

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMNM22080

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

TOMB RAIDER 1-12 FED 512H

2. Name of Operator

DEVON ENERGY PRODUCTION COMPANY

Contact: CHANCE BLAND

E-Mail: chance.bland@devon.com

9. API Well No.

30-015-43593-00-X1

3a. Address

6488 SEVEN RIVERS HIGHWAY
ARTESIA, NM 88211

3b. Phone No. (include area code)

Ph: 405-693-9277

10. Field and Pool or Exploratory Area
LIVINGSTON RIDGE

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 1 T23S R31E NENW 200FNL 1410FWL

11. County or Parish, State

EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent☐ Subsequent Report☐ Final Abandonment Notice☐ Acidize☐ Alter Casing☐ Casing Repair☐ Change Plans☐ Convert to Injection☐ Deepen☐ Hydraulic Fracturing☐ New Construction☐ Plug and Abandon☐ Plug Back☐ Production (Start/Resume)☐ Reclamation☐ Recomplete☐ Temporarily Abandon☐ Water Disposal☐ Water Shut-Off☐ Well Integrity☒ Other
Change to Original APD

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

1. SUMMARY OF CHANGES:

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

NM OIL CONSERVATION

ARTESIA DISTRICT

DEC 04 2017

Change the name from Tomb Raider 1 Fed 4H to Tomb Raider 1-12 Fed 512H

Change the surface hole 50? from 200 FNL 1410 FWL to 200 FNL 1460 FWL (see plat)

Change the Bottom Hole from 1-23S-31 lot M 330 FSL 990 FWL to 12-23S-31E lot M 880 FSL 1300 FWL (see plat)

RECEIVED

- 11/22/2017 Engineering Review completed by M. Hogue - 11-22-17 NRS JB USE Existing COA's

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #388401 verified by the BLM Well Information System

For DEVON ENERGY PRODUCTION COMPANY, sent to the Carlsbad

Committed to AFMSS for processing by PRISCILLA PEREZ on 10/03/2017 (18PP0064SE)

Name (Printed/Typed) CHANCE BLAND

Title AUTHORIZED REPRESENTATIVE

Signature

(Electronic Submission)

Date 09/13/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

fw FIELD MANAGER

Date

11/22/17

Conditions of approval, if any, are attached. Approval of this notice 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.

Office CARLSBAD FIELD OFFICE

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.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RW 12-5-17

1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III

1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

NM OIL CONSERVATION

ARTESIA DISTRICT

DEC 04 2017

748-9720

M 87410

RECEIVED

NM 87505
D 476 2462

State of New Mexico

Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-43593	² Pool Code 39350	³ Pool Name Livingston Ridge; Bone Spring
⁴ Property Code 316874	⁵ Property Name TOMB RAIDER 1-12 FED	⁶ Well Number 512H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3454.1

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
3	1	23 S	31 E		200	NORTH	1460	WEST	EDDY

^u Bottom Hole Location If Different From Surface

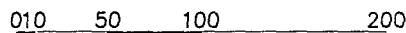
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	12	23 S	31 E		330	SOUTH	1300	WEST	EDDY

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

SITE MAP

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



FROM STATE HIGHWAY 128 AND CR 798 (RED ROAD) GO NORTH ON CR 798 6.2 MILES, TURN RIGHT ON CALICHE ROAD AND GO EAST 0.25 OF A MILE, TURN RIGHT AND GO SOUTH 486' TO THE NORTHWEST CORNER OF EXISTING PAD FOR THIS LOCATION.

AUGUST 25, 2017

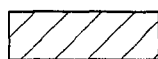
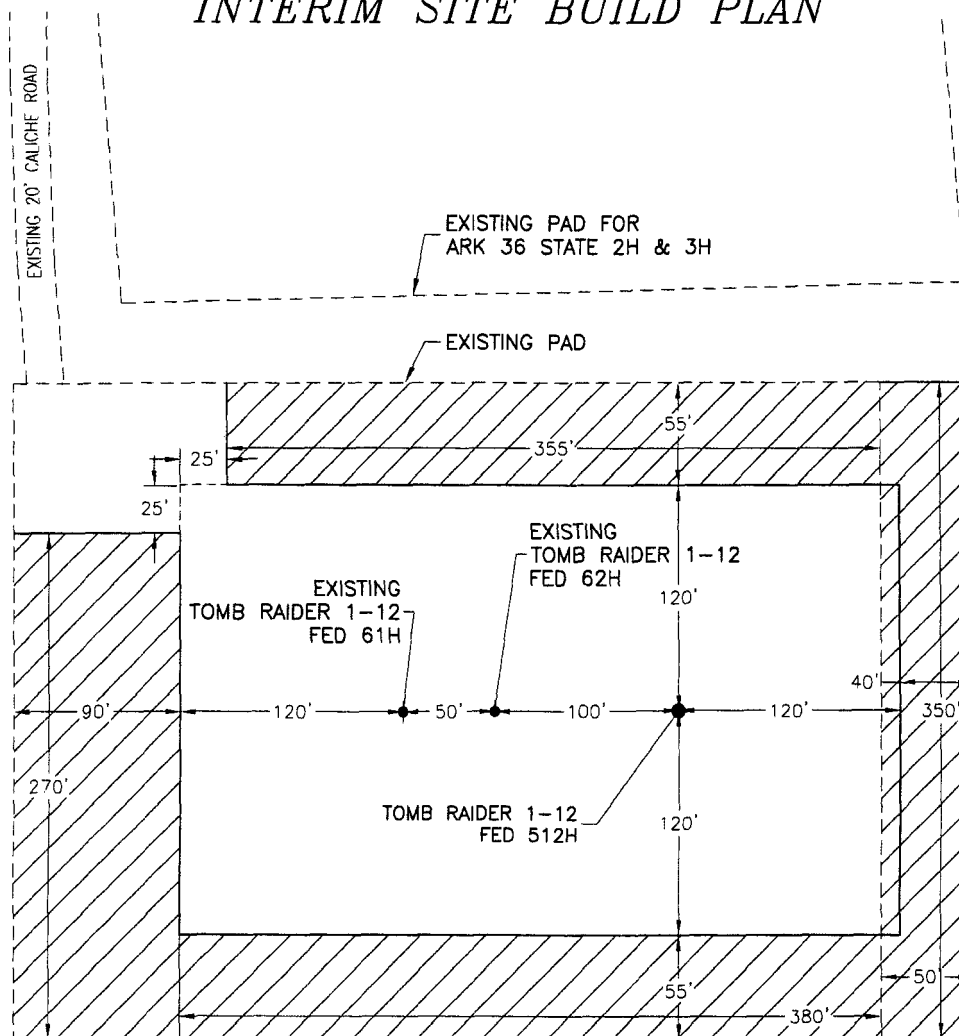
SURVEY NO. 5530

MADRON SURVEYING, INC.

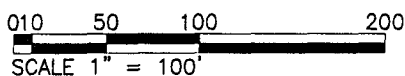
301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

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



DENOTES INTERIM PAD
RECLAMATION AREA
1.889± ACRES



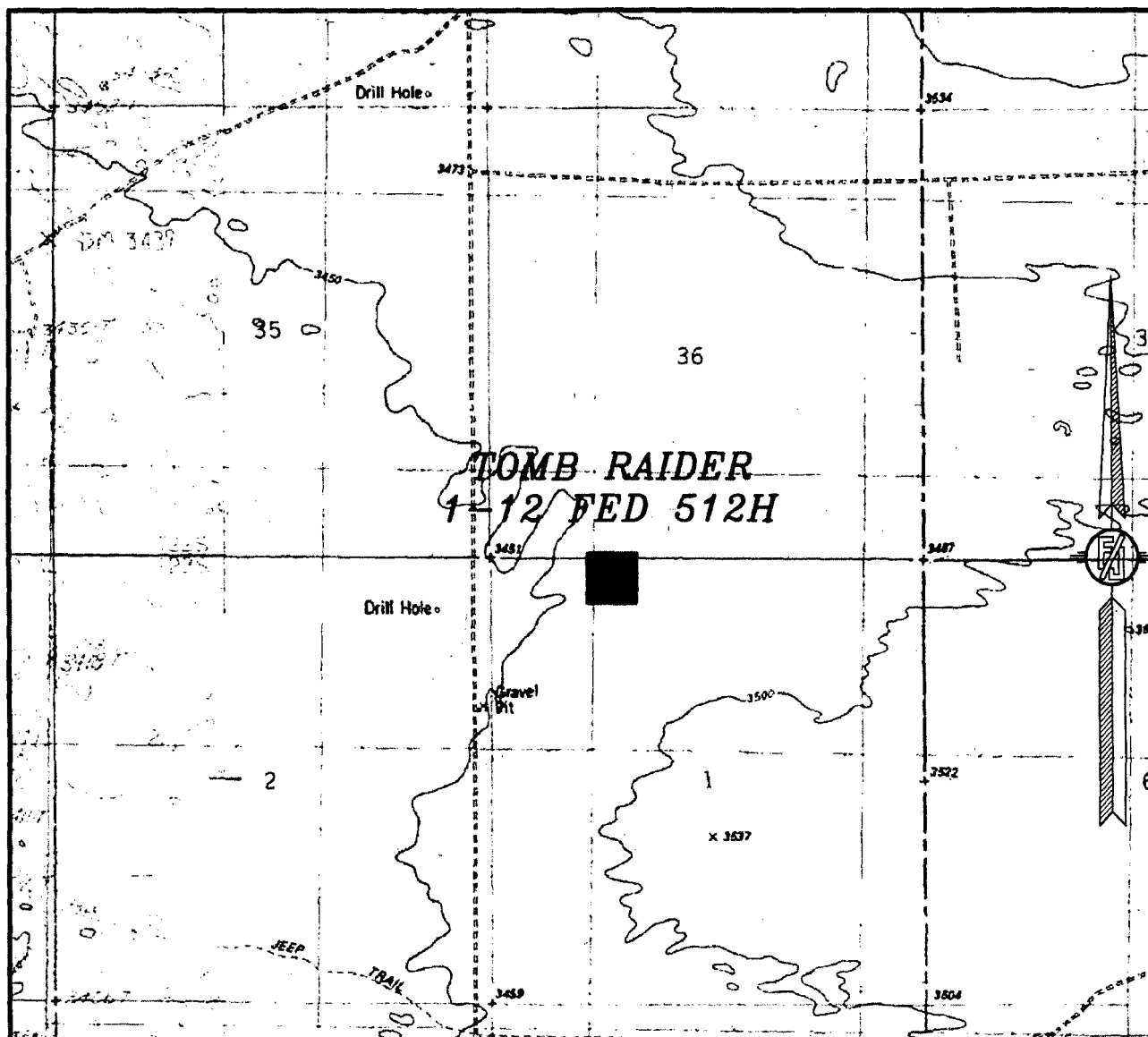
DEVON ENERGY PRODUCTION COMPANY, L.P.
TOMB RAIDER 1-12 FED 512H
LOCATED 200 FT. FROM THE NORTH LINE
AND 1460 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 25, 2017

SURVEY NO. 5530

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

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

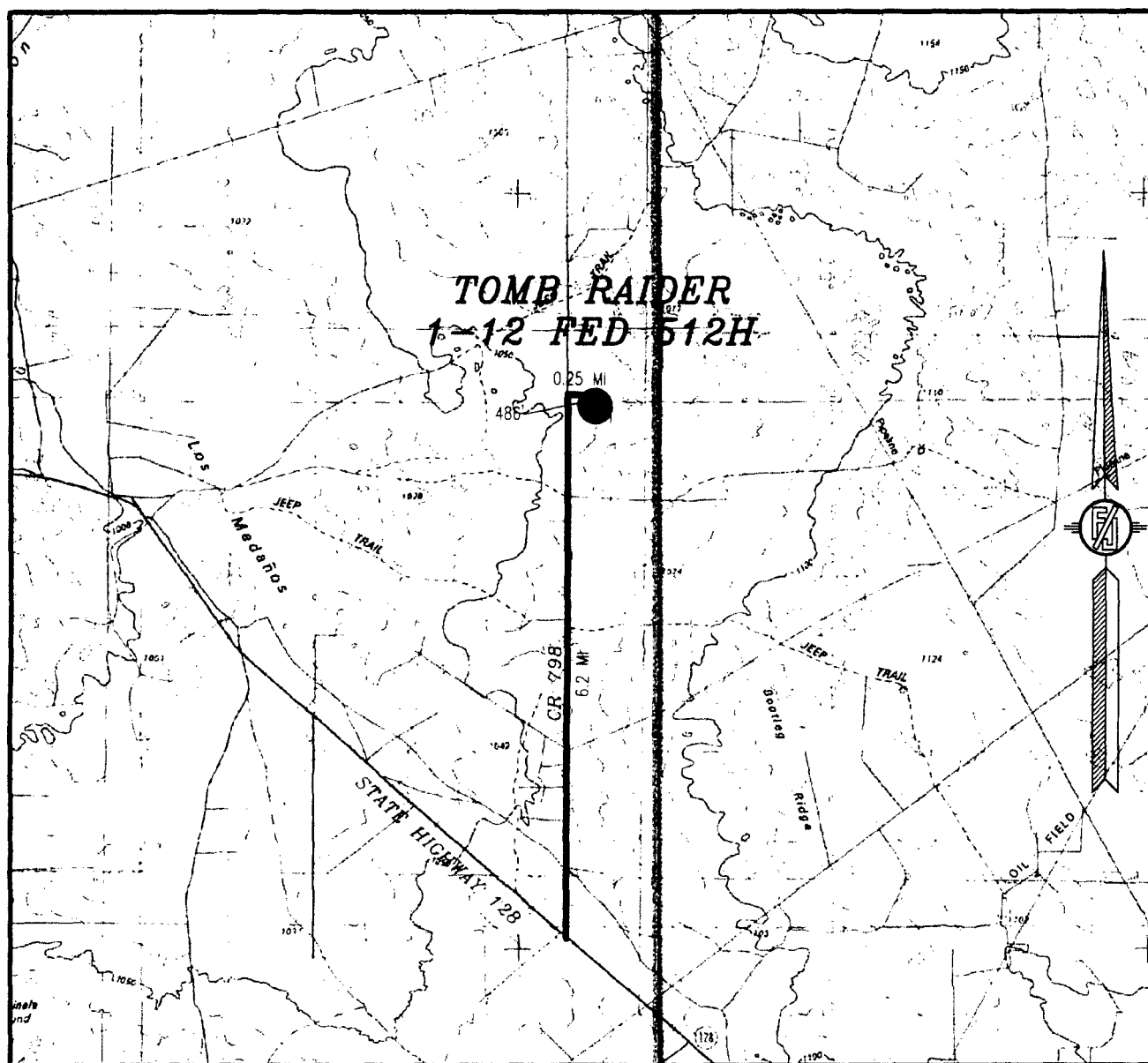
DEVON ENERGY PRODUCTION COMPANY, L.P.
TOMB RAIDER 1-12 FED 512H
LOCATED 200 FT. FROM THE NORTH LINE
AND 1460 FT. FROM THE WEST LINE OF
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RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 25, 2017

SURVEY NO. 5530

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

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

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 512H

LOCATED 200 FT. FROM THE NORTH LINE
AND 1460 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

DIRECTIONS TO LOCATION

FROM STATE HIGHWAY 128 AND CR 798 (RED ROAD) GO
NORTH ON CR 798 6.2 MILES, TURN RIGHT ON CALICHE ROAD
AND GO EAST 0.25 OF A MILE, TURN RIGHT AND GO SOUTH
486' TO THE NORTHWEST CORNER OF EXISTING PAD FOR THIS
LOCATION.

AUGUST 25, 2017

SURVEY NO. 5530

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
FEBRUARY 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 512H

LOCATED 200 FT. FROM THE NORTH LINE
AND 1460 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 25, 2017

SURVEY NO. 5530

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
ACCESS AERIAL ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEBRUARY 2017

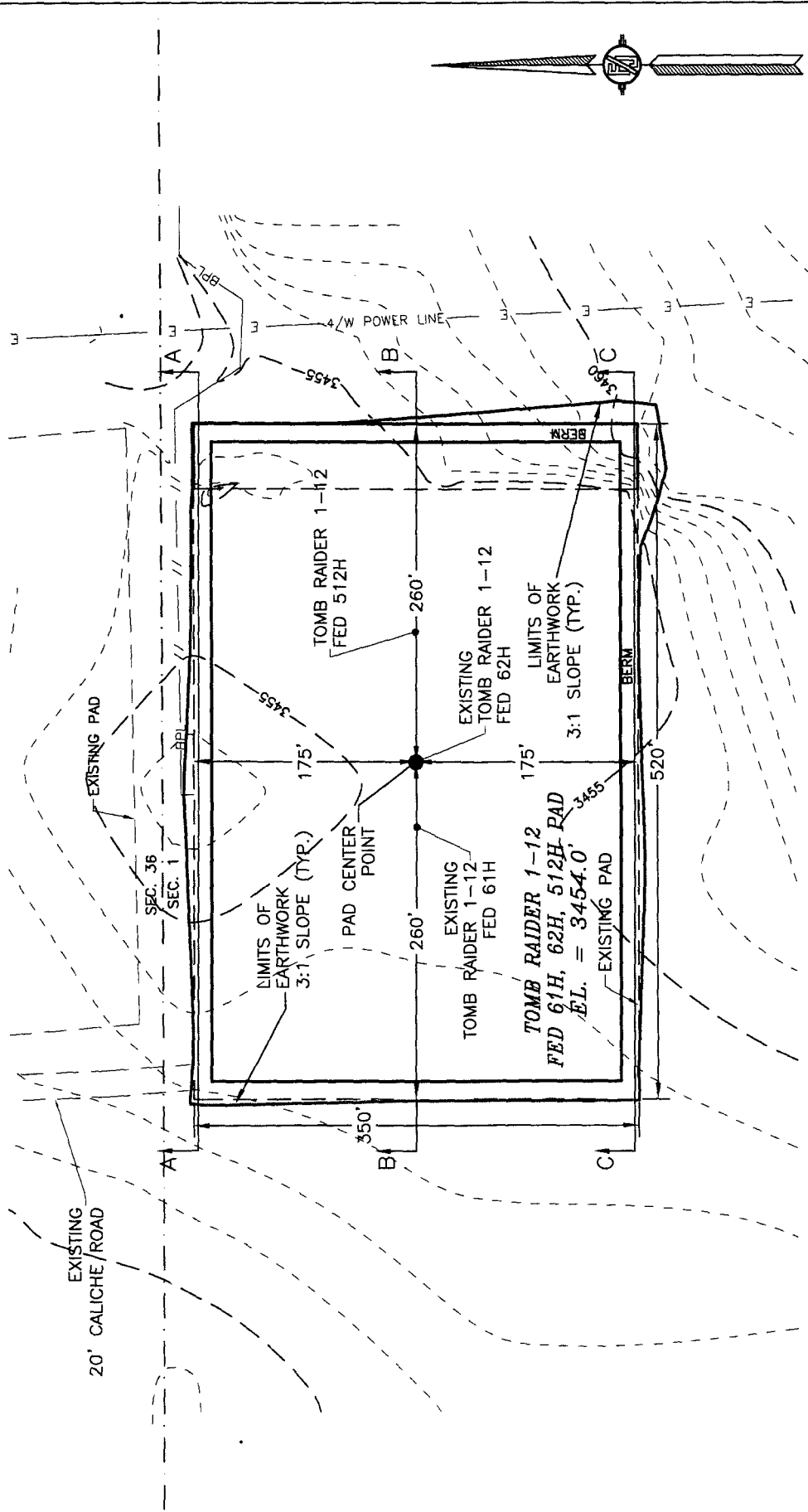
DEVON ENERGY PRODUCTION COMPANY, L.P.
TOMB RAIDER 1-12 FED 512H
LOCATED 200 FT. FROM THE NORTH LINE
AND 1460 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 25, 2017

SURVEY NO. 5530

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

PLAN VIEW



DEVON ENERGY PRODUCTION COMPANY, L.P.
 GRADING PLAN AND CROSS SECTIONS
TOMB RAIDER 1-12 FED 512H
 SECTION 1, TOWNSHIP 23 SOUTH,
 RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 25, 2017

301 SOUTH CANAL
 (575) 234-3341

MADRON SURVEYING, INC.

CARLSBAD, NEW MEXICO

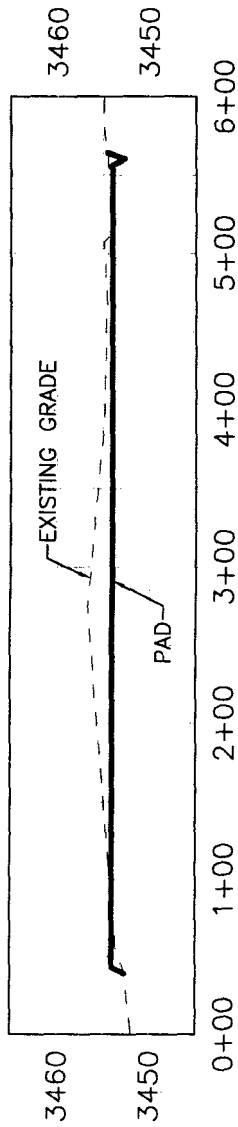
SHEET 1-2
 SURVEY NO. 5530

CUT	FILL	NET
4119 CU. YD	749 CU. YD	3371 CU. YD (CUT)

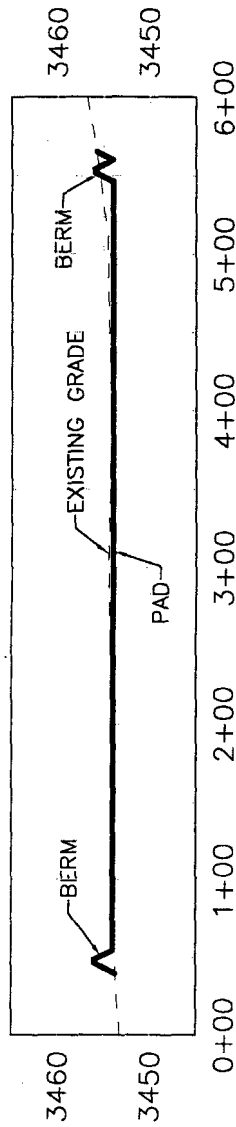
EARTHWORK QUANTITIES ARE ESTIMATED

CROSS SECTIONS

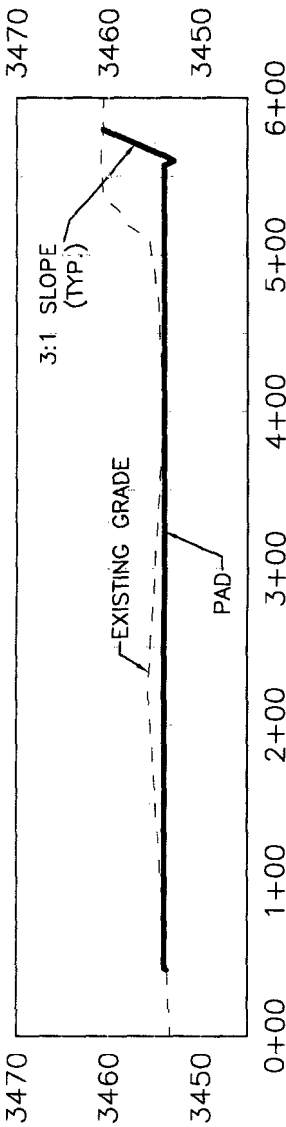
SECTION A-A



SECTION B-B



SECTION C-C



DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
TOMB RAIDER 1-12 FED 512H
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 25, 2017

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

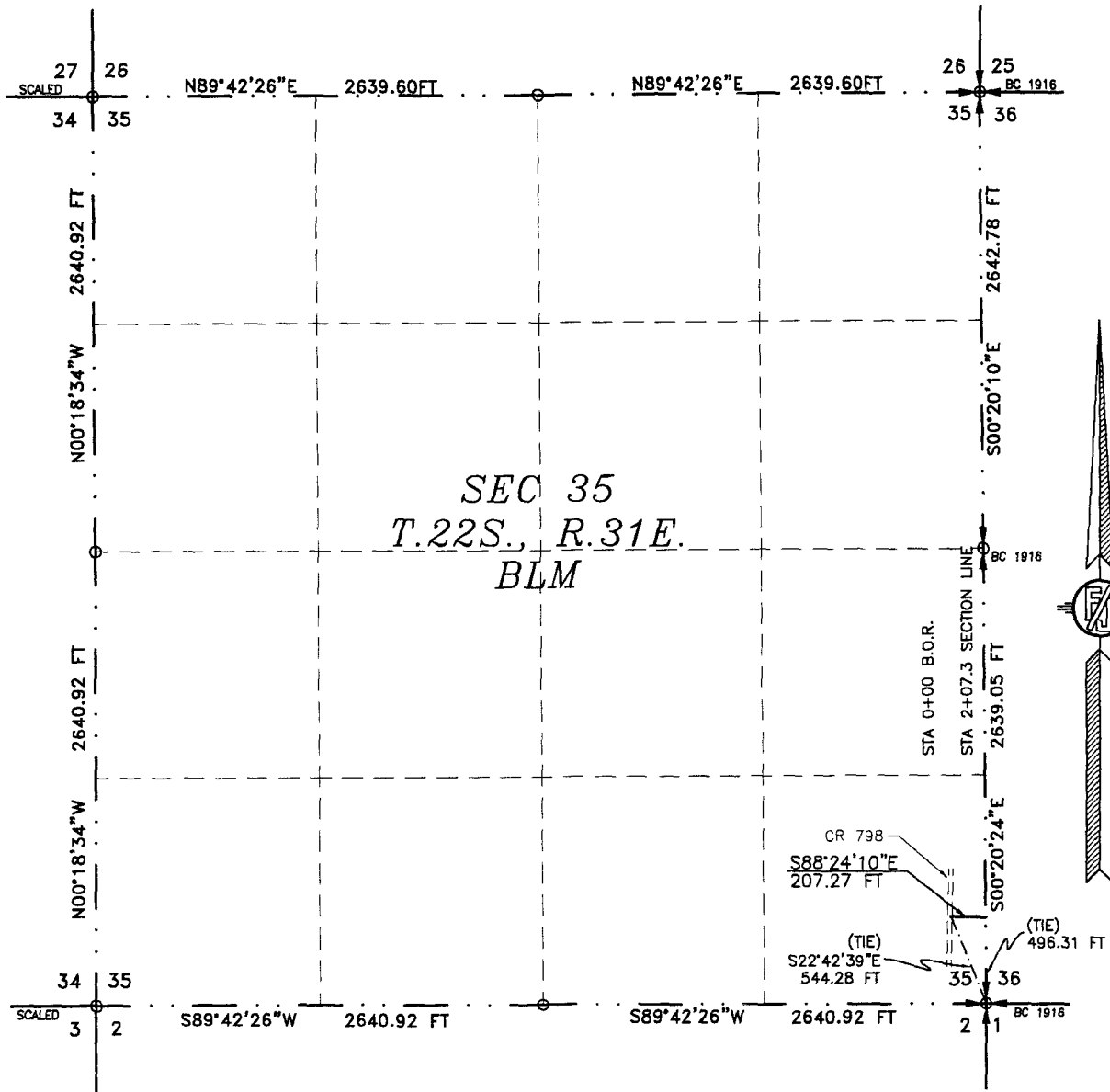
SHEET 2-2
SURVEY NO. 5530



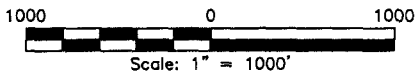
ACCESS ROAD PLAT

ACCESS ROAD TO THE TOMB RAIDER 1-12 FED 512H

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 35, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 25, 2017



