.36	181.698	
700.00	700.00	708.70	708.70	2.34	2.37	100.65	-146.41	778.46	792.11	787.40	4.71	168.208	
750.00	750.00	758.70	758.70	2.51	2.55	100.65	-146.41	778.46	792.11	787.05	5.06	156.544	
800.00	800.00	808.70	808.70	2.69	2.72	100.65	-146.41	778.46	792.11	786.70	5.41	146.366	
850.00	850.00	858.70	858.70	2.87	2.90	100.65	-146.41	778.46	792.11	786.35	5.76	137.411	
900.00	900.00	908.70	908.70	3.04	3.07	100.65	-146.41	778.46	792.11	785.99	6.12	129.475	
950.00	950.00	958.70	958.70	3.22	3.25	100.65	-146.41	778.46	792.11	785.64	6.47	122.394	
1,000.00	1,000.00	1,008.70	1,008.70	3.40	3.43	100.65	-146.41	778.46	792.11	785.28	6.83	116.040	
1,050.00	1,050.00	1,058.70	1,058.70	3.58	3.61	100.65	-146.41	778.46	792.11	784.93	7.18	110.307	
1,100.00	1,100.00	1,108.70	1,108.70	3.75	3.78	100.65	-146.41	778.46	792.11	784.57	7.54	105.109	
1,150.00	1,150.00	1,158.70	1,158.70	3.93	3.96	100.65	-146.41	778.46	792.11	784.22	7.89	100.374	
1,200.00	1,200.00	1,208.70	1,208.70	4.11	4.14	100.65	-146.41	778.46	792.11	783.86	8.25	96.045	
1,250.00	1,250.00	1,258.70	1,258.70	4.29	4.32	100.65	-146.41	778.46	792.11	783.51	8.60	92.072	
1,300.00	1,300.00	1,308.70	1,308.70	4.46	4.50	100.65	-146.41	778.46	792.11	783.15	8.96	88.412	
1,350.00	1,350.00	1,358.70	1,358.70	4.64	4.67	100.65	-146.41	778.46	792.11	782.79	9.32	85.030	
1,400.00	1,400.00	1,408.70	1,408.70	4.82	4.85	100.65	-146.41	778.46	792.11	782.44	9.67	81.896	
1,450.00	1,450.00	1,458.70	1,458.70	5.00	5.03	100.65	-146.41	778.46	792.11	782.08	10.03	78.984	
1,500.00	1,500.00	1,508.70	1,508.70	5.18	5.21	100.65	-146.41	778.46	792.11	781.72	10.39	76.271	
1,550.00	1,550.00	1,558.70	1,558.70	5.36	5.39	100.65	-146.41	778.46	792.11	781.37	10.74	73.737	
1,600.00	1,600.00	1,608.70	1,608.70	5.53	5.57	100.65	-146.41	778.46	792.11	781.01	11.10	71.366	
1,650.00	1,650.00	1,658.70	1,658.70	5.71	5.74	100.65	-146.41	778.46	792.11	780.65	11.46	69.141	
1,700.00	1,700.00	1,708.70	1,708.70	5.89	5.92	100.65	-146.41	778.46	792.11	780.30	11.81	67.051	
1,750.00	1,750.00	1,758.70	1,758.70	6.07	6.10	100.65	-146.41	778.46	792.11	779.94	12.17	65.083	
1,800.00	1,800.00	1,808.70	1,808.70	6.25	6.28	100.65	-146.41	778.46	792.11	779.58	12.53	63.227	
1,850.00	1,850.00	1,858.70	1,858.70	6.43	6.46	100.65	-146.41	778.46	792.11	779.22	12.89	61.473	
1,900.00	1,900.00	1,908.70	1,908.70	6.61	6.64	100.65	-146.41	778.46	792.11	778.87	13.24	59.814	
1,950.00	1,950.00	1,958.70	1,958.70	6.78	6.82	100.65	-146.41	778.46	792.11	778.51	13.60	58.242	
2,000.00	2,000.00	2,008.70	2,008.70	6.96	6.99	100.65	-146.41	778.46	792.11	778.15	13.96	56.750	
2,050.00	2,050.00	2,058.70	2,058.70	7.14	7.17	100.65	-146.41	778.46	792.11	777.79	14.32	55.333	
2,100.00	2,100.00	2,108.70	2,108.70	7.32	7.35	100.65	-146.41	778.46	792.11	777.44	14.67	53.984	
2,150.00	2,150.00	2,158.70	2,158.70	7.50	7.53	100.65	-146.41	778.46	792.11	777.08	15.03	52.700	
2,200.00	2,200.00	2,208.70	2,208.70	7.68	7.71	100.65	-146.41	778.46	792.11	776.72	15.39	51.475	
2,250.00	2,250.00	2,258.70	2,258.70	7.86	7.89	100.65	-146.41	778.46	792.11	776.36	15.75	50.305	
2,300.00	2,300.00	2,308.70	2,308.70	8.04	8.07	100.65	-146.41	778.46	792.11	776.01	16.10	49.188	
2,350.00	2,350.00	2,358.70	2,358.70	8.22	8.25	100.65	-146.41	778.46	792.11	775.65	16.46	48.118	
2,400.00	2,400.00	2,408.70	2,408.70	8.39	8.43	100.65	-146.41	778.46	792.11	775.29	16.82	47.095	
2,450.00	2,450.00	2,458.70	2,458.70	8.57	8.60	100.65	-146.41	778.46	792.11	774.93	17.18	46.114	
2,500.00	2,500.00	2,508.70	2,508.70	8.75	8.78	100.65	-146.41	778.46	792.11	774.57	17.54	45.173	CC
2,550.00	2,550.00	2,552.40	2,552.40	8.93	8.94	100.64	-146.33	778.69	792.34	774.48	17.87	44.347	ES

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	2,600.00	2,597.02	2,597.02	9.11	9.09	100.62	-146.14	779.24	792.91	774.71	18.20	43.563	
2,650.00	2,650.00	2,641.63	2,641.62	9.29	9.25	100.59	-145.84	780.12	793.82	775.28	18.53	42.832	
2,700.00	2,700.00	2,686.23	2,686.20	9.47	9.40	100.54	-145.43	781.32	795.06	776.20	18.86	42.147	
2,750.00	2,750.00	2,730.80	2,730.74	9.65	9.56	100.49	-144.91	782.86	796.65	777.45	19.19	41.505	
2,800.00	2,800.00	2,775.35	2,775.24	9.83	9.71	100.42	-144.27	784.72	798.57	779.05	19.52	40.904	
2,850.00	2,850.00	2,819.86	2,819.69	10.00	9.87	100.34	-143.52	786.91	800.84	780.99	19.85	40.342	
2,900.00	2,900.00	2,864.33	2,864.09	10.18	10.02	100.24	-142.66	789.42	803.44	783.27	20.18	39.817	
2,950.00	2,950.00	2,908.76	2,908.41	10.36	10.18	100.14	-141.69	792.25	806.39	785.89	20.51	39.326	
3,000.00	3,000.00	2,953.14	2,952.67	10.54	10.34	100.03	-140.61	795.41	809.68	788.85	20.83	38.870	
3,050.00	3,050.00	2,997.46	2,996.84	10.72	10.49	99.90	-139.42	798.88	813.31	792.16	21.16	38.445	
3,100.00	3,100.00	3,041.73	3,040.92	10.90	10.65	99.76	-138.12	802.67	817.29	795.81	21.48	38.052	
3,150.00	3,150.00	3,086.47	3,085.45	11.08	10.81	99.62	-136.70	806.83	821.60	799.80	21.80	37.682	
3,200.00	3,200.00	3,136.21	3,134.94	11.26	10.98	99.45	-135.07	811.60	826.06	803.91	22.16	37.285	
3,250.00	3,250.00	3,185.96	3,184.42	11.44	11.16	99.28	-133.43	816.37	830.53	808.02	22.51	36.899	
3,300.00	3,300.00	3,235.70	3,233.91	11.62	11.34	99.12	-131.80	821.14	835.01	812.15	22.86	36.526	
3,350.00	3,350.00	3,285.44	3,283.39	11.80	11.52	98.96	-130.17	825.91	839.49	816.28	23.21	36.163	
3,400.00	3,400.00	3,335.19	3,332.88	11.97	11.69	98.80	-128.54	830.68	843.98	820.41	23.57	35.812	
3,450.00	3,450.00	3,384.93	3,382.37	12.15	11.87	98.64	-126.90	835.45	848.47	824.55	23.92	35.470	
3,500.00	3,500.00	3,434.67	3,431.85	12.33	12.05	98.48	-125.27	840.22	852.97	828.70	24.27	35.139	
3,550.00	3,550.00	3,484.41	3,481.34	12.51	12.23	98.32	-123.64	844.99	857.48	832.85	24.63	34.817	
3,600.00	3,600.00	3,534.16	3,530.83	12.69	12.41	98.17	-122.01	849.76	862.00	837.01	24.98	34.504	
3,650.00	3,650.00	3,583.90	3,580.31	12.87	12.59	98.02	-120.38	854.53	866.52	841.18	25.34	34.200	
3,700.00	3,700.00	3,633.64	3,629.80	13.05	12.77	97.87	-118.74	859.30	871.04	845.35	25.69	33.904	
3,750.00	3,750.00	3,683.38	3,679.29	13.23	12.95	97.72	-117.11	864.07	875.57	849.53	26.05	33.617	
3,800.00	3,800.00	3,733.13	3,728.77	13.41	13.13	97.57	-115.48	868.83	880.11	853.71	26.40	33.337	
3,850.00	3,850.00	3,782.87	3,778.26	13.59	13.32	97.42	-113.85	873.60	884.66	857.90	26.76	33.064	
3,900.00	3,900.00	3,832.61	3,827.75	13.77	13.50	97.28	-112.21	878.37	889.20	862.09	27.11	32.799	
3,950.00	3,950.00	3,882.35	3,877.23	13.94	13.68	97.14	-110.58	883.14	893.76	866.29	27.47	32.540	
4,000.00	4,000.00	3,932.10	3,926.72	14.12	13.86	97.00	-108.95	887.91	898.32	870.50	27.82	32.288	
4,050.00	4,050.00	3,981.83	3,976.20	14.30	14.04	135.70	-107.32	892.68	903.08	874.90	28.18	32.051	
4,100.00	4,099.99	4,031.54	4,025.65	14.48	14.23	135.55	-105.68	897.45	908.23	879.70	28.53	31.833	
4,150.00	4,149.97	4,081.21	4,075.07	14.66	14.41	135.44	-104.05	902.21	913.76	884.88	28.88	31.635	
4,200.00	4,199.95	4,130.88	4,124.48	14.83	14.59	135.37	-102.42	906.97	919.42	890.18	29.24	31.446	
4,250.00	4,249.93	4,180.55	4,173.89	15.01	14.77	135.30	-100.79	911.73	925.07	895.48	29.59	31.261	
4,300.00	4,299.90	4,230.21	4,223.30	15.19	14.96	135.23	-99.16	916.50	930.73	900.78	29.95	31.081	
4,350.00	4,349.88	4,279.88	4,272.71	15.37	15.14	135.17	-97.53	921.26	936.38	906.08	30.30	30.904	
4,400.00	4,399.86	4,329.55	4,322.13	15.54	15.32	135.10	-95.90	926.02	942.04	911.39	30.65	30.732	
4,450.00	4,449.84	4,379.22	4,371.54	15.72	15.51	135.03	-94.27	930.78	947.70	916.69	31.01	30.563	
4,500.00	4,499.81	4,428.88	4,420.95	15.90	15.69	134.97	-92.64	935.54	953.36	922.00	31.36	30.398	
4,550.00	4,549.79	4,478.55	4,470.36	16.08	15.87	134.90	-91.01	940.31	959.02	927.30	31.72	30.237	
4,600.00	4,599.77	4,528.22	4,519.77	16.26	16.06	134.84	-89.38	945.07	964.68	932.61	32.07	30.079	
4,650.00	4,649.74	4,577.88	4,569.18	16.43	16.24	134.78	-87.75	949.83	970.34	937.92	32.43	29.925	
4,700.00	4,699.72	4,627.55	4,618.59	16.61	16.43	134.72	-86.12	954.59	976.01	943.23	32.78	29.774	
4,750.00	4,749.70	4,677.22	4,668.01	16.79	16.61	134.66	-84.49	959.36	981.67	948.54	33.14	29.625	
4,800.00	4,799.67	4,726.89	4,717.42	16.97	16.80	134.59	-82.86	964.12	987.34	953.85	33.49	29.480	
4,850.00	4,849.65	4,776.55	4,766.83	17.15	16.98	134.54	-81.23	968.88	993.01	959.16	33.85	29.338	
4,900.00	4,899.63	4,826.22	4,816.24	17.32	17.17	134.48	-79.61	973.64	998.68	964.48	34.20	29.199	
4,950.00	4,949.61	4,875.89	4,865.65	17.50	17.35	134.42	-77.98	978.40	1,004.35	969.79	34.56	29.063	
5,000.00	4,999.58	4,925.55	4,915.06	17.68	17.54	134.36	-76.35	983.17	1,010.02	975.10	34.91	28.929	
5,050.00	5,049.56	4,975.22	4,964.47	17.86	17.72	134.30	-74.72	987.93	1,015.69	980.42	35.27	28.798	
5,100.00	5,099.54	5,024.89	5,013.89	18.04	17.91	134.25	-73.09	992.69	1,021.36	985.74	35.63	28.670	
5,150.00	5,149.51	5,074.56	5,063.30	18.21	18.09	134.19	-71.46	997.45	1,027.04	991.06	35.98	28.544	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
5,200.00	5,199.49	5,124.22	5,112.71	18.39	18.28	134.14	-69.83	1,002.21	1,032.71	996.37	36.34	28.420	
5,250.00	5,249.47	5,173.89	5,162.12	18.57	18.46	134.08	-68.20	1,006.98	1,038.39	1,001.69	36.69	28.299	
5,300.00	5,299.44	5,223.56	5,211.53	18.75	18.65	134.03	-66.57	1,011.74	1,044.06	1,007.01	37.05	28.180	
5,350.00	5,349.42	5,273.22	5,260.94	18.93	18.83	133.97	-64.94	1,016.50	1,049.74	1,012.34	37.41	28.063	
5,400.00	5,399.40	5,322.89	5,310.35	19.11	19.02	133.92	-63.31	1,021.26	1,055.42	1,017.66	37.76	27.949	
5,450.00	5,449.38	5,372.56	5,359.77	19.28	19.21	133.87	-61.68	1,026.03	1,061.10	1,022.98	38.12	27.836	
5,500.00	5,499.35	5,422.23	5,409.18	19.46	19.39	133.82	-60.05	1,030.79	1,066.78	1,028.30	38.48	27.726	
5,550.00	5,549.33	5,471.89	5,458.59	19.64	19.58	133.76	-58.42	1,035.55	1,072.46	1,033.63	38.83	27.618	
5,600.00	5,599.31	5,521.56	5,508.00	19.82	19.77	133.71	-56.79	1,040.31	1,078.14	1,038.95	39.19	27.511	
5,650.00	5,649.28	5,571.23	5,557.41	20.00	19.95	133.66	-55.16	1,045.07	1,083.82	1,044.28	39.55	27.407	
5,700.00	5,699.26	5,620.89	5,606.82	20.18	20.14	133.61	-53.53	1,049.84	1,089.51	1,049.61	39.90	27.304	
5,750.00	5,749.24	5,670.56	5,656.23	20.36	20.32	133.57	-51.90	1,054.60	1,095.19	1,054.93	40.26	27.203	
5,800.00	5,799.21	5,720.23	5,705.65	20.53	20.51	133.52	-50.27	1,059.36	1,100.88	1,060.26	40.62	27.104	
5,850.00	5,849.19	5,769.90	5,755.06	20.71	20.70	133.47	-48.64	1,064.12	1,106.56	1,065.59	40.97	27.006	
5,900.00	5,899.17	5,819.56	5,804.47	20.89	20.88	133.42	-47.01	1,068.88	1,112.25	1,070.92	41.33	26.910	
5,950.00	5,949.14	5,869.23	5,853.88	21.07	21.07	133.37	-45.38	1,073.65	1,117.94	1,076.25	41.69	26.816	
6,000.00	5,999.12	5,918.90	5,903.29	21.25	21.26	133.33	-43.75	1,078.41	1,123.63	1,081.58	42.05	26.723	
6,050.00	6,049.10	5,968.56	5,952.70	21.43	21.44	133.28	-42.12	1,083.17	1,129.31	1,086.91	42.40	26.632	
6,100.00	6,099.08	6,018.23	6,002.11	21.61	21.63	133.24	-40.49	1,087.93	1,135.00	1,092.24	42.76	26.543	
6,150.00	6,149.05	6,067.90	6,051.53	21.79	21.82	133.19	-38.86	1,092.70	1,140.69	1,097.58	43.12	26.455	
6,200.00	6,199.03	6,117.57	6,100.94	21.96	22.01	133.15	-37.23	1,097.46	1,146.39	1,102.91	43.48	26.368	
6,250.00	6,249.01	6,167.23	6,150.35	22.14	22.19	133.10	-35.60	1,102.22	1,152.08	1,108.24	43.83	26.283	
6,300.00	6,298.98	6,216.90	6,199.76	22.32	22.38	133.06	-33.97	1,106.98	1,157.77	1,113.58	44.19	26.199	
6,350.00	6,348.96	6,266.57	6,249.17	22.50	22.57	133.01	-32.34	1,111.74	1,163.46	1,118.91	44.55	26.116	
6,400.00	6,398.94	6,316.23	6,298.58	22.68	22.75	132.97	-30.71	1,116.51	1,169.16	1,124.25	44.91	26.035	
6,450.00	6,448.91	6,365.90	6,347.99	22.86	22.94	132.93	-29.08	1,121.27	1,174.85	1,129.58	45.27	25.955	
6,500.00	6,498.89	6,415.57	6,397.41	23.04	23.13	132.89	-27.45	1,126.03	1,180.55	1,134.92	45.62	25.876	
6,550.00	6,548.87	6,465.24	6,446.82	23.22	23.32	132.84	-25.82	1,130.79	1,186.24	1,140.26	45.98	25.798	
6,600.00	6,598.85	6,514.90	6,496.23	23.40	23.50	132.80	-24.19	1,135.55	1,191.94	1,145.60	46.34	25.722	
6,650.00	6,648.82	6,564.57	6,545.64	23.57	23.69	132.76	-22.56	1,140.32	1,197.63	1,150.94	46.70	25.647	
6,700.00	6,698.80	6,614.24	6,595.05	23.75	23.88	132.72	-20.93	1,145.08	1,203.33	1,156.28	47.06	25.573	
6,750.00	6,748.78	6,663.90	6,644.46	23.93	24.07	132.68	-19.30	1,149.84	1,209.03	1,161.62	47.41	25.500	
6,800.00	6,798.75	6,713.57	6,693.87	24.11	24.26	132.64	-17.67	1,154.60	1,214.73	1,166.96	47.77	25.428	
6,850.00	6,848.73	6,763.24	6,743.29	24.29	24.44	132.60	-16.04	1,159.37	1,220.43	1,172.30	48.13	25.357	
6,900.00	6,898.71	6,812.91	6,792.70	24.47	24.63	132.56	-14.41	1,164.13	1,226.13	1,177.64	48.49	25.287	
6,950.00	6,948.68	6,862.57	6,842.11	24.65	24.82	132.52	-12.78	1,168.89	1,231.83	1,182.98	48.85	25.218	
7,000.00	6,998.66	6,912.24	6,891.52	24.83	25.01	132.48	-11.15	1,173.65	1,237.53	1,188.32	49.21	25.150	
7,050.00	7,048.64	6,961.91	6,940.93	25.01	25.19	132.45	-9.52	1,178.41	1,243.23	1,193.67	49.56	25.084	
7,100.00	7,098.62	7,011.57	6,990.34	25.19	25.38	132.41	-7.89	1,183.18	1,248.93	1,199.01	49.92	25.018	
7,150.00	7,148.59	7,061.24	7,039.75	25.37	25.57	132.37	-6.26	1,187.94	1,254.63	1,204.35	50.28	24.953	
7,200.00	7,198.57	7,110.91	7,089.17	25.54	25.76	132.33	-4.63	1,192.70	1,260.34	1,209.70	50.64	24.889	
7,250.00	7,248.55	7,160.57	7,138.58	25.72	25.95	132.30	-3.00	1,197.46	1,266.04	1,215.04	51.00	24.825	
7,300.00	7,298.52	7,210.24	7,187.99	25.90	26.13	132.26	-1.37	1,202.22	1,271.74	1,220.39	51.36	24.763	
7,350.00	7,348.50	7,259.91	7,237.40	26.08	26.32	132.22	0.26	1,206.99	1,277.45	1,225.73	51.71	24.702	
7,400.00	7,398.48	7,309.58	7,286.81	26.26	26.51	132.19	1.89	1,211.75	1,283.15	1,231.08	52.07	24.641	
7,450.00	7,448.45	7,359.24	7,336.22	26.44	26.70	132.15	3.52	1,216.51	1,288.86	1,236.43	52.43	24.581	
7,500.00	7,498.43	7,408.91	7,385.63	26.62	26.89	132.12	5.15	1,221.27	1,294.56	1,241.77	52.79	24.522	
7,550.00	7,548.41	7,458.58	7,435.05	26.80	27.08	132.08	6.78	1,226.04	1,300.27	1,247.12	53.15	24.464	
7,600.00	7,598.38	7,508.24	7,484.46	26.98	27.26	132.05	8.41	1,230.80	1,305.98	1,252.47	53.51	24.407	
7,650.00	7,648.36	7,557.75	7,533.87	27.16	27.49	132.01	10.33	1,236.39	1,311.61	1,257.68	53.92	24.323	
7,700.00	7,698.34	7,640.80	7,616.46	27.34	27.76	131.98	12.31	1,242.17	1,316.50	1,262.09	54.41	24.197	
7,750.00	7,748.32	7,714.09	7,689.59	27.52	28.03	131.98	13.84	1,246.66	1,320.51	1,265.63	54.88	24.063	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,800.00	7,798.29	7,787.56	7,762.99	27.70	28.30	131.99	14.92	1,249.82	1,323.63	1,268.30	55.33	23.922	
7,850.00	7,848.27	7,861.16	7,836.57	27.87	28.56	132.03	15.55	1,251.65	1,325.86	1,270.09	55.77	23.773	
7,900.00	7,898.25	7,931.55	7,906.95	28.05	28.80	132.09	15.72	1,252.14	1,327.21	1,271.02	56.19	23.621	
7,950.00	7,948.22	7,981.52	7,956.92	28.23	28.97	132.14	15.72	1,252.14	1,328.23	1,271.69	56.54	23.491	
8,000.00	7,998.20	8,031.50	8,006.90	28.41	29.14	132.19	15.72	1,252.14	1,329.25	1,272.35	56.90	23.363	
8,050.00	8,048.18	8,081.48	8,056.88	28.59	29.32	132.24	15.72	1,252.14	1,330.27	1,273.02	57.25	23.237	
8,100.00	8,098.15	8,131.46	8,106.85	28.77	29.49	132.29	15.72	1,252.14	1,331.29	1,273.69	57.60	23.112	
8,150.00	8,148.13	8,181.43	8,156.83	28.95	29.66	132.34	15.72	1,252.14	1,332.31	1,274.36	57.96	22.989	
8,200.00	8,198.11	8,231.41	8,206.81	29.13	29.83	132.38	15.72	1,252.14	1,333.33	1,275.03	58.31	22.867	
8,250.00	8,248.09	8,281.39	8,256.79	29.31	30.00	132.43	15.72	1,252.14	1,334.36	1,275.70	58.66	22.746	
8,300.00	8,298.06	8,331.36	8,306.76	29.49	30.18	132.48	15.72	1,252.14	1,335.38	1,276.37	59.02	22.627	
8,350.00	8,348.04	8,381.34	8,356.74	29.67	30.35	132.53	15.72	1,252.14	1,336.41	1,277.04	59.37	22.510	
8,400.00	8,398.02	8,431.32	8,406.72	29.85	30.52	132.58	15.72	1,252.14	1,337.43	1,277.71	59.72	22.394	
8,450.00	8,447.99	8,481.29	8,456.69	30.03	30.69	132.62	15.72	1,252.14	1,338.46	1,278.38	60.08	22.279	
8,500.00	8,497.97	8,531.27	8,506.67	30.21	30.87	132.67	15.72	1,252.14	1,339.49	1,279.06	60.43	22.165	
8,550.00	8,547.95	8,581.25	8,556.65	30.39	31.04	132.72	15.72	1,252.14	1,340.52	1,279.73	60.79	22.053	
8,600.00	8,597.92	8,631.23	8,606.62	30.57	31.21	132.77	15.72	1,252.14	1,341.55	1,280.41	61.14	21.942	
8,650.00	8,647.90	8,674.52	8,649.90	30.74	31.35	132.86	14.47	1,252.15	1,342.69	1,281.22	61.47	21.844	
8,700.00	8,697.88	8,716.47	8,691.61	30.92	31.48	133.08	10.17	1,252.18	1,344.12	1,282.34	61.78	21.756	
8,750.00	8,747.86	8,757.42	8,731.93	31.10	31.61	133.42	3.04	1,252.22	1,345.90	1,283.80	62.09	21.676	
8,800.00	8,797.83	8,797.03	8,770.34	31.28	31.73	133.87	-6.58	1,252.27	1,348.06	1,285.67	62.39	21.607	
8,850.00	8,847.81	8,834.99	8,806.46	31.46	31.83	134.40	-18.27	1,252.34	1,350.71	1,288.03	62.68	21.551	
8,900.00	8,897.79	8,871.11	8,840.02	31.64	31.93	134.99	-31.59	1,252.41	1,353.92	1,290.98	62.95	21.509	
8,950.00	8,947.76	8,905.23	8,870.90	31.82	32.02	135.63	-46.09	1,252.49	1,357.80	1,294.60	63.20	21.485	
9,000.00	8,997.74	8,937.31	8,899.10	32.00	32.10	136.29	-61.38	1,252.58	1,362.42	1,299.00	63.42	21.481	SF
9,050.00	9,047.72	8,967.33	8,924.68	32.18	32.17	136.97	-77.09	1,252.67	1,367.89	1,304.27	63.62	21.499	
9,100.00	9,097.69	8,995.35	8,947.77	32.36	32.23	137.65	-92.94	1,252.76	1,374.29	1,310.49	63.80	21.541	
9,150.00	9,147.67	9,021.43	8,968.55	32.54	32.28	138.32	-108.70	1,252.84	1,381.68	1,317.75	63.94	21.610	
9,200.00	9,197.65	9,050.00	8,990.46	32.72	32.34	139.10	-127.03	1,252.95	1,390.16	1,326.09	64.07	21.698	
9,250.00	9,247.62	9,068.17	9,003.92	32.90	32.37	139.61	-139.25	1,253.02	1,399.72	1,335.62	64.11	21.834	
9,300.00	9,297.60	9,089.07	9,018.90	33.08	32.41	140.22	-153.81	1,253.10	1,410.46	1,346.33	64.14	21.991	
9,350.00	9,347.58	9,108.47	9,032.32	33.26	32.44	140.80	-167.82	1,253.18	1,422.39	1,358.26	64.13	22.179	
9,400.00	9,397.56	9,126.49	9,044.36	33.44	32.47	141.36	-181.22	1,253.25	1,435.53	1,371.45	64.09	22.400	
9,450.00	9,447.53	9,150.00	9,059.42	33.62	32.51	142.10	-199.28	1,253.35	1,449.93	1,385.88	64.05	22.637	
9,500.00	9,497.51	9,150.00	9,059.42	33.80	32.51	142.10	-199.28	1,253.35	1,465.54	1,401.73	63.80	22.969	
9,550.00	9,547.49	9,173.33	9,073.62	33.98	32.54	142.85	-217.78	1,253.46	1,482.30	1,418.58	63.72	23.262	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	8.70	8.70	0.50	0.50	100.65	-146.41	778.46	792.11				
50.00	50.00	58.70	58.70	0.50	0.51	100.65	-146.41	778.46	792.11	791.10	1.01	785.674	
100.00	100.00	108.70	108.70	0.52	0.53	100.65	-146.41	778.46	792.11	791.07	1.04	758.385	
150.00	150.00	158.70	158.70	0.59	0.61	100.65	-146.41	778.46	792.11	790.91	1.20	661.398	
200.00	200.00	208.70	208.70	0.70	0.72	100.65	-146.41	778.46	792.11	790.68	1.43	555.305	
250.00	250.00	258.70	258.70	0.84	0.86	100.65	-146.41	778.46	792.11	790.41	1.70	465.769	
300.00	300.00	308.70	308.70	0.99	1.01	100.65	-146.41	778.46	792.11	790.11	2.00	395.721	
350.00	350.00	358.70	358.70	1.15	1.17	100.65	-146.41	778.46	792.11	789.79	2.32	341.556	
400.00	400.00	408.70	408.70	1.31	1.34	100.65	-146.41	778.46	792.11	789.46	2.65	299.242	
450.00	450.00	458.70	458.70	1.48	1.51	100.65	-146.41	778.46	792.11	789.13	2.98	265.628	
500.00	500.00	508.70	508.70	1.65	1.68	100.65	-146.41	778.46	792.11	788.79	3.32	238.450	
550.00	550.00	558.70	558.70	1.82	1.85	100.65	-146.41	778.46	792.11	788.44	3.67	216.108	
600.00	600.00	608.70	608.70	1.99	2.02	100.65	-146.41	778.46	792.11	788.10	4.01	197.464	
650.00	650.00	658.70	658.70	2.16	2.19	100.65	-146.41	778.46	792.11	787.75	4.36	181.698	
700.00	700.00	708.70	708.70	2.34	2.37	100.65	-146.41	778.46	792.11	787.40	4.71	168.208	
750.00	750.00	758.70	758.70	2.51	2.55	100.65	-146.41	778.46	792.11	787.05	5.06	156.544	
800.00	800.00	808.70	808.70	2.69	2.72	100.65	-146.41	778.46	792.11	786.70	5.41	146.366	
850.00	850.00	858.70	858.70	2.87	2.90	100.65	-146.41	778.46	792.11	786.35	5.76	137.411	
900.00	900.00	908.70	908.70	3.04	3.07	100.65	-146.41	778.46	792.11	785.99	6.12	129.475	
950.00	950.00	958.70	958.70	3.22	3.25	100.65	-146.41	778.46	792.11	785.64	6.47	122.394	
1,000.00	1,000.00	1,008.70	1,008.70	3.40	3.43	100.65	-146.41	778.46	792.11	785.28	6.83	116.040	
1,050.00	1,050.00	1,058.70	1,058.70	3.58	3.61	100.65	-146.41	778.46	792.11	784.93	7.18	110.307	
1,100.00	1,100.00	1,108.70	1,108.70	3.75	3.78	100.65	-146.41	778.46	792.11	784.57	7.54	105.109	
1,150.00	1,150.00	1,158.70	1,158.70	3.93	3.96	100.65	-146.41	778.46	792.11	784.22	7.89	100.374	
1,200.00	1,200.00	1,208.70	1,208.70	4.11	4.14	100.65	-146.41	778.46	792.11	783.86	8.25	96.045	
1,250.00	1,250.00	1,258.70	1,258.70	4.29	4.32	100.65	-146.41	778.46	792.11	783.51	8.60	92.072	
1,300.00	1,300.00	1,308.70	1,308.70	4.46	4.50	100.65	-146.41	778.46	792.11	783.15	8.96	88.412	
1,350.00	1,350.00	1,358.70	1,358.70	4.64	4.67	100.65	-146.41	778.46	792.11	782.79	9.32	85.030	
1,400.00	1,400.00	1,408.70	1,408.70	4.82	4.85	100.65	-146.41	778.46	792.11	782.44	9.67	81.896	
1,450.00	1,450.00	1,458.70	1,458.70	5.00	5.03	100.65	-146.41	778.46	792.11	782.08	10.03	78.984	
1,500.00	1,500.00	1,508.70	1,508.70	5.18	5.21	100.65	-146.41	778.46	792.11	781.72	10.39	76.271	
1,550.00	1,550.00	1,558.70	1,558.70	5.36	5.39	100.65	-146.41	778.46	792.11	781.37	10.74	73.737	
1,600.00	1,600.00	1,608.70	1,608.70	5.53	5.57	100.65	-146.41	778.46	792.11	781.01	11.10	71.366	
1,650.00	1,650.00	1,658.70	1,658.70	5.71	5.74	100.65	-146.41	778.46	792.11	780.65	11.46	69.141	
1,700.00	1,700.00	1,708.70	1,708.70	5.89	5.92	100.65	-146.41	778.46	792.11	780.30	11.81	67.051	
1,750.00	1,750.00	1,758.70	1,758.70	6.07	6.10	100.65	-146.41	778.46	792.11	779.94	12.17	65.083	
1,800.00	1,800.00	1,808.70	1,808.70	6.25	6.28	100.65	-146.41	778.46	792.11	779.58	12.53	63.227	
1,850.00	1,850.00	1,858.70	1,858.70	6.43	6.46	100.65	-146.41	778.46	792.11	779.22	12.89	61.473	
1,900.00	1,900.00	1,908.70	1,908.70	6.61	6.64	100.65	-146.41	778.46	792.11	778.87	13.24	59.814	
1,950.00	1,950.00	1,958.70	1,958.70	6.78	6.82	100.65	-146.41	778.46	792.11	778.51	13.60	58.242	
2,000.00	2,000.00	2,008.70	2,008.70	6.96	6.99	100.65	-146.41	778.46	792.11	778.15	13.96	56.750	
2,050.00	2,050.00	2,058.70	2,058.70	7.14	7.17	100.65	-146.41	778.46	792.11	777.79	14.32	55.333	
2,100.00	2,100.00	2,108.70	2,108.70	7.32	7.35	100.65	-146.41	778.46	792.11	777.44	14.67	53.984	
2,150.00	2,150.00	2,158.70	2,158.70	7.50	7.53	100.65	-146.41	778.46	792.11	777.08	15.03	52.700	
2,200.00	2,200.00	2,208.70	2,208.70	7.68	7.71	100.65	-146.41	778.46	792.11	776.72	15.39	51.475	
2,250.00	2,250.00	2,258.70	2,258.70	7.86	7.89	100.65	-146.41	778.46	792.11	776.36	15.75	50.305	
2,300.00	2,300.00	2,308.70	2,308.70	8.04	8.07	100.65	-146.41	778.46	792.11	776.01	16.10	49.188	
2,350.00	2,350.00	2,358.70	2,358.70	8.22	8.25	100.65	-146.41	778.46	792.11	775.65	16.46	48.118	
2,400.00	2,400.00	2,408.70	2,408.70	8.39	8.43	100.65	-146.41	778.46	792.11	775.29	16.82	47.095	
2,450.00	2,450.00	2,458.70	2,458.70	8.57	8.60	100.65	-146.41	778.46	792.11	774.93	17.18	46.114	
2,500.00	2,500.00	2,508.70	2,508.70	8.75	8.78	100.65	-146.41	778.46	792.11	774.57	17.54	45.173 CC	
2,550.00	2,550.00	2,551.80	2,551.80	8.93	8.93	100.65	-146.39	778.69	792.37	774.50	17.86	44.357 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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	2,600.00	2,595.91	2,595.91	9.11	9.09	100.64	-146.34	779.26	792.99	774.79	18.20	43.582	
2,650.00	2,650.00	2,640.01	2,640.00	9.29	9.24	100.62	-146.27	780.17	793.98	775.46	18.52	42.864	
2,700.00	2,700.00	2,684.10	2,684.07	9.47	9.39	100.59	-146.16	781.41	795.34	776.49	18.85	42.194	
2,750.00	2,750.00	2,728.16	2,728.10	9.65	9.54	100.56	-146.03	782.99	797.08	777.90	19.18	41.567	
2,800.00	2,800.00	2,772.20	2,772.10	9.83	9.69	100.53	-145.87	784.90	799.18	779.68	19.50	40.982	
2,850.00	2,850.00	2,816.21	2,816.05	10.00	9.85	100.48	-145.68	787.15	801.66	781.83	19.82	40.438	
2,900.00	2,900.00	2,860.17	2,859.94	10.18	10.00	100.44	-145.46	789.74	804.50	784.35	20.15	39.931	
2,950.00	2,950.00	2,904.10	2,903.76	10.36	10.15	100.38	-145.21	792.66	807.72	787.25	20.47	39.460	
3,000.00	3,000.00	2,947.98	2,947.52	10.54	10.30	100.32	-144.94	795.90	811.30	790.51	20.79	39.023	
3,050.00	3,050.00	2,991.80	2,991.20	10.72	10.46	100.25	-144.64	799.48	815.26	794.15	21.11	38.620	
3,100.00	3,100.00	3,035.57	3,034.79	10.90	10.61	100.18	-144.31	803.39	819.58	798.15	21.43	38.248	
3,150.00	3,150.00	3,083.42	3,082.42	11.08	10.78	100.10	-143.92	807.93	824.19	802.42	21.77	37.862	
3,200.00	3,200.00	3,133.19	3,131.96	11.26	10.95	100.02	-143.52	812.68	828.82	806.70	22.12	37.470	
3,250.00	3,250.00	3,182.96	3,181.51	11.44	11.13	99.93	-143.12	817.43	833.45	810.98	22.47	37.091	
3,300.00	3,300.00	3,232.73	3,231.05	11.62	11.31	99.85	-142.72	822.18	838.08	815.26	22.82	36.723	
3,350.00	3,350.00	3,282.50	3,280.59	11.80	11.48	99.77	-142.32	826.93	842.71	819.54	23.17	36.365	
3,400.00	3,400.00	3,332.27	3,330.13	11.97	11.66	99.68	-141.92	831.68	847.35	823.82	23.53	36.018	
3,450.00	3,450.00	3,382.04	3,379.67	12.15	11.84	99.60	-141.52	836.43	851.99	828.11	23.88	35.681	
3,500.00	3,500.00	3,431.81	3,429.21	12.33	12.02	99.52	-141.11	841.18	856.63	832.40	24.23	35.354	
3,550.00	3,550.00	3,481.58	3,478.75	12.51	12.19	99.44	-140.71	845.92	861.27	836.68	24.58	35.035	
3,600.00	3,600.00	3,531.35	3,528.30	12.69	12.37	99.37	-140.31	850.67	865.91	840.97	24.94	34.726	
3,650.00	3,650.00	3,581.12	3,577.84	12.87	12.55	99.29	-139.91	855.42	870.55	845.26	25.29	34.424	
3,700.00	3,700.00	3,630.89	3,627.38	13.05	12.73	99.21	-139.51	860.17	875.20	849.55	25.64	34.131	
3,750.00	3,750.00	3,680.66	3,676.92	13.23	12.91	99.14	-139.11	864.92	879.84	853.85	26.00	33.846	
3,800.00	3,800.00	3,730.43	3,726.46	13.41	13.09	99.06	-138.71	869.67	884.49	858.14	26.35	33.568	
3,850.00	3,850.00	3,780.20	3,776.00	13.59	13.27	98.99	-138.31	874.42	889.14	862.44	26.70	33.297	
3,900.00	3,900.00	3,829.97	3,825.55	13.77	13.45	98.91	-137.91	879.17	893.79	866.73	27.06	33.033	
3,950.00	3,950.00	3,879.74	3,875.09	13.94	13.63	98.84	-137.51	883.91	898.44	871.03	27.41	32.776	
4,000.00	4,000.00	3,929.51	3,924.63	14.12	13.81	98.77	-137.10	888.66	903.10	875.33	27.77	32.526	
4,050.00	4,050.00	3,979.27	3,974.15	14.30	13.99	137.55	-136.70	893.41	907.95	879.83	28.12	32.290	
4,100.00	4,099.99	4,028.99	4,023.65	14.48	14.18	137.47	-136.30	898.15	913.21	884.74	28.47	32.073	
4,150.00	4,149.97	4,078.67	4,073.10	14.66	14.36	137.42	-135.90	902.89	918.86	890.03	28.82	31.877	
4,200.00	4,199.95	4,128.33	4,122.53	14.83	14.54	137.41	-135.50	907.63	924.63	895.45	29.18	31.690	
4,250.00	4,249.93	4,178.00	4,171.97	15.01	14.72	137.41	-135.10	912.37	930.40	900.87	29.53	31.507	
4,300.00	4,299.90	4,227.67	4,221.41	15.19	14.90	137.40	-134.70	917.11	936.17	906.28	29.88	31.329	
4,350.00	4,349.88	4,277.33	4,270.85	15.37	15.08	137.40	-134.30	921.85	941.93	911.70	30.23	31.154	
4,400.00	4,399.86	4,327.00	4,320.29	15.54	15.27	137.39	-133.90	926.59	947.70	917.12	30.59	30.984	
4,450.00	4,449.84	4,376.66	4,369.72	15.72	15.45	137.39	-133.50	931.33	953.47	922.53	30.94	30.817	
4,500.00	4,499.81	4,426.33	4,419.16	15.90	15.63	137.38	-133.10	936.07	959.24	927.95	31.29	30.653	
4,550.00	4,549.79	4,476.00	4,468.60	16.08	15.81	137.38	-132.70	940.80	965.01	933.36	31.65	30.493	
4,600.00	4,599.77	4,525.66	4,518.04	16.26	16.00	137.37	-132.30	945.54	970.78	938.78	32.00	30.337	
4,650.00	4,649.74	4,575.33	4,567.47	16.43	16.18	137.37	-131.90	950.28	976.55	944.20	32.35	30.184	
4,700.00	4,699.72	4,624.99	4,616.91	16.61	16.36	137.36	-131.50	955.02	982.32	949.61	32.71	30.034	
4,750.00	4,749.70	4,674.66	4,666.35	16.79	16.55	137.36	-131.10	959.76	988.09	955.03	33.06	29.887	
4,800.00	4,799.67	4,724.33	4,715.79	16.97	16.73	137.35	-130.70	964.50	993.86	960.44	33.42	29.743	
4,850.00	4,849.65	4,773.99	4,765.23	17.15	16.91	137.35	-130.30	969.24	999.63	965.86	33.77	29.602	
4,900.00	4,899.63	4,823.66	4,814.66	17.32	17.10	137.34	-129.90	973.98	1,005.40	971.27	34.12	29.464	
4,950.00	4,949.61	4,873.32	4,864.10	17.50	17.28	137.34	-129.50	978.71	1,011.16	976.69	34.48	29.328	
5,000.00	4,999.58	4,922.99	4,913.54	17.68	17.47	137.34	-129.10	983.45	1,016.93	982.10	34.83	29.195	
5,050.00	5,049.56	4,972.66	4,962.98	17.86	17.65	137.33	-128.70	988.19	1,022.70	987.52	35.19	29.065	
5,100.00	5,099.54	5,022.32	5,012.41	18.04	17.83	137.33	-128.30	992.93	1,028.47	992.93	35.54	28.937	
5,150.00	5,149.51	5,071.99	5,061.85	18.21	18.02	137.32	-127.90	997.67	1,034.24	998.34	35.90	28.812	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
5,200.00	5,199.49	5,121.65	5,111.29	18.39	18.20	137.32	-127.50	1,002.41	1,040.01	1,003.76	36.25	28.689	
5,250.00	5,249.47	5,171.32	5,160.73	18.57	18.39	137.31	-127.10	1,007.15	1,045.78	1,009.17	36.61	28.568	
5,300.00	5,299.44	5,220.99	5,210.17	18.75	18.57	137.31	-126.70	1,011.89	1,051.55	1,014.59	36.96	28.450	
5,350.00	5,349.42	5,270.65	5,259.60	18.93	18.76	137.31	-126.30	1,016.62	1,057.32	1,020.00	37.32	28.334	
5,400.00	5,399.40	5,320.32	5,309.04	19.11	18.94	137.30	-125.90	1,021.36	1,063.09	1,025.42	37.67	28.220	
5,450.00	5,449.38	5,369.98	5,358.48	19.28	19.13	137.30	-125.50	1,026.10	1,068.86	1,030.83	38.03	28.107	
5,500.00	5,499.35	5,419.65	5,407.92	19.46	19.31	137.29	-125.10	1,030.84	1,074.63	1,036.24	38.38	27.997	
5,550.00	5,549.33	5,469.32	5,457.36	19.64	19.50	137.29	-124.70	1,035.58	1,080.40	1,041.66	38.74	27.889	
5,600.00	5,599.31	5,518.98	5,506.79	19.82	19.68	137.29	-124.30	1,040.32	1,086.16	1,047.07	39.09	27.783	
5,650.00	5,649.28	5,568.65	5,556.23	20.00	19.87	137.28	-123.90	1,045.06	1,091.93	1,052.48	39.45	27.679	
5,700.00	5,699.26	5,618.31	5,605.67	20.18	20.05	137.28	-123.50	1,049.80	1,097.70	1,057.90	39.81	27.576	
5,750.00	5,749.24	5,667.98	5,655.11	20.36	20.24	137.28	-123.10	1,054.53	1,103.47	1,063.31	40.16	27.476	
5,800.00	5,799.21	5,717.65	5,704.54	20.53	20.42	137.27	-122.70	1,059.27	1,109.24	1,068.72	40.52	27.377	
5,850.00	5,849.19	5,767.31	5,753.98	20.71	20.61	137.27	-122.30	1,064.01	1,115.01	1,074.14	40.87	27.279	
5,900.00	5,899.17	5,816.98	5,803.42	20.89	20.79	137.26	-121.90	1,068.75	1,120.78	1,079.55	41.23	27.184	
5,950.00	5,949.14	5,866.64	5,852.86	21.07	20.98	137.26	-121.50	1,073.49	1,126.55	1,084.96	41.59	27.089	
6,000.00	5,999.12	5,916.31	5,902.30	21.25	21.17	137.26	-121.10	1,078.23	1,132.32	1,090.38	41.94	26.997	
6,050.00	6,049.10	5,965.98	5,951.73	21.43	21.35	137.25	-120.70	1,082.97	1,138.09	1,095.79	42.30	26.906	
6,100.00	6,099.08	6,015.64	6,001.17	21.61	21.54	137.25	-120.30	1,087.71	1,143.86	1,101.20	42.66	26.816	
6,150.00	6,149.05	6,065.31	6,050.61	21.79	21.72	137.25	-119.90	1,092.44	1,149.63	1,106.62	43.01	26.728	
6,200.00	6,199.03	6,114.97	6,100.05	21.96	21.91	137.24	-119.50	1,097.18	1,155.40	1,112.03	43.37	26.641	
6,250.00	6,249.01	6,164.64	6,149.48	22.14	22.10	137.24	-119.10	1,101.92	1,161.17	1,117.44	43.72	26.556	
6,300.00	6,298.98	6,214.31	6,198.92	22.32	22.28	137.24	-118.70	1,106.66	1,166.93	1,122.85	44.08	26.472	
6,350.00	6,348.96	6,263.97	6,248.36	22.50	22.47	137.23	-118.30	1,111.40	1,172.70	1,128.27	44.44	26.389	
6,400.00	6,398.94	6,313.64	6,297.80	22.68	22.65	137.23	-117.90	1,116.14	1,178.47	1,133.68	44.80	26.308	
6,450.00	6,448.91	6,363.30	6,347.24	22.86	22.84	137.23	-117.50	1,120.88	1,184.24	1,139.09	45.15	26.228	
6,500.00	6,498.89	6,412.97	6,396.67	23.04	23.03	137.22	-117.10	1,125.62	1,190.01	1,144.50	45.51	26.149	
6,550.00	6,548.87	6,462.64	6,446.11	23.22	23.21	137.22	-116.69	1,130.35	1,195.78	1,149.92	45.87	26.071	
6,600.00	6,598.85	6,512.30	6,495.55	23.40	23.40	137.22	-116.29	1,135.09	1,201.55	1,155.33	46.22	25.995	
6,650.00	6,648.82	6,561.97	6,544.99	23.57	23.59	137.21	-115.89	1,139.83	1,207.32	1,160.74	46.58	25.919	
6,700.00	6,698.80	6,611.63	6,594.42	23.75	23.77	137.21	-115.49	1,144.57	1,213.09	1,166.15	46.94	25.845	
6,750.00	6,748.78	6,661.30	6,643.86	23.93	23.96	137.21	-115.09	1,149.31	1,218.86	1,171.56	47.29	25.772	
6,800.00	6,798.75	6,710.97	6,693.30	24.11	24.15	137.21	-114.69	1,154.05	1,224.63	1,176.98	47.65	25.700	
6,850.00	6,848.73	6,760.63	6,742.74	24.29	24.33	137.20	-114.29	1,158.79	1,230.40	1,182.39	48.01	25.629	
6,900.00	6,898.71	6,810.30	6,792.18	24.47	24.52	137.20	-113.89	1,163.53	1,236.17	1,187.80	48.37	25.559	
6,950.00	6,948.68	6,859.96	6,841.61	24.65	24.71	137.20	-113.49	1,168.26	1,241.94	1,193.21	48.72	25.490	
7,000.00	6,998.66	6,909.63	6,891.05	24.83	24.89	137.19	-113.09	1,173.00	1,247.71	1,198.63	49.08	25.421	
7,050.00	7,048.64	6,959.30	6,940.49	25.01	25.08	137.19	-112.69	1,177.74	1,253.48	1,204.04	49.44	25.354	
7,100.00	7,098.62	7,008.96	6,989.93	25.19	25.27	137.19	-112.29	1,182.48	1,259.24	1,209.45	49.80	25.288	
7,150.00	7,148.59	7,058.63	7,039.36	25.37	25.45	137.18	-111.89	1,187.22	1,265.01	1,214.86	50.15	25.223	
7,200.00	7,198.57	7,108.29	7,088.80	25.54	25.64	137.18	-111.49	1,191.96	1,270.78	1,220.27	50.51	25.159	
7,250.00	7,248.55	7,157.96	7,138.24	25.72	25.83	137.18	-111.09	1,196.70	1,276.55	1,225.68	50.87	25.095	
7,300.00	7,298.52	7,207.63	7,187.68	25.90	26.02	137.18	-110.69	1,201.44	1,282.32	1,231.10	51.23	25.033	
7,350.00	7,348.50	7,257.29	7,237.12	26.08	26.20	137.17	-110.29	1,206.17	1,288.09	1,236.51	51.58	24.971	
7,400.00	7,398.48	7,306.96	7,286.55	26.26	26.39	137.17	-109.89	1,210.91	1,293.86	1,241.92	51.94	24.910	
7,450.00	7,448.45	7,356.62	7,335.99	26.44	26.58	137.17	-109.49	1,215.65	1,299.63	1,247.33	52.30	24.850	
7,500.00	7,498.43	7,406.29	7,385.43	26.62	26.76	137.17	-109.09	1,220.39	1,305.40	1,252.74	52.66	24.791	
7,550.00	7,548.41	7,455.96	7,434.87	26.80	26.95	137.16	-108.69	1,225.13	1,311.17	1,258.15	53.02	24.732	
7,600.00	7,598.38	7,505.62	7,484.30	26.98	27.14	137.16	-108.29	1,229.87	1,316.94	1,263.57	53.37	24.674	
7,650.00	7,648.36	7,555.29	7,533.74	27.16	27.33	137.16	-107.89	1,234.61	1,322.71	1,268.98	53.73	24.617	
7,700.00	7,698.34	7,630.11	7,608.29	27.34	27.61	137.16	-107.35	1,241.03	1,328.01	1,273.78	54.23	24.490	
7,750.00	7,748.32	7,705.48	7,683.48	27.52	27.88	137.18	-106.93	1,246.03	1,332.36	1,277.65	54.71	24.353	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,800.00	7,798.29	7,781.06	7,758.98	27.70	28.16	137.21	-106.63	1,249.55	1,335.75	1,280.58	55.18	24.208	
7,850.00	7,848.27	7,856.81	7,834.70	27.87	28.42	137.26	-106.46	1,251.59	1,338.18	1,282.55	55.63	24.056	
7,900.00	7,898.25	7,929.06	7,906.95	28.05	28.68	137.32	-106.41	1,252.14	1,339.65	1,283.60	56.05	23.901	
7,950.00	7,948.22	7,979.03	7,956.92	28.23	28.85	137.36	-106.41	1,252.14	1,340.77	1,284.37	56.40	23.771	
8,000.00	7,998.20	8,029.01	8,006.90	28.41	29.02	137.40	-106.41	1,252.14	1,341.89	1,285.13	56.75	23.644	
8,050.00	8,048.18	8,078.99	8,056.88	28.59	29.19	137.45	-106.41	1,252.14	1,343.00	1,285.90	57.11	23.517	
8,100.00	8,098.15	8,128.96	8,106.85	28.77	29.36	137.49	-106.41	1,252.14	1,344.12	1,286.66	57.46	23.392	
8,150.00	8,148.13	8,178.94	8,156.83	28.95	29.53	137.54	-106.41	1,252.14	1,345.24	1,287.43	57.81	23.269	
8,200.00	8,198.11	8,228.92	8,206.81	29.13	29.70	137.58	-106.41	1,252.14	1,346.36	1,288.20	58.17	23.147	
8,250.00	8,248.09	8,278.89	8,256.79	29.31	29.88	137.62	-106.41	1,252.14	1,347.48	1,288.96	58.52	23.026	
8,300.00	8,298.06	8,328.87	8,306.76	29.49	30.05	137.67	-106.41	1,252.14	1,348.60	1,289.73	58.87	22.907	
8,350.00	8,348.04	8,378.85	8,356.74	29.67	30.22	137.71	-106.41	1,252.14	1,349.73	1,290.50	59.22	22.790	
8,400.00	8,398.02	8,428.83	8,406.72	29.85	30.39	137.75	-106.41	1,252.14	1,350.85	1,291.27	59.58	22.674	
8,450.00	8,447.99	8,478.80	8,456.69	30.03	30.56	137.80	-106.41	1,252.14	1,351.97	1,292.04	59.93	22.559	
8,500.00	8,497.97	8,528.78	8,506.67	30.21	30.73	137.84	-106.41	1,252.14	1,353.10	1,292.81	60.28	22.445	
8,550.00	8,547.95	8,578.76	8,556.65	30.39	30.91	137.88	-106.41	1,252.14	1,354.22	1,293.59	60.64	22.333	
8,600.00	8,597.92	8,628.73	8,606.62	30.57	31.08	137.93	-106.41	1,252.14	1,355.35	1,294.36	60.99	22.222	
8,650.00	8,647.90	8,666.22	8,644.10	30.74	31.20	137.99	-107.31	1,252.15	1,356.68	1,295.38	61.30	22.131	
8,700.00	8,697.88	8,700.00	8,677.75	30.92	31.31	138.14	-110.19	1,252.17	1,358.54	1,296.94	61.60	22.055	
8,750.00	8,747.86	8,736.85	8,714.19	31.10	31.43	138.40	-115.59	1,252.20	1,360.94	1,299.05	61.89	21.989	
8,800.00	8,797.83	8,771.00	8,747.59	31.28	31.54	138.72	-122.68	1,252.24	1,363.93	1,301.76	62.17	21.939	
8,850.00	8,847.81	8,800.00	8,775.58	31.46	31.63	139.06	-130.25	1,252.28	1,367.57	1,305.15	62.42	21.910	
8,900.00	8,897.79	8,835.95	8,809.70	31.64	31.74	139.55	-141.58	1,252.35	1,371.87	1,309.19	62.68	21.886 SF	
8,950.00	8,947.76	8,866.48	8,838.06	31.82	31.83	140.04	-152.87	1,252.41	1,376.94	1,314.03	62.91	21.887	
9,000.00	8,997.74	8,900.00	8,868.45	32.00	31.93	140.64	-166.99	1,252.49	1,382.82	1,319.68	63.14	21.901	
9,050.00	9,047.72	8,923.24	8,889.02	32.18	31.99	141.10	-177.81	1,252.55	1,389.55	1,326.25	63.30	21.953	
9,100.00	9,097.69	8,950.00	8,912.14	32.36	32.06	141.67	-191.29	1,252.63	1,397.22	1,333.76	63.46	22.019	
9,150.00	9,147.67	8,974.13	8,932.42	32.54	32.12	142.21	-204.35	1,252.70	1,405.86	1,342.29	63.58	22.113	
9,200.00	9,197.65	9,000.00	8,953.53	32.72	32.19	142.83	-219.30	1,252.79	1,415.53	1,351.85	63.69	22.227	
9,250.00	9,247.62	9,019.33	8,968.86	32.90	32.24	143.31	-231.08	1,252.85	1,426.26	1,362.53	63.73	22.381	
9,300.00	9,297.60	9,039.93	8,984.74	33.08	32.29	143.84	-244.19	1,252.93	1,438.07	1,374.32	63.75	22.558	
9,350.00	9,347.58	9,050.00	8,992.33	33.26	32.31	144.11	-250.81	1,252.97	1,451.06	1,387.40	63.66	22.793	
9,400.00	9,397.56	9,077.45	9,012.42	33.44	32.38	144.86	-269.52	1,253.07	1,465.07	1,401.37	63.70	23.000	
9,450.00	9,447.53	9,100.00	9,028.23	33.62	32.43	145.50	-285.58	1,253.16	1,480.30	1,416.63	63.67	23.250	
9,500.00	9,497.51	9,100.00	9,028.23	33.80	32.43	145.50	-285.58	1,253.16	1,496.70	1,433.29	63.41	23.602	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	0.20	-0.20	0.50	0.50	-90.34	-0.18	-29.99	29.99				
50.00	50.00	49.80	49.80	0.50	0.50	-90.34	-0.18	-29.99	29.99	28.98	1.01	29.798	
100.00	100.00	100.20	99.80	0.52	0.52	-90.34	-0.18	-29.99	29.99	28.95	1.04	28.957	
150.00	150.00	149.80	149.80	0.59	0.59	-90.34	-0.18	-29.99	29.99	28.81	1.18	25.414	
200.00	200.00	200.20	199.80	0.70	0.70	-90.34	-0.18	-29.99	29.99	28.59	1.40	21.350	
250.00	250.00	249.80	249.80	0.84	0.84	-90.34	-0.18	-29.99	29.99	28.32	1.67	17.906	
300.00	300.00	300.20	299.80	0.99	0.99	-90.34	-0.18	-29.99	29.99	28.02	1.98	15.183	
350.00	350.00	349.80	349.80	1.15	1.14	-90.34	-0.18	-29.99	29.99	27.70	2.29	13.094	
400.00	400.00	400.20	399.80	1.31	1.31	-90.34	-0.18	-29.99	29.99	27.37	2.62	11.452	
450.00	450.00	449.80	449.80	1.48	1.48	-90.34	-0.18	-29.99	29.99	27.04	2.95	10.160	
500.00	500.00	500.20	499.80	1.65	1.65	-90.34	-0.18	-29.99	29.99	26.70	3.29	9.108	
550.00	550.00	549.80	549.80	1.82	1.82	-90.34	-0.18	-29.99	29.99	26.36	3.63	8.251	
600.00	600.00	600.20	599.80	1.99	1.99	-90.34	-0.18	-29.99	29.99	26.01	3.98	7.532	
650.00	650.00	649.80	649.80	2.16	2.16	-90.34	-0.18	-29.99	29.99	25.66	4.33	6.929	
700.00	700.00	700.20	699.80	2.34	2.34	-90.34	-0.18	-29.99	29.99	25.31	4.68	6.409	
750.00	750.00	749.80	749.80	2.51	2.51	-90.34	-0.18	-29.99	29.99	24.96	5.03	5.964	
800.00	800.00	800.20	799.80	2.69	2.69	-90.34	-0.18	-29.99	29.99	24.61	5.38	5.573	
850.00	850.00	849.80	849.80	2.87	2.87	-90.34	-0.18	-29.99	29.99	24.26	5.73	5.231	
900.00	900.00	900.20	899.80	3.04	3.04	-90.34	-0.18	-29.99	29.99	23.90	6.09	4.926	Alert
950.00	950.00	949.80	949.80	3.22	3.22	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-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	-90.34	-0.18	-29.99	29.99	16.42	13.57	2.210	Minor Risk
2,000.00	2,000.00	1,999.80	1,999.80	6.96	6.96	-90.34	-0.18	-29.99	29.99	16.06	13.93	2.154	Minor Risk, CC
2,050.00	2,050.00	2,049.57	2,049.57	7.14	7.14	-90.15	-0.08	-30.18	30.18	15.90	14.28	2.113	Minor Risk, ES
2,100.00	2,100.00	2,099.33	2,099.33	7.32	7.31	-89.58	0.23	-30.75	30.75	16.12	14.63	2.102	Minor Risk
2,150.00	2,150.00	2,149.08	2,149.06	7.50	7.49	-88.68	0.73	-31.70	31.72	16.73	14.98	2.117	Minor Risk
2,200.00	2,200.00	2,198.80	2,198.76	7.68	7.66	-87.50	1.44	-33.03	33.08	17.75	15.33	2.157	Minor Risk
2,250.00	2,250.00	2,248.60	2,248.53	7.86	7.84	-86.14	2.34	-34.72	34.82	19.14	15.68	2.220	Minor Risk
2,300.00	2,300.00	2,301.44	2,298.45	8.04	8.02	-84.85	3.29	-36.49	36.66	20.61	16.05	2.285	Minor Risk
2,350.00	2,350.00	2,348.52	2,348.37	8.22	8.19	-83.69	4.23	-38.26	38.52	22.13	16.39	2.350	Minor Risk
2,400.00	2,400.00	2,401.52	2,398.29	8.39	8.37	-82.64	5.17	-40.02	40.38	23.63	16.75	2.410	Minor Risk
2,450.00	2,450.00	2,448.44	2,448.21	8.57	8.54	-81.68	6.11	-41.79	42.27	25.17	17.10	2.472	Minor Risk
2,500.00	2,500.00	2,501.60	2,498.12	8.75	8.73	-80.80	7.06	-43.56	44.16	26.69	17.46	2.529	Alert
2,550.00	2,550.00	2,548.36	2,548.04	8.93	8.89	-79.99	8.00	-45.33	46.06	28.25	17.81	2.587	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	2,600.00	2,601.68	2,597.96	9.11	9.08	-79.25	8.94	-47.09	47.97	29.80	18.17	2.640	Alert
2,650.00	2,650.00	2,648.28	2,647.88	9.29	9.24	-78.56	9.88	-48.86	49.89	31.37	18.52	2.694	Alert
2,700.00	2,700.00	2,701.76	2,697.80	9.47	9.43	-77.93	10.83	-50.63	51.81	32.93	18.88	2.744	Alert
2,750.00	2,750.00	2,748.20	2,747.72	9.65	9.60	-77.34	11.77	-52.39	53.74	34.52	19.23	2.795	Alert
2,800.00	2,800.00	2,798.16	2,797.64	9.83	9.78	-76.79	12.71	-54.16	55.68	36.10	19.58	2.843	Alert
2,850.00	2,850.00	2,848.12	2,847.56	10.00	9.95	-76.28	13.65	-55.93	57.62	37.68	19.94	2.890	Alert
2,900.00	2,900.00	2,901.92	2,897.48	10.18	10.14	-75.80	14.60	-57.70	59.56	39.26	20.30	2.933	Alert
2,950.00	2,950.00	2,948.04	2,947.40	10.36	10.31	-75.35	15.54	-59.46	61.51	40.86	20.65	2.979	Alert
3,000.00	3,000.00	3,002.00	2,997.32	10.54	10.50	-74.93	16.48	-61.23	63.46	42.44	21.02	3.020	Alert
3,050.00	3,050.00	3,047.96	3,047.24	10.72	10.66	-74.54	17.42	-63.00	65.41	44.06	21.36	3.063	Alert
3,100.00	3,100.00	3,102.08	3,097.16	10.90	10.86	-74.17	18.37	-64.77	67.37	45.64	21.73	3.101	Alert
3,150.00	3,150.00	3,147.88	3,147.08	11.08	11.02	-73.82	19.31	-66.53	69.33	47.26	22.07	3.142	Alert
3,200.00	3,200.00	3,202.16	3,197.00	11.26	11.21	-73.48	20.25	-68.30	71.30	48.85	22.44	3.177	Alert
3,250.00	3,250.00	3,247.80	3,246.92	11.44	11.38	-73.17	21.20	-70.07	73.26	50.48	22.78	3.216	Alert
3,300.00	3,300.00	3,302.24	3,296.84	11.62	11.57	-72.87	22.14	-71.84	75.23	52.07	23.15	3.249	Alert
3,350.00	3,350.00	3,347.72	3,346.76	11.80	11.73	-72.59	23.08	-73.60	77.20	53.70	23.49	3.286	Alert
3,400.00	3,400.00	3,402.32	3,396.68	11.97	11.93	-72.32	24.02	-75.37	79.17	55.30	23.87	3.317	Alert
3,450.00	3,450.00	3,447.64	3,446.60	12.15	12.09	-72.07	24.97	-77.14	81.14	56.93	24.21	3.352	Alert
3,500.00	3,500.00	3,502.40	3,496.52	12.33	12.29	-71.82	25.91	-78.91	83.11	58.53	24.58	3.381	Alert
3,550.00	3,550.00	3,547.56	3,546.44	12.51	12.45	-71.59	26.85	-80.67	85.09	60.17	24.92	3.415	Alert
3,600.00	3,600.00	3,602.48	3,596.36	12.69	12.64	-71.37	27.79	-82.44	87.07	61.77	25.29	3.442	Alert
3,650.00	3,650.00	3,647.48	3,646.28	12.87	12.80	-71.16	28.74	-84.21	89.05	63.41	25.63	3.474	Alert
3,700.00	3,700.00	3,702.56	3,696.20	13.05	13.00	-70.96	29.68	-85.97	91.02	65.02	26.01	3.500	Alert
3,750.00	3,750.00	3,747.40	3,746.12	13.23	13.16	-70.76	30.62	-87.74	93.01	66.66	26.35	3.530	Alert
3,800.00	3,800.00	3,802.64	3,796.04	13.41	13.36	-70.58	31.56	-89.51	94.99	68.26	26.72	3.555	Alert
3,850.00	3,850.00	3,847.32	3,845.95	13.59	13.52	-70.40	32.51	-91.28	96.97	69.91	27.06	3.583	Alert
3,900.00	3,900.00	3,902.72	3,895.87	13.77	13.72	-70.23	33.45	-93.04	98.95	71.52	27.44	3.607	Alert
3,950.00	3,950.00	3,947.24	3,945.79	13.94	13.88	-70.06	34.39	-94.81	100.94	73.16	27.77	3.634	Alert
4,000.00	4,000.00	4,002.80	3,995.71	14.12	14.08	-69.90	35.33	-96.58	102.92	74.77	28.15	3.656	Alert
4,050.00	4,050.00	4,047.17	4,045.64	14.30	14.24	-30.94	36.28	-98.35	104.67	76.19	28.49	3.674	Alert
4,100.00	4,099.99	4,102.85	4,095.59	14.48	14.44	-31.01	37.22	-100.12	105.96	77.09	28.86	3.671	Alert
4,150.00	4,149.97	4,147.14	4,145.54	14.66	14.60	-31.23	38.16	-101.88	106.79	77.59	29.20	3.657	Alert
4,200.00	4,199.95	4,202.87	4,195.49	14.83	14.80	-31.50	39.11	-103.65	107.47	77.90	29.57	3.634	Alert
4,250.00	4,249.93	4,247.12	4,245.44	15.01	14.96	-31.76	40.05	-105.42	108.17	78.26	29.91	3.617	Alert
4,300.00	4,299.90	4,302.88	4,295.39	15.19	15.16	-32.02	40.99	-107.19	108.86	78.57	30.28	3.595	Alert
4,350.00	4,349.88	4,347.11	4,345.35	15.37	15.31	-32.28	41.94	-108.96	109.55	78.93	30.62	3.578	Alert
4,400.00	4,399.86	4,402.90	4,395.30	15.54	15.51	-32.53	42.88	-110.73	110.25	79.26	31.00	3.557	Alert
4,450.00	4,449.84	4,447.10	4,445.25	15.72	15.67	-32.78	43.82	-112.49	110.95	79.62	31.33	3.541	Alert
4,500.00	4,499.81	4,502.91	4,495.20	15.90	15.87	-33.03	44.77	-114.26	111.65	79.94	31.71	3.521	Alert
4,550.00	4,549.79	4,547.08	4,545.16	16.08	16.03	-33.28	45.71	-116.03	112.36	80.31	32.04	3.507	Alert
4,600.00	4,599.77	4,602.93	4,595.11	16.26	16.23	-33.52	46.65	-117.80	113.06	80.64	32.42	3.488	Alert
4,650.00	4,649.74	4,647.07	4,645.06	16.43	16.39	-33.76	47.60	-119.57	113.77	81.01	32.75	3.473	Alert
4,700.00	4,699.72	4,702.94	4,695.01	16.61	16.59	-33.99	48.54	-121.34	114.48	81.35	33.13	3.455	Alert
4,750.00	4,749.70	4,747.05	4,744.97	16.79	16.75	-34.22	49.48	-123.11	115.19	81.72	33.47	3.442	Alert
4,800.00	4,799.67	4,802.95	4,794.92	16.97	16.95	-34.45	50.43	-124.87	115.90	82.06	33.84	3.425	Alert
4,850.00	4,849.65	4,847.04	4,844.87	17.15	17.11	-34.68	51.37	-126.64	116.62	82.44	34.18	3.412	Alert
4,900.00	4,899.63	4,902.97	4,894.82	17.32	17.31	-34.90	52.31	-128.41	117.33	82.78	34.56	3.396	Alert
4,950.00	4,949.61	4,947.02	4,944.78	17.50	17.47	-35.13	53.25	-130.18	118.05	83.16	34.89	3.384	Alert
5,000.00	4,999.58	5,002.98	4,994.73	17.68	17.67	-35.34	54.20	-131.95	118.77	83.51	35.27	3.368	Alert
5,050.00	5,049.56	5,047.01	5,044.68	17.86	17.83	-35.56	55.14	-133.72	119.50	83.89	35.60	3.356	Alert
5,100.00	5,099.54	5,097.00	5,094.63	18.04	18.01	-35.77	56.08	-135.49	120.22	84.26	35.96	3.343	Alert
5,150.00	5,149.51	5,146.99	5,144.59	18.21	18.19	-35.99	57.03	-137.25	120.95	84.63	36.32	3.330	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	5,199.49	5,203.01	5,194.54	18.39	18.39	-36.19	57.97	-139.02	121.67	84.98	36.69	3.316	Alert
5,250.00	5,249.47	5,246.98	5,244.49	18.57	18.55	-36.40	58.91	-140.79	122.40	85.37	37.03	3.306	Alert
5,300.00	5,299.44	5,303.03	5,294.45	18.75	18.75	-36.60	59.86	-142.56	123.13	85.72	37.41	3.292	Alert
5,350.00	5,349.42	5,346.97	5,344.40	18.93	18.91	-36.80	60.80	-144.33	123.86	86.12	37.74	3.282	Alert
5,400.00	5,399.40	5,403.04	5,394.35	19.11	19.11	-37.00	61.74	-146.10	124.60	86.48	38.12	3.268	Alert
5,450.00	5,449.38	5,446.95	5,444.30	19.28	19.27	-37.20	62.69	-147.87	125.33	86.87	38.46	3.259	Alert
5,500.00	5,499.35	5,503.06	5,494.26	19.46	19.47	-37.39	63.63	-149.63	126.07	87.23	38.84	3.246	Alert
5,550.00	5,549.33	5,546.94	5,544.21	19.64	19.63	-37.59	64.57	-151.40	126.81	87.64	39.17	3.237	Alert
5,600.00	5,599.31	5,603.07	5,594.16	19.82	19.83	-37.78	65.52	-153.17	127.54	88.00	39.55	3.225	Alert
5,650.00	5,649.28	5,646.92	5,644.11	20.00	19.99	-37.96	66.46	-154.94	128.28	88.40	39.88	3.216	Alert
5,700.00	5,699.26	5,703.09	5,694.07	20.18	20.20	-38.15	67.40	-156.71	129.03	88.76	40.26	3.205	Alert
5,750.00	5,749.24	5,746.91	5,744.02	20.36	20.35	-38.33	68.35	-158.48	129.77	89.17	40.60	3.196	Alert
5,800.00	5,799.21	5,803.10	5,793.97	20.53	20.56	-38.51	69.29	-160.25	130.51	89.54	40.98	3.185	Alert
5,850.00	5,849.19	5,846.89	5,843.92	20.71	20.71	-38.69	70.23	-162.01	131.26	89.95	41.31	3.177	Alert
5,900.00	5,899.17	5,903.11	5,893.88	20.89	20.92	-38.87	71.18	-163.78	132.01	90.31	41.69	3.166	Alert
5,950.00	5,949.14	5,946.88	5,943.83	21.07	21.07	-39.04	72.12	-165.55	132.76	90.73	42.03	3.159	Alert
6,000.00	5,999.12	6,003.13	5,993.78	21.25	21.28	-39.22	73.06	-167.32	133.50	91.10	42.41	3.148	Alert
6,050.00	6,049.10	6,046.86	6,043.73	21.43	21.44	-39.39	74.01	-169.09	134.26	91.51	42.74	3.141	Alert
6,100.00	6,099.08	6,103.14	6,093.69	21.61	21.64	-39.56	74.95	-170.86	135.01	91.89	43.12	3.131	Alert
6,150.00	6,149.05	6,146.85	6,143.64	21.79	21.80	-39.72	75.89	-172.63	135.76	92.30	43.46	3.124	Alert
6,200.00	6,199.03	6,203.16	6,193.59	21.96	22.00	-39.89	76.84	-174.39	136.51	92.68	43.84	3.114	Alert
6,250.00	6,249.01	6,246.84	6,243.54	22.14	22.16	-40.05	77.78	-176.16	137.27	93.10	44.17	3.108	Alert
6,300.00	6,298.98	6,303.17	6,293.50	22.32	22.36	-40.21	78.72	-177.93	138.03	93.47	44.55	3.098	Alert
6,350.00	6,348.96	6,346.82	6,343.45	22.50	22.52	-40.37	79.67	-179.70	138.78	93.90	44.89	3.092	Alert
6,400.00	6,398.94	6,403.19	6,393.40	22.68	22.72	-40.53	80.61	-181.47	139.54	94.28	45.27	3.083	Alert
6,450.00	6,448.91	6,446.81	6,443.35	22.86	22.88	-40.69	81.55	-183.24	140.30	94.70	45.60	3.077	Alert
6,500.00	6,498.89	6,503.20	6,493.31	23.04	23.08	-40.84	82.49	-185.01	141.06	95.08	45.98	3.068	Alert
6,550.00	6,548.87	6,546.79	6,543.26	23.22	23.24	-41.00	83.44	-186.77	141.82	95.51	46.32	3.062	Alert
6,600.00	6,598.85	6,603.22	6,593.21	23.40	23.44	-41.15	84.38	-188.54	142.59	95.89	46.70	3.053	Alert
6,650.00	6,648.82	6,646.78	6,643.16	23.57	23.60	-41.30	85.32	-190.31	143.35	96.32	47.03	3.048	Alert
6,700.00	6,698.80	6,703.23	6,693.12	23.75	23.80	-41.45	86.27	-192.08	144.12	96.70	47.41	3.040	Alert
6,750.00	6,748.78	6,746.76	6,743.07	23.93	23.96	-41.60	87.21	-193.85	144.88	97.13	47.75	3.034	Alert
6,800.00	6,798.75	6,803.24	6,793.02	24.11	24.17	-41.74	88.15	-195.62	145.65	97.52	48.13	3.026	Alert
6,850.00	6,848.73	6,846.75	6,842.97	24.29	24.32	-41.88	89.10	-197.39	146.42	97.95	48.46	3.021	Alert
6,900.00	6,898.71	6,903.26	6,892.93	24.47	24.53	-42.03	90.04	-199.15	147.18	98.34	48.85	3.013	Alert
6,950.00	6,948.68	6,946.73	6,942.88	24.65	24.68	-42.17	90.98	-200.92	147.95	98.77	49.18	3.008	Alert
7,000.00	6,998.66	7,003.27	6,992.83	24.83	24.89	-42.31	91.93	-202.69	148.72	99.16	49.56	3.001	Alert
7,050.00	7,048.64	7,046.72	7,042.79	25.01	25.04	-42.44	92.87	-204.46	149.49	99.60	49.90	2.996	Alert
7,100.00	7,098.62	7,096.71	7,092.74	25.19	25.22	-42.58	93.81	-206.23	150.27	100.01	50.25	2.990	Alert
7,150.00	7,148.59	7,146.71	7,142.69	25.37	25.41	-42.72	94.76	-208.00	151.04	100.43	50.61	2.984	Alert
7,200.00	7,198.57	7,203.30	7,192.64	25.54	25.61	-42.85	95.70	-209.76	151.81	100.82	50.99	2.977	Alert
7,250.00	7,248.55	7,246.69	7,242.60	25.72	25.77	-42.98	96.64	-211.53	152.59	101.26	51.33	2.973	Alert
7,300.00	7,298.52	7,303.32	7,292.55	25.90	25.97	-43.11	97.59	-213.30	153.36	101.65	51.71	2.966	Alert
7,350.00	7,348.50	7,346.68	7,342.50	26.08	26.13	-43.24	98.53	-215.07	154.14	102.09	52.04	2.962	Alert
7,400.00	7,398.48	7,396.67	7,392.45	26.26	26.31	-43.37	99.47	-216.84	154.92	102.51	52.40	2.956	Alert
7,450.00	7,448.45	7,446.66	7,442.41	26.44	26.49	-43.50	100.42	-218.61	155.69	102.93	52.76	2.951	Alert
7,500.00	7,498.43	7,503.35	7,492.36	26.62	26.69	-43.62	101.36	-220.38	156.47	103.33	53.14	2.944	Alert
7,550.00	7,548.41	7,546.65	7,542.31	26.80	26.85	-43.75	102.30	-222.14	157.25	103.77	53.48	2.941	Alert
7,600.00	7,598.38	7,603.36	7,592.26	26.98	27.06	-43.87	103.25	-223.91	158.03	104.17	53.86	2.934	Alert
7,650.00	7,648.36	7,646.63	7,642.22	27.16	27.21	-44.00	104.19	-225.68	158.81	104.62	54.19	2.930	Alert
7,700.00	7,698.34	7,703.37	7,692.17	27.34	27.42	-44.12	105.13	-227.45	159.59	105.02	54.58	2.924	Alert
7,750.00	7,748.32	7,746.62	7,742.12	27.52	27.57	-44.24	106.08	-229.22	160.37	105.46	54.91	2.921	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	7,798.29	7,803.39	7,792.07	27.70	27.78	-44.35	107.02	-230.99	161.16	105.86	55.29	2.915	Alert
7,850.00	7,848.27	7,846.60	7,842.03	27.87	27.93	-44.47	107.96	-232.76	161.94	106.31	55.63	2.911	Alert
7,900.00	7,898.25	7,903.40	7,891.98	28.05	28.14	-44.59	108.91	-234.52	162.72	106.71	56.01	2.905	Alert
7,950.00	7,948.22	7,946.59	7,941.93	28.23	28.30	-44.70	109.85	-236.29	163.51	107.17	56.34	2.902	Alert
8,000.00	7,998.20	8,003.42	7,991.88	28.41	28.50	-44.82	110.79	-238.06	164.29	107.57	56.73	2.896	Alert
8,050.00	8,048.18	8,046.58	8,041.84	28.59	28.66	-44.93	111.73	-239.83	165.08	108.02	57.06	2.893	Alert
8,100.00	8,098.15	8,103.43	8,091.79	28.77	28.86	-45.04	112.68	-241.60	165.87	108.42	57.44	2.887	Alert
8,150.00	8,148.13	8,146.56	8,141.74	28.95	29.02	-45.15	113.62	-243.37	166.65	108.88	57.78	2.884	Alert
8,200.00	8,198.11	8,203.45	8,191.69	29.13	29.22	-45.26	114.56	-245.14	167.44	109.28	58.16	2.879	Alert
8,250.00	8,248.09	8,246.55	8,241.65	29.31	29.38	-45.37	115.51	-246.90	168.23	109.74	58.49	2.876	Alert
8,300.00	8,298.06	8,303.46	8,291.60	29.49	29.59	-45.48	116.45	-248.67	169.02	110.14	58.88	2.871	Alert
8,350.00	8,348.04	8,346.53	8,341.55	29.67	29.74	-45.59	117.39	-250.44	169.81	110.60	59.21	2.868	Alert
8,400.00	8,398.02	8,403.48	8,391.50	29.85	29.95	-45.69	118.34	-252.21	170.60	111.00	59.59	2.863	Alert
8,450.00	8,447.99	8,446.52	8,441.46	30.03	30.10	-45.80	119.28	-253.98	171.39	111.46	59.93	2.860	Alert
8,500.00	8,497.97	8,503.49	8,491.41	30.21	30.31	-45.90	120.22	-255.75	172.18	111.87	60.31	2.855	Alert
8,550.00	8,547.95	8,546.50	8,541.36	30.39	30.46	-46.01	121.17	-257.52	172.97	112.33	60.64	2.852	Alert
8,600.00	8,597.92	8,603.50	8,591.31	30.57	30.67	-46.11	122.11	-259.28	173.77	112.74	61.03	2.847	Alert
8,650.00	8,647.90	8,646.49	8,641.27	30.74	30.83	-46.21	123.05	-261.05	174.56	113.20	61.36	2.845	Alert
8,700.00	8,697.88	8,703.52	8,691.22	30.92	31.03	-46.31	124.00	-262.82	175.35	113.61	61.75	2.840	Alert
8,750.00	8,747.86	8,746.47	8,741.17	31.10	31.19	-46.41	124.94	-264.59	176.15	114.07	62.08	2.837	Alert
8,800.00	8,797.83	8,803.53	8,791.13	31.28	31.39	-46.51	125.88	-266.36	176.94	114.48	62.46	2.833	Alert
8,850.00	8,847.81	8,846.46	8,841.08	31.46	31.55	-46.60	126.83	-268.13	177.74	114.94	62.80	2.830	Alert
8,900.00	8,897.79	8,903.55	8,891.03	31.64	31.75	-46.70	127.77	-269.90	178.53	115.35	63.18	2.826	Alert
8,950.00	8,947.76	8,946.44	8,940.98	31.82	31.91	-46.80	128.71	-271.66	179.33	115.81	63.51	2.823	Alert
9,000.00	8,997.74	8,996.44	8,990.94	32.00	32.09	-46.89	129.66	-273.43	180.12	116.25	63.87	2.820	Alert
9,050.00	9,047.72	9,046.43	9,040.89	32.18	32.27	-46.99	130.60	-275.20	180.92	116.69	64.23	2.817	Alert
9,100.00	9,097.69	9,103.58	9,090.84	32.36	32.48	-47.08	131.54	-276.97	181.72	117.10	64.62	2.812	Alert
9,150.00	9,147.67	9,146.42	9,140.79	32.54	32.63	-47.17	132.49	-278.74	182.52	117.57	64.95	2.810	Alert
9,200.00	9,197.65	9,203.59	9,190.75	32.72	32.84	-47.26	133.43	-280.51	183.32	117.98	65.33	2.806	Alert
9,250.00	9,247.62	9,246.40	9,240.70	32.90	32.99	-47.35	134.37	-282.28	184.12	118.45	65.67	2.804	Alert
9,300.00	9,297.60	9,303.61	9,290.65	33.08	33.20	-47.44	135.32	-284.04	184.91	118.86	66.05	2.800	Alert
9,350.00	9,347.58	9,346.39	9,340.60	33.26	33.36	-47.53	136.26	-285.81	185.71	119.33	66.38	2.798	Alert
9,400.00	9,397.56	9,403.62	9,390.56	33.44	33.56	-47.62	137.20	-287.58	186.52	119.75	66.77	2.793	Alert
9,450.00	9,447.53	9,446.37	9,440.51	33.62	33.72	-47.71	138.15	-289.35	187.32	120.22	67.10	2.792	Alert
9,500.00	9,497.51	9,503.64	9,490.46	33.80	33.92	-47.80	139.09	-291.12	188.12	120.63	67.49	2.788	Alert
9,550.00	9,547.49	9,546.36	9,540.41	33.98	34.08	-47.88	140.03	-292.89	188.92	121.10	67.82	2.786	Alert
9,600.00	9,597.46	9,603.65	9,590.37	34.16	34.29	-47.97	140.97	-294.66	189.72	121.52	68.20	2.782	Alert
9,650.00	9,647.44	9,646.34	9,640.32	34.34	34.44	-48.05	141.92	-296.42	190.52	121.99	68.54	2.780	Alert
9,700.00	9,697.42	9,703.66	9,690.27	34.52	34.65	-48.14	142.86	-298.19	191.33	122.41	68.92	2.776	Alert
9,750.00	9,747.39	9,746.33	9,740.22	34.69	34.80	-48.22	143.80	-299.96	192.13	122.88	69.25	2.774	Alert
9,800.00	9,797.37	9,803.68	9,790.18	34.87	35.01	-48.30	144.75	-301.73	192.93	123.30	69.64	2.770	Alert
9,850.00	9,847.35	9,846.31	9,840.13	35.05	35.16	-48.39	145.69	-303.50	193.74	123.77	69.97	2.769	Alert
9,900.00	9,897.33	9,903.69	9,890.08	35.23	35.37	-48.47	146.63	-305.27	194.54	124.19	70.36	2.765	Alert
9,950.00	9,947.30	9,946.30	9,940.03	35.41	35.53	-48.55	147.58	-307.04	195.35	124.66	70.69	2.763	Alert
10,000.00	9,997.28	10,003.71	9,989.99	35.59	35.73	-48.63	148.52	-308.80	196.15	125.08	71.07	2.760	Alert
10,050.00	10,047.26	10,046.29	10,039.94	35.77	35.89	-48.71	149.46	-310.57	196.96	125.55	71.41	2.758	Alert
10,100.00	10,097.23	10,103.72	10,089.89	35.95	36.10	-48.79	150.41	-312.34	197.77	125.97	71.79	2.755	Alert
10,150.00	10,147.21	10,146.27	10,139.84	36.13	36.25	-48.86	151.35	-314.11	198.57	126.45	72.12	2.753	Alert
10,200.00	10,197.19	10,203.74	10,189.80	36.31	36.46	-48.94	152.29	-315.88	199.38	126.87	72.51	2.750	Alert
10,250.00	10,247.16	10,246.26	10,239.75	36.49	36.61	-49.02	153.24	-317.65	200.19	127.34	72.84	2.748	Alert
10,300.00	10,297.14	10,296.25	10,289.70	36.67	36.79	-49.09	154.18	-319.41	200.99	127.79	73.20	2.746	Alert
10,350.00	10,347.12	10,346.24	10,339.65	36.85	36.97	-49.17	155.12	-321.18	201.80	128.24	73.56	2.743	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	10,397.10	10,403.77	10,389.61	37.03	37.18	-49.25	156.07	-322.95	202.61	128.66	73.95	2.740	Alert
10,450.00	10,447.07	10,446.23	10,439.56	37.21	37.33	-49.32	157.01	-324.72	203.42	129.14	74.28	2.739	Alert
10,500.00	10,497.05	10,496.22	10,489.51	37.39	37.51	-49.39	157.95	-326.49	204.23	129.59	74.64	2.736	Alert
10,550.00	10,547.03	10,547.61	10,540.86	37.57	37.70	-49.48	158.87	-328.21	204.94	129.94	75.01	2.732	Alert
10,600.00	10,597.00	10,600.13	10,593.36	37.75	37.89	-49.65	159.50	-329.40	205.10	129.73	75.38	2.721	Alert
10,650.00	10,646.98	10,652.63	10,645.87	37.93	38.08	-49.92	159.80	-329.95	204.66	128.92	75.74	2.702	Alert
10,700.00	10,696.96	10,703.52	10,696.76	38.11	38.25	-50.24	159.82	-329.99	203.72	127.63	76.09	2.677	Alert
10,750.00	10,746.93	10,753.50	10,746.73	38.29	38.43	-50.57	159.82	-329.99	202.75	126.31	76.45	2.652	Alert
10,800.00	10,796.91	10,803.48	10,796.71	38.47	38.60	-50.89	159.82	-329.99	201.82	125.01	76.80	2.628	Alert
10,850.00	10,846.90	10,853.47	10,846.70	38.65	38.78	-51.10	159.82	-329.99	201.20	124.04	77.16	2.608	Alert
10,900.10	10,897.00	10,903.57	10,896.80	38.83	38.95	-90.05	159.82	-329.99	200.99	123.48	77.51	2.593	Alert
10,950.00	10,946.90	10,953.47	10,946.70	39.00	39.13	-90.05	159.82	-329.99	200.99	123.12	77.87	2.581	Alert
11,000.00	10,996.90	11,003.47	10,996.70	39.18	39.31	-90.05	159.82	-329.99	200.99	122.77	78.22	2.570	Alert
11,004.55	11,001.45	11,008.02	11,001.25	39.20	39.32	-90.05	159.82	-329.99	200.99	122.74	78.25	2.568	Alert
11,050.00	11,046.90	11,045.25	11,038.47	39.36	39.45	-90.04	159.85	-330.47	201.64	123.09	78.54	2.567	Alert
11,100.00	11,096.90	11,082.07	11,075.19	39.54	39.59	-89.99	160.02	-333.15	205.28	126.62	78.66	2.610	Alert
11,150.00	11,146.90	11,118.41	11,111.18	39.72	39.72	-89.91	160.33	-338.10	212.09	133.52	78.58	2.699	Alert
11,200.00	11,196.90	11,160.05	11,152.04	39.89	39.88	-89.89	160.44	-346.15	221.70	143.10	78.60	2.821	Alert
11,250.00	11,246.90	11,208.95	11,199.81	40.07	40.06	-90.72	157.13	-355.97	231.78	152.85	78.93	2.936	Alert
11,300.00	11,296.84	11,257.30	11,246.61	40.24	40.23	87.36	149.79	-365.56	241.94	162.72	79.22	3.054	Alert
11,350.00	11,346.40	11,305.27	11,292.29	40.40	40.39	85.26	138.56	-374.89	252.11	172.65	79.45	3.173	Alert
11,400.00	11,395.20	11,352.89	11,336.57	40.55	40.55	83.31	123.58	-383.92	262.19	182.54	79.65	3.292	Alert
11,450.00	11,442.87	11,400.22	11,379.23	40.70	40.69	81.52	105.04	-392.58	272.09	192.27	79.82	3.409	Alert
11,500.00	11,489.06	11,447.29	11,420.03	40.83	40.83	79.87	83.09	-400.84	281.71	201.76	79.95	3.523	Alert
11,550.00	11,533.40	11,494.14	11,458.75	40.96	40.95	78.37	57.93	-408.66	290.97	210.90	80.07	3.634	Alert
11,600.00	11,575.56	11,540.81	11,495.20	41.08	41.07	77.01	29.75	-415.99	299.78	219.62	80.16	3.740	Alert
11,650.00	11,615.22	11,587.31	11,529.17	41.18	41.18	75.78	-1.25	-422.79	308.08	227.84	80.24	3.839	Alert
11,700.00	11,652.08	11,633.69	11,560.49	41.28	41.28	74.69	-34.87	-429.02	315.80	235.48	80.32	3.932	Alert
11,750.00	11,685.86	11,679.96	11,588.99	41.40	41.38	73.71	-70.87	-434.66	322.87	242.48	80.39	4.016	Alert
11,800.00	11,716.30	11,726.15	11,614.51	41.51	41.48	72.86	-109.02	-439.68	329.25	248.77	80.47	4.091	Alert
11,850.00	11,743.17	11,772.27	11,636.90	41.63	41.59	72.12	-149.09	-444.04	334.87	254.31	80.56	4.157	Alert
11,900.00	11,766.26	11,818.33	11,656.06	41.74	41.69	71.50	-190.81	-447.72	339.71	259.05	80.66	4.212	Alert
11,950.00	11,785.40	11,864.36	11,671.86	41.85	41.79	70.99	-233.92	-450.70	343.72	262.95	80.77	4.255	Alert
12,000.00	11,800.44	11,910.35	11,684.21	41.96	41.89	70.60	-278.15	-452.97	346.87	265.97	80.91	4.287	Alert
12,050.00	11,811.27	11,956.32	11,693.05	42.07	42.00	70.30	-323.22	-454.50	349.15	268.09	81.06	4.307	Alert
12,100.00	11,817.81	12,002.27	11,698.32	42.18	42.10	70.12	-368.85	-455.30	350.53	269.29	81.24	4.315	Alert
12,150.00	11,820.00	12,048.34	11,700.00	42.29	42.20	70.04	-414.88	-455.36	351.00	269.57	81.44	4.310	Alert
12,200.00	11,820.00	12,101.66	11,700.00	42.40	42.33	70.04	-464.88	-455.04	351.00	269.33	81.67	4.298	Alert
12,250.00	11,820.00	12,148.34	11,700.00	42.53	42.45	70.04	-514.88	-454.73	351.00	269.08	81.92	4.285	Alert
12,300.00	11,820.00	12,201.66	11,700.00	42.66	42.59	70.04	-564.88	-454.42	350.99	268.81	82.18	4.271	Alert
12,350.00	11,820.00	12,248.34	11,700.00	42.81	42.74	70.04	-614.88	-454.10	350.99	268.51	82.48	4.256	Alert
12,400.00	11,820.00	12,301.66	11,700.00	42.97	42.90	70.04	-664.87	-453.79	350.99	268.19	82.79	4.239	Alert
12,450.00	11,820.00	12,348.34	11,700.00	43.15	43.07	70.04	-714.87	-453.47	350.98	267.85	83.13	4.222	Alert
12,500.00	11,820.00	12,398.34	11,700.00	43.32	43.25	70.04	-764.87	-453.16	350.98	267.50	83.48	4.205	Alert
12,550.00	11,820.00	12,448.34	11,700.00	43.52	43.44	70.04	-814.87	-452.85	350.98	267.11	83.87	4.185	Alert
12,600.00	11,820.00	12,501.66	11,700.00	43.72	43.66	70.04	-864.87	-452.53	350.97	266.70	84.27	4.165	Alert
12,650.00	11,820.00	12,548.34	11,700.00	43.95	43.86	70.04	-914.87	-452.22	350.97	266.28	84.69	4.144	Alert
12,700.00	11,820.00	12,601.66	11,700.00	44.17	44.10	70.04	-964.87	-451.90	350.97	265.82	85.14	4.122	Alert
12,750.00	11,820.00	12,648.34	11,700.00	44.41	44.33	70.04	-1,014.87	-451.59	350.96	265.36	85.60	4.100	Alert
12,800.00	11,820.00	12,701.66	11,700.00	44.66	44.59	70.04	-1,064.87	-451.28	350.96	264.87	86.09	4.077	Alert
12,850.00	11,820.00	12,748.34	11,700.00	44.92	44.83	70.04	-1,114.87	-450.96	350.96	264.37	86.59	4.053	Alert
12,900.00	11,820.00	12,801.66	11,700.00	45.19	45.11	70.04	-1,164.86	-450.65	350.95	263.83	87.12	4.028	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
12,950.00	11,820.00	12,848.34	11,700.00	45.47	45.38	70.04	-1,214.86	-450.33	350.95	263.29	87.66	4.004	Alert
13,000.00	11,820.00	12,901.66	11,700.00	45.76	45.68	70.04	-1,264.86	-450.02	350.95	262.72	88.23	3.978	Alert
13,050.00	11,820.00	12,948.34	11,700.00	46.06	45.96	70.04	-1,314.86	-449.70	350.94	262.15	88.80	3.952	Alert
13,100.00	11,820.00	13,001.66	11,700.00	46.37	46.29	70.04	-1,364.86	-449.39	350.94	261.53	89.41	3.925	Alert
13,150.00	11,820.00	13,048.34	11,700.00	46.69	46.59	70.04	-1,414.86	-449.08	350.94	260.93	90.01	3.899	Alert
13,200.00	11,820.00	13,101.66	11,700.00	47.01	46.93	70.04	-1,464.86	-448.76	350.93	260.28	90.66	3.871	Alert
13,250.00	11,820.00	13,148.34	11,700.00	47.36	47.25	70.04	-1,514.86	-448.45	350.93	259.64	91.29	3.844	Alert
13,300.00	11,820.00	13,201.66	11,700.00	47.70	47.61	70.04	-1,564.86	-448.13	350.93	258.95	91.97	3.815	Alert
13,350.00	11,820.00	13,248.34	11,700.00	48.05	47.94	70.04	-1,614.86	-447.82	350.92	258.28	92.64	3.788	Alert
13,400.00	11,820.00	13,301.66	11,700.00	48.41	48.32	70.04	-1,664.85	-447.51	350.92	257.56	93.36	3.759	Alert
13,450.00	11,820.00	13,348.34	11,700.00	48.79	48.67	70.04	-1,714.85	-447.19	350.92	256.86	94.06	3.731	Alert
13,500.00	11,820.00	13,401.66	11,700.00	49.16	49.07	70.04	-1,764.85	-446.88	350.91	256.11	94.80	3.702	Alert
13,550.00	11,820.00	13,448.34	11,700.00	49.55	49.43	70.04	-1,814.85	-446.56	350.91	255.38	95.53	3.673	Alert
13,600.00	11,820.00	13,501.66	11,700.00	49.94	49.85	70.04	-1,864.85	-446.25	350.91	254.60	96.31	3.644	Alert
13,650.00	11,820.00	13,548.34	11,700.00	50.35	50.22	70.04	-1,914.85	-445.93	350.90	253.84	97.06	3.615	Alert
13,700.00	11,820.00	13,601.66	11,700.00	50.75	50.65	70.04	-1,964.85	-445.62	350.90	253.03	97.87	3.585	Alert
13,750.00	11,820.00	13,648.34	11,700.00	51.17	51.04	70.04	-2,014.85	-445.31	350.90	252.25	98.65	3.557	Alert
13,800.00	11,820.00	13,701.66	11,700.00	51.59	51.49	70.04	-2,064.85	-444.99	350.89	251.41	99.48	3.527	Alert
13,850.00	11,820.00	13,748.34	11,700.00	52.02	51.89	70.04	-2,114.85	-444.68	350.89	250.60	100.29	3.499	Alert
13,900.00	11,820.00	13,801.66	11,700.00	52.46	52.35	70.04	-2,164.84	-444.36	350.89	249.74	101.15	3.469	Alert
13,950.00	11,820.00	13,848.34	11,700.00	52.90	52.77	70.04	-2,214.84	-444.05	350.88	248.91	101.98	3.441	Alert
14,000.00	11,820.00	13,901.66	11,700.00	53.35	53.24	70.04	-2,264.84	-443.74	350.88	248.02	102.86	3.411	Alert
14,050.00	11,820.00	13,948.34	11,700.00	53.81	53.67	70.04	-2,314.84	-443.42	350.88	247.16	103.71	3.383	Alert
14,100.00	11,820.00	14,001.66	11,700.00	54.27	54.16	70.04	-2,364.84	-443.11	350.87	246.25	104.62	3.354	Alert
14,150.00	11,820.00	14,048.34	11,700.00	54.74	54.60	70.04	-2,414.84	-442.79	350.87	245.37	105.50	3.326	Alert
14,200.00	11,820.00	14,101.66	11,700.00	55.21	55.10	70.04	-2,464.84	-442.48	350.87	244.44	106.43	3.297	Alert
14,250.00	11,820.00	14,148.34	11,700.00	55.69	55.55	70.04	-2,514.84	-442.16	350.86	243.54	107.32	3.269	Alert
14,300.00	11,820.00	14,201.66	11,700.00	56.17	56.06	70.04	-2,564.84	-441.85	350.86	242.58	108.28	3.240	Alert
14,350.00	11,820.00	14,248.34	11,700.00	56.66	56.52	70.04	-2,614.84	-441.54	350.86	241.67	109.19	3.213	Alert
14,400.00	11,820.00	14,301.66	11,700.00	57.15	57.04	70.03	-2,664.84	-441.22	350.85	240.69	110.16	3.185	Alert
14,450.00	11,820.00	14,348.34	11,700.00	57.65	57.51	70.03	-2,714.83	-440.91	350.85	239.76	111.10	3.158	Alert
14,500.00	11,820.00	14,401.66	11,700.00	58.15	58.04	70.03	-2,764.83	-440.59	350.85	238.76	112.09	3.130	Alert
14,550.00	11,820.00	14,448.34	11,700.00	58.66	58.52	70.03	-2,814.83	-440.28	350.84	237.81	113.04	3.104	Alert
14,600.00	11,820.00	14,501.66	11,700.00	59.17	59.06	70.03	-2,864.83	-439.97	350.84	236.79	114.05	3.076	Alert
14,650.00	11,820.00	14,548.34	11,700.00	59.69	59.55	70.03	-2,914.83	-439.65	350.84	235.82	115.01	3.050	Alert
14,700.00	11,820.00	14,601.66	11,700.00	60.21	60.10	70.03	-2,964.83	-439.34	350.83	234.79	116.05	3.023	Alert
14,750.00	11,820.00	14,648.34	11,700.00	60.74	60.59	70.03	-3,014.83	-439.02	350.83	233.81	117.03	2.998	Alert
14,800.00	11,820.00	14,701.66	11,700.00	61.27	61.15	70.03	-3,064.83	-438.71	350.83	232.76	118.07	2.971	Alert
14,850.00	11,820.00	14,748.34	11,700.00	61.81	61.66	70.03	-3,114.83	-438.39	350.83	231.76	119.07	2.946	Alert
14,900.00	11,820.00	14,801.66	11,700.00	62.34	62.23	70.03	-3,164.83	-438.08	350.82	230.69	120.13	2.920	Alert
14,950.00	11,820.00	14,848.34	11,700.00	62.89	62.73	70.03	-3,214.82	-437.77	350.82	229.68	121.14	2.896	Alert
15,000.00	11,820.00	14,901.66	11,700.00	63.43	63.31	70.03	-3,264.82	-437.45	350.82	228.60	122.22	2.870	Alert
15,050.00	11,820.00	14,948.34	11,700.00	63.98	63.83	70.03	-3,314.82	-437.14	350.81	227.57	123.24	2.847	Alert
15,100.00	11,820.00	15,001.66	11,700.00	64.54	64.42	70.03	-3,364.82	-436.82	350.81	226.48	124.33	2.822	Alert
15,150.00	11,820.00	15,048.34	11,700.00	65.09	64.94	70.03	-3,414.82	-436.51	350.81	225.44	125.37	2.798	Alert
15,200.00	11,820.00	15,101.66	11,700.00	65.65	65.53	70.03	-3,464.82	-436.20	350.80	224.33	126.47	2.774	Alert
15,250.00	11,820.00	15,148.34	11,700.00	66.22	66.06	70.03	-3,514.82	-435.88	350.80	223.28	127.52	2.751	Alert
15,300.00	11,820.00	15,201.66	11,700.00	66.78	66.66	70.03	-3,564.82	-435.57	350.80	222.16	128.64	2.727	Alert
15,350.00	11,820.00	15,248.34	11,700.00	67.35	67.19	70.03	-3,614.82	-435.25	350.79	221.09	129.70	2.705	Alert
15,400.00	11,820.00	15,301.66	11,700.00	67.92	67.80	70.03	-3,664.82	-434.94	350.79	219.96	130.83	2.681	Alert
15,450.00	11,820.00	15,348.34	11,700.00	68.50	68.34	70.03	-3,714.81	-434.62	350.79	218.89	131.90	2.660	Alert
15,500.00	11,820.00	15,401.66	11,700.00	69.08	68.96	70.03	-3,764.81	-434.31	350.78	217.74	133.04	2.637	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
15,550.00	11,820.00	15,448.34	11,700.00	69.66	69.50	70.03	-3,814.81	-434.00	350.78	216.66	134.12	2.615	Alert
15,600.00	11,820.00	15,501.66	11,700.00	70.24	70.12	70.03	-3,864.81	-433.68	350.78	215.50	135.27	2.593	Alert
15,650.00	11,820.00	15,548.34	11,700.00	70.83	70.67	70.03	-3,914.81	-433.37	350.77	214.41	136.36	2.572	Alert
15,700.00	11,820.00	15,601.66	11,700.00	71.42	71.30	70.03	-3,964.81	-433.05	350.77	213.24	137.53	2.551	Alert
15,750.00	11,820.00	15,648.34	11,700.00	72.01	71.85	70.03	-4,014.81	-432.74	350.77	212.14	138.63	2.530	Alert
15,800.00	11,820.00	15,701.66	11,700.00	72.61	72.48	70.03	-4,064.81	-432.43	350.76	210.96	139.80	2.509	Alert
15,850.00	11,820.00	15,748.34	11,700.00	73.21	73.04	70.03	-4,114.81	-432.11	350.76	209.85	140.91	2.489	Minor Risk
15,900.00	11,820.00	15,801.66	11,700.00	73.80	73.68	70.03	-4,164.81	-431.80	350.76	208.66	142.09	2.468	Minor Risk
15,950.00	11,820.00	15,848.34	11,700.00	74.41	74.24	70.03	-4,214.80	-431.48	350.75	207.54	143.21	2.449	Minor Risk
16,000.00	11,820.00	15,901.66	11,700.00	75.01	74.89	70.03	-4,264.80	-431.17	350.75	206.35	144.40	2.429	Minor Risk
16,050.00	11,820.00	15,948.34	11,700.00	75.62	75.45	70.03	-4,314.80	-430.85	350.75	205.22	145.53	2.410	Minor Risk
16,100.00	11,820.00	16,001.66	11,700.00	76.22	76.10	70.03	-4,364.80	-430.54	350.74	204.01	146.73	2.390	Minor Risk
16,150.00	11,820.00	16,048.34	11,700.00	76.84	76.67	70.03	-4,414.80	-430.23	350.74	202.88	147.86	2.372	Minor Risk
16,200.00	11,820.00	16,101.66	11,700.00	77.45	77.32	70.03	-4,464.80	-429.91	350.74	201.66	149.07	2.353	Minor Risk
16,250.00	11,820.00	16,148.34	11,700.00	78.06	77.90	70.03	-4,514.80	-429.60	350.73	200.52	150.21	2.335	Minor Risk
16,300.00	11,820.00	16,201.66	11,700.00	78.68	78.55	70.03	-4,564.80	-429.28	350.73	199.30	151.43	2.316	Minor Risk
16,350.00	11,820.00	16,248.34	11,700.00	79.30	79.13	70.03	-4,614.80	-428.97	350.73	198.15	152.58	2.299	Minor Risk
16,400.00	11,820.00	16,301.66	11,700.00	79.92	79.79	70.03	-4,664.80	-428.66	350.72	196.92	153.80	2.280	Minor Risk
16,450.00	11,820.00	16,348.34	11,700.00	80.54	80.37	70.03	-4,714.79	-428.34	350.72	195.76	154.96	2.263	Minor Risk
16,500.00	11,820.00	16,401.66	11,700.00	81.16	81.04	70.03	-4,764.79	-428.03	350.72	194.53	156.19	2.245	Minor Risk
16,550.00	11,820.00	16,448.34	11,700.00	81.79	81.62	70.03	-4,814.79	-427.71	350.71	193.37	157.35	2.229	Minor Risk
16,600.00	11,820.00	16,501.66	11,700.00	82.41	82.29	70.03	-4,864.79	-427.40	350.71	192.12	158.59	2.211	Minor Risk
16,650.00	11,820.00	16,548.34	11,700.00	83.04	82.88	70.03	-4,914.79	-427.08	350.71	190.95	159.75	2.195	Minor Risk
16,700.00	11,820.00	16,601.66	11,700.00	83.67	83.55	70.03	-4,964.79	-426.77	350.70	189.70	161.00	2.178	Minor Risk
16,750.00	11,820.00	16,648.34	11,700.00	84.31	84.14	70.03	-5,014.79	-426.46	350.70	188.53	162.17	2.163	Minor Risk
16,800.00	11,820.00	16,701.66	11,700.00	84.94	84.81	70.03	-5,064.79	-426.14	350.70	187.27	163.42	2.146	Minor Risk
16,850.00	11,820.00	16,748.34	11,700.00	85.58	85.41	70.03	-5,114.79	-425.83	350.69	186.09	164.60	2.131	Minor Risk
16,900.00	11,820.00	16,801.66	11,700.00	86.21	86.09	70.03	-5,164.79	-425.51	350.69	184.83	165.86	2.114	Minor Risk
16,950.00	11,820.00	16,848.34	11,700.00	86.85	86.68	70.02	-5,214.78	-425.20	350.69	183.65	167.04	2.099	Minor Risk
17,000.00	11,820.00	16,901.66	11,700.00	87.49	87.36	70.02	-5,264.78	-424.89	350.68	182.38	168.31	2.084	Minor Risk
17,050.00	11,820.00	16,948.34	11,700.00	88.13	87.96	70.02	-5,314.78	-424.57	350.68	181.19	169.49	2.069	Minor Risk
17,100.00	11,820.00	17,001.66	11,700.00	88.77	88.65	70.02	-5,364.78	-424.26	350.68	179.91	170.76	2.054	Minor Risk
17,150.00	11,820.00	17,048.34	11,700.00	89.42	89.25	70.02	-5,414.78	-423.94	350.67	178.72	171.96	2.039	Minor Risk
17,200.00	11,820.00	17,101.66	11,700.00	90.06	89.93	70.02	-5,464.78	-423.63	350.67	177.44	173.23	2.024	Minor Risk
17,250.00	11,820.00	17,148.34	11,700.00	90.71	90.54	70.02	-5,514.78	-423.32	350.67	176.24	174.43	2.010	Minor Risk
17,300.00	11,820.00	17,201.66	11,700.00	91.36	91.23	70.02	-5,564.78	-423.00	350.66	174.96	175.71	1.996	Minor Risk
17,350.00	11,820.00	17,248.34	11,700.00	92.00	91.83	70.02	-5,614.78	-422.69	350.66	173.75	176.91	1.982	Minor Risk
17,400.00	11,820.00	17,301.66	11,700.00	92.65	92.53	70.02	-5,664.78	-422.37	350.66	172.46	178.19	1.968	Minor Risk
17,450.00	11,820.00	17,348.34	11,700.00	93.31	93.13	70.02	-5,714.77	-422.06	350.66	171.25	179.40	1.955	Minor Risk
17,500.00	11,820.00	17,401.66	11,700.00	93.96	93.83	70.02	-5,764.77	-421.74	350.65	169.96	180.69	1.941	Minor Risk
17,550.00	11,820.00	17,448.34	11,700.00	94.61	94.44	70.02	-5,814.77	-421.43	350.65	168.75	181.90	1.928	Minor Risk
17,600.00	11,820.00	17,501.66	11,700.00	95.26	95.14	70.02	-5,864.77	-421.12	350.65	167.45	183.19	1.914	Minor Risk
17,650.00	11,820.00	17,548.34	11,700.00	95.92	95.75	70.02	-5,914.77	-420.80	350.64	166.23	184.41	1.901	Minor Risk
17,700.00	11,820.00	17,601.66	11,700.00	96.58	96.45	70.02	-5,964.77	-420.49	350.64	164.93	185.71	1.888	Minor Risk
17,750.00	11,820.00	17,648.34	11,700.00	97.23	97.06	70.02	-6,014.77	-420.17	350.64	163.71	186.92	1.876	Minor Risk
17,800.00	11,820.00	17,701.66	11,700.00	97.89	97.77	70.02	-6,064.77	-419.86	350.63	162.41	188.23	1.863	Minor Risk
17,850.00	11,820.00	17,748.34	11,700.00	98.55	98.38	70.02	-6,114.77	-419.55	350.63	161.18	189.45	1.851	Minor Risk
17,900.00	11,820.00	17,801.66	11,700.00	99.21	99.09	70.02	-6,164.77	-419.23	350.63	159.87	190.75	1.838	Minor Risk
17,950.00	11,820.00	17,848.34	11,700.00	99.88	99.70	70.02	-6,214.77	-418.92	350.62	158.64	191.98	1.826	Minor Risk
18,000.00	11,820.00	17,901.66	11,700.00	100.54	100.41	70.02	-6,264.76	-418.60	350.62	157.33	193.29	1.814	Minor Risk
18,050.00	11,820.00	17,948.34	11,700.00	101.20	101.03	70.02	-6,314.76	-418.29	350.62	156.10	194.52	1.802	Minor Risk
18,100.00	11,820.00	18,001.66	11,700.00	101.86	101.74	70.02	-6,364.76	-417.97	350.61	154.78	195.83	1.790	Minor Risk

