Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

Carlsbad Field Office
OCD Hobbs

HOBBS OCD
AUG 08 2016
RECEIVED

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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NM-[illegible]98

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
BLUE KRAIT 23 FED 6H

2. Name of Operator
DEVON ENERGY PRODUCTION CO LP
Contact: DAVID H COOK
E-Mail: david.cook@dvn.com

9. API Well No.
30-025-43239-00-X1

3a. Address
333 WEST SHERIDAN AVE
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)
Ph: 405-552-7848

10. Field and Pool, or Exploratory
RED HILLS

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 23 T24S R33E SESE 200FSL 660FEL

11. County or Parish, and State
LEA COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A PD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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 recomplete 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Devon Energy Production Co., L.P. respectfully requests approval to change the bottom hole location from 330 FNL & 832 FEL, Unit A, Section 23, T24S, R33E to 330 FNL & 380 FEL, Unit A, Section 23, T24S, R33E.

Please see the attached revised C-102, Drill Plan & Directional Survey.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

Electronic Submission #343592 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION CO LP, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 07/18/2016 (16PP0913SE)

Name *(Printed/Typed)* DAVID H COOK — Title REGULATORY SPECIALIST

Signature (Electronic Submission) — Date 06/30/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ~~(BLM Approver Not Specified)~~ Mustafa Haque — Title PETROLEUM ENGINEER — Date 08/04/2016

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.

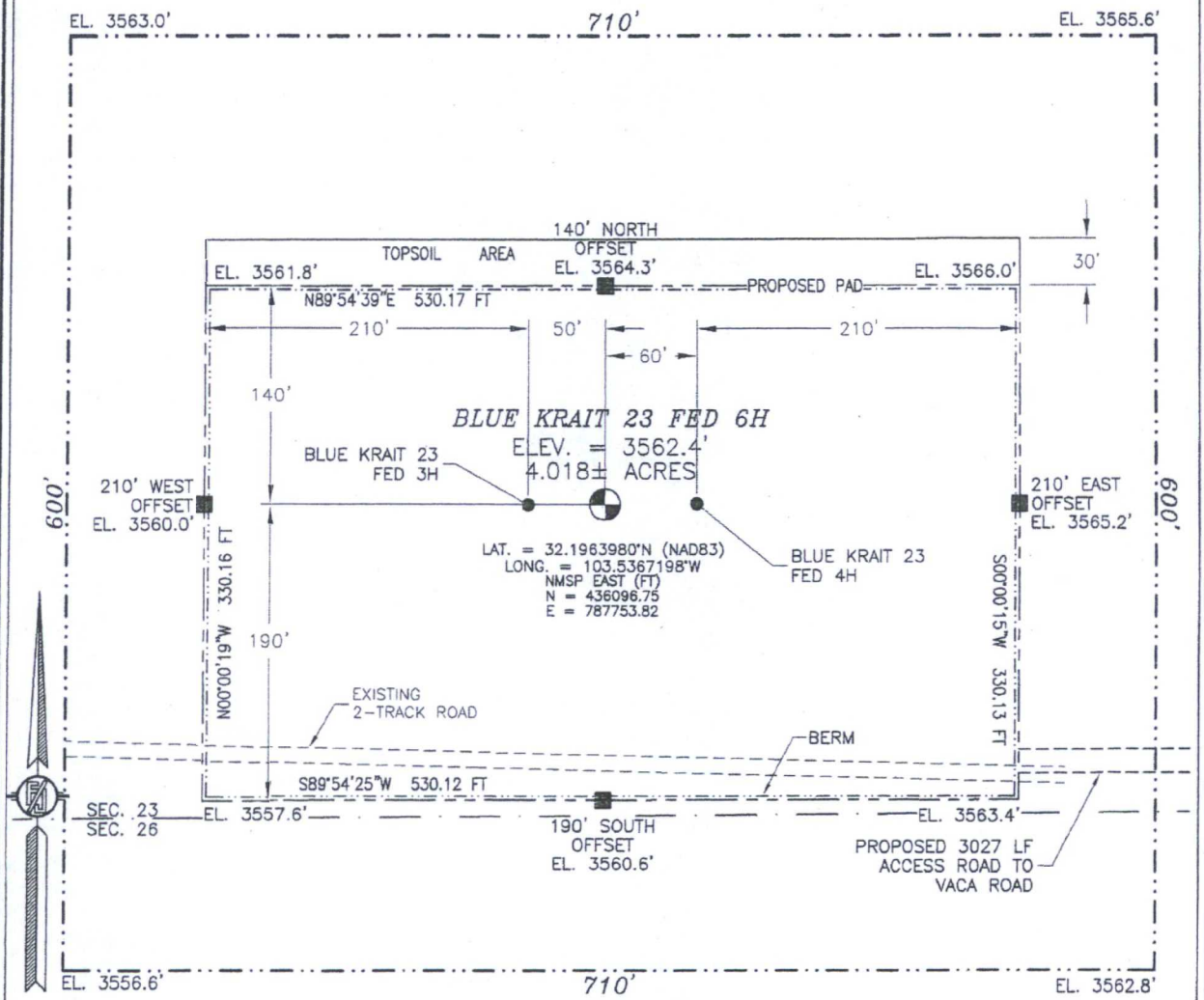
Office Hobbs

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.

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

SECTION 23, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
SITE MAP

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



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF STATE HIGHWAY 128 AND VACA ROAD GO SOUTHEAST ON VACA ROAD FOR APPROX. 1.1 MILES. GO WEST ON 2-TRACK ROAD FOR APPROX. 0.6 OF A MILE TO SOUTHEAST PAD CORNER.

DEVON ENERGY PRODUCTION COMPANY, L.P.

