

**UNORTHODOX
LOCATION**

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD

OCT 06 2014

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

14799

APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

1a. Type of work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator **CHEVRON USA INC**

3a. Address **1616 WEST BENDER BLVD
HOBBS, NM 88240**

3b. Phone No. (include area code)
575-263-0431

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

At surface **200' FNL & 330" FWL**

At proposed prod. zone **280' FSL & 355' FWL**

14. Distance in miles and direction from nearest town or post office*
50 SOUTH FROM JAL NEW MEXICO

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

16. No. of acres in lease
**1517.74 (NMNM27506)
309.56 (VB-1838)**

17. Spacing Unit dedicated to this well
237.38 ACRES

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.
**1,050 FT FROM GULF
LITTLEFIELD FED #1**

19. Proposed Depth
**TVD 6,900
MD 17,426**

20. BLM/BIA Bond No. on file
CA 0329

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3203' GL

22. Approximate date work will start*

23. Estimated duration

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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

25. Signature **Cindy Herrera-Murillo**

Name (Printed/Typed)
CINDY HERRERA-MURILLO

Date
05/13/2014

Title
PERMITTING SPECIALIST

Approved by (Signature) **Steve Caffey**

Name (Printed/Typed)

Date
OCT 2 - 2014

Title
FIELD MANAGER

Office
CARLSBAD FIELD OFFICE

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

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

OCT 09 2014

E-PERMITTING - - New Well

Comp _____ P&A _____ TA _____

CSNG _____ Loc Chng _____

ReComp _____ Add New Well _____

Cancel Well _____ Create Pool _____

Kx
10/05/14

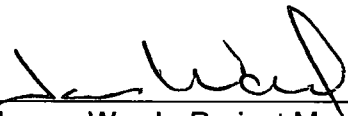
OCT 06 2014

CERTIFICATION

RECEIVED

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

Executed this 5TH day of MAY, 2014

Name: 
James Ward - Project Manager

Address: 1400 Smith Street, 40050
Houston, TX 77002

Office 713-372-1748

E-mail: jwgb@chevron.com

OCT 06 2014

RECEIVED

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Rustler	2490	740	
Castile	230	3000	
Lamar	-1600	4830	
Bell Canyon	-1640	4870	
Cherry Canyon	-2645	5875	
Brushy Canyon	-4268	7498	
Bone Spring Limestone	-5755	8985	
Upper Avalon	-5830	9060	
Lower Avalon	-6370	9600	
1st Bone Spring Sand	-6660	9890	
1st Bone Spring Shale	-6930	10160	
Lateral TD (1st Bone Spring Shale)	-7010	10235	17426

2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas, or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Deepest Expected Base of Fresh Water		820
Water	Rustler	740
Water	Bell Canyon	4870
Water	Cherry Canyon	5875
Oil/Gas	Brushy Canyon	7498
Oil/Gas	Bone Spring Limestone	8985
Oil/Gas	Upper Avalon	9060
Oil/Gas	Lower Avalon	9600
Oil/Gas	1st Bone Spring Sand	9890
Oil/Gas	1st Bone Spring Shale	10160

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT

Will have a minimum of a 5000 psi rig stack (see proposed schematic) for drill out below surface casing. Stack will be tested as specified in the attached testing requirements.

Chevron requests a variance to use a GE/Vetco SH-2 Multibowl wellhead, which will be run through the rig floor on surface casing. BOPE will be nipped up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. The field report from GE/Vetco and BOP test information will be provided in a subsequent report at the end of the well. Please see the attached wellhead schematic. An installation manual has been placed on file with the BLM office and remains unchanged from previous submittal.

4. CASING PROGRAM

a. The proposed casing program will be as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	850'	17-1/2"	13-3/8"	48 #	H-40	STC	New
Intermediate	0' 480'	4,850'	12-1/4"	9-5/8"	40 #	HCK-55	LTC	New
Production	0'	17,426'	8-3/4"	5-1/2"	17.0 #	HCP-110	CDC	New

b. Casing design subject to revision based on geologic conditions encountered.

c. ***A "Worst Case" casing design for wells in a particular area is used below to calculate the Casing Safety Factors. If for any reason the casing design for a particular well requires setting casing deeper than the following "worst case" design, then the Casing Safety Factors will be recalculated & sent to the BLM prior to drilling.

d. Chevron will fill casing at a minimum of every 20 jts (840') while running for intermediate and production casing in order to maintain collapse SF.

SF Calculations based on the following "Worst Case" casing design:

Surface Casing: 1000'
Intermediate Casing: 5000'
Production Casing: 17,426' MD/10,240' TVD (6900' VS @ 90 deg inc)

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.42	1.63	2.29	1.8
Intermediate	1.24	1.44	2.09	1.32
Production	1.26	1.71	2.2	1.46

Min SF is the smallest of a group of safety factors that include the following considerations:

	Surf	Int	Prod
Burst Design			
Pressure Test- Surface, Int, Prod Csg P external: Water P internal: Test psi + next section heaviest mud in csg	X	X	X
Displace to Gas- Surf Csg P external: Water P internal: Dry Gas from Next Csg Point	X		
Frac at Shoe, Gas to Surf- Int Csg P external: Water P internal: Dry Gas, 15 ppg Frac Gradient		X	
Stimulation (Frac) Pressures- Prod Csg P external: Water P internal: Max inj pressure w/ heaviest injected fluid			X
Tubing leak- Prod Csg (packer at KOP) P external: Water P internal: Leak just below surf, 8.7 ppg packer fluid			X
Collapse Design			
Full Evacuation P external: Water gradient in cement, mud above TOC P internal: none	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X
Tension Design			
100k lb overpull	X	X	X

5. **CEMENTING PROGRAM**

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks	Water
Surface				(ppg)	(sx/cu ft)	Open Hole		gal/sk
Tail	Class C+2%CaCl	0'	850'	14.8	1.35	125	976	6.57
Intermediate								
Lead	EconoCem C + 3 lb/sk Kol-Seal + 0.125 lb/sk PolyFlake + 0.1% HR-601 + 0.25% D-Air 5000	0'	3,880'	11.9	2.46	150	1096	14.21
Tail	HalCem C	3,880'	4,850'	14.8	1.33	85	448	6.37
Production								
1st Lead	VariCem-PB1 + 0.1% FWCA + 3 lb/sk Kol-Seal + 0.1% HR-601	4,000'	9,764'	11.3	2.54	50	820	15.51
2nd Lead	VariCem-PB2 + 0.5% Halad-344 + 0.3% CFR-3 + 3 lb/sk KolSeal + 0.05% FE-2 + 0.1% HR-601	9,764'	16,278'	12.5	1.81	35	1113	9.64
Tail	SoluCem H + 0.25 lb/sk D-Air 5000	16,278'	17,426'	15	2.63	0	100	11.42

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. Production casing will have one horizontal type centralizer on every joint for the first 1000' from TD, then every other joint to EOB, and then every third joint to KOP. Bowspring type centralizers will be run from KOP to intermediate casing.

6. MUD PROGRAM

From	To	Type	Weight	F. Vis	Filtrate
0'	850'	Spud Mud	8.3 - 8.7	32 - 34	NC - NC
850'	4,850'	Brine	9.5 - 10.1	28 - 30	NC - NC
4,850'	9,764'	FW/Cut Brine	8.3 - 9.6	28 - 30	NC - NC
9,764'	10,514'	Cut Brine	8.3 - 9.6	28 - 30	15 - 25
10,514'	17,426'	FW/Cut Brine	8.3 - 9.6	28 - 30	15 - 25

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated -- a pit volume totalizer (PVT), stroke counter, and flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume.