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
18,150.00	11,820.00	18,048.34	11,700.00	102.53	102.36	70.02	-6,414.76	-417.66	350.61	153.55	197.06	1.779	Minor Risk
18,200.00	11,820.00	18,101.66	11,700.00	103.20	103.07	70.02	-6,464.76	-417.35	350.61	152.23	198.38	1.767	Minor Risk
18,250.00	11,820.00	18,148.34	11,700.00	103.86	103.69	70.02	-6,514.76	-417.03	350.60	150.99	199.61	1.756	Minor Risk
18,300.00	11,820.00	18,201.66	11,700.00	104.53	104.40	70.02	-6,564.76	-416.72	350.60	149.67	200.93	1.745	Minor Risk
18,350.00	11,820.00	18,248.34	11,700.00	105.20	105.03	70.02	-6,614.76	-416.40	350.60	148.43	202.17	1.734	Minor Risk
18,400.00	11,820.00	18,301.66	11,700.00	105.87	105.74	70.02	-6,664.76	-416.09	350.59	147.10	203.49	1.723	Minor Risk
18,450.00	11,820.00	18,348.34	11,700.00	106.54	106.37	70.02	-6,714.76	-415.78	350.59	145.85	204.74	1.712	Minor Risk
18,500.00	11,820.00	18,401.66	11,700.00	107.21	107.08	70.02	-6,764.75	-415.46	350.59	144.53	206.06	1.701	Minor Risk
18,550.00	11,820.00	18,448.34	11,700.00	107.88	107.71	70.02	-6,814.75	-415.15	350.58	143.28	207.31	1.691	Minor Risk
18,600.00	11,820.00	18,501.66	11,700.00	108.55	108.43	70.02	-6,864.75	-414.83	350.58	141.95	208.63	1.680	Minor Risk
18,650.00	11,820.00	18,548.34	11,700.00	109.23	109.05	70.02	-6,914.75	-414.52	350.58	140.70	209.88	1.670	Minor Risk
18,700.00	11,820.00	18,601.66	11,700.00	109.90	109.77	70.02	-6,964.75	-414.20	350.57	139.36	211.21	1.660	Minor Risk
18,750.00	11,820.00	18,648.34	11,700.00	110.57	110.40	70.02	-7,014.75	-413.89	350.57	138.11	212.46	1.650	Minor Risk
18,800.00	11,820.00	18,701.66	11,700.00	111.25	111.12	70.02	-7,064.75	-413.58	350.57	136.77	213.80	1.640	Minor Risk
18,850.00	11,820.00	18,748.34	11,700.00	111.93	111.75	70.02	-7,114.75	-413.26	350.56	135.52	215.05	1.630	Minor Risk
18,900.00	11,820.00	18,801.66	11,700.00	112.60	112.47	70.02	-7,164.75	-412.95	350.56	134.17	216.39	1.620	Minor Risk
18,950.00	11,820.00	18,848.34	11,700.00	113.28	113.11	70.02	-7,214.75	-412.63	350.56	132.92	217.64	1.611	Minor Risk
19,000.00	11,820.00	18,901.66	11,700.00	113.96	113.83	70.02	-7,264.74	-412.32	350.55	131.57	218.98	1.601	Minor Risk
19,050.00	11,820.00	18,948.34	11,700.00	114.64	114.46	70.02	-7,314.74	-412.01	350.55	130.31	220.24	1.592	Minor Risk
19,100.00	11,820.00	19,001.66	11,700.00	115.31	115.19	70.02	-7,364.74	-411.69	350.55	128.97	221.58	1.582	Minor Risk
19,150.00	11,820.00	19,048.34	11,700.00	115.99	115.82	70.02	-7,414.74	-411.38	350.54	127.71	222.84	1.573	Minor Risk
19,200.00	11,820.00	19,101.66	11,700.00	116.67	116.55	70.02	-7,464.74	-411.06	350.54	126.36	224.18	1.564	Minor Risk
19,250.00	11,820.00	19,148.34	11,700.00	117.36	117.18	70.02	-7,514.74	-410.75	350.54	125.09	225.44	1.555	Minor Risk
19,300.00	11,820.00	19,201.66	11,700.00	118.04	117.91	70.02	-7,564.74	-410.43	350.53	123.74	226.79	1.546	Minor Risk
19,350.00	11,820.00	19,248.34	11,700.00	118.72	118.55	70.02	-7,614.74	-410.12	350.53	122.48	228.05	1.537	Minor Risk
19,400.00	11,820.00	19,301.66	11,700.00	119.40	119.27	70.02	-7,664.74	-409.81	350.53	121.13	229.40	1.528	Minor Risk
19,450.00	11,820.00	19,348.34	11,700.00	120.08	119.91	70.02	-7,714.74	-409.49	350.52	119.86	230.67	1.520	Minor Risk
19,500.00	11,820.00	19,401.66	11,700.00	120.77	120.64	70.02	-7,764.73	-409.18	350.52	118.50	232.02	1.511	Minor Risk
19,550.00	11,820.00	19,448.34	11,700.00	121.45	121.28	70.01	-7,814.73	-408.86	350.52	117.23	233.29	1.503	Minor Risk
19,600.00	11,820.00	19,501.66	11,700.00	122.14	122.01	70.01	-7,864.73	-408.55	350.51	115.88	234.64	1.494	Major Risk
19,650.00	11,820.00	19,548.34	11,700.00	122.82	122.65	70.01	-7,914.73	-408.24	350.51	114.60	235.91	1.486	Major Risk
19,700.00	11,820.00	19,601.66	11,700.00	123.51	123.38	70.01	-7,964.73	-407.92	350.51	113.24	237.26	1.477	Major Risk
19,750.00	11,820.00	19,648.34	11,700.00	124.19	124.02	70.01	-8,014.73	-407.61	350.50	111.97	238.53	1.469	Major Risk
19,800.00	11,820.00	19,701.66	11,700.00	124.88	124.75	70.01	-8,064.73	-407.29	350.50	110.61	239.89	1.461	Major Risk
19,850.00	11,820.00	19,748.34	11,700.00	125.57	125.40	70.01	-8,114.73	-406.98	350.50	109.33	241.16	1.453	Major Risk
19,900.00	11,820.00	19,801.66	11,700.00	126.26	126.13	70.01	-8,164.73	-406.66	350.49	107.97	242.52	1.445	Major Risk
19,950.00	11,820.00	19,848.34	11,700.00	126.94	126.77	70.01	-8,214.73	-406.35	350.49	106.69	243.80	1.438	Major Risk
20,000.00	11,820.00	19,901.66	11,700.00	127.63	127.51	70.01	-8,264.72	-406.04	350.49	105.33	245.16	1.430	Major Risk
20,050.00	11,820.00	19,948.34	11,700.00	128.32	128.15	70.01	-8,314.72	-405.72	350.49	104.05	246.43	1.422	Major Risk
20,100.00	11,820.00	20,001.66	11,700.00	129.01	128.88	70.01	-8,364.72	-405.41	350.48	102.68	247.80	1.414	Major Risk
20,150.00	11,820.00	20,048.34	11,700.00	129.70	129.53	70.01	-8,414.72	-405.09	350.48	101.40	249.07	1.407	Major Risk
20,200.00	11,820.00	20,101.66	11,700.00	130.39	130.26	70.01	-8,464.72	-404.78	350.48	100.04	250.44	1.399	Major Risk
20,250.00	11,820.00	20,148.34	11,700.00	131.08	130.91	70.01	-8,514.72	-404.47	350.47	98.75	251.72	1.392	Major Risk
20,300.00	11,820.00	20,201.66	11,700.00	131.77	131.65	70.01	-8,564.72	-404.15	350.47	97.38	253.08	1.385	Major Risk
20,350.00	11,820.00	20,248.34	11,700.00	132.46	132.29	70.01	-8,614.72	-403.84	350.47	96.10	254.36	1.378	Major Risk
20,400.00	11,820.00	20,298.34	11,700.00	133.16	132.98	70.01	-8,664.72	-403.52	350.46	94.77	255.69	1.371	Major Risk
20,450.00	11,820.00	20,348.34	11,700.00	133.85	133.68	70.01	-8,714.72	-403.21	350.46	93.44	257.01	1.364	Major Risk
20,500.00	11,820.00	20,401.66	11,700.00	134.54	134.41	70.01	-8,764.71	-402.89	350.46	92.07	258.38	1.356	Major Risk
20,550.00	11,820.00	20,448.34	11,700.00	135.23	135.06	70.01	-8,814.71	-402.58	350.45	90.79	259.67	1.350	Major Risk
20,600.00	11,820.00	20,501.66	11,700.00	135.93	135.80	70.01	-8,864.71	-402.27	350.45	89.41	261.04	1.343	Major Risk
20,650.00	11,820.00	20,548.34	11,700.00	136.62	136.45	70.01	-8,914.71	-401.95	350.45	88.12	262.32	1.336	Major Risk
20,700.00	11,820.00	20,601.66	11,700.00	137.32	137.19	70.01	-8,964.71	-401.64	350.44	86.75	263.70	1.329	Major Risk

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
20,750.00	11,820.00	20,648.34	11,700.00	138.01	137.84	70.01	-9,014.71	-401.32	350.44	85.46	264.98	1.323	Major Risk
20,800.00	11,820.00	20,701.66	11,700.00	138.71	138.58	70.01	-9,064.71	-401.01	350.44	84.08	266.36	1.316	Major Risk
20,850.00	11,820.00	20,748.34	11,700.00	139.40	139.23	70.01	-9,114.71	-400.70	350.43	82.79	267.64	1.309	Major Risk
20,900.00	11,820.00	20,801.66	11,700.00	140.10	139.97	70.01	-9,164.71	-400.38	350.43	81.41	269.02	1.303	Major Risk
20,950.00	11,820.00	20,848.34	11,700.00	140.79	140.62	70.01	-9,214.71	-400.07	350.43	80.12	270.31	1.296	Major Risk
21,000.00	11,820.00	20,901.66	11,700.00	141.49	141.36	70.01	-9,264.70	-399.75	350.42	78.74	271.68	1.290	Major Risk
21,050.00	11,820.00	20,948.34	11,700.00	142.19	142.01	70.01	-9,314.70	-399.44	350.42	77.45	272.97	1.284	Major Risk
21,100.00	11,820.00	21,001.66	11,700.00	142.88	142.76	70.01	-9,364.70	-399.12	350.42	76.07	274.35	1.277	Major Risk
21,150.00	11,820.00	21,048.34	11,700.00	143.58	143.41	70.01	-9,414.70	-398.81	350.41	74.77	275.64	1.271	Major Risk
21,200.00	11,820.00	21,101.66	11,700.00	144.28	144.15	70.01	-9,464.70	-398.50	350.41	73.39	277.02	1.265	Major Risk
21,250.00	11,820.00	21,148.34	11,700.00	144.98	144.80	70.01	-9,514.70	-398.18	350.41	72.09	278.31	1.259	Major Risk
21,300.00	11,820.00	21,201.66	11,700.00	145.67	145.55	70.01	-9,564.70	-397.87	350.40	70.71	279.69	1.253	Major Risk
21,350.00	11,820.00	21,248.34	11,700.00	146.37	146.20	70.01	-9,614.70	-397.55	350.40	69.41	280.99	1.247	Major Risk
21,400.00	11,820.00	21,301.66	11,700.00	147.07	146.94	70.01	-9,664.70	-397.24	350.40	68.03	282.37	1.241	Major Risk
21,450.00	11,820.00	21,348.34	11,700.00	147.77	147.60	70.01	-9,714.70	-396.93	350.39	66.73	283.66	1.235	Major Risk
21,500.00	11,820.00	21,401.66	11,700.00	148.47	148.34	70.01	-9,764.70	-396.61	350.39	65.35	285.04	1.229	Major Risk
21,550.00	11,820.00	21,448.34	11,700.00	149.17	149.00	70.01	-9,814.69	-396.30	350.39	64.05	286.34	1.224	Major Risk
21,600.00	11,820.00	21,501.66	11,700.00	149.87	149.74	70.01	-9,864.69	-395.98	350.38	62.66	287.72	1.218	Major Risk
21,650.00	11,820.00	21,548.34	11,700.00	150.57	150.40	70.01	-9,914.69	-395.67	350.38	61.36	289.02	1.212	Major Risk
21,700.00	11,820.00	21,601.66	11,700.00	151.27	151.14	70.01	-9,964.69	-395.36	350.38	59.97	290.40	1.207	Major Risk
21,750.00	11,820.00	21,648.34	11,700.00	151.97	151.80	70.01	-10,014.69	-395.04	350.37	58.67	291.70	1.201	Major Risk
21,800.00	11,820.00	21,701.66	11,700.00	152.67	152.55	70.01	-10,064.69	-394.73	350.37	57.28	293.09	1.195	Major Risk
21,850.00	11,820.00	21,748.34	11,700.00	153.37	153.20	70.01	-10,114.69	-394.41	350.37	55.98	294.39	1.190	Major Risk
21,900.00	11,820.00	21,801.66	11,700.00	154.07	153.95	70.01	-10,164.69	-394.10	350.36	54.59	295.77	1.185	Major Risk
21,950.00	11,820.00	21,848.34	11,700.00	154.78	154.60	70.01	-10,214.69	-393.78	350.36	53.29	297.07	1.179	Major Risk
22,000.00	11,820.00	21,901.66	11,700.00	155.48	155.35	70.01	-10,264.69	-393.47	350.36	51.90	298.46	1.174	Major Risk
22,050.00	11,820.00	21,948.34	11,700.00	156.18	156.01	70.01	-10,314.68	-393.16	350.35	50.59	299.76	1.169	Major Risk
22,065.48	11,820.00	21,963.82	11,700.00	156.40	156.23	70.01	-10,330.16	-393.06	350.35	50.18	300.18	1.167	Major Risk, SF

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	9.90	9.90	0.50	0.50	92.13	-26.67	717.87	718.37				
50.00	50.00	59.90	59.90	0.50	0.51	92.13	-26.67	717.87	718.37	717.36	1.01	712.588	
100.00	100.00	109.90	109.90	0.52	0.53	92.13	-26.67	717.87	718.37	717.32	1.04	687.633	
150.00	150.00	159.90	159.90	0.59	0.61	92.13	-26.67	717.87	718.37	717.17	1.20	599.620	
200.00	200.00	209.90	209.90	0.70	0.72	92.13	-26.67	717.87	718.37	716.94	1.43	503.424	
250.00	250.00	259.90	259.90	0.84	0.86	92.13	-26.67	717.87	718.37	716.67	1.70	422.262	
300.00	300.00	309.90	309.90	0.99	1.01	92.13	-26.67	717.87	718.37	716.36	2.00	358.769	
350.00	350.00	359.90	359.90	1.15	1.17	92.13	-26.67	717.87	718.37	716.05	2.32	309.672	
400.00	400.00	409.90	409.90	1.31	1.34	92.13	-26.67	717.87	718.37	715.72	2.65	271.315	
450.00	450.00	459.90	459.90	1.48	1.51	92.13	-26.67	717.87	718.37	715.38	2.98	240.844	
500.00	500.00	509.90	509.90	1.65	1.68	92.13	-26.67	717.87	718.37	715.04	3.32	216.206	
550.00	550.00	559.90	559.90	1.82	1.85	92.13	-26.67	717.87	718.37	714.70	3.67	195.952	
600.00	600.00	609.90	609.90	1.99	2.02	92.13	-26.67	717.87	718.37	714.35	4.01	179.050	
650.00	650.00	659.90	659.90	2.16	2.20	92.13	-26.67	717.87	718.37	714.01	4.36	164.756	
700.00	700.00	709.90	709.90	2.34	2.37	92.13	-26.67	717.87	718.37	713.66	4.71	152.526	
750.00	750.00	759.90	759.90	2.51	2.55	92.13	-26.67	717.87	718.37	713.31	5.06	141.951	
800.00	800.00	809.90	809.90	2.69	2.72	92.13	-26.67	717.87	718.37	712.95	5.41	132.723	
850.00	850.00	859.90	859.90	2.87	2.90	92.13	-26.67	717.87	718.37	712.60	5.77	124.603	
900.00	900.00	909.90	909.90	3.04	3.08	92.13	-26.67	717.87	718.37	712.25	6.12	117.407	
950.00	950.00	959.90	959.90	3.22	3.25	92.13	-26.67	717.87	718.37	711.89	6.47	110.988	
1,000.00	1,000.00	1,009.90	1,009.90	3.40	3.43	92.13	-26.67	717.87	718.37	711.54	6.83	105.226	
1,050.00	1,050.00	1,059.90	1,059.90	3.58	3.61	92.13	-26.67	717.87	718.37	711.19	7.18	100.028	
1,100.00	1,100.00	1,109.90	1,109.90	3.75	3.78	92.13	-26.67	717.87	718.37	710.83	7.54	95.314	
1,150.00	1,150.00	1,159.90	1,159.90	3.93	3.96	92.13	-26.67	717.87	718.37	710.47	7.89	91.022	
1,200.00	1,200.00	1,209.90	1,209.90	4.11	4.14	92.13	-26.67	717.87	718.37	710.12	8.25	87.096	
1,250.00	1,250.00	1,259.90	1,259.90	4.29	4.32	92.13	-26.67	717.87	718.37	709.76	8.60	83.493	
1,300.00	1,300.00	1,309.90	1,309.90	4.46	4.50	92.13	-26.67	717.87	718.37	709.41	8.96	80.174	
1,350.00	1,350.00	1,359.90	1,359.90	4.64	4.67	92.13	-26.67	717.87	718.37	709.05	9.32	77.108	
1,400.00	1,400.00	1,409.90	1,409.90	4.82	4.85	92.13	-26.67	717.87	718.37	708.69	9.67	74.266	
1,450.00	1,450.00	1,459.90	1,459.90	5.00	5.03	92.13	-26.67	717.87	718.37	708.34	10.03	71.626	
1,500.00	1,500.00	1,509.90	1,509.90	5.18	5.21	92.13	-26.67	717.87	718.37	707.98	10.39	69.165	
1,550.00	1,550.00	1,559.90	1,559.90	5.36	5.39	92.13	-26.67	717.87	718.37	707.62	10.74	66.868	
1,600.00	1,600.00	1,609.90	1,609.90	5.53	5.57	92.13	-26.67	717.87	718.37	707.27	11.10	64.717	
1,650.00	1,650.00	1,659.90	1,659.90	5.71	5.74	92.13	-26.67	717.87	718.37	706.91	11.46	62.701	
1,700.00	1,700.00	1,709.90	1,709.90	5.89	5.92	92.13	-26.67	717.87	718.37	706.55	11.81	60.805	
1,750.00	1,750.00	1,759.90	1,759.90	6.07	6.10	92.13	-26.67	717.87	718.37	706.20	12.17	59.021	
1,800.00	1,800.00	1,809.90	1,809.90	6.25	6.28	92.13	-26.67	717.87	718.37	705.84	12.53	57.337	
1,850.00	1,850.00	1,859.90	1,859.90	6.43	6.46	92.13	-26.67	717.87	718.37	705.48	12.89	55.747	
1,900.00	1,900.00	1,909.90	1,909.90	6.61	6.64	92.13	-26.67	717.87	718.37	705.12	13.24	54.243	
1,950.00	1,950.00	1,959.90	1,959.90	6.78	6.82	92.13	-26.67	717.87	718.37	704.77	13.60	52.817	
2,000.00	2,000.00	2,009.90	2,009.90	6.96	7.00	92.13	-26.67	717.87	718.37	704.41	13.96	51.464	
2,050.00	2,050.00	2,059.90	2,059.90	7.14	7.17	92.13	-26.67	717.87	718.37	704.05	14.32	50.179	
2,100.00	2,100.00	2,109.90	2,109.90	7.32	7.35	92.13	-26.67	717.87	718.37	703.69	14.67	48.956	
2,150.00	2,150.00	2,159.90	2,159.90	7.50	7.53	92.13	-26.67	717.87	718.37	703.34	15.03	47.791	
2,200.00	2,200.00	2,209.90	2,209.90	7.68	7.71	92.13	-26.67	717.87	718.37	702.98	15.39	46.680	
2,250.00	2,250.00	2,259.90	2,259.90	7.86	7.89	92.13	-26.67	717.87	718.37	702.62	15.75	45.620	
2,300.00	2,300.00	2,309.90	2,309.90	8.04	8.07	92.13	-26.67	717.87	718.37	702.26	16.10	44.606	
2,350.00	2,350.00	2,359.90	2,359.90	8.22	8.25	92.13	-26.67	717.87	718.37	701.90	16.46	43.637	
2,400.00	2,400.00	2,409.90	2,409.90	8.39	8.43	92.13	-26.67	717.87	718.37	701.55	16.82	42.709	
2,450.00	2,450.00	2,459.90	2,459.90	8.57	8.60	92.13	-26.67	717.87	718.37	701.19	17.18	41.819	
2,500.00	2,500.00	2,509.90	2,509.90	8.75	8.78	92.13	-26.67	717.87	718.37	700.83	17.54	40.965 CC	
2,550.00	2,550.00	2,554.06	2,554.06	8.93	8.94	92.10	-26.37	718.10	718.61	700.74	17.87	40.210	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	2,600.00	2,599.17	2,599.16	9.11	9.10	92.04	-25.64	718.65	719.19	700.98	18.21	39.495	
2,650.00	2,650.00	2,644.25	2,644.22	9.29	9.26	91.95	-24.50	719.52	720.10	701.56	18.55	38.828	
2,700.00	2,700.00	2,689.29	2,689.22	9.47	9.42	91.82	-22.93	720.70	721.37	702.48	18.88	38.205	
2,750.00	2,750.00	2,734.28	2,734.13	9.65	9.58	91.66	-20.95	722.21	722.97	703.76	19.22	37.624	
2,800.00	2,800.00	2,779.21	2,778.96	9.83	9.74	91.47	-18.54	724.03	724.93	705.38	19.55	37.083	
2,850.00	2,850.00	2,824.05	2,823.66	10.00	9.90	91.24	-15.72	726.17	727.24	707.36	19.88	36.581	
2,900.00	2,900.00	2,868.81	2,868.24	10.18	10.06	90.98	-12.49	728.62	729.92	709.70	20.21	36.115	
2,950.00	2,950.00	2,913.47	2,912.66	10.36	10.22	90.69	-8.85	731.38	732.95	712.41	20.54	35.684	
3,000.00	3,000.00	2,958.01	2,956.91	10.54	10.38	90.38	-4.81	734.44	736.36	715.49	20.87	35.287	
3,050.00	3,050.00	3,002.43	3,000.98	10.72	10.54	90.03	-0.37	737.80	740.15	718.96	21.19	34.923	
3,100.00	3,100.00	3,046.30	3,046.43	10.90	10.70	89.64	4.62	741.58	744.31	722.78	21.53	34.575	
3,150.00	3,150.00	3,102.18	3,095.46	11.08	10.89	89.22	10.11	745.75	748.59	726.70	21.90	34.188	
3,200.00	3,200.00	3,147.33	3,144.49	11.26	11.06	88.81	15.60	749.91	752.92	730.68	22.24	33.861	
3,250.00	3,250.00	3,203.15	3,193.52	11.44	11.26	88.40	21.09	754.07	757.28	734.67	22.61	33.490	
3,300.00	3,300.00	3,246.36	3,242.55	11.62	11.42	87.99	26.58	758.23	761.68	738.74	22.95	33.196	
3,350.00	3,350.00	3,304.13	3,291.59	11.80	11.63	87.59	32.07	762.40	766.12	742.79	23.33	32.838	
3,400.00	3,400.00	3,345.39	3,340.62	11.97	11.78	87.19	37.57	766.56	770.60	746.94	23.66	32.575	
3,450.00	3,450.00	3,405.10	3,389.65	12.15	12.00	86.80	43.06	770.72	775.11	751.06	24.05	32.230	
3,500.00	3,500.00	3,444.41	3,438.68	12.33	12.15	86.41	48.55	774.88	779.66	755.29	24.37	31.994	
3,550.00	3,550.00	3,493.93	3,487.71	12.51	12.33	86.03	54.04	779.05	784.25	759.52	24.73	31.717	
3,600.00	3,600.00	3,543.44	3,536.74	12.69	12.51	85.65	59.53	783.21	788.87	763.78	25.08	31.450	
3,650.00	3,650.00	3,607.05	3,585.77	12.87	12.75	85.28	65.02	787.37	793.52	768.03	25.49	31.128	
3,700.00	3,700.00	3,642.47	3,634.81	13.05	12.88	84.91	70.52	791.53	798.21	772.41	25.80	30.940	
3,750.00	3,750.00	3,708.02	3,683.84	13.23	13.13	84.54	76.01	795.70	802.93	776.71	26.22	30.628	
3,800.00	3,800.00	3,741.49	3,732.87	13.41	13.25	84.18	81.50	799.86	807.68	781.17	26.51	30.462	
3,850.00	3,850.00	3,808.99	3,781.90	13.59	13.51	83.82	86.99	804.02	812.47	785.53	26.94	30.159	
3,900.00	3,900.00	3,840.52	3,830.93	13.77	13.62	83.47	92.48	808.18	817.28	790.05	27.23	30.012	
3,950.00	3,950.00	3,909.97	3,879.96	13.94	13.89	83.12	97.98	812.35	822.13	794.46	27.66	29.718	
4,000.00	4,000.00	3,939.55	3,929.00	14.12	14.00	82.78	103.47	816.51	827.00	799.05	27.95	29.589	
4,050.00	4,050.00	3,989.07	3,978.04	14.30	14.18	121.28	108.96	820.67	832.05	803.74	28.31	29.393	
4,100.00	4,099.99	4,038.60	4,027.09	14.48	14.37	120.93	114.45	824.84	837.40	808.74	28.67	29.212	
4,150.00	4,149.97	4,088.14	4,076.15	14.66	14.56	120.63	119.95	829.00	843.05	814.02	29.02	29.047	
4,200.00	4,199.95	4,137.68	4,125.21	14.83	14.75	120.39	125.44	833.16	848.79	819.41	29.38	28.888	
4,250.00	4,249.93	4,187.23	4,174.26	15.01	14.94	120.15	130.94	837.33	854.55	824.81	29.74	28.734	
4,300.00	4,299.90	4,241.41	4,227.94	15.19	15.14	119.89	136.86	841.82	860.26	830.13	30.13	28.556	
4,350.00	4,349.88	4,300.74	4,286.81	15.37	15.37	119.66	142.73	846.27	865.50	834.96	30.54	28.339	
4,400.00	4,399.86	4,360.28	4,345.99	15.54	15.59	119.47	147.88	850.17	870.19	839.23	30.95	28.113	
4,450.00	4,449.84	4,419.99	4,405.44	15.72	15.81	119.32	152.31	853.53	874.31	842.95	31.36	27.877	
4,500.00	4,499.81	4,479.85	4,465.12	15.90	16.03	119.21	156.01	856.33	877.88	846.11	31.77	27.633	
4,550.00	4,549.79	4,539.82	4,524.98	16.08	16.25	119.15	158.97	858.57	880.87	848.70	32.17	27.381	
4,600.00	4,599.77	4,599.88	4,584.98	16.26	16.47	119.13	161.17	860.25	883.30	850.73	32.57	27.121	
4,650.00	4,649.74	4,660.00	4,645.07	16.43	16.68	119.15	162.63	861.35	885.15	852.18	32.96	26.853	
4,700.00	4,699.72	4,720.16	4,705.21	16.61	16.90	119.22	163.34	861.89	886.42	853.07	33.35	26.578	
4,750.00	4,749.70	4,774.54	4,759.60	16.79	17.09	119.31	163.41	861.94	887.22	853.50	33.72	26.312	
4,800.00	4,799.67	4,824.52	4,809.57	16.97	17.26	119.39	163.41	861.94	887.96	853.89	34.07	26.060	
4,850.00	4,849.65	4,874.49	4,859.55	17.15	17.44	119.48	163.41	861.94	888.71	854.28	34.43	25.813	
4,900.00	4,899.63	4,924.47	4,909.53	17.32	17.62	119.56	163.41	861.94	889.46	854.67	34.78	25.572	
4,950.00	4,949.61	4,974.45	4,959.51	17.50	17.79	119.65	163.41	861.94	890.21	855.07	35.14	25.335	
5,000.00	4,999.58	5,024.42	5,009.48	17.68	17.97	119.73	163.41	861.94	890.96	855.47	35.49	25.103	
5,050.00	5,049.56	5,074.40	5,059.46	17.86	18.14	119.82	163.41	861.94	891.71	855.87	35.85	24.876	
5,100.00	5,099.54	5,124.38	5,109.44	18.04	18.32	119.90	163.41	861.94	892.47	856.27	36.20	24.653	
5,150.00	5,149.51	5,174.35	5,159.41	18.21	18.49	119.99	163.41	861.94	893.23	856.67	36.56	24.434	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
5,200.00	5,199.49	5,224.33	5,209.39	18.39	18.67	120.07	163.41	861.94	893.98	857.07	36.91	24.220	
5,250.00	5,249.47	5,274.31	5,259.37	18.57	18.85	120.15	163.41	861.94	894.75	857.48	37.27	24.009	
5,300.00	5,299.44	5,324.29	5,309.34	18.75	19.02	120.24	163.41	861.94	895.51	857.89	37.62	23.803	
5,350.00	5,349.42	5,374.26	5,359.32	18.93	19.20	120.32	163.41	861.94	896.28	858.30	37.98	23.600	
5,400.00	5,399.40	5,424.24	5,409.30	19.11	19.38	120.41	163.41	861.94	897.04	858.71	38.33	23.402	
5,450.00	5,449.38	5,474.22	5,459.28	19.28	19.55	120.49	163.41	861.94	897.81	859.12	38.69	23.206	
5,500.00	5,499.35	5,524.19	5,509.25	19.46	19.73	120.57	163.41	861.94	898.58	859.54	39.04	23.015	
5,550.00	5,549.33	5,574.17	5,559.23	19.64	19.90	120.66	163.41	861.94	899.36	859.96	39.40	22.827	
5,600.00	5,599.31	5,624.15	5,609.21	19.82	20.08	120.74	163.41	861.94	900.13	860.38	39.75	22.642	
5,650.00	5,649.28	5,674.12	5,659.18	20.00	20.26	120.82	163.41	861.94	900.91	860.80	40.11	22.461	
5,700.00	5,699.26	5,724.10	5,709.16	20.18	20.43	120.90	163.41	861.94	901.69	861.22	40.47	22.283	
5,750.00	5,749.24	5,774.08	5,759.14	20.36	20.61	120.99	163.41	861.94	902.47	861.65	40.82	22.108	
5,800.00	5,799.21	5,824.06	5,809.11	20.53	20.79	121.07	163.41	861.94	903.25	862.07	41.18	21.936	
5,850.00	5,849.19	5,874.03	5,859.09	20.71	20.96	121.15	163.41	861.94	904.03	862.50	41.53	21.767	
5,900.00	5,899.17	5,924.01	5,909.07	20.89	21.14	121.23	163.41	861.94	904.82	862.93	41.89	21.600	
5,950.00	5,949.14	5,973.99	5,959.04	21.07	21.32	121.32	163.41	861.94	905.61	863.36	42.24	21.437	
6,000.00	5,999.12	6,023.96	6,009.02	21.25	21.49	121.40	163.41	861.94	906.40	863.80	42.60	21.276	
6,050.00	6,049.10	6,073.94	6,059.00	21.43	21.67	121.48	163.41	861.94	907.19	864.23	42.96	21.119	
6,100.00	6,099.08	6,123.92	6,108.98	21.61	21.85	121.56	163.41	861.94	907.98	864.67	43.31	20.963	
6,150.00	6,149.05	6,173.89	6,158.95	21.79	22.02	121.64	163.41	861.94	908.78	865.11	43.67	20.810	
6,200.00	6,199.03	6,223.87	6,208.93	21.96	22.20	121.72	163.41	861.94	909.58	865.55	44.03	20.660	
6,250.00	6,249.01	6,273.85	6,258.91	22.14	22.38	121.81	163.41	861.94	910.37	865.99	44.38	20.512	
6,300.00	6,298.98	6,323.83	6,308.88	22.32	22.56	121.89	163.41	861.94	911.17	866.44	44.74	20.367	
6,350.00	6,348.96	6,373.80	6,358.86	22.50	22.73	121.97	163.41	861.94	911.98	866.88	45.09	20.224	
6,400.00	6,398.94	6,423.78	6,408.84	22.68	22.91	122.05	163.41	861.94	912.78	867.33	45.45	20.083	
6,450.00	6,448.91	6,473.76	6,458.81	22.86	23.09	122.13	163.41	861.94	913.59	867.78	45.81	19.944	
6,500.00	6,498.89	6,523.73	6,508.79	23.04	23.26	122.21	163.41	861.94	914.40	868.23	46.16	19.808	
6,550.00	6,548.87	6,573.71	6,558.77	23.22	23.44	122.29	163.41	861.94	915.21	868.69	46.52	19.674	
6,600.00	6,598.85	6,623.69	6,608.75	23.40	23.62	122.37	163.41	861.94	916.02	869.14	46.88	19.541	
6,650.00	6,648.82	6,673.66	6,658.72	23.57	23.80	122.45	163.41	861.94	916.83	869.60	47.23	19.411	
6,700.00	6,698.80	6,723.64	6,708.70	23.75	23.97	122.53	163.41	861.94	917.65	870.06	47.59	19.283	
6,750.00	6,748.78	6,773.62	6,758.68	23.93	24.15	122.61	163.41	861.94	918.46	870.52	47.95	19.156	
6,800.00	6,798.75	6,823.59	6,808.65	24.11	24.33	122.69	163.41	861.94	919.28	870.98	48.30	19.032	
6,850.00	6,848.73	6,873.57	6,858.63	24.29	24.50	122.77	163.41	861.94	920.10	871.44	48.66	18.909	
6,900.00	6,898.71	6,923.55	6,908.61	24.47	24.68	122.85	163.41	861.94	920.93	871.91	49.02	18.788	
6,950.00	6,948.68	6,973.53	6,958.58	24.65	24.86	122.93	163.41	861.94	921.75	872.38	49.37	18.669	
7,000.00	6,998.66	7,023.50	7,008.56	24.83	25.04	123.01	163.41	861.94	922.58	872.85	49.73	18.552	
7,050.00	7,048.64	7,073.48	7,058.54	25.01	25.21	123.09	163.41	861.94	923.40	873.32	50.09	18.436	
7,100.00	7,098.62	7,123.46	7,108.52	25.19	25.39	123.16	163.41	861.94	924.23	873.79	50.44	18.322	
7,150.00	7,148.59	7,173.43	7,158.49	25.37	25.57	123.24	163.41	861.94	925.06	874.26	50.80	18.210	
7,200.00	7,198.57	7,223.41	7,208.47	25.54	25.75	123.32	163.41	861.94	925.90	874.74	51.16	18.099	
7,250.00	7,248.55	7,273.39	7,258.45	25.72	25.92	123.40	163.41	861.94	926.73	875.22	51.51	17.990	
7,300.00	7,298.52	7,323.36	7,308.42	25.90	26.10	123.48	163.41	861.94	927.57	875.70	51.87	17.882	
7,350.00	7,348.50	7,373.34	7,358.40	26.08	26.28	123.56	163.41	861.94	928.41	876.18	52.23	17.776	
7,400.00	7,398.48	7,423.32	7,408.38	26.26	26.46	123.63	163.41	861.94	929.25	876.66	52.58	17.672	
7,450.00	7,448.45	7,473.30	7,458.35	26.44	26.63	123.71	163.41	861.94	930.09	877.15	52.94	17.568	
7,500.00	7,498.43	7,523.27	7,508.33	26.62	26.81	123.79	163.41	861.94	930.93	877.63	53.30	17.466	
7,550.00	7,548.41	7,573.25	7,558.31	26.80	26.99	123.87	163.41	861.94	931.78	878.12	53.66	17.366	
7,600.00	7,598.38	7,623.23	7,608.28	26.98	27.17	123.94	163.41	861.94	932.62	878.61	54.01	17.267	
7,650.00	7,648.36	7,673.20	7,658.26	27.16	27.35	124.02	163.41	861.94	933.47	879.10	54.37	17.169	
7,700.00	7,698.34	7,723.18	7,708.24	27.34	27.52	124.10	163.41	861.94	934.32	879.59	54.73	17.073	
7,750.00	7,748.32	7,773.16	7,758.22	27.52	27.70	124.18	163.41	861.94	935.17	880.09	55.08	16.977	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,800.00	7,798.29	7,823.13	7,808.19	27.70	27.88	124.25	163.41	861.94	936.03	880.59	55.44	16.883	
7,850.00	7,848.27	7,873.11	7,858.17	27.87	28.06	124.33	163.41	861.94	936.88	881.08	55.80	16.791	
7,900.00	7,898.25	7,923.09	7,908.15	28.05	28.23	124.41	163.41	861.94	937.74	881.58	56.16	16.699	
7,950.00	7,948.22	7,973.07	7,958.12	28.23	28.41	124.48	163.41	861.94	938.60	882.08	56.51	16.609	
8,000.00	7,998.20	8,023.04	8,008.10	28.41	28.59	124.56	163.41	861.94	939.46	882.59	56.87	16.519	
8,050.00	8,048.18	8,073.02	8,058.08	28.59	28.77	124.63	163.41	861.94	940.32	883.09	57.23	16.431	
8,100.00	8,098.15	8,123.00	8,108.05	28.77	28.95	124.71	163.41	861.94	941.18	883.60	57.58	16.344	
8,150.00	8,148.13	8,172.97	8,158.03	28.95	29.12	124.79	163.41	861.94	942.05	884.11	57.94	16.259	
8,200.00	8,198.11	8,222.95	8,208.01	29.13	29.30	124.86	163.41	861.94	942.91	884.62	58.30	16.174	
8,250.00	8,248.09	8,272.93	8,257.99	29.31	29.48	124.94	163.41	861.94	943.78	885.13	58.66	16.090	
8,300.00	8,298.06	8,322.90	8,307.96	29.49	29.66	125.01	163.41	861.94	944.65	885.64	59.01	16.007	
8,350.00	8,348.04	8,372.88	8,357.94	29.67	29.83	125.09	163.41	861.94	945.52	886.15	59.37	15.926	
8,400.00	8,398.02	8,422.86	8,407.92	29.85	30.01	125.16	163.41	861.94	946.40	886.67	59.73	15.845	
8,450.00	8,447.99	8,472.84	8,457.89	30.03	30.19	125.24	163.41	861.94	947.27	887.19	60.09	15.765	
8,500.00	8,497.97	8,522.81	8,507.87	30.21	30.37	125.31	163.41	861.94	948.15	887.71	60.44	15.687	
8,550.00	8,547.95	8,572.79	8,557.85	30.39	30.55	125.39	163.41	861.94	949.03	888.23	60.80	15.609	
8,600.00	8,597.92	8,622.77	8,607.82	30.57	30.72	125.46	163.41	861.94	949.91	888.75	61.16	15.532	
8,650.00	8,647.90	8,672.74	8,657.80	30.74	30.90	125.54	163.41	861.94	950.79	889.27	61.52	15.456	
8,700.00	8,697.88	8,722.72	8,707.78	30.92	31.08	125.61	163.41	861.94	951.67	889.80	61.87	15.381	
8,750.00	8,747.86	8,772.70	8,757.76	31.10	31.26	125.69	163.41	861.94	952.56	890.33	62.23	15.307	
8,800.00	8,797.83	8,822.67	8,807.73	31.28	31.44	125.76	163.41	861.94	953.44	890.85	62.59	15.234	
8,850.00	8,847.81	8,872.65	8,857.71	31.46	31.62	125.83	163.41	861.94	954.33	891.38	62.95	15.161	
8,900.00	8,897.79	8,922.63	8,907.69	31.64	31.79	125.91	163.41	861.94	955.22	891.92	63.30	15.090	
8,950.00	8,947.76	8,972.60	8,957.66	31.82	31.97	125.98	163.41	861.94	956.11	892.45	63.66	15.019	
9,000.00	8,997.74	9,022.58	9,007.64	32.00	32.15	126.05	163.41	861.94	957.00	892.98	64.02	14.949	
9,050.00	9,047.72	9,072.56	9,057.62	32.18	32.33	126.13	163.41	861.94	957.90	893.52	64.38	14.880	
9,100.00	9,097.69	9,122.54	9,107.59	32.36	32.51	126.20	163.41	861.94	958.79	894.06	64.73	14.811	
9,150.00	9,147.67	9,172.51	9,157.57	32.54	32.68	126.27	163.41	861.94	959.69	894.60	65.09	14.744	
9,200.00	9,197.65	9,222.49	9,207.55	32.72	32.86	126.35	163.41	861.94	960.59	895.14	65.45	14.677	
9,250.00	9,247.62	9,272.47	9,257.52	32.90	33.04	126.42	163.41	861.94	961.49	895.68	65.81	14.611	
9,300.00	9,297.60	9,322.44	9,307.50	33.08	33.22	126.49	163.41	861.94	962.39	896.23	66.16	14.546	
9,350.00	9,347.58	9,372.42	9,357.48	33.26	33.40	126.56	163.41	861.94	963.29	896.77	66.52	14.481	
9,400.00	9,397.56	9,422.40	9,407.46	33.44	33.57	126.64	163.41	861.94	964.20	897.32	66.88	14.417	
9,450.00	9,447.53	9,472.37	9,457.43	33.62	33.75	126.71	163.41	861.94	965.11	897.87	67.24	14.354	
9,500.00	9,497.51	9,522.35	9,507.41	33.80	33.93	126.78	163.41	861.94	966.01	898.42	67.59	14.291	
9,550.00	9,547.49	9,572.33	9,557.39	33.98	34.11	126.85	163.41	861.94	966.92	898.97	67.95	14.230	
9,600.00	9,597.46	9,622.31	9,607.36	34.16	34.29	126.93	163.41	861.94	967.83	899.52	68.31	14.168	
9,650.00	9,647.44	9,672.28	9,657.34	34.34	34.47	127.00	163.41	861.94	968.75	900.08	68.67	14.108	
9,700.00	9,697.42	9,722.26	9,707.32	34.52	34.64	127.07	163.41	861.94	969.66	900.64	69.02	14.048	
9,750.00	9,747.39	9,772.24	9,757.29	34.69	34.82	127.14	163.41	861.94	970.58	901.19	69.38	13.989	
9,800.00	9,797.37	9,822.21	9,807.27	34.87	35.00	127.21	163.41	861.94	971.49	901.75	69.74	13.930	
9,850.00	9,847.35	9,872.19	9,857.25	35.05	35.18	127.28	163.41	861.94	972.41	902.31	70.10	13.872	
9,900.00	9,897.33	9,922.17	9,907.23	35.23	35.36	127.35	163.41	861.94	973.33	902.88	70.46	13.815	
9,950.00	9,947.30	9,972.14	9,957.20	35.41	35.54	127.42	163.41	861.94	974.25	903.44	70.81	13.758	
10,000.00	9,997.28	10,022.12	10,007.18	35.59	35.71	127.50	163.41	861.94	975.18	904.01	71.17	13.702	
10,050.00	10,047.26	10,072.10	10,057.16	35.77	35.89	127.57	163.41	861.94	976.10	904.57	71.53	13.646	
10,100.00	10,097.23	10,122.08	10,107.13	35.95	36.07	127.64	163.41	861.94	977.03	905.14	71.89	13.591	
10,150.00	10,147.21	10,172.05	10,157.11	36.13	36.25	127.71	163.41	861.94	977.96	905.71	72.24	13.537	
10,200.00	10,197.19	10,222.03	10,207.09	36.31	36.43	127.78	163.41	861.94	978.88	906.28	72.60	13.483	
10,250.00	10,247.16	10,272.01	10,257.06	36.49	36.61	127.85	163.41	861.94	979.82	906.85	72.96	13.429	
10,300.00	10,297.14	10,321.98	10,307.04	36.67	36.78	127.92	163.41	861.94	980.75	907.43	73.32	13.377	
10,350.00	10,347.12	10,371.96	10,357.02	36.85	36.96	127.99	163.41	861.94	981.68	908.00	73.68	13.324	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
10,400.00	10,397.10	10,421.94	10,407.00	37.03	37.14	128.06	163.41	861.94	982.62	908.58	74.03	13.272	
10,450.00	10,447.07	10,471.91	10,456.97	37.21	37.32	128.13	163.41	861.94	983.55	909.16	74.39	13.221	
10,500.00	10,497.05	10,521.89	10,506.95	37.39	37.50	128.20	163.41	861.94	984.49	909.74	74.75	13.170	
10,550.00	10,547.03	10,571.87	10,556.93	37.57	37.68	128.27	163.41	861.94	985.43	910.32	75.11	13.120	
10,600.00	10,597.00	10,621.84	10,606.90	37.75	37.85	128.33	163.41	861.94	986.37	910.90	75.47	13.070	
10,650.00	10,646.98	10,671.82	10,656.88	37.93	38.03	128.40	163.41	861.94	987.31	911.49	75.82	13.021	
10,700.00	10,696.96	10,721.80	10,706.86	38.11	38.21	128.47	163.41	861.94	988.26	912.07	76.18	12.972	
10,750.00	10,746.93	10,771.78	10,756.83	38.29	38.39	128.54	163.41	861.94	989.20	912.66	76.54	12.924	
10,800.00	10,796.91	10,821.75	10,806.81	38.47	38.57	128.61	163.41	861.94	990.13	913.23	76.90	12.876	
10,850.00	10,846.90	10,871.74	10,856.80	38.65	38.75	128.66	163.41	861.94	990.74	913.49	77.25	12.824	
10,900.10	10,897.00	10,921.84	10,906.90	38.83	38.93	89.80	163.41	861.94	990.95	913.33	77.61	12.768	
10,950.00	10,946.90	10,971.74	10,956.80	39.00	39.10	89.80	163.41	861.94	990.95	912.98	77.97	12.710	
11,000.00	10,996.90	11,021.74	11,006.80	39.18	39.28	89.80	163.41	861.94	990.95	912.62	78.33	12.652	
11,050.00	11,046.90	11,071.74	11,056.80	39.36	39.46	89.80	163.41	861.94	990.95	912.26	78.68	12.594	
11,100.00	11,096.90	11,121.74	11,106.80	39.54	39.64	89.80	163.41	861.94	990.95	911.91	79.04	12.537	
11,104.93	11,101.83	11,126.67	11,111.73	39.56	39.66	89.80	163.41	861.94	990.95	911.87	79.07	12.532	
11,150.00	11,146.90	11,171.67	11,156.73	39.72	39.81	89.82	163.13	861.94	990.95	911.55	79.39	12.482	
11,200.00	11,196.90	11,221.18	11,206.09	39.89	39.98	90.03	159.47	861.96	990.96	911.23	79.73	12.429	
11,250.00	11,246.90	11,269.71	11,253.98	40.07	40.12	90.48	151.76	862.00	991.04	910.99	80.06	12.379	
11,300.00	11,296.84	11,317.13	11,299.99	40.24	40.26	-88.60	140.33	862.07	991.23	910.87	80.36	12.334	
11,350.00	11,346.40	11,363.83	11,344.23	40.40	40.40	-88.05	125.40	862.15	991.51	910.86	80.65	12.294	
11,400.00	11,395.20	11,409.86	11,386.50	40.55	40.52	-87.52	107.21	862.25	991.87	910.94	80.92	12.257	
11,450.00	11,442.87	11,455.27	11,426.63	40.70	40.63	-87.01	86.00	862.37	992.29	911.11	81.18	12.224	
11,500.00	11,489.06	11,500.12	11,464.50	40.83	40.73	-86.51	61.99	862.51	992.76	911.35	81.42	12.194	
11,550.00	11,533.40	11,544.44	11,499.97	40.96	40.83	-86.05	35.43	862.65	993.28	911.64	81.64	12.167	
11,600.00	11,575.56	11,588.30	11,532.94	41.08	40.91	-85.61	6.52	862.82	993.82	911.97	81.84	12.143	
11,650.00	11,615.22	11,631.74	11,563.32	41.18	40.99	-85.20	-24.51	862.99	994.37	912.33	82.04	12.121	
11,700.00	11,652.08	11,674.79	11,591.03	41.28	41.08	-84.83	-57.45	863.17	994.91	912.69	82.22	12.100	
11,750.00	11,685.86	11,717.52	11,616.01	41.40	41.16	-84.49	-92.10	863.37	995.44	913.04	82.39	12.081	
11,800.00	11,716.30	11,759.95	11,638.19	41.51	41.25	-84.19	-128.26	863.57	995.93	913.36	82.56	12.063	
11,850.00	11,743.17	11,802.14	11,657.53	41.63	41.34	-83.92	-165.74	863.78	996.37	913.65	82.73	12.044	
11,900.00	11,766.26	11,844.11	11,673.98	41.74	41.43	-83.70	-204.34	863.99	996.76	913.87	82.89	12.025	
11,950.00	11,785.40	11,885.90	11,687.51	41.85	41.52	-83.51	-243.88	864.21	997.08	914.03	83.05	12.005	
12,000.00	11,800.44	11,927.57	11,698.10	41.96	41.60	-83.37	-284.16	864.44	997.33	914.11	83.22	11.984	
12,050.00	11,811.27	11,969.13	11,705.72	42.07	41.69	-83.28	-325.01	864.67	997.50	914.10	83.40	11.961	
12,100.00	11,817.81	12,010.62	11,710.35	42.18	41.77	-83.22	-366.23	864.90	997.58	914.01	83.58	11.936	
12,150.00	11,820.00	12,056.24	11,711.99	42.29	41.87	-83.21	-407.27	865.13	997.58	913.81	83.77	11.908	
12,200.00	11,820.00	12,101.70	11,711.99	42.40	41.97	-83.21	-457.27	865.41	997.54	913.57	83.98	11.879	
12,250.00	11,820.00	12,151.70	11,711.99	42.53	42.09	-83.21	-507.27	865.69	997.51	913.28	84.23	11.843	
12,300.00	11,820.00	12,201.70	11,711.99	42.66	42.22	-83.21	-557.27	865.96	997.48	913.00	84.48	11.807	
12,350.00	11,820.00	12,251.70	11,711.99	42.81	42.37	-83.21	-607.27	866.24	997.45	912.67	84.78	11.765	
12,400.00	11,820.00	12,301.70	11,711.99	42.97	42.52	-83.21	-657.27	866.52	997.42	912.33	85.09	11.723	
12,450.00	11,820.00	12,351.70	11,711.99	43.15	42.69	-83.21	-707.27	866.80	997.39	911.96	85.43	11.674	
12,500.00	11,820.00	12,401.70	11,711.99	43.32	42.86	-83.21	-757.27	867.08	997.36	911.58	85.78	11.627	
12,550.00	11,820.00	12,451.70	11,711.99	43.52	43.06	-83.21	-807.27	867.36	997.33	911.15	86.18	11.573	
12,600.00	11,820.00	12,501.70	11,711.99	43.72	43.26	-83.21	-857.27	867.64	997.30	910.73	86.57	11.520	
12,650.00	11,820.00	12,551.70	11,711.99	43.95	43.47	-83.21	-907.27	867.92	997.26	910.26	87.01	11.462	
12,700.00	11,820.00	12,601.70	11,711.99	44.17	43.69	-83.21	-957.27	868.20	997.23	909.79	87.45	11.404	
12,750.00	11,820.00	12,651.70	11,711.99	44.41	43.93	-83.21	-1,007.26	868.48	997.20	909.27	87.93	11.341	
12,800.00	11,820.00	12,701.70	11,711.99	44.66	44.17	-83.21	-1,057.26	868.76	997.17	908.76	88.41	11.279	
12,850.00	11,820.00	12,751.70	11,711.99	44.92	44.44	-83.21	-1,107.26	869.04	997.14	908.21	88.93	11.212	
12,900.00	11,820.00	12,801.70	11,711.99	45.19	44.70	-83.21	-1,157.26	869.32	997.11	907.65	89.46	11.146	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
12,950.00	11,820.00	12,851.70	11,711.99	45.47	44.98	-83.21	-1,207.26	869.59	997.08	907.06	90.02	11.076	
13,000.00	11,820.00	12,901.70	11,711.99	45.76	45.26	-83.21	-1,257.26	869.87	997.05	906.46	90.58	11.007	
13,050.00	11,820.00	12,951.70	11,711.99	46.06	45.56	-83.21	-1,307.26	870.15	997.01	905.83	91.19	10.934	
13,100.00	11,820.00	13,001.70	11,711.99	46.37	45.86	-83.21	-1,357.26	870.43	996.98	905.19	91.79	10.861	
13,150.00	11,820.00	13,051.70	11,711.99	46.69	46.19	-83.21	-1,407.26	870.71	996.95	904.52	92.43	10.786	
13,200.00	11,820.00	13,101.70	11,711.99	47.01	46.51	-83.21	-1,457.26	870.99	996.92	903.85	93.07	10.711	
13,250.00	11,820.00	13,151.70	11,711.99	47.36	46.84	-83.21	-1,507.26	871.27	996.89	903.14	93.75	10.634	
13,300.00	11,820.00	13,201.70	11,711.99	47.70	47.18	-83.21	-1,557.26	871.55	996.86	902.43	94.42	10.557	
13,350.00	11,820.00	13,251.70	11,711.99	48.05	47.54	-83.21	-1,607.26	871.83	996.83	901.69	95.13	10.478	
13,400.00	11,820.00	13,301.70	11,711.99	48.41	47.90	-83.21	-1,657.25	872.11	996.80	900.95	95.85	10.400	
13,450.00	11,820.00	13,351.70	11,711.99	48.79	48.27	-83.21	-1,707.25	872.39	996.76	900.18	96.59	10.320	
13,500.00	11,820.00	13,401.70	11,711.99	49.16	48.64	-83.21	-1,757.25	872.67	996.73	899.40	97.33	10.240	
13,550.00	11,820.00	13,451.70	11,711.99	49.55	49.03	-83.21	-1,807.25	872.95	996.70	898.59	98.11	10.159	
13,600.00	11,820.00	13,501.70	11,711.99	49.94	49.42	-83.21	-1,857.25	873.23	996.67	897.79	98.88	10.079	
13,650.00	11,820.00	13,551.70	11,711.99	50.35	49.82	-83.21	-1,907.25	873.50	996.64	896.95	99.69	9.998	
13,700.00	11,820.00	13,601.70	11,711.99	50.75	50.23	-83.21	-1,957.25	873.78	996.61	896.12	100.49	9.917	
13,750.00	11,820.00	13,651.70	11,711.99	51.17	50.64	-83.21	-2,007.25	874.06	996.58	895.25	101.33	9.835	
13,800.00	11,820.00	13,701.70	11,711.99	51.59	51.06	-83.20	-2,057.25	874.34	996.55	894.39	102.16	9.755	
13,850.00	11,820.00	13,751.70	11,711.99	52.02	51.49	-83.20	-2,107.25	874.62	996.51	893.49	103.02	9.673	
13,900.00	11,820.00	13,801.70	11,711.99	52.46	51.93	-83.20	-2,157.25	874.90	996.48	892.60	103.88	9.592	
13,950.00	11,820.00	13,851.70	11,711.99	52.90	52.37	-83.20	-2,207.25	875.18	996.45	891.68	104.77	9.511	
14,000.00	11,820.00	13,901.70	11,711.99	53.35	52.82	-83.20	-2,257.24	875.46	996.42	890.77	105.65	9.431	
14,050.00	11,820.00	13,951.70	11,711.99	53.81	53.27	-83.20	-2,307.24	875.74	996.39	889.82	106.57	9.350	
14,100.00	11,820.00	14,001.70	11,711.99	54.27	53.73	-83.20	-2,357.24	876.02	996.36	888.88	107.48	9.270	
14,150.00	11,820.00	14,051.70	11,711.99	54.74	54.20	-83.20	-2,407.24	876.30	996.33	887.92	108.41	9.190	
14,200.00	11,820.00	14,101.70	11,711.99	55.21	54.67	-83.20	-2,457.24	876.58	996.30	886.95	109.35	9.111	
14,250.00	11,820.00	14,151.70	11,711.99	55.69	55.15	-83.20	-2,507.24	876.86	996.27	885.96	110.30	9.032	
14,300.00	11,820.00	14,201.70	11,711.99	56.17	55.63	-83.20	-2,557.24	877.13	996.23	884.98	111.26	8.954	
14,350.00	11,820.00	14,251.70	11,711.99	56.66	56.12	-83.20	-2,607.24	877.41	996.20	883.97	112.24	8.876	
14,400.00	11,820.00	14,301.70	11,711.99	57.15	56.61	-83.20	-2,657.24	877.69	996.17	882.96	113.21	8.799	
14,450.00	11,820.00	14,351.70	11,711.99	57.65	57.11	-83.20	-2,707.24	877.97	996.14	881.93	114.21	8.722	
14,500.00	11,820.00	14,401.70	11,711.99	58.15	57.61	-83.20	-2,757.24	878.25	996.11	880.90	115.21	8.646	
14,550.00	11,820.00	14,451.70	11,711.99	58.66	58.12	-83.20	-2,807.24	878.53	996.08	879.85	116.23	8.570	
14,600.00	11,820.00	14,501.70	11,711.99	59.17	58.64	-83.20	-2,857.24	878.81	996.05	878.81	117.24	8.496	
14,650.00	11,820.00	14,551.70	11,711.99	59.69	59.15	-83.20	-2,907.23	879.09	996.02	877.74	118.28	8.421	
14,700.00	11,820.00	14,601.70	11,711.99	60.21	59.67	-83.20	-2,957.23	879.37	995.98	876.67	119.31	8.348	
14,750.00	11,820.00	14,651.70	11,711.99	60.74	60.20	-83.20	-3,007.23	879.65	995.95	875.59	120.36	8.275	
14,800.00	11,820.00	14,701.70	11,711.99	61.27	60.73	-83.20	-3,057.23	879.93	995.92	874.51	121.41	8.203	
14,850.00	11,820.00	14,751.70	11,711.99	61.81	61.27	-83.20	-3,107.23	880.21	995.89	873.41	122.48	8.131	
14,900.00	11,820.00	14,801.70	11,711.99	62.34	61.80	-83.20	-3,157.23	880.49	995.86	872.31	123.55	8.060	
14,950.00	11,820.00	14,851.70	11,711.99	62.89	62.35	-83.20	-3,207.23	880.76	995.83	871.20	124.63	7.990	
15,000.00	11,820.00	14,901.70	11,711.99	63.43	62.89	-83.20	-3,257.23	881.04	995.80	870.08	125.71	7.921	
15,050.00	11,820.00	14,951.70	11,711.99	63.98	63.44	-83.20	-3,307.23	881.32	995.77	868.95	126.81	7.852	
15,100.00	11,820.00	15,001.70	11,711.99	64.54	64.00	-83.20	-3,357.23	881.60	995.73	867.82	127.91	7.785	
15,150.00	11,820.00	15,051.70	11,711.99	65.09	64.55	-83.20	-3,407.23	881.88	995.70	866.68	129.02	7.717	
15,200.00	11,820.00	15,101.70	11,711.99	65.65	65.11	-83.20	-3,457.23	882.16	995.67	865.54	130.13	7.651	
15,250.00	11,820.00	15,151.70	11,711.99	66.22	65.68	-83.20	-3,507.23	882.44	995.64	864.38	131.26	7.585	
15,300.00	11,820.00	15,201.70	11,711.99	66.78	66.24	-83.20	-3,557.22	882.72	995.61	863.23	132.38	7.521	
15,350.00	11,820.00	15,251.70	11,711.99	67.35	66.81	-83.20	-3,607.22	883.00	995.58	862.06	133.52	7.456	
15,400.00	11,820.00	15,301.70	11,711.99	67.92	67.39	-83.20	-3,657.22	883.28	995.55	860.89	134.66	7.393	
15,450.00	11,820.00	15,351.70	11,711.99	68.50	67.96	-83.20	-3,707.22	883.56	995.52	859.71	135.80	7.330	
15,500.00	11,820.00	15,401.70	11,711.99	69.08	68.54	-83.20	-3,757.22	883.84	995.49	858.53	136.95	7.269	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
15,550.00	11,820.00	15,451.70	11,711.99	69.66	69.12	-83.20	-3,807.22	884.12	995.45	857.34	138.11	7.207	
15,600.00	11,820.00	15,501.70	11,711.99	70.24	69.71	-83.20	-3,857.22	884.40	995.42	856.15	139.27	7.147	
15,650.00	11,820.00	15,551.70	11,711.99	70.83	70.30	-83.20	-3,907.22	884.67	995.39	854.95	140.45	7.087	
15,700.00	11,820.00	15,601.70	11,711.99	71.42	70.88	-83.20	-3,957.22	884.95	995.36	853.74	141.62	7.029	
15,750.00	11,820.00	15,651.70	11,711.99	72.01	71.48	-83.20	-4,007.22	885.23	995.33	852.53	142.80	6.970	
15,800.00	11,820.00	15,701.70	11,711.99	72.61	72.07	-83.20	-4,057.22	885.51	995.30	851.32	143.98	6.913	
15,850.00	11,820.00	15,751.70	11,711.99	73.21	72.67	-83.20	-4,107.22	885.79	995.27	850.10	145.17	6.856	
15,900.00	11,820.00	15,801.70	11,711.99	73.80	73.27	-83.20	-4,157.21	886.07	995.24	848.88	146.36	6.800	
15,950.00	11,820.00	15,851.70	11,711.99	74.41	73.87	-83.20	-4,207.21	886.35	995.20	847.64	147.56	6.744	
16,000.00	11,820.00	15,901.70	11,711.99	75.01	74.47	-83.20	-4,257.21	886.63	995.17	846.41	148.76	6.690	
16,050.00	11,820.00	15,951.70	11,711.99	75.62	75.08	-83.20	-4,307.21	886.91	995.14	845.17	149.97	6.636	
16,100.00	11,820.00	16,001.70	11,711.99	76.22	75.69	-83.19	-4,357.21	887.19	995.11	843.93	151.18	6.582	
16,150.00	11,820.00	16,051.70	11,711.99	76.84	76.30	-83.19	-4,407.21	887.47	995.08	842.68	152.39	6.530	
16,200.00	11,820.00	16,101.70	11,711.99	77.45	76.91	-83.19	-4,457.21	887.75	995.05	841.44	153.61	6.478	
16,250.00	11,820.00	16,151.70	11,711.99	78.06	77.53	-83.19	-4,507.21	888.03	995.02	840.18	154.84	6.426	
16,300.00	11,820.00	16,201.70	11,711.99	78.68	78.14	-83.19	-4,557.21	888.30	994.99	838.92	156.06	6.376	
16,350.00	11,820.00	16,251.70	11,711.99	79.30	78.76	-83.19	-4,607.21	888.58	994.95	837.66	157.30	6.325	
16,400.00	11,820.00	16,301.70	11,711.99	79.92	79.38	-83.19	-4,657.21	888.86	994.92	836.40	158.53	6.276	
16,450.00	11,820.00	16,351.70	11,711.99	80.54	80.01	-83.19	-4,707.21	889.14	994.89	835.12	159.77	6.227	
16,500.00	11,820.00	16,401.70	11,711.99	81.16	80.63	-83.19	-4,757.21	889.42	994.86	833.85	161.01	6.179	
16,550.00	11,820.00	16,451.70	11,711.99	81.79	81.26	-83.19	-4,807.20	889.70	994.83	832.57	162.25	6.131	
16,600.00	11,820.00	16,501.70	11,711.99	82.41	81.88	-83.19	-4,857.20	889.98	994.80	831.30	163.50	6.084	
16,650.00	11,820.00	16,551.70	11,711.99	83.04	82.51	-83.19	-4,907.20	890.26	994.77	830.01	164.76	6.038	
16,700.00	11,820.00	16,601.70	11,711.99	83.67	83.14	-83.19	-4,957.20	890.54	994.74	828.73	166.01	5.992	
16,750.00	11,820.00	16,651.70	11,711.99	84.31	83.78	-83.19	-5,007.20	890.82	994.70	827.44	167.27	5.947	
16,800.00	11,820.00	16,701.70	11,711.99	84.94	84.41	-83.19	-5,057.20	891.10	994.67	826.14	168.53	5.902	
16,850.00	11,820.00	16,752.42	11,712.19	85.58	85.06	-83.20	-5,107.92	891.38	994.62	824.81	169.81	5.857	
16,900.00	11,820.00	16,802.42	11,712.50	86.21	85.69	-83.22	-5,157.92	891.66	994.55	823.47	171.08	5.813	
16,950.00	11,820.00	16,852.42	11,712.80	86.85	86.33	-83.24	-5,207.91	891.94	994.48	822.13	172.35	5.770	
17,000.00	11,820.00	16,902.42	11,713.11	87.49	86.97	-83.26	-5,257.91	892.22	994.42	820.79	173.63	5.727	
17,050.00	11,820.00	16,952.42	11,713.41	88.13	87.62	-83.27	-5,307.91	892.50	994.35	819.44	174.91	5.685	
17,100.00	11,820.00	17,002.42	11,713.72	88.77	88.26	-83.29	-5,357.91	892.78	994.28	818.09	176.20	5.643	
17,150.00	11,820.00	17,052.42	11,714.02	89.42	88.90	-83.31	-5,407.90	893.06	994.22	816.73	177.48	5.602	
17,200.00	11,820.00	17,102.42	11,714.33	90.06	89.55	-83.32	-5,457.90	893.34	994.15	815.38	178.77	5.561	
17,250.00	11,820.00	17,152.42	11,714.63	90.71	90.20	-83.34	-5,507.90	893.61	994.08	814.02	180.06	5.521	
17,300.00	11,820.00	17,202.41	11,714.94	91.36	90.84	-83.36	-5,557.90	893.89	994.02	812.66	181.36	5.481	
17,350.00	11,820.00	17,252.41	11,715.25	92.00	91.50	-83.38	-5,607.89	894.17	993.95	811.29	182.65	5.442	
17,400.00	11,820.00	17,302.41	11,715.55	92.65	92.15	-83.39	-5,657.89	894.45	993.88	809.93	183.95	5.403	
17,450.00	11,820.00	17,352.41	11,715.86	93.31	92.80	-83.41	-5,707.89	894.73	993.82	808.56	185.26	5.365	
17,500.00	11,820.00	17,402.41	11,716.16	93.96	93.45	-83.43	-5,757.88	895.01	993.75	807.19	186.56	5.327	
17,550.00	11,820.00	17,452.41	11,716.47	94.61	94.11	-83.45	-5,807.88	895.29	993.68	805.82	187.86	5.289	
17,600.00	11,820.00	17,502.41	11,716.77	95.26	94.76	-83.46	-5,857.88	895.57	993.62	804.45	189.17	5.252	
17,650.00	11,820.00	17,552.41	11,717.08	95.92	95.42	-83.48	-5,907.88	895.85	993.55	803.07	190.48	5.216	
17,700.00	11,820.00	17,602.41	11,717.38	96.58	96.07	-83.50	-5,957.87	896.13	993.49	801.69	191.80	5.180	
17,750.00	11,820.00	17,652.41	11,717.69	97.23	96.73	-83.51	-6,007.87	896.41	993.42	800.31	193.11	5.144	
17,800.00	11,820.00	17,702.40	11,717.99	97.89	97.39	-83.53	-6,057.87	896.69	993.36	798.93	194.43	5.109	
17,850.00	11,820.00	17,752.40	11,718.30	98.55	98.05	-83.55	-6,107.87	896.97	993.29	797.54	195.75	5.074	
17,900.00	11,820.00	17,802.40	11,718.60	99.21	98.71	-83.57	-6,157.86	897.24	993.22	796.16	197.07	5.040	
17,950.00	11,820.00	17,852.40	11,718.91	99.88	99.38	-83.58	-6,207.86	897.52	993.16	794.77	198.39	5.006	
18,000.00	11,820.00	17,902.40	11,719.22	100.54	100.04	-83.60	-6,257.86	897.80	993.09	793.38	199.71	4.973	Alert
18,050.00	11,820.00	17,952.40	11,719.52	101.20	100.70	-83.62	-6,307.86	898.08	993.03	791.99	201.04	4.939	Alert
18,100.00	11,820.00	18,002.40	11,719.83	101.86	101.37	-83.64	-6,357.85	898.36	992.96	790.59	202.37	4.907	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
18,150.00	11,820.00	18,052.40	11,720.13	102.53	102.03	-83.65	-6,407.85	898.64	992.90	789.20	203.70	4.874	Alert
18,200.00	11,820.00	18,102.40	11,720.44	103.20	102.70	-83.67	-6,457.85	898.92	992.83	787.80	205.03	4.842	Alert
18,250.00	11,820.00	18,152.40	11,720.74	103.86	103.37	-83.69	-6,507.84	899.20	992.77	786.40	206.36	4.811	Alert
18,300.00	11,820.00	18,202.40	11,721.05	104.53	104.04	-83.70	-6,557.84	899.48	992.70	785.00	207.70	4.780	Alert
18,350.00	11,820.00	18,252.39	11,721.35	105.20	104.71	-83.72	-6,607.84	899.76	992.64	783.60	209.04	4.749	Alert
18,400.00	11,820.00	18,302.39	11,721.66	105.87	105.38	-83.74	-6,657.84	900.04	992.57	782.20	210.37	4.718	Alert
18,450.00	11,820.00	18,352.39	11,721.96	106.54	106.05	-83.76	-6,707.83	900.32	992.51	780.79	211.72	4.688	Alert
18,500.00	11,820.00	18,402.39	11,722.27	107.21	106.72	-83.77	-6,757.83	900.60	992.45	779.39	213.06	4.658	Alert
18,550.00	11,820.00	18,452.39	11,722.58	107.88	107.39	-83.79	-6,807.83	900.87	992.38	777.98	214.40	4.629	Alert
18,600.00	11,820.00	18,502.39	11,722.88	108.55	108.06	-83.81	-6,857.83	901.15	992.32	776.57	215.74	4.599	Alert
18,650.00	11,820.00	18,552.39	11,723.19	109.23	108.74	-83.83	-6,907.82	901.43	992.25	775.16	217.09	4.571	Alert
18,700.00	11,820.00	18,602.39	11,723.49	109.90	109.41	-83.84	-6,957.82	901.71	992.19	773.75	218.44	4.542	Alert
18,750.00	11,820.00	18,652.39	11,723.80	110.57	110.09	-83.86	-7,007.82	901.99	992.12	772.34	219.79	4.514	Alert
18,800.00	11,820.00	18,702.39	11,724.10	111.25	110.76	-83.88	-7,057.82	902.27	992.06	770.92	221.14	4.486	Alert
18,850.00	11,820.00	18,752.39	11,724.41	111.93	111.44	-83.90	-7,107.81	902.55	992.00	769.51	222.49	4.459	Alert
18,900.00	11,820.00	18,802.38	11,724.71	112.60	112.12	-83.91	-7,157.81	902.83	991.93	768.09	223.84	4.431	Alert
18,950.00	11,820.00	18,852.38	11,725.02	113.28	112.80	-83.93	-7,207.81	903.11	991.87	766.67	225.20	4.404	Alert
19,000.00	11,820.00	18,902.38	11,725.32	113.96	113.47	-83.95	-7,257.80	903.39	991.81	765.25	226.56	4.378	Alert
19,050.00	11,820.00	18,952.38	11,725.63	114.64	114.15	-83.96	-7,307.80	903.67	991.74	763.83	227.91	4.351	Alert
19,100.00	11,820.00	19,002.38	11,725.94	115.31	114.83	-83.98	-7,357.80	903.95	991.68	762.41	229.27	4.325	Alert
19,150.00	11,820.00	19,052.38	11,726.24	115.99	115.51	-84.00	-7,407.80	904.23	991.62	760.98	230.63	4.300	Alert
19,200.00	11,820.00	19,102.38	11,726.55	116.67	116.19	-84.02	-7,457.79	904.50	991.55	759.56	231.99	4.274	Alert
19,250.00	11,820.00	19,152.38	11,726.85	117.36	116.88	-84.03	-7,507.79	904.78	991.49	758.13	233.36	4.249	Alert
19,300.00	11,820.00	19,202.38	11,727.16	118.04	117.56	-84.05	-7,557.79	905.06	991.43	756.71	234.72	4.224	Alert
19,350.00	11,820.00	19,252.38	11,727.46	118.72	118.24	-84.07	-7,607.79	905.34	991.36	755.28	236.08	4.199	Alert
19,400.00	11,820.00	19,302.37	11,727.77	119.40	118.92	-84.09	-7,657.78	905.62	991.30	753.85	237.45	4.175	Alert
19,450.00	11,820.00	19,352.37	11,728.07	120.08	119.61	-84.10	-7,707.78	905.90	991.24	752.42	238.82	4.151	Alert
19,500.00	11,820.00	19,402.37	11,728.38	120.77	120.29	-84.12	-7,757.78	906.18	991.18	750.99	240.18	4.127	Alert
19,550.00	11,820.00	19,452.37	11,728.68	121.45	120.98	-84.14	-7,807.78	906.46	991.11	749.56	241.55	4.103	Alert
19,600.00	11,820.00	19,502.37	11,728.99	122.14	121.66	-84.16	-7,857.77	906.74	991.05	748.13	242.92	4.080	Alert
19,650.00	11,820.00	19,552.37	11,729.29	122.82	122.35	-84.17	-7,907.77	907.02	990.99	746.69	244.29	4.057	Alert
19,700.00	11,820.00	19,602.37	11,729.60	123.51	123.03	-84.19	-7,957.77	907.30	990.93	745.26	245.67	4.034	Alert
19,750.00	11,820.00	19,652.37	11,729.91	124.19	123.72	-84.21	-8,007.76	907.58	990.86	743.82	247.04	4.011	Alert
19,800.00	11,820.00	19,702.37	11,730.21	124.88	124.41	-84.23	-8,057.76	907.86	990.80	742.39	248.41	3.989	Alert
19,850.00	11,820.00	19,752.37	11,730.52	125.57	125.10	-84.24	-8,107.76	908.13	990.74	740.95	249.79	3.966	Alert
19,900.00	11,820.00	19,802.37	11,730.82	126.26	125.78	-84.26	-8,157.76	908.41	990.68	739.51	251.17	3.944	Alert
19,950.00	11,820.00	19,852.36	11,731.13	126.94	126.47	-84.28	-8,207.75	908.69	990.62	738.07	252.54	3.923	Alert
20,000.00	11,820.00	19,902.36	11,731.43	127.63	127.16	-84.30	-8,257.75	908.97	990.56	736.63	253.92	3.901	Alert
20,050.00	11,820.00	19,952.36	11,731.74	128.32	127.85	-84.31	-8,307.75	909.25	990.49	735.19	255.30	3.880	Alert
20,100.00	11,820.00	20,002.36	11,732.04	129.01	128.54	-84.33	-8,357.75	909.53	990.43	733.75	256.68	3.859	Alert
20,150.00	11,820.00	20,052.36	11,732.35	129.70	129.23	-84.35	-8,407.74	909.81	990.37	732.31	258.06	3.838	Alert
20,200.00	11,820.00	20,102.36	11,732.65	130.39	129.92	-84.36	-8,457.74	910.09	990.31	730.87	259.44	3.817	Alert
20,250.00	11,820.00	20,152.36	11,732.96	131.08	130.61	-84.38	-8,507.74	910.37	990.25	729.42	260.83	3.797	Alert
20,300.00	11,820.00	20,202.36	11,733.27	131.77	131.31	-84.40	-8,557.74	910.65	990.19	727.98	262.21	3.776	Alert
20,350.00	11,820.00	20,252.36	11,733.57	132.46	132.00	-84.42	-8,607.73	910.93	990.13	726.53	263.60	3.756	Alert
20,400.00	11,820.00	20,302.36	11,733.88	133.16	132.69	-84.43	-8,657.73	911.21	990.06	725.08	264.98	3.736	Alert
20,450.00	11,820.00	20,352.35	11,734.18	133.85	133.38	-84.45	-8,707.73	911.49	990.00	723.64	266.37	3.717	Alert
20,500.00	11,820.00	20,402.35	11,734.49	134.54	134.08	-84.47	-8,757.73	911.76	989.94	722.19	267.75	3.697	Alert
20,550.00	11,820.00	20,452.35	11,734.79	135.23	134.77	-84.49	-8,807.72	912.04	989.88	720.74	269.14	3.678	Alert
20,600.00	11,820.00	20,502.35	11,735.10	135.93	135.46	-84.50	-8,857.72	912.32	989.82	719.29	270.53	3.659	Alert
20,650.00	11,820.00	20,552.35	11,735.40	136.62	136.16	-84.52	-8,907.72	912.60	989.76	717.84	271.92	3.640	Alert
20,700.00	11,820.00	20,602.35	11,735.71	137.32	136.85	-84.54	-8,957.71	912.88	989.70	716.39	273.31	3.621	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
20,750.00	11,820.00	20,652.35	11,736.01	138.01	137.55	-84.56	-9,007.71	913.16	989.64	714.94	274.70	3.603	Alert
20,800.00	11,820.00	20,702.35	11,736.32	138.71	138.24	-84.57	-9,057.71	913.44	989.58	713.49	276.09	3.584	Alert
20,850.00	11,820.00	20,752.35	11,736.62	139.40	138.94	-84.59	-9,107.71	913.72	989.52	712.04	277.48	3.566	Alert
20,900.00	11,820.00	20,802.35	11,736.93	140.10	139.64	-84.61	-9,157.70	914.00	989.46	710.58	278.88	3.548	Alert
20,950.00	11,820.00	20,852.35	11,737.24	140.79	140.33	-84.63	-9,207.70	914.28	989.40	709.13	280.27	3.530	Alert
21,000.00	11,820.00	20,902.34	11,737.54	141.49	141.03	-84.64	-9,257.70	914.56	989.34	707.68	281.66	3.512	Alert
21,050.00	11,820.00	20,952.34	11,737.85	142.19	141.73	-84.66	-9,307.70	914.84	989.28	706.22	283.06	3.495	Alert
21,100.00	11,820.00	21,002.34	11,738.15	142.88	142.42	-84.68	-9,357.69	915.12	989.22	704.77	284.46	3.478	Alert
21,150.00	11,820.00	21,052.34	11,738.46	143.58	143.12	-84.70	-9,407.69	915.40	989.16	703.31	285.85	3.460	Alert
21,200.00	11,820.00	21,102.34	11,738.76	144.28	143.82	-84.71	-9,457.69	915.67	989.10	701.85	287.25	3.443	Alert
21,250.00	11,820.00	21,152.34	11,739.07	144.98	144.52	-84.73	-9,507.69	915.95	989.04	700.40	288.65	3.426	Alert
21,300.00	11,820.00	21,202.34	11,739.37	145.67	145.22	-84.75	-9,557.68	916.23	988.98	698.94	290.05	3.410	Alert
21,350.00	11,820.00	21,252.34	11,739.68	146.37	145.92	-84.77	-9,607.68	916.51	988.92	697.48	291.44	3.393	Alert
21,400.00	11,820.00	21,302.34	11,739.98	147.07	146.61	-84.78	-9,657.68	916.79	988.87	696.02	292.84	3.377	Alert
21,450.00	11,820.00	21,352.34	11,740.29	147.77	147.31	-84.80	-9,707.67	917.07	988.81	694.56	294.24	3.360	Alert
21,500.00	11,820.00	21,402.34	11,740.60	148.47	148.01	-84.82	-9,757.67	917.35	988.75	693.10	295.65	3.344	Alert
21,550.00	11,820.00	21,452.33	11,740.90	149.17	148.71	-84.84	-9,807.67	917.63	988.69	691.64	297.05	3.328	Alert
21,600.00	11,820.00	21,502.33	11,741.21	149.87	149.41	-84.85	-9,857.67	917.91	988.63	690.18	298.45	3.313	Alert
21,650.00	11,820.00	21,552.33	11,741.51	150.57	150.12	-84.87	-9,907.66	918.19	988.57	688.72	299.85	3.297	Alert
21,700.00	11,820.00	21,602.33	11,741.82	151.27	150.82	-84.89	-9,957.66	918.47	988.51	687.26	301.25	3.281	Alert
21,750.00	11,820.00	21,652.33	11,742.12	151.97	151.52	-84.91	-10,007.66	918.75	988.45	685.80	302.66	3.266	Alert
21,759.37	11,820.00	21,661.70	11,742.18	152.10	151.65	-84.91	-10,017.03	918.80	988.44	685.52	302.92	3.263	Alert, ES, SF
21,800.00	11,820.00	21,657.56	11,742.15	152.67	151.59	-84.91	-10,012.89	918.78	989.41	686.23	303.18	3.263	Alert
21,850.00	11,820.00	21,657.56	11,742.15	153.37	151.59	-84.91	-10,012.89	918.78	992.87	689.93	302.94	3.277	Alert
21,900.00	11,820.00	21,657.56	11,742.15	154.07	151.59	-84.91	-10,012.89	918.78	998.83	696.81	302.02	3.307	Alert
21,950.00	11,820.00	21,657.56	11,742.15	154.78	151.59	-84.91	-10,012.89	918.78	1,007.23	706.79	300.44	3.352	Alert
22,000.00	11,820.00	21,657.56	11,742.15	155.48	151.59	-84.91	-10,012.89	918.78	1,018.03	719.76	298.27	3.413	Alert
22,050.00	11,820.00	21,657.56	11,742.15	156.18	151.59	-84.91	-10,012.89	918.78	1,031.13	735.60	295.54	3.489	Alert
22,065.48	11,820.00	21,657.56	11,742.15	156.40	151.59	-84.91	-10,012.89	918.78	1,035.65	741.05	294.59	3.516	Alert

