

**NM OIL CONSERVATION
ARTESIA DISTRICT**

MAR 05 2019

Form 3160-3
(June 2015)

FORM APPROVED
OMB No 1004-0137
Expires January 31, 2018

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER**

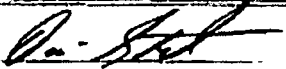
RECEIVED

1a Type of work ☒ DRILL ☐ REENTER		5 Lease Serial No NMNM13996
1b Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		6 If Indian Allottee or Tribe Name
1c Type of Completion ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		7 If Unit or CA Agreement Name and No
2 Name of Operator OXY USA Inc.		8 Lease Name and Well No Height CC 6-7 Federal Com 31Y
3a Address P.O. Box 50250 Midland, TX 79710		9 API Well No 30-015- 45770
3b Phone No (include area code) 432-685-5717		10 Field and Pool, or Exploratory Purple Sage Wellcamp
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface 519 FNL 732 FWL NWNW (4) Lat 32 2528755 Long -104 0299769 Sec 6 At proposed prod zone 20 FSL 330 FWL SWSW(4) Lat 32 2250709 Long -104 0311984 Sec 7		11 Sec, T R M or Blk and Survey or Area Sec 6 T24S R29E NMP
14 Distance in miles and direction from nearest town or post office* 15 miles		12 County or Parish Eddy
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drg unit line if any) 20'		13 State NM
16 No of acres in lease 199.71		17 Spacing Unit dedicated to this well 640
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 35		20 BLM/BIA Bond No in file Fed: ESB000226
21 Elevations (Show whether DF, KDB, RT, GL, etc) 2964'		22 Approximate date work will start* After Permit Approval
		23 Estimated duration 20days

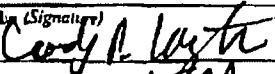
24. Attachments

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 (as applicable)

- | | |
|--|---|
| 1 Well plan 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) David Stewart	Date 02/21/2019
--	---------------------------------------	--------------------

Title Sr. Regulatory Advisor	david_stewart@oxy.com
---------------------------------	-----------------------

Approved by (Signature) 	Name (Printed/Typed) Cody R. Layton	Date 03/04/2019
Title Sr. Regulatory Advisor 	Office CFO	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations, or to any manner within its jurisdiction

Ref 3-5-19,

(Continued on page 2)

*(Instructions on page 2)

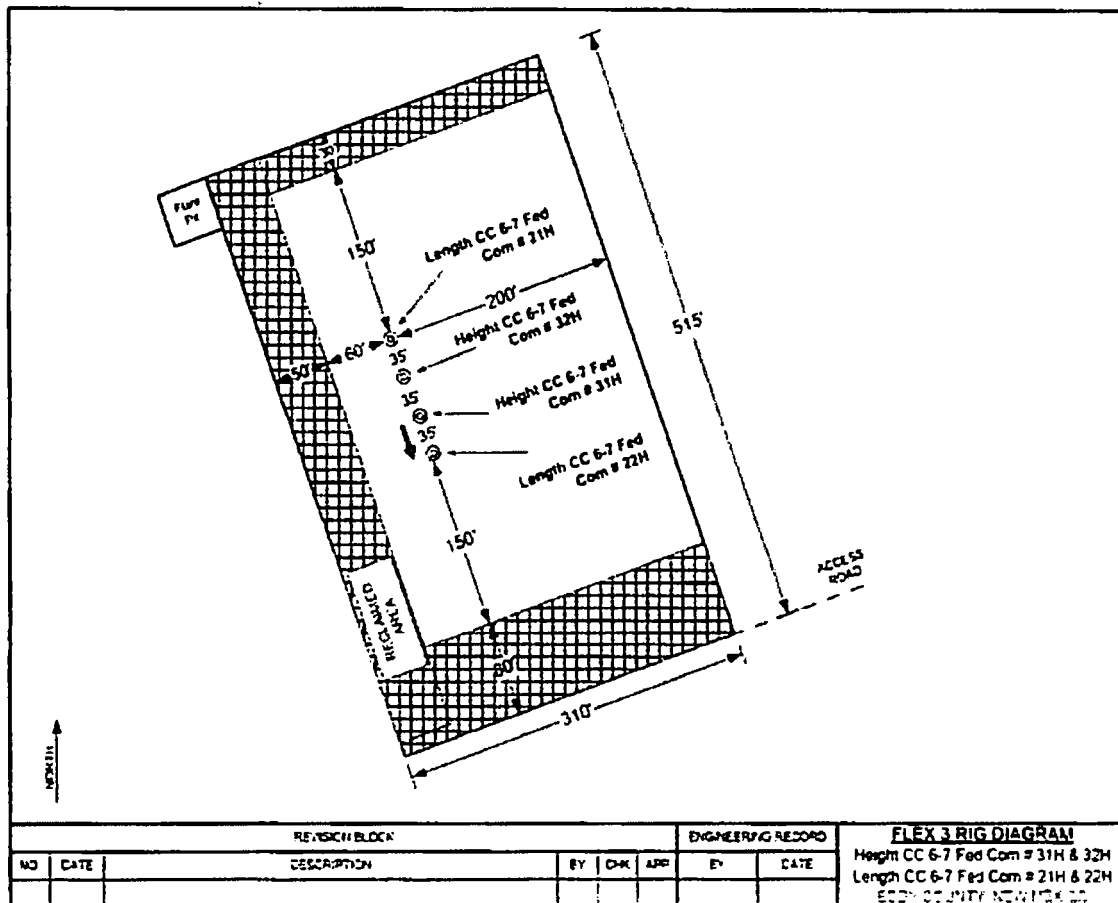
**Oxy USA Inc. – Height CC 6-7 Fed Com 31H
NOI Sundry – Skid Original Wellbore**

This is a notice of intent to skid the original wellbore for the Height CC 6-7 Fed Com 31H. The new wellbore will be the Height CC 6-7 Fed Com 31Y. Form 3160-3, a new plat, directional plan and drill plan are attached. The following well is affected:

API Number	Well Name	Lease Serial Number
3001545574	Height CC 6-7 Fed Com 31H	NMNM013996

Oxy will skid the wellbore 44 inches in the direction of the Length CC 6-7 Fed Com 22H. The image below shows the direction of the move.