A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate.

7. TESTING, LOGGING, AND CORING

The anticipated type and amount of testing, logging, and coring are as follows:

- Drill stem tests are not planned.
- The logging program will be as follows:

TYPE	Logs	Interval	Timing	Vendor
Mudlogs	2 man mudlog	Int Csg to TD	Drillout of Int Csg	TBD
LWD	MWD Gamma	Int. and Prod. Hole	While Drilling	TBD

- Conventional whole core samples are not planned.
- A Directional Survey will be run.

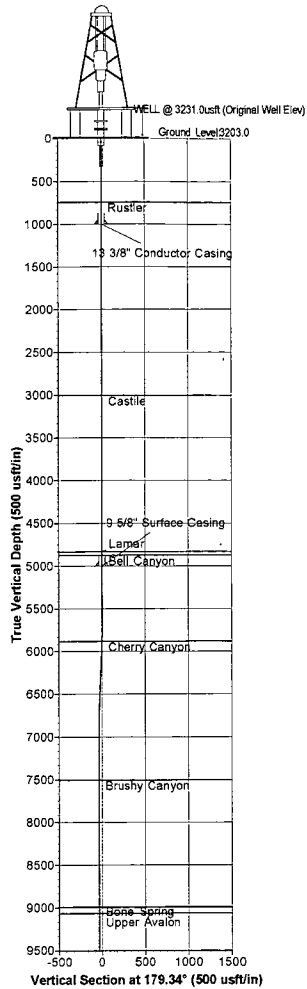
8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

- No abnormal pressures or temperatures are expected. Estimated BHP is: 5120 psi
- Hydrogen sulfide gas is not anticipated. An H₂S Contingency plan is attached with this APD in the event that H₂S is encountered

Project: Salado Draw Assessment
 Site: Salado Draw - Lea County NM
 Well: Mooses Tooth 29 26 33 FED COM 1H
 Wellbore: Wellbore #1
 Design: Design #1



Azimuths to Grid North
 True North: -0.39°
 Magnetic North: 6.95°
 Magnetic Field
 Strength: 48181.9snT
 Dip Angle: 59.90°
 Date: 4/30/2014
 Model: BGGM2013



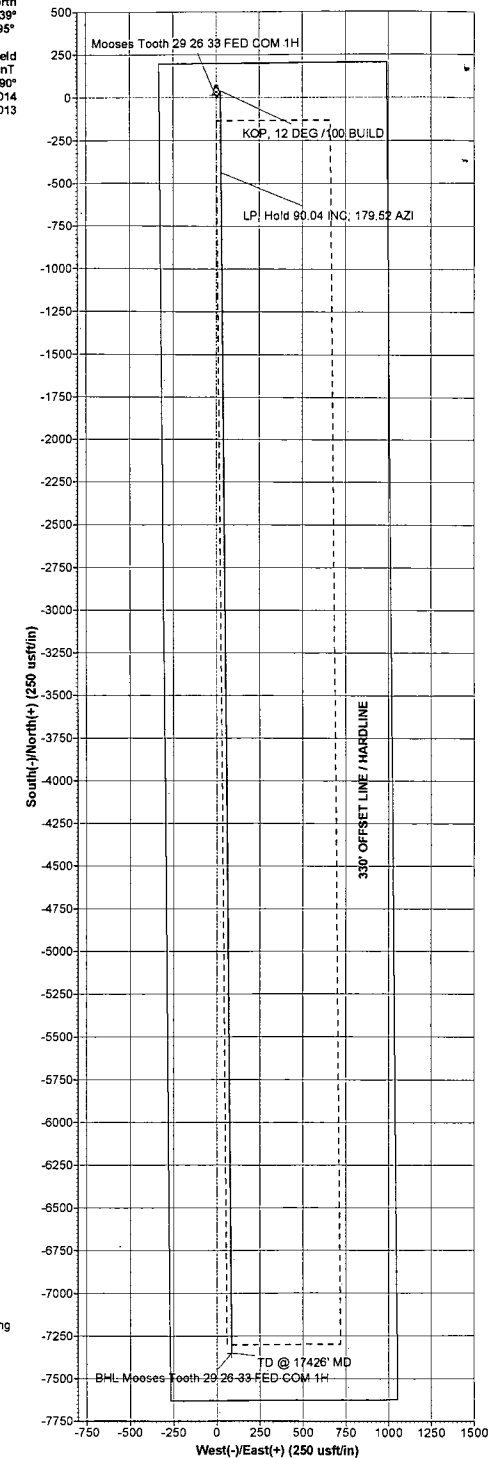
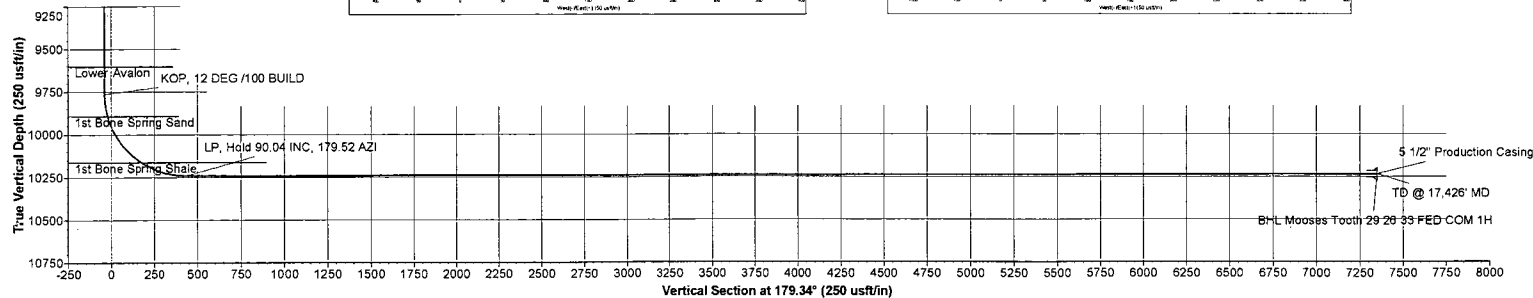
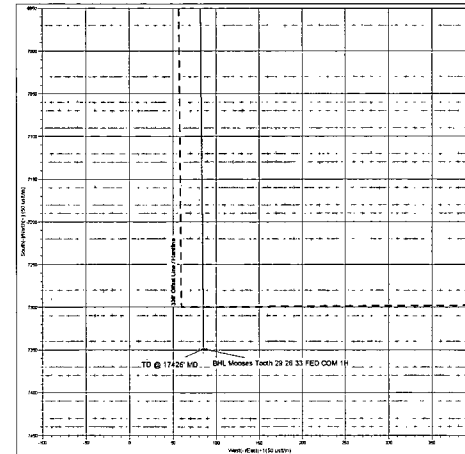
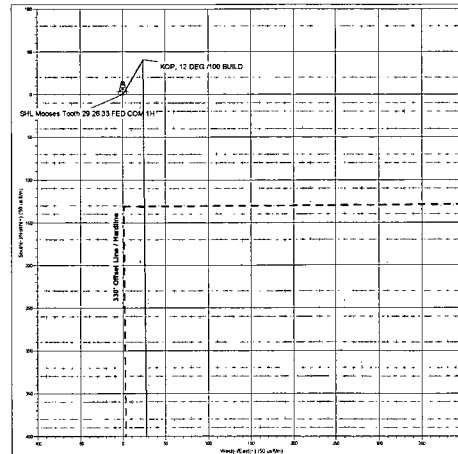
WELL DETAILS											
+N-S		+E-W		Northing		Ground Level: Easting		3203.0		Latitude Longitude	
0.0		0.0		372167.00		726885.00		32° 1' 15.918 N		103° 36' 4.590 W	