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	9.90	9.90	0.50		92.13	-26.67	717.87	718.37				
50.00	50.00	59.90	59.90	0.50		92.13	-26.67	717.87	718.37	717.36	1.00	716.930	
100.00	100.00	109.90	109.90	0.52		92.13	-26.67	717.87	718.37	717.35	1.02	705.834	
131.37	131.37	141.26	141.26	0.56		92.16	-27.10	717.83	718.34	717.29	1.06	679.206	
150.00	150.00	159.87	159.87	0.59		92.16	-27.09	717.83	718.34	717.25	1.09	658.886	
200.00	200.00	209.79	209.79	0.70		92.15	-26.99	717.84	718.35	717.15	1.20	597.577	
250.00	250.00	259.71	259.71	0.84		92.14	-26.78	717.86	718.36	717.02	1.34	537.006	
300.00	300.00	309.93	309.90	0.99		92.13	-26.67	717.87	718.37	716.88	1.49	482.989	
317.36	317.36	327.25	327.22	1.04		92.14	-26.86	717.79	718.29	716.75	1.54	465.980	
350.00	350.00	358.36	358.32	1.15		92.14	-26.77	717.83	718.33	716.68	1.65	436.542	
400.00	400.00	409.95	409.90	1.31		92.13	-26.67	717.87	718.37	716.56	1.81	397.087	
409.70	409.70	419.64	419.59	1.34		92.14	-26.87	717.76	718.27	716.43	1.84	390.090	
450.00	450.00	457.46	457.41	1.48		92.13	-26.74	717.84	718.34	716.36	1.98	363.470	
500.00	500.00	509.96	509.90	1.65		92.13	-26.67	717.87	718.37	716.22	2.15	334.733	
505.97	505.97	515.70	515.64	1.67		92.14	-26.81	717.76	718.26	716.10	2.17	331.535	
550.00	550.00	556.87	556.80	1.82		92.13	-26.68	717.86	718.36	716.05	2.32	309.950	
596.59	596.59	606.55	606.47	1.98		92.14	-26.84	717.81	718.31	715.83	2.48	289.783	
600.00	600.00	609.83	609.76	1.99		92.14	-26.84	717.81	718.31	715.82	2.49	288.409	
650.00	650.00	659.98	659.90	2.16		92.13	-26.67	717.87	718.37	715.70	2.66	269.600	
700.00	700.00	709.98	709.90	2.34		92.13	-26.67	717.87	718.37	715.53	2.84	253.007	
717.08	717.08	727.00	726.92	2.40		92.14	-26.87	717.78	718.29	715.39	2.90	247.758	
750.00	750.00	759.20	759.12	2.51		92.14	-26.82	717.80	718.31	715.29	3.01	238.268	
800.00	800.00	809.99	809.90	2.69		92.13	-26.67	717.87	718.37	715.18	3.19	225.151	
832.01	832.01	842.00	841.91	2.80		92.13	-26.76	717.82	718.32	715.01	3.30	217.447	
850.00	850.00	859.41	859.32	2.87		92.13	-26.74	717.83	718.32	714.96	3.37	213.349	
900.00	900.00	910.00	909.90	3.04		92.13	-26.67	717.87	718.37	714.82	3.54	202.725	
924.43	924.43	934.37	934.27	3.13		92.14	-26.79	717.77	718.27	714.64	3.63	197.872	
950.00	950.00	958.32	958.22	3.22		92.13	-26.76	717.80	718.30	714.58	3.72	193.066	
1,000.00	1,000.00	1,010.01	1,009.90	3.40		92.13	-26.67	717.87	718.37	714.47	3.90	184.307	
1,016.85	1,016.85	1,026.72	1,026.61	3.46		92.14	-26.83	717.75	718.25	714.29	3.96	181.494	
1,050.00	1,050.00	1,057.39	1,057.28	3.58		92.13	-26.75	717.81	718.31	714.24	4.08	176.271	
1,100.00	1,100.00	1,110.02	1,109.90	3.75		92.13	-26.67	717.87	718.37	714.11	4.25	168.924	
1,107.54	1,107.54	1,117.50	1,117.38	3.78		92.14	-26.83	717.78	718.28	714.00	4.28	167.847	
1,150.00	1,150.00	1,157.67	1,157.55	3.93		92.13	-26.70	717.86	718.36	713.93	4.43	162.146	
1,197.58	1,197.58	1,207.60	1,207.47	4.10		92.14	-26.84	717.77	718.27	713.67	4.60	156.161	
1,200.00	1,200.00	1,209.87	1,209.74	4.11		92.14	-26.84	717.77	718.27	713.66	4.61	155.870	
1,250.00	1,250.00	1,260.05	1,259.90	4.29		92.13	-26.67	717.87	718.37	713.58	4.79	150.094	
1,288.95	1,288.95	1,298.99	1,298.85	4.42		92.14	-26.84	717.77	718.27	713.35	4.92	145.848	
1,300.00	1,300.00	1,309.40	1,309.25	4.46		92.14	-26.84	717.78	718.28	713.32	4.96	144.693	
1,350.00	1,350.00	1,360.06	1,359.90	4.64		92.13	-26.67	717.87	718.37	713.22	5.14	139.697	
1,383.04	1,383.04	1,393.09	1,392.93	4.76		92.14	-26.84	717.75	718.25	712.99	5.26	136.547	
1,400.00	1,400.00	1,408.90	1,408.73	4.82		92.14	-26.82	717.76	718.26	712.94	5.32	134.998	
1,450.00	1,450.00	1,460.07	1,459.90	5.00		92.13	-26.67	717.87	718.37	712.87	5.50	130.639	
1,477.99	1,477.99	1,488.06	1,487.88	5.10		92.14	-26.83	717.78	718.28	712.68	5.60	128.294	
1,500.00	1,500.00	1,508.90	1,508.72	5.18		92.14	-26.80	717.80	718.30	712.62	5.68	126.523	
1,550.00	1,550.00	1,560.08	1,559.90	5.36		92.13	-26.67	717.87	718.37	712.51	5.86	122.679	
1,571.92	1,571.92	1,582.01	1,581.82	5.43		92.14	-26.82	717.80	718.30	712.36	5.93	121.050	
1,600.00	1,600.00	1,608.87	1,608.68	5.53		92.14	-26.77	717.82	718.32	712.29	6.03	119.043	
1,650.00	1,650.00	1,660.09	1,659.90	5.71		92.13	-26.67	717.87	718.37	712.15	6.21	115.630	
1,666.93	1,666.93	1,676.95	1,676.76	5.77		92.14	-26.79	717.79	718.29	712.02	6.27	114.503	
1,700.00	1,700.00	1,708.48	1,708.29	5.89		92.13	-26.73	717.83	718.33	711.94	6.39	112.394	
1,750.00	1,750.00	1,760.10	1,759.90	6.07		92.13	-26.67	717.87	718.37	711.80	6.57	109.343	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	1,769.52	1,769.32	6.10		92.14	-26.79	717.79	718.29	711.69	6.60	108.774	
1,800.00	1,800.00	1,808.24	1,808.04	6.25		92.13	-26.71	717.85	718.35	711.60	6.75	106.446	
1,850.00	1,850.00	1,860.11	1,859.90	6.43		92.13	-26.67	717.87	718.37	711.44	6.93	103.703	
1,855.85	1,855.85	1,865.89	1,865.68	6.45		92.14	-26.81	717.83	718.33	711.38	6.95	103.386	
1,900.00	1,900.00	1,909.02	1,908.81	6.61		92.13	-26.68	717.87	718.37	711.26	7.11	101.095	
1,947.04	1,947.04	1,957.14	1,956.93	6.77		92.14	-26.78	717.83	718.33	711.05	7.27	98.753	
1,950.00	1,950.00	1,960.03	1,959.82	6.78		92.14	-26.78	717.83	718.33	711.04	7.28	98.609	
2,000.00	2,000.00	2,010.12	2,009.90	6.96		92.13	-26.67	717.87	718.37	710.90	7.46	96.252	
2,040.88	2,040.88	2,051.00	2,050.78	7.11		92.14	-26.77	717.86	718.36	710.75	7.61	94.403	
2,050.00	2,050.00	2,060.09	2,059.88	7.14		92.14	-26.77	717.86	718.36	710.72	7.64	94.000	
2,100.00	2,100.00	2,110.12	2,109.90	7.32		92.13	-26.67	717.87	718.37	710.55	7.82	91.852	
2,150.00	2,150.00	2,160.17	2,159.95	7.50		92.14	-26.78	717.87	718.37	710.37	8.00	89.799	
2,200.00	2,200.00	2,210.13	2,209.90	7.68		92.13	-26.67	717.87	718.37	710.19	8.18	87.835	
2,250.00	2,250.00	2,260.80	2,260.57	7.86		92.12	-26.55	718.04	718.54	710.18	8.36	85.976	
2,300.00	2,300.00	2,310.17	2,309.90	8.04		92.13	-26.67	717.87	718.37	709.83	8.54	84.154	
2,350.00	2,350.00	2,360.92	2,360.63	8.22		92.12	-26.56	718.02	718.54	709.83	8.71	82.449	
2,400.00	2,400.00	2,410.27	2,409.90	8.39		92.13	-26.67	717.87	718.37	709.47	8.89	80.768	
2,450.00	2,450.00	2,472.99	2,472.56	8.57		92.13	-26.65	717.89	718.49	709.42	9.07	79.200	
2,464.62	2,464.62	2,493.20	2,492.74	8.63		92.17	-27.23	717.44	718.18	709.06	9.12	78.722	CC
2,500.00	2,500.00	2,510.47	2,509.90	8.75		92.13	-26.67	717.87	718.37	709.11	9.25	77.644	
2,550.00	2,550.00	2,577.23	2,576.58	8.93		92.15	-26.94	717.66	718.36	708.93	9.43	76.187	
2,557.02	2,557.02	2,587.23	2,586.56	8.96		92.18	-27.29	717.40	718.19	708.73	9.45	75.973	
2,600.00	2,600.00	2,610.76	2,609.90	9.11		92.13	-26.67	717.87	718.37	708.76	9.61	74.752	
2,650.00	2,650.00	2,664.69	2,659.90	9.29		92.13	-26.67	717.87	718.37	708.58	9.79	73.386	
2,700.00	2,700.00	2,713.10	2,711.60	9.47		92.03	-25.49	718.68	719.13	709.17	9.97	72.145	
2,750.00	2,750.00	2,762.08	2,759.90	9.65		92.13	-26.67	717.87	718.37	708.22	10.15	70.797	
2,800.00	2,800.00	2,821.58	2,819.25	9.83		92.04	-25.56	718.63	719.14	708.82	10.33	69.649	
2,850.00	2,850.00	2,862.92	2,859.90	10.00		92.13	-26.67	717.87	718.37	707.86	10.50	68.384	
2,900.00	2,900.00	2,929.31	2,926.10	10.18		92.07	-25.91	718.39	719.04	708.35	10.68	67.315	
2,950.00	2,950.00	2,963.76	2,959.90	10.36		92.13	-26.67	717.87	718.37	707.50	10.86	66.130	
3,000.00	3,000.00	3,040.00	3,035.29	10.54		92.13	-26.67	717.87	718.82	707.78	11.04	65.133	
3,033.86	3,033.86	3,048.48	3,043.76	10.66		92.13	-26.67	717.87	718.37	707.20	11.16	64.351	
3,050.00	3,050.00	3,064.61	3,059.90	10.72		92.13	-26.67	717.87	718.37	707.15	11.22	64.020	
3,100.00	3,100.00	3,149.18	3,144.07	10.90		92.21	-27.62	717.23	718.58	707.19	11.39	63.093	
3,120.26	3,120.26	3,135.73	3,130.16	10.97		92.13	-26.67	717.87	718.37	706.89	11.47	62.616	
3,150.00	3,150.00	3,165.47	3,159.90	11.08		92.13	-26.67	717.87	718.37	706.79	11.58	62.040	
3,200.00	3,200.00	3,200.00	3,209.90	11.26		92.13	-26.67	717.87	718.37	706.61	11.76	61.095	
3,250.00	3,250.00	3,266.26	3,259.90	11.44		92.13	-26.67	717.87	718.37	706.43	11.94	60.179	
3,300.00	3,300.00	3,328.98	3,309.90	11.62		92.13	-26.67	717.87	718.37	706.25	12.12	59.289	
3,350.00	3,350.00	3,367.02	3,359.90	11.80		92.13	-26.67	717.87	718.37	706.07	12.30	58.426	
3,400.00	3,400.00	3,417.74	3,409.90	11.97		92.13	-26.67	717.87	718.37	705.89	12.47	57.587	
3,450.00	3,450.00	3,470.81	3,462.86	12.15		92.03	-25.49	718.60	719.06	706.41	12.65	56.827	
3,500.00	3,500.00	3,518.48	3,509.90	12.33		92.13	-26.67	717.87	718.37	705.53	12.83	55.980	
3,550.00	3,550.00	3,580.05	3,571.32	12.51		92.05	-25.69	718.54	719.09	706.08	13.01	55.271	
3,600.00	3,600.00	3,619.24	3,609.90	12.69		92.13	-26.67	717.87	718.37	705.18	13.19	54.460	
3,650.00	3,650.00	3,689.45	3,679.90	12.87		92.09	-26.22	718.20	718.96	705.59	13.37	53.792	
3,700.00	3,700.00	3,719.91	3,709.90	13.05		92.13	-26.67	717.87	718.37	704.82	13.55	53.020	
3,750.00	3,750.00	3,799.63	3,789.39	13.23		92.15	-26.94	717.63	718.75	705.03	13.72	52.393	
3,776.41	3,776.41	3,796.84	3,786.31	13.32		92.13	-26.67	717.87	718.37	704.54	13.82	51.970	
3,800.00	3,800.00	3,820.44	3,809.90	13.41		92.13	-26.67	717.87	718.37	704.46	13.91	51.654	
3,850.00	3,850.00	3,904.19	3,893.44	13.59		92.18	-27.31	717.19	718.49	704.42	14.07	51.054	
3,868.66	3,868.66	3,889.49	3,878.56	13.65		92.13	-26.67	717.87	718.37	704.21	14.15	50.757	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
3,900.00	3,900.00	3,920.83	3,909.90	13.77		92.13	-26.67	717.87	718.37	704.10	14.27	50.357	
3,950.00	3,950.00	3,950.00	3,959.90	13.94		92.13	-26.67	717.87	718.37	703.92	14.44	49.733	
4,000.00	4,000.00	4,021.16	4,009.90	14.12		92.13	-26.67	717.87	718.37	703.74	14.62	49.124 ES	
4,050.00	4,050.00	4,080.54	4,059.90	14.30		131.02	-26.67	717.87	718.55	703.74	14.80	48.545	
4,100.00	4,099.99	4,121.45	4,109.89	14.48		131.06	-26.67	717.87	719.08	704.10	14.98	48.004	
4,150.00	4,149.97	4,171.70	4,159.87	14.66		131.14	-26.67	717.87	719.97	704.81	15.16	47.502	
4,200.00	4,199.95	4,227.52	4,215.65	14.83		131.21	-26.33	718.62	721.73	706.39	15.33	47.070	
4,250.00	4,249.93	4,271.92	4,259.83	15.01		131.32	-26.67	717.87	721.97	706.46	15.51	46.548	
4,300.00	4,299.90	4,336.90	4,324.75	15.19		131.42	-26.48	718.44	723.69	708.01	15.68	46.140	
4,319.06	4,318.96	4,319.06	4,328.86	15.26		131.44	-26.67	717.87	723.36	707.60	15.75	45.913	
4,350.00	4,349.88	4,372.12	4,359.78	15.37		131.50	-26.67	717.87	723.98	708.11	15.86	45.635	
4,400.00	4,399.86	4,435.07	4,422.69	15.54		131.59	-26.43	718.23	725.45	709.41	16.04	45.229	
4,450.00	4,449.84	4,472.27	4,459.74	15.72		131.68	-26.67	717.87	725.99	709.78	16.22	44.763	
4,500.00	4,499.81	4,533.11	4,520.52	15.90		131.77	-26.42	718.09	727.29	710.89	16.39	44.361	
4,550.00	4,549.79	4,572.42	4,559.69	16.08		131.86	-26.67	717.87	728.02	711.44	16.57	43.927	
4,600.00	4,599.77	4,634.54	4,621.75	16.26		131.96	-26.56	717.95	729.20	712.46	16.75	43.537	
4,650.00	4,649.74	4,672.55	4,659.64	16.43		132.04	-26.67	717.87	730.05	713.12	16.93	43.127	
4,700.00	4,699.72	4,735.56	4,722.59	16.61		132.15	-26.73	717.82	731.13	714.03	17.10	42.747	
4,750.00	4,749.70	4,772.67	4,759.60	16.79		132.21	-26.67	717.87	732.08	714.80	17.28	42.359	
4,800.00	4,799.67	4,838.68	4,825.55	16.97		132.35	-26.99	717.61	733.03	715.57	17.46	41.989	
4,803.06	4,802.73	4,842.88	4,829.73	16.98		132.37	-27.11	717.50	733.02	715.56	17.47	41.964	
4,850.00	4,849.65	4,872.84	4,859.61	17.15		132.34	-26.11	718.16	734.38	716.74	17.64	41.637	
4,900.00	4,899.63	4,933.37	4,920.10	17.32		132.53	-27.07	717.66	735.04	717.23	17.81	41.261	
4,950.00	4,949.61	4,973.62	4,960.23	17.50		132.51	-26.02	718.05	736.31	718.32	17.99	40.922	
5,000.00	4,999.58	5,023.01	5,009.48	17.68		132.65	-26.67	717.87	737.20	719.03	18.17	40.571	
5,050.00	5,049.56	5,074.16	5,060.61	17.86		132.69	-26.09	718.01	738.33	719.99	18.35	40.239	
5,100.00	5,099.54	5,123.11	5,109.44	18.04		132.82	-26.67	717.87	739.26	720.73	18.53	39.904	
5,150.00	5,149.51	5,174.60	5,160.90	18.21		132.87	-26.18	717.98	740.37	721.67	18.70	39.583	
5,200.00	5,199.49	5,223.21	5,209.39	18.39		132.99	-26.67	717.87	741.33	722.45	18.88	39.262	
5,250.00	5,249.47	5,273.94	5,260.08	18.57		133.05	-26.24	717.93	742.39	723.33	19.06	38.951	
5,300.00	5,299.44	5,323.31	5,309.34	18.75		133.16	-26.67	717.87	743.40	724.16	19.24	38.643	
5,350.00	5,349.42	5,372.35	5,358.35	18.93		133.22	-26.37	717.87	744.42	725.00	19.42	38.342	
5,400.00	5,399.40	5,423.36	5,409.30	19.11		133.33	-26.67	717.87	745.48	725.89	19.59	38.048	
5,450.00	5,449.38	5,468.80	5,454.72	19.28		133.40	-26.49	717.81	746.46	726.69	19.77	37.756	
5,500.00	5,499.35	5,523.38	5,509.25	19.46		133.50	-26.67	717.87	747.57	727.62	19.95	37.473	
5,550.00	5,549.33	5,563.71	5,549.57	19.64		133.56	-26.57	717.73	748.52	728.40	20.13	37.194	
5,600.00	5,599.31	5,622.89	5,608.70	19.82		133.67	-26.62	717.49	749.27	728.97	20.31	36.900	
5,650.00	5,649.28	5,662.43	5,648.24	20.00		133.74	-26.66	717.79	750.70	730.22	20.48	36.654	
5,700.00	5,699.26	5,722.29	5,708.07	20.18		133.85	-26.76	717.65	751.55	730.88	20.66	36.374	
5,750.00	5,749.24	5,773.37	5,759.14	20.36		133.92	-26.67	717.87	752.81	731.97	20.84	36.124	
5,800.00	5,799.21	5,821.68	5,807.44	20.53		134.01	-26.77	717.69	753.70	732.68	21.02	35.860	
5,850.00	5,849.19	5,873.34	5,859.09	20.71		134.09	-26.67	717.87	754.92	733.72	21.20	35.616	
5,900.00	5,899.17	5,921.24	5,906.98	20.89		134.18	-26.77	717.74	755.86	734.48	21.37	35.363	
5,950.00	5,949.14	5,973.31	5,959.04	21.07		134.25	-26.67	717.87	757.03	735.48	21.55	35.125	
6,000.00	5,999.12	6,020.85	6,006.59	21.25		134.34	-26.77	717.76	758.00	736.27	21.73	34.882	
6,050.00	6,049.10	6,073.28	6,059.00	21.43		134.42	-26.67	717.87	759.16	737.25	21.91	34.650	
6,100.00	6,099.08	6,119.98	6,105.70	21.61		134.50	-26.74	717.77	760.13	738.04	22.09	34.415	
6,150.00	6,149.05	6,173.24	6,158.95	21.79		134.58	-26.67	717.87	761.28	739.02	22.27	34.190	
6,200.00	6,199.03	6,220.10	6,205.81	21.96		134.66	-26.71	717.82	762.30	739.86	22.44	33.965	
6,250.00	6,249.01	6,273.21	6,258.91	22.14		134.74	-26.67	717.87	763.42	740.79	22.62	33.746	
6,300.00	6,298.98	6,319.35	6,305.04	22.32		134.82	-26.69	717.84	764.47	741.67	22.80	33.529	
6,350.00	6,348.96	6,373.05	6,358.74	22.50		134.91	-26.73	717.70	765.39	742.41	22.98	33.308	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
6,400.00	6,398.94	6,423.16	6,408.84	22.68		134.98	-26.67	717.87	766.63	743.47	23.16	33.104	
6,450.00	6,448.91	6,472.49	6,458.17	22.86		135.07	-26.73	717.72	767.56	744.23	23.34	32.891	
6,500.00	6,498.89	6,523.12	6,508.79	23.04		135.14	-26.67	717.87	768.78	745.26	23.51	32.693	
6,550.00	6,548.87	6,572.01	6,557.68	23.22		135.23	-26.74	717.73	769.72	746.03	23.69	32.487	
6,600.00	6,598.85	6,623.08	6,608.75	23.40		135.30	-26.67	717.87	770.93	747.06	23.87	32.295	
6,650.00	6,648.82	6,671.42	6,657.08	23.57		135.38	-26.73	717.74	771.89	747.84	24.05	32.095	
6,700.00	6,698.80	6,723.05	6,708.70	23.75		135.46	-26.67	717.87	773.09	748.86	24.23	31.908	
6,750.00	6,748.78	6,771.24	6,756.89	23.93		135.54	-26.69	717.77	774.08	749.68	24.41	31.716	
6,800.00	6,798.75	6,823.00	6,808.65	24.11		135.62	-26.67	717.87	775.26	750.67	24.59	31.533	
6,850.00	6,848.73	6,875.10	6,860.75	24.29		135.69	-26.59	717.94	776.41	751.64	24.76	31.351	
6,900.00	6,898.71	6,922.97	6,908.61	24.47		135.77	-26.67	717.87	777.43	752.49	24.94	31.168	
6,950.00	6,948.68	6,975.73	6,961.37	24.65		135.85	-26.61	717.92	778.56	753.44	25.12	30.991	
7,000.00	6,998.66	7,022.94	7,008.56	24.83		135.93	-26.67	717.87	779.61	754.31	25.30	30.814	
7,050.00	7,048.64	7,087.08	7,058.54	25.01		136.01	-26.67	717.87	780.70	755.22	25.48	30.641	
7,100.00	7,098.62	7,122.90	7,108.52	25.19		136.08	-26.67	717.87	781.79	756.14	25.66	30.470	
7,150.00	7,148.59	7,177.12	7,158.49	25.37		136.16	-26.67	717.87	782.89	757.05	25.84	30.302	
7,200.00	7,198.57	7,222.90	7,208.52	25.54		136.23	-26.53	717.96	784.06	758.04	26.01	30.139	
7,250.00	7,248.55	7,275.69	7,261.30	25.72		136.32	-26.71	717.84	785.06	758.87	26.19	29.971	
7,300.00	7,298.52	7,322.96	7,308.56	25.90		136.38	-26.52	717.92	786.21	759.84	26.37	29.812	
7,350.00	7,348.50	7,374.04	7,359.64	26.08		136.48	-26.74	717.85	787.26	760.71	26.55	29.651	
7,400.00	7,398.48	7,422.99	7,408.59	26.26		136.53	-26.52	717.92	788.40	761.67	26.73	29.495	
7,450.00	7,448.45	7,472.77	7,458.35	26.44		136.62	-26.67	717.87	789.48	762.57	26.91	29.340	
7,500.00	7,498.43	7,523.35	7,508.94	26.62		136.69	-26.58	717.93	790.63	763.54	27.09	29.188	
7,550.00	7,548.41	7,572.72	7,558.31	26.80		136.77	-26.67	717.87	791.69	764.42	27.27	29.036	
7,600.00	7,598.38	7,623.25	7,608.84	26.98		136.84	-26.62	717.91	792.82	765.38	27.44	28.888	
7,650.00	7,648.36	7,672.68	7,658.26	27.16		136.92	-26.67	717.87	793.90	766.28	27.62	28.740	
7,700.00	7,698.34	7,723.17	7,708.76	27.34		136.99	-26.64	717.89	795.03	767.23	27.80	28.596	
7,750.00	7,748.32	7,772.64	7,758.22	27.52		137.07	-26.67	717.87	796.12	768.14	27.98	28.452	
7,800.00	7,798.29	7,823.48	7,809.06	27.70		137.14	-26.64	717.89	797.25	769.09	28.16	28.312	
7,850.00	7,848.27	7,872.59	7,858.17	27.87		137.22	-26.67	717.87	798.35	770.01	28.34	28.172	
7,900.00	7,898.25	7,937.43	7,908.15	28.05		137.29	-26.67	717.87	799.46	770.95	28.52	28.034	
7,950.00	7,948.22	7,972.55	7,958.12	28.23		137.37	-26.67	717.87	800.58	771.88	28.70	27.899	
8,000.00	7,998.20	8,027.48	8,008.10	28.41		137.44	-26.67	717.87	801.70	772.82	28.87	27.764	
8,050.00	8,048.18	8,072.50	8,058.08	28.59		137.51	-26.65	717.89	802.83	773.77	29.05	27.632	
8,100.00	8,098.15	8,122.89	8,108.47	28.77		137.59	-26.67	717.87	803.93	774.70	29.23	27.501	
8,150.00	8,148.13	8,172.41	8,157.99	28.95		137.65	-26.63	717.87	805.05	775.63	29.41	27.372	
8,200.00	8,198.11	8,222.43	8,208.01	29.13		137.73	-26.67	717.87	806.18	776.59	29.59	27.245	
8,250.00	8,248.09	8,272.41	8,257.99	29.31		137.80	-26.67	717.87	807.30	777.53	29.77	27.119	
8,300.00	8,298.06	8,322.39	8,307.96	29.49		137.87	-26.67	717.87	808.43	778.48	29.95	26.994	
8,350.00	8,348.04	8,372.36	8,357.93	29.67		137.94	-26.64	717.88	809.55	779.43	30.13	26.871	
8,400.00	8,398.02	8,422.34	8,407.92	29.85		138.02	-26.67	717.87	810.68	780.37	30.31	26.750	
8,450.00	8,447.99	8,471.86	8,457.43	30.03		138.09	-26.64	717.85	811.79	781.30	30.48	26.629	
8,500.00	8,497.97	8,522.30	8,507.87	30.21		138.16	-26.67	717.87	812.94	782.28	30.66	26.511	
8,550.00	8,547.95	8,571.08	8,556.66	30.39		138.23	-26.65	717.84	814.04	783.20	30.84	26.394	
8,600.00	8,597.92	8,622.25	8,607.82	30.57		138.30	-26.67	717.87	815.20	784.18	31.02	26.279	
8,650.00	8,647.90	8,671.88	8,657.45	30.74		138.37	-26.64	717.87	816.33	785.13	31.20	26.164	
8,700.00	8,697.88	8,722.21	8,707.78	30.92		138.45	-26.67	717.87	817.47	786.09	31.38	26.051	
8,750.00	8,747.86	8,771.90	8,757.47	31.10		138.51	-26.64	717.88	818.61	787.05	31.56	25.940	
8,800.00	8,797.83	8,822.17	8,807.73	31.28		138.59	-26.67	717.87	819.75	788.01	31.74	25.829	
8,850.00	8,847.81	8,873.85	8,857.71	31.46		138.66	-26.67	717.87	820.88	788.97	31.92	25.720	
8,900.00	8,897.79	8,922.25	8,907.81	31.64		138.72	-26.60	717.94	822.08	789.99	32.10	25.614	
8,950.00	8,947.76	8,974.57	8,960.13	31.82		138.80	-26.70	717.84	823.15	790.87	32.27	25.504	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
9,000.00	8,997.74	9,022.57	9,008.12	32.00		138.86	-26.61	717.95	824.37	791.92	32.45	25.402	
9,050.00	9,047.72	9,072.06	9,057.62	32.18		138.93	-26.67	717.87	825.45	792.82	32.63	25.296	
9,100.00	9,097.69	9,123.77	9,109.32	32.36		139.01	-26.69	718.00	826.73	793.92	32.81	25.196	
9,150.00	9,147.67	9,172.03	9,157.57	32.54		139.07	-26.67	717.87	827.74	794.75	32.99	25.091	
9,200.00	9,197.65	9,225.43	9,210.97	32.72		139.15	-26.74	718.01	829.04	795.87	33.17	24.994	
9,250.00	9,247.62	9,272.00	9,257.52	32.90		139.21	-26.67	717.87	830.04	796.69	33.35	24.890	
9,300.00	9,297.60	9,325.46	9,310.98	33.08		139.29	-26.77	717.96	831.30	797.77	33.53	24.794	
9,350.00	9,347.58	9,371.96	9,357.48	33.26		139.35	-26.67	717.87	832.34	798.63	33.71	24.694	
9,400.00	9,397.56	9,425.93	9,411.44	33.44		139.42	-26.74	717.92	833.56	799.68	33.89	24.599	
9,450.00	9,447.53	9,471.93	9,457.43	33.62		139.48	-26.67	717.87	834.64	800.58	34.06	24.502	
9,500.00	9,497.51	9,525.10	9,510.60	33.80		139.56	-26.72	717.89	835.83	801.59	34.24	24.408	
9,550.00	9,547.49	9,571.90	9,557.39	33.98		139.62	-26.67	717.87	836.95	802.53	34.42	24.314	
9,600.00	9,597.46	9,632.10	9,607.36	34.16		139.68	-26.67	717.87	838.11	803.51	34.60	24.222	
9,650.00	9,647.44	9,671.88	9,657.34	34.34		139.75	-26.67	717.87	839.27	804.49	34.78	24.131	
9,700.00	9,697.42	9,727.89	9,713.35	34.52		139.82	-26.60	717.83	840.40	805.44	34.96	24.038	
9,750.00	9,747.39	9,772.12	9,757.56	34.69		139.90	-26.85	717.92	841.66	806.53	35.14	23.953	
9,800.00	9,797.37	9,825.21	9,810.65	34.87		139.95	-26.58	717.85	842.72	807.40	35.32	23.861	
9,850.00	9,847.35	9,871.76	9,857.20	35.05		140.03	-26.86	717.83	843.90	808.41	35.50	23.774	
9,900.00	9,897.33	9,921.80	9,907.23	35.23		140.08	-26.67	717.87	845.07	809.40	35.68	23.688	
9,950.00	9,947.30	9,971.61	9,957.03	35.41		140.16	-26.83	717.82	846.22	810.37	35.85	23.602	
10,000.00	9,997.28	10,021.77	10,007.18	35.59		140.21	-26.67	717.87	847.40	811.37	36.03	23.517	
10,050.00	10,047.26	10,070.42	10,055.83	35.77		140.29	-26.81	717.76	848.49	812.28	36.21	23.431	
10,100.00	10,097.23	10,121.74	10,107.13	35.95		140.35	-26.67	717.87	849.74	813.35	36.39	23.350	
10,150.00	10,147.21	10,168.90	10,154.29	36.13		140.42	-26.80	717.71	850.78	814.21	36.57	23.265	
10,200.00	10,197.19	10,221.71	10,207.09	36.31		140.48	-26.67	717.87	852.08	815.33	36.75	23.186	
10,250.00	10,247.16	10,269.46	10,254.83	36.49		140.54	-26.74	717.79	853.19	816.26	36.93	23.104	
10,300.00	10,297.14	10,321.67	10,307.04	36.67		140.61	-26.67	717.87	854.42	817.31	37.11	23.025	
10,350.00	10,347.12	10,369.91	10,355.27	36.85		140.67	-26.71	717.84	855.57	818.29	37.29	22.946	
10,400.00	10,397.10	10,421.63	10,407.00	37.03		140.73	-26.67	717.87	856.77	819.30	37.47	22.868	
10,450.00	10,447.07	10,470.18	10,455.54	37.21		140.80	-26.68	717.86	857.94	820.29	37.65	22.790	
10,500.00	10,497.05	10,521.59	10,506.95	37.39		140.87	-26.73	717.87	859.13	821.31	37.82	22.713	
10,550.00	10,547.03	10,571.94	10,557.30	37.57		140.93	-26.66	717.87	860.30	822.29	38.00	22.637	
10,600.00	10,597.00	10,621.62	10,606.98	37.75		140.99	-26.73	717.87	861.49	823.31	38.18	22.562	
10,650.00	10,646.98	10,672.24	10,657.60	37.93		141.05	-26.64	717.87	862.65	824.29	38.36	22.487	
10,700.00	10,696.96	10,721.25	10,706.61	38.11		141.12	-26.71	717.83	863.81	825.27	38.54	22.413	
10,750.00	10,746.93	10,771.48	10,756.83	38.29		141.18	-26.67	717.87	865.02	826.30	38.72	22.340	
10,800.00	10,796.91	10,820.48	10,805.84	38.47		141.25	-26.71	717.79	866.11	827.21	38.90	22.265	
10,850.00	10,846.90	10,871.45	10,856.80	38.65		141.29	-26.67	717.87	866.94	827.87	39.08	22.185	
10,900.10	10,897.00	10,920.60	10,905.95	38.83		102.44	-26.76	717.81	867.16	827.90	39.26	22.089	
10,950.00	10,946.90	10,971.46	10,956.80	39.00		102.43	-26.67	717.87	867.20	827.77	39.43	21.991	
10,972.08	10,968.98	10,993.54	10,978.88	39.08		102.44	-26.78	717.74	867.10	827.59	39.51	21.944	
11,000.00	10,996.90	11,019.43	11,004.77	39.18		102.44	-26.74	717.78	867.13	827.52	39.61	21.891	
11,050.00	11,046.90	11,071.47	11,056.80	39.36		102.43	-26.67	717.87	867.20	827.41	39.79	21.794	
11,063.50	11,060.40	11,084.82	11,070.15	39.41		102.44	-26.77	717.77	867.12	827.28	39.84	21.766	
11,100.00	11,096.90	11,118.67	11,104.01	39.54		102.43	-26.70	717.84	867.18	827.22	39.97	21.697	
11,150.00	11,146.90	11,171.58	11,156.80	39.72		102.43	-26.67	717.87	867.20	827.05	40.15	21.600	
11,200.00	11,196.90	11,224.72	11,209.81	39.89		102.41	-26.40	717.91	867.19	826.86	40.33	21.504	
11,206.12	11,203.02	11,231.23	11,216.31	39.92		102.39	-26.07	717.96	867.17	826.82	40.35	21.492	
11,250.00	11,246.90	11,275.49	11,256.80	40.07		102.43	-26.67	717.87	867.20	826.70	40.50	21.410	
11,300.00	11,296.84	11,328.95	11,306.74	40.24		-77.40	-26.67	717.87	866.72	826.05	40.67	21.310	
11,350.00	11,346.40	11,350.00	11,356.30	40.40		-77.95	-26.67	717.87	865.32	824.49	40.83	21.194	
11,400.00	11,395.20	11,400.00	11,405.10	40.55		-78.86	-26.67	717.87	863.10	822.12	40.98	21.061	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
11,450.00	11,442.87	11,505.46	11,452.77	40.70		-80.08	-26.67	717.87	860.22	819.09	41.13	20.916	
11,500.00	11,489.06	11,564.00	11,498.96	40.83		-81.57	-26.67	717.87	856.93	815.66	41.27	20.765	
11,550.00	11,533.40	11,550.00	11,543.30	40.96		-83.27	-26.67	717.87	853.51	812.11	41.40	20.614	
11,600.00	11,575.56	11,701.91	11,585.46	41.08		-85.11	-26.67	717.87	850.30	808.77	41.53	20.472	
11,650.00	11,615.22	11,788.31	11,625.12	41.18		-86.99	-26.67	717.87	847.68	806.02	41.66	20.348	
11,700.00	11,652.08	11,879.12	11,661.98	41.28		-88.84	-26.67	717.87	846.04	804.26	41.78	20.250	
11,733.30	11,674.94	11,932.29	11,684.84	41.36		-90.00	-26.67	717.87	845.70	803.84	41.86	20.204	
11,750.00	11,685.86	19,926.99	11,695.18	41.40		-90.51	-26.96	717.86	845.77	803.88	41.90	20.187	
11,800.00	11,716.30	13,414.99	11,726.39	41.51		-92.04	-26.83	717.87	847.30	805.29	42.01	20.170	SF
11,850.00	11,743.17	21,155.00	11,727.58	41.63		-91.70	-26.67	717.87	851.33	809.24	42.10	20.224	
11,900.00	11,766.26	21,155.00	11,727.58	41.74		-90.99	-26.67	717.87	858.38	816.22	42.16	20.361	
11,950.00	11,785.40	21,155.00	11,727.58	41.85		-89.98	-26.67	717.87	868.32	826.12	42.21	20.572	
12,000.00	11,800.44	21,155.00	11,727.58	41.96		-88.67	-26.67	717.87	881.00	838.74	42.25	20.850	
12,050.00	11,811.27	21,155.00	11,727.58	42.07		-87.07	-26.67	717.87	896.18	853.88	42.30	21.186	
12,100.00	11,817.81	21,155.00	11,727.58	42.18		-85.21	-26.67	717.87	913.65	871.30	42.35	21.572	
12,150.00	11,820.00	21,155.00	11,727.58	42.29		-83.11	-26.67	717.87	933.14	890.73	42.41	22.003	
12,200.00	11,820.00	21,155.00	11,727.58	42.40		-83.10	-26.67	717.87	954.64	912.17	42.47	22.477	
12,250.00	11,820.00	21,155.00	11,727.58	42.53		-83.10	-26.67	717.87	978.23	935.69	42.54	22.996	
12,300.00	11,820.00	21,155.00	11,727.58	42.66		-83.10	-26.67	717.87	1,003.75	961.15	42.60	23.565	
12,350.00	11,820.00	21,155.00	11,727.58	42.81		-83.10	-26.67	717.87	1,031.07	988.41	42.66	24.169	
12,400.00	11,820.00	21,155.00	11,727.58	42.97		-83.10	-26.67	717.87	1,060.04	1,017.33	42.72	24.817	
12,450.00	11,820.00	21,155.00	11,727.58	43.15		-83.10	-26.67	717.87	1,090.54	1,047.77	42.78	25.494	
12,500.00	11,820.00	21,155.00	11,727.58	43.32		-83.10	-26.67	717.87	1,122.44	1,079.61	42.83	26.208	
12,550.00	11,820.00	21,155.00	11,727.58	43.52		-83.10	-26.67	717.87	1,155.62	1,112.74	42.88	26.948	
12,600.00	11,820.00	21,155.00	11,727.58	43.72		-83.10	-26.67	717.87	1,189.98	1,147.05	42.93	27.719	
12,650.00	11,820.00	21,155.00	11,727.58	43.95		-83.10	-26.67	717.87	1,225.41	1,182.43	42.98	28.511	
12,700.00	11,820.00	21,155.00	11,727.58	44.17		-83.10	-26.67	717.87	1,261.83	1,218.81	43.02	29.330	
12,750.00	11,820.00	21,155.00	11,727.58	44.41		-83.10	-26.67	717.87	1,299.16	1,256.09	43.07	30.165	
12,800.00	11,820.00	21,155.00	11,727.58	44.66		-83.10	-26.67	717.87	1,337.31	1,294.21	43.11	31.024	
12,850.00	11,820.00	21,155.00	11,727.58	44.92		-83.10	-26.67	717.87	1,376.22	1,333.08	43.15	31.897	
12,900.00	11,820.00	21,155.00	11,727.58	45.19		-83.10	-26.67	717.87	1,415.83	1,372.65	43.18	32.789	
12,950.00	11,820.00	21,155.00	11,727.58	45.47		-83.10	-26.67	717.87	1,456.08	1,412.86	43.22	33.692	
13,000.00	11,820.00	21,155.00	11,727.58	45.76		-83.10	-26.67	717.87	1,496.92	1,453.67	43.25	34.612	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	9.92	9.92	0.50	0.50	92.13	-26.67	717.87	718.37				
50.00	50.00	60.05	60.05	0.50	0.51	92.14	-26.79	717.86	718.36	717.35	1.01	710.931	
100.00	100.00	110.18	110.17	0.52	0.53	92.16	-27.06	717.84	718.35	717.30	1.05	686.985	
150.00	150.00	160.30	160.29	0.59	0.56	92.19	-27.51	717.80	718.32	717.17	1.15	625.912	
200.00	200.00	211.45	211.44	0.70	0.63	92.24	-28.12	717.72	718.27	716.95	1.33	541.180	
250.00	250.00	263.76	263.75	0.84	0.75	92.30	-28.86	717.50	718.09	716.50	1.59	451.389	
300.00	300.00	315.05	315.03	0.99	0.90	92.37	-29.68	717.13	717.76	715.88	1.89	380.456	
350.00	350.00	365.86	365.84	1.15	1.06	92.44	-30.52	716.70	717.38	715.18	2.20	325.879	
400.00	400.00	416.15	416.12	1.31	1.22	92.50	-31.33	716.24	716.95	714.42	2.53	283.725	
450.00	450.00	466.36	466.32	1.48	1.38	92.56	-32.01	715.77	716.51	713.65	2.86	250.493	
500.00	500.00	514.71	514.66	1.65	1.55	92.61	-32.65	715.36	716.12	712.93	3.19	224.258	
550.00	550.00	563.21	563.15	1.82	1.71	92.67	-33.34	715.06	715.85	712.31	3.53	202.756	
600.00	600.00	613.13	613.07	1.99	1.89	92.73	-34.02	714.80	715.62	711.75	3.88	184.638	
650.00	650.00	663.07	663.00	2.16	2.06	92.77	-34.61	714.56	715.40	711.18	4.22	169.395	
700.00	700.00	713.03	712.96	2.34	2.23	92.82	-35.13	714.32	715.19	710.61	4.57	156.415	
750.00	750.00	762.99	762.92	2.51	2.41	92.85	-35.57	714.08	714.97	710.05	4.92	145.236	
800.00	800.00	813.55	813.48	2.69	2.59	92.88	-35.97	713.84	714.76	709.48	5.28	135.463	
850.00	850.00	865.25	865.18	2.87	2.77	92.92	-36.43	713.50	714.45	708.81	5.63	126.792	
900.00	900.00	916.39	916.31	3.04	2.95	92.97	-36.98	713.04	714.03	708.04	5.99	119.164	
950.00	950.00	967.07	966.98	3.22	3.13	93.02	-37.61	712.53	713.56	707.21	6.35	112.402	
1,000.00	1,000.00	1,016.32	1,016.23	3.40	3.30	93.08	-38.28	712.02	713.08	706.38	6.70	106.427	
1,050.00	1,050.00	1,065.13	1,065.03	3.58	3.48	93.13	-38.95	711.59	712.67	705.62	7.05	101.074	
1,100.00	1,100.00	1,115.38	1,115.27	3.75	3.66	93.19	-39.65	711.19	712.31	704.90	7.41	96.162	
1,150.00	1,150.00	1,165.82	1,165.70	3.93	3.84	93.25	-40.39	710.75	711.92	704.15	7.76	91.686	
1,200.00	1,200.00	1,215.60	1,215.48	4.11	4.01	93.31	-41.14	710.31	711.52	703.40	8.12	87.624	
1,250.00	1,250.00	1,265.66	1,265.52	4.29	4.19	93.38	-41.90	709.88	711.13	702.66	8.48	83.892	
1,300.00	1,300.00	1,316.36	1,316.23	4.46	4.37	93.44	-42.64	709.40	710.71	701.88	8.84	80.435	
1,350.00	1,350.00	1,366.38	1,366.23	4.64	4.55	93.50	-43.35	708.90	710.25	701.06	9.19	77.263	
1,400.00	1,400.00	1,415.49	1,415.34	4.82	4.73	93.56	-44.03	708.45	709.84	700.29	9.55	74.357	
1,450.00	1,450.00	1,464.78	1,464.62	5.00	4.90	93.61	-44.70	708.06	709.48	699.58	9.90	71.659	
1,500.00	1,500.00	1,514.25	1,514.09	5.18	5.08	93.67	-45.34	707.71	709.17	698.91	10.26	69.146	
1,550.00	1,550.00	1,564.13	1,563.96	5.36	5.26	93.72	-45.95	707.38	708.89	698.27	10.61	66.794	
1,600.00	1,600.00	1,614.30	1,614.13	5.53	5.44	93.76	-46.51	707.05	708.59	697.62	10.97	64.589	
1,650.00	1,650.00	1,664.32	1,664.14	5.71	5.62	93.81	-47.02	706.72	708.29	696.96	11.33	62.524	
1,700.00	1,700.00	1,714.26	1,714.08	5.89	5.80	93.85	-47.54	706.39	708.00	696.31	11.69	60.588	
1,750.00	1,750.00	1,763.28	1,763.09	6.07	5.97	93.89	-48.05	706.09	707.73	695.69	12.04	58.784	
1,800.00	1,800.00	1,812.12	1,811.93	6.25	6.15	93.94	-48.60	705.87	707.55	695.15	12.39	57.093	
1,850.00	1,850.00	1,862.14	1,861.95	6.43	6.32	93.99	-49.17	705.69	707.40	694.65	12.75	55.481	
1,900.00	1,900.00	1,912.26	1,912.07	6.61	6.50	94.03	-49.68	705.51	707.26	694.15	13.11	53.954	
1,950.00	1,950.00	1,961.09	1,960.89	6.78	6.68	94.07	-50.14	705.37	707.15	693.68	13.46	52.531	
1,995.63	1,995.63	2,005.73	2,005.53	6.95	6.84	94.10	-50.54	705.31	707.11	693.33	13.78	51.300 CC	
2,000.00	2,000.00	2,010.07	2,009.87	6.96	6.85	94.10	-50.58	705.30	707.11	693.30	13.82	51.184	
2,050.00	2,050.00	2,059.76	2,059.56	7.14	7.03	94.14	-51.04	705.28	707.13	692.96	14.17	49.900	
2,100.00	2,100.00	2,108.15	2,107.94	7.32	7.20	94.18	-51.52	705.29	707.17	692.65	14.52	48.703	
2,150.00	2,150.00	2,152.20	2,152.00	7.50	7.35	94.18	-51.61	705.59	707.52	692.67	14.85	47.652	
2,200.00	2,200.00	2,196.60	2,196.39	7.68	7.50	94.14	-51.18	706.31	708.29	693.11	15.17	46.675	
2,250.00	2,250.00	2,244.30	2,244.07	7.86	7.66	94.08	-50.42	707.35	709.32	693.82	15.51	45.741	
2,300.00	2,300.00	2,291.98	2,291.72	8.04	7.81	94.00	-49.53	708.56	710.52	694.68	15.84	44.856	
2,350.00	2,350.00	2,338.66	2,338.37	8.22	7.96	93.88	-48.19	709.96	711.92	695.75	16.17	44.029	
2,400.00	2,400.00	2,385.65	2,385.28	8.39	8.12	93.71	-46.18	711.63	713.55	697.05	16.50	43.246	
2,450.00	2,450.00	2,434.60	2,434.13	8.57	8.28	93.51	-43.76	713.51	715.31	698.47	16.84	42.482	
2,500.00	2,500.00	2,482.90	2,482.33	8.75	8.43	93.30	-41.24	715.44	717.16	699.98	17.17	41.757	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
2,550.00	2,550.00	2,528.59	2,527.89	8.93	8.59	93.07	-38.52	717.48	719.23	701.73	17.50	41.098	
2,600.00	2,600.00	2,574.08	2,573.21	9.11	8.74	92.81	-35.36	719.81	721.61	703.78	17.83	40.483	
2,650.00	2,650.00	2,618.71	2,617.61	9.29	8.89	92.51	-31.70	722.41	724.34	706.19	18.15	39.916	
2,700.00	2,700.00	2,663.20	2,661.81	9.47	9.03	92.17	-27.46	725.34	727.45	708.98	18.47	39.394	
2,750.00	2,750.00	2,711.20	2,709.42	9.65	9.20	91.77	-22.46	728.74	730.83	712.03	18.80	38.867	
2,800.00	2,800.00	2,759.22	2,757.04	9.83	9.36	91.35	-17.29	732.25	734.36	715.22	19.14	38.368	
2,850.00	2,850.00	2,808.86	2,806.24	10.00	9.53	90.92	-11.85	735.93	737.97	718.49	19.49	37.872	
2,900.00	2,900.00	2,858.49	2,855.44	10.18	9.70	90.50	-6.41	739.60	741.63	721.80	19.83	37.393	
2,950.00	2,950.00	2,907.20	2,903.71	10.36	9.87	90.08	-1.06	743.23	745.35	725.18	20.18	36.941	
3,000.00	3,000.00	2,956.15	2,952.23	10.54	10.04	89.67	4.34	746.93	749.17	728.64	20.52	36.506	
3,050.00	3,050.00	3,005.76	3,001.38	10.72	10.21	89.25	9.86	750.69	753.03	732.16	20.87	36.081	
3,100.00	3,100.00	3,055.91	3,051.07	10.90	10.39	88.82	15.50	754.48	756.93	735.71	21.22	35.665	
3,150.00	3,150.00	3,107.30	3,101.99	11.08	10.57	88.39	21.26	758.27	760.78	739.19	21.58	35.249	
3,200.00	3,200.00	3,158.53	3,152.78	11.26	10.75	87.97	26.96	761.93	764.55	742.60	21.94	34.843	
3,250.00	3,250.00	3,209.59	3,203.41	11.44	10.93	87.57	32.54	765.48	768.25	745.95	22.30	34.448	
3,300.00	3,300.00	3,260.03	3,253.44	11.62	11.11	87.17	37.97	768.91	771.91	749.25	22.66	34.067	
3,350.00	3,350.00	3,310.07	3,303.07	11.80	11.29	86.79	43.36	772.27	775.57	752.56	23.01	33.701	
3,400.00	3,400.00	3,361.06	3,353.66	11.97	11.47	86.40	48.83	775.65	779.22	755.84	23.37	33.338	
3,450.00	3,450.00	3,412.43	3,404.63	12.15	11.66	86.02	54.18	778.95	782.79	759.05	23.74	32.980	
3,500.00	3,500.00	3,458.72	3,450.58	12.33	11.83	85.69	58.95	781.96	786.42	762.35	24.07	32.669	
3,550.00	3,550.00	3,504.46	3,495.96	12.51	11.99	85.36	63.74	785.16	790.33	765.93	24.41	32.383	
3,600.00	3,600.00	3,553.20	3,544.30	12.69	12.17	85.01	68.87	788.72	794.43	769.68	24.76	32.092	
3,650.00	3,650.00	3,602.56	3,593.26	12.87	12.35	84.67	73.94	792.36	798.58	773.48	25.11	31.806	
3,700.00	3,700.00	3,652.34	3,642.67	13.05	12.53	84.35	78.78	796.06	802.77	777.30	25.46	31.526	
3,750.00	3,750.00	3,702.34	3,692.32	13.23	12.71	84.06	83.21	799.81	806.96	781.14	25.82	31.253	
3,800.00	3,800.00	3,754.82	3,744.49	13.41	12.90	83.80	87.36	803.69	811.07	784.88	26.19	30.969	
3,850.00	3,850.00	3,807.74	3,797.15	13.59	13.09	83.57	91.03	807.48	815.02	788.45	26.56	30.684	
3,900.00	3,900.00	3,861.76	3,850.95	13.77	13.29	83.36	94.42	811.14	818.74	791.80	26.94	30.394	
3,950.00	3,950.00	3,913.56	3,902.55	13.94	13.48	83.18	97.41	814.44	822.25	794.95	27.30	30.116	
4,000.00	4,000.00	3,963.23	3,952.05	14.12	13.65	83.02	100.09	817.61	825.75	798.09	27.66	29.857	
4,050.00	4,050.00	4,012.90	4,001.55	14.30	13.83	121.73	102.55	820.82	829.40	801.39	28.01	29.612	
4,100.00	4,099.99	4,062.57	4,051.07	14.48	14.01	121.62	104.72	824.08	833.35	804.99	28.36	29.383	
4,150.00	4,149.97	4,112.01	4,100.37	14.66	14.19	121.56	106.58	827.37	837.60	808.89	28.71	29.173	
4,200.00	4,199.95	4,161.37	4,149.58	14.83	14.36	121.57	108.24	830.70	841.96	812.90	29.06	28.972	
4,250.00	4,249.93	4,209.80	4,197.88	15.01	14.54	121.58	109.68	834.05	846.37	816.96	29.41	28.782	
4,300.00	4,299.90	4,258.02	4,245.96	15.19	14.71	121.61	110.95	837.49	850.87	821.12	29.75	28.601	
4,350.00	4,349.88	4,315.15	4,302.93	15.37	14.91	121.64	112.52	841.40	855.22	825.09	30.14	28.376	
4,400.00	4,399.86	4,373.39	4,361.04	15.54	15.12	121.63	114.55	844.76	859.10	828.57	30.53	28.137	
4,450.00	4,449.84	4,428.53	4,416.06	15.72	15.32	121.60	116.88	847.47	862.60	831.69	30.91	27.906	
4,500.00	4,499.81	4,481.55	4,468.97	15.90	15.51	121.54	119.46	849.72	865.81	834.53	31.28	27.680	
4,550.00	4,549.79	4,532.65	4,519.96	16.08	15.69	121.47	122.04	851.77	868.92	837.28	31.64	27.464	
4,600.00	4,599.77	4,584.12	4,571.33	16.26	15.88	121.41	124.64	853.76	871.96	839.96	32.00	27.249	
4,650.00	4,649.74	4,635.73	4,622.84	16.43	16.06	121.35	127.14	855.68	874.90	842.54	32.36	27.036	
4,700.00	4,699.72	4,685.65	4,672.67	16.61	16.24	121.30	129.46	857.49	877.79	845.07	32.71	26.831	
4,750.00	4,749.70	4,735.75	4,722.70	16.79	16.42	121.25	131.71	859.32	880.68	847.61	33.07	26.631	
4,800.00	4,799.67	4,791.66	4,778.52	16.97	16.62	121.20	134.26	861.15	883.39	849.95	33.45	26.410	
4,850.00	4,849.65	4,846.78	4,833.55	17.15	16.82	121.13	136.90	862.57	885.78	851.95	33.83	26.187	
4,900.00	4,899.63	4,900.59	4,887.28	17.32	17.01	121.05	139.74	863.66	887.92	853.73	34.19	25.967	
4,950.00	4,949.61	4,952.64	4,939.24	17.50	17.19	120.96	142.69	864.49	889.88	855.33	34.56	25.751	
5,000.00	4,999.58	5,003.78	4,990.29	17.68	17.38	120.87	145.57	865.23	891.77	856.85	34.92	25.540	
5,050.00	5,049.56	5,054.60	5,041.02	17.86	17.56	120.78	148.40	865.91	893.60	858.33	35.28	25.332	
5,100.00	5,099.54	5,105.35	5,091.70	18.04	17.74	120.69	151.19	866.55	895.39	859.75	35.63	25.128	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
5,150.00	5,149.51	5,157.52	5,143.78	18.21	17.92	120.60	154.07	867.12	897.09	861.10	36.00	24.922	
5,200.00	5,199.49	5,210.07	5,196.24	18.39	18.11	120.50	157.04	867.54	898.67	862.31	36.36	24.716	
5,250.00	5,249.47	5,264.03	5,250.13	18.57	18.30	120.41	160.02	867.78	900.07	863.34	36.73	24.505	
5,300.00	5,299.44	5,320.31	5,306.33	18.75	18.50	120.32	162.92	867.77	901.21	864.10	37.10	24.289	
5,350.00	5,349.42	5,379.29	5,365.25	18.93	18.71	120.26	165.42	867.30	901.89	864.41	37.48	24.061	
5,400.00	5,399.40	5,440.83	5,426.75	19.11	18.92	120.22	167.42	866.20	902.02	864.15	37.87	23.822	
5,450.00	5,449.38	5,499.13	5,485.01	19.28	19.12	120.22	168.78	864.51	901.52	863.29	38.23	23.579	
5,500.00	5,499.35	5,551.26	5,537.11	19.46	19.30	120.24	169.48	862.84	900.80	862.21	38.59	23.344	
5,550.00	5,549.33	5,599.36	5,585.18	19.64	19.46	120.30	169.68	861.30	900.02	861.09	38.93	23.117	
5,600.00	5,599.31	5,644.34	5,630.15	19.82	19.61	120.37	169.59	860.13	899.48	860.21	39.27	22.903	
5,650.00	5,649.28	5,691.13	5,676.93	20.00	19.77	120.46	169.25	859.19	899.20	859.59	39.61	22.699	
5,700.00	5,699.26	5,739.93	5,725.72	20.18	19.94	120.56	168.82	858.31	899.02	859.06	39.96	22.497	
5,750.00	5,749.24	5,788.74	5,774.52	20.36	20.10	120.66	168.35	857.51	898.90	858.59	40.31	22.301	
5,800.00	5,799.21	5,837.55	5,823.32	20.53	20.27	120.77	167.86	856.77	898.85	858.20	40.65	22.110	
5,810.31	5,809.52	5,847.61	5,833.38	20.57	20.30	120.79	167.76	856.62	898.85	858.13	40.73	22.071	
5,850.00	5,849.19	5,886.90	5,872.66	20.71	20.44	120.88	167.34	856.07	898.86	857.86	41.00	21.922	
5,900.00	5,899.17	5,936.55	5,922.30	20.89	20.60	120.99	166.80	855.40	898.90	857.55	41.35	21.738	
5,950.00	5,949.14	5,986.84	5,972.59	21.07	20.78	121.10	166.24	854.73	898.94	857.24	41.70	21.556	
6,000.00	5,999.12	6,037.33	6,023.07	21.25	20.95	121.21	165.72	854.02	898.96	856.90	42.05	21.376	
6,050.00	6,049.10	6,086.04	6,071.78	21.43	21.11	121.31	165.27	853.34	898.99	856.59	42.40	21.202	
6,100.00	6,099.08	6,134.53	6,120.25	21.61	21.28	121.41	164.86	852.74	899.11	856.37	42.75	21.033	
6,150.00	6,149.05	6,184.66	6,170.39	21.79	21.45	121.52	164.48	852.15	899.28	856.18	43.10	20.866	
6,200.00	6,199.03	6,234.96	6,220.68	21.96	21.62	121.62	164.13	851.55	899.43	855.98	43.45	20.700	
6,250.00	6,249.01	6,286.15	6,271.86	22.14	21.80	121.71	163.81	850.88	899.54	855.74	43.80	20.535	
6,300.00	6,298.98	6,336.82	6,322.53	22.32	21.97	121.81	163.55	850.14	899.59	855.43	44.16	20.372	
6,350.00	6,348.96	6,385.88	6,371.58	22.50	22.14	121.90	163.30	849.45	899.66	855.15	44.51	20.214	
6,400.00	6,398.94	6,435.18	6,420.88	22.68	22.31	121.99	163.03	848.80	899.78	854.92	44.86	20.059	
6,450.00	6,448.91	6,485.01	6,470.70	22.86	22.48	122.09	162.74	848.17	899.92	854.71	45.21	19.907	
6,500.00	6,498.89	6,534.97	6,520.66	23.04	22.66	122.18	162.44	847.55	900.07	854.51	45.56	19.756	
6,550.00	6,548.87	6,585.10	6,570.78	23.22	22.83	122.28	162.14	846.91	900.21	854.30	45.91	19.608	
6,600.00	6,598.85	6,634.40	6,620.08	23.40	23.00	122.37	161.89	846.29	900.36	854.10	46.26	19.463	
6,650.00	6,648.82	6,683.01	6,668.68	23.57	23.17	122.46	161.73	845.73	900.59	853.98	46.61	19.322	
6,700.00	6,698.80	6,727.25	6,712.92	23.75	23.32	122.53	161.69	845.33	900.96	854.02	46.95	19.192	
6,750.00	6,748.78	6,768.70	6,754.37	23.93	23.46	122.58	161.90	845.31	901.78	854.51	47.27	19.077	
6,800.00	6,798.75	6,812.72	6,798.38	24.11	23.62	122.63	162.38	845.66	903.05	855.45	47.60	18.970	
6,850.00	6,848.73	6,862.28	6,847.94	24.29	23.79	122.67	163.02	846.17	904.45	856.49	47.95	18.861	
6,900.00	6,898.71	6,912.57	6,898.22	24.47	23.96	122.71	163.70	846.70	905.86	857.55	48.31	18.752	
6,950.00	6,948.68	6,963.95	6,949.60	24.65	24.14	122.76	164.35	847.18	907.22	858.55	48.67	18.642	
7,000.00	6,998.66	7,015.95	7,001.59	24.83	24.32	122.81	164.93	847.59	908.49	859.46	49.03	18.530	
7,050.00	7,048.64	7,068.38	7,054.02	25.01	24.51	122.86	165.41	847.87	909.63	860.24	49.39	18.418	
7,100.00	7,098.62	7,117.23	7,102.86	25.19	24.67	122.92	165.83	848.08	910.71	860.97	49.74	18.310	
7,150.00	7,148.59	7,165.06	7,150.69	25.37	24.84	122.96	166.32	848.38	911.90	861.82	50.08	18.208	
7,200.00	7,198.57	7,215.91	7,201.54	25.54	25.02	123.01	166.92	848.75	913.15	862.71	50.44	18.104	
7,250.00	7,248.55	7,267.56	7,253.19	25.72	25.20	123.05	167.58	849.03	914.31	863.51	50.80	17.999	
7,300.00	7,298.52	7,317.75	7,303.37	25.90	25.37	123.09	168.25	849.25	915.42	864.27	51.15	17.896	
7,350.00	7,348.50	7,367.90	7,353.51	26.08	25.55	123.13	168.91	849.45	916.52	865.01	51.51	17.794	
7,400.00	7,398.48	7,417.37	7,402.98	26.26	25.72	123.18	169.51	849.67	917.63	865.77	51.86	17.695	
7,450.00	7,448.45	7,467.12	7,452.73	26.44	25.90	123.23	169.99	849.93	918.77	866.56	52.21	17.597	
7,500.00	7,498.43	7,518.09	7,503.69	26.62	26.07	123.28	170.39	850.18	919.88	867.31	52.57	17.499	
7,550.00	7,548.41	7,568.91	7,554.51	26.80	26.25	123.35	170.71	850.38	920.94	868.02	52.92	17.401	
7,600.00	7,598.38	7,619.41	7,605.01	26.98	26.43	123.41	170.98	850.55	921.97	868.69	53.28	17.304	
7,650.00	7,648.36	7,669.46	7,655.06	27.16	26.60	123.48	171.21	850.69	922.97	869.34	53.63	17.209	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	7,698.34	7,718.91	7,704.51	27.34	26.77	123.54	171.46	850.86	924.00	870.01	53.99	17.116	
7,750.00	7,748.32	7,768.68	7,754.27	27.52	26.95	123.60	171.75	851.04	925.05	870.71	54.34	17.024	
7,800.00	7,798.29	7,818.71	7,804.31	27.70	27.12	123.66	172.05	851.23	926.10	871.41	54.69	16.933	
7,850.00	7,848.27	7,869.78	7,855.38	27.87	27.30	123.72	172.32	851.40	927.13	872.08	55.05	16.842	
7,900.00	7,898.25	7,921.34	7,906.94	28.05	27.48	123.80	172.48	851.49	928.08	872.67	55.41	16.750	
7,950.00	7,948.22	7,971.48	7,957.08	28.23	27.65	123.87	172.56	851.54	928.98	873.22	55.76	16.659	
8,000.00	7,998.20	8,021.33	8,006.92	28.41	27.83	123.94	172.62	851.60	929.89	873.77	56.12	16.571	
8,050.00	8,048.18	8,071.91	8,057.50	28.59	28.00	124.02	172.72	851.64	930.79	874.31	56.47	16.482	
8,100.00	8,098.15	8,122.55	8,108.14	28.77	28.18	124.08	172.87	851.64	931.65	874.82	56.83	16.394	
8,150.00	8,148.13	8,172.46	8,158.05	28.95	28.35	124.15	172.99	851.63	932.50	875.32	57.18	16.308	
8,200.00	8,198.11	8,222.41	8,208.00	29.13	28.53	124.23	173.02	851.62	933.35	875.81	57.54	16.222	
8,250.00	8,248.09	8,271.94	8,257.53	29.31	28.70	124.30	173.08	851.63	934.22	876.33	57.89	16.138	
8,300.00	8,298.06	8,322.00	8,307.59	29.49	28.88	124.37	173.23	851.65	935.11	876.86	58.24	16.055	
8,350.00	8,348.04	8,373.20	8,358.79	29.67	29.05	124.44	173.40	851.63	935.95	877.35	58.60	15.972	
8,400.00	8,398.02	8,424.41	8,410.00	29.85	29.23	124.51	173.55	851.53	936.73	877.77	58.96	15.888	
8,450.00	8,447.99	8,475.64	8,461.23	30.03	29.41	124.57	173.70	851.37	937.45	878.13	59.32	15.804	
8,500.00	8,497.97	8,524.89	8,510.48	30.21	29.58	124.64	173.86	851.18	938.13	878.46	59.67	15.723	
8,550.00	8,547.95	8,572.83	8,558.43	30.39	29.75	124.70	174.06	851.09	938.91	878.89	60.01	15.645	
8,600.00	8,597.92	8,621.48	8,607.07	30.57	29.92	124.76	174.35	851.08	939.78	879.42	60.37	15.568	
8,650.00	8,647.90	8,670.48	8,656.06	30.74	30.09	124.80	174.81	851.11	940.72	880.00	60.72	15.494	
8,700.00	8,697.88	8,719.50	8,705.08	30.92	30.27	124.84	175.37	851.18	941.70	880.63	61.07	15.420	
8,750.00	8,747.86	8,768.52	8,754.11	31.10	30.44	124.89	175.84	851.32	942.74	881.32	61.42	15.349	
8,800.00	8,797.83	8,817.32	8,802.90	31.28	30.61	124.94	176.21	851.51	943.83	882.06	61.77	15.280	
8,850.00	8,847.81	8,866.06	8,851.64	31.46	30.78	125.00	176.54	851.77	944.99	882.87	62.12	15.212	
8,900.00	8,897.79	8,915.61	8,901.19	31.64	30.95	125.05	176.84	852.08	946.19	883.72	62.47	15.145	
8,950.00	8,947.76	8,965.31	8,950.88	31.82	31.13	125.11	177.12	852.41	947.42	884.59	62.83	15.080	
9,000.00	8,997.74	9,013.01	8,998.59	32.00	31.29	125.18	177.29	852.80	948.71	885.53	63.17	15.018	
9,050.00	9,047.72	9,060.69	9,046.26	32.18	31.46	125.25	177.29	853.31	950.12	886.60	63.52	14.958	
9,100.00	9,097.69	9,109.29	9,094.85	32.36	31.63	125.34	177.12	853.94	951.63	887.77	63.86	14.901	
9,150.00	9,147.67	9,158.08	9,143.64	32.54	31.80	125.43	176.78	854.65	953.21	889.00	64.21	14.845	
9,200.00	9,197.65	9,210.14	9,195.69	32.72	31.98	125.54	176.26	855.39	954.77	890.20	64.57	14.786	
9,250.00	9,247.62	9,261.85	9,247.40	32.90	32.15	125.66	175.62	856.01	956.22	891.29	64.93	14.727	
9,300.00	9,297.60	9,312.57	9,298.11	33.08	32.33	125.78	174.93	856.57	957.62	892.34	65.28	14.668	
9,350.00	9,347.58	9,363.75	9,349.28	33.26	32.50	125.90	174.21	857.09	958.98	893.33	65.64	14.609	
9,400.00	9,397.56	9,415.69	9,401.22	33.44	32.68	126.02	173.47	857.51	960.24	894.24	66.00	14.549	
9,450.00	9,447.53	9,464.95	9,450.46	33.62	32.85	126.13	172.74	857.86	961.45	895.10	66.35	14.491	
9,500.00	9,497.51	9,512.31	9,497.82	33.80	33.01	126.25	171.93	858.30	962.78	896.09	66.69	14.437	
9,550.00	9,547.49	9,561.97	9,547.47	33.98	33.18	126.38	171.00	858.87	964.21	897.17	67.04	14.383	
9,600.00	9,597.46	9,613.28	9,598.76	34.16	33.36	126.51	170.08	859.41	965.59	898.19	67.40	14.327	
9,650.00	9,647.44	9,665.78	9,651.25	34.34	33.54	126.64	169.21	859.85	966.88	899.13	67.76	14.270	
9,700.00	9,697.42	9,718.72	9,704.19	34.52	33.72	126.77	168.38	860.13	968.03	899.91	68.12	14.211	
9,750.00	9,747.39	9,772.93	9,758.39	34.69	33.91	126.90	167.52	860.22	968.99	900.51	68.48	14.149	
9,800.00	9,797.37	9,827.18	9,812.63	34.87	34.09	127.03	166.62	860.07	969.74	900.89	68.85	14.085	
9,850.00	9,847.35	9,876.41	9,861.86	35.05	34.26	127.14	165.82	859.87	970.42	901.23	69.20	14.024	
9,900.00	9,897.33	9,927.66	9,913.10	35.23	34.44	127.26	165.04	859.63	971.09	901.54	69.55	13.962	
9,950.00	9,947.30	9,981.13	9,966.56	35.41	34.62	127.38	164.27	859.24	971.62	901.71	69.91	13.897	
10,000.00	9,997.28	10,034.64	10,020.07	35.59	34.80	127.50	163.53	858.64	971.97	901.70	70.27	13.831	
10,050.00	10,047.26	10,088.20	10,073.61	35.77	34.99	127.62	162.77	857.85	972.14	901.51	70.63	13.763	
10,100.00	10,097.23	10,136.30	10,121.71	35.95	35.15	127.73	162.11	857.07	972.24	901.26	70.98	13.697	
10,150.00	10,147.21	10,183.04	10,168.43	36.13	35.31	127.82	161.59	856.46	972.51	901.18	71.32	13.635	
10,200.00	10,197.19	10,230.82	10,216.22	36.31	35.48	127.92	161.17	855.97	972.92	901.25	71.67	13.575	
10,250.00	10,247.16	10,278.94	10,264.32	36.49	35.64	128.01	160.77	855.57	973.43	901.41	72.02	13.517	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	10,297.14	10,327.80	10,313.18	36.67	35.81	128.10	160.40	855.24	974.03	901.66	72.37	13.460	
10,350.00	10,347.12	10,376.84	10,362.22	36.85	35.98	128.19	160.04	854.96	974.67	901.96	72.71	13.404	
10,400.00	10,397.10	10,424.48	10,409.86	37.03	36.15	128.27	159.73	854.77	975.40	902.34	73.06	13.351	
10,450.00	10,447.07	10,472.03	10,457.41	37.21	36.31	128.35	159.45	854.69	976.26	902.85	73.40	13.300	
10,500.00	10,497.05	10,521.61	10,506.99	37.39	36.48	128.44	159.19	854.68	977.19	903.44	73.76	13.249	
10,550.00	10,547.03	10,571.42	10,556.80	37.57	36.65	128.52	158.93	854.69	978.14	904.03	74.11	13.199	
10,600.00	10,597.00	10,623.32	10,608.70	37.75	36.83	128.61	158.68	854.64	979.04	904.58	74.47	13.148	
10,650.00	10,646.98	10,675.35	10,660.72	37.93	37.01	128.69	158.46	854.50	979.85	905.03	74.83	13.095	
10,700.00	10,696.96	10,727.73	10,713.11	38.11	37.19	128.78	158.25	854.23	980.54	905.36	75.19	13.042	
10,750.00	10,746.93	10,778.90	10,764.28	38.29	37.37	128.86	158.03	853.85	981.13	905.59	75.54	12.988	
10,800.00	10,796.91	10,828.53	10,813.90	38.47	37.54	128.95	157.68	853.49	981.69	905.80	75.89	12.935	
10,850.00	10,846.90	10,879.40	10,864.77	38.65	37.72	129.03	157.20	853.11	981.94	905.69	76.25	12.878	
10,900.10	10,897.00	10,931.51	10,916.87	38.83	37.90	90.19	156.71	852.63	981.69	905.08	76.61	12.815	
10,950.00	10,946.90	10,981.66	10,967.01	39.00	38.07	90.22	156.26	852.10	981.16	904.21	76.96	12.749	
11,000.00	10,996.90	11,031.22	11,016.58	39.18	38.25	90.25	155.79	851.60	980.65	903.35	77.31	12.685	
11,050.00	11,046.90	11,082.14	11,067.47	39.36	38.42	90.32	154.55	851.07	980.14	902.48	77.66	12.621	
11,100.00	11,096.90	11,133.18	11,118.39	39.54	38.60	90.52	151.09	850.46	979.57	901.56	78.01	12.556	
11,150.00	11,146.90	11,175.99	11,160.75	39.72	38.74	90.88	145.03	850.07	979.20	900.86	78.34	12.500	
11,174.74	11,171.64	11,197.22	11,181.54	39.80	38.81	91.13	140.72	849.96	979.15	900.65	78.50	12.474	
11,200.00	11,196.90	11,218.48	11,202.16	39.89	38.88	91.43	135.53	849.89	979.20	900.55	78.66	12.449	
11,250.00	11,246.90	11,250.97	11,233.22	40.07	38.98	91.99	126.04	850.04	979.91	900.98	78.93	12.415	
11,300.00	11,296.84	11,292.67	11,272.24	40.24	39.11	-86.76	111.34	850.71	981.40	902.19	79.21	12.390	
11,350.00	11,346.40	11,329.21	11,305.57	40.40	39.21	-85.98	96.43	851.23	983.02	903.57	79.44	12.374	
11,400.00	11,395.20	11,361.00	11,333.71	40.55	39.31	-85.27	81.68	852.30	985.53	905.91	79.62	12.377	
11,450.00	11,442.87	11,384.23	11,353.72	40.70	39.37	-84.66	69.93	853.48	988.81	909.10	79.71	12.405	
11,500.00	11,489.06	11,417.81	11,381.87	40.83	39.46	-83.94	51.77	855.62	992.73	912.88	79.85	12.433	
11,550.00	11,533.40	11,468.19	11,422.96	40.96	39.60	-83.19	22.81	858.97	996.64	916.53	80.11	12.441	
11,600.00	11,575.56	11,530.00	11,470.25	41.08	39.76	-82.45	-16.84	861.81	999.54	919.09	80.45	12.425	
11,650.00	11,615.22	11,576.48	11,503.19	41.18	39.89	-81.90	-49.59	863.22	1,001.72	921.06	80.66	12.419	
11,700.00	11,652.08	11,620.84	11,532.64	41.28	40.01	-81.47	-82.73	864.46	1,003.61	922.76	80.86	12.412	
11,750.00	11,685.86	11,691.03	11,574.59	41.40	40.20	-80.98	-138.95	865.25	1,004.79	923.57	81.22	12.371	
11,800.00	11,716.30	11,756.87	11,608.71	41.51	40.38	-80.62	-195.20	863.10	1,003.68	922.15	81.54	12.310	
11,850.00	11,743.17	11,791.77	11,624.88	41.63	40.48	-80.58	-226.10	861.82	1,002.29	920.61	81.68	12.271	
11,900.00	11,766.26	11,827.42	11,640.57	41.74	40.58	-80.66	-258.10	860.88	1,000.92	919.08	81.84	12.230	
11,950.00	11,785.40	11,855.20	11,652.32	41.85	40.67	-80.84	-283.26	860.56	999.72	917.74	81.98	12.195	
12,000.00	11,800.44	11,879.00	11,661.89	41.96	40.74	-81.05	-305.05	860.73	999.01	916.90	82.12	12.166	
12,050.00	11,811.27	11,915.13	11,675.03	42.07	40.85	-81.40	-338.69	861.48	998.61	916.26	82.35	12.126	
12,100.00	11,817.81	11,954.53	11,687.05	42.18	40.97	-81.83	-376.19	862.55	998.34	915.72	82.62	12.083	
12,150.00	11,820.00	11,994.14	11,696.80	42.29	41.10	-82.34	-414.56	863.57	997.93	915.02	82.91	12.037	
12,180.12	11,820.00	12,016.79	11,701.12	42.35	41.17	-82.58	-436.79	864.20	997.81	914.74	83.07	12.011	
12,200.00	11,820.00	12,031.93	11,703.48	42.40	41.22	-82.72	-451.74	864.63	997.86	914.68	83.18	11.996	
12,250.00	11,820.00	12,071.78	11,707.96	42.53	41.34	-82.98	-491.31	865.97	998.50	915.03	83.47	11.963	
12,300.00	11,820.00	12,125.55	11,712.33	42.66	41.52	-83.24	-544.88	867.57	999.18	915.38	83.80	11.923	
12,350.00	11,820.00	12,179.55	11,715.11	42.81	41.70	-83.41	-598.79	868.76	999.67	915.52	84.15	11.880	
12,400.00	11,820.00	12,227.91	11,716.48	42.97	41.88	-83.49	-647.12	869.62	1,000.09	915.60	84.48	11.838	
12,450.00	11,820.00	12,275.53	11,717.19	43.15	42.05	-83.53	-694.72	870.51	1,000.62	915.78	84.84	11.794	
12,500.00	11,820.00	12,312.41	11,717.58	43.32	42.20	-83.56	-731.59	871.44	1,001.52	916.35	85.17	11.760	
12,550.00	11,820.00	12,348.14	11,718.26	43.52	42.35	-83.61	-767.29	872.90	1,003.12	917.61	85.51	11.731	
12,600.00	11,820.00	12,387.83	11,719.32	43.72	42.52	-83.68	-806.90	875.10	1,005.41	919.52	85.89	11.706	
12,650.00	11,820.00	12,438.09	11,719.94	43.95	42.76	-83.73	-857.07	877.97	1,007.88	921.53	86.34	11.673	
12,700.00	11,820.00	12,485.14	11,719.70	44.17	42.99	-83.73	-904.05	880.58	1,010.35	923.57	86.79	11.642	
12,750.00	11,820.00	12,527.00	11,720.64	44.41	43.20	-83.80	-945.80	883.30	1,013.15	925.90	87.25	11.612	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	11,820.00	12,570.22	11,723.30	44.66	43.43	-83.97	-988.81	886.63	1,016.35	928.62	87.73	11.585	
12,850.00	11,820.00	12,626.07	11,725.84	44.92	43.74	-84.13	-1,044.44	890.82	1,019.54	931.22	88.32	11.543	
12,900.00	11,820.00	12,674.77	11,725.85	45.19	44.02	-84.15	-1,093.03	894.02	1,022.51	933.64	88.86	11.507	
12,950.00	11,820.00	12,712.98	11,725.70	45.47	44.25	-84.15	-1,131.14	896.85	1,025.89	936.53	89.36	11.480	
13,000.00	11,820.00	12,752.00	11,725.83	45.76	44.48	-84.18	-1,170.01	900.21	1,029.85	939.98	89.86	11.460	
13,050.00	11,820.00	12,871.96	11,724.94	46.06	45.24	-84.16	-1,289.77	906.54	1,031.99	941.03	90.96	11.345	
13,100.00	11,820.00	12,943.34	11,724.25	46.37	45.70	-84.13	-1,361.15	907.32	1,032.28	940.56	91.72	11.255	
13,150.00	11,820.00	12,992.47	11,723.48	46.69	46.04	-84.08	-1,410.27	907.36	1,032.09	939.72	92.37	11.173	
13,200.00	11,820.00	13,042.33	11,721.77	47.01	46.39	-83.99	-1,460.09	907.31	1,031.91	938.88	93.03	11.092	
13,250.00	11,820.00	13,092.69	11,720.60	47.36	46.75	-83.92	-1,510.43	907.31	1,031.72	938.00	93.72	11.008	
13,300.00	11,820.00	13,139.79	11,720.84	47.70	47.09	-83.93	-1,557.53	907.45	1,031.54	937.13	94.41	10.927	
13,304.22	11,820.00	13,142.88	11,720.89	47.73	47.12	-83.93	-1,560.63	907.47	1,031.54	937.08	94.46	10.920	
13,350.00	11,820.00	13,176.45	11,721.68	48.05	47.37	-83.98	-1,594.18	907.96	1,031.81	936.76	95.05	10.856	
13,400.00	11,820.00	13,213.07	11,722.97	48.41	47.65	-84.06	-1,630.77	909.00	1,032.72	937.03	95.69	10.792	
13,450.00	11,820.00	13,263.47	11,725.04	48.79	48.05	-84.18	-1,681.08	910.88	1,034.07	937.59	96.47	10.719	
13,500.00	11,820.00	13,320.62	11,726.64	49.16	48.50	-84.27	-1,738.19	912.61	1,035.12	937.81	97.31	10.637	
13,550.00	11,820.00	13,373.72	11,727.26	49.55	48.94	-84.31	-1,791.27	913.86	1,035.92	937.79	98.14	10.556	
13,600.00	11,820.00	13,428.33	11,726.95	49.94	49.39	-84.30	-1,845.87	914.87	1,036.57	937.60	98.97	10.473	
13,650.00	11,820.00	13,487.24	11,726.29	50.35	49.88	-84.26	-1,904.77	915.52	1,036.86	937.00	99.86	10.383	
13,700.00	11,820.00	13,548.37	11,725.17	50.75	50.40	-84.20	-1,965.89	915.57	1,036.69	935.91	100.77	10.287	
13,750.00	11,820.00	13,610.59	11,722.37	51.17	50.94	-84.04	-2,028.04	914.73	1,035.93	934.24	101.69	10.187	
13,800.00	11,820.00	13,651.86	11,720.56	51.59	51.31	-83.94	-2,069.27	914.16	1,035.16	932.69	102.48	10.102	
13,850.00	11,820.00	13,695.48	11,719.39	52.02	51.70	-83.87	-2,112.86	913.90	1,034.69	931.40	103.29	10.017	
13,886.75	11,820.00	13,725.75	11,718.97	52.34	51.97	-83.85	-2,143.13	913.94	1,034.58	930.70	103.88	9.959	
13,900.00	11,820.00	13,736.63	11,718.89	52.46	52.07	-83.84	-2,154.01	914.01	1,034.59	930.50	104.10	9.939	
13,950.00	11,820.00	13,777.70	11,718.86	52.90	52.45	-83.84	-2,195.08	914.54	1,034.92	930.01	104.92	9.864	
14,000.00	11,820.00	13,817.83	11,719.27	53.35	52.82	-83.87	-2,235.20	915.46	1,035.70	929.96	105.74	9.795	
14,050.00	11,820.00	13,857.48	11,720.06	53.81	53.20	-83.92	-2,274.81	916.80	1,036.97	930.40	106.57	9.731	
14,100.00	11,820.00	13,895.73	11,721.16	54.27	53.57	-83.99	-2,313.01	918.52	1,038.75	931.37	107.39	9.673	
14,150.00	11,820.00	13,930.86	11,722.07	54.74	53.91	-84.05	-2,348.07	920.56	1,041.19	933.01	108.18	9.625	
14,200.00	11,820.00	13,965.95	11,722.72	55.21	54.26	-84.09	-2,383.06	923.07	1,044.35	935.38	108.96	9.584	
14,250.00	11,820.00	14,028.48	11,723.09	55.69	54.88	-84.14	-2,445.41	927.79	1,047.82	937.72	110.10	9.517	
14,300.00	11,820.00	14,089.37	11,722.23	56.17	55.50	-84.11	-2,506.21	931.04	1,050.19	938.98	111.20	9.444	
14,350.00	11,820.00	14,123.05	11,721.94	56.66	55.84	-84.10	-2,539.82	933.09	1,052.96	940.95	112.00	9.401	
14,400.00	11,820.00	14,156.66	11,722.09	57.15	56.19	-84.12	-2,573.33	935.71	1,056.50	943.71	112.79	9.367	
14,450.00	11,820.00	14,230.05	11,722.87	57.65	56.95	-84.20	-2,646.48	941.56	1,060.21	946.09	114.12	9.290	
14,500.00	11,820.00	14,323.22	11,722.58	58.15	57.92	-84.20	-2,739.56	945.45	1,061.98	946.35	115.64	9.184	
14,550.00	11,820.00	14,390.80	11,721.56	58.66	58.63	-84.15	-2,807.12	946.05	1,062.13	945.30	116.84	9.091	
14,600.00	11,820.00	14,443.07	11,719.88	59.17	59.18	-84.05	-2,859.36	946.10	1,062.04	944.16	117.88	9.010	
14,650.00	11,820.00	14,511.98	11,716.95	59.69	59.91	-83.89	-2,928.21	945.47	1,061.52	942.45	119.07	8.915	
14,700.00	11,820.00	14,576.90	11,714.57	60.21	60.60	-83.75	-2,993.07	943.72	1,060.04	939.82	120.22	8.818	
14,750.00	11,820.00	14,634.15	11,714.23	60.74	61.21	-83.72	-3,050.28	941.83	1,058.13	936.80	121.33	8.721	
14,800.00	11,820.00	14,678.00	11,714.98	61.27	61.69	-83.75	-3,094.10	940.44	1,056.15	933.80	122.35	8.632	
14,850.00	11,820.00	14,719.73	11,715.94	61.81	62.14	-83.79	-3,135.81	939.46	1,054.55	931.19	123.36	8.548	
14,900.00	11,820.00	14,777.57	11,717.04	62.34	62.77	-83.84	-3,193.62	938.25	1,053.12	928.61	124.51	8.458	
14,950.00	11,820.00	14,846.65	11,715.82	62.89	63.53	-83.76	-3,262.63	935.45	1,050.89	925.17	125.72	8.359	
15,000.00	11,820.00	14,888.50	11,714.47	63.43	63.99	-83.67	-3,304.42	933.60	1,048.54	921.80	126.74	8.273	
15,050.00	11,820.00	14,934.64	11,712.71	63.98	64.50	-83.56	-3,350.48	931.64	1,046.33	918.53	127.80	8.187	
15,100.00	11,820.00	14,978.93	11,711.46	64.54	64.99	-83.48	-3,394.72	930.01	1,044.35	915.51	128.85	8.105	
15,150.00	11,820.00	15,023.80	11,710.97	65.09	65.49	-83.45	-3,439.57	928.70	1,042.65	912.74	129.91	8.026	
15,200.00	11,820.00	15,075.38	11,709.98	65.65	66.07	-83.38	-3,491.12	927.21	1,041.02	909.99	131.03	7.945	
15,250.00	11,820.00	15,124.90	11,707.78	66.22	66.64	-83.25	-3,540.56	925.57	1,039.32	907.19	132.13	7.866	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	11,820.00	15,167.96	11,707.06	66.78	67.13	-83.20	-3,583.59	924.47	1,037.84	904.64	133.20	7.792	
15,350.00	11,820.00	15,209.00	11,708.42	67.35	67.61	-83.27	-3,624.60	923.93	1,036.70	902.43	134.27	7.721	
15,400.00	11,820.00	15,248.52	11,710.71	67.92	68.07	-83.39	-3,664.05	923.90	1,036.03	900.68	135.35	7.655	
15,431.29	11,820.00	15,272.14	11,712.09	68.29	68.35	-83.47	-3,687.64	924.12	1,035.91	899.91	136.01	7.617	
15,450.00	11,820.00	15,286.27	11,712.92	68.50	68.52	-83.52	-3,701.74	924.33	1,035.95	899.56	136.40	7.595	
15,500.00	11,820.00	15,326.36	11,715.12	69.08	68.99	-83.64	-3,741.76	925.23	1,036.44	898.97	137.47	7.539	
15,550.00	11,820.00	15,368.38	11,716.38	69.66	69.49	-83.72	-3,783.74	926.39	1,037.34	898.78	138.55	7.487	
15,600.00	11,820.00	15,416.44	11,716.43	70.24	70.07	-83.73	-3,831.77	927.89	1,038.58	898.87	139.71	7.434	
15,650.00	11,820.00	15,478.78	11,714.91	70.83	70.81	-83.65	-3,894.08	929.22	1,039.46	898.43	141.03	7.370	
15,700.00	11,820.00	15,574.33	11,711.02	71.42	71.95	-83.43	-3,989.55	928.59	1,039.14	896.51	142.63	7.285	
15,750.00	11,820.00	15,619.80	11,709.83	72.01	72.50	-83.34	-4,034.96	927.17	1,037.48	893.71	143.76	7.217	
15,800.00	11,820.00	15,657.13	11,709.26	72.61	72.94	-83.31	-4,072.29	926.55	1,036.40	891.57	144.83	7.156	
15,850.00	11,820.00	15,698.83	11,709.58	73.21	73.44	-83.33	-4,113.99	926.44	1,035.90	889.96	145.94	7.098	
15,900.00	11,820.00	15,748.24	11,709.65	73.80	74.04	-83.33	-4,163.39	926.40	1,035.54	888.41	147.13	7.038	
15,950.00	11,820.00	15,799.77	11,708.99	74.41	74.67	-83.29	-4,214.92	926.28	1,035.20	886.85	148.35	6.978	
16,000.00	11,820.00	15,853.98	11,707.11	75.01	75.33	-83.18	-4,269.10	925.83	1,034.68	885.11	149.57	6.918	
16,050.00	11,820.00	15,899.41	11,704.98	75.62	75.89	-83.06	-4,314.48	925.33	1,034.11	883.40	150.71	6.861	
16,097.78	11,820.00	15,939.08	11,704.08	76.20	76.37	-83.01	-4,354.13	925.31	1,033.92	882.15	151.77	6.812	
16,100.00	11,820.00	15,940.93	11,704.06	76.22	76.40	-83.01	-4,355.98	925.32	1,033.92	882.10	151.82	6.810	
16,150.00	11,820.00	15,984.64	11,704.13	76.84	76.94	-83.01	-4,399.69	925.78	1,034.12	881.15	152.97	6.760	
16,200.00	11,820.00	16,031.37	11,703.94	77.45	77.52	-83.01	-4,446.41	926.42	1,034.53	880.37	154.16	6.711	
16,250.00	11,820.00	16,089.10	11,702.96	78.06	78.23	-82.95	-4,504.13	927.17	1,034.98	879.51	155.47	6.657	
16,300.00	11,820.00	16,164.23	11,700.73	78.68	79.17	-82.83	-4,579.22	926.60	1,034.48	877.55	156.93	6.592	
16,350.00	11,820.00	16,217.88	11,699.63	79.30	79.83	-82.76	-4,632.85	925.57	1,033.35	875.17	158.18	6.533	
16,400.00	11,820.00	16,268.95	11,699.56	79.92	80.47	-82.74	-4,683.91	924.46	1,031.98	872.56	159.42	6.473	
16,450.00	11,820.00	16,313.84	11,699.92	80.54	81.03	-82.75	-4,728.79	923.69	1,030.77	870.15	160.62	6.418	
16,500.00	11,820.00	16,362.69	11,700.65	81.16	81.64	-82.79	-4,777.63	923.11	1,029.77	867.91	161.86	6.362	
16,550.00	11,820.00	16,418.86	11,701.88	81.79	82.34	-82.85	-4,833.78	922.27	1,028.59	865.41	163.17	6.304	
16,600.00	11,820.00	16,470.03	11,703.25	82.41	82.99	-82.91	-4,884.92	921.32	1,027.19	862.74	164.45	6.246	
16,650.00	11,820.00	16,518.62	11,704.40	83.04	83.60	-82.97	-4,933.49	920.43	1,025.83	860.13	165.71	6.191	
16,700.00	11,820.00	16,580.97	11,705.16	83.67	84.38	-83.00	-4,995.81	918.97	1,024.30	857.24	167.06	6.131	
16,750.00	11,820.00	16,641.94	11,704.30	84.31	85.15	-82.93	-5,056.73	916.44	1,022.00	853.63	168.37	6.070	
16,800.00	11,820.00	16,688.99	11,703.70	84.94	85.74	-82.88	-5,103.73	914.39	1,019.61	850.02	169.60	6.012	
16,850.00	11,820.00	16,734.52	11,703.63	85.58	86.31	-82.86	-5,149.22	912.61	1,017.37	846.55	170.82	5.956	
16,900.00	11,820.00	16,776.77	11,703.55	86.21	86.85	-82.85	-5,191.45	911.23	1,015.46	843.44	172.02	5.903	
16,950.00	11,820.00	16,819.19	11,703.26	86.85	87.39	-82.82	-5,233.85	910.15	1,013.93	840.71	173.22	5.853	
17,000.00	11,820.00	16,863.12	11,702.81	87.49	87.95	-82.79	-5,277.78	909.30	1,012.73	838.30	174.43	5.806	
17,050.00	11,820.00	16,907.06	11,702.25	88.13	88.51	-82.75	-5,321.71	908.71	1,011.82	836.19	175.64	5.761	
17,100.00	11,820.00	16,950.97	11,701.58	88.77	89.08	-82.71	-5,365.61	908.36	1,011.22	834.38	176.84	5.718	
17,150.00	11,820.00	16,994.89	11,700.76	89.42	89.64	-82.66	-5,409.52	908.26	1,010.92	832.88	178.04	5.678	
17,170.13	11,820.00	17,011.98	11,700.42	89.68	89.87	-82.64	-5,426.61	908.29	1,010.89	832.37	178.52	5.663	
17,200.00	11,820.00	17,036.43	11,700.12	90.06	90.19	-82.62	-5,451.06	908.47	1,010.97	831.76	179.21	5.641	
17,250.00	11,820.00	17,077.37	11,700.23	90.71	90.72	-82.63	-5,491.99	909.15	1,011.46	831.08	180.38	5.607	
17,300.00	11,820.00	17,122.82	11,701.05	91.36	91.32	-82.69	-5,537.42	910.35	1,012.35	830.72	181.63	5.574	
17,350.00	11,820.00	17,172.90	11,701.77	92.00	91.98	-82.73	-5,587.47	911.70	1,013.29	830.34	182.94	5.539	
17,400.00	11,820.00	17,242.16	11,702.36	92.65	92.89	-82.77	-5,656.72	913.04	1,013.93	829.41	184.51	5.495	
17,450.00	11,820.00	17,307.24	11,702.84	93.31	93.74	-82.80	-5,721.79	912.78	1,013.32	827.33	185.99	5.448	
17,500.00	11,820.00	17,352.49	11,704.04	93.96	94.33	-82.86	-5,767.03	912.63	1,012.68	825.43	187.26	5.408	
17,550.00	11,820.00	17,395.97	11,706.04	94.61	94.90	-82.97	-5,810.45	912.80	1,012.30	823.78	188.52	5.370	
17,571.10	11,820.00	17,413.08	11,706.67	94.89	95.13	-83.01	-5,827.56	912.95	1,012.26	823.22	189.03	5.355	
17,600.00	11,820.00	17,436.55	11,707.21	95.26	95.44	-83.04	-5,851.01	913.23	1,012.33	822.61	189.73	5.336	
17,650.00	11,820.00	17,477.65	11,707.28	95.92	95.99	-83.05	-5,892.11	913.91	1,012.83	821.92	190.92	5.305	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
17,700.00	11,820.00	17,527.55	11,707.56	96.58	96.65	-83.07	-5,942.00	914.97	1,013.54	821.31	192.24	5.272	
17,750.00	11,820.00	17,579.10	11,709.36	97.23	97.34	-83.17	-5,993.49	916.24	1,014.26	820.65	193.61	5.239	
17,800.00	11,820.00	17,640.43	11,711.69	97.89	98.15	-83.31	-6,054.77	917.34	1,014.62	819.50	195.12	5.200	
17,834.03	11,820.00	17,682.21	11,712.87	98.34	98.71	-83.38	-6,096.53	917.65	1,014.54	818.41	196.13	5.173	
17,850.00	11,820.00	17,691.44	11,713.16	98.55	98.84	-83.39	-6,105.76	917.79	1,014.58	818.10	196.47	5.164	
17,900.00	11,820.00	17,736.43	11,714.42	99.21	99.44	-83.47	-6,150.72	918.36	1,014.74	816.99	197.75	5.131	
17,950.00	11,820.00	17,779.92	11,715.52	99.88	100.02	-83.53	-6,194.20	919.13	1,015.16	816.16	199.00	5.101	
18,000.00	11,820.00	17,822.06	11,715.82	100.54	100.58	-83.55	-6,236.33	920.10	1,015.96	815.74	200.21	5.074	
18,050.00	11,820.00	17,867.94	11,715.21	101.20	101.20	-83.52	-6,282.18	921.38	1,017.11	815.64	201.47	5.049	
18,100.00	11,820.00	17,923.00	11,713.86	101.86	101.94	-83.45	-6,337.21	922.75	1,018.18	815.32	202.86	5.019	
18,150.00	11,820.00	18,025.27	11,709.60	102.53	103.30	-83.21	-6,439.37	922.70	1,018.35	813.63	204.72	4.974	Alert
18,200.00	11,820.00	18,111.42	11,706.22	103.20	104.43	-82.99	-6,525.33	918.34	1,015.70	809.58	206.11	4.928	Alert
18,250.00	11,820.00	18,160.94	11,706.35	103.86	105.08	-82.97	-6,574.74	915.07	1,012.10	804.68	207.42	4.879	Alert
18,300.00	11,820.00	18,197.88	11,706.22	104.53	105.56	-82.95	-6,611.62	913.01	1,009.04	800.34	208.70	4.835	Alert
18,350.00	11,820.00	18,235.60	11,705.70	105.20	106.06	-82.91	-6,649.31	911.35	1,006.63	796.67	209.95	4.795	Alert
18,400.00	11,820.00	18,277.33	11,705.52	105.87	106.62	-82.88	-6,691.01	909.97	1,004.71	793.48	211.22	4.757	Alert
18,450.00	11,820.00	18,319.09	11,706.17	106.54	107.17	-82.91	-6,732.75	909.04	1,003.19	790.69	212.50	4.721	Alert
18,500.00	11,820.00	18,363.54	11,707.15	107.21	107.77	-82.96	-6,777.19	908.39	1,002.03	788.23	213.80	4.687	Alert
18,550.00	11,820.00	18,408.39	11,707.47	107.88	108.37	-82.97	-6,822.03	907.90	1,001.13	786.04	215.09	4.654	Alert
18,600.00	11,820.00	18,452.90	11,707.34	108.55	108.97	-82.96	-6,866.54	907.58	1,000.49	784.12	216.37	4.624	Alert
18,650.00	11,820.00	18,497.33	11,707.23	109.23	109.56	-82.95	-6,910.97	907.52	1,000.13	782.49	217.64	4.595	Alert
18,680.59	11,820.00	18,523.47	11,707.22	109.64	109.92	-82.95	-6,937.10	907.61	1,000.05	781.64	218.41	4.579	Alert
18,700.00	11,820.00	18,539.14	11,707.37	109.90	110.13	-82.96	-6,952.78	907.76	1,000.08	781.20	218.88	4.569	Alert
18,750.00	11,820.00	18,579.50	11,708.44	110.57	110.68	-83.03	-6,993.12	908.49	1,000.51	780.40	220.11	4.546	Alert
18,800.00	11,820.00	18,621.72	11,710.58	111.25	111.26	-83.16	-7,035.26	909.78	1,001.41	780.03	221.38	4.524	Alert
18,850.00	11,820.00	18,668.08	11,713.40	111.93	111.90	-83.32	-7,081.51	911.47	1,002.56	779.84	222.72	4.501	Alert
18,900.00	11,820.00	18,712.33	11,716.27	112.60	112.51	-83.50	-7,125.63	913.28	1,003.92	779.89	224.03	4.481	Alert
18,950.00	11,820.00	18,751.02	11,717.45	113.28	113.04	-83.57	-7,164.25	915.07	1,005.74	780.55	225.19	4.466	Alert
19,000.00	11,820.00	18,789.70	11,716.74	113.96	113.58	-83.55	-7,202.87	917.08	1,008.11	781.83	226.29	4.455	Alert
19,050.00	11,820.00	18,833.77	11,715.26	114.64	114.19	-83.48	-7,246.83	919.69	1,010.94	783.45	227.49	4.444	Alert
19,100.00	11,820.00	18,878.89	11,715.73	115.31	114.82	-83.52	-7,291.83	922.81	1,014.01	785.25	228.75	4.433	Alert
19,150.00	11,820.00	18,928.04	11,717.64	115.99	115.50	-83.65	-7,340.81	926.52	1,017.24	787.10	230.14	4.420	Alert
19,200.00	11,820.00	18,978.77	11,718.82	116.67	116.21	-83.74	-7,391.39	930.24	1,020.44	788.88	231.56	4.407	Alert
19,250.00	11,820.00	19,043.32	11,719.43	117.36	117.11	-83.80	-7,455.80	934.42	1,023.31	790.01	233.30	4.386	Alert
19,300.00	11,820.00	19,099.56	11,719.58	118.04	117.89	-83.82	-7,511.97	937.26	1,025.49	790.67	234.82	4.367	Alert
19,350.00	11,820.00	19,143.10	11,719.42	118.72	118.50	-83.82	-7,555.45	939.55	1,027.81	791.76	236.05	4.354	Alert
19,400.00	11,820.00	19,194.23	11,718.84	119.40	119.21	-83.81	-7,606.49	942.45	1,030.39	792.95	237.44	4.340	Alert
19,450.00	11,820.00	19,263.97	11,716.12	120.08	120.18	-83.67	-7,676.12	945.30	1,032.32	793.15	239.18	4.316	Alert
19,500.00	11,820.00	19,393.62	11,709.83	120.77	121.94	-83.30	-7,805.54	942.71	1,030.39	789.13	241.27	4.271	Alert
19,550.00	11,820.00	19,435.96	11,708.23	121.45	122.51	-83.20	-7,847.80	940.90	1,028.19	785.64	242.56	4.239	Alert
19,600.00	11,820.00	19,473.63	11,706.90	122.14	123.02	-83.11	-7,885.43	939.62	1,026.42	782.60	243.81	4.210	Alert
19,650.00	11,820.00	19,506.70	11,705.75	122.82	123.47	-83.05	-7,918.48	939.01	1,025.41	780.41	245.00	4.185	Alert
19,700.00	11,820.00	19,549.00	11,704.30	123.51	124.05	-82.96	-7,960.75	939.04	1,025.30	779.04	246.25	4.164	Alert
19,704.41	11,820.00	19,549.00	11,704.30	123.57	124.05	-82.96	-7,960.75	939.04	1,025.29	778.97	246.32	4.162	Alert
19,750.00	11,820.00	19,583.34	11,703.02	124.19	124.52	-82.89	-7,995.07	939.45	1,025.70	778.31	247.38	4.146	Alert
19,800.00	11,820.00	19,630.89	11,700.89	124.88	125.18	-82.78	-8,042.57	940.06	1,026.31	777.64	248.67	4.127	Alert
19,850.00	11,820.00	19,690.62	11,697.95	125.57	126.00	-82.62	-8,102.22	940.65	1,026.82	776.70	250.12	4.105	Alert
19,900.00	11,820.00	19,754.56	11,695.24	126.26	126.88	-82.46	-8,166.10	940.52	1,026.68	775.08	251.60	4.081	Alert
19,950.00	11,820.00	19,814.94	11,693.38	126.94	127.71	-82.35	-8,226.44	939.71	1,025.91	772.89	253.02	4.055	Alert
20,000.00	11,820.00	19,877.85	11,693.65	127.63	128.57	-82.35	-8,289.34	938.54	1,024.66	770.18	254.47	4.027	Alert
20,050.00	11,820.00	19,943.37	11,694.90	128.32	129.47	-82.41	-8,354.81	936.49	1,022.67	766.75	255.92	3.996	Alert
20,100.00	11,820.00	19,994.21	11,695.94	129.01	130.16	-82.45	-8,405.60	934.59	1,020.37	763.07	257.30	3.966	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	11,820.00	20,046.04	11,696.94	129.70	130.86	-82.48	-8,457.39	932.44	1,017.89	759.21	258.68	3.935	Alert
20,200.00	11,820.00	20,096.00	11,697.62	130.39	131.54	-82.50	-8,507.29	930.32	1,015.38	755.34	260.05	3.905	Alert
20,250.00	11,820.00	20,150.83	11,698.21	131.08	132.28	-82.52	-8,562.07	927.88	1,012.80	751.38	261.42	3.874	Alert
20,300.00	11,820.00	20,208.62	11,699.39	131.77	133.07	-82.56	-8,619.77	924.96	1,009.86	747.07	262.79	3.843	Alert
20,350.00	11,820.00	20,251.62	11,700.63	132.46	133.65	-82.61	-8,662.70	922.82	1,006.89	742.71	264.18	3.811	Alert
20,400.00	11,820.00	20,294.54	11,702.13	133.16	134.24	-82.68	-8,705.55	921.01	1,004.28	738.71	265.57	3.782	Alert
20,450.00	11,820.00	20,351.09	11,704.42	133.85	135.01	-82.79	-8,762.01	918.76	1,001.74	734.75	266.99	3.752	Alert
20,500.00	11,820.00	20,411.42	11,707.08	134.54	135.83	-82.92	-8,822.21	915.78	998.71	730.32	268.39	3.721	Alert
20,550.00	11,820.00	20,453.85	11,709.10	135.23	136.41	-83.02	-8,864.54	913.74	995.71	725.89	269.81	3.690	Alert
20,600.00	11,820.00	20,501.73	11,711.52	135.93	137.07	-83.14	-8,912.31	911.62	992.89	721.66	271.23	3.661	Alert
20,650.00	11,820.00	20,562.65	11,714.23	136.62	137.90	-83.27	-8,973.09	908.54	989.81	717.18	272.63	3.631	Alert
20,700.00	11,820.00	20,609.11	11,715.83	137.32	138.53	-83.35	-9,019.45	905.81	986.39	712.35	274.04	3.599	Alert
20,750.00	11,820.00	20,646.02	11,716.72	138.01	139.03	-83.38	-9,056.30	904.02	983.53	708.09	275.44	3.571	Alert
20,800.00	11,820.00	20,683.36	11,717.28	138.71	139.54	-83.41	-9,093.61	902.66	981.33	704.54	276.79	3.545	Alert
20,850.00	11,820.00	20,734.28	11,717.93	139.40	140.24	-83.43	-9,144.51	901.10	979.42	701.24	278.18	3.521	Alert
20,900.00	11,820.00	20,785.20	11,718.81	140.10	140.94	-83.47	-9,195.39	899.50	977.46	697.89	279.57	3.496	Alert
20,950.00	11,820.00	20,831.24	11,720.23	140.79	141.58	-83.54	-9,241.39	898.23	975.60	694.63	280.97	3.472	Alert
21,000.00	11,820.00	20,876.57	11,722.37	141.49	142.21	-83.66	-9,286.66	897.20	973.91	691.54	282.37	3.449	Alert
21,050.00	11,820.00	20,913.95	11,723.94	142.19	142.73	-83.75	-9,324.00	896.70	972.69	688.99	283.70	3.429	Alert
21,100.00	11,820.00	20,951.38	11,724.82	142.88	143.25	-83.79	-9,361.42	896.60	972.12	687.15	284.97	3.411	Alert
21,121.92	11,820.00	20,968.51	11,725.00	143.19	143.49	-83.81	-9,378.55	896.69	972.07	686.56	285.52	3.405	Alert
21,150.00	11,820.00	20,994.84	11,725.33	143.58	143.86	-83.82	-9,404.88	896.91	972.10	685.82	286.28	3.396	Alert
21,200.00	11,820.00	21,041.72	11,726.40	144.28	144.51	-83.89	-9,451.74	897.47	972.27	684.62	287.65	3.380	Alert
21,250.00	11,820.00	21,089.27	11,727.74	144.98	145.18	-83.97	-9,499.27	898.22	972.59	683.55	289.04	3.365	Alert
21,300.00	11,820.00	21,137.31	11,727.88	145.67	145.86	-83.98	-9,547.30	898.95	973.02	682.61	290.40	3.351	Alert
21,350.00	11,820.00	21,191.47	11,726.71	146.37	146.61	-83.91	-9,601.44	899.62	973.45	681.61	291.84	3.336	Alert
21,400.00	11,820.00	21,249.18	11,724.91	147.07	147.42	-83.81	-9,659.12	899.87	973.52	680.22	293.30	3.319	Alert
21,413.43	11,820.00	21,264.67	11,724.35	147.26	147.64	-83.78	-9,674.60	899.85	973.47	679.78	293.69	3.315	Alert
21,450.00	11,820.00	21,291.43	11,723.24	147.77	148.02	-83.71	-9,701.33	900.01	973.59	679.04	294.55	3.305	Alert
21,500.00	11,820.00	21,333.69	11,721.21	148.47	148.61	-83.59	-9,743.55	900.45	974.06	678.29	295.77	3.293	Alert
21,550.00	11,820.00	21,374.54	11,719.29	149.17	149.18	-83.48	-9,784.35	901.22	974.96	678.01	296.95	3.283	Alert, ES
21,600.00	11,820.00	21,414.99	11,718.40	149.87	149.76	-83.44	-9,824.76	902.50	976.35	678.22	298.13	3.275	Alert
21,650.00	11,820.00	21,459.05	11,718.41	150.57	150.38	-83.45	-9,868.77	904.41	978.18	678.79	299.39	3.267	Alert
21,700.00	11,820.00	21,508.37	11,717.99	151.27	151.08	-83.44	-9,918.05	906.60	980.13	679.36	300.77	3.259	Alert
21,750.00	11,820.00	21,556.56	11,716.83	151.97	151.77	-83.38	-9,966.18	908.70	982.13	680.02	302.11	3.251	Alert
21,800.00	11,820.00	21,651.87	11,715.25	152.67	153.12	-83.30	-10,011.67	910.73	984.24	680.17	304.07	3.237	Alert
21,850.00	11,820.00	21,652.03	11,712.82	153.37	153.12	-83.18	-10,061.46	913.04	986.52	681.81	304.72	3.238	Alert
21,900.00	11,820.00	21,701.93	11,710.39	154.07	153.83	-83.05	-10,111.25	915.36	988.81	682.75	306.06	3.231	Alert
21,950.00	11,820.00	21,751.83	11,707.96	154.78	154.55	-82.93	-10,161.04	917.67	991.10	683.69	307.41	3.224	Alert
22,000.00	11,820.00	21,801.73	11,705.53	155.48	155.26	-82.80	-10,210.82	919.98	993.40	684.64	308.76	3.217	Alert
22,050.00	11,820.00	21,851.63	11,703.10	156.18	155.97	-82.68	-10,260.61	922.30	995.70	685.60	310.10	3.211	Alert
22,065.48	11,820.00	21,867.07	11,702.35	156.40	156.19	-82.64	-10,276.02	923.01	996.41	685.90	310.52	3.209	Alert, SF

