

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-015-42061
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐		5. Indicate Type of Lease STATE ☒ FEE ☐
2. Name of Operator OXY USA Inc.		6. State Oil & Gas Lease No. VA-836
3. Address of Operator P.O. Box 50250 Midland, TX 79710		7. Lease Name or Unit Agreement Name Cedar Canyon 16 State
4. Well Location Unit Letter <u>D</u> <u>224</u> feet from the <u>north</u> line and <u>350</u> feet from the <u>west</u> line Section <u>16</u> Township <u>24S</u> Range <u>29E</u> NMPM County <u>Eddy</u>		8. Well Number 9H
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 2927'		9. OGRID Number 16696
		10. Pool name or Wildcat Pierce Crossing Bone Springs, E

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☒	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: <u>Amend APD</u> ☒		OTHER: ☐	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

OXY USA Inc. respectfully requests approval for the following changes and additions to the drilling plan:

- a. Casing design
- b. Cement design
- c. Mud program
- d. Lateral target
- e. Well head

NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 09 2015

Please see attached for details.

RECEIVED

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE

TITLE

Sr. Regulatory Advisor

DATE

3/2/15

Type or print name

David Stewart

E-mail address:

david.stewart@oxy.com

PHONE:

432-685-5717

For State Use Only

APPROVED BY:

TITLE

Dist # Supervisor

DATE

3/13/15

Conditions of Approval (if any):

Needs Approval of Paul Kautz Hobbs Geologist: see Attached Email response: Paul Kautz

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1625 N. French Dr., Hobbs, NM 88240
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DISTRICT IV
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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, New Mexico 87505

NM OIL CONSERVATION
ARTESTA DISTRICT

MAR 09 2015

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

RECEIVED

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-42061	Pool Code 96473	Pool Name Pierce Crossing Bone Spring, East
Property Code	Property Name CEDAR CANYON 16 STATE	Well Number 9H
OGRID No. 16696	Operator Name OXY U.S.A. INC.	Elevation 2927'

Surface Location									
UL or lot No. D	Section 16	Township 24-S	Range 29-E	Lot Idn	Feet from the 224	North/South line NORTH	Feet from the 350	East/West line WEST	County EDDY

Bottom Hole Location if Different From Surface									
UL or lot No. M	Section 16	Township 24-S	Range 29-E	Lot Idn	Feet from the 180	North/South line SOUTH	Feet from the 671	East/West line WEST	County EDDY

Penetration Point Location									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres 160	Joint or Infill Y	Consolidation Code	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

GRID AZ.=175°54'58" HORIZ. DIST.=4916.5'	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=445414.5 N X=604188.4 E LAT.=32.224113° N LONG.=103.996415° W		OPERATOR CERTIFICATION I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature 3/9/15 Date David Stewart Sr. Regional Printed Name david.stewart@oxy.com E-mail Address
	TOP PERF NAD 27 NME Y=445308.6 N X=604195.9 E LAT.=32.223821° N LONG.=103.996391° W		
	CORNER COORDINATES TABLE A - Y=445636.4 N, X=603837.2 E B - Y=445644.1 N, X=605160.0 E C - Y=440335.2 N, X=605192.3 E D - Y=440328.1 N, X=603868.4 E		
	BOTTOM PERF NAD 27 NME Y=440661.5 N X=604527.6 E LAT.=32.211044° N LONG.=103.995366° W		
	BOTTOM HOLE LOCATION NAD 27 NME Y=440511.6 N X=604538.3 E LAT.=32.210632° N LONG.=103.995333° W		SURVEYOR CERTIFICATION 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. SEPTEMBER 18, 2013 Date of Survey Signature & Seal of Professional Surveyor: Gary G. Eidson Certification Number 12641 LSL REL. W.O. 14.13.1298

OXY USA Inc
Cedar Canyon 16 State #9H – 30-015-42061
Amended APD Drilling Data

OPERATOR NAME / NUMBER: OXY USA Inc 16696

LEASE NAME/NUMBER: Cedar Canyon 16 State #9H State Lease No. VA-836

STATE: NM **COUNTY:** Eddy

POOL NAME/NUMBER: Pierce Crossing Bone Spring, East 96473

SURFACE LOCATION: 224 FNL 350 FWL NWNW(D) Sec 16 T24S R29E
SL: LAT: 32.224113N **LONG:** 103.996415W **X:** 604188.4 **Y:** 445414.5 **NAD:** 27

PENETRATION POINT: 330 FNL 357 FWL NWNW(D) Sec 16 T24S R29E
SL: LAT: 32.223821N **LONG:** 103.996391W **X:** 604195.9 **Y:** 445308.6 **NAD:** 27

BOTTOM PERFORATION: 330 FSL 661 FWL SWSW (M) Sec 16 T24S R29E
BP: LAT: 32.211044N **LONG:** 103.995366W **X:** 604527.6 **Y:** 440661.5 **NAD:** 27