SEE NEXT SHEET (2-6) FOR DESCRIPTION



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 31 DAY OF AUGUST 2017

[Signature]
FILIMON F. JARAMILLO, P.L.E. 12797

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

SURVEY NO. 5530

SHEET: 1-6

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT

ACCESS ROAD TO THE TOMB RAIDER 1-12 FED 512H

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 35, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 25, 2017

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 35, TOWNSHIP 22 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 THE SE/4 SE/4 OF SAID SECTION 35, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE SOUTHEAST CORNER OF SAID SECTION 35, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S22°42'39"E, A DISTANCE OF 544.28 FEET;

THENCE S88°24'10"E A DISTANCE OF 207.27 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHEAST CORNER OF SAID SECTION 35, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S00°20'24"E, A DISTANCE OF 496.31 FEET;

SAID STRIP OF LAND BEING 207.27 FEET OR 12.56 RODS IN LENGTH, CONTAINING 0.143 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SE/4 207.27 L.F. 12.56 RODS 0.143 ACRES

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 31 DAY OF AUGUST 2017

GENERAL NOTES

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

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

SHEET: 2-6

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

FILIMON F. JARAMILLO, P.E.S. 12797

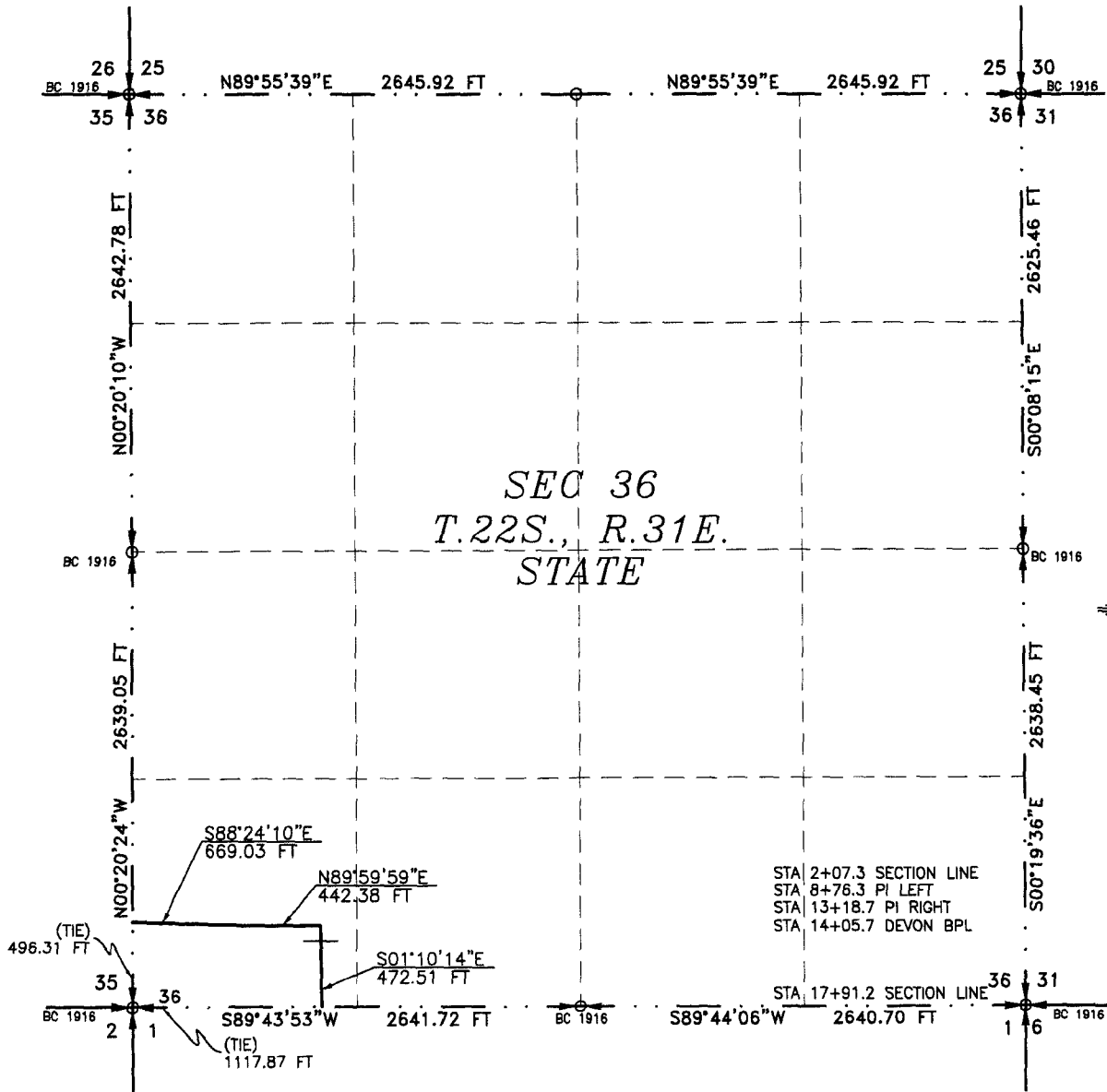
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 5530

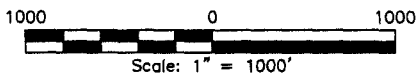
CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT
ACCESS ROAD TO THE TOMB RAIDER 1-12 FED 512H

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 36, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 25, 2017



SEE NEXT SHEET (4-6) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 3-6

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

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 31 DAY OF AUGUST 2017

FILIMON F. JARAMILLO, PLS. 12797
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 5530

ACCESS ROAD PLAT
ACCESS ROAD TO THE TOMB RAIDER 1-12 FED 512H

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 36, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 25, 2017

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 36, TOWNSHIP 22 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 THE SW/4 SW/4 OF SAID SECTION 36, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE SOUTHWEST CORNER OF SAID SECTION 36, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S00°20'24"E, A DISTANCE OF 496.31 FEET;
THENCE S88°24'10"E A DISTANCE OF 669.03 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N89°59'59"E A DISTANCE OF 442.38 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S01°10'14"E A DISTANCE OF 472.51 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHWEST CORNER OF SAID SECTION 36, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S89°43'53"W, A DISTANCE OF 1117.87 FEET;

SAID STRIP OF LAND BEING 1583.92 FEET OR 96.00 RODS IN LENGTH, CONTAINING 1.091 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 SW/4 1583.92 L.F. 96.00 RODS 1.091 ACRES

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 31 DAY OF AUGUST 2017.

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

GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 4-6

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

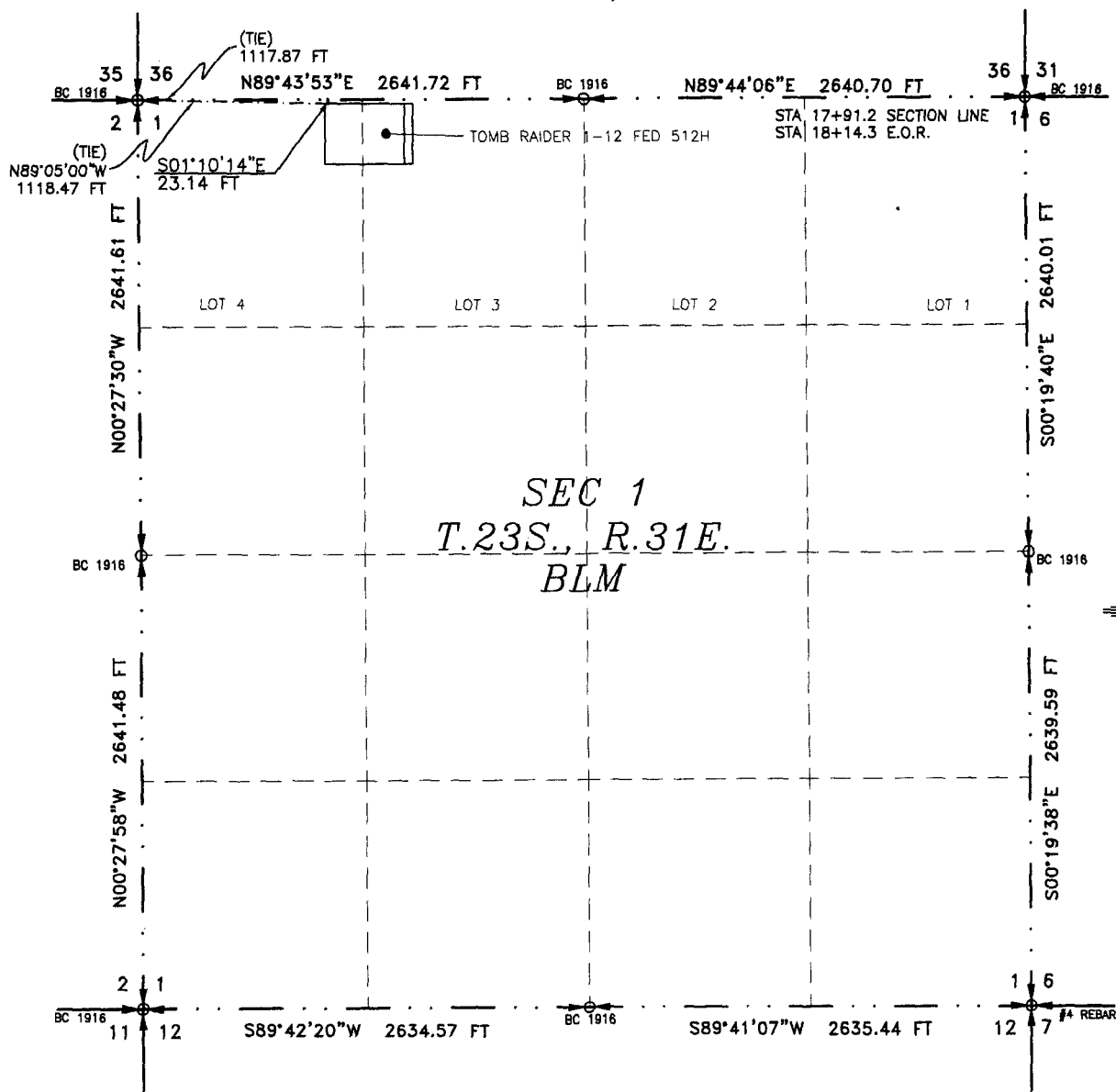
FILIMON F. JARAMILLO, PLS. 12797

SURVEY NO. 5530

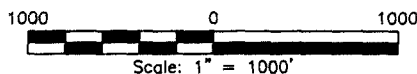
CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT
ACCESS ROAD TO THE TOMB RAIDER 1-12 FED 512H

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 25, 2017



SEE NEXT SHEET (6-6) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 5-6

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

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 31 DAY OF AUGUST 2017

[Signature]
FILIMON F. JARAMILLO PLS. 12797

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

SURVEY NO. 5530

ACCESS ROAD PLAT

ACCESS ROAD TO THE TOMB RAIDER 1-12 FED 512H

**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 25, 2017**

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 4 OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S89°43'53"E, A DISTANCE OF 1117.87 FEET; THENCE S01°10'14"E A DISTANCE OF 23.14 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N89°05'00"W, A DISTANCE OF 1118.47 FEET;

SAID STRIP OF LAND BEING 23.14 FEET OR 1.40 RODS IN LENGTH, CONTAINING 0.016 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 4 23.14 L.F. 1.40 RODS 0.016 ACRES

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 31 DAY OF AUGUST 2017

GENERAL NOTES

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

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

SHEET: 6-6

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CARLSBAD, NEW MEXICO

Additional data for EC transaction #388401 that would not fit on the form

32. Additional remarks, continued

Change the lateral length from 1 to 2 miles please see plat.

Change the target depth from 10,234 to 8,950. (See directional plan)

Change the Casing and Cement Design please see the attached Directional Survey and Drilling Plan.

We would also like to be able to use a spudder rig. Please see the attached Spudder Rig Language document.

Devon Energy, Tomb Raider 1-12 Fed 512H

1. Geologic Formations

TVD of target	8,950'	Pilot hole depth	N/A
MD at TD:	18,835'	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	667	Barren	
Salado	1048	Barren	
Base of Salt	4205	Barren	
Delaware	4455	Oil	
Bell Canyon	4513	Oil	
Cherry Canyon	5383	Oil	
Brushy Canyon	6618	Oil	
1BSLM	8378	Oil	
LNRD A	8428	Oil	
LNRD B	8980	Oil	

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

Devon Energy, Tomb Raider 1-12 Fed 512H

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn .	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	790'	13.375"	54.5	J-55	BTC	1.68	4.21	6.32
12.25"	0	6,000'	9.625"	40	P-110EC	BTC	1.45	1.35	3.75
8.75"	0	18,835'	5.5"	17	P-110	BTC	1.20	1.43	3.01
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

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

Devon Energy, Tomb Raider 1-12 Fed 512H

3. Cementing Program

Casing	# Sk	Wt. lb/ gal	H ₂ O gal/sk	Yld ft ³ / sack	500# Comp. Strength (hours)	Slurry Description
Surf.	770	14.8	6.34	1.34	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake + 1% BWOC Calcium Chloride
9-5/8" Inter.	1810	12.9	9.81	1.87	14	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	250	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
9.625" Inter. Two Stage	555	12.9	9.81	1.87	14	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	190	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
	DV Tool = 3300ft					
	660	12.9	9.81	1.87	14	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	180	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
Prod	290	10.4	16.8	3.17	25	Lead: Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake
	2256	13.2	7.45	1.46	18	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite

DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	50%
9-5/8" Intermediate (2-stage)	1 st Stage = 3,300' 2 nd Stage = 0'	50%
Production	5,500'	25%

Devon Energy, Tomb Raider 1-12 Fed 512H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	x	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other *		
			Annular	x	
			Blind Ram		
			Pipe Ram		
			Double Ram	x	
			Other *		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or 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. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
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Devon Energy, Tomb Raider 1-12 Fed 512H

Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
Y	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 3000 (3M) 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 3M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time. - If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted. - Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. - Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2. After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2. After running the 9-5/8' intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M 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 3,000 psi WP.

Devon Energy, Tomb Raider 1-12 Fed 512H

	Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron. Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.
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5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	790'	FW Gel	8.6-8.8	28-34	N/C
790'	6,000'	Saturated Brine	10.0-10.2	28-34	N/C
6,000'	18,835'	Cut Brine	8.5-9.3	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
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6. Logging and Testing Procedures

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

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	KOP to TD
	PEX	

Devon Energy

APD VARIANCE DATA

OPERATOR NAME: Devon Energy

1. SUMMARY OF Variance:

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

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

2. Description of Operations

1. A spudder rig contractor may move in their rig to drill the surface hole section and pre-set surface casing on this well.
 - a. After drilling the surface hole section, the rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
 - b. Rig will utilize fresh water based mud to drill surface hole to TD.
2. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
3. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
 - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
5. Drilling operation will be performed with the big rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
 - a. The BLM will be contacted / notified 24 hours before the big rig moves back on to the pad with the pre-set surface casing. *the big rig needs to move back in within 90 days.*
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.



Devon Energy

Tomb Raider 1-12 Fed 512H

Eddy Co, NM

Plan P1:V1

Plan Data for Tomb Raider 1-12 Fed 512H

Plan Point Information:									
Dogleg Severity Unit: 1/100.00ft Position offsets from Slot centre									
MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS Comments
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	488001.88	726025.00	0.00	0.00
3500.00	0.00	0.00	3500.00	0.00	0.00	488001.88	726025.00	0.00	0.00 Nudge @ 1° DLS
3667.98	1.68	316.39	3667.98	1.78	-1.70	488003.66	726023.30	-1.78	1.00 Hold
8211.06	1.68	316.39	8209.08	98.22	-93.55	488100.10	725931.45	-98.22	0.00 Drop @ 1° DLS
8379.04	0.00	0.00	8377.04	100.00	-95.25	488101.88	725929.75	-100.00	1.00 KOP-Build @ 10° DLS
9279.04	90.00	180.00	8950.00	-472.96	-95.25	487528.92	725929.75	472.96	10.00 Landing Pt
18834.87	90.00	180.00	8950.00	-10028.79	-95.25	477973.09	725929.75	10028.79	0.00 PBHL 512H

Plan Data for Tomb Raider 1-12 Fed 512H

Field: Eddy Co, NM (Nad 83 NME)
Map Unit: USFt
Vertical Reference Datum (VRD): Mean Sea Level
Projected Coordinate System: NAD83 / New Mexico East (ftUS)

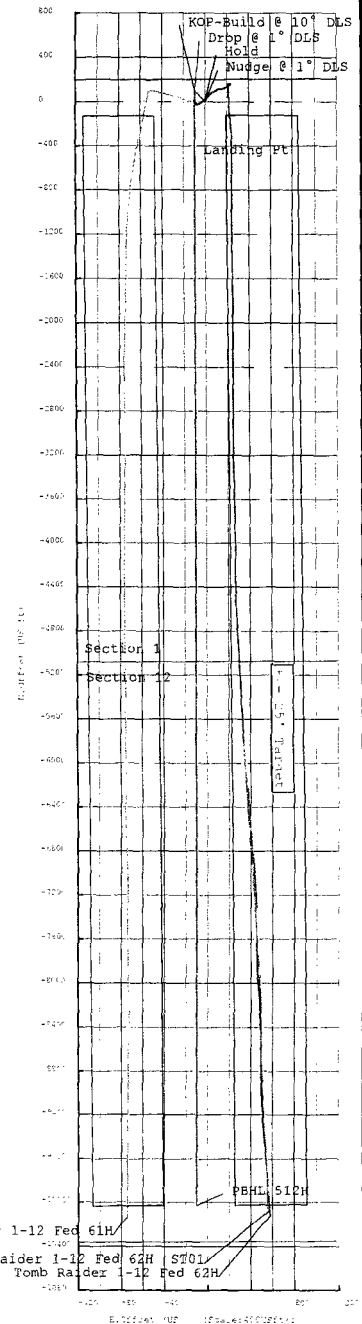
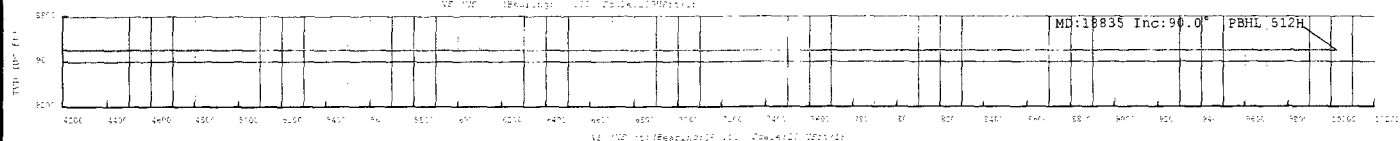
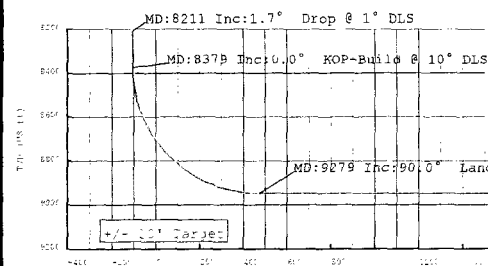
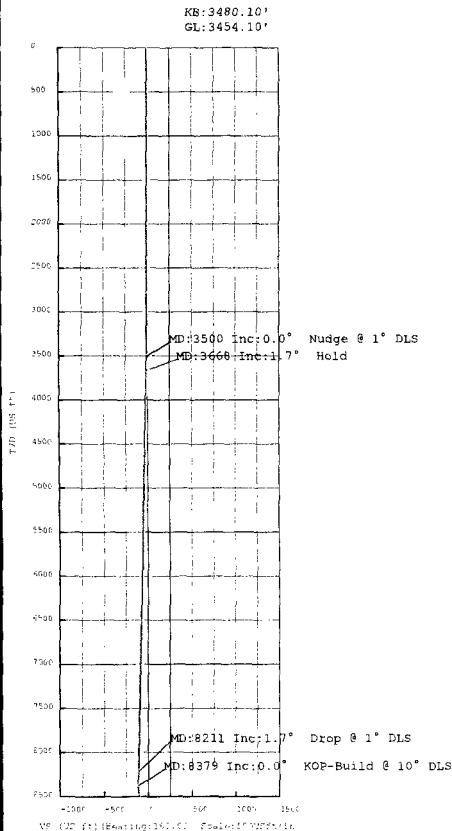
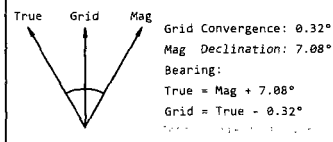
Site: Tomb Raider 1-12 Fed Pad
Unit: USFt TVD Reference:
Company Name: Devon Energy
Position: Northing: 487854.82USft Latitude: 32.339724°
Easting: 728808.08USft Longitude: -103.726322°
North Reference: Grid Grid Convergence: 0.32°
Elevation Above VRD: 3480.40USft

Slot: Tomb Raider 1-12 Fed 512H
Position:
Offset is from Site centre
+N/-S: 147.06USft Northing: 488001.88USft Latitude: 32.340171°
+E/-W: -2783.08USft Easting: 726025.00USft Longitude: -103.735331°
Elevation Above VRD: 3454.18USft

Well: Tomb Raider 1-12 Fed 512H
Type: Main-Well
File Number:
Plan Folder: P1 Plan: P1:V1
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 180.00°
+E/-W: 0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
bggm2017 48048(nT) 7.08° 60.12° 2018-04-04

Plan Data for Tomb Raider 1-12 Fed 512H

Target Set Information:
Name: TR 1-12 Fed 512H Tgrs
Position offsets from Slot centre
Name TVD Elevation +N/-S +E/-W Northing Easting
(USft) (USft) (USft) (USft) (USft) (USft)
VP 8377.04 -4896.94 100.00 -95.25 488101.88 725929.75
PBHL 512H 8950.00 -5469.90 -10028.79 -95.25 477973.09 725929.75





5D Anti-Collision Report

Devon Energy

Field Name: *Eddy Co, NM (Nad 83 NME)*

Site Name: *Tomb Raider 1-12 Fed Pad*

Well Name: *Tomb Raider 1-12 Fed 512H*

12 September 2017





Tomb Raider 1-12 Fed 512H

Field Name:	Map Units: US ft		Company Name: Devon Energy	
Eddy Co, NM (Nad 83 NME)	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)			
	Comment:			
Site:	Units: US ft	North Reference: Grid	Convergence Angle: 0.32	
Tomb Raider 1-12 Fed Pad	Position:	Northing: 487854.82 US ft	Latitude: 32° 20' 23.01"	
		Easting: 728808.08 US ft	Longitude: -103° 43' 34.76"	
	Elevation above MSL: 3480.40 US ft			
Comment:				
Slot:	Position (Relative to Site Centre)			
Tomb Raider 1-12 Fed 512H	+N/-S: 147.06 US ft		Northing: 488001.88 US ft	Latitude: 32° 20' 24.62"
	+E/-W: -2783.08 US ft		Easting: 726025.00 US ft	Longitude: -103° 44' 7.19"
	ft			
Slot TVD Reference: Ground Elevation				
Elevation above MSL: 3454.10 US ft				
Comment:				
Well:	Type: Main well	UWI:	Plan: Working Plan	
Tomb Raider 1-12 Fed 512H	File Number:		Comment:	
	Closure Distance: 10029.2 US ft		Closure Azimuth: 180.54°	
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: 0.00 US ft		+E/-W: 0.00 US ft	Az: 0.00°
	Magnetic Parameters:			
Model: bggm2017		Field Strength:	Declination: 7.08°	Dip: 60.12°
		48048.9 nT	Date: 04/Apr/2018	

Drill floor: Plan: Working Plan

Rig Height (Drill Floor):	Elevation above MSL:	Inclination: 0.00°	Azimuth: 0.00°
26.00 us ft	3480.10 us ft		

Collision / Uncertainty Analysis

Primary Well	Start MD (USFt)	End MD (USFt)	Collision Risk Interval	No. of Std. Deviations in Error Computation
Tomb Raider 1-12 Fed 512H (p)	0.00	30000.00	100.00	2

Secondary Well Names:

Ark 36 State 1H (p)
Ark 36 State 1H (s)
Tomb Raider 1-12 Fed 61H (s)
Tomb Raider 1-12 Fed 62H (s)

Anti-Collision Report Terminology

S.Minor, S.Major: Radii of the ellipse of uncertainty at the current location as seen in the along hole direction.
PHI: Angle between high-side vector and semi-minor axis

Anti-Collision Report Terminology

TVD Spread: Total TVD range of the ellipsoid of uncertainty at the current location.

ES: Distance between the extremities of the primary and secondary uncertainty ellipsoids in the direction Cr-Cr.

T.Face to Sec: Angle between the Hi-Side vector of the primary well at the current location and line of closest approach between the two wells.

AC Filter Info: Applied filter(s): Depth Range.**Default Survey Tool: MWD**

Separation factors calculated using Pedal Curve (Independent Uncertainty). Surface Uncertainty (S.U.) Not Applied. Wellpath created using minimum curvature.

Anti-Collision Summary (TVD relative to Drill Floor)**SF**

Pri MD (US ft)	TVD (US ft)	Secondary Well Name	Sec MD (US ft)	CC (US ft)	ES (US ft)	SF	Risk
5210.94	5210.25	Tomb Raider 1-12 Fed 62H (s)	5212.78	36.91	16.70	1.83	SF(Lo)
6188.09	6186.98	Tomb Raider 1-12 Fed 61H (s)	6182.90	104.56	79.08	4.10	
8514.06	8510.82	Ark 36 State 1H (p)	8489.73	683.99	646.48	18.23	
8434.37	8432.29	Ark 36 State 1H (s)	8408.75	692.94	661.55	22.08	

CC

Pri MD (US ft)	TVD (US ft)	Secondary Well Name	Sec MD (US ft)	CC (US ft)	ES (US ft)	SF	Risk
5200.20	5199.51	Tomb Raider 1-12 Fed 62H (s)	5202.12	36.89	16.69	1.83	SF(Lo)
6086.52	6085.46	Tomb Raider 1-12 Fed 61H (s)	6082.33	104.04	78.79	4.12	
6243.36	6242.23	Ark 36 State 1H (p)	6222.41	666.24	638.77	24.25	
5114.26	5113.61	Ark 36 State 1H (s)	5091.68	672.54	652.11	32.92	

Primary Well: Tomb Raider 1-12 Fed 512H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

MD (US ft)	TVD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	Nearest Well	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
0.00	0.00	269.79	0.00	0.00	0.00	Tomb Raider 1-12 Fed 62H (s)	98.48	99.20	137.23	MWD	
100.00	100.00	269.82	0.11	0.11	4.60	Tomb Raider 1-12 Fed 62H (s)	98.01	98.95	105.01	MWD	
200.00	200.00	269.92	0.34	0.34	4.62	Tomb Raider 1-12 Fed 62H (s)	96.97	98.31	73.65	MWD	
300.00	300.00	270.08	0.56	0.56	4.65	Tomb Raider 1-12 Fed 62H (s)	95.76	97.53	55.10	MWD	
400.00	400.00	270.14	0.79	0.79	4.69	Tomb Raider 1-12 Fed 62H (s)	94.70	96.90	44.22	MWD	
500.00	500.00	270.17	1.01	1.01	4.75	Tomb Raider 1-12 Fed 62H (s)	93.71	96.33	36.72	MWD	
600.00	600.00	270.16	1.24	1.24	4.81	Tomb Raider 1-12 Fed 62H (s)	92.51	95.56	31.27	MWD	
700.00	700.00	270.21	1.46	1.46	4.89	Tomb Raider 1-12 Fed 62H (s)	91.40	94.89	27.19	MWD	
800.00	800.00	270.27	1.69	1.69	4.97	Tomb Raider 1-12 Fed 62H (s)	90.48	94.34	24.43	MWD	
900.00	900.00	270.26	1.91	1.91	5.07	Tomb Raider 1-12 Fed 62H (s)	89.82	94.00	22.46	MWD	
1000.00	1000.00	270.24	2.14	2.14	5.17	Tomb Raider 1-12 Fed 62H (s)	89.33	93.79	21.04	MWD	
1100.00	1100.00	270.21	2.36	2.36	5.27	Tomb Raider 1-12 Fed 62H (s)	88.90	93.65	19.72	MWD	
1200.00	1200.00	270.11	2.59	2.59	5.39	Tomb Raider 1-12 Fed 62H (s)	88.44	93.51	18.44	MWD	

Primary Well: Tomb Raider 1-12 Fed 512H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

MD (US ft)	TVD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	Nearest Well	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
						Tomb Raider 1-12 Fed 62H (s)					
1300.00	1300.00	269.91	2.81	2.81	5.51	Tomb Raider 1-12 Fed 62H (s)	87.93	93.34	17.27	MWD	
1400.00	1400.00	269.65	3.03	3.03	5.63	Tomb Raider 1-12 Fed 62H (s)	87.44	93.19	16.20	MWD	
1500.00	1500.00	269.46	3.26	3.26	5.76	Tomb Raider 1-12 Fed 62H (s)	87.24	93.35	15.28	MWD	
1600.00	1600.00	269.30	3.48	3.48	5.90	Tomb Raider 1-12 Fed 62H (s)	87.01	93.49	14.42	MWD	
1700.00	1700.00	269.17	3.71	3.71	6.04	Tomb Raider 1-12 Fed 62H (s)	86.77	93.64	13.64	MWD	
1800.00	1800.00	269.12	3.93	3.93	6.18	Tomb Raider 1-12 Fed 62H (s)	86.63	93.88	12.96	MWD	
1900.00	1900.00	269.06	4.16	4.16	6.33	Tomb Raider 1-12 Fed 62H (s)	86.29	93.93	12.30	MWD	
2000.00	2000.00	268.94	4.38	4.38	6.48	Tomb Raider 1-12 Fed 62H (s)	85.95	93.98	11.70	MWD	
2100.00	2100.00	268.79	4.61	4.61	6.63	Tomb Raider 1-12 Fed 62H (s)	85.66	94.10	11.14	MWD	
2200.00	2200.00	268.66	4.83	4.83	6.79	Tomb Raider 1-12 Fed 62H (s)	85.13	93.98	10.62	MWD	
2300.00	2300.00	268.44	5.06	5.06	6.95	Tomb Raider 1-12 Fed 62H (s)	84.53	93.79	10.13	MWD	
2400.00	2400.00	268.10	5.28	5.28	7.11	Tomb Raider 1-12 Fed 62H (s)	83.97	93.65	9.68	MWD	
2500.00	2500.00	267.75	5.51	5.51	7.28	Tomb Raider 1-12 Fed 62H (s)	83.79	93.88	9.30	MWD	
2600.00	2600.00	267.43	5.73	5.73	7.45	Tomb Raider 1-12 Fed 62H (s)	83.93	94.44	8.99	MWD	
2700.00	2700.00	267.17	5.96	5.96	7.62	Tomb Raider 1-12 Fed 62H (s)	83.73	94.66	8.67	MWD	
2800.00	2800.00	266.86	6.18	6.18	7.80	Tomb Raider 1-12 Fed 62H (s)	83.31	94.64	8.35	MWD	
2900.00	2900.00	266.51	6.41	6.41	7.97	Tomb Raider 1-12 Fed 62H (s)	82.72	94.47	8.04	MWD	
3000.00	3000.00	266.23	6.63	6.63	8.15	Tomb Raider 1-12 Fed 62H (s)	82.16	94.34	7.75	MWD	
3100.00	3100.00	266.04	6.86	6.86	8.33	Tomb Raider 1-12 Fed 62H (s)	81.72	94.32	7.49	MWD	
3200.00	3200.00	265.86	7.08	7.08	8.52	Tomb Raider 1-12 Fed 62H (s)	81.31	94.33	7.24	MWD	
3300.00	3300.00	265.61	7.31	7.31	8.70	Tomb Raider 1-12 Fed 62H (s)	80.97	94.42	7.02	MWD	
3400.00	3400.00	265.36	7.53	7.53	8.89	Tomb Raider 1-12 Fed 62H (s)	80.71	94.57	6.82	MWD	
3500.00	3500.00	264.97	7.76	7.76	9.09	Tomb Raider 1-12 Fed 62H (s)	80.49	94.78	6.63	MWD	
3600.00	3599.99	307.63	7.98	7.98	9.28	Tomb Raider 1-12 Fed 62H (s)	79.42	94.17	6.39	MWD	
3700.00	3699.96	305.66	8.19	8.19	9.48		77.08	92.24	6.09	MWD	

Primary Well: Tomb Raider 1-12 Fed 512H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

MD (US ft)	TVD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	Nearest Well	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
3800.00	3799.92	303.06	8.41	8.41	9.68	Tomb Raider 1-12 Fed 62H (s)	74.09	89.65	5.76	MWD	
3900.00	3899.88	300.17	8.63	8.62	9.88	Tomb Raider 1-12 Fed 62H (s)	71.01	87.00	5.44	MWD	
4000.00	3999.83	296.86	8.85	8.84	10.09	Tomb Raider 1-12 Fed 62H (s)	67.96	84.40	5.13	MWD	
4100.00	4099.79	293.02	9.07	9.06	10.30	Tomb Raider 1-12 Fed 62H (s)	65.05	81.91	4.86	MWD	
4200.00	4199.75	288.82	9.29	9.28	10.51	Tomb Raider 1-12 Fed 62H (s)	62.31	79.61	4.60	MWD	
4300.00	4299.70	284.21	9.51	9.50	10.72	Tomb Raider 1-12 Fed 62H (s)	59.98	77.68	4.39	MWD	
4400.00	4399.66	279.02	9.73	9.72	10.94	Tomb Raider 1-12 Fed 62H (s)	58.50	76.61	4.23	MWD	
4500.00	4499.62	274.09	9.96	9.94	11.16	Tomb Raider 1-12 Fed 62H (s)	56.74	75.11	4.09	MWD	
4600.00	4599.58	268.60	10.18	10.16	11.39	Tomb Raider 1-12 Fed 62H (s)	53.24	71.80	3.87	MWD	
4700.00	4699.53	262.27	10.40	10.38	11.62	Tomb Raider 1-12 Fed 62H (s)	46.98	65.76	3.50	MWD	
4800.00	4799.49	254.85	10.62	10.60	11.85	Tomb Raider 1-12 Fed 62H (s)	38.76	57.80	3.04	MWD	
4900.00	4899.45	245.22	10.85	10.82	12.08	Tomb Raider 1-12 Fed 62H (s)	30.36	49.68	2.57	MWD	
5000.00	4999.40	232.48	11.07	11.04	12.32	Tomb Raider 1-12 Fed 62H (s)	23.82	43.40	2.22	MWD	SF(Lo)
5100.00	5099.36	216.72	11.29	11.26	12.57	Tomb Raider 1-12 Fed 62H (s)	18.99	38.90	1.95	MWD	SF(Lo)
5200.00	5199.32	197.97	11.52	11.48	12.81	Tomb Raider 1-12 Fed 62H (s)	16.69	36.89	1.83	MWD	SF(Lo)
5300.00	5299.27	179.64	11.74	11.70	13.06	Tomb Raider 1-12 Fed 62H (s)	18.43	38.88	1.90	MWD	SF(Lo)
5400.00	5399.23	163.51	11.97	11.93	13.32	Tomb Raider 1-12 Fed 62H (s)	23.38	44.05	2.13	MWD	SF(Lo)
5500.00	5499.19	150.53	12.19	12.15	13.58	Tomb Raider 1-12 Fed 62H (s)	31.12	52.06	2.49	MWD	SF(Lo)
5600.00	5599.15	141.38	12.41	12.37	13.84	Tomb Raider 1-12 Fed 62H (s)	40.52	61.73	2.91	MWD	
5700.00	5699.10	134.72	12.64	12.59	14.11	Tomb Raider 1-12 Fed 62H (s)	50.86	72.34	3.37	MWD	
5800.00	5799.06	129.66	12.86	12.81	14.38	Tomb Raider 1-12 Fed 62H (s)	61.58	83.40	3.82	MWD	
5900.00	5899.02	284.86	13.09	13.04	14.65	Tomb Raider 1-12 Fed 61H (s)	79.78	104.40	4.24	MWD	
5900.00	5899.02	125.83	13.09	13.04	14.65	Tomb Raider 1-12 Fed 62H (s)	72.63	94.71	4.29	MWD	
6000.00	5998.97	283.32	13.32	13.26	14.93	Tomb Raider 1-12 Fed 61H (s)	79.19	104.18	4.17	MWD	
6100.00	6098.93	281.94	13.54	13.48	15.22		78.77	104.05	4.12	MWD	

Primary Well: Tomb Raider 1-12 Fed 512H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

MD (US ft)	TVD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	Nearest Well	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
6200.00	6198.89	281.43	13.77	13.70	15.50	Tomb Raider 1-12 Fed 61H (s)	79.17	104.68	4.10	MWD	
6300.00	6298.84	282.01	13.99	13.93	15.80	Tomb Raider 1-12 Fed 61H (s)	80.40	106.14	4.12	MWD	
6400.00	6398.80	283.35	14.22	14.15	16.10	Tomb Raider 1-12 Fed 61H (s)	83.02	108.96	4.20	MWD	
6500.00	6498.76	285.24	14.45	14.37	16.40	Tomb Raider 1-12 Fed 61H (s)	86.61	112.79	4.31	MWD	
6600.00	6598.72	287.42	14.67	14.59	16.70	Tomb Raider 1-12 Fed 61H (s)	91.97	118.32	4.49	MWD	
6700.00	6698.67	289.62	14.90	14.82	17.02	Tomb Raider 1-12 Fed 61H (s)	99.54	126.10	4.75	MWD	
6800.00	6798.63	291.81	15.12	15.04	17.33	Tomb Raider 1-12 Fed 61H (s)	109.25	136.05	5.08	MWD	
6900.00	6898.59	293.85	15.35	15.26	17.66	Tomb Raider 1-12 Fed 61H (s)	119.82	146.92	5.42	MWD	
7000.00	6998.54	295.73	15.58	15.49	17.98	Tomb Raider 1-12 Fed 61H (s)	130.27	157.61	5.76	MWD	
7100.00	7098.50	297.58	15.80	15.71	18.31	Tomb Raider 1-12 Fed 61H (s)	141.26	168.85	6.12	MWD	
7200.00	7198.46	299.08	16.03	15.93	18.65	Tomb Raider 1-12 Fed 61H (s)	151.55	179.43	6.44	MWD	
7300.00	7298.42	300.30	16.26	16.16	18.99	Tomb Raider 1-12 Fed 61H (s)	161.68	189.82	6.75	MWD	
7400.00	7398.37	301.43	16.49	16.38	19.34	Tomb Raider 1-12 Fed 61H (s)	172.09	200.55	7.05	MWD	
7500.00	7498.33	302.41	16.71	16.60	19.69	Tomb Raider 1-12 Fed 61H (s)	181.99	210.76	7.33	MWD	
7600.00	7598.29	303.54	16.94	16.83	20.05	Tomb Raider 1-12 Fed 61H (s)	192.64	221.68	7.63	MWD	
7700.00	7698.24	304.71	17.17	17.05	20.41	Tomb Raider 1-12 Fed 61H (s)	203.77	233.12	7.94	MWD	
7800.00	7798.20	305.63	17.39	17.28	20.78	Tomb Raider 1-12 Fed 61H (s)	214.28	243.94	8.22	MWD	
7900.00	7898.16	306.42	17.62	17.50	21.15	Tomb Raider 1-12 Fed 61H (s)	224.72	254.67	8.50	MWD	
8000.00	7998.11	307.10	17.85	17.72	21.53	Tomb Raider 1-12 Fed 61H (s)	235.15	265.39	8.78	MWD	
8100.00	8098.07	307.78	18.08	17.95	21.92	Tomb Raider 1-12 Fed 61H (s)	246.19	276.72	9.06	MWD	
8200.00	8198.03	308.34	18.30	18.17	22.31	Tomb Raider 1-12 Fed 61H (s)	256.83	287.69	9.32	MWD	
8300.00	8298.00	308.84	18.51	18.37	22.70	Tomb Raider 1-12 Fed 61H (s)	268.63	299.74	9.63	MWD	
8400.00	8397.99	85.71	18.67	18.54	23.10	Tomb Raider 1-12 Fed 61H (s)	281.43	312.85	9.96	MWD	
8500.00	8497.10	87.36	18.75	18.50	23.49	Tomb Raider 1-12 Fed 61H (s)	292.73	324.45	10.23	MWD	
8600.00	8592.56	91.57	18.87	18.07	23.85		304.43	336.34	10.54	MWD	

Primary Well: Tomb Raider 1-12 Fed 512H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

MD (US ft)	TVD (US ft)	F.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	Nearest Well	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
8700.00	8681.47	97.12	18.99	17.32	24.16	Tomb Raider 1-12 Fed 61H (s)					
8800.00	8761.14	102.14	19.14	16.35	24.43	Tomb Raider 1-12 Fed 61H (s)	320.20	352.32	10.97	MWD	
8900.00	8829.13	104.99	19.36	15.26	24.67	Tomb Raider 1-12 Fed 61H (s)	345.27	377.60	11.68	MWD	
9000.00	8883.38	104.57	19.68	14.20	24.90	Tomb Raider 1-12 Fed 61H (s)	383.92	416.64	12.73	MWD	
9100.00	8922.25	100.10	20.13	13.35	25.16	Tomb Raider 1-12 Fed 61H (s)	437.31	470.48	14.18	MWD	
9200.00	8944.55	90.71	20.71	12.88	25.47	Tomb Raider 1-12 Fed 61H (s)	503.77	537.38	15.99	MWD	
9300.00	8950.00	79.65	21.41	12.91	25.83	Tomb Raider 1-12 Fed 61H (s)	580.02	613.98	18.08	MWD	
9400.00	8950.00	79.14	22.24	13.13	26.26	Tomb Raider 1-12 Fed 61H (s)	662.22	696.43	20.36	MWD	
9500.00	8950.00	78.62	23.17	13.38	26.77	Tomb Raider 1-12 Fed 61H (s)	748.18	782.68	22.69	MWD	
9600.00	8950.00	78.11	24.22	13.67	27.35	Tomb Raider 1-12 Fed 61H (s)	837.26	871.86	25.20	MWD	
9700.00	8950.00	77.61	25.35	13.99	27.99	Tomb Raider 1-12 Fed 61H (s)	928.42	963.15	27.73	MWD	
9800.00	8950.00	77.11	26.55	14.34	28.69	Tomb Raider 1-12 Fed 61H (s)	1021.13	1056.01	30.28	MWD	
9900.00	8950.00	76.61	27.83	14.72	29.45	Tomb Raider 1-12 Fed 61H (s)	1115.08	1150.06	32.88	MWD	
10000.00	8950.00	90.55	29.16	15.13	30.26	Tomb Raider 1-12 Fed 61H (s)	1209.99	1245.02	35.54	MWD	
10000.00	8950.00	76.11	29.16	15.13	30.26	Ark 36 State 1H (p)	1550.88	1592.96	37.85	MWD	
10100.00	8950.00	153.14	30.55	15.56	31.12	Tomb Raider 1-12 Fed 61H (s)	1305.64	1340.71	38.23	MWD	
10200.00	8950.00	153.04	31.98	16.01	32.02	Tomb Raider 1-12 Fed 61H (s)	1368.35	1406.41	36.95	MWD	
10300.00	8950.00	152.95	33.45	16.48	32.97	Tomb Raider 1-12 Fed 61H (s)	1367.04	1406.48	35.67	MWD	
10400.00	8950.00	152.91	34.95	16.97	33.95	Tomb Raider 1-12 Fed 61H (s)	1365.63	1406.53	34.39	MWD	
10500.00	8950.00	152.87	36.48	17.48	34.96	Tomb Raider 1-12 Fed 61H (s)	1364.38	1406.80	33.16	MWD	
10600.00	8950.00	152.83	38.04	18.00	36.01	Tomb Raider 1-12 Fed 61H (s)	1363.14	1407.11	32.01	MWD	
10700.00	8950.00	152.77	39.63	18.54	37.08	Tomb Raider 1-12 Fed 61H (s)	1362.43	1407.93	30.94	MWD	
10800.00	8950.00	152.69	41.23	19.09	38.18	Tomb Raider 1-12 Fed 61H (s)	1361.73	1408.90	29.86	MWD	
10900.00	8950.00	152.56	42.85	19.65	39.31	Tomb Raider 1-12 Fed 61H (s)	1360.92	1409.82	28.83	MWD	
11000.00	8950.00	152.45	44.48	20.22	40.45	Tomb Raider 1-12 Fed 61H (s)	1359.89	1410.60	27.82	MWD	
							1358.22	1410.73	26.87	MWD	

Primary Well: Tomb Raider 1-12 Fed 512H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

MD (US ft)	TVD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	Nearest Well	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
11100.00	8950.00	152.38	46.13	20.81	41.62	Tomb Raider 1-12 Fed 61H (s)	1356.71	1411.08	25.95	MWD	
11200.00	8950.00	152.33	47.80	21.40	42.81	Tomb Raider 1-12 Fed 61H (s)	1356.05	1412.17	25.16	MWD	
11300.00	8950.00	152.35	49.47	22.00	44.01	Tomb Raider 1-12 Fed 61H (s)	1355.89	1413.72	24.45	MWD	
11400.00	8950.00	152.45	51.16	22.61	45.23	Tomb Raider 1-12 Fed 61H (s)	1355.69	1415.24	23.77	MWD	
11500.00	8950.00	152.53	52.85	23.23	46.46	Tomb Raider 1-12 Fed 61H (s)	1355.36	1416.61	23.13	MWD	
11600.00	8950.00	152.63	54.56	23.85	47.70	Tomb Raider 1-12 Fed 61H (s)	1353.96	1417.24	22.40	MWD	
11700.00	8950.00	152.66	56.27	24.48	48.96	Tomb Raider 1-12 Fed 61H (s)	1350.81	1416.03	21.71	MWD	
11800.00	8950.00	152.66	57.99	25.11	50.23	Tomb Raider 1-12 Fed 61H (s)	1346.99	1413.99	21.11	MWD	
11900.00	8950.00	152.64	59.71	25.75	51.51	Tomb Raider 1-12 Fed 61H (s)	1343.82	1412.69	20.51	MWD	
12000.00	8950.00	152.61	61.44	26.40	52.80	Tomb Raider 1-12 Fed 61H (s)	1341.09	1411.97	19.92	MWD	
12100.00	8950.00	152.55	63.18	27.05	54.10	Tomb Raider 1-12 Fed 61H (s)	1338.24	1411.02	19.39	MWD	
12200.00	8950.00	152.50	64.92	27.70	55.40	Tomb Raider 1-12 Fed 61H (s)	1336.48	1411.18	18.89	MWD	
12300.00	8950.00	152.46	66.67	28.36	56.72	Tomb Raider 1-12 Fed 61H (s)	1335.15	1411.91	18.40	MWD	
12400.00	8950.00	152.43	68.42	29.02	58.04	Tomb Raider 1-12 Fed 61H (s)	1333.67	1412.41	17.94	MWD	
12500.00	8950.00	152.42	70.17	29.68	59.37	Tomb Raider 1-12 Fed 61H (s)	1331.88	1412.60	17.50	MWD	
12600.00	8950.00	152.37	71.93	30.35	60.70	Tomb Raider 1-12 Fed 61H (s)	1330.48	1413.13	17.10	MWD	
12700.00	8950.00	152.35	73.69	31.02	62.04	Tomb Raider 1-12 Fed 61H (s)	1330.23	1414.74	16.74	MWD	
12800.00	8950.00	152.32	75.46	31.69	63.39	Tomb Raider 1-12 Fed 61H (s)	1328.77	1415.43	16.33	MWD	
12900.00	8950.00	152.30	77.23	32.37	64.74	Tomb Raider 1-12 Fed 61H (s)	1326.91	1415.57	15.97	MWD	
13000.00	8950.00	152.25	79.00	33.05	66.10	Tomb Raider 1-12 Fed 61H (s)	1324.68	1415.44	15.60	MWD	
13100.00	8950.00	152.24	80.77	33.73	67.46	Tomb Raider 1-12 Fed 61H (s)	1322.26	1415.08	15.25	MWD	
13200.00	8950.00	152.21	82.54	34.41	68.83	Tomb Raider 1-12 Fed 61H (s)	1319.66	1414.54	14.91	MWD	
13300.00	8950.00	152.28	84.32	35.10	70.20	Tomb Raider 1-12 Fed 61H (s)	1317.32	1414.10	14.61	MWD	
13400.00	8950.00	152.32	86.10	35.78	71.57	Tomb Raider 1-12 Fed 61H (s)	1315.54	1414.21	14.33	MWD	
13500.00	8950.00	152.36	87.88	36.47	72.95		1313.97	1414.61	14.05	MWD	

Primary Well: Tomb Raider 1-12 Fed 512H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
MD (US ft)	TVD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	Nearest Well	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
13600.00	8950.00	152.40	89.67	37.16	74.33	Tomb Raider 1-12 Fed 61H (s)	1311.81	1414.44	13.78	MWD	
13700.00	8950.00	152.41	91.45	37.85	75.71	Tomb Raider 1-12 Fed 61H (s)	1309.31	1413.97	13.51	MWD	
13800.00	8950.00	152.40	93.24	38.55	77.10	Tomb Raider 1-12 Fed 61H (s)	1307.19	1413.83	13.26	MWD	
13900.00	8950.00	152.43	95.03	39.24	78.49	Tomb Raider 1-12 Fed 61H (s)	1305.97	1414.52	13.03	MWD	
14000.00	8950.00	152.50	96.82	39.94	79.88	Tomb Raider 1-12 Fed 61H (s)	1305.53	1415.93	12.83	MWD	
14100.00	8950.00	152.57	98.61	40.64	81.28	Tomb Raider 1-12 Fed 61H (s)	1304.64	1417.03	12.61	MWD	
14200.00	8950.00	152.57	100.40	41.34	82.67	Tomb Raider 1-12 Fed 61H (s)	1304.14	1418.41	12.41	MWD	
14300.00	8950.00	152.55	102.20	42.04	84.07	Tomb Raider 1-12 Fed 61H (s)	1304.13	1420.50	12.21	MWD	
14400.00	8950.00	152.57	103.99	42.74	85.48	Tomb Raider 1-12 Fed 61H (s)	1301.16	1419.80	11.97	MWD	
14500.00	8950.00	152.59	105.79	43.44	86.88	Tomb Raider 1-12 Fed 61H (s)	1296.95	1417.56	11.75	MWD	
14600.00	8950.00	152.59	107.59	44.14	88.29	Tomb Raider 1-12 Fed 61H (s)	1292.77	1415.46	11.54	MWD	
14700.00	8950.00	152.57	109.38	44.85	89.70	Tomb Raider 1-12 Fed 61H (s)	1287.18	1411.98	11.31	MWD	
14800.00	8950.00	152.54	111.18	45.55	91.11	Tomb Raider 1-12 Fed 61H (s)	1281.18	1408.07	11.10	MWD	
14900.00	8950.00	152.47	112.98	46.26	92.52	Tomb Raider 1-12 Fed 61H (s)	1275.67	1404.72	10.89	MWD	
15000.00	8950.00	152.39	114.79	46.97	93.93	Tomb Raider 1-12 Fed 61H (s)	1272.13	1403.24	10.70	MWD	
15100.00	8950.00	152.28	116.59	47.67	95.35	Tomb Raider 1-12 Fed 61H (s)	1270.99	1404.21	10.54	MWD	
15200.00	8950.00	152.20	118.39	48.38	96.76	Tomb Raider 1-12 Fed 61H (s)	1271.14	1406.52	10.39	MWD	
15300.00	8950.00	152.20	120.19	49.09	98.18	Tomb Raider 1-12 Fed 61H (s)	1270.59	1408.24	10.23	MWD	
15400.00	8950.00	152.30	122.00	49.80	99.60	Tomb Raider 1-12 Fed 61H (s)	1268.52	1408.04	10.09	MWD	
15500.00	8950.00	152.52	123.80	50.51	101.02	Tomb Raider 1-12 Fed 61H (s)	1265.11	1406.34	9.96	MWD	
15600.00	8950.00	152.72	125.61	51.22	102.45	Tomb Raider 1-12 Fed 61H (s)	1259.01	1401.87	9.81	MWD	
15700.00	8950.00	152.75	127.41	51.93	103.87	Tomb Raider 1-12 Fed 61H (s)	1251.58	1396.42	9.64	MWD	
15800.00	8950.00	152.75	129.22	52.65	105.29	Tomb Raider 1-12 Fed 61H (s)	1245.73	1392.56	9.48	MWD	
15900.00	8950.00	152.78	131.03	53.36	106.72	Tomb Raider 1-12 Fed 61H (s)	1242.36	1391.04	9.36	MWD	
16000.00	8950.00	152.80	132.84	54.07	108.15		1240.87	1391.40	9.24	MWD	

Primary Well: Tomb Raider 1-12 Fed 512H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

MD (US ft)	TVD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	Nearest Well	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
						Tomb Raider 1-12 Fed 61H (s)					
16100.00	8950.00	152.78	134.65	54.79	109.57	Tomb Raider 1-12 Fed 61H (s)	1241.28	1393.66	9.15	MWD	
16200.00	8950.00	152.73	136.46	55.50	111.00	Tomb Raider 1-12 Fed 61H (s)	1241.87	1396.57	9.03	MWD	
16300.00	8950.00	152.71	138.26	56.22	112.43	Tomb Raider 1-12 Fed 61H (s)	1242.54	1399.19	8.93	MWD	
16400.00	8950.00	152.77	140.07	56.93	113.86	Tomb Raider 1-12 Fed 61H (s)	1243.96	1402.48	8.85	MWD	
16500.00	8950.00	152.97	141.89	57.65	115.30	Tomb Raider 1-12 Fed 61H (s)	1242.91	1403.31	8.75	MWD	
16600.00	8950.00	153.05	143.70	58.36	116.73	Tomb Raider 1-12 Fed 61H (s)	1241.02	1403.32	8.65	MWD	
16700.00	8950.00	153.13	145.51	59.08	118.16	Tomb Raider 1-12 Fed 61H (s)	1237.24	1401.48	8.53	MWD	
16800.00	8950.00	153.19	147.32	59.80	119.60	Tomb Raider 1-12 Fed 61H (s)	1232.80	1398.89	8.42	MWD	
16900.00	8950.00	153.26	149.13	60.52	121.03	Tomb Raider 1-12 Fed 61H (s)	1228.89	1396.79	8.32	MWD	
17000.00	8950.00	153.34	150.94	61.23	122.47	Tomb Raider 1-12 Fed 61H (s)	1224.33	1394.10	8.21	MWD	
17100.00	8950.00	153.31	152.76	61.95	123.90	Tomb Raider 1-12 Fed 61H (s)	1219.76	1391.58	8.10	MWD	
17200.00	8950.00	153.27	154.57	62.67	125.34	Tomb Raider 1-12 Fed 61H (s)	1216.92	1390.76	8.00	MWD	
17300.00	8950.00	153.20	156.38	63.39	126.78	Tomb Raider 1-12 Fed 61H (s)	1215.59	1391.38	7.92	MWD	
17400.00	8950.00	153.11	158.20	64.11	128.22	Tomb Raider 1-12 Fed 61H (s)	1214.77	1392.34	7.84	MWD	
17500.00	8950.00	153.03	160.01	64.83	129.66	Tomb Raider 1-12 Fed 61H (s)	1214.23	1393.51	7.77	MWD	
17600.00	8950.00	152.99	161.83	65.55	131.10	Tomb Raider 1-12 Fed 61H (s)	1214.48	1395.37	7.71	MWD	
17700.00	8950.00	152.92	163.64	66.27	132.54	Tomb Raider 1-12 Fed 61H (s)	1214.77	1397.42	7.65	MWD	
17800.00	8950.00	152.89	165.46	66.99	133.98	Tomb Raider 1-12 Fed 61H (s)	1214.16	1398.41	7.59	MWD	
17900.00	8950.00	152.85	167.27	67.71	135.42	Tomb Raider 1-12 Fed 61H (s)	1213.25	1399.16	7.53	MWD	
18000.00	8950.00	152.83	169.09	68.43	136.86	Tomb Raider 1-12 Fed 61H (s)	1211.64	1399.17	7.46	MWD	
18100.00	8950.00	152.83	170.91	69.15	138.31	Tomb Raider 1-12 Fed 61H (s)	1210.12	1399.18	7.40	MWD	
18200.00	8950.00	152.78	172.72	69.87	139.75	Tomb Raider 1-12 Fed 61H (s)	1208.06	1398.84	7.33	MWD	
18300.00	8950.00	152.75	174.54	70.60	141.19	Tomb Raider 1-12 Fed 61H (s)	1206.48	1398.91	7.27	MWD	
18400.00	8950.00	152.68	176.36	71.32	142.64	Tomb Raider 1-12 Fed 61H (s)	1205.60	1399.85	7.21	MWD	
18500.00	8950.00	152.66	178.17	72.04	144.08		1203.67	1399.56	7.14	MWD	

Primary Well: Tomb Raider 1-12 Fed 512H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

MD (US ft)	TVD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	Nearest Well	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
18600.00	8950.00	152.67	179.99	72.76	145.53	Tomb Raider 1-12 Fed 61H (s)	1202.55	1399.99	7.09	MWD	
18700.00	8950.00	152.67	181.81	73.49	146.97	Tomb Raider 1-12 Fed 61H (s)	1202.05	1401.10	7.04	MWD	
18800.00	8950.00	152.64	183.62	74.21	148.42	Tomb Raider 1-12 Fed 61H (s)	1201.72	1402.41	6.99	MWD	
18834.87	8950.00	152.63	184.26	74.46	148.92	Tomb Raider 1-12 Fed 61H (s)	1201.91	1403.17	6.97	MWD	

Secondary Well: Ark 36 State 1H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
0.00	5.10	0.00	300.76	0.00	0.00	0.00	775.17	775.94	1008.01	MWD	
100.00	102.69	97.59	300.76	0.11	0.11	3.80	774.77	775.76	785.09	MWD	
200.00	202.10	197.00	300.77	0.29	0.29	4.62	774.01	775.40	555.76	MWD	
300.00	303.00	297.90	300.77	0.50	0.50	4.65	773.27	775.10	423.39	MWD	
400.00	400.26	395.16	300.77	0.71	0.71	4.69	772.61	774.86	343.15	MWD	
500.00	502.07	496.97	300.77	0.92	0.92	4.75	772.03	774.73	287.40	MWD	
600.00	598.71	593.61	300.76	1.12	1.12	4.81	771.56	774.68	248.18	MWD	
700.00	697.26	692.16	300.76	1.33	1.33	4.88	771.43	774.98	218.31	MWD	
800.00	803.45	798.35	300.72	1.55	1.55	4.97	770.98	774.98	193.72	MWD	
900.00	912.26	907.18	300.62	1.79	1.78	5.07	769.44	773.90	173.51	MWD	
1000.00	1016.54	1011.49	300.49	2.01	2.01	5.18	767.08	771.98	157.25	MWD	
1100.00	1115.24	1110.23	300.38	2.22	2.21	5.28	764.48	769.81	144.33	MWD	
1200.00	1213.83	1208.84	300.29	2.42	2.42	5.40	762.25	768.02	133.15	MWD	
1300.00	1312.32	1307.36	300.20	2.63	2.62	5.52	760.04	766.24	123.64	MWD	
1400.00	1407.70	1402.75	300.12	2.83	2.82	5.64	758.28	764.90	115.55	MWD	
1500.00	1504.88	1499.94	300.05	3.03	3.02	5.76	757.09	764.14	108.39	MWD	
1600.00	1605.82	1600.89	299.98	3.24	3.23	5.90	756.00	763.48	102.00	MWD	
1700.00	1705.74	1700.81	299.93	3.45	3.44	6.04	754.77	762.69	96.31	MWD	
1800.00	1804.27	1799.34	299.90	3.66	3.65	6.18	753.68	762.03	91.25	MWD	
1900.00	1903.89	1898.96	299.86	3.87	3.86	6.33	752.72	761.50	86.69	MWD	
2000.00	2005.30	2000.38	299.86	4.08	4.07	6.48	751.69	760.91	82.51	MWD	
2100.00	2104.76	2099.84	299.87	4.29	4.28	6.63	750.59	760.24	78.77	MWD	
2200.00	2203.02	2198.10	299.89	4.50	4.49	6.79	749.66	759.74	75.42	MWD	
2300.00	2302.37	2297.46	299.92	4.71	4.70	6.95	748.87	759.38	72.22	MWD	
2400.00	2401.29	2396.37	299.95	4.91	4.90	7.11	748.16	759.11	69.31	MWD	
2500.00	2498.37	2493.45	299.97	5.12	5.11	7.27	747.78	759.16	66.70	MWD	
2600.00	2596.97	2592.05	300.01	5.33	5.32	7.44	747.63	759.45	64.27	MWD	
2700.00	2695.14	2690.22	300.03	5.53	5.52	7.60	747.76	760.01	62.05	MWD	
2800.00	2794.36	2789.45	300.07	5.74	5.73	7.78	747.98	760.66	59.98	MWD	
2900.00	2892.48	2887.58	300.10	5.95	5.94	7.95	748.44	761.55	58.08	MWD	
3000.00	2992.00	2987.10	300.09	6.15	6.15	8.13	749.04	762.58	56.30	MWD	
3100.00	3092.89	3087.99	300.06	6.36	6.36	8.31	749.62	763.60	54.64	MWD	
3200.00	3195.81	3190.92	300.03	6.57	6.57	8.50	749.97	764.37	53.09	MWD	
3300.00	3297.55	3292.67	299.97	6.78	6.78	8.69	749.91	764.76	51.49	MWD	
3400.00	3397.97	3393.09	299.92	6.99	6.99	8.88	749.76	765.05	50.05	MWD	
3500.00	3499.54	3494.66	299.87	7.21	7.20	9.08	749.52	765.23	48.73	MWD	
3600.00	3608.44	3603.56	343.40	7.43	7.43	9.29	747.79	763.93	47.33	MWD	
3700.00	3721.10	3716.25	343.29	7.67	7.66	9.51	742.88	759.49	45.72	MWD	
3800.00	3825.55	3820.75	343.17	7.89	7.88	9.72	736.50	753.53	44.24	MWD	
3900.00	3929.27	3924.54	343.05	8.11	8.10	9.93	729.73	747.19	42.80	MWD	
4000.00	4037.91	4033.30	342.93	8.34	8.32	10.16	721.92	739.84	41.30	MWD	
4100.00	4143.79	4139.35	342.81	8.57	8.54	10.38	713.08	731.40	39.92	MWD	

Secondary Well: Ark 36 State 1H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
4200.00	4246.52	4242.29	342.65	8.80	8.76	10.60	703.60	722.34	38.56	MWD	
4300.00	4346.87	4342.86	342.48	9.02	8.97	10.81	693.77	712.96	37.14	MWD	
4400.00	4446.18	4442.40	342.31	9.24	9.19	11.03	683.96	703.56	35.90	MWD	
4500.00	4541.56	4537.99	342.15	9.45	9.39	11.25	674.24	694.28	34.66	MWD	
4600.00	4630.74	4627.30	341.96	9.65	9.58	11.45	665.75	686.20	33.56	MWD	
4700.00	4720.15	4716.80	341.74	9.84	9.77	11.66	658.77	679.63	32.59	MWD	
4800.00	4809.72	4806.42	341.48	10.02	9.96	11.87	653.32	674.57	31.74	MWD	
4900.00	4899.39	4896.14	341.19	10.21	10.14	12.08	649.41	671.04	31.02	MWD	
5000.00	4989.10	4985.89	340.86	10.39	10.33	12.29	646.99	669.04	30.34	MWD	
5100.00	5083.44	5080.32	340.48	10.58	10.52	12.52	645.93	668.42	29.71	MWD	
5200.00	5183.23	5180.21	340.08	10.79	10.73	12.76	645.13	668.06	29.14	MWD	
5300.00	5283.02	5280.10	339.68	11.00	10.94	13.01	644.37	667.73	28.58	MWD	
5400.00	5382.81	5379.99	339.27	11.21	11.15	13.27	643.61	667.43	28.02	MWD	
5500.00	5482.60	5479.87	338.87	11.42	11.37	13.52	642.95	667.16	27.55	MWD	
5600.00	5582.39	5579.76	338.46	11.63	11.58	13.78	642.25	666.93	27.02	MWD	
5700.00	5682.18	5679.65	338.06	11.84	11.79	14.05	641.63	666.73	26.56	MWD	
5800.00	5781.98	5779.54	337.65	12.05	12.00	14.32	641.04	666.57	26.11	MWD	
5900.00	5881.77	5879.43	337.25	12.27	12.22	14.59	640.47	666.44	25.66	MWD	
6000.00	5981.56	5979.32	336.84	12.48	12.43	14.87	639.99	666.34	25.29	MWD	
6100.00	6081.35	6079.21	336.44	12.70	12.64	15.15	639.42	666.28	24.81	MWD	
6200.00	6181.14	6179.09	336.03	12.92	12.86	15.44	638.95	666.24	24.41	MWD	
6300.00	6280.93	6278.98	335.63	13.14	13.07	15.73	638.52	666.25	24.03	MWD	
6400.00	6380.72	6378.87	335.22	13.36	13.29	16.03	638.07	666.28	23.62	MWD	
6500.00	6480.51	6478.76	334.82	13.58	13.50	16.33	637.70	666.35	23.26	MWD	
6600.00	6580.30	6578.65	334.41	13.80	13.72	16.64	637.40	666.45	22.94	MWD	
6700.00	6680.09	6678.54	334.00	14.02	13.93	16.95	637.05	666.59	22.56	MWD	
6800.00	6779.88	6778.42	333.60	14.24	14.15	17.26	636.76	666.76	22.23	MWD	
6900.00	6879.67	6878.31	333.19	14.46	14.36	17.58	636.53	666.96	21.92	MWD	
7000.00	6979.46	6978.20	332.79	14.69	14.58	17.91	636.35	667.20	21.63	MWD	
7100.00	7079.25	7078.09	332.39	14.91	14.80	18.24	636.18	667.47	21.33	MWD	
7200.00	7179.04	7177.98	331.98	15.13	15.01	18.57	636.02	667.77	21.03	MWD	
7300.00	7278.84	7277.87	331.58	15.36	15.23	18.91	635.90	668.11	20.75	MWD	
7400.00	7378.63	7377.76	331.18	15.58	15.45	19.26	635.84	668.48	20.48	MWD	
7500.00	7478.42	7477.64	330.77	15.81	15.67	19.61	635.82	668.88	20.23	MWD	
7600.00	7578.21	7577.53	330.37	16.04	15.88	19.97	635.83	669.31	19.99	MWD	
7700.00	7678.00	7677.42	329.97	16.26	16.10	20.33	635.86	669.78	19.75	MWD	
7800.00	7777.79	7777.31	329.57	16.49	16.32	20.69	635.88	670.28	19.48	MWD	
7900.00	7877.58	7877.20	329.17	16.72	16.54	21.07	635.94	670.82	19.23	MWD	
8000.00	7977.37	7977.09	328.77	16.95	16.76	21.44	636.04	671.38	18.99	MWD	
8100.00	8077.16	8076.97	328.37	17.17	16.98	21.83	636.17	671.98	18.77	MWD	
8200.00	8176.95	8176.86	327.97	17.40	17.20	22.21	636.35	672.62	18.55	MWD	
8300.00	8276.75	8276.76	327.60	17.63	17.42	22.61	637.17	673.86	18.37	MWD	
8400.00	8376.56	8376.67	103.65	17.86	17.63	23.01	639.57	676.66	18.25	MWD	
8500.00	8475.76	8475.96	103.80	18.09	17.85	23.41	645.34	682.78	18.24	MWD	
8600.00	8571.69	8571.99	104.79	18.31	18.06	23.80	655.72	693.56	18.33	MWD	
8700.00	8661.45	8661.83	106.18	18.51	18.26	24.18	672.21	710.38	18.61	MWD	
8800.00	8742.31	8742.77	107.36	18.70	18.44	24.52	696.52	735.06	19.07	MWD	
8900.00	8811.81	8812.34	107.66	18.86	18.59	24.81	730.32	769.32	19.73	MWD	
9000.00	8867.84	8868.43	106.38	18.99	18.72	25.05	774.76	814.14	20.68	MWD	
9100.00	8908.70	8909.33	102.86	19.08	18.81	25.23	829.50	869.39	21.80	MWD	
9200.00	8933.15	8933.80	96.47	19.14	18.86	25.33	893.52	933.76	23.21	MWD	
9300.00	8940.83	8941.48	89.23	19.16	18.88	25.37	964.42	1004.97	24.78	MWD	
9400.00	8943.07	8943.73	89.42	19.16	18.88	25.38	1039.93	1080.84	26.42	MWD	
9500.00	8945.32	8945.98	89.61	19.17	18.89	25.39	1119.27	1160.37	28.23	MWD	
9600.00	8947.57	8948.23	89.79	19.17	18.89	25.40	1201.51	1242.86	30.06	MWD	
9700.00	8949.81	8950.48	89.98	19.18	18.90	25.41	1286.15	1327.75	31.92	MWD	
9800.00	8952.06	8952.73	90.17	19.18	18.90	25.42	1372.81	1414.61	33.84	MWD	
9900.00	8954.31	8954.98	90.36	19.19	18.91	25.43	1461.16	1503.11	35.83	MWD	

Secondary Well: Ark 36 State 1H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
10000.00	8956.56	8957.23	90.55	19.20	18.91	25.44	1550.88	1592.96	37.85	MWD	
10100.00	8958.80	8959.48	90.74	19.20	18.92	25.45	1641.71	1683.96	39.86	MWD	
10200.00	8961.05	8961.73	90.93	19.21	18.92	25.46	1733.54	1775.92	41.91	MWD	
10300.00	8963.30	8963.98	91.12	19.21	18.93	25.47	1826.22	1868.70	44.00	MWD	
10400.00	8965.54	8966.23	91.31	19.22	18.93	25.48	1919.64	1962.19	46.11	MWD	
10500.00	8967.79	8968.48	91.50	19.22	18.94	25.49	2013.69	2056.29	48.27	MWD	
10600.00	8970.04	8970.73	91.69	19.23	18.94	25.49	2108.20	2150.92	50.34	MWD	
10700.00	8972.29	8972.98	91.88	19.23	18.95	25.50	2203.18	2246.01	52.43	MWD	
10800.00	8974.53	8975.23	92.07	19.24	18.95	25.51	2298.64	2341.51	54.62	MWD	
10900.00	8976.78	8977.48	92.26	19.24	18.96	25.52	2394.43	2437.37	56.76	MWD	
11000.00	8979.03	8979.73	92.44	19.25	18.96	25.53	2490.58	2533.55	58.96	MWD	
11100.00	8981.28	8981.97	92.63	19.25	18.97	25.54	2586.90	2630.01	61.01	MWD	
11200.00	8983.52	8984.22	92.82	19.26	18.97	25.55	2683.58	2726.73	63.20	MWD	
11300.00	8985.77	8986.47	93.01	19.26	18.98	25.56	2780.45	2823.67	65.34	MWD	
11400.00	8988.02	8988.72	93.20	19.27	18.98	25.57	2877.53	2920.81	67.49	MWD	
11500.00	8990.26	8990.97	93.39	19.27	18.99	25.58	2974.81	3018.14	69.65	MWD	
11600.00	8992.51	8993.22	93.57	19.28	18.99	25.59	3072.25	3115.64	71.81	MWD	
11700.00	8994.76	8995.47	93.76	19.28	19.00	25.60	3169.85	3213.29	73.98	MWD	
11800.00	8997.01	8997.72	93.95	19.29	19.00	25.61	3267.60	3311.08	76.15	MWD	
11900.00	8999.25	8999.97	94.14	19.29	19.01	25.62	3365.46	3408.99	78.31	MWD	
12000.00	9001.50	9002.22	94.33	19.30	19.01	25.63	3463.44	3507.03	80.46	MWD	
12100.00	9003.75	9004.47	94.51	19.30	19.02	25.64	3561.53	3605.16	82.61	MWD	
12200.00	9006.00	9006.72	94.70	19.31	19.02	25.65	3659.71	3703.40	84.76	MWD	
12300.00	9008.24	9008.97	94.89	19.31	19.03	25.66	3757.98	3801.73	86.89	MWD	
12400.00	9010.49	9011.22	95.07	19.32	19.03	25.67	3856.33	3900.14	89.03	MWD	
12500.00	9012.74	9013.47	95.26	19.32	19.04	25.68	3954.76	3998.63	91.16	MWD	
12600.00	9014.98	9015.72	95.45	19.33	19.04	25.69	4053.27	4097.19	93.29	MWD	
12700.00	9017.23	9017.97	95.63	19.34	19.05	25.70	4151.84	4195.82	95.42	MWD	
12800.00	9019.48	9020.22	95.82	19.34	19.05	25.71	4250.48	4294.51	97.54	MWD	
12900.00	9021.73	9022.46	96.01	19.35	19.06	25.72	4349.17	4393.25	99.67	MWD	
13000.00	9023.97	9024.71	96.19	19.35	19.06	25.73	4447.92	4492.06	101.79	MWD	
13100.00	9026.22	9026.96	96.38	19.36	19.07	25.74	4546.72	4590.91	103.90	MWD	
13200.00	9028.47	9029.21	96.56	19.36	19.07	25.75	4645.57	4689.81	106.01	MWD	
13300.00	9030.71	9031.46	96.75	19.37	19.08	25.76	4744.46	4788.75	108.12	MWD	
13400.00	9032.96	9033.71	96.94	19.37	19.08	25.77	4843.40	4887.74	110.22	MWD	
13500.00	9035.21	9035.96	97.12	19.38	19.09	25.78	4942.37	4986.77	112.32	MWD	
13600.00	9037.46	9038.21	97.31	19.38	19.09	25.79	5041.38	5085.83	114.42	MWD	
13700.00	9039.70	9040.46	97.49	19.39	19.10	25.80	5140.43	5184.93	116.50	MWD	
13800.00	9041.95	9042.71	97.67	19.39	19.10	25.81	5239.50	5284.06	118.59	MWD	
13900.00	9044.20	9044.96	97.86	19.40	19.11	25.82	5338.61	5383.22	120.67	MWD	
14000.00	9046.45	9047.21	98.04	19.40	19.11	25.83	5437.75	5482.42	122.74	MWD	
14100.00	9048.69	9049.46	98.23	19.41	19.12	25.84	5536.91	5581.64	124.81	MWD	
14200.00	9050.94	9051.71	98.41	19.41	19.12	25.85	5636.11	5680.88	126.87	MWD	
14300.00	9053.19	9053.96	98.59	19.42	19.13	25.86	5735.32	5780.15	128.93	MWD	
14400.00	9055.43	9056.21	98.78	19.42	19.13	25.87	5834.56	5879.45	130.98	MWD	
14500.00	9057.68	9058.46	98.96	19.43	19.14	25.88	5933.82	5978.77	133.02	MWD	
14600.00	9059.93	9060.71	99.14	19.43	19.14	25.89	6033.11	6078.11	135.06	MWD	
14700.00	9062.18	9062.95	99.33	19.44	19.15	25.90	6132.41	6177.47	137.10	MWD	
14800.00	9064.42	9065.20	99.51	19.44	19.15	25.91	6231.73	6276.85	139.12	MWD	
14900.00	9066.67	9067.45	99.69	19.45	19.16	25.92	6331.07	6376.25	141.14	MWD	
15000.00	9068.92	9069.70	99.87	19.45	19.16	25.93	6430.43	6475.66	143.16	MWD	
15100.00	9071.17	9071.95	100.05	19.46	19.17	25.94	6529.80	6575.09	145.17	MWD	
15200.00	9073.41	9074.20	100.23	19.47	19.17	25.95	6629.19	6674.54	147.17	MWD	
15300.00	9075.66	9076.45	100.42	19.47	19.18	25.96	6728.59	6774.01	149.16	MWD	
15400.00	9077.91	9078.70	100.60	19.48	19.18	25.97	6828.01	6873.49	151.15	MWD	
15500.00	9080.15	9080.95	100.78	19.48	19.19	25.98	6927.45	6972.98	153.13	MWD	
15600.00	9082.40	9083.20	100.96	19.49	19.19	25.99	7026.89	7072.49	155.11	MWD	
15700.00	9084.65	9085.45	101.14	19.49	19.20	26.00	7126.35	7172.01	157.08	MWD	

Secondary Well: Ark 36 State 1H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
15800.00	9086.90	9087.70	101.32	19.50	19.20	26.01	7225.82	7271.54	159.04	MWD	
15900.00	9089.14	9089.95	101.50	19.50	19.21	26.02	7325.30	7371.09	160.99	MWD	
16000.00	9091.39	9092.20	101.68	19.51	19.21	26.03	7424.79	7470.64	162.94	MWD	
16100.00	9093.64	9094.45	101.85	19.51	19.22	26.04	7524.29	7570.21	164.88	MWD	
16200.00	9095.88	9096.70	102.03	19.52	19.22	26.05	7623.81	7669.79	166.81	MWD	
16300.00	9098.13	9098.95	102.21	19.52	19.23	26.06	7723.33	7769.37	168.74	MWD	
16400.00	9100.38	9101.20	102.39	19.53	19.23	26.07	7822.86	7868.97	170.64	MWD	
16500.00	9102.63	9103.44	102.57	19.53	19.24	26.08	7922.40	7968.58	172.54	MWD	
16600.00	9104.87	9105.69	102.74	19.54	19.24	26.09	8021.94	8068.20	174.44	MWD	
16700.00	9107.12	9107.94	102.92	19.54	19.25	26.10	8121.50	8167.82	176.32	MWD	
16800.00	9109.37	9110.19	103.10	19.55	19.25	26.11	8221.06	8267.45	178.20	MWD	
16900.00	9111.62	9112.44	103.28	19.55	19.26	26.12	8320.63	8367.10	180.07	MWD	
17000.00	9113.86	9114.69	103.45	19.56	19.26	26.13	8420.21	8466.75	181.94	MWD	
17100.00	9116.11	9116.94	103.63	19.56	19.27	26.14	8519.79	8566.40	183.79	MWD	
17200.00	9118.36	9119.19	103.80	19.57	19.27	26.15	8619.38	8666.07	185.64	MWD	
17300.00	9120.60	9121.44	103.98	19.57	19.28	26.16	8718.98	8765.74	187.48	MWD	
17400.00	9122.85	9123.69	104.15	19.58	19.28	26.17	8818.59	8865.42	189.32	MWD	
17500.00	9125.10	9125.94	104.33	19.58	19.29	26.18	8918.20	8965.10	191.15	MWD	
17600.00	9127.35	9128.19	104.50	19.59	19.29	26.19	9017.82	9064.79	192.97	MWD	
17700.00	9129.59	9130.44	104.68	19.60	19.30	26.20	9117.44	9164.49	194.78	MWD	
17800.00	9131.84	9132.69	104.85	19.60	19.30	26.21	9217.07	9264.19	196.58	MWD	
17900.00	9134.09	9134.94	105.02	19.61	19.31	26.22	9316.70	9363.90	198.38	MWD	
18000.00	9136.34	9137.19	105.20	19.61	19.31	26.23	9416.34	9463.62	200.17	MWD	
18100.00	9138.58	9139.44	105.37	19.62	19.32	26.24	9515.98	9563.34	201.96	MWD	
18200.00	9140.83	9141.69	105.54	19.62	19.32	26.25	9615.63	9663.06	203.73	MWD	
18300.00	9143.08	9143.93	105.71	19.63	19.33	26.26	9715.29	9762.79	205.50	MWD	
18400.00	9145.32	9146.18	105.89	19.63	19.33	26.27	9814.94	9862.53	207.26	MWD	
18500.00	9147.57	9148.43	106.06	19.64	19.34	26.28	9914.61	9962.27	209.01	MWD	
18600.00	9149.82	9150.68	106.23	19.64	19.34	26.29	10014.27	10062.01	210.76	MWD	
18700.00	9152.07	9152.93	106.40	19.65	19.35	26.30	10113.94	10161.76	212.50	MWD	
18800.00	9154.31	9155.18	106.57	19.65	19.35	26.31	10213.62	10261.52	214.23	MWD	
18834.87	9155.10	9155.97	106.63	19.65	19.35	26.31	10248.38	10296.31	214.83	MWD	

Secondary Well: Ark 36 State 1H (a)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
0.00	5.10	0.00	300.76	0.00	0.00	0.00	775.17	775.94	1008.01	MWD	
100.00	102.69	97.59	300.76	0.13	0.13	2.17	774.75	775.76	769.68	NSG Cont (Gyro)	
200.00	202.10	197.00	300.77	0.37	0.37	2.63	773.93	775.40	528.18	NSG Cont (Gyro)	
300.00	303.00	297.90	300.77	0.63	0.63	2.63	773.14	775.10	395.60	NSG Cont (Gyro)	
400.00	400.26	395.16	300.77	0.87	0.87	2.64	772.44	774.86	319.82	NSG Cont (Gyro)	
500.00	502.07	496.97	300.77	1.10	1.10	2.64	771.85	774.73	269.22	NSG Cont (Gyro)	
600.00	598.71	593.61	300.76	1.21	1.21	2.65	771.47	774.68	241.25	NSG Cont (Gyro)	
700.00	697.26	692.16	300.76	1.25	1.25	2.65	771.50	774.98	222.76	NSG Cont (Gyro)	
800.00	803.45	798.35	300.72	1.40	1.40	2.66	771.13	774.98	201.44	NSG Cont (Gyro)	
900.00	912.26	907.18	300.62	1.63	1.63	2.67	769.59	773.90	179.63	NSG Cont (Gyro)	
1000.00	1016.54	1011.49	300.49	1.88	1.88	2.68	767.21	771.98	161.51	NSG Cont (Gyro)	
1100.00	1115.24	1110.23	300.38	2.13	2.13	2.69	764.56	769.81	146.61	NSG Cont (Gyro)	
1200.00	1213.83	1208.84	300.29	2.38	2.37	2.70	762.29	768.02	134.17	NSG Cont (Gyro)	
1300.00	1312.32	1307.36	300.20	2.63	2.62	2.71	760.04	766.24	123.60	NSG Cont (Gyro)	

Secondary Well: Ark 36 State 1H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
1400.00	1407.70	1402.75	300.12	2.87	2.87	2.73	758.23	764.90	114.75	NSG Cont (Gyro)	
1500.00	1504.88	1499.94	300.05	3.11	3.11	2.74	757.00	764.14	107.13	NSG Cont (Gyro)	
1600.00	1605.82	1600.89	299.98	3.36	3.36	2.75	755.87	763.48	100.32	NSG Cont (Gyro)	
1700.00	1705.74	1700.81	299.93	3.62	3.62	2.76	754.60	762.69	94.26	NSG Cont (Gyro)	
1800.00	1804.27	1799.34	299.90	3.87	3.87	2.77	753.46	762.03	88.92	NSG Cont (Gyro)	
1900.00	1903.89	1898.96	299.86	4.13	4.13	2.79	752.45	761.50	84.12	NSG Cont (Gyro)	
2000.00	2005.30	2000.38	299.86	4.38	4.38	2.80	751.39	760.91	79.88	NSG Cont (Gyro)	
2100.00	2104.76	2099.84	299.87	4.59	4.59	2.81	750.28	760.24	76.31	NSG Cont (Gyro)	
2200.00	2203.02	2198.10	299.89	4.80	4.79	2.82	749.35	759.74	73.16	NSG Cont (Gyro)	
2300.00	2302.37	2297.46	299.92	4.97	4.97	2.84	748.61	759.38	70.47	NSG Cont (Gyro)	
2400.00	2401.29	2396.37	299.95	5.13	5.12	2.85	747.95	759.11	68.02	NSG Cont (Gyro)	
2500.00	2498.37	2493.45	299.97	5.22	5.22	2.87	747.68	759.16	66.11	NSG Cont (Gyro)	
2600.00	2596.97	2592.05	300.01	5.28	5.27	2.88	747.68	759.45	64.55	NSG Cont (Gyro)	
2700.00	2695.14	2690.22	300.03	5.33	5.33	2.90	747.96	760.01	63.09	NSG Cont (Gyro)	
2800.00	2794.36	2789.45	300.07	5.39	5.39	2.91	748.33	760.66	61.69	NSG Cont (Gyro)	
2900.00	2892.48	2887.58	300.10	5.46	5.46	2.93	748.93	761.55	60.34	NSG Cont (Gyro)	
3000.00	2992.00	2987.10	300.09	5.55	5.54	2.94	749.65	762.58	58.99	NSG Cont (Gyro)	
3100.00	3092.89	3087.99	300.06	5.65	5.64	2.96	750.33	763.60	57.57	NSG Cont (Gyro)	
3200.00	3195.81	3190.92	300.03	5.77	5.77	2.98	750.76	764.37	56.14	NSG Cont (Gyro)	
3300.00	3297.55	3292.67	299.97	5.93	5.93	3.00	750.77	764.76	54.68	NSG Cont (Gyro)	
3400.00	3397.97	3393.09	299.92	6.10	6.10	3.02	750.66	765.05	53.18	NSG Cont (Gyro)	
3500.00	3499.54	3494.66	299.87	6.29	6.29	3.05	750.42	765.23	51.67	NSG Cont (Gyro)	
3600.00	3608.44	3603.56	343.40	6.52	6.52	3.07	748.68	763.93	50.06	NSG Cont (Gyro)	
3700.00	3721.10	3716.25	343.29	6.78	6.78	3.10	743.79	759.49	48.35	NSG Cont (Gyro)	
3800.00	3825.55	3820.75	343.17	7.01	7.01	3.13	737.37	753.53	46.61	NSG Cont (Gyro)	
3900.00	3929.27	3924.54	343.05	7.25	7.25	3.16	730.58	747.19	45.00	NSG Cont (Gyro)	
4000.00	4037.91	4033.30	342.93	7.50	7.49	3.19	722.75	739.84	43.30	NSG Cont (Gyro)	
4100.00	4143.79	4139.35	342.81	7.75	7.73	3.22	713.90	731.40	41.79	NSG Cont (Gyro)	
4200.00	4246.52	4242.29	342.65	7.99	7.97	3.26	704.37	722.34	40.20	NSG Cont (Gyro)	
4300.00	4346.57	4342.56	342.48	8.18	8.16	5.64	694.59	712.97	38.79	MWD (Wft MWD Svy)	
4400.00	4445.26	4441.47	342.31	8.30	8.28	10.56	684.99	703.66	37.70	MWD (Wft MWD Svy)	
4500.00	4540.74	4537.14	342.17	8.32	8.30	11.23	675.76	694.65	36.76	MWD (Wft MWD Svy)	
4600.00	4627.99	4624.51	342.06	8.33	8.31	11.43	667.63	686.80	35.83	MWD (Wft MWD Svy)	
4700.00	4714.53	4711.10	341.92	8.35	8.33	11.63	661.43	680.84	35.08	MWD (Wft MWD Svy)	
4800.00	4801.09	4797.67	341.76	8.37	8.35	11.83	657.18	676.83	34.45	MWD (Wft MWD Svy)	

Secondary Well: Ark 36 State 1H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	FS (US ft)	CC (US ft)	SF	Survey Tool	Risk
4900.00	4892.35	4888.93	341.62	8.39	8.38	12.04	654.68	674.57	33.92	MWD (Wft MWD Svy)	
5000.00	4987.86	4984.47	341.40	8.42	8.41	12.27	653.08	673.22	33.43	MWD (Wft MWD Svy)	
5100.00	5081.77	5078.46	341.05	8.46	8.44	12.50	652.17	672.55	33.00	MWD (Wft MWD Svy)	
5200.00	5179.23	5176.05	340.60	8.50	8.48	12.74	652.02	672.70	32.53	MWD (Wft MWD Svy)	
5300.00	5280.99	5277.96	340.13	8.54	8.53	12.99	651.89	672.83	32.12	MWD (Wft MWD Svy)	
5400.00	5380.33	5377.43	339.67	8.59	8.57	13.24	651.60	672.80	31.74	MWD (Wft MWD Svy)	
5500.00	5481.15	5478.38	339.23	8.64	8.63	13.50	651.35	672.82	31.33	MWD (Wft MWD Svy)	
5600.00	5580.98	5578.33	338.79	8.70	8.69	13.76	651.01	672.76	30.93	MWD (Wft MWD Svy)	
5700.00	5679.31	5676.79	338.34	8.77	8.75	14.02	650.81	672.85	30.53	MWD (Wft MWD Svy)	
5800.00	5779.62	5777.23	337.89	8.84	8.82	14.30	650.71	673.06	30.12	MWD (Wft MWD Svy)	
5900.00	5881.24	5878.98	337.43	8.92	8.89	14.57	650.44	673.08	29.73	MWD (Wft MWD Svy)	
6000.00	5980.72	5978.57	336.99	9.00	8.97	14.85	650.16	673.09	29.36	MWD (Wft MWD Svy)	
6100.00	6081.49	6079.46	336.55	9.09	9.05	15.14	649.78	673.00	28.98	MWD (Wft MWD Svy)	
6200.00	6180.33	6178.41	336.12	9.18	9.14	15.42	649.45	673.01	28.56	MWD (Wft MWD Svy)	
6300.00	6280.44	6278.63	335.70	9.28	9.23	15.71	649.20	673.10	28.16	MWD (Wft MWD Svy)	
6400.00	6380.16	6378.46	335.28	9.38	9.32	16.01	648.91	673.14	27.79	MWD (Wft MWD Svy)	
6500.00	6480.46	6478.86	334.87	9.48	9.42	16.31	648.75	673.30	27.43	MWD (Wft MWD Svy)	
6600.00	6580.68	6579.17	334.46	9.59	9.52	16.62	648.40	673.27	27.07	MWD (Wft MWD Svy)	
6700.00	6679.08	6677.68	334.05	9.71	9.63	16.93	648.23	673.43	26.73	MWD (Wft MWD Svy)	
6800.00	6777.39	6776.09	333.64	9.82	9.74	17.24	648.27	673.82	26.38	MWD (Wft MWD Svy)	
6900.00	6877.82	6876.64	333.23	9.95	9.85	17.56	648.48	674.38	26.04	MWD (Wft MWD Svy)	
7000.00	6979.38	6978.30	332.82	10.07	9.97	17.89	648.48	674.72	25.71	MWD (Wft MWD Svy)	
7100.00	7079.46	7078.47	332.45	10.20	10.09	18.22	648.34	674.92	25.39	MWD (Wft MWD Svy)	
7200.00	7181.96	7181.05	332.08	10.33	10.21	18.57	648.07	674.99	25.07	MWD (Wft MWD Svy)	
7300.00	7283.14	7282.29	331.74	10.46	10.33	18.91	647.48	674.75	24.74	MWD (Wft MWD Svy)	
7400.00	7373.52	7372.76	331.37	10.58	10.45	19.22	647.54	675.14	24.46	MWD (Wft MWD Svy)	
7500.00	7469.14	7468.55	330.90	10.72	10.57	19.56	648.65	676.59	24.22	MWD (Wft MWD Svy)	
7600.00	7568.11	7567.72	330.40	10.87	10.71	19.91	650.15	678.42	23.99	MWD (Wft MWD Svy)	
7700.00	7668.53	7668.33	329.91	11.02	10.85	20.27	651.70	680.35	23.75	MWD (Wft MWD Svy)	
7800.00	7778.69	7778.70	329.31	11.19	11.00	20.68	652.21	681.26	23.45	MWD (Wft MWD Svy)	
7900.00	7876.60	7876.78	328.77	11.34	11.14	21.04	652.24	681.68	23.16	MWD (Wft MWD Svy)	
8000.00	7971.97	7972.30	328.29	11.50	11.28	21.40	652.94	682.76	22.90	MWD (Wft MWD Svy)	
8100.00	8070.40	8070.90	327.81	11.65	11.42	21.78	653.95	684.15	22.65	MWD (Wft MWD Svy)	
8200.00	8169.43	8170.11	327.32	11.82	11.57	22.17	655.34	685.93	22.42	MWD (Wft MWD Svy)	
8300.00	8272.47	8273.32	326.84	11.98	11.72	22.57	656.96	687.92	22.22	MWD (Wft MWD Svy)	

Secondary Well: Ark 36 State 1H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
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8400.00	8373.11	8374.13	102.77	12.15	11.87	22.98	659.92	691.20	22.10	MWD (Wft MWD Svy)	
8500.00	8477.17	8478.35	102.84	12.32	12.02	23.40	665.80	697.33	22.11	MWD (Wft MWD Svy)	
8600.00	8578.01	8579.30	103.93	12.48	12.18	23.81	675.04	706.93	22.17	MWD (Wft MWD Svy)	
8700.00	8664.42	8665.79	105.27	12.63	12.31	24.17	689.93	722.11	22.44	MWD (Wft MWD Svy)	
8800.00	8740.31	8741.75	106.33	12.76	12.43	24.49	713.04	745.58	22.91	MWD (Wft MWD Svy)	
8900.00	8806.30	8807.78	106.53	12.87	12.54	24.77	745.90	778.83	23.65	MWD (Wft MWD Svy)	
9000.00	8860.38	8861.90	105.24	12.96	12.63	25.00	789.33	822.68	24.66	MWD (Wft MWD Svy)	
9100.00	8898.80	8900.35	101.66	13.03	12.69	25.17	843.18	876.97	25.95	MWD (Wft MWD Svy)	
9200.00	8921.37	8922.93	95.30	13.07	12.72	25.27	906.12	940.35	27.48	MWD (Wft MWD Svy)	
9300.00	8927.43	8929.00	88.14	13.08	12.73	25.29	976.01	1010.49	29.30	MWD (Wft MWD Svy)	
9400.00	8928.08	8929.65	88.19	13.08	12.74	25.30	1050.48	1085.36	31.12	MWD (Wft MWD Svy)	
9500.00	8928.74	8930.31	88.24	13.08	12.74	25.30	1128.84	1164.01	33.10	MWD (Wft MWD Svy)	
9600.00	8929.42	8930.99	88.30	13.08	12.74	25.30	1210.38	1245.72	35.25	MWD (Wft MWD Svy)	
9700.00	8930.11	8931.68	88.36	13.08	12.74	25.31	1294.38	1329.93	37.40	MWD (Wft MWD Svy)	
9800.00	8930.82	8932.39	88.42	13.08	12.74	25.31	1380.39	1416.20	39.55	MWD (Wft MWD Svy)	
9900.00	8931.55	8933.12	88.48	13.08	12.74	25.31	1468.17	1504.17	41.78	MWD (Wft MWD Svy)	
10000.00	8932.30	8933.87	88.54	13.08	12.74	25.31	1557.41	1593.56	44.07	MWD (Wft MWD Svy)	
10100.00	8933.06	8934.63	88.60	13.09	12.74	25.32	1647.87	1684.14	46.42	MWD (Wft MWD Svy)	
10200.00	8933.84	8935.42	88.67	13.09	12.74	25.32	1739.36	1775.74	48.82	MWD (Wft MWD Svy)	
10300.00	8934.65	8936.22	88.73	13.09	12.75	25.32	1831.70	1868.19	51.20	MWD (Wft MWD Svy)	
10400.00	8935.47	8937.05	88.80	13.09	12.75	25.33	1924.80	1961.39	53.61	MWD (Wft MWD Svy)	
10500.00	8936.32	8937.89	88.87	13.09	12.75	25.33	2018.56	2055.22	56.06	MWD (Wft MWD Svy)	
10600.00	8937.18	8938.76	88.94	13.09	12.75	25.34	2112.86	2149.61	58.49	MWD (Wft MWD Svy)	
10700.00	8938.08	8939.65	89.02	13.09	12.75	25.34	2207.60	2244.49	60.84	MWD (Wft MWD Svy)	
10800.00	8938.99	8940.57	89.09	13.10	12.75	25.34	2302.87	2339.79	63.38	MWD (Wft MWD Svy)	
10900.00	8939.93	8941.51	89.17	13.10	12.75	25.35	2398.45	2435.47	65.79	MWD (Wft MWD Svy)	
11000.00	8940.90	8942.48	89.25	13.10	12.76	25.35	2494.46	2531.48	68.37	MWD (Wft MWD Svy)	
11100.00	8941.90	8943.48	89.33	13.10	12.76	25.36	2590.62	2627.79	70.69	MWD (Wft MWD Svy)	
11200.00	8942.92	8944.50	89.42	13.10	12.76	25.36	2687.16	2724.37	73.21	MWD (Wft MWD Svy)	
11300.00	8943.98	8945.56	89.50	13.10	12.76	25.37	2783.94	2821.18	75.74	MWD (Wft MWD Svy)	
11400.00	8945.06	8946.65	89.59	13.11	12.76	25.37	2880.91	2918.21	78.23	MWD (Wft MWD Svy)	
11500.00	8946.18	8947.77	89.69	13.11	12.76	25.37	2978.09	3015.43	80.74	MWD (Wft MWD Svy)	
11600.00	8947.33	8948.92	89.78	13.11	12.77	25.38	3075.44	3112.83	83.26	MWD (Wft MWD Svy)	
11700.00	8948.52	8950.11	89.88	13.11	12.77	25.39	3172.96	3210.39	85.77	MWD (Wft MWD Svy)	
11800.00	8949.75	8951.34	89.98	13.11	12.77	25.39	3270.61	3308.09	88.26	MWD (Wft MWD Svy)	

Secondary Well: Ark 36 State 1H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											Risk
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
11900.00	8951.02	8952.61	90.08	13.12	12.77	25.40	3368.40	3405.93	90.75	MWD (Wft MWD Svy)	
12000.00	8952.33	8953.92	90.19	13.12	12.77	25.40	3466.31	3503.89	93.24	MWD (Wft MWD Svy)	
12100.00	8953.68	8955.27	90.30	13.12	12.78	25.41	3564.33	3601.96	95.73	MWD (Wft MWD Svy)	
12200.00	8955.07	8956.67	90.42	13.12	12.78	25.41	3662.46	3700.13	98.22	MWD (Wft MWD Svy)	
12300.00	8956.52	8958.11	90.54	13.13	12.78	25.42	3760.68	3798.40	100.70	MWD (Wft MWD Svy)	
12400.00	8958.02	8959.61	90.66	13.13	12.78	25.43	3858.99	3896.75	103.18	MWD (Wft MWD Svy)	
12500.00	8959.56	8961.16	90.79	13.13	12.79	25.43	3957.38	3995.19	105.66	MWD (Wft MWD Svy)	
12600.00	8961.17	8962.77	90.92	13.13	12.79	25.44	4055.84	4093.70	108.12	MWD (Wft MWD Svy)	
12700.00	8962.83	8964.44	91.06	13.14	12.79	25.45	4154.37	4192.28	110.57	MWD (Wft MWD Svy)	
12800.00	8964.56	8966.16	91.20	13.14	12.79	25.45	4252.97	4290.93	113.02	MWD (Wft MWD Svy)	
12900.00	8966.36	8967.96	91.35	13.14	12.80	25.46	4351.62	4389.64	115.46	MWD (Wft MWD Svy)	
13000.00	8968.22	8969.83	91.50	13.15	12.80	25.47	4450.33	4488.41	117.89	MWD (Wft MWD Svy)	
13100.00	8970.16	8971.77	91.66	13.15	12.80	25.48	4549.10	4587.22	120.31	MWD (Wft MWD Svy)	
13200.00	8972.18	8973.79	91.83	13.15	12.81	25.49	4647.91	4686.09	122.73	MWD (Wft MWD Svy)	
13300.00	8974.28	8975.89	92.00	13.16	12.81	25.50	4746.77	4785.01	125.15	MWD (Wft MWD Svy)	
13400.00	8976.47	8978.08	92.18	13.16	12.81	25.51	4845.67	4883.96	127.55	MWD (Wft MWD Svy)	
13500.00	8978.75	8980.37	92.37	13.16	12.82	25.52	4944.62	4982.96	129.95	MWD (Wft MWD Svy)	
13600.00	8981.14	8982.76	92.56	13.17	12.82	25.53	5043.60	5082.00	132.34	MWD (Wft MWD Svy)	
13700.00	8983.35	8984.97	92.74	13.17	12.82	25.54	5142.62	5181.07	134.73	MWD (Wft MWD Svy)	
13800.00	8985.34	8986.96	92.91	13.17	12.83	25.55	5241.67	5280.18	137.11	MWD (Wft MWD Svy)	
13900.00	8987.37	8988.99	93.07	13.18	12.83	25.55	5340.76	5379.32	139.49	MWD (Wft MWD Svy)	
14000.00	8989.44	8991.07	93.24	13.18	12.83	25.56	5439.88	5478.50	141.86	MWD (Wft MWD Svy)	
14100.00	8991.57	8993.20	93.42	13.18	12.84	25.57	5539.02	5577.70	144.22	MWD (Wft MWD Svy)	
14200.00	8993.74	8995.38	93.59	13.19	12.84	25.58	5638.19	5676.93	146.57	MWD (Wft MWD Svy)	
14300.00	8995.97	8997.60	93.78	13.19	12.84	25.59	5737.39	5776.18	148.92	MWD (Wft MWD Svy)	
14400.00	8998.25	8999.88	93.96	13.20	12.85	25.60	5836.62	5875.46	151.26	MWD (Wft MWD Svy)	
14500.00	9000.58	9002.22	94.15	13.20	12.85	25.61	5935.86	5974.76	153.59	MWD (Wft MWD Svy)	
14600.00	9002.97	9004.61	94.35	13.20	12.86	25.62	6035.13	6074.09	155.91	MWD (Wft MWD Svy)	
14700.00	9005.42	9007.06	94.55	13.21	12.86	25.63	6134.42	6173.43	158.22	MWD (Wft MWD Svy)	
14800.00	9007.93	9009.57	94.75	13.21	12.86	25.64	6233.72	6272.80	160.53	MWD (Wft MWD Svy)	
14900.00	9010.50	9012.15	94.96	13.22	12.87	25.66	6333.05	6372.19	162.82	MWD (Wft MWD Svy)	
15000.00	9013.14	9014.79	95.17	13.22	12.87	25.67	6432.40	6471.59	165.11	MWD (Wft MWD Svy)	
15100.00	9015.85	9017.50	95.39	13.23	12.88	25.68	6531.76	6571.01	167.39	MWD (Wft MWD Svy)	
15200.00	9018.63	9020.29	95.62	13.23	12.88	25.69	6631.13	6670.45	169.66	MWD (Wft MWD Svy)	
15300.00	9021.48	9023.14	95.85	13.24	12.88	25.70	6730.53	6769.91	171.92	MWD (Wft MWD Svy)	

Secondary Well: Ark 36 State 1H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
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15400.00	9024.41	9026.08	96.09	13.24	12.89	25.72	6829.94	6869.38	174.17	MWD (Wft MWD Svy)	
15500.00	9027.42	9029.09	96.33	13.25	12.89	25.73	6929.36	6968.86	176.42	MWD (Wft MWD Svy)	
15600.00	9030.52	9032.19	96.58	13.25	12.90	25.74	7028.79	7068.36	178.65	MWD (Wft MWD Svy)	
15700.00	9033.70	9035.38	96.84	13.26	12.90	25.76	7128.24	7167.87	180.88	MWD (Wft MWD Svy)	
15800.00	9036.97	9038.65	97.10	13.26	12.91	25.77	7227.70	7267.39	183.10	MWD (Wft MWD Svy)	
15900.00	9040.34	9042.02	97.37	13.27	12.91	25.79	7327.17	7366.93	185.31	MWD (Wft MWD Svy)	
16000.00	9043.80	9045.49	97.65	13.27	12.92	25.80	7426.66	7466.48	187.51	MWD (Wft MWD Svy)	
16100.00	9047.37	9049.07	97.93	13.28	12.93	25.82	7526.15	7566.03	189.70	MWD (Wft MWD Svy)	
16200.00	9051.05	9052.75	98.23	13.29	12.93	25.83	7625.66	7665.60	191.88	MWD (Wft MWD Svy)	
16300.00	9054.84	9056.55	98.53	13.29	12.94	25.85	7725.17	7765.18	194.06	MWD (Wft MWD Svy)	
16400.00	9058.75	9060.46	98.84	13.30	12.94	25.87	7824.70	7864.77	196.24	MWD (Wft MWD Svy)	
16500.00	9062.79	9064.50	99.16	13.31	12.95	25.89	7924.23	7964.37	198.41	MWD (Wft MWD Svy)	
16600.00	9066.95	9068.67	99.49	13.31	12.96	25.90	8023.76	8063.98	200.51	MWD (Wft MWD Svy)	
16700.00	9071.25	9072.97	99.83	13.32	12.96	25.92	8123.30	8163.60	202.59	MWD (Wft MWD Svy)	
16800.00	9075.70	9077.42	100.18	13.33	12.97	25.94	8222.84	8263.22	204.65	MWD (Wft MWD Svy)	
16900.00	9079.70	9081.44	100.49	13.33	12.98	25.96	8322.40	8362.85	206.71	MWD (Wft MWD Svy)	
17000.00	9083.50	9085.23	100.79	13.34	12.98	25.98	8421.96	8462.50	208.76	MWD (Wft MWD Svy)	
17100.00	9087.38	9089.12	101.09	13.35	12.99	25.99	8521.53	8562.14	210.81	MWD (Wft MWD Svy)	
17200.00	9091.36	9093.10	101.40	13.36	13.00	26.01	8621.11	8661.80	212.88	MWD (Wft MWD Svy)	
17300.00	9095.43	9097.18	101.72	13.36	13.00	26.03	8720.71	8761.46	215.01	MWD (Wft MWD Svy)	
17400.00	9099.60	9101.36	102.04	13.37	13.01	26.05	8820.32	8861.13	217.16	MWD (Wft MWD Svy)	
17500.00	9103.88	9105.64	102.38	13.38	13.02	26.07	8919.88	8960.81	218.95	MWD (Wft MWD Svy)	
17600.00	9108.27	9110.03	102.71	13.38	13.02	26.09	9019.50	9060.49	221.03	MWD (Wft MWD Svy)	
17700.00	9112.76	9114.53	103.06	13.39	13.03	26.11	9119.09	9160.17	222.96	MWD (Wft MWD Svy)	
17800.00	9117.37	9119.15	103.41	13.40	13.04	26.13	9218.71	9259.87	224.97	MWD (Wft MWD Svy)	
17900.00	9122.11	9123.89	103.77	13.41	13.05	26.15	9318.38	9359.57	227.23	MWD (Wft MWD Svy)	
18000.00	9126.97	9128.76	104.14	13.42	13.05	26.17	9418.00	9459.27	229.21	MWD (Wft MWD Svy)	
18100.00	9131.96	9133.75	104.52	13.43	13.06	26.19	9517.60	9558.98	230.99	MWD (Wft MWD Svy)	
18200.00	9137.08	9138.88	104.91	13.43	13.07	26.22	9617.21	9658.69	232.85	MWD (Wft MWD Svy)	
18300.00	9142.35	9144.16	105.30	13.44	13.08	26.24	9716.84	9758.41	234.75	MWD (Wft MWD Svy)	
18400.00	9147.76	9149.58	105.70	13.45	13.09	26.26	9816.48	9858.13	236.67	MWD (Wft MWD Svy)	
18500.00	9153.33	9155.15	106.12	13.46	13.10	26.29	9916.12	9957.86	238.58	MWD (Wft MWD Svy)	
18600.00	9159.06	9160.89	106.54	13.47	13.11	26.31	10015.77	10057.59	240.49	MWD (Wft MWD Svy)	
18700.00	9164.95	9166.79	106.98	13.48	13.12	26.34	10115.42	10157.33	242.39	MWD (Wft MWD Svy)	
18800.00	9171.02	9172.87	107.42	13.49	13.13	26.37	10215.08	10257.07	244.28	MWD (Wft MWD Svy)	

Secondary Well: Ark 36 State 1H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
18834.87	9172.45	9174.30	107.52	13.50	13.13	26.37	10249.83	10291.85	244.94	MWD (Wft MWD Svy)	

Secondary Well: Tomb Raider 1-12 Fed 61H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
0.00	2.70	0.00	269.75	0.00	0.00	0.00	148.23	149.16	161.07	MWD (WFT MWD Svy 1)	
100.00	100.86	98.16	269.74	0.11	0.11	3.02	147.70	148.85	129.87	MWD (WFT MWD Svy 1)	
200.00	201.56	198.87	269.74	0.28	0.28	4.62	146.47	148.00	96.47	MWD (WFT MWD Svy 1)	
300.00	301.52	298.83	269.92	0.49	0.48	4.65	144.91	146.88	74.69	MWD (WFT MWD Svy 1)	
400.00	401.21	398.52	269.90	0.69	0.68	4.69	143.57	145.97	61.02	MWD (WFT MWD Svy 1)	
500.00	501.22	498.54	269.85	0.89	0.89	4.75	142.34	145.16	51.42	MWD (WFT MWD Svy 1)	
600.00	601.41	598.74	269.74	1.11	1.10	4.81	140.99	144.25	44.26	MWD (WFT MWD Svy 1)	
700.00	701.53	698.86	269.53	1.32	1.32	4.89	139.52	143.22	38.68	MWD (WFT MWD Svy 1)	
800.00	801.73	799.07	269.35	1.46	1.46	4.97	138.21	142.11	36.38	MWD (WFT MWD Svy 2)	
900.00	901.83	899.18	269.17	1.54	1.53	5.06	136.59	140.80	33.47	MWD (WFT MWD Svy 2)	
1000.00	1001.70	999.06	269.00	1.58	1.58	5.16	135.07	139.54	31.18	MWD (WFT MWD Svy 2)	
1100.00	1101.36	1098.73	268.89	1.66	1.65	5.27	133.58	138.35	29.00	MWD (WFT MWD Svy 2)	
1200.00	1200.29	1197.66	268.98	1.75	1.74	5.39	132.75	137.85	27.07	MWD (WFT MWD Svy 2)	
1300.00	1300.10	1297.47	269.12	1.87	1.86	5.51	132.27	137.70	25.34	MWD (WFT MWD Svy 2)	
1400.00	1399.82	1397.19	269.23	1.99	1.99	5.63	131.93	137.71	23.80	MWD (WFT MWD Svy 2)	
1500.00	1499.80	1497.16	269.30	2.14	2.13	5.76	131.76	137.91	22.42	MWD (WFT MWD Svy 2)	
1600.00	1599.94	1597.30	269.41	2.29	2.28	5.90	131.47	137.99	21.15	MWD (WFT MWD Svy 2)	
1700.00	1700.01	1697.38	269.52	2.44	2.43	6.03	131.11	138.01	20.01	MWD (WFT MWD Svy 2)	
1800.00	1800.06	1797.42	269.64	2.60	2.60	6.18	130.69	137.98	18.92	MWD (WFT MWD Svy 2)	
1900.00	1900.09	1897.46	269.79	2.77	2.77	6.32	130.24	137.93	17.93	MWD (WFT MWD Svy 2)	
2000.00	1999.88	1997.25	269.96	2.96	2.95	6.48	129.83	137.93	17.03	MWD (WFT MWD Svy 2)	
2100.00	2099.64	2097.01	270.17	3.14	3.13	6.63	129.60	138.10	16.24	MWD (WFT MWD Svy 2)	
2200.00	2199.51	2196.88	270.39	3.33	3.32	6.79	129.50	138.41	15.54	MWD (WFT MWD Svy 2)	

Secondary Well: Tomb Raider 1-12 Fed 61H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
2300.00	2299.40	2296.77	270.60	3.51	3.51	6.95	129.49	138.81	14.89	MWD (WFT MWD Svy 2)	
2400.00	2399.47	2396.85	270.79	3.70	3.70	7.11	129.48	139.22	14.29	MWD (WFT MWD Svy 2)	
2500.00	2499.54	2496.92	270.96	3.89	3.89	7.28	129.43	139.57	13.76	MWD (WFT MWD Svy 2)	
2600.00	2599.60	2596.98	271.11	4.08	4.08	7.45	129.32	139.88	13.24	MWD (WFT MWD Svy 2)	
2700.00	2699.71	2697.09	271.23	4.27	4.27	7.62	129.16	140.14	12.75	MWD (WFT MWD Svy 2)	
2800.00	2799.94	2797.32	271.36	4.46	4.46	7.79	128.87	140.27	12.30	MWD (WFT MWD Svy 2)	
2900.00	2900.11	2897.49	271.52	4.66	4.66	7.97	128.42	140.24	11.87	MWD (WFT MWD Svy 2)	
3000.00	3000.18	2997.56	271.68	4.86	4.86	8.15	127.89	140.14	11.44	MWD (WFT MWD Svy 2)	
3100.00	3100.12	3097.50	271.84	5.06	5.06	8.33	127.33	140.01	11.04	MWD (WFT MWD Svy 2)	
3200.00	3199.94	3197.33	272.00	5.26	5.26	8.51	126.89	139.99	10.69	MWD (WFT MWD Svy 2)	
3300.00	3299.78	3297.16	272.18	5.46	5.46	8.70	126.59	140.09	10.37	MWD (WFT MWD Svy 2)	
3400.00	3399.61	3397.00	272.46	5.66	5.66	8.89	126.36	140.31	10.06	MWD (WFT MWD Svy 2)	
3500.00	3499.87	3497.26	272.77	5.87	5.86	9.08	126.16	140.53	9.78	MWD (WFT MWD Svy 2)	
3600.00	3600.25	3597.65	316.32	6.07	6.07	9.28	125.06	139.86	9.45	MWD (WFT MWD Svy 2)	
3700.00	3700.68	3698.08	315.66	6.27	6.27	9.48	122.46	137.69	9.05	MWD (WFT MWD Svy 2)	
3800.00	3801.09	3798.48	314.78	6.48	6.48	9.68	119.29	134.91	8.64	MWD (WFT MWD Svy 2)	
3900.00	3901.39	3898.80	313.78	6.68	6.68	9.88	115.81	131.85	8.22	MWD (WFT MWD Svy 2)	
4000.00	4001.67	3999.08	312.65	6.89	6.89	10.09	112.06	128.55	7.80	MWD (WFT MWD Svy 2)	
4100.00	4101.87	4099.29	311.31	7.10	7.10	10.30	108.15	125.04	7.40	MWD (WFT MWD Svy 2)	
4200.00	4201.70	4199.14	309.67	7.31	7.30	10.51	104.06	121.41	7.00	MWD (WFT MWD Svy 2)	
4300.00	4300.59	4298.06	307.99	7.51	7.51	10.72	100.64	118.39	6.67	MWD (WFT MWD Svy 2)	
4400.00	4399.86	4397.33	306.37	7.71	7.71	10.94	98.10	116.25	6.41	MWD (WFT MWD Svy 2)	
4500.00	4499.80	4497.27	304.73	7.91	7.91	11.16	95.78	114.38	6.15	MWD (WFT MWD Svy 2)	
4600.00	4599.39	4596.87	303.09	8.12	8.11	11.38	93.62	112.66	5.92	MWD (WFT MWD Svy 2)	
4700.00	4698.55	4696.03	301.59	8.32	8.31	11.61	92.18	111.62	5.74	MWD (WFT MWD Svy 2)	

Secondary Well: Tomb Raider 1-12 Fed 61H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	I.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
4800.00	4798.33	4795.82	300.25	8.52	8.52	11.84	91.37	111.20	5.61	MWD (WFT MWD Svy 2)	
4900.00	4898.68	4896.17	298.86	8.73	8.73	12.08	90.31	110.62	5.45	MWD (WFT MWD Svy 2)	
5000.00	4998.88	4996.37	297.41	8.94	8.94	12.32	89.06	109.81	5.29	MWD (WFT MWD Svy 2)	
5100.00	5099.01	5096.51	295.99	9.15	9.14	12.56	87.74	108.89	5.15	MWD (WFT MWD Svy 2)	
5200.00	5198.87	5196.37	294.60	9.35	9.35	12.81	86.39	107.97	5.00	MWD (WFT MWD Svy 2)	
5300.00	5298.65	5296.14	293.22	9.56	9.56	13.06	85.27	107.28	4.87	MWD (WFT MWD Svy 2)	
5400.00	5398.66	5396.16	291.86	9.77	9.76	13.31	84.26	106.73	4.75	MWD (WFT MWD Svy 2)	
5500.00	5498.73	5496.22	290.53	9.97	9.97	13.57	83.25	106.16	4.63	MWD (WFT MWD Svy 2)	
5600.00	5598.65	5596.15	289.17	10.18	10.18	13.83	82.29	105.61	4.53	MWD (WFT MWD Svy 2)	
5700.00	5698.57	5696.07	287.75	10.39	10.39	14.10	81.44	105.17	4.43	MWD (WFT MWD Svy 2)	
5800.00	5798.60	5796.11	286.30	10.60	10.59	14.37	80.63	104.78	4.34	MWD (WFT MWD Svy 2)	
5900.00	5898.59	5896.09	284.86	10.80	10.80	14.64	79.78	104.40	4.24	MWD (WFT MWD Svy 2)	
6000.00	5998.45	5995.95	283.32	10.97	10.96	14.92	79.19	104.18	4.17	MWD (WFT MWD Svy 3)	
6100.00	6098.15	6095.66	281.94	11.04	11.04	15.21	78.77	104.05	4.12	MWD (WFT MWD Svy 3)	
6200.00	6197.19	6194.72	281.43	11.04	11.04	15.49	79.17	104.68	4.10	MWD (WFT MWD Svy 3)	
6300.00	6295.97	6293.61	282.01	11.05	11.04	15.78	80.40	106.14	4.12	MWD (WFT MWD Svy 3)	
6400.00	6394.44	6392.28	283.35	11.07	11.05	16.07	83.02	108.96	4.20	MWD (WFT MWD Svy 3)	
6500.00	6492.73	6490.88	285.24	11.09	11.06	16.37	86.61	112.79	4.31	MWD (WFT MWD Svy 3)	
6600.00	6589.85	6588.47	287.42	11.12	11.08	16.66	91.97	118.32	4.49	MWD (WFT MWD Svy 3)	
6700.00	6686.14	6685.41	289.62	11.16	11.09	16.96	99.54	126.10	4.75	MWD (WFT MWD Svy 3)	
6800.00	6782.69	6782.85	291.81	11.20	11.12	17.26	109.25	136.05	5.08	MWD (WFT MWD Svy 3)	
6900.00	6881.19	6882.36	293.85	11.26	11.15	17.58	119.82	146.92	5.42	MWD (WFT MWD Svy 3)	
7000.00	6979.04	6981.21	295.73	11.32	11.19	17.90	130.27	157.61	5.76	MWD (WFT MWD Svy 3)	
7100.00	7077.68	7080.94	297.58	11.39	11.24	18.22	141.26	168.85	6.12	MWD (WFT MWD Svy 3)	
7200.00	7177.74	7181.97	299.08	11.46	11.29	18.56	151.55	179.43	6.44	MWD (WFT MWD Svy 3)	

Secondary Well: Tomb Raider 1-12 Fed 61H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
7300.00	7274.84	7279.97	300.30	11.55	11.34	18.89	161.68	189.82	6.75	MWD (WFT MWD Svy 3)	
7400.00	7374.87	7380.96	301.43	11.64	11.41	19.24	172.09	200.55	7.05	MWD (WFT MWD Svy 3)	
7500.00	7473.31	7480.27	302.41	11.74	11.47	19.59	181.99	210.76	7.33	MWD (WFT MWD Svy 3)	
7600.00	7569.07	7577.02	303.54	11.85	11.52	19.93	192.64	221.68	7.63	MWD (WFT MWD Svy 3)	
7700.00	7668.16	7677.21	304.71	11.97	11.60	20.28	203.77	233.12	7.94	MWD (WFT MWD Svy 3)	
7800.00	7768.37	7778.40	305.63	12.09	11.68	20.65	214.28	243.94	8.22	MWD (WFT MWD Svy 3)	
7900.00	7866.21	7877.18	306.42	12.22	11.76	21.02	224.72	254.67	8.50	MWD (WFT MWD Svy 3)	
8000.00	7964.64	7976.54	307.10	12.36	11.84	21.39	235.15	265.39	8.78	MWD (WFT MWD Svy 3)	
8100.00	8061.57	8074.46	307.78	12.50	11.92	21.77	246.19	276.72	9.06	MWD (WFT MWD Svy 3)	
8200.00	8161.08	8174.92	308.34	12.65	12.02	22.15	256.83	287.69	9.32	MWD (WFT MWD Svy 3)	
8300.00	8256.97	8271.80	308.84	12.80	12.11	22.53	268.63	299.74	9.63	MWD (WFT MWD Svy 3)	
8400.00	8357.53	8373.38	85.71	12.97	12.21	22.93	281.43	312.85	9.96	MWD (WFT MWD Svy 3)	
8500.00	8458.62	8475.29	87.36	13.13	12.32	23.35	292.73	324.45	10.23	MWD (WFT MWD Svy 3)	
8600.00	8554.99	8572.35	91.57	13.28	12.42	23.74	304.43	336.34	10.54	MWD (WFT MWD Svy 3)	
8700.00	8645.26	8663.15	97.12	13.42	12.52	24.12	320.20	352.32	10.97	MWD (WFT MWD Svy 3)	
8800.00	8722.83	8741.11	102.14	13.54	12.60	24.45	345.27	377.60	11.68	MWD (WFT MWD Svy 3)	
8900.00	8785.37	8804.00	104.99	13.64	12.67	24.71	383.92	416.64	12.73	MWD (WFT MWD Svy 3)	
9000.00	8832.40	8851.32	104.57	13.73	12.72	24.91	437.31	470.48	14.18	MWD (WFT MWD Svy 3)	
9100.00	8864.57	8883.72	100.10	13.78	12.76	25.05	503.77	537.38	15.99	MWD (WFT MWD Svy 3)	
9200.00	8881.41	8900.70	90.71	13.81	12.77	25.12	580.02	613.98	18.08	MWD (WFT MWD Svy 3)	
9300.00	8882.95	8902.25	79.65	13.82	12.78	25.13	662.22	696.43	20.36	MWD (WFT MWD Svy 3)	
9400.00	8879.60	8898.88	79.14	13.81	12.77	25.12	748.18	782.68	22.69	MWD (WFT MWD Svy 3)	
9500.00	8876.27	8895.52	78.62	13.80	12.77	25.10	837.26	871.86	25.20	MWD (WFT MWD Svy 3)	
9600.00	8872.96	8892.18	78.11	13.80	12.76	25.09	928.42	963.15	27.73	MWD (WFT MWD Svy 3)	
9700.00	8869.66	8888.86	77.61	13.79	12.76	25.07	1021.13	1056.01	30.28	MWD (WFT MWD Svy 3)	

Secondary Well: Tomb Raider 1-12 Fed 61H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
9800.00	8866.39	8885.56	77.11	13.79	12.76	25.06	1115.08	1150.06	32.88	MWD (WFT MWD Svy 3)	
9900.00	8863.13	8882.27	76.61	13.78	12.75	25.05	1209.99	1245.02	35.54	MWD (WFT MWD Svy 3)	
10000.00	8859.89	8879.01	76.11	13.78	12.75	25.03	1305.64	1340.71	38.23	MWD (WFT MWD Svy 3)	
10100.00	10204.64	11373.66	153.14	25.66	15.93	31.95	1368.35	1406.41	36.95	MWD (WFT MWD Svy 5)	
10200.00	10203.68	11482.82	153.04	27.20	16.23	32.62	1367.04	1406.48	35.67	MWD (WFT MWD Svy 5)	
10300.00	10202.68	11576.47	152.95	28.44	16.60	33.25	1365.63	1406.53	34.39	MWD (WFT MWD Svy 5)	
10400.00	10202.49	11678.62	152.91	29.93	16.97	33.99	1364.38	1406.80	33.16	MWD (WFT MWD Svy 5)	
10500.00	10202.32	11774.37	152.87	31.34	17.35	34.73	1363.14	1407.11	32.01	MWD (WFT MWD Svy 5)	
10600.00	10202.50	11864.47	152.83	32.65	17.74	35.46	1362.43	1407.93	30.94	MWD (WFT MWD Svy 5)	
10700.00	10202.72	11969.21	152.77	34.22	18.17	36.35	1361.73	1408.90	29.86	MWD (WFT MWD Svy 5)	
10800.00	10202.57	12067.74	152.69	35.77	18.60	37.23	1360.92	1409.82	28.83	MWD (WFT MWD Svy 5)	
10900.00	10201.93	12174.08	152.56	37.42	19.08	38.22	1359.89	1410.60	27.82	MWD (WFT MWD Svy 5)	
11000.00	10200.80	12279.62	152.45	39.06	19.58	39.23	1358.22	1410.73	26.87	MWD (WFT MWD Svy 5)	
11100.00	10200.22	12371.25	152.38	40.48	20.06	40.14	1356.71	1411.08	25.95	MWD (WFT MWD Svy 5)	
11200.00	10200.60	12461.55	152.33	41.86	20.56	41.06	1356.05	1412.17	25.16	MWD (WFT MWD Svy 5)	
11300.00	10202.17	12558.63	152.35	43.32	21.09	42.07	1355.89	1413.72	24.45	MWD (WFT MWD Svy 5)	
11400.00	10204.59	12660.60	152.45	44.92	21.64	43.17	1355.69	1415.24	23.77	MWD (WFT MWD Svy 5)	
11500.00	10206.81	12763.50	152.53	46.61	22.20	44.29	1355.36	1416.61	23.13	MWD (WFT MWD Svy 5)	
11600.00	10208.52	12890.89	152.63	48.71	22.85	45.71	1353.96	1417.24	22.40	MWD (WFT MWD Svy 5)	
11700.00	10207.67	13003.39	152.66	50.57	23.47	46.99	1350.81	1416.03	21.71	MWD (WFT MWD Svy 5)	
11800.00	10205.72	13110.34	152.66	52.39	24.07	48.23	1346.99	1413.99	21.11	MWD (WFT MWD Svy 5)	
11900.00	10204.60	13189.62	152.64	53.73	24.56	49.15	1343.82	1412.69	20.51	MWD (WFT MWD Svy 5)	
12000.00	10203.63	13293.28	152.61	55.42	25.17	50.38	1341.09	1411.97	19.92	MWD (WFT MWD Svy 5)	
12100.00	10202.16	13391.16	152.55	57.12	25.75	51.56	1338.24	1411.02	19.39	MWD (WFT MWD Svy 5)	
12200.00	10201.64	13467.00	152.50	58.39	26.24	52.48	1336.48	1411.18	18.89	MWD (WFT MWD Svy 5)	

Secondary Well: Tomb Raider 1-12 Fed 61H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
12300.00	10201.91	13574.35	152.46	60.07	26.90	53.79	1335.15	1411.91	18.40	MWD (WFT MWD Svy 5)	
12400.00	10202.05	13675.13	152.43	61.79	27.52	55.04	1333.67	1412.41	17.94	MWD (WFT MWD Svy 5)	
12500.00	10202.04	13778.69	152.42	63.50	28.16	56.34	1331.88	1412.60	17.50	MWD (WFT MWD Svy 5)	
12600.00	10201.86	13867.28	152.37	65.05	28.73	57.45	1330.48	1413.13	17.10	MWD (WFT MWD Svy 5)	
12700.00	10203.00	13954.58	152.35	66.43	29.30	58.56	1330.23	1414.74	16.74	MWD (WFT MWD Svy 5)	
12800.00	10203.41	14078.74	152.32	68.54	30.07	60.14	1328.77	1415.43	16.33	MWD (WFT MWD Svy 5)	
12900.00	10203.32	14181.07	152.30	70.28	30.72	61.46	1326.91	1415.57	15.97	MWD (WFT MWD Svy 5)	
13000.00	10202.67	14284.93	152.25	72.00	31.40	62.80	1324.68	1415.44	15.60	MWD (WFT MWD Svy 5)	
13100.00	10202.21	14387.96	152.24	73.80	32.06	64.14	1322.26	1415.08	15.25	MWD (WFT MWD Svy 5)	
13200.00	10201.38	14489.46	152.21	75.38	32.73	65.47	1319.66	1414.54	14.91	MWD (WFT MWD Svy 5)	
13300.00	10201.76	14584.39	152.28	76.95	33.36	66.72	1317.32	1414.10	14.61	MWD (WFT MWD Svy 5)	
13400.00	10202.40	14674.73	152.32	78.51	33.96	67.91	1315.54	1414.21	14.33	MWD (WFT MWD Svy 5)	
13500.00	10203.21	14781.19	152.36	80.27	34.67	69.33	1313.97	1414.61	14.05	MWD (WFT MWD Svy 5)	
13600.00	10203.49	14885.50	152.40	82.05	35.36	70.72	1311.81	1414.44	13.78	MWD (WFT MWD Svy 5)	
13700.00	10203.16	14989.46	152.41	83.90	36.05	72.11	1309.31	1413.97	13.51	MWD (WFT MWD Svy 5)	
13800.00	10202.96	15077.31	152.40	85.39	36.65	73.29	1307.19	1413.83	13.26	MWD (WFT MWD Svy 5)	
13900.00	10203.81	15165.96	152.43	86.80	37.25	74.48	1305.97	1414.52	13.03	MWD (WFT MWD Svy 5)	
14000.00	10205.75	15257.28	152.50	88.33	37.87	75.72	1305.53	1415.93	12.83	MWD (WFT MWD Svy 5)	
14100.00	10207.66	15372.64	152.57	90.36	38.65	77.28	1304.64	1417.03	12.61	MWD (WFT MWD Svy 5)	
14200.00	10208.63	15450.94	152.57	91.80	39.18	78.35	1304.14	1418.41	12.41	MWD (WFT MWD Svy 5)	
14300.00	10210.37	15557.00	152.55	93.55	39.90	79.79	1304.13	1420.50	12.21	MWD (WFT MWD Svy 5)	
14400.00	10209.85	15711.52	152.57	96.01	40.94	81.91	1301.16	1419.80	11.97	MWD (WFT MWD Svy 5)	
14500.00	10208.16	15808.09	152.59	97.68	41.60	83.23	1296.95	1417.56	11.75	MWD (WFT MWD Svy 5)	
14600.00	10205.95	15923.30	152.59	99.64	42.38	84.81	1292.77	1415.46	11.54	MWD (WFT MWD Svy 5)	
14700.00	10202.29	16036.43	152.57	101.55	43.15	86.37	1287.18	1411.98	11.31	MWD (WFT MWD Svy 5)	

Secondary Well: Tomb Raider 1-12 Fed 61H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
14800.00	10198.57	16135.29	152.54	103.31	43.83	87.73	1281.18	1408.07	11.10	MWD (WFT MWD Svy 5)	
14900.00	10195.22	16220.99	152.47	104.91	44.43	88.91	1275.67	1404.72	10.89	MWD (WFT MWD Svy 5)	
15000.00	10193.46	16283.96	152.39	106.06	44.88	89.79	1272.13	1403.24	10.70	MWD (WFT MWD Svy 5)	
15100.00	10192.89	16357.02	152.28	107.29	45.40	90.80	1270.99	1404.21	10.54	MWD (WFT MWD Svy 5)	
15200.00	10193.86	16448.07	152.20	108.77	46.03	92.06	1271.14	1406.52	10.39	MWD (WFT MWD Svy 5)	
15300.00	10195.73	16579.74	152.20	110.82	46.95	93.90	1270.59	1408.24	10.23	MWD (WFT MWD Svy 5)	
15400.00	10196.64	16684.29	152.30	112.40	47.68	95.36	1268.52	1408.04	10.09	MWD (WFT MWD Svy 5)	
15500.00	10197.04	16827.17	152.52	114.65	48.67	97.35	1265.11	1406.34	9.96	MWD (WFT MWD Svy 5)	
15600.00	10193.91	16963.13	152.72	117.15	49.59	99.26	1259.01	1401.87	9.81	MWD (WFT MWD Svy 5)	
15700.00	10189.98	17049.87	152.75	118.83	50.20	100.47	1251.58	1396.42	9.64	MWD (WFT MWD Svy 5)	
15800.00	10187.58	17119.94	152.75	120.06	50.72	101.45	1245.73	1392.56	9.48	MWD (WFT MWD Svy 5)	
15900.00	10186.98	17189.57	152.78	121.30	51.21	102.43	1242.36	1391.04	9.36	MWD (WFT MWD Svy 5)	
16000.00	10187.38	17265.07	152.80	122.69	51.74	103.49	1240.87	1391.40	9.24	MWD (WFT MWD Svy 5)	
16100.00	10188.63	17337.01	152.78	124.00	52.24	104.50	1241.28	1393.66	9.15	MWD (WFT MWD Svy 5)	
16200.00	10191.04	17454.30	152.73	125.95	53.07	106.16	1241.87	1396.57	9.03	MWD (WFT MWD Svy 5)	
16300.00	10192.84	17537.81	152.71	127.37	53.65	107.34	1242.54	1399.19	8.93	MWD (WFT MWD Svy 5)	
16400.00	10196.38	17636.03	152.77	128.86	54.32	108.72	1243.96	1402.48	8.85	MWD (WFT MWD Svy 5)	
16500.00	10200.00	17780.93	152.97	131.27	55.38	110.77	1242.91	1403.31	8.75	MWD (WFT MWD Svy 5)	
16600.00	10200.84	17894.25	153.05	133.27	56.19	112.38	1241.02	1403.32	8.65	MWD (WFT MWD Svy 5)	
16700.00	10199.66	18020.90	153.13	135.38	57.08	114.17	1237.24	1401.48	8.53	MWD (WFT MWD Svy 5)	
16800.00	10198.15	18116.99	153.19	137.04	57.76	115.53	1232.80	1398.89	8.42	MWD (WFT MWD Svy 5)	
16900.00	10197.23	18208.28	153.26	138.58	58.41	116.83	1228.89	1396.79	8.32	MWD (WFT MWD Svy 5)	
17000.00	10195.28	18324.59	153.34	140.67	59.23	118.48	1224.33	1394.10	8.21	MWD (WFT MWD Svy 5)	
17100.00	10193.14	18408.93	153.31	142.30	59.83	119.68	1219.76	1391.58	8.10	MWD (WFT MWD Svy 5)	
17200.00	10192.15	18479.94	153.27	143.56	60.34	120.69	1216.92	1390.76	8.00	MWD (WFT MWD Svy 5)	

Secondary Well: Tomb Raider 1-12 Fed 61H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
17300.00	10191.92	18571.62	153.20	144.96	60.70	121.41	1215.59	1391.38	7.92	MWD (WFT MWD Svy 6)	
17400.00	10191.73	18667.99	153.11	146.20	60.75	121.50	1214.77	1392.34	7.84	MWD (WFT MWD Svy 6)	
17500.00	10191.91	18765.63	153.03	147.38	60.77	121.53	1214.23	1393.51	7.77	MWD (WFT MWD Svy 6)	
17600.00	10192.75	18847.84	152.99	148.46	60.79	121.57	1214.48	1395.37	7.71	MWD (WFT MWD Svy 6)	
17700.00	10194.11	18968.18	152.92	149.93	60.83	121.65	1214.77	1397.42	7.65	MWD (WFT MWD Svy 6)	
17800.00	10194.76	19070.66	152.89	151.20	60.87	121.74	1214.16	1398.41	7.59	MWD (WFT MWD Svy 6)	
17900.00	10194.99	19176.88	152.85	152.60	60.93	121.85	1213.25	1399.16	7.53	MWD (WFT MWD Svy 6)	
18000.00	10194.74	19284.22	152.83	153.91	60.99	121.98	1211.64	1399.17	7.46	MWD (WFT MWD Svy 6)	
18100.00	10194.82	19385.41	152.83	155.27	61.06	122.13	1210.12	1399.18	7.40	MWD (WFT MWD Svy 6)	
18200.00	10193.92	19486.84	152.78	156.62	61.14	122.29	1208.06	1398.84	7.33	MWD (WFT MWD Svy 6)	
18300.00	10193.67	19574.40	152.75	157.82	61.22	122.44	1206.48	1398.91	7.27	MWD (WFT MWD Svy 6)	
18400.00	10193.70	19680.55	152.68	159.21	61.32	122.64	1205.60	1399.85	7.21	MWD (WFT MWD Svy 6)	
18500.00	10193.26	19783.23	152.66	160.51	61.43	122.86	1203.67	1399.56	7.14	MWD (WFT MWD Svy 6)	
18600.00	10193.66	19871.12	152.67	161.72	61.53	123.06	1202.55	1399.99	7.09	MWD (WFT MWD Svy 6)	
18700.00	10194.58	19968.20	152.67	163.06	61.65	123.29	1202.05	1401.10	7.04	MWD (WFT MWD Svy 6)	
18800.00	10195.34	20056.25	152.64	164.31	61.76	123.52	1201.72	1402.41	6.99	MWD (WFT MWD Svy 6)	
18834.87	10195.76	20084.29	152.63	164.71	61.79	123.59	1201.91	1403.17	6.97	MWD (WFT MWD Svy 6)	

Secondary Well: Tomb Raider 1-12 Fed 62H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
0.00	2.40	0.00	269.79	0.00	0.00	0.00	98.48	99.20	137.23	MWD	
100.00	100.45	98.05	269.82	0.11	0.11	3.07	98.01	98.95	105.01	MWD (WFT MWD Svy 1)	
200.00	200.74	198.34	269.92	0.28	0.28	4.62	96.97	98.31	73.65	MWD (WFT MWD Svy 1)	
300.00	300.72	298.33	270.08	0.49	0.49	4.65	95.76	97.53	55.10	MWD (WFT MWD Svy 1)	
400.00	400.48	398.08	270.14	0.69	0.69	4.69	94.70	96.90	44.22	MWD (WFT MWD Svy 1)	
500.00	500.73	498.34	270.17	0.89	0.89	4.75	93.71	96.33	36.72	MWD (WFT MWD Svy 1)	
600.00	600.69	598.30	270.16	1.10	1.10	4.81	92.51	95.56	31.27	MWD (WFT MWD Svy 1)	

Secondary Well: Tomb Raider 1-12 Fed 62H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
700.00	700.59	698.20	270.21	1.31	1.31	4.89	91.40	94.89	27.19	MWD (WFT MWD Svy 1)	
800.00	800.42	798.04	270.27	1.46	1.46	4.97	90.48	94.34	24.43	MWD (WFT MWD Svy 2)	
900.00	900.24	897.86	270.26	1.56	1.56	5.06	89.82	94.00	22.46	MWD (WFT MWD Svy 2)	
1000.00	1000.16	997.78	270.24	1.61	1.61	5.17	89.33	93.79	21.04	MWD (WFT MWD Svy 2)	
1100.00	1100.12	1097.74	270.21	1.68	1.68	5.27	88.90	93.65	19.72	MWD (WFT MWD Svy 2)	
1200.00	1200.14	1197.76	270.11	1.77	1.77	5.39	88.44	93.51	18.44	MWD (WFT MWD Svy 2)	
1300.00	1300.21	1297.83	269.91	1.88	1.88	5.50	87.93	93.34	17.27	MWD (WFT MWD Svy 2)	
1400.00	1399.93	1397.55	269.65	2.00	2.00	5.63	87.44	93.19	16.20	MWD (WFT MWD Svy 2)	
1500.00	1499.85	1497.47	269.46	2.14	2.14	5.76	87.24	93.35	15.28	MWD (WFT MWD Svy 2)	
1600.00	1599.90	1597.52	269.30	2.28	2.28	5.89	87.01	93.49	14.42	MWD (WFT MWD Svy 2)	
1700.00	1699.82	1697.44	269.17	2.44	2.44	6.04	86.77	93.64	13.64	MWD (WFT MWD Svy 2)	
1800.00	1799.77	1797.39	269.12	2.60	2.60	6.18	86.63	93.88	12.96	MWD (WFT MWD Svy 2)	
1900.00	1900.07	1897.69	269.06	2.77	2.77	6.32	86.29	93.93	12.30	MWD (WFT MWD Svy 2)	
2000.00	1999.87	1997.49	268.94	2.94	2.94	6.48	85.95	93.98	11.70	MWD (WFT MWD Svy 2)	
2100.00	2099.96	2097.58	268.79	3.12	3.12	6.63	85.66	94.10	11.14	MWD (WFT MWD Svy 2)	
2200.00	2200.19	2197.81	268.66	3.30	3.30	6.79	85.13	93.98	10.62	MWD (WFT MWD Svy 2)	
2300.00	2300.17	2297.80	268.44	3.49	3.49	6.95	84.53	93.79	10.13	MWD (WFT MWD Svy 2)	
2400.00	2399.99	2397.62	268.10	3.68	3.68	7.11	83.97	93.65	9.68	MWD (WFT MWD Svy 2)	
2500.00	2499.57	2497.19	267.75	3.87	3.87	7.28	83.79	93.88	9.30	MWD (WFT MWD Svy 2)	
2600.00	2599.60	2597.23	267.43	4.07	4.07	7.45	83.93	94.44	8.99	MWD (WFT MWD Svy 2)	
2700.00	2699.92	2697.55	267.17	4.26	4.26	7.62	83.73	94.66	8.67	MWD (WFT MWD Svy 2)	
2800.00	2800.11	2797.74	266.86	4.46	4.45	7.79	83.31	94.64	8.35	MWD (WFT MWD Svy 2)	
2900.00	2900.18	2897.81	266.51	4.65	4.65	7.97	82.72	94.47	8.04	MWD (WFT MWD Svy 2)	
3000.00	3000.04	2997.67	266.23	4.85	4.85	8.15	82.16	94.34	7.75	MWD (WFT MWD Svy 2)	
3100.00	3100.05	3097.69	266.04	5.04	5.04	8.33	81.72	94.32	7.49	MWD (WFT MWD Svy 2)	

Secondary Well: Tomb Raider 1-12 Fed 62H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
3200.00	3199.88	3197.52	265.86	5.24	5.24	8.51	81.31	94.33	7.24	MWD (WFT MWD Svy 2)	
3300.00	3299.99	3297.63	265.61	5.45	5.44	8.70	80.97	94.42	7.02	MWD (WFT MWD Svy 2)	
3400.00	3399.72	3397.36	265.36	5.65	5.64	8.89	80.71	94.57	6.82	MWD (WFT MWD Svy 2)	
3500.00	3499.90	3497.54	264.97	5.85	5.85	9.08	80.49	94.78	6.63	MWD (WFT MWD Svy 2)	
3600.00	3600.23	3597.87	307.63	6.05	6.05	9.28	79.42	94.17	6.39	MWD (WFT MWD Svy 2)	
3700.00	3700.55	3698.20	305.66	6.26	6.26	9.48	77.08	92.24	6.09	MWD (WFT MWD Svy 2)	
3800.00	3800.91	3798.58	303.06	6.47	6.46	9.68	74.09	89.65	5.76	MWD (WFT MWD Svy 2)	
3900.00	3900.87	3898.57	300.17	6.68	6.67	9.88	71.01	87.00	5.44	MWD (WFT MWD Svy 2)	
4000.00	4000.88	3998.62	296.86	6.88	6.88	10.09	67.96	84.40	5.13	MWD (WFT MWD Svy 2)	
4100.00	4100.82	4098.61	293.02	7.10	7.09	10.30	65.05	81.91	4.86	MWD (WFT MWD Svy 2)	
4200.00	4200.72	4198.56	288.82	7.31	7.30	10.51	62.31	79.61	4.60	MWD (WFT MWD Svy 2)	
4300.00	4300.28	4298.19	284.21	7.52	7.50	10.72	59.98	77.68	4.39	MWD (WFT MWD Svy 2)	
4400.00	4400.13	4398.12	279.02	7.68	7.66	10.93	58.50	76.61	4.23	MWD (WFT MWD Svy 3)	
4500.00	4501.09	4499.15	274.09	7.72	7.70	11.16	56.74	75.11	4.09	MWD (WFT MWD Svy 3)	
4600.00	4603.04	4601.25	268.60	7.73	7.70	11.38	53.24	71.80	3.87	MWD (WFT MWD Svy 3)	
4700.00	4704.55	4703.07	262.27	7.75	7.72	11.61	46.98	65.76	3.50	MWD (WFT MWD Svy 3)	
4800.00	4804.84	4803.85	254.85	7.78	7.74	11.84	38.76	57.80	3.04	MWD (WFT MWD Svy 3)	
4900.00	4903.79	4903.41	245.22	7.83	7.77	12.07	30.36	49.68	2.57	MWD (WFT MWD Svy 3)	
5000.00	5002.33	5002.56	232.48	7.88	7.80	12.31	23.82	43.40	2.22	MWD (WFT MWD Svy 3)	SF(Lo)
5100.00	5101.75	5102.61	216.72	7.93	7.84	12.55	18.99	38.90	1.95	MWD (WFT MWD Svy 3)	SF(Lo)
5200.00	5200.35	5201.93	197.97	8.01	7.89	12.80	16.69	36.89	1.83	MWD (WFT MWD Svy 3)	SF(Lo)
5300.00	5298.97	5301.24	179.64	8.09	7.94	13.04	18.43	38.88	1.90	MWD (WFT MWD Svy 3)	SF(Lo)
5400.00	5397.54	5400.56	163.51	8.18	8.00	13.29	23.38	44.05	2.13	MWD (WFT MWD Svy 3)	SF(Lo)
5500.00	5495.78	5499.66	150.53	8.28	8.07	13.55	31.12	52.06	2.49	MWD (WFT MWD Svy 3)	SF(Lo)
5600.00	5594.27	5598.98	141.38	8.39	8.14	13.81	40.52	61.73	2.91	MWD (WFT MWD Svy 3)	

Secondary Well: Tomb Raider 1-12 Fed 62H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
5700.00	5692.70	5698.24	134.72	8.51	8.22	14.07	50.86	72.34	3.37	MWD (WFT MWD Svy 3)	
5800.00	5791.30	5797.66	129.66	8.63	8.30	14.34	61.58	83.40	3.82	MWD (WFT MWD Svy 3)	
5900.00	5889.63	5896.78	125.83	8.77	8.39	14.61	72.63	94.71	4.29	MWD (WFT MWD Svy 3)	
6000.00	5986.89	5994.82	123.25	8.90	8.47	14.89	84.44	106.83	4.77	MWD (WFT MWD Svy 3)	
6100.00	6084.87	6093.63	121.77	9.05	8.57	15.17	97.52	120.23	5.30	MWD (WFT MWD Svy 3)	
6200.00	6184.57	6194.08	120.84	9.20	8.67	15.46	109.96	132.99	5.77	MWD (WFT MWD Svy 3)	
6300.00	6283.89	6294.03	120.17	9.36	8.78	15.75	121.56	144.92	6.20	MWD (WFT MWD Svy 3)	
6400.00	6381.74	6392.49	119.82	9.51	8.88	16.04	133.20	156.88	6.63	MWD (WFT MWD Svy 3)	
6500.00	6480.75	6492.11	119.95	9.68	8.99	16.35	145.21	169.22	7.05	MWD (WFT MWD Svy 3)	
6600.00	6580.46	6592.39	120.08	9.85	9.11	16.65	156.68	181.05	7.43	MWD (WFT MWD Svy 3)	
6700.00	6679.58	6692.02	120.25	10.02	9.23	16.96	167.77	192.49	7.79	MWD (WFT MWD Svy 3)	
6800.00	6774.73	6787.73	120.95	10.18	9.35	17.26	179.65	204.69	8.18	MWD (WFT MWD Svy 3)	
6900.00	6869.21	6882.98	122.06	10.36	9.47	17.57	193.42	218.77	8.63	MWD (WFT MWD Svy 3)	
7000.00	6970.42	6985.04	122.84	10.57	9.61	17.90	207.41	233.16	9.05	MWD (WFT MWD Svy 3)	
7100.00	7067.86	7083.23	123.29	10.77	9.74	18.22	220.98	247.09	9.46	MWD (WFT MWD Svy 3)	
7200.00	7175.96	7191.92	123.66	10.98	9.90	18.59	232.41	258.98	9.75	MWD (WFT MWD Svy 3)	
7300.00	7276.85	7293.19	123.69	11.17	10.04	18.94	241.97	268.92	9.98	MWD (WFT MWD Svy 3)	
7400.00	7377.79	7394.47	123.65	11.35	10.19	19.29	251.01	278.33	10.19	MWD (WFT MWD Svy 3)	
7500.00	7479.70	7496.64	123.70	11.53	10.33	19.65	259.12	286.82	10.35	MWD (WFT MWD Svy 3)	
7600.00	7580.68	7597.84	123.80	11.71	10.48	20.01	266.60	294.68	10.49	MWD (WFT MWD Svy 3)	
7700.00	7681.78	7699.12	123.93	11.88	10.63	20.38	273.57	302.03	10.61	MWD (WFT MWD Svy 3)	
7800.00	7784.19	7801.68	124.09	12.06	10.78	20.75	279.89	308.74	10.70	MWD (WFT MWD Svy 3)	
7900.00	7886.07	7903.65	124.29	12.23	10.93	21.14	285.27	314.50	10.76	MWD (WFT MWD Svy 3)	
8000.00	7987.63	8005.29	124.50	12.39	11.09	21.52	290.11	319.73	10.79	MWD (WFT MWD Svy 3)	
8100.00	8090.46	8108.17	124.70	12.55	11.24	21.91	294.24	324.24	10.81	MWD (WFT MWD Svy 3)	

Secondary Well: Tomb Raider 1-12 Fed 62H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
8200.00	8191.43	8209.17	124.91	12.71	11.40	22.31	297.67	328.06	10.79	MWD (WFT MWD Svy 3)	
8300.00	8294.98	8312.74	125.08	12.86	11.56	22.72	300.04	330.80	10.75	MWD (WFT MWD Svy 3)	
8400.00	8395.36	8413.12	261.45	13.01	11.71	23.12	300.95	332.04	10.68	MWD (WFT MWD Svy 3)	
8500.00	8495.40	8513.17	259.56	13.15	11.87	23.52	303.35	334.72	10.67	MWD (WFT MWD Svy 3)	
8600.00	8590.59	8608.37	255.44	13.27	12.00	23.94	310.32	341.94	10.82	MWD (WFT MWD Svy 4)	
8700.00	8679.69	8697.48	250.38	13.29	12.01	24.33	325.94	357.61	11.29	MWD (WFT MWD Svy 4)	
8800.00	8760.98	8778.77	245.67	13.29	12.01	24.67	353.53	385.37	12.11	MWD (WFT MWD Svy 5)	
8900.00	8829.23	8847.02	242.83	13.29	12.01	24.96	396.00	428.05	13.35	MWD (WFT MWD Svy 5)	
9000.00	8882.68	8900.47	242.99	13.29	12.01	25.19	453.83	486.14	15.04	MWD (WFT MWD Svy 5)	
9100.00	8921.74	8939.54	247.13	13.30	12.01	25.36	525.05	557.60	17.13	MWD (WFT MWD Svy 6)	
9200.00	8943.04	8960.84	257.27	13.29	12.01	25.45	606.22	638.99	19.50	MWD (WFT MWD Svy 6)	
9300.00	8947.42	8965.22	270.45	13.29	12.01	25.47	693.56	726.46	22.08	MWD (WFT MWD Svy 6)	
9400.00	8946.40	8964.21	270.63	13.29	12.01	25.46	783.99	816.97	24.77	MWD (WFT MWD Svy 6)	
9500.00	8945.39	8963.19	270.81	13.29	12.01	25.46	876.39	909.48	27.48	MWD (WFT MWD Svy 6)	
9600.00	8944.38	8962.18	270.98	13.29	12.01	25.45	970.26	1003.42	30.26	MWD (WFT MWD Svy 6)	
9700.00	8943.37	8961.17	271.16	13.29	12.01	25.45	1065.23	1098.42	33.09	MWD (WFT MWD Svy 6)	
9800.00	8942.36	8960.16	271.34	13.29	12.01	25.44	1161.01	1194.25	35.93	MWD (WFT MWD Svy 6)	
9900.00	8941.36	8959.16	271.51	13.29	12.01	25.44	1257.42	1290.71	38.78	MWD (WFT MWD Svy 6)	
10000.00	8940.36	8958.16	271.69	13.30	12.01	25.44	1354.33	1387.66	41.63	MWD (WFT MWD Svy 6)	
10100.00	8939.36	8957.16	271.86	13.30	12.01	25.43	1451.63	1485.02	44.47	MWD (WFT MWD Svy 6)	
10200.00	10444.80	11718.50	192.86	25.86	16.92	33.71	1498.10	1533.47	43.35	MWD (WFT MWD Svy 9)	
10300.00	10446.28	11817.98	192.90	27.31	17.24	34.35	1498.94	1535.27	42.26	MWD (WFT MWD Svy 9)	
10400.00	10447.68	11913.33	192.95	28.74	17.57	35.00	1499.73	1537.06	41.17	MWD (WFT MWD Svy 9)	
10500.00	10449.44	12014.12	192.99	30.23	17.94	35.73	1500.70	1539.08	40.10	MWD (WFT MWD Svy 9)	
10600.00	10450.05	12153.01	192.98	32.32	18.39	36.82	1499.84	1539.41	38.90	MWD (WFT MWD Svy 9)	

Secondary Well: Tomb Raider 1-12 Fed 62H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
10700.00	10449.77	12246.22	192.97	33.78	18.79	37.59	1498.35	1539.03	37.84	MWD (WFT MWD Svy 9)	
10800.00	10449.59	12360.37	192.97	35.61	19.25	38.59	1497.13	1538.96	36.79	MWD (WFT MWD Svy 9)	
10900.00	10446.38	12491.27	193.02	37.68	19.78	39.77	1493.33	1536.57	35.53	MWD (WFT MWD Svy 9)	
11000.00	10444.11	12576.31	193.03	39.04	20.22	40.57	1489.46	1533.92	34.50	MWD (WFT MWD Svy 9)	
11100.00	10442.59	12664.68	193.04	40.49	20.67	41.43	1486.58	1532.24	33.55	MWD (WFT MWD Svy 9)	
11200.00	10441.32	12760.73	193.07	42.05	21.16	42.39	1484.13	1531.09	32.61	MWD (WFT MWD Svy 9)	
11300.00	10440.76	12839.88	193.09	43.33	21.61	43.20	1482.42	1530.54	31.81	MWD (WFT MWD Svy 9)	
11400.00	10441.62	12925.08	193.09	44.71	22.08	44.09	1482.13	1531.51	31.01	MWD (WFT MWD Svy 9)	
11500.00	10442.92	13027.06	193.07	46.39	22.62	45.18	1482.07	1532.75	30.24	MWD (WFT MWD Svy 9)	
11600.00	10443.93	13132.59	193.07	48.11	23.18	46.33	1481.64	1533.69	29.46	MWD (WFT MWD Svy 9)	
11700.00	10444.61	13238.54	193.05	49.86	23.76	47.50	1480.75	1534.26	28.67	MWD (WFT MWD Svy 9)	
11800.00	10444.87	13343.33	193.04	51.61	24.34	48.69	1479.62	1534.47	27.98	MWD (WFT MWD Svy 9)	
11900.00	10445.06	13431.00	193.07	53.13	24.86	49.69	1478.59	1534.87	27.27	MWD (WFT MWD Svy 9)	
12000.00	10445.06	13548.06	193.15	55.09	25.51	51.05	1477.47	1535.31	26.54	MWD (WFT MWD Svy 9)	
12100.00	10445.00	13630.11	193.20	56.47	26.02	52.02	1476.52	1535.64	25.97	MWD (WFT MWD Svy 9)	
12200.00	10445.58	13726.25	193.27	58.11	26.59	53.16	1476.07	1536.73	25.33	MWD (WFT MWD Svy 9)	
12300.00	10446.28	13823.08	193.35	59.73	27.18	54.33	1475.81	1538.01	24.73	MWD (WFT MWD Svy 9)	
12400.00	10445.55	13959.72	193.47	62.01	27.97	56.00	1473.91	1537.90	24.03	MWD (WFT MWD Svy 9)	
12500.00	10444.23	14053.48	193.53	63.58	28.56	57.15	1471.40	1536.89	23.47	MWD (WFT MWD Svy 9)	
12600.00	10444.05	14136.01	193.56	64.97	29.09	58.18	1470.07	1536.94	22.99	MWD (WFT MWD Svy 9)	
12700.00	10444.58	14228.90	193.60	66.53	29.68	59.34	1469.44	1537.76	22.51	MWD (WFT MWD Svy 9)	
12800.00	10445.40	14326.71	193.63	68.19	30.30	60.57	1469.02	1538.82	22.05	MWD (WFT MWD Svy 9)	
12900.00	10446.37	14439.93	193.66	70.10	31.01	62.01	1468.52	1539.93	21.56	MWD (WFT MWD Svy 9)	
13000.00	10445.14	14571.24	193.67	72.28	31.82	63.69	1465.84	1538.97	21.04	MWD (WFT MWD Svy 9)	
13100.00	10443.37	14671.15	193.67	73.97	32.46	64.98	1462.49	1537.17	20.58	MWD (WFT MWD Svy 9)	

Secondary Well: Tomb Raider 1-12 Fed 62H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
13200.00	10442.23	14752.47	193.71	75.45	33.00	66.03	1459.83	1536.00	20.17	MWD (WFT MWD Svy 9)	
13300.00	10441.94	14826.29	193.78	76.74	33.50	66.99	1458.64	1536.28	19.79	MWD (WFT MWD Svy 9)	
13400.00	10442.83	14922.28	193.90	78.42	34.13	68.24	1458.74	1538.04	19.39	MWD (WFT MWD Svy 9)	
13500.00	10442.53	15026.92	194.12	80.23	34.81	69.62	1457.97	1539.11	18.97	MWD (WFT MWD Svy 9)	
13600.00	10442.61	15109.06	194.30	81.65	35.36	70.70	1457.93	1540.73	18.61	MWD (WFT MWD Svy 9)	
13700.00	10443.93	15202.97	194.49	83.27	35.98	71.95	1459.01	1543.56	18.26	MWD (WFT MWD Svy 9)	
13800.00	10445.02	15309.58	194.69	85.10	36.69	73.36	1459.55	1545.98	17.89	MWD (WFT MWD Svy 9)	
13900.00	10445.68	15423.74	194.91	87.05	37.45	74.89	1459.56	1547.94	17.51	MWD (WFT MWD Svy 9)	
14000.00	10445.86	15517.50	195.08	88.68	38.08	76.15	1459.32	1549.48	17.19	MWD (WFT MWD Svy 9)	
14100.00	10446.49	15606.61	195.25	90.23	38.68	77.34	1459.73	1551.63	16.88	MWD (WFT MWD Svy 9)	
14200.00	10445.51	15747.39	195.55	92.67	39.61	79.24	1458.12	1552.31	16.48	MWD (WFT MWD Svy 9)	
14300.00	10445.01	15821.31	195.69	93.94	40.12	80.24	1457.27	1553.08	16.21	MWD (WFT MWD Svy 9)	
14400.00	10445.63	15901.00	195.84	95.33	40.67	81.33	1457.85	1555.32	15.96	MWD (WFT MWD Svy 9)	
14500.00	10445.86	16028.09	196.10	97.53	41.52	83.05	1457.28	1557.01	15.61	MWD (WFT MWD Svy 9)	
14600.00	10445.71	16113.37	196.29	99.01	42.11	84.22	1457.03	1558.60	15.34	MWD (WFT MWD Svy 9)	
14700.00	10446.33	16194.62	196.50	100.43	42.67	85.33	1458.02	1561.44	15.10	MWD (WFT MWD Svy 9)	
14800.00	10445.50	16332.85	196.87	102.85	43.60	87.22	1456.70	1562.80	14.73	MWD (WFT MWD Svy 9)	
14900.00	10444.67	16422.43	197.10	104.41	44.22	88.45	1455.84	1564.00	14.46	MWD (WFT MWD Svy 9)	
15000.00	10444.57	16511.82	197.32	105.97	44.84	89.69	1455.77	1565.99	14.21	MWD (WFT MWD Svy 9)	
15100.00	10444.89	16604.97	197.56	107.61	45.49	90.97	1456.16	1568.50	13.96	MWD (WFT MWD Svy 9)	
15200.00	10445.62	16695.85	197.78	109.20	46.12	92.23	1457.07	1571.49	13.73	MWD (WFT MWD Svy 9)	
15300.00	10446.99	16787.44	198.00	110.80	46.75	93.50	1458.66	1575.18	13.52	MWD (WFT MWD Svy 9)	
15400.00	10448.35	16890.85	198.27	112.60	47.47	94.93	1460.12	1578.98	13.29	MWD (WFT MWD Svy 9)	
15500.00	10449.20	17012.58	198.60	114.71	48.31	96.62	1460.75	1582.21	13.03	MWD (WFT MWD Svy 9)	
15600.00	10448.90	17100.18	198.85	116.21	48.92	97.84	1460.94	1584.58	12.82	MWD (WFT MWD Svy 9)	

Secondary Well: Tomb Raider 1-12 Fed 62H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
15700.00	10449.29	17203.92	199.18	117.87	49.41	98.82	1462.11	1588.05	12.61	MWD (WFT MWD Svy 10)	
15800.00	10448.44	17322.91	199.54	119.42	49.49	99.01	1462.25	1590.27	12.42	MWD (WFT MWD Svy 10)	
15900.00	10446.95	17435.07	199.84	120.86	49.52	99.06	1461.58	1591.45	12.25	MWD (WFT MWD Svy 10)	
16000.00	10446.46	17521.03	200.01	121.94	49.56	99.12	1461.46	1592.91	12.12	MWD (WFT MWD Svy 10)	
16100.00	10446.94	17622.25	200.15	123.17	49.61	99.20	1461.79	1594.76	11.99	MWD (WFT MWD Svy 10)	
16200.00	10447.91	17722.82	200.21	124.41	49.66	99.31	1462.07	1596.42	11.88	MWD (WFT MWD Svy 10)	
16300.00	10449.49	17811.17	200.24	125.54	49.72	99.42	1462.99	1598.62	11.79	MWD (WFT MWD Svy 10)	
16400.00	10451.69	17938.90	200.25	127.16	49.81	99.62	1463.69	1600.68	11.68	MWD (WFT MWD Svy 10)	
16500.00	10451.66	18040.10	200.26	128.51	49.90	99.79	1462.42	1600.70	11.58	MWD (WFT MWD Svy 10)	
16600.00	10452.52	18112.92	200.28	129.56	49.97	99.93	1462.72	1602.26	11.48	MWD (WFT MWD Svy 10)	
16700.00	10454.36	18197.31	200.35	130.76	50.06	100.11	1464.42	1605.35	11.39	MWD (WFT MWD Svy 10)	
16800.00	10455.08	18309.59	200.56	132.28	50.19	100.37	1465.17	1607.97	11.26	MWD (WFT MWD Svy 10)	
16900.00	10455.25	18432.91	200.83	133.96	50.33	100.68	1465.66	1610.57	11.11	MWD (WFT MWD Svy 10)	
17000.00	10449.57	18597.34	201.24	136.21	50.50	101.15	1461.98	1609.47	10.91	MWD (WFT MWD Svy 10)	
17100.00	10441.69	18726.37	201.56	137.99	50.66	101.55	1455.87	1605.62	10.72	MWD (WFT MWD Svy 10)	
17200.00	10435.36	18824.47	201.76	139.28	50.85	101.87	1449.20	1600.95	10.55	MWD (WFT MWD Svy 10)	
17300.00	10429.26	18935.09	201.88	140.66	51.05	102.26	1442.71	1596.22	10.40	MWD (WFT MWD Svy 10)	
17400.00	10426.07	19005.15	201.92	141.66	51.23	102.53	1436.83	1591.98	10.26	MWD (WFT MWD Svy 10)	
17500.00	10424.05	19080.91	201.95	142.73	51.40	102.82	1432.82	1589.53	10.14	MWD (WFT MWD Svy 10)	
17600.00	10423.09	19159.00	201.97	143.85	51.56	103.13	1430.22	1588.43	10.04	MWD (WFT MWD Svy 10)	
17700.00	10423.02	19248.17	202.00	145.21	51.75	103.51	1428.94	1588.72	9.94	MWD (WFT MWD Svy 10)	
17800.00	10420.26	19380.74	202.17	147.17	52.02	104.09	1425.96	1587.83	9.81	MWD (WFT MWD Svy 10)	
17900.00	10417.35	19465.76	202.32	148.42	52.22	104.48	1422.37	1586.26	9.68	MWD (WFT MWD Svy 10)	
18000.00	10414.33	19568.60	202.57	149.89	52.45	104.97	1419.63	1585.91	9.54	MWD (WFT MWD Svy 10)	
18100.00	10408.79	19679.73	202.95	151.43	52.69	105.53	1415.29	1584.40	9.37	MWD (WFT MWD Svy 10)	

Secondary Well: Tomb Raider 1-12 Fed 62H (s)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	TVD Spread (US ft)	ES (US ft)	CC (US ft)	SF	Survey Tool	Risk
18200.00	10401.57	19797.53	203.40	153.20	52.98	106.13	1410.04	1582.29	9.19	MWD (WFT MWD Svy 10)	
18300.00	10394.17	19904.79	203.80	154.79	53.26	106.70	1403.99	1579.19	9.01	MWD (WFT MWD Svy 10)	
18400.00	10388.88	19989.39	204.10	156.05	53.52	107.17	1398.74	1576.58	8.87	MWD (WFT MWD Svy 10)	
18500.00	10383.85	20082.87	204.39	157.43	53.80	107.70	1394.13	1574.63	8.72	MWD (WFT MWD Svy 10)	
18600.00	10380.07	20167.28	204.64	158.69	54.07	108.19	1390.43	1573.42	8.60	MWD (WFT MWD Svy 10)	
18700.00	10377.07	20254.55	204.89	159.99	54.34	108.71	1387.67	1573.14	8.48	MWD (WFT MWD Svy 10)	
18800.00	10374.07	20360.89	205.14	161.58	54.67	109.37	1385.06	1573.13	8.36	MWD (WFT MWD Svy 10)	
18834.87	10373.15	20394.35	205.22	162.08	54.78	109.58	1384.14	1573.06	8.33	MWD (WFT MWD Svy 10)	



5D Plan Report

Devon Energy

Field Name: *Eddy Co, NM (Nad 83 NME)*

Site Name: *Tomb Raider 1-12 Fed Pad*

Well Name: *Tomb Raider 1-12 Fed 512H*

Plan: *P1:V1*

12 September 2017



Weatherford®



Tomb Raider 1-12 Fed 512H

Field Name: Eddy Co, NM (Nad 83 NME)	Map Units: US ft		Company Name: Devon Energy	
	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)			
	Comment:			
Site: Tomb Raider 1-12 Fed Pad	Units: US ft	North Reference: Grid	Convergence Angle: 0.32	
	Position:	Northing: 487854.82 US ft	Latitude: 32° 20' 23.01"	
		Easting: 728808.08 US ft	Longitude: -103° 43' 34.76"	
	Elevation above MSL: 3480.40 US ft		Comment:	
Slot: Tomb Raider 1-12 Fed 512H	Position (Relative to Site Centre)			
	+N/-S: 147.06 US ft	Northing: 488001.88 US ft	Latitude: 32°20'24.62"	
	+E/-W: -2783.08 US ft	Easting: 726025.00 US ft	Longitude: -103°44'7.19"	
	Slot TVD Reference: Ground Elevation			
	Elevation above MSL: 3454.10 US ft			
	Comment:			
Well: Tomb Raider 1-12 Fed 512H	Type: Main well	UWI:	Plan: P1:V1	
	File Number:	Comment:		
	Closure Distance: 10029.2US ft	Closure Azimuth: 180.54°		
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: 0.00 US ft	+E/-W: 0.00 US ft	Az: 180.00°	
	Magnetic Parameters:			
	Model: bggm2017	Field Strength: 48048.9nT	Declination: 7.08°	Dip: 60.12°
				Date: 04/Apr/2018

Drill floor: Plan: P1:V1

Rig Height (Drill Floor): 26.00us ft	Elevation above MSL: 3480.10us ft	Inclination: 0.00°	Azimuth: 0.00°
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Target set: TR 1-12 Fed 512H Tgts Comment:

Target Name:	Shape:	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (USft)	Easting (USft)	Comment
VP	Point	8377.04	100.00	-95.25	488101.88	725929.75	
PBHL 512H	Point	8950.00	-10028.79	-95.25	477973.09	725929.75	

Wellpath created using minimum curvature.

Tie Point:

MD: 0.00USFt **Inclination:** 0.00° **Azimuth:** 0.00° **TVD:** 0.00USFt **North Offset:** 0.00USFt **East Offset:** 0.00USFt

Salient Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	T.Face (°)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	Nudge @ 1° DLS
3667.98	1.68	316.39	3667.96	1.78	-1.70	-1.78	1.00	1.00	0.00	316.39	Hold
8211.06	1.68	316.39	8209.08	98.22	-93.55	-98.22	0.00	0.00	0.00	0.00	Drop @ 1° DLS
8379.04	0.00	0.00	8377.04	100.00	-95.25	-100.00	1.00	-1.00	0.00	180.00	KOP-Build @ 10° DLS
9279.04	90.00	180.00	8950.00	-472.96	-95.25	472.96	10.00	10.00	0.00	180.00	Landing Pt
18834.87	90.00	180.00	8950.00	-10028.79	-95.25	10028.79	0.00	0.00	0.00	0.00	PBHL 512H

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	Northing (US ft)	Easting (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
100.00	0.00	0.00	100.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
200.00	0.00	0.00	200.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
300.00	0.00	0.00	300.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
400.00	0.00	0.00	400.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
500.00	0.00	0.00	500.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
600.00	0.00	0.00	600.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
700.00	0.00	0.00	700.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
800.00	0.00	0.00	800.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
900.00	0.00	0.00	900.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
1200.00	0.00	0.00	1200.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
1300.00	0.00	0.00	1300.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
1700.00	0.00	0.00	1700.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
2600.00	0.00	0.00	2600.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
2700.00	0.00	0.00	2700.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
2800.00	0.00	0.00	2800.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
3000.00	0.00	0.00	3000.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
3100.00	0.00	0.00	3100.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
3400.00	0.00	0.00	3400.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	-0.00	0.00	488001.88	726025.00	Nudge @ 1° DLS
3600.00	1.00	316.39	3599.99	0.63	-0.60	-0.63	1.00	488002.51	726024.40	
3667.98	1.68	316.39	3667.96	1.78	-1.70	-1.78	1.00	488003.66	726023.30	Hold
3700.00	1.68	316.39	3699.96	2.46	-2.35	-2.46	0.00	488004.34	726022.65	
3800.00	1.68	316.39	3799.92	4.59	-4.37	-4.59	0.00	488006.47	726020.63	
3900.00	1.68	316.39	3899.88	6.71	-6.39	-6.71	0.00	488008.59	726018.61	
4000.00	1.68	316.39	3999.83	8.83	-8.41	-8.83	0.00	488010.71	726016.59	

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100US ft)	Northing (US ft)	Easting (US ft)	Comment
4100.00	1.68	316.39	4099.79	10.95	-10.43	-10.95	0.00	488012.83	726014.57	
4200.00	1.68	316.39	4199.75	13.08	-12.45	-13.08	0.00	488014.96	726012.55	
4300.00	1.68	316.39	4299.70	15.20	-14.48	-15.20	0.00	488017.08	726010.52	
4400.00	1.68	316.39	4399.66	17.32	-16.50	-17.32	0.00	488019.20	726008.50	
4500.00	1.68	316.39	4499.62	19.44	-18.52	-19.44	0.00	488021.32	726006.48	
4600.00	1.68	316.39	4599.58	21.57	-20.54	-21.57	0.00	488023.45	726004.46	
4700.00	1.68	316.39	4699.53	23.69	-22.56	-23.69	0.00	488025.57	726002.44	
4800.00	1.68	316.39	4799.49	25.81	-24.59	-25.81	0.00	488027.69	726000.41	
4900.00	1.68	316.39	4899.45	27.93	-26.61	-27.93	0.00	488029.81	725998.39	
5000.00	1.68	316.39	4999.40	30.06	-28.63	-30.06	0.00	488031.94	725996.37	
5100.00	1.68	316.39	5099.36	32.18	-30.65	-32.18	0.00	488034.06	725994.35	
5200.00	1.68	316.39	5199.32	34.30	-32.67	-34.30	0.00	488036.18	725992.33	
5300.00	1.68	316.39	5299.27	36.43	-34.69	-36.43	0.00	488038.31	725990.31	
5400.00	1.68	316.39	5399.23	38.55	-36.72	-38.55	0.00	488040.43	725988.28	
5500.00	1.68	316.39	5499.19	40.67	-38.74	-40.67	0.00	488042.55	725986.26	
5600.00	1.68	316.39	5599.15	42.79	-40.76	-42.79	0.00	488044.67	725984.24	
5700.00	1.68	316.39	5699.10	44.92	-42.78	-44.92	0.00	488046.80	725982.22	
5800.00	1.68	316.39	5799.06	47.04	-44.80	-47.04	0.00	488048.92	725980.20	
5900.00	1.68	316.39	5899.02	49.16	-46.83	-49.16	0.00	488051.04	725978.17	
6000.00	1.68	316.39	5998.97	51.28	-48.85	-51.28	0.00	488053.16	725976.15	
6100.00	1.68	316.39	6098.93	53.41	-50.87	-53.41	0.00	488055.29	725974.13	
6200.00	1.68	316.39	6198.89	55.53	-52.89	-55.53	0.00	488057.41	725972.11	
6300.00	1.68	316.39	6298.84	57.65	-54.91	-57.65	0.00	488059.53	725970.09	
6400.00	1.68	316.39	6398.80	59.77	-56.94	-59.77	0.00	488061.65	725968.06	
6500.00	1.68	316.39	6498.76	61.90	-58.96	-61.90	0.00	488063.78	725966.04	
6600.00	1.68	316.39	6598.72	64.02	-60.98	-64.02	0.00	488065.90	725964.02	
6700.00	1.68	316.39	6698.67	66.14	-63.00	-66.14	0.00	488068.02	725962.00	
6800.00	1.68	316.39	6798.63	68.27	-65.02	-68.27	0.00	488070.15	725959.98	
6900.00	1.68	316.39	6898.59	70.39	-67.04	-70.39	0.00	488072.27	725957.96	
7000.00	1.68	316.39	6998.54	72.51	-69.07	-72.51	0.00	488074.39	725955.93	
7100.00	1.68	316.39	7098.50	74.63	-71.09	-74.63	0.00	488076.51	725953.91	
7200.00	1.68	316.39	7198.46	76.76	-73.11	-76.76	0.00	488078.64	725951.89	
7300.00	1.68	316.39	7298.42	78.88	-75.13	-78.88	0.00	488080.76	725949.87	
7400.00	1.68	316.39	7398.37	81.00	-77.15	-81.00	0.00	488082.88	725947.85	
7500.00	1.68	316.39	7498.33	83.12	-79.18	-83.12	0.00	488085.00	725945.82	
7600.00	1.68	316.39	7598.29	85.25	-81.20	-85.25	0.00	488087.13	725943.80	
7700.00	1.68	316.39	7698.24	87.37	-83.22	-87.37	0.00	488089.25	725941.78	
7800.00	1.68	316.39	7798.20	89.49	-85.24	-89.49	0.00	488091.37	725939.76	
7900.00	1.68	316.39	7898.16	91.61	-87.26	-91.61	0.00	488093.49	725937.74	
8000.00	1.68	316.39	7998.11	93.74	-89.28	-93.74	0.00	488095.62	725935.72	
8100.00	1.68	316.39	8098.07	95.86	-91.31	-95.86	0.00	488097.74	725933.69	
8200.00	1.68	316.39	8198.03	97.98	-93.33	-97.98	0.00	488099.86	725931.67	
8211.06	1.68	316.39	8209.08	98.22	-93.55	-98.22	0.00	488100.10	725931.45	Drop @ 1° DLS
8300.00	0.79	316.39	8298.00	99.61	-94.87	-99.61	1.00	488101.49	725930.13	
8379.04	0.00	0.00	8377.04	100.00	-95.25	-100.00	1.00	488101.88	725929.75	KOP-Build @ 10° DLS
8400.00	2.10	180.00	8397.99	99.62	-95.25	-99.62	10.00	488101.50	725929.75	
8500.00	12.10	180.00	8497.10	87.28	-95.25	-87.28	10.00	488089.16	725929.75	
8600.00	22.10	180.00	8592.56	57.92	-95.25	-57.92	10.00	488059.80	725929.75	
8700.00	32.10	180.00	8681.47	12.43	-95.25	-12.43	10.00	488014.31	725929.75	
8800.00	42.10	180.00	8761.14	-47.81	-95.25	47.81	10.00	487954.07	725929.75	
8900.00	52.10	180.00	8829.13	-120.97	-95.25	120.97	10.00	487880.91	725929.75	
9000.00	62.10	180.00	8883.38	-204.82	-95.25	204.82	10.00	487797.06	725929.75	
9100.00	72.10	180.00	8922.25	-296.82	-95.25	296.82	10.00	487705.06	725929.75	
9200.00	82.10	180.00	8944.55	-394.17	-95.25	394.17	10.00	487607.71	725929.75	
9279.04	90.00	180.00	8950.00	-472.96	-95.25	472.96	10.00	487528.92	725929.75	Landing Pt
9300.00	90.00	180.00	8950.00	-493.92	-95.25	493.92	0.00	487507.96	725929.75	
9400.00	90.00	180.00	8950.00	-593.92	-95.25	593.92	0.00	487407.96	725929.75	

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (%/100US ft)	Northing (US ft)	Easting (US ft)	Comment
9500.00	90.00	180.00	8950.00	-693.92	-95.25	693.92	0.00	487307.96	725929.75	
9600.00	90.00	180.00	8950.00	-793.92	-95.25	793.92	0.00	487207.96	725929.75	
9700.00	90.00	180.00	8950.00	-893.92	-95.25	893.92	0.00	487107.96	725929.75	
9800.00	90.00	180.00	8950.00	-993.92	-95.25	993.92	0.00	487007.96	725929.75	
9900.00	90.00	180.00	8950.00	-1093.92	-95.25	1093.92	0.00	486907.96	725929.75	
10000.00	90.00	180.00	8950.00	-1193.92	-95.25	1193.92	0.00	486807.96	725929.75	
10100.00	90.00	180.00	8950.00	-1293.92	-95.25	1293.92	0.00	486707.96	725929.75	
10200.00	90.00	180.00	8950.00	-1393.92	-95.25	1393.92	0.00	486607.96	725929.75	
10300.00	90.00	180.00	8950.00	-1493.92	-95.25	1493.92	0.00	486507.96	725929.75	
10400.00	90.00	180.00	8950.00	-1593.92	-95.25	1593.92	0.00	486407.96	725929.75	
10500.00	90.00	180.00	8950.00	-1693.92	-95.25	1693.92	0.00	486307.96	725929.75	
10600.00	90.00	180.00	8950.00	-1793.92	-95.25	1793.92	0.00	486207.96	725929.75	
10700.00	90.00	180.00	8950.00	-1893.92	-95.25	1893.92	0.00	486107.96	725929.75	
10800.00	90.00	180.00	8950.00	-1993.92	-95.25	1993.92	0.00	486007.96	725929.75	
10900.00	90.00	180.00	8950.00	-2093.92	-95.25	2093.92	0.00	485907.96	725929.75	
11000.00	90.00	180.00	8950.00	-2193.92	-95.25	2193.92	0.00	485807.96	725929.75	
11100.00	90.00	180.00	8950.00	-2293.92	-95.25	2293.92	0.00	485707.96	725929.75	
11200.00	90.00	180.00	8950.00	-2393.92	-95.25	2393.92	0.00	485607.96	725929.75	
11300.00	90.00	180.00	8950.00	-2493.92	-95.25	2493.92	0.00	485507.96	725929.75	
11400.00	90.00	180.00	8950.00	-2593.92	-95.25	2593.92	0.00	485407.96	725929.75	
11500.00	90.00	180.00	8950.00	-2693.92	-95.25	2693.92	0.00	485307.96	725929.75	
11600.00	90.00	180.00	8950.00	-2793.92	-95.25	2793.92	0.00	485207.96	725929.75	
11700.00	90.00	180.00	8950.00	-2893.92	-95.25	2893.92	0.00	485107.96	725929.75	
11800.00	90.00	180.00	8950.00	-2993.92	-95.25	2993.92	0.00	485007.96	725929.75	
11900.00	90.00	180.00	8950.00	-3093.92	-95.25	3093.92	0.00	484907.96	725929.75	
12000.00	90.00	180.00	8950.00	-3193.92	-95.25	3193.92	0.00	484807.96	725929.75	
12100.00	90.00	180.00	8950.00	-3293.92	-95.25	3293.92	0.00	484707.96	725929.75	
12200.00	90.00	180.00	8950.00	-3393.92	-95.25	3393.92	0.00	484607.96	725929.75	
12300.00	90.00	180.00	8950.00	-3493.92	-95.25	3493.92	0.00	484507.96	725929.75	
12400.00	90.00	180.00	8950.00	-3593.92	-95.25	3593.92	0.00	484407.96	725929.75	
12500.00	90.00	180.00	8950.00	-3693.92	-95.25	3693.92	0.00	484307.96	725929.75	
12600.00	90.00	180.00	8950.00	-3793.92	-95.25	3793.92	0.00	484207.96	725929.75	
12700.00	90.00	180.00	8950.00	-3893.92	-95.25	3893.92	0.00	484107.96	725929.75	
12800.00	90.00	180.00	8950.00	-3993.92	-95.25	3993.92	0.00	484007.96	725929.75	
12900.00	90.00	180.00	8950.00	-4093.92	-95.25	4093.92	0.00	483907.96	725929.75	
13000.00	90.00	180.00	8950.00	-4193.92	-95.25	4193.92	0.00	483807.96	725929.75	
13100.00	90.00	180.00	8950.00	-4293.92	-95.25	4293.92	0.00	483707.96	725929.75	
13200.00	90.00	180.00	8950.00	-4393.92	-95.25	4393.92	0.00	483607.96	725929.75	
13300.00	90.00	180.00	8950.00	-4493.92	-95.25	4493.92	0.00	483507.96	725929.75	
13400.00	90.00	180.00	8950.00	-4593.92	-95.25	4593.92	0.00	483407.96	725929.75	
13500.00	90.00	180.00	8950.00	-4693.92	-95.25	4693.92	0.00	483307.96	725929.75	
13600.00	90.00	180.00	8950.00	-4793.92	-95.25	4793.92	0.00	483207.96	725929.75	
13700.00	90.00	180.00	8950.00	-4893.92	-95.25	4893.92	0.00	483107.96	725929.75	
13800.00	90.00	180.00	8950.00	-4993.92	-95.25	4993.92	0.00	483007.96	725929.75	
13900.00	90.00	180.00	8950.00	-5093.92	-95.25	5093.92	0.00	482907.96	725929.75	
14000.00	90.00	180.00	8950.00	-5193.92	-95.25	5193.92	0.00	482807.96	725929.75	
14100.00	90.00	180.00	8950.00	-5293.92	-95.25	5293.92	0.00	482707.96	725929.75	
14200.00	90.00	180.00	8950.00	-5393.92	-95.25	5393.92	0.00	482607.96	725929.75	
14300.00	90.00	180.00	8950.00	-5493.92	-95.25	5493.92	0.00	482507.96	725929.75	
14400.00	90.00	180.00	8950.00	-5593.92	-95.25	5593.92	0.00	482407.96	725929.75	
14500.00	90.00	180.00	8950.00	-5693.92	-95.25	5693.92	0.00	482307.96	725929.75	
14600.00	90.00	180.00	8950.00	-5793.92	-95.25	5793.92	0.00	482207.96	725929.75	
14700.00	90.00	180.00	8950.00	-5893.92	-95.25	5893.92	0.00	482107.96	725929.75	
14800.00	90.00	180.00	8950.00	-5993.92	-95.25	5993.92	0.00	482007.96	725929.75	
14900.00	90.00	180.00	8950.00	-6093.92	-95.25	6093.92	0.00	481907.96	725929.75	
15000.00	90.00	180.00	8950.00	-6193.92	-95.25	6193.92	0.00	481807.96	725929.75	
15100.00	90.00	180.00	8950.00	-6293.92	-95.25	6293.92	0.00	481707.96	725929.75	
15200.00	90.00	180.00	8950.00	-6393.92	-95.25	6393.92	0.00	481607.96	725929.75	
15300.00	90.00	180.00	8950.00	-6493.92	-95.25	6493.92	0.00	481507.96	725929.75	

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (%/100US ft)	Northing (US ft)	Easting (US ft)	Comment
15400.00	90.00	180.00	8950.00	-6593.92	-95.25	6593.92	0.00	481407.96	725929.75	
15500.00	90.00	180.00	8950.00	-6693.92	-95.25	6693.92	0.00	481307.96	725929.75	
15600.00	90.00	180.00	8950.00	-6793.92	-95.25	6793.92	0.00	481207.96	725929.75	
15700.00	90.00	180.00	8950.00	-6893.92	-95.25	6893.92	0.00	481107.96	725929.75	
15800.00	90.00	180.00	8950.00	-6993.92	-95.25	6993.92	0.00	481007.96	725929.75	
15900.00	90.00	180.00	8950.00	-7093.92	-95.25	7093.92	0.00	480907.96	725929.75	
16000.00	90.00	180.00	8950.00	-7193.92	-95.25	7193.92	0.00	480807.96	725929.75	
16100.00	90.00	180.00	8950.00	-7293.92	-95.25	7293.92	0.00	480707.96	725929.75	
16200.00	90.00	180.00	8950.00	-7393.92	-95.25	7393.92	0.00	480607.96	725929.75	
16300.00	90.00	180.00	8950.00	-7493.92	-95.25	7493.92	0.00	480507.96	725929.75	
16400.00	90.00	180.00	8950.00	-7593.92	-95.25	7593.92	0.00	480407.96	725929.75	
16500.00	90.00	180.00	8950.00	-7693.92	-95.25	7693.92	0.00	480307.96	725929.75	
16600.00	90.00	180.00	8950.00	-7793.92	-95.25	7793.92	0.00	480207.96	725929.75	
16700.00	90.00	180.00	8950.00	-7893.92	-95.25	7893.92	0.00	480107.96	725929.75	
16800.00	90.00	180.00	8950.00	-7993.92	-95.25	7993.92	0.00	480007.96	725929.75	
16900.00	90.00	180.00	8950.00	-8093.92	-95.25	8093.92	0.00	479907.96	725929.75	
17000.00	90.00	180.00	8950.00	-8193.92	-95.25	8193.92	0.00	479807.96	725929.75	
17100.00	90.00	180.00	8950.00	-8293.92	-95.25	8293.92	0.00	479707.96	725929.75	
17200.00	90.00	180.00	8950.00	-8393.92	-95.25	8393.92	0.00	479607.96	725929.75	
17300.00	90.00	180.00	8950.00	-8493.92	-95.25	8493.92	0.00	479507.96	725929.75	
17400.00	90.00	180.00	8950.00	-8593.92	-95.25	8593.92	0.00	479407.96	725929.75	
17500.00	90.00	180.00	8950.00	-8693.92	-95.25	8693.92	0.00	479307.96	725929.75	
17600.00	90.00	180.00	8950.00	-8793.92	-95.25	8793.92	0.00	479207.96	725929.75	
17700.00	90.00	180.00	8950.00	-8893.92	-95.25	8893.92	0.00	479107.96	725929.75	
17800.00	90.00	180.00	8950.00	-8993.92	-95.25	8993.92	0.00	479007.96	725929.75	
17900.00	90.00	180.00	8950.00	-9093.92	-95.25	9093.92	0.00	478907.96	725929.75	
18000.00	90.00	180.00	8950.00	-9193.92	-95.25	9193.92	0.00	478807.96	725929.75	
18100.00	90.00	180.00	8950.00	-9293.92	-95.25	9293.92	0.00	478707.96	725929.75	
18200.00	90.00	180.00	8950.00	-9393.92	-95.25	9393.92	0.00	478607.96	725929.75	
18300.00	90.00	180.00	8950.00	-9493.92	-95.25	9493.92	0.00	478507.96	725929.75	
18400.00	90.00	180.00	8950.00	-9593.92	-95.25	9593.92	0.00	478407.96	725929.75	
18500.00	90.00	180.00	8950.00	-9693.92	-95.25	9693.92	0.00	478307.96	725929.75	
18600.00	90.00	180.00	8950.00	-9793.92	-95.25	9793.92	0.00	478207.96	725929.75	
18700.00	90.00	180.00	8950.00	-9893.92	-95.25	9893.92	0.00	478107.96	725929.75	
18800.00	90.00	180.00	8950.00	-9993.92	-95.25	9993.92	0.00	478007.96	725929.75	
18834.87	90.00	180.00	8950.00	-10028.79	-95.25	10028.79	0.00	477973.09	725929.75	PBHL 512H

Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)

Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)
Rustler	660.00	0.00	0.00	660.00	0.00	0.00	488001.88	726025.00
Salado	1130.00	0.00	0.00	1130.00	0.00	0.00	488001.88	726025.00
Delaware	4460.36	1.68	316.39	4460.00	18.60	-17.72	488020.48	726007.28
L. Brushy Canyon	8031.90	1.68	316.39	8030.00	94.41	-89.93	488096.29	725935.07
1st BSPG Lime	8352.00	0.27	316.39	8350.00	99.95	-95.21	488101.83	725929.79
Leonard A	8442.13	6.31	180.00	8440.00	96.53	-95.25	488098.41	725929.75

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company, L.P.
LEASE NO.:	NMNM-22080
WELL NAME & NO.:	Tomb Raider 1-12 Fed 512H
SURFACE HOLE FOOTAGE:	0200' FNL & 1460' FWL
BOTTOM HOLE FOOTAGE:	0330' FSL & 1300' FWL
LOCATION:	Section 01, T. 23 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

Potash	☐ None	☒ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

All previous COAs still apply except the following:

A. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

1. The 13-3/8 inch surface casing shall be set at approximately 790 feet (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet 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 is to include the lead cement slurry.**
 - 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.
2. The minimum required fill of cement behind the **9-5/8 inch** intermediate casing, which shall be set at approximately **6000 feet (basal anhydrite of the Castile formation)**, is:

Option 1 (Single Stage):

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

Option 2:

Operator has proposed DV tool at depth of 3300', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

- a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation or approved top of cement on the next stage.
 - b. Second stage above DV tool:

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

4. 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.

MHH 11222017