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	-89.60	5.97	-858.96	859.10				
50.00	50.00	37.18	37.18	0.50	0.06	-89.60	5.97	-858.92	858.94	858.38	0.56	1,538.342	
100.00	100.00	89.85	89.85	0.52	0.14	-89.60	5.95	-858.72	858.75	858.10	0.65	1,313.413	
150.00	150.00	142.52	142.52	0.59	0.22	-89.61	5.90	-858.36	858.41	857.60	0.81	1,064.994	
200.00	200.00	194.19	194.19	0.70	0.39	-89.60	5.94	-857.87	857.93	856.85	1.09	789.110	
250.00	250.00	245.70	245.69	0.84	0.57	-89.59	6.20	-857.29	857.37	855.97	1.41	609.476	
300.00	300.00	294.27	294.26	0.99	0.74	-89.57	6.42	-856.74	856.81	855.08	1.73	495.315	
350.00	350.00	343.08	343.07	1.15	0.92	-89.57	6.43	-856.27	856.33	854.26	2.06	415.217	
400.00	400.00	392.47	392.45	1.31	1.09	-89.57	6.37	-855.84	855.89	853.49	2.40	356.207	
450.00	450.00	442.07	442.05	1.48	1.27	-89.58	6.31	-855.44	855.49	852.74	2.75	311.359	
500.00	500.00	492.50	492.48	1.65	1.45	-89.58	6.25	-855.03	855.08	851.98	3.10	276.012	
550.00	550.00	543.01	542.99	1.82	1.63	-89.59	6.15	-854.59	854.65	851.20	3.45	247.695	
600.00	600.00	593.66	593.63	1.99	1.81	-89.60	5.98	-854.12	854.18	850.38	3.80	224.518	
650.00	650.00	644.14	644.12	2.16	2.00	-89.61	5.74	-853.61	853.68	849.52	4.16	205.261	
700.00	700.00	694.48	694.45	2.34	2.18	-89.63	5.47	-853.08	853.15	848.64	4.51	189.016	
750.00	750.00	744.64	744.61	2.51	2.36	-89.65	5.23	-852.55	852.61	847.75	4.87	175.127	
800.00	800.00	795.73	795.69	2.69	2.54	-89.66	5.03	-851.96	852.04	846.81	5.23	162.990	
850.00	850.00	846.81	846.77	2.87	2.72	-89.68	4.81	-851.30	851.40	845.81	5.59	152.391	
900.00	900.00	896.52	896.47	3.04	2.90	-89.69	4.59	-850.63	850.72	844.78	5.94	143.177	
950.00	950.00	946.13	946.07	3.22	3.08	-89.70	4.40	-849.99	850.07	843.78	6.30	135.007	
1,000.00	1,000.00	995.80	995.74	3.40	3.26	-89.72	4.19	-849.38	849.45	842.80	6.65	127.702	
1,050.00	1,050.00	1,045.72	1,045.66	3.58	3.44	-89.73	4.03	-848.77	848.84	841.83	7.01	121.121	
1,100.00	1,100.00	1,094.13	1,094.06	3.75	3.61	-89.73	3.95	-848.19	848.25	840.89	7.36	115.276	
1,150.00	1,150.00	1,139.99	1,139.93	3.93	3.77	-89.73	3.99	-847.83	847.85	840.15	7.70	110.137	
1,200.00	1,200.00	1,187.24	1,187.17	4.11	3.94	-89.72	4.14	-847.67	847.69	839.64	8.04	105.416	
1,250.00	1,250.00	1,236.65	1,236.59	4.29	4.11	-89.71	4.31	-847.58	847.59	839.20	8.39	101.026	
1,300.00	1,300.00	1,286.07	1,286.00	4.46	4.28	-89.70	4.47	-847.52	847.53	838.80	8.74	96.988	
1,350.00	1,350.00	1,335.49	1,335.42	4.64	4.45	-89.69	4.61	-847.50	847.51	838.42	9.09	93.264	
1,360.28	1,360.28	1,345.64	1,345.58	4.68	4.48	-89.69	4.64	-847.50	847.51	838.35	9.16	92.534	
1,400.00	1,400.00	1,384.53	1,384.47	4.82	4.61	-89.68	4.74	-847.51	847.53	838.10	9.43	89.859	
1,450.00	1,450.00	1,433.42	1,433.36	5.00	4.78	-89.67	4.83	-847.59	847.61	837.83	9.77	86.715	
1,500.00	1,500.00	1,483.89	1,483.82	5.18	4.95	-89.67	4.91	-847.70	847.72	837.59	10.12	83.740	
1,550.00	1,550.00	1,534.64	1,534.57	5.36	5.12	-89.66	5.02	-847.77	847.78	837.31	10.47	80.950	
1,600.00	1,600.00	1,584.88	1,584.81	5.53	5.29	-89.65	5.16	-847.80	847.82	836.99	10.83	78.317	
1,650.00	1,650.00	1,635.12	1,635.05	5.71	5.47	-89.64	5.29	-847.82	847.84	836.66	11.18	75.848	
1,700.00	1,700.00	1,685.36	1,685.29	5.89	5.64	-89.63	5.43	-847.83	847.85	836.32	11.53	73.529	
1,750.00	1,750.00	1,735.60	1,735.53	6.07	5.82	-89.62	5.57	-847.82	847.84	835.96	11.88	71.346	
1,800.00	1,800.00	1,785.65	1,785.58	6.25	5.99	-89.61	5.72	-847.81	847.83	835.59	12.24	69.274	
1,850.00	1,850.00	1,835.75	1,835.68	6.43	6.17	-89.60	5.88	-847.79	847.81	835.21	12.59	67.321	
1,900.00	1,900.00	1,885.85	1,885.78	6.61	6.35	-89.59	6.06	-847.76	847.78	834.83	12.95	65.475	
1,950.00	1,950.00	1,935.51	1,935.44	6.78	6.52	-89.58	6.25	-847.74	847.76	834.46	13.30	63.736	
1,959.59	1,959.59	1,944.95	1,944.89	6.82	6.55	-89.57	6.29	-847.73	847.76	834.39	13.37	63.415	
2,000.00	2,000.00	1,984.79	1,984.72	6.96	6.69	-89.56	6.46	-847.75	847.77	834.12	13.65	62.097	
2,050.00	2,050.00	2,034.06	2,033.99	7.14	6.86	-89.55	6.69	-847.80	847.83	833.82	14.00	60.544	
2,100.00	2,100.00	2,083.34	2,083.27	7.32	7.04	-89.53	6.95	-847.89	847.93	833.57	14.35	59.069	
2,150.00	2,150.00	2,132.86	2,132.78	7.50	7.21	-89.51	7.22	-848.03	848.06	833.36	14.71	57.667	
2,200.00	2,200.00	2,182.47	2,182.39	7.68	7.38	-89.49	7.49	-848.18	848.22	833.16	15.06	56.333	
2,250.00	2,250.00	2,232.08	2,232.01	7.86	7.55	-89.48	7.74	-848.36	848.40	833.00	15.41	55.061	
2,300.00	2,300.00	2,281.69	2,281.62	8.04	7.73	-89.46	8.00	-848.56	848.61	832.85	15.76	53.847	
2,350.00	2,350.00	2,331.86	2,331.78	8.22	7.90	-89.44	8.24	-848.78	848.82	832.71	16.11	52.679	
2,400.00	2,400.00	2,382.09	2,382.01	8.39	8.08	-89.43	8.48	-848.98	849.02	832.56	16.47	51.560	
2,450.00	2,450.00	2,432.32	2,432.25	8.57	8.25	-89.41	8.70	-849.16	849.21	832.39	16.82	50.486	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	2,500.00	2,482.56	2,482.48	8.75	8.43	-89.40	8.91	-849.33	849.38	832.21	17.17	49.456	
2,550.00	2,550.00	2,532.72	2,532.65	8.93	8.60	-89.39	9.10	-849.49	849.55	832.02	17.53	48.466	
2,600.00	2,600.00	2,582.90	2,582.82	9.11	8.78	-89.37	9.28	-849.64	849.70	831.81	17.88	47.514	
2,650.00	2,650.00	2,633.07	2,632.99	9.29	8.95	-89.36	9.44	-849.78	849.84	831.60	18.24	46.598	
2,700.00	2,700.00	2,683.44	2,683.36	9.47	9.13	-89.35	9.59	-849.91	849.97	831.37	18.59	45.714	
2,750.00	2,750.00	2,734.16	2,734.08	9.65	9.31	-89.34	9.75	-850.00	850.06	831.11	18.95	44.855	
2,800.00	2,800.00	2,784.88	2,784.80	9.83	9.49	-89.33	9.91	-850.05	850.11	830.80	19.31	44.026	
2,850.00	2,850.00	2,835.61	2,835.53	10.00	9.67	-89.32	10.10	-850.06	850.12	830.45	19.67	43.224	
2,900.00	2,900.00	2,886.02	2,885.94	10.18	9.85	-89.31	10.29	-850.03	850.09	830.06	20.03	42.450	
2,950.00	2,950.00	2,936.25	2,936.16	10.36	10.02	-89.29	10.48	-849.98	850.04	829.66	20.38	41.703	
3,000.00	3,000.00	2,986.47	2,986.39	10.54	10.20	-89.28	10.68	-849.92	849.99	829.25	20.74	40.980	
3,050.00	3,050.00	3,036.69	3,036.61	10.72	10.38	-89.27	10.88	-849.85	849.92	828.82	21.10	40.282	
3,100.00	3,100.00	3,086.27	3,086.18	10.90	10.56	-89.25	11.08	-849.78	849.85	828.39	21.45	39.611	
3,150.00	3,150.00	3,135.75	3,135.66	11.08	10.73	-89.24	11.27	-849.74	849.81	828.00	21.81	38.965	
3,185.12	3,185.12	3,170.51	3,170.42	11.20	10.86	-89.23	11.41	-849.73	849.80	827.75	22.06	38.524	
3,200.00	3,200.00	3,185.23	3,185.15	11.26	10.91	-89.23	11.47	-849.73	849.81	827.64	22.16	38.340	
3,250.00	3,250.00	3,234.71	3,234.63	11.44	11.09	-89.21	11.65	-849.75	849.83	827.31	22.52	37.737	
3,300.00	3,300.00	3,284.26	3,284.17	11.62	11.26	-89.20	11.88	-849.80	849.88	827.01	22.87	37.153	
3,350.00	3,350.00	3,333.80	3,333.71	11.80	11.44	-89.18	12.17	-849.87	849.96	826.73	23.23	36.589	
3,400.00	3,400.00	3,383.34	3,383.25	11.97	11.61	-89.16	12.52	-849.98	850.07	826.49	23.58	36.043	
3,450.00	3,450.00	3,433.30	3,433.22	12.15	11.79	-89.13	12.95	-850.10	850.20	826.26	23.94	35.512	
3,500.00	3,500.00	3,484.47	3,484.38	12.33	11.97	-89.10	13.33	-850.18	850.29	825.99	24.30	34.988	
3,550.00	3,550.00	3,535.63	3,535.54	12.51	12.16	-89.08	13.63	-850.20	850.31	825.65	24.66	34.477	
3,600.00	3,600.00	3,586.80	3,586.71	12.69	12.34	-89.07	13.85	-850.15	850.26	825.24	25.02	33.977	
3,650.00	3,650.00	3,638.14	3,638.05	12.87	12.52	-89.06	13.98	-850.02	850.14	824.76	25.38	33.490	
3,700.00	3,700.00	3,689.62	3,689.52	13.05	12.70	-89.05	14.06	-849.81	849.94	824.19	25.74	33.014	
3,750.00	3,750.00	3,741.09	3,741.00	13.23	12.88	-89.05	14.07	-849.51	849.64	823.54	26.10	32.547	
3,800.00	3,800.00	3,792.56	3,792.47	13.41	13.06	-89.05	14.03	-849.12	849.27	822.80	26.46	32.090	
3,850.00	3,850.00	3,843.85	3,843.75	13.59	13.24	-89.06	13.94	-848.65	848.80	821.98	26.82	31.646	
3,900.00	3,900.00	3,895.11	3,895.01	13.77	13.42	-89.07	13.80	-848.10	848.27	821.09	27.18	31.210	
3,950.00	3,950.00	3,946.38	3,946.27	13.94	13.60	-89.08	13.62	-847.48	847.66	820.12	27.54	30.784	
4,000.00	4,000.00	3,997.63	3,997.52	14.12	13.78	-89.09	13.39	-846.78	846.98	819.08	27.89	30.365	
4,050.00	4,050.00	4,048.78	4,048.66	14.30	13.95	-50.26	13.07	-846.01	846.05	817.80	28.25	29.951	
4,100.00	4,099.99	4,099.91	4,099.79	14.48	14.13	-50.35	12.63	-845.18	844.70	816.10	28.60	29.533	
4,150.00	4,149.97	4,151.02	4,150.88	14.66	14.31	-50.47	12.06	-844.27	842.95	813.99	28.96	29.112	
4,200.00	4,199.95	4,199.73	4,199.58	14.83	14.48	-50.59	11.43	-843.38	841.06	811.76	29.30	28.704	
4,250.00	4,249.93	4,246.35	4,246.19	15.01	14.64	-50.70	10.86	-842.68	839.35	809.71	29.64	28.319	
4,300.00	4,299.90	4,292.99	4,292.82	15.19	14.80	-50.81	10.33	-842.17	837.83	807.85	29.98	27.949	
4,350.00	4,349.88	4,339.64	4,339.47	15.37	14.96	-50.92	9.86	-841.84	836.52	806.20	30.31	27.595	
4,400.00	4,399.86	4,387.74	4,387.57	15.54	15.12	-51.03	9.41	-841.68	835.39	804.73	30.66	27.250	
4,450.00	4,449.84	4,437.71	4,437.54	15.72	15.29	-51.14	8.96	-841.53	834.29	803.28	31.00	26.909	
4,500.00	4,499.81	4,487.68	4,487.51	15.90	15.46	-51.25	8.53	-841.39	833.19	801.84	31.35	26.575	
4,550.00	4,549.79	4,537.66	4,537.48	16.08	15.63	-51.36	8.11	-841.24	832.10	800.40	31.70	26.249	
4,600.00	4,599.77	4,585.65	4,585.47	16.26	15.80	-51.47	7.73	-841.14	831.05	799.01	32.04	25.937	
4,650.00	4,649.74	4,632.58	4,632.40	16.43	15.96	-51.57	7.41	-841.20	830.17	797.79	32.38	25.639	
4,700.00	4,699.72	4,679.53	4,679.35	16.61	16.12	-51.66	7.15	-841.43	829.48	796.76	32.72	25.354	
4,750.00	4,749.70	4,726.48	4,726.30	16.79	16.28	-51.75	6.95	-841.84	828.97	795.92	33.05	25.080	
4,800.00	4,799.67	4,776.31	4,776.12	16.97	16.45	-51.84	6.79	-842.40	828.60	795.20	33.40	24.808	
4,850.00	4,849.65	4,827.84	4,827.65	17.15	16.62	-51.94	6.62	-842.90	828.15	794.39	33.75	24.534	
4,900.00	4,899.63	4,879.37	4,879.18	17.32	16.80	-52.04	6.45	-843.30	827.61	793.50	34.11	24.264	
4,950.00	4,949.61	4,930.90	4,930.71	17.50	16.97	-52.14	6.27	-843.61	826.97	792.51	34.46	23.996	
5,000.00	4,999.58	4,981.43	4,981.24	17.68	17.15	-52.23	6.10	-843.84	826.28	791.47	34.81	23.735	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
5,050.00	5,049.56	5,031.93	5,031.73	17.86	17.32	-52.32	5.98	-844.05	825.56	790.39	35.16	23.477	
5,100.00	5,099.54	5,082.42	5,082.23	18.04	17.49	-52.41	5.88	-844.22	824.80	789.29	35.51	23.224	
5,150.00	5,149.51	5,132.92	5,132.73	18.21	17.67	-52.50	5.83	-844.36	824.02	788.16	35.87	22.976	
5,200.00	5,199.49	5,181.86	5,181.67	18.39	17.83	-52.59	5.78	-844.53	823.27	787.05	36.21	22.735	
5,250.00	5,249.47	5,231.08	5,230.88	18.57	18.00	-52.67	5.74	-844.73	822.56	786.00	36.56	22.500	
5,300.00	5,299.44	5,280.30	5,280.10	18.75	18.17	-52.76	5.70	-844.99	821.90	784.99	36.91	22.270	
5,350.00	5,349.42	5,329.88	5,329.68	18.93	18.34	-52.84	5.66	-845.29	821.28	784.03	37.25	22.045	
5,400.00	5,399.40	5,380.11	5,379.91	19.11	18.52	-52.93	5.63	-845.59	820.66	783.06	37.61	21.822	
5,450.00	5,449.38	5,430.34	5,430.14	19.28	18.69	-53.01	5.64	-845.87	820.03	782.08	37.96	21.603	
5,500.00	5,499.35	5,480.57	5,480.38	19.46	18.87	-53.10	5.67	-846.14	819.39	781.08	38.31	21.388	
5,550.00	5,549.33	5,530.66	5,530.46	19.64	19.04	-53.18	5.71	-846.40	818.74	780.07	38.66	21.176	
5,600.00	5,599.31	5,580.63	5,580.43	19.82	19.21	-53.26	5.73	-846.66	818.08	779.07	39.01	20.969	
5,650.00	5,649.28	5,630.60	5,630.40	20.00	19.39	-53.34	5.72	-846.91	817.43	778.07	39.37	20.765	
5,700.00	5,699.26	5,680.57	5,680.37	20.18	19.56	-53.43	5.68	-847.17	816.78	777.07	39.72	20.565	
5,750.00	5,749.24	5,730.68	5,730.48	20.36	19.73	-53.52	5.63	-847.42	816.13	776.06	40.07	20.368	
5,800.00	5,799.21	5,780.83	5,780.63	20.53	19.91	-53.61	5.59	-847.66	815.47	775.05	40.42	20.174	
5,850.00	5,849.19	5,830.99	5,830.78	20.71	20.08	-53.70	5.57	-847.90	814.81	774.03	40.77	19.983	
5,900.00	5,899.17	5,881.14	5,880.94	20.89	20.26	-53.78	5.58	-848.12	814.13	773.01	41.13	19.795	
5,950.00	5,949.14	5,930.97	5,930.77	21.07	20.43	-53.87	5.53	-848.34	813.46	771.98	41.48	19.612	
6,000.00	5,999.12	5,980.73	5,980.53	21.25	20.60	-53.96	5.40	-848.56	812.80	770.97	41.83	19.431	
6,050.00	6,049.10	6,030.44	6,030.23	21.43	20.77	-54.05	5.33	-848.81	812.15	769.97	42.18	19.254	
6,100.00	6,099.08	6,078.24	6,078.04	21.61	20.94	-54.14	5.34	-849.08	811.55	769.02	42.53	19.084	
6,150.00	6,149.05	6,121.72	6,121.51	21.79	21.09	-54.20	5.53	-849.60	811.25	768.40	42.85	18.931	
6,161.99	6,161.04	6,132.15	6,131.94	21.83	21.13	-54.21	5.61	-849.78	811.24	768.31	42.93	18.896 CC	
6,200.00	6,199.03	6,165.28	6,165.06	21.96	21.25	-54.24	5.95	-850.49	811.35	768.17	43.18	18.791 ES	
6,250.00	6,249.01	6,209.36	6,209.12	22.14	21.40	-54.26	6.63	-851.73	811.84	768.33	43.51	18.661	
6,300.00	6,298.98	6,253.43	6,253.15	22.32	21.55	-54.26	7.59	-853.32	812.68	768.85	43.83	18.542	
6,350.00	6,348.96	6,296.32	6,295.98	22.50	21.70	-54.25	8.70	-855.21	813.93	769.78	44.15	18.437	
6,400.00	6,398.94	6,339.17	6,338.75	22.68	21.86	-54.24	9.86	-857.48	815.62	771.16	44.46	18.345	
6,450.00	6,448.91	6,384.05	6,383.54	22.86	22.01	-54.21	11.18	-860.21	817.69	772.91	44.78	18.259	
6,500.00	6,498.89	6,429.53	6,428.89	23.04	22.17	-54.18	12.67	-863.24	820.04	774.93	45.11	18.180	
6,550.00	6,548.87	6,473.35	6,472.56	23.22	22.33	-54.13	14.23	-866.43	822.70	777.27	45.42	18.113	
6,600.00	6,598.85	6,516.43	6,515.47	23.40	22.48	-54.08	15.79	-869.92	825.76	780.03	45.73	18.059	
6,650.00	6,648.82	6,559.07	6,557.92	23.57	22.63	-54.03	17.34	-873.73	829.24	783.22	46.03	18.016	
6,700.00	6,698.80	6,601.26	6,599.87	23.75	22.78	-53.99	18.80	-877.88	833.18	786.86	46.32	17.987	
6,750.00	6,748.78	6,643.23	6,641.57	23.93	22.93	-53.95	20.16	-882.39	837.58	790.97	46.61	17.970	
6,800.00	6,798.75	6,684.64	6,682.69	24.11	23.07	-53.92	21.44	-887.24	842.46	795.57	46.89	17.966	
6,850.00	6,848.73	6,725.98	6,723.67	24.29	23.22	-53.88	22.67	-892.48	847.84	800.67	47.17	17.975	
6,900.00	6,898.71	6,771.56	6,768.82	24.47	23.38	-53.85	24.00	-898.60	853.58	806.10	47.48	17.977	
6,950.00	6,948.68	6,817.20	6,814.00	24.65	23.54	-53.81	25.32	-904.94	859.56	811.77	47.80	17.984	
7,000.00	6,998.66	6,869.68	6,865.94	24.83	23.73	-53.77	26.89	-912.28	865.59	817.42	48.17	17.968	
7,050.00	7,048.64	6,923.02	6,918.75	25.01	23.92	-53.72	28.60	-919.53	871.42	822.86	48.56	17.946	
7,100.00	7,098.62	6,967.12	6,962.41	25.19	24.08	-53.67	30.14	-925.60	877.32	828.47	48.86	17.956	
7,150.00	7,148.59	7,012.32	7,007.11	25.37	24.24	-53.61	31.86	-932.06	883.49	834.32	49.17	17.968	
7,200.00	7,198.57	7,066.31	7,060.51	25.54	24.43	-53.54	33.96	-939.78	889.65	840.09	49.56	17.950	
7,250.00	7,248.55	7,120.67	7,114.30	25.72	24.63	-53.47	36.00	-947.27	895.57	845.61	49.96	17.926	
7,300.00	7,298.52	7,175.91	7,169.03	25.90	24.83	-53.41	37.98	-954.56	901.20	850.84	50.36	17.895	
7,350.00	7,348.50	7,225.24	7,217.93	26.08	25.00	-53.37	39.68	-960.86	906.61	855.90	50.71	17.878	
7,400.00	7,398.48	7,269.92	7,262.19	26.26	25.17	-53.32	41.25	-966.76	912.24	861.22	51.02	17.880	
7,450.00	7,448.45	7,319.65	7,311.42	26.44	25.35	-53.27	43.02	-973.54	918.08	866.71	51.37	17.871	
7,500.00	7,498.43	7,375.98	7,367.23	26.62	25.55	-53.22	44.91	-980.92	923.67	871.88	51.79	17.836	
7,550.00	7,548.41	7,426.23	7,417.05	26.80	25.73	-53.18	46.55	-987.27	929.02	876.88	52.14	17.816	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,600.00	7,598.38	7,474.61	7,465.01	26.98	25.91	-53.13	48.32	-993.45	934.43	881.95	52.49	17.803	
7,650.00	7,648.36	7,519.21	7,509.19	27.16	26.07	-53.07	50.12	-999.28	939.99	887.20	52.80	17.804	
7,700.00	7,698.34	7,562.84	7,552.35	27.34	26.23	-53.00	52.11	-1,005.26	945.87	892.78	53.10	17.815	
7,750.00	7,748.32	7,611.86	7,600.83	27.52	26.41	-52.91	54.51	-1,012.21	951.97	898.53	53.44	17.813	
7,800.00	7,798.29	7,663.84	7,652.23	27.70	26.60	-52.83	56.95	-1,019.48	957.98	904.16	53.82	17.800	
7,850.00	7,848.27	7,718.29	7,706.12	27.87	26.81	-52.75	59.37	-1,026.89	963.82	909.60	54.22	17.777	
7,900.00	7,898.25	7,773.27	7,760.58	28.05	27.01	-52.68	61.66	-1,034.08	969.38	914.77	54.62	17.749	
7,950.00	7,948.22	7,820.39	7,807.26	28.23	27.18	-52.62	63.59	-1,040.20	974.91	919.96	54.95	17.742	
8,000.00	7,998.20	7,868.91	7,855.32	28.41	27.36	-52.56	65.58	-1,046.58	980.51	925.22	55.29	17.732	
8,050.00	8,048.18	7,920.21	7,906.13	28.59	27.55	-52.50	67.64	-1,053.30	986.09	930.43	55.66	17.715	
8,100.00	8,098.15	7,969.43	7,954.90	28.77	27.73	-52.45	69.54	-1,059.68	991.61	935.60	56.02	17.703	
8,150.00	8,148.13	8,014.20	7,999.24	28.95	27.90	-52.40	71.33	-1,065.63	997.30	940.97	56.33	17.705	
8,200.00	8,198.11	8,060.98	8,045.53	29.13	28.07	-52.34	73.31	-1,072.08	1,003.22	946.57	56.66	17.707	
8,250.00	8,248.09	8,117.32	8,101.31	29.31	28.28	-52.28	75.57	-1,079.69	1,009.01	951.94	57.07	17.680	
8,300.00	8,298.06	8,167.44	8,150.97	29.49	28.47	-52.24	77.38	-1,086.20	1,014.55	957.12	57.43	17.666	
8,350.00	8,348.04	8,210.99	8,194.10	29.67	28.63	-52.20	78.95	-1,092.05	1,020.30	962.57	57.73	17.673	
8,400.00	8,398.02	8,256.95	8,239.57	29.85	28.80	-52.16	80.61	-1,098.47	1,026.34	968.28	58.06	17.678	
8,450.00	8,447.99	8,308.38	8,290.47	30.03	29.00	-52.12	82.41	-1,105.67	1,032.38	973.95	58.43	17.669	
8,500.00	8,497.97	8,364.01	8,345.54	30.21	29.20	-52.09	84.21	-1,113.29	1,038.28	979.44	58.84	17.647	
8,550.00	8,547.95	8,424.58	8,405.60	30.39	29.43	-52.08	85.77	-1,121.04	1,043.73	984.45	59.28	17.606	
8,600.00	8,597.92	8,478.33	8,458.94	30.57	29.63	-52.07	87.01	-1,127.52	1,048.81	989.14	59.67	17.576	
8,650.00	8,647.90	8,531.83	8,512.05	30.74	29.83	-52.06	88.49	-1,133.80	1,053.73	993.67	60.06	17.545	
8,700.00	8,697.88	8,590.25	8,570.08	30.92	30.05	-52.03	90.17	-1,140.31	1,058.35	997.87	60.48	17.499	
8,750.00	8,747.86	8,647.81	8,627.31	31.10	30.26	-52.01	91.82	-1,146.27	1,062.57	1,001.68	60.89	17.450	
8,800.00	8,797.83	8,704.39	8,683.59	31.28	30.47	-51.98	93.64	-1,151.76	1,066.47	1,005.17	61.30	17.398	
8,850.00	8,847.81	8,751.68	8,730.64	31.46	30.64	-51.95	95.31	-1,156.21	1,070.22	1,008.58	61.64	17.363	
8,900.00	8,897.79	8,796.52	8,775.24	31.64	30.81	-51.92	96.87	-1,160.63	1,074.19	1,012.23	61.96	17.337	
8,950.00	8,947.76	8,838.46	8,816.92	31.82	30.97	-51.89	98.32	-1,164.99	1,078.44	1,016.18	62.26	17.322	
9,000.00	8,997.74	8,878.97	8,857.15	32.00	31.12	-51.87	99.77	-1,169.55	1,083.11	1,020.56	62.55	17.317	
9,050.00	9,047.72	8,929.05	8,906.83	32.18	31.31	-51.83	101.59	-1,175.53	1,088.12	1,025.22	62.91	17.297	
9,100.00	9,097.69	8,996.67	8,974.02	32.36	31.56	-51.80	103.70	-1,182.85	1,092.59	1,029.19	63.40	17.234	
9,150.00	9,147.67	9,040.07	9,017.18	32.54	31.72	-51.79	104.75	-1,187.31	1,096.77	1,033.07	63.71	17.216	
9,200.00	9,197.65	9,082.93	9,059.79	32.72	31.88	-51.81	105.47	-1,191.98	1,101.28	1,037.26	64.01	17.204	
9,250.00	9,247.62	9,145.00	9,121.49	32.90	32.11	-51.86	105.83	-1,198.68	1,105.76	1,041.30	64.46	17.154	
9,300.00	9,297.60	9,215.01	9,191.19	33.08	32.37	-51.98	105.04	-1,205.12	1,109.44	1,044.49	64.95	17.082	
9,350.00	9,347.58	9,288.43	9,264.40	33.26	32.63	-52.15	103.47	-1,210.38	1,112.12	1,046.68	65.44	16.995	
9,400.00	9,397.56	9,338.55	9,314.42	33.44	32.81	-52.27	102.27	-1,213.49	1,114.31	1,048.52	65.80	16.936	
9,450.00	9,447.53	9,391.55	9,367.31	33.62	33.00	-52.39	101.08	-1,216.66	1,116.41	1,050.24	66.17	16.872	
9,500.00	9,497.51	9,447.37	9,423.03	33.80	33.20	-52.52	99.89	-1,219.76	1,118.29	1,051.73	66.55	16.803	
9,550.00	9,547.49	9,500.92	9,476.50	33.98	33.39	-52.64	98.78	-1,222.49	1,119.94	1,053.01	66.93	16.734	
9,600.00	9,597.46	9,552.80	9,528.30	34.16	33.57	-52.75	97.71	-1,225.02	1,121.49	1,054.20	67.29	16.667	
9,650.00	9,647.44	9,613.15	9,588.58	34.34	33.79	-52.88	96.61	-1,227.69	1,122.81	1,055.12	67.69	16.587	
9,700.00	9,697.42	9,683.74	9,659.13	34.52	34.04	-53.02	95.54	-1,229.88	1,123.50	1,055.38	68.13	16.491	
9,728.92	9,726.32	9,715.79	9,691.16	34.62	34.15	-53.11	94.49	-1,230.38	1,123.45	1,055.11	68.34	16.439	
9,750.00	9,747.39	9,728.55	9,703.90	34.69	34.19	-53.16	93.76	-1,230.63	1,123.53	1,055.07	68.46	16.411	
9,800.00	9,797.37	9,755.00	9,730.23	34.87	34.28	-53.31	91.46	-1,231.42	1,124.36	1,055.64	68.72	16.362	
9,850.00	9,847.35	9,784.36	9,759.22	35.05	34.38	-53.57	87.12	-1,232.79	1,126.17	1,057.21	68.96	16.330	
9,900.00	9,897.33	9,812.45	9,786.53	35.23	34.47	-53.92	80.78	-1,234.58	1,129.07	1,059.89	69.18	16.320	
9,950.00	9,947.30	9,849.00	9,821.34	35.41	34.59	-54.50	70.01	-1,237.26	1,132.84	1,063.40	69.43	16.315	SF
10,000.00	9,997.28	9,890.27	9,859.42	35.59	34.72	-55.33	54.42	-1,240.23	1,137.21	1,067.51	69.70	16.315	
10,050.00	10,047.26	9,920.10	9,885.93	35.77	34.80	-56.03	40.90	-1,242.23	1,142.23	1,072.35	69.87	16.347	
10,100.00	10,097.23	9,944.00	9,906.54	35.95	34.87	-56.65	28.93	-1,244.00	1,148.40	1,078.42	69.98	16.411	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
10,150.00	10,147.21	9,967.17	9,925.97	36.13	34.93	-57.29	16.47	-1,245.93	1,155.85	1,085.81	70.04	16.504	
10,200.00	10,197.19	9,991.00	9,945.42	36.31	34.99	-57.98	2.88	-1,248.19	1,164.68	1,094.61	70.07	16.622	
10,250.00	10,247.16	10,011.46	9,961.69	36.49	35.04	-58.59	-9.34	-1,250.29	1,174.81	1,104.77	70.04	16.774	
10,300.00	10,297.14	10,039.00	9,983.03	36.67	35.11	-59.45	-26.49	-1,253.25	1,186.20	1,116.16	70.04	16.936	
10,350.00	10,347.12	10,057.56	9,997.05	36.85	35.15	-60.04	-38.47	-1,255.32	1,198.82	1,128.90	69.92	17.145	
10,400.00	10,397.10	10,086.00	10,017.98	37.03	35.22	-60.96	-57.45	-1,258.61	1,212.75	1,142.86	69.89	17.353	
10,450.00	10,447.07	10,086.00	10,017.98	37.21	35.22	-60.96	-57.45	-1,258.61	1,228.01	1,158.52	69.49	17.673	
10,500.00	10,497.05	10,111.02	10,035.73	37.39	35.27	-61.80	-74.79	-1,261.74	1,244.50	1,175.14	69.36	17.943	
10,550.00	10,547.03	10,133.00	10,050.74	37.57	35.33	-62.55	-90.56	-1,264.78	1,262.52	1,193.35	69.17	18.252	
10,600.00	10,597.00	10,133.00	10,050.74	37.75	35.33	-62.55	-90.56	-1,264.78	1,281.79	1,213.12	68.67	18.666	
10,650.00	10,646.98	10,148.78	10,061.12	37.93	35.36	-63.09	-102.21	-1,267.13	1,302.42	1,234.06	68.36	19.053	
10,700.00	10,696.96	10,159.27	10,067.82	38.11	35.39	-63.46	-110.11	-1,268.79	1,324.38	1,256.43	67.95	19.490	
10,750.00	10,746.93	10,180.00	10,080.54	38.29	35.44	-64.19	-126.10	-1,272.28	1,347.74	1,280.06	67.68	19.913	
10,800.00	10,796.91	10,180.00	10,080.54	38.47	35.44	-64.32	-126.10	-1,272.28	1,372.07	1,304.96	67.11	20.446	
10,850.00	10,846.90	10,191.90	10,087.55	38.65	35.47	-65.15	-135.49	-1,274.35	1,397.84	1,331.14	66.70	20.958	
10,900.10	10,897.00	10,205.08	10,095.09	38.83	35.50	-104.93	-146.07	-1,276.60	1,424.91	1,358.60	66.31	21.490	
10,950.00	10,946.90	10,228.00	10,107.58	39.00	35.56	-105.76	-164.89	-1,280.42	1,453.04	1,386.98	66.06	21.996	
11,000.00	10,996.90	10,228.00	10,107.58	39.18	35.56	-105.76	-164.89	-1,280.42	1,481.99	1,416.50	65.49	22.631	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	-89.56	6.26	-809.00	809.15				
50.00	50.00	36.98	36.98	0.50	0.50	-89.56	6.27	-808.97	809.00	807.99	1.01	804.888	
100.00	100.00	88.91	88.91	0.52	0.52	-89.55	6.30	-808.82	808.85	807.82	1.04	781.150	
150.00	150.00	140.85	140.85	0.59	0.54	-89.55	6.37	-808.54	808.59	807.45	1.13	713.334	
200.00	200.00	191.56	191.56	0.70	0.63	-89.54	6.47	-808.19	808.23	806.90	1.33	607.260	
250.00	250.00	242.10	242.10	0.84	0.75	-89.53	6.63	-807.80	807.85	806.26	1.59	508.012	
300.00	300.00	291.63	291.63	0.99	0.89	-89.52	6.75	-807.41	807.46	805.58	1.88	429.455	
350.00	350.00	341.03	341.02	1.15	1.04	-89.52	6.82	-807.06	807.10	804.92	2.19	368.600	
400.00	400.00	389.78	389.77	1.31	1.20	-89.51	6.86	-806.77	806.81	804.30	2.51	321.500	
450.00	450.00	439.70	439.69	1.48	1.37	-89.51	6.91	-806.53	806.57	803.73	2.84	283.872	
500.00	500.00	491.52	491.51	1.65	1.54	-89.51	6.92	-806.21	806.26	803.08	3.19	253.125	
550.00	550.00	541.92	541.91	1.82	1.71	-89.51	6.90	-805.81	805.87	802.34	3.53	228.390	
600.00	600.00	591.46	591.45	1.99	1.88	-89.51	6.90	-805.44	805.49	801.62	3.87	208.042	
650.00	650.00	641.05	641.04	2.16	2.05	-89.51	6.93	-805.09	805.14	800.92	4.22	190.901	
700.00	700.00	690.66	690.64	2.34	2.23	-89.50	6.96	-804.77	804.82	800.25	4.57	176.294	
750.00	750.00	740.27	740.26	2.51	2.40	-89.50	7.02	-804.47	804.51	799.60	4.91	163.713	
800.00	800.00	789.39	789.37	2.69	2.57	-89.50	7.07	-804.21	804.25	798.99	5.26	152.834	
850.00	850.00	838.50	838.49	2.87	2.75	-89.50	7.08	-804.01	804.04	798.43	5.61	143.292	
900.00	900.00	887.75	887.73	3.04	2.92	-89.50	7.07	-803.86	803.89	797.93	5.96	134.852	
950.00	950.00	937.40	937.39	3.22	3.09	-89.50	7.05	-803.74	803.77	797.46	6.31	127.314	
1,000.00	1,000.00	987.06	987.04	3.40	3.27	-89.50	7.03	-803.64	803.67	797.00	6.67	120.566	
1,050.00	1,050.00	1,036.72	1,036.70	3.58	3.44	-89.50	7.01	-803.56	803.59	796.57	7.02	114.493	
1,100.00	1,100.00	1,086.62	1,086.60	3.75	3.62	-89.50	6.99	-803.50	803.53	796.16	7.37	109.003	
1,150.00	1,150.00	1,136.71	1,136.69	3.93	3.80	-89.51	6.93	-803.43	803.46	795.74	7.72	104.014	
1,200.00	1,200.00	1,186.80	1,186.78	4.11	3.97	-89.51	6.83	-803.36	803.39	795.31	8.08	99.457	
1,250.00	1,250.00	1,236.88	1,236.87	4.29	4.15	-89.52	6.70	-803.29	803.32	794.88	8.43	95.279	
1,300.00	1,300.00	1,287.39	1,287.37	4.46	4.32	-89.53	6.52	-803.19	803.22	794.44	8.79	91.430	
1,350.00	1,350.00	1,337.92	1,337.91	4.64	4.50	-89.55	6.30	-803.07	803.09	793.96	9.14	87.873	
1,399.22	1,399.22	1,384.84	1,384.82	4.82	4.66	-89.56	6.11	-803.01	803.04	793.56	9.47	84.758	
1,400.00	1,400.00	1,385.59	1,385.57	4.82	4.66	-89.56	6.11	-803.01	803.04	793.56	9.48	84.710	
1,450.00	1,450.00	1,434.13	1,434.11	5.00	4.83	-89.58	5.94	-803.07	803.10	793.27	9.82	81.752	
1,500.00	1,500.00	1,484.32	1,484.30	5.18	5.00	-89.59	5.79	-803.16	803.18	793.01	10.17	78.962	
1,550.00	1,550.00	1,534.52	1,534.50	5.36	5.17	-89.60	5.65	-803.24	803.26	792.74	10.52	76.355	
1,600.00	1,600.00	1,584.71	1,584.69	5.53	5.34	-89.61	5.51	-803.30	803.32	792.45	10.87	73.913	
1,650.00	1,650.00	1,634.56	1,634.54	5.71	5.50	-89.62	5.39	-803.36	803.38	792.16	11.22	71.630	
1,700.00	1,700.00	1,684.19	1,684.17	5.89	5.67	-89.62	5.30	-803.44	803.46	791.89	11.56	69.491	
1,750.00	1,750.00	1,733.82	1,733.80	6.07	5.84	-89.63	5.23	-803.54	803.56	791.65	11.91	67.477	
1,800.00	1,800.00	1,783.44	1,783.42	6.25	6.01	-89.63	5.19	-803.66	803.68	791.42	12.26	65.579	
1,850.00	1,850.00	1,834.88	1,834.85	6.43	6.18	-89.63	5.17	-803.76	803.78	791.17	12.61	63.736	
1,900.00	1,900.00	1,886.58	1,886.56	6.61	6.36	-89.64	5.11	-803.75	803.77	790.80	12.97	61.979	
1,941.94	1,941.94	1,927.56	1,927.54	6.76	6.51	-89.64	5.04	-803.73	803.75	790.49	13.26	60.606	
1,950.00	1,950.00	1,935.45	1,935.43	6.78	6.53	-89.64	5.03	-803.73	803.75	790.43	13.32	60.349	
2,000.00	2,000.00	1,984.51	1,984.49	6.96	6.71	-89.65	4.92	-803.78	803.79	790.12	13.67	58.806	
2,050.00	2,050.00	2,034.61	2,034.59	7.14	6.88	-89.66	4.80	-803.84	803.86	789.84	14.02	57.332	
2,100.00	2,100.00	2,084.99	2,084.97	7.32	7.05	-89.67	4.67	-803.90	803.92	789.54	14.38	55.924	
2,150.00	2,150.00	2,136.44	2,136.42	7.50	7.24	-89.68	4.56	-803.90	803.91	789.18	14.73	54.558	
2,200.00	2,200.00	2,187.32	2,187.29	7.68	7.42	-89.68	4.46	-803.81	803.82	788.73	15.09	53.256	
2,250.00	2,250.00	2,237.28	2,237.25	7.86	7.59	-89.69	4.32	-803.70	803.72	788.27	15.45	52.021	
2,300.00	2,300.00	2,287.24	2,287.21	8.04	7.77	-89.71	4.12	-803.60	803.62	787.81	15.81	50.842	
2,350.00	2,350.00	2,337.19	2,337.17	8.22	7.95	-89.72	3.87	-803.51	803.52	787.35	16.16	49.715	
2,400.00	2,400.00	2,386.16	2,386.13	8.39	8.12	-89.74	3.59	-803.43	803.44	786.92	16.51	48.652	
2,415.15	2,415.15	2,400.78	2,400.75	8.45	8.17	-89.75	3.50	-803.43	803.43	786.81	16.62	48.344	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
2,450.00	2,450.00	2,434.40	2,434.38	8.57	8.29	-89.76	3.30	-803.45	803.46	786.60	16.86	47.650	
2,500.00	2,500.00	2,482.65	2,482.63	8.75	8.46	-89.78	3.02	-803.58	803.59	786.38	17.21	46.696	
2,550.00	2,550.00	2,530.90	2,530.87	8.93	8.63	-89.80	2.74	-803.81	803.83	786.27	17.56	45.785	
2,600.00	2,600.00	2,581.77	2,581.74	9.11	8.80	-89.82	2.47	-804.11	804.12	786.21	17.91	44.890	
2,650.00	2,650.00	2,633.94	2,633.91	9.29	8.99	-89.84	2.22	-804.29	804.30	786.02	18.27	44.014	
2,700.00	2,700.00	2,684.97	2,684.94	9.47	9.17	-89.86	2.01	-804.36	804.36	785.73	18.63	43.169	
2,750.00	2,750.00	2,735.79	2,735.76	9.65	9.34	-89.87	1.77	-804.38	804.38	785.39	18.99	42.355	
2,800.00	2,800.00	2,786.61	2,786.57	9.83	9.52	-89.89	1.50	-804.34	804.34	784.99	19.35	41.568	
2,850.00	2,850.00	2,837.42	2,837.39	10.00	9.70	-89.91	1.21	-804.26	804.26	784.55	19.71	40.807	
2,900.00	2,900.00	2,887.38	2,887.35	10.18	9.88	-89.93	0.94	-804.15	804.15	784.09	20.07	40.075	
2,950.00	2,950.00	2,937.19	2,937.16	10.36	10.06	-89.95	0.69	-804.04	804.04	783.62	20.42	39.371	
3,000.00	3,000.00	2,986.35	2,986.31	10.54	10.23	-89.97	0.48	-803.97	803.97	783.20	20.78	38.697	
3,050.00	3,050.00	3,035.89	3,035.85	10.72	10.41	-89.98	0.29	-803.95	803.95	782.82	21.13	38.045	
3,100.00	3,100.00	3,086.12	3,086.09	10.90	10.59	-89.99	0.15	-803.93	803.93	782.44	21.49	37.410	
3,150.00	3,150.00	3,135.87	3,135.84	11.08	10.77	-90.00	0.05	-803.90	803.90	782.05	21.85	36.799	
3,165.38	3,165.38	3,151.02	3,150.98	11.13	10.82	-90.00	0.01	-803.90	803.90	781.94	21.95	36.617	
3,200.00	3,200.00	3,185.10	3,185.07	11.26	10.94	-90.01	-0.12	-803.91	803.91	781.71	22.20	36.213	
3,250.00	3,250.00	3,235.06	3,235.02	11.44	11.12	-90.03	-0.37	-803.95	803.95	781.40	22.56	35.643	
3,300.00	3,300.00	3,285.60	3,285.56	11.62	11.30	-90.04	-0.56	-803.97	803.97	781.06	22.91	35.086	
3,350.00	3,350.00	3,334.98	3,334.95	11.80	11.47	-90.05	-0.72	-803.98	803.98	780.71	23.27	34.553	
3,400.00	3,400.00	3,383.86	3,383.83	11.97	11.65	-90.07	-0.95	-804.05	804.06	780.44	23.62	34.041	
3,450.00	3,450.00	3,434.18	3,434.14	12.15	11.82	-90.09	-1.24	-804.17	804.17	780.19	23.98	33.538	
3,500.00	3,500.00	3,484.97	3,484.93	12.33	12.00	-90.11	-1.58	-804.23	804.23	779.90	24.34	33.046	
3,550.00	3,550.00	3,536.51	3,536.47	12.51	12.19	-90.14	-1.98	-804.23	804.23	779.53	24.70	32.561	
3,600.00	3,600.00	3,588.13	3,588.08	12.69	12.37	-90.17	-2.43	-804.12	804.13	779.06	25.06	32.085	
3,650.00	3,650.00	3,639.74	3,639.70	12.87	12.56	-90.21	-2.95	-803.91	803.92	778.50	25.43	31.619	
3,700.00	3,700.00	3,691.75	3,691.70	13.05	12.74	-90.25	-3.54	-803.58	803.61	777.83	25.79	31.161	
3,750.00	3,750.00	3,745.14	3,745.08	13.23	12.93	-90.31	-4.28	-803.06	803.13	776.97	26.16	30.703	
3,800.00	3,800.00	3,797.11	3,797.04	13.41	13.12	-90.37	-5.13	-802.36	802.45	775.93	26.52	30.256	
3,850.00	3,850.00	3,847.42	3,847.34	13.59	13.30	-90.43	-5.97	-801.62	801.73	774.85	26.88	29.825	
3,900.00	3,900.00	3,898.38	3,898.28	13.77	13.48	-90.49	-6.83	-800.85	800.98	773.74	27.24	29.402	
3,950.00	3,950.00	3,949.81	3,949.69	13.94	13.66	-90.56	-7.80	-799.98	800.14	772.54	27.60	28.986	
4,000.00	4,000.00	4,001.23	4,001.10	14.12	13.85	-90.64	-8.87	-799.02	799.22	771.25	27.97	28.578	
4,050.00	4,050.00	4,052.64	4,052.48	14.30	14.03	-51.87	-10.05	-797.96	798.04	769.71	28.33	28.172	
4,100.00	4,099.99	4,103.59	4,103.40	14.48	14.21	-52.02	-11.29	-796.83	796.44	767.75	28.69	27.763	
4,150.00	4,149.97	4,154.45	4,154.24	14.66	14.40	-52.21	-12.54	-795.65	794.47	765.42	29.05	27.353	
4,200.00	4,199.95	4,205.30	4,205.05	14.83	14.58	-52.39	-13.80	-794.40	792.34	762.93	29.40	26.947	
4,250.00	4,249.93	4,256.14	4,255.86	15.01	14.76	-52.57	-15.07	-793.09	790.15	760.39	29.76	26.549	
4,300.00	4,299.90	4,305.48	4,305.16	15.19	14.94	-52.77	-16.50	-791.81	787.97	757.86	30.12	26.165	
4,350.00	4,349.88	4,355.28	4,354.92	15.37	15.11	-52.98	-18.19	-790.53	785.82	755.35	30.47	25.789	
4,400.00	4,399.86	4,405.99	4,405.59	15.54	15.30	-53.19	-19.73	-789.20	783.65	752.82	30.83	25.419	
4,450.00	4,449.84	4,460.14	4,459.70	15.72	15.49	-53.38	-20.97	-787.67	781.38	750.18	31.20	25.047	
4,500.00	4,499.81	4,517.85	4,517.36	15.90	15.70	-53.56	-21.96	-785.55	778.67	747.10	31.57	24.665	
4,550.00	4,549.79	4,581.78	4,581.21	16.08	15.92	-53.72	-22.46	-782.36	775.30	743.35	31.95	24.267	
4,600.00	4,599.77	4,643.82	4,643.10	16.26	16.14	-53.82	-22.09	-778.16	771.00	738.69	32.31	23.859	
4,650.00	4,649.74	4,701.46	4,700.56	16.43	16.34	-53.85	-20.83	-773.60	766.11	733.44	32.67	23.450	
4,700.00	4,699.72	4,756.65	4,755.50	16.61	16.53	-53.82	-18.84	-768.78	760.76	727.74	33.02	23.039	
4,750.00	4,749.70	4,811.03	4,809.58	16.79	16.72	-53.74	-16.31	-763.70	755.10	721.73	33.37	22.629	
4,800.00	4,799.67	4,861.26	4,859.51	16.97	16.89	-53.65	-13.68	-758.86	749.27	715.56	33.72	22.223	
4,850.00	4,849.65	4,911.55	4,909.48	17.15	17.06	-53.55	-10.95	-753.97	743.40	709.34	34.06	21.824	
4,900.00	4,899.63	4,960.17	4,957.80	17.32	17.23	-53.45	-8.32	-749.26	737.56	703.14	34.41	21.433	
4,950.00	4,949.61	5,008.94	5,006.27	17.50	17.40	-53.36	-5.73	-744.59	731.77	697.00	34.76	21.051	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
5,000.00	4,999.58	5,057.45	5,054.49	17.68	17.57	-53.24	-2.85	-740.03	726.05	690.94	35.11	20.679	
5,050.00	5,049.56	5,106.59	5,103.29	17.86	17.74	-53.07	0.56	-735.50	720.41	684.95	35.46	20.317	
5,100.00	5,099.54	5,157.62	5,153.96	18.04	17.91	-52.88	4.34	-730.75	714.72	678.92	35.81	19.960	
5,150.00	5,149.51	5,207.09	5,203.07	18.21	18.08	-52.68	8.09	-726.07	708.97	672.82	36.16	19.609	
5,200.00	5,199.49	5,254.33	5,249.98	18.39	18.25	-52.50	11.63	-721.72	703.35	666.85	36.51	19.266	
5,250.00	5,249.47	5,303.32	5,298.64	18.57	18.42	-52.30	15.24	-717.35	697.88	661.03	36.86	18.935	
5,300.00	5,299.44	5,354.91	5,349.86	18.75	18.60	-52.07	19.33	-712.67	692.34	655.13	37.21	18.608	
5,350.00	5,349.42	5,406.23	5,400.76	18.93	18.78	-51.81	23.73	-707.87	686.67	649.11	37.56	18.284	
5,400.00	5,399.40	5,457.34	5,451.43	19.11	18.96	-51.53	28.29	-702.98	680.90	642.99	37.91	17.963	
5,450.00	5,449.38	5,505.98	5,499.63	19.28	19.13	-51.26	32.72	-698.29	675.10	636.84	38.26	17.646	
5,500.00	5,499.35	5,553.67	5,546.92	19.46	19.30	-50.99	36.99	-693.80	669.44	630.83	38.61	17.339	
5,550.00	5,549.33	5,602.62	5,595.47	19.64	19.48	-50.71	41.35	-689.30	663.90	624.94	38.96	17.040	
5,600.00	5,599.31	5,652.05	5,644.49	19.82	19.65	-50.41	45.80	-684.78	658.40	619.09	39.31	16.747	
5,650.00	5,649.28	5,700.67	5,692.71	20.00	19.82	-50.12	50.24	-680.36	652.95	613.28	39.67	16.460	
5,700.00	5,699.26	5,749.14	5,740.77	20.18	20.00	-49.81	54.71	-676.04	647.61	607.58	40.02	16.181	
5,750.00	5,749.24	5,797.69	5,788.93	20.36	20.17	-49.50	59.21	-671.79	642.36	601.99	40.38	15.910	
5,800.00	5,799.21	5,846.28	5,837.13	20.53	20.34	-49.18	63.72	-667.62	637.22	596.49	40.73	15.645	
5,850.00	5,849.19	5,897.63	5,888.08	20.71	20.53	-48.85	68.40	-663.18	632.07	590.99	41.08	15.385	
5,900.00	5,899.17	5,949.66	5,939.69	20.89	20.72	-48.52	72.95	-658.54	626.79	585.36	41.44	15.127	
5,950.00	5,949.14	6,006.22	5,995.80	21.07	20.92	-48.19	77.62	-653.06	621.14	579.36	41.78	14.866	
6,000.00	5,999.12	6,058.90	6,048.02	21.25	21.11	-47.89	81.67	-647.45	615.01	572.88	42.13	14.596	
6,050.00	6,049.10	6,106.37	6,095.10	21.43	21.28	-47.64	85.10	-642.45	608.95	566.45	42.49	14.330	
6,100.00	6,099.08	6,153.60	6,141.98	21.61	21.46	-47.40	88.35	-637.65	603.06	560.21	42.85	14.073	
6,150.00	6,149.05	6,200.51	6,188.55	21.79	21.63	-47.17	91.46	-633.09	597.41	554.20	43.21	13.825	
6,200.00	6,199.03	6,248.44	6,236.18	21.96	21.80	-46.95	94.55	-628.64	591.97	548.40	43.57	13.587	
6,250.00	6,249.01	6,297.66	6,285.10	22.14	21.98	-46.72	97.65	-624.14	586.60	542.68	43.93	13.355	
6,300.00	6,298.98	6,349.29	6,336.41	22.32	22.17	-46.48	100.81	-619.40	581.24	536.96	44.28	13.127	
6,350.00	6,348.96	6,403.23	6,390.02	22.50	22.37	-46.27	103.69	-614.14	575.56	530.93	44.63	12.897	
6,400.00	6,398.94	6,452.91	6,439.38	22.68	22.55	-46.10	106.03	-609.09	569.65	524.66	44.98	12.663	
6,450.00	6,448.91	6,501.16	6,487.35	22.86	22.72	-45.94	108.22	-604.30	563.85	518.50	45.34	12.435	
6,500.00	6,498.89	6,549.23	6,535.14	23.04	22.90	-45.78	110.37	-599.65	558.18	512.48	45.70	12.213	
6,550.00	6,548.87	6,597.26	6,582.91	23.22	23.08	-45.62	112.56	-595.14	552.67	506.61	46.06	11.998	
6,600.00	6,598.85	6,647.16	6,632.55	23.40	23.26	-45.46	114.76	-590.53	547.23	500.81	46.42	11.789	
6,650.00	6,648.82	6,697.43	6,682.56	23.57	23.44	-45.31	116.75	-585.87	541.75	494.98	46.77	11.582	
6,700.00	6,698.80	6,756.59	6,741.40	23.75	23.66	-45.20	118.42	-579.91	535.83	488.72	47.11	11.375	
6,750.00	6,748.78	6,814.09	6,798.50	23.93	23.87	-45.19	119.06	-573.21	529.02	481.59	47.43	11.153	
6,800.00	6,798.75	6,868.40	6,852.36	24.11	24.08	-45.19	119.56	-566.29	521.67	473.91	47.76	10.922	
6,850.00	6,848.73	6,916.57	6,900.10	24.29	24.25	-45.16	120.16	-559.86	514.04	465.92	48.13	10.681	
6,900.00	6,898.71	6,961.14	6,944.30	24.47	24.42	-45.10	121.06	-554.25	506.82	458.32	48.51	10.449	
6,950.00	6,948.68	7,009.08	6,991.89	24.65	24.60	-45.00	122.37	-548.55	500.00	451.13	48.87	10.232	
7,000.00	6,998.66	7,060.15	7,042.56	24.83	24.79	-44.88	123.80	-542.40	493.10	443.88	49.22	10.019	
7,050.00	7,048.64	7,104.95	7,087.03	25.01	24.96	-44.78	125.05	-537.04	486.25	436.65	49.60	9.804	
7,100.00	7,098.62	7,146.56	7,128.39	25.19	25.11	-44.69	126.18	-532.72	480.16	430.18	49.98	9.607	
7,150.00	7,148.59	7,190.24	7,171.89	25.37	25.27	-44.61	127.36	-528.88	474.86	424.51	50.35	9.431	
7,200.00	7,198.57	7,237.29	7,218.76	25.54	25.44	-44.49	128.91	-525.08	469.96	419.24	50.72	9.267	
7,250.00	7,248.55	7,285.08	7,266.38	25.72	25.62	-44.33	130.80	-521.44	465.33	414.25	51.08	9.111	
7,300.00	7,298.52	7,334.09	7,315.21	25.90	25.80	-44.16	132.78	-517.83	460.82	409.39	51.43	8.959	
7,350.00	7,348.50	7,382.61	7,363.56	26.08	25.98	-44.00	134.68	-514.35	456.42	404.63	51.79	8.812	
7,400.00	7,398.48	7,430.48	7,411.30	26.26	26.15	-43.86	136.41	-511.12	452.21	400.06	52.15	8.671	
7,450.00	7,448.45	7,478.81	7,459.51	26.44	26.33	-43.74	137.99	-508.08	448.21	395.70	52.51	8.536	
7,500.00	7,498.43	7,527.69	7,508.28	26.62	26.50	-43.63	139.51	-505.14	444.33	391.46	52.87	8.404	
7,550.00	7,548.41	7,576.62	7,557.10	26.80	26.68	-43.53	140.95	-502.31	440.56	387.33	53.23	8.277	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,600.00	7,598.38	7,625.59	7,605.97	26.98	26.86	-43.43	142.33	-499.58	436.89	383.30	53.58	8.154	
7,650.00	7,648.36	7,674.52	7,654.82	27.16	27.03	-43.35	143.65	-496.97	433.32	379.38	53.94	8.034	
7,700.00	7,698.34	7,723.43	7,703.65	27.34	27.21	-43.28	144.90	-494.48	429.87	375.58	54.30	7.917	
7,750.00	7,748.32	7,771.63	7,751.77	27.52	27.38	-43.21	146.07	-492.17	426.56	371.91	54.65	7.805	
7,800.00	7,798.29	7,819.47	7,799.56	27.70	27.56	-43.16	147.14	-490.11	423.48	368.48	55.01	7.699	
7,850.00	7,848.27	7,868.23	7,848.27	27.87	27.73	-43.13	148.15	-488.23	420.61	365.25	55.36	7.598	
7,900.00	7,898.25	7,917.41	7,897.42	28.05	27.91	-43.11	149.08	-486.45	417.84	362.12	55.72	7.499	
7,950.00	7,948.22	7,966.21	7,946.18	28.23	28.08	-43.10	149.95	-484.78	415.17	359.10	56.07	7.404	
8,000.00	7,998.20	8,014.88	7,994.82	28.41	28.25	-43.08	150.85	-483.27	412.65	356.22	56.42	7.313	
8,050.00	8,048.18	8,063.20	8,043.11	28.59	28.43	-43.08	151.74	-481.93	410.30	353.52	56.78	7.227	
8,100.00	8,098.15	8,111.45	8,091.34	28.77	28.60	-43.08	152.54	-480.81	408.16	351.03	57.13	7.145	
8,150.00	8,148.13	8,160.72	8,140.59	28.95	28.77	-43.10	153.30	-479.83	406.17	348.69	57.48	7.067	
8,200.00	8,198.11	8,210.18	8,190.04	29.13	28.94	-43.12	154.06	-478.91	404.25	346.42	57.83	6.990	
8,250.00	8,248.09	8,258.43	8,238.27	29.31	29.11	-43.16	154.72	-478.15	402.46	344.28	58.18	6.918	
8,300.00	8,298.06	8,306.61	8,286.45	29.49	29.28	-43.22	155.21	-477.64	400.90	342.37	58.53	6.850	
8,350.00	8,348.04	8,356.65	8,336.49	29.67	29.46	-43.31	155.56	-477.24	399.44	340.56	58.88	6.784	
8,400.00	8,398.02	8,406.75	8,386.59	29.85	29.63	-43.42	155.78	-476.84	397.97	338.74	59.24	6.718	
8,450.00	8,447.99	8,455.75	8,435.58	30.03	29.81	-43.54	155.97	-476.51	396.57	336.98	59.59	6.655	
8,500.00	8,497.97	8,504.85	8,484.69	30.21	29.98	-43.64	156.24	-476.28	395.27	335.34	59.94	6.595	
8,550.00	8,547.95	8,553.61	8,533.44	30.39	30.14	-43.71	156.76	-476.15	394.11	333.83	60.28	6.538	
8,600.00	8,597.92	8,603.43	8,583.26	30.57	30.32	-43.75	157.53	-476.08	393.04	332.41	60.63	6.483	
8,650.00	8,647.90	8,653.89	8,633.71	30.74	30.49	-43.80	158.27	-475.98	391.94	330.96	60.98	6.427	
8,700.00	8,697.88	8,703.15	8,682.97	30.92	30.66	-43.87	158.80	-475.88	390.82	329.49	61.33	6.372	
8,750.00	8,747.86	8,751.89	8,731.70	31.10	30.82	-43.95	159.28	-475.99	389.90	328.22	61.67	6.322	
8,800.00	8,797.83	8,800.85	8,780.66	31.28	30.99	-44.05	159.71	-476.22	389.09	327.08	62.02	6.274	
8,850.00	8,847.81	8,850.20	8,830.01	31.46	31.15	-44.15	160.10	-476.55	388.39	326.03	62.36	6.228	
8,900.00	8,897.79	8,899.30	8,879.10	31.64	31.32	-44.24	160.59	-477.00	387.81	325.11	62.70	6.185	
8,950.00	8,947.76	8,948.32	8,928.12	31.82	31.48	-44.33	161.11	-477.52	387.31	324.27	63.04	6.144	
9,000.00	8,997.74	8,998.20	8,977.99	32.00	31.65	-44.42	161.62	-478.14	386.91	323.52	63.39	6.104	
9,050.00	9,047.72	9,047.57	9,027.36	32.18	31.81	-44.54	161.94	-478.84	386.57	322.84	63.73	6.066	
9,100.00	9,097.69	9,097.66	9,077.44	32.36	31.98	-44.70	162.03	-479.60	386.25	322.18	64.08	6.028	
9,150.00	9,147.67	9,147.80	9,127.58	32.54	32.15	-44.87	162.03	-480.36	385.92	321.50	64.42	5.991	
9,200.00	9,197.65	9,197.56	9,177.33	32.72	32.31	-45.05	161.95	-481.11	385.59	320.83	64.77	5.954	
9,250.00	9,247.62	9,247.02	9,226.78	32.90	32.48	-45.26	161.69	-481.93	385.32	320.22	65.11	5.918	
9,300.00	9,297.60	9,295.89	9,275.65	33.08	32.64	-45.49	161.31	-482.85	385.15	319.71	65.45	5.885	
9,322.47	9,320.06	9,317.74	9,297.48	33.16	32.71	-45.59	161.14	-483.32	385.14	319.54	65.60	5.871	
9,350.00	9,347.58	9,344.50	9,324.24	33.26	32.80	-45.71	160.95	-483.93	385.16	319.38	65.78	5.855	
9,400.00	9,397.56	9,394.07	9,373.79	33.44	32.96	-45.94	160.61	-485.16	385.31	319.19	66.12	5.827	
9,450.00	9,447.53	9,443.97	9,423.68	33.62	33.13	-46.16	160.30	-486.41	385.48	319.01	66.47	5.799	
9,500.00	9,497.51	9,494.97	9,474.66	33.80	33.30	-46.39	160.00	-487.64	385.60	318.78	66.82	5.770	
9,550.00	9,547.49	9,546.17	9,525.84	33.98	33.47	-46.62	159.69	-488.71	385.58	318.40	67.18	5.740	
9,600.00	9,597.46	9,596.96	9,576.62	34.16	33.64	-46.84	159.38	-489.64	385.42	317.89	67.53	5.707	
9,650.00	9,647.44	9,647.75	9,627.41	34.34	33.81	-47.06	159.07	-490.46	385.17	317.29	67.88	5.674	
9,700.00	9,697.42	9,697.61	9,677.26	34.52	33.98	-47.28	158.80	-491.22	384.89	316.66	68.23	5.641	
9,750.00	9,747.39	9,748.04	9,727.68	34.69	34.15	-47.49	158.56	-491.99	384.60	316.02	68.58	5.608	
9,800.00	9,797.37	9,799.98	9,779.62	34.87	34.32	-47.72	158.19	-492.60	384.14	315.20	68.94	5.572	
9,850.00	9,847.35	9,851.43	9,831.06	35.05	34.50	-47.98	157.63	-492.96	383.45	314.15	69.30	5.533	
9,900.00	9,897.33	9,901.90	9,881.53	35.23	34.67	-48.25	156.99	-493.21	382.64	312.99	69.65	5.494	
9,950.00	9,947.30	9,954.00	9,933.59	35.41	34.85	-48.70	155.13	-493.38	381.72	311.71	70.01	5.452	
10,000.00	9,997.28	10,002.56	9,981.73	35.59	35.01	-49.80	148.96	-493.52	380.67	310.32	70.35	5.411	
10,050.00	10,047.26	10,047.72	10,025.77	35.77	35.15	-51.45	139.01	-494.05	380.21	309.56	70.65	5.381	
10,050.63	10,047.89	10,048.28	10,026.30	35.77	35.15	-51.48	138.86	-494.06	380.21	309.55	70.66	5.381	CC, ES

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
10,100.00	10,097.23	10,094.62	10,070.19	35.95	35.29	-53.86	124.06	-494.85	380.64	309.69	70.95	5.365	
10,150.00	10,147.21	10,142.59	10,113.89	36.13	35.43	-56.98	104.33	-495.14	381.83	310.60	71.23	5.361	SF
10,200.00	10,197.19	10,184.81	10,150.38	36.31	35.53	-60.28	83.13	-494.68	384.29	312.90	71.39	5.383	
10,250.00	10,247.16	10,221.47	10,180.40	36.49	35.62	-63.49	62.12	-493.94	389.00	317.64	71.36	5.451	
10,300.00	10,297.14	10,253.74	10,205.35	36.67	35.69	-66.55	41.69	-493.05	396.58	325.50	71.08	5.579	
10,350.00	10,347.12	10,283.08	10,226.86	36.85	35.74	-69.47	21.76	-492.10	407.40	336.86	70.54	5.775	
10,400.00	10,397.10	10,309.13	10,245.08	37.03	35.78	-72.11	3.17	-491.19	421.57	351.84	69.73	6.046	
10,450.00	10,447.07	10,331.30	10,259.76	37.21	35.82	-74.40	-13.42	-490.36	439.18	370.56	68.63	6.400	
10,500.00	10,497.05	10,351.47	10,272.40	37.39	35.85	-76.51	-29.12	-489.57	460.14	392.79	67.35	6.832	
10,550.00	10,547.03	10,372.92	10,285.18	37.57	35.88	-78.75	-46.32	-488.60	484.09	418.01	66.08	7.326	
10,600.00	10,597.00	10,392.33	10,296.21	37.75	35.94	-80.77	-62.25	-487.57	510.69	445.94	64.75	7.887	
10,650.00	10,646.98	10,408.92	10,305.22	37.93	35.99	-82.48	-76.15	-486.57	539.72	476.34	63.38	8.516	
10,700.00	10,696.96	10,423.60	10,312.81	38.11	36.03	-83.98	-88.68	-485.62	570.97	508.95	62.02	9.206	
10,750.00	10,746.93	10,444.00	10,322.77	38.29	36.08	-86.04	-106.42	-484.18	604.26	543.28	60.98	9.909	
10,800.00	10,796.91	10,450.44	10,325.79	38.47	36.10	-86.91	-112.08	-483.70	639.12	579.57	59.55	10.733	
10,850.00	10,846.90	10,465.09	10,332.51	38.65	36.14	-89.13	-125.06	-482.60	675.49	616.94	58.54	11.539	
10,900.10	10,897.00	10,479.25	10,338.83	38.83	36.18	-130.18	-137.68	-481.52	713.14	655.51	57.63	12.374	
10,950.00	10,946.90	10,492.00	10,344.37	39.00	36.22	-131.33	-149.13	-480.53	751.69	694.90	56.79	13.236	
11,000.00	10,996.90	10,506.14	10,350.34	39.18	36.26	-132.57	-161.89	-479.42	791.22	735.13	56.09	14.106	
11,050.00	11,046.90	10,518.84	10,355.57	39.36	36.30	-133.66	-173.42	-478.39	831.55	776.11	55.44	14.998	
11,100.00	11,096.90	10,530.91	10,360.41	39.54	36.34	-134.67	-184.43	-477.40	872.60	817.74	54.86	15.906	
11,150.00	11,146.90	10,539.00	10,363.59	39.72	36.36	-135.34	-191.84	-476.72	914.29	860.05	54.24	16.855	
11,200.00	11,196.90	10,550.92	10,368.15	39.89	36.40	-136.30	-202.81	-475.72	956.56	902.76	53.80	17.778	
11,250.00	11,246.90	10,559.54	10,371.35	40.07	36.43	-136.98	-210.78	-475.01	999.39	946.05	53.35	18.734	
11,300.00	11,296.84	10,568.61	10,374.62	40.24	36.45	37.54	-219.21	-474.27	1,041.88	988.97	52.91	19.690	
11,350.00	11,346.40	10,586.00	10,380.63	40.40	36.51	32.49	-235.47	-472.87	1,083.04	1,030.40	52.64	20.573	
11,400.00	11,395.20	10,586.00	10,380.63	40.55	36.51	29.20	-235.47	-472.87	1,122.50	1,070.54	51.97	21.600	
11,450.00	11,442.87	10,602.32	10,385.97	40.70	36.56	25.99	-250.84	-471.63	1,160.17	1,108.53	51.64	22.468	
11,500.00	11,489.06	10,615.28	10,389.99	40.83	36.60	23.52	-263.13	-470.73	1,195.85	1,144.62	51.23	23.345	
11,550.00	11,533.40	10,633.00	10,395.18	40.96	36.66	21.44	-280.03	-469.63	1,229.37	1,178.47	50.90	24.153	
11,600.00	11,575.56	10,633.00	10,395.18	41.08	36.66	20.02	-280.03	-469.63	1,260.64	1,210.38	50.26	25.081	
11,650.00	11,615.22	10,660.47	10,402.55	41.18	36.75	18.49	-306.46	-468.16	1,289.18	1,239.08	50.10	25.731	
11,700.00	11,652.08	10,681.00	10,407.54	41.28	36.81	17.33	-326.35	-467.19	1,315.24	1,265.41	49.83	26.397	
11,750.00	11,685.86	10,681.00	10,407.54	41.40	36.81	16.55	-326.35	-467.19	1,338.71	1,289.43	49.27	27.170	
11,800.00	11,716.30	10,706.35	10,412.96	41.51	36.90	15.74	-351.09	-466.26	1,359.18	1,310.09	49.09	27.686	
11,850.00	11,743.17	10,728.00	10,416.84	41.63	36.97	15.13	-372.38	-465.76	1,377.06	1,328.17	48.88	28.171	
11,900.00	11,766.26	10,728.00	10,416.84	41.74	36.97	14.72	-372.38	-465.76	1,392.03	1,343.55	48.47	28.717	
11,950.00	11,785.40	10,758.59	10,421.41	41.85	37.07	14.33	-402.63	-465.42	1,403.80	1,355.38	48.42	28.994	
12,000.00	11,800.44	10,778.90	10,423.96	41.96	37.14	14.08	-422.77	-465.38	1,412.53	1,364.24	48.29	29.249	
12,050.00	11,811.27	10,801.00	10,426.29	42.07	37.21	13.93	-444.75	-465.53	1,418.10	1,369.87	48.22	29.407	
12,100.00	11,817.81	10,832.67	10,429.15	42.18	37.33	13.89	-476.29	-465.89	1,420.26	1,372.00	48.26	29.432	
12,150.00	11,820.00	10,867.11	10,431.90	42.29	37.45	13.96	-510.62	-466.36	1,418.74	1,370.41	48.33	29.356	
12,200.00	11,820.00	10,901.99	10,434.32	42.40	37.58	14.01	-545.41	-466.90	1,415.64	1,367.22	48.43	29.233	
12,250.00	11,820.00	10,938.96	10,436.49	42.53	37.72	14.06	-582.31	-467.39	1,413.03	1,364.47	48.56	29.101	
12,300.00	11,820.00	10,975.97	10,438.28	42.66	37.87	14.10	-619.27	-467.73	1,410.87	1,362.18	48.69	28.975	
12,350.00	11,820.00	11,013.06	10,439.68	42.81	38.03	14.14	-656.34	-467.92	1,409.18	1,360.32	48.85	28.845	
12,400.00	11,820.00	11,050.22	10,440.70	42.97	38.19	14.16	-693.49	-467.97	1,407.93	1,358.91	49.02	28.721	
12,450.00	11,820.00	11,089.18	10,441.37	43.15	38.36	14.17	-732.44	-467.86	1,407.14	1,357.93	49.21	28.593	
12,500.00	11,820.00	11,138.61	10,442.03	43.32	38.60	14.18	-781.86	-467.72	1,406.53	1,357.09	49.44	28.447	
12,550.00	11,820.00	11,185.35	10,442.65	43.52	38.83	14.20	-828.60	-467.65	1,405.95	1,356.27	49.68	28.299	
12,600.00	11,820.00	11,222.75	10,442.89	43.72	39.02	14.20	-866.00	-467.57	1,405.69	1,355.78	49.91	28.165	
12,604.19	11,820.00	11,225.89	10,442.89	43.74	39.04	14.21	-869.13	-467.56	1,405.69	1,355.76	49.93	28.153	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
12,650.00	11,820.00	11,260.15	10,442.76	43.95	39.22	14.21	-903.40	-467.41	1,405.88	1,355.72	50.15	28.031	
12,700.00	11,820.00	11,307.61	10,442.28	44.17	39.48	14.20	-950.85	-467.16	1,406.38	1,355.96	50.42	27.891	
12,750.00	11,820.00	11,359.19	10,441.79	44.41	39.78	14.20	-1,002.43	-466.91	1,406.86	1,356.14	50.71	27.741	
12,800.00	11,820.00	11,415.40	10,441.42	44.66	40.11	14.20	-1,058.64	-466.67	1,407.20	1,356.18	51.03	27.578	
12,850.00	11,820.00	11,472.32	10,441.33	44.92	40.46	14.21	-1,115.55	-466.44	1,407.30	1,355.95	51.35	27.405	
12,860.36	11,820.00	11,481.83	10,441.33	44.98	40.52	14.21	-1,125.07	-466.39	1,407.31	1,355.89	51.42	27.369	
12,900.00	11,820.00	11,522.52	10,441.33	45.19	40.79	14.20	-1,165.76	-466.10	1,407.30	1,355.62	51.68	27.231	
12,950.00	11,820.00	11,575.54	10,441.34	45.47	41.14	14.20	-1,218.77	-465.55	1,407.24	1,355.21	52.02	27.051	
13,000.00	11,820.00	11,631.49	10,441.55	45.76	41.52	14.19	-1,274.72	-464.94	1,407.00	1,354.62	52.38	26.861	
13,050.00	11,820.00	11,689.10	10,442.04	46.06	41.93	14.18	-1,332.33	-464.26	1,406.52	1,353.76	52.76	26.657	
13,100.00	11,820.00	11,747.47	10,442.84	46.37	42.35	14.17	-1,390.68	-463.41	1,405.75	1,352.60	53.15	26.449	
13,150.00	11,820.00	11,794.67	10,443.55	46.69	42.72	14.16	-1,437.87	-462.67	1,404.91	1,351.38	53.53	26.247	
13,200.00	11,820.00	11,843.47	10,444.23	47.01	43.09	14.15	-1,486.66	-461.93	1,404.12	1,350.21	53.91	26.046	
13,250.00	11,820.00	11,896.98	10,445.02	47.36	43.52	14.13	-1,540.16	-461.06	1,403.28	1,348.96	54.32	25.832	
13,300.00	11,820.00	11,948.81	10,445.88	47.70	43.94	14.12	-1,591.97	-460.14	1,402.33	1,347.60	54.73	25.621	
13,350.00	11,820.00	11,997.47	10,446.74	48.05	44.34	14.11	-1,640.62	-459.49	1,401.39	1,346.24	55.15	25.409	
13,400.00	11,820.00	12,040.84	10,447.50	48.41	44.70	14.12	-1,683.98	-459.18	1,400.54	1,344.97	55.56	25.206	
13,450.00	11,820.00	12,076.71	10,447.85	48.79	45.01	14.13	-1,719.85	-459.09	1,400.11	1,344.14	55.97	25.015	
13,467.52	11,820.00	12,089.28	10,447.90	48.92	45.11	14.13	-1,732.42	-459.10	1,400.08	1,343.96	56.12	24.950	
13,500.00	11,820.00	12,112.59	10,447.87	49.16	45.31	14.14	-1,755.73	-459.16	1,400.18	1,343.80	56.39	24.832	
13,550.00	11,820.00	12,161.89	10,447.61	49.55	45.74	14.16	-1,805.03	-459.40	1,400.57	1,343.72	56.85	24.635	
13,600.00	11,820.00	12,214.69	10,447.43	49.94	46.20	14.18	-1,857.83	-459.65	1,400.88	1,343.55	57.33	24.435	
13,650.00	11,820.00	12,269.85	10,447.37	50.35	46.70	14.20	-1,912.99	-459.80	1,401.04	1,343.21	57.83	24.226	
13,700.00	11,820.00	12,325.03	10,447.47	50.75	47.20	14.21	-1,968.17	-459.74	1,401.01	1,342.68	58.33	24.019	
13,701.71	11,820.00	12,321.20	10,447.44	50.77	47.17	14.21	-1,964.34	-459.76	1,401.04	1,342.71	58.33	24.018	
13,750.00	11,820.00	12,356.47	10,447.23	51.17	47.49	14.21	-1,999.60	-459.64	1,401.34	1,342.57	58.78	23.842	
13,800.00	11,820.00	12,392.98	10,446.65	51.59	47.84	14.21	-2,036.11	-459.47	1,402.13	1,342.89	59.24	23.668	
13,850.00	11,820.00	12,434.50	10,445.63	52.02	48.23	14.20	-2,077.62	-459.26	1,403.34	1,343.61	59.73	23.496	
13,900.00	11,820.00	12,478.49	10,444.38	52.46	48.65	14.20	-2,121.59	-459.19	1,404.77	1,344.55	60.22	23.326	
13,950.00	11,820.00	12,531.89	10,442.77	52.90	49.17	14.20	-2,174.97	-459.29	1,406.33	1,345.58	60.75	23.149	
14,000.00	11,820.00	12,593.53	10,441.37	53.35	49.77	14.21	-2,236.59	-459.46	1,407.55	1,346.24	61.30	22.961	
14,050.00	11,820.00	12,649.48	10,440.42	53.81	50.33	14.21	-2,292.53	-459.48	1,408.45	1,346.59	61.86	22.770	
14,100.00	11,820.00	12,703.88	10,439.65	54.27	50.88	14.21	-2,346.93	-459.20	1,409.14	1,346.74	62.40	22.582	
14,150.00	11,820.00	12,754.65	10,439.00	54.74	51.40	14.20	-2,397.69	-458.87	1,409.77	1,346.82	62.95	22.395	
14,200.00	11,820.00	12,815.88	10,438.38	55.21	52.03	14.19	-2,458.92	-458.54	1,410.28	1,346.75	63.53	22.198	
14,250.00	11,820.00	12,890.34	10,438.80	55.69	52.81	14.21	-2,533.37	-458.39	1,410.06	1,345.89	64.18	21.972	
14,300.00	11,820.00	12,937.42	10,439.38	56.17	53.31	14.23	-2,580.45	-458.38	1,409.53	1,344.79	64.74	21.771	
14,350.00	11,820.00	12,987.26	10,440.04	56.66	53.84	14.25	-2,630.28	-458.40	1,408.97	1,343.65	65.33	21.567	
14,400.00	11,820.00	13,035.07	10,440.61	57.15	54.35	14.26	-2,678.09	-458.39	1,408.47	1,342.56	65.91	21.370	
14,450.00	11,820.00	13,082.82	10,441.10	57.65	54.87	14.28	-2,725.84	-458.34	1,408.04	1,341.54	66.50	21.175	
14,500.00	11,820.00	13,130.41	10,441.52	58.15	55.39	14.29	-2,773.43	-458.35	1,407.69	1,340.61	67.09	20.983	
14,550.00	11,820.00	13,177.99	10,441.87	58.66	55.91	14.31	-2,821.00	-458.46	1,407.43	1,339.75	67.69	20.793	
14,600.00	11,820.00	13,225.51	10,442.15	59.17	56.43	14.33	-2,868.53	-458.59	1,407.26	1,338.97	68.29	20.607	
14,650.00	11,820.00	13,273.23	10,442.34	59.69	56.96	14.35	-2,916.24	-458.72	1,407.18	1,338.28	68.90	20.423	
14,686.04	11,820.00	13,307.95	10,442.43	60.07	57.35	14.36	-2,950.96	-458.77	1,407.16	1,337.82	69.34	20.293	
14,700.00	11,820.00	13,321.40	10,442.45	60.21	57.50	14.37	-2,964.42	-458.78	1,407.16	1,337.65	69.51	20.243	
14,750.00	11,820.00	13,373.20	10,442.48	60.74	58.08	14.38	-3,016.22	-458.70	1,407.19	1,337.05	70.14	20.062	
14,800.00	11,820.00	13,432.58	10,442.67	61.27	58.76	14.37	-3,075.59	-458.05	1,406.98	1,336.20	70.79	19.877	
14,850.00	11,820.00	13,478.78	10,442.88	61.81	59.29	14.35	-3,121.78	-457.17	1,406.61	1,335.22	71.39	19.704	
14,890.75	11,820.00	13,512.67	10,442.86	62.25	59.68	14.33	-3,155.67	-456.54	1,406.51	1,334.64	71.87	19.570	
14,900.00	11,820.00	13,520.36	10,442.83	62.34	59.77	14.33	-3,163.36	-456.40	1,406.51	1,334.54	71.98	19.541	
14,950.00	11,820.00	13,571.47	10,442.55	62.89	60.37	14.30	-3,214.45	-455.50	1,406.64	1,334.04	72.60	19.375	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
15,000.00	11,820.00	13,633.95	10,442.62	63.43	61.10	14.27	-3,276.92	-454.35	1,406.44	1,333.18	73.26	19.198	
15,050.00	11,820.00	13,685.88	10,442.93	63.98	61.71	14.24	-3,328.84	-453.27	1,405.96	1,332.07	73.90	19.026	
15,100.00	11,820.00	13,737.10	10,443.25	64.54	62.32	14.21	-3,380.05	-452.03	1,405.45	1,330.92	74.52	18.859	
15,150.00	11,820.00	13,788.62	10,443.60	65.09	62.93	14.18	-3,431.55	-450.74	1,404.88	1,329.72	75.16	18.692	
15,200.00	11,820.00	13,836.58	10,443.98	65.65	63.51	14.15	-3,479.49	-449.57	1,404.28	1,328.49	75.79	18.529	
15,250.00	11,820.00	13,874.16	10,444.06	66.22	63.96	14.12	-3,517.06	-448.72	1,403.98	1,327.59	76.39	18.379	
15,258.81	11,820.00	13,880.79	10,444.04	66.32	64.04	14.12	-3,523.69	-448.57	1,403.97	1,327.47	76.50	18.353	
15,300.00	11,820.00	13,911.74	10,443.80	66.78	64.41	14.10	-3,554.64	-447.92	1,404.12	1,327.12	76.99	18.237	
15,350.00	11,820.00	13,956.32	10,443.20	67.35	64.95	14.07	-3,599.21	-447.07	1,404.61	1,326.99	77.62	18.095	
15,400.00	11,820.00	14,003.54	10,442.50	67.92	65.53	14.04	-3,646.41	-446.32	1,405.22	1,326.96	78.26	17.955	
15,450.00	11,820.00	14,064.29	10,441.74	68.50	66.27	14.02	-3,707.15	-445.52	1,405.75	1,326.80	78.95	17.805	
15,500.00	11,820.00	14,129.91	10,441.66	69.08	67.07	14.00	-3,772.77	-444.76	1,405.75	1,326.09	79.66	17.647	
15,550.00	11,820.00	14,181.72	10,441.85	69.66	67.70	14.00	-3,824.58	-444.16	1,405.50	1,325.17	80.34	17.495	
15,600.00	11,820.00	14,234.20	10,442.22	70.24	68.35	13.99	-3,877.05	-443.56	1,405.10	1,324.08	81.02	17.343	
15,650.00	11,820.00	14,284.90	10,442.63	70.83	68.98	13.98	-3,927.74	-443.01	1,404.65	1,322.95	81.70	17.193	
15,700.00	11,820.00	14,336.47	10,443.09	71.42	69.62	13.98	-3,979.30	-442.46	1,404.17	1,321.78	82.39	17.044	
15,750.00	11,820.00	14,388.40	10,443.62	72.01	70.26	13.97	-4,031.23	-441.90	1,403.62	1,320.54	83.08	16.895	
15,800.00	11,820.00	14,427.86	10,443.93	72.61	70.76	13.97	-4,070.68	-441.53	1,403.20	1,319.47	83.73	16.758	
15,824.24	11,820.00	14,446.25	10,443.97	72.90	70.99	13.97	-4,089.08	-441.42	1,403.15	1,319.10	84.05	16.694	
15,850.00	11,820.00	14,465.80	10,443.94	73.21	71.23	13.97	-4,108.63	-441.34	1,403.20	1,318.82	84.39	16.628	
15,900.00	11,820.00	14,505.78	10,443.64	73.80	71.73	13.98	-4,148.61	-441.29	1,403.63	1,318.57	85.05	16.503	
15,950.00	11,820.00	14,548.96	10,443.10	74.41	72.27	13.99	-4,191.78	-441.35	1,404.33	1,318.59	85.73	16.380	
16,000.00	11,820.00	14,593.80	10,442.33	75.01	72.83	14.00	-4,236.62	-441.50	1,405.26	1,318.84	86.42	16.261	
16,050.00	11,820.00	14,644.91	10,441.42	75.62	73.48	14.01	-4,287.72	-441.68	1,406.25	1,319.11	87.13	16.139	
16,100.00	11,820.00	14,700.89	10,440.48	76.22	74.19	14.02	-4,343.69	-441.76	1,407.16	1,319.30	87.86	16.016	
16,150.00	11,820.00	14,765.80	10,439.70	76.84	75.01	13.99	-4,408.59	-440.83	1,407.65	1,319.05	88.60	15.888	
16,200.00	11,820.00	14,842.57	10,439.65	77.45	76.00	13.92	-4,485.33	-438.63	1,407.41	1,318.08	89.34	15.754	
16,250.00	11,820.00	14,895.63	10,440.27	78.06	76.69	13.86	-4,538.34	-436.77	1,406.49	1,316.47	90.02	15.624	
16,300.00	11,820.00	14,937.29	10,440.46	78.68	77.23	13.80	-4,579.96	-434.88	1,405.81	1,315.14	90.66	15.506	
16,350.00	11,820.00	14,983.44	10,440.30	79.30	77.84	13.71	-4,626.04	-432.33	1,405.38	1,314.08	91.30	15.393	
16,400.00	11,820.00	15,036.18	10,440.11	79.92	78.53	13.60	-4,678.69	-429.21	1,404.94	1,312.99	91.95	15.280	
16,450.00	11,820.00	15,099.01	10,440.14	80.54	79.36	13.46	-4,741.41	-425.37	1,404.28	1,311.68	92.60	15.164	
16,500.00	11,820.00	15,167.92	10,441.07	81.16	80.27	13.32	-4,810.18	-421.22	1,403.00	1,309.73	93.27	15.042	
16,550.00	11,820.00	15,206.66	10,441.58	81.79	80.79	13.25	-4,848.85	-418.94	1,401.71	1,307.80	93.91	14.926	
16,600.00	11,820.00	15,251.97	10,442.08	82.41	81.39	13.16	-4,894.08	-416.34	1,400.59	1,306.03	94.55	14.813	
16,650.00	11,820.00	15,300.99	10,442.54	83.04	82.04	13.06	-4,943.02	-413.56	1,399.56	1,304.35	95.20	14.701	
16,700.00	11,820.00	15,348.90	10,442.96	83.67	82.68	12.97	-4,990.85	-410.85	1,398.57	1,302.71	95.85	14.591	
16,750.00	11,820.00	15,392.49	10,443.21	84.31	83.26	12.89	-5,034.38	-408.48	1,397.75	1,301.24	96.50	14.484	
16,800.00	11,820.00	15,436.63	10,443.28	84.94	83.85	12.81	-5,078.46	-406.21	1,397.15	1,300.00	97.15	14.381	
16,850.00	11,820.00	15,491.07	10,443.37	85.58	84.58	12.71	-5,132.83	-403.42	1,396.58	1,298.76	97.82	14.277	
16,900.00	11,820.00	15,546.00	10,443.61	86.21	85.31	12.61	-5,187.68	-400.48	1,395.85	1,297.36	98.49	14.173	
16,950.00	11,820.00	15,602.03	10,444.05	86.85	86.07	12.50	-5,243.61	-397.29	1,394.91	1,295.76	99.15	14.068	
17,000.00	11,820.00	15,643.68	10,444.41	87.49	86.63	12.41	-5,285.20	-394.81	1,393.93	1,294.13	99.80	13.968	
17,050.00	11,820.00	15,676.75	10,444.33	88.13	87.08	12.35	-5,318.21	-392.90	1,393.49	1,293.07	100.43	13.876	
17,060.75	11,820.00	15,683.86	10,444.27	88.27	87.17	12.33	-5,325.31	-392.50	1,393.48	1,292.92	100.56	13.857	
17,100.00	11,820.00	15,718.00	10,443.68	88.77	87.63	12.26	-5,359.39	-390.62	1,393.70	1,292.64	101.07	13.790	
17,150.00	11,820.00	15,774.59	10,442.77	89.42	88.40	12.14	-5,415.88	-387.60	1,394.02	1,292.29	101.73	13.703	
17,200.00	11,820.00	15,844.29	10,442.69	90.06	89.34	12.01	-5,485.48	-383.90	1,393.57	1,291.15	102.43	13.606	
17,250.00	11,820.00	15,908.80	10,443.35	90.71	90.22	11.89	-5,549.90	-380.32	1,392.56	1,289.46	103.10	13.506	
17,300.00	11,820.00	15,945.23	10,443.69	91.36	90.71	11.82	-5,586.26	-378.24	1,391.56	1,287.81	103.75	13.412	
17,350.00	11,820.00	15,983.22	10,443.72	92.00	91.23	11.74	-5,624.19	-376.04	1,391.00	1,286.60	104.40	13.324	
17,400.00	11,820.00	16,032.17	10,443.44	92.65	91.90	11.63	-5,673.05	-373.16	1,390.75	1,285.70	105.05	13.239	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
17,450.00	11,820.00	16,088.90	10,443.29	93.31	92.68	11.50	-5,729.67	-369.67	1,390.32	1,284.61	105.71	13.152	
17,500.00	11,820.00	16,152.93	10,443.51	93.96	93.56	11.34	-5,793.56	-365.28	1,389.53	1,283.17	106.37	13.064	
17,550.00	11,820.00	16,204.59	10,444.03	94.61	94.27	11.20	-5,845.05	-361.19	1,388.33	1,281.33	107.00	12.975	
17,600.00	11,820.00	16,239.85	10,444.12	95.26	94.76	11.09	-5,880.20	-358.42	1,387.49	1,279.86	107.63	12.892	
17,650.00	11,820.00	16,275.12	10,443.87	95.92	95.25	10.99	-5,915.38	-355.79	1,387.19	1,278.93	108.25	12.814	
17,659.89	11,820.00	16,284.00	10,443.75	96.05	95.37	10.97	-5,924.23	-355.15	1,387.19	1,278.81	108.38	12.800	
17,700.00	11,820.00	16,324.12	10,443.21	96.58	95.92	10.86	-5,964.24	-352.28	1,387.23	1,278.34	108.89	12.740	
17,750.00	11,820.00	16,377.73	10,442.61	97.23	96.67	10.71	-6,017.71	-348.46	1,387.17	1,277.64	109.53	12.665	
17,800.00	11,820.00	16,435.68	10,442.21	97.89	97.47	10.56	-6,075.51	-344.34	1,386.91	1,276.73	110.18	12.588	
17,850.00	11,820.00	16,491.88	10,442.15	98.55	98.25	10.41	-6,131.57	-340.36	1,386.37	1,275.54	110.83	12.509	
17,900.00	11,820.00	16,544.88	10,442.24	99.21	98.99	10.27	-6,184.43	-336.55	1,385.69	1,274.22	111.47	12.431	
17,950.00	11,820.00	16,598.18	10,442.45	99.88	99.73	10.12	-6,237.59	-332.66	1,384.91	1,272.79	112.12	12.352	
18,000.00	11,820.00	16,651.73	10,442.80	100.54	100.47	9.98	-6,291.00	-328.77	1,384.00	1,271.24	112.77	12.273	
18,050.00	11,820.00	16,708.03	10,443.37	101.20	101.26	9.83	-6,347.15	-324.69	1,382.93	1,269.52	113.42	12.194	
18,100.00	11,820.00	16,765.05	10,444.24	101.86	102.06	9.68	-6,404.01	-320.52	1,381.62	1,267.55	114.06	12.113	
18,150.00	11,820.00	16,811.74	10,444.96	102.53	102.71	9.55	-6,450.56	-316.92	1,380.26	1,265.55	114.71	12.033	
18,200.00	11,820.00	16,859.54	10,445.59	103.20	103.38	9.41	-6,498.18	-312.98	1,378.98	1,263.63	115.35	11.955	
18,250.00	11,820.00	16,907.10	10,446.13	103.86	104.05	9.26	-6,545.59	-309.04	1,377.79	1,261.81	115.98	11.879	
18,300.00	11,820.00	16,954.72	10,446.62	104.53	104.73	9.12	-6,593.04	-305.22	1,376.69	1,260.07	116.62	11.804	
18,350.00	11,820.00	16,993.46	10,446.81	105.20	105.27	9.01	-6,631.66	-302.16	1,375.87	1,258.60	117.27	11.733	
18,400.00	11,820.00	17,033.30	10,446.72	105.87	105.83	8.89	-6,671.39	-299.05	1,375.41	1,257.50	117.91	11.665	
18,450.00	11,820.00	17,094.57	10,446.49	106.54	106.70	8.69	-6,732.45	-293.99	1,375.03	1,256.48	118.55	11.599	
18,500.00	11,820.00	17,152.36	10,446.76	107.21	107.52	8.48	-6,789.97	-288.47	1,374.11	1,254.95	119.16	11.531	
18,550.00	11,820.00	17,194.13	10,446.89	107.88	108.11	8.33	-6,831.56	-284.53	1,373.31	1,253.52	119.79	11.464	
18,600.00	11,820.00	17,236.31	10,446.80	108.55	108.71	8.19	-6,873.56	-280.82	1,372.82	1,252.40	120.43	11.400	
18,650.00	11,820.00	17,280.26	10,446.51	109.23	109.33	8.04	-6,917.35	-277.00	1,372.58	1,251.52	121.06	11.338	
18,678.03	11,820.00	17,304.90	10,446.26	109.60	109.68	7.96	-6,941.89	-274.84	1,372.55	1,251.13	121.42	11.304	
18,700.00	11,820.00	17,324.22	10,446.02	109.90	109.96	7.89	-6,961.14	-273.12	1,372.57	1,250.88	121.69	11.279	
18,750.00	11,820.00	17,371.40	10,445.38	110.57	110.63	7.74	-7,008.16	-269.27	1,372.72	1,250.39	122.34	11.221	
18,800.00	11,820.00	17,418.86	10,444.75	111.25	111.30	7.61	-7,055.50	-266.08	1,372.98	1,249.98	123.00	11.163	
18,850.00	11,820.00	17,479.05	10,444.18	111.93	112.15	7.48	-7,115.58	-262.49	1,373.10	1,249.42	123.68	11.102	
18,900.00	11,820.00	17,536.91	10,444.06	112.60	112.96	7.36	-7,173.35	-259.21	1,372.87	1,248.50	124.37	11.038	
18,950.00	11,820.00	17,591.81	10,444.29	113.28	113.73	7.27	-7,228.20	-256.86	1,372.43	1,247.36	125.08	10.973	
19,000.00	11,820.00	17,642.99	10,444.72	113.96	114.44	7.23	-7,279.36	-255.37	1,371.87	1,246.07	125.80	10.906	
19,050.00	11,820.00	17,692.75	10,445.19	114.64	115.13	7.20	-7,329.10	-254.25	1,371.30	1,244.78	126.52	10.838	
19,100.00	11,820.00	17,750.82	10,445.91	115.31	115.94	7.17	-7,387.15	-253.25	1,370.62	1,243.36	127.27	10.770	
19,150.00	11,820.00	17,810.77	10,447.09	115.99	116.77	7.16	-7,447.09	-252.36	1,369.59	1,241.57	128.02	10.698	
19,200.00	11,820.00	17,855.24	10,448.00	116.67	117.39	7.15	-7,491.55	-251.80	1,368.53	1,239.78	128.75	10.629	
19,250.00	11,820.00	17,900.28	10,448.84	117.36	118.02	7.15	-7,536.58	-251.31	1,367.57	1,238.08	129.49	10.561	
19,300.00	11,820.00	17,936.72	10,449.27	118.04	118.52	7.15	-7,573.01	-251.06	1,366.98	1,236.77	130.22	10.498	
19,334.25	11,820.00	17,961.69	10,449.37	118.50	118.87	7.15	-7,597.98	-250.99	1,366.87	1,236.16	130.71	10.457	
19,350.00	11,820.00	17,973.17	10,449.36	118.72	119.02	7.16	-7,609.46	-250.99	1,366.89	1,235.96	130.94	10.439	
19,400.00	11,820.00	18,031.14	10,449.23	119.40	119.83	7.17	-7,667.43	-250.96	1,367.06	1,235.35	131.71	10.379	
19,450.00	11,820.00	18,101.12	10,449.92	120.08	120.80	7.16	-7,737.40	-250.15	1,366.53	1,234.03	132.49	10.314	
19,500.00	11,820.00	18,164.63	10,451.19	120.77	121.69	7.11	-7,800.88	-248.51	1,365.41	1,232.18	133.23	10.249	
19,550.00	11,820.00	18,207.22	10,452.14	121.45	122.29	7.06	-7,843.42	-246.84	1,364.11	1,230.17	133.94	10.185	
19,600.00	11,820.00	18,244.72	10,452.58	122.14	122.83	6.99	-7,880.87	-244.89	1,363.25	1,228.62	134.63	10.126	
19,650.00	11,820.00	18,288.26	10,452.64	122.82	123.44	6.88	-7,924.32	-242.09	1,362.82	1,227.52	135.30	10.072	
19,700.00	11,820.00	18,346.04	10,452.85	123.51	124.27	6.74	-7,981.97	-238.27	1,362.29	1,226.31	135.98	10.018	
19,750.00	11,820.00	18,388.82	10,453.11	124.19	124.88	6.63	-8,024.65	-235.47	1,361.66	1,225.00	136.66	9.964	
19,786.22	11,820.00	18,414.07	10,453.03	124.69	125.24	6.57	-8,049.85	-233.81	1,361.51	1,224.37	137.14	9.928	
19,800.00	11,820.00	18,423.67	10,452.95	124.88	125.38	6.55	-8,059.43	-233.17	1,361.53	1,224.21	137.32	9.915	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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