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Diag	TFace	VSect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	5700.0	0.00	0.00	5700.0	0.0	0.0	0.00	0.00	0.0		
3	5000.0	3.00	30.00	5999.9	6.8	3.9	1.00	30.00	-6.8		
4	6600.0	3.00	30.00	6599.0	34.0	19.6	0.00	0.00	-33.8		
5	6900.0	0.00	0.00	6998.9	40.8	23.6	1.00	180.00	-40.5		
6	9763.6	0.00	0.00	9762.5	40.8	23.6	0.00	0.00	-40.5		KOP, 12 DEG /100 BUILD
7	10514.0	90.04	179.52	10240.0	-437.0	27.5	12.00	179.52	437.3		LP, Hold 90.04 INC, 179.52 AZI
8	17426.0	90.04	179.52	10235.0	-7348.8	85.1	0.00	0.00	7349.3	BHL Mooses Tooth 29 26 33 FED COM 1H	TD @ 17426' MD / 10235' TVD

DESIGN TARGET DETAILS											
Name		TVD		+N-S		+E-W		Northing		Easting	
BHL Mooses Tooth 29 26 33 FED COM 1H		10235.0		-7348.8		85.1		364818.20		726870.07	
								32° 0' 3.190 N		103° 36' 4.180 W	
										Point	
-plan hits target center											

Map System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1886
 Zone Name: New Mexico East 3001
 Local Origin: Mooses Tooth 29 26 33 FED COM 1H, Grid North
 Latitude: 32° 1' 15.918 N
 Longitude: 103° 36' 4.590 W
 Grid East: 726885.00
 Grid North: 372167.00
 Scale Factor: 1.000
 Geomagnetic Model: BGGM2013
 Sample Date: 30-Apr-14
 Magnetic Declination: 7.34°
 Dip Angle from Horizontal: 59.90°
 Magnetic Field Strength: 48182
 To convert a Magnetic Direction to a Grid Direction, Add 6.95°
 To convert a Magnetic Direction to a True Direction, Add 7.34° East
 To convert a True Direction to a Grid Direction, Subtract 0.39°

TVDPath	MDPath	Formation
740.0	740.0	Rustler
3000.0	3000.0	Castile
4630.0	4630.0	Lerner
4870.0	4870.0	Bell Canyon
5875.0	5875.0	Cherry Canyon
7498.0	7498.0	Brushy Canyon
8985.0	8985.0	Bone Spring
9060.0	9061.1	Upper Avalon
9600.0	9601.1	Lower Avalon
9690.0	9692.7	1st Bone Spring Sand
10160.0	10233.2	1st Bone Spring Shale



Chevron U.S.A. Inc.

Salado Draw Assessment

Salado Draw - Lea County NM

Mooses Tooth 29 26 33 FED COM 1H

Wellbore #1

Plan: Design #1

Standard Survey Report

06 May, 2014

Chevron

Survey Report

Company: Chevron U.S.A. Inc.	Local Co-ordinate Reference: Well Mooses Tooth 29 26 33 FED COM 1H
Project: Salado Draw Assessment	TVD Reference: WELL @ 3231.0usft (Original Well Elev)
Site: Salado Draw - Lea County NM	MD Reference: WELL @ 3231.0usft (Original Well Elev)
Well: Mooses Tooth 29 26 33 FED COM 1H	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Design #1	Database: EDMSHARE_R5000

Project	Salado Draw Assessment		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Salado Draw - Lea County NM		
Site Position:		Northing:	372,167.00 usft
From:	Map	Easting:	726,885.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 1' 15.918 N
		Longitude:	103° 36' 4.590 W
		Grid Convergence:	0.39 °

Well	Mooses Tooth 29 26 33 FED COM 1H		
Well Position	+N/-S	0.0 usft	Northing: 372,167.00 usft
	+E/-W	0.0 usft	Easting: 726,885.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 1' 15.918 N
		Longitude:	103° 36' 4.590 W
		Ground Level:	3,203.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	BGGM2013	4/30/2014	(°)
			7.34
			Dip Angle
			(°)
			59.90
			Field Strength
			(nT)
			48,182

Design	Design #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			179.34

Survey Tool Program	Date 5/5/2014		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
0.0	17,425.8	Design #1 (Wellbore #1)	MWD
			Description
			MWD - Standard

Planned Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00	
740.0	0.00	0.00	740.0	0.0	0.0	0.0	0.00	0.00	0.00	
Rustler										
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00	

Chevron

Survey Report

Company: Chevron U.S.A. Inc.
Project: Salado Draw Assessment
Site: Salado Draw - Lea County NM
Well: Mooses Tooth 29 26 33 FED COM 1H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Mooses Tooth 29 26 33 FED COM 1H
TVD Reference: WELL @ 3231.0usft (Original Well Elev)
MD Reference: WELL @ 3231.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDMSHARE_R5000

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)
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
13 3/8"									
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
Castile									
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00

Chevron

Survey Report

Company: Chevron U.S.A. Inc.
Project: Salado Draw Assessment
Site: Salado Draw - Lea County NM
Well: Mooses Tooth 29 26 33 FED COM 1H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Mooses Tooth 29 26 33 FED COM 1H
TVD Reference: WELL @ 3231.0usft (Original Well Elev)
MD Reference: WELL @ 3231.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDMSHARE_R5000

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)
4,830.0	0.00	0.00	4,830.0	0.0	0.0	0.0	0.00	0.00	0.00
Lamar									
4,850.0	0.00	0.00	4,850.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
4,870.0	0.00	0.00	4,870.0	0.0	0.0	0.0	0.00	0.00	0.00
Bell Canyon									
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	1.00	30.00	5,800.0	0.8	0.4	-0.8	1.00	1.00	0.00
5,875.0	1.75	30.00	5,875.0	2.3	1.3	-2.3	1.00	1.00	0.00
Cherry Canyon									
5,900.0	2.00	30.00	5,899.9	3.0	1.7	-3.0	1.00	1.00	0.00
6,000.0	3.00	30.00	5,999.9	6.8	3.9	-6.8	1.00	1.00	0.00
6,100.0	3.00	30.00	6,099.7	11.3	6.5	-11.3	0.00	0.00	0.00
6,200.0	3.00	30.00	6,199.6	15.9	9.2	-15.8	0.00	0.00	0.00
6,300.0	3.00	30.00	6,299.4	20.4	11.8	-20.3	0.00	0.00	0.00
6,400.0	3.00	30.00	6,399.3	24.9	14.4	-24.8	0.00	0.00	0.00
6,500.0	3.00	30.00	6,499.2	29.5	17.0	-29.3	0.00	0.00	0.00
6,600.0	3.00	30.00	6,599.0	34.0	19.6	-33.8	0.00	0.00	0.00
6,700.0	2.00	30.00	6,698.9	37.8	21.8	-37.5	1.00	-1.00	0.00
6,800.0	1.00	30.00	6,798.9	40.0	23.1	-39.8	1.00	-1.00	0.00
6,900.0	0.00	0.00	6,898.9	40.8	23.6	-40.5	1.00	-1.00	0.00
7,000.0	0.00	0.00	6,998.9	40.8	23.6	-40.5	0.00	0.00	0.00
7,100.0	0.00	0.00	7,098.9	40.8	23.6	-40.5	0.00	0.00	0.00
7,200.0	0.00	0.00	7,198.9	40.8	23.6	-40.5	0.00	0.00	0.00
7,300.0	0.00	0.00	7,298.9	40.8	23.6	-40.5	0.00	0.00	0.00
7,400.0	0.00	0.00	7,398.9	40.8	23.6	-40.5	0.00	0.00	0.00
7,499.1	0.00	0.00	7,498.0	40.8	23.6	-40.5	0.00	0.00	0.00
Brushy Canyon									
7,500.0	0.00	0.00	7,498.9	40.8	23.6	-40.5	0.00	0.00	0.00
7,600.0	0.00	0.00	7,598.9	40.8	23.6	-40.5	0.00	0.00	0.00
7,700.0	0.00	0.00	7,698.9	40.8	23.6	-40.5	0.00	0.00	0.00
7,800.0	0.00	0.00	7,798.9	40.8	23.6	-40.5	0.00	0.00	0.00
7,900.0	0.00	0.00	7,898.9	40.8	23.6	-40.5	0.00	0.00	0.00
8,000.0	0.00	0.00	7,998.9	40.8	23.6	-40.5	0.00	0.00	0.00
8,100.0	0.00	0.00	8,098.9	40.8	23.6	-40.5	0.00	0.00	0.00
8,200.0	0.00	0.00	8,198.9	40.8	23.6	-40.5	0.00	0.00	0.00