BOTTOM HOLE LOCATION: 671 FSL 180 FWL SWSW(M) Sec 16 T24S R29E
SL: LAT: 32.210632N **LONG:** 103.995333W **X:** 604538.3 **Y:** 440511.6 **NAD:** 27

APPROX GR ELEV: 2927' **EST KB ELEV:** 2952' (25' KB-GL)

1. OXY USA Inc. respectfully requests approval for the following changes and additions to the drilling plan:

- a. Casing design
- b. Cement design
- c. Mud program
- d. Lateral target
- e. Well head

2. **ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS**

Formation	TVD - RKB	Expected Fluids
T. Rustler	338	--
T. Salt	440	--
B. Salt	1726	--
T. Lamar / B. Anhydrite	2848	--
T. Bell Canyon	2906	Form Water
T. Cherry Canyon	3706	Oil/Gas
T. Brushy Canyon	5009	Oil/Gas
T. Bone Spring	6579	Oil/Gas
T. 1 st Bone Spring	7597	Oil/Gas
T. 2 nd Bone Spring	7832	Oil/Gas
T. 3 rd Bone Spring	8720	Oil/Gas
T. Wolfcamp	9889	Oil/Gas

- Fresh water may be present above the Rustler formation. Surface casing will be set above the top of the to protect any possible fresh water.

GREATEST PROJECTED TD "LATERAL": 14509'MD/9850'TVD **OBJECTIVE:** 3rd Bone Springs

3. CASING PROGRAM

Surface Casing ran in an 11" hole filled with 8.50 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	Burst SF	Coll SF	Ten SF
11	440	8.625	32	J55	BTC	7.921	New	3930	2530	1.41	13.05	4.51

Production Casing ran in a 6.75" hole filled with 9.2 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	Burst SF	Coll SF	Ten SF
6.75	10,000'	5.500	20	P-110	Ultra SF	4.778	New	12640	11080	1.20	2.61	2.42
6.75	14,509'	4.5	13.5	P-110	BTC	3.92	New	12410	10670	1.21	2.25	2.02

An external casing packer or DV tool may be used in the production casing string if flow or losses are present.

Casing Design Assumptions:

Burst Loads

CSG Test (Surface)

- Internal: Displacement fluid + 70% CSG Burst rating
- External: Pore Pressure from section TD to surface

CSG Test (Production)

- Internal: Displacement fluid + 80% CSG Burst rating
- External: Pore Pressure from the well TD the Intermediate CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

Gas Kick (Surface)

- Internal: Gas Kick based on Pore Pressure or Fracture Gradient @ CSG shoe with a gas 0.115psi/ft Gas gradient to surface while drilling the next hole section (e.g. Gas Kick while drilling the production hole section is a burst load used to design the intermediate CSG)
- External: Pore Pressure from section TD to previous CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

Stimulation (Production)

- Internal: Displacement fluid + Max Frac treating pressure (not to exceed 80% CSG Burst rating)
- External: Pore Pressure from the well TD to the Intermediate CSG shoe and 8.5 ppg MWE to surface

Collapse Loads

Lost Circulation (Surface)

- Internal: Losses experienced while drilling the next hole section (e.g. losses while drilling the production hole section are used as a collapse load to design the surface CSG). After losses there will be a column of mud inside the CSG with an equivalent weight to the Pore Pressure of the lost circulation zone
- External: MW of the drilling mud that was in the hole when the CSG was run

Cementing (Surface/Production)

- Internal: Displacement Fluid
- External: Cement Slurries to TOC, MW to surface

Full Evacuation (Production)

- Internal: Atmospheric Pressure
- External: MW of the drilling mud that was in the hole when the CSG was run

Tension Loads

Running CSG (Surface/Production)

- Axial load of the buoyant weight of the string plus either 100 klb over-pull or string weight in air, whichever is less

Green Cement (Surface/Production)

- Axial load of the buoyant weight of the string plus the cement plug bump pressure (Final displacement pressure + 500 psi)

Burst, Collapse and Tensile SF are calculated using Landmark's Sstress Check (Casing Design) software.

4. CEMENT PROGRAM

Surface Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft ³ /sk	24 Hr Comp
0' - 220' (200% Excess)	100	220	Premium Plus cement with 4% bentonite (Light Weight Additive) and 2% Calcium Chloride - Flake (Accelerator)	9.2	13.5	1.749	578
220' - 440' (125% Excess)	110	220	Premium Plus cement with 2% Calcium Chloride - Flake	6.39	14.8	1.347	1415

Production Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft ³ /sk	24 Hr Comp
Lead: 0' - 9300' (200% Excess)	750	9224	TUNED LIGHT (TM) SYSTEM with 0.35 lbm HR-601 (Retarder), 1 lbm Kol-Seal (Lost Circulation Fluid), 0.1250 lbm Poly-E-Flake (Lost Circulation Additive)	15.65	10.2	3.057	555
Tail: 9300' - 14509' (40% Excess)	630	5285	Super H Cement with 0.5% Halad(R)-344 (Low Fluid Loss Control), 0.3% CFR-3 (Dispersant), 3 lbm/sk Salt (Accelerator), 0.1% HR-800 (Retarder), 2 lbm Kol-Seal	8.48	13.2	1.66	1462

5. DIRECTIONAL PLAN

Please see attached directional plan

6. PRESSURE CONTROL EQUIPMENT

Surface: 0' - 440' None.