Survey Program: 147-MWD+HDGM

Offset Site Error: 5.00 ft

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
19,850.00	11,820.00	18,461.00	10,452.36	125.57	125.91	6.45	-8,096.67	-230.68	1,361.97	1,223.99	137.98	9.871	
19,900.00	11,820.00	18,495.57	10,451.45	126.26	126.41	6.36	-8,131.16	-228.42	1,362.92	1,224.29	138.62	9.832	
19,950.00	11,820.00	18,532.79	10,450.16	126.94	126.94	6.27	-8,168.28	-226.10	1,364.34	1,225.08	139.27	9.796	
20,000.00	11,820.00	18,571.09	10,448.48	127.63	127.49	6.17	-8,206.48	-223.83	1,366.23	1,226.32	139.91	9.765	
20,050.00	11,820.00	18,611.40	10,446.43	128.32	128.06	6.08	-8,246.67	-221.56	1,368.50	1,227.94	140.56	9.736	
20,100.00	11,820.00	18,652.00	10,444.09	129.01	128.64	5.99	-8,287.15	-219.39	1,371.12	1,229.92	141.20	9.710	
20,150.00	11,820.00	18,695.59	10,441.34	129.70	129.26	5.90	-8,330.59	-217.19	1,374.03	1,232.16	141.86	9.686	
20,200.00	11,820.00	18,739.51	10,438.40	130.39	129.89	5.81	-8,374.36	-215.12	1,377.16	1,234.63	142.53	9.662	
20,250.00	11,820.00	18,797.44	10,434.57	131.08	130.71	5.72	-8,432.13	-212.89	1,380.29	1,237.01	143.27	9.634	
20,300.00	11,820.00	18,857.92	10,431.12	131.77	131.56	5.66	-8,492.49	-211.55	1,383.04	1,238.99	144.06	9.601	
20,350.00	11,820.00	18,903.09	10,428.62	132.46	132.19	5.65	-8,537.59	-211.08	1,385.77	1,241.00	144.77	9.572	
20,400.00	11,820.00	18,961.90	10,425.47	133.16	133.01	5.65	-8,596.31	-211.06	1,388.48	1,242.91	145.57	9.538	
20,450.00	11,820.00	19,044.69	10,422.48	133.85	134.17	5.65	-8,679.04	-211.01	1,390.31	1,243.83	146.48	9.491	
20,500.00	11,820.00	19,108.68	10,421.19	134.54	135.06	5.66	-8,743.02	-210.98	1,391.35	1,244.06	147.29	9.446	
20,550.00	11,820.00	19,174.43	10,420.62	135.23	135.98	5.67	-8,808.77	-210.84	1,391.80	1,243.71	148.09	9.398	
20,600.00	11,820.00	19,231.16	10,420.65	135.93	136.78	5.66	-8,865.49	-210.24	1,391.74	1,242.88	148.86	9.349	
20,607.50	11,820.00	19,236.66	10,420.65	136.03	136.86	5.66	-8,871.00	-210.15	1,391.73	1,242.77	148.97	9.343	
20,650.00	11,820.00	19,267.84	10,420.48	136.62	137.30	5.64	-8,902.17	-209.55	1,391.91	1,242.34	149.57	9.306	
20,700.00	11,820.00	19,304.51	10,419.94	137.32	137.82	5.61	-8,938.82	-208.62	1,392.55	1,242.29	150.27	9.267	
20,750.00	11,820.00	19,344.47	10,418.97	138.01	138.38	5.57	-8,978.76	-207.38	1,393.64	1,242.68	150.96	9.232	
20,800.00	11,820.00	19,385.94	10,417.69	138.71	138.97	5.51	-9,020.18	-205.97	1,395.04	1,243.39	151.65	9.199	
20,850.00	11,820.00	19,437.19	10,415.85	139.40	139.70	5.44	-9,071.36	-203.99	1,396.67	1,244.30	152.37	9.166	
20,900.00	11,820.00	19,503.44	10,413.95	140.10	140.65	5.31	-9,137.49	-200.56	1,397.89	1,244.77	153.12	9.129	
20,950.00	11,820.00	19,541.72	10,412.89	140.79	141.21	5.22	-9,175.68	-198.15	1,399.01	1,245.23	153.78	9.098	
21,000.00	11,820.00	19,578.83	10,411.51	141.49	141.74	5.12	-9,212.68	-195.60	1,400.59	1,246.16	154.42	9.070	
21,050.00	11,820.00	19,618.82	10,409.64	142.19	142.32	5.00	-9,252.51	-192.60	1,402.61	1,247.54	155.07	9.045	
21,100.00	11,820.00	19,662.64	10,407.35	142.88	142.96	4.85	-9,296.12	-188.93	1,404.89	1,249.18	155.71	9.022	
21,150.00	11,820.00	19,706.71	10,404.82	143.58	143.60	4.69	-9,339.92	-184.82	1,407.40	1,251.04	156.35	9.001	
21,200.00	11,820.00	19,751.75	10,402.08	144.28	144.26	4.52	-9,384.69	-180.71	1,410.09	1,253.10	157.00	8.982	
21,250.00	11,820.00	19,796.78	10,399.22	144.98	144.91	4.37	-9,429.47	-176.88	1,412.97	1,255.32	157.65	8.963	
21,300.00	11,820.00	19,841.53	10,396.22	145.67	145.56	4.22	-9,473.96	-173.21	1,416.03	1,257.73	158.30	8.945	
21,350.00	11,820.00	19,886.38	10,393.07	146.37	146.22	4.08	-9,518.55	-169.58	1,419.28	1,260.32	158.96	8.929	
21,400.00	11,820.00	19,949.86	10,388.82	147.07	147.14	3.88	-9,581.70	-164.60	1,422.38	1,262.66	159.72	8.906	
21,450.00	11,820.00	20,008.66	10,385.40	147.77	147.99	3.71	-9,640.23	-160.18	1,425.05	1,264.60	160.46	8.881	
21,500.00	11,820.00	20,063.20	10,382.46	148.47	148.79	3.56	-9,694.55	-156.26	1,427.54	1,266.36	161.18	8.857	
21,550.00	11,820.00	20,122.81	10,379.55	149.17	149.65	3.40	-9,753.95	-152.10	1,429.79	1,267.86	161.93	8.830	
21,600.00	11,820.00	20,183.86	10,377.03	149.87	150.54	3.24	-9,814.79	-147.88	1,431.67	1,268.99	162.68	8.801	
21,650.00	11,820.00	20,243.09	10,375.01	150.57	151.40	3.09	-9,873.85	-143.88	1,433.21	1,269.78	163.42	8.770	
21,700.00	11,820.00	20,296.26	10,373.49	151.27	152.17	2.96	-9,926.89	-140.44	1,434.48	1,270.33	164.15	8.739	
21,750.00	11,820.00	20,345.71	10,372.10	151.97	152.88	2.86	-9,976.24	-137.54	1,435.75	1,270.88	164.87	8.708	
21,800.00	11,820.00	20,396.89	10,370.68	152.67	153.62	2.76	-10,027.32	-134.79	1,437.02	1,271.42	165.60	8.678	
21,850.00	11,820.00	20,447.22	10,369.33	153.37	154.35	2.66	-10,077.56	-132.08	1,438.26	1,271.93	166.33	8.647	
21,900.00	11,820.00	20,480.00	10,368.45	154.07	154.82	2.59	-10,110.28	-130.31	1,439.59	1,272.60	167.00	8.620	
21,950.00	11,820.00	20,480.00	10,368.45	154.78	154.82	2.59	-10,110.28	-130.31	1,442.29	1,274.85	167.44	8.614	
22,000.00	11,820.00	20,480.00	10,368.45	155.48	154.82	2.59	-10,110.28	-130.31	1,446.71	1,278.97	167.74	8.625	
22,050.00	11,820.00	20,480.00	10,368.45	156.18	154.82	2.59	-10,110.28	-130.31	1,452.84	1,284.95	167.90	8.653	
22,065.48	11,820.00	20,480.00	10,368.45	156.40	154.82	2.59	-10,110.28	-130.31	1,455.08	1,287.17	167.92	8.665	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	15.09	15.09	0.50	0.02	92.03	-26.50	747.86	748.33				
50.00	50.00	63.13	63.13	0.50	0.09	92.03	-26.53	747.96	748.43	747.84	0.60	1,256.221	
100.00	100.00	111.17	111.17	0.52	0.17	92.03	-26.58	748.19	748.67	747.99	0.68	1,096.293	
150.00	150.00	159.21	159.21	0.59	0.24	92.04	-26.67	748.54	749.04	748.21	0.83	906.050	
200.00	200.00	207.81	207.80	0.70	0.35	92.05	-26.78	749.01	749.53	748.48	1.05	712.315	
250.00	250.00	257.25	257.24	0.84	0.53	92.05	-26.77	749.55	750.08	748.71	1.36	549.659	
300.00	300.00	307.23	307.22	0.99	0.71	92.03	-26.64	750.13	750.65	748.96	1.69	443.394	
350.00	350.00	357.72	357.70	1.15	0.89	92.03	-26.60	750.68	751.20	749.17	2.03	369.730	
400.00	400.00	407.86	407.85	1.31	1.07	92.03	-26.65	751.21	751.72	749.35	2.38	316.514	
450.00	450.00	457.85	457.83	1.48	1.25	92.03	-26.69	751.73	752.24	749.52	2.72	276.416	
500.00	500.00	508.43	508.41	1.65	1.43	92.03	-26.73	752.24	752.75	749.68	3.07	244.997	
550.00	550.00	559.14	559.12	1.82	1.61	92.03	-26.74	752.71	753.21	749.79	3.43	219.861	
600.00	600.00	610.75	610.72	1.99	1.79	92.04	-26.77	753.10	753.60	749.81	3.78	199.183	
650.00	650.00	662.37	662.34	2.16	1.98	92.04	-26.86	753.39	753.87	749.73	4.14	182.004	
700.00	700.00	710.94	710.91	2.34	2.15	92.05	-26.95	753.66	754.16	749.67	4.49	167.937	
750.00	750.00	759.94	759.91	2.51	2.33	92.05	-27.01	754.00	754.51	749.67	4.84	155.841	
800.00	800.00	809.61	809.58	2.69	2.51	92.05	-27.04	754.41	754.92	749.73	5.20	145.310	
850.00	850.00	861.90	861.87	2.87	2.69	92.05	-27.08	754.76	755.25	749.69	5.56	135.862	
900.00	900.00	913.52	913.48	3.04	2.88	92.06	-27.12	754.95	755.44	749.52	5.92	127.603	
950.00	950.00	964.29	964.26	3.22	3.06	92.06	-27.12	755.07	755.56	749.28	6.28	120.344	
1,000.00	1,000.00	1,015.38	1,015.35	3.40	3.24	92.05	-27.08	755.14	755.62	748.99	6.63	113.925	
1,050.00	1,050.00	1,066.66	1,066.63	3.58	3.41	92.05	-27.04	755.12	755.60	748.62	6.98	108.180	
1,100.00	1,100.00	1,116.96	1,116.93	3.75	3.58	92.05	-27.00	755.04	755.53	748.20	7.33	103.089	
1,150.00	1,150.00	1,167.05	1,167.01	3.93	3.74	92.05	-26.98	754.96	755.44	747.77	7.67	98.475	
1,200.00	1,200.00	1,215.75	1,215.72	4.11	3.91	92.05	-26.99	754.92	755.40	747.38	8.02	94.228	
1,200.67	1,200.67	1,216.41	1,216.37	4.11	3.91	92.05	-26.99	754.92	755.40	747.38	8.02	94.173	
1,250.00	1,250.00	1,264.51	1,264.48	4.29	4.08	92.05	-27.02	754.96	755.44	747.08	8.36	90.331	
1,300.00	1,300.00	1,313.70	1,313.67	4.46	4.25	92.05	-27.06	755.06	755.55	746.83	8.72	86.680	
1,350.00	1,350.00	1,363.30	1,363.26	4.64	4.43	92.05	-27.08	755.22	755.71	746.63	9.07	83.304	
1,400.00	1,400.00	1,414.03	1,414.00	4.82	4.61	92.05	-27.10	755.35	755.84	746.41	9.43	80.142	
1,450.00	1,450.00	1,464.94	1,464.91	5.00	4.79	92.06	-27.11	755.44	755.93	746.14	9.79	77.217	
1,500.00	1,500.00	1,516.06	1,516.03	5.18	4.97	92.05	-27.03	755.46	755.94	745.80	10.15	74.503	
1,550.00	1,550.00	1,566.50	1,566.47	5.36	5.14	92.04	-26.89	755.42	755.90	745.40	10.50	72.006	
1,600.00	1,600.00	1,616.60	1,616.56	5.53	5.31	92.04	-26.87	755.37	755.85	745.00	10.85	69.687	
1,650.00	1,650.00	1,666.08	1,666.04	5.71	5.48	92.04	-26.94	755.32	755.80	744.61	11.19	67.515	
1,677.11	1,677.11	1,692.84	1,692.81	5.81	5.58	92.05	-26.98	755.31	755.80	744.41	11.38	66.394	
1,700.00	1,700.00	1,715.45	1,715.41	5.89	5.65	92.05	-27.02	755.32	755.80	744.26	11.54	65.477	
1,750.00	1,750.00	1,765.12	1,765.09	6.07	5.83	92.05	-27.10	755.34	755.83	743.93	11.90	63.534	
1,800.00	1,800.00	1,814.86	1,814.83	6.25	6.00	92.06	-27.17	755.39	755.88	743.63	12.25	61.704	
1,850.00	1,850.00	1,865.35	1,865.32	6.43	6.18	92.06	-27.21	755.43	755.92	743.32	12.61	59.963	
1,900.00	1,900.00	1,915.73	1,915.70	6.61	6.36	92.06	-27.22	755.44	755.93	742.97	12.96	58.320	
1,950.00	1,950.00	1,965.73	1,965.70	6.78	6.53	92.06	-27.22	755.44	755.93	742.62	13.31	56.778	
1,954.95	1,954.95	1,970.68	1,970.65	6.80	6.55	92.06	-27.22	755.44	755.93	742.58	13.35	56.630	
2,000.00	2,000.00	2,015.27	2,015.24	6.96	6.70	92.06	-27.22	755.45	755.94	742.27	13.66	55.320	
2,050.00	2,050.00	2,063.90	2,063.86	7.14	6.87	92.06	-27.23	755.52	756.01	742.00	14.01	53.947	
2,100.00	2,100.00	2,113.56	2,113.53	7.32	7.05	92.06	-27.25	755.67	756.17	741.80	14.37	52.631	
2,150.00	2,150.00	2,164.64	2,164.61	7.50	7.23	92.06	-27.22	755.78	756.27	741.55	14.73	51.355	
2,200.00	2,200.00	2,215.06	2,215.03	7.68	7.41	92.06	-27.16	755.84	756.32	741.24	15.08	50.145	
2,250.00	2,250.00	2,265.01	2,264.97	7.86	7.58	92.06	-27.17	755.88	756.37	740.93	15.44	48.996	
2,300.00	2,300.00	2,315.27	2,315.23	8.04	7.76	92.06	-27.23	755.92	756.41	740.62	15.79	47.892	
2,350.00	2,350.00	2,365.67	2,365.63	8.22	7.94	92.07	-27.26	755.94	756.43	740.28	16.15	46.832	
2,400.00	2,400.00	2,407.43	2,407.39	8.39	8.09	92.06	-27.19	756.13	756.66	740.18	16.48	45.917 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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	2,450.00	2,447.46	2,447.42	8.57	8.23	92.04	-26.94	756.84	757.54	740.74	16.80	45.099	
2,500.00	2,500.00	2,486.91	2,486.84	8.75	8.37	92.00	-26.52	758.07	759.08	741.97	17.11	44.363	
2,550.00	2,550.00	2,525.72	2,525.61	8.93	8.51	91.96	-25.94	759.85	761.35	743.93	17.42	43.710	
2,600.00	2,600.00	2,564.65	2,564.46	9.11	8.65	91.89	-25.20	762.21	764.35	746.62	17.72	43.128	
2,650.00	2,650.00	2,605.36	2,605.05	9.29	8.79	91.81	-24.22	765.22	768.00	749.96	18.03	42.588	
2,700.00	2,700.00	2,645.99	2,645.51	9.47	8.94	91.71	-22.99	768.70	772.24	753.90	18.34	42.105	
2,750.00	2,750.00	2,689.26	2,688.55	9.65	9.09	91.59	-21.41	772.88	777.02	758.36	18.66	41.639	
2,800.00	2,800.00	2,733.35	2,732.36	9.83	9.25	91.44	-19.55	777.47	782.17	763.18	18.98	41.202	
2,850.00	2,850.00	2,778.20	2,776.88	10.00	9.41	91.28	-17.45	782.44	787.66	768.35	19.31	40.789	
2,900.00	2,900.00	2,823.51	2,821.84	10.18	9.57	91.12	-15.42	787.71	793.44	773.80	19.64	40.399	
2,950.00	2,950.00	2,869.05	2,867.00	10.36	9.74	90.98	-13.51	793.25	799.48	779.51	19.97	40.034	
3,000.00	3,000.00	2,914.81	2,912.36	10.54	9.91	90.85	-11.89	799.03	805.78	785.48	20.30	39.691	
3,050.00	3,050.00	2,962.00	2,959.13	10.72	10.08	90.75	-10.53	805.20	812.29	791.64	20.64	39.352	
3,100.00	3,100.00	3,010.71	3,007.39	10.90	10.26	90.65	-9.19	811.63	818.87	797.88	20.99	39.010	
3,150.00	3,150.00	3,062.24	3,058.45	11.08	10.45	90.54	-7.78	818.43	825.47	804.11	21.36	38.648	
3,200.00	3,200.00	3,116.22	3,111.97	11.26	10.65	90.44	-6.27	825.31	831.83	810.09	21.74	38.260	
3,250.00	3,250.00	3,172.70	3,168.01	11.44	10.86	90.32	-4.64	832.15	837.88	815.74	22.14	37.846	
3,300.00	3,300.00	3,229.89	3,224.81	11.62	11.07	90.20	-2.92	838.57	843.49	820.95	22.54	37.423	
3,350.00	3,350.00	3,276.06	3,270.68	11.80	11.24	90.10	-1.50	843.69	849.02	826.15	22.88	37.114	
3,400.00	3,400.00	3,323.54	3,317.84	11.97	11.42	90.00	0.00	849.06	854.68	831.46	23.22	36.808	
3,450.00	3,450.00	3,363.77	3,357.74	12.15	11.57	89.91	1.39	853.91	860.71	837.19	23.52	36.594	
3,500.00	3,500.00	3,404.75	3,398.34	12.33	11.72	89.80	2.99	859.25	867.23	843.41	23.82	36.403	
3,550.00	3,550.00	3,447.82	3,440.95	12.51	11.89	89.68	4.82	865.23	874.19	850.05	24.14	36.217	
3,600.00	3,600.00	3,491.11	3,483.74	12.69	12.05	89.56	6.74	871.54	881.50	857.05	24.45	36.049	
3,650.00	3,650.00	3,542.54	3,534.53	12.87	12.25	89.41	9.05	879.23	889.00	864.18	24.82	35.815	
3,700.00	3,700.00	3,597.93	3,589.31	13.05	12.46	89.26	11.39	887.19	896.22	871.00	25.22	35.538	
3,750.00	3,750.00	3,647.18	3,638.03	13.23	12.65	89.15	13.27	894.11	903.27	877.70	25.57	35.320	
3,800.00	3,800.00	3,696.34	3,686.67	13.41	12.84	89.05	14.86	901.04	910.35	884.42	25.93	35.109	
3,850.00	3,850.00	3,745.75	3,735.57	13.59	13.03	88.98	16.16	908.02	917.44	891.15	26.29	34.902	
3,900.00	3,900.00	3,796.08	3,785.39	13.77	13.22	88.93	17.13	915.14	924.53	897.88	26.65	34.693	
3,950.00	3,950.00	3,851.03	3,839.81	13.94	13.43	88.88	17.98	922.71	931.43	904.39	27.04	34.444	
4,000.00	4,000.00	3,905.68	3,893.97	14.12	13.64	88.85	18.66	929.93	938.05	910.62	27.43	34.196	
4,050.00	4,050.00	3,959.88	3,947.73	14.30	13.85	127.65	19.17	936.82	944.58	916.76	27.82	33.956	
4,100.00	4,099.99	4,010.75	3,998.21	14.48	14.05	127.62	19.44	943.11	951.26	923.08	28.18	33.753	
4,150.00	4,149.97	4,060.28	4,047.36	14.66	14.24	127.64	19.45	949.23	958.26	929.72	28.54	33.577	
4,200.00	4,199.95	4,107.69	4,094.40	14.83	14.42	127.72	19.31	955.13	965.39	936.51	28.88	33.426	
4,250.00	4,249.93	4,154.55	4,140.88	15.01	14.60	127.80	19.26	961.08	972.66	943.44	29.22	33.287	
4,300.00	4,299.90	4,203.04	4,188.96	15.19	14.79	127.86	19.50	967.32	980.03	950.46	29.57	33.143	
4,350.00	4,349.88	4,251.95	4,237.45	15.37	14.98	127.88	20.41	973.64	987.43	957.51	29.92	33.000	
4,400.00	4,399.86	4,307.74	4,292.78	15.54	15.19	127.87	22.01	980.70	994.71	964.39	30.32	32.809	
4,450.00	4,449.84	4,364.71	4,349.30	15.72	15.41	127.85	23.84	987.50	1,001.62	970.90	30.72	32.606	
4,500.00	4,499.81	4,422.07	4,406.28	15.90	15.63	127.83	25.58	993.91	1,008.16	977.04	31.12	32.394	
4,550.00	4,549.79	4,474.62	4,458.52	16.08	15.83	127.83	27.01	999.45	1,014.38	982.88	31.50	32.208	
4,600.00	4,599.77	4,523.67	4,507.28	16.26	16.02	127.82	28.39	1,004.61	1,020.59	988.74	31.85	32.045	
4,650.00	4,649.74	4,569.17	4,552.50	16.43	16.20	127.81	29.77	1,009.48	1,026.89	994.71	32.18	31.909	
4,700.00	4,699.72	4,613.02	4,596.04	16.61	16.36	127.79	31.29	1,014.39	1,033.45	1,000.95	32.51	31.793	
4,750.00	4,749.70	4,655.18	4,637.87	16.79	16.53	127.76	32.95	1,019.37	1,040.31	1,007.49	32.82	31.700	
4,800.00	4,799.67	4,695.90	4,678.22	16.97	16.69	127.72	34.80	1,024.49	1,047.57	1,014.45	33.12	31.630	
4,850.00	4,849.65	4,737.23	4,719.13	17.15	16.85	127.66	36.94	1,030.03	1,055.24	1,021.82	33.42	31.571	
4,900.00	4,899.63	4,780.55	4,761.95	17.32	17.02	127.59	39.35	1,036.11	1,063.23	1,029.49	33.74	31.512	
4,950.00	4,949.61	4,824.25	4,805.11	17.50	17.19	127.51	41.93	1,042.48	1,071.50	1,037.44	34.06	31.460	
5,000.00	4,999.58	4,872.82	4,853.05	17.68	17.39	127.43	44.82	1,049.69	1,079.91	1,045.50	34.41	31.382	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
5,050.00	5,049.56	4,921.97	4,901.57	17.86	17.58	127.35	47.65	1,057.01	1,088.35	1,053.58	34.77	31.303	
5,100.00	5,099.54	4,974.44	4,953.39	18.04	17.79	127.28	50.52	1,064.76	1,096.71	1,061.56	35.15	31.203	
5,150.00	5,149.51	5,026.02	5,004.35	18.21	18.00	127.21	53.16	1,072.23	1,104.93	1,069.41	35.52	31.107	
5,200.00	5,199.49	5,075.95	5,053.70	18.39	18.20	127.16	55.63	1,079.42	1,113.11	1,077.23	35.88	31.022	
5,250.00	5,249.47	5,125.80	5,102.98	18.57	18.40	127.11	58.02	1,086.57	1,121.26	1,085.01	36.24	30.937	
5,300.00	5,299.44	5,175.56	5,152.18	18.75	18.60	127.06	60.31	1,093.69	1,129.39	1,092.78	36.60	30.854	
5,350.00	5,349.42	5,224.71	5,200.77	18.93	18.79	127.02	62.47	1,100.72	1,137.51	1,100.55	36.96	30.776	
5,400.00	5,399.40	5,273.44	5,248.96	19.11	18.99	126.99	64.52	1,107.71	1,145.65	1,108.33	37.31	30.702	
5,450.00	5,449.38	5,326.86	5,301.78	19.28	19.20	126.96	66.62	1,115.33	1,153.75	1,116.05	37.70	30.603	
5,500.00	5,499.35	5,382.34	5,356.71	19.46	19.42	126.94	68.54	1,122.98	1,161.60	1,123.50	38.10	30.489	
5,550.00	5,549.33	5,436.76	5,410.61	19.64	19.64	126.93	70.31	1,130.23	1,169.21	1,130.72	38.49	30.377	
5,600.00	5,599.31	5,490.79	5,464.15	19.82	19.85	126.92	72.11	1,137.20	1,176.62	1,137.74	38.88	30.265	
5,650.00	5,649.28	5,543.65	5,516.56	20.00	20.06	126.90	74.01	1,143.85	1,183.86	1,144.61	39.26	30.157	
5,700.00	5,699.26	5,594.70	5,567.18	20.18	20.26	126.87	75.97	1,150.13	1,190.98	1,151.36	39.63	30.056	
5,750.00	5,749.24	5,644.04	5,616.11	20.36	20.45	126.85	77.87	1,156.20	1,198.10	1,158.11	39.98	29.965	
5,800.00	5,799.21	5,694.55	5,666.21	20.53	20.65	126.83	79.78	1,162.40	1,205.20	1,164.85	40.35	29.870	
5,850.00	5,849.19	5,745.82	5,717.06	20.71	20.86	126.81	81.61	1,168.63	1,212.24	1,171.52	40.72	29.771	
5,900.00	5,899.17	5,796.23	5,767.08	20.89	21.05	126.80	83.32	1,174.70	1,219.22	1,178.13	41.08	29.677	
5,950.00	5,949.14	5,846.43	5,816.89	21.07	21.25	126.79	84.93	1,180.71	1,226.17	1,184.72	41.45	29.585	
6,000.00	5,999.12	5,896.93	5,867.01	21.25	21.45	126.78	86.49	1,186.74	1,233.08	1,191.27	41.81	29.492	
6,050.00	6,049.10	5,947.47	5,917.16	21.43	21.65	126.78	88.01	1,192.73	1,239.96	1,197.78	42.18	29.400	
6,100.00	6,099.08	5,997.84	5,967.16	21.61	21.84	126.78	89.48	1,198.66	1,246.80	1,204.26	42.54	29.309	
6,150.00	6,149.05	6,048.23	6,017.19	21.79	22.04	126.78	90.88	1,204.56	1,253.60	1,210.70	42.90	29.219	
6,200.00	6,199.03	6,096.10	6,064.71	21.96	22.23	126.78	92.19	1,210.20	1,260.44	1,217.18	43.25	29.141	
6,250.00	6,249.01	6,143.88	6,112.13	22.14	22.42	126.78	93.48	1,215.87	1,267.32	1,223.72	43.60	29.066	
6,300.00	6,298.98	6,190.16	6,158.05	22.32	22.60	126.78	94.88	1,221.45	1,274.30	1,230.36	43.94	29.000	
6,350.00	6,348.96	6,237.77	6,205.27	22.50	22.79	126.77	96.54	1,227.30	1,281.41	1,237.12	44.29	28.933	
6,400.00	6,398.94	6,289.57	6,256.65	22.68	22.99	126.75	98.38	1,233.64	1,288.49	1,243.82	44.66	28.849	
6,450.00	6,448.91	6,341.12	6,307.79	22.86	23.19	126.74	100.15	1,239.86	1,295.48	1,250.44	45.03	28.766	
6,500.00	6,498.89	6,392.34	6,358.62	23.04	23.40	126.73	101.79	1,245.97	1,302.40	1,256.99	45.40	28.684	
6,550.00	6,548.87	6,443.15	6,409.05	23.22	23.60	126.73	103.29	1,251.98	1,309.26	1,263.49	45.77	28.604	
6,600.00	6,598.85	6,493.68	6,459.21	23.40	23.79	126.73	104.72	1,257.91	1,316.08	1,269.95	46.14	28.525	
6,650.00	6,648.82	6,545.92	6,511.08	23.57	24.00	126.73	106.13	1,263.99	1,322.84	1,276.33	46.51	28.441	
6,700.00	6,698.80	6,598.80	6,563.60	23.75	24.21	126.74	107.41	1,270.01	1,329.48	1,282.59	46.89	28.352	
6,750.00	6,748.78	6,650.61	6,615.07	23.93	24.41	126.76	108.53	1,275.81	1,336.02	1,288.76	47.26	28.267	
6,800.00	6,798.75	6,702.39	6,666.52	24.11	24.61	126.78	109.55	1,281.53	1,342.47	1,294.84	47.64	28.182	
6,850.00	6,848.73	6,754.23	6,718.04	24.29	24.81	126.80	110.45	1,287.17	1,348.85	1,300.84	48.01	28.096	
6,900.00	6,898.71	6,807.07	6,770.58	24.47	25.01	126.83	111.25	1,292.83	1,355.13	1,306.74	48.39	28.007	
6,950.00	6,948.68	6,861.99	6,825.19	24.65	25.23	126.86	111.96	1,298.53	1,361.25	1,312.47	48.77	27.909	
7,000.00	6,998.66	6,916.04	6,878.97	24.83	25.43	126.90	112.53	1,303.95	1,367.18	1,318.02	49.16	27.812	
7,050.00	7,048.64	6,969.55	6,932.23	25.01	25.64	126.95	112.97	1,309.16	1,372.97	1,323.43	49.54	27.716	
7,100.00	7,098.62	7,024.55	6,986.98	25.19	25.85	127.00	113.28	1,314.35	1,378.60	1,328.67	49.92	27.614	
7,150.00	7,148.59	7,079.86	7,042.06	25.37	26.06	127.05	113.44	1,319.34	1,384.02	1,333.71	50.31	27.509	
7,200.00	7,198.57	7,133.61	7,095.60	25.54	26.26	127.11	113.46	1,324.02	1,389.28	1,338.59	50.69	27.407	
7,250.00	7,248.55	7,188.40	7,150.21	25.72	26.46	127.18	113.32	1,328.61	1,394.39	1,343.31	51.07	27.301	
7,300.00	7,298.52	7,244.57	7,206.19	25.90	26.67	127.25	112.96	1,333.09	1,399.28	1,347.81	51.46	27.190	
7,350.00	7,348.50	7,299.97	7,261.43	26.08	26.88	127.34	112.38	1,337.26	1,403.95	1,352.10	51.85	27.079	
7,400.00	7,398.48	7,355.03	7,316.35	26.26	27.08	127.43	111.62	1,341.21	1,408.44	1,356.21	52.23	26.967	
7,450.00	7,448.45	7,411.73	7,372.91	26.44	27.29	127.52	110.69	1,345.03	1,412.71	1,360.09	52.62	26.849	
7,500.00	7,498.43	7,468.62	7,429.68	26.62	27.49	127.62	109.65	1,348.59	1,416.74	1,363.74	53.00	26.729	
7,550.00	7,548.41	7,525.83	7,486.78	26.80	27.70	127.73	108.48	1,351.87	1,420.52	1,367.13	53.39	26.606	
7,600.00	7,598.38	7,581.54	7,542.40	26.98	27.90	127.83	107.25	1,354.81	1,424.06	1,370.29	53.77	26.484	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,650.00	7,648.36	7,636.56	7,597.35	27.16	28.09	127.94	106.00	1,357.50	1,427.41	1,373.27	54.15	26.362	
7,700.00	7,698.34	7,688.40	7,649.12	27.34	28.27	128.04	104.78	1,359.90	1,430.65	1,376.14	54.51	26.246	
7,750.00	7,748.32	7,740.40	7,701.04	27.52	28.46	128.14	103.55	1,362.24	1,433.82	1,378.95	54.87	26.130	
7,800.00	7,798.29	7,794.59	7,755.17	27.70	28.65	128.24	102.27	1,364.55	1,436.88	1,381.64	55.24	26.010	
7,850.00	7,848.27	7,848.00	7,808.52	27.87	28.84	128.34	101.05	1,366.67	1,439.80	1,384.19	55.61	25.890	
7,900.00	7,898.25	7,900.10	7,860.58	28.05	29.02	128.44	99.84	1,368.65	1,442.63	1,386.65	55.97	25.773	
7,950.00	7,948.22	7,951.77	7,912.19	28.23	29.20	128.54	98.59	1,370.53	1,445.39	1,389.05	56.34	25.657	
8,000.00	7,998.20	8,003.09	7,963.47	28.41	29.38	128.64	97.28	1,372.35	1,448.10	1,391.41	56.69	25.542	
8,050.00	8,048.18	8,057.04	8,017.37	28.59	29.56	128.75	95.86	1,374.17	1,450.73	1,393.67	57.06	25.423	
8,100.00	8,098.15	8,112.09	8,072.37	28.77	29.75	128.86	94.43	1,375.84	1,453.20	1,395.77	57.43	25.302	
8,150.00	8,148.13	8,163.66	8,123.90	28.95	29.93	128.96	93.08	1,377.28	1,455.55	1,397.76	57.79	25.185	
8,200.00	8,198.11	8,214.94	8,175.14	29.13	30.11	129.06	91.70	1,378.65	1,457.85	1,399.70	58.15	25.070	
8,250.00	8,248.09	8,265.50	8,225.68	29.31	30.28	129.14	90.78	1,379.98	1,460.13	1,401.62	58.51	24.956	
8,300.00	8,298.06	8,311.89	8,272.06	29.49	30.44	129.20	90.48	1,381.20	1,462.41	1,403.55	58.85	24.849	
8,350.00	8,348.04	8,351.89	8,312.03	29.67	30.59	129.23	90.56	1,382.48	1,464.96	1,405.79	59.18	24.756	
8,400.00	8,398.02	8,393.07	8,353.18	29.85	30.73	129.25	90.94	1,384.08	1,467.85	1,408.35	59.50	24.670	
8,450.00	8,447.99	8,459.08	8,419.13	30.03	30.97	129.26	92.26	1,386.45	1,470.60	1,410.69	59.91	24.545	
8,500.00	8,497.97	8,515.65	8,475.65	30.21	31.16	129.24	94.01	1,387.98	1,472.90	1,412.61	60.29	24.430	
8,550.00	8,547.95	8,566.09	8,526.06	30.39	31.34	129.23	95.54	1,389.29	1,475.14	1,414.50	60.65	24.323	
8,600.00	8,597.92	8,623.16	8,583.08	30.57	31.54	129.22	97.14	1,390.64	1,477.29	1,416.26	61.03	24.208	
8,650.00	8,647.90	8,683.37	8,643.27	30.74	31.75	129.21	98.71	1,391.70	1,479.12	1,417.71	61.41	24.086	
8,700.00	8,697.88	8,748.08	8,707.95	30.92	31.97	129.21	100.27	1,392.28	1,480.52	1,418.72	61.80	23.956	
8,750.00	8,747.86	8,808.20	8,768.06	31.10	32.16	129.22	101.53	1,392.29	1,481.47	1,419.30	62.17	23.828	
8,800.00	8,797.83	8,866.42	8,826.27	31.28	32.36	129.24	102.36	1,391.95	1,482.14	1,419.60	62.54	23.700	
8,850.00	8,847.81	8,921.84	8,881.68	31.46	32.53	129.28	102.64	1,391.38	1,482.59	1,419.70	62.89	23.574	
8,900.00	8,897.79	8,975.48	8,935.32	31.64	32.70	129.34	102.41	1,390.64	1,482.85	1,419.62	63.24	23.449	
8,950.00	8,947.76	9,026.33	8,986.16	31.82	32.86	129.40	101.97	1,389.87	1,483.06	1,419.48	63.58	23.326	
9,000.00	8,997.74	9,076.00	9,035.83	32.00	33.01	129.46	101.48	1,389.10	1,483.26	1,419.34	63.92	23.205	
9,050.00	9,047.72	9,124.76	9,084.58	32.18	33.16	129.52	101.26	1,388.38	1,483.49	1,419.23	64.26	23.086	
9,100.00	9,097.69	9,171.75	9,131.57	32.36	33.31	129.56	101.27	1,387.75	1,483.78	1,419.19	64.60	22.970	
9,150.00	9,147.67	9,217.59	9,177.41	32.54	33.46	129.60	101.22	1,387.25	1,484.21	1,419.28	64.93	22.859	
9,200.00	9,197.65	9,265.94	9,225.75	32.72	33.61	129.65	101.10	1,386.84	1,484.75	1,419.48	65.27	22.749	
9,250.00	9,247.62	9,316.13	9,275.94	32.90	33.77	129.70	101.00	1,386.41	1,485.30	1,419.69	65.61	22.638	
9,300.00	9,297.60	9,362.80	9,322.61	33.08	33.92	129.75	100.93	1,386.05	1,485.88	1,419.93	65.95	22.532	
9,350.00	9,347.58	9,407.84	9,367.65	33.26	34.06	129.79	100.92	1,385.84	1,486.62	1,420.34	66.28	22.430	
9,400.00	9,397.56	9,454.69	9,414.49	33.44	34.21	129.83	100.92	1,385.77	1,487.51	1,420.89	66.62	22.330	
9,450.00	9,447.53	9,502.74	9,462.55	33.62	34.37	129.88	100.80	1,385.76	1,488.47	1,421.51	66.96	22.230	
9,500.00	9,497.51	9,549.56	9,509.37	33.80	34.52	129.92	100.68	1,385.82	1,489.51	1,422.21	67.30	22.133	
9,550.00	9,547.49	9,595.64	9,555.44	33.98	34.68	129.95	101.12	1,386.00	1,490.68	1,423.04	67.64	22.038	
9,600.00	9,597.46	9,643.22	9,603.02	34.16	34.84	129.95	102.10	1,386.32	1,491.97	1,423.98	67.99	21.945	
9,650.00	9,647.44	9,691.90	9,651.68	34.34	35.01	129.96	103.14	1,386.69	1,493.30	1,424.97	68.34	21.853	
9,700.00	9,697.42	9,741.37	9,701.14	34.52	35.18	129.96	104.17	1,387.10	1,494.68	1,425.99	68.69	21.761	
9,750.00	9,747.39	9,791.27	9,751.03	34.69	35.35	129.97	105.16	1,387.52	1,496.05	1,427.01	69.04	21.669	
9,800.00	9,797.37	9,839.04	9,798.79	34.87	35.51	129.97	106.10	1,387.95	1,497.46	1,428.07	69.39	21.581	
9,850.00	9,847.35	9,886.09	9,845.82	35.05	35.67	129.98	107.11	1,388.47	1,498.96	1,429.23	69.73	21.496	
15,550.00	11,820.00	15,924.38	11,958.72	69.66	73.51	-94.77	-4,017.71	1,371.45	1,495.00	1,354.14	140.85	10.614	
15,600.00	11,820.00	15,944.30	11,961.12	70.24	73.74	-94.87	-4,037.30	1,368.72	1,488.33	1,346.37	141.96	10.484	
15,650.00	11,820.00	15,979.00	11,965.38	70.83	74.13	-95.05	-4,071.52	1,364.90	1,482.84	1,339.78	143.06	10.365	
15,700.00	11,820.00	15,979.00	11,965.38	71.42	74.13	-95.05	-4,071.52	1,364.90	1,478.01	1,333.95	144.06	10.259	
15,750.00	11,820.00	16,005.97	11,968.28	72.01	74.45	-95.17	-4,098.25	1,362.75	1,474.29	1,329.17	145.11	10.159	
15,800.00	11,820.00	16,027.41	11,969.96	72.61	74.71	-95.24	-4,119.59	1,361.56	1,471.56	1,325.45	146.12	10.071	
15,850.00	11,820.00	16,048.97	11,971.09	73.21	74.96	-95.29	-4,141.11	1,360.83	1,469.81	1,322.71	147.10	9.992	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
15,900.00	11,820.00	16,073.00	11,971.68	73.80	75.25	-95.31	-4,165.12	1,360.57	1,469.02	1,320.95	148.07	9.921	
15,925.22	11,820.00	16,086.75	11,971.83	74.11	75.42	-95.32	-4,178.87	1,360.61	1,468.95	1,320.38	148.57	9.887	
15,950.00	11,820.00	16,104.04	11,972.04	74.41	75.63	-95.33	-4,196.16	1,360.75	1,469.01	1,319.91	149.10	9.853	
16,000.00	11,820.00	16,138.93	11,972.55	75.01	76.06	-95.34	-4,231.04	1,361.27	1,469.52	1,319.37	150.15	9.787	
16,050.00	11,820.00	16,168.00	11,973.07	75.62	76.42	-95.36	-4,260.10	1,361.98	1,470.56	1,319.44	151.13	9.731	
16,100.00	11,820.00	16,206.64	11,973.41	76.22	76.91	-95.37	-4,298.71	1,363.38	1,472.13	1,319.92	152.21	9.671	
16,150.00	11,820.00	16,239.72	11,973.05	76.84	77.32	-95.35	-4,331.75	1,365.05	1,474.28	1,321.05	153.23	9.621	
16,200.00	11,820.00	16,277.97	11,971.92	77.45	77.81	-95.30	-4,369.90	1,367.47	1,476.98	1,322.66	154.32	9.571	
16,250.00	11,820.00	16,327.01	11,969.87	78.06	78.43	-95.21	-4,418.79	1,370.77	1,479.82	1,324.25	155.57	9.512	
16,300.00	11,820.00	16,372.58	11,967.54	78.68	79.01	-95.11	-4,464.18	1,373.91	1,482.73	1,325.95	156.78	9.457	
16,350.00	11,820.00	16,412.77	11,965.96	79.30	79.53	-95.04	-4,504.23	1,376.86	1,485.91	1,328.00	157.90	9.410	
16,400.00	11,820.00	16,453.08	11,965.08	79.92	80.05	-95.00	-4,544.41	1,380.02	1,489.41	1,330.39	159.02	9.366	
16,450.00	11,820.00	16,495.46	11,964.56	80.54	80.60	-94.97	-4,586.65	1,383.55	1,493.20	1,333.03	160.17	9.323	
16,500.00	11,820.00	16,537.82	11,964.19	81.16	81.15	-94.94	-4,628.84	1,387.28	1,497.24	1,335.92	161.32	9.281 SF	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	15.09	15.09	0.50	0.02	92.03	-26.50	747.86	748.33				
50.00	50.00	63.13	63.13	0.50	0.09	92.03	-26.53	747.96	748.43	747.84	0.60	1,256.221	
100.00	100.00	111.17	111.17	0.52	0.17	92.03	-26.58	748.19	748.67	747.99	0.68	1,096.293	
150.00	150.00	159.21	159.21	0.59	0.24	92.04	-26.67	748.54	749.04	748.21	0.83	906.050	
200.00	200.00	207.81	207.80	0.70	0.35	92.05	-26.78	749.01	749.53	748.48	1.05	712.315	
250.00	250.00	257.25	257.24	0.84	0.53	92.05	-26.77	749.55	750.08	748.71	1.36	549.659	
300.00	300.00	307.23	307.22	0.99	0.71	92.03	-26.64	750.13	750.65	748.96	1.69	443.394	
350.00	350.00	357.72	357.70	1.15	0.89	92.03	-26.60	750.68	751.20	749.17	2.03	369.730	
400.00	400.00	407.86	407.85	1.31	1.07	92.03	-26.65	751.21	751.72	749.35	2.38	316.514	
450.00	450.00	457.85	457.83	1.48	1.25	92.03	-26.69	751.73	752.24	749.52	2.72	276.416	
500.00	500.00	508.43	508.41	1.65	1.43	92.03	-26.73	752.24	752.75	749.68	3.07	244.997	
550.00	550.00	559.14	559.12	1.82	1.61	92.03	-26.74	752.71	753.21	749.79	3.43	219.861	
600.00	600.00	610.75	610.72	1.99	1.79	92.04	-26.77	753.10	753.60	749.81	3.78	199.183	
650.00	650.00	662.37	662.34	2.16	1.98	92.04	-26.86	753.39	753.87	749.73	4.14	182.004	
700.00	700.00	710.94	710.91	2.34	2.15	92.05	-26.95	753.66	754.16	749.67	4.49	167.937	
750.00	750.00	759.94	759.91	2.51	2.33	92.05	-27.01	754.00	754.51	749.67	4.84	155.841	
800.00	800.00	809.61	809.58	2.69	2.51	92.05	-27.04	754.41	754.92	749.73	5.20	145.310	
850.00	850.00	861.90	861.87	2.87	2.69	92.05	-27.08	754.76	755.25	749.69	5.56	135.862	
900.00	900.00	913.52	913.48	3.04	2.88	92.06	-27.12	754.95	755.44	749.52	5.92	127.603	
950.00	950.00	964.29	964.26	3.22	3.06	92.06	-27.12	755.07	755.56	749.28	6.28	120.344	
1,000.00	1,000.00	1,015.38	1,015.35	3.40	3.24	92.05	-27.08	755.14	755.62	748.99	6.63	113.925	
1,050.00	1,050.00	1,066.66	1,066.63	3.58	3.41	92.05	-27.04	755.12	755.60	748.62	6.98	108.180	
1,100.00	1,100.00	1,116.96	1,116.93	3.75	3.58	92.05	-27.00	755.04	755.53	748.20	7.33	103.089	
1,150.00	1,150.00	1,167.05	1,167.01	3.93	3.74	92.05	-26.98	754.96	755.44	747.77	7.67	98.475	
1,200.00	1,200.00	1,215.75	1,215.72	4.11	3.91	92.05	-26.99	754.92	755.40	747.38	8.02	94.228	
1,200.67	1,200.67	1,216.41	1,216.37	4.11	3.91	92.05	-26.99	754.92	755.40	747.38	8.02	94.173	
1,250.00	1,250.00	1,264.51	1,264.48	4.29	4.08	92.05	-27.02	754.96	755.44	747.08	8.36	90.331	
1,300.00	1,300.00	1,313.70	1,313.67	4.46	4.25	92.05	-27.06	755.06	755.55	746.83	8.72	86.680	
1,350.00	1,350.00	1,363.30	1,363.26	4.64	4.43	92.05	-27.08	755.22	755.71	746.63	9.07	83.304	
1,400.00	1,400.00	1,414.03	1,414.00	4.82	4.61	92.05	-27.10	755.35	755.84	746.41	9.43	80.142	
1,450.00	1,450.00	1,464.94	1,464.91	5.00	4.79	92.06	-27.11	755.44	755.93	746.14	9.79	77.217	
1,500.00	1,500.00	1,516.06	1,516.03	5.18	4.97	92.05	-27.03	755.46	755.94	745.80	10.15	74.503	
1,550.00	1,550.00	1,566.50	1,566.47	5.36	5.14	92.04	-26.89	755.42	755.90	745.40	10.50	72.006	
1,600.00	1,600.00	1,616.60	1,616.56	5.53	5.31	92.04	-26.87	755.37	755.85	745.00	10.85	69.687	
1,650.00	1,650.00	1,666.08	1,666.04	5.71	5.48	92.04	-26.94	755.32	755.80	744.61	11.19	67.515	
1,677.11	1,677.11	1,692.84	1,692.81	5.81	5.58	92.05	-26.98	755.31	755.80	744.41	11.38	66.394	
1,700.00	1,700.00	1,715.45	1,715.41	5.89	5.65	92.05	-27.02	755.32	755.80	744.26	11.54	65.477	
1,750.00	1,750.00	1,765.12	1,765.09	6.07	5.83	92.05	-27.10	755.34	755.83	743.93	11.90	63.534	
1,800.00	1,800.00	1,814.86	1,814.83	6.25	6.00	92.06	-27.17	755.39	755.88	743.63	12.25	61.704	
1,850.00	1,850.00	1,865.35	1,865.32	6.43	6.18	92.06	-27.21	755.43	755.92	743.32	12.61	59.963	
1,900.00	1,900.00	1,915.73	1,915.70	6.61	6.36	92.06	-27.22	755.44	755.93	742.97	12.96	58.320	
1,950.00	1,950.00	1,965.73	1,965.70	6.78	6.53	92.06	-27.22	755.44	755.93	742.62	13.31	56.778	
1,954.95	1,954.95	1,970.68	1,970.65	6.80	6.55	92.06	-27.22	755.44	755.93	742.58	13.35	56.630	
2,000.00	2,000.00	2,015.27	2,015.24	6.96	6.70	92.06	-27.22	755.45	755.94	742.27	13.66	55.320	
2,050.00	2,050.00	2,063.90	2,063.86	7.14	6.87	92.06	-27.23	755.52	756.01	742.00	14.01	53.947	
2,100.00	2,100.00	2,113.56	2,113.53	7.32	7.05	92.06	-27.25	755.67	756.17	741.80	14.37	52.631	
2,150.00	2,150.00	2,164.64	2,164.61	7.50	7.23	92.06	-27.22	755.78	756.27	741.55	14.73	51.355	
2,200.00	2,200.00	2,215.06	2,215.03	7.68	7.41	92.06	-27.16	755.84	756.32	741.24	15.08	50.145	
2,250.00	2,250.00	2,265.01	2,264.97	7.86	7.58	92.06	-27.17	755.88	756.37	740.93	15.44	48.996	
2,300.00	2,300.00	2,315.27	2,315.23	8.04	7.76	92.06	-27.23	755.92	756.41	740.62	15.79	47.892	
2,350.00	2,350.00	2,365.67	2,365.63	8.22	7.94	92.07	-27.26	755.94	756.43	740.28	16.15	46.832	
2,400.00	2,400.00	2,407.43	2,407.39	8.39	8.09	92.06	-27.19	756.13	756.66	740.18	16.48	45.917 ES	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	2,450.00	2,447.46	2,447.42	8.57	8.23	92.04	-26.94	756.84	757.54	740.74	16.80	45.099	
2,500.00	2,500.00	2,486.91	2,486.84	8.75	8.37	92.00	-26.52	758.07	759.08	741.97	17.11	44.363	
2,550.00	2,550.00	2,525.72	2,525.61	8.93	8.51	91.96	-25.94	759.85	761.35	743.93	17.42	43.710	
2,600.00	2,600.00	2,564.65	2,564.46	9.11	8.65	91.89	-25.20	762.21	764.35	746.62	17.72	43.128	
2,650.00	2,650.00	2,605.36	2,605.05	9.29	8.79	91.81	-24.22	765.22	768.00	749.96	18.03	42.588	
2,700.00	2,700.00	2,645.99	2,645.51	9.47	8.94	91.71	-22.99	768.70	772.24	753.90	18.34	42.105	
2,750.00	2,750.00	2,689.26	2,688.55	9.65	9.09	91.59	-21.41	772.88	777.02	758.36	18.66	41.639	
2,800.00	2,800.00	2,733.35	2,732.36	9.83	9.25	91.44	-19.55	777.47	782.17	763.18	18.98	41.202	
2,850.00	2,850.00	2,778.20	2,776.88	10.00	9.41	91.28	-17.45	782.44	787.66	768.35	19.31	40.789	
2,900.00	2,900.00	2,823.51	2,821.84	10.18	9.57	91.12	-15.42	787.71	793.44	773.80	19.64	40.399	
2,950.00	2,950.00	2,869.05	2,867.00	10.36	9.74	90.98	-13.51	793.25	799.48	779.51	19.97	40.034	
3,000.00	3,000.00	2,914.81	2,912.36	10.54	9.91	90.85	-11.89	799.03	805.78	785.48	20.30	39.691	
3,050.00	3,050.00	2,962.00	2,959.13	10.72	10.08	90.75	-10.53	805.20	812.29	791.64	20.64	39.352	
3,100.00	3,100.00	3,010.71	3,007.39	10.90	10.26	90.65	-9.19	811.63	818.87	797.88	20.99	39.010	
3,150.00	3,150.00	3,062.24	3,058.45	11.08	10.45	90.54	-7.78	818.43	825.47	804.11	21.36	38.648	
3,200.00	3,200.00	3,116.22	3,111.97	11.26	10.65	90.44	-6.27	825.31	831.83	810.09	21.74	38.260	
3,250.00	3,250.00	3,172.70	3,168.01	11.44	10.86	90.32	-4.64	832.15	837.88	815.74	22.14	37.846	
3,300.00	3,300.00	3,229.89	3,224.81	11.62	11.07	90.20	-2.92	838.57	843.49	820.95	22.54	37.423	
3,350.00	3,350.00	3,276.06	3,270.68	11.80	11.24	90.10	-1.50	843.69	849.02	826.15	22.88	37.114	
3,400.00	3,400.00	3,323.54	3,317.84	11.97	11.42	90.00	0.00	849.06	854.68	831.46	23.22	36.808	
3,450.00	3,450.00	3,363.77	3,357.74	12.15	11.57	89.91	1.39	853.91	860.71	837.19	23.52	36.594	
3,500.00	3,500.00	3,404.75	3,398.34	12.33	11.72	89.80	2.99	859.25	867.23	843.41	23.82	36.403	
3,550.00	3,550.00	3,447.82	3,440.95	12.51	11.89	89.68	4.82	865.23	874.19	850.05	24.14	36.217	
3,600.00	3,600.00	3,491.11	3,483.74	12.69	12.05	89.56	6.74	871.54	881.50	857.05	24.45	36.049	
3,650.00	3,650.00	3,542.54	3,534.53	12.87	12.25	89.41	9.05	879.23	889.00	864.18	24.82	35.815	
3,700.00	3,700.00	3,597.93	3,589.31	13.05	12.46	89.26	11.39	887.19	896.22	871.00	25.22	35.538	
3,750.00	3,750.00	3,647.18	3,638.03	13.23	12.65	89.15	13.27	894.11	903.27	877.70	25.57	35.320	
3,800.00	3,800.00	3,696.34	3,686.67	13.41	12.84	89.05	14.86	901.04	910.35	884.42	25.93	35.109	
3,850.00	3,850.00	3,745.75	3,735.57	13.59	13.03	88.98	16.16	908.02	917.44	891.15	26.29	34.902	
3,900.00	3,900.00	3,796.08	3,785.39	13.77	13.22	88.93	17.13	915.14	924.53	897.88	26.65	34.693	
3,950.00	3,950.00	3,851.03	3,839.81	13.94	13.43	88.88	17.98	922.71	931.43	904.39	27.04	34.444	
4,000.00	4,000.00	3,905.68	3,893.97	14.12	13.64	88.85	18.66	929.93	938.05	910.62	27.43	34.196	
4,050.00	4,050.00	3,959.88	3,947.73	14.30	13.85	127.65	19.17	936.82	944.58	916.76	27.82	33.956	
4,100.00	4,099.99	4,010.75	3,998.21	14.48	14.05	127.62	19.44	943.11	951.26	923.08	28.18	33.753	
4,150.00	4,149.97	4,060.28	4,047.36	14.66	14.24	127.64	19.45	949.23	958.26	929.72	28.54	33.577	
4,200.00	4,199.95	4,107.69	4,094.40	14.83	14.42	127.72	19.31	955.13	965.39	936.51	28.88	33.426	
4,250.00	4,249.93	4,154.55	4,140.88	15.01	14.60	127.80	19.26	961.08	972.66	943.44	29.22	33.287	
4,300.00	4,299.90	4,203.04	4,188.96	15.19	14.79	127.86	19.50	967.32	980.03	950.46	29.57	33.143	
4,350.00	4,349.88	4,251.95	4,237.45	15.37	14.98	127.88	20.41	973.64	987.43	957.51	29.92	33.000	
4,400.00	4,399.86	4,307.74	4,292.78	15.54	15.19	127.87	22.01	980.70	994.71	964.39	30.32	32.809	
4,450.00	4,449.84	4,364.71	4,349.30	15.72	15.41	127.85	23.84	987.50	1,001.62	970.90	30.72	32.606	
4,500.00	4,499.81	4,422.07	4,406.28	15.90	15.63	127.83	25.58	993.91	1,008.16	977.04	31.12	32.394	
4,550.00	4,549.79	4,474.62	4,458.52	16.08	15.83	127.83	27.01	999.45	1,014.38	982.88	31.50	32.208	
4,600.00	4,599.77	4,523.67	4,507.28	16.26	16.02	127.82	28.39	1,004.61	1,020.59	988.74	31.85	32.045	
4,650.00	4,649.74	4,569.17	4,552.50	16.43	16.20	127.81	29.77	1,009.48	1,026.89	994.71	32.18	31.909	
4,700.00	4,699.72	4,613.02	4,596.04	16.61	16.36	127.79	31.29	1,014.39	1,033.45	1,000.95	32.51	31.793	
4,750.00	4,749.70	4,655.18	4,637.87	16.79	16.53	127.76	32.95	1,019.37	1,040.31	1,007.49	32.82	31.700	
4,800.00	4,799.67	4,695.90	4,678.22	16.97	16.69	127.72	34.80	1,024.49	1,047.57	1,014.45	33.12	31.630	
4,850.00	4,849.65	4,737.23	4,719.13	17.15	16.85	127.66	36.94	1,030.03	1,055.24	1,021.82	33.42	31.571	
4,900.00	4,899.63	4,780.55	4,761.95	17.32	17.02	127.59	39.35	1,036.11	1,063.23	1,029.49	33.74	31.512	
4,950.00	4,949.61	4,824.25	4,805.11	17.50	17.19	127.51	41.93	1,042.48	1,071.50	1,037.44	34.06	31.460	
5,000.00	4,999.58	4,872.82	4,853.05	17.68	17.39	127.43	44.82	1,049.69	1,079.91	1,045.50	34.41	31.382	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
5,050.00	5,049.56	4,921.97	4,901.57	17.86	17.58	127.35	47.65	1,057.01	1,088.35	1,053.58	34.77	31.303	
5,100.00	5,099.54	4,974.44	4,953.39	18.04	17.79	127.28	50.52	1,064.76	1,096.71	1,061.56	35.15	31.203	
5,150.00	5,149.51	5,026.02	5,004.35	18.21	18.00	127.21	53.16	1,072.23	1,104.93	1,069.41	35.52	31.107	
5,200.00	5,199.49	5,075.95	5,053.70	18.39	18.20	127.16	55.63	1,079.42	1,113.11	1,077.23	35.88	31.022	
5,250.00	5,249.47	5,125.80	5,102.98	18.57	18.40	127.11	58.02	1,086.57	1,121.26	1,085.01	36.24	30.937	
5,300.00	5,299.44	5,175.56	5,152.18	18.75	18.60	127.06	60.31	1,093.69	1,129.39	1,092.78	36.60	30.854	
5,350.00	5,349.42	5,224.71	5,200.77	18.93	18.79	127.02	62.47	1,100.72	1,137.51	1,100.55	36.96	30.776	
5,400.00	5,399.40	5,273.44	5,248.96	19.11	18.99	126.99	64.52	1,107.71	1,145.65	1,108.33	37.31	30.702	
5,450.00	5,449.38	5,326.86	5,301.78	19.28	19.20	126.96	66.62	1,115.33	1,153.75	1,116.05	37.70	30.603	
5,500.00	5,499.35	5,382.34	5,356.71	19.46	19.42	126.94	68.54	1,122.98	1,161.60	1,123.50	38.10	30.489	
5,550.00	5,549.33	5,436.76	5,410.61	19.64	19.64	126.93	70.31	1,130.23	1,169.21	1,130.72	38.49	30.377	
5,600.00	5,599.31	5,490.79	5,464.15	19.82	19.85	126.92	72.11	1,137.20	1,176.62	1,137.74	38.88	30.265	
5,650.00	5,649.28	5,543.65	5,516.56	20.00	20.06	126.90	74.01	1,143.85	1,183.86	1,144.61	39.26	30.157	
5,700.00	5,699.26	5,594.70	5,567.18	20.18	20.26	126.87	75.97	1,150.13	1,190.98	1,151.36	39.63	30.056	
5,750.00	5,749.24	5,644.04	5,616.11	20.36	20.45	126.85	77.87	1,156.20	1,198.10	1,158.11	39.98	29.965	
5,800.00	5,799.21	5,694.55	5,666.21	20.53	20.65	126.83	79.78	1,162.40	1,205.20	1,164.85	40.35	29.870	
5,850.00	5,849.19	5,745.82	5,717.06	20.71	20.86	126.81	81.61	1,168.63	1,212.24	1,171.52	40.72	29.771	
5,900.00	5,899.17	5,796.23	5,767.08	20.89	21.05	126.80	83.32	1,174.70	1,219.22	1,178.13	41.08	29.677	
5,950.00	5,949.14	5,846.43	5,816.89	21.07	21.25	126.79	84.93	1,180.71	1,226.17	1,184.72	41.45	29.585	
6,000.00	5,999.12	5,896.93	5,867.01	21.25	21.45	126.78	86.49	1,186.74	1,233.08	1,191.27	41.81	29.492	
6,050.00	6,049.10	5,947.47	5,917.16	21.43	21.65	126.78	88.01	1,192.73	1,239.96	1,197.78	42.18	29.400	
6,100.00	6,099.08	5,997.84	5,967.16	21.61	21.84	126.78	89.48	1,198.66	1,246.80	1,204.26	42.54	29.309	
6,150.00	6,149.05	6,048.23	6,017.19	21.79	22.04	126.78	90.88	1,204.56	1,253.60	1,210.70	42.90	29.219	
6,200.00	6,199.03	6,096.10	6,064.71	21.96	22.23	126.78	92.19	1,210.20	1,260.44	1,217.18	43.25	29.141	
6,250.00	6,249.01	6,143.88	6,112.13	22.14	22.42	126.78	93.48	1,215.87	1,267.32	1,223.72	43.60	29.066	
6,300.00	6,298.98	6,190.16	6,158.05	22.32	22.60	126.78	94.88	1,221.45	1,274.30	1,230.36	43.94	29.000	
6,350.00	6,348.96	6,237.77	6,205.27	22.50	22.79	126.77	96.54	1,227.30	1,281.41	1,237.12	44.29	28.933	
6,400.00	6,398.94	6,289.57	6,256.65	22.68	22.99	126.75	98.38	1,233.64	1,288.49	1,243.82	44.66	28.849	
6,450.00	6,448.91	6,341.12	6,307.79	22.86	23.19	126.74	100.15	1,239.86	1,295.48	1,250.44	45.03	28.766	
6,500.00	6,498.89	6,392.34	6,358.62	23.04	23.40	126.73	101.79	1,245.97	1,302.40	1,256.99	45.40	28.684	
6,550.00	6,548.87	6,443.15	6,409.05	23.22	23.60	126.73	103.29	1,251.98	1,309.26	1,263.49	45.77	28.604	
6,600.00	6,598.85	6,493.68	6,459.21	23.40	23.79	126.73	104.72	1,257.91	1,316.08	1,269.95	46.14	28.525	
6,650.00	6,648.82	6,545.92	6,511.08	23.57	24.00	126.73	106.13	1,263.99	1,322.84	1,276.33	46.51	28.441	
6,700.00	6,698.80	6,598.80	6,563.60	23.75	24.21	126.74	107.41	1,270.01	1,329.48	1,282.59	46.89	28.352	
6,750.00	6,748.78	6,650.61	6,615.07	23.93	24.41	126.76	108.53	1,275.81	1,336.02	1,288.76	47.26	28.267	
6,800.00	6,798.75	6,702.39	6,666.52	24.11	24.61	126.78	109.55	1,281.53	1,342.47	1,294.84	47.64	28.182	
6,850.00	6,848.73	6,754.23	6,718.04	24.29	24.81	126.80	110.45	1,287.17	1,348.85	1,300.84	48.01	28.096	
6,900.00	6,898.71	6,807.07	6,770.58	24.47	25.01	126.83	111.25	1,292.83	1,355.13	1,306.74	48.39	28.007	
6,950.00	6,948.68	6,861.99	6,825.19	24.65	25.23	126.86	111.96	1,298.53	1,361.25	1,312.47	48.77	27.909	
7,000.00	6,998.66	6,916.04	6,878.97	24.83	25.43	126.90	112.53	1,303.95	1,367.18	1,318.02	49.16	27.812	
7,050.00	7,048.64	6,969.55	6,932.23	25.01	25.64	126.95	112.97	1,309.16	1,372.97	1,323.43	49.54	27.716	
7,100.00	7,098.62	7,024.55	6,986.98	25.19	25.85	127.00	113.28	1,314.35	1,378.60	1,328.67	49.92	27.614	
7,150.00	7,148.59	7,079.86	7,042.06	25.37	26.06	127.05	113.44	1,319.34	1,384.02	1,333.71	50.31	27.509	
7,200.00	7,198.57	7,133.61	7,095.60	25.54	26.26	127.11	113.46	1,324.02	1,389.28	1,338.59	50.69	27.407	
7,250.00	7,248.55	7,188.40	7,150.21	25.72	26.46	127.18	113.32	1,328.61	1,394.39	1,343.31	51.07	27.301	
7,300.00	7,298.52	7,244.57	7,206.19	25.90	26.67	127.25	112.96	1,333.09	1,399.28	1,347.81	51.46	27.190	
7,350.00	7,348.50	7,299.97	7,261.43	26.08	26.88	127.34	112.38	1,337.26	1,403.95	1,352.10	51.85	27.079	
7,400.00	7,398.48	7,355.03	7,316.35	26.26	27.08	127.43	111.62	1,341.21	1,408.44	1,356.21	52.23	26.967	
7,450.00	7,448.45	7,411.73	7,372.91	26.44	27.29	127.52	110.69	1,345.03	1,412.71	1,360.09	52.62	26.849	
7,500.00	7,498.43	7,468.62	7,429.68	26.62	27.49	127.62	109.65	1,348.59	1,416.74	1,363.74	53.00	26.729	
7,550.00	7,548.41	7,525.83	7,486.78	26.80	27.70	127.73	108.48	1,351.87	1,420.52	1,367.13	53.39	26.606	
7,600.00	7,598.38	7,581.54	7,542.40	26.98	27.90	127.83	107.25	1,354.81	1,424.06	1,370.29	53.77	26.484	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
7,650.00	7,648.36	7,636.56	7,597.35	27.16	28.09	127.94	106.00	1,357.50	1,427.41	1,373.27	54.15	26.362	
7,700.00	7,698.34	7,688.40	7,649.12	27.34	28.27	128.04	104.78	1,359.90	1,430.65	1,376.14	54.51	26.246	
7,750.00	7,748.32	7,740.40	7,701.04	27.52	28.46	128.14	103.55	1,362.24	1,433.82	1,378.95	54.87	26.130	
7,800.00	7,798.29	7,794.59	7,755.17	27.70	28.65	128.24	102.27	1,364.55	1,436.88	1,381.64	55.24	26.010	
7,850.00	7,848.27	7,848.00	7,808.52	27.87	28.84	128.34	101.05	1,366.67	1,439.80	1,384.19	55.61	25.890	
7,900.00	7,898.25	7,900.10	7,860.58	28.05	29.02	128.44	99.84	1,368.65	1,442.63	1,386.65	55.97	25.773	
7,950.00	7,948.22	7,951.77	7,912.19	28.23	29.20	128.54	98.59	1,370.53	1,445.39	1,389.05	56.34	25.657	
8,000.00	7,998.20	8,003.09	7,963.47	28.41	29.38	128.64	97.28	1,372.35	1,448.10	1,391.41	56.69	25.542	
8,050.00	8,048.18	8,057.04	8,017.37	28.59	29.56	128.75	95.86	1,374.17	1,450.73	1,393.67	57.06	25.423	
8,100.00	8,098.15	8,112.09	8,072.37	28.77	29.75	128.86	94.43	1,375.84	1,453.20	1,395.77	57.43	25.302	
8,150.00	8,148.13	8,163.66	8,123.90	28.95	29.93	128.96	93.08	1,377.28	1,455.55	1,397.76	57.79	25.185	
8,200.00	8,198.11	8,214.94	8,175.14	29.13	30.11	129.06	91.70	1,378.65	1,457.85	1,399.70	58.15	25.070	
8,250.00	8,248.09	8,265.50	8,225.68	29.31	30.28	129.14	90.78	1,379.98	1,460.13	1,401.62	58.51	24.956	
8,300.00	8,298.06	8,311.89	8,272.06	29.49	30.44	129.20	90.48	1,381.20	1,462.41	1,403.55	58.85	24.849	
8,350.00	8,348.04	8,351.89	8,312.03	29.67	30.59	129.23	90.56	1,382.48	1,464.96	1,405.79	59.18	24.756	
8,400.00	8,398.02	8,393.07	8,353.18	29.85	30.73	129.25	90.94	1,384.08	1,467.85	1,408.35	59.50	24.670	
8,450.00	8,447.99	8,459.08	8,419.13	30.03	30.97	129.26	92.26	1,386.45	1,470.60	1,410.69	59.91	24.545	
8,500.00	8,497.97	8,515.65	8,475.65	30.21	31.16	129.24	94.01	1,387.98	1,472.90	1,412.61	60.29	24.430	
8,550.00	8,547.95	8,566.09	8,526.06	30.39	31.34	129.23	95.54	1,389.29	1,475.14	1,414.50	60.65	24.323	
8,600.00	8,597.92	8,623.16	8,583.08	30.57	31.54	129.22	97.14	1,390.64	1,477.29	1,416.26	61.03	24.208	
8,650.00	8,647.90	8,683.37	8,643.27	30.74	31.75	129.21	98.71	1,391.70	1,479.12	1,417.71	61.41	24.086	
8,700.00	8,697.88	8,748.08	8,707.95	30.92	31.97	129.21	100.27	1,392.28	1,480.52	1,418.72	61.80	23.956	
8,750.00	8,747.86	8,808.20	8,768.06	31.10	32.16	129.22	101.53	1,392.29	1,481.47	1,419.30	62.17	23.828	
8,800.00	8,797.83	8,866.42	8,826.27	31.28	32.36	129.24	102.36	1,391.95	1,482.14	1,419.60	62.54	23.700	
8,850.00	8,847.81	8,921.84	8,881.68	31.46	32.53	129.28	102.64	1,391.38	1,482.59	1,419.70	62.89	23.574	
8,900.00	8,897.79	8,975.48	8,935.32	31.64	32.70	129.34	102.41	1,390.64	1,482.85	1,419.62	63.24	23.449	
8,950.00	8,947.76	9,026.33	8,986.16	31.82	32.86	129.40	101.97	1,389.87	1,483.06	1,419.48	63.58	23.326	
9,000.00	8,997.74	9,076.00	9,035.83	32.00	33.01	129.46	101.48	1,389.10	1,483.26	1,419.34	63.92	23.205	
9,050.00	9,047.72	9,124.76	9,084.58	32.18	33.16	129.52	101.26	1,388.38	1,483.49	1,419.23	64.26	23.086	
9,100.00	9,097.69	9,171.75	9,131.57	32.36	33.31	129.56	101.27	1,387.75	1,483.78	1,419.19	64.60	22.970	
9,150.00	9,147.67	9,217.59	9,177.41	32.54	33.46	129.60	101.22	1,387.25	1,484.21	1,419.28	64.93	22.859	
9,200.00	9,197.65	9,265.94	9,225.75	32.72	33.61	129.65	101.10	1,386.84	1,484.75	1,419.48	65.27	22.749	
9,250.00	9,247.62	9,316.13	9,275.94	32.90	33.77	129.70	101.00	1,386.41	1,485.30	1,419.69	65.61	22.638	
9,300.00	9,297.60	9,362.80	9,322.61	33.08	33.92	129.75	100.93	1,386.05	1,485.88	1,419.93	65.95	22.532	
9,350.00	9,347.58	9,407.84	9,367.65	33.26	34.06	129.79	100.92	1,385.84	1,486.62	1,420.34	66.28	22.430	
9,400.00	9,397.56	9,454.69	9,414.49	33.44	34.21	129.83	100.92	1,385.77	1,487.51	1,420.89	66.62	22.330	
9,450.00	9,447.53	9,502.74	9,462.55	33.62	34.37	129.88	100.80	1,385.76	1,488.47	1,421.51	66.96	22.230	
9,500.00	9,497.51	9,549.56	9,509.37	33.80	34.52	129.92	100.68	1,385.82	1,489.51	1,422.21	67.30	22.133	
9,550.00	9,547.49	9,595.64	9,555.44	33.98	34.68	129.95	101.12	1,386.00	1,490.68	1,423.04	67.64	22.038	
9,600.00	9,597.46	9,643.22	9,603.02	34.16	34.84	129.95	102.10	1,386.32	1,491.97	1,423.98	67.99	21.945	
9,650.00	9,647.44	9,691.90	9,651.68	34.34	35.01	129.96	103.14	1,386.69	1,493.30	1,424.97	68.34	21.853	
9,700.00	9,697.42	9,741.37	9,701.14	34.52	35.18	129.96	104.17	1,387.10	1,494.68	1,425.99	68.69	21.761	
9,750.00	9,747.39	9,791.27	9,751.03	34.69	35.35	129.97	105.16	1,387.52	1,496.05	1,427.01	69.04	21.669	
9,800.00	9,797.37	9,839.04	9,798.79	34.87	35.51	129.97	106.10	1,387.95	1,497.46	1,428.07	69.39	21.581	
9,850.00	9,847.35	9,886.09	9,845.82	35.05	35.67	129.98	107.11	1,388.47	1,498.96	1,429.23	69.73	21.496 SF	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	15.70	15.70	0.50		92.03	-26.50	747.85	748.32				
50.00	50.00	65.70	65.70	0.50		92.03	-26.50	747.85	748.32	747.82	0.50	1,490.668	
100.00	100.00	115.70	115.70	0.52		92.03	-26.50	747.85	748.32	747.80	0.52	1,445.317	
150.00	150.00	165.70	165.70	0.59		92.03	-26.50	747.85	748.32	747.73	0.59	1,267.823	
200.00	200.00	215.70	215.70	0.70		92.03	-26.50	747.85	748.32	747.62	0.70	1,065.827	
250.00	250.00	268.51	268.50	0.84		92.03	-26.51	747.91	748.38	747.54	0.84	893.320	
274.41	274.41	295.12	295.11	0.91		92.03	-26.48	747.77	748.25	747.34	0.91	822.666	
300.00	300.00	315.71	315.70	0.99		92.03	-26.50	747.85	748.32	747.33	0.99	757.920	
350.00	350.00	382.28	365.70	1.15		92.03	-26.50	747.85	748.32	747.18	1.15	653.276	
400.00	400.00	415.72	415.70	1.31		92.03	-26.50	747.85	748.32	747.01	1.31	571.634	
450.00	450.00	469.87	469.85	1.48		92.03	-26.50	747.84	748.32	746.84	1.48	506.866	
460.32	460.32	481.14	481.12	1.51		92.03	-26.49	747.77	748.25	746.74	1.51	495.125	
500.00	500.00	515.92	515.90	1.65		92.03	-26.51	747.97	748.44	746.80	1.65	454.679	
550.00	550.00	570.53	570.51	1.82		92.03	-26.50	747.79	748.27	746.46	1.82	411.661	
553.57	553.57	574.43	574.40	1.83		92.03	-26.49	747.76	748.25	746.42	1.83	408.878	CC
600.00	600.00	616.38	616.35	1.99		92.03	-26.50	747.95	748.42	746.43	1.99	375.976	
650.00	650.00	665.73	665.70	2.16		92.03	-26.50	747.85	748.32	746.16	2.16	345.715	
700.00	700.00	715.73	715.70	2.34		92.03	-26.50	747.85	748.32	745.98	2.34	319.889	
750.00	750.00	766.73	766.70	2.51		92.03	-26.53	747.91	748.38	745.87	2.51	297.603	
800.00	800.00	815.73	815.70	2.69		92.03	-26.50	747.85	748.32	745.63	2.69	278.125	
850.00	850.00	867.32	867.28	2.87		92.03	-26.50	747.93	748.40	745.53	2.87	261.048	
900.00	900.00	915.73	915.70	3.04		92.03	-26.50	747.85	748.32	745.28	3.04	245.871	
950.00	950.00	966.55	966.51	3.22		92.03	-26.51	747.87	748.34	745.12	3.22	232.370	
1,000.00	1,000.00	1,015.73	1,015.70	3.40		92.03	-26.50	747.85	748.32	744.92	3.40	220.246	
1,050.00	1,050.00	1,066.19	1,066.15	3.58		92.03	-26.50	747.86	748.33	744.75	3.58	209.320	
1,068.05	1,068.05	1,084.46	1,084.43	3.64		92.03	-26.50	747.84	748.31	744.67	3.64	205.630	
1,100.00	1,100.00	1,115.73	1,115.70	3.75		92.03	-26.50	747.85	748.32	744.57	3.75	199.414	
1,106.55	1,106.55	1,122.27	1,122.24	3.78		92.03	-26.49	747.83	748.30	744.53	3.78	198.181	
1,150.00	1,150.00	1,165.18	1,165.15	3.93		92.03	-26.50	747.85	748.32	744.39	3.93	190.397	
1,197.27	1,197.27	1,213.00	1,212.97	4.10		92.03	-26.50	747.83	748.30	744.20	4.10	182.582	
1,200.00	1,200.00	1,215.69	1,215.66	4.11		92.03	-26.50	747.83	748.30	744.19	4.11	182.150	
1,250.00	1,250.00	1,265.73	1,265.70	4.29		92.03	-26.50	747.85	748.32	744.03	4.29	174.592	
1,300.00	1,300.00	1,315.87	1,315.84	4.46		92.03	-26.51	747.87	748.34	743.87	4.46	167.632	
1,350.00	1,350.00	1,365.73	1,365.70	4.64		92.03	-26.50	747.85	748.32	743.68	4.64	161.195	
1,400.00	1,400.00	1,416.31	1,416.27	4.82		92.03	-26.50	747.88	748.35	743.53	4.82	155.242	
1,450.00	1,450.00	1,465.73	1,465.70	5.00		92.03	-26.50	747.85	748.32	743.32	5.00	149.698	
1,500.00	1,500.00	1,516.14	1,516.10	5.18		92.03	-26.50	747.86	748.33	743.16	5.18	144.543	
1,550.00	1,550.00	1,565.73	1,565.70	5.36		92.03	-26.50	747.85	748.32	742.97	5.36	139.725	
1,562.77	1,562.77	1,578.50	1,578.47	5.40		92.03	-26.46	747.84	748.31	742.91	5.40	138.545	
1,600.00	1,600.00	1,615.45	1,615.42	5.53		92.03	-26.49	747.85	748.32	742.78	5.53	135.219	
1,650.00	1,650.00	1,665.73	1,665.70	5.71		92.03	-26.50	747.85	748.32	742.61	5.71	130.993	
1,655.87	1,655.87	1,671.59	1,671.56	5.73		92.03	-26.51	747.84	748.31	742.57	5.73	130.512	
1,700.00	1,700.00	1,715.31	1,715.27	5.89		92.03	-26.50	747.85	748.32	742.43	5.89	127.023	
1,750.00	1,750.00	1,765.74	1,765.71	6.07		92.03	-26.52	747.86	748.33	742.26	6.07	123.286	
1,800.00	1,800.00	1,815.90	1,815.86	6.25		92.03	-26.50	747.85	748.32	742.07	6.25	119.760	
1,804.76	1,804.76	1,820.67	1,820.63	6.27		92.03	-26.49	747.85	748.32	742.05	6.27	119.435	
1,850.00	1,850.00	1,865.81	1,865.77	6.43		92.03	-26.51	747.86	748.33	741.91	6.43	116.433	
1,900.00	1,900.00	1,915.73	1,915.70	6.61		92.03	-26.50	747.85	748.32	741.72	6.61	113.281	
1,950.00	1,950.00	1,965.73	1,965.70	6.78		92.03	-26.50	747.85	748.32	741.54	6.78	110.297	
2,000.00	2,000.00	2,015.73	2,015.70	6.96		92.03	-26.50	747.85	748.32	741.36	6.96	107.465	
2,050.00	2,050.00	2,065.73	2,065.70	7.14		92.03	-26.50	747.85	748.32	741.18	7.14	104.775	
2,100.00	2,100.00	2,115.73	2,115.70	7.32		92.03	-26.50	747.85	748.32	741.00	7.32	102.216	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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	2,150.00	2,166.50	2,166.46	7.50		92.03	-26.50	747.88	748.35	740.85	7.50	99.783	
2,200.00	2,200.00	2,215.73	2,215.70	7.68		92.03	-26.50	747.85	748.32	740.64	7.68	97.455	
2,250.00	2,250.00	2,265.96	2,265.92	7.86		92.03	-26.49	747.86	748.33	740.47	7.86	95.237	
2,300.00	2,300.00	2,315.74	2,315.70	8.04		92.03	-26.50	747.85	748.32	740.28	8.04	93.117	
2,350.00	2,350.00	2,382.26	2,365.70	8.22		92.03	-26.50	747.85	748.32	740.11	8.22	91.089	
2,400.00	2,400.00	2,415.74	2,415.70	8.39		92.03	-26.50	747.85	748.32	739.93	8.39	89.148	
2,450.00	2,450.00	2,470.25	2,465.70	8.57		92.03	-26.50	747.85	748.32	739.75	8.57	87.287	
2,500.00	2,500.00	2,516.19	2,516.13	8.75		92.02	-26.37	748.21	748.68	739.93	8.75	85.543	
2,550.00	2,550.00	2,565.88	2,565.70	8.93		92.03	-26.50	747.85	748.32	739.39	8.93	83.789	
2,600.00	2,600.00	2,624.18	2,623.96	9.11		92.01	-26.28	748.55	749.06	739.95	9.11	82.228	
2,650.00	2,650.00	2,666.23	2,665.70	9.29		92.03	-26.50	747.85	748.32	739.03	9.29	80.561	
2,700.00	2,700.00	2,757.76	2,757.04	9.47		92.04	-26.65	747.43	749.05	739.59	9.46	79.214	
2,735.25	2,735.25	2,752.06	2,750.95	9.59		92.03	-26.50	747.85	748.32	738.73	9.59	77.998	
2,750.00	2,750.00	2,766.81	2,765.70	9.65		92.03	-26.50	747.85	748.32	738.67	9.65	77.571	
2,800.00	2,800.00	2,844.00	2,842.16	9.83		92.03	-26.50	747.85	748.79	738.97	9.82	76.245	
2,835.40	2,835.40	2,852.94	2,851.10	9.95		92.03	-26.50	747.85	748.32	738.37	9.95	75.188	
2,850.00	2,850.00	2,867.54	2,865.70	10.00		92.03	-26.50	747.85	748.32	738.32	10.00	74.795	
2,900.00	2,900.00	2,938.00	2,935.35	10.18		92.03	-26.50	747.85	748.58	738.40	10.18	73.527	
2,927.46	2,927.46	2,945.81	2,943.16	10.28		92.03	-26.50	747.85	748.32	738.04	10.28	72.778	
2,950.00	2,950.00	2,968.35	2,965.70	10.36		92.03	-26.50	747.85	748.32	737.96	10.36	72.211	
3,000.00	3,000.00	3,033.00	3,029.48	10.54		92.03	-26.50	747.85	748.45	737.91	10.54	71.007	
3,023.01	3,023.01	3,042.23	3,038.71	10.62		92.03	-26.50	747.85	748.32	737.70	10.62	70.435	
3,050.00	3,050.00	3,069.22	3,065.70	10.72		92.03	-26.50	747.85	748.32	737.60	10.72	69.800	
3,100.00	3,100.00	3,133.96	3,115.70	10.90		92.03	-26.50	747.85	748.32	737.42	10.90	68.653	
3,150.00	3,150.00	3,170.04	3,165.70	11.08		92.03	-26.50	747.85	748.32	737.24	11.08	67.543	
3,200.00	3,200.00	3,223.28	3,215.70	11.26		92.03	-26.50	747.85	748.32	737.06	11.26	66.469	
3,250.00	3,250.00	3,280.27	3,275.15	11.44		92.00	-26.16	749.07	749.58	738.15	11.44	65.543	
3,300.00	3,300.00	3,321.36	3,315.70	11.62		92.03	-26.50	747.85	748.32	736.70	11.62	64.420	
3,350.00	3,350.00	3,410.00	3,403.54	11.80		92.03	-26.50	747.85	749.28	737.49	11.78	63.591	
3,400.00	3,400.00	3,422.16	3,415.70	11.97		92.03	-26.50	747.85	748.32	736.35	11.97	62.493	
3,450.00	3,450.00	3,505.00	3,497.46	12.15		92.03	-26.50	747.85	748.99	736.85	12.14	61.674	
3,495.69	3,495.69	3,518.93	3,511.39	12.32		92.03	-26.50	747.85	748.32	736.00	12.32	60.754	
3,500.00	3,500.00	3,523.24	3,515.70	12.33		92.03	-26.50	747.85	748.32	735.99	12.33	60.678	
3,550.00	3,550.00	3,599.00	3,590.36	12.51		92.03	-26.50	747.85	748.73	736.22	12.51	59.870	
3,582.89	3,582.89	3,607.23	3,598.59	12.63		92.03	-26.50	747.85	748.32	735.69	12.63	59.252	
3,600.00	3,600.00	3,624.34	3,615.70	12.69		92.03	-26.50	747.85	748.32	735.63	12.69	58.966	
3,650.00	3,650.00	3,693.00	3,683.37	12.87		92.03	-26.50	747.85	748.53	735.66	12.87	58.175	
3,675.77	3,675.77	3,701.11	3,691.47	12.96		92.03	-26.50	747.85	748.32	735.36	12.96	57.731	
3,700.00	3,700.00	3,725.33	3,715.70	13.05		92.03	-26.50	747.85	748.32	735.27	13.05	57.347	
3,750.00	3,750.00	3,787.00	3,776.40	13.23		92.03	-26.50	747.85	748.40	735.17	13.23	56.581	
3,771.20	3,771.20	3,797.51	3,786.90	13.30		92.03	-26.50	747.85	748.32	735.02	13.30	56.248	
3,800.00	3,800.00	3,826.30	3,815.70	13.41		92.03	-26.50	747.85	748.32	734.91	13.41	55.815	
3,850.00	3,850.00	3,886.79	3,865.70	13.59		92.03	-26.50	747.85	748.32	734.73	13.59	55.079	
3,900.00	3,900.00	3,927.21	3,915.70	13.77		92.03	-26.50	747.85	748.32	734.56	13.77	54.362	
3,950.00	3,950.00	3,977.97	3,965.70	13.94		92.03	-26.50	747.85	748.32	734.38	13.94	53.664	
4,000.00	4,000.00	4,070.00	4,057.00	14.12		92.03	-26.50	747.85	749.46	735.35	14.11	53.132	
4,033.02	4,033.02	4,078.28	4,048.72	14.24		130.91	-26.50	747.85	748.40	734.16	14.24	52.552 ES	
4,050.00	4,050.00	4,078.70	4,065.70	14.30		130.92	-26.50	747.85	748.50	734.20	14.30	52.337	
4,100.00	4,099.99	4,164.00	4,150.25	14.48		131.01	-26.50	747.85	749.83	735.37	14.47	51.832	
4,121.99	4,121.98	4,164.00	4,150.25	14.56		131.01	-26.50	747.85	749.48	734.93	14.56	51.491	
4,150.00	4,149.97	4,179.42	4,165.67	14.66		131.03	-26.50	747.85	749.92	735.27	14.66	51.166	
4,200.00	4,199.95	4,258.00	4,243.45	14.83		131.17	-26.50	747.85	751.43	736.61	14.82	50.687	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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