Chevron

Survey Report

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Project: Salado Draw Assessment
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Wellbore: Wellbore #1
Design: Design #1

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MD Reference: WELL @ 3231.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDMSHARE_R5000

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)
8,300.0	0.00	0.00	8,298.9	40.8	23.6	-40.5	0.00	0.00	0.00
8,400.0	0.00	0.00	8,398.9	40.8	23.6	-40.5	0.00	0.00	0.00
8,500.0	0.00	0.00	8,498.9	40.8	23.6	-40.5	0.00	0.00	0.00
8,600.0	0.00	0.00	8,598.9	40.8	23.6	-40.5	0.00	0.00	0.00
8,700.0	0.00	0.00	8,698.9	40.8	23.6	-40.5	0.00	0.00	0.00
8,800.0	0.00	0.00	8,798.9	40.8	23.6	-40.5	0.00	0.00	0.00
8,900.0	0.00	0.00	8,898.9	40.8	23.6	-40.5	0.00	0.00	0.00
8,986.1	0.00	0.00	8,985.0	40.8	23.6	-40.5	0.00	0.00	0.00
Bone Spring									
9,000.0	0.00	0.00	8,998.9	40.8	23.6	-40.5	0.00	0.00	0.00
9,061.1	0.00	0.00	9,060.0	40.8	23.6	-40.5	0.00	0.00	0.00
Upper Avalon									
9,100.0	0.00	0.00	9,098.9	40.8	23.6	-40.5	0.00	0.00	0.00
9,200.0	0.00	0.00	9,198.9	40.8	23.6	-40.5	0.00	0.00	0.00
9,300.0	0.00	0.00	9,298.9	40.8	23.6	-40.5	0.00	0.00	0.00
9,400.0	0.00	0.00	9,398.9	40.8	23.6	-40.5	0.00	0.00	0.00
9,500.0	0.00	0.00	9,498.9	40.8	23.6	-40.5	0.00	0.00	0.00
9,600.0	0.00	0.00	9,598.9	40.8	23.6	-40.5	0.00	0.00	0.00
9,601.1	0.00	0.00	9,600.0	40.8	23.6	-40.5	0.00	0.00	0.00
Lower Avalon									
9,700.0	0.00	0.00	9,698.9	40.8	23.6	-40.5	0.00	0.00	0.00
9,763.6	0.00	0.00	9,762.5	40.8	23.6	-40.5	0.00	0.00	0.00
KOP, 12 DEG /100 BUILD									
9,800.0	4.36	179.52	9,798.8	39.4	23.6	-39.1	11.99	11.99	0.00
9,892.7	15.48	179.52	9,890.0	23.5	23.7	-23.2	12.00	12.00	0.00
1st Bone Spring Sand									
9,900.0	16.36	179.52	9,897.0	21.5	23.7	-21.2	12.00	12.00	0.00
10,000.0	28.36	179.52	9,989.3	-16.5	24.0	16.8	12.00	12.00	0.00
10,100.0	40.36	179.52	10,071.7	-72.8	24.5	73.1	12.00	12.00	0.00
10,200.0	52.36	179.52	10,140.6	-145.1	25.1	145.4	12.00	12.00	0.00
10,233.2	56.35	179.52	10,160.0	-172.1	25.3	172.4	12.00	12.00	0.00
1st Bone Spring Shale									
10,300.0	64.36	179.52	10,193.0	-230.1	25.8	230.3	12.00	12.00	0.00
10,400.0	76.36	179.52	10,226.5	-324.1	26.6	324.4	12.00	12.00	0.00
10,500.0	88.36	179.52	10,239.8	-423.0	27.4	423.3	12.00	12.00	0.00
10,514.0	90.04	179.52	10,240.0	-437.0	27.5	437.3	11.99	11.99	0.00
LP, Hold 90.04 INC, 179.52 AZI									
10,600.0	90.04	179.52	10,239.9	-523.0	28.2	523.3	0.00	0.00	0.00
10,700.0	90.04	179.52	10,239.9	-623.0	29.1	623.3	0.00	0.00	0.00
10,800.0	90.04	179.52	10,239.8	-723.0	29.9	723.3	0.00	0.00	0.00
10,900.0	90.04	179.52	10,239.7	-823.0	30.7	823.3	0.00	0.00	0.00
11,000.0	90.04	179.52	10,239.7	-923.0	31.6	923.3	0.00	0.00	0.00
11,100.0	90.04	179.52	10,239.6	-1,023.0	32.4	1,023.3	0.00	0.00	0.00
11,200.0	90.04	179.52	10,239.5	-1,123.0	33.2	1,123.3	0.00	0.00	0.00
11,300.0	90.04	179.52	10,239.4	-1,223.0	34.1	1,223.3	0.00	0.00	0.00

Chevron

Survey Report

Company: Chevron U.S.A. Inc.
Project: Salado Draw Assessment
Site: Salado Draw - Lea County NM
Well: Mooses Tooth 29 26 33 FED COM 1H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Mooses Tooth 29 26 33 FED COM 1H
TVD Reference: WELL @ 3231.0usft (Original Well Elev)
MD Reference: WELL @ 3231.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDMSHARE_R5000