BLUE KRAIT 23 FED 6H

LOCATED 200 FT. FROM THE SOUTH LINE AND 660 FT. FROM THE EAST LINE OF SECTION 23, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

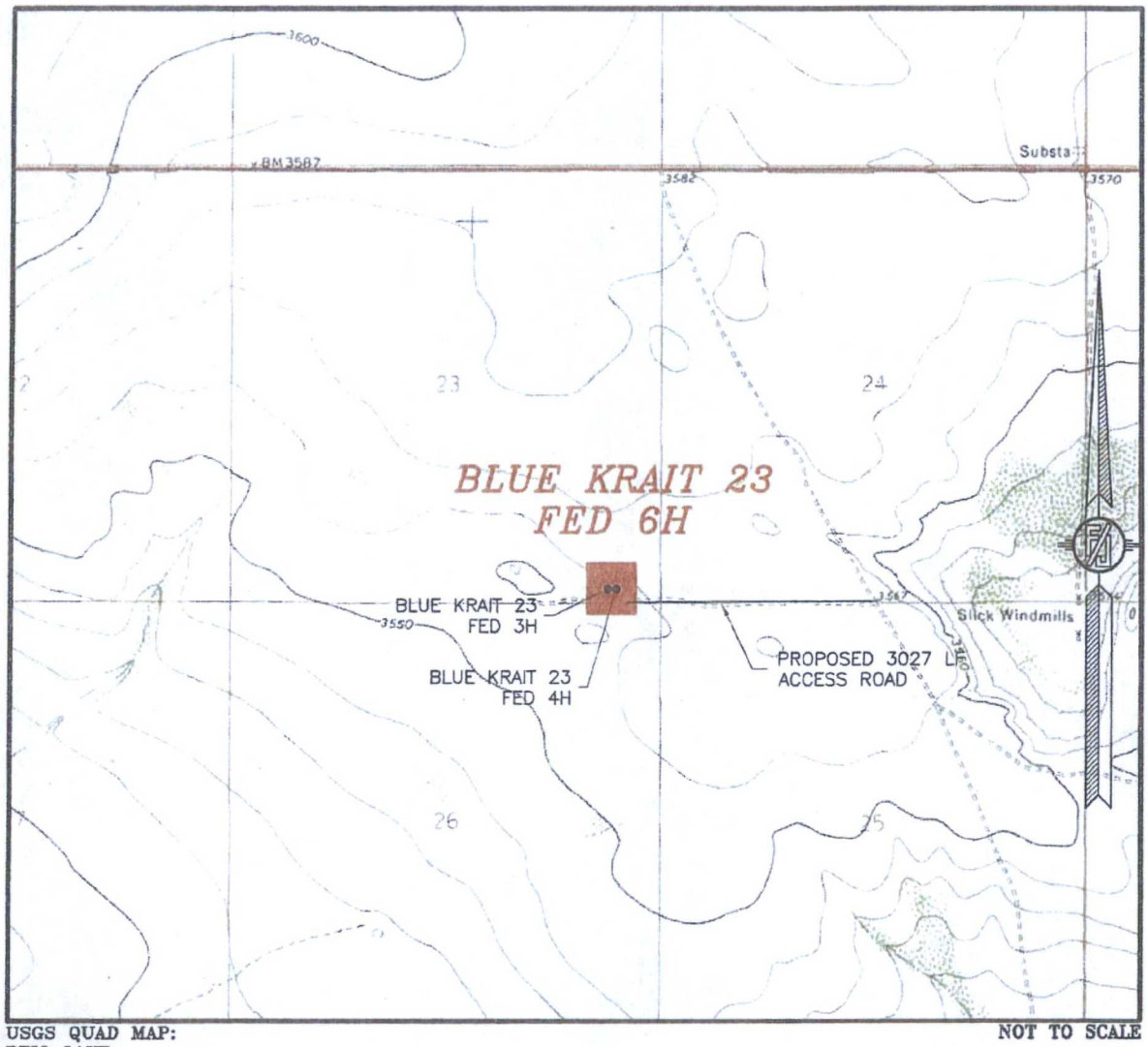
JUNE 8, 2016

SURVEY NO. 3769E

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

SECTION 23, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
BELL LAKE

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

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AND 660 FT. FROM THE EAST LINE OF
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LEA COUNTY, STATE OF NEW MEXICO

JUNE 8, 2016

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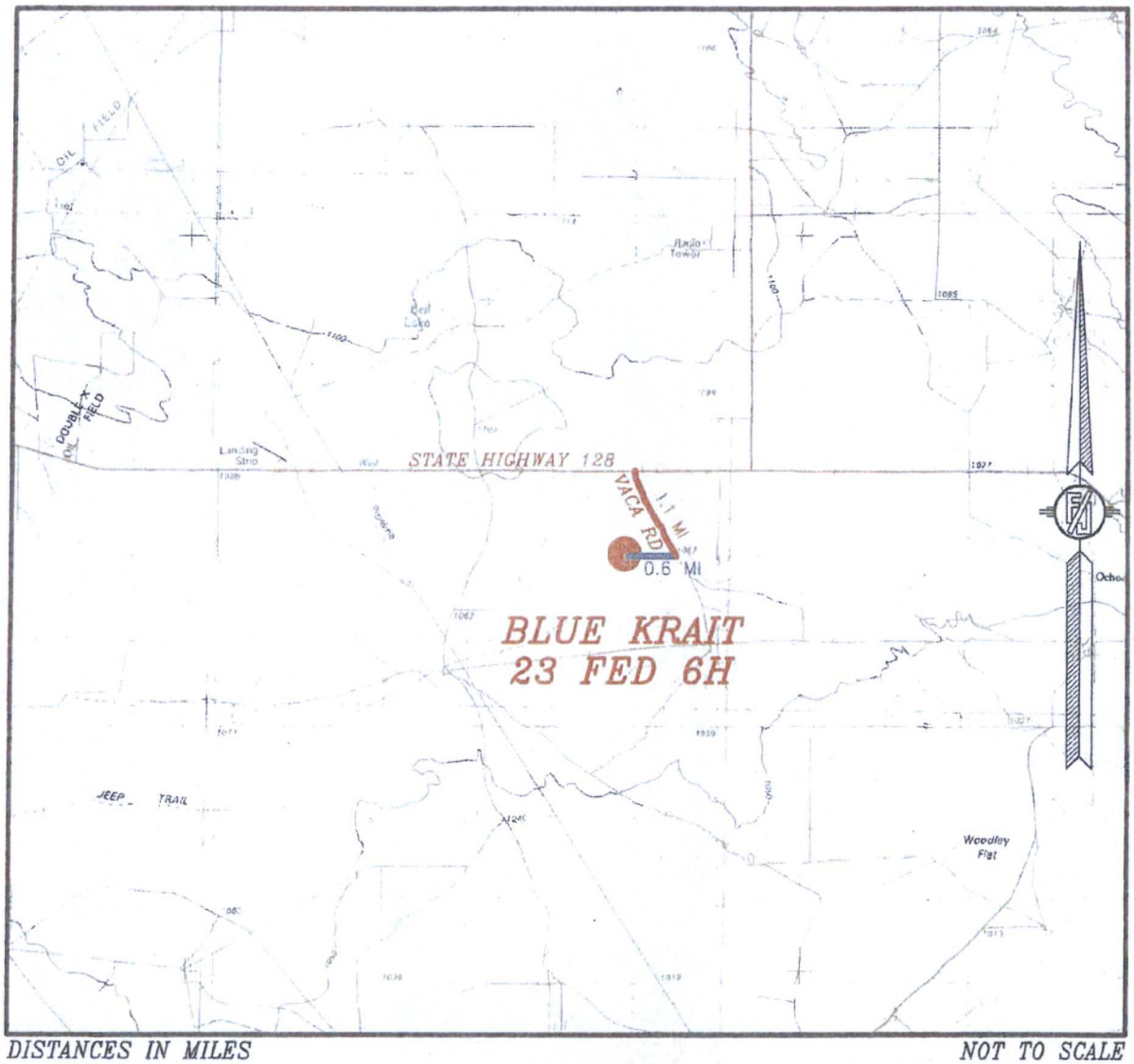
SECTION 23, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION
FROM THE INTERSECTION OF STATE HIGHWAY 128 AND VACA ROAD GO SOUTHEAST ON VACA ROAD FOR APPROX. 1.1 MILES. GO WEST ON 2-TRACK ROAD FOR APPROX. 0.6 OF A MILE TO SOUTHEAST PAD CORNER.