Production: 440' MD/TVD - 14509' MD / 9850' TVD. Intermediate and Production hole will be drilled with a 13-5/8" 10M three ram stack with a 5M annular preventer and a 5M Choke Manifold.

7. MUD PROGRAM:

Depth	Mud Wt ppg	Vis Sec	Fluid Loss	Type System
0' - 440'	8.5	28 - 38	NC	Fresh Water / Spud Mud
440' - 2850'	10.2	28 - 32	NC	Saturated Brine
2850' - 14509'	9.2	50-60	<10cc	High Viscosity Cut Brine

Remarks: 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.

After drilling through the salt section from 440' - 2850' we will displace our 10 ppg saturated brine system to a pre-hydrated fresh water gel system weighted with cut brine. We will drill with this mud to TD.

8. WIRELINE LOGGING / MUD LOGGING / LWD

- Wireline logging: None.
- Mud loggers to be rigged up from surface to TD.
- Acquire GR while drilling, from KOP to TD.

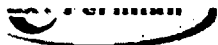
COMPANY PERSONNEL:

<u>Name</u>	<u>Title</u>	<u>Office Phone</u>	<u>Mobile Phone</u>
Chan Tysor	Drilling Engineer	(713)513-6668	(832) 564-6454
Sebastian Millan	Drilling Engineer Supervisor	(713)350-4950	(832) 528-3268
Robert Holcomb	Drilling Superintendent	(713)948-9752	(956) 279-9856
Oscar Quintero	Drilling Manager	(713)985-6343	(713) 689-4946

SPACING UNITS:

The following wells have been permitted, drilled and/or completed and are part of the same spacing unit.

1. Cedar Canyon 16 St #1H – 30-015-39856 – TVD 7685' – Units D,E,L,M – Corral Draw Bone Spring
2. Cedar Canyon 16 St #8H – 30-015-41596 – TVD 8618' – Units A,B,C,D – Pierce Crossing Bone Spring, E.
3. Cedar Canyon 16 St #7H – 30-015-41251 – TVD 8646' – Units H,G,F,E – Pierce Crossing Bone Spring, E.
4. Cedar Canyon 16 St #6H – 30-015-41595 – TVD 8622' – Units I,J,K,L – Pierce Crossing Bone Spring, E.
5. Cedar Canyon 16 St #2H – 30-015-41024 – TVD 8634' – Units P,O,N,M – Corral Draw Bone Spring
6. Cedar Canyon 16 St #12H – 30-015-42683 – TVD 8628' – Units P,O,N,M – Corral Draw Bone Spring



Cedar Canyon 16 State 9H
Eddy County, NM (NAD 27 NME)
Northing: 445414.50
Easting: 604188.40
Plan #2



Approximate to True North
True North: -0.18°
Magnetic North: 7.22°

Magnetic Field
Strength: 48335.8nT
Dip Angle: 60.10°
Date: 2/25/2015
Model: HDGM

To convert Magnetic North to Grid, Add 7.22°
To convert True North to Grid, Subtract 0.18°



KB @ 2852.00usft
Gr @ 2927.00

WELL DETAILS Cedar Canyon 16 State 9H

Ground Level: 2927.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	445414.50	604188.40	32° 13' 28.805 N	103° 59' 47.093 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeal	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9267.04	0.00	0.00	9267.04	0.00	0.00	0.00	0.00	0.00	
10185.72	89.87	175.92	9840.00	-570.19	40.69	10.00	175.92	571.64	
14509.46	89.87	175.92	9850.00	-4902.90	349.90	0.00	0.00	4915.37	CC16 S 9H BHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
CC16 S 9H FTP	9840.00	-195.90	7.50	445308.60	604195.90
CC16 S 9H LTP	9849.50	-4753.00	339.20	440661.50	604527.60
CC16 S 9H BHL	9850.00	-4902.90	349.90	440511.60	604538.30

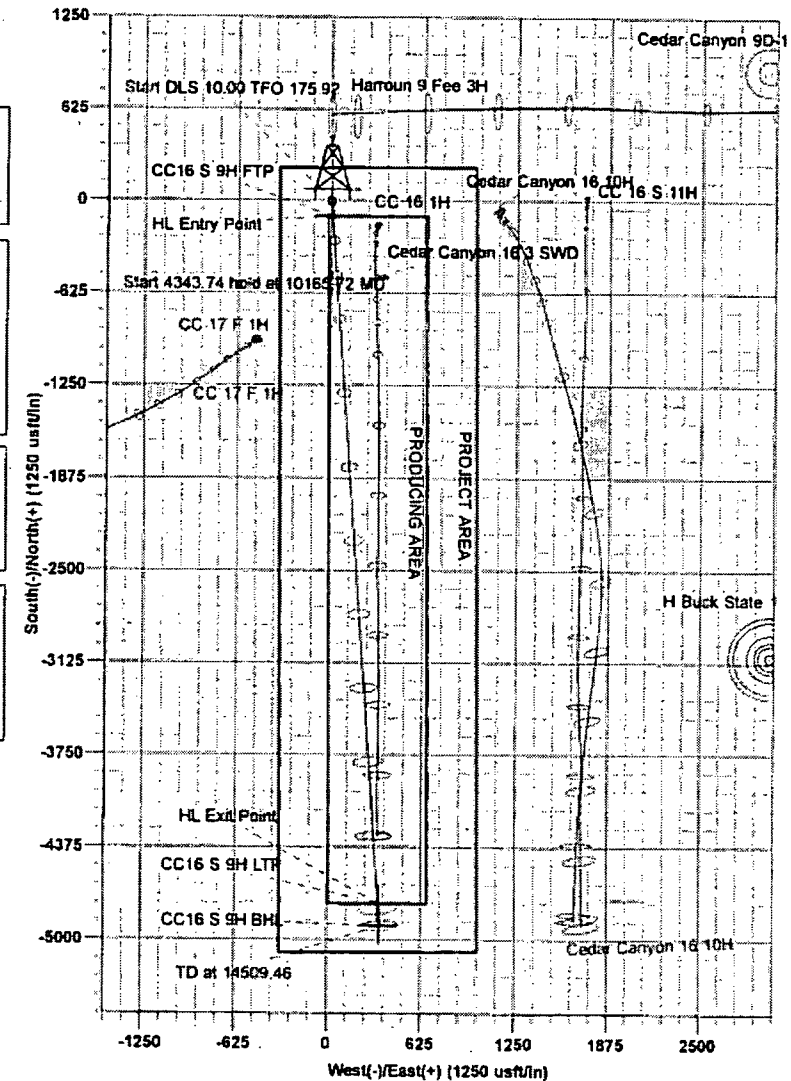
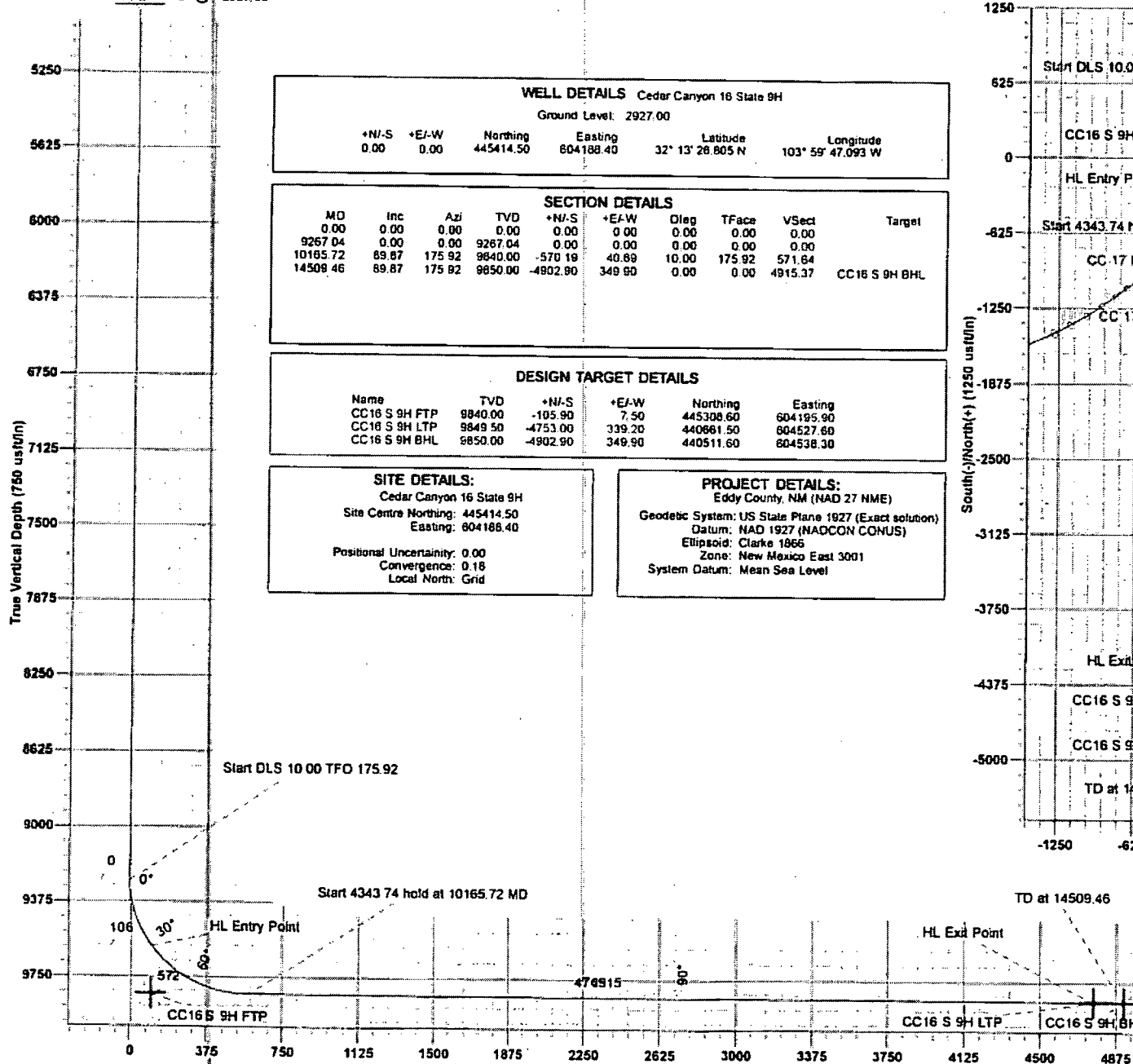
SITE DETAILS:

