

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

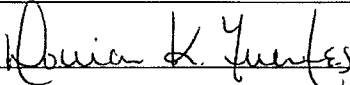
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		NM OIL CONSERVATION ARTESIA DISTRICT OCT 19 2016 RECEIVED	5. Lease Serial No. NMNM121473
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other			6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone			7. If Unit or CA Agreement, Name and No.
2. Name of Operator CHEVRON USA INC			8. Lease Name and Well No. HH SO 10 P3 8H
3a. Address 15 SMITH ROAD MIDLAND TX 79705		3b. Phone No. (include area code) 432-687-7631	9. API Well No. 30-015-43937
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 603 FSL & 2066 FWL At proposed prod. zone 180' FSL & 2315 FWL			10. Field and Pool, or Exploratory WC-015 S262734P; WOLFCAMP 98140
14. Distance in miles and direction from nearest town or post office* 12.8 MILES FROM MALAGA, NM			11. Sec., T. R. M. or Blk. and Survey or Area SEC 3, T26S, R27E, UL N (SHL)
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 603 FSL		16. No of acres in lease 1920	12. County or Parish EDDY
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 4300' Skeen 2 SW		19. Proposed Depth TD: 9912' MD: 20714'	13. State NM
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3279 GL		22. Approximate date work will start* OCTOBER 2016	17. Spacing Unit dedicated to this well 320 ACRES
		23. Estimated duration 30 DAYS	20. BLM/BIA Bond No. in file CA 0329

24. Attachments

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

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature 	Name (Printed/Typed) DORIAN K. FUENTES	Date 06/07/2016
Title REGULATORY SPECIALIST		
Approved by (Signature) /s/George MacDonell	Name (Printed/Typed)	Date OCT 11 2016
Title REGULATORY SPECIALIST 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.

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

(Continued on page 2)

*(Instructions on page 2)

CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed 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 19th day of JANUARY, 2016

Name: _____

Sean Cheben-Project Manager

Address: 1400 Smith Street

Houston, TX 77002

Room 40125

Office: 713-372-9382

Email: Sean.Cheben@CHEVRON.COM

District I
1625 N French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720
District II
811 S First St., Artesia, NM 88210
Phone (575) 748-1283 Fax (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone (505) 334-6178 Fax (505) 334-6170
District IV
1220 S St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-43937	² Pool Code 98140	³ Pool Name WL-015 S262734P; WDLFAMP
⁴ Property Code 317044	⁵ Property Name HH SO 10 P3	
⁷ OGRID No. 4323	⁸ Operator Name CHEVRON U.S.A. INC.	
		⁶ Well Number 8H
		⁹ Elevation 3279'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	3	26 SOUTH	27 EAST, N.M.P.M.		603'	SOUTH	2066'	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	15	26 SOUTH	27 EAST, N.M.P.M.		180'	SOUTH	2315'	WEST	EDDY

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

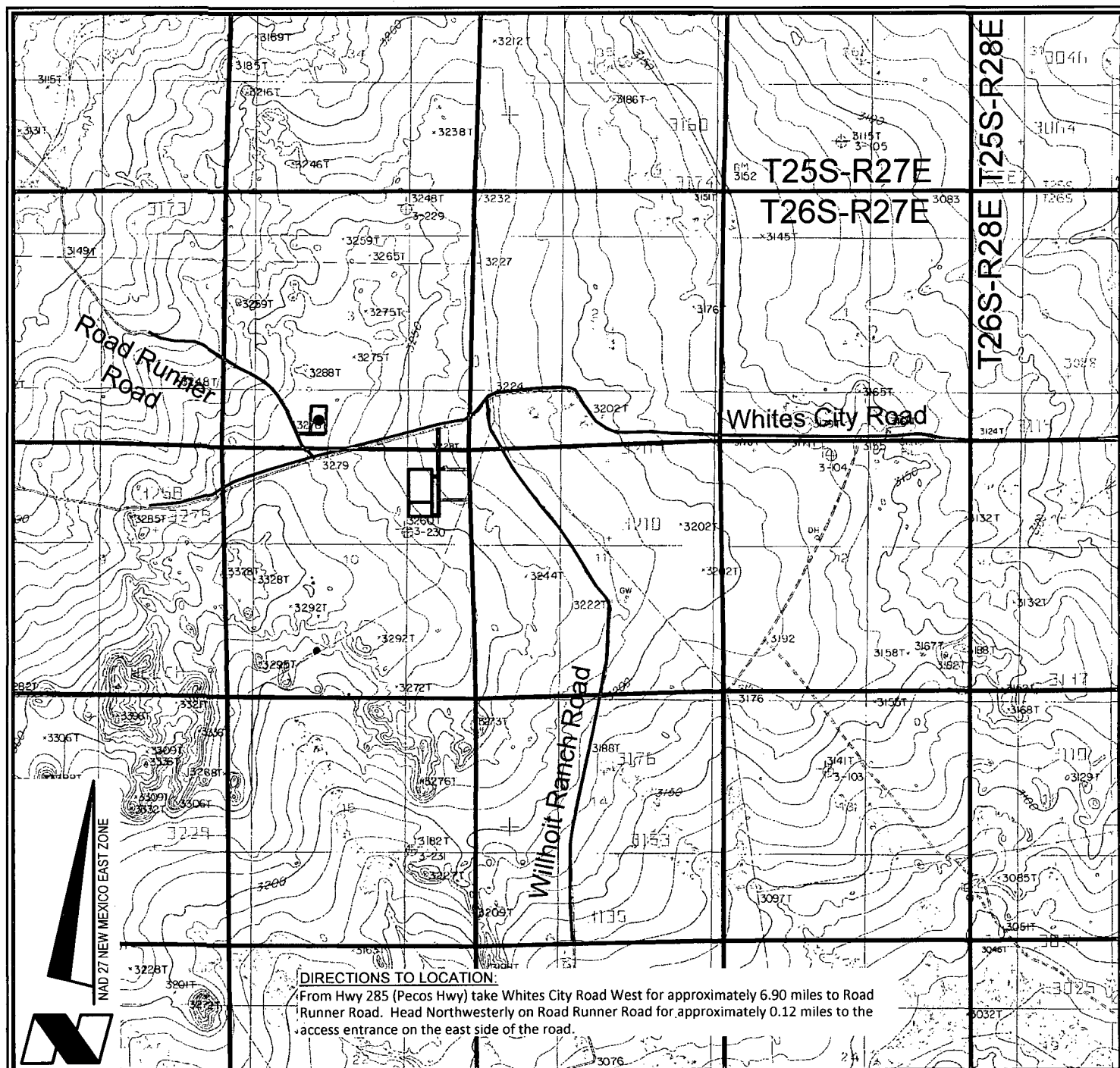
<p>HH SO 10 P3 8H WELL</p> <p>X= 547,567 NAD 27 Y= 387,584 LAT. 32.065491 LONG. 104.179778</p> <p>X= 588,751 NAD83 Y= 387,641 LAT. 32.065613 LONG. 104.180271</p> <p>ELEVATION -3279' NAVD 88</p>		<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature: <i>Ramiro K. Fuentes</i> Date: 06-02-2016</p> <p>Printed Name: Ramiro K. Fuentes</p> <p>E-mail Address: dyro@chevron.com</p> <p>¹⁸ SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date of Survey: 12-8-2015</p> <p>Signature and Seal of Professional Surveyor: <i>[Signature]</i></p> <p>Certificate Number: 23006</p>
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CORNER COORDINATES TABLE (NAD 27)

A - Y=392447.75, X=545573.63
B - Y=387009.20, X=545492.91
C - Y=386991.36, X=546813.37
D - Y=386973.51, X=548133.83
E - Y=381698.68, X=546952.45
F - Y=381685.77, X=548282.84
G - Y=376406.42, X=546975.58
H - Y=376398.76, X=548297.64

Mid Point
Y=381688.98, X=547952.62

PROPOSED BOTTOM HOLE LOCATION		
X=	547,567	NAD 27
Y=	376,581	
LAT.	32.035240	
LONG.	104.178539	
X=	589,151	NAD83
Y=	376,638	
LAT.	32.035363	
LONG.	104.179031	



VICINITY MAP

SCALE: 1" = 3000'

3000' 0 1500' 3000'

LEGEND

- Proposed Well
- Proposed Access Road
- Proposed Drillsite
- Existing Road
- Section Line
- Proposed Frac Pond
- Proposed Facility

CHEVRON U.S.A. INC.
HH SO 10 P3 NO. 8H WELL
LOCATED 603' FSL AND 2066' FWL
SECTION 3, T26S-R27E
EDDY COUNTY, NEW MEXICO



C.H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

DRAWN BY: LJG

REVISIONS

PROJ. MGR.: GDG

No.

DATE:

REVISED BY:

DATE: 12/16/2015

No.

DATE:

REVISED BY:

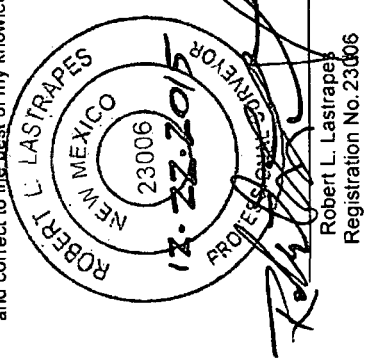
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R 27 E

Sec. 3

Bureau of Land Management

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



T 26 S

PROPOSED
PAD
14.39 Acres

HH SO 10 P3
No. 8H Well
603' FSL, 2,066' FWL

CENTERLINE
PROPOSED
ACCESS ROAD
24' x 1541.77'
40.30 Acres
132.83 Rods

Road Runner
Road

Fnd. 2" Iron Pipe w/
Cap at the SW corner
of Section 3

N 74°05'07" E
41.72'

N 89°08'26" W

N 79°59'08" E 1663.70'

Elev.
3282.4'

Elev.
3277.2'

Whites City Road

LEGEND	
Section Line	---
Existing Road	---
Access Centerline	---
Surface Location	□

Scale: 1" = 300'

300' 0 150' 300'

SURFACE USE PLAT

CHEVRON U.S.A. INC.
PROPOSED PADS, POND & ACCESS ROADS
HH SO 10 P3 NO. 8H WELL
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

Sec. 10

Bureau of Land Management

C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq., Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com



REVISIONS	
DRAWN BY: LUG	REVISOR:
PROJ. MGR.: GDG	DATE:
DATE: 12/16/2015	DATE:
FILENAME: T:20152153370DWG\HH SO 10 P3 8H_SUP.dwg	

R 27 E

Sec. 3

Bureau of Land Management

SEE
SHEET 1

T
26
S

Sec. 10

Bureau of Land Management

NW CTB CORNER		NE CTB CORNER		SW CTB/NW COMPRESSOR CORNER	
X=	549,484	NAD 27	X=	549,984	NAD 27
Y=	386,534		Y=	386,534	
ELEVATION +3248' NAVD 88		ELEVATION +3243' NAVD 88		ELEVATION +3255' NAVD 88	
SW COMPRESSOR CORNER		SE COMPRESSOR CORNER		SE CTB/NE COMPRESSOR CORNER	
X=	549,484	NAD 27	X=	549,984	NAD 27
Y=	385,534		Y=	385,534	
ELEVATION +3259' NAVD 88		ELEVATION +3252' NAVD 88		ELEVATION +3248' NAVD 88	

NAD 27 NEW MEXICO EAST ZONE

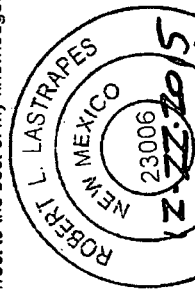
LEGEND	
---	Section Line
---	Existing Road
---	Access Centerline
□	Surface Location

Scale: 1" = 500'



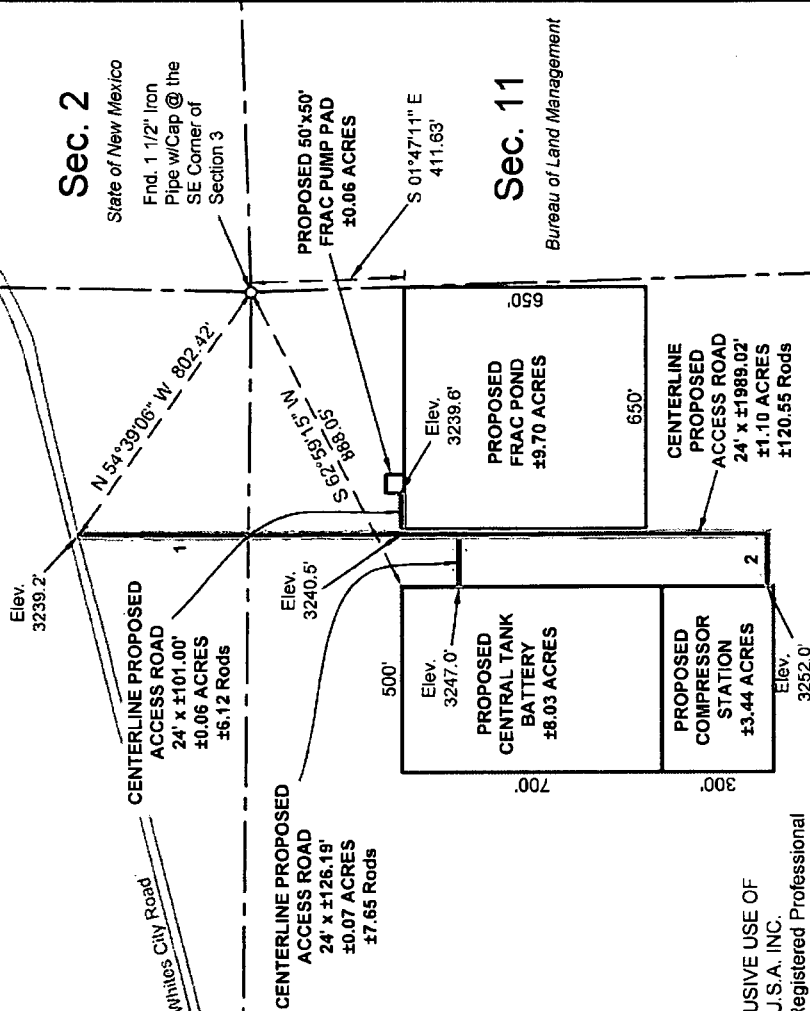
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3269
www.fenstermaker.com

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



Robert L. Lastrapes
Registration No. 23006

NW FRAC POND CORNER		NE FRAC POND CORNER		NW PUMP PAD CORNER		NE PUMP PAD CORNER	
X=	550,138	NAD 27	X=	550,788	NAD 27	X=	550,285
Y=	386,526		Y=	386,526		Y=	386,576
ELEVATION +3240' NAVD 88		ELEVATION +3234' NAVD 88		ELEVATION +3239' NAVD 88		ELEVATION +3239' NAVD 88	
SW FRAC POND CORNER		SE FRAC POND CORNER		SW PUMP PAD CORNER		SE PUMP PAD CORNER	
X=	550,138	NAD 27	X=	550,788	NAD 27	X=	550,285
Y=	385,876		Y=	385,876		Y=	386,526
ELEVATION +3246' NAVD 88		ELEVATION +3243' NAVD 88		ELEVATION +3240' NAVD 88		ELEVATION +3240' NAVD 88	



SURFACE USE PLAT

CHEVRON U.S.A. INC.

PROPOSED PADS, POND & ACCESS ROADS
HH SO 10 P3 NO. 8H WELL
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

PAGE 2 OF 3

REVISIONS	
DRAWN BY: LUG	REVISOR:
PROJ. MGR.: GDG	DATE:
DATE: 12/16/2015	DATE:
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DISCLAIMER: At this time, C.H. Fenstermaker & Associates, L.L.C. 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.

NOTE:

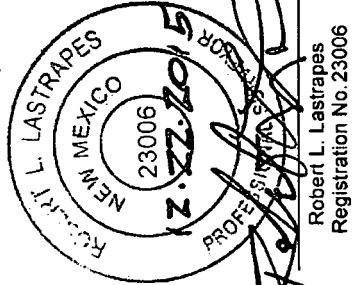
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards,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

CENTERLINE PROPOSED ACCESS ROAD		
COURSE	BEARING	DISTANCE
1	S 00° 05' 06" E	1849.60'
2	S 89° 54' 54" W	139.42'

FOR THE EXCLUSIVE USE OF
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I, Robert L. Lastrapes, Registered Professional
Land Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.



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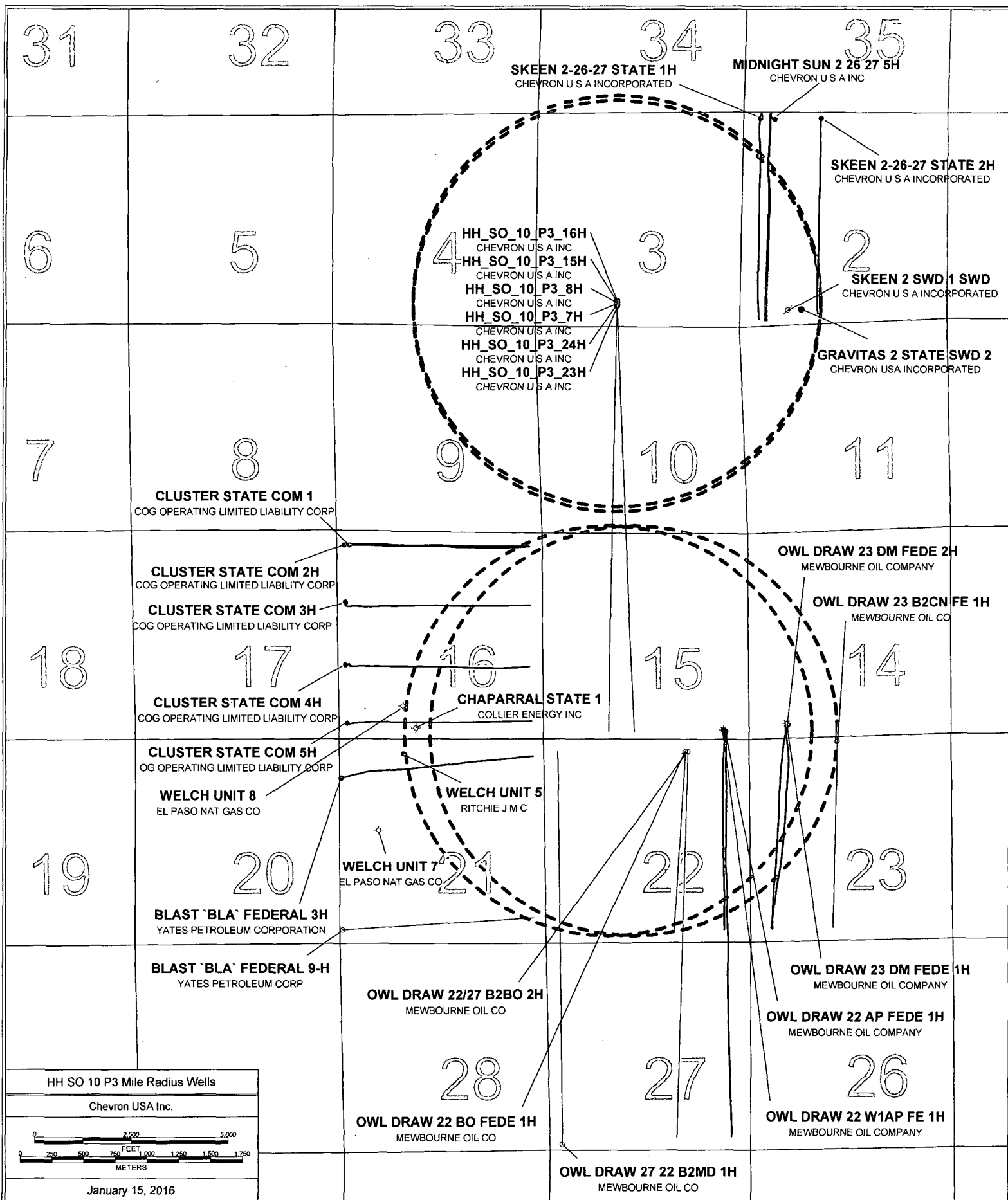


SURFACE USE PLAT

CHEVRON U.S.A. INC.
PROPOSED PADS, POND & ACCESS ROADS
HH SO 10 P3 NO. 8H WELL
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

PAGE 3 OF 3

DRAWN BY: LUG		REVISIONS	
PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 12/16/2015	No.	DATE:	REVISED BY:
FILENAME: T:\2015\2153370\DWG\HH SO 10 P3 8H_SUP.dwg			



1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Castille		505	
Lamar		2395	
Bell		2310	
Cherry		3208	
Brushy		4450	
Bone Spring/Avalon		6299	
First Bone Spring Sand		6888	
First Bone Spring Shale		6914	
Second Bone Spring Sand		7621	
Harkey Sand		8123	
Third Bone Spring Sand		8617	
Wolfcamp A		9342	
Wolfcamp C		9912	
Lateral TVD Wolfcamp C		9912	20714.46'

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		450
Water	Castille	505
Water	Cherry Canyon	3208
Oil/Gas	Brushy Canyon	4450
Oil/Gas	Bone Spring Limestone	6888
Oil/Gas	First Bone Spring Shale	6914
Oil/Gas	Second Bone Spring Sand	7621
Oil/Gas	Harkey Sand	8123
Oil/Gas	Wolfcamp A	9342
Oil/Gas	Wolfcamp C	9912

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

3. BOP EQUIPMENT

PLEASE REFERENCE MDP

10M BOP after surface casing
Baleh Drilling

4. CASING PROGRAM

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	450'	17-1/2"	13-3/8"	54.5 #	K-55	STC	New
Intermediate	0'	9,015'	12-1/4"	9-5/8"	40.0 #	L-80	TXP	New
Production	0'	20,714'	8-1/2"	5-1/2"	20.0 #	P-110	TXP	New

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

Surface Casing: 450'
Intermediate Casing: 9015'
Production Casing: 20714.46' MD/9,912' TVD (10,000' VS @ 90.3 deg inc)

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.82	5.11	3.97	2.31
Intermediate	1.45	1.32	1.78	1.84
Production	1.26	1.5	2.43	1.35

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			

ONSHORE ORDER NO. 1
Chevron
HayHurst SO 10 P3 #8H
Eddy County, NM

CONFIDENTIAL -- TIGHT HOLE
DRILLING PLAN
PAGE: 3

5. CEMENTING PROGRAM

Slurry	Type	Cement Top	Cement Bottom	Weight	Yield	%Excess	Sacks	Water
Surface				(ppg)	(sx/cu ft)	Open Hole		gal/sk
Tail	Class C	0'	450'	14.8	1.33	50	356	6.37
Intermediate								
Stage 2 Lead	50:50 Poz: Class C + Antifoam, Extender, Salt, Retarder	0'	1,100'	11.9	2.43	50	213	14.21
Stage 2 Tail	Class C + Antifoam, Retarder, Viscosifier	1,100'	2,100'	14.8	1.33	0	235	6.37
DV TOOL		2,100'						
Stage 1 Lead	50:50 Poz: Class H + Extender, Antifoam, Retarder, Salt, Viscosifier	2,100'	8,015'	11.9	2.43	100	1524	13.76
Stage 1 Tail	Class H + Retarder, Extender, Dispersant	8,015'	9,015'	15.6	1.21	50	389	5.54
Production								
Lead	50:50 Poz: Class H + Extender, Antifoam, Dispersant, , Retarder	7,015'	8,015'	14.5	1.21	100	430	5.54
Tail	Class H + Viscosifier, Antifoam, Dispersant, Fluid Loss, Retarder, Expanding Agent	8,015'	20,714'	15.6	1.2	50	3633	5.30

ONSHORE ORDER NO. 1
Chevron
HayHurst SO 10 P3 #8H
Eddy County, NM

CONFIDENTIAL -- TIGHT HOLE
DRILLING PLAN
PAGE: 4

6. MUD PROGRAM

From	To	Type	Weight	F. Vis	Filtrate
0'	450'	Spud Mud	8.3 - 8.7	32 - 34	NC - NC
450'	9015'	OBM	9.0 - 9.5	50 - 70	5.0 - 10
9015'	20,714'	OBM	10.0 - 13.5	50 - 70	5.0 - 10

7. TESTING, LOGGING, AND CORING

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

8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

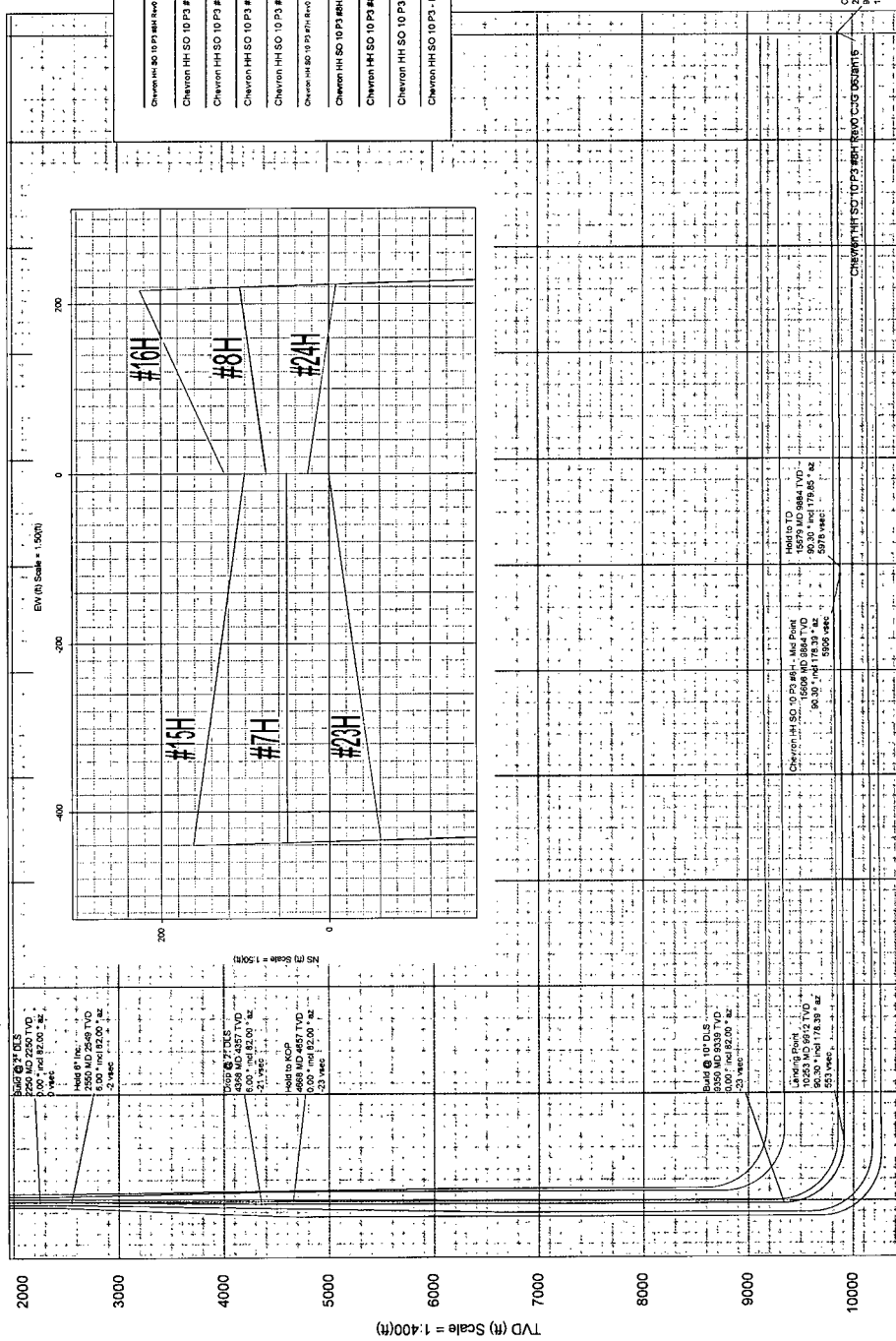
PLEASE REFERENCE MDP



Borehole: Original Borehole Well: HH SO 10 P3 #8H Field: NM Eddy County (NAD 27) Structure: Chevron HH SO 10 P3 Pad

Gravity & Magnetic Parameters
 Model: HGM 2016 Date: 30-Dec-2016
 MagDec: 7.51° Dip: 68.81° Gravity FS: 986.423mgal (8.00068 Based)
 Surface Location
 Lat: N 32.3 66.77 Northing: 3870548.05 Grid Cont: 0.0816°
 Lon: W 104 10 47.21 Easting: 6718070.05 Scale Fact: 0.99991168

Critical Points				
Critical Point	MD	INCL	TVL	VSEC
SHL	0.00	0.00	0.00	0.00
Built @ 2' DLS	2250.00	0.00	82.00	2250.00
Hold 6' Inc.	2550.00	6.00	82.00	2549.45
Drop @ 2' DLS	4388.00	6.00	82.00	4357.49
Hold to KOP	4668.00	0.00	82.00	4656.94
Built @ 10' DLS	9350.11	0.00	82.00	9339.05
Landing Point	10253.10	90.30	178.39	9912.00
Chevron HH SO 10 P3 #8H - Mid Point	15605.92	90.30	179.85	9883.98
Hold to TD	15678.68	90.30	179.85	9883.60
Chevron HH SO 10 P3 #8H - PBHL	20714.46	90.30	179.85	9857.24



Vertical Section (ft) Azim = 177.918° Scale = 1:400(ft) Origin = 75.007N/S, 1E/W

EW (ft) Scale = 1:425(ft)

CONTROLLED	
Drawn by	Cathy Garrison
Checked by	Cathy Garrison
Client	Chevron

Chevron HH SO 10 P3 #8H Rev0 CJG 06Jan16 Proposal Geodetic Report



(Non-Def Plan)

Report Date: January 13, 2016 - 04:16 PM
Client: Chevron
Field: NM Eddy County (NAD 27)
Structure / Slot: Chevron HH SO 10 P3 Pad / HH SO 10 P3 #8H
Well: HH SO 10 P3 #8H
Borehole: Original Borehole
UW / API#: Unknown / Unknown
Survey Name: Chevron HH SO 10 P3 #8H Rev0 CJG 06Jan16
Survey Date: December 30, 2015
Tort / AHD / DDI / ERD Ratio: 103.759° / 11258.593 ft / 6.388 / 1.136
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 3' 55.76665", W 104° 10' 47.20658"
Location Grid N/E Y/X: N 387584.000 ftUS, E 547567.000 ftUS
CRS Grid Convergence Angle: 0.0815°
Grid Scale Factor: 0.99991168
Version / Patch: 2.8.572.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 177.918° (Grid North)
Vertical Section Origin: 75.007 ft, 1.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3312.000 ft above MSL
Seabed / Ground Elevation: 3279.000 ft above MSL
Magnetic Declination: 7.519°
Total Gravity Field Strength: 988.4279mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48169.725 nT
Magnetic Dip Angle: 59.816°
Declination Date: December 30, 2015
Magnetic Declination Model: HDGM 2015
North Reference: Grid North
Grid Convergence Used: 0.0815°
Total Corr Mag North->Grid North: 7.4376°
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	82.00	0.00	0.00	75.01	1.00	N/A	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	100.00	0.00	82.00	100.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	200.00	0.00	82.00	200.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	300.00	0.00	82.00	300.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	400.00	0.00	82.00	400.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	500.00	0.00	82.00	500.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	600.00	0.00	82.00	600.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	700.00	0.00	82.00	700.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	800.00	0.00	82.00	800.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	900.00	0.00	82.00	900.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	1000.00	0.00	82.00	1000.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	1100.00	0.00	82.00	1100.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	1200.00	0.00	82.00	1200.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	1300.00	0.00	82.00	1300.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	1400.00	0.00	82.00	1400.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	1500.00	0.00	82.00	1500.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	1600.00	0.00	82.00	1600.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	1700.00	0.00	82.00	1700.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	1800.00	0.00	82.00	1800.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	1900.00	0.00	82.00	1900.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	2000.00	0.00	82.00	2000.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	2100.00	0.00	82.00	2100.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	2200.00	0.00	82.00	2200.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
Build @ 2" DLS	2250.00	0.00	82.00	2250.00	0.00	75.01	1.00	0.00	387584.00	547567.00	N 32° 3' 55.77"	W 104° 10' 47.21"
	2300.00	1.00	82.00	2300.00	-0.04	75.07	1.43	2.00	387584.06	547567.43	N 32° 3' 55.77"	W 104° 10' 47.20"
	2400.00	3.00	82.00	2399.93	-0.40	75.55	4.89	2.00	387584.55	547570.89	N 32° 3' 55.77"	W 104° 10' 47.16"
	2500.00	5.00	82.00	2499.68	-1.12	76.52	11.80	2.00	387585.52	547577.79	N 32° 3' 55.78"	W 104° 10' 47.08"
	2550.00	6.00	82.00	2549.45	-1.62	77.19	16.54	2.00	387586.18	547582.54	N 32° 3' 55.79"	W 104° 10' 47.03"
	2600.00	6.00	82.00	2599.18	-2.16	77.92	21.72	0.00	387586.91	547587.71	N 32° 3' 55.80"	W 104° 10' 46.97"
	2700.00	6.00	82.00	2698.63	-3.23	79.37	32.07	0.00	387588.37	547598.06	N 32° 3' 55.81"	W 104° 10' 46.85"
	2800.00	6.00	82.00	2798.08	-4.31	80.83	42.42	0.00	387589.82	547608.41	N 32° 3' 55.82"	W 104° 10' 46.73"
	2900.00	6.00	82.00	2897.53	-5.39	82.28	52.77	0.00	387591.28	547618.77	N 32° 3' 55.84"	W 104° 10' 46.60"
	3000.00	6.00	82.00	2996.99	-6.47	83.74	63.12	0.00	387592.73	547629.12	N 32° 3' 55.85"	W 104° 10' 46.48"
	3100.00	6.00	82.00	3096.44	-7.55	85.19	73.47	0.00	387594.18	547639.47	N 32° 3' 55.87"	W 104° 10' 46.36"
	3200.00	6.00	82.00	3195.89	-8.62	86.65	83.82	0.00	387595.64	547649.82	N 32° 3' 55.88"	W 104° 10' 46.24"
	3300.00	6.00	82.00	3295.34	-9.70	88.10	94.17	0.00	387597.09	547660.17	N 32° 3' 55.89"	W 104° 10' 46.12"
	3400.00	6.00	82.00	3394.80	-10.78	89.56	104.53	0.00	387598.55	547670.52	N 32° 3' 55.91"	W 104° 10' 46.00"
	3500.00	6.00	82.00	3494.25	-11.86	91.01	114.88	0.00	387600.00	547680.87	N 32° 3' 55.92"	W 104° 10' 45.88"
	3600.00	6.00	82.00	3593.70	-12.93	92.47	125.23	0.00	387601.46	547691.22	N 32° 3' 55.94"	W 104° 10' 45.76"
	3700.00	6.00	82.00	3693.15	-14.01	93.92	135.58	0.00	387602.91	547701.57	N 32° 3' 55.95"	W 104° 10' 45.64"
	3800.00	6.00	82.00	3792.60	-15.09	95.38	145.93	0.00	387604.37	547711.92	N 32° 3' 55.97"	W 104° 10' 45.52"
	3900.00	6.00	82.00	3892.06	-16.17	96.83	156.28	0.00	387605.82	547722.27	N 32° 3' 55.98"	W 104° 10' 45.40"
	4000.00	6.00	82.00	3991.51	-17.25	98.28	166.63	0.00	387607.28	547732.62	N 32° 3' 55.99"	W 104° 10' 45.28"
	4100.00	6.00	82.00	4090.96	-18.32	99.74	176.98	0.00	387608.73	547742.97	N 32° 3' 56.01"	W 104° 10' 45.16"
	4200.00	6.00	82.00	4190.41	-19.40	101.19	187.33	0.00	387610.19	547753.32	N 32° 3' 56.02"	W 104° 10' 45.04"
	4300.00	6.00	82.00	4289.87	-20.48	102.65	197.69	0.00	387611.64	547763.67	N 32° 3' 56.04"	W 104° 10' 44.92"
	4368.00	6.00	82.00	4357.49	-21.21	103.64	204.72	0.00	387612.63	547770.71	N 32° 3' 56.05"	W 104° 10' 44.84"
	4400.00	5.36	82.00	4389.34	-21.54	104.08	207.86	2.00	387613.07	547773.84	N 32° 3' 56.05"	W 104° 10' 44.80"
	4500.00	3.36	82.00	4489.04	-22.32	105.14	215.39	2.00	387614.13	547781.37	N 32° 3' 56.06"	W 104° 10' 44.71"
	4600.00	1.36	82.00	4588.95	-22.75	105.71	219.47	2.00	387614.70	547785.45	N 32° 3' 56.07"	W 104° 10' 44.67"
	4668.00	0.00	82.00	4656.94	-22.83	105.82	220.27	2.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	4700.00	0.00	82.00	4688.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	4800.00	0.00	82.00	4788.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	4900.00	0.00	82.00	4888.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	5000.00	0.00	82.00	4988.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	5100.00	0.00	82.00	5088.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	5200.00	0.00	82.00	5188.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	5300.00	0.00	82.00	5288.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	5400.00	0.00	82.00	5388.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	5500.00	0.00	82.00	5488.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	5600.00	0.00	82.00	5588.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	5700.00	0.00	82.00	5688.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	5800.00	0.00	82.00	5788.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	5900.00	0.00	82.00	5888.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"
	6000.00	0.00	82.00	5988.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32° 3' 56.07"	W 104° 10' 44.66"

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6100.00	0.00	82.00	6088.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	6200.00	0.00	82.00	6188.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	6300.00	0.00	82.00	6288.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	6400.00	0.00	82.00	6388.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	6500.00	0.00	82.00	6488.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	6600.00	0.00	82.00	6588.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	6700.00	0.00	82.00	6688.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	6800.00	0.00	82.00	6788.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	6900.00	0.00	82.00	6888.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	7000.00	0.00	82.00	6988.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	7100.00	0.00	82.00	7088.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	7200.00	0.00	82.00	7188.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	7300.00	0.00	82.00	7288.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	7400.00	0.00	82.00	7388.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	7500.00	0.00	82.00	7488.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	7600.00	0.00	82.00	7588.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	7700.00	0.00	82.00	7688.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	7800.00	0.00	82.00	7788.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	7900.00	0.00	82.00	7888.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	8000.00	0.00	82.00	7988.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	8100.00	0.00	82.00	8088.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	8200.00	0.00	82.00	8188.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	8300.00	0.00	82.00	8288.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	8400.00	0.00	82.00	8388.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	8500.00	0.00	82.00	8488.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	8600.00	0.00	82.00	8588.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	8700.00	0.00	82.00	8688.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	8800.00	0.00	82.00	8788.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	8900.00	0.00	82.00	8888.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	9000.00	0.00	82.00	8988.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	9100.00	0.00	82.00	9088.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	9200.00	0.00	82.00	9188.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	9300.00	0.00	82.00	9288.94	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
Build @ 10° DLS	9350.11	0.00	82.00	9339.05	-22.83	105.82	220.27	0.00	387614.81	547786.25	N 32 3 56.07	W 104 10 44.66
	9400.00	4.99	178.39	9388.88	-20.66	103.65	220.33	10.00	387612.64	547786.31	N 32 3 56.05	W 104 10 44.66
	9500.00	14.99	178.39	9487.24	-3.33	86.33	220.81	10.00	387595.33	547786.79	N 32 3 55.88	W 104 10 44.65
	9600.00	24.99	178.39	9581.10	30.81	52.21	221.77	10.00	387561.20	547787.75	N 32 3 55.54	W 104 10 44.64
	9700.00	34.99	178.39	9667.60	80.72	2.31	223.17	10.00	387511.31	547789.15	N 32 3 55.04	W 104 10 44.63
	9800.00	44.99	178.39	9744.12	144.91	-61.85	224.98	10.00	387447.15	547790.96	N 32 3 54.41	W 104 10 44.61
	9900.00	54.99	178.39	9808.33	221.40	-138.32	227.13	10.00	387370.69	547793.11	N 32 3 53.65	W 104 10 44.58
	10000.00	64.99	178.39	9858.28	307.88	-224.77	229.56	10.00	387284.25	547795.54	N 32 3 52.80	W 104 10 44.56
	10100.00	74.99	178.39	9892.46	401.72	-318.57	232.19	10.00	387190.46	547798.17	N 32 3 51.87	W 104 10 44.53
	10200.00	84.99	178.39	9909.82	500.07	-416.89	234.96	10.00	387092.15	547800.94	N 32 3 50.90	W 104 10 44.50
Landing Point	10253.10	90.30	178.39	9912.00	553.11	-469.91	236.45	10.00	387039.14	547802.43	N 32 3 50.37	W 104 10 44.48
	10300.00	90.30	178.39	9911.75	600.00	-516.78	237.76	0.00	386992.26	547803.74	N 32 3 49.91	W 104 10 44.47
	10400.00	90.30	178.39	9911.23	700.00	-616.74	240.57	0.00	386892.31	547806.55	N 32 3 48.92	W 104 10 44.43
	10500.00	90.30	178.39	9910.71	799.99	-716.70	243.38	0.00	386792.36	547809.36	N 32 3 47.93	W 104 10 44.40
	10600.00	90.30	178.39	9910.18	899.99	-816.66	246.19	0.00	386692.41	547812.17	N 32 3 46.94	W 104 10 44.37
	10700.00	90.30	178.39	9909.66	999.98	-916.62	249.00	0.00	386592.46	547814.98	N 32 3 45.95	W 104 10 44.34
	10800.00	90.30	178.39	9909.14	1099.98	-1016.58	251.81	0.00	386492.51	547817.79	N 32 3 44.96	W 104 10 44.31
	10900.00	90.30	178.39	9908.61	1199.97	-1116.54	254.62	0.00	386392.56	547820.60	N 32 3 43.97	W 104 10 44.28
	11000.00	90.30	178.39	9908.09	1299.97	-1216.50	257.43	0.00	386292.61	547823.41	N 32 3 42.98	W 104 10 44.25
	11100.00	90.30	178.39	9907.57	1399.96	-1316.46	260.24	0.00	386192.66	547826.21	N 32 3 41.99	W 104 10 44.22
	11200.00	90.30	178.39	9907.04	1499.96	-1416.42	263.05	0.00	386092.71	547829.02	N 32 3 41.00	W 104 10 44.19
	11300.00	90.30	178.39	9906.52	1599.95	-1516.38	265.85	0.00	385992.76	547831.83	N 32 3 40.02	W 104 10 44.16
	11400.00	90.30	178.39	9906.00	1699.95	-1616.33	268.66	0.00	385892.81	547834.64	N 32 3 39.03	W 104 10 44.12
	11500.00	90.30	178.39	9905.47	1799.94	-1716.29	271.47	0.00	385792.86	547837.45	N 32 3 38.04	W 104 10 44.09
	11600.00	90.30	178.39	9904.95	1899.94	-1816.25	274.28	0.00	385692.91	547840.25	N 32 3 37.05	W 104 10 44.06
	11700.00	90.30	178.39	9904.43	1999.93	-1916.21	277.09	0.00	385592.96	547843.06	N 32 3 36.06	W 104 10 44.03
	11800.00	90.30	178.39	9903.90	2099.93	-2016.17	279.89	0.00	385493.01	547845.87	N 32 3 35.07	W 104 10 44.00
	11900.00	90.30	178.39	9903.38	2199.92	-2116.13	282.70	0.00	385393.06	547848.68	N 32 3 34.08	W 104 10 43.97
	12000.00	90.30	178.39	9902.86	2299.92	-2216.09	285.51	0.00	385293.11	547851.48	N 32 3 33.09	W 104 10 43.94
	12100.00	90.30	178.39	9902.33	2399.92	-2316.05	288.32	0.00	385193.16	547854.29	N 32 3 32.10	W 104 10 43.91
	12200.00	90.30	178.39	9901.81	2499.91	-2416.01	291.12	0.00	385093.21	547857.10	N 32 3 31.11	W 104 10 43.88
	12300.00	90.30	178.39	9901.29	2599.91	-2515.97	293.93	0.00	384993.26	547859.90	N 32 3 30.12	W 104 10 43.85
	12400.00	90.30	178.39	9900.76	2699.90	-2615.93	296.74	0.00	384893.31	547862.71	N 32 3 29.13	W 104 10 43.81
	12500.00	90.30	178.39	9900.24	2799.90	-2715.89	299.54	0.00	384793.36	547865.52	N 32 3 28.14	W 104 10 43.78
	12600.00	90.30	178.39	9899.71	2899.89	-2815.85	302.35	0.00	384693.41	547868.32	N 32 3 27.16	W 104 10 43.75
	12700.00	90.30	178.39	9899.19	2999.89	-2915.80	305.16	0.00	384593.46	547871.13	N 32 3 26.17	W 104 10 43.72
	12800.00	90.30	178.39	9898.67	3099.88	-3015.76	307.96	0.00	384493.51	547873.93	N 32 3 25.18	W 104 10 43.69
	12900.00	90.30	178.39	9898.14	3199.88	-3115.72	310.77	0.00	384393.56	547876.74	N 32 3 24.19	W 104 10 43.66
	13000.00	90.30	178.39	9897.62	3299.87	-3215.68	313.57	0.00	384293.61	547879.55	N 32 3 23.20	W 104 10 43.63
	13100.00	90.30	178.39	9897.10	3399.87	-3315.64	316.38	0.00	384193.66	547882.35	N 32 3 22.21	W 104 10 43.60
	13200.00	90.30	178.39	9896.57	3499.86	-3415.60	319.19	0.00	384093.71	547885.16	N 32 3 21.22	W 104 10 43.57
	13300.00	90.30	178.39	9896.05	3599.86	-3515.56	321.99	0.00	383993.76	547887.96	N 32 3 20.23	W 104 10 43.54
	13400.00	90.30	178.39	9895.53	3699.85	-3615.52	324.80	0.00	383893.81	547890.77	N 32 3 19.24	W 104 10 43.51
	13500.00	90.30	178.39	9895.00	3799.85	-3715.48	327.60	0.00	383793.86	547893.57		

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Chevron HH SO 10 P3 #8H - Mid Point Hold to TD	14700.00	90.30	178.39	9888.72	4999.79	-4914.99	361.26	0.00	382594.45	547927.23	N 32 3 6.38	W 104 10 43.10
	14800.00	90.30	178.39	9888.20	5099.79	-5014.85	364.06	0.00	382494.50	547930.03	N 32 3 5.39	W 104 10 43.07
	14900.00	90.30	178.39	9887.68	5199.78	-5114.91	366.87	0.00	382394.55	547932.83	N 32 3 4.40	W 104 10 43.04
	15000.00	90.30	178.39	9887.15	5299.78	-5214.87	369.67	0.00	382294.60	547935.64	N 32 3 3.41	W 104 10 43.01
	15100.00	90.30	178.39	9886.63	5399.77	-5314.83	372.47	0.00	382194.65	547938.44	N 32 3 2.43	W 104 10 42.98
	15200.00	90.30	178.39	9886.10	5499.77	-5414.79	375.28	0.00	382094.70	547941.24	N 32 3 1.44	W 104 10 42.95
	15300.00	90.30	178.39	9885.58	5599.76	-5514.75	378.08	0.00	381994.75	547944.05	N 32 3 0.45	W 104 10 42.92
	15400.00	90.30	178.39	9885.06	5699.76	-5614.71	380.88	0.00	381894.80	547946.85	N 32 2 59.46	W 104 10 42.89
	15500.00	90.30	178.39	9884.53	5799.75	-5714.66	383.69	0.00	381794.85	547949.65	N 32 2 58.47	W 104 10 42.86
	15600.00	90.30	178.39	9884.01	5899.75	-5814.62	386.49	0.00	381694.90	547952.45	N 32 2 57.48	W 104 10 42.83
	15605.92	90.30	178.39	9883.98	5905.67	-5820.55	386.65	0.00	381688.98	547952.62	N 32 2 57.42	W 104 10 42.82
	15678.68	90.30	179.85	9883.60	5978.41	-5893.29	387.77	2.00	381616.24	547953.74	N 32 2 56.70	W 104 10 42.81
	15700.00	90.30	179.85	9883.49	5999.72	-5914.61	387.83	0.00	381594.92	547953.79	N 32 2 56.49	W 104 10 42.81
	15800.00	90.30	179.85	9882.96	6099.66	-6014.61	388.09	0.00	381494.94	547954.05	N 32 2 55.50	W 104 10 42.81
	15900.00	90.30	179.85	9882.44	6199.60	-6114.61	388.35	0.00	381394.95	547954.32	N 32 2 54.51	W 104 10 42.81
	16000.00	90.30	179.85	9881.92	6299.54	-6214.60	388.62	0.00	381294.96	547954.58	N 32 2 53.52	W 104 10 42.81
	16100.00	90.30	179.85	9881.39	6399.48	-6314.60	388.88	0.00	381194.97	547954.85	N 32 2 52.53	W 104 10 42.81
	16200.00	90.30	179.85	9880.87	6499.42	-6414.60	389.14	0.00	381094.98	547955.11	N 32 2 51.54	W 104 10 42.80
	16300.00	90.30	179.85	9880.35	6599.37	-6514.60	389.41	0.00	380994.99	547955.37	N 32 2 50.55	W 104 10 42.80
	16400.00	90.30	179.85	9879.82	6699.31	-6614.60	389.67	0.00	380895.00	547955.64	N 32 2 49.56	W 104 10 42.80
	16500.00	90.30	179.85	9879.30	6799.25	-6714.60	389.93	0.00	380795.01	547955.90	N 32 2 48.57	W 104 10 42.80
	16600.00	90.30	179.85	9878.78	6899.19	-6814.59	390.20	0.00	380695.02	547956.16	N 32 2 47.58	W 104 10 42.80
	16700.00	90.30	179.85	9878.25	6999.13	-6914.59	390.46	0.00	380595.03	547956.43	N 32 2 46.59	W 104 10 42.80
	16800.00	90.30	179.85	9877.73	7099.08	-7014.59	390.72	0.00	380495.04	547956.69	N 32 2 45.60	W 104 10 42.80
	16900.00	90.30	179.85	9877.21	7199.02	-7114.59	390.99	0.00	380395.05	547956.95	N 32 2 44.61	W 104 10 42.79
	17000.00	90.30	179.85	9876.68	7298.96	-7214.59	391.25	0.00	380295.06	547957.22	N 32 2 43.63	W 104 10 42.79
	17100.00	90.30	179.85	9876.16	7398.90	-7314.59	391.51	0.00	380195.08	547957.48	N 32 2 42.64	W 104 10 42.79
	17200.00	90.30	179.85	9875.64	7498.84	-7414.58	391.78	0.00	380095.09	547957.74	N 32 2 41.65	W 104 10 42.79
	17300.00	90.30	179.85	9875.11	7598.79	-7514.58	392.04	0.00	379995.10	547958.01	N 32 2 40.66	W 104 10 42.79
	17400.00	90.30	179.85	9874.59	7698.73	-7614.58	392.30	0.00	379895.11	547958.27	N 32 2 39.67	W 104 10 42.79
	17500.00	90.30	179.85	9874.07	7798.67	-7714.58	392.57	0.00	379795.12	547958.53	N 32 2 38.68	W 104 10 42.79
	17600.00	90.30	179.85	9873.54	7898.61	-7814.58	392.83	0.00	379695.13	547958.80	N 32 2 37.69	W 104 10 42.78
	17700.00	90.30	179.85	9873.02	7998.55	-7914.58	393.10	0.00	379595.14	547959.06	N 32 2 36.70	W 104 10 42.78
	17800.00	90.30	179.85	9872.50	8098.49	-8014.57	393.36	0.00	379495.15	547959.32	N 32 2 35.71	W 104 10 42.78
	17900.00	90.30	179.85	9871.97	8198.44	-8114.57	393.62	0.00	379395.16	547959.59	N 32 2 34.72	W 104 10 42.78
	18000.00	90.30	179.85	9871.45	8298.38	-8214.57	393.89	0.00	379295.17	547959.85	N 32 2 33.73	W 104 10 42.78
	18100.00	90.30	179.85	9870.93	8398.32	-8314.57	394.15	0.00	379195.18	547960.11	N 32 2 32.74	W 104 10 42.78
	18200.00	90.30	179.85	9870.40	8498.26	-8414.57	394.41	0.00	379095.19	547960.38	N 32 2 31.75	W 104 10 42.78
	18300.00	90.30	179.85	9869.88	8598.20	-8514.56	394.68	0.00	378995.20	547960.64	N 32 2 30.76	W 104 10 42.78
	18400.00	90.30	179.85	9869.35	8698.15	-8614.56	394.94	0.00	378895.21	547960.90	N 32 2 29.77	W 104 10 42.77
	18500.00	90.30	179.85	9868.83	8798.09	-8714.56	395.20	0.00	378795.23	547961.17	N 32 2 28.78	W 104 10 42.77
	18600.00	90.30	179.85	9868.31	8898.03	-8814.56	395.47	0.00	378695.24	547961.43	N 32 2 27.79	W 104 10 42.77
	18700.00	90.30	179.85	9867.78	8997.97	-8914.56	395.73	0.00	378595.25	547961.69	N 32 2 26.80	W 104 10 42.77
	18800.00	90.30	179.85	9867.26	9097.91	-9014.56	395.99	0.00	378495.26	547961.96	N 32 2 25.81	W 104 10 42.77
	18900.00	90.30	179.85	9866.74	9197.85	-9114.55	396.26	0.00	378395.27	547962.22	N 32 2 24.82	W 104 10 42.77
	19000.00	90.30	179.85	9866.21	9297.80	-9214.55	396.52	0.00	378295.28	547962.48	N 32 2 23.83	W 104 10 42.77
	19100.00	90.30	179.85	9865.69	9397.74	-9314.55	396.78	0.00	378195.29	547962.75	N 32 2 22.84	W 104 10 42.76
	19200.00	90.30	179.85	9865.17	9497.68	-9414.55	397.05	0.00	378095.30	547963.01	N 32 2 21.86	W 104 10 42.76
	19300.00	90.30	179.85	9864.64	9597.62	-9514.55	397.31	0.00	377995.31	547963.27	N 32 2 20.87	W 104 10 42.76
	19400.00	90.30	179.85	9864.12	9697.56	-9614.55	397.57	0.00	377895.32	547963.54	N 32 2 19.88	W 104 10 42.76
	19500.00	90.30	179.85	9863.60	9797.51	-9714.54	397.84	0.00	377795.33	547963.80	N 32 2 18.89	W 104 10 42.76
	19600.00	90.30	179.85	9863.07	9897.45	-9814.54	398.10	0.00	377695.34	547964.06	N 32 2 17.90	W 104 10 42.76
	19700.00	90.30	179.85	9862.55	9997.39	-9914.54	398.36	0.00	377595.35	547964.33	N 32 2 16.91	W 104 10 42.76
	19800.00	90.30	179.85	9862.03	10097.33	-10014.54	398.63	0.00	377495.37	547964.59	N 32 2 15.92	W 104 10 42.75
	19900.00	90.30	179.85	9861.50	10197.27	-10114.54	398.89	0.00	377395.38	547964.85	N 32 2 14.93	W 104 10 42.75
	20000.00	90.30	179.85	9860.98	10297.21	-10214.54	399.15	0.00	377295.39	547965.12	N 32 2 13.94	W 104 10 42.75
	20100.00	90.30	179.85	9860.46	10397.16	-10314.53	399.42	0.00	377195.40	547965.38	N 32 2 12.95	W 104 10 42.75
	20200.00	90.30	179.85	9859.93	10497.10	-10414.53	399.68	0.00	377095.41	547965.64	N 32 2 11.96	W 104 10 42.75
	20300.00	90.30	179.85	9859.41	10597.04	-10514.53	399.94	0.00	376995.42	547965.91	N 32 2 10.97	W 104 10 42.75
	20400.00	90.30	179.85	9858.89	10696.98	-10614.53	400.21	0.00	376895.43	547966.17	N 32 2 9.98	W 104 10 42.75
	20500.00	90.30	179.85	9858.36	10796.92	-10714.53	400.47	0.00	376795.44	547966.44	N 32 2 8.99	W 104 10 42.74
	20600.00	90.30	179.85	9857.84	10896.87	-10814.53	400.73	0.00	376695.45	547966.70	N 32 2 8.00	W 104 10 42.74
	20700.00	90.30	179.85	9857.32	10996.81	-10914.52	401.00	0.00	376595.46	547966.96	N 32 2 7.01	W 104 10 42.74
Chevron HH SO 10 P3 #8H - PBHL	20714.46	90.30	179.85	9857.24	11011.26	-10928.99	401.04	0.00	376581.00	547967.00	N 32 2 6.87	W 104 10 42.74

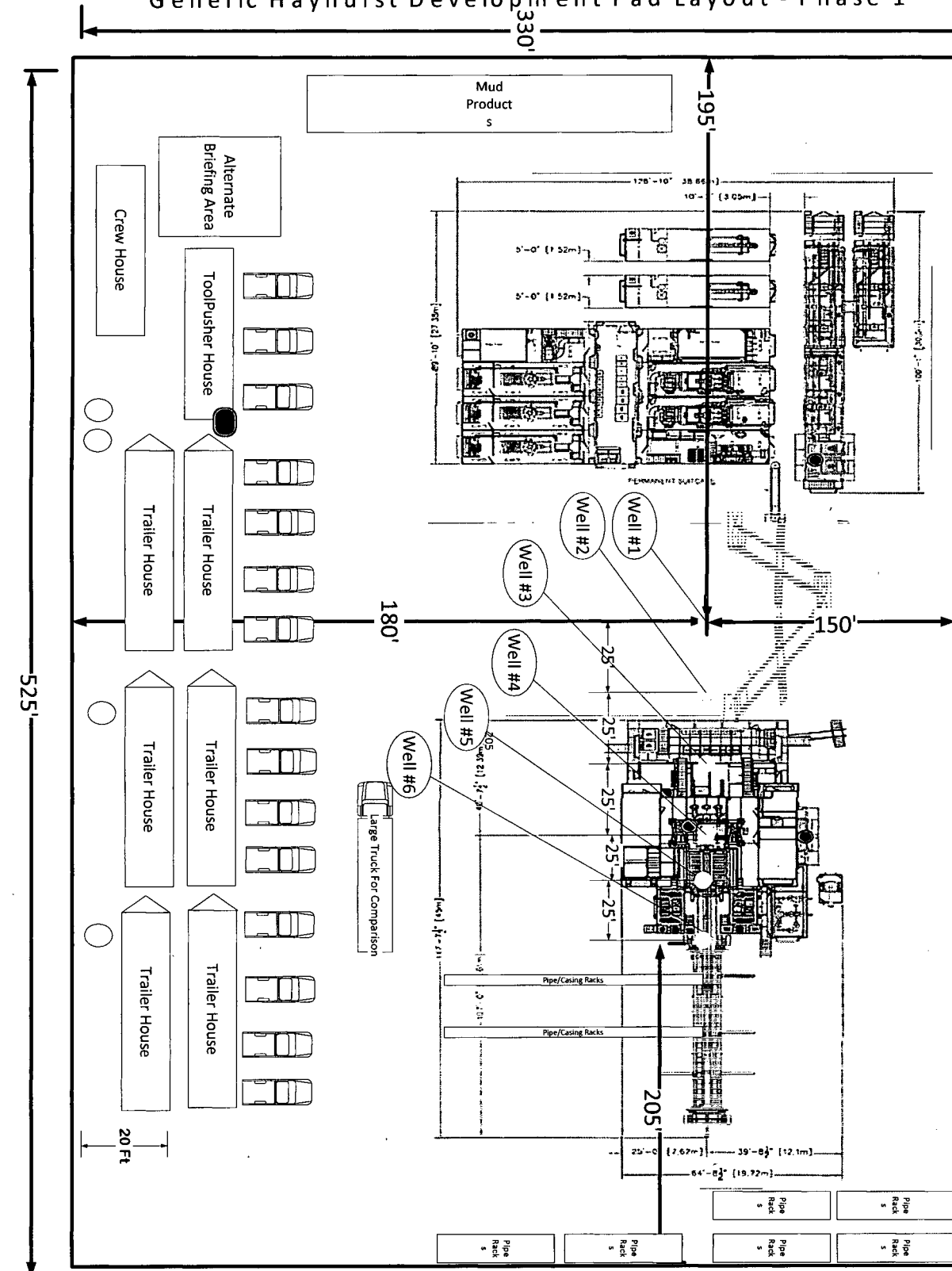
Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	33.000	1/100.000	30.000	30.000	SLB_MWVD-STD-Depth Only	Original Borehole / Chevron HH SO 10 P3 #8H Rev0 CJG 06Jan16
	1	33.000	20714.464	1/100.000	30.000	30.000	SLB_MWVD-STD	Original Borehole / Chevron HH SO 10 P3 #8H Rev0 CJG 06Jan16

Generic Hayhurst Development Pad Layout - Phase 1

N



Location
Entrance

Legend

● H2S Monitor

● Flag

H2S Monitor Locations

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

Flag Locations

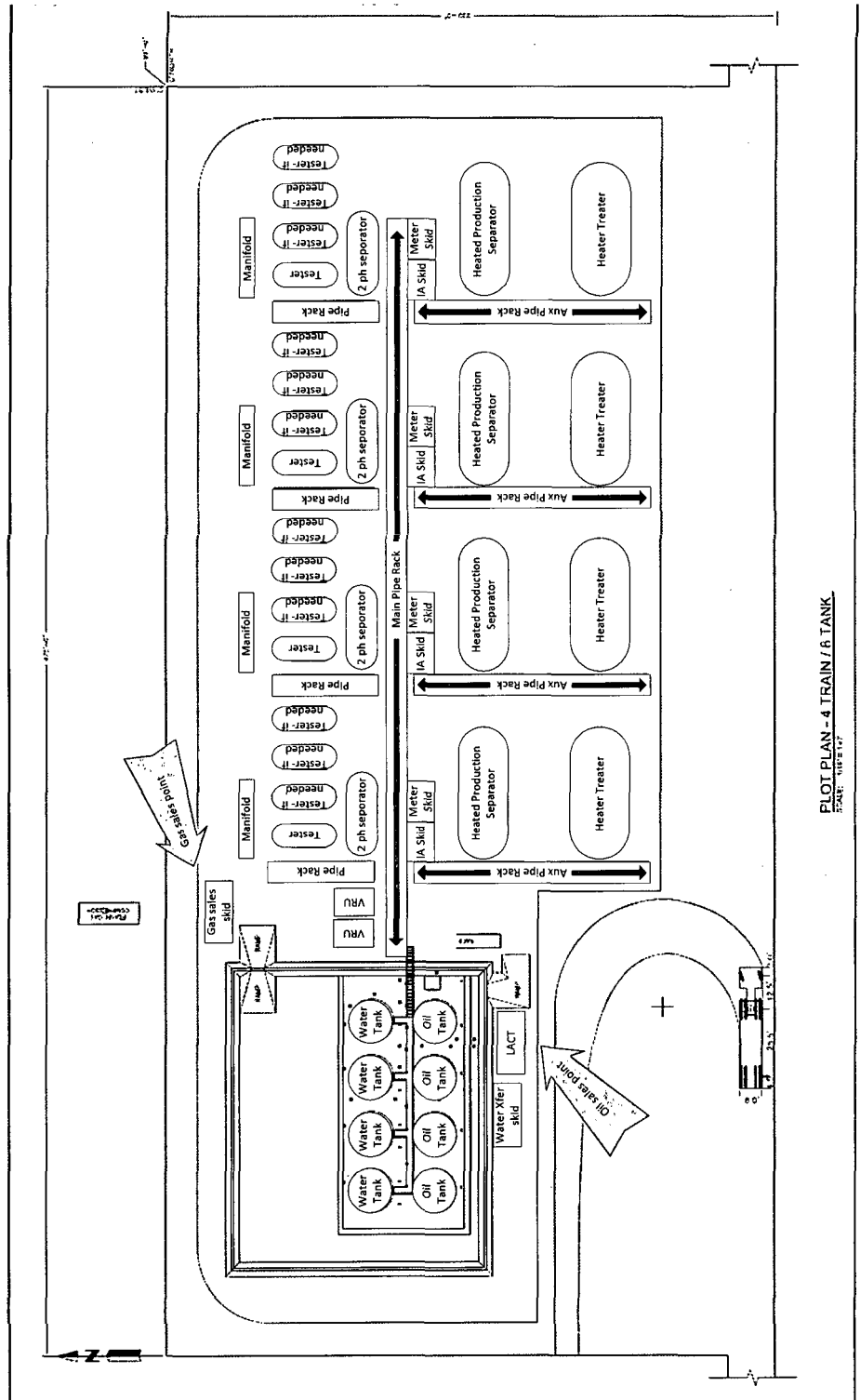
- Sign-in Shack
- Rig Floor
- Dog House

10 Minute Escape Packs

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

45 Minute Escape Packs

- 2 at Briefing Area
- 2 at Alternate Briefing Area

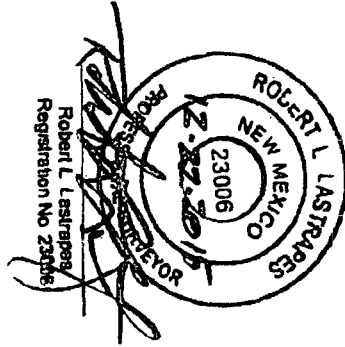


PLOT PLAN - 4 TRAIN / 8 TANK
SCALE: 1/8" = 1'-0"

ISSUED FOR REVIEW - WOSCON 07/14/15		2/14/16	REVISIONS	
△	△	△	△	△
△	△	△	△	△
△	△	△	△	△

ISSUED FOR REVIEW -
March 27, 1965

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
Robert L. Lastropes, Registered Professional
Land Surveyor, do hereby state this plat is true
and correct to the best of my knowledge



R 27 E

Sec. 3

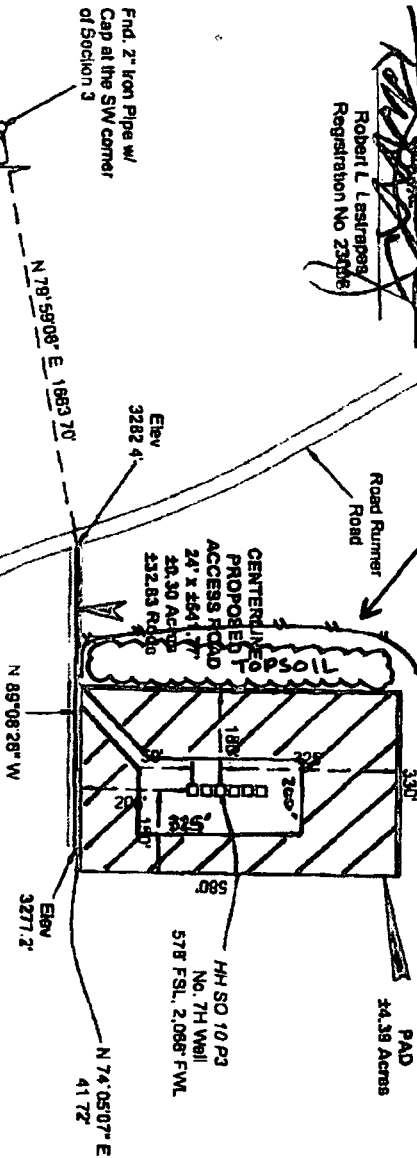
Bureau of Land Management

NW PAD CORNER		NE PAD CORNER		HH SO 10 P3 NO. 7H WELL	
X=	547,392	NAD 27	X=	547,722	NAD 27
Y=	387,887		Y=	387,882	
ELEVATION +3282 NAVD 88		ELEVATION +3279 NAVD 88		LAT 32 08 54.22	
SW PAD CORNER		SE PAD CORNER		LONG 104 17 77.9	
X=	547,383	NAD 27	X=	547,713	NAD 27
Y=	387,307		Y=	387,302	
ELEVATION +3281 NAVD 88		ELEVATION +3278 NAVD 88		LAT 32 08 54.4	
				LONG 104 18 02.72	
				ELEVATION +3279 NAVD 88	

EROSION CONTROL
(STRAW MATTTLES)

Road Runner
Road

PROPOSED
PAD
34.38 Acres



T
26
S

SURFACE USE PLAT

INTERIM RECLAMATION

CHEVRON U.S.A. INC.
PROPOSED PADS, POND & ACCESS ROADS
HH SO 10 P3

SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

PAGE 1 OF 3

REVISIONS

DRAWN BY: LG	No.	DATE:	REVISOR BY:
PROJ. MGR.: GDS	No.	DATE:	REVISOR BY:
DATE 12/16/2015	No.	DATE:	REVISOR BY:

FILENAME: T:\2015\12\15\3388\DWG\HH SO 10 P3 7H SUP.dwg



C H Fenstermaker & Associates L.L.C.
135 Regency Sq Lafayette LA 70508
Ph 337 237-2200 Fax 337-232 4288
www.fenstermaker.com



NAD 27 NEW MEXICO EAST ZONE

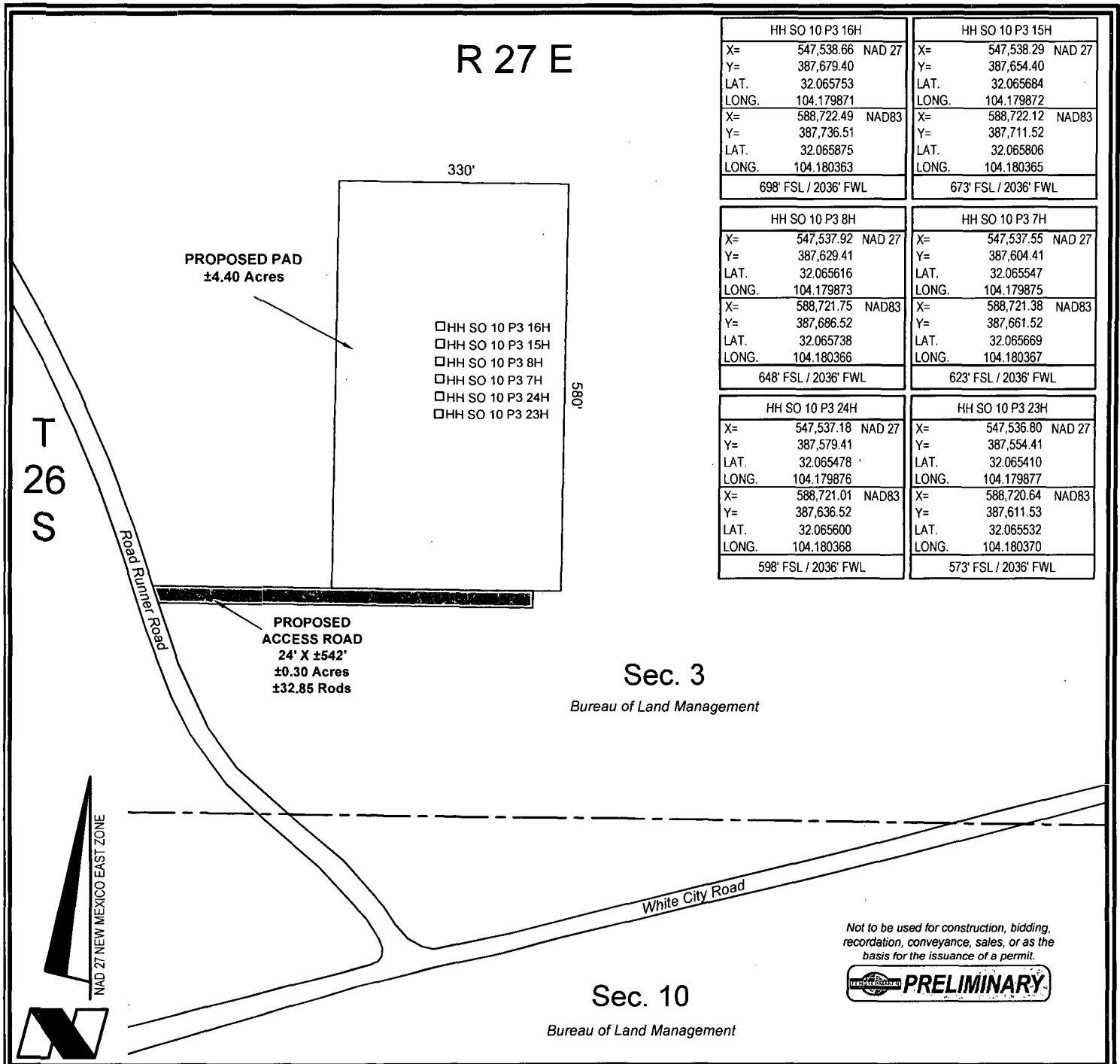
LEGEND
Section Line
Existing Road
Access Centerline
Surface Location

Scale 1" = 300'



Bureau of Land Management

Sec. 10



HH SO 10 P3 16H			HH SO 10 P3 15H		
X=	547,538.66	NAD 27	X=	547,538.29	NAD 27
Y=	387,679.40		Y=	387,654.40	
LAT.	32.065753		LAT.	32.065684	
LONG.	104.179871		LONG.	104.179872	
X=	588,722.49	NAD83	X=	588,722.12	NAD83
Y=	387,736.51		Y=	387,711.52	
LAT.	32.065875		LAT.	32.065806	
LONG.	104.180363		LONG.	104.180365	
698' FSL / 2036' FWL			673' FSL / 2036' FWL		

HH SO 10 P3 8H			HH SO 10 P3 7H		
X=	547,537.92	NAD 27	X=	547,537.55	NAD 27
Y=	387,629.41		Y=	387,604.41	
LAT.	32.065616		LAT.	32.065547	
LONG.	104.179873		LONG.	104.179875	
X=	588,721.75	NAD83	X=	588,721.38	NAD83
Y=	387,686.52		Y=	387,661.52	
LAT.	32.065738		LAT.	32.065669	
LONG.	104.180366		LONG.	104.180367	
648' FSL / 2036' FWL			623' FSL / 2036' FWL		


HH SO 10 P3 24H			HH SO 10 P3 23H		
X=	547,537.18	NAD 27	X=	547,536.80	NAD 27
Y=	387,579.41		Y=	387,554.41	
LAT.	32.065478		LAT.	32.065410	
LONG.	104.179876		LONG.	104.179877	
X=	588,721.01	NAD83	X=	588,720.64	NAD83
Y=	387,636.52		Y=	387,611.53	
LAT.	32.065600		LAT.	32.065532	
LONG.	104.180368		LONG.	104.180370	
598' FSL / 2036' FWL			573' FSL / 2036' FWL		

DETAIL

Scale: 1" = 200'

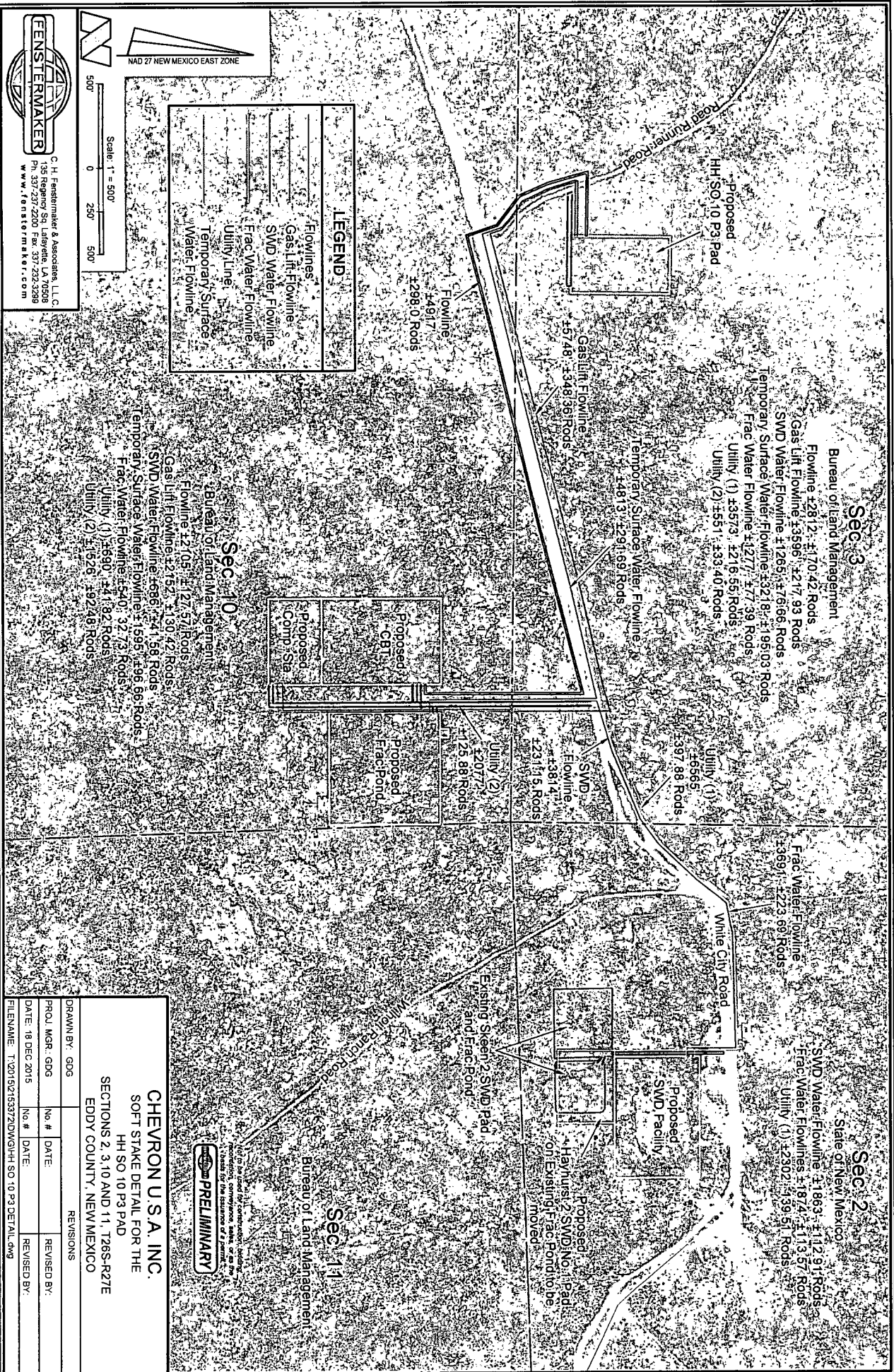
200' 0 100' 200'

CHEVRON U.S.A. INC.
PAD AND ACCESS DETAIL FOR THE
HH SO 10 P3 PAD
SECTION 3, T26S-R27E
EDDY COUNTY, NEW MEXICO



C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
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PROJ. MGR.: GDG	No. #	DATE:	REVISED BY:
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PROJ. MGR. GGG			
DATE: 18 DEC 2015			
FILENAME: T:\2015\21533720\WGH-HH SO 10 P3 DETAIL.dwg			

CHEVRON U.S.A. INC.
SOFT STAKE DETAIL FOR THE
HH SO 10 P3 PAD
SECTIONS 2, 3, 10 AND 11, T26S-R27E
EDDY COUNTY, NEW MEXICO

PRELIMINARY
This drawing is a preliminary drawing and is not to be used for construction purposes without the approval of the engineer. It is the responsibility of the user to verify the accuracy of the information shown on this drawing.

CHEVRON U.S.A. Inc

HH SO 10 P3 8H

NMNM 121473

SECTION 3, T26S-R27E (Off Lease SHL)

SHL 603' FSL & 2066' FWL

SECTION 15, T26S, R27E

BHL 180' FSL & 2315' FWL

APD Surface Use Plan of Operations

This Surface Use Plan of Operations has been designed to be reviewed in conjunction with Hayhurst Development Area (HDA) Master Development Plan

HDA Master Development Plan Reference Table

The contents referenced below apply to all HDA APD's

Existing Roads	Exhibit 1, MDP SUPO Page 1
Construction Materials	MDP SUPO Page 6
Methods for Handling Waste	MDP SUPO Page 6
Reclamation Objectives	MDP SUPO Page 6-8
Final Surface Reclamation	MDP SUPO Page 6-8

Driving Directions

- Driving Directions – From Malaga, New Mexico. The location is approximately 11.5 miles from the nearest town, which is Malaga, New Mexico. From Malaga, proceed South on Highway 285 approximately 11.5 miles and turn right (West) onto White City Rd and go approximately 6.8 miles on White City Road until the road reaches an intersection with Roadrunner Rd. Turn right onto this and travel 100 yards, then the access road and well location is on the right.

New or Reconstructed Access Roads – (Exhibit 2, MDP SUPO Pg. 1)

- There will be 2,758' of new road construction for this proposal.
- Ditches: See Exhibit 2 (To be submitted at later date)
- Culverts: See Exhibit 2 (To be submitted at later date)
- Road Cuts: See Exhibit 2 (To be submitted at later date)

Location of Existing Wells (Exhibit 3)

- 1-Mile radius map is attached

CHEVRON U.S.A. Inc

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NMNM 121473

SECTION 3, T26S-R27E (Off Lease SHL)

SHL 603' FSL & 2066' FWL

SECTION 15, T26S, R27E

BHL 180' FSL & 2315' FWL

Location of Existing and/or Proposed Production Facilities (Exhibit 4, MDP SUP Pg. 2)

- Facilities: Proposed production facilities located in the NE corner of Sec. 10, T26S-R27E where oil and gas sales will take place.
 - The proposed facility and frac pond is in Sec. 10, T26S-R27E
 - Gas purchaser pipeline is in place at the tank battery.
 - Open top tanks or open containments will be netted.
 - Open vent exhaust stacks will be modified to prevent birds or bats from entering, discourage perching, roosting, and nesting.
 - Facilities will have a secondary containment 1.5 times the holding capacity of largest storage tank.
 - All above ground structures will be painted non-reflective shale green for blending with surrounding environment.
 - The permanent water disposal system will be determined prior to construction of any water transfer pipeline. Until permanent water takeaway is available, produced water will be hauled off location in trucks.
- **Notification will be provided to BLM upon site selection and survey – plats (including SWD well information) will be provided.**
- Pipelines: See Detail – Exhibit 5
 - Pipelines Include:
 - 4,917' of Flowlines carrying production (buried)
 - 5,748' Gas Lift Line carrying pressurized gas (buried)
 - 3,814' SWD Line carrying produced water (buried)
 - 3,691' Permanent Frac water line carrying fresh water (buried)
 - 4,813' Temporary Water line carrying fresh water (surface)
 - A ROW will be applied for through the State and BLM.
 - All construction activity will be confined to the approved ROW.
 - Pipeline will run parallel to the road and will stay within approved ROW.
- Power lines\Utility lines: 8,642' of new power lines

Location and Types of Water Supply (Exhibit 5, MDP SUP Pg. 5)

- Proposed pond in Section 10, T26S-R27E will be utilized for fresh water.
- Fresh water will be obtained from a private water source.

Construction Materials (MDP SUP Pg. 6)

- Location-specific caliche sources will be provided in post-application supplement

CHEVRON U.S.A. Inc

HH SO 10 P3 8H

NMNM 121473

SECTION 3, T26S-R27E (Off Lease SHL)

SHL 603' FSL & 2066' FWL

SECTION 15, T26S, R27E

BHL 180' FSL & 2315' FWL

Well Site Layout (Exhibit 6)

- Surveyor Plat (Exhibit 6a)
 - Exterior well pad dimensions are 580' x 330'
 - Interior well pad dimensions from point of entry (well head) of the well are N-300', S-280', E-150', W-180'. Total disturbance area needed for construction of well pad will be approximately 4.4 acres
 - Topsoil placement is on the west where interim reclamation is planned to be completed upon completion of well and evaluation of best management practices.
 - Cut and fill: will be minimal.
- Rig Layout (Exhibit 6b)

Plans for Surface Reclamation (Exhibit 6, MDP SUPA Pg. 8)

Interim Reclamation Procedures

- Reclaimed pad size: 200' x 325'
- See Exhibit for reclaimed pad layout, topsoil location & erosion control features

Surface Ownership

- BLM Surface
 - Surface Tenant – Phillip Stell *12.8 SW 3-10-78*
- **Nearest Post Office:** Malaga Post Office; ~~11.4~~ *12.8* Miles ~~north~~ *SW 3-10-78*

Other Information

- On-site performed by BLM NRS: Paul Murphy *11/4/2015*
- Cultural report attached: Yes Participating Agreement attached: N/A *12-8-15*

CHEVRON U.S.A. Inc

HH SO 10 P3 8H

NMNM 121473

SECTION 3, T26S-R27E (Off Lease SHL)

SHL 603' FSL & 2066' FWL

SECTION 15, T26S, R27E

BHL 180' FSL & 2315' FWL

Chevron Representatives

Primary point of contact:

Jennifer Van Curen

Jennifer.VanCuren@arcadis-us.com

M- 432-270-8753

Chevron Functional Contacts

Project Manager Name: Sean Cheben Address: 1400 Smith Street Houston, TX 77002 Phone: (432) 664-6809 Email: Sean.Cheben@chevron.com	Drilling Engineer Name: Roderick Milligan Address: 1400 Smith Street Houston, TX 77002 Phone: (281) 413-9794 Email: RoderickMilligan@chevron.com
Surface Land Representative Name: Kevin Dickerson Address: 15 Smith Road Midland Texas 79705 Phone: (432) 687-7104 Email: Kevin.Dickerson@chevron.com	Facility Lead Name: Tyler Weaver Address: 1400 Smith Street Houston, TX 77002 Phone: (281) 384-8934 Email: tyler.weaver@chevron.com
Geologist Name: Jeff Fabre Address: 1400 Smith Street Houston, TX 77002 Phone: (713) 372-0523 Email: JeffreyFabre@chevron.com	Regulatory Specialist Cindy Herrera-Murillo Address: 1616 W. Bender Blvd, Hobbs, NM 88240 Office: (575) 263-0431 Email: CHerreraMurillo@chevron.com

CHEVRON U.S.A. Inc

HH SO 10 P3 8H

NMNM 121473

SECTION 3, T26S-R27E (Off Lease SHL)

SHL 603' FSL & 2066' FWL

SECTION 15, T26S, R27E

BHL 180' FSL & 2315' FWL

EXHIBITS:

Exhibit 1 -- Existing Roads

Exhibit 2 -- Survey Plat: New or Reconstructed Roads Map: if road is outside 600' x 600'.

Exhibit 3 -- 1-mile Radius Map

Exhibit 4 -- Location of Existing and/or Proposed Production Facilities (Tank Battery)

Exhibit 5 -- Survey Plat: Infrastructure: roads, pipelines, power lines, frac pond

Exhibit 6 -- Rig Layout: Well Site Layout Map / Diagram

NOTE: No Work was performed by C. H. Fenstermaker & Associates, L.L.C. on the proposed pipelines depicted in these drawings. Pipelines shown are drawn based on previous survey data and digitized information.

Bureau of Land Management
±2,812', ±170.42 Rods

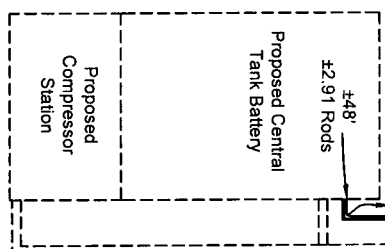
State of New Mexico



**PROPOSED
WFMP FLOWLINES
±4,918', ±298.06 Rods**

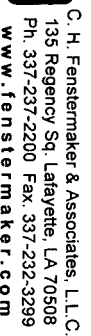
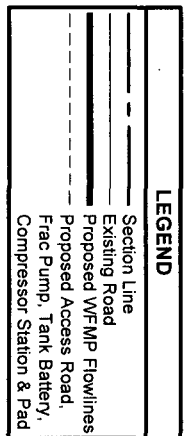
Bureau of Land Management
±2,104', ±127.51 Rods

Bureau of Land Management



FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.

I, Robert L. Lastrapes, Registered Professional Land Surveyor, do hereby state this plat is true and correct to the best of my knowledge.



Not to be used for construction, bidding, recordation, conveyance, sales, or as the basis for the issuance of a permit.



Robert L. Lastrapes
Registration No. 23006

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CHEVRON U.S.A. INC.
PROPOSED WFMP FLOWLINES
HH SO 10 P3
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

PAGE 1 OF 2

DISCLAIMER: At this time, C. H. Fenstermaker & Associates, L.L.C. 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.

NOTE:

1. 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.
2. 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
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**FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.**

I, Robert L. Lastropes, Registered Professional
Land Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.



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Robert L. Lastropes
Registration No. 23006

SURFACE USE PLAT

CHEVRON U.S.A. INC.
PROPOSED WFMP FLOWLINES
HH SO 10 P3
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

PAGE 2 OF 2

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R 27 E

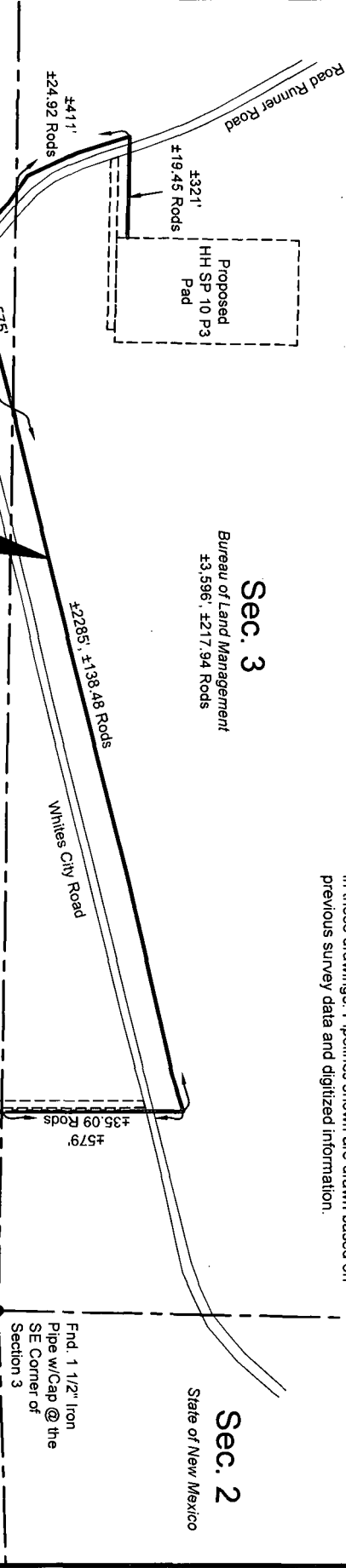
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Sec. 3

Bureau of Land Management
±3,596', ±217.94 Rods

Sec. 2

State of New Mexico



T 26 S

Sec. 10

Bureau of Land Management
±2,579', ±156.30 Rods

Sec. 11

Bureau of Land Management



NAD 27 NEW MEXICO EAST ZONE

LEGEND
Section Line
Existing Road
Proposed Gas Lift Flowline
Proposed Access Road,
Frac Pump, Tank Battery,
Compressor Station & Pad



Scale: 1" = 500'

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CHEVRON U.S.A. INC.

I, Robert L. Lastropes, Registered Professional
Land Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.

PRELIMINARY

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SURFACE USE PLAT

CHEVRON U.S.A. INC.

PROPOSED GAS LIFT FLOWLINE

HH SO 10 P3

SECTIONS 3 & 10, T26S-R27E

EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR

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PROJ. MGR.: GDG

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REVISED BY:

DATE: 02/08/2016

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FILENAME: T:\2015\12153372\DWG\Gas Lift Flowline_SUP.dwg

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Robert L. Lastropes
Registration No. 23006

SURFACE USE PLAT			
CHEVRON U.S.A. INC.			
PROPOSED GAS LIFT FLOWLINE			
HH SO 10 P3			
SECTIONS 3 & 10, T26S-R27E			
EDDY COUNTY, NEW MEXICO			
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DATE: 02/08/2016	No.	DATE:	REVISED BY:
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LEGEND

- Section Line
- Existing Road
- Proposed SWD Flowline
- Proposed Access Road, Frac Pump, Tank Battery, Compressor Station & Pad
- Found Occupation

R 27 E

Sec. 3

Bureau of Land Management
±1256', ±76.12 Rods

PROPOSED
SWD FLOWLINE
±3,814', ±231.15 Rods

±156'
±45.82 Rods

±683'
±41.39 Rods

±855'
±51.82 Rods

±285'
±17.27 Rods

±50'
±3.03 Rods

Sec. 2

State of New Mexico
±1873', ±113.51 Rods

Proposed
SWD
Facility

Whites City Road

Proposed
Access Road

Find. 1 1/2" Iron
Pipe w/Cap @ the
SE Corner of
Section 3

T
26
S

Sec. 10

Bureau of Land Management
±685', ±41.51 Rods

Proposed Central
Tank Battery

Proposed
Compressor
Station

±6.12 Rods
±101'

Proposed
Frac Pond

Proposed 50'x50'
Frac Pump Pad

Sec. 11

Bureau of Land Management

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Robert L. Lastrapes
Registration No. 23006



SURFACE USE PLAT

CHEVRON U.S.A. INC.

PROPOSED SWD FLOWLINE

HH SO 10 P3

SECTIONS 3 & 10, T26S-R27E

EDDY COUNTY, NEW MEXICO

PAGE 1 OF 2

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DATE: 02/10/2016

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FILENAME: T:\2015\2153\72\DWG\SWD_FL_SUP.dwg



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NAD 27 NEW MEXICO EAST ZONE

500'

0

250'

500'

Scale: 1" = 500'

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**FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.**

I, Robert L. Lastropes, Registered Professional
Land Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.



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Robert L. Lastropes
Registration No. 23006

SURFACE USE PLAT CHEVRON U.S.A. INC. PROPOSED SWD FLOWLINE HH SO 10 P3 SECTIONS 3 & 10, T26S-R27E EDDY COUNTY, NEW MEXICO			
DRAWN BY: BOR		PAGE 2 OF 2	
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www.fenstermaker.com

LEGEND

- Section Line
- Existing Road
- Proposed Frac Water Flowline
- Proposed Access Road, Frac Pump, Tank Battery, Compressor Station & Pad
- Found Occupation

R 27 E

Sec. 3

Bureau of Land Management
±1267', ±76.78 Rods

**PROPOSED
FRAC WATER FLOWLINE**
±3,691', ±223.69 Rods

Whites City Road

Proposed
Access Road

Proposed 50'x50'
Frac Pump Pad

Sec. 10
Bureau of Land Management
±539', ±32.67 Rods

Proposed Central
Tank Battery

Proposed
Compressor
Station

Proposed
Frac Pond

Sec. 2
State of New Mexico
±1885', ±114.24 Rods

±851'
±51.58 Rods
±299'
±18.12 Rods
±60'
±3.63 Rods

Proposed
SMD
Facility

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastropes, Registered Professional
Land Surveyor, do hereby state this plat is true
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Sec. 11

Bureau of Land Management

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Robert L. Lastropes
Registration No. 23006



SURFACE USE PLAT

CHEVRON U.S.A. INC.

PROPOSED FRAC WATER FLOWLINE

HH SO 10 P3

SECTIONS 3 & 10, T26S-R27E

EDDY COUNTY, NEW MEXICO

PAGE 1 OF 2

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DATE: 02/10/2016

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T
26
S

NAD 27 NEW MEXICO EAST ZONE

Scale: 1" = 500'



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SURFACE USE PLAT

CHEVRON U.S.A. INC.
PROPOSED FRAC WATER FLOWLINE
HH SO 10 P3
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

PAGE 2 OF 2

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DATE: 02/10/2016	No.	DATE:	REVISED BY:
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R 27 E

Sec. 3

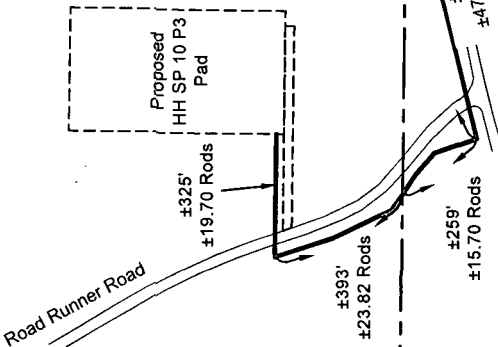
Bureau of Land Management
±3,205', ±194.24 Rods

Sec. 2

State of New Mexico

Sec. 11

Bureau of Land Management



PROPOSED
TEMPORARY
SURFACE WATER
FLOWLINE
±4,806', ±291.27 Rods

Sec. 10

Bureau of Land Management
±1,601', ±97.03 Rods

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CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Registered Professional
Land Surveyor, do hereby state this plat is true
and correct to the best of my knowledge.

LEGEND	
Section Line	---
Existing Road	---
Proposed Temporary Services Water Flowline	---
Proposed Access Road, Frac Pump, Tank Battery, Compressor Station & Pad	---

Scale: 1" = 500'

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Robert L. Lastrapes
Registration No. 23006

C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com



SURFACE USE PLAT

CHEVRON U.S.A. INC.

PROPOSED TEMPORARY SURFACE WATER FLOWLINE

HH SO 10 P3

SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

PAGE 1 OF 2

REVISIONS

DRAWN BY:	BOR	No.	DATE:	REVISD BY:
PROJ. MGR.:	GDG			
DATE:	02/08/2016	No.	DATE:	REVISD BY:

FILENAME: T:\2015\2153372\DWG\Temporary Surface Water Flowline_SUP.dwg

DISCLAIMER: At this time, C.H. Fenstermaker & Associates, L.L.C. 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.

NOTE:

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3. No Work was performed by C. H. Fenstermaker & Associates, L.L.C. on the proposed pipelines depicted in these drawings. Pipelines shown are drawn based on previous survey data and digitized information.

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

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Registration No. 23006



FENSTERMAKER

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SURFACE USE PLAT

CHEVRON U.S.A. INC.

PROPOSED TEMPORARY SURFACE WATER FLOWLINE
HH SO 10 P3

SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

PAGE 2 OF 2

REVISIONS

DRAWN BY: BOR		DATE:		REVISED BY:	
PROJ. MGR.: GDG	No.	DATE:		REVISED BY:	
DATE: 02/09/2016	No.	DATE:		REVISED BY:	
FILENAME: T:\2015\2153372\DWG\Temporary Surface Water Flowline_SUP.dwg					

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R 27 E

Sec. 3

Bureau of Land Management
±3,554', ±216.00 Rods

Sec. 2

State of New Mexico
±2313', ±140.18 Rods

T 26 S

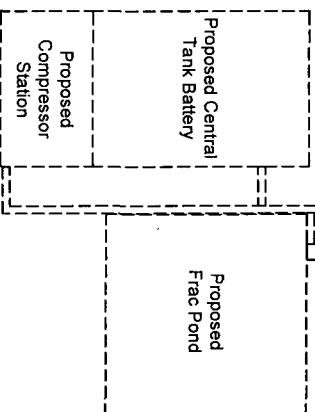
PROPOSED
UTILITY LINE(1)
±6,566', ±397.94 Rods

Sec. 10

Bureau of Land Management
±689', ±41.76 Rods

Sec. 11

Bureau of Land Management



LEGEND	
Section Line	---
Existing Road	---
Proposed Utility Line(1)	---
Proposed Access Road,	---
Frac Pump, Tank Battery,	---
Compressor Station & Pad	---

Scale: 1" = 600'

600' 0 300' 600'



NAD 27 NEW MEXICO EAST ZONE

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SURFACE USE PLAT

CHEVRON U.S.A. INC.

PROPOSED UTILITY LINE(1)

HH SO 10 P3

SECTIONS 3 & 10, T26S-R27E

EDDY COUNTY, NEW MEXICO

PAGE 1 OF 2

DRAWN BY: BOR

REVISIONS

PROJ MGR: GDG

No.

DATE:

REVISED BY:

DATE: 02/08/2016

No.

DATE:

REVISED BY:

FILENAME: T:\2015\2153372\DWG\Utility Line 1_SUP.dwg



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SURFACE USE PLAT

CHEVRON U.S.A. INC.
PROPOSED UTILITY LINE(1)
HH SO 10 P3
SECTIONS 3 & 10, T26S-R27E
EDDY COUNTY, NEW MEXICO

PAGE 2 OF 2

DRAWN BY: BOR

REVISIONS

PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 02/08/2016	No.	DATE:	REVISED BY:

FILENAME: T:\2015\2153372\DWG\Utility Line 1_SUP.dwg



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R 27 E

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Sec. 3

Bureau of Land Management
±551', ±33.39 Rods

Sec. 2

State of New Mexico

Road Runner Road
Proposed
HH SP 10 P3
Pad

Whites City Road

PROPOSED
UTILITY LINE(2)
±2,077', ±125.88 Rods

±551'
±33.39 Rods

Proposed
Access Road

Fnd. 1 1/2" Iron
Pipe w/Cap @ the
SE Corner of
Section 3

T
26
S

Sec. 10

Bureau of Land Management
±1,525', ±92.49 Rods

Sec. 11

Bureau of Land Management

Proposed Central
Tank Battery
±1388'
±84.12 Rods
Proposed
Frac Pond
Proposed
Compressor
Station
±138'
±8.37 Rods

LEGEND
Section Line
Existing Road
Proposed Utility Line(2)
Proposed Access Road,
Frac Pump, Tank Battery,
Compressor Station & Pad

NAD 27 NEW MEXICO EAST ZONE

Scale: 1" = 500'

500' 0 250' 500'



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CHEVRON U.S.A. INC.

PROPOSED UTILITY LINE(2)

HH SO 10 P3

SECTIONS 3 & 10, T26S-R27E

EDDY COUNTY, NEW MEXICO

PAGE 1 OF 2

DRAWN BY: BOR

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No.

DATE:

REVISED BY:

DATE: 02/08/2016

No.

DATE:

REVISED BY:

FILENAME: T:\2015\2153372\DWG\Utility Line 2_SUP.dwg



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SURFACE USE PLAT

CHEVRON U.S.A. INC.

PROPOSED UTILITY LINE(2)

HH SO 10 P3

SECTIONS 3 & 10, T26S-R27E

EDDY COUNTY, NEW MEXICO

PAGE 2 OF 2

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REVISED BY:

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DATE:

REVISED BY:

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R 27 E

330'

PROPOSED PAD
±4.40 Acres

- HH SO 10 P3 16H
- HH SO 10 P3 15H
- HH SO 10 P3 8H
- HH SO 10 P3 7H
- HH SO 10 P3 24H
- HH SO 10 P3 23H

580'

PROPOSED
ACCESS ROAD
24' X ±542'
±0.30 Acres
±32.85 Rods

Sec. 3

Bureau of Land Management

Sec. 10

Bureau of Land Management

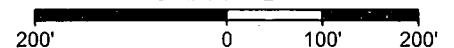
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Y=	387,679.40		Y=	387,654.40	
LAT.	32.065753		LAT.	32.065684	
LONG.	104.179871		LONG.	104.179872	
X=	588,722.49	NAD83	X=	588,722.12	NAD83
Y=	387,736.51		Y=	387,711.52	
LAT.	32.065875		LAT.	32.065806	
LONG.	104.180363		LONG.	104.180365	
698' FSL / 2036' FWL			673' FSL / 2036' FWL		
HH SO 10 P3 8H			HH SO 10 P3 7H		
X=	547,537.92	NAD 27	X=	547,537.55	NAD 27
Y=	387,629.41		Y=	387,604.41	
LAT.	32.065616		LAT.	32.065547	
LONG.	104.179873		LONG.	104.179875	
X=	588,721.75	NAD83	X=	588,721.38	NAD83
Y=	387,686.52		Y=	387,661.52	
LAT.	32.065738		LAT.	32.065669	
LONG.	104.180366		LONG.	104.180367	
648' FSL / 2036' FWL			623' FSL / 2036' FWL		
HH SO 10 P3 24H			HH SO 10 P3 23H		
X=	547,537.18	NAD 27	X=	547,536.80	NAD 27
Y=	387,579.41		Y=	387,554.41	
LAT.	32.065478		LAT.	32.065410	
LONG.	104.179876		LONG.	104.179877	
X=	588,721.01	NAD83	X=	588,720.64	NAD83
Y=	387,636.52		Y=	387,611.53	
LAT.	32.065600		LAT.	32.065532	
LONG.	104.180368		LONG.	104.180370	
598' FSL / 2036' FWL			573' FSL / 2036' FWL		

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DETAIL

Scale: 1" = 200'



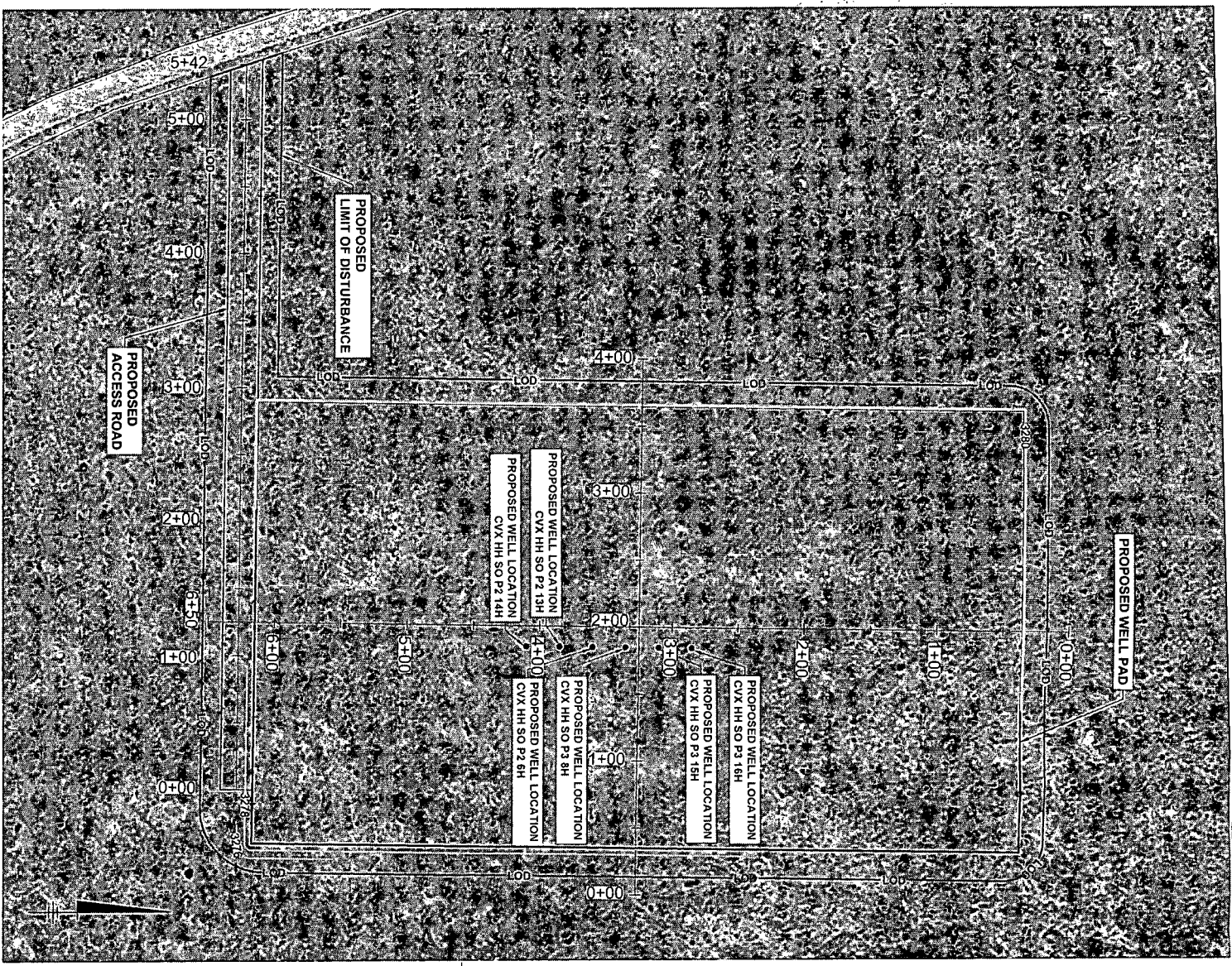
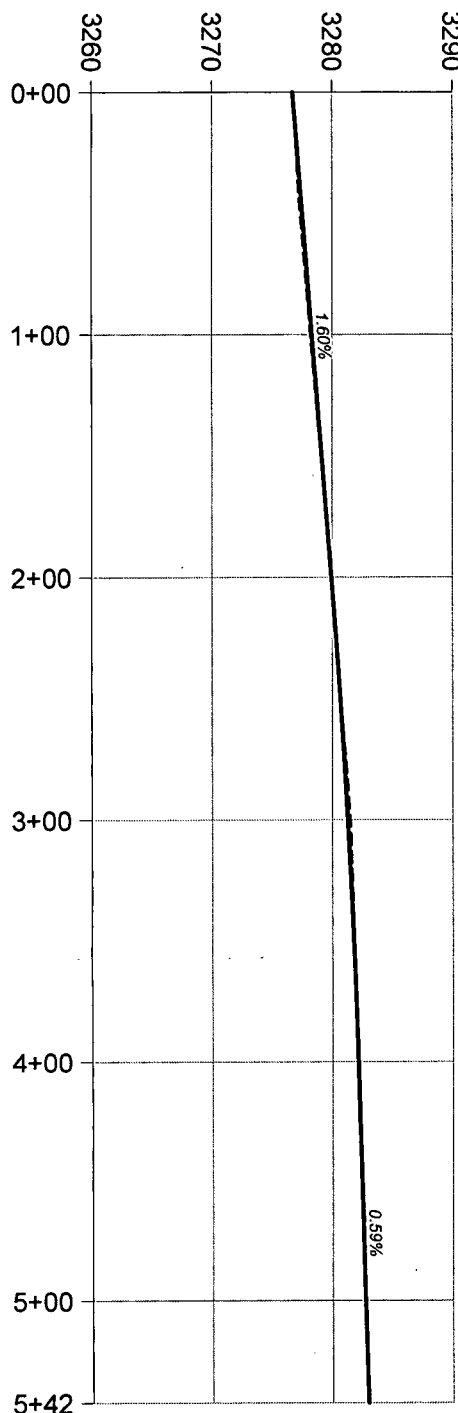
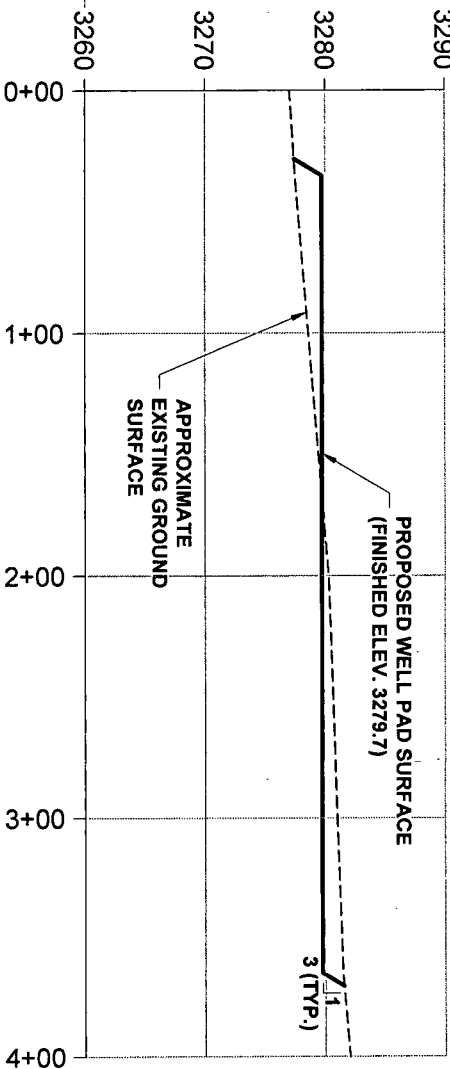
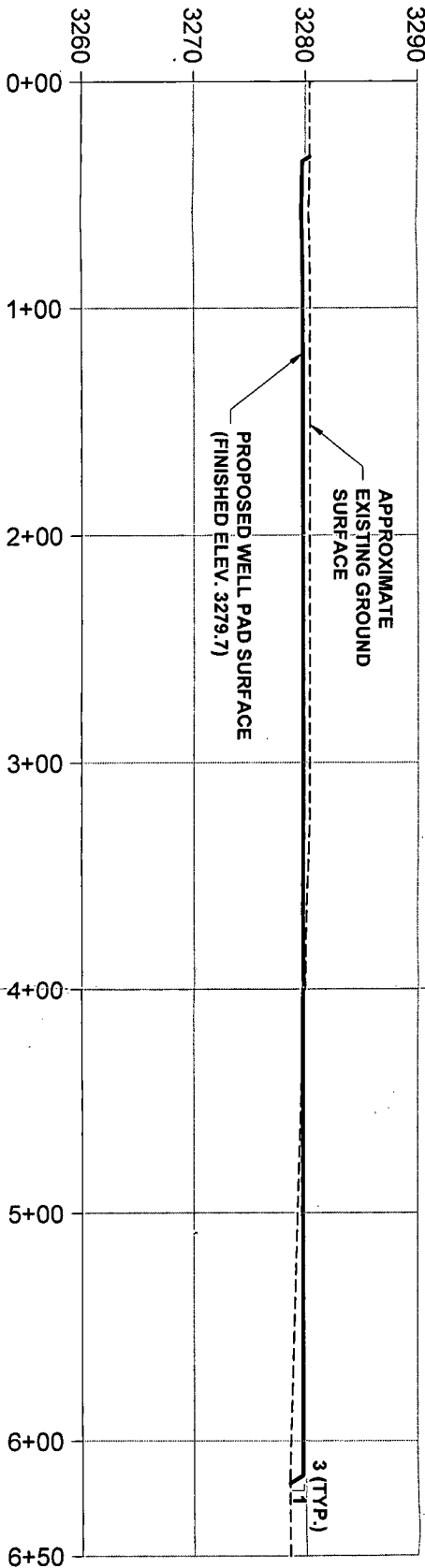
CHEVRON U.S.A. INC.
PAD AND ACCESS DETAIL FOR THE
HH SO 10 P3 PAD
SECTION 3, T26S-R27E
EDDY COUNTY, NEW MEXICO



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DRAWN BY: GDG		REVISIONS	
PROJ. MGR.: GDG	No. #	DATE:	REVISED BY:
DATE: 2 DEC 2015	No. #	DATE:	REVISED BY:
FILENAME: T:\2015\2153367\DWG\HH SO 10 P3 PAD DETAIL.dwg			

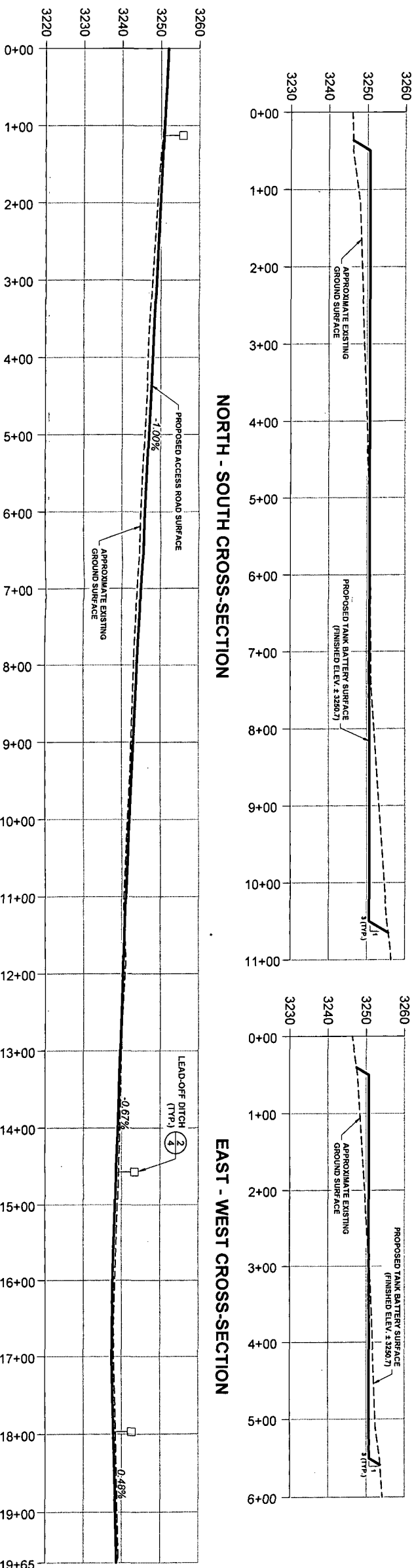
Bureau of Land Management
RECEIVED
MAR 17 2005
Carlsbad Field Office
Carlsbad, NM



APPROXIMATE NET CUT VOLUME: 4,058 CY
APPROXIMATE NET FILL VOLUME: 4,064 CY
APPROXIMATE WELL PAD AND ACCESS ROAD CONSTRUCTION DISTURBANCE AREA: 5.7 ACRES

IMAGES:
Pad 3.tif
Pad3_Facilities.tif
primary_BW.gif

Carlsbad Field Office
Carlsbad, NM



APPROXIMATE NET CUT VOLUME: 21,562 CY
APPROXIMATE NET FILL VOLUME: 21,546 CY
APPROXIMATE TANK BATTERY CONSTRUCTION
DISTURBANCE AREA: 15.2 ACRES
ACCESS ROAD DISTURBANCE AREA: 4.3 ACRES

FACILITIES CUT-AND-FILL SITE LAYOUT AND CROSS-SECTIONS

HH SO 10 P3

H 2016

ARCADIS

Midland, TX
Tel. 432.687.5400

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chevron USA Inc.
LEASE NO.:	NMNM-121473
WELL NAME & NO.:	HH SO 10 P3 8H
SURFACE HOLE FOOTAGE:	0603' FSL & 2066' FWL
BOTTOM HOLE FOOTAGE	0180' FSL & 2315' FWL Sec. 15, T. 26 S., R 27 E.
LOCATION:	Section 03, T. 26 S., R 27 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Avian Protection
 - Raptor Nest
 - Cave/Karst
 - VRM
 - Cultural
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Cement Requirements
 - Medium Cave/Karst
 - Logging Requirements
 - Waste Material and Fluids
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Avian Protection

Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all power line structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. The holder without liability or expense shall make such modifications and/or additions to the United States.

Raptor Nest Mitigation

- A BLM Wildlife Biologist must be contacted by the operator prior to construction activities to determine if the raptor nest is active.
- Raptor nests on special, natural habitat features, such as trees, large brush, cliff faces and escarpments, will be protected by not allowing surface disturbance within up to 200 meters of nests or by delaying activity for up to 90 days, or a combination of both. Exceptions to this requirement for raptor nests will be considered if the nests expected to be disturbed are inactive, the proposed activity is of short duration (e.g. habitat enhancement projects, fences, pipelines), and will not result in continuing activity in proximity to the nest.
- Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Visual Resource Management (VRM)

- Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Shale Green from the BLM Standard Environmental Color Chart (CC-001: June 2008)
- Chevron would use minimal light necessary for site safety, security, and operations.
- Light should be directed downward or only where needed.
- Low-pressure sodium lamps, such as yellow LED lighting (3,000 Kelvin or less) or equivalent, would be used to reduce sky glow and wildlife impacts.
- Properly shielded and mounted light fixtures would be used to reduce sky glow from upward pointing light, as well as trespass from light falling outside of desired area of illumination. Full cutoff shielding would be used during production.

Cave and Karst

****** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:

The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:

Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, siting valves and lines so they can be visually inspected, or installing

electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS**Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

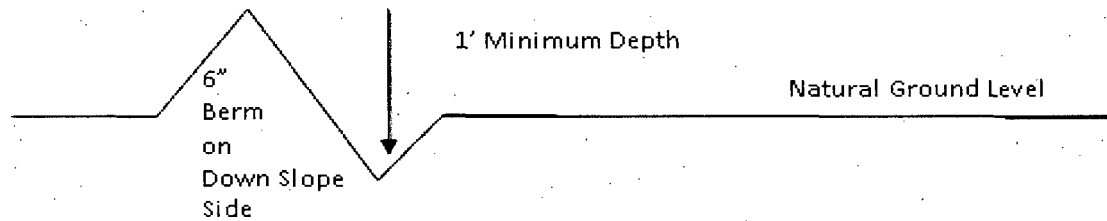
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and inslaping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

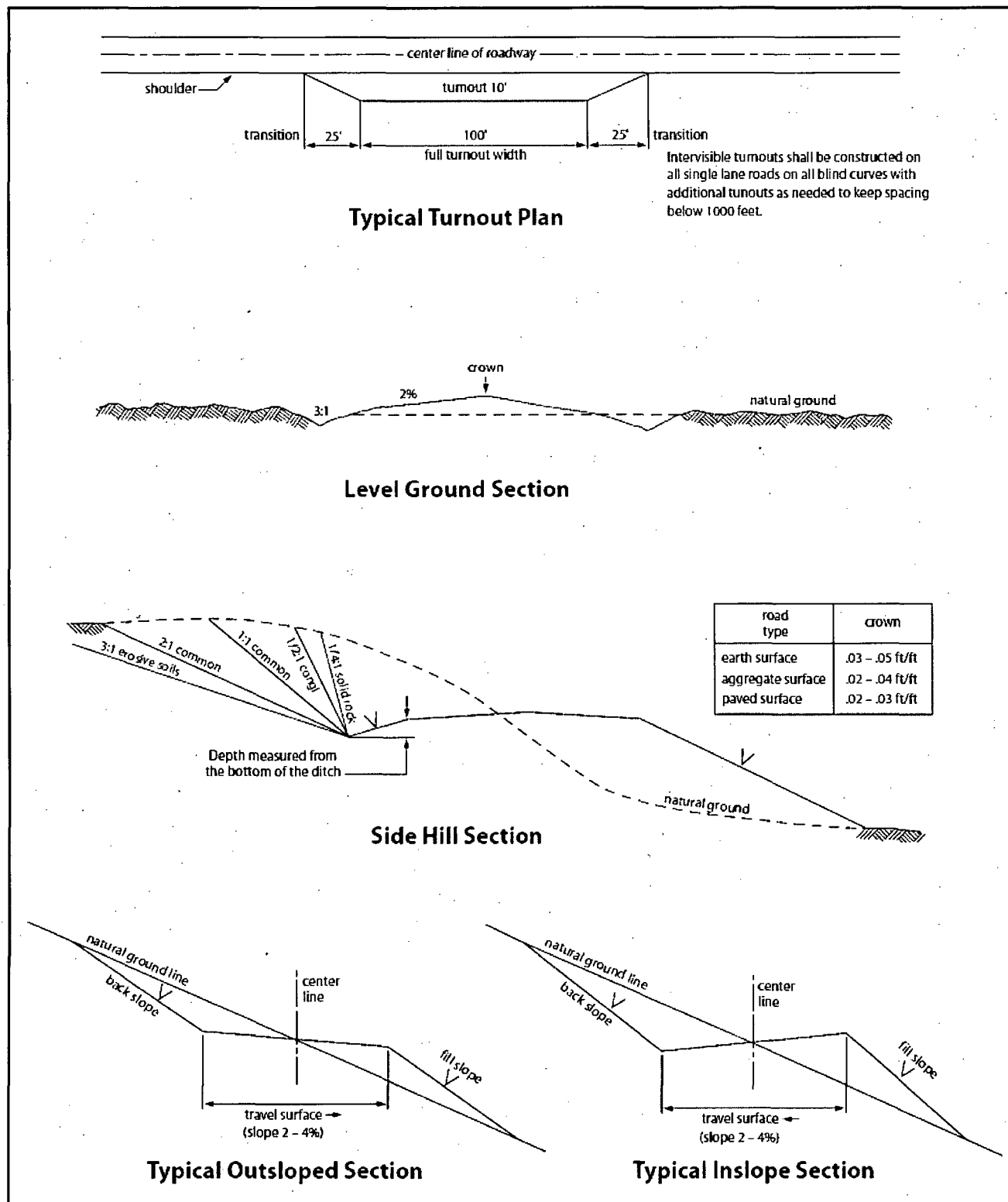


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. **The operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other wells.**
4. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
5. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior

strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

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

Wait on cement (WOC) for 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.

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.

Medium Cave/Karst

Possibility of water flows in the Castillo and Salado.

Possibility of lost circulation in the Delaware.

Abnormal Pressures may be encountered when penetrating the 3rd Bone Spring Sandstone and all subsequent formations.

1. The 13-3/8 inch surface casing shall be set at approximately **450** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - 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.

Formation below the 13-3/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

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

Operator has proposed DV tool at depth of 2100', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. Excess calculates to 22% - Additional cement may be required.**

If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

☒ Cement as proposed by operator. 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.

C. 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.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. 10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.** BOP/BOPE shall be tested after nipple up according to Onshore Order #2.
3. 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.
 - g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

F. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife; to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclusion systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Enclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended enclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed 20 feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed 30 feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

- ☐ seed mixture 1 ☐ seed mixture 3
☐ seed mixture 2 ☒ seed mixture 4
☐ seed mixture 2/LPC ☐ Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to

the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land

shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Mixture 4, for Gypsum Sites

The holder shall seed all the disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Alkli Sacaton (<i>Sporobolus airoides</i>)	1.5
DWS~ Four-wing saltbush (<i>Atriplex canescens</i>)	8.0

~DWS: DeWinged Seed

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

NMOCD CONDITION OF APPROVAL

The *New* Gas Capture Plan (GCP) notice is posted on the NMOCD website under Announcements. The Plan became effective May 1, 2016. A copy of the GCP form is included with the NOTICE and is also in our FORMS section under Unnumbered Forms. Please review filing dates for all applicable activities currently approved or pending and submit accordingly. Failure to file a GCP may jeopardize the operator's ability to obtain C-129 approval to flare gas after the initial 60-day completion period.