A. Skid Direction



OXY USA Inc. - Height CC 6-7 Federal Com 31Y – Drill Plan

1. Geologic Formations

TVD of target	9848'	Pilot Hole Depth	N/A
MD at TD:	20844'	Deepest Expected fresh water:	205'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	205	
Salado	520	Salt
Castile	1,430	Salt
Lamar/Delaware	2,721	Oil/Gas/Brine
Bell Canyon	2,761	Oil/Gas/Brine
Cherry Canyon	3,573	Oil/Gas/Brine
Brushy Canyon	4,806	Losses
Bone Spring	6,412	Oil/Gas
1st Bone Spring	7,450	Oil/Gas
2nd Bone Spring	8,204	Oil/Gas
3rd Bone Spring	9,314	Oil/Gas
Wolfcamp	9,667	Oil/Gas

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

2. Casing Program

Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF			
							Collapse	SF Burst	Body SF Tension	Joint SF Tension
	From (ft)	To (ft)								
14.75	0	460	10.75	40.5	J-55	BTC	1.125	1.2	1.4	1.4
9.875	0	9156	7.625	26.4	L-80 HC	BTC	1.125	1.2	1.4	1.4
6.75	0	20844	5.5	20	P-110	DQX	1.125	1.2	1.4	1.4
SF Values will meet or Exceed										

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

*Oxy requests the option to set casing shallower yet still below the salts if losses or hole conditions require this. Cement volumes may be adjusted if casing is set shallower and a DV tool may be run in case hole conditions merit pumping a second stage cement job to comply with permitted top of cement. If cement circulated to surface during first stage, we will drop a cancellation cone and not pump the second stage.

*Oxy requests the option to run production casing with DQX and/or SF TORQ connections to accommodate hole conditions or drilling operations.

OXY USA Inc. - Height CC 6-7 Federal Com 31Y – Drill Plan

Annular Clearance Variance Request

As per the agreement reached in the Oxy/BLM meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422" annular clearance requirement from Onshore Order #2 under the following conditions:

1. Annular clearance to meet or exceed 0.422" between intermediate casing ID and production casing coupling only on the first 500' overlap between both casings.
2. Annular clearance less than 0.422" is acceptable for the curve and lateral portions of the production open hole section.

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

OXY USA Inc. - Height CC 6-7 Federal Com 31Y – Drill Plan

3. Cementing Program

Casing Stage	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Surface (Tail)	371	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate 1st Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate 1st Stage (Tail)	609	13.2	1.65	8.640	11:54	Class H Cement, Retarder, Dispersant, Salt
Intermediate 2nd Stage (Tail Slurry) to be pumped as Bradenhead Squeeze from surface, down the Intermediate annulus						
Intermediate 2nd Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate 2nd Stage (Tail)	622	12.9	1.92	10.41	23:10	Class C Cement, Accelerator
Production (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Production (Tail)	871	13.2	1.38	6.686	3:39	Class H Cement, Retarder, Dispersant, Salt

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	N/A	N/A	N/A
Surface (Tail)	0	460	100%
Intermediate 1st Stage (Lead)	N/A	N/A	N/A
Intermediate 1st Stage (Tail)	5056	9456	5%
Intermediate 2nd Stage (Lead)	N/A	N/A	N/A
Intermediate 2nd Stage (Tail)	0	5056	10%
Production (Lead)	N/A	N/A	N/A
Production (Tail)	8956	20844	20%

OXY requests to pump a two stage Intermediate casing cement job with the first stage being pumped conventionally with the calculated TOC @ the Brushy Canyon and the second stage performed as a bradenhead squeeze with planned cement from the top of the Brushy Canyon to Surface.

OXY USA Inc. - Height CC 6-7 Federal Com 31Y – Drill Plan

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
9.875" Hole	13-5/8"	3M	Annular	✓	70% of working pressure
		3M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		
6.75" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 5000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

*Specify if additional ram is utilized.

Oxy will utilize a 5M annular with a 10M BOPE stack. The BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

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

	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
	A multibowl or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. We are proposing that we will run the wellhead through the rotary prior to cementing surface casing as discussed with the BLM on October 8, 2015. See attached schematics.

OXY USA Inc. - Height CC 6-7 Federal Com 31Y – Drill Plan

BOP Break Testing Request

As per the agreement reached in the Oxy/BLM meeting on Feb 22, 2018, Oxy requests permission to allow BOP Break Testing under the following conditions:

- After a full BOP test is conducted on the first well on the pad.
- When skidding to drill an intermediate section that does not penetrate into the Wolfcamp.
- Full BOP test will be required prior to drilling any production hole.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	460	Water-Based Mud	8.6-8.8	40-60	N/C
460	9456	Saturated Brine-Based or Oil-Based Mud	8.0-10.0	35-45	N/C
9456	20844	Water-Based or Oil-Based Mud	9.5-12.0	38-50	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Oxy will use a closed mud system.

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring
---	--------------------------------

6. Logging and Testing Procedures

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

Additional logs planned		Interval
No	Resistivity	
No	Density	
No	CBL	
Yes	Mud log	ICP - TD
No	PEX	

OXY USA Inc. - Height CC 6-7 Federal Com 31Y – Drill Plan

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	6146 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	159°F

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

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

8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe. We plan to drill the four well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that Oxy would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.	Yes

Total estimated cuttings volume: 1453.5 bbls.

9. Company Personnel

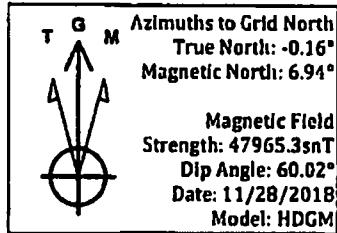
Name	Title	Office Phone	Mobile Phone
Christopher Hollis	Drilling Engineer	713-350-4754	713-380-7754
William Turner	Drilling Engineer Supervisor	713-350-4951	661-817-4586
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
John Willis	Drilling Manager	713-366-5556	713-259-1417



Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
 Site: HEIGHT CC 6.7 FED COM
 Well: HEIGHT CC 6.7 FEDERAL COM 31Y
 Wellbore: Wellbore #1
 Design: Permitting Plan

PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level

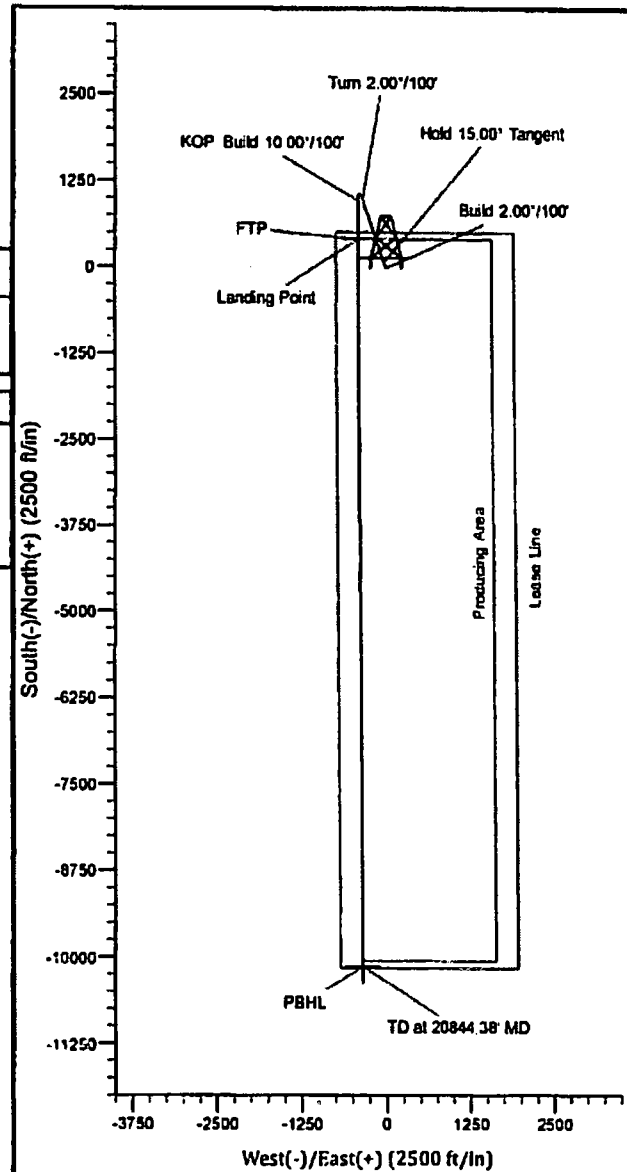
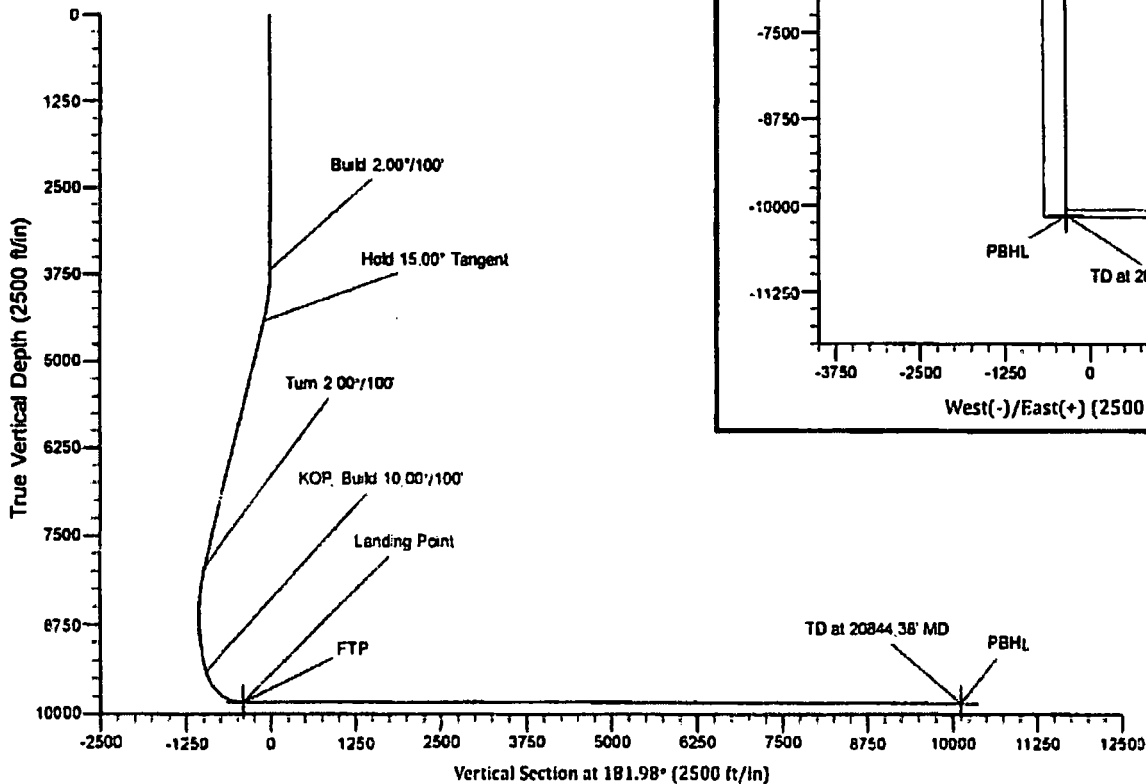


WELL DETAILS: HEIGHT CC 6.7 FEDERAL COM 31Y

North	East	2500	Ground Level
435361.88	635115.57	32° 15' 10.351735 N	104° 1' 47.816702 W

SECTION DETAILS

MD	Inc	Azi	TVD	-N-S	-E-W	Dleg	TFace	VSeal	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3673.00	0.00	0.00	3673.00	0.00	0.00	0.00	0.00	0.00	Build 2.00°/100'
4423.22	15.00	340.77	4414.67	92.22	-32.16	2.00	340.77	-91.06	Hold 15.00° Tangent
6077.02	15.00	340.77	7943.80	685.41	-343.65	0.00	0.00	-972.97	Turn 2.00°/100'
9556.35	15.00	179.70	9405.44	974.54	-407.13	2.00	-170.21	-959.92	KOP: Build 10.00°/100'
10305.37	89.90	179.70	9830.10	422.09	-404.24	10.00	0.00	-407.80	Landing Point
20844.38	89.90	179.70	9843.10	-10116.75	-349.20	0.00	0.00	10122.77	TD at 20844.38' MD



Oxy Planning Report

Database: HOPSPP	Local Co-ordinate Reference: Well HEIGHT CC 6_7 FEDERAL COM 31Y	
Company: ENGINEERING DESIGNS	TVD Reference: RKB=26.5' @ 2990.10ft	
Project: PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference: RKB=26.5' @ 2990.10ft	
Site: HEIGHT CC 6_7 FED COM	North Reference: Grid	
Well: HEIGHT CC 6_7 FEDERAL COM 31Y	Survey Calculation Method: Minimum Curvature	
Wellbore: Wellbore #1		
Design: Permitting Plan		

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)		
Map System: US State Plane 1983	System Datum: Mean Sea Level	
Geo Datum: North American Datum 1983		
Map Zone: New Mexico Eastern Zone		Using geodetic scale factor

Site: HEIGHT CC 6_7 FED COM			
Site Position:	Northing:	Latitude:	
From: Map	0.00 usft	30° 59' 18.403714 N	
Position Uncertainty:	Easting:	Longitude:	
50.00 ft	0.00 usft	108° 3' 38.987298 W	
	Slot Radius:	Grid Convergence:	-0.89 °
	13.200 in		

Well: HEIGHT CC 6_7 FEDERAL COM 31Y			
Well Position	Northing:	Latitude:	
+N-S 455,751.22 ft	455,861.88 usft	32° 15' 10.351735 N	
+E-W 634,961.39 ft	Easting:	Longitude:	
	635,115.57 usft	104° 1' 47.916702 W	
Position Uncertainty	Wellhead Elevation:	Ground Level:	
2.00 ft	0.00 ft	2,983.60 ft	

Wellbore: Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HUGM	11/28/2018	7.10	60.02	47,965

Design: Permitting Plan				
Audit Notes:				
Version:	Phase:	Tie On Depth:		
	PROTOTYPE	0.00		
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	181.88

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,673.00	0.00	0.00	3,673.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,423.22	15.00	340.77	4,414.67	92.22	-32.16	2.00	2.00	0.00	340.77	
8,077.02	15.00	340.77	7,943.90	985.41	-343.65	0.00	0.00	0.00	0.00	
9,558.35	15.00	179.70	9,405.44	974.54	-407.13	2.00	0.00	-10.89	-170.21	
10,305.37	89.90	179.70	9,830.10	422.09	-404.24	10.00	10.00	0.00	0.00	FTP (Height CC 6_7
20,844.38	89.90	179.70	9,848.10	-10,116.75	-349.20	0.00	0.00	0.00	0.00	PBHL (Height CC

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well HEIGHT CC 6_7 FEDERAL COM 31Y
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2990.10R
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2990.10R
Site:	HEIGHT CC 6_7 FED COM	North Reference:	Grid
Well:	HEIGHT CC 6_7 FEDERAL COM 31Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Degleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,673.00	0.00	0.00	3,673.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,700.00	0.54	340.77	3,700.00	0.12	-0.04	-0.12	2.00	2.00	0.00	
3,800.00	2.54	340.77	3,789.98	2.66	-0.93	-2.62	2.00	2.00	0.00	
3,900.00	4.54	340.77	3,899.76	8.49	-2.96	-8.38	2.00	2.00	0.00	
4,000.00	6.54	340.77	3,999.29	17.60	-8.14	-17.38	2.00	2.00	0.00	
4,100.00	8.54	340.77	4,098.42	29.99	-10.46	-29.61	2.00	2.00	0.00	
4,200.00	10.54	340.77	4,197.03	45.64	-15.92	-45.06	2.00	2.00	0.00	
4,300.00	12.54	340.77	4,295.01	64.53	-22.50	-63.71	2.00	2.00	0.00	
4,400.00	14.54	340.77	4,382.22	86.63	-30.21	-85.54	2.00	2.00	0.00	
4,423.22	15.00	340.77	4,414.67	92.22	-32.16	-91.06	2.00	2.00	0.00	
4,500.00	15.00	340.77	4,488.84	110.99	-38.71	-109.59	0.00	0.00	0.00	
4,600.00	15.00	340.77	4,585.43	135.44	-47.23	-133.73	0.00	0.00	0.00	
4,700.00	15.00	340.77	4,682.02	159.88	-55.76	-157.87	0.00	0.00	0.00	
4,800.00	15.00	340.77	4,778.61	184.33	-64.28	-182.00	0.00	0.00	0.00	
4,900.00	15.00	340.77	4,875.20	208.78	-72.81	-206.14	0.00	0.00	0.00	
5,000.00	15.00	340.77	4,971.79	233.22	-81.33	-230.28	0.00	0.00	0.00	
5,100.00	15.00	340.77	5,068.38	257.67	-89.86	-254.41	0.00	0.00	0.00	

Oxy Planning Report

Database:	HOPSP	Local Co-ordinate Reference:	Well HEIGHT CC 6_7 FEDERAL COM 31Y
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=28.5' @ 2990.10R
Project:	PRO NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2990.10R
Site:	HEIGHT CC 6_7 FED COM	North Reference:	Grid
Well:	HEIGHT CC 6_7 FEDERAL COM 31Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Built Rate (°/100ft)	Turn Rate (°/100ft)
5,200.00	15.00	340.77	5,164.97	282.11	-98.38	-278.55	0.00	0.00	0.00
5,300.00	15.00	340.77	5,281.56	306.58	-106.91	-302.69	0.00	0.00	0.00
5,400.00	15.00	340.77	5,358.15	331.00	-115.43	-326.82	0.00	0.00	0.00
5,500.00	15.00	340.77	5,454.74	355.45	-123.96	-350.96	0.00	0.00	0.00
5,600.00	15.00	340.77	5,551.33	379.89	-132.49	-375.10	0.00	0.00	0.00
5,700.00	15.00	340.77	5,647.92	404.34	-141.01	-399.23	0.00	0.00	0.00
5,800.00	15.00	340.77	5,744.51	428.78	-149.54	-423.37	0.00	0.00	0.00
5,900.00	15.00	340.77	5,841.11	453.23	-158.06	-447.51	0.00	0.00	0.00
6,000.00	15.00	340.77	5,937.70	477.67	-166.58	-471.64	0.00	0.00	0.00
6,100.00	15.00	340.77	6,034.29	502.12	-175.11	-495.78	0.00	0.00	0.00
6,200.00	15.00	340.77	6,130.88	526.56	-183.64	-519.92	0.00	0.00	0.00
6,300.00	15.00	340.77	6,227.47	551.01	-192.16	-544.05	0.00	0.00	0.00
6,400.00	15.00	340.77	6,324.06	575.46	-200.69	-568.19	0.00	0.00	0.00
6,500.00	15.00	340.77	6,420.65	599.90	-209.21	-592.33	0.00	0.00	0.00
6,600.00	15.00	340.77	6,517.24	624.35	-217.74	-616.46	0.00	0.00	0.00
6,700.00	15.00	340.77	6,613.83	648.79	-226.26	-640.60	0.00	0.00	0.00
6,800.00	15.00	340.77	6,710.42	673.24	-234.79	-664.74	0.00	0.00	0.00
6,900.00	15.00	340.77	6,807.01	697.68	-243.31	-688.87	0.00	0.00	0.00
7,000.00	15.00	340.77	6,903.60	722.13	-251.84	-713.01	0.00	0.00	0.00
7,100.00	15.00	340.77	7,000.19	746.57	-260.36	-737.15	0.00	0.00	0.00
7,200.00	15.00	340.77	7,096.78	771.02	-268.89	-761.28	0.00	0.00	0.00
7,300.00	15.00	340.77	7,193.37	795.46	-277.41	-785.42	0.00	0.00	0.00
7,400.00	15.00	340.77	7,289.96	819.91	-285.94	-809.56	0.00	0.00	0.00
7,500.00	15.00	340.77	7,386.56	844.35	-294.46	-833.69	0.00	0.00	0.00
7,600.00	15.00	340.77	7,483.15	868.80	-302.99	-857.83	0.00	0.00	0.00
7,700.00	15.00	340.77	7,579.74	893.25	-311.51	-881.97	0.00	0.00	0.00
7,800.00	15.00	340.77	7,676.33	917.69	-320.04	-906.10	0.00	0.00	0.00
7,900.00	15.00	340.77	7,772.92	942.14	-328.56	-930.24	0.00	0.00	0.00
8,000.00	15.00	340.77	7,869.51	966.58	-337.09	-954.38	0.00	0.00	0.00
8,077.02	15.00	340.77	7,843.90	985.41	-343.65	-972.97	0.00	0.00	0.00
8,100.00	14.55	340.46	7,966.12	990.94	-345.60	-978.43	2.00	-1.97	-1.35
8,200.00	12.59	338.86	8,063.33	1,012.94	-353.73	-1,000.14	2.00	-1.96	-1.61
8,300.00	10.64	336.67	8,161.28	1,031.58	-361.32	-1,018.50	2.00	-1.95	-2.19
8,400.00	8.71	333.51	8,259.85	1,046.83	-368.35	-1,033.50	2.00	-1.93	-3.15
8,500.00	6.82	328.61	8,358.93	1,058.67	-374.82	-1,045.11	2.00	-1.89	-4.90
8,600.00	5.02	320.10	8,458.40	1,067.10	-380.71	-1,053.33	2.00	-1.80	-6.51
8,700.00	3.44	303.06	8,558.12	1,072.08	-386.03	-1,058.13	2.00	-1.58	-17.04
8,800.00	2.55	267.82	8,658.00	1,073.64	-390.76	-1,059.52	2.00	-0.89	-35.23
8,900.00	3.02	226.81	8,757.89	1,071.75	-394.90	-1,057.49	2.00	0.48	-41.01
9,000.00	4.45	204.74	8,857.68	1,066.42	-398.45	-1,052.04	2.00	1.43	-22.07
9,100.00	6.20	194.17	8,957.24	1,057.66	-401.39	-1,043.19	2.00	1.75	-10.57
9,200.00	8.07	188.35	9,056.47	1,045.49	-403.74	-1,030.94	2.00	1.87	-5.82
9,300.00	9.98	184.73	9,155.22	1,029.90	-405.47	-1,015.30	2.00	1.92	-3.62
9,400.00	11.83	182.27	9,253.40	1,010.93	-406.59	-996.31	2.00	1.95	-2.46
9,500.00	13.89	180.50	9,350.87	988.60	-407.11	-973.97	2.00	1.96	-1.77
9,556.35	15.00	179.70	9,405.44	974.54	-407.13	-959.92	2.00	1.97	-1.42
9,600.00	19.36	179.70	9,447.12	951.65	-407.08	-947.04	10.00	10.00	0.00
9,700.00	29.36	179.70	9,538.10	920.45	-406.85	-905.87	10.00	10.00	0.00
9,800.00	39.36	179.70	9,620.54	864.08	-406.55	-849.54	10.00	10.00	0.00
9,900.00	49.36	179.70	9,691.94	794.25	-406.19	-779.76	10.00	10.00	0.00
10,000.00	59.36	179.70	9,750.13	713.08	-405.76	-698.65	10.00	10.00	0.00
10,100.00	69.36	179.70	9,793.34	623.03	-405.29	-608.68	10.00	10.00	0.00
10,200.00	79.36	179.70	9,820.26	526.86	-404.79	-512.58	10.00	10.00	0.00
10,300.00	89.36	179.70	9,830.07	427.47	-404.27	-413.27	10.00	10.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well HEIGHT CC 6_7 FEDERAL COM 31Y
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2990.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2990.10ft
Site:	HEIGHT CC 6_7 FED COM	North Reference:	Grid
Well:	HEIGHT CC 6_7 FEDERAL COM 31Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,305.37	89.90	179.70	9,830.10	422.09	-404.24	-407.90	10.00	10.00	0.00
10,400.00	89.90	179.70	9,830.26	327.47	-403.75	-313.35	0.00	0.00	0.00
10,500.00	89.90	179.70	9,830.43	227.47	-403.23	-213.43	0.00	0.00	0.00
10,600.00	89.90	179.70	9,830.60	127.47	-402.70	-113.51	0.00	0.00	0.00
10,700.00	89.90	179.70	9,830.77	27.48	-402.18	-13.58	0.00	0.00	0.00
10,800.00	89.90	179.70	9,830.95	-72.52	-401.66	86.34	0.00	0.00	0.00
10,900.00	89.90	179.70	9,831.12	-172.52	-401.14	186.26	0.00	0.00	0.00
11,000.00	89.90	179.70	9,831.29	-272.52	-400.62	286.18	0.00	0.00	0.00
11,100.00	89.90	179.70	9,831.46	-372.52	-400.09	386.10	0.00	0.00	0.00
11,200.00	89.90	179.70	9,831.63	-472.52	-399.57	486.02	0.00	0.00	0.00
11,300.00	89.90	179.70	9,831.80	-572.52	-399.05	585.94	0.00	0.00	0.00
11,400.00	89.90	179.70	9,831.97	-672.51	-398.53	685.86	0.00	0.00	0.00
11,500.00	89.90	179.70	9,832.14	-772.51	-398.00	785.78	0.00	0.00	0.00
11,600.00	89.90	179.70	9,832.31	-872.51	-397.48	885.70	0.00	0.00	0.00
11,700.00	89.90	179.70	9,832.48	-972.51	-396.96	985.62	0.00	0.00	0.00
11,800.00	89.90	179.70	9,832.65	-1,072.51	-396.44	1,085.55	0.00	0.00	0.00
11,900.00	89.90	179.70	9,832.82	-1,172.51	-395.91	1,185.47	0.00	0.00	0.00
12,000.00	89.90	179.70	9,832.99	-1,272.51	-395.39	1,285.39	0.00	0.00	0.00
12,100.00	89.90	179.70	9,833.17	-1,372.50	-394.87	1,385.31	0.00	0.00	0.00
12,200.00	89.90	179.70	9,833.34	-1,472.50	-394.35	1,485.23	0.00	0.00	0.00
12,300.00	89.90	179.70	9,833.51	-1,572.50	-393.83	1,585.15	0.00	0.00	0.00
12,400.00	89.90	179.70	9,833.68	-1,672.50	-393.30	1,685.07	0.00	0.00	0.00
12,500.00	89.90	179.70	9,833.85	-1,772.50	-392.78	1,784.99	0.00	0.00	0.00
12,600.00	89.90	179.70	9,834.02	-1,872.50	-392.26	1,884.91	0.00	0.00	0.00
12,700.00	89.90	179.70	9,834.19	-1,972.49	-391.74	1,984.83	0.00	0.00	0.00
12,800.00	89.90	179.70	9,834.36	-2,072.49	-391.21	2,084.76	0.00	0.00	0.00
12,900.00	89.90	179.70	9,834.53	-2,172.49	-390.69	2,184.68	0.00	0.00	0.00
13,000.00	89.90	179.70	9,834.70	-2,272.49	-390.17	2,284.60	0.00	0.00	0.00
13,100.00	89.90	179.70	9,834.87	-2,372.49	-389.65	2,384.52	0.00	0.00	0.00
13,200.00	89.90	179.70	9,835.04	-2,472.49	-389.13	2,484.44	0.00	0.00	0.00
13,300.00	89.90	179.70	9,835.21	-2,572.49	-388.60	2,584.36	0.00	0.00	0.00
13,400.00	89.90	179.70	9,835.39	-2,672.48	-388.08	2,684.28	0.00	0.00	0.00
13,500.00	89.90	179.70	9,835.56	-2,772.48	-387.56	2,784.20	0.00	0.00	0.00
13,600.00	89.90	179.70	9,835.73	-2,872.48	-387.04	2,884.12	0.00	0.00	0.00
13,700.00	89.90	179.70	9,835.90	-2,972.48	-386.51	2,984.04	0.00	0.00	0.00
13,800.00	89.90	179.70	9,836.07	-3,072.48	-385.99	3,083.96	0.00	0.00	0.00
13,900.00	89.90	179.70	9,836.24	-3,172.48	-385.47	3,183.88	0.00	0.00	0.00
14,000.00	89.90	179.70	9,836.41	-3,272.48	-384.95	3,283.81	0.00	0.00	0.00
14,100.00	89.90	179.70	9,836.58	-3,372.47	-384.42	3,383.73	0.00	0.00	0.00
14,200.00	89.90	179.70	9,836.75	-3,472.47	-383.90	3,483.65	0.00	0.00	0.00
14,300.00	89.90	179.70	9,836.92	-3,572.47	-383.38	3,583.57	0.00	0.00	0.00
14,400.00	89.90	179.70	9,837.09	-3,672.47	-382.86	3,683.49	0.00	0.00	0.00
14,500.00	89.90	179.70	9,837.26	-3,772.47	-382.34	3,783.41	0.00	0.00	0.00
14,600.00	89.90	179.70	9,837.44	-3,872.47	-381.81	3,883.33	0.00	0.00	0.00
14,700.00	89.90	179.70	9,837.61	-3,972.46	-381.29	3,983.25	0.00	0.00	0.00
14,800.00	89.90	179.70	9,837.78	-4,072.46	-380.77	4,083.17	0.00	0.00	0.00
14,900.00	89.90	179.70	9,837.95	-4,172.46	-380.25	4,183.10	0.00	0.00	0.00
15,000.00	89.90	179.70	9,838.12	-4,272.46	-379.72	4,283.02	0.00	0.00	0.00
15,100.00	89.90	179.70	9,838.29	-4,372.46	-379.20	4,382.94	0.00	0.00	0.00
15,200.00	89.90	179.70	9,838.46	-4,472.46	-378.68	4,482.86	0.00	0.00	0.00
15,300.00	89.90	179.70	9,838.63	-4,572.46	-378.16	4,582.78	0.00	0.00	0.00
15,400.00	89.90	179.70	9,838.80	-4,672.45	-377.63	4,682.70	0.00	0.00	0.00
15,500.00	89.90	179.70	9,838.97	-4,772.45	-377.11	4,782.62	0.00	0.00	0.00
15,600.00	89.90	179.70	9,839.14	-4,872.45	-376.59	4,882.54	0.00	0.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well HEIGHT CC 6_7 FEDERAL COM 31Y
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2990.10R
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2990.10R
Site:	HEIGHT CC 6_7 FED COM	North Reference:	Grid
Well:	HEIGHT CC 6_7 FEDERAL COM 31Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Buid Rate (°/100ft)	Turn Rate (°/100ft)
15,700.00	89.90	179.70	9,839.31	-4,972.45	-376.07	4,982.46	0.00	0.00	0.00
15,800.00	89.90	179.70	9,839.48	-5,072.45	-375.55	5,082.38	0.00	0.00	0.00
15,900.00	89.90	179.70	9,839.66	-5,172.45	-375.02	5,182.30	0.00	0.00	0.00
16,000.00	89.90	179.70	9,839.83	-5,272.44	-374.50	5,282.23	0.00	0.00	0.00
16,100.00	89.90	179.70	9,840.00	-5,372.44	-373.98	5,382.15	0.00	0.00	0.00
16,200.00	89.90	179.70	9,840.17	-5,472.44	-373.46	5,482.07	0.00	0.00	0.00
16,300.00	89.90	179.70	9,840.34	-5,572.44	-372.93	5,581.99	0.00	0.00	0.00
16,400.00	89.90	179.70	9,840.51	-5,672.44	-372.41	5,681.91	0.00	0.00	0.00
16,500.00	89.90	179.70	9,840.68	-5,772.44	-371.89	5,781.83	0.00	0.00	0.00
16,600.00	89.90	179.70	9,840.85	-5,872.44	-371.37	5,881.75	0.00	0.00	0.00
16,700.00	89.90	179.70	9,841.02	-5,972.43	-370.84	5,981.67	0.00	0.00	0.00
16,800.00	89.90	179.70	9,841.19	-6,072.43	-370.32	6,081.59	0.00	0.00	0.00
16,900.00	89.90	179.70	9,841.36	-6,172.43	-369.80	6,181.51	0.00	0.00	0.00
17,000.00	89.90	179.70	9,841.53	-6,272.43	-369.28	6,281.44	0.00	0.00	0.00
17,100.00	89.90	179.70	9,841.71	-6,372.43	-368.76	6,381.36	0.00	0.00	0.00
17,200.00	89.90	179.70	9,841.88	-6,472.43	-368.23	6,481.28	0.00	0.00	0.00
17,300.00	89.90	179.70	9,842.05	-6,572.43	-367.71	6,581.20	0.00	0.00	0.00
17,400.00	89.90	179.70	9,842.22	-6,672.42	-367.19	6,681.12	0.00	0.00	0.00
17,500.00	89.90	179.70	9,842.39	-6,772.42	-366.67	6,781.04	0.00	0.00	0.00
17,600.00	89.90	179.70	9,842.56	-6,872.42	-366.14	6,880.96	0.00	0.00	0.00
17,700.00	89.90	179.70	9,842.73	-6,972.42	-365.62	6,980.88	0.00	0.00	0.00
17,800.00	89.90	179.70	9,842.90	-7,072.42	-365.10	7,080.80	0.00	0.00	0.00
17,900.00	89.90	179.70	9,843.07	-7,172.42	-364.58	7,180.72	0.00	0.00	0.00
18,000.00	89.90	179.70	9,843.24	-7,272.41	-364.05	7,280.65	0.00	0.00	0.00
18,100.00	89.90	179.70	9,843.41	-7,372.41	-363.53	7,380.57	0.00	0.00	0.00
18,200.00	89.90	179.70	9,843.58	-7,472.41	-363.01	7,480.49	0.00	0.00	0.00
18,300.00	89.90	179.70	9,843.75	-7,572.41	-362.49	7,580.41	0.00	0.00	0.00
18,400.00	89.90	179.70	9,843.93	-7,672.41	-361.97	7,680.33	0.00	0.00	0.00
18,500.00	89.90	179.70	9,844.10	-7,772.41	-361.44	7,780.25	0.00	0.00	0.00
18,600.00	89.90	179.70	9,844.27	-7,872.41	-360.92	7,880.17	0.00	0.00	0.00
18,700.00	89.90	179.70	9,844.44	-7,972.40	-360.40	7,980.09	0.00	0.00	0.00
18,800.00	89.90	179.70	9,844.61	-8,072.40	-359.88	8,080.01	0.00	0.00	0.00
18,900.00	89.90	179.70	9,844.78	-8,172.40	-359.35	8,179.93	0.00	0.00	0.00
19,000.00	89.90	179.70	9,844.95	-8,272.40	-358.83	8,279.85	0.00	0.00	0.00
19,100.00	89.90	179.70	9,845.12	-8,372.40	-358.31	8,379.78	0.00	0.00	0.00
19,200.00	89.90	179.70	9,845.29	-8,472.40	-357.79	8,479.70	0.00	0.00	0.00
19,300.00	89.90	179.70	9,845.46	-8,572.40	-357.27	8,579.62	0.00	0.00	0.00
19,400.00	89.90	179.70	9,845.63	-8,672.39	-356.74	8,679.54	0.00	0.00	0.00
19,500.00	89.90	179.70	9,845.80	-8,772.39	-356.22	8,779.46	0.00	0.00	0.00
19,600.00	89.90	179.70	9,845.97	-8,872.39	-355.70	8,879.38	0.00	0.00	0.00
19,700.00	89.90	179.70	9,846.15	-8,972.39	-355.18	8,979.30	0.00	0.00	0.00
19,800.00	89.90	179.70	9,846.32	-9,072.39	-354.65	9,079.22	0.00	0.00	0.00
19,900.00	89.90	179.70	9,846.49	-9,172.39	-354.13	9,179.14	0.00	0.00	0.00
20,000.00	89.90	179.70	9,846.66	-9,272.38	-353.61	9,279.06	0.00	0.00	0.00
20,100.00	89.90	179.70	9,846.83	-9,372.38	-353.09	9,378.99	0.00	0.00	0.00
20,200.00	89.90	179.70	9,847.00	-9,472.38	-352.56	9,478.91	0.00	0.00	0.00
20,300.00	89.90	179.70	9,847.17	-9,572.38	-352.04	9,578.83	0.00	0.00	0.00
20,400.00	89.90	179.70	9,847.34	-9,672.38	-351.52	9,678.75	0.00	0.00	0.00
20,500.00	89.90	179.70	9,847.51	-9,772.38	-351.00	9,778.67	0.00	0.00	0.00
20,600.00	89.90	179.70	9,847.68	-9,872.38	-350.48	9,878.59	0.00	0.00	0.00
20,700.00	89.90	179.70	9,847.85	-9,972.37	-349.95	9,978.51	0.00	0.00	0.00
20,800.00	89.90	179.70	9,848.02	-10,072.37	-349.43	10,078.43	0.00	0.00	0.00
20,844.38	89.90	179.70	9,848.10	-10,116.75	-349.20	10,122.77	0.00	0.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well HEIGHT CC 6_7 FEDERAL COM 31Y
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2990.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2990.10ft
Site:	HEIGHT CC 6_7 FED COM	North Reference:	Grid
Well:	HEIGHT CC 6_7 FEDERAL COM 31Y	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (Height CC 6_7 - plan hits target center - Point	0.00	0.00	9,830.10	422.09	-404.24	456,283.94	634,711.36	32° 15' 14.539668 N	104° 1' 52.610008
PBHL (Height CC 6_7 - plan hits target center - Point	0.00	0.00	9,848.10	-10,116.75	-349.20	445,745.97	634,768.40	32° 13' 30.255410 N	104° 1' 52.314283

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,673.00	3,673.00	0.00	0.00	Build 2.00"/100'
4,423.22	4,414.67	92.22	-32.16	Hold 15.00" Tangent
8,077.02	7,943.90	985.41	-343.65	Turn 2.00"/100'
9,556.35	9,405.43	874.54	-407.13	KOP, Build 10.00"/100'
10,305.37	9,830.10	422.10	-404.24	Landing Point
20,844.38	9,848.10	-10,116.75	-349.20	TD at 20844.38' MD