Survey Program:

Offset Site Error: 5.00 ft

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
4,212.80	4,212.74	4,258.00	4,243.45	14.88		131.17	-26.50	747.85	751.32	736.45	14.88	50.505	
4,250.00	4,249.93	4,280.18	4,265.63	15.01		131.21	-26.50	747.85	751.92	736.91	15.01	50.093	
4,300.00	4,299.90	4,352.00	4,336.69	15.19		131.33	-26.50	747.85	753.21	738.03	15.18	49.611	
4,305.99	4,305.89	4,352.00	4,336.69	15.21		131.33	-26.50	747.85	753.19	737.98	15.21	49.532	
4,350.00	4,349.88	4,380.89	4,365.58	15.37		131.38	-26.50	747.85	753.92	738.56	15.36	49.069	
4,400.00	4,399.86	4,446.00	4,430.07	15.54		131.49	-26.50	747.85	755.06	739.53	15.54	48.591	
4,450.00	4,449.84	4,481.47	4,465.54	15.72		131.56	-26.50	747.85	755.93	740.21	15.72	48.091	
4,500.00	4,499.81	4,546.00	4,515.51	15.90		131.64	-26.50	747.85	756.94	741.04	15.90	47.619	
4,550.00	4,549.79	4,581.98	4,565.49	16.08		131.73	-26.50	747.85	757.95	741.88	16.07	47.156	
4,600.00	4,599.77	4,633.40	4,615.47	16.26		131.81	-26.50	747.85	758.96	742.71	16.25	46.704	
4,650.00	4,649.74	4,726.00	4,708.02	16.43		131.97	-26.50	747.85	761.16	744.76	16.41	46.391	
4,677.15	4,676.88	4,726.00	4,708.02	16.53		131.97	-26.50	747.85	760.68	744.16	16.52	46.041	
4,700.00	4,699.72	4,733.40	4,715.42	16.61		131.98	-26.50	747.85	760.99	744.38	16.61	45.828	
4,750.00	4,749.70	4,820.00	4,800.91	16.79		132.13	-26.50	747.85	762.83	746.06	16.77	45.490	
4,770.00	4,769.69	4,820.00	4,800.91	16.86		132.13	-26.50	747.85	762.57	745.72	16.85	45.252	
4,800.00	4,799.67	4,834.46	4,815.37	16.97		132.15	-26.50	747.85	763.02	746.06	16.96	44.989	
4,850.00	4,849.65	4,914.00	4,893.70	17.15		132.28	-26.50	747.85	764.57	747.44	17.13	44.635	
4,862.75	4,862.39	4,914.00	4,893.70	17.19		132.28	-26.50	747.85	764.46	747.28	17.18	44.495	
4,900.00	4,899.63	4,935.63	4,915.33	17.32		132.32	-26.50	747.85	765.06	747.75	17.32	44.184	
4,950.00	4,949.61	5,008.00	4,986.55	17.50		132.44	-26.50	747.85	766.38	748.89	17.49	43.821	
4,955.54	4,955.15	5,008.00	4,986.55	17.52		132.44	-26.50	747.85	766.36	748.85	17.51	43.765	
5,000.00	4,999.58	5,036.74	5,015.28	17.68		132.49	-26.50	747.85	767.11	749.44	17.67	43.411	
5,050.00	5,049.56	5,102.00	5,079.45	17.86		132.59	-26.50	747.85	768.26	750.42	17.85	43.048	
5,100.00	5,099.54	5,137.78	5,115.24	18.04		132.65	-26.50	747.85	769.16	751.13	18.03	42.669	
5,150.00	5,149.51	5,201.18	5,165.21	18.21		132.74	-26.50	747.85	770.19	751.99	18.20	42.309	
5,200.00	5,199.49	5,238.80	5,215.19	18.39		132.82	-26.50	747.85	771.22	752.84	18.38	41.956	
5,250.00	5,249.47	5,289.82	5,265.17	18.57		132.90	-26.50	747.85	772.25	753.69	18.56	41.609	
5,300.00	5,299.44	5,300.00	5,315.14	18.75		132.99	-26.50	747.85	773.29	754.55	18.74	41.269	
5,350.00	5,349.42	5,390.76	5,365.12	18.93		133.07	-26.50	747.85	774.32	755.41	18.92	40.936	
5,400.00	5,399.40	5,476.00	5,449.49	19.11		133.21	-26.50	747.85	776.12	757.04	19.08	40.675	
5,425.19	5,424.57	5,485.22	5,440.27	19.20		133.19	-26.50	747.85	775.88	756.70	19.18	40.446	
5,450.00	5,449.38	5,491.58	5,465.08	19.28		133.23	-26.50	747.85	776.40	757.13	19.27	40.288	
5,500.00	5,499.35	5,569.00	5,541.70	19.46		133.36	-26.50	747.85	777.90	758.45	19.44	40.010	
5,510.45	5,509.79	5,569.00	5,541.70	19.50		133.36	-26.50	747.85	777.83	758.34	19.48	39.920	
5,550.00	5,549.33	5,592.33	5,565.03	19.64		133.39	-26.50	747.85	778.48	758.85	19.63	39.663	
5,600.00	5,599.31	5,663.00	5,634.92	19.82		133.51	-26.50	747.85	779.78	759.98	19.80	39.378	
5,603.59	5,602.89	5,663.00	5,634.92	19.83		133.51	-26.50	747.85	779.77	759.95	19.82	39.350	
5,650.00	5,649.28	5,693.07	5,664.98	20.00		133.56	-26.50	747.85	780.57	760.59	19.98	39.060	
5,700.00	5,699.26	5,756.00	5,727.16	20.18		133.66	-26.50	747.85	781.71	761.55	20.16	38.773	
5,750.00	5,749.24	5,793.78	5,764.94	20.36		133.72	-26.50	747.85	782.66	762.32	20.34	38.479	
5,800.00	5,799.21	5,855.52	5,814.91	20.53		133.80	-26.50	747.85	783.71	763.20	20.52	38.196	
5,850.00	5,849.19	5,894.46	5,864.89	20.71		133.88	-26.50	747.85	784.77	764.07	20.70	37.918	
5,900.00	5,899.17	5,945.15	5,914.87	20.89		133.96	-26.50	747.85	785.82	764.94	20.87	37.645	
5,950.00	5,949.14	6,038.00	6,007.03	21.07		134.10	-26.50	747.85	788.00	766.97	21.03	37.464	
5,975.56	5,974.69	6,038.00	6,007.03	21.16		134.10	-26.50	747.85	787.59	766.44	21.14	37.252	
6,000.00	5,999.12	6,045.79	6,014.82	21.25		134.12	-26.50	747.85	787.93	766.70	21.23	37.112	
6,050.00	6,049.10	6,132.00	6,100.34	21.43		134.25	-26.50	747.85	789.78	768.39	21.40	36.912	
6,076.53	6,075.62	6,141.02	6,091.32	21.52		134.24	-26.50	747.85	789.55	768.04	21.50	36.716	
6,100.00	6,099.08	6,146.44	6,114.78	21.61		134.27	-26.50	747.85	790.04	768.46	21.59	36.597	
6,150.00	6,149.05	6,225.00	6,192.61	21.79		134.40	-26.50	747.85	791.59	769.84	21.76	36.380	
6,161.05	6,160.10	6,225.00	6,192.61	21.82		134.40	-26.50	747.85	791.52	769.71	21.80	36.302	
6,200.00	6,199.03	6,247.12	6,214.73	21.96		134.43	-26.50	747.85	792.17	770.22	21.94	36.099	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
6,250.00	6,249.01	6,318.00	6,284.85	22.14		134.54	-26.50	747.85	793.48	771.36	22.12	35.872	
6,253.21	6,252.22	6,318.00	6,284.85	22.15		134.54	-26.50	747.85	793.48	771.35	22.13	35.851	
6,300.00	6,298.98	6,347.83	6,314.68	22.32		134.59	-26.50	747.85	794.29	771.99	22.30	35.617	
6,350.00	6,348.96	6,413.00	6,379.12	22.50		134.69	-26.50	747.85	795.49	773.01	22.48	35.389	
6,400.00	6,398.94	6,448.51	6,414.64	22.68		134.74	-26.50	747.85	796.43	773.77	22.66	35.150	
6,450.00	6,448.91	6,514.82	6,464.61	22.86		134.82	-26.50	747.85	797.50	774.66	22.84	34.922	
6,500.00	6,498.89	6,549.16	6,514.59	23.04		134.90	-26.50	747.85	798.57	775.55	23.01	34.698	
6,550.00	6,548.87	6,602.21	6,564.57	23.22		134.97	-26.50	747.85	799.64	776.45	23.19	34.477	
6,600.00	6,598.85	6,694.00	6,658.18	23.40		135.12	-26.50	747.85	801.90	778.55	23.35	34.340	
6,626.42	6,625.25	6,694.00	6,658.18	23.49		135.12	-26.50	747.85	801.47	778.00	23.46	34.156	
6,650.00	6,648.82	6,700.34	6,664.52	23.57		135.13	-26.50	747.85	801.79	778.24	23.55	34.046	
6,700.00	6,698.80	6,789.00	6,752.61	23.75		135.26	-26.50	747.85	803.77	780.05	23.71	33.894	
6,728.78	6,727.56	6,798.35	6,743.26	23.86		135.25	-26.50	747.85	803.48	779.65	23.83	33.715	
6,750.00	6,748.78	6,800.87	6,764.48	23.93		135.28	-26.50	747.85	803.94	780.03	23.91	33.627	
6,800.00	6,798.75	6,883.00	6,846.09	24.11		135.40	-26.50	747.85	805.64	781.56	24.08	33.461	
6,822.22	6,820.96	6,892.44	6,836.66	24.19		135.39	-26.50	747.85	805.50	781.33	24.17	33.333	
6,850.00	6,848.73	6,901.34	6,864.43	24.29		135.43	-26.50	747.85	806.10	781.84	24.26	33.221	
6,900.00	6,898.71	6,978.00	6,940.63	24.47		135.55	-26.50	747.85	807.61	783.17	24.44	33.047	
6,908.73	6,907.43	6,978.00	6,940.63	24.50		135.55	-26.50	747.85	807.56	783.09	24.47	32.998	
6,950.00	6,948.68	7,001.75	6,964.38	24.65		135.58	-26.50	747.85	808.27	783.64	24.62	32.827	
7,000.00	6,998.66	7,072.00	7,034.23	24.83		135.69	-26.50	747.85	809.59	784.80	24.80	32.647	
7,002.31	7,000.97	7,072.00	7,034.23	24.84		135.69	-26.50	747.85	809.59	784.78	24.81	32.635	
7,050.00	7,048.64	7,102.11	7,064.34	25.01		135.73	-26.50	747.85	810.44	785.46	24.98	32.445	
7,100.00	7,098.62	7,100.00	7,114.32	25.19		135.81	-26.50	747.85	811.52	786.37	25.16	32.258	
7,150.00	7,148.59	7,202.42	7,164.29	25.37		135.88	-26.50	747.85	812.61	787.28	25.34	32.073	
7,200.00	7,198.57	7,200.00	7,214.27	25.54		135.96	-26.50	747.85	813.70	788.19	25.51	31.891	
7,250.00	7,248.55	7,302.68	7,264.25	25.72		136.03	-26.50	747.85	814.79	789.10	25.69	31.712	
7,300.00	7,298.52	7,357.09	7,314.22	25.90		136.10	-26.50	747.85	815.89	790.02	25.87	31.535	
7,350.00	7,348.50	7,404.52	7,365.81	26.08		136.19	-26.68	748.67	817.82	791.76	26.05	31.393	
7,400.00	7,398.48	7,453.08	7,414.18	26.26		136.25	-26.50	747.85	818.08	791.85	26.23	31.189	
7,450.00	7,448.45	7,511.25	7,472.31	26.44		136.34	-26.70	748.51	819.90	793.49	26.41	31.046	
7,500.00	7,498.43	7,553.21	7,514.13	26.62		136.40	-26.50	747.85	820.27	793.69	26.59	30.852	
7,550.00	7,548.41	7,614.19	7,575.08	26.80		136.50	-26.70	748.34	821.95	795.19	26.77	30.708	
7,600.00	7,598.38	7,653.31	7,614.08	26.98		136.54	-26.50	747.85	822.47	795.53	26.94	30.525	
7,650.00	7,648.36	7,716.11	7,676.86	27.16		136.64	-26.67	748.19	824.03	796.91	27.12	30.380	
7,700.00	7,698.34	7,753.39	7,714.04	27.34		136.69	-26.50	747.85	824.68	797.38	27.30	30.206	
7,750.00	7,748.32	7,819.51	7,780.13	27.52		136.79	-26.59	748.02	826.12	798.64	27.48	30.062	
7,800.00	7,798.29	7,853.45	7,813.99	27.70		136.83	-26.50	747.85	826.89	799.23	27.66	29.895	
7,850.00	7,848.27	7,919.74	7,880.26	27.87		136.93	-26.54	747.91	828.22	800.38	27.84	29.751	
7,900.00	7,898.25	7,953.50	7,913.95	28.05		136.98	-26.50	747.85	829.11	801.09	28.02	29.593	
7,950.00	7,948.22	8,021.01	7,981.42	28.23		137.07	-26.46	747.79	830.34	802.14	28.20	29.449	
8,000.00	7,998.20	8,053.54	8,013.90	28.41		137.12	-26.50	747.85	831.33	802.95	28.38	29.298	
8,050.00	8,048.18	8,123.29	8,083.61	28.59		137.21	-26.33	747.63	832.43	803.88	28.55	29.154	
8,053.28	8,051.45	8,128.25	8,088.57	28.60		137.21	-26.25	747.52	832.43	803.86	28.56	29.143	
8,100.00	8,098.15	8,153.58	8,113.85	28.77		137.26	-26.50	747.85	833.56	804.82	28.73	29.011	
8,150.00	8,148.13	8,203.62	8,163.83	28.95		137.33	-26.50	747.85	834.67	805.76	28.91	28.870	
8,200.00	8,198.11	8,255.47	8,215.67	29.13		137.42	-26.82	748.16	836.14	807.05	29.09	28.742	
8,250.00	8,248.09	8,303.62	8,263.79	29.31		137.47	-26.50	747.85	836.91	807.64	29.27	28.593	
8,300.00	8,298.06	8,356.84	8,317.00	29.49		137.55	-26.55	748.13	838.31	808.86	29.45	28.467	
8,350.00	8,348.04	8,403.63	8,363.74	29.67		137.61	-26.50	747.85	839.14	809.52	29.63	28.324	
8,400.00	8,398.02	8,462.32	8,422.41	29.85		137.68	-26.39	748.21	840.65	810.84	29.81	28.203	
8,450.00	8,447.99	8,503.67	8,463.69	30.03		137.75	-26.50	747.85	841.39	811.40	29.98	28.060	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
8,500.00	8,497.97	8,558.66	8,518.67	30.21		137.81	-26.24	748.06	842.69	812.53	30.16	27.936	
8,550.00	8,547.95	8,603.70	8,563.65	30.39		137.89	-26.50	747.85	843.64	813.30	30.34	27.804	
8,600.00	8,597.92	8,660.07	8,620.00	30.57		137.96	-26.34	747.99	844.90	814.38	30.52	27.681	
8,650.00	8,647.90	8,703.70	8,663.60	30.74		138.03	-26.50	747.85	845.89	815.19	30.70	27.553	
8,700.00	8,697.88	8,757.51	8,717.39	30.92		138.09	-26.39	747.92	847.08	816.20	30.88	27.431	
8,750.00	8,747.86	8,803.69	8,763.56	31.10		138.17	-26.50	747.85	848.15	817.09	31.06	27.308	
8,800.00	8,797.83	8,852.72	8,812.58	31.28		138.23	-26.42	747.85	849.27	818.04	31.24	27.188	
8,850.00	8,847.81	8,903.66	8,863.51	31.46		138.30	-26.50	747.85	850.42	819.00	31.42	27.069	
8,900.00	8,897.79	8,949.87	8,909.72	31.64		138.36	-26.48	747.84	851.54	819.94	31.59	26.953	
8,950.00	8,947.76	9,003.39	8,963.23	31.82		138.44	-26.57	747.68	852.53	820.75	31.77	26.831	
9,000.00	8,997.74	9,053.61	9,013.44	32.00		138.50	-26.50	747.85	853.82	821.87	31.95	26.721	
9,050.00	9,047.72	9,102.82	9,062.64	32.18		138.58	-26.63	747.67	854.80	822.67	32.13	26.603	
9,100.00	9,097.69	9,153.58	9,113.39	32.36		138.64	-26.50	747.85	856.10	823.78	32.31	26.495	
9,150.00	9,147.67	9,202.07	9,161.89	32.54		138.71	-26.49	747.70	857.09	824.60	32.49	26.380	
9,200.00	9,197.65	9,253.54	9,213.35	32.72		138.77	-26.50	747.85	858.38	825.71	32.67	26.275	
9,250.00	9,247.62	9,302.27	9,262.08	32.90		138.84	-26.53	747.77	859.44	826.59	32.85	26.164	
9,300.00	9,297.60	9,353.49	9,313.30	33.08		138.91	-26.50	747.85	860.66	827.63	33.03	26.059	
9,350.00	9,347.58	9,401.77	9,361.58	33.26		138.97	-26.52	747.77	861.73	828.53	33.21	25.951	
9,400.00	9,397.56	9,453.45	9,413.26	33.44		139.04	-26.50	747.85	862.95	829.57	33.39	25.848	
9,450.00	9,447.53	9,502.97	9,462.78	33.62		139.10	-26.49	747.84	864.09	830.52	33.56	25.744	
9,500.00	9,497.51	9,553.40	9,513.21	33.80		139.17	-26.50	747.85	865.25	831.50	33.74	25.642	
9,550.00	9,547.49	9,603.97	9,563.77	33.98		139.24	-26.53	747.86	866.40	832.48	33.92	25.541	
9,600.00	9,597.46	9,653.36	9,613.16	34.16		139.30	-26.50	747.85	867.55	833.44	34.10	25.440	
9,650.00	9,647.44	9,714.63	9,663.14	34.34		139.37	-26.50	747.85	868.70	834.42	34.28	25.341	
9,700.00	9,697.42	9,753.34	9,713.12	34.52		139.43	-26.50	747.85	869.85	835.39	34.46	25.243	
9,750.00	9,747.39	9,805.29	9,765.06	34.69		139.50	-26.51	747.85	871.00	836.36	34.64	25.145	
9,800.00	9,797.37	9,853.32	9,813.07	34.87		139.56	-26.50	747.85	872.16	837.34	34.82	25.049	
9,850.00	9,847.35	9,905.44	9,865.18	35.05		139.63	-26.51	747.85	873.31	838.31	35.00	24.954	
9,900.00	9,897.33	9,953.49	9,913.21	35.23		139.67	-26.23	748.00	874.56	839.39	35.18	24.863	
9,950.00	9,947.30	10,007.60	9,967.32	35.41		139.77	-26.62	747.78	875.59	840.24	35.36	24.765	
10,000.00	9,997.28	10,053.88	10,013.56	35.59		139.80	-26.21	747.99	876.87	841.33	35.53	24.677	
10,050.00	10,047.26	10,103.29	10,062.96	35.77		139.88	-26.50	747.85	877.95	842.23	35.71	24.583	
10,100.00	10,097.23	10,153.52	10,113.18	35.95		139.94	-26.34	747.90	879.13	843.23	35.89	24.493	
10,150.00	10,147.21	10,203.26	10,162.91	36.13		140.01	-26.50	747.85	880.27	844.20	36.07	24.404	
10,200.00	10,197.19	10,254.31	10,213.96	36.31		140.06	-26.32	747.94	881.49	845.23	36.25	24.316	
10,250.00	10,247.16	10,303.24	10,262.86	36.49		140.14	-26.50	747.85	882.60	846.17	36.43	24.228	
10,300.00	10,297.14	10,355.34	10,314.96	36.67		140.19	-26.32	747.95	883.83	847.22	36.61	24.142	
10,350.00	10,347.12	10,403.22	10,362.82	36.85		140.26	-26.50	747.85	884.93	848.14	36.79	24.055	
10,400.00	10,397.10	10,454.75	10,414.34	37.03		140.32	-26.36	747.91	886.13	849.16	36.97	23.971	
10,450.00	10,447.07	10,503.20	10,462.77	37.21		140.39	-26.50	747.85	887.26	850.12	37.15	23.886	
10,500.00	10,497.05	10,556.41	10,515.98	37.39		140.45	-26.46	747.89	888.47	851.14	37.33	23.803	
10,550.00	10,547.03	10,603.16	10,562.73	37.57		140.51	-26.50	747.85	889.60	852.10	37.50	23.720	
10,600.00	10,597.00	10,658.86	10,612.70	37.75		140.57	-26.50	747.85	890.78	853.09	37.68	23.639	
10,650.00	10,646.98	10,703.13	10,662.70	37.93		140.64	-26.57	748.00	892.11	854.25	37.86	23.562	
10,700.00	10,696.96	10,760.50	10,720.06	38.11		140.71	-26.46	747.78	893.07	855.03	38.04	23.475	
10,750.00	10,746.93	10,804.65	10,764.20	38.29		140.77	-26.68	748.06	894.54	856.32	38.22	23.404	
10,800.00	10,796.91	10,853.09	10,812.61	38.47		140.82	-26.50	747.85	895.45	857.05	38.40	23.319	
10,850.00	10,846.90	10,906.06	10,865.57	38.65		140.88	-26.70	748.05	896.45	857.87	38.58	23.236	
10,900.10	10,897.00	10,953.21	10,912.70	38.83		102.01	-26.50	747.85	896.47	857.71	38.76	23.130	
10,950.00	10,946.90	11,006.97	10,966.45	39.00		102.01	-26.65	748.01	896.66	857.72	38.94	23.029	
11,000.00	10,996.90	11,053.12	11,012.60	39.18		102.01	-26.50	747.85	896.47	857.35	39.11	22.920	
11,050.00	11,046.90	11,104.04	11,063.51	39.36		102.01	-26.54	747.88	896.50	857.21	39.29	22.817	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
11,100.00	11,096.90	11,153.12	11,112.60	39.54		102.01	-26.50	747.85	896.47	857.00	39.47	22.713	
11,123.93	11,120.84	11,177.06	11,136.53	39.62		102.01	-26.52	747.85	896.46	856.91	39.55	22.664	
11,150.00	11,146.90	11,203.10	11,162.58	39.72		102.01	-26.51	747.85	896.47	856.82	39.65	22.611	
11,200.00	11,196.90	11,253.12	11,212.60	39.89		102.01	-26.50	747.85	896.47	856.64	39.83	22.510	
11,250.00	11,246.90	11,303.12	11,262.60	40.07		102.01	-26.50	747.85	896.47	856.46	40.00	22.409	
11,300.00	11,296.84	11,353.06	11,312.54	40.24		-77.82	-26.50	747.85	896.00	855.83	40.17	22.304	
11,350.00	11,346.40	11,399.66	11,359.13	40.40		-78.32	-26.49	747.81	894.61	854.28	40.33	22.183	
11,400.00	11,395.20	11,451.43	11,410.90	40.55		-79.23	-26.50	747.85	892.50	852.02	40.48	22.047	
11,450.00	11,442.87	11,495.32	11,454.78	40.70		-80.32	-26.54	747.81	889.69	849.06	40.63	21.899	
11,500.00	11,489.06	11,545.44	11,504.76	40.83		-81.85	-26.50	747.85	886.53	845.76	40.77	21.745	
11,550.00	11,533.40	11,590.66	11,549.86	40.96		-83.51	-26.72	747.83	883.23	842.33	40.90	21.593	
11,600.00	11,575.56	11,633.43	11,591.10	41.08		-85.22	-27.34	747.77	880.12	839.09	41.03	21.448	
11,650.00	11,615.22	11,675.22	11,630.94	41.18		-87.02	-27.94	747.76	877.59	836.43	41.16	21.322	
11,700.00	11,652.08	11,714.77	11,667.42	41.28		-88.76	-28.75	747.82	876.03	834.75	41.28	21.222	
11,730.98	11,673.39	11,735.88	11,687.86	41.35		-89.85	-26.90	747.85	875.67	834.32	41.35	21.176	
11,750.00	11,685.86	11,753.50	11,701.56	41.40		-90.53	-26.50	747.85	875.77	834.37	41.40	21.155	
11,800.00	11,716.30	11,790.05	11,732.00	41.51		-91.96	-26.50	747.85	877.23	835.73	41.51	21.134 SF	
11,850.00	11,743.17	11,817.49	11,757.91	41.63		-92.98	-28.13	748.01	880.73	839.11	41.62	21.163	
11,900.00	11,766.26	11,848.44	11,781.96	41.74		-93.83	-26.50	747.85	886.60	844.88	41.72	21.252	
11,950.00	11,785.40	11,857.98	11,790.15	41.85		-93.41	-28.90	748.09	894.78	852.97	41.81	21.401	
12,000.00	11,800.44	11,892.75	11,816.14	41.96		-93.94	-26.50	747.85	906.04	864.13	41.90	21.622	
12,050.00	11,811.27	11,901.49	11,823.52	42.07		-92.93	-30.10	748.14	918.94	876.96	41.98	21.889	
12,100.00	11,817.81	11,902.87	11,824.82	42.18		-91.31	-30.08	748.14	935.15	893.10	42.05	22.240	
12,150.00	11,820.00	11,903.01	11,824.96	42.29		-89.30	-30.07	748.14	953.80	911.70	42.10	22.653	
12,200.00	11,820.00	11,902.74	11,824.70	42.40		-89.28	-30.08	748.14	974.66	932.51	42.16	23.120	
12,250.00	11,820.00	11,902.52	11,824.50	42.53		-89.27	-30.09	748.14	997.60	955.38	42.22	23.631	
12,300.00	11,820.00	11,902.35	11,824.33	42.66		-89.26	-30.09	748.14	1,022.46	980.20	42.26	24.192	
12,350.00	11,820.00	11,902.21	11,824.20	42.81		-89.25	-30.09	748.14	1,049.12	1,006.80	42.32	24.790	
12,400.00	11,820.00	11,902.09	11,824.09	42.97		-89.24	-30.10	748.14	1,077.44	1,035.08	42.37	25.431	
12,450.00	11,820.00	11,901.98	11,823.99	43.15		-89.23	-30.10	748.14	1,107.30	1,064.88	42.42	26.103	
12,500.00	11,820.00	11,901.90	11,823.91	43.32		-89.23	-30.10	748.14	1,138.57	1,096.10	42.46	26.812	
12,550.00	11,820.00	11,901.82	11,823.84	43.52		-89.22	-30.10	748.14	1,171.14	1,128.63	42.51	27.548	
12,600.00	11,820.00	11,901.75	11,823.78	43.72		-89.22	-30.10	748.14	1,204.90	1,162.35	42.55	28.315	
12,650.00	11,820.00	11,901.69	11,823.72	43.95		-89.22	-30.10	748.14	1,239.77	1,197.17	42.60	29.104	
12,700.00	11,820.00	11,901.64	11,823.67	44.17		-89.21	-30.10	748.14	1,275.64	1,233.00	42.63	29.920	
12,750.00	11,820.00	11,901.59	11,823.63	44.41		-89.21	-30.10	748.14	1,312.43	1,269.76	42.67	30.755	
12,800.00	11,820.00	11,901.55	11,823.59	44.66		-89.21	-30.10	748.14	1,350.07	1,307.37	42.71	31.612	
12,850.00	11,820.00	11,901.51	11,823.55	44.92		-89.21	-30.10	748.14	1,388.50	1,345.75	42.74	32.484	
12,900.00	11,820.00	11,901.48	11,823.52	45.19		-89.20	-30.10	748.14	1,427.64	1,384.87	42.77	33.377	
12,950.00	11,820.00	11,901.45	11,823.49	45.47		-89.20	-30.10	748.14	1,467.44	1,424.63	42.81	34.281	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 331H - 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
10,500.00	10,497.05	21,723.42	11,620.00	37.72	154.87	-53.03	145.56	-1,120.06	1,486.22	1,333.32	152.90	9.720	
10,550.00	10,547.03	21,724.60	11,620.00	37.90	154.89	-52.97	146.75	-1,120.07	1,448.91	1,293.92	154.99	9.348	
10,600.00	10,597.00	21,725.79	11,620.00	38.08	154.90	-52.90	147.94	-1,120.08	1,412.39	1,255.22	157.16	8.987	
10,650.00	10,646.98	21,726.98	11,620.00	38.26	154.92	-52.83	149.13	-1,120.09	1,376.71	1,217.30	159.41	8.636	
10,700.00	10,696.96	21,728.16	11,620.00	38.43	154.94	-52.76	150.31	-1,120.09	1,341.95	1,180.22	161.73	8.297	
10,750.00	10,746.93	21,729.35	11,620.00	38.61	154.95	-52.69	151.50	-1,120.10	1,308.17	1,144.06	164.11	7.971	
10,800.00	10,796.91	21,730.51	11,620.00	38.79	154.97	-52.46	152.66	-1,120.11	1,275.47	1,108.92	166.56	7.658	
10,850.00	10,846.90	21,731.28	11,620.00	38.97	154.98	-51.94	153.43	-1,120.11	1,244.17	1,075.11	169.05	7.360	
10,900.10	10,897.00	21,731.54	11,620.00	39.15	154.98	-90.36	153.69	-1,120.11	1,214.38	1,042.78	171.60	7.077	
10,950.00	10,946.90	21,731.54	11,620.00	39.32	154.98	-90.36	153.69	-1,120.11	1,186.25	1,012.09	174.16	6.811	
11,000.00	10,996.90	21,731.54	11,620.00	39.50	154.98	-90.36	153.69	-1,120.11	1,159.53	982.82	176.71	6.562	
11,050.00	11,046.90	21,731.54	11,620.00	39.68	154.98	-90.36	153.69	-1,120.11	1,134.39	955.14	179.24	6.329	
11,100.00	11,096.90	21,731.54	11,620.00	39.85	154.98	-90.36	153.69	-1,120.11	1,110.92	929.21	181.72	6.114	
11,150.00	11,146.90	21,731.54	11,620.00	40.03	154.98	-90.36	153.69	-1,120.11	1,089.25	905.14	184.11	5.916	
11,200.00	11,196.90	21,731.54	11,620.00	40.21	154.98	-90.36	153.69	-1,120.11	1,069.48	883.10	186.38	5.738	
11,250.00	11,246.90	21,731.54	11,620.00	40.38	154.98	-90.36	153.69	-1,120.11	1,051.72	863.21	188.51	5.579	
11,300.00	11,296.84	21,729.37	11,620.00	40.55	154.95	91.51	151.52	-1,120.10	1,036.08	845.68	190.41	5.441	
11,350.00	11,346.40	21,722.86	11,620.00	40.71	154.86	92.52	145.01	-1,120.06	1,022.74	830.74	192.00	5.327	
11,400.00	11,395.20	21,712.05	11,620.00	40.86	154.71	93.03	134.20	-1,119.99	1,011.81	818.55	193.26	5.236	
11,450.00	11,442.87	21,702.97	11,620.00	41.00	154.58	93.07	119.18	-1,119.90	1,003.30	809.07	194.24	5.165	
11,500.00	11,489.06	21,677.92	11,620.00	41.14	154.23	92.67	100.07	-1,119.77	997.17	802.48	194.69	5.122	
11,550.00	11,533.40	21,654.85	11,620.00	41.26	153.91	91.88	77.00	-1,119.63	993.27	798.40	194.87	5.097	
11,600.00	11,575.56	21,628.00	11,620.00	41.38	153.53	90.76	50.15	-1,119.46	991.39	796.66	194.73	5.091 SF	
11,628.91	11,598.82	21,610.84	11,620.00	41.44	153.29	89.99	32.99	-1,119.35	991.12	796.60	194.52	5.095 CC, ES	
11,650.00	11,615.22	21,602.42	11,620.00	41.48	153.17	89.38	19.73	-1,119.26	991.25	796.88	194.38	5.100	
11,700.00	11,652.08	21,563.82	11,620.00	41.58	152.63	87.81	-14.02	-1,119.05	992.55	798.90	193.65	5.125	
11,750.00	11,685.86	21,526.98	11,620.00	41.70	152.11	86.14	-50.87	-1,118.81	994.93	802.12	192.81	5.160	
11,800.00	11,716.30	21,487.33	11,620.00	41.81	151.56	84.44	-90.51	-1,118.56	998.05	806.20	191.85	5.202	
11,850.00	11,743.17	21,445.18	11,620.00	41.92	150.97	82.80	-132.66	-1,118.29	1,001.56	810.75	190.82	5.249	
11,900.00	11,766.26	21,400.85	11,620.00	42.04	150.35	81.29	-176.99	-1,118.01	1,005.15	815.38	189.77	5.297	
11,950.00	11,785.40	21,354.68	11,620.00	42.15	149.70	79.96	-223.17	-1,117.72	1,008.51	819.77	188.74	5.343	
12,000.00	11,800.44	21,307.01	11,620.00	42.26	149.03	78.87	-270.83	-1,117.41	1,011.39	823.63	187.77	5.386	
12,050.00	11,811.27	21,258.21	11,620.00	42.36	148.35	78.07	-319.63	-1,117.10	1,013.60	826.71	186.89	5.424	
12,100.00	11,817.81	21,208.66	11,620.00	42.47	147.66	77.58	-369.18	-1,116.79	1,014.99	828.87	186.12	5.453	
12,150.00	11,820.00	21,158.72	11,620.00	42.58	146.96	77.41	-419.12	-1,116.47	1,015.45	829.98	185.47	5.475	
12,200.00	11,820.00	21,108.72	11,620.00	42.69	146.26	77.41	-469.12	-1,116.15	1,015.45	830.55	184.89	5.492	
12,250.00	11,820.00	21,058.72	11,620.00	42.82	145.56	77.41	-519.11	-1,115.83	1,015.44	831.11	184.33	5.509	
12,300.00	11,820.00	21,008.72	11,620.00	42.95	144.87	77.41	-569.11	-1,115.51	1,015.43	831.66	183.77	5.525	
12,350.00	11,820.00	20,958.72	11,620.00	43.10	144.17	77.41	-619.11	-1,115.19	1,015.42	832.18	183.24	5.542	
12,400.00	11,820.00	20,908.72	11,620.00	43.26	143.47	77.41	-669.11	-1,114.88	1,015.42	832.71	182.70	5.558	
12,450.00	11,820.00	20,858.72	11,620.00	43.43	142.77	77.41	-719.11	-1,114.56	1,015.41	833.22	182.19	5.573	
12,500.00	11,820.00	20,808.72	11,620.00	43.61	142.08	77.41	-769.11	-1,114.24	1,015.40	833.72	181.68	5.589	
12,550.00	11,820.00	20,758.72	11,620.00	43.81	141.38	77.41	-819.11	-1,113.92	1,015.39	834.20	181.19	5.604	
12,600.00	11,820.00	20,708.72	11,620.00	44.01	140.69	77.41	-869.11	-1,113.60	1,015.39	834.68	180.70	5.619	
12,650.00	11,820.00	20,658.72	11,620.00	44.23	139.99	77.41	-919.11	-1,113.28	1,015.38	835.14	180.24	5.634	
12,700.00	11,820.00	20,608.72	11,620.00	44.45	139.29	77.41	-969.11	-1,112.97	1,015.37	835.60	179.77	5.648	
12,750.00	11,820.00	20,558.72	11,620.00	44.69	138.60	77.41	-1,019.10	-1,112.65	1,015.36	836.04	179.33	5.662	
12,800.00	11,820.00	20,508.72	11,620.00	44.94	137.90	77.41	-1,069.10	-1,112.33	1,015.36	836.47	178.88	5.676	
12,850.00	11,820.00	20,458.72	11,620.00	45.20	137.21	77.41	-1,119.10	-1,112.01	1,015.35	836.89	178.46	5.690	
12,900.00	11,820.00	20,408.72	11,620.00	45.46	136.52	77.41	-1,169.10	-1,111.69	1,015.34	837.31	178.03	5.703	
12,950.00	11,820.00	20,358.72	11,620.00	45.75	135.82	77.41	-1,219.10	-1,111.37	1,015.33	837.70	177.63	5.716	
13,000.00	11,820.00	20,308.72	11,620.00	46.03	135.13	77.41	-1,269.10	-1,111.05	1,015.33	838.10	177.23	5.729	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 331H - 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
13,050.00	11,820.00	20,258.72	11,620.00	46.33	134.44	77.41	-1,319.10	-1,110.74	1,015.32	838.47	176.84	5.741	
13,100.00	11,820.00	20,208.72	11,620.00	46.64	133.74	77.41	-1,369.10	-1,110.42	1,015.31	838.85	176.46	5.754	
13,150.00	11,820.00	20,158.72	11,620.00	46.96	133.05	77.41	-1,419.10	-1,110.10	1,015.30	839.21	176.10	5.766	
13,200.00	11,820.00	20,108.72	11,620.00	47.28	132.36	77.41	-1,469.10	-1,109.78	1,015.30	839.56	175.73	5.778	
13,250.00	11,820.00	20,058.72	11,620.00	47.62	131.67	77.41	-1,519.09	-1,109.46	1,015.29	839.90	175.39	5.789	
13,300.00	11,820.00	20,008.72	11,620.00	47.96	130.98	77.41	-1,569.09	-1,109.14	1,015.28	840.24	175.04	5.800	
13,350.00	11,820.00	19,958.72	11,620.00	48.31	130.29	77.41	-1,619.09	-1,108.83	1,015.27	840.56	174.71	5.811	
13,400.00	11,820.00	19,908.72	11,620.00	48.67	129.60	77.41	-1,669.09	-1,108.51	1,015.27	840.88	174.38	5.822	
13,450.00	11,820.00	19,858.72	11,620.00	49.04	128.91	77.41	-1,719.09	-1,108.19	1,015.26	841.19	174.07	5.832	
13,500.00	11,820.00	19,808.72	11,620.00	49.42	128.22	77.41	-1,769.09	-1,107.87	1,015.25	841.49	173.76	5.843	
13,550.00	11,820.00	19,758.72	11,620.00	49.80	127.53	77.41	-1,819.09	-1,107.55	1,015.24	841.78	173.46	5.853	
13,600.00	11,820.00	19,708.72	11,620.00	50.19	126.84	77.41	-1,869.09	-1,107.23	1,015.24	842.07	173.17	5.863	
13,650.00	11,820.00	19,658.72	11,620.00	50.60	126.16	77.41	-1,919.09	-1,106.92	1,015.23	842.34	172.89	5.872	
13,700.00	11,820.00	19,608.72	11,620.00	51.00	125.47	77.41	-1,969.09	-1,106.60	1,015.22	842.62	172.61	5.882	
13,750.00	11,820.00	19,558.72	11,620.00	51.42	124.78	77.41	-2,019.08	-1,106.28	1,015.21	842.87	172.34	5.891	
13,800.00	11,820.00	19,508.72	11,620.00	51.83	124.09	77.41	-2,069.08	-1,105.96	1,015.21	843.13	172.07	5.900	
13,850.00	11,820.00	19,458.72	11,620.00	52.26	123.41	77.41	-2,119.08	-1,105.64	1,015.20	843.38	171.82	5.908	
13,900.00	11,820.00	19,408.72	11,620.00	52.70	122.72	77.41	-2,169.08	-1,105.32	1,015.19	843.62	171.57	5.917	
13,950.00	11,820.00	19,358.72	11,620.00	53.14	122.04	77.41	-2,219.08	-1,105.01	1,015.18	843.85	171.33	5.925	
14,000.00	11,820.00	19,308.72	11,620.00	53.58	121.35	77.41	-2,269.08	-1,104.69	1,015.18	844.08	171.10	5.933	
14,050.00	11,820.00	19,258.72	11,620.00	54.04	120.67	77.41	-2,319.08	-1,104.37	1,015.17	844.30	170.87	5.941	
14,100.00	11,820.00	19,208.72	11,620.00	54.50	119.99	77.41	-2,369.08	-1,104.05	1,015.16	844.51	170.65	5.949	
14,150.00	11,820.00	19,158.72	11,620.00	54.96	119.30	77.41	-2,419.08	-1,103.73	1,015.15	844.72	170.44	5.956	
14,200.00	11,820.00	19,108.72	11,620.00	55.43	118.62	77.41	-2,469.08	-1,103.41	1,015.15	844.92	170.22	5.964	
14,250.00	11,820.00	19,058.72	11,620.00	55.91	117.94	77.41	-2,519.07	-1,103.10	1,015.14	845.11	170.02	5.971	
14,300.00	11,820.00	19,008.72	11,620.00	56.39	117.26	77.41	-2,569.07	-1,102.78	1,015.13	845.31	169.82	5.978	
14,350.00	11,820.00	18,958.72	11,620.00	56.88	116.58	77.41	-2,619.07	-1,102.46	1,015.12	845.49	169.63	5.984	
14,400.00	11,820.00	18,908.72	11,620.00	57.37	115.90	77.41	-2,669.07	-1,102.14	1,015.12	845.67	169.45	5.991	
14,450.00	11,820.00	18,858.72	11,620.00	57.87	115.22	77.41	-2,719.07	-1,101.82	1,015.11	845.84	169.27	5.997	
14,500.00	11,820.00	18,808.72	11,620.00	58.37	114.54	77.41	-2,769.07	-1,101.50	1,015.10	846.01	169.09	6.003	
14,550.00	11,820.00	18,758.72	11,620.00	58.88	113.86	77.41	-2,819.07	-1,101.18	1,015.09	846.17	168.92	6.009	
14,600.00	11,820.00	18,708.72	11,620.00	59.39	113.18	77.41	-2,869.07	-1,100.87	1,015.09	846.33	168.76	6.015	
14,650.00	11,820.00	18,658.72	11,620.00	59.90	112.51	77.41	-2,919.07	-1,100.55	1,015.08	846.48	168.60	6.021	
14,700.00	11,820.00	18,608.72	11,620.00	60.42	111.83	77.41	-2,969.07	-1,100.23	1,015.07	846.63	168.44	6.026	
14,750.00	11,820.00	18,558.72	11,620.00	60.95	111.16	77.41	-3,019.06	-1,099.91	1,015.06	846.77	168.29	6.031	
14,800.00	11,820.00	18,508.72	11,620.00	61.48	110.48	77.41	-3,069.06	-1,099.59	1,015.06	846.91	168.15	6.037	
14,850.00	11,820.00	18,458.72	11,620.00	62.01	109.81	77.41	-3,119.06	-1,099.27	1,015.05	847.04	168.01	6.042	
14,900.00	11,820.00	18,408.72	11,620.00	62.54	109.13	77.41	-3,169.06	-1,098.96	1,015.04	847.17	167.87	6.047	
14,950.00	11,820.00	18,358.72	11,620.00	63.09	108.46	77.41	-3,219.06	-1,098.64	1,015.03	847.29	167.74	6.051	
15,000.00	11,820.00	18,308.72	11,620.00	63.63	107.79	77.41	-3,269.06	-1,098.32	1,015.03	847.41	167.61	6.056	
15,050.00	11,820.00	18,258.72	11,620.00	64.18	107.12	77.41	-3,319.06	-1,098.00	1,015.02	847.53	167.49	6.060	
15,100.00	11,820.00	18,208.72	11,620.00	64.73	106.45	77.41	-3,369.06	-1,097.68	1,015.01	847.64	167.37	6.064	
15,150.00	11,820.00	18,158.72	11,620.00	65.29	105.78	77.41	-3,419.06	-1,097.36	1,015.00	847.74	167.26	6.068	
15,200.00	11,820.00	18,108.72	11,620.00	65.84	105.11	77.41	-3,469.06	-1,097.05	1,015.00	847.85	167.15	6.072	
15,250.00	11,820.00	18,058.72	11,620.00	66.41	104.44	77.41	-3,519.05	-1,096.73	1,014.99	847.95	167.04	6.076	
15,300.00	11,820.00	18,008.72	11,620.00	66.97	103.77	77.41	-3,569.05	-1,096.41	1,014.98	848.04	166.94	6.080	
15,350.00	11,820.00	17,958.72	11,620.00	67.54	103.11	77.41	-3,619.05	-1,096.09	1,014.97	848.13	166.84	6.083	
15,400.00	11,820.00	17,908.72	11,620.00	68.11	102.44	77.41	-3,669.05	-1,095.77	1,014.97	848.22	166.75	6.087	
15,450.00	11,820.00	17,858.72	11,620.00	68.68	101.78	77.41	-3,719.05	-1,095.45	1,014.96	848.30	166.66	6.090	
15,500.00	11,820.00	17,808.72	11,620.00	69.26	101.11	77.41	-3,769.05	-1,095.14	1,014.95	848.38	166.57	6.093	
15,550.00	11,820.00	17,758.72	11,620.00	69.84	100.45	77.41	-3,819.05	-1,094.82	1,014.94	848.46	166.49	6.096	
15,600.00	11,820.00	17,708.72	11,620.00	70.42	99.79	77.41	-3,869.05	-1,094.50	1,014.94	848.53	166.40	6.099	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 331H - 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
15,650.00	11,820.00	17,658.72	11,620.00	71.01	99.13	77.41	-3,919.05	-1,094.18	1,014.93	848.60	166.33	6.102	
15,700.00	11,820.00	17,608.72	11,620.00	71.60	98.47	77.41	-3,969.05	-1,093.86	1,014.92	848.67	166.26	6.105	
15,750.00	11,820.00	17,558.72	11,620.00	72.19	97.81	77.41	-4,019.04	-1,093.54	1,014.91	848.73	166.19	6.107	
15,800.00	11,820.00	17,508.72	11,620.00	72.78	97.15	77.41	-4,069.04	-1,093.23	1,014.91	848.79	166.12	6.109	
15,850.00	11,820.00	17,458.72	11,620.00	73.38	96.49	77.41	-4,119.04	-1,092.91	1,014.90	848.84	166.06	6.112	
15,900.00	11,820.00	17,408.72	11,620.00	73.97	95.84	77.41	-4,169.04	-1,092.59	1,014.89	848.89	166.00	6.114	
15,950.00	11,820.00	17,358.72	11,620.00	74.57	95.18	77.41	-4,219.04	-1,092.27	1,014.88	848.94	165.94	6.116	
16,000.00	11,820.00	17,308.72	11,620.00	75.18	94.53	77.41	-4,269.04	-1,091.95	1,014.88	848.98	165.89	6.118	
16,050.00	11,820.00	17,258.72	11,620.00	75.78	93.87	77.41	-4,319.04	-1,091.63	1,014.87	849.02	165.84	6.119	
16,100.00	11,820.00	17,208.72	11,620.00	76.39	93.22	77.40	-4,369.04	-1,091.32	1,014.86	849.06	165.80	6.121	
16,150.00	11,820.00	17,158.72	11,620.00	77.00	92.57	77.40	-4,419.04	-1,091.00	1,014.85	849.10	165.75	6.123	
16,200.00	11,820.00	17,108.72	11,620.00	77.61	91.92	77.40	-4,469.03	-1,090.68	1,014.85	849.13	165.71	6.124	
16,250.00	11,820.00	17,058.72	11,620.00	78.22	91.27	77.40	-4,519.03	-1,090.36	1,014.84	849.16	165.68	6.125	
16,300.00	11,820.00	17,008.72	11,620.00	78.84	90.63	77.40	-4,569.03	-1,090.04	1,014.83	849.19	165.64	6.127	
16,350.00	11,820.00	16,958.72	11,620.00	79.45	89.98	77.40	-4,619.03	-1,089.72	1,014.82	849.21	165.61	6.128	
16,400.00	11,820.00	16,908.72	11,620.00	80.07	89.34	77.40	-4,669.03	-1,089.40	1,014.82	849.23	165.59	6.129	
16,450.00	11,820.00	16,858.72	11,620.00	80.69	88.69	77.40	-4,719.03	-1,089.09	1,014.81	849.24	165.56	6.129	
16,500.00	11,820.00	16,808.72	11,620.00	81.32	88.05	77.40	-4,769.03	-1,088.77	1,014.80	849.26	165.54	6.130	
16,550.00	11,820.00	16,758.72	11,620.00	81.94	87.41	77.40	-4,819.03	-1,088.45	1,014.79	849.27	165.52	6.131	
16,600.00	11,820.00	16,708.72	11,620.00	82.57	86.77	77.40	-4,869.03	-1,088.13	1,014.79	849.28	165.51	6.131	
16,650.00	11,820.00	16,658.72	11,620.00	83.19	86.13	77.40	-4,919.03	-1,087.81	1,014.78	849.28	165.50	6.132	
16,700.00	11,820.00	16,608.72	11,620.00	83.82	85.50	77.40	-4,969.02	-1,087.49	1,014.77	849.28	165.49	6.132	
16,750.00	11,820.00	16,558.72	11,620.00	84.46	84.86	77.40	-5,019.02	-1,087.18	1,014.76	849.28	165.48	6.132	
16,800.00	11,820.00	16,508.72	11,620.00	85.09	84.23	77.40	-5,069.02	-1,086.86	1,014.76	849.28	165.48	6.132	
16,850.00	11,820.00	16,458.72	11,620.00	85.72	83.60	77.40	-5,119.02	-1,086.54	1,014.75	849.27	165.48	6.132	
16,900.00	11,820.00	16,408.72	11,620.00	86.36	82.97	77.40	-5,169.02	-1,086.22	1,014.74	849.26	165.48	6.132	
16,950.00	11,820.00	16,358.72	11,620.00	86.99	82.34	77.40	-5,219.02	-1,085.90	1,014.73	849.24	165.49	6.132	
17,000.00	11,820.00	16,308.72	11,620.00	87.63	81.71	77.40	-5,269.02	-1,085.58	1,014.72	849.23	165.50	6.131	
17,050.00	11,820.00	16,258.72	11,620.00	88.27	81.09	77.40	-5,319.02	-1,085.27	1,014.72	849.20	165.51	6.131	
17,100.00	11,820.00	16,208.72	11,620.00	88.91	80.46	77.40	-5,369.02	-1,084.95	1,014.71	849.18	165.53	6.130	
17,150.00	11,820.00	16,158.72	11,620.00	89.56	79.84	77.40	-5,419.02	-1,084.63	1,014.70	849.15	165.55	6.129	
17,200.00	11,820.00	16,108.72	11,620.00	90.20	79.22	77.40	-5,469.01	-1,084.31	1,014.69	849.13	165.57	6.129	
17,250.00	11,820.00	16,058.72	11,620.00	90.85	78.61	77.40	-5,519.01	-1,083.99	1,014.69	849.09	165.59	6.128	
17,300.00	11,820.00	16,008.72	11,620.00	91.49	77.99	77.40	-5,569.01	-1,083.67	1,014.68	849.06	165.62	6.127	
17,350.00	11,820.00	15,958.72	11,620.00	92.14	77.38	77.40	-5,619.01	-1,083.36	1,014.67	849.02	165.65	6.125	
17,400.00	11,820.00	15,908.72	11,620.00	92.79	76.76	77.40	-5,669.01	-1,083.04	1,014.66	848.98	165.69	6.124	
17,450.00	11,820.00	15,858.72	11,620.00	93.44	76.15	77.40	-5,719.01	-1,082.72	1,014.66	848.93	165.72	6.123	
17,500.00	11,820.00	15,808.72	11,620.00	94.09	75.54	77.40	-5,769.01	-1,082.40	1,014.65	848.89	165.76	6.121	
17,550.00	11,820.00	15,758.72	11,620.00	94.74	74.94	77.40	-5,819.01	-1,082.08	1,014.64	848.83	165.81	6.119	
17,600.00	11,820.00	15,708.72	11,620.00	95.40	74.34	77.40	-5,869.01	-1,081.76	1,014.63	848.78	165.86	6.118	
17,650.00	11,820.00	15,658.72	11,620.00	96.05	73.74	77.40	-5,919.01	-1,081.45	1,014.63	848.72	165.91	6.116	
17,700.00	11,820.00	15,608.72	11,620.00	96.71	73.14	77.40	-5,969.00	-1,081.13	1,014.62	848.66	165.96	6.114	
17,750.00	11,820.00	15,558.72	11,620.00	97.36	72.54	77.40	-6,019.00	-1,080.81	1,014.61	848.59	166.02	6.111	
17,800.00	11,820.00	15,508.72	11,620.00	98.02	71.94	77.40	-6,069.00	-1,080.49	1,014.60	848.53	166.08	6.109	
17,850.00	11,820.00	15,458.72	11,620.00	98.68	71.35	77.40	-6,119.00	-1,080.17	1,014.60	848.45	166.14	6.107	
17,900.00	11,820.00	15,408.72	11,620.00	99.34	70.76	77.40	-6,169.00	-1,079.85	1,014.59	848.38	166.21	6.104	
17,950.00	11,820.00	15,358.72	11,620.00	100.00	70.18	77.40	-6,219.00	-1,079.54	1,014.58	848.30	166.28	6.102	
18,000.00	11,820.00	15,308.72	11,620.00	100.66	69.59	77.40	-6,269.00	-1,079.22	1,014.57	848.22	166.35	6.099	
18,050.00	11,820.00	15,258.72	11,620.00	101.32	69.01	77.40	-6,319.00	-1,078.90	1,014.57	848.13	166.43	6.096	
18,100.00	11,820.00	15,208.72	11,620.00	101.99	68.43	77.40	-6,369.00	-1,078.58	1,014.56	848.04	166.52	6.093	
18,150.00	11,820.00	15,158.72	11,620.00	102.65	67.86	77.40	-6,419.00	-1,078.26	1,014.55	847.95	166.60	6.090	
18,200.00	11,820.00	15,108.72	11,620.00	103.32	67.29	77.40	-6,468.99	-1,077.94	1,014.54	847.85	166.69	6.086	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 331H - 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
18,250.00	11,820.00	15,058.72	11,620.00	103.98	66.72	77.40	-6,518.99	-1,077.62	1,014.54	847.75	166.79	6.083	
18,300.00	11,820.00	15,008.72	11,620.00	104.65	66.15	77.40	-6,568.99	-1,077.31	1,014.53	847.65	166.88	6.079	
18,350.00	11,820.00	14,958.72	11,620.00	105.32	65.59	77.40	-6,618.99	-1,076.99	1,014.52	847.54	166.98	6.076	
18,400.00	11,820.00	14,908.72	11,620.00	105.99	65.03	77.40	-6,668.99	-1,076.67	1,014.51	847.43	167.09	6.072	
18,450.00	11,820.00	14,858.72	11,620.00	106.66	64.47	77.40	-6,718.99	-1,076.35	1,014.51	847.31	167.20	6.068	
18,500.00	11,820.00	14,808.72	11,620.00	107.33	63.92	77.40	-6,768.99	-1,076.03	1,014.50	847.19	167.31	6.064	
18,550.00	11,820.00	14,758.72	11,620.00	108.00	63.37	77.40	-6,818.99	-1,075.71	1,014.49	847.06	167.43	6.059	
18,600.00	11,820.00	14,708.72	11,620.00	108.67	62.83	77.40	-6,868.99	-1,075.40	1,014.48	846.93	167.55	6.055	
18,650.00	11,820.00	14,658.72	11,620.00	109.34	62.28	77.40	-6,918.99	-1,075.08	1,014.48	846.80	167.68	6.050	
18,700.00	11,820.00	14,608.72	11,620.00	110.01	61.75	77.40	-6,968.98	-1,074.76	1,014.47	846.66	167.81	6.045	
18,750.00	11,820.00	14,558.72	11,620.00	110.69	61.21	77.40	-7,018.98	-1,074.44	1,014.46	846.51	167.95	6.040	
18,800.00	11,820.00	14,508.72	11,620.00	111.36	60.68	77.40	-7,068.98	-1,074.12	1,014.45	846.37	168.09	6.035	
18,850.00	11,820.00	14,458.72	11,620.00	112.04	60.16	77.40	-7,118.98	-1,073.80	1,014.45	846.21	168.24	6.030	
18,900.00	11,820.00	14,408.72	11,620.00	112.71	59.63	77.40	-7,168.98	-1,073.49	1,014.44	846.06	168.38	6.025	
18,950.00	11,820.00	14,358.72	11,620.00	113.39	59.12	77.40	-7,218.98	-1,073.17	1,014.43	845.89	168.54	6.019	
19,000.00	11,820.00	14,308.72	11,620.00	114.07	58.60	77.40	-7,268.98	-1,072.85	1,014.42	845.72	168.70	6.013	
19,050.00	11,820.00	14,258.72	11,620.00	114.74	58.10	77.40	-7,318.98	-1,072.53	1,014.42	845.55	168.87	6.007	
19,100.00	11,820.00	14,208.72	11,620.00	115.42	57.59	77.40	-7,368.98	-1,072.21	1,014.41	845.37	169.04	6.001	
19,150.00	11,820.00	14,158.72	11,620.00	116.10	57.09	77.40	-7,418.98	-1,071.89	1,014.40	845.18	169.22	5.995	
19,200.00	11,820.00	14,108.72	11,620.00	116.78	56.60	77.40	-7,468.97	-1,071.58	1,014.39	845.00	169.40	5.988	
19,250.00	11,820.00	14,058.72	11,620.00	117.46	56.11	77.40	-7,518.97	-1,071.26	1,014.39	844.80	169.59	5.981	
19,300.00	11,820.00	14,008.72	11,620.00	118.14	55.63	77.40	-7,568.97	-1,070.94	1,014.38	844.60	169.78	5.975	
19,350.00	11,820.00	13,958.72	11,620.00	118.82	55.15	77.40	-7,618.97	-1,070.62	1,014.37	844.39	169.98	5.968	
19,400.00	11,820.00	13,908.72	11,620.00	119.51	54.68	77.40	-7,668.97	-1,070.30	1,014.36	844.18	170.19	5.960	
19,450.00	11,820.00	13,858.72	11,620.00	120.19	54.21	77.40	-7,718.97	-1,069.98	1,014.36	843.96	170.40	5.953	
19,500.00	11,820.00	13,808.72	11,620.00	120.87	53.75	77.40	-7,768.97	-1,069.67	1,014.35	843.73	170.62	5.945	
19,550.00	11,820.00	13,758.72	11,620.00	121.56	53.29	77.40	-7,818.97	-1,069.35	1,014.34	843.50	170.85	5.937	
19,600.00	11,820.00	13,708.72	11,620.00	122.24	52.84	77.40	-7,868.97	-1,069.03	1,014.33	843.26	171.07	5.929	
19,650.00	11,820.00	13,658.72	11,620.00	122.92	52.40	77.40	-7,918.97	-1,068.71	1,014.33	843.01	171.32	5.921	
19,700.00	11,820.00	13,608.72	11,620.00	123.61	51.96	77.40	-7,968.96	-1,068.39	1,014.32	842.76	171.56	5.912	
19,750.00	11,820.00	13,558.72	11,620.00	124.30	51.54	77.40	-8,018.96	-1,068.07	1,014.31	842.50	171.82	5.903	
19,800.00	11,820.00	13,508.72	11,620.00	124.98	51.11	77.40	-8,068.96	-1,067.75	1,014.30	842.23	172.07	5.895	
19,850.00	11,820.00	13,458.72	11,620.00	125.67	50.70	77.40	-8,118.96	-1,067.44	1,014.30	841.95	172.34	5.885	
19,900.00	11,820.00	13,408.72	11,620.00	126.35	50.29	77.40	-8,168.96	-1,067.12	1,014.29	841.67	172.62	5.876	
19,950.00	11,820.00	13,358.72	11,620.00	127.04	49.89	77.40	-8,218.96	-1,066.80	1,014.28	841.38	172.90	5.866	
20,000.00	11,820.00	13,308.72	11,620.00	127.73	49.49	77.40	-8,268.96	-1,066.48	1,014.27	841.08	173.19	5.856	
20,050.00	11,820.00	13,258.72	11,620.00	128.42	49.11	77.40	-8,318.96	-1,066.16	1,014.27	840.77	173.50	5.846	
20,100.00	11,820.00	13,208.72	11,620.00	129.11	48.72	77.40	-8,368.96	-1,065.84	1,014.26	840.46	173.80	5.836	
20,150.00	11,820.00	13,158.72	11,620.00	129.80	48.36	77.40	-8,418.95	-1,065.53	1,014.25	840.13	174.12	5.825	
20,200.00	11,820.00	13,108.72	11,620.00	130.49	47.99	77.40	-8,468.95	-1,065.21	1,014.24	839.80	174.44	5.814	
20,250.00	11,820.00	13,058.72	11,620.00	131.18	47.64	77.40	-8,518.95	-1,064.89	1,014.24	839.46	174.78	5.803	
20,300.00	11,820.00	13,008.72	11,620.00	131.87	47.29	77.40	-8,568.95	-1,064.57	1,014.23	839.11	175.12	5.792	
20,350.00	11,820.00	12,958.72	11,620.00	132.56	46.95	77.40	-8,618.95	-1,064.25	1,014.22	838.74	175.48	5.780	
20,400.00	11,820.00	12,908.72	11,620.00	133.25	46.62	77.40	-8,668.95	-1,063.93	1,014.21	838.38	175.84	5.768	
20,450.00	11,820.00	12,858.72	11,620.00	133.94	46.31	77.40	-8,718.95	-1,063.62	1,014.21	838.00	176.21	5.756	
20,500.00	11,820.00	12,808.72	11,620.00	134.63	45.99	77.40	-8,768.95	-1,063.30	1,014.20	837.61	176.59	5.743	
20,550.00	11,820.00	12,758.72	11,620.00	135.33	45.70	77.40	-8,818.95	-1,062.98	1,014.19	837.21	176.98	5.730	
20,600.00	11,820.00	12,708.72	11,620.00	136.02	45.40	77.40	-8,868.95	-1,062.66	1,014.18	836.80	177.38	5.717	
20,650.00	11,820.00	12,658.72	11,620.00	136.71	45.12	77.40	-8,918.94	-1,062.34	1,014.18	836.38	177.80	5.704	
20,700.00	11,820.00	12,608.72	11,620.00	137.41	44.85	77.40	-8,968.94	-1,062.02	1,014.17	835.95	178.22	5.691	
20,750.00	11,820.00	12,558.72	11,620.00	138.10	44.59	77.40	-9,018.94	-1,061.71	1,014.16	835.50	178.66	5.677	
20,800.00	11,820.00	12,508.72	11,620.00	138.80	44.34	77.40	-9,068.94	-1,061.39	1,014.15	835.06	179.10	5.663	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 331H - 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
20,850.00	11,820.00	12,458.72	11,620.00	139.49	44.10	77.40	-9,118.94	-1,061.07	1,014.15	834.59	179.56	5.648	
20,900.00	11,820.00	12,408.72	11,620.00	140.19	43.88	77.40	-9,168.94	-1,060.75	1,014.14	834.12	180.02	5.633	
20,950.00	11,820.00	12,358.72	11,620.00	140.88	43.66	77.40	-9,218.94	-1,060.43	1,014.13	833.63	180.50	5.618	
21,000.00	11,820.00	12,308.72	11,620.00	141.58	43.46	77.40	-9,268.94	-1,060.11	1,014.12	833.13	180.99	5.603	
21,050.00	11,820.00	12,258.72	11,620.00	142.27	43.27	77.40	-9,318.94	-1,059.80	1,014.12	832.62	181.50	5.587	
21,100.00	11,820.00	12,208.72	11,620.00	142.97	43.09	77.40	-9,368.94	-1,059.48	1,014.11	832.10	182.01	5.572	
21,150.00	11,820.00	12,158.72	11,620.00	143.67	42.92	77.40	-9,418.93	-1,059.16	1,014.10	831.56	182.54	5.556	
21,200.00	11,820.00	12,108.72	11,620.00	144.36	42.77	77.40	-9,468.93	-1,058.84	1,014.09	831.02	183.07	5.539	
21,250.00	11,820.00	12,058.72	11,620.00	145.06	42.64	77.40	-9,518.93	-1,058.52	1,014.09	830.46	183.63	5.522	
21,300.00	11,820.00	12,008.72	11,620.00	145.76	42.52	77.40	-9,568.93	-1,058.20	1,014.08	829.89	184.19	5.506	
21,316.62	11,820.00	11,993.50	11,620.00	145.99	42.49	77.40	-9,585.56	-1,058.10	1,014.08	829.70	184.38	5.500	
21,350.00	11,820.00	11,968.23	11,619.47	146.46	42.44	77.37	-9,609.41	-1,057.95	1,014.23	829.45	184.79	5.489	
21,400.00	11,820.00	11,932.37	11,616.82	147.16	42.38	77.22	-9,645.17	-1,057.72	1,015.04	829.72	185.32	5.477	
21,450.00	11,820.00	11,900.00	11,612.50	147.85	42.33	76.98	-9,677.25	-1,057.51	1,016.57	830.79	185.78	5.472	
21,500.00	11,820.00	11,862.31	11,605.20	148.55	42.28	76.58	-9,714.21	-1,057.28	1,018.85	832.74	186.11	5.474	
21,550.00	11,820.00	11,828.59	11,596.63	149.25	42.24	76.11	-9,746.82	-1,057.07	1,021.94	835.58	186.36	5.484	
21,600.00	11,820.00	11,800.00	11,587.87	149.95	42.21	75.64	-9,774.03	-1,056.90	1,025.93	839.40	186.52	5.500	
21,650.00	11,820.00	11,764.68	11,575.18	150.65	42.17	74.95	-9,806.99	-1,056.69	1,030.84	844.30	186.54	5.526	
21,700.00	11,820.00	11,734.73	11,562.86	151.35	42.13	74.28	-9,834.28	-1,056.51	1,036.78	850.33	186.45	5.561	
21,750.00	11,820.00	11,706.22	11,549.81	152.05	42.10	73.59	-9,859.62	-1,056.35	1,043.83	857.59	186.24	5.605	
21,800.00	11,820.00	11,679.19	11,536.29	152.75	42.07	72.87	-9,883.03	-1,056.20	1,052.05	866.14	185.91	5.659	
21,850.00	11,820.00	11,650.00	11,520.47	153.45	42.03	72.04	-9,907.56	-1,056.05	1,061.52	876.09	185.43	5.725	
21,900.00	11,820.00	11,629.50	11,508.63	154.16	42.00	71.42	-9,924.29	-1,055.94	1,072.25	887.40	184.85	5.801	
21,950.00	11,820.00	11,600.00	11,490.55	154.86	41.96	70.48	-9,947.59	-1,055.79	1,084.36	900.26	184.10	5.890	
22,000.00	11,820.00	11,585.42	11,481.17	155.56	41.93	70.00	-9,958.76	-1,055.72	1,097.75	914.47	183.28	5.989	
22,050.00	11,820.00	11,565.35	11,467.81	156.26	41.90	69.32	-9,973.73	-1,055.63	1,112.57	930.24	182.32	6.102	
22,065.48	11,820.00	11,559.39	11,463.74	156.48	41.89	69.12	-9,978.09	-1,055.60	1,117.43	935.43	182.00	6.140	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 701H - 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
11,100.00	11,096.90	22,051.82	11,820.00	39.85	155.80	-90.36	151.74	-1,445.05	1,491.59	1,310.82	180.77	8.251	
11,150.00	11,146.90	22,051.82	11,820.00	40.03	155.80	-90.36	151.74	-1,445.05	1,468.72	1,286.02	182.70	8.039	
11,200.00	11,196.90	22,051.82	11,820.00	40.21	155.80	-90.36	151.74	-1,445.05	1,447.22	1,262.64	184.58	7.841	
11,250.00	11,246.90	22,051.82	11,820.00	40.38	155.80	-90.36	151.74	-1,445.05	1,427.15	1,240.76	186.39	7.657	
11,300.00	11,296.84	22,049.65	11,820.00	40.55	155.78	91.90	149.58	-1,445.03	1,408.58	1,220.49	188.09	7.489	
11,350.00	11,346.40	22,043.14	11,820.00	40.71	155.70	93.41	143.06	-1,444.99	1,391.69	1,202.06	189.63	7.339	
11,400.00	11,395.20	22,032.33	11,820.00	40.86	155.57	94.53	132.26	-1,444.92	1,376.60	1,185.61	190.98	7.208	
11,450.00	11,442.87	22,017.31	11,820.00	41.00	155.39	95.28	117.24	-1,444.83	1,363.38	1,171.24	192.13	7.096	
11,500.00	11,489.06	22,001.81	11,820.00	41.14	155.21	95.68	98.12	-1,444.71	1,352.05	1,158.93	193.12	7.001	
11,550.00	11,533.40	21,975.12	11,820.00	41.26	154.84	95.75	75.05	-1,444.56	1,342.58	1,148.84	193.74	6.930	
11,600.00	11,575.56	21,948.28	11,820.00	41.38	154.46	95.55	48.21	-1,444.40	1,334.88	1,140.68	194.20	6.874	
11,650.00	11,615.22	21,917.86	11,820.00	41.48	154.03	95.12	17.79	-1,444.21	1,328.82	1,134.38	194.44	6.834	
11,700.00	11,652.08	21,884.10	11,820.00	41.58	153.56	94.51	-15.97	-1,443.99	1,324.23	1,129.73	194.49	6.809	
11,750.00	11,685.86	21,847.26	11,820.00	41.70	153.04	93.76	-52.81	-1,443.76	1,320.91	1,126.53	194.37	6.796	
11,800.00	11,716.30	21,807.61	11,820.00	41.81	152.49	92.94	-92.46	-1,443.51	1,318.65	1,124.53	194.11	6.793 SF	
11,850.00	11,743.17	21,765.46	11,820.00	41.92	151.90	92.10	-134.61	-1,443.25	1,317.23	1,123.50	193.73	6.799	
11,900.00	11,766.26	21,721.13	11,820.00	42.04	151.28	91.29	-178.94	-1,442.97	1,316.46	1,123.19	193.26	6.812 ES	
11,950.00	11,785.40	21,674.95	11,820.00	42.15	150.63	90.55	-225.11	-1,442.68	1,316.12	1,123.39	192.73	6.829	
11,995.21	11,799.18	21,631.91	11,820.00	42.25	150.03	89.99	-268.16	-1,442.41	1,316.05	1,123.84	192.21	6.847	
12,000.00	11,800.44	21,627.29	11,820.00	42.26	149.96	89.93	-272.78	-1,442.38	1,316.05	1,123.89	192.15	6.849	
12,050.00	11,811.27	21,578.49	11,820.00	42.36	149.28	89.47	-321.57	-1,442.08	1,316.10	1,124.55	191.55	6.871	
12,100.00	11,817.81	21,528.93	11,820.00	42.47	148.59	89.18	-371.13	-1,441.77	1,316.18	1,125.23	190.95	6.893	
12,150.00	11,820.00	21,479.00	11,820.00	42.58	147.89	89.08	-421.06	-1,441.45	1,316.21	1,125.86	190.35	6.915	
12,200.00	11,820.00	21,429.00	11,820.00	42.69	147.19	89.08	-471.06	-1,441.14	1,316.20	1,126.44	189.76	6.936	
12,250.00	11,820.00	21,379.00	11,820.00	42.82	146.49	89.08	-521.06	-1,440.83	1,316.20	1,127.01	189.19	6.957	
12,300.00	11,820.00	21,329.00	11,820.00	42.95	145.79	89.08	-571.06	-1,440.51	1,316.20	1,127.57	188.62	6.978	
12,350.00	11,820.00	21,279.00	11,820.00	43.10	145.09	89.08	-621.06	-1,440.20	1,316.20	1,128.12	188.08	6.998	
12,400.00	11,820.00	21,229.00	11,820.00	43.26	144.40	89.08	-671.06	-1,439.88	1,316.19	1,128.66	187.53	7.018	
12,450.00	11,820.00	21,179.00	11,820.00	43.43	143.70	89.08	-721.06	-1,439.57	1,316.19	1,129.18	187.01	7.038	
12,500.00	11,820.00	21,129.00	11,820.00	43.61	143.00	89.08	-771.05	-1,439.26	1,316.19	1,129.70	186.49	7.058	
12,550.00	11,820.00	21,079.00	11,820.00	43.81	142.31	89.08	-821.05	-1,438.94	1,316.18	1,130.19	185.99	7.077	
12,600.00	11,820.00	21,029.00	11,820.00	44.01	141.61	89.08	-871.05	-1,438.63	1,316.18	1,130.69	185.49	7.096	
12,650.00	11,820.00	20,979.00	11,820.00	44.23	140.91	89.08	-921.05	-1,438.32	1,316.18	1,131.16	185.02	7.114	
12,700.00	11,820.00	20,929.00	11,820.00	44.45	140.22	89.08	-971.05	-1,438.00	1,316.17	1,131.63	184.54	7.132	
12,750.00	11,820.00	20,879.00	11,820.00	44.69	139.52	89.08	-1,021.05	-1,437.69	1,316.17	1,132.08	184.09	7.150	
12,800.00	11,820.00	20,829.00	11,820.00	44.94	138.83	89.08	-1,071.05	-1,437.38	1,316.17	1,132.53	183.64	7.167	
12,850.00	11,820.00	20,779.00	11,820.00	45.20	138.13	89.08	-1,121.05	-1,437.06	1,316.17	1,132.96	183.21	7.184	
12,900.00	11,820.00	20,729.00	11,820.00	45.46	137.44	89.08	-1,171.05	-1,436.75	1,316.16	1,133.39	182.78	7.201	
12,950.00	11,820.00	20,679.00	11,820.00	45.75	136.74	89.08	-1,221.05	-1,436.43	1,316.16	1,133.80	182.36	7.217	
13,000.00	11,820.00	20,629.00	11,820.00	46.03	136.05	89.08	-1,271.04	-1,436.12	1,316.16	1,134.20	181.95	7.233	
13,050.00	11,820.00	20,579.00	11,820.00	46.33	135.36	89.08	-1,321.04	-1,435.81	1,316.15	1,134.59	181.56	7.249	
13,100.00	11,820.00	20,529.00	11,820.00	46.64	134.66	89.08	-1,371.04	-1,435.49	1,316.15	1,134.98	181.17	7.265	
13,150.00	11,820.00	20,479.00	11,820.00	46.96	133.97	89.08	-1,421.04	-1,435.18	1,316.15	1,135.35	180.80	7.280	
13,200.00	11,820.00	20,429.00	11,820.00	47.28	133.28	89.08	-1,471.04	-1,434.87	1,316.14	1,135.71	180.43	7.294	
13,250.00	11,820.00	20,379.00	11,820.00	47.62	132.59	89.08	-1,521.04	-1,434.55	1,316.14	1,136.06	180.08	7.309	
13,300.00	11,820.00	20,329.00	11,820.00	47.96	131.90	89.08	-1,571.04	-1,434.24	1,316.14	1,136.41	179.73	7.323	
13,350.00	11,820.00	20,279.00	11,820.00	48.31	131.21	89.08	-1,621.04	-1,433.93	1,316.14	1,136.75	179.39	7.337	
13,400.00	11,820.00	20,229.00	11,820.00	48.67	130.52	89.08	-1,671.04	-1,433.61	1,316.13	1,137.08	179.06	7.350	
13,450.00	11,820.00	20,179.00	11,820.00	49.04	129.83	89.08	-1,721.04	-1,433.30	1,316.13	1,137.39	178.74	7.363	
13,500.00	11,820.00	20,129.00	11,820.00	49.42	129.14	89.08	-1,771.04	-1,432.98	1,316.13	1,137.71	178.42	7.377	
13,550.00	11,820.00	20,079.00	11,820.00	49.80	128.45	89.08	-1,821.03	-1,432.67	1,316.12	1,138.00	178.12	7.389	
13,600.00	11,820.00	20,029.00	11,820.00	50.19	127.76	89.08	-1,871.03	-1,432.36	1,316.12	1,138.30	177.82	7.401	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 701H - 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
13,650.00	11,820.00	19,979.00	11,820.00	50.60	127.07	89.08	-1,921.03	-1,432.04	1,316.12	1,138.58	177.53	7.413	
13,700.00	11,820.00	19,929.00	11,820.00	51.00	126.38	89.08	-1,971.03	-1,431.73	1,316.12	1,138.87	177.25	7.425	
13,750.00	11,820.00	19,879.00	11,820.00	51.42	125.69	89.08	-2,021.03	-1,431.42	1,316.11	1,139.13	176.98	7.437	
13,800.00	11,820.00	19,829.00	11,820.00	51.83	125.01	89.08	-2,071.03	-1,431.10	1,316.11	1,139.40	176.71	7.448	
13,850.00	11,820.00	19,779.00	11,820.00	52.26	124.32	89.08	-2,121.03	-1,430.79	1,316.11	1,139.65	176.45	7.459	
13,900.00	11,820.00	19,729.00	11,820.00	52.70	123.64	89.08	-2,171.03	-1,430.48	1,316.10	1,139.90	176.20	7.469	
13,950.00	11,820.00	19,679.00	11,820.00	53.14	122.95	89.08	-2,221.03	-1,430.16	1,316.10	1,140.14	175.96	7.480	
14,000.00	11,820.00	19,629.00	11,820.00	53.58	122.26	89.08	-2,271.03	-1,429.85	1,316.10	1,140.38	175.72	7.490	
14,050.00	11,820.00	19,579.00	11,820.00	54.04	121.58	89.08	-2,321.02	-1,429.53	1,316.09	1,140.61	175.49	7.500	
14,100.00	11,820.00	19,529.00	11,820.00	54.50	120.90	89.08	-2,371.02	-1,429.22	1,316.09	1,140.83	175.26	7.509	
14,150.00	11,820.00	19,479.00	11,820.00	54.96	120.21	89.08	-2,421.02	-1,428.91	1,316.09	1,141.04	175.04	7.519	
14,200.00	11,820.00	19,429.00	11,820.00	55.43	119.53	89.08	-2,471.02	-1,428.59	1,316.09	1,141.26	174.83	7.528	
14,250.00	11,820.00	19,379.00	11,820.00	55.91	118.85	89.08	-2,521.02	-1,428.28	1,316.08	1,141.46	174.63	7.537	
14,300.00	11,820.00	19,329.00	11,820.00	56.39	118.17	89.08	-2,571.02	-1,427.97	1,316.08	1,141.66	174.42	7.545	
14,350.00	11,820.00	19,279.00	11,820.00	56.88	117.48	89.08	-2,621.02	-1,427.65	1,316.08	1,141.85	174.23	7.554	
14,400.00	11,820.00	19,229.00	11,820.00	57.37	116.80	89.08	-2,671.02	-1,427.34	1,316.07	1,142.03	174.04	7.562	
14,450.00	11,820.00	19,179.00	11,820.00	57.87	116.12	89.08	-2,721.02	-1,427.03	1,316.07	1,142.21	173.86	7.570	
14,500.00	11,820.00	19,129.00	11,820.00	58.37	115.44	89.08	-2,771.02	-1,426.71	1,316.07	1,142.39	173.68	7.578	
14,550.00	11,820.00	19,079.00	11,820.00	58.88	114.77	89.08	-2,821.01	-1,426.40	1,316.06	1,142.56	173.51	7.585	
14,600.00	11,820.00	19,029.00	11,820.00	59.39	114.09	89.08	-2,871.01	-1,426.08	1,316.06	1,142.72	173.34	7.592	
14,650.00	11,820.00	18,979.00	11,820.00	59.90	113.41	89.08	-2,921.01	-1,425.77	1,316.06	1,142.88	173.18	7.599	
14,700.00	11,820.00	18,929.00	11,820.00	60.42	112.73	89.08	-2,971.01	-1,425.46	1,316.06	1,143.04	173.02	7.606	
14,750.00	11,820.00	18,879.00	11,820.00	60.95	112.06	89.08	-3,021.01	-1,425.14	1,316.05	1,143.18	172.87	7.613	
14,800.00	11,820.00	18,829.00	11,820.00	61.48	111.38	89.08	-3,071.01	-1,424.83	1,316.05	1,143.33	172.72	7.620	
14,850.00	11,820.00	18,779.00	11,820.00	62.01	110.71	89.08	-3,121.01	-1,424.52	1,316.05	1,143.47	172.58	7.626	
14,900.00	11,820.00	18,729.00	11,820.00	62.54	110.03	89.08	-3,171.01	-1,424.20	1,316.04	1,143.60	172.44	7.632	
14,950.00	11,820.00	18,679.00	11,820.00	63.09	109.36	89.08	-3,221.01	-1,423.89	1,316.04	1,143.73	172.31	7.638	
15,000.00	11,820.00	18,629.00	11,820.00	63.63	108.69	89.08	-3,271.01	-1,423.58	1,316.04	1,143.86	172.18	7.643	
15,050.00	11,820.00	18,579.00	11,820.00	64.18	108.01	89.08	-3,321.00	-1,423.26	1,316.04	1,143.98	172.06	7.649	
15,100.00	11,820.00	18,529.00	11,820.00	64.73	107.34	89.08	-3,371.00	-1,422.95	1,316.03	1,144.10	171.93	7.654	
15,150.00	11,820.00	18,479.00	11,820.00	65.29	106.67	89.08	-3,421.00	-1,422.63	1,316.03	1,144.21	171.82	7.659	
15,200.00	11,820.00	18,429.00	11,820.00	65.84	106.00	89.08	-3,471.00	-1,422.32	1,316.03	1,144.32	171.71	7.664	
15,250.00	11,820.00	18,379.00	11,820.00	66.41	105.33	89.08	-3,521.00	-1,422.01	1,316.02	1,144.42	171.60	7.669	
15,300.00	11,820.00	18,329.00	11,820.00	66.97	104.66	89.08	-3,571.00	-1,421.69	1,316.02	1,144.53	171.50	7.674	
15,350.00	11,820.00	18,279.00	11,820.00	67.54	104.00	89.08	-3,621.00	-1,421.38	1,316.02	1,144.62	171.40	7.678	
15,400.00	11,820.00	18,229.00	11,820.00	68.11	103.33	89.08	-3,671.00	-1,421.07	1,316.01	1,144.71	171.30	7.683	
15,450.00	11,820.00	18,179.00	11,820.00	68.68	102.66	89.08	-3,721.00	-1,420.75	1,316.01	1,144.80	171.21	7.687	
15,500.00	11,820.00	18,129.00	11,820.00	69.26	102.00	89.08	-3,771.00	-1,420.44	1,316.01	1,144.89	171.12	7.691	
15,550.00	11,820.00	18,079.00	11,820.00	69.84	101.34	89.08	-3,820.99	-1,420.13	1,316.01	1,144.97	171.04	7.694	
15,600.00	11,820.00	18,029.00	11,820.00	70.42	100.67	89.08	-3,870.99	-1,419.81	1,316.00	1,145.05	170.95	7.698	
15,650.00	11,820.00	17,979.00	11,820.00	71.01	100.01	89.08	-3,920.99	-1,419.50	1,316.00	1,145.12	170.88	7.701	
15,700.00	11,820.00	17,929.00	11,820.00	71.60	99.35	89.08	-3,970.99	-1,419.18	1,316.00	1,145.19	170.80	7.705	
15,750.00	11,820.00	17,879.00	11,820.00	72.19	98.69	89.08	-4,020.99	-1,418.87	1,315.99	1,145.26	170.73	7.708	
15,800.00	11,820.00	17,829.00	11,820.00	72.78	98.03	89.08	-4,070.99	-1,418.56	1,315.99	1,145.32	170.67	7.711	
15,850.00	11,820.00	17,779.00	11,820.00	73.38	97.37	89.08	-4,120.99	-1,418.24	1,315.99	1,145.38	170.60	7.714	
15,900.00	11,820.00	17,729.00	11,820.00	73.97	96.71	89.08	-4,170.99	-1,417.93	1,315.99	1,145.44	170.54	7.716	
15,950.00	11,820.00	17,679.00	11,820.00	74.57	96.06	89.08	-4,220.99	-1,417.62	1,315.98	1,145.49	170.49	7.719	
16,000.00	11,820.00	17,629.00	11,820.00	75.18	95.40	89.08	-4,270.99	-1,417.30	1,315.98	1,145.54	170.43	7.721	
16,050.00	11,820.00	17,579.00	11,820.00	75.78	94.75	89.08	-4,320.98	-1,416.99	1,315.98	1,145.59	170.39	7.724	
16,100.00	11,820.00	17,529.00	11,820.00	76.39	94.09	89.08	-4,370.98	-1,416.68	1,315.97	1,145.64	170.34	7.726	
16,150.00	11,820.00	17,479.00	11,820.00	77.00	93.44	89.08	-4,420.98	-1,416.36	1,315.97	1,145.67	170.30	7.728	
16,200.00	11,820.00	17,429.00	11,820.00	77.61	92.79	89.08	-4,470.98	-1,416.05	1,315.97	1,145.71	170.25	7.729	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 701H - 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
16,250.00	11,820.00	17,379.00	11,820.00	78.22	92.14	89.08	-4,520.98	-1,415.73	1,315.96	1,145.75	170.22	7.731	
16,300.00	11,820.00	17,329.00	11,820.00	78.84	91.49	89.08	-4,570.98	-1,415.42	1,315.96	1,145.78	170.18	7.733	
16,350.00	11,820.00	17,279.00	11,820.00	79.45	90.85	89.08	-4,620.98	-1,415.11	1,315.96	1,145.80	170.15	7.734	
16,400.00	11,820.00	17,229.00	11,820.00	80.07	90.20	89.08	-4,670.98	-1,414.79	1,315.96	1,145.83	170.13	7.735	
16,450.00	11,820.00	17,179.00	11,820.00	80.69	89.55	89.08	-4,720.98	-1,414.48	1,315.95	1,145.85	170.10	7.736	
16,500.00	11,820.00	17,129.00	11,820.00	81.32	88.91	89.08	-4,770.98	-1,414.17	1,315.95	1,145.87	170.08	7.737	
16,550.00	11,820.00	17,079.00	11,820.00	81.94	88.27	89.08	-4,820.98	-1,413.85	1,315.95	1,145.88	170.06	7.738	
16,600.00	11,820.00	17,029.00	11,820.00	82.57	87.63	89.08	-4,870.97	-1,413.54	1,315.94	1,145.90	170.05	7.739	
16,650.00	11,820.00	16,979.00	11,820.00	83.19	86.99	89.08	-4,920.97	-1,413.23	1,315.94	1,145.91	170.04	7.739	
16,700.00	11,820.00	16,929.00	11,820.00	83.82	86.35	89.08	-4,970.97	-1,412.91	1,315.94	1,145.91	170.03	7.740	
16,750.00	11,820.00	16,879.00	11,820.00	84.46	85.71	89.08	-5,020.97	-1,412.60	1,315.93	1,145.91	170.02	7.740	
16,800.00	11,820.00	16,829.00	11,820.00	85.09	85.08	89.08	-5,070.97	-1,412.28	1,315.93	1,145.92	170.02	7.740	
16,850.00	11,820.00	16,779.00	11,820.00	85.72	84.45	89.08	-5,120.97	-1,411.97	1,315.93	1,145.91	170.02	7.740	
16,900.00	11,820.00	16,729.00	11,820.00	86.36	83.81	89.08	-5,170.97	-1,411.66	1,315.93	1,145.91	170.02	7.740	
16,950.00	11,820.00	16,679.00	11,820.00	86.99	83.18	89.08	-5,220.97	-1,411.34	1,315.92	1,145.90	170.03	7.740	
17,000.00	11,820.00	16,629.00	11,820.00	87.63	82.55	89.08	-5,270.97	-1,411.03	1,315.92	1,145.88	170.04	7.739	
17,050.00	11,820.00	16,579.00	11,820.00	88.27	81.93	89.08	-5,320.97	-1,410.72	1,315.92	1,145.87	170.05	7.739	
17,100.00	11,820.00	16,529.00	11,820.00	88.91	81.30	89.08	-5,370.96	-1,410.40	1,315.91	1,145.85	170.06	7.738	
17,150.00	11,820.00	16,479.00	11,820.00	89.56	80.68	89.08	-5,420.96	-1,410.09	1,315.91	1,145.83	170.08	7.737	
17,200.00	11,820.00	16,429.00	11,820.00	90.20	80.06	89.08	-5,470.96	-1,409.78	1,315.91	1,145.81	170.10	7.736	
17,250.00	11,820.00	16,379.00	11,820.00	90.85	79.44	89.08	-5,520.96	-1,409.46	1,315.91	1,145.78	170.13	7.735	
17,300.00	11,820.00	16,329.00	11,820.00	91.49	78.82	89.08	-5,570.96	-1,409.15	1,315.90	1,145.75	170.15	7.734	
17,350.00	11,820.00	16,279.00	11,820.00	92.14	78.20	89.08	-5,620.96	-1,408.83	1,315.90	1,145.71	170.19	7.732	
17,400.00	11,820.00	16,229.00	11,820.00	92.79	77.59	89.08	-5,670.96	-1,408.52	1,315.90	1,145.68	170.22	7.731	
17,450.00	11,820.00	16,179.00	11,820.00	93.44	76.97	89.08	-5,720.96	-1,408.21	1,315.89	1,145.64	170.26	7.729	
17,500.00	11,820.00	16,129.00	11,820.00	94.09	76.36	89.08	-5,770.96	-1,407.89	1,315.89	1,145.59	170.30	7.727	
17,550.00	11,820.00	16,079.00	11,820.00	94.74	75.76	89.08	-5,820.96	-1,407.58	1,315.89	1,145.55	170.34	7.725	
17,600.00	11,820.00	16,029.00	11,820.00	95.40	75.15	89.08	-5,870.95	-1,407.27	1,315.88	1,145.50	170.39	7.723	
17,650.00	11,820.00	15,979.00	11,820.00	96.05	74.55	89.08	-5,920.95	-1,406.95	1,315.88	1,145.44	170.44	7.721	
17,700.00	11,820.00	15,929.00	11,820.00	96.71	73.94	89.08	-5,970.95	-1,406.64	1,315.88	1,145.39	170.49	7.718	
17,750.00	11,820.00	15,879.00	11,820.00	97.36	73.34	89.08	-6,020.95	-1,406.33	1,315.88	1,145.33	170.55	7.716	
17,800.00	11,820.00	15,829.00	11,820.00	98.02	72.75	89.08	-6,070.95	-1,406.01	1,315.87	1,145.26	170.61	7.713	
17,850.00	11,820.00	15,779.00	11,820.00	98.68	72.15	89.08	-6,120.95	-1,405.70	1,315.87	1,145.20	170.67	7.710	
17,900.00	11,820.00	15,729.00	11,820.00	99.34	71.56	89.08	-6,170.95	-1,405.38	1,315.87	1,145.13	170.74	7.707	
17,950.00	11,820.00	15,679.00	11,820.00	100.00	70.97	89.08	-6,220.95	-1,405.07	1,315.86	1,145.05	170.81	7.704	
18,000.00	11,820.00	15,629.00	11,820.00	100.66	70.38	89.08	-6,270.95	-1,404.76	1,315.86	1,144.98	170.88	7.700	
18,050.00	11,820.00	15,579.00	11,820.00	101.32	69.80	89.08	-6,320.95	-1,404.44	1,315.86	1,144.90	170.96	7.697	
18,100.00	11,820.00	15,529.00	11,820.00	101.99	69.22	89.08	-6,370.94	-1,404.13	1,315.86	1,144.81	171.04	7.693	
18,150.00	11,820.00	15,479.00	11,820.00	102.65	68.64	89.08	-6,420.94	-1,403.82	1,315.85	1,144.72	171.13	7.689	
18,200.00	11,820.00	15,429.00	11,820.00	103.32	68.06	89.08	-6,470.94	-1,403.50	1,315.85	1,144.63	171.22	7.685	
18,250.00	11,820.00	15,379.00	11,820.00	103.98	67.49	89.08	-6,520.94	-1,403.19	1,315.85	1,144.54	171.31	7.681	
18,300.00	11,820.00	15,329.00	11,820.00	104.65	66.92	89.08	-6,570.94	-1,402.88	1,315.84	1,144.44	171.41	7.677	
18,350.00	11,820.00	15,279.00	11,820.00	105.32	66.35	89.08	-6,620.94	-1,402.56	1,315.84	1,144.33	171.51	7.672	
18,400.00	11,820.00	15,229.00	11,820.00	105.99	65.79	89.08	-6,670.94	-1,402.25	1,315.84	1,144.23	171.61	7.668	
18,450.00	11,820.00	15,179.00	11,820.00	106.66	65.23	89.08	-6,720.94	-1,401.93	1,315.83	1,144.12	171.72	7.663	
18,500.00	11,820.00	15,129.00	11,820.00	107.33	64.67	89.08	-6,770.94	-1,401.62	1,315.83	1,144.00	171.83	7.658	
18,550.00	11,820.00	15,079.00	11,820.00	108.00	64.12	89.08	-6,820.94	-1,401.31	1,315.83	1,143.88	171.95	7.652	
18,600.00	11,820.00	15,029.00	11,820.00	108.67	63.57	89.08	-6,870.93	-1,400.99	1,315.83	1,143.76	172.07	7.647	
18,650.00	11,820.00	14,979.00	11,820.00	109.34	63.02	89.08	-6,920.93	-1,400.68	1,315.82	1,143.63	172.19	7.641	
18,700.00	11,820.00	14,929.00	11,820.00	110.01	62.48	89.08	-6,970.93	-1,400.37	1,315.82	1,143.50	172.32	7.636	
18,750.00	11,820.00	14,879.00	11,820.00	110.69	61.94	89.08	-7,020.93	-1,400.05	1,315.82	1,143.36	172.46	7.630	
18,800.00	11,820.00	14,829.00	11,820.00	111.36	61.41	89.08	-7,070.93	-1,399.74	1,315.81	1,143.22	172.60	7.624	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 701H - 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
18,850.00	11,820.00	14,779.00	11,820.00	112.04	60.88	89.08	-7,120.93	-1,399.43	1,315.81	1,143.07	172.74	7.617	
18,900.00	11,820.00	14,729.00	11,820.00	112.71	60.35	89.08	-7,170.93	-1,399.11	1,315.81	1,142.92	172.89	7.611	
18,950.00	11,820.00	14,679.00	11,820.00	113.39	59.83	89.08	-7,220.93	-1,398.80	1,315.80	1,142.76	173.04	7.604	
19,000.00	11,820.00	14,629.00	11,820.00	114.07	59.31	89.08	-7,270.93	-1,398.48	1,315.80	1,142.60	173.20	7.597	
19,050.00	11,820.00	14,579.00	11,820.00	114.74	58.79	89.08	-7,320.93	-1,398.17	1,315.80	1,142.43	173.37	7.590	
19,100.00	11,820.00	14,529.00	11,820.00	115.42	58.28	89.08	-7,370.92	-1,397.86	1,315.80	1,142.26	173.53	7.582	
19,150.00	11,820.00	14,479.00	11,820.00	116.10	57.78	89.08	-7,420.92	-1,397.54	1,315.79	1,142.08	173.71	7.575	
19,200.00	11,820.00	14,429.00	11,820.00	116.78	57.28	89.08	-7,470.92	-1,397.23	1,315.79	1,141.90	173.89	7.567	
19,250.00	11,820.00	14,379.00	11,820.00	117.46	56.79	89.08	-7,520.92	-1,396.92	1,315.79	1,141.71	174.07	7.559	
19,300.00	11,820.00	14,329.00	11,820.00	118.14	56.30	89.08	-7,570.92	-1,396.60	1,315.78	1,141.52	174.26	7.550	
19,350.00	11,820.00	14,279.00	11,820.00	118.82	55.81	89.08	-7,620.92	-1,396.29	1,315.78	1,141.32	174.46	7.542	
19,400.00	11,820.00	14,229.00	11,820.00	119.51	55.33	89.08	-7,670.92	-1,395.98	1,315.78	1,141.11	174.66	7.533	
19,450.00	11,820.00	14,179.00	11,820.00	120.19	54.86	89.08	-7,720.92	-1,395.66	1,315.78	1,140.90	174.87	7.524	
19,500.00	11,820.00	14,129.00	11,820.00	120.87	54.39	89.08	-7,770.92	-1,395.35	1,315.77	1,140.69	175.09	7.515	
19,550.00	11,820.00	14,079.00	11,820.00	121.56	53.93	89.08	-7,820.92	-1,395.03	1,315.77	1,140.46	175.31	7.505	
19,600.00	11,820.00	14,029.00	11,820.00	122.24	53.47	89.08	-7,870.92	-1,394.72	1,315.77	1,140.23	175.54	7.496	
19,650.00	11,820.00	13,979.00	11,820.00	122.92	53.02	89.08	-7,920.91	-1,394.41	1,315.76	1,139.99	175.77	7.486	
19,700.00	11,820.00	13,929.00	11,820.00	123.61	52.58	89.08	-7,970.91	-1,394.09	1,315.76	1,139.75	176.01	7.475	
19,750.00	11,820.00	13,879.00	11,820.00	124.30	52.14	89.08	-8,020.91	-1,393.78	1,315.76	1,139.50	176.26	7.465	
19,800.00	11,820.00	13,829.00	11,820.00	124.98	51.71	89.08	-8,070.91	-1,393.47	1,315.75	1,139.24	176.51	7.454	
19,850.00	11,820.00	13,779.00	11,820.00	125.67	51.28	89.08	-8,120.91	-1,393.15	1,315.75	1,138.98	176.78	7.443	
19,900.00	11,820.00	13,729.00	11,820.00	126.35	50.86	89.08	-8,170.91	-1,392.84	1,315.75	1,138.70	177.05	7.432	
19,950.00	11,820.00	13,679.00	11,820.00	127.04	50.45	89.08	-8,220.91	-1,392.53	1,315.75	1,138.42	177.32	7.420	
20,000.00	11,820.00	13,629.00	11,820.00	127.73	50.05	89.08	-8,270.91	-1,392.21	1,315.74	1,138.13	177.61	7.408	
20,050.00	11,820.00	13,579.00	11,820.00	128.42	49.65	89.08	-8,320.91	-1,391.90	1,315.74	1,137.84	177.90	7.396	
20,100.00	11,820.00	13,529.00	11,820.00	129.11	49.27	89.08	-8,370.91	-1,391.58	1,315.74	1,137.53	178.20	7.383	
20,150.00	11,820.00	13,479.00	11,820.00	129.80	48.88	89.08	-8,420.90	-1,391.27	1,315.73	1,137.22	178.51	7.371	
20,200.00	11,820.00	13,429.00	11,820.00	130.49	48.51	89.08	-8,470.90	-1,390.96	1,315.73	1,136.90	178.83	7.357	
20,250.00	11,820.00	13,379.00	11,820.00	131.18	48.15	89.08	-8,520.90	-1,390.64	1,315.73	1,136.57	179.16	7.344	
20,300.00	11,820.00	13,329.00	11,820.00	131.87	47.79	89.08	-8,570.90	-1,390.33	1,315.73	1,136.23	179.49	7.330	
20,350.00	11,820.00	13,279.00	11,820.00	132.56	47.44	89.08	-8,620.90	-1,390.02	1,315.72	1,135.89	179.83	7.316	
20,400.00	11,820.00	13,229.00	11,820.00	133.25	47.10	89.08	-8,670.90	-1,389.70	1,315.72	1,135.53	180.19	7.302	
20,450.00	11,820.00	13,179.00	11,820.00	133.94	46.77	89.08	-8,720.90	-1,389.39	1,315.72	1,135.17	180.55	7.287	
20,500.00	11,820.00	13,129.00	11,820.00	134.63	46.45	89.08	-8,770.90	-1,389.08	1,315.71	1,134.79	180.92	7.272	
20,550.00	11,820.00	13,079.00	11,820.00	135.33	46.13	89.08	-8,820.90	-1,388.76	1,315.71	1,134.41	181.30	7.257	
20,600.00	11,820.00	13,029.00	11,820.00	136.02	45.83	89.08	-8,870.90	-1,388.45	1,315.71	1,134.01	181.70	7.241	
20,650.00	11,820.00	12,979.00	11,820.00	136.71	45.54	89.08	-8,920.89	-1,388.13	1,315.70	1,133.61	182.10	7.225	
20,700.00	11,820.00	12,929.00	11,820.00	137.41	45.25	89.08	-8,970.89	-1,387.82	1,315.70	1,133.19	182.51	7.209	
20,750.00	11,820.00	12,879.00	11,820.00	138.10	44.98	89.08	-9,020.89	-1,387.51	1,315.70	1,132.77	182.93	7.192	
20,800.00	11,820.00	12,829.00	11,820.00	138.80	44.71	89.08	-9,070.89	-1,387.19	1,315.70	1,132.33	183.37	7.175	
20,850.00	11,820.00	12,779.00	11,820.00	139.49	44.46	89.08	-9,120.89	-1,386.88	1,315.69	1,131.88	183.81	7.158	
20,900.00	11,820.00	12,729.00	11,820.00	140.19	44.21	89.08	-9,170.89	-1,386.57	1,315.69	1,131.43	184.26	7.140	
20,950.00	11,820.00	12,679.00	11,820.00	140.88	43.98	89.08	-9,220.89	-1,386.25	1,315.69	1,130.96	184.73	7.122	
21,000.00	11,820.00	12,629.00	11,820.00	141.58	43.75	89.08	-9,270.89	-1,385.94	1,315.68	1,130.48	185.21	7.104	
21,050.00	11,820.00	12,579.00	11,820.00	142.27	43.54	89.08	-9,320.89	-1,385.63	1,315.68	1,129.99	185.70	7.085	
21,100.00	11,820.00	12,529.00	11,820.00	142.97	43.34	89.08	-9,370.89	-1,385.31	1,315.68	1,129.48	186.20	7.066	
21,150.00	11,820.00	12,479.00	11,820.00	143.67	43.15	89.08	-9,420.88	-1,385.00	1,315.67	1,128.97	186.71	7.047	
21,200.00	11,820.00	12,429.00	11,820.00	144.36	42.97	89.08	-9,470.88	-1,384.68	1,315.67	1,128.44	187.23	7.027	
21,250.00	11,820.00	12,379.00	11,820.00	145.06	42.80	89.08	-9,520.88	-1,384.37	1,315.67	1,127.90	187.77	7.007	
21,300.00	11,820.00	12,329.00	11,820.00	145.76	42.64	89.08	-9,570.88	-1,384.06	1,315.67	1,127.35	188.32	6.986	
21,350.00	11,820.00	12,279.00	11,820.00	146.46	42.49	89.08	-9,620.88	-1,383.74	1,315.66	1,126.79	188.88	6.966	
21,400.00	11,820.00	12,229.00	11,820.00	147.16	42.36	89.08	-9,670.88	-1,383.43	1,315.66	1,126.21	189.45	6.945	