Cedar Canyon 16 State 9H
Site Centre Northing: 445414.50
Easting: 604188.40

Positional Uncertainty: 0.00
Convergence: 0.18
Local North: Grid

PROJECT DETAILS:

Eddy County, NM (NAD 27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level



Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well Cedar Canyon 16 State 9H
Company:	OXY	TVD Reference:	KB @ 2952.00usft
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	KB @ 2952.00usft
Site:	Cedar Canyon 16 State 9H	North Reference:	Grid:
Well:	Cedar Canyon 16 State 9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Project	Eddy County, NM (NAD 27 NME), New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Cedar Canyon 16 State 9H		
Site Position:	Map	Northings:	445,414.50 usft
From:		Easting:	604,188.40 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 13' 26.805 N
		Longitude:	103° 59' 47.093 W
		Grid Convergence:	0.18 "

Well	Cedar Canyon 16 State 9H		
Well Position	+N/-S	0.00 usft	Northings:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 13' 26.805 N
		Longitude:	103° 59' 47.093 W
		Ground Level:	2,927.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	2/25/2015	7.40
			Dip Angle
			(°)
			Field Strength
			(nT)
			60.10
			48,335

Design	Plan #2		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(bearing)
			175.92

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(bearing)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,267.04	0.00	0.00	9,267.04	0.00	0.00	0.00	0.00	0.00	0.00	
10,165.72	89.87	175.92	9,840.00	-570.19	40.69	10.00	10.00	19.58	175.92	
14,509.46	89.87	175.92	9,850.00	-4,902.90	349.90	0.00	0.00	0.00	0.00	CC16 S 9H BHL

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well Cedar Canyon 16 State 9H
Company:	OXY	TVD Reference:	KB @ 2952.00usft
Project:	Eddy County, NM (NAD 27, NME)	MD Reference:	KB @ 2952.00usft
Site:	Cedar Canyon 16 State 9H	North Reference:	Grid
Well:	Cedar Canyon 16 State 9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well Cedar Canyon 16 State 9H
Company:	OXY	TVD Reference:	KB @ 2952.00usft
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	KB @ 2952.00usft
Site:	Cedar Canyon 16 State 9H	North Reference:	Grid
Well:	Cedar Canyon 16 State 9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,267.04	0.00	0.00	9,267.04	0.00	0.00	0.00	0.00	0.00	0.00	
Start DLS 10.00 TFO 175.92										
9,300.00	3.30	175.92	9,299.98	-0.95	0.07	0.95	10.00	10.00	0.00	
9,350.00	8.30	175.92	9,349.71	-5.98	0.43	6.00	10.00	10.00	0.00	
9,400.00	13.30	175.92	9,398.81	-15.32	1.09	15.36	10.00	10.00	0.00	
9,450.00	18.30	175.92	9,446.91	-28.89	2.06	28.96	10.00	10.00	0.00	
9,500.00	23.30	175.92	9,493.63	-46.59	3.33	46.71	10.00	10.00	0.00	
9,550.00	28.30	175.92	9,538.64	-88.29	4.87	68.46	10.00	10.00	0.00	
9,600.00	33.30	175.92	9,581.57	-93.81	6.70	94.05	10.00	10.00	0.00	
9,621.95	35.48	175.92	9,599.44	-108.01	7.57	106.28	10.00	10.00	0.00	
HL Entry Point										
9,650.00	38.30	175.92	9,622.12	-122.98	8.78	123.29	10.00	10.00	0.00	
9,700.00	43.30	175.92	9,659.96	-155.55	11.10	155.95	10.00	10.00	0.00	
9,750.00	48.30	175.92	9,694.81	-191.29	13.65	191.78	10.00	10.00	0.00	

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well Cedar Canyon 16 State 9H
Company:	OXY	TVD Reference:	KB @ 2952 00usft
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	KB @ 2952 00usft
Site:	Cedar Canyon 16 State 9H	North Reference:	Grid
Well:	Cedar Canyon 16 State 9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,800.00	53.30	175.92	9,726.40	-229.93	16.41	230.51	10.00	10.00	0.00
9,850.00	58.30	175.92	9,754.50	-271.16	19.35	271.85	10.00	10.00	0.00
9,900.00	63.30	175.92	9,778.89	-314.68	22.46	315.48	10.00	10.00	0.00
9,950.00	68.30	175.92	9,799.38	-360.16	25.70	361.07	10.00	10.00	0.00
10,000.00	73.30	175.92	9,815.82	-407.24	29.06	408.27	10.00	10.00	0.00
10,050.00	78.30	175.92	9,828.09	-455.57	32.51	456.73	10.00	10.00	0.00
10,100.00	83.30	175.92	9,836.08	-504.79	36.02	506.07	10.00	10.00	0.00
10,150.00	88.30	175.92	9,839.74	-554.51	39.57	555.92	10.00	10.00	0.00
10,165.72	89.87	175.92	9,840.00	-570.19	40.69	571.64	10.00	10.00	0.00
Start 4343.74 hold at 10165.72 MD									
10,200.00	89.87	175.92	9,840.08	-604.38	43.13	605.92	0.00	0.00	0.00
10,300.00	89.87	175.92	9,840.31	-704.13	50.25	705.92	0.00	0.00	0.00
10,400.00	89.87	175.92	9,840.54	-803.87	57.37	805.92	0.00	0.00	0.00
10,500.00	89.87	175.92	9,840.77	-903.62	64.49	905.92	0.00	0.00	0.00
10,600.00	89.87	175.92	9,841.00	-1,003.36	71.61	1,005.92	0.00	0.00	0.00
10,700.00	89.87	175.92	9,841.23	-1,103.11	78.72	1,105.92	0.00	0.00	0.00
10,800.00	89.87	175.92	9,841.46	-1,202.86	85.84	1,205.92	0.00	0.00	0.00
10,900.00	89.87	175.92	9,841.69	-1,302.60	92.96	1,305.92	0.00	0.00	0.00
11,000.00	89.87	175.92	9,841.92	-1,402.35	100.08	1,405.92	0.00	0.00	0.00
11,100.00	89.87	175.92	9,842.15	-1,502.10	107.20	1,505.92	0.00	0.00	0.00
11,200.00	89.87	175.92	9,842.38	-1,601.84	114.32	1,605.92	0.00	0.00	0.00
11,300.00	89.87	175.92	9,842.61	-1,701.59	121.44	1,705.91	0.00	0.00	0.00
11,400.00	89.87	175.92	9,842.84	-1,801.33	128.55	1,805.91	0.00	0.00	0.00
11,500.00	89.87	175.92	9,843.07	-1,901.08	135.67	1,905.91	0.00	0.00	0.00
11,600.00	89.87	175.92	9,843.30	-2,000.83	142.79	2,005.91	0.00	0.00	0.00
11,700.00	89.87	175.92	9,843.53	-2,100.57	149.91	2,105.91	0.00	0.00	0.00
11,800.00	89.87	175.92	9,843.76	-2,200.32	157.03	2,205.91	0.00	0.00	0.00
11,900.00	89.87	175.92	9,843.99	-2,300.06	164.15	2,305.91	0.00	0.00	0.00
12,000.00	89.87	175.92	9,844.22	-2,399.81	171.26	2,405.91	0.00	0.00	0.00
12,100.00	89.87	175.92	9,844.45	-2,499.56	178.38	2,505.91	0.00	0.00	0.00
12,200.00	89.87	175.92	9,844.68	-2,599.30	185.50	2,605.91	0.00	0.00	0.00
12,300.00	89.87	175.92	9,844.91	-2,699.05	192.62	2,705.91	0.00	0.00	0.00
12,400.00	89.87	175.92	9,845.14	-2,798.79	199.74	2,805.91	0.00	0.00	0.00
12,500.00	89.87	175.92	9,845.37	-2,898.54	206.86	2,905.91	0.00	0.00	0.00
12,600.00	89.87	175.92	9,845.60	-2,998.29	213.98	3,005.91	0.00	0.00	0.00
12,700.00	89.87	175.92	9,845.83	-3,098.03	221.09	3,105.91	0.00	0.00	0.00
12,800.00	89.87	175.92	9,846.06	-3,197.78	228.21	3,205.91	0.00	0.00	0.00
12,900.00	89.87	175.92	9,846.29	-3,297.52	235.33	3,305.91	0.00	0.00	0.00
13,000.00	89.87	175.92	9,846.52	-3,397.27	242.45	3,405.91	0.00	0.00	0.00
13,100.00	89.87	175.92	9,846.75	-3,497.02	249.57	3,505.91	0.00	0.00	0.00
13,200.00	89.87	175.92	9,846.98	-3,596.76	256.69	3,605.91	0.00	0.00	0.00
13,300.00	89.87	175.92	9,847.21	-3,696.51	263.80	3,705.91	0.00	0.00	0.00
13,400.00	89.87	175.92	9,847.45	-3,796.25	270.92	3,805.91	0.00	0.00	0.00
13,500.00	89.87	175.92	9,847.68	-3,896.00	278.04	3,905.91	0.00	0.00	0.00
13,600.00	89.87	175.92	9,847.91	-3,995.75	285.16	4,005.91	0.00	0.00	0.00
13,700.00	89.87	175.92	9,848.14	-4,095.49	292.28	4,105.91	0.00	0.00	0.00
13,800.00	89.87	175.92	9,848.37	-4,195.24	299.40	4,205.91	0.00	0.00	0.00
13,900.00	89.87	175.92	9,848.60	-4,294.98	306.52	4,305.91	0.00	0.00	0.00
14,000.00	89.87	175.92	9,848.83	-4,394.73	313.63	4,405.91	0.00	0.00	0.00
14,100.00	89.87	175.92	9,849.06	-4,494.48	320.75	4,505.91	0.00	0.00	0.00
14,200.00	89.87	175.92	9,849.29	-4,594.22	327.87	4,605.91	0.00	0.00	0.00
14,300.00	89.87	175.92	9,849.52	-4,693.97	334.99	4,705.91	0.00	0.00	0.00
14,359.04	89.87	175.92	9,849.65	-4,752.86	339.19	4,784.95	0.00	0.00	0.00
HL Exit Point									

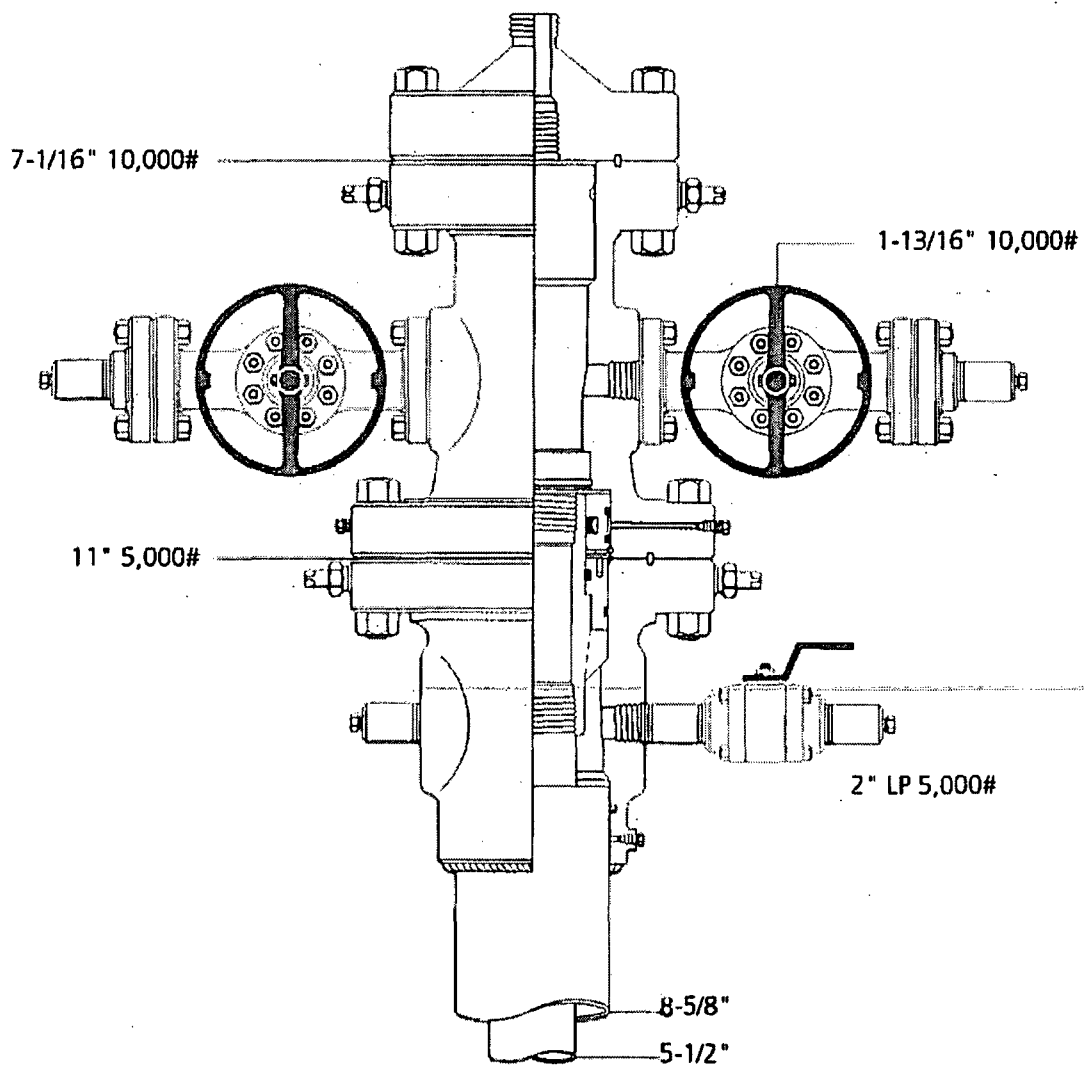
Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well Cedar Canyon 16 State 9H
Company:	OXY	TVD Reference:	KB @ 2952.00usft
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	KB @ 2952.00usft
Site:	Cedar Canyon 16 State 9H	North Reference:	Grid
Well:	Cedar Canyon 16 State 9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,400.00	89.87	175.92	9,849.75	-4,793.71	342.11	4,805.91	0.00	0.00	0.00
14,509.46	89.87	175.92	9,850.00	-4,902.90	349.90	4,915.37	0.00	0.00	0.00
TD at 14509.46									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CC16 S 9H FTP	0.00	0.00	9,840.00	-105.90	7.50	445,308.60	604,195.90	32° 13' 25.757 N	103° 59' 47.010 W
- hit/miss target									
- Shape									
- Point									
- plan misses target center by 166.08usft at 9775.44usft MD (9711.30 TVD, -210.61 N, 15.03 E)									
CC16 S 9H LTP	0.00	0.00	9,849.50	-4,753.00	339.20	440,661.50	604,527.60	32° 12' 39.758 N	103° 59' 43.318 W
- hit/miss target									
- Shape									
- Point									
- plan misses target center by 0.15usft at 14359.18usft MD (9849.65 TVD, -4753.00 N, 339.20 E)									
CC16 S 9H BHL	0.00	0.00	9,850.00	-4,902.90	349.90	440,511.60	604,538.30	32° 12' 38.274 N	103° 59' 43.199 W
- hit/miss target									
- Shape									
- Point									
- plan hits target center									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,267.04	9,267.04	0.00	0.00	Start DLS 10.00 TFO 175.92
9,621.65	9,599.44	-106.01	7.57	HL Entry Point
10,165.72	9,840.00	-570.19	40.69	Start 4343.74 hold at 10165.72 MD
14,359.04	9,849.65	-4,752.86	339.19	HL Exit Point
14,509.46	9,850.00	-4,902.90	349.90	TD at 14509.46



SENM 2-String Wellhead



JEANETTE	2-10-14	#	21176593
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Dade, Randy, EMNRD

From: Kautz, Paul, EMNRD
Sent: Tuesday, March 17, 2015 1:12 PM
To: Dade, Randy, EMNRD
Subject: RE: Update on Cedar Canyon 16 State #9H APD

I thought I already did. It looks good to me.

Paul

From: Dade, Randy, EMNRD
Sent: Tuesday, March 17, 2015 11:58 AM
To: Kautz, Paul, EMNRD
Subject: FW: Update on Cedar Canyon 16 State #9H APD

Paul,

Did you happen to look at the 2 string plan on this well ? Let me know your thoughts. Thanks. Randy

From: [Chan Tysor@Oxy.com](mailto:Chan_Tysor@Oxy.com) [mailto:Chan_Tysor@Oxy.com]
Sent: Monday, March 16, 2015 4:58 PM
To: Dade, Randy, EMNRD
Cc: Sebastian_Millan@oxy.com; [Linsay Earle@oxy.com](mailto:Linsay_Earle@oxy.com); [David Stewart@oxy.com](mailto:David_Stewart@oxy.com); Kautz, Paul, EMNRD
Subject: Update on Cedar Canyon 16 State #9H APD

Randy,

I left a voicemail earlier but wanted to check on the status of the Cedar Canyon 16 State #9H 2 string sundry submitted last week.

Please let me know if there is any change in status or if you have any questions over what was submitted.

Thank you for your help in this matter.

Regards,

R. Chan Tysor
Drilling Engineer – Oxy Permian Primary
Office: 713-513-6668
Cell: 713-502-7749
Chan_Tysor@Oxy.com