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)
11,400.0	90.04	179.52	10,239.4	-1,323.0	34.9	1,323.3	0.00	0.00	0.00
11,500.0	90.04	179.52	10,239.3	-1,423.0	35.7	1,423.3	0.00	0.00	0.00
11,600.0	90.04	179.52	10,239.2	-1,523.0	36.6	1,523.3	0.00	0.00	0.00
11,700.0	90.04	179.52	10,239.1	-1,623.0	37.4	1,623.3	0.00	0.00	0.00
11,800.0	90.04	179.52	10,239.1	-1,722.9	38.2	1,723.3	0.00	0.00	0.00
11,900.0	90.04	179.52	10,239.0	-1,822.9	39.1	1,823.3	0.00	0.00	0.00
12,000.0	90.04	179.52	10,238.9	-1,922.9	39.9	1,923.3	0.00	0.00	0.00
12,100.0	90.04	179.52	10,238.9	-2,022.9	40.7	2,023.3	0.00	0.00	0.00
12,200.0	90.04	179.52	10,238.8	-2,122.9	41.6	2,123.3	0.00	0.00	0.00
12,300.0	90.04	179.52	10,238.7	-2,222.9	42.4	2,223.3	0.00	0.00	0.00
12,400.0	90.04	179.52	10,238.6	-2,322.9	43.2	2,323.3	0.00	0.00	0.00
12,500.0	90.04	179.52	10,238.6	-2,422.9	44.1	2,423.3	0.00	0.00	0.00
12,600.0	90.04	179.52	10,238.5	-2,522.9	44.9	2,523.3	0.00	0.00	0.00
12,700.0	90.04	179.52	10,238.4	-2,622.9	45.7	2,623.3	0.00	0.00	0.00
12,800.0	90.04	179.52	10,238.4	-2,722.9	46.6	2,723.3	0.00	0.00	0.00
12,900.0	90.04	179.52	10,238.3	-2,822.9	47.4	2,823.3	0.00	0.00	0.00
13,000.0	90.04	179.52	10,238.2	-2,922.9	48.2	2,923.3	0.00	0.00	0.00
13,100.0	90.04	179.52	10,238.1	-3,022.9	49.1	3,023.3	0.00	0.00	0.00
13,200.0	90.04	179.52	10,238.1	-3,122.9	49.9	3,123.3	0.00	0.00	0.00
13,300.0	90.04	179.52	10,238.0	-3,222.9	50.7	3,223.3	0.00	0.00	0.00
13,400.0	90.04	179.52	10,237.9	-3,322.9	51.6	3,323.3	0.00	0.00	0.00
13,500.0	90.04	179.52	10,237.8	-3,422.9	52.4	3,423.3	0.00	0.00	0.00
13,600.0	90.04	179.52	10,237.8	-3,522.9	53.2	3,523.3	0.00	0.00	0.00
13,700.0	90.04	179.52	10,237.7	-3,622.9	54.1	3,623.3	0.00	0.00	0.00
13,800.0	90.04	179.52	10,237.6	-3,722.9	54.9	3,723.3	0.00	0.00	0.00
13,900.0	90.04	179.52	10,237.6	-3,822.9	55.7	3,823.3	0.00	0.00	0.00
14,000.0	90.04	179.52	10,237.5	-3,922.9	56.6	3,923.3	0.00	0.00	0.00
14,100.0	90.04	179.52	10,237.4	-4,022.9	57.4	4,023.3	0.00	0.00	0.00
14,200.0	90.04	179.52	10,237.3	-4,122.9	58.2	4,123.3	0.00	0.00	0.00
14,300.0	90.04	179.52	10,237.3	-4,222.9	59.0	4,223.3	0.00	0.00	0.00
14,400.0	90.04	179.52	10,237.2	-4,322.9	59.9	4,323.3	0.00	0.00	0.00
14,500.0	90.04	179.52	10,237.1	-4,422.8	60.7	4,423.3	0.00	0.00	0.00
14,600.0	90.04	179.52	10,237.0	-4,522.8	61.5	4,523.3	0.00	0.00	0.00
14,700.0	90.04	179.52	10,237.0	-4,622.8	62.4	4,623.3	0.00	0.00	0.00
14,800.0	90.04	179.52	10,236.9	-4,722.8	63.2	4,723.3	0.00	0.00	0.00
14,900.0	90.04	179.52	10,236.8	-4,822.8	64.0	4,823.3	0.00	0.00	0.00
15,000.0	90.04	179.52	10,236.8	-4,922.8	64.9	4,923.2	0.00	0.00	0.00
15,100.0	90.04	179.52	10,236.7	-5,022.8	65.7	5,023.2	0.00	0.00	0.00
15,200.0	90.04	179.52	10,236.6	-5,122.8	66.5	5,123.2	0.00	0.00	0.00
15,300.0	90.04	179.52	10,236.5	-5,222.8	67.4	5,223.2	0.00	0.00	0.00
15,400.0	90.04	179.52	10,236.5	-5,322.8	68.2	5,323.2	0.00	0.00	0.00
15,500.0	90.04	179.52	10,236.4	-5,422.8	69.0	5,423.2	0.00	0.00	0.00
15,600.0	90.04	179.52	10,236.3	-5,522.8	69.9	5,523.2	0.00	0.00	0.00

Chevron

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15,700.0	90.04	179.52	10,236.3	-5,622.8	70.7	5,623.2	0.00	0.00	0.00
15,800.0	90.04	179.52	10,236.2	-5,722.8	71.5	5,723.2	0.00	0.00	0.00
15,900.0	90.04	179.52	10,236.1	-5,822.8	72.4	5,823.2	0.00	0.00	0.00
16,000.0	90.04	179.52	10,236.0	-5,922.8	73.2	5,923.2	0.00	0.00	0.00
16,100.0	90.04	179.52	10,236.0	-6,022.8	74.0	6,023.2	0.00	0.00	0.00
16,200.0	90.04	179.52	10,235.9	-6,122.8	74.9	6,123.2	0.00	0.00	0.00
16,300.0	90.04	179.52	10,235.8	-6,222.8	75.7	6,223.2	0.00	0.00	0.00
16,400.0	90.04	179.52	10,235.7	-6,322.8	76.5	6,323.2	0.00	0.00	0.00
16,500.0	90.04	179.52	10,235.7	-6,422.8	77.4	6,423.2	0.00	0.00	0.00
16,600.0	90.04	179.52	10,235.6	-6,522.8	78.2	6,523.2	0.00	0.00	0.00
16,700.0	90.04	179.52	10,235.5	-6,622.8	79.0	6,623.2	0.00	0.00	0.00
16,800.0	90.04	179.52	10,235.5	-6,722.8	79.9	6,723.2	0.00	0.00	0.00
16,900.0	90.04	179.52	10,235.4	-6,822.8	80.7	6,823.2	0.00	0.00	0.00
17,000.0	90.04	179.52	10,235.3	-6,922.8	81.5	6,923.2	0.00	0.00	0.00
17,100.0	90.04	179.52	10,235.2	-7,022.8	82.4	7,023.2	0.00	0.00	0.00
17,200.0	90.04	179.52	10,235.2	-7,122.7	83.2	7,123.2	0.00	0.00	0.00
17,300.0	90.04	179.52	10,235.1	-7,222.7	84.0	7,223.2	0.00	0.00	0.00
17,400.0	90.04	179.52	10,235.0	-7,322.7	84.9	7,323.2	0.00	0.00	0.00
17,426.0	90.04	179.52	10,235.0	-7,348.8	85.1	7,349.3	0.00	0.00	0.00

TD @ 17426' MD / 10235' TVD - 5 1/2"

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
BHL Mooses Tooth 29 2	0.00	0.00	10,235.0	-7,348.8	85.1	364,818.20	726,970.07	32° 0' 3.190 N	103° 36' 4.180 W
- plan hits target center									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
850.0	850.0	13 3/8"	13-3/8	17-1/2
4,850.0	4,850.0	9 5/8"	9-5/8	12-1/4
17,426.0	10,235.0	5 1/2"	5-1/2	8-3/4

Chevron

Survey Report

Company: Chevron U.S.A. Inc.
Project: Salado Draw Assessment
Site: Salado Draw - Lea County NM
Well: Mooses Tooth 29 26 33 FED COM 1H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Well Mooses Tooth 29 26 33 FED COM 1H
TVD Reference: WELL @ 3231.0usft (Original Well Elev)
MD Reference: WELL @ 3231.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDMSHARE_R5000

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (")	Dip Direction (")
740.0	740.0	Rustler		0.00	
3,000.0	3,000.0	Castile		0.00	
4,830.0	4,830.0	Lamar		0.00	
4,870.0	4,870.0	Bell Canyon		0.00	
5,875.0	5,875.0	Cherry Canyon		0.00	
7,499.1	7,498.0	Brushy Canyon		0.00	
8,986.1	8,985.0	Bone Spring		0.00	
9,061.1	9,060.0	Upper Avalon		0.00	
9,601.1	9,600.0	Lower Avalon		0.00	
9,892.7	9,890.0	1st Bone Spring Sand		0.00	
10,233.2	10,160.0	1st Bone Spring Shale		0.00	

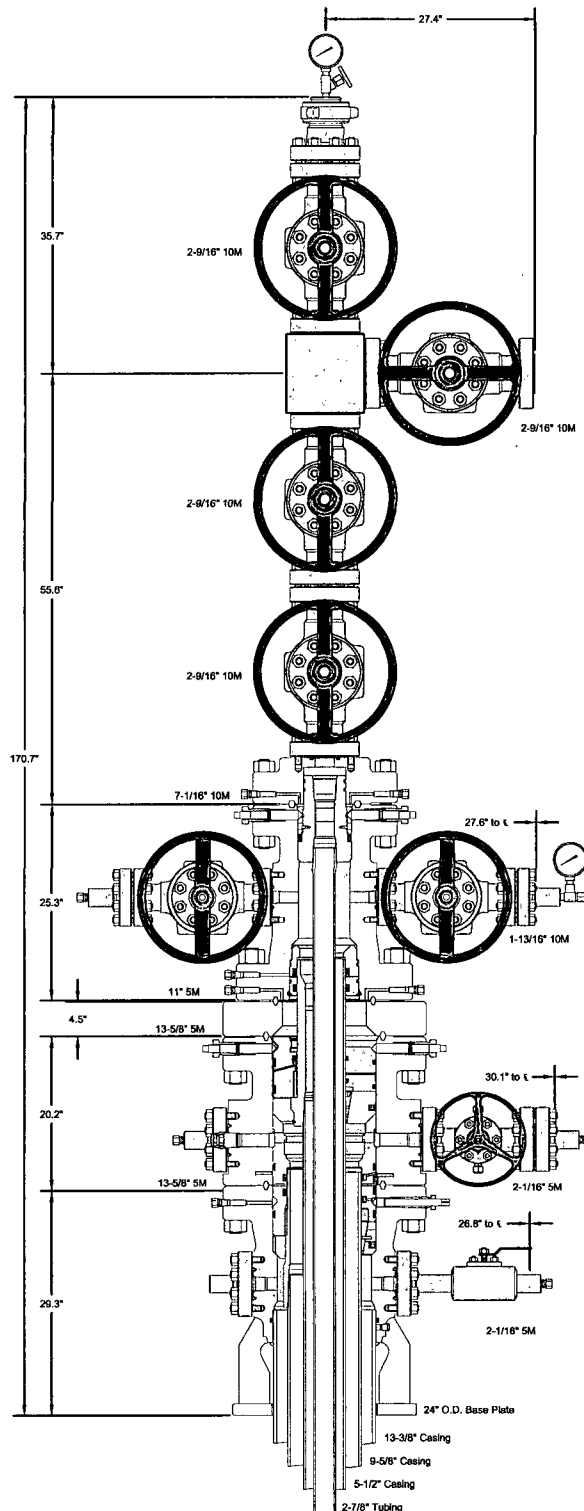
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9764	9763	41	24	KOP, 12 DEG /100 BUILD
10,514	10,240	-437	28	LP, Hold 90.04 INC, 179.52 AZI
17,426	10,235	-7349	85	TD @ 17426' MD / 10235' TVD

Checked By: _____ Approved By: _____ Date: _____



GE Oil & Gas



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CHEVRON USA, INC.
DELAWARE BASIN

13-3/8" x 9-5/8" x 5-1/2" x 2-7/8" 10M SH2/Conventional
Wellhead Assembly, With DSA, T-EBS-F Tubing Head,
T-EN Tubing Hanger and A5PEN Adapter Flange

DRAWN	VJK	19MAR13
APPRV	KN	19MAR13
FOR REFERENCE ONLY		
DRAWING NO.		AE23705

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION : Intermediate and Production Hole Sections

Minimum System Pressure Rating : 5,000 psi

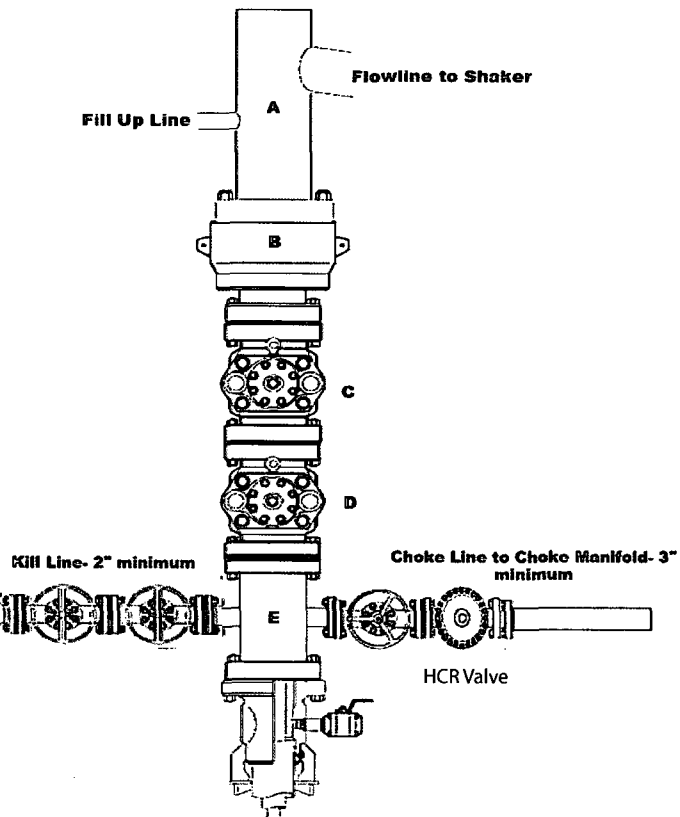
SIZE	PRESSURE	DESCRIPTION
A	N/A	Bell Riddle
B	13 5/8" 5,000 psi	Annular
C	13 5/8" 5,000 psi	Pipe Ram
D	13 5/8" 5,000 psi	Blind Ram
E	13 5/8" 5,000 psi	Mud Cross
F		
DSA	As required for each hole size	
C-Sec		
B-Sec	13-5/8" 5K x 11" 5K	
A-Sec	13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000 psi	Gate Valve
2"	5,000 psi	Gate Valve
2"	5,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Gate Valve
3"	5,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.
- ☐ All valves on the kill line and choke line will be full opening and will allow straight through flow.
- ☐ The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tress, and will be anchored to prevent whip and reduce vibration.
- ☐ Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.
- ☐ A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.
- ☐ Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

CHOKE MANIFOLD SCHEMATIC

Minimum Requirements

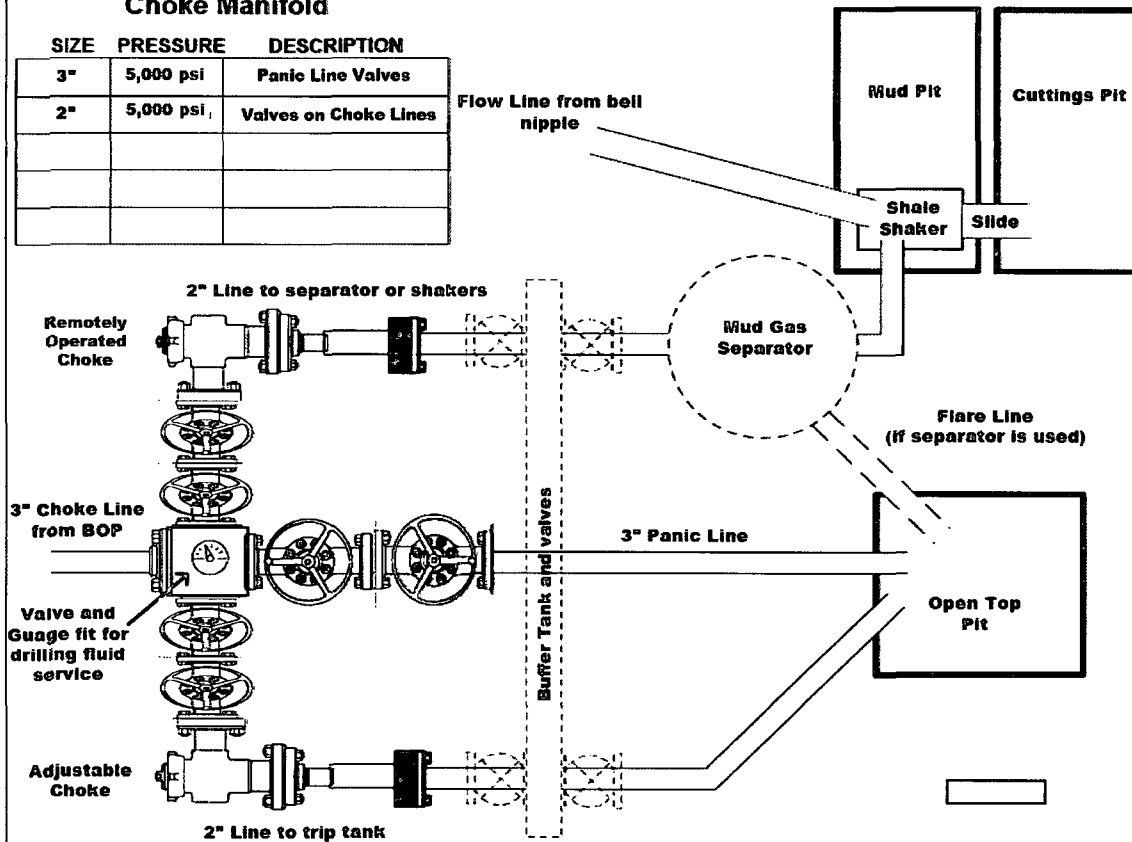
OPERATION : Intermediate and Production Hole Sections

Minimum System : 5,000 psi

Pressure Rating : 5,000 psi

Choke Manifold

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Panic Line Valves
2"	5,000 psi	Valves on Choke Lines



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.
- ☐ Adjustable Chokes may be Remotely Operated but will have backup hand pump for hydraulic actuation in case of loss of rig air pressure or power.
- ☐ Flare and Panic lines will terminate a minimum of 150' from the wellhead. These lines will terminate at a location as per approved APD.
- ☐ The choke line, kill line, and choke manifold lines will be straight unless turns use tee blocks or are targeted with running tool, and will be anchored to prevent whip and reduce vibration. This excludes the line between mud gas separator and shale shaker.
- ☐ All valves (except chokes) on choke line, kill line, and choke manifold will be full opening and will allow straight through flow. This excludes any valves between mud gas separator and shale shakers.
- ☐ All manual valves will have hand wheels installed.
- ☐ If used, flare system will have effective method for ignition
- ☐ All connections will be flanged, welded, or clamped (no threaded connections like hammer unions)
- ☐ If buffer tank is used, a valve will be used on all lines at any entry or exit point to or from the buffer tank.

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

BOPE Testing

Minimum Requirements

Closing Unit and Accumulator Checklist

The following item must be performed, verified, and checked off at least once per well prior to low/high pressure testing of BOP equipment. This must be repeated after 6 months on the same well.

- ☐ Precharge pressure for each accumulator bottle must fall within the range below. Bottles may be further charged with nitrogen gas only. Tested precharge pressures must be recorded for each individual bottle and kept on location through the end of the well. Test will be conducted prior to connecting unit to BOP stack.

Check one that applies	Accumulator working pressure rating		Minimum acceptable operating pressure		Desired precharge pressure		Maximum acceptable precharge pressure		Minimum acceptable precharge pressure	
	1500 psi	2000 psi	3000 psi	1500 psi	2000 psi	3000 psi	750 psi	1000 psi	1100 psi	1500 psi
☐										
☐										
☐										

- ☐ Accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if used), close all rams, close the annular preventer, and retain a minimum of 200 psi above the maximum acceptable precharge pressure (see table above) on the closing manifold without the use of the closing pumps. This test will be performed with test pressure recorded and kept on location through the end of the well

- ☐ Accumulator fluid reservoir will be double the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at manufacturer's recommendations. Usable fluid volume will be recorded. Reservoir capacity will be recorded. Reservoir fluid level will be recorded along with manufacturer's recommendation. All will be kept on location through the end of the well.

- ☐ Closing unit system will have two independent power sources (not counting accumulator bottles) to close the preventers.

- ☐ Power for the closing unit pumps will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure decreases to the pre-set level. It is recommended to check that air line to accumulator pump is "ON" during each tour change.

- ☐ With accumulator bottles isolated, closing unit will be capable of opening the hydraulically-operated choke line valve (if used) plus close the annular preventer on the smallest size drill pipe within 2 minutes and obtain a minimum of 200 psi above maximum acceptable precharge pressure (see table above) on the closing manifold. Test pressure and closing time will be recorded and kept on location through the end of the well.

- ☐ Master controls for the BOPE system will be located at the accumulator and will be capable of opening and closing all preventer and the choke line valve (if used)

- ☐ Remote controls for the BOPE system will be readily accessible (clear path) to the driller and located on the rig floor (not in the dog house). Remote controls will be capable of closing all preventers.

- ☐ Record accumulator tests in drilling reports and IADC sheet

BOPE Test Checklist

The following item must be checked off prior to beginning test

- ☐ BLM will be given at least 4 hour notice prior to beginning BOPE testing

- ☐ Valve on casing head below test plug will be open

- ☐ Test will be performed using clear water.

The following item must be performed during the BOPE testing and then checked off

- ☐ BOPE will be pressure tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs, and at a minimum of 30 days intervals. Test pressure and times will be recorded by a 3rd party on a test chart and kept on location through the end of the well.

- ☐ Test plug will be used

- ☐ Ram type preventer and all related well control equipment will be tested to 250 psi (low) and 5,000 psi (high).

- ☐ Annular type preventer will be tested to 250 psi (low) and 3,500 psi (high).

- ☐ Valves will be tested from the working pressure side with all down stream valves open. The check valve will be held open to test the kill line valve(s)

- ☐ Each pressure test will be held for 10 minutes with no allowable leak off.

- ☐ Master controls and remote controls to the closing unit (accumulator) must be function tested as part of the BOP testing

- ☐ Record BOP tests and pressures in drilling reports and IADC sheet

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer along with any/all BOP and accumulator test charts and reports from 3rd parties.

Wellname: _____

Representative: _____

Date: _____

Moose's Tooth 29 26 33 Fed Com 1H Pad Layout – Ensign ADR 1500S

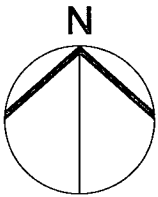


Exhibit D

- Bop/Cellar
- Rig Floor
- Shaker Skid
- Bell Nipple

- Flag Locations**
- Sign-in Shack
 - Rig Floor
 - Dog House

- 1 at Pits
- 1 at Trip Tank
- 1 at Accumulator
- 4 at Rig Floor

- 2 at Briefing Area
- 2 at Alternate Briefing Area

Legend

- ☐ H2S Monitor
- ☐ Flag

Location
Entrance



NOTE:

Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc. may exist undetected on site.

NOTE:

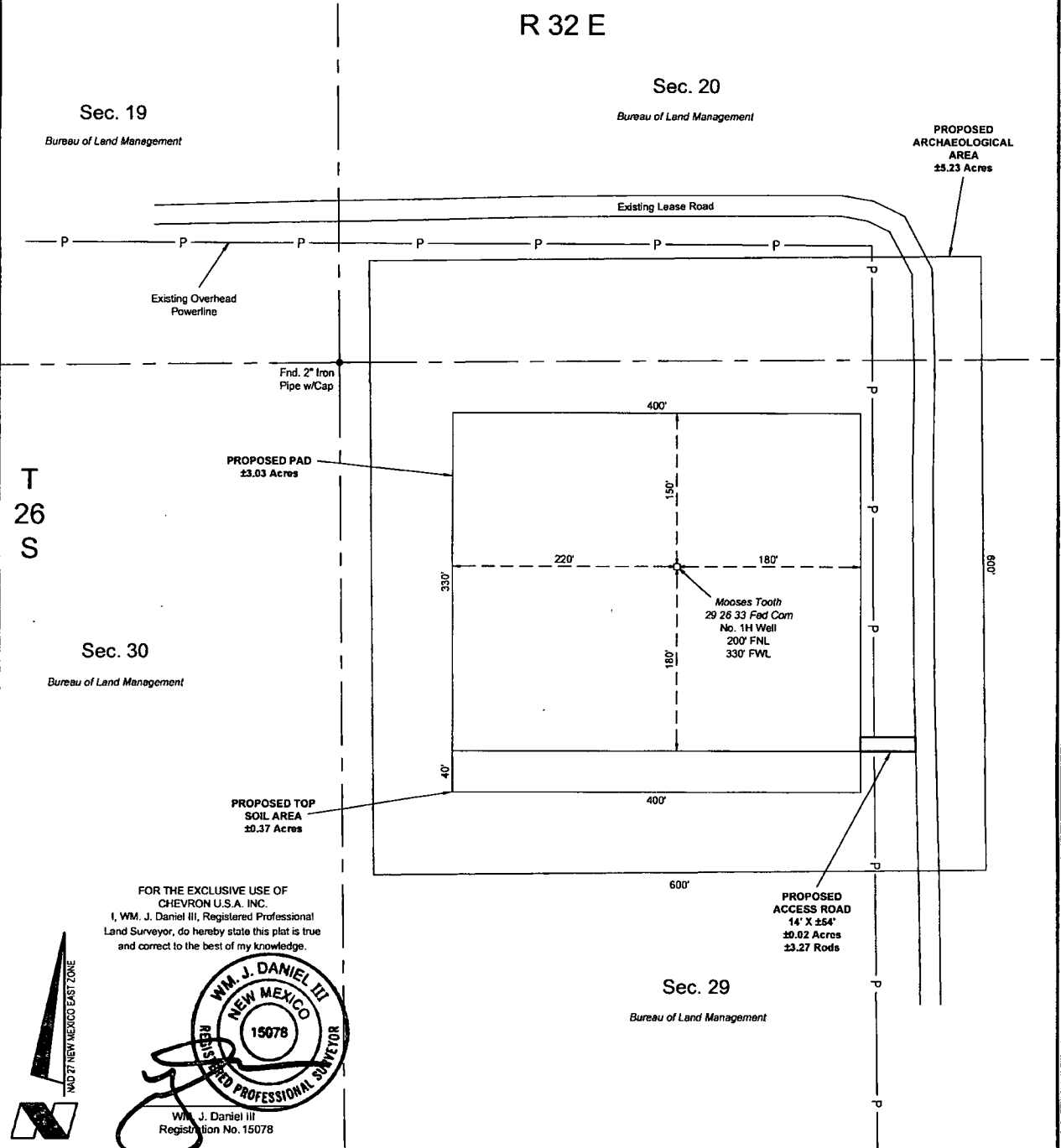
Many states maintain information centers that establish links between those who dig (excavators) and those who own and operate underground facilities (operators). It is advisable and in most states, law, for the contractor to contact the center for assistance in locating and marking underground utilities. For guidance: New Mexico One Call - www.nmonecall.org

DISCLAIMER: At this time, C.H. Fenstermaker & Associates, LLC has not performed nor was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/FEMA, state, and/or local laws, ordinances and regulations. Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues, and persons or entities using this information shall do so at their own risk.

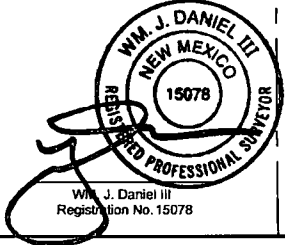
NW ARCH. AREA CORNER	NE ARCH. AREA CORNER	SE ARCH. AREA CORNER	SW ARCH. AREA CORNER	MOOSE TOOTH 29 26 33 NO. 1H WELL
X= 726,582 NAD 27 Y= 372,464	X= 727,182 NAD 27 Y= 372,465	X= 727,188 NAD 27 Y= 371,869	X= 726,588 NAD 27 Y= 371,864	X= 726,885 NAD 27 Y= 372,167
ELEVATION +3206' NAVD 88	ELEVATION +3217' NAVD 88	ELEVATION +3200' NAVD 88	ELEVATION +3195' NAVD 88	LAT. 32.021087 LONG. 103.601275
NW PAD CORNER	NE PAD CORNER	SE PAD CORNER & NE TOP SOIL AREA CORNER	SW PAD CORNER & NW TOP SOIL AREA CORNER	X= 766,073 NAD83 Y= 372,224
X= 726,665 NAD 27 Y= 372,317	X= 727,065 NAD 27 Y= 372,317	X= 727,065 NAD 27 Y= 371,987	X= 726,665 NAD 27 Y= 371,987	LAT. 32.021213 LONG. 103.601742
ELEVATION +3203' NAVD 88	ELEVATION +3209' NAVD 88	ELEVATION +3198' NAVD 88	ELEVATION +3196' NAVD 88	ELEVATION +3203' NAVD 88
SE TOP SOIL AREA CORNER	SW TOP SOIL AREA CORNER			
X= 727,065 NAD 27 Y= 371,947	X= 726,665 NAD 27 Y= 371,947			
ELEVATION +7777' NAVD 88	ELEVATION +7777' NAVD 88			

LEGEND

—	Section Line
—	Lease Road
— P —	Powerline
●	Found Occupation



FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Wm. J. Daniel III, Registered Professional
Land Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.



CHEVRON U.S.A. INC.
PROPOSED PAD & ACCESS ROAD
MOOSE TOOTH 29 26 33 NO. 1H WELL
SECTION 29, T26S-R33E
LEA COUNTY, NEW MEXICO



135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

Scale: 1"=100'
100' 0 50' 100'

DRAWN BY: BMO

REVISIONS

PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: APRIL 22, 2014	No.	DATE:	REVISED BY:
FILENAME: T:\2013\2132516\DWG\Moose Tooth 29 26 33 1H_SUP.dwg			