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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 701H - 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
21,450.00	11,820.00	12,179.00	11,820.00	147.85	42.23	89.08	-9,720.88	-1,383.12	1,315.66	1,125.63	190.03	6.923	
21,467.45	11,820.00	12,168.20	11,820.00	148.10	42.20	89.08	-9,738.33	-1,383.01	1,315.66	1,125.40	190.25	6.915	CC
21,500.00	11,820.00	12,130.31	11,818.96	148.55	42.12	89.04	-9,769.54	-1,382.81	1,315.67	1,125.05	190.63	6.902	
21,550.00	11,820.00	12,082.62	11,814.10	149.25	42.01	88.82	-9,816.97	-1,382.51	1,315.76	1,124.55	191.21	6.881	
21,600.00	11,820.00	12,036.04	11,805.58	149.95	41.91	88.45	-9,862.75	-1,382.23	1,315.98	1,124.19	191.79	6.862	
21,650.00	11,820.00	11,991.13	11,793.86	150.65	41.83	87.94	-9,906.09	-1,381.95	1,316.41	1,124.06	192.35	6.844	
21,700.00	11,820.00	11,948.31	11,779.56	151.35	41.79	87.32	-9,946.44	-1,381.70	1,317.14	1,124.26	192.88	6.829	
21,750.00	11,820.00	11,907.89	11,763.33	152.05	41.76	86.62	-9,983.45	-1,381.47	1,318.30	1,124.92	193.38	6.817	
21,800.00	11,820.00	11,870.04	11,745.80	152.75	41.73	85.86	-10,016.99	-1,381.26	1,320.01	1,126.19	193.82	6.810	
21,850.00	11,820.00	11,834.81	11,727.53	153.45	41.69	85.07	-10,047.10	-1,381.07	1,322.42	1,128.21	194.20	6.809	
21,900.00	11,820.00	11,802.19	11,708.99	154.16	41.66	84.27	-10,073.94	-1,380.90	1,325.63	1,131.11	194.51	6.815	
21,950.00	11,820.00	11,772.08	11,690.55	154.86	41.62	83.47	-10,097.74	-1,380.75	1,329.76	1,135.03	194.73	6.829	
22,000.00	11,820.00	11,744.35	11,672.48	155.56	41.58	82.70	-10,118.77	-1,380.62	1,334.91	1,140.06	194.86	6.851	
22,050.00	11,820.00	11,718.85	11,654.98	156.26	41.54	81.95	-10,137.32	-1,380.50	1,341.17	1,146.30	194.87	6.882	
22,065.48	11,820.00	11,711.38	11,649.70	156.48	41.52	81.72	-10,142.60	-1,380.47	1,343.35	1,148.49	194.86	6.894	

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
10,550.00	10,547.03	22,092.36	11,820.00	37.90	156.13	-53.85	148.41	-870.14	1,457.32	1,319.42	137.89	10.568	
10,600.00	10,597.00	22,093.55	11,820.00	38.08	156.15	-53.76	149.59	-870.14	1,414.13	1,274.54	139.59	10.131	
10,650.00	10,646.98	22,094.74	11,820.00	38.26	156.17	-53.66	150.78	-870.15	1,371.41	1,230.03	141.38	9.700	
10,700.00	10,696.96	22,095.93	11,820.00	38.43	156.18	-53.57	151.97	-870.16	1,329.19	1,185.91	143.29	9.276	
10,750.00	10,746.93	22,102.89	11,820.00	38.61	156.28	-53.47	153.16	-870.17	1,287.53	1,142.17	145.37	8.857	
10,800.00	10,796.91	22,101.73	11,820.00	38.79	156.26	-53.11	154.32	-870.17	1,246.50	1,099.01	147.49	8.452	
10,850.00	10,846.90	22,100.96	11,820.00	38.97	156.25	-52.25	155.09	-870.18	1,206.32	1,056.57	149.76	8.055	
10,900.10	10,897.00	22,100.70	11,820.00	39.15	156.25	-90.36	155.34	-870.18	1,167.08	1,014.89	152.19	7.668	
10,950.00	10,946.90	22,100.70	11,820.00	39.32	156.25	-90.36	155.34	-870.18	1,128.98	974.21	154.77	7.295	
11,000.00	10,996.90	22,100.70	11,820.00	39.50	156.25	-90.36	155.34	-870.18	1,091.76	934.27	157.49	6.932	
11,050.00	11,046.90	22,100.70	11,820.00	39.68	156.25	-90.36	155.34	-870.18	1,055.59	895.25	160.34	6.583	
11,100.00	11,096.90	22,100.70	11,820.00	39.85	156.25	-90.36	155.34	-870.18	1,020.59	857.27	163.33	6.249	
11,150.00	11,146.90	22,100.70	11,820.00	40.03	156.25	-90.36	155.34	-870.18	986.89	820.46	166.43	5.930	
11,200.00	11,196.90	22,100.70	11,820.00	40.21	156.25	-90.36	155.34	-870.18	954.62	784.98	169.63	5.627	
11,250.00	11,246.90	22,100.70	11,820.00	40.38	156.25	-90.36	155.34	-870.18	923.92	751.01	172.92	5.343	
11,300.00	11,296.84	22,102.87	11,820.00	40.55	156.28	93.36	153.18	-870.17	895.00	718.75	176.26	5.078	
11,350.00	11,346.40	22,090.62	11,820.00	40.71	156.11	96.03	146.66	-870.13	868.20	688.81	179.38	4.840	Alert
11,400.00	11,395.20	22,079.81	11,820.00	40.86	155.96	98.01	135.86	-870.06	843.81	661.39	182.42	4.626	Alert
11,450.00	11,442.87	22,064.79	11,820.00	41.00	155.75	99.31	120.84	-869.96	822.09	636.88	185.21	4.439	Alert
11,500.00	11,489.06	22,045.68	11,820.00	41.14	155.48	100.00	101.72	-869.84	803.19	615.50	187.69	4.279	Alert
11,550.00	11,533.40	22,022.61	11,820.00	41.26	155.16	100.13	78.65	-869.70	787.17	597.38	189.79	4.148	Alert
11,600.00	11,575.56	22,004.24	11,820.00	41.38	154.90	99.78	51.81	-869.53	773.99	582.40	191.59	4.040	Alert
11,650.00	11,615.22	21,965.34	11,820.00	41.48	154.36	99.03	21.39	-869.34	763.51	570.79	192.72	3.962	Alert
11,700.00	11,652.08	21,931.58	11,820.00	41.58	153.88	97.95	-12.37	-869.13	755.51	561.97	193.53	3.904	Alert
11,750.00	11,685.86	21,905.26	11,820.00	41.70	153.51	96.64	-49.21	-868.89	749.69	555.59	194.10	3.862	Alert
11,800.00	11,716.30	21,855.09	11,820.00	41.81	152.81	95.19	-88.86	-868.65	745.72	551.68	194.04	3.843	Alert
11,850.00	11,743.17	21,812.94	11,820.00	41.92	152.22	93.70	-131.01	-868.38	743.24	549.40	193.84	3.834	Alert, SF
11,900.00	11,766.26	21,768.61	11,820.00	42.04	151.60	92.26	-175.34	-868.10	741.87	548.44	193.43	3.835	Alert
11,950.00	11,785.40	21,722.44	11,820.00	42.15	150.96	90.95	-221.51	-867.81	741.28	548.40	192.88	3.843	Alert, ES
11,993.35	11,798.68	21,681.19	11,820.00	42.24	150.38	89.99	-262.76	-867.55	741.17	548.83	192.34	3.853	Alert
12,000.00	11,800.44	21,674.77	11,820.00	42.26	150.29	89.85	-269.18	-867.51	741.17	548.92	192.25	3.855	Alert
12,050.00	11,811.27	21,625.97	11,820.00	42.36	149.61	89.03	-317.97	-867.21	741.27	549.68	191.59	3.869	Alert
12,100.00	11,817.81	21,576.42	11,820.00	42.47	148.92	88.51	-367.53	-866.90	741.41	550.47	190.94	3.883	Alert
12,150.00	11,820.00	21,526.48	11,820.00	42.58	148.22	88.34	-417.46	-866.58	741.47	551.14	190.33	3.896	Alert
12,200.00	11,820.00	21,476.48	11,820.00	42.69	147.53	88.34	-467.46	-866.27	741.46	551.72	189.74	3.908	Alert
12,250.00	11,820.00	21,426.48	11,820.00	42.82	146.83	88.34	-517.46	-865.95	741.46	552.29	189.17	3.920	Alert
12,300.00	11,820.00	21,376.48	11,820.00	42.95	146.13	88.34	-567.46	-865.64	741.46	552.85	188.60	3.931	Alert
12,350.00	11,820.00	21,326.48	11,820.00	43.10	145.44	88.34	-617.46	-865.33	741.45	553.40	188.06	3.943	Alert
12,400.00	11,820.00	21,276.48	11,820.00	43.26	144.74	88.34	-667.46	-865.01	741.45	553.94	187.51	3.954	Alert
12,450.00	11,820.00	21,226.48	11,820.00	43.43	144.05	88.34	-717.46	-864.70	741.45	554.45	186.99	3.965	Alert
12,500.00	11,820.00	21,176.48	11,820.00	43.61	143.35	88.34	-767.46	-864.38	741.44	554.97	186.47	3.976	Alert
12,550.00	11,820.00	21,126.48	11,820.00	43.81	142.66	88.34	-817.45	-864.07	741.44	555.46	185.98	3.987	Alert
12,600.00	11,820.00	21,076.48	11,820.00	44.01	141.96	88.34	-867.45	-863.75	741.44	555.96	185.48	3.997	Alert
12,650.00	11,820.00	21,026.48	11,820.00	44.23	141.27	88.34	-917.45	-863.44	741.43	556.43	185.01	4.008	Alert
12,700.00	11,820.00	20,976.48	11,820.00	44.45	140.58	88.34	-967.45	-863.13	741.43	556.90	184.53	4.018	Alert
12,750.00	11,820.00	20,926.48	11,820.00	44.69	139.88	88.34	-1,017.45	-862.81	741.43	557.35	184.08	4.028	Alert
12,800.00	11,820.00	20,876.48	11,820.00	44.94	139.19	88.34	-1,067.45	-862.50	741.42	557.79	183.63	4.038	Alert
12,850.00	11,820.00	20,826.48	11,820.00	45.20	138.50	88.34	-1,117.45	-862.18	741.42	558.22	183.20	4.047	Alert
12,900.00	11,820.00	20,776.48	11,820.00	45.46	137.80	88.34	-1,167.45	-861.87	741.42	558.65	182.77	4.057	Alert
12,950.00	11,820.00	20,726.48	11,820.00	45.75	137.11	88.34	-1,217.45	-861.56	741.41	559.05	182.36	4.066	Alert
13,000.00	11,820.00	20,676.48	11,820.00	46.03	136.42	88.34	-1,267.45	-861.24	741.41	559.46	181.95	4.075	Alert
13,050.00	11,820.00	20,626.48	11,820.00	46.33	135.73	88.34	-1,317.44	-860.93	741.41	559.85	181.56	4.084	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
13,100.00	11,820.00	20,576.48	11,820.00	46.64	135.04	88.34	-1,367.44	-860.61	741.40	560.23	181.17	4.092	Alert
13,150.00	11,820.00	20,526.48	11,820.00	46.96	134.35	88.34	-1,417.44	-860.30	741.40	560.60	180.80	4.101	Alert
13,200.00	11,820.00	20,476.48	11,820.00	47.28	133.66	88.34	-1,467.44	-859.99	741.40	560.97	180.43	4.109	Alert
13,250.00	11,820.00	20,426.48	11,820.00	47.62	132.97	88.34	-1,517.44	-859.67	741.39	561.31	180.08	4.117	Alert
13,300.00	11,820.00	20,376.48	11,820.00	47.96	132.28	88.34	-1,567.44	-859.36	741.39	561.66	179.73	4.125	Alert
13,350.00	11,820.00	20,326.48	11,820.00	48.31	131.59	88.34	-1,617.44	-859.04	741.39	561.99	179.39	4.133	Alert
13,400.00	11,820.00	20,276.48	11,820.00	48.67	130.90	88.34	-1,667.44	-858.73	741.38	562.32	179.06	4.140	Alert
13,450.00	11,820.00	20,226.48	11,820.00	49.04	130.22	88.34	-1,717.44	-858.42	741.38	562.63	178.74	4.148	Alert
13,500.00	11,820.00	20,176.48	11,820.00	49.42	129.53	88.34	-1,767.44	-858.10	741.38	562.95	178.43	4.155	Alert
13,550.00	11,820.00	20,126.48	11,820.00	49.80	128.84	88.34	-1,817.43	-857.79	741.37	563.24	178.13	4.162	Alert
13,600.00	11,820.00	20,076.48	11,820.00	50.19	128.16	88.34	-1,867.43	-857.47	741.37	563.54	177.83	4.169	Alert
13,650.00	11,820.00	20,026.48	11,820.00	50.60	127.47	88.34	-1,917.43	-857.16	741.37	563.82	177.55	4.176	Alert
13,700.00	11,820.00	19,976.48	11,820.00	51.00	126.78	88.34	-1,967.43	-856.85	741.36	564.10	177.26	4.182	Alert
13,750.00	11,820.00	19,926.48	11,820.00	51.42	126.10	88.34	-2,017.43	-856.53	741.36	564.37	176.99	4.189	Alert
13,800.00	11,820.00	19,876.48	11,820.00	51.83	125.42	88.34	-2,067.43	-856.22	741.35	564.63	176.72	4.195	Alert
13,850.00	11,820.00	19,826.48	11,820.00	52.26	124.73	88.34	-2,117.43	-855.90	741.35	564.88	176.47	4.201	Alert
13,900.00	11,820.00	19,776.48	11,820.00	52.70	124.05	88.34	-2,167.43	-855.59	741.35	565.13	176.22	4.207	Alert
13,950.00	11,820.00	19,726.48	11,820.00	53.14	123.37	88.34	-2,217.43	-855.27	741.34	565.37	175.98	4.213	Alert
14,000.00	11,820.00	19,676.48	11,820.00	53.58	122.68	88.34	-2,267.43	-854.96	741.34	565.61	175.74	4.219	Alert
14,050.00	11,820.00	19,626.48	11,820.00	54.04	122.00	88.34	-2,317.42	-854.65	741.34	565.83	175.51	4.224	Alert
14,100.00	11,820.00	19,576.48	11,820.00	54.50	121.32	88.34	-2,367.42	-854.33	741.33	566.05	175.28	4.229	Alert
14,150.00	11,820.00	19,526.48	11,820.00	54.96	120.64	88.34	-2,417.42	-854.02	741.33	566.26	175.07	4.235	Alert
14,200.00	11,820.00	19,476.48	11,820.00	55.43	119.96	88.34	-2,467.42	-853.70	741.33	566.47	174.85	4.240	Alert
14,250.00	11,820.00	19,426.48	11,820.00	55.91	119.28	88.34	-2,517.42	-853.39	741.32	566.67	174.65	4.245	Alert
14,300.00	11,820.00	19,376.48	11,820.00	56.39	118.60	88.34	-2,567.42	-853.08	741.32	566.87	174.45	4.249	Alert
14,350.00	11,820.00	19,326.48	11,820.00	56.88	117.92	88.34	-2,617.42	-852.76	741.32	567.06	174.26	4.254	Alert
14,400.00	11,820.00	19,276.48	11,820.00	57.37	117.24	88.34	-2,667.42	-852.45	741.31	567.24	174.07	4.259	Alert
14,450.00	11,820.00	19,226.48	11,820.00	57.87	116.57	88.34	-2,717.42	-852.13	741.31	567.42	173.89	4.263	Alert
14,500.00	11,820.00	19,176.48	11,820.00	58.37	115.89	88.34	-2,767.42	-851.82	741.31	567.60	173.71	4.267	Alert
14,550.00	11,820.00	19,126.48	11,820.00	58.88	115.21	88.34	-2,817.41	-851.51	741.30	567.76	173.54	4.272	Alert
14,600.00	11,820.00	19,076.48	11,820.00	59.39	114.54	88.34	-2,867.41	-851.19	741.30	567.93	173.37	4.276	Alert
14,650.00	11,820.00	19,026.48	11,820.00	59.90	113.86	88.34	-2,917.41	-850.88	741.30	568.08	173.22	4.280	Alert
14,700.00	11,820.00	18,976.48	11,820.00	60.42	113.19	88.34	-2,967.41	-850.56	741.29	568.24	173.06	4.283	Alert
14,750.00	11,820.00	18,926.48	11,820.00	60.95	112.52	88.34	-3,017.41	-850.25	741.29	568.38	172.91	4.287	Alert
14,800.00	11,820.00	18,876.48	11,820.00	61.48	111.85	88.34	-3,067.41	-849.94	741.29	568.52	172.76	4.291	Alert
14,850.00	11,820.00	18,826.48	11,820.00	62.01	111.17	88.34	-3,117.41	-849.62	741.28	568.66	172.62	4.294	Alert
14,900.00	11,820.00	18,776.48	11,820.00	62.54	110.50	88.34	-3,167.41	-849.31	741.28	568.80	172.49	4.298	Alert
14,950.00	11,820.00	18,726.48	11,820.00	63.09	109.83	88.34	-3,217.41	-848.99	741.28	568.92	172.36	4.301	Alert
15,000.00	11,820.00	18,676.48	11,820.00	63.63	109.16	88.34	-3,267.41	-848.68	741.27	569.05	172.23	4.304	Alert
15,050.00	11,820.00	18,626.48	11,820.00	64.18	108.49	88.34	-3,317.40	-848.36	741.27	569.16	172.10	4.307	Alert
15,100.00	11,820.00	18,576.48	11,820.00	64.73	107.83	88.34	-3,367.40	-848.05	741.27	569.28	171.98	4.310	Alert
15,150.00	11,820.00	18,526.48	11,820.00	65.29	107.16	88.34	-3,417.40	-847.74	741.26	569.39	171.87	4.313	Alert
15,200.00	11,820.00	18,476.48	11,820.00	65.84	106.49	88.34	-3,467.40	-847.42	741.26	569.50	171.76	4.316	Alert
15,250.00	11,820.00	18,426.48	11,820.00	66.41	105.83	88.34	-3,517.40	-847.11	741.26	569.60	171.66	4.318	Alert
15,300.00	11,820.00	18,376.48	11,820.00	66.97	105.16	88.34	-3,567.40	-846.79	741.25	569.70	171.55	4.321	Alert
15,350.00	11,820.00	18,326.48	11,820.00	67.54	104.50	88.34	-3,617.40	-846.48	741.25	569.79	171.46	4.323	Alert
15,400.00	11,820.00	18,276.48	11,820.00	68.11	103.83	88.34	-3,667.40	-846.17	741.25	569.89	171.36	4.326	Alert
15,450.00	11,820.00	18,226.48	11,820.00	68.68	103.17	88.34	-3,717.40	-845.85	741.24	569.97	171.27	4.328	Alert
15,500.00	11,820.00	18,176.48	11,820.00	69.26	102.51	88.34	-3,767.40	-845.54	741.24	570.06	171.18	4.330	Alert
15,550.00	11,820.00	18,126.48	11,820.00	69.84	101.85	88.34	-3,817.40	-845.22	741.24	570.13	171.10	4.332	Alert
15,600.00	11,820.00	18,076.48	11,820.00	70.42	101.19	88.34	-3,867.39	-844.91	741.23	570.21	171.02	4.334	Alert
15,650.00	11,820.00	18,026.48	11,820.00	71.01	100.53	88.34	-3,917.39	-844.60	741.23	570.28	170.95	4.336	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
15,700.00	11,820.00	17,976.48	11,820.00	71.60	99.87	88.34	-3,967.39	-844.28	741.23	570.35	170.87	4.338	Alert
15,750.00	11,820.00	17,926.48	11,820.00	72.19	99.22	88.34	-4,017.39	-843.97	741.22	570.41	170.81	4.340	Alert
15,800.00	11,820.00	17,876.48	11,820.00	72.78	98.56	88.34	-4,067.39	-843.65	741.22	570.48	170.74	4.341	Alert
15,850.00	11,820.00	17,826.48	11,820.00	73.38	97.91	88.34	-4,117.39	-843.34	741.22	570.53	170.68	4.343	Alert
15,900.00	11,820.00	17,776.48	11,820.00	73.97	97.25	88.34	-4,167.39	-843.03	741.21	570.59	170.62	4.344	Alert
15,950.00	11,820.00	17,726.48	11,820.00	74.57	96.60	88.34	-4,217.39	-842.71	741.21	570.64	170.57	4.345	Alert
16,000.00	11,820.00	17,676.48	11,820.00	75.18	95.95	88.34	-4,267.39	-842.40	741.21	570.69	170.52	4.347	Alert
16,050.00	11,820.00	17,626.48	11,820.00	75.78	95.30	88.34	-4,317.39	-842.08	741.20	570.73	170.47	4.348	Alert
16,100.00	11,820.00	17,576.48	11,820.00	76.39	94.65	88.34	-4,367.38	-841.77	741.20	570.77	170.42	4.349	Alert
16,150.00	11,820.00	17,526.48	11,820.00	77.00	94.00	88.34	-4,417.38	-841.45	741.19	570.81	170.38	4.350	Alert
16,200.00	11,820.00	17,476.48	11,820.00	77.61	93.36	88.34	-4,467.38	-841.14	741.19	570.85	170.35	4.351	Alert
16,250.00	11,820.00	17,426.48	11,820.00	78.22	92.71	88.34	-4,517.38	-840.83	741.19	570.88	170.31	4.352	Alert
16,300.00	11,820.00	17,376.48	11,820.00	78.84	92.07	88.34	-4,567.38	-840.51	741.18	570.91	170.28	4.353	Alert
16,350.00	11,820.00	17,326.48	11,820.00	79.45	91.42	88.34	-4,617.38	-840.20	741.18	570.93	170.25	4.353	Alert
16,400.00	11,820.00	17,276.48	11,820.00	80.07	90.78	88.34	-4,667.38	-839.88	741.18	570.95	170.22	4.354	Alert
16,450.00	11,820.00	17,226.48	11,820.00	80.69	90.14	88.34	-4,717.38	-839.57	741.17	570.97	170.20	4.355	Alert
16,500.00	11,820.00	17,176.48	11,820.00	81.32	89.50	88.34	-4,767.38	-839.26	741.17	570.99	170.18	4.355	Alert
16,550.00	11,820.00	17,126.48	11,820.00	81.94	88.86	88.34	-4,817.38	-838.94	741.17	571.00	170.17	4.355	Alert
16,600.00	11,820.00	17,076.48	11,820.00	82.57	88.23	88.34	-4,867.37	-838.63	741.16	571.01	170.15	4.356	Alert
16,650.00	11,820.00	17,026.48	11,820.00	83.19	87.59	88.34	-4,917.37	-838.31	741.16	571.02	170.15	4.356	Alert
16,700.00	11,820.00	16,976.48	11,820.00	83.82	86.96	88.34	-4,967.37	-838.00	741.16	571.02	170.14	4.356	Alert
16,750.00	11,820.00	16,926.48	11,820.00	84.46	86.33	88.34	-5,017.37	-837.69	741.15	571.02	170.14	4.356	Alert
16,800.00	11,820.00	16,876.48	11,820.00	85.09	85.70	88.34	-5,067.37	-837.37	741.15	571.02	170.13	4.356	Alert
16,850.00	11,820.00	16,826.48	11,820.00	85.72	85.07	88.34	-5,117.37	-837.06	741.15	571.01	170.14	4.356	Alert
16,900.00	11,820.00	16,776.48	11,820.00	86.36	84.44	88.34	-5,167.37	-836.74	741.14	571.00	170.14	4.356	Alert
16,950.00	11,820.00	16,726.48	11,820.00	86.99	83.82	88.34	-5,217.37	-836.43	741.14	570.99	170.15	4.356	Alert
17,000.00	11,820.00	16,676.48	11,820.00	87.63	83.19	88.34	-5,267.37	-836.12	741.14	570.97	170.16	4.355	Alert
17,050.00	11,820.00	16,626.48	11,820.00	88.27	82.57	88.34	-5,317.37	-835.80	741.13	570.96	170.18	4.355	Alert
17,100.00	11,820.00	16,576.48	11,820.00	88.91	81.95	88.34	-5,367.36	-835.49	741.13	570.93	170.20	4.355	Alert
17,150.00	11,820.00	16,526.48	11,820.00	89.56	81.33	88.34	-5,417.36	-835.17	741.13	570.91	170.22	4.354	Alert
17,200.00	11,820.00	16,476.48	11,820.00	90.20	80.72	88.34	-5,467.36	-834.86	741.12	570.88	170.24	4.353	Alert
17,250.00	11,820.00	16,426.48	11,820.00	90.85	80.10	88.34	-5,517.36	-834.55	741.12	570.85	170.27	4.353	Alert
17,300.00	11,820.00	16,376.48	11,820.00	91.49	79.49	88.34	-5,567.36	-834.23	741.12	570.82	170.30	4.352	Alert
17,350.00	11,820.00	16,326.48	11,820.00	92.14	78.88	88.34	-5,617.36	-833.92	741.11	570.78	170.33	4.351	Alert
17,400.00	11,820.00	16,276.48	11,820.00	92.79	78.27	88.34	-5,667.36	-833.60	741.11	570.74	170.37	4.350	Alert
17,450.00	11,820.00	16,226.48	11,820.00	93.44	77.66	88.34	-5,717.36	-833.29	741.11	570.70	170.41	4.349	Alert
17,500.00	11,820.00	16,176.48	11,820.00	94.09	77.06	88.34	-5,767.36	-832.97	741.10	570.65	170.45	4.348	Alert
17,550.00	11,820.00	16,126.48	11,820.00	94.74	76.45	88.34	-5,817.36	-832.66	741.10	570.60	170.50	4.347	Alert
17,600.00	11,820.00	16,076.48	11,820.00	95.40	75.85	88.34	-5,867.35	-832.35	741.10	570.55	170.55	4.345	Alert
17,650.00	11,820.00	16,026.48	11,820.00	96.05	75.26	88.34	-5,917.35	-832.03	741.09	570.49	170.60	4.344	Alert
17,700.00	11,820.00	15,976.48	11,820.00	96.71	74.66	88.34	-5,967.35	-831.72	741.09	570.43	170.66	4.343	Alert
17,750.00	11,820.00	15,926.48	11,820.00	97.36	74.07	88.34	-6,017.35	-831.40	741.09	570.37	170.72	4.341	Alert
17,800.00	11,820.00	15,876.48	11,820.00	98.02	73.47	88.34	-6,067.35	-831.09	741.08	570.30	170.78	4.339	Alert
17,850.00	11,820.00	15,826.48	11,820.00	98.68	72.89	88.34	-6,117.35	-830.78	741.08	570.23	170.85	4.338	Alert
17,900.00	11,820.00	15,776.48	11,820.00	99.34	72.30	88.34	-6,167.35	-830.46	741.08	570.16	170.92	4.336	Alert
17,950.00	11,820.00	15,726.48	11,820.00	100.00	71.72	88.34	-6,217.35	-830.15	741.07	570.08	170.99	4.334	Alert
18,000.00	11,820.00	15,676.48	11,820.00	100.66	71.14	88.34	-6,267.35	-829.83	741.07	570.00	171.07	4.332	Alert
18,050.00	11,820.00	15,626.48	11,820.00	101.32	70.56	88.34	-6,317.35	-829.52	741.07	569.91	171.15	4.330	Alert
18,100.00	11,820.00	15,576.48	11,820.00	101.99	69.98	88.34	-6,367.34	-829.21	741.06	569.83	171.24	4.328	Alert
18,150.00	11,820.00	15,526.48	11,820.00	102.65	69.41	88.34	-6,417.34	-828.89	741.06	569.73	171.33	4.325	Alert
18,200.00	11,820.00	15,476.48	11,820.00	103.32	68.84	88.34	-6,467.34	-828.58	741.06	569.64	171.42	4.323	Alert
18,250.00	11,820.00	15,426.48	11,820.00	103.98	68.27	88.34	-6,517.34	-828.26	741.05	569.54	171.51	4.321	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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
18,300.00	11,820.00	15,376.48	11,820.00	104.65	67.71	88.34	-6,567.34	-827.95	741.05	569.44	171.61	4.318	Alert
18,350.00	11,820.00	15,326.48	11,820.00	105.32	67.15	88.34	-6,617.34	-827.64	741.05	569.33	171.72	4.315	Alert
18,400.00	11,820.00	15,276.48	11,820.00	105.99	66.59	88.34	-6,667.34	-827.32	741.04	569.22	171.83	4.313	Alert
18,450.00	11,820.00	15,226.48	11,820.00	106.66	66.04	88.34	-6,717.34	-827.01	741.04	569.10	171.94	4.310	Alert
18,500.00	11,820.00	15,176.48	11,820.00	107.33	65.49	88.34	-6,767.34	-826.69	741.03	568.98	172.05	4.307	Alert
18,550.00	11,820.00	15,126.48	11,820.00	108.00	64.94	88.34	-6,817.34	-826.38	741.03	568.86	172.18	4.304	Alert
18,600.00	11,820.00	15,076.48	11,820.00	108.67	64.40	88.34	-6,867.33	-826.06	741.03	568.73	172.30	4.301	Alert
18,650.00	11,820.00	15,026.48	11,820.00	109.34	63.86	88.34	-6,917.33	-825.75	741.02	568.59	172.43	4.298	Alert
18,700.00	11,820.00	14,976.48	11,820.00	110.01	63.33	88.34	-6,967.33	-825.44	741.02	568.46	172.56	4.294	Alert
18,750.00	11,820.00	14,926.48	11,820.00	110.69	62.79	88.34	-7,017.33	-825.12	741.02	568.32	172.70	4.291	Alert
18,800.00	11,820.00	14,876.48	11,820.00	111.36	62.27	88.34	-7,067.33	-824.81	741.01	568.17	172.85	4.287	Alert
18,850.00	11,820.00	14,826.48	11,820.00	112.04	61.74	88.34	-7,117.33	-824.49	741.01	568.02	172.99	4.283	Alert
18,900.00	11,820.00	14,776.48	11,820.00	112.71	61.22	88.34	-7,167.33	-824.18	741.01	567.86	173.15	4.280	Alert
18,950.00	11,820.00	14,726.48	11,820.00	113.39	60.71	88.34	-7,217.33	-823.87	741.00	567.70	173.30	4.276	Alert
19,000.00	11,820.00	14,676.48	11,820.00	114.07	60.20	88.34	-7,267.33	-823.55	741.00	567.53	173.47	4.272	Alert
19,050.00	11,820.00	14,626.48	11,820.00	114.74	59.69	88.34	-7,317.33	-823.24	741.00	567.36	173.64	4.268	Alert
19,100.00	11,820.00	14,576.48	11,820.00	115.42	59.19	88.34	-7,367.33	-822.92	740.99	567.19	173.81	4.263	Alert
19,150.00	11,820.00	14,526.48	11,820.00	116.10	58.69	88.34	-7,417.32	-822.61	740.99	567.00	173.99	4.259	Alert
19,200.00	11,820.00	14,476.48	11,820.00	116.78	58.20	88.34	-7,467.32	-822.30	740.99	566.82	174.17	4.254	Alert
19,250.00	11,820.00	14,426.48	11,820.00	117.46	57.71	88.34	-7,517.32	-821.98	740.98	566.62	174.36	4.250	Alert
19,300.00	11,820.00	14,376.48	11,820.00	118.14	57.23	88.34	-7,567.32	-821.67	740.98	566.42	174.56	4.245	Alert
19,350.00	11,820.00	14,326.48	11,820.00	118.82	56.75	88.34	-7,617.32	-821.35	740.98	566.22	174.76	4.240	Alert
19,400.00	11,820.00	14,276.48	11,820.00	119.51	56.28	88.34	-7,667.32	-821.04	740.97	566.01	174.97	4.235	Alert
19,450.00	11,820.00	14,226.48	11,820.00	120.19	55.81	88.34	-7,717.32	-820.73	740.97	565.79	175.18	4.230	Alert
19,500.00	11,820.00	14,176.48	11,820.00	120.87	55.35	88.34	-7,767.32	-820.41	740.97	565.57	175.40	4.224	Alert
19,550.00	11,820.00	14,126.48	11,820.00	121.56	54.90	88.34	-7,817.32	-820.10	740.96	565.34	175.63	4.219	Alert
19,600.00	11,820.00	14,076.48	11,820.00	122.24	54.45	88.34	-7,867.32	-819.78	740.96	565.10	175.86	4.213	Alert
19,650.00	11,820.00	14,026.48	11,820.00	122.92	54.00	88.34	-7,917.31	-819.47	740.96	564.86	176.10	4.208	Alert
19,700.00	11,820.00	13,976.48	11,820.00	123.61	53.57	88.34	-7,967.31	-819.15	740.95	564.61	176.34	4.202	Alert
19,750.00	11,820.00	13,926.48	11,820.00	124.30	53.14	88.34	-8,017.31	-818.84	740.95	564.35	176.60	4.196	Alert
19,800.00	11,820.00	13,876.48	11,820.00	124.98	52.71	88.34	-8,067.31	-818.53	740.95	564.09	176.86	4.190	Alert
19,850.00	11,820.00	13,826.48	11,820.00	125.67	52.30	88.34	-8,117.31	-818.21	740.94	563.82	177.12	4.183	Alert
19,900.00	11,820.00	13,776.48	11,820.00	126.35	51.88	88.34	-8,167.31	-817.90	740.94	563.54	177.40	4.177	Alert
19,950.00	11,820.00	13,726.48	11,820.00	127.04	51.48	88.34	-8,217.31	-817.58	740.94	563.25	177.68	4.170	Alert
20,000.00	11,820.00	13,676.48	11,820.00	127.73	51.08	88.34	-8,267.31	-817.27	740.93	562.96	177.97	4.163	Alert
20,050.00	11,820.00	13,626.48	11,820.00	128.42	50.70	88.34	-8,317.31	-816.96	740.93	562.66	178.27	4.156	Alert
20,100.00	11,820.00	13,576.48	11,820.00	129.11	50.31	88.34	-8,367.31	-816.64	740.93	562.35	178.58	4.149	Alert
20,150.00	11,820.00	13,526.48	11,820.00	129.80	49.94	88.34	-8,417.30	-816.33	740.92	562.03	178.89	4.142	Alert
20,200.00	11,820.00	13,476.48	11,820.00	130.49	49.57	88.34	-8,467.30	-816.01	740.92	561.71	179.21	4.134	Alert
20,250.00	11,820.00	13,426.48	11,820.00	131.18	49.22	88.34	-8,517.30	-815.70	740.92	561.37	179.55	4.127	Alert
20,300.00	11,820.00	13,376.48	11,820.00	131.87	48.87	88.34	-8,567.30	-815.39	740.91	561.03	179.89	4.119	Alert
20,350.00	11,820.00	13,326.48	11,820.00	132.56	48.52	88.34	-8,617.30	-815.07	740.91	560.67	180.24	4.111	Alert
20,400.00	11,820.00	13,276.48	11,820.00	133.25	48.19	88.34	-8,667.30	-814.76	740.91	560.31	180.59	4.103	Alert
20,450.00	11,820.00	13,226.48	11,820.00	133.94	47.87	88.34	-8,717.30	-814.44	740.90	559.94	180.96	4.094	Alert
20,500.00	11,820.00	13,176.48	11,820.00	134.63	47.55	88.34	-8,767.30	-814.13	740.90	559.56	181.34	4.086	Alert
20,550.00	11,820.00	13,126.48	11,820.00	135.33	47.25	88.34	-8,817.30	-813.82	740.90	559.17	181.73	4.077	Alert
20,600.00	11,820.00	13,076.48	11,820.00	136.02	46.95	88.34	-8,867.30	-813.50	740.89	558.77	182.12	4.068	Alert
20,650.00	11,820.00	13,026.48	11,820.00	136.71	46.66	88.34	-8,917.29	-813.19	740.89	558.36	182.53	4.059	Alert
20,700.00	11,820.00	12,976.48	11,820.00	137.41	46.39	88.34	-8,967.29	-812.87	740.89	557.94	182.95	4.050	Alert
20,750.00	11,820.00	12,926.48	11,820.00	138.10	46.12	88.34	-9,017.29	-812.56	740.88	557.51	183.38	4.040	Alert
20,800.00	11,820.00	12,876.48	11,820.00	138.80	45.86	88.34	-9,067.29	-812.25	740.88	557.06	183.81	4.031	Alert
20,850.00	11,820.00	12,826.48	11,820.00	139.49	45.62	88.34	-9,117.29	-811.93	740.88	556.61	184.26	4.021	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 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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

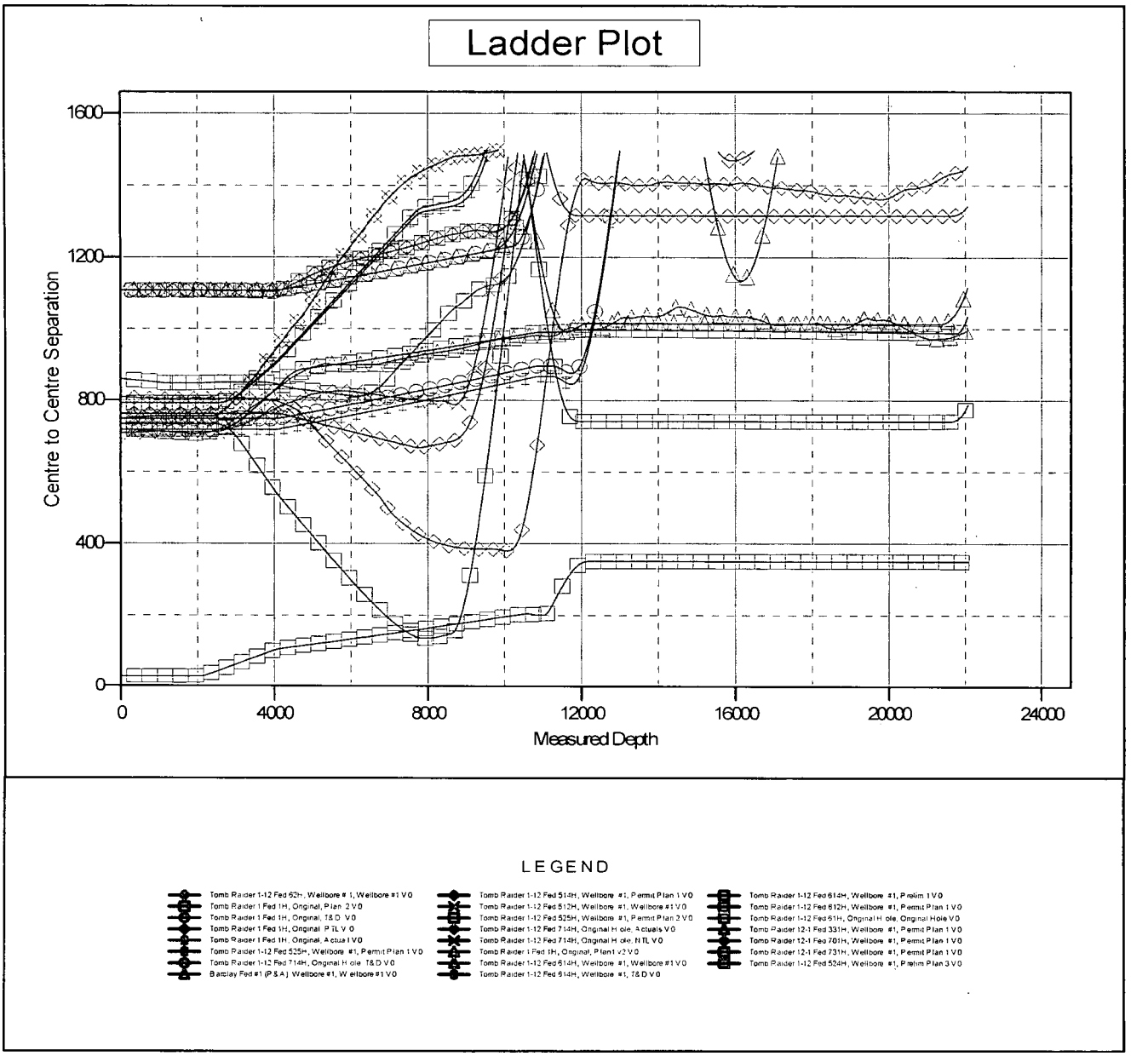
Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

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
20,900.00	11,820.00	12,776.48	11,820.00	140.19	45.39	88.34	-9,167.29	-811.62	740.87	556.15	184.72	4.011	Alert
20,950.00	11,820.00	12,726.48	11,820.00	140.88	45.17	88.34	-9,217.29	-811.30	740.87	555.67	185.19	4.000	Alert
21,000.00	11,820.00	12,676.48	11,820.00	141.58	44.96	88.34	-9,267.29	-810.99	740.86	555.19	185.68	3.990	Alert
21,050.00	11,820.00	12,626.48	11,820.00	142.27	44.77	88.34	-9,317.29	-810.67	740.86	554.69	186.17	3.979	Alert
21,100.00	11,820.00	12,576.48	11,820.00	142.97	44.59	88.34	-9,367.29	-810.36	740.86	554.18	186.67	3.969	Alert
21,150.00	11,820.00	12,526.48	11,820.00	143.67	44.43	88.34	-9,417.28	-810.05	740.85	553.66	187.19	3.958	Alert
21,200.00	11,820.00	12,476.48	11,820.00	144.36	44.29	88.34	-9,467.28	-809.73	740.85	553.13	187.72	3.947	Alert
21,250.00	11,820.00	12,426.48	11,820.00	145.06	44.16	88.34	-9,517.28	-809.42	740.85	552.59	188.26	3.935	Alert
21,300.00	11,820.00	12,376.48	11,820.00	145.76	44.06	88.34	-9,567.28	-809.10	740.84	552.03	188.81	3.924	Alert
21,350.00	11,820.00	12,326.48	11,820.00	146.46	43.98	88.34	-9,617.28	-808.79	740.84	551.46	189.38	3.912	Alert
21,400.00	11,820.00	12,276.48	11,820.00	147.16	43.92	88.34	-9,667.28	-808.48	740.84	550.88	189.95	3.900	Alert
21,450.00	11,820.00	12,226.48	11,820.00	147.85	43.88	88.34	-9,717.28	-808.16	740.83	550.29	190.54	3.888	Alert
21,472.03	11,820.00	12,213.77	11,820.00	148.16	43.87	88.34	-9,739.31	-808.02	740.83	550.01	190.82	3.882	Alert, CC
21,500.00	11,820.00	12,177.69	11,819.14	148.55	43.85	88.27	-9,766.05	-807.86	740.86	549.72	191.14	3.876	Alert
21,550.00	11,820.00	12,129.98	11,814.54	149.25	43.83	87.92	-9,813.53	-807.56	741.02	549.31	191.70	3.865	Alert
21,600.00	11,820.00	12,083.34	11,806.25	149.95	43.82	87.27	-9,859.41	-807.27	741.39	549.17	192.22	3.857	Alert
21,650.00	11,820.00	12,038.33	11,794.74	150.65	43.81	86.39	-9,902.91	-807.00	742.12	549.45	192.67	3.852	Alert
21,700.00	11,820.00	11,995.39	11,780.60	151.35	43.80	85.30	-9,943.44	-806.74	743.39	550.36	193.02	3.851	Alert
21,750.00	11,820.00	11,954.83	11,764.49	152.05	43.78	84.06	-9,980.66	-806.51	745.39	552.14	193.25	3.857	Alert
21,800.00	11,820.00	11,916.82	11,747.05	152.75	43.75	82.73	-10,014.42	-806.30	748.37	555.05	193.32	3.871	Alert
21,850.00	11,820.00	11,881.43	11,728.83	153.45	43.73	81.35	-10,044.75	-806.10	752.52	559.34	193.18	3.895	Alert
21,900.00	11,820.00	11,850.00	11,711.10	154.16	43.70	80.01	-10,070.70	-805.94	758.06	565.23	192.83	3.931	Alert
21,950.00	11,820.00	11,818.39	11,691.86	154.86	43.67	78.58	-10,095.78	-805.78	765.16	572.94	192.22	3.981	Alert
22,000.00	11,820.00	11,790.51	11,673.77	155.56	43.63	77.24	-10,116.99	-805.65	773.97	582.62	191.35	4.045	Alert
22,050.00	11,820.00	11,764.87	11,656.24	156.26	43.60	75.95	-10,135.69	-805.53	784.60	594.38	190.23	4.125	Alert
22,065.48	11,820.00	11,757.36	11,650.94	156.48	43.59	75.57	-10,141.02	-805.50	788.28	598.45	189.83	4.153	Alert

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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

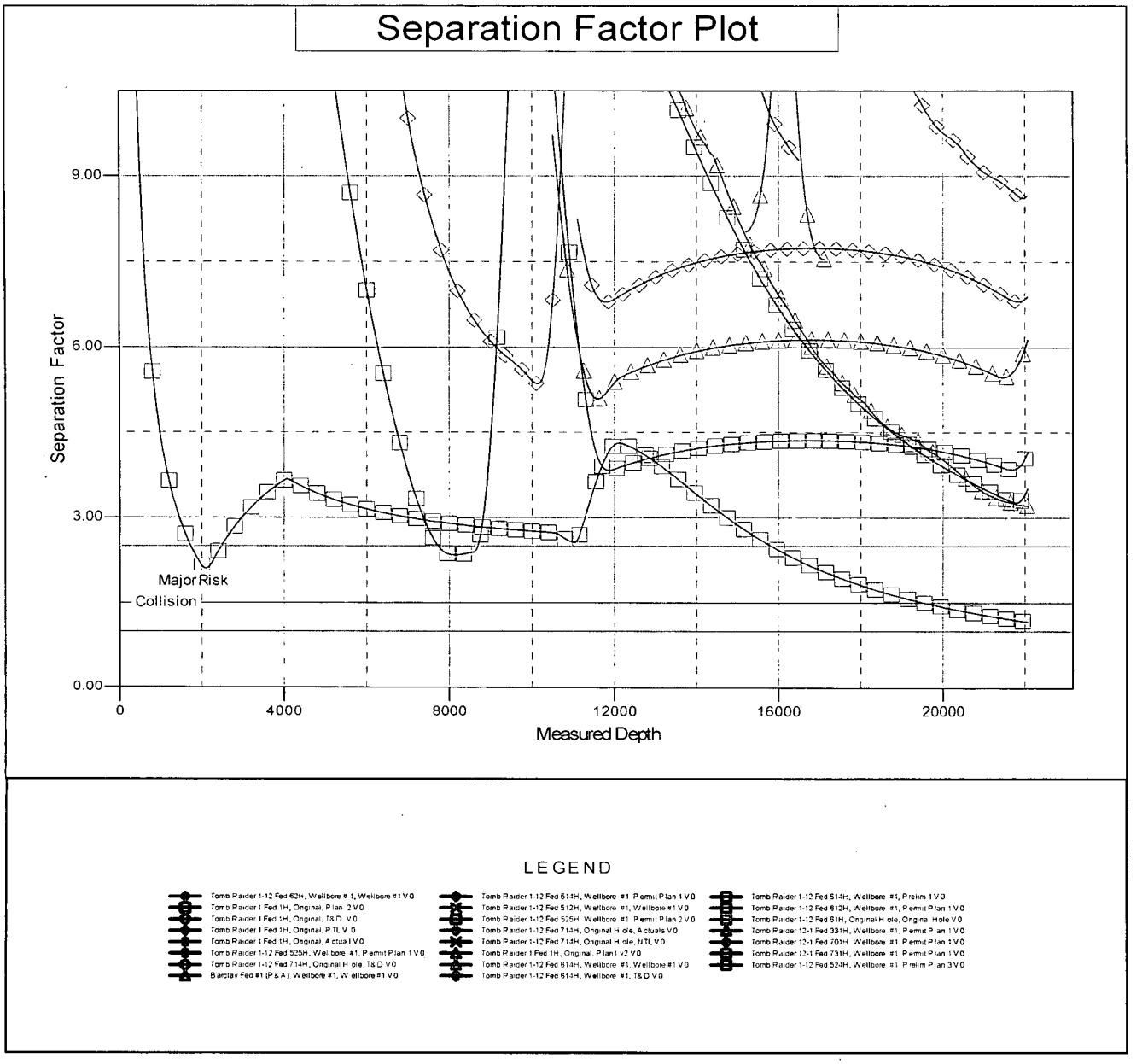
Reference Depths are relative to RKB @ 3492.10ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Tomb Raider 1-12 Fed 702H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.32°



Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Project:	Eddy County (NAD 83 NM Eastern)	**TVD Reference:**	RKB @ 3492.10ft
Reference Site:	Sec 01-T23S-R31E	**MD Reference:**	RKB @ 3492.10ft
Site Error:	5.00 ft	**North Reference:**	Grid
Reference Well:	Tomb Raider 1-12 Fed 702H	**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 @ 3492.10ft	Coordinates are relative to: Tomb Raider 1-12 Fed 702H
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°



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

WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)
Sec 01-T23S-R31E
Tomb Raider 1-12 Fed 702H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

30 November, 2018

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.10ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.10ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 702H	**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 702H

Well Position	**+N/-S**	0.00 ft	**Northing:**	487,995.25 usft	**Latitude:**	32.340142
	+E/-W	0.00 ft	**Easting:**	726,734.83 usft	**Longitude:**	-103.733033
Position Uncertainty		0.50 ft	**Wellhead Elevation:**		**Ground Level:**	3,467.10 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/29/2018	6.88	60.12	47,840.28589463

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	180.35

Plan Survey Tool Program **Date** 11/30/2018

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,065.48	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	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,139.12	1.74	321.12	4,139.10	1.64	-1.33	1.25	1.25	0.00	321.12	
10,784.17	1.74	321.12	10,781.08	158.63	-127.90	0.00	0.00	0.00	0.00	
10,900.10	0.00	0.00	10,897.00	160.00	-129.00	1.50	-1.50	0.00	180.00	
11,250.14	0.00	0.00	11,247.04	160.00	-129.00	0.00	0.00	0.00	0.00	
12,150.14	90.00	179.64	11,820.00	-412.95	-125.44	10.00	10.00	0.00	179.64	PBHL - Tomb Raider
22,065.48	90.00	179.64	11,820.00	-10,328.09	-63.83	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 702H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.10ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.10ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 702H	**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	487,995.25	726,734.83	32.340142	-103.733033
100.00	0.00	0.00	100.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
200.00	0.00	0.00	200.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
300.00	0.00	0.00	300.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
400.00	0.00	0.00	400.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
500.00	0.00	0.00	500.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
600.00	0.00	0.00	600.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
700.00	0.00	0.00	700.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
800.00	0.00	0.00	800.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
900.00	0.00	0.00	900.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
1,000.00	0.00	0.00	1,000.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
1,100.00	0.00	0.00	1,100.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
1,200.00	0.00	0.00	1,200.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
1,300.00	0.00	0.00	1,300.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
1,400.00	0.00	0.00	1,400.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
1,500.00	0.00	0.00	1,500.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
1,600.00	0.00	0.00	1,600.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
1,700.00	0.00	0.00	1,700.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
1,800.00	0.00	0.00	1,800.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
1,900.00	0.00	0.00	1,900.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
2,000.00	0.00	0.00	2,000.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
2,100.00	0.00	0.00	2,100.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
2,200.00	0.00	0.00	2,200.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
2,300.00	0.00	0.00	2,300.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
2,400.00	0.00	0.00	2,400.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
2,500.00	0.00	0.00	2,500.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
2,600.00	0.00	0.00	2,600.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
2,700.00	0.00	0.00	2,700.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
2,800.00	0.00	0.00	2,800.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
2,900.00	0.00	0.00	2,900.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
3,000.00	0.00	0.00	3,000.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
3,100.00	0.00	0.00	3,100.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
3,200.00	0.00	0.00	3,200.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
3,300.00	0.00	0.00	3,300.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
3,400.00	0.00	0.00	3,400.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
3,500.00	0.00	0.00	3,500.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
3,600.00	0.00	0.00	3,600.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
3,700.00	0.00	0.00	3,700.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
3,800.00	0.00	0.00	3,800.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
3,900.00	0.00	0.00	3,900.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
4,000.00	0.00	0.00	4,000.00	0.00	0.00	487,995.25	726,734.83	32.340142	-103.733033
4,100.00	1.25	321.12	4,099.99	0.85	-0.68	487,996.10	726,734.14	32.340145	-103.733035
4,139.12	1.74	321.12	4,139.10	1.64	-1.33	487,996.89	726,733.50	32.340147	-103.733037
4,200.00	1.74	321.12	4,199.95	3.08	-2.48	487,998.33	726,732.34	32.340151	-103.733041
4,300.00	1.74	321.12	4,299.90	5.44	-4.39	488,000.70	726,730.44	32.340157	-103.733047
4,400.00	1.74	321.12	4,399.86	7.81	-6.29	488,003.06	726,728.53	32.340164	-103.733053
4,500.00	1.74	321.12	4,499.81	10.17	-8.20	488,005.42	726,726.63	32.340170	-103.733059
4,600.00	1.74	321.12	4,599.77	12.53	-10.10	488,007.78	726,724.72	32.340177	-103.733065
4,700.00	1.74	321.12	4,699.72	14.89	-12.01	488,010.14	726,722.82	32.340183	-103.733071
4,800.00	1.74	321.12	4,799.67	17.26	-13.91	488,012.51	726,720.91	32.340190	-103.733077
4,900.00	1.74	321.12	4,899.63	19.62	-15.82	488,014.87	726,719.01	32.340196	-103.733084
5,000.00	1.74	321.12	4,999.58	21.98	-17.72	488,017.23	726,717.10	32.340203	-103.733090
5,100.00	1.74	321.12	5,099.54	24.34	-19.63	488,019.59	726,715.20	32.340209	-103.733096
5,200.00	1.74	321.12	5,199.49	26.71	-21.53	488,021.96	726,713.29	32.340216	-103.733102
5,300.00	1.74	321.12	5,299.44	29.07	-23.44	488,024.32	726,711.39	32.340222	-103.733108

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.10ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.10ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 702H	**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	1.74	321.12	5,399.40	31.43	-25.34	488,026.68	726,709.48	32.340229	-103.733114
5,500.00	1.74	321.12	5,499.35	33.79	-27.25	488,029.04	726,707.58	32.340235	-103.733120
5,600.00	1.74	321.12	5,599.31	36.16	-29.15	488,031.41	726,705.68	32.340242	-103.733126
5,700.00	1.74	321.12	5,699.26	38.52	-31.06	488,033.77	726,703.77	32.340249	-103.733133
5,800.00	1.74	321.12	5,799.21	40.88	-32.96	488,036.13	726,701.87	32.340255	-103.733139
5,900.00	1.74	321.12	5,899.17	43.24	-34.87	488,038.49	726,699.96	32.340262	-103.733145
6,000.00	1.74	321.12	5,999.12	45.61	-36.77	488,040.86	726,698.06	32.340268	-103.733151
6,100.00	1.74	321.12	6,099.08	47.97	-38.67	488,043.22	726,696.15	32.340275	-103.733157
6,200.00	1.74	321.12	6,199.03	50.33	-40.58	488,045.58	726,694.25	32.340281	-103.733163
6,300.00	1.74	321.12	6,298.98	52.69	-42.48	488,047.94	726,692.34	32.340288	-103.733169
6,400.00	1.74	321.12	6,398.94	55.06	-44.39	488,050.31	726,690.44	32.340294	-103.733175
6,500.00	1.74	321.12	6,498.89	57.42	-46.29	488,052.67	726,688.53	32.340301	-103.733182
6,600.00	1.74	321.12	6,598.85	59.78	-48.20	488,055.03	726,686.63	32.340307	-103.733188
6,700.00	1.74	321.12	6,698.80	62.14	-50.10	488,057.39	726,684.72	32.340314	-103.733194
6,800.00	1.74	321.12	6,798.75	64.51	-52.01	488,059.76	726,682.82	32.340320	-103.733200
6,900.00	1.74	321.12	6,898.71	66.87	-53.91	488,062.12	726,680.91	32.340327	-103.733206
7,000.00	1.74	321.12	6,998.66	69.23	-55.82	488,064.48	726,679.01	32.340333	-103.733212
7,100.00	1.74	321.12	7,098.62	71.59	-57.72	488,066.84	726,677.10	32.340340	-103.733218
7,200.00	1.74	321.12	7,198.57	73.96	-59.63	488,069.21	726,675.20	32.340346	-103.733224
7,300.00	1.74	321.12	7,298.52	76.32	-61.53	488,071.57	726,673.29	32.340353	-103.733231
7,400.00	1.74	321.12	7,398.48	78.68	-63.44	488,073.93	726,671.39	32.340359	-103.733237
7,500.00	1.74	321.12	7,498.43	81.04	-65.34	488,076.29	726,669.49	32.340366	-103.733243
7,600.00	1.74	321.12	7,598.38	83.41	-67.25	488,078.66	726,667.58	32.340372	-103.733249
7,700.00	1.74	321.12	7,698.34	85.77	-69.15	488,081.02	726,665.68	32.340379	-103.733255
7,800.00	1.74	321.12	7,798.29	88.13	-71.06	488,083.38	726,663.77	32.340386	-103.733261
7,900.00	1.74	321.12	7,898.25	90.49	-72.96	488,085.74	726,661.87	32.340392	-103.733267
8,000.00	1.74	321.12	7,998.20	92.86	-74.86	488,088.11	726,659.96	32.340399	-103.733273
8,100.00	1.74	321.12	8,098.15	95.22	-76.77	488,090.47	726,658.06	32.340405	-103.733280
8,200.00	1.74	321.12	8,198.11	97.58	-78.67	488,092.83	726,656.15	32.340412	-103.733286
8,300.00	1.74	321.12	8,298.06	99.94	-80.58	488,095.19	726,654.25	32.340418	-103.733292
8,400.00	1.74	321.12	8,398.02	102.31	-82.48	488,097.56	726,652.34	32.340425	-103.733298
8,500.00	1.74	321.12	8,497.97	104.67	-84.39	488,099.92	726,650.44	32.340431	-103.733304
8,600.00	1.74	321.12	8,597.92	107.03	-86.29	488,102.28	726,648.53	32.340438	-103.733310
8,700.00	1.74	321.12	8,697.88	109.39	-88.20	488,104.64	726,646.63	32.340444	-103.733316
8,800.00	1.74	321.12	8,797.83	111.76	-90.10	488,107.01	726,644.72	32.340451	-103.733322
8,900.00	1.74	321.12	8,897.79	114.12	-92.01	488,109.37	726,642.82	32.340457	-103.733329
9,000.00	1.74	321.12	8,997.74	116.48	-93.91	488,111.73	726,640.91	32.340464	-103.733335
9,100.00	1.74	321.12	9,097.69	118.84	-95.82	488,114.09	726,639.01	32.340470	-103.733341
9,200.00	1.74	321.12	9,197.65	121.21	-97.72	488,116.46	726,637.10	32.340477	-103.733347
9,300.00	1.74	321.12	9,297.60	123.57	-99.63	488,118.82	726,635.20	32.340483	-103.733353
9,400.00	1.74	321.12	9,397.56	125.93	-101.53	488,121.18	726,633.30	32.340490	-103.733359
9,500.00	1.74	321.12	9,497.51	128.29	-103.44	488,123.54	726,631.39	32.340496	-103.733365
9,600.00	1.74	321.12	9,597.46	130.65	-105.34	488,125.91	726,629.49	32.340503	-103.733371
9,700.00	1.74	321.12	9,697.42	133.02	-107.25	488,128.27	726,627.58	32.340509	-103.733377
9,800.00	1.74	321.12	9,797.37	135.38	-109.15	488,130.63	726,625.68	32.340516	-103.733384
9,900.00	1.74	321.12	9,897.33	137.74	-111.05	488,132.99	726,623.77	32.340522	-103.733390
10,000.00	1.74	321.12	9,997.28	140.10	-112.96	488,135.36	726,621.87	32.340529	-103.733396
10,100.00	1.74	321.12	10,097.23	142.47	-114.86	488,137.72	726,619.96	32.340536	-103.733402
10,200.00	1.74	321.12	10,197.19	144.83	-116.77	488,140.08	726,618.06	32.340542	-103.733408
10,300.00	1.74	321.12	10,297.14	147.19	-118.67	488,142.44	726,616.15	32.340549	-103.733414
10,400.00	1.74	321.12	10,397.10	149.55	-120.58	488,144.81	726,614.25	32.340555	-103.733420
10,500.00	1.74	321.12	10,497.05	151.92	-122.48	488,147.17	726,612.34	32.340562	-103.733426
10,600.00	1.74	321.12	10,597.00	154.28	-124.39	488,149.53	726,610.44	32.340568	-103.733433
10,700.00	1.74	321.12	10,696.96	156.64	-126.29	488,151.89	726,608.53	32.340575	-103.733439
10,784.17	1.74	321.12	10,781.08	158.63	-127.90	488,153.88	726,606.93	32.340580	-103.733444

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.10ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.10ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 702H	**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
10,800.00	1.50	321.12	10,796.91	158.98	-128.18	488,154.23	726,606.65	32.340581	-103.733445
10,900.00	0.00	321.12	10,896.90	160.00	-129.00	488,155.25	726,605.83	32.340584	-103.733447
10,900.10	0.00	0.00	10,897.00	160.00	-129.00	488,155.25	726,605.83	32.340584	-103.733447
11,000.00	0.00	0.00	10,996.90	160.00	-129.00	488,155.25	726,605.83	32.340584	-103.733447
11,100.00	0.00	0.00	11,096.90	160.00	-129.00	488,155.25	726,605.83	32.340584	-103.733447
11,200.00	0.00	0.00	11,196.90	160.00	-129.00	488,155.25	726,605.83	32.340584	-103.733447
11,250.14	0.00	0.00	11,247.04	160.00	-129.00	488,155.25	726,605.83	32.340584	-103.733447
KOP @ 11250' MD, 50' FNL, 2040' FWL									
11,300.00	4.99	179.64	11,296.84	157.83	-128.99	488,153.08	726,605.84	32.340578	-103.733447
11,400.00	14.99	179.64	11,395.20	140.51	-128.88	488,135.76	726,605.95	32.340530	-103.733447
11,491.28	24.11	179.64	11,481.12	110.00	-128.69	488,105.25	726,606.14	32.340447	-103.733447
FTP @ 11491' MD, 100' FNL, 2040' FWL									
11,500.00	24.99	179.64	11,489.06	106.38	-128.67	488,101.63	726,606.16	32.340437	-103.733447
11,600.00	34.99	179.64	11,575.56	56.46	-128.36	488,051.71	726,606.47	32.340299	-103.733447
11,700.00	44.99	179.64	11,652.08	-7.71	-127.96	487,987.54	726,606.87	32.340123	-103.733447
11,800.00	54.99	179.64	11,716.30	-84.20	-127.48	487,911.05	726,607.34	32.339913	-103.733447
11,900.00	64.99	179.64	11,766.26	-170.68	-126.95	487,824.57	726,607.88	32.339675	-103.733447
12,000.00	74.99	179.64	11,800.44	-264.52	-126.36	487,730.73	726,608.46	32.339417	-103.733447
12,100.00	84.99	179.64	11,817.81	-362.87	-125.75	487,632.38	726,609.08	32.339147	-103.733446
12,150.14	90.00	179.64	11,820.00	-412.95	-125.44	487,582.30	726,609.39	32.339009	-103.733446
12,200.00	90.00	179.64	11,820.00	-462.81	-125.13	487,532.45	726,609.70	32.338872	-103.733446
12,300.00	90.00	179.64	11,820.00	-562.80	-124.51	487,432.45	726,610.32	32.338597	-103.733446
12,400.00	90.00	179.64	11,820.00	-662.80	-123.89	487,332.45	726,610.94	32.338322	-103.733446
12,500.00	90.00	179.64	11,820.00	-762.80	-123.27	487,232.45	726,611.56	32.338047	-103.733446
12,600.00	90.00	179.64	11,820.00	-862.80	-122.64	487,132.45	726,612.18	32.337772	-103.733445
12,700.00	90.00	179.64	11,820.00	-962.80	-122.02	487,032.46	726,612.80	32.337498	-103.733445
12,800.00	90.00	179.64	11,820.00	-1,062.79	-121.40	486,932.46	726,613.42	32.337223	-103.733445
12,900.00	90.00	179.64	11,820.00	-1,162.79	-120.78	486,832.46	726,614.05	32.336948	-103.733445
13,000.00	90.00	179.64	11,820.00	-1,262.79	-120.16	486,732.46	726,614.67	32.336673	-103.733445
13,100.00	90.00	179.64	11,820.00	-1,362.79	-119.54	486,632.47	726,615.29	32.336398	-103.733444
13,200.00	90.00	179.64	11,820.00	-1,462.79	-118.92	486,532.47	726,615.91	32.336123	-103.733444
13,300.00	90.00	179.64	11,820.00	-1,562.78	-118.30	486,432.47	726,616.53	32.335848	-103.733444
13,400.00	90.00	179.64	11,820.00	-1,662.78	-117.67	486,332.47	726,617.15	32.335573	-103.733444
13,500.00	90.00	179.64	11,820.00	-1,762.78	-117.05	486,232.47	726,617.77	32.335299	-103.733444
13,600.00	90.00	179.64	11,820.00	-1,862.78	-116.43	486,132.48	726,618.40	32.335024	-103.733443
13,700.00	90.00	179.64	11,820.00	-1,962.78	-115.81	486,032.48	726,619.02	32.334749	-103.733443
13,800.00	90.00	179.64	11,820.00	-2,062.77	-115.19	485,932.48	726,619.64	32.334474	-103.733443
13,900.00	90.00	179.64	11,820.00	-2,162.77	-114.57	485,832.48	726,620.26	32.334199	-103.733443
14,000.00	90.00	179.64	11,820.00	-2,262.77	-113.95	485,732.48	726,620.88	32.333924	-103.733443
14,100.00	90.00	179.64	11,820.00	-2,362.77	-113.32	485,632.49	726,621.50	32.333649	-103.733442
14,200.00	90.00	179.64	11,820.00	-2,462.77	-112.70	485,532.49	726,622.12	32.333374	-103.733442
14,300.00	90.00	179.64	11,820.00	-2,562.76	-112.08	485,432.49	726,622.74	32.333100	-103.733442
14,400.00	90.00	179.64	11,820.00	-2,662.76	-111.46	485,332.49	726,623.37	32.332825	-103.733442
14,500.00	90.00	179.64	11,820.00	-2,762.76	-110.84	485,232.50	726,623.99	32.332550	-103.733442
14,600.00	90.00	179.64	11,820.00	-2,862.76	-110.22	485,132.50	726,624.61	32.332275	-103.733441
14,700.00	90.00	179.64	11,820.00	-2,962.76	-109.60	485,032.50	726,625.23	32.332000	-103.733441
14,800.00	90.00	179.64	11,820.00	-3,062.76	-108.97	484,932.50	726,625.85	32.331725	-103.733441
14,900.00	90.00	179.64	11,820.00	-3,162.75	-108.35	484,832.50	726,626.47	32.331450	-103.733441
15,000.00	90.00	179.64	11,820.00	-3,262.75	-107.73	484,732.51	726,627.09	32.331175	-103.733441
15,100.00	90.00	179.64	11,820.00	-3,362.75	-107.11	484,632.51	726,627.72	32.330901	-103.733440
15,200.00	90.00	179.64	11,820.00	-3,462.75	-106.49	484,532.51	726,628.34	32.330626	-103.733440
15,300.00	90.00	179.64	11,820.00	-3,562.75	-105.87	484,432.51	726,628.96	32.330351	-103.733440
15,400.00	90.00	179.64	11,820.00	-3,662.74	-105.25	484,332.51	726,629.58	32.330076	-103.733440
15,500.00	90.00	179.64	11,820.00	-3,762.74	-104.63	484,232.52	726,630.20	32.329801	-103.733440

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.10ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.10ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 702H	**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	11,820.00	-3,862.74	-104.00	484,132.52	726,630.82	32.329526	-103.733439
15,700.00	90.00	179.64	11,820.00	-3,962.74	-103.38	484,032.52	726,631.44	32.329251	-103.733439
15,800.00	90.00	179.64	11,820.00	-4,062.74	-102.76	483,932.52	726,632.07	32.328976	-103.733439
15,900.00	90.00	179.64	11,820.00	-4,162.73	-102.14	483,832.53	726,632.69	32.328702	-103.733439
16,000.00	90.00	179.64	11,820.00	-4,262.73	-101.52	483,732.53	726,633.31	32.328427	-103.733439
16,100.00	90.00	179.64	11,820.00	-4,362.73	-100.90	483,632.53	726,633.93	32.328152	-103.733438
16,200.00	90.00	179.64	11,820.00	-4,462.73	-100.28	483,532.53	726,634.55	32.327877	-103.733438
16,300.00	90.00	179.64	11,820.00	-4,562.73	-99.65	483,432.53	726,635.17	32.327602	-103.733438
16,400.00	90.00	179.64	11,820.00	-4,662.72	-99.03	483,332.54	726,635.79	32.327327	-103.733438
16,500.00	90.00	179.64	11,820.00	-4,762.72	-98.41	483,232.54	726,636.41	32.327052	-103.733438
16,600.00	90.00	179.64	11,820.00	-4,862.72	-97.79	483,132.54	726,637.04	32.326777	-103.733437
16,700.00	90.00	179.64	11,820.00	-4,962.72	-97.17	483,032.54	726,637.66	32.326503	-103.733437
16,800.00	90.00	179.64	11,820.00	-5,062.72	-96.55	482,932.54	726,638.28	32.326228	-103.733437
16,807.00	90.00	179.64	11,820.00	-5,069.72	-96.50	482,925.54	726,638.32	32.326209	-103.733437
Cross Section @ 16807' MD, 0' FNL, 2040' FWL									
16,900.00	90.00	179.64	11,820.00	-5,162.71	-95.93	482,832.55	726,638.90	32.325953	-103.733437
17,000.00	90.00	179.64	11,820.00	-5,262.71	-95.30	482,732.55	726,639.52	32.325678	-103.733437
17,100.00	90.00	179.64	11,820.00	-5,362.71	-94.68	482,632.55	726,640.14	32.325403	-103.733436
17,200.00	90.00	179.64	11,820.00	-5,462.71	-94.06	482,532.55	726,640.76	32.325128	-103.733436
17,300.00	90.00	179.64	11,820.00	-5,562.71	-93.44	482,432.55	726,641.39	32.324853	-103.733436
17,400.00	90.00	179.64	11,820.00	-5,662.71	-92.82	482,332.56	726,642.01	32.324578	-103.733436
17,500.00	90.00	179.64	11,820.00	-5,762.70	-92.20	482,232.56	726,642.63	32.324304	-103.733436
17,600.00	90.00	179.64	11,820.00	-5,862.70	-91.58	482,132.56	726,643.25	32.324029	-103.733435
17,700.00	90.00	179.64	11,820.00	-5,962.70	-90.96	482,032.56	726,643.87	32.323754	-103.733435
17,800.00	90.00	179.64	11,820.00	-6,062.70	-90.33	481,932.57	726,644.49	32.323479	-103.733435
17,900.00	90.00	179.64	11,820.00	-6,162.70	-89.71	481,832.57	726,645.11	32.323204	-103.733435
18,000.00	90.00	179.64	11,820.00	-6,262.69	-89.09	481,732.57	726,645.74	32.322929	-103.733435
18,100.00	90.00	179.64	11,820.00	-6,362.69	-88.47	481,632.57	726,646.36	32.322654	-103.733434
18,200.00	90.00	179.64	11,820.00	-6,462.69	-87.85	481,532.57	726,646.98	32.322379	-103.733434
18,300.00	90.00	179.64	11,820.00	-6,562.69	-87.23	481,432.58	726,647.60	32.322105	-103.733434
18,400.00	90.00	179.64	11,820.00	-6,662.69	-86.61	481,332.58	726,648.22	32.321830	-103.733434
18,500.00	90.00	179.64	11,820.00	-6,762.68	-85.98	481,232.58	726,648.84	32.321555	-103.733434
18,600.00	90.00	179.64	11,820.00	-6,862.68	-85.36	481,132.58	726,649.46	32.321280	-103.733433
18,700.00	90.00	179.64	11,820.00	-6,962.68	-84.74	481,032.58	726,650.08	32.321005	-103.733433
18,800.00	90.00	179.64	11,820.00	-7,062.68	-84.12	480,932.59	726,650.71	32.320730	-103.733433
18,900.00	90.00	179.64	11,820.00	-7,162.68	-83.50	480,832.59	726,651.33	32.320455	-103.733433
19,000.00	90.00	179.64	11,820.00	-7,262.67	-82.88	480,732.59	726,651.95	32.320180	-103.733433
19,100.00	90.00	179.64	11,820.00	-7,362.67	-82.26	480,632.59	726,652.57	32.319906	-103.733432
19,200.00	90.00	179.64	11,820.00	-7,462.67	-81.63	480,532.60	726,653.19	32.319631	-103.733432
19,300.00	90.00	179.64	11,820.00	-7,562.67	-81.01	480,432.60	726,653.81	32.319356	-103.733432
19,400.00	90.00	179.64	11,820.00	-7,662.67	-80.39	480,332.60	726,654.43	32.319081	-103.733432
19,500.00	90.00	179.64	11,820.00	-7,762.66	-79.77	480,232.60	726,655.06	32.318806	-103.733432
19,600.00	90.00	179.64	11,820.00	-7,862.66	-79.15	480,132.60	726,655.68	32.318531	-103.733431
19,700.00	90.00	179.64	11,820.00	-7,962.66	-78.53	480,032.61	726,656.30	32.318256	-103.733431
19,800.00	90.00	179.64	11,820.00	-8,062.66	-77.91	479,932.61	726,656.92	32.317981	-103.733431
19,900.00	90.00	179.64	11,820.00	-8,162.66	-77.29	479,832.61	726,657.54	32.317707	-103.733431
20,000.00	90.00	179.64	11,820.00	-8,262.66	-76.66	479,732.61	726,658.16	32.317432	-103.733431
20,100.00	90.00	179.64	11,820.00	-8,362.65	-76.04	479,632.61	726,658.78	32.317157	-103.733430
20,200.00	90.00	179.64	11,820.00	-8,462.65	-75.42	479,532.62	726,659.40	32.316882	-103.733430
20,300.00	90.00	179.64	11,820.00	-8,562.65	-74.80	479,432.62	726,660.03	32.316607	-103.733430
20,400.00	90.00	179.64	11,820.00	-8,662.65	-74.18	479,332.62	726,660.65	32.316332	-103.733430
20,500.00	90.00	179.64	11,820.00	-8,762.65	-73.56	479,232.62	726,661.27	32.316057	-103.733430
20,600.00	90.00	179.64	11,820.00	-8,862.64	-72.94	479,132.63	726,661.89	32.315782	-103.733429
20,700.00	90.00	179.64	11,820.00	-8,962.64	-72.31	479,032.63	726,662.51	32.315508	-103.733429

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Tomb Raider 1-12 Fed 702H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3492.10ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3492.10ft
Site:	Sec 01-T23S-R31E	**North Reference:**	Grid
Well:	Tomb Raider 1-12 Fed 702H	**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	11,820.00	-9,062.64	-71.69	478,932.63	726,663.13	32.315233	-103.733429
20,900.00	90.00	179.64	11,820.00	-9,162.64	-71.07	478,832.63	726,663.75	32.314958	-103.733429
21,000.00	90.00	179.64	11,820.00	-9,262.64	-70.45	478,732.63	726,664.38	32.314683	-103.733429
21,100.00	90.00	179.64	11,820.00	-9,362.63	-69.83	478,632.64	726,665.00	32.314408	-103.733429
21,200.00	90.00	179.64	11,820.00	-9,462.63	-69.21	478,532.64	726,665.62	32.314133	-103.733428
21,300.00	90.00	179.64	11,820.00	-9,562.63	-68.59	478,432.64	726,666.24	32.313858	-103.733428
21,400.00	90.00	179.64	11,820.00	-9,662.63	-67.97	478,332.64	726,666.86	32.313583	-103.733428
21,500.00	90.00	179.64	11,820.00	-9,762.63	-67.34	478,232.64	726,667.48	32.313309	-103.733428
21,600.00	90.00	179.64	11,820.00	-9,862.62	-66.72	478,132.65	726,668.10	32.313034	-103.733428
21,700.00	90.00	179.64	11,820.00	-9,962.62	-66.10	478,032.65	726,668.73	32.312759	-103.733427
21,800.00	90.00	179.64	11,820.00	-10,062.62	-65.48	477,932.65	726,669.35	32.312484	-103.733427
21,900.00	90.00	179.64	11,820.00	-10,162.62	-64.86	477,832.65	726,669.97	32.312209	-103.733427
21,985.48	90.00	179.64	11,820.00	-10,248.10	-64.33	477,747.17	726,670.50	32.311974	-103.733427
LTP @ 21985' MD, 100' FSL, 2040' FWL									
22,000.00	90.00	179.64	11,820.00	-10,262.62	-64.24	477,732.65	726,670.59	32.311934	-103.733427
22,065.47	90.00	179.64	11,820.00	-10,328.09	-63.83	477,667.19	726,671.00	32.311754	-103.733427
PBHL; 20' FSL, 2040' FWL									
22,065.48	90.00	179.64	11,820.00	-10,328.09	-63.83	477,667.18	726,671.00	32.311754	-103.733427

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	-10,328.09	-63.83	477,667.18	726,671.00	32.311754	-103.733427
- plan misses target center by 10328.29ft 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
11,250.14	11,247.04	160.00	-129.00	KOP @ 11250' MD, 50' FNL, 2040' FWL
11,491.28	11,481.12	110.00	-128.69	FTP @ 11491' MD, 100' FNL, 2040' FWL
16,807.00	11,820.00	-5,069.72	-96.50	Cross Section @ 16807' MD, 0' FNL, 2040' FWL
21,985.48	11,820.00	-10,248.10	-64.33	LTP @ 21985' MD, 100' FSL, 2040' FWL
22,065.47	11,820.00	-10,328.09	-63.83	PBHL; 20' FSL, 2040' FWL

Devon Energy

WELL DETAILS: Tomb Raider 1-12 Fed 702H

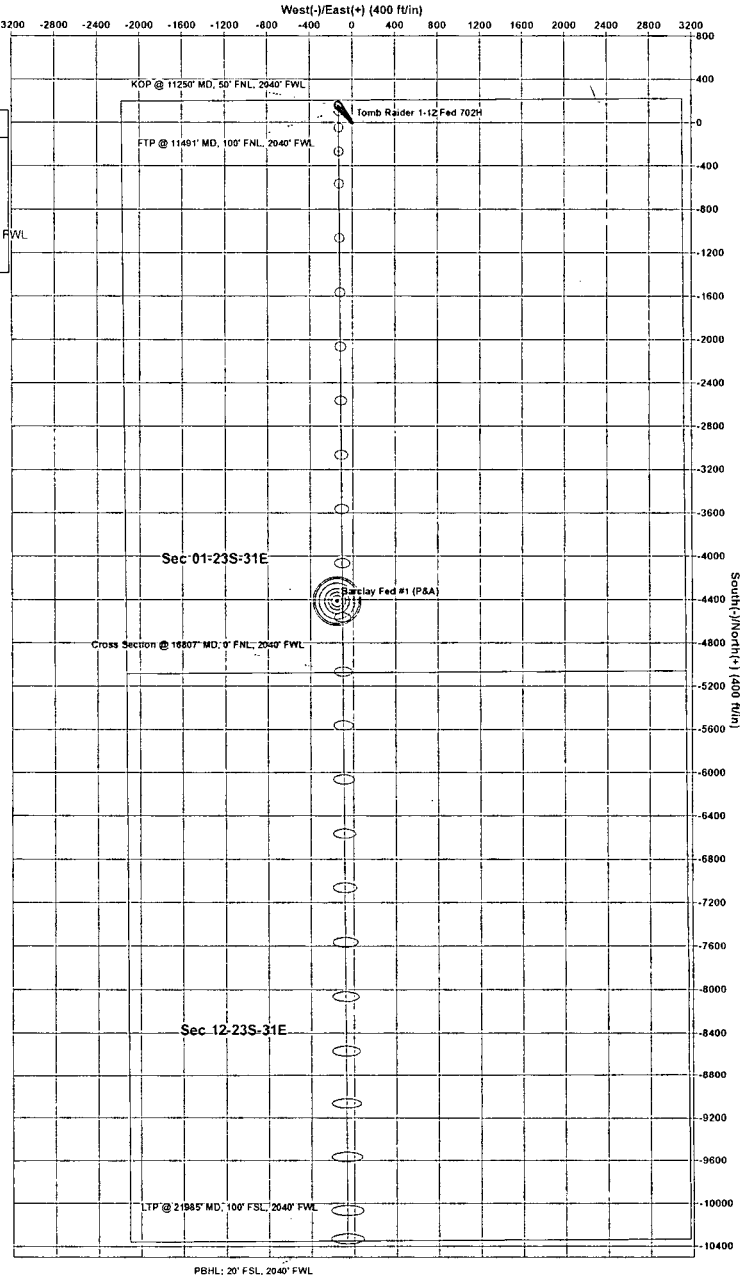
RKB @ 3492.10ft
3467.10

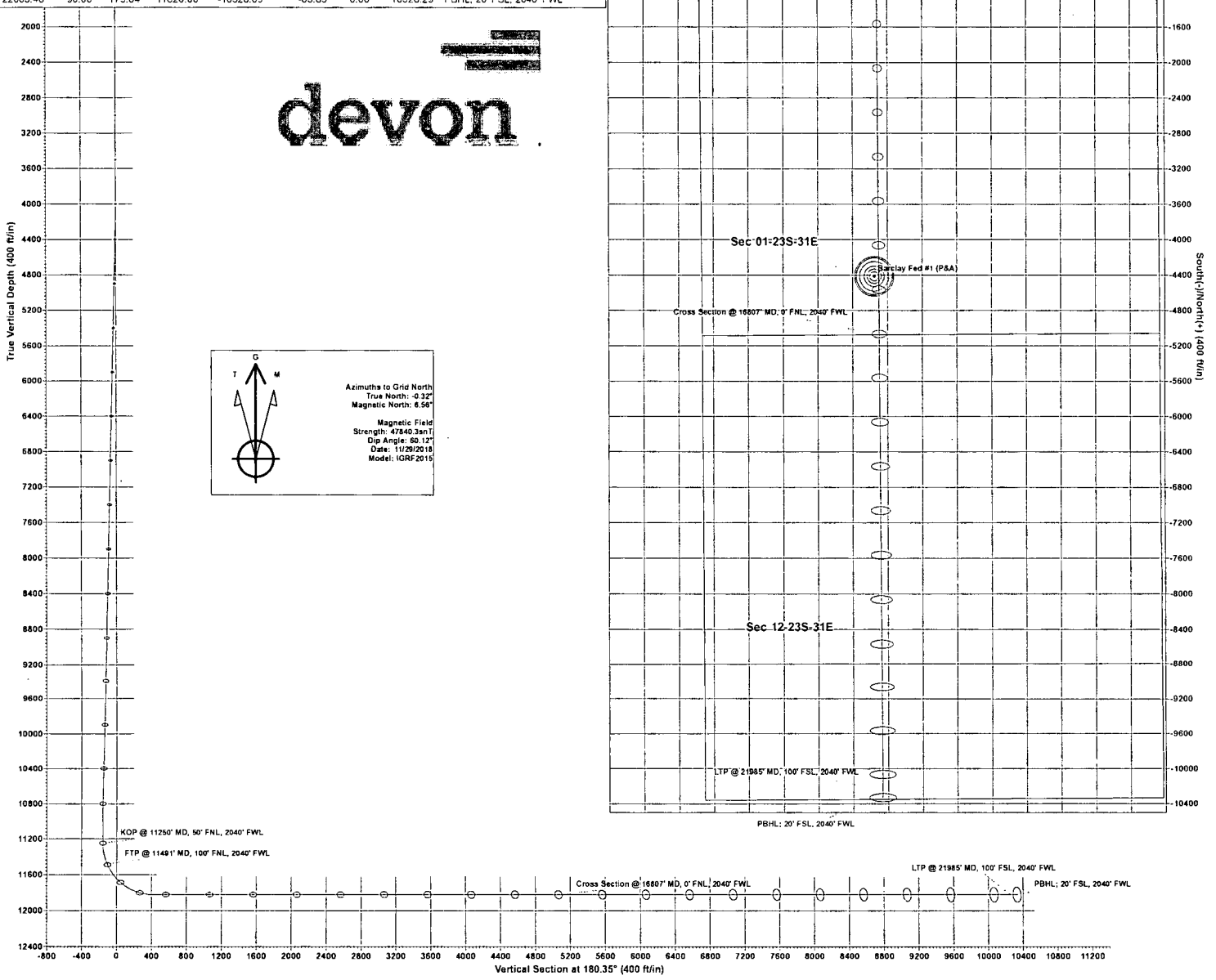
Northing	Easting	Latitude	Longitude
487995.25	726734.83	32.340142	-103.733032

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	
	4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	
	4139.12	1.74	321.12	4139.10	1.64	-1.33	1.25	-1.64	
	10784.17	1.74	321.12	10781.08	158.63	-127.90	0.00	-157.84	
5	10900.10	0.00	0.00	10897.00	160.00	-129.00	1.50	-159.20	
6	11250.14	0.00	0.00	11247.04	160.00	-129.00	0.00	-159.20	KOP @ 11250' MD, 50' FNL, 2040' FWL
7	12150.14	90.00	179.64	11820.00	-412.95	-125.44	10.00	413.72	
8	22065.48	90.00	179.64	11820.00	-10328.09	-63.83	0.00	10328.29	PBHL; 20' FSL, 2040' FWL

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Tomb Raider 12-1 Fed 701H

1. Geologic Formations

TVD of target	11820	Pilot hole depth	N/A
MD at TD:	22065	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.

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 701H

	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	791	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	1611	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.