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SECTION 23, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO

NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEBRUARY 2014

DEVON ENERGY PRODUCTION COMPANY, L.P.

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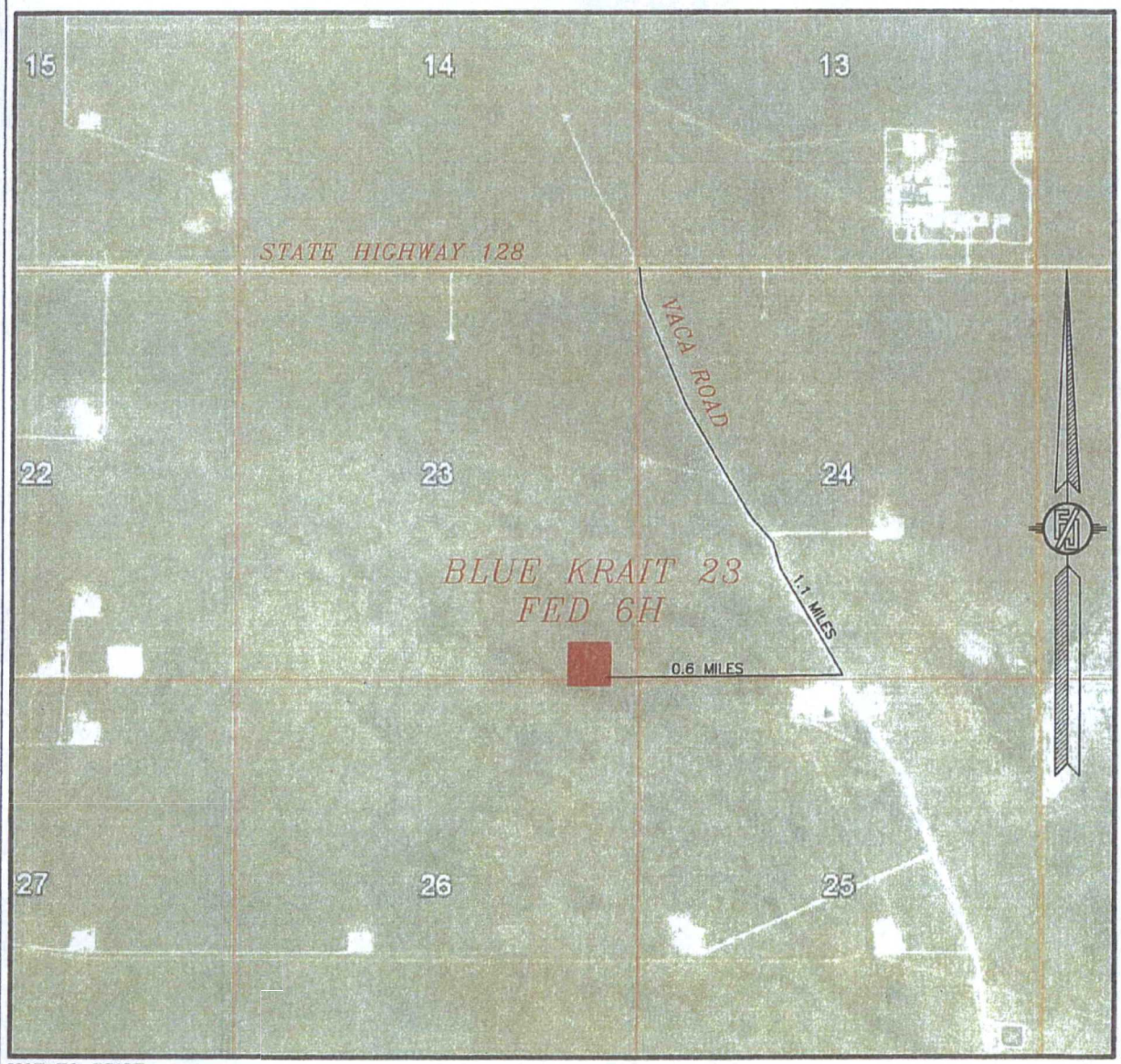
JUNE 8, 2016

SURVEY NO. 3769E

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

SECTION 23, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

ACCESS AERIAL ROUTE MAP



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LEA COUNTY, STATE OF NEW MEXICO

JUNE 8, 2016

SURVEY NO. 3769E

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

1. Geologic Formations

TVD of target	9,453'	Pilot hole depth	n/a
MD at TD:	13,975'	Deepest expected fresh water:	100'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	1,123		
Top of Salt	1,644		
Base of Salt	5,070		
Delaware	5,273		
Lower Brushy Canyon	9,016		
1st Bone Spring Lime	9,196		
Leonard A	9,281		
Leonard A Mid Carbonate	9,356		
Leonard A Target Top	9,406		
Leonard A Target Base	9,478		
Leonard B	9,626		

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

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	1,350'	13.375"	54.5	J-55	BTC	1.81	1.92	5.53
12.25"	0	4,000'	9.625"	40	J-55	LTC	1.38	1.24	1.88
12.25"	4,000'	5,200'	9.625"	40	HCK-55	BTC	2.02	1.24	7.46
8.75"	0	13,975'	5.5"	17	P-110RY	DWC/C	1.59	1.25	2.29
				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 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program → SEE COA

Casing	# Sks	Wt. lb/ gal	H_2O gal/sk	Yld ft3/ sack	500# Comp. Strength (hours)	Slurry Description
13-3/8" Surface	690	13.5	9.07	1.72	12	Lead: Class C Cement + 4% Bentonite Gel + 0.125 lbs/sack Poly-E-Flake
	550	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
13-3/8" Surface Two Stage	450	13.5	9.07	1.72	12	1st Stage Lead: Class C Cement + 4% Bentonite Gel + 0.125 lbs/sack Poly-E-Flake
	550	14.8	6.32	1.33	6	1st Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
	DV Tool = 300ft					
	320	14.8	6.32	1.33	6	2nd Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
9-5/8" Inter.	1080	12.9	9.81	1.85	14	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	430	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
9-5/8" Surface Two Stage	970	12.9	9.81	1.85	14	1st Stage Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	220	14.8	6.32	1.33	6	1St Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
	DV Tool = 1450ft					
	170	12.9	9.81	1.85	14	2nd Stage Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	140	14.8	6.32	1.33	6	2nd Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
5-1/2" Prod	370	10.9	20.6	3.31	24	Lead: (50:40:10) Class C: Silicalite: Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000
	1350	14.5	5.31	1.2	25	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

ow cement
2nd Stg. SEE COA

no cement on
1 Stg. SEE COA

If a DV tool is used, 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
13-3/8" Surface	0'	100%
13-3/8" Surface – Two Stage Option	1st Stage = 300' / 2nd Stage = 0'	100%
9-5/8" Intermediate	0'	75%
9-5/8" Intermediate – Two Stage Option	1st Stage = 1450' / 2nd Stage = 0'	75%
5-1/2" Production Casing	5000'	25%

4. Pressure Control Equipment → SEE COA

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

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 *		

*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.
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.

SEE COA

	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 the option of 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 vendor's representatives. • If the welding is performed by a third party, the vendor's representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. • Vendor representative will install the test plug for the initial BOP test. • Vendor 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 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.

SEE COA

	See attached schematic.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	1,350'	FW Gel	8.6-8.8	28-34	N/C
1,350'	5,200'	Saturated Brine	10.0-10.2	28-34	N/C
5,200'	13,975'	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

6. Logging and Testing Procedures

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

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

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4571 psi
Abnormal Temperature	No

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

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

Is this a walking operation? No.
Will be pre-setting casing? No.

Attachments
_x_ Directional Plan
___ Other, describe

devon

Project: Lea County, NM (NAD-83)
Site: Blue Krait 23 Fed
Well: 6H
Wellbore: OH
Design: Plan #1

T G M

Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.51°

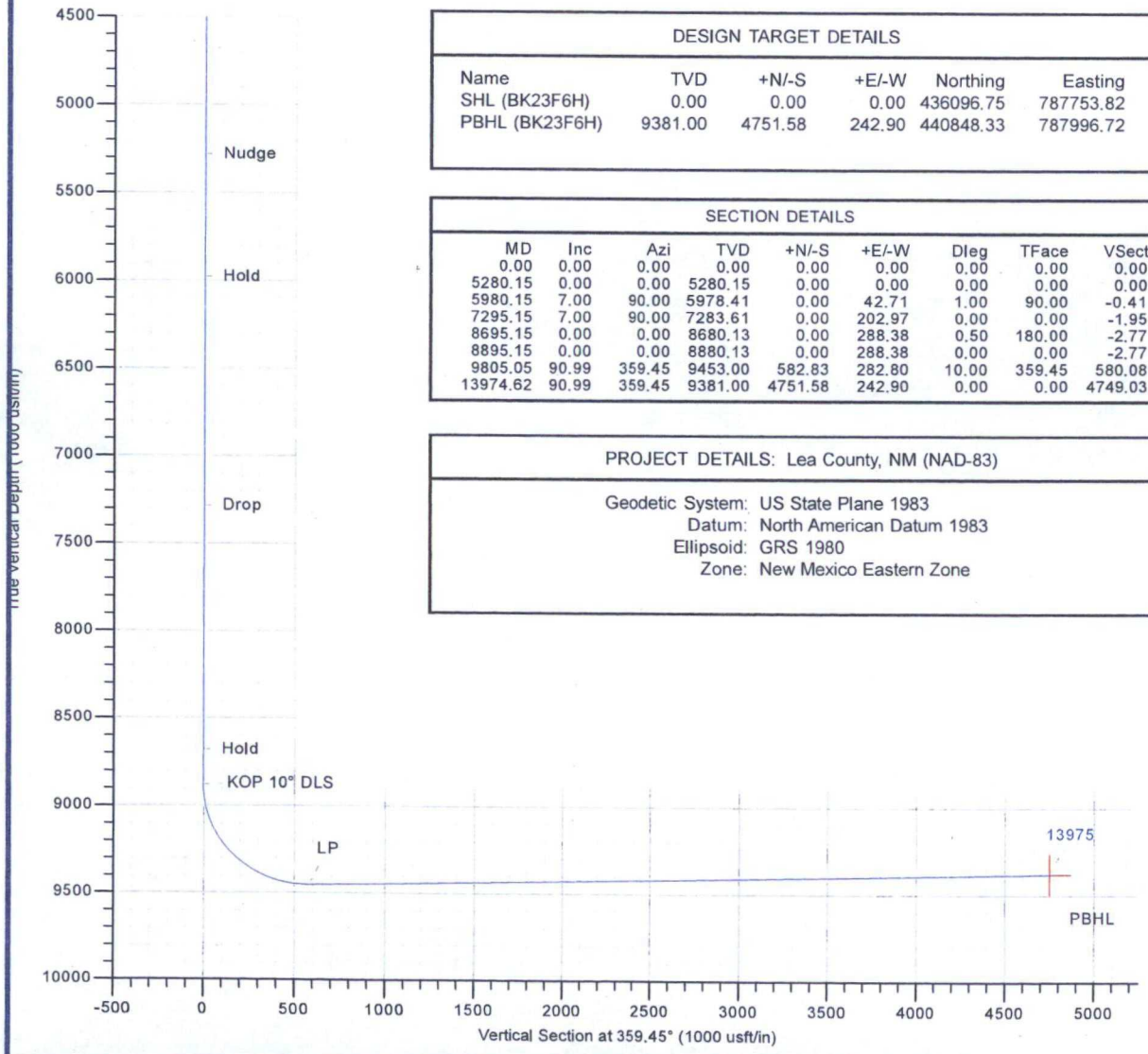
Magnetic Field
Strength: 48203.6snT
Dip Angle: 59.97°
Date: 6/24/2016
Model: HDGM

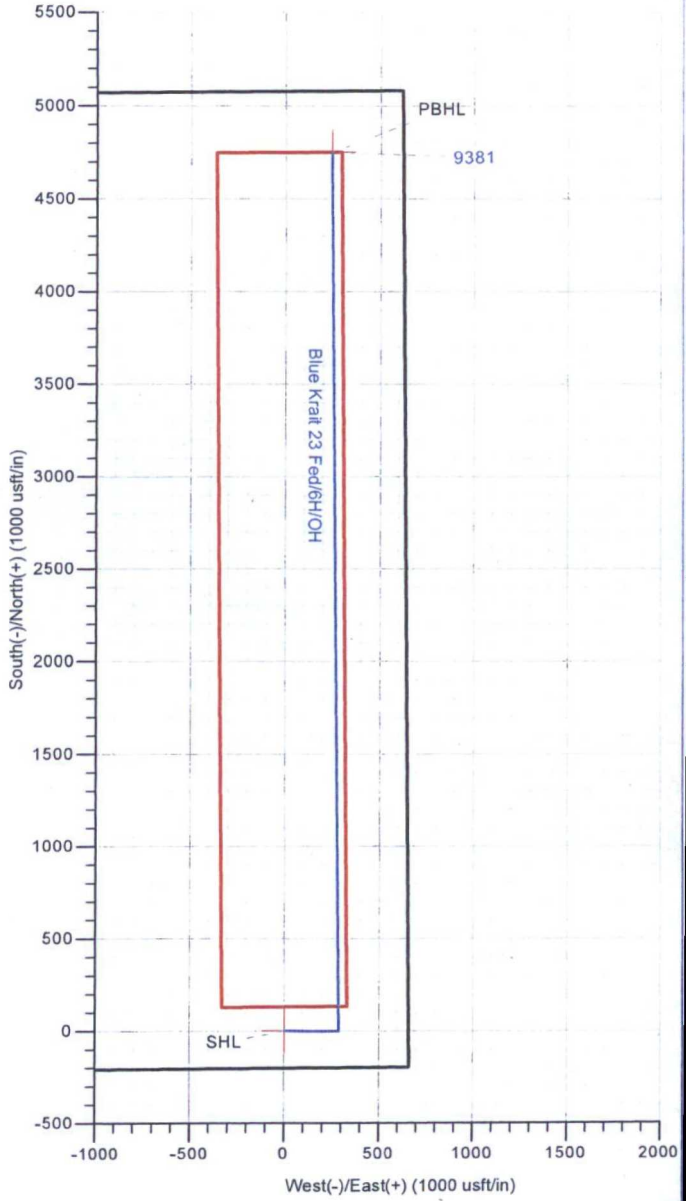
LEAM Drilling Systems LLC

DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
SHL (BK23F6H)	0.00	0.00	0.00	436096.75	787753.82
PBHL (BK23F6H)	9381.00	4751.58	242.90	440848.33	787996.72

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5280.15	0.00	0.00	5280.15	0.00	0.00	0.00	0.00	0.00
5980.15	7.00	90.00	5978.41	0.00	42.71	1.00	90.00	-0.41
7295.15	7.00	90.00	7283.61	0.00	202.97	0.00	0.00	-1.95
8695.15	0.00	0.00	8680.13	0.00	288.38	0.50	180.00	-2.77
8895.15	0.00	0.00	8880.13	0.00	288.38	0.00	0.00	-2.77
9805.05	90.99	359.45	9453.00	582.83	282.80	10.00	359.45	580.08
13974.62	90.99	359.45	9381.00	4751.58	242.90	0.00	0.00	4749.03

PROJECT DETAILS: Lea County, NM (NAD-83)	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone





DEVON ENERGY

Lea County, NM (NAD-83)
Blue Krait 23 Fed
6H

OH

Plan: Plan #1

Standard Planning Report

27 June, 2016

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 6H
Company:	DEVON ENERGY	**TVD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Project:	Lea County, NM (NAD-83)	**MD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Site:	Blue Krait 23 Fed	**North Reference:**	Grid
Well:	6H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Lea County, NM (NAD-83)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Blue Krait 23 Fed				
Site Position:		**Northing:**	436,068.33 usft	**Latitude:**	32° 11' 47.039 N
From:	Map	**Easting:**	783,797.48 usft	**Longitude:**	103° 32' 58.234 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.42 °

Well	6H				
Well Position	**+N/-S**	28.42 usft	**Northing:**	436,096.75 usft	**Latitude:**	32° 11' 47.033 N
	+E/-W	3,956.34 usft	**Easting:**	787,753.82 usft	**Longitude:**	103° 32' 12.191 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	3,587.40 usft	**Ground Level:**	3,562.40 usft

Wellbore	OH			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	6/24/2016	6.93	59.97	48,204

Design	Plan #1			
Audit Notes:				
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.00	0.00	0.00	359.45

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,280.15	0.00	0.00	5,280.15	0.00	0.00	0.00	0.00	0.00	0.00	
5,980.15	7.00	90.00	5,978.41	0.00	42.71	1.00	1.00	0.00	90.00	
7,295.15	7.00	90.00	7,283.61	0.00	202.97	0.00	0.00	0.00	0.00	
8,695.15	0.00	0.00	8,680.13	0.00	288.38	0.50	-0.50	0.00	180.00	
8,895.15	0.00	0.00	8,880.13	0.00	288.38	0.00	0.00	0.00	0.00	
9,805.05	90.99	359.45	9,453.00	582.83	282.80	10.00	10.00	-0.06	359.45	
13,974.62	90.99	359.45	9,381.00	4,751.58	242.90	0.00	0.00	0.00	0.00	PBHL (BK23F6H)

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 6H
Company:	DEVON ENERGY	**TVD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Project:	Lea County, NM (NAD-83)	**MD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Site:	Blue Krait 23 Fed	**North Reference:**	Grid
Well:	6H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (BK23F6H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,124.40	0.00	0.00	1,124.40	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,645.40	0.00	0.00	1,645.40	0.00	0.00	0.00	0.00	0.00	0.00
Top of Salt									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 6H
Company:	DEVON ENERGY	**TVD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Project:	Lea County, NM (NAD-83)	**MD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Site:	Blue Krait 23 Fed	**North Reference:**	Grid
Well:	6H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,071.40	0.00	0.00	5,071.40	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,274.40	0.00	0.00	5,274.40	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
5,280.15	0.00	0.00	5,280.15	0.00	0.00	0.00	0.00	0.00	0.00
Nudge									
5,300.00	0.20	90.00	5,300.00	0.00	0.03	0.00	1.00	1.00	0.00
5,400.00	1.20	90.00	5,399.99	0.00	1.25	-0.01	1.00	1.00	0.00
5,500.00	2.20	90.00	5,499.95	0.00	4.22	-0.04	1.00	1.00	0.00
5,600.00	3.20	90.00	5,599.83	0.00	8.93	-0.09	1.00	1.00	0.00
5,700.00	4.20	90.00	5,699.62	0.00	15.38	-0.15	1.00	1.00	0.00
5,800.00	5.20	90.00	5,799.29	0.00	23.57	-0.23	1.00	1.00	0.00
5,900.00	6.20	90.00	5,898.79	0.00	33.50	-0.32	1.00	1.00	0.00
5,980.15	7.00	90.00	5,978.41	0.00	42.71	-0.41	1.00	1.00	0.00
Hold									
6,000.00	7.00	90.00	5,998.11	0.00	45.13	-0.43	0.00	0.00	0.00
6,100.00	7.00	90.00	6,097.37	0.00	57.31	-0.55	0.00	0.00	0.00
6,200.00	7.00	90.00	6,196.62	0.00	69.50	-0.67	0.00	0.00	0.00
6,300.00	7.00	90.00	6,295.88	0.00	81.69	-0.78	0.00	0.00	0.00
6,400.00	7.00	90.00	6,395.13	0.00	93.87	-0.90	0.00	0.00	0.00
6,500.00	7.00	90.00	6,494.39	0.00	106.06	-1.02	0.00	0.00	0.00
6,600.00	7.00	90.00	6,593.64	0.00	118.25	-1.14	0.00	0.00	0.00
6,700.00	7.00	90.00	6,692.89	0.00	130.44	-1.25	0.00	0.00	0.00
6,800.00	7.00	90.00	6,792.15	0.00	142.62	-1.37	0.00	0.00	0.00
6,900.00	7.00	90.00	6,891.40	0.00	154.81	-1.49	0.00	0.00	0.00
7,000.00	7.00	90.00	6,990.66	0.00	167.00	-1.60	0.00	0.00	0.00
7,100.00	7.00	90.00	7,089.91	0.00	179.18	-1.72	0.00	0.00	0.00
7,200.00	7.00	90.00	7,189.17	0.00	191.37	-1.84	0.00	0.00	0.00
7,295.15	7.00	90.00	7,283.61	0.00	202.97	-1.95	0.00	0.00	0.00
Drop									
7,300.00	6.98	90.00	7,288.42	0.00	203.56	-1.95	0.50	-0.50	0.00
7,400.00	6.48	90.00	7,387.73	0.00	215.27	-2.07	0.50	-0.50	0.00
7,500.00	5.98	90.00	7,487.14	0.00	226.11	-2.17	0.50	-0.50	0.00
7,600.00	5.48	90.00	7,586.64	0.00	236.09	-2.27	0.50	-0.50	0.00
7,700.00	4.98	90.00	7,686.23	0.00	245.20	-2.35	0.50	-0.50	0.00
7,800.00	4.48	90.00	7,785.89	0.00	253.44	-2.43	0.50	-0.50	0.00
7,900.00	3.98	90.00	7,885.62	0.00	260.80	-2.50	0.50	-0.50	0.00
8,000.00	3.48	90.00	7,985.40	0.00	267.30	-2.57	0.50	-0.50	0.00
8,100.00	2.98	90.00	8,085.25	0.00	272.93	-2.62	0.50	-0.50	0.00
8,200.00	2.48	90.00	8,185.13	0.00	277.68	-2.67	0.50	-0.50	0.00
8,300.00	1.98	90.00	8,285.06	0.00	281.57	-2.70	0.50	-0.50	0.00
8,400.00	1.48	90.00	8,385.01	0.00	284.58	-2.73	0.50	-0.50	0.00
8,500.00	0.98	90.00	8,484.99	0.00	286.72	-2.75	0.50	-0.50	0.00
8,600.00	0.48	90.00	8,584.98	0.00	287.99	-2.76	0.50	-0.50	0.00
8,695.15	0.00	0.00	8,680.13	0.00	288.38	-2.77	0.50	-0.50	0.00
Hold									
8,700.00	0.00	0.00	8,684.98	0.00	288.38	-2.77	0.00	0.00	0.00
8,800.00	0.00	0.00	8,784.98	0.00	288.38	-2.77	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 6H
Company:	DEVON ENERGY	**TVD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Project:	Lea County, NM (NAD-83)	**MD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Site:	Blue Krait 23 Fed	**North Reference:**	Grid
Well:	6H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,895.15	0.00	0.00	8,880.13	0.00	288.38	-2.77	0.00	0.00	0.00
KOP 10° DLS									
8,900.00	0.48	359.45	8,884.98	0.02	288.38	-2.75	9.99	9.99	0.00
8,950.00	5.48	359.45	8,934.89	2.62	288.36	-0.15	10.00	10.00	0.00
9,000.00	10.48	359.45	8,984.39	9.57	288.29	6.80	10.00	10.00	0.00
9,033.77	13.86	359.45	9,017.40	16.69	288.22	13.92	10.00	10.00	0.00
Lower Brushy Canyon									
9,050.00	15.48	359.45	9,033.10	20.80	288.18	18.03	10.00	10.00	0.00
9,100.00	20.48	359.45	9,080.64	36.23	288.03	33.46	10.00	10.00	0.00
9,150.00	25.48	359.45	9,126.66	55.75	287.85	52.98	10.00	10.00	0.00
9,200.00	30.48	359.45	9,170.80	79.20	287.62	76.43	10.00	10.00	0.00
9,231.39	33.62	359.45	9,197.40	95.86	287.46	93.09	10.00	10.00	0.00
1st BSPG Lime									
9,250.00	35.48	359.45	9,212.72	106.41	287.36	103.65	10.00	10.00	0.00
9,300.00	40.48	359.45	9,252.12	137.17	287.07	134.41	10.00	10.00	0.00
9,341.10	44.60	359.45	9,282.40	164.95	286.80	162.19	10.00	10.00	0.00
Leonard A									
9,350.00	45.48	359.45	9,288.69	171.25	286.74	168.49	10.00	10.00	0.00
9,400.00	50.48	359.45	9,322.14	208.38	286.39	205.63	10.00	10.00	0.00
9,450.00	55.48	359.45	9,352.23	248.29	286.00	245.54	10.00	10.00	0.00
9,459.23	56.41	359.45	9,357.40	255.94	285.93	253.18	10.00	10.00	0.00
Leonard A Mid Carbonate									
9,500.00	60.48	359.45	9,378.73	290.67	285.60	287.92	10.00	10.00	0.00
9,550.00	65.48	359.45	9,401.44	335.20	285.17	332.45	10.00	10.00	0.00
9,564.79	66.96	359.45	9,407.40	348.74	285.04	345.98	10.00	10.00	0.00
Leonard A Target Top									
9,600.00	70.48	359.45	9,420.17	381.54	284.73	378.79	10.00	10.00	0.00
9,650.00	75.48	359.45	9,434.80	429.33	284.27	426.58	10.00	10.00	0.00
9,700.00	80.48	359.45	9,445.21	478.22	283.80	475.47	10.00	10.00	0.00
9,750.00	85.48	359.45	9,451.31	527.83	283.33	525.08	10.00	10.00	0.00
9,800.00	90.48	359.45	9,453.07	577.78	282.85	575.04	10.00	10.00	0.00
9,805.05	90.99	359.45	9,453.00	582.83	282.80	580.09	10.00	10.00	0.00
LP									
9,900.00	90.99	359.45	9,451.36	677.76	281.89	675.02	0.00	0.00	0.00
10,000.00	90.99	359.45	9,449.64	777.74	280.94	775.01	0.00	0.00	0.00
10,100.00	90.99	359.45	9,447.91	877.72	279.98	874.99	0.00	0.00	0.00
10,200.00	90.99	359.45	9,446.18	977.70	279.02	974.98	0.00	0.00	0.00
10,300.00	90.99	359.45	9,444.46	1,077.68	278.07	1,074.96	0.00	0.00	0.00
10,400.00	90.99	359.45	9,442.73	1,177.66	277.11	1,174.95	0.00	0.00	0.00
10,500.00	90.99	359.45	9,441.00	1,277.64	276.15	1,274.93	0.00	0.00	0.00
10,600.00	90.99	359.45	9,439.28	1,377.62	275.19	1,374.92	0.00	0.00	0.00
10,700.00	90.99	359.45	9,437.55	1,477.60	274.24	1,474.90	0.00	0.00	0.00
10,800.00	90.99	359.45	9,435.82	1,577.58	273.28	1,574.89	0.00	0.00	0.00
10,900.00	90.99	359.45	9,434.09	1,677.56	272.32	1,674.87	0.00	0.00	0.00
11,000.00	90.99	359.45	9,432.37	1,777.54	271.37	1,774.86	0.00	0.00	0.00
11,100.00	90.99	359.45	9,430.64	1,877.53	270.41	1,874.84	0.00	0.00	0.00
11,200.00	90.99	359.45	9,428.91	1,977.51	269.45	1,974.83	0.00	0.00	0.00
11,300.00	90.99	359.45	9,427.19	2,077.49	268.50	2,074.81	0.00	0.00	0.00
11,400.00	90.99	359.45	9,425.46	2,177.47	267.54	2,174.80	0.00	0.00	0.00
11,500.00	90.99	359.45	9,423.73	2,277.45	266.58	2,274.78	0.00	0.00	0.00
11,600.00	90.99	359.45	9,422.01	2,377.43	265.62	2,374.77	0.00	0.00	0.00
11,700.00	90.99	359.45	9,420.28	2,477.41	264.67	2,474.75	0.00	0.00	0.00
11,800.00	90.99	359.45	9,418.55	2,577.39	263.71	2,574.74	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 6H
Company:	DEVON ENERGY	**TVD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Project:	Lea County, NM (NAD-83)	**MD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Site:	Blue Krait 23 Fed	**North Reference:**	Grid
Well:	6H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,900.00	90.99	359.45	9,416.83	2,677.37	262.75	2,674.72	0.00	0.00	0.00
12,000.00	90.99	359.45	9,415.10	2,777.35	261.80	2,774.71	0.00	0.00	0.00
12,100.00	90.99	359.45	9,413.37	2,877.33	260.84	2,874.69	0.00	0.00	0.00
12,200.00	90.99	359.45	9,411.65	2,977.31	259.88	2,974.68	0.00	0.00	0.00
12,300.00	90.99	359.45	9,409.92	3,077.29	258.93	3,074.66	0.00	0.00	0.00
12,400.00	90.99	359.45	9,408.19	3,177.27	257.97	3,174.65	0.00	0.00	0.00
12,500.00	90.99	359.45	9,406.46	3,277.25	257.01	3,274.63	0.00	0.00	0.00
12,600.00	90.99	359.45	9,404.74	3,377.23	256.05	3,374.62	0.00	0.00	0.00
12,700.00	90.99	359.45	9,403.01	3,477.21	255.10	3,474.60	0.00	0.00	0.00
12,800.00	90.99	359.45	9,401.28	3,577.19	254.14	3,574.59	0.00	0.00	0.00
12,900.00	90.99	359.45	9,399.56	3,677.17	253.18	3,674.57	0.00	0.00	0.00
13,000.00	90.99	359.45	9,397.83	3,777.15	252.23	3,774.56	0.00	0.00	0.00
13,100.00	90.99	359.45	9,396.10	3,877.14	251.27	3,874.54	0.00	0.00	0.00
13,200.00	90.99	359.45	9,394.38	3,977.12	250.31	3,974.53	0.00	0.00	0.00
13,300.00	90.99	359.45	9,392.65	4,077.10	249.36	4,074.52	0.00	0.00	0.00
13,400.00	90.99	359.45	9,390.92	4,177.08	248.40	4,174.50	0.00	0.00	0.00
13,500.00	90.99	359.45	9,389.20	4,277.06	247.44	4,274.49	0.00	0.00	0.00
13,600.00	90.99	359.45	9,387.47	4,377.04	246.48	4,374.47	0.00	0.00	0.00
13,700.00	90.99	359.45	9,385.74	4,477.02	245.53	4,474.46	0.00	0.00	0.00
13,800.00	90.99	359.45	9,384.02	4,577.00	244.57	4,574.44	0.00	0.00	0.00
13,900.00	90.99	359.45	9,382.29	4,676.98	243.61	4,674.43	0.00	0.00	0.00
13,974.62	90.99	359.45	9,381.00	4,751.58	242.90	4,749.03	0.00	0.00	0.00
TD - PBHL (BK23F6H)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (BK23F6H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	436,096.75	787,753.82	32° 11' 47.033 N	103° 32' 12.191 W
PBHL (BK23F6H) - plan hits target center - Point	0.00	0.00	9,381.00	4,751.58	242.90	440,848.33	787,996.72	32° 12' 34.033 N	103° 32' 8.954 W

Formations

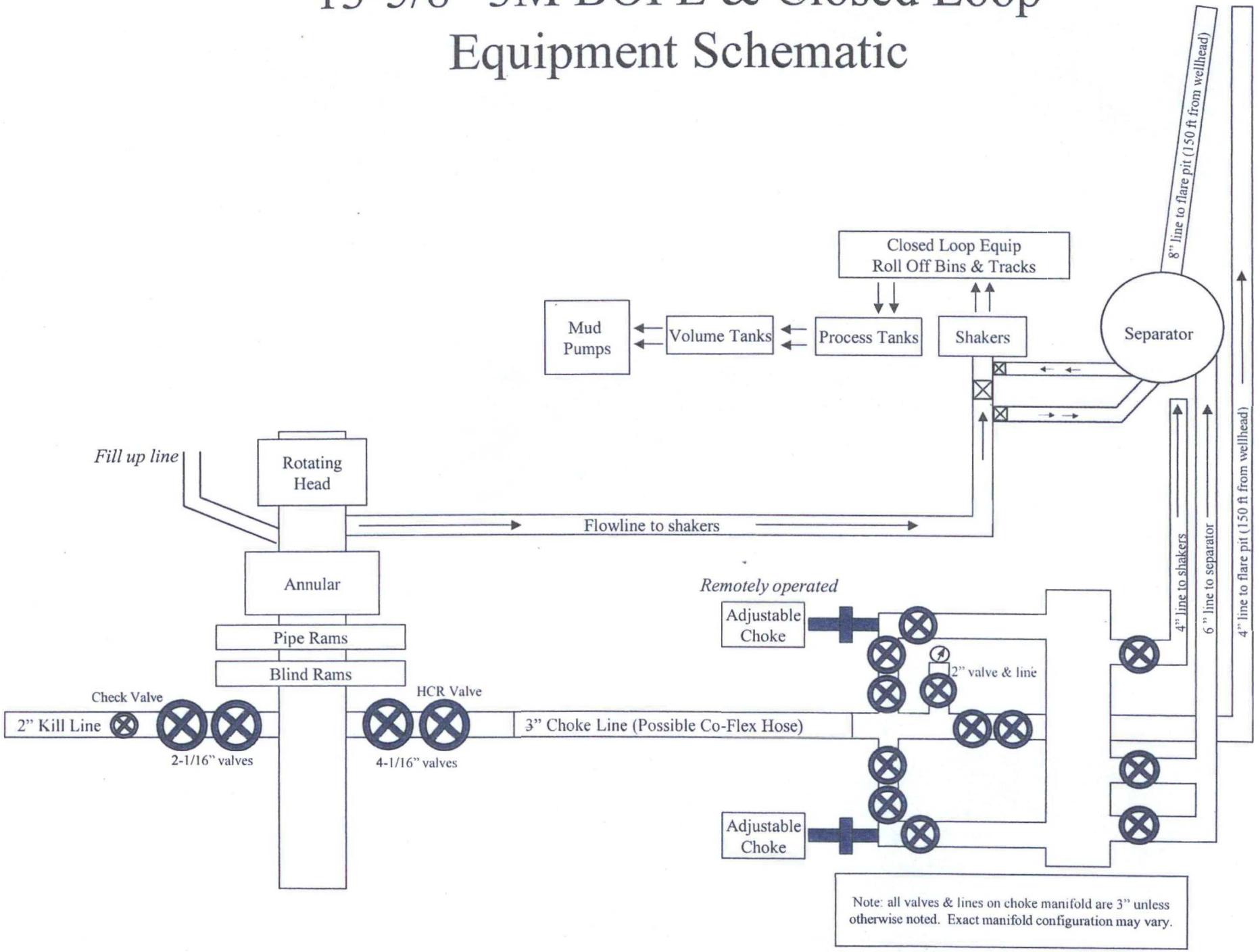
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,124.40	1,113.50	Rustler		0.00	
1,645.40	1,634.50	Top of Salt		0.00	
5,071.40	5,060.50	Base of Salt		0.00	
5,274.40	5,263.50	Delaware		0.00	
9,033.77	9,006.50	Lower Brushy Canyon		0.00	
9,231.39	9,186.50	1st BSPG Lime		0.00	
9,341.10	9,271.50	Leonard A		0.00	
9,459.23	9,346.50	Leonard A Mid Carbonate		0.00	
9,564.79	9,396.50	Leonard A Target Top		0.00	

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 6H
Company:	DEVON ENERGY	**TVD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Project:	Lea County, NM (NAD-83)	**MD Reference:**	3562.4' GE + 25' KB @ 3587.40usft
Site:	Blue Krait 23 Fed	**North Reference:**	Grid
Well:	6H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,280.15	5,280.15	0.00	0.00	Nudge
5,980.15	5,978.41	0.00	42.71	Hold
7,295.15	7,283.61	0.00	202.97	Drop
8,695.15	8,680.13	0.00	288.38	Hold
8,895.15	8,880.13	0.00	288.38	KOP 10° DLS
9,805.05	9,453.00	582.83	282.80	LP
13,974.62	9,381.00	4,751.58	242.90	TD

13-5/8" 3M BOPE & Closed Loop Equipment Schematic



PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company, L.P.
LEASE NO.:	NMLC063798
WELL NAME & NO.:	6H- Blue Krait 23 Fed
SURFACE HOLE FOOTAGE:	200'/S & 660'/E
BOTTOM HOLE FOOTAGE	330'/N & 380'/E
LOCATION:	Section 23, T. 24 S., R. 33 E., NMPM
COUNTY:	Lea County, New Mexico

A. CASING

All previous COAs still apply except the following:

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 Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

Risks:
Possibility of water flows from the Castile and the Salado.
Possibility of lost circulation from the Rustler, the Red Beds, and the Delaware.

1. The **13-3/8** inch surface casing shall be set at approximately **1350** feet **(a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.

Option 1:

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.

Option 2:

Operator has proposed DV tool at depth of 300 feet, but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50 feet below previous shoe and a minimum of 200 feet above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

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 on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate A.1.Option 1.a, c-d above. **Excess calculates to negative 2% - Additional cement will be required.**

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1:

☒ Cement to surface. If cement does not circulate see A.1.Option 1.a, c-d above.

Option 2:

Operator has proposed DV tool at depth of 1450 feet, but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50 feet below previous shoe and a minimum of 200 feet above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

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 on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate see B.1.Option 1.a, c-d above. **Excess calculates to negative 2% - Additional cement will be required.**

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

☒ Cement tie-back appropriate as proposed. 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.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53. **For H&P rigs – the stump test is not an approved BOP test. Equipment shall be tested when mounted on well head.**

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi.**

    a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**

    b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**

    c. **Manufacturer representative shall install the test plug for the initial BOP test.**

    d. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**

    e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

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