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	6454 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 nipple 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

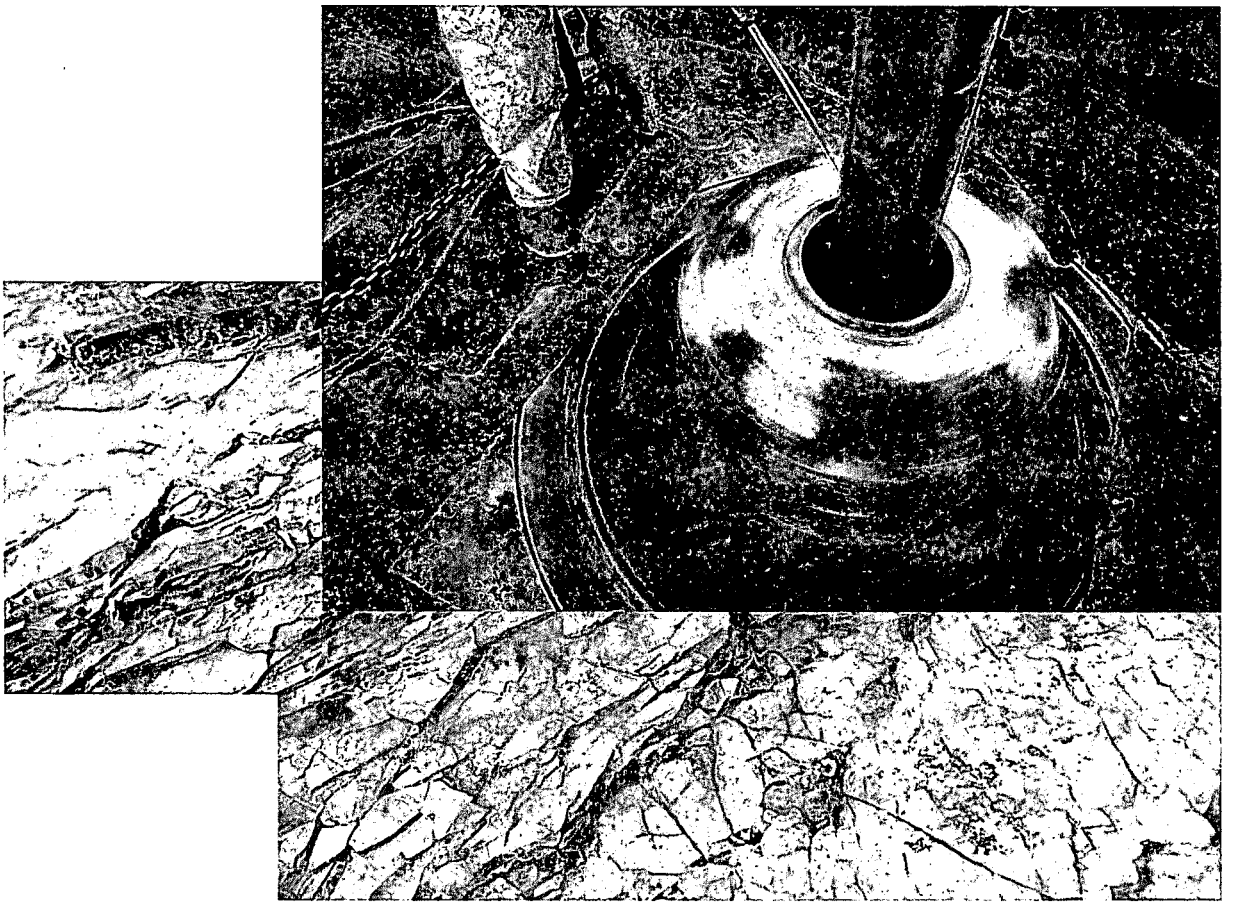
*Special drift must be ordered or API drift will be used for actual drifting of product.

**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.

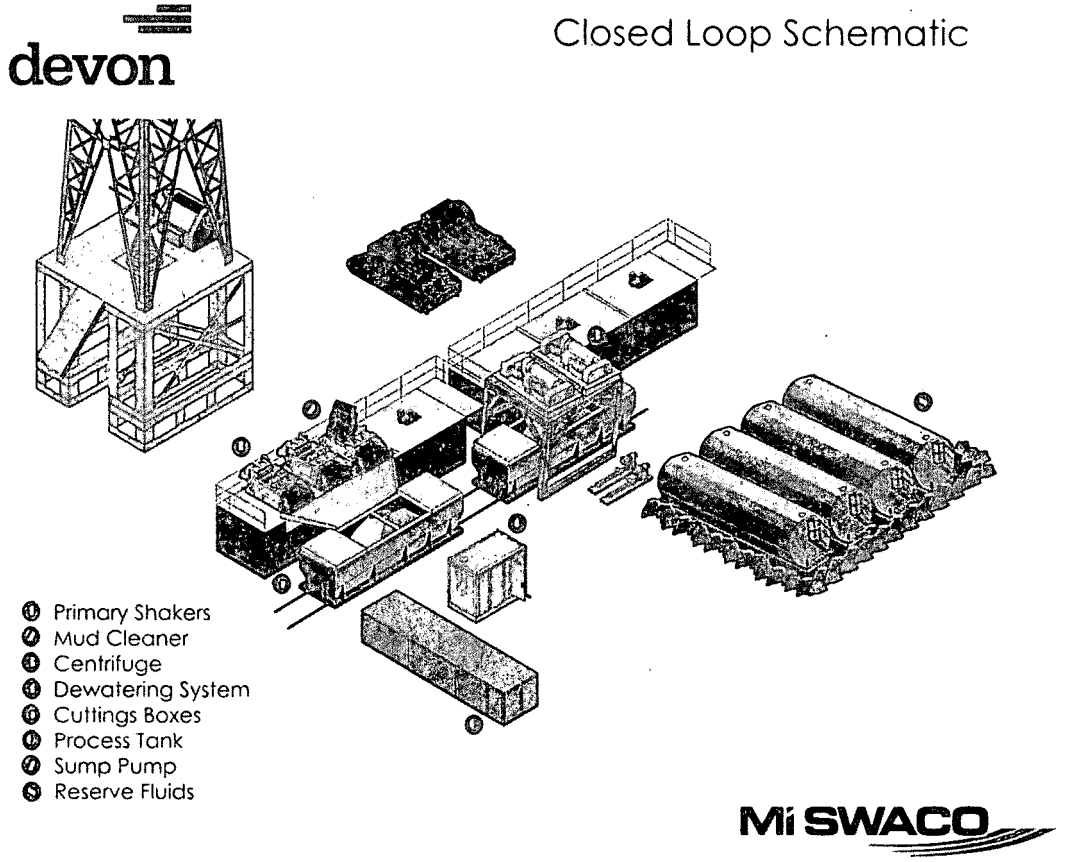
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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

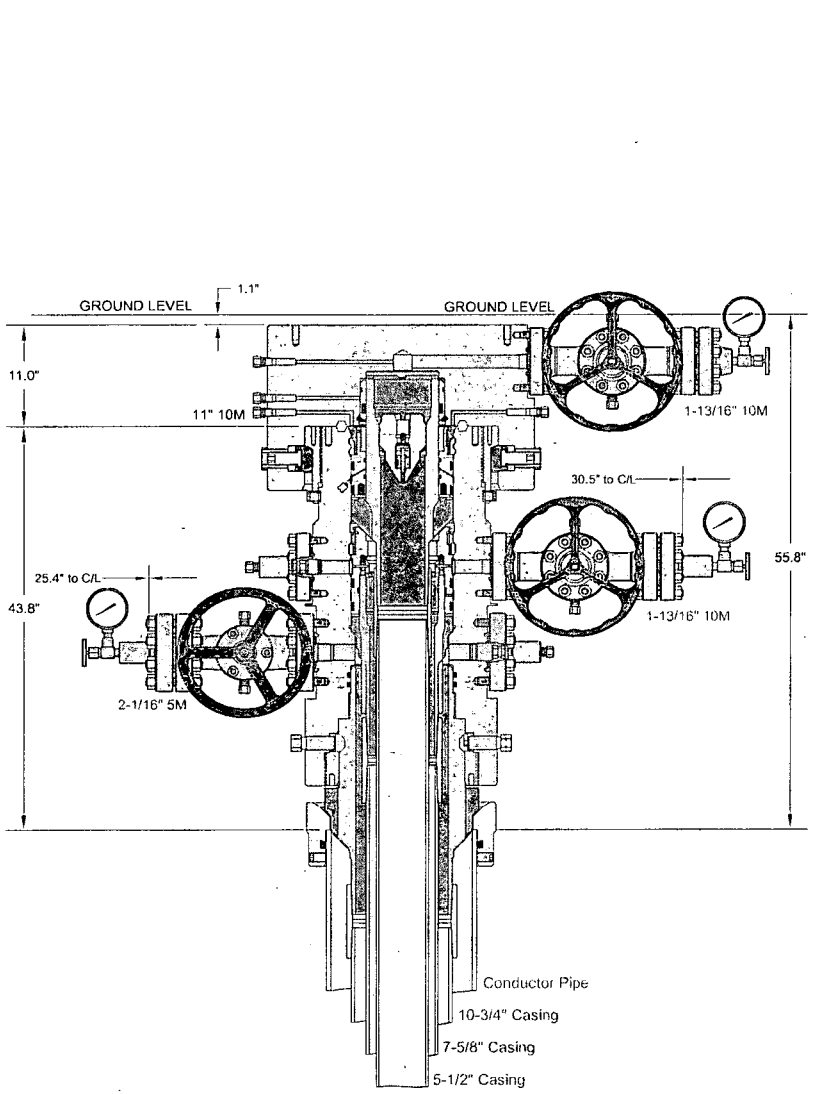
dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

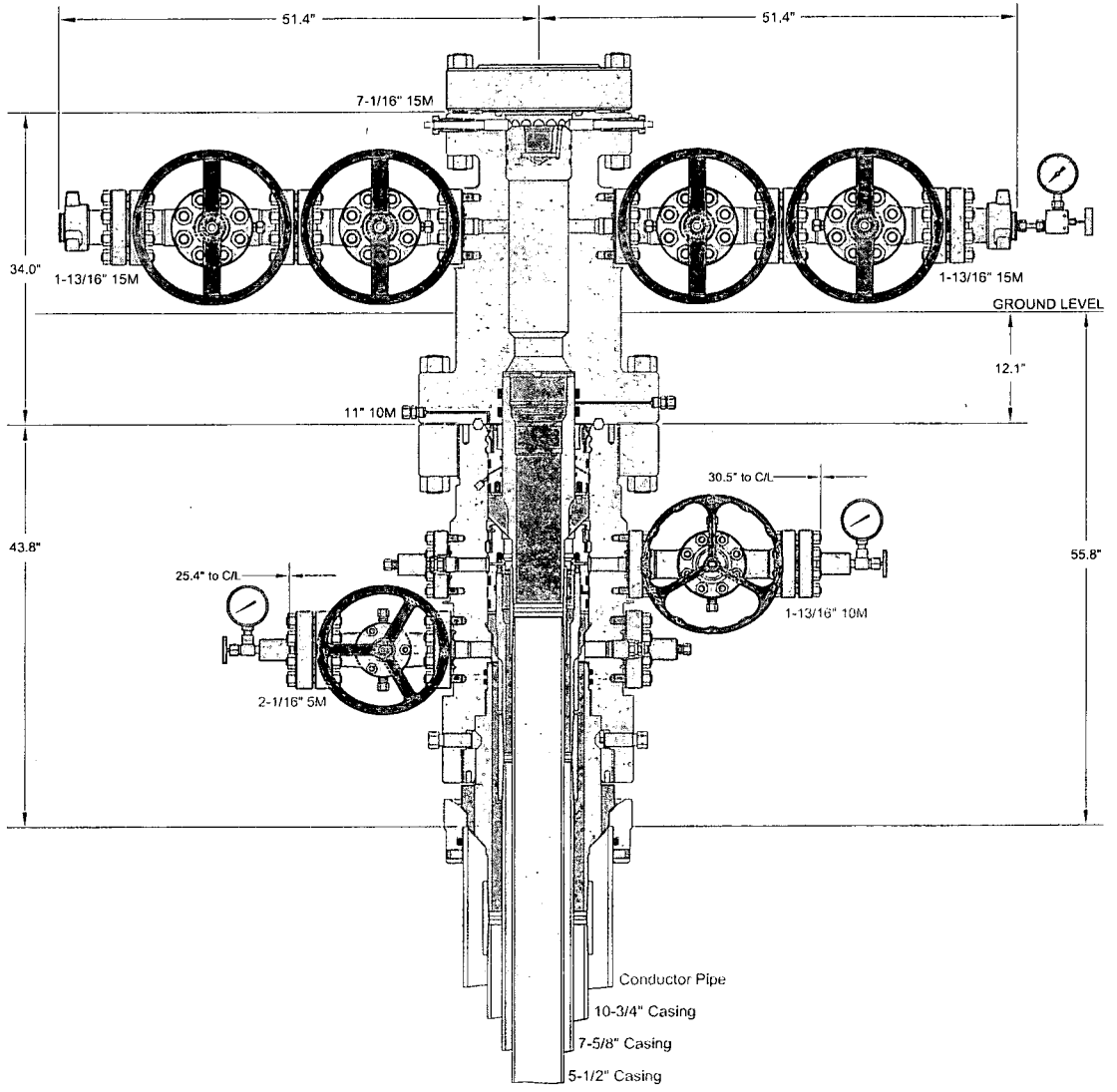
These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the 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

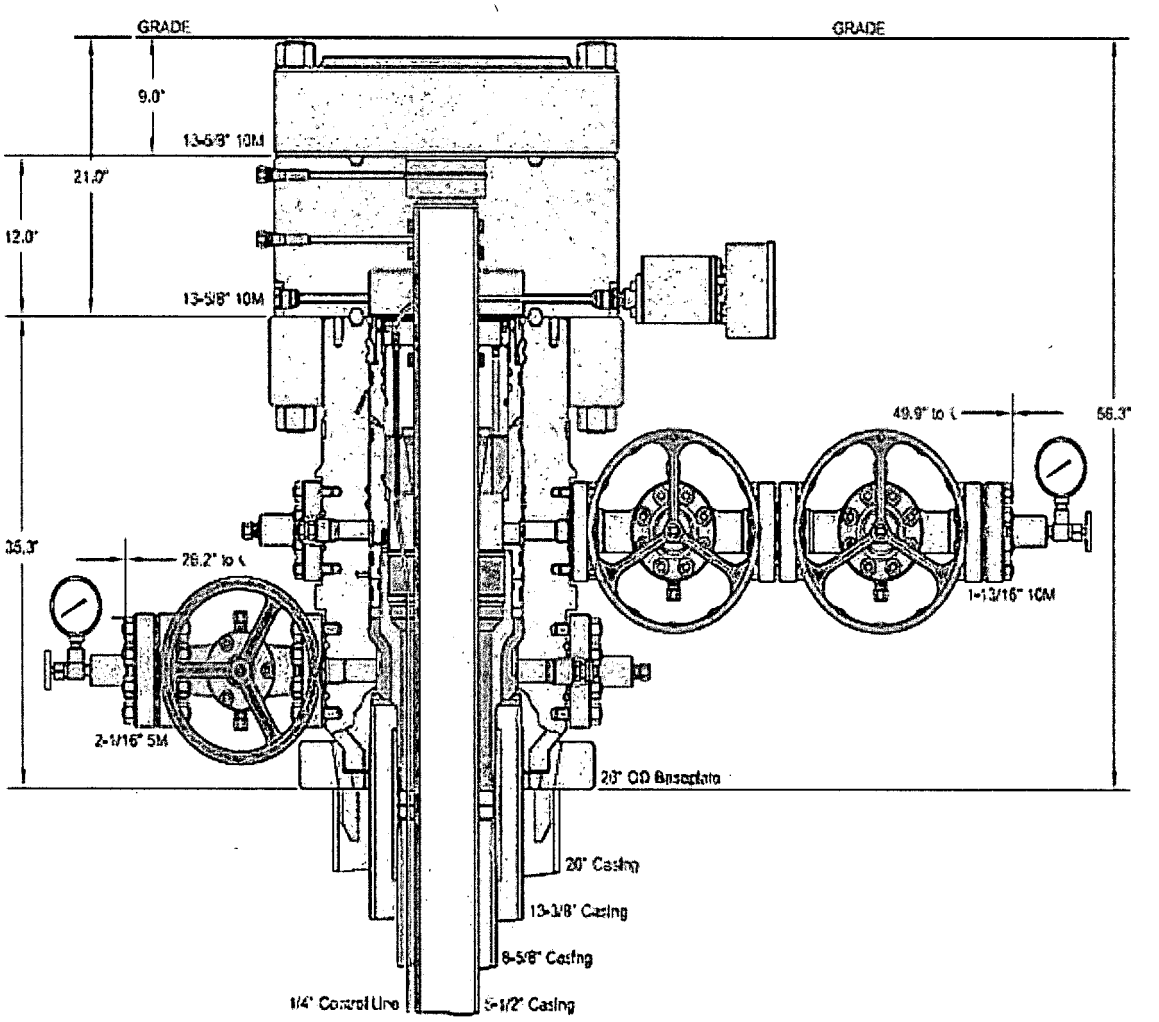
10-3/4" x 7-5/8" x 5-1/2" 5M MBU-T-CFL-R-DBLO Wellhead System
With 7-5/8" & 5-1/2" Pin Down Rotating Mandrel Hangers,
13-5/8" 5M x 11" 10M DSPA & 11" 10M x 7-1/16" 15M Tubing Head

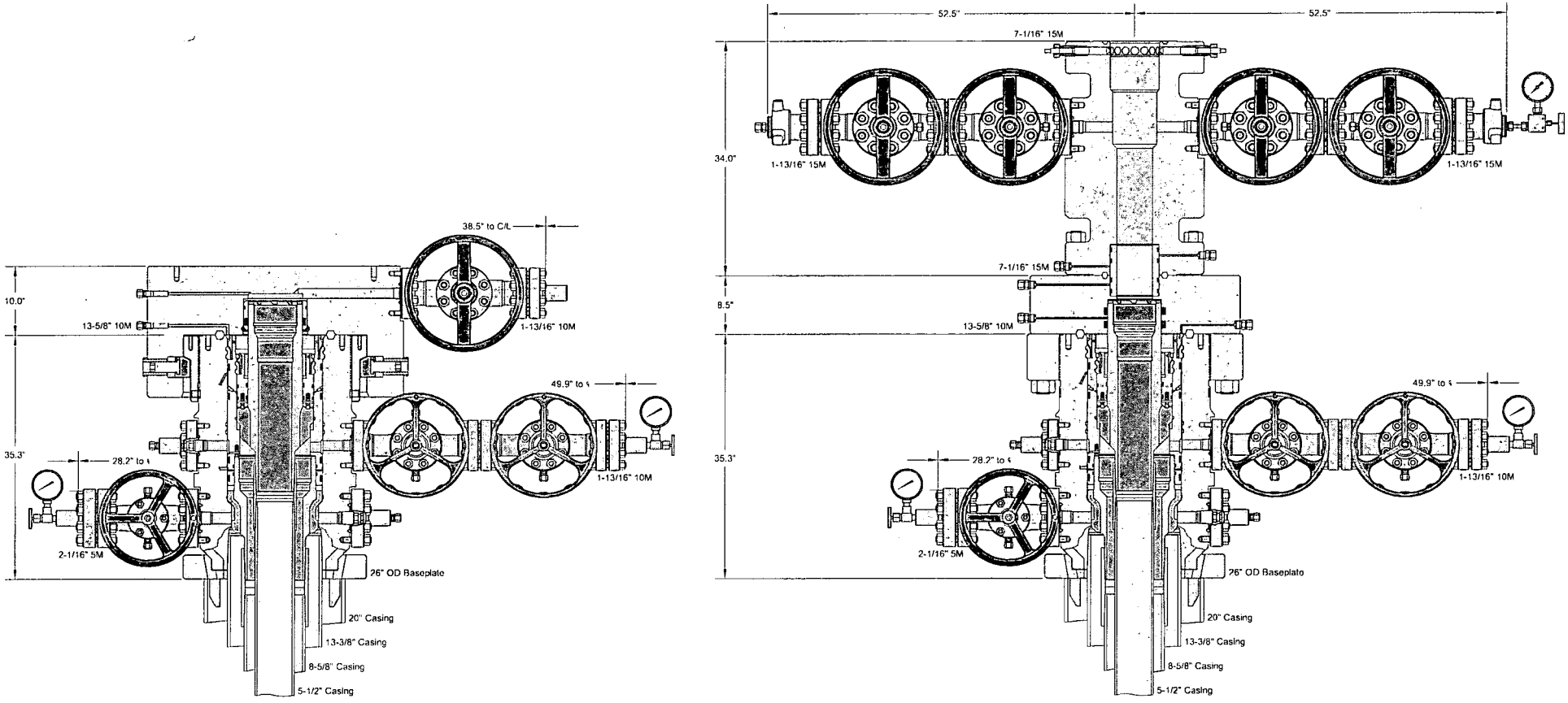
DRAWN	DLE	20NOV18
APPRV		
DRAWING NO.	ODE0001804	

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 4 1/16" Flange end	720 719	AISI 4130 AISI 4130	C7626 47357

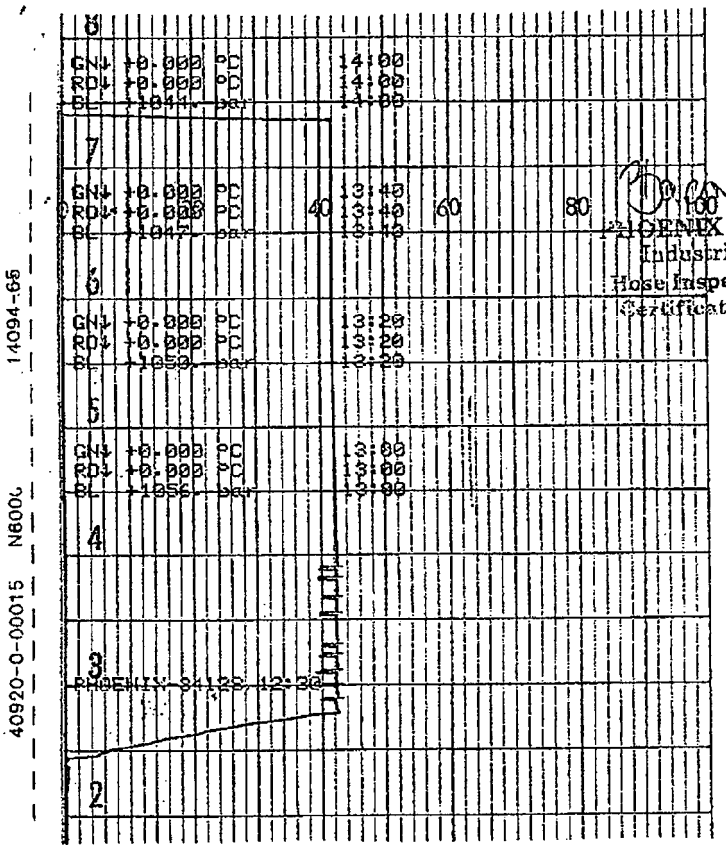
API Spec 16 C
Temperature rate:"B"

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 I.C.

APD ID: 10400037339 **Submission Date:** 12/14/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 702H

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_702H_EX_RD_20181214141014.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_20181214141136.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:

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_702H_OneMileBuffer_WA017301190_20181214141250.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:** 702H

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:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 702H

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: 1636 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:** 702H

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

RIG_LAYOUT_20181214141507.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_702H_RECLAMATION_20181214141520.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.

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 702H

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

Total pounds/Acre:

Seed Type	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:** 702H

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:** 702H

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

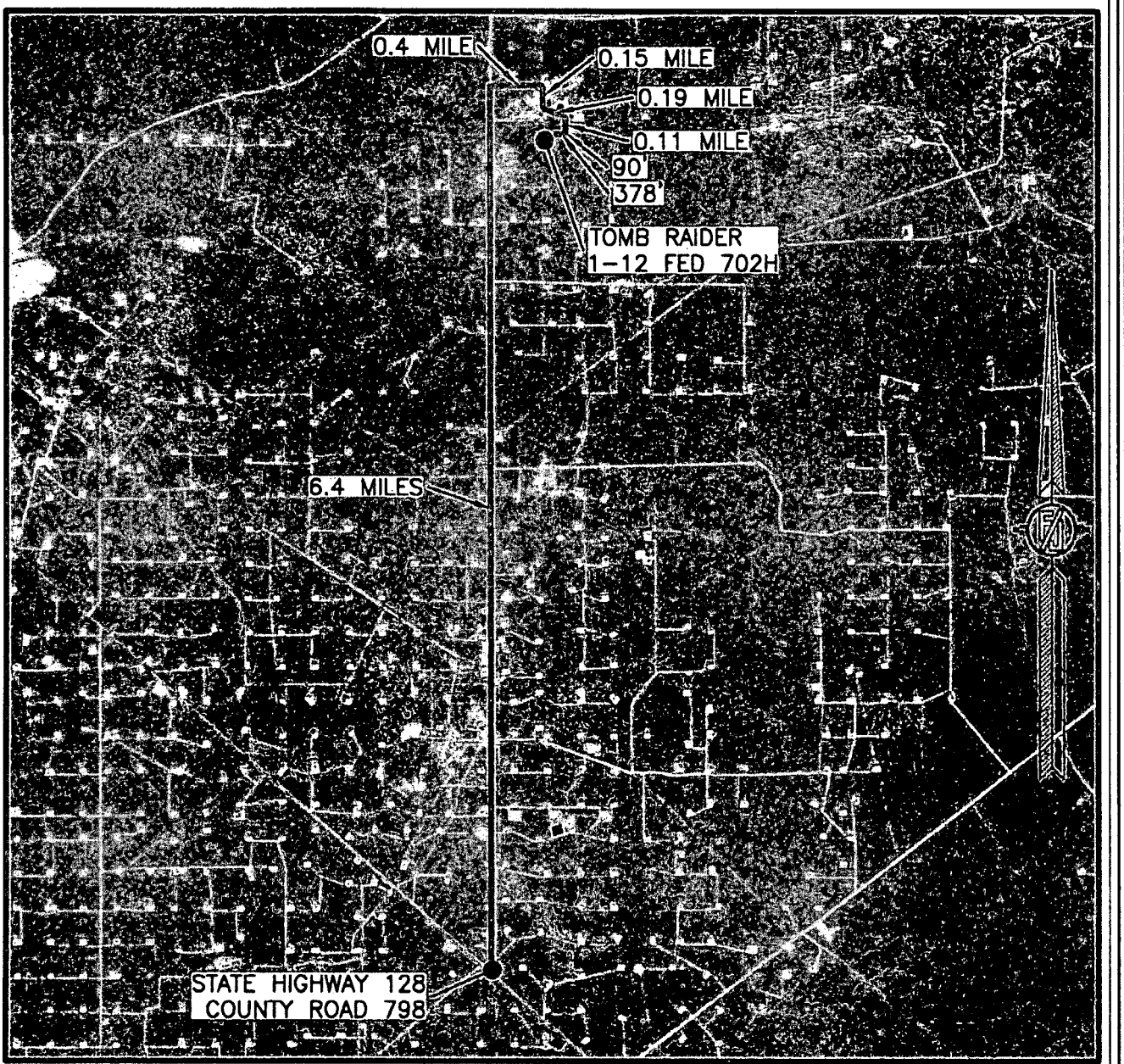
EL7834_FINAL_TODD_APACHE_1_1_PAD_1_PAD_ELECTRIC_P_20181214141817.PDF

Pay.gov___Receipt_332H_702H_732H_612H_20181214151801.pdf

7660153F_6FL_1GL_TA_1_1_PAD_1_TA_1_1_CTB_1_P_BURIED_4_16_2019_20190416141648.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 702H

LOCATED 210 FT. FROM THE NORTH LINE
AND 2169 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. 6666

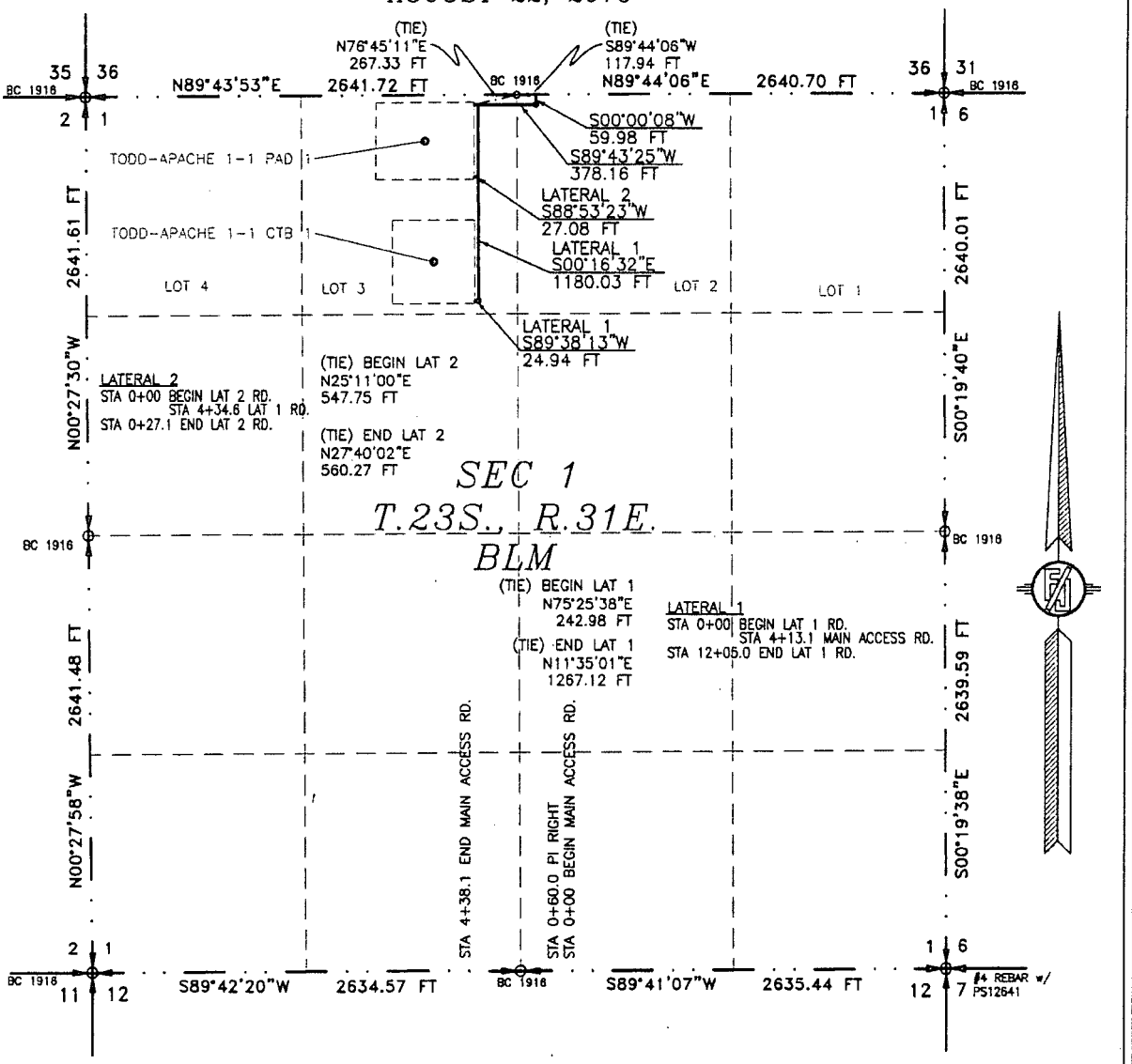
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

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

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

SHEET: 2-4

SURVEY NO. 4864

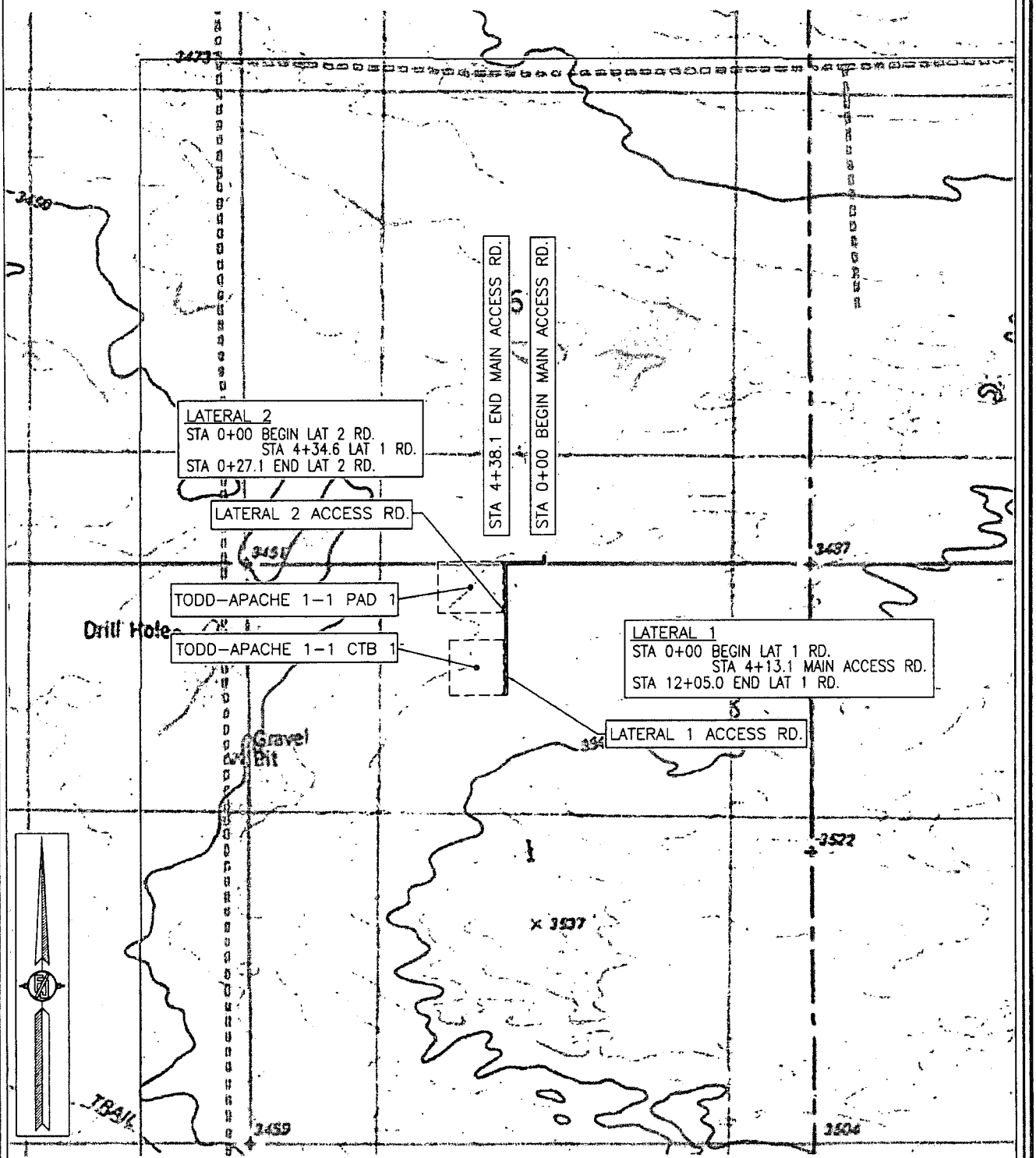
MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

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



SHEET: 3-4

SURVEY NO. 4864

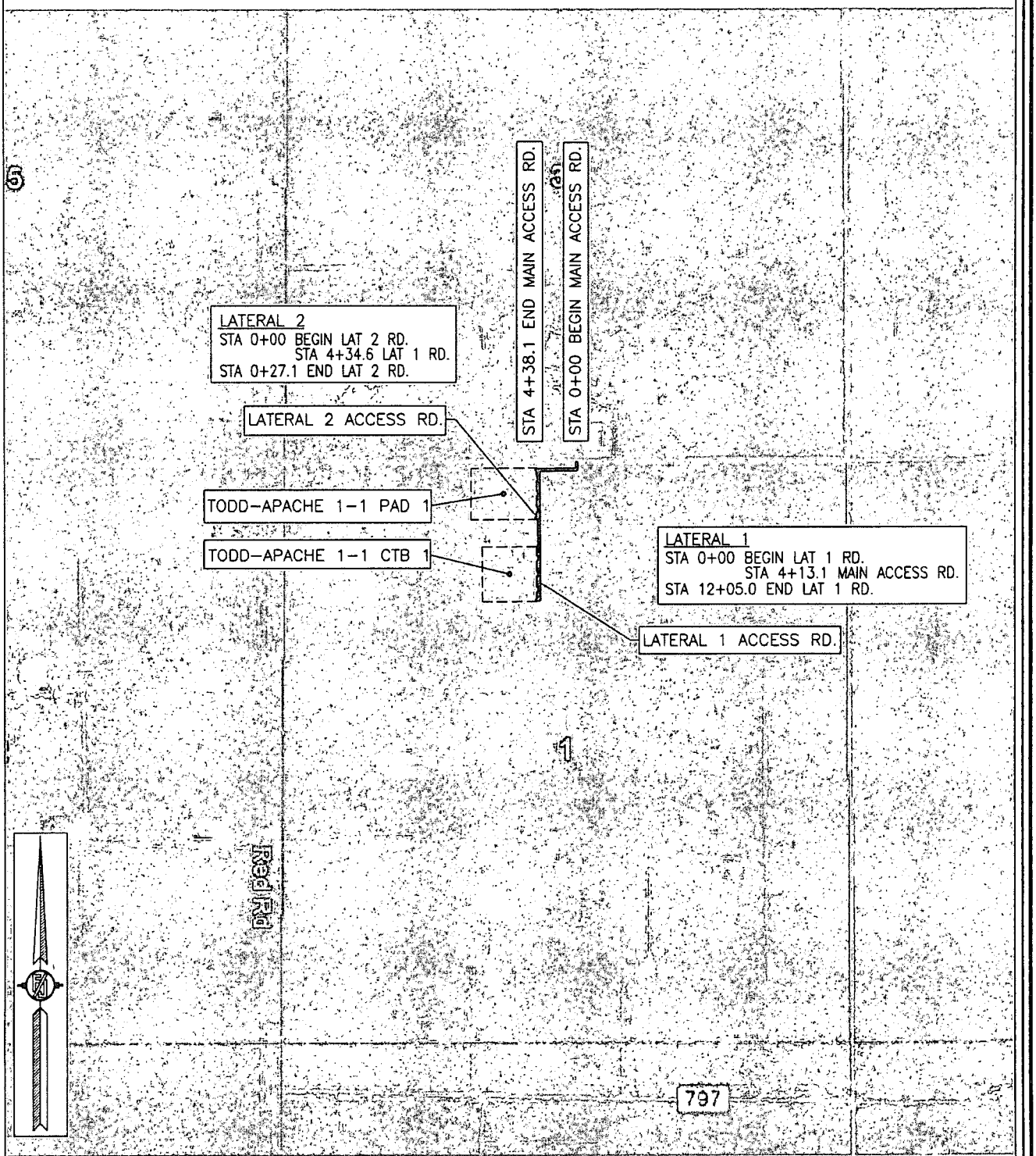
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

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

TOMB RAIDER 1-12 FED 702H
WA017301190

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

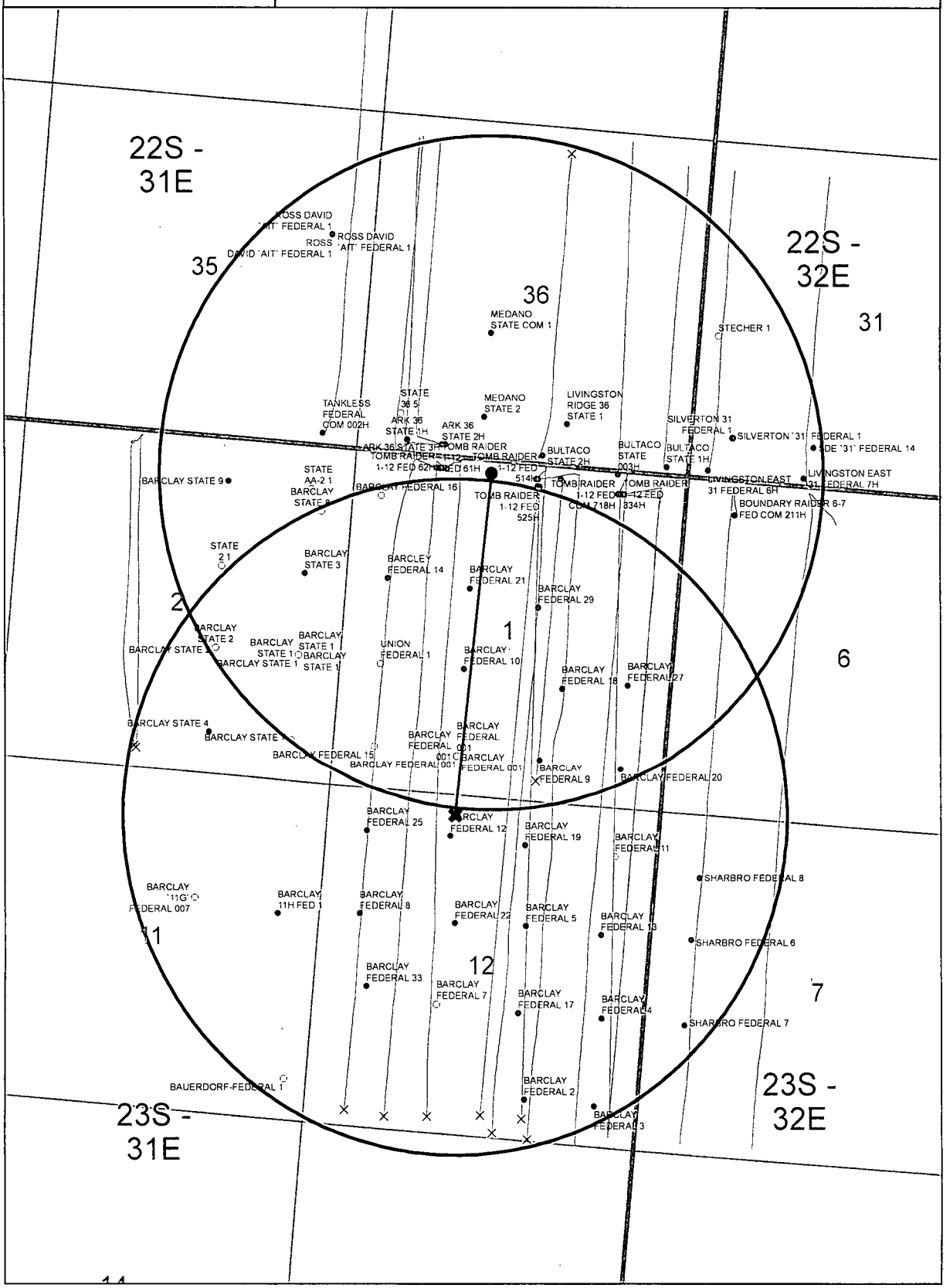
N

Miles
0 0.255 1 inch = 0.34 miles

TOMB RAIDER 1-12 FED 62H
Nearest wellbore to SHL: 497 ft.

TOMB RAIDER 1-12 FED 62H
Nearest wellbore to BHL: 295 ft.

- ○ Unknown SHL
- • Active SHL
- ○ Inactive SHL
- × BHL



TOMB RAIDER 1-12 FED
332H/612H/702H/732H

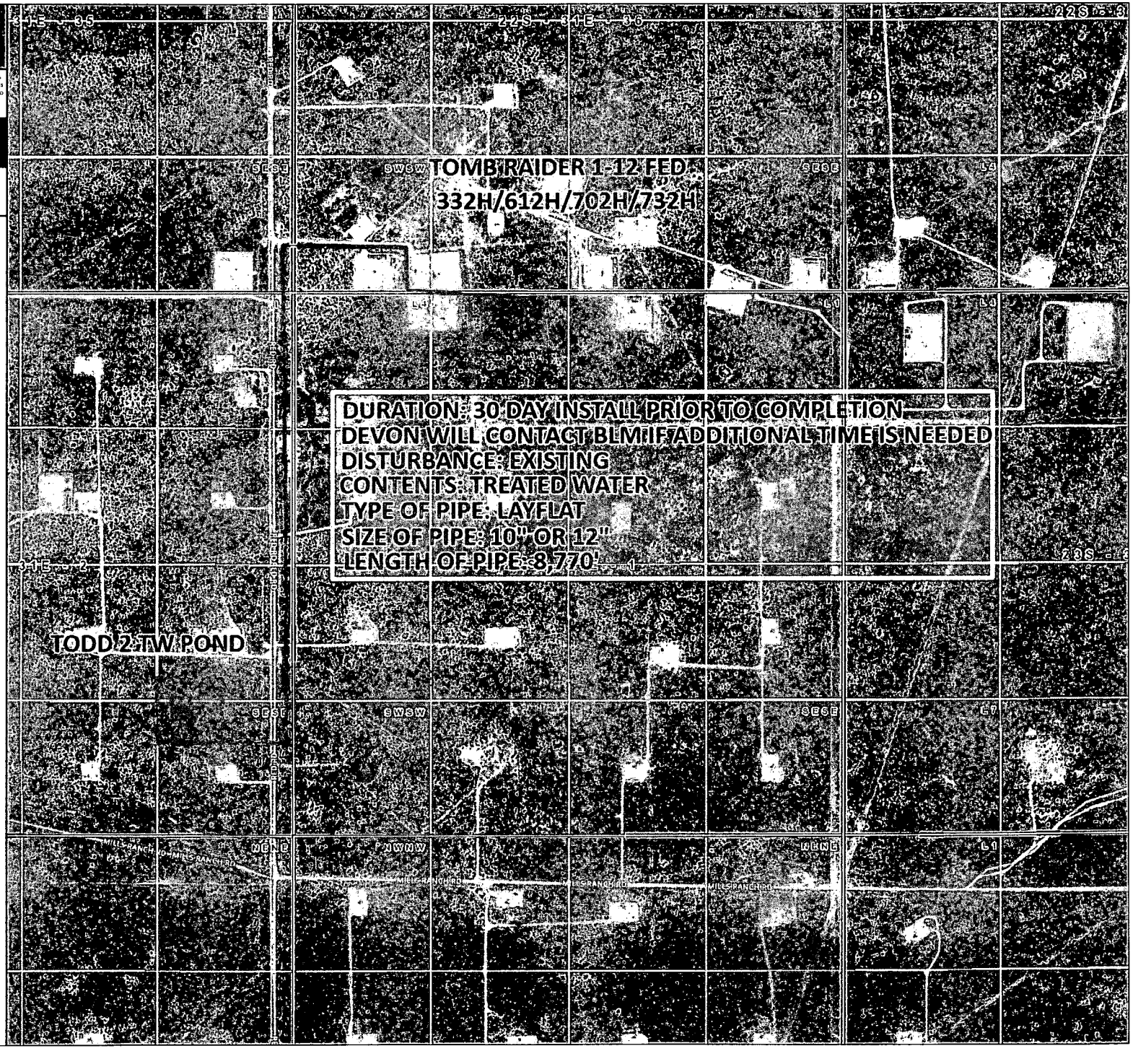
devon

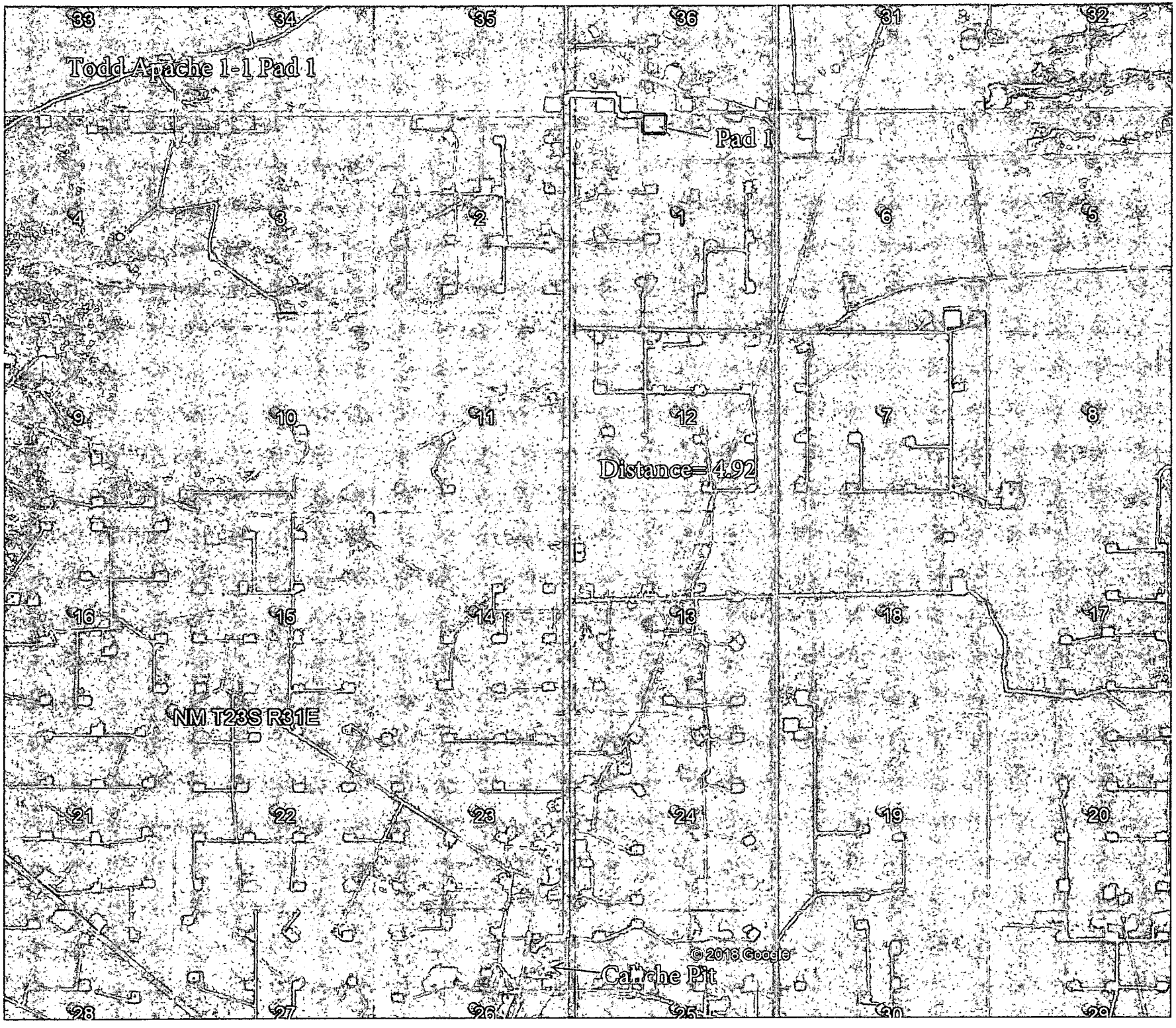
This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere
Prepared by: _User
Map is current as of: 07-Dec-2018

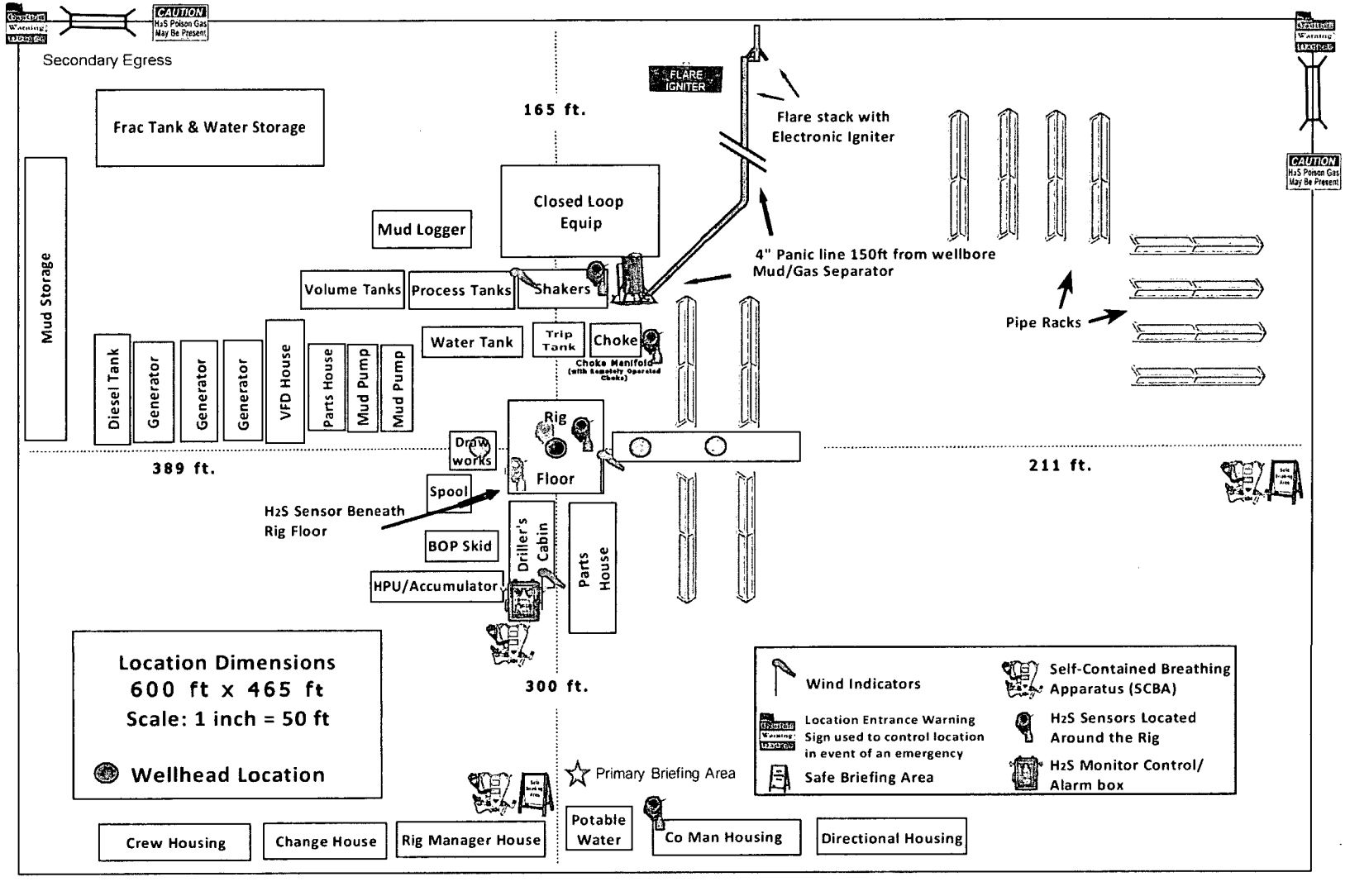
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Miles
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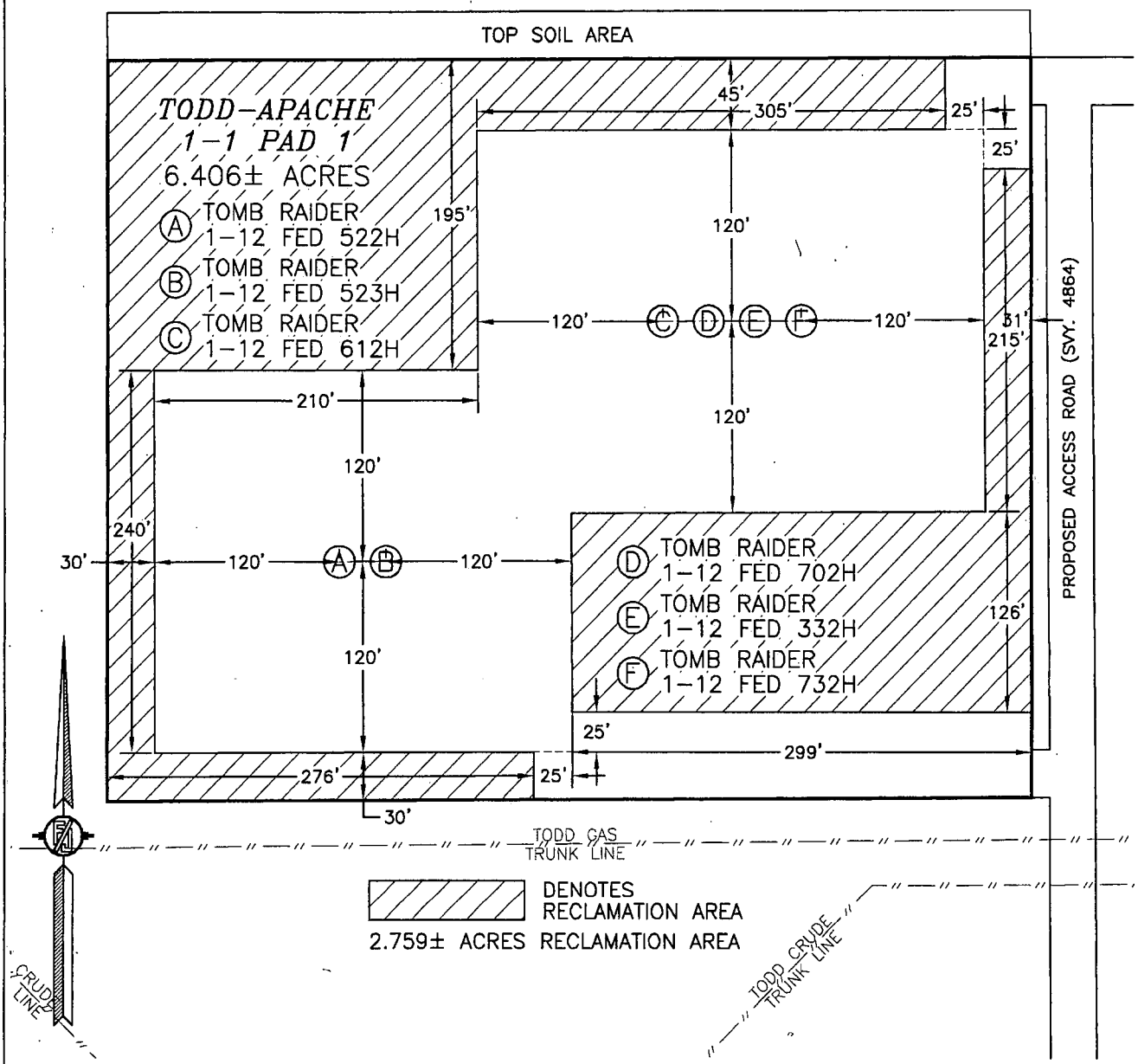



Todd Apache 1-1 Pad 1
Pad 1
Distance= 4.92
NM T23S R31E
Caliche Pit
© 2018 Google
33
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Devon Energy - Well Pad
Rig Location Layout
Safety Equipment Location



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 702H

LOCATED 210 FT. FROM THE NORTH LINE AND 2169 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. 6666

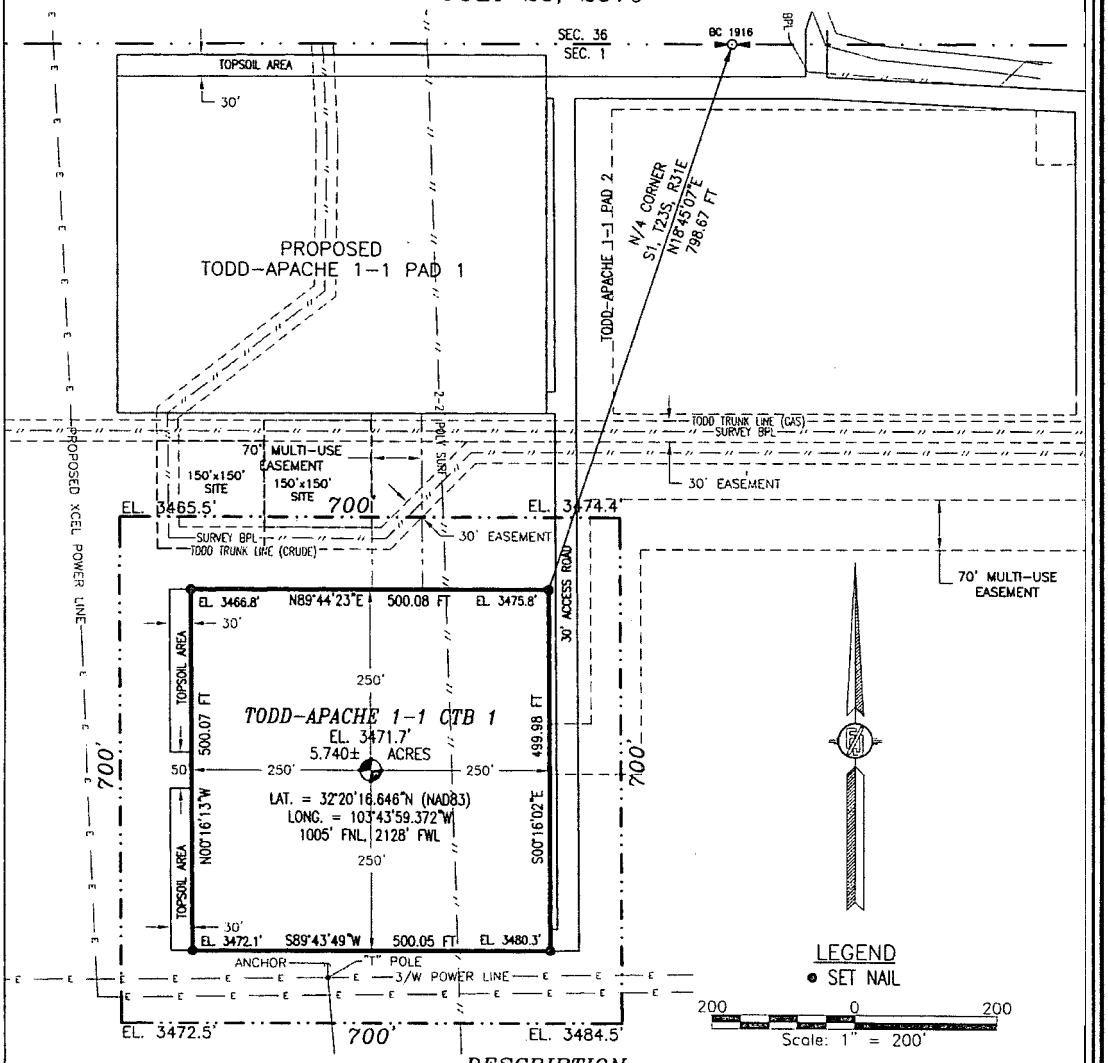
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

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
12797
REGISTERED
PROFESSIONAL
SURVEYOR

FILIMON F. JARAMILLO NO. 12797
301 SOUTH CANAL
(575) 234-3341

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

SHEET: 1-3

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

SURVEY NO. 4527D

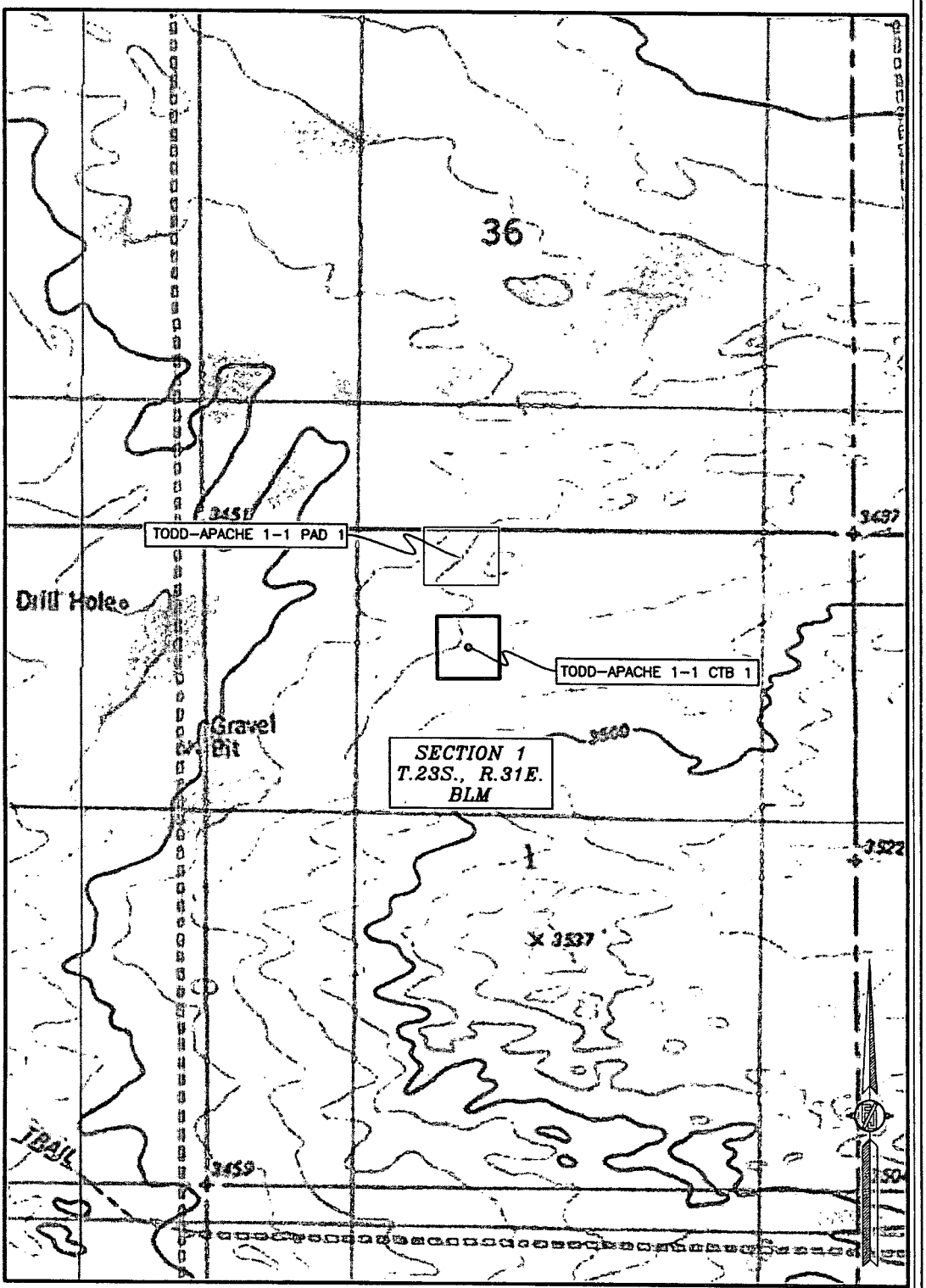
TODD-APACHE 1-1 CTB 1 (AA000056016)

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

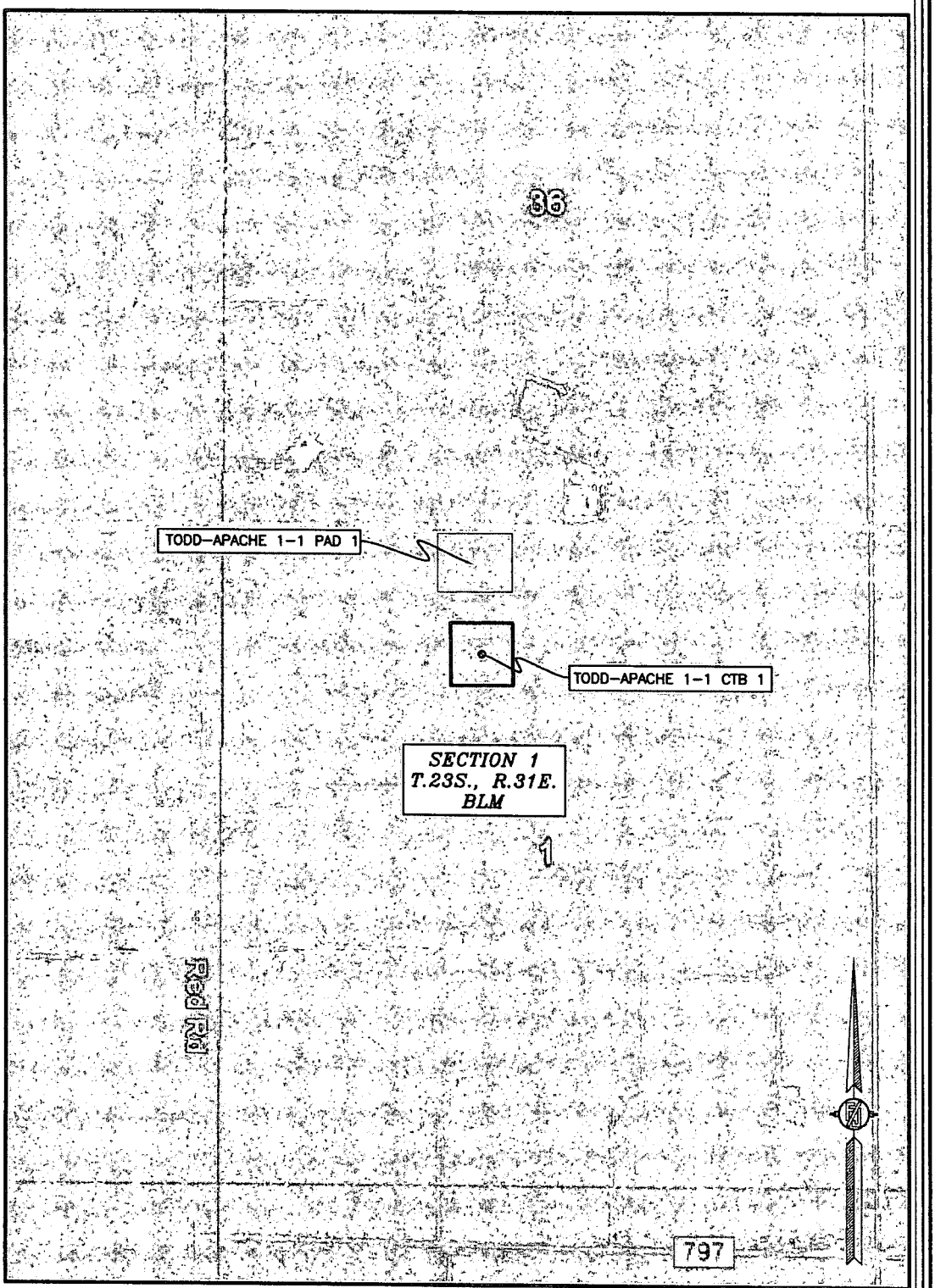
TODD-APACHE 1-1 CTB 1 (AA000056016)

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

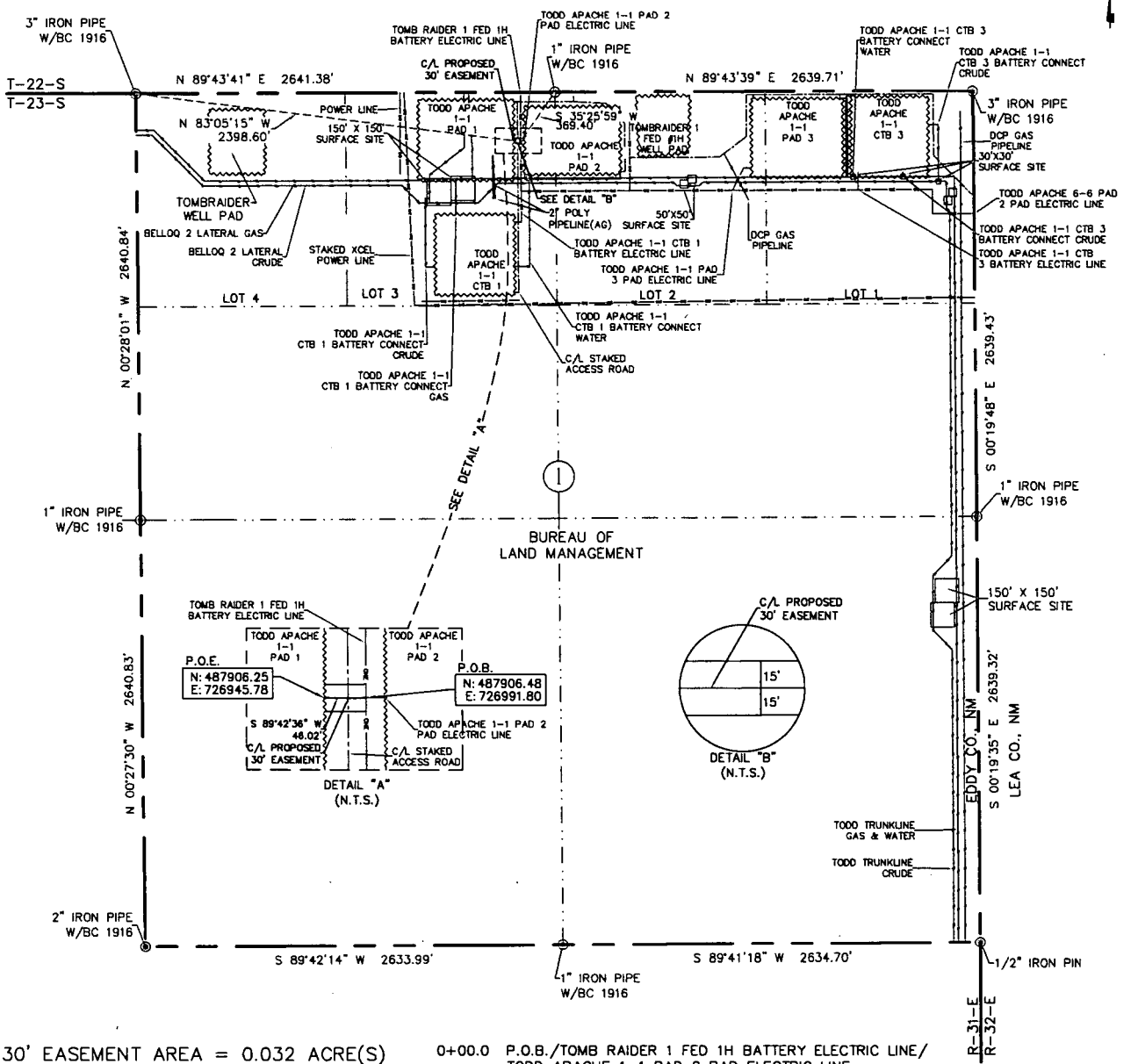


SHEET: 3-3

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.

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 Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. TODD APACHE 1-1 PAD 1 PAD ELECTRIC LINE	LINE NUMBER: EL7834
		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:

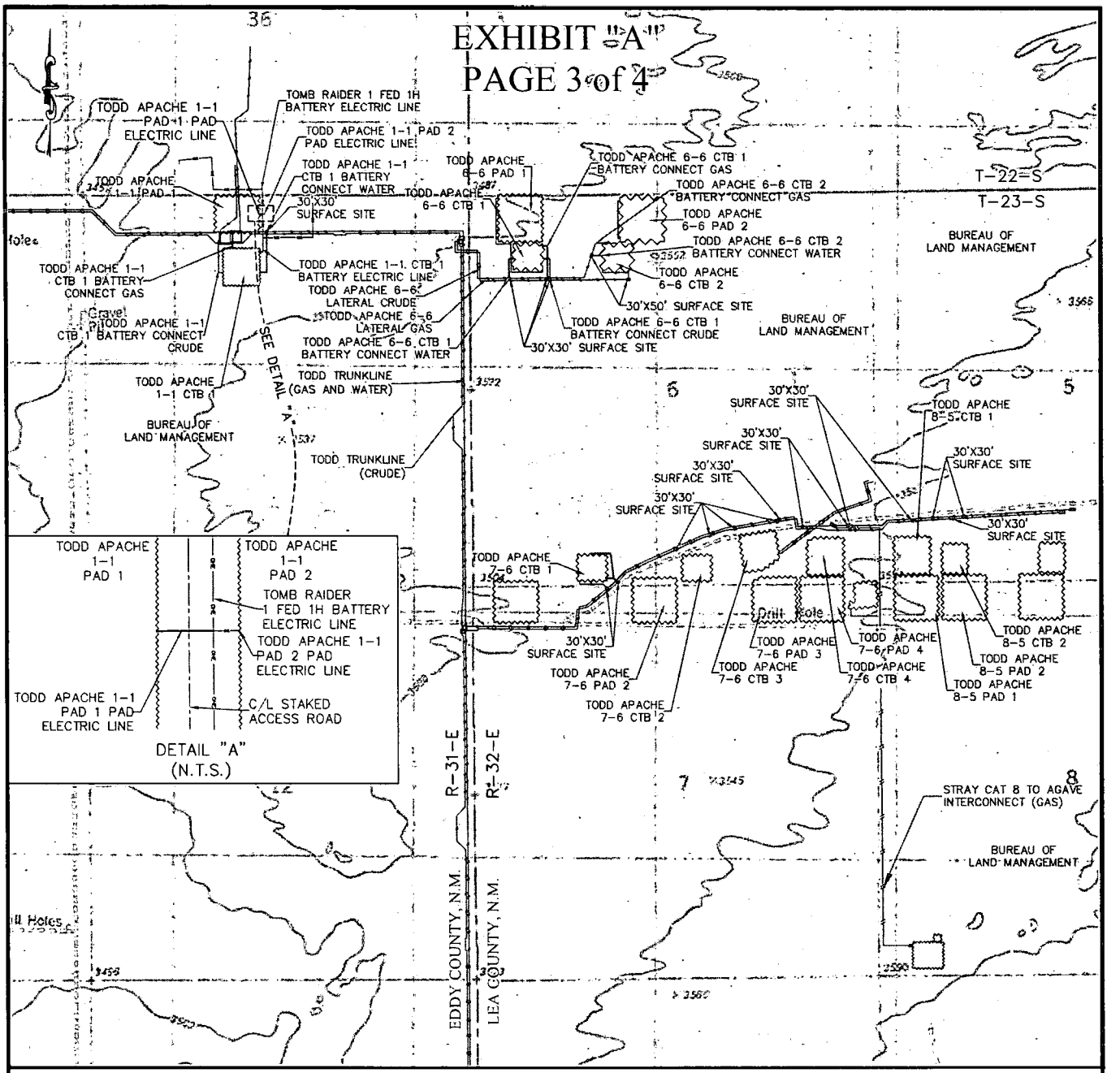
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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



EXHIBIT "A"
PAGE 3 of 4

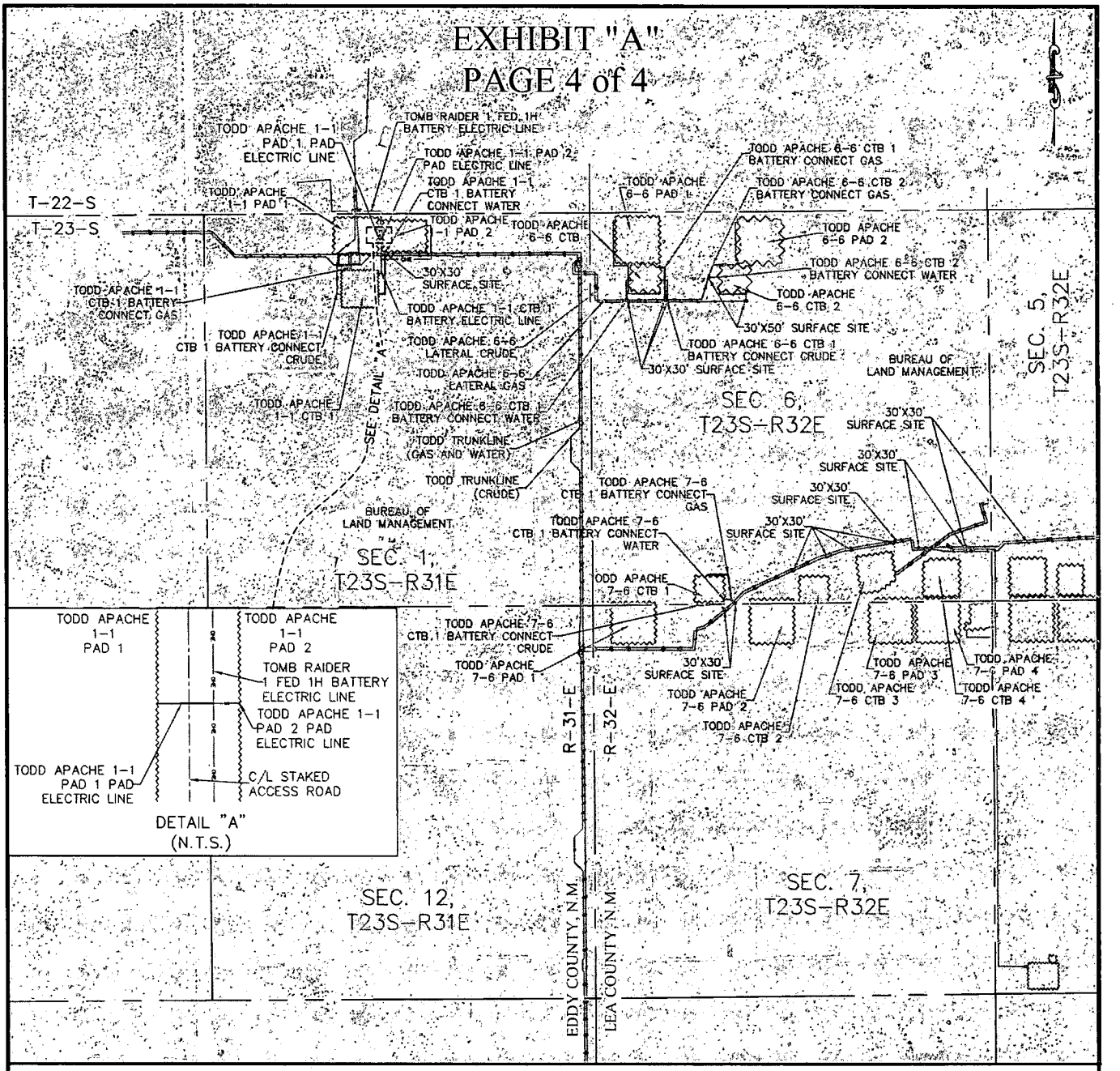


QUAD MAP

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

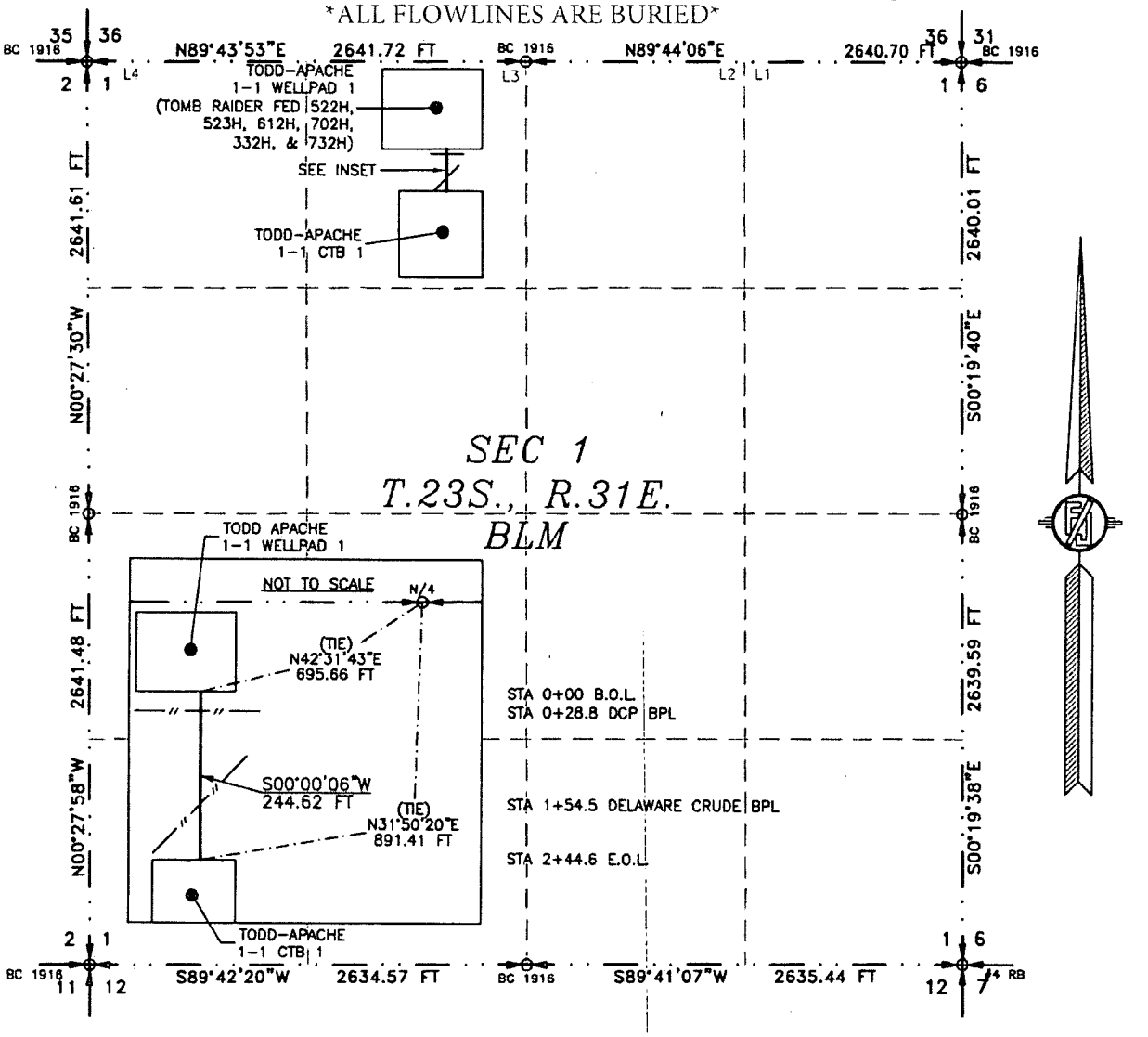
FLOWINE PLAT

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 ARE 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 26 DAY OF NOVEMBER 2018

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

FILIMON F. JARAMILLO, PLS, 12797

301 SOUTH CANAL
(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 ARE 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

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

FILIMON F. JARAMILLO NO. 12797

301 SOUTH CANAL
(575) 234-3341

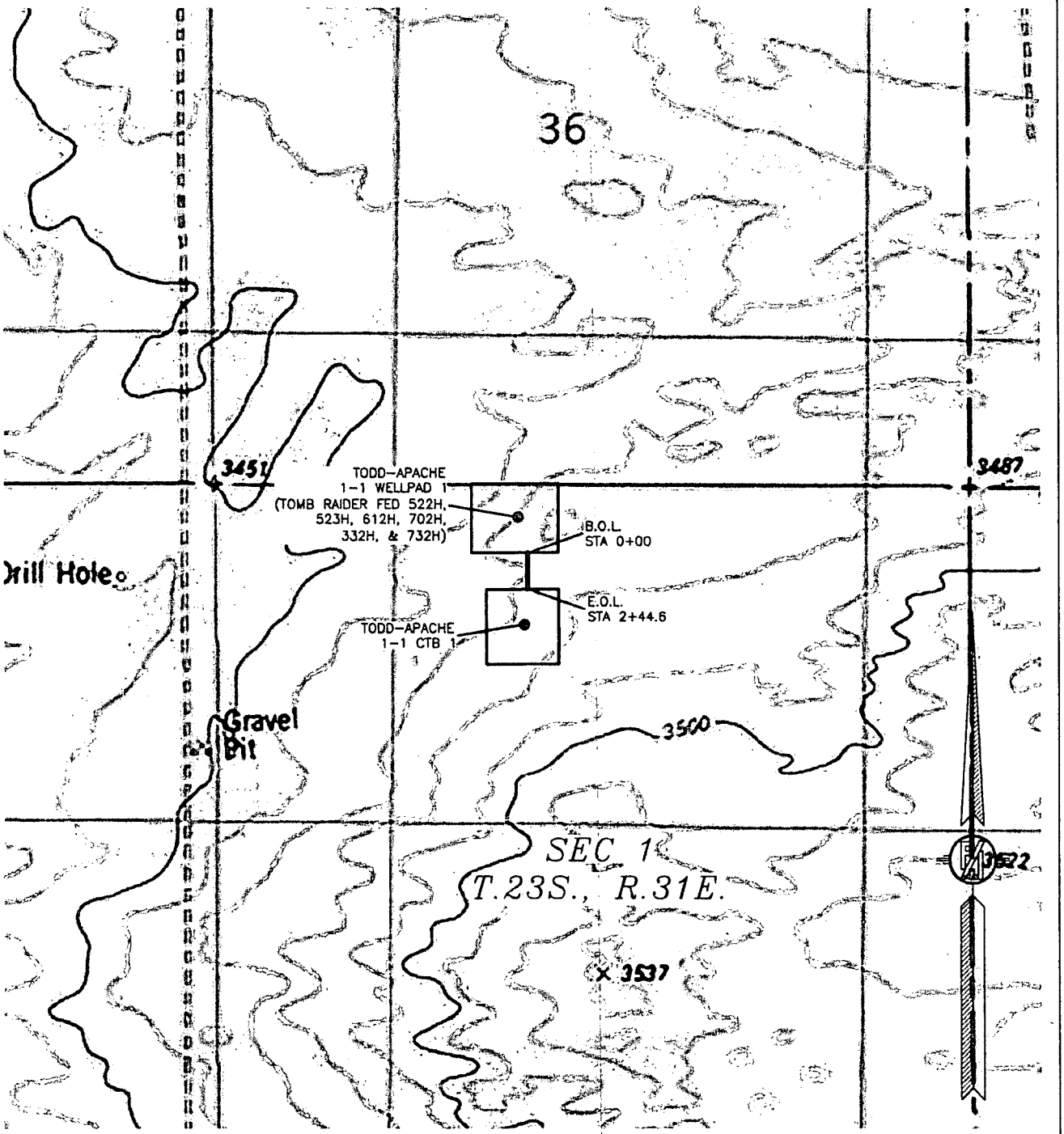
FLOWINE PLAT

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 ARE BURIED



SHEET: 3-4 *SURVEY NO. 6668*

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

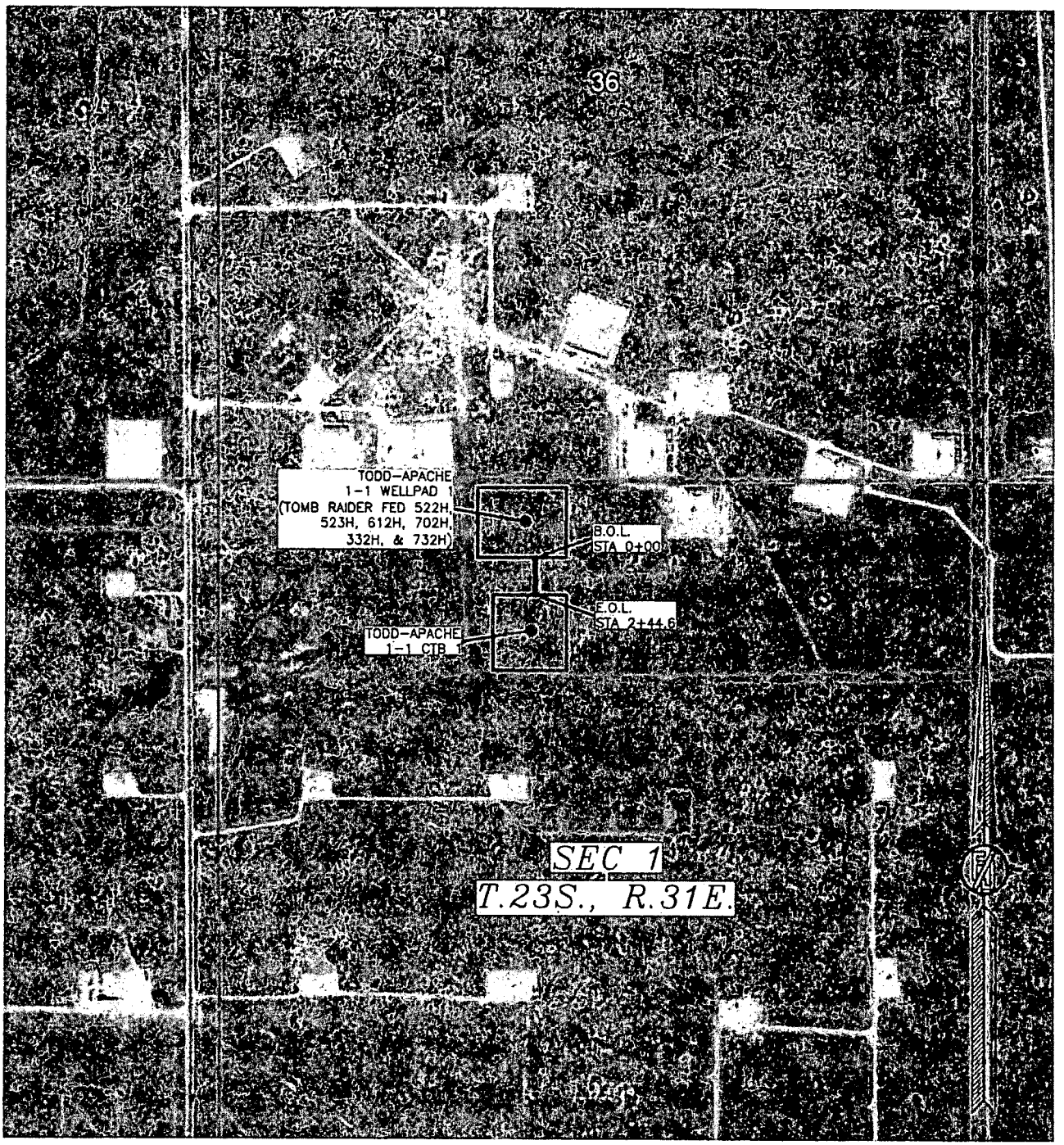
FLOWINE PLAT

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 ARE BURIED



SHEET: 4-4

SURVEY NO. 6668

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

ALL FLOWLINES ARE BURIED

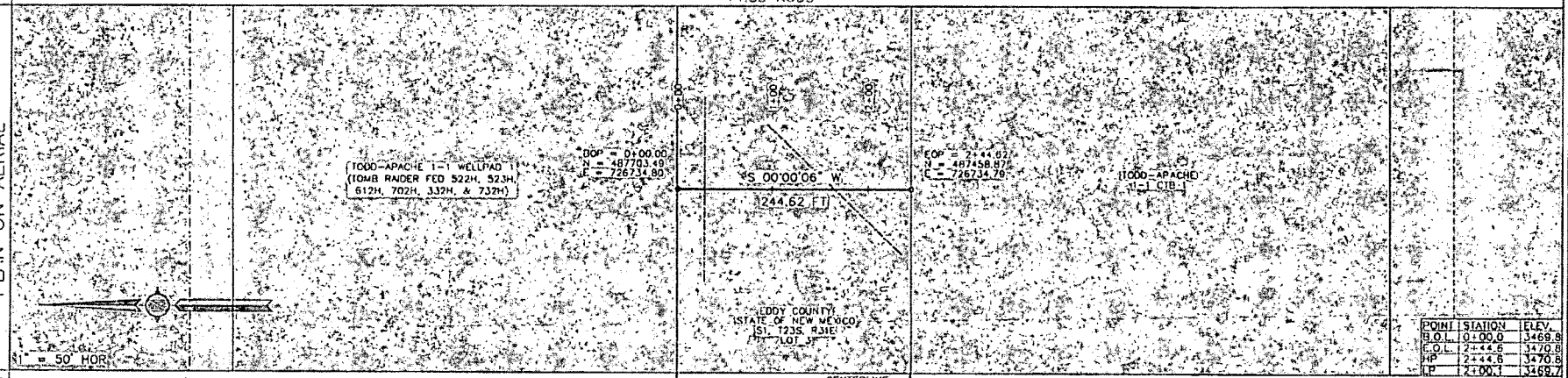
S1, T23S, R31E

EDDY COUNTY, STATE OF NEW MEXICO
BUREAU OF LAND MANAGEMENT LAND
244.62 L.F.
14.83 RODS

OWNERSHIP

PLAN ON AERIAL

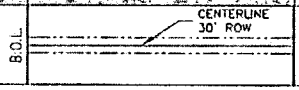
1" = 50' HOR.



POINT	STATION	ELEV.
B.O.L.	0+00.0	3468.8
E.O.L.	2+44.6	3470.8
HP	2+44.6	3470.8
EP	2+00.1	3469.7

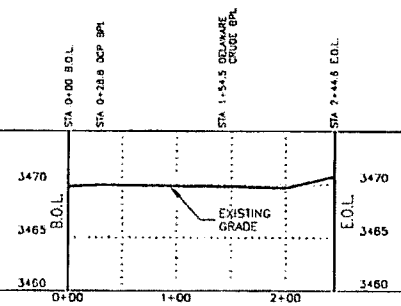
EASEMENT

N.T.S.



STATIONING

PROFILE



1" = 5' VER

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	LEN. FT.	O.D.	W.T.	GRADE	D.P.	EST. PRESS. MIN.	TEST DUR. HR.

BILL OF MATERIAL

X-RAY REQUIREMENTS

RECORD

APPROVED FOR CONSTRUCTION
NOVEMBER 6, 2018

DEVON ENERGY PRODUCTION COMPANY, L.P.

SCALE
1"=50'

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: