

C-104 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024
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REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

Section 1 - Operator and Well Information

Submittal Type: ☐ Test Allowable (C-104RT) ☒ New Well (C-104NW) ☐ Recomplete (C-104RC) ☐ Pay Add (C-104RC) ☐ Amended	
Operator Name: OXY USA INC	OGRID: 16696
Property Name and Well Number: TOP SPOT 12-13 FEDERAL COM 33H	Property Code: 329719
Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal	API Number: 30-0 15-47953
Pool Name: Bilbrey Basin; Bone Spring	Pool Code: 5695

Section 2 – Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
P	13	22S	31E		310 FSL	1186 FEL	32.385099°	-103.726787°	EDDY

Section 3 – Completion Information

Producing Method	Ready Date	Perforations MD	Perforations TVD
Gas lift	08/28/24	9920-20006' MD	9753-9898' TVD

Section 4 – Action IDs for Submissions and Order Numbers

List Action IDs for Drilling Sundries	Was an Order required / needed (Y/N), if yes list Order number:
C-104 RT Action ID (if C-104NW):	Communitization Agreement ☒ Yes ☐ No, Order No. Pending w/ BLM
Surface Casing Action ID: 392363	Unit: ☐ Yes ☒ No, Order No.
Intermediate 1 Casing Action ID: 392363	Compulsory Pooling: ☒ Yes ☐ No, Order No. R-23272
Intermediate 2 Casing Action ID: NA	Down Hole Commingling: ☐ Yes ☒ No, Order No.
Production Casing Action ID: 392363	Surface Commingling: ☒ Yes ☐ No, Order No. PLC-844
All casing was pressure tested in accordance with NMAC ☒ Yes ☐ No	Non-standard Location: ☐ Yes ☒ No ☐ Common ownership Order No.
Liner 1 Action ID: NA	Non-standard Proration: ☐ Yes ☒ No, Order No.
Casing was installed prior to OCD's Action ID system (Y/N): Y	Simultaneous Dedication: ☐ Yes ☒ No, Order No.

Section 5 - Operator Signature and Certification

☒ I hereby certify that the required Water Use Report has been, or will be, submitted for this well's completion.	
☒ I hereby certify that the required Fracfocus disclosure has been, or will be, submitted for this well's completion.	
☒ I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.	
Name Jana Mendiola	<i>Jana Mendiola</i>
Title Regulatory Advisor	Date 12/05/24

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024	
		Submittal Type:	☐ Initial Submittal
			☐ Amended Report
		☒ As Drilled	

WELL LOCATION INFORMATION

API Number 30-015-47953	Pool Code 5695	Pool Name Bilbrey Basin; Bone Spring
Property Code 329719	Property Name TOP SPOT 12_13 FED COM	Well Number 33H
OGRID No. 16696	Operator Name OXY USA INC.	Ground Level Elevation 3,583.6'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL P	Section 13	Township 22S	Range 31E	Lot	Ft. from N/S 310 SOUTH	Ft. from E/W 1,186 EAST	Latitude (NAD 83) 32.385099°	Longitude (NAD 83) -103.726787°	County EDDY
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Bottom Hole Location

UL A	Section 12	Township 22S	Range 31E	Lot	Ft. from N/S 55 NORTH	Ft. from E/W 533 EAST	Latitude (NAD 83) 32.413117°	Longitude (NAD 83) -103.724661°	County EDDY
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Dedicated Acres 320	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers.		Well setbacks are under Common Ownership: ☐ Yes ☐ No		

Kick Off Point (KOP)

UL P	Section 13	Township 22S	Range 31E	Lot	Ft. from N/S 52 SOUTH	Ft. from E/W 646 EAST	Latitude (NAD 83) 32.384387°	Longitude (NAD 83) -103.725039°	County EDDY
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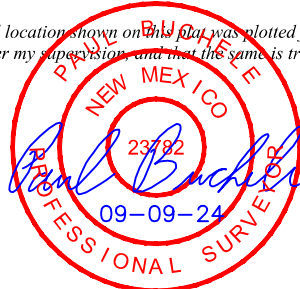
First Take Point (FTP)

UL P	Section 13	Township 22S	Range 31E	Lot	Ft. from N/S 359 SOUTH	Ft. from E/W 620 EAST	Latitude (NAD 83) 32.385231°	Longitude (NAD 83) -103.724956°	County EDDY
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Last Take Point (LTP)

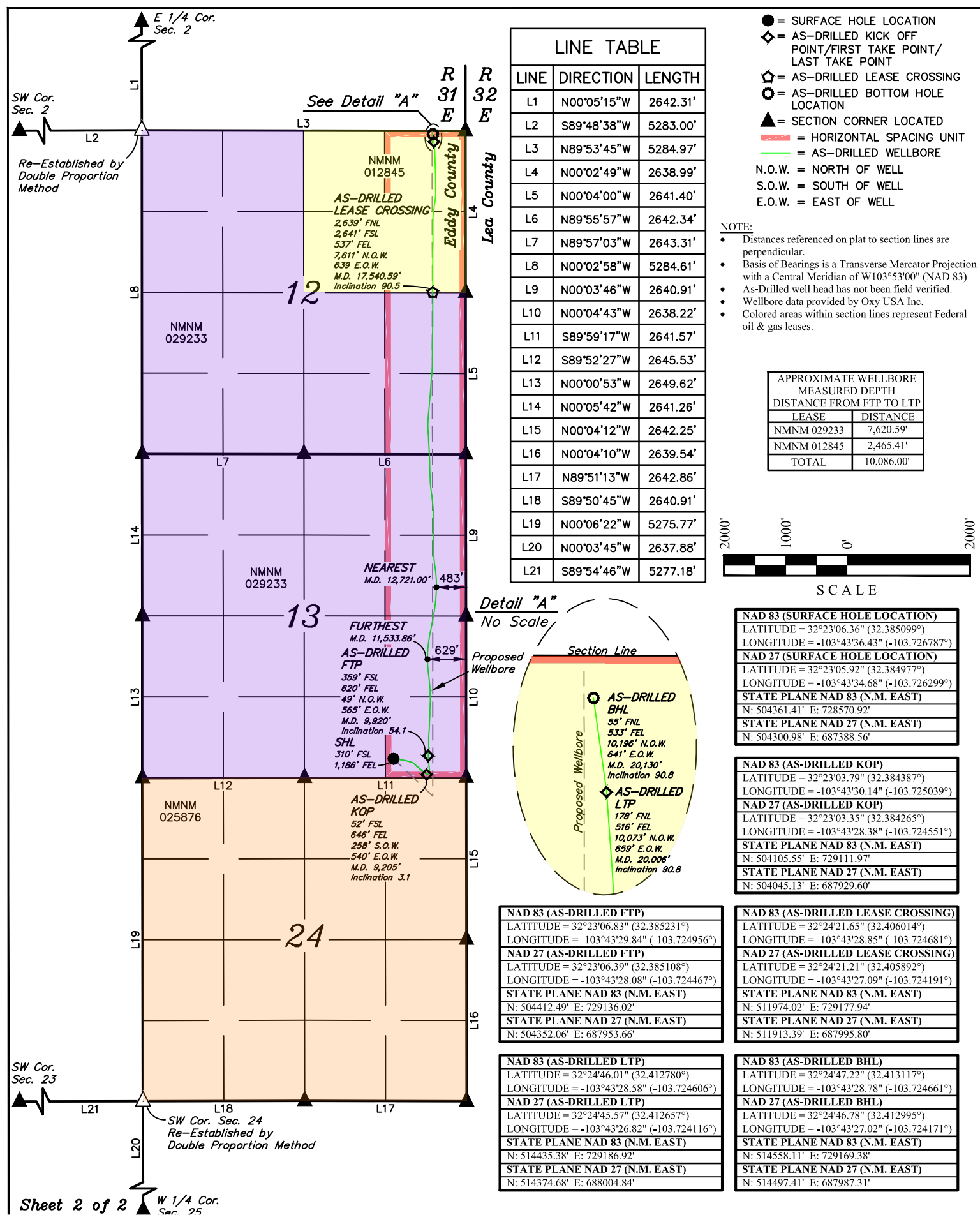
UL A	Section 12	Township 22S	Range 31E	Lot	Ft. from N/S 178 NORTH	Ft. from E/W 516 EAST	Latitude (NAD 83) 32.412780°	Longitude (NAD 83) -103.724606°	County EDDY
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Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation:
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OPERATOR CERTIFICATIONS <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i> <i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i> <i>Jana Mendiola</i> 12/04/24 Signature _____ Date _____ Jana Mendiola Printed Name _____ janalyn_mendiola@oxy.com Email Address _____	SURVEYOR CERTIFICATIONS <i>I hereby certify that the well location shown on this plat was plotted from the 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.</i>  Signature and Seal of Professional Surveyor 23782 February 26, 2024 Certificate Number _____ Date of Survey _____
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Note: No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

Property Name TOP SPOT 12_13 FED COM	Well Number 33H	Drawn By N.R. 09-09-24	Revised By
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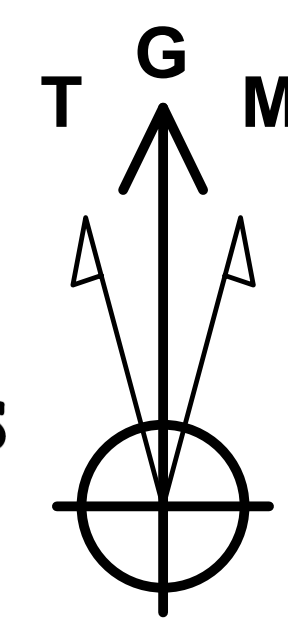




Project: Eddy County, NM (NAD83-NME)
Site: Top Spot 12_13
Well: Top Spot 12_13 Fed Com 33H
Wellbore: OH / 74953
Design: Plan 3 06-20-24
Rig: H&P 620

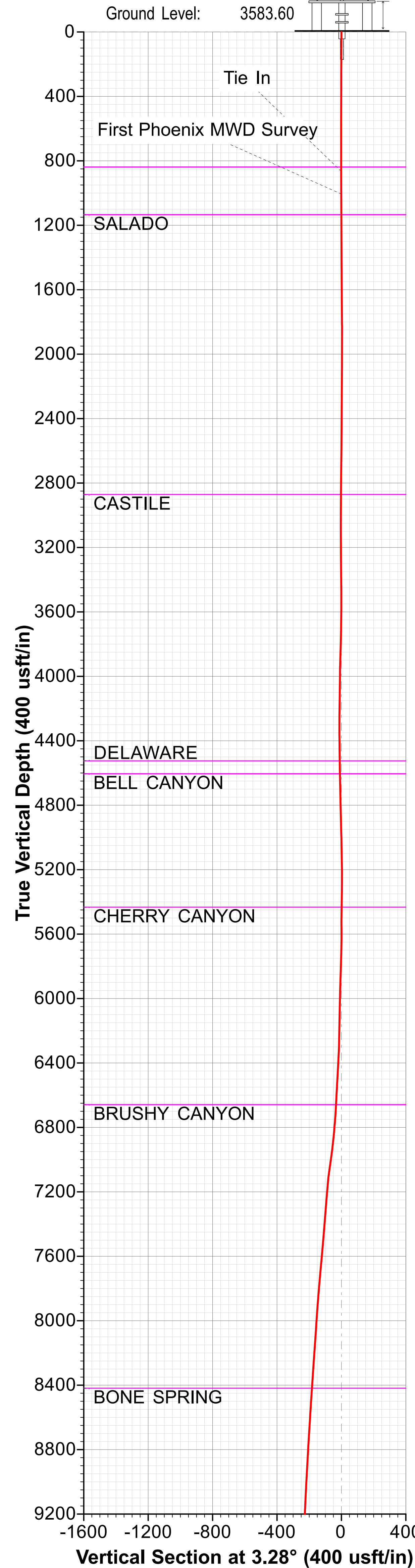
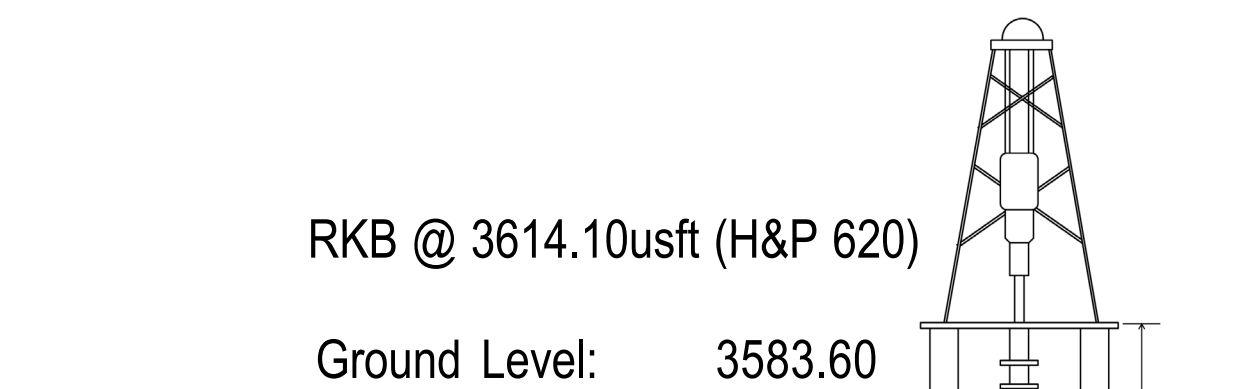


PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: -0.32°
Magnetic North: 6.27°

Magnetic Field
Strength: 47552.2nT
Dip Angle: 60.06°
Date: 6/25/2024
Model: IFR



WELL DETAILS						
Ground Level: 3583.60						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	504361.41	728570.92	32° 23' 6.357081 N	103° 43' 36.434335 W	

SECTION DETAILS						
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec/Departure
865.50	0.30	38.16	865.50	-0.92	-0.22	-0.93
1006.00	0.72	96.67	1005.99	-0.73	0.88	-0.68
9499.72	26.33	11.00	9429.19	-207.38	584.26	-173.63
14895.75	91.31	357.57	9907.84	4971.56	563.55	4995.65
20008.00	90.83	351.80	9897.77	10075.96	615.85	10094.69
20084.26	90.83	351.80	9896.66	10151.44	604.98	10169.42
20130.00	90.83	351.80	9896.00	10196.70	598.46	10214.24

Annotation	Tie In	First Phoenix MWD Survey	SL: 14895.75' MD	Final Phoenix MWD Survey	LTP: 20084.26' MD	Projection to TD
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FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
838.10	838.10	RUSTLER
1134.10	1134.11	SALADO
2871.10	2871.11	CASTILE
4525.10	4525.11	DELAWARE
4605.10	4605.11	BELL CANYON
5433.10	5434.43	CHERRY CANYON
6659.10	6679.06	BRUSHY CANYON
8419.10	8465.75	BONE SPRING
9527.10	9584.52	BONE SPRING 1ST
9726.10	9821.85	Second Bone Spring Limestone
9900.50	10281.72	9900.5' TVD @ 0° VS 90° INC

Map System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone Name: New Mexico Eastern Zone

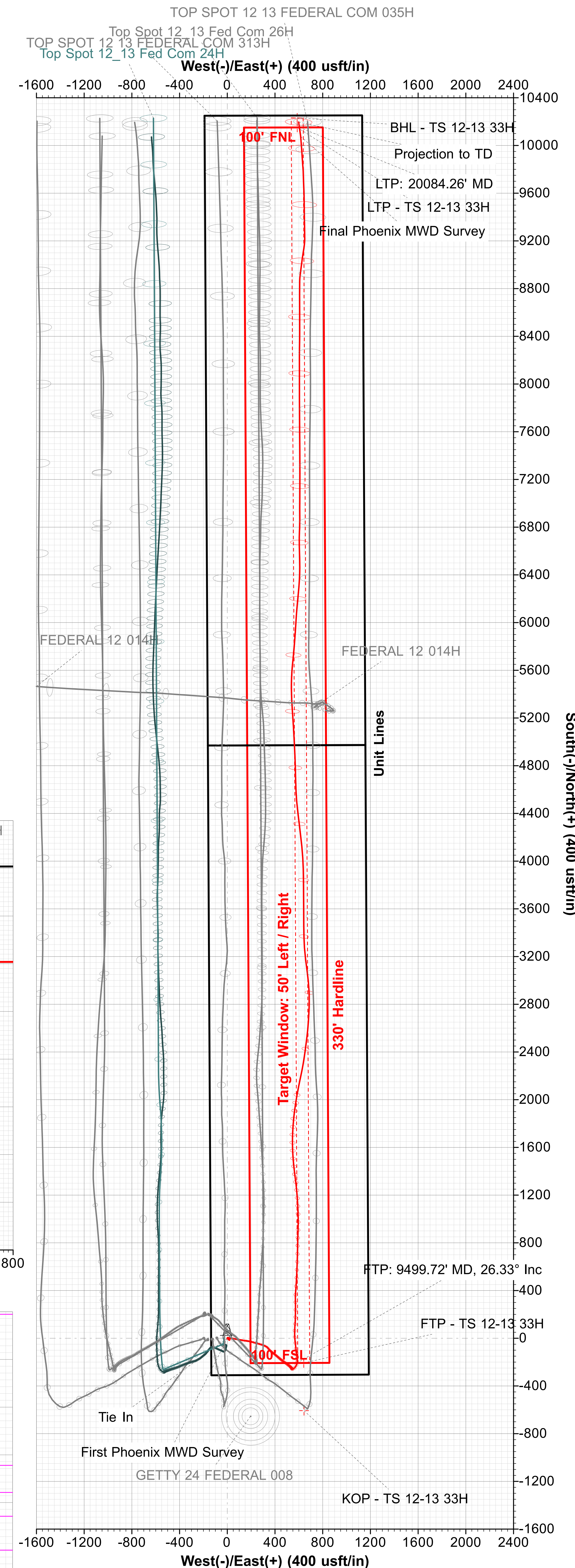
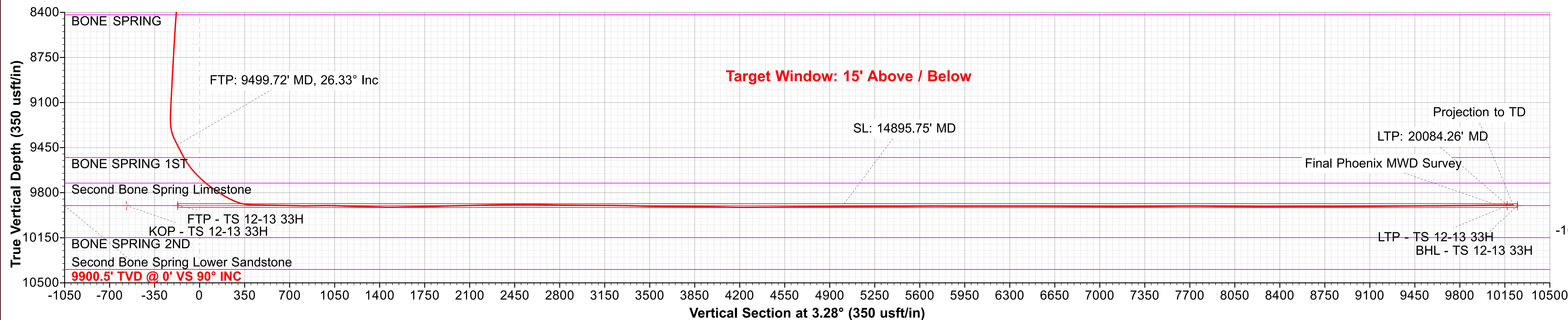
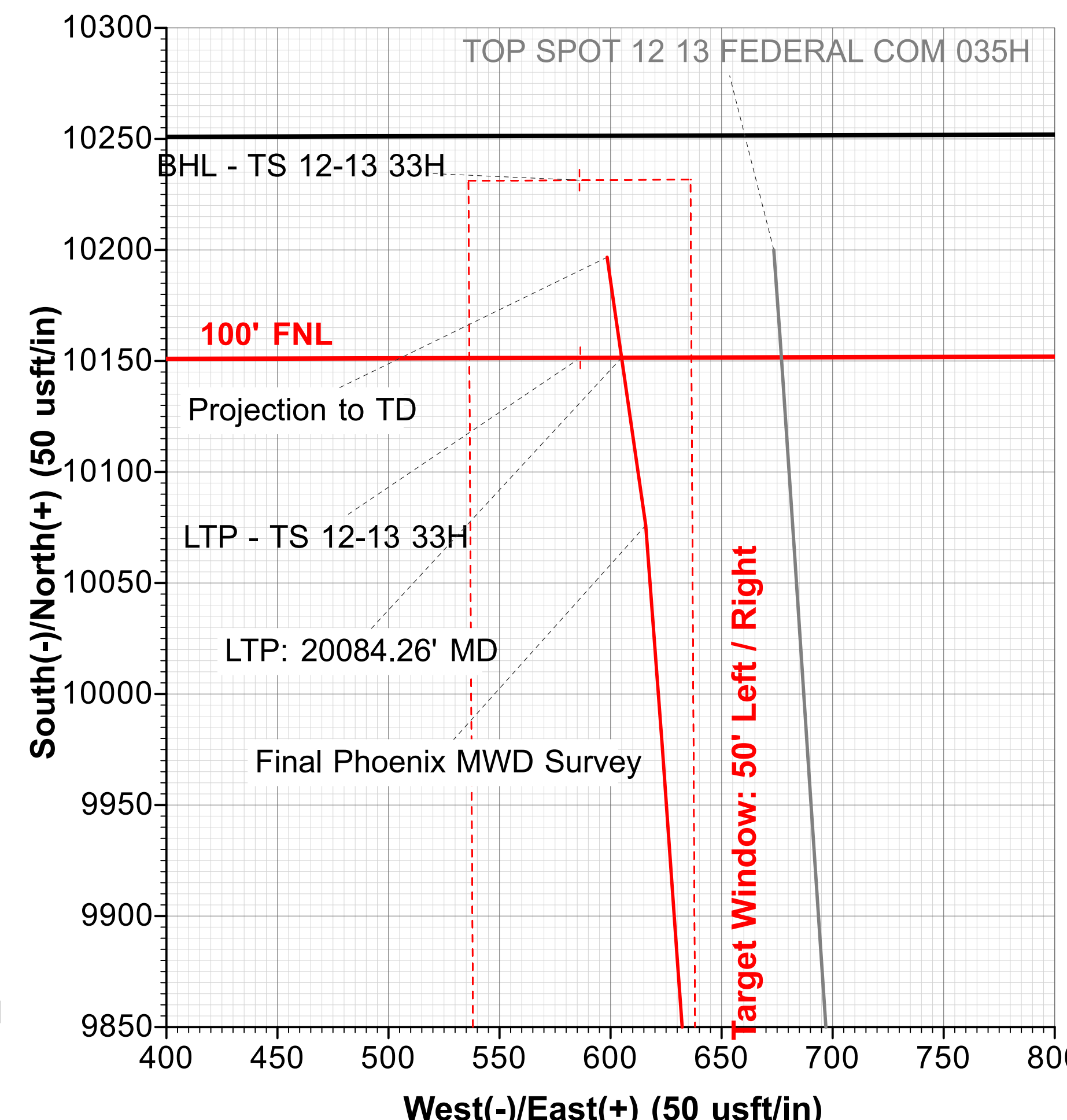
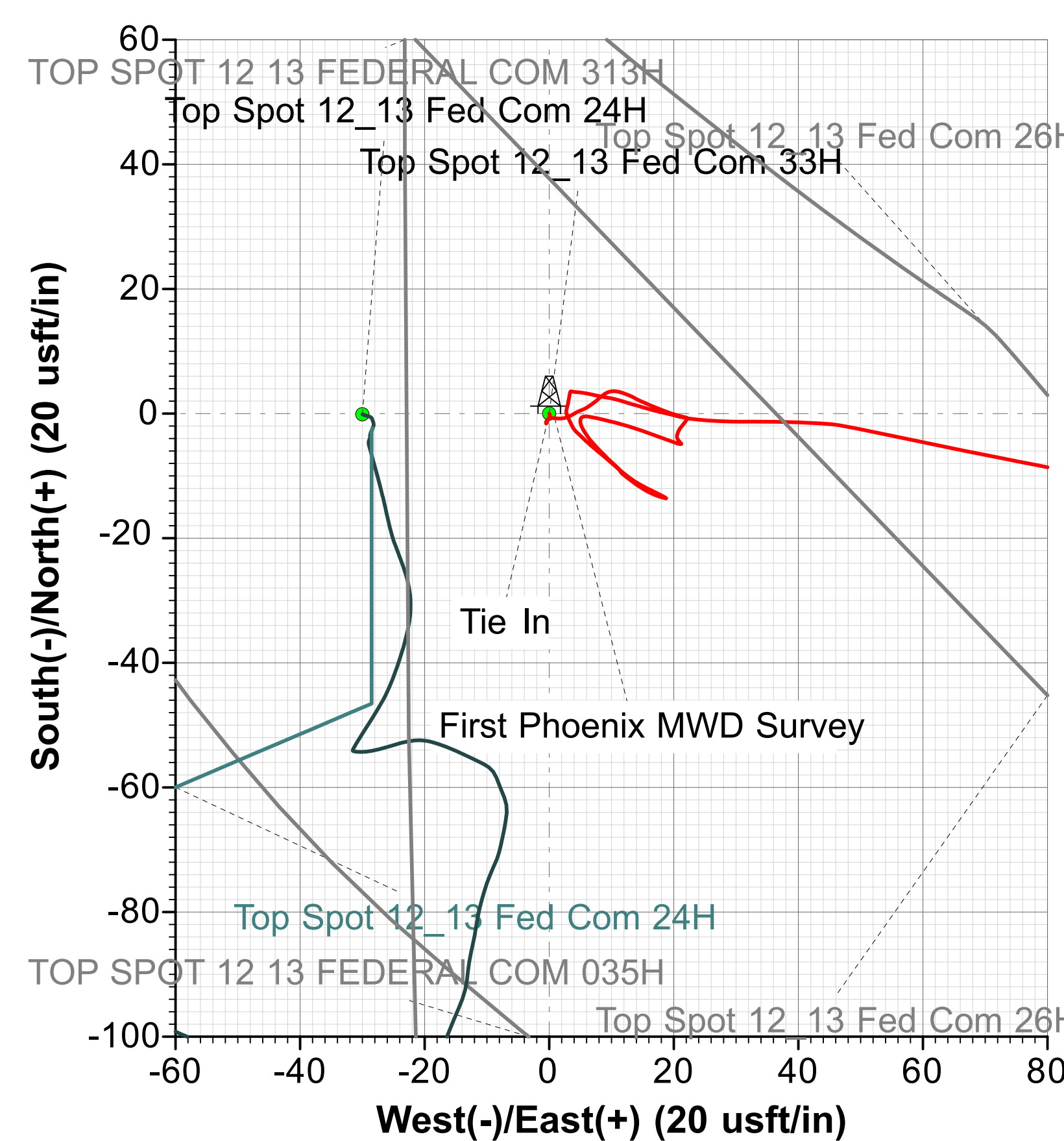
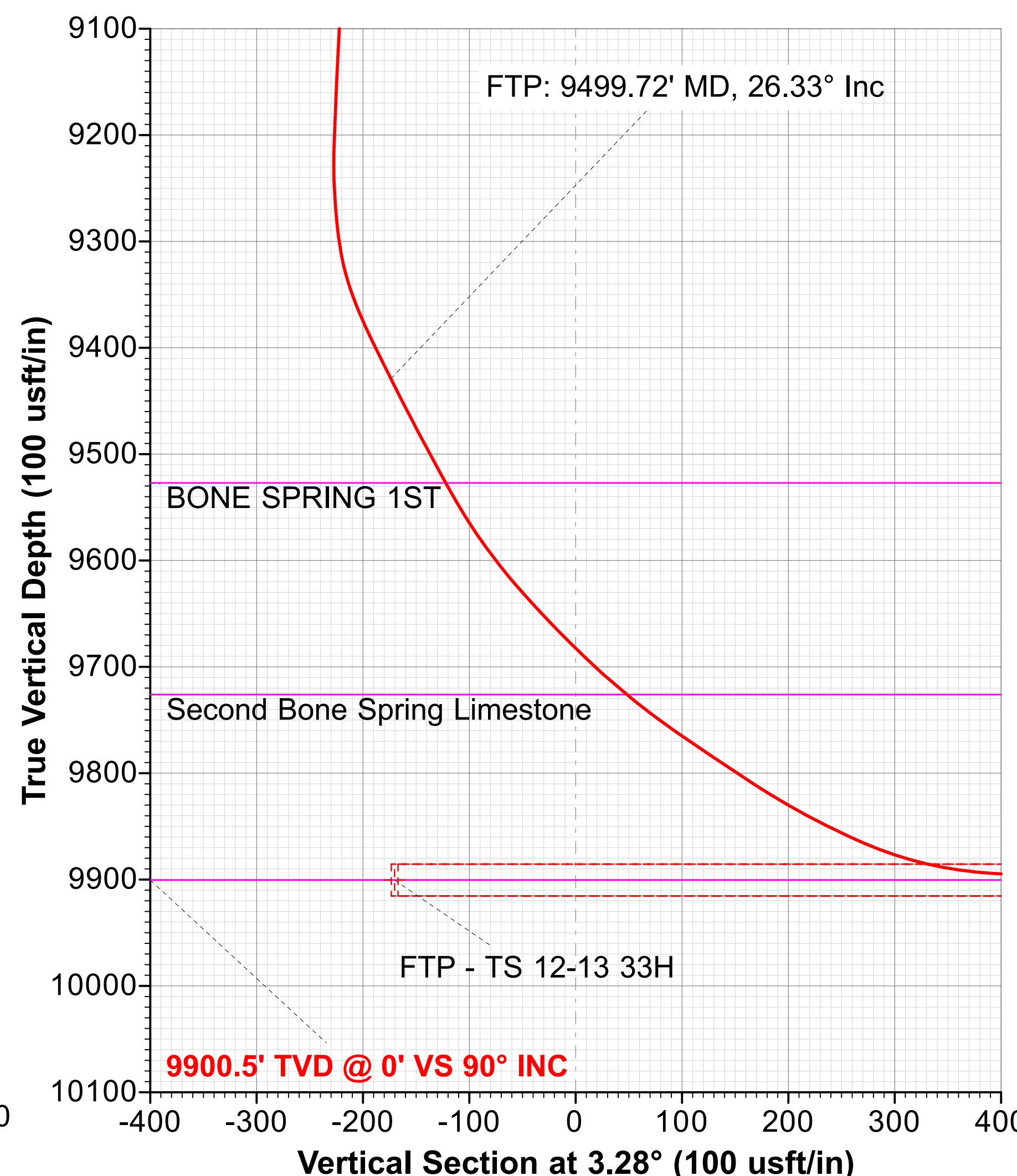
Local Origin: Well Top Spot 12_13 Fed Com 33H, Grid North

Latitude: 32° 23' 6.357081 N
Longitude: 103° 43' 36.434335 W

Grid East: 728570.92
Grid North: 504361.41
Scale Factor: 1.000

Geomagnetic Model: IFR
Sample Date: 25-Jun-24
Magnetic Declination: 6.590°
Dip Angle from Horizontal: 60.063°
Magnetic Field Strength: 47552.2000000nT

To convert a Magnetic Direction to a Grid Direction, Add 6.265°
To convert a Magnetic Direction to a True Direction, Add 6.590° East
To convert a True Direction to a Grid Direction, Subtract 0.325°





OXY USA INC.

Eddy County, NM (NAD83-NME)

Top Spot 12_13

Top Spot 12_13 Fed Com 33H

3001547953

OH / 74953

Design: Surveys (H&P 620)

Standard Survey Report

22 July, 2024





Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Project	Eddy County, NM (NAD83-NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Top Spot 12_13		
Site Position:		Northing:	504,694.60 usft
From:	Map	Easting:	726,555.60 usft
Position Uncertainty:	0.90 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 23' 9.766554 N
		Longitude:	103° 43' 59.914620 W

Well	Top Spot 12_13 Fed Com 33H		
Well Position	+N/-S	0.00 usft	Northing: 504,361.41 usft
	+E/-W	0.00 usft	Easting: 728,570.92 usft
Position Uncertainty	2.00 usft	Wellhead Elevation:	usft
Grid Convergence:	0.325 °	Ground Level:	3,583.60 usft

Wellbore	OH / 74953				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IFR	6/25/2024	6.590	60.063	47,552.20000000

Design	Surveys (H&P 620)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	3.28	

Survey Program	Date 7/22/2024				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
30.50	865.50	MWD Surveys - Adj Surface (OH / 74953)	SQC_C713Mb_MWD+HR	MWD+HRGM+Sag+FDIR	
879.55	9,190.00	Phoenix MWD Surveys - Int - SQC (OH / 7	SQC_C705Mb_MWD+IFF	MWD+IFR1+Sag+FDIR	
9,205.00	20,130.00	Phoenix MWD Surveys - Prod - SQC (OH	SQC_C705Mb_MWD+IFF	MWD+IFR1+Sag+FDIR	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
30.50	0.00	0.00	30.50	0.00	0.00	0.00	0.00	0.00	0.00	
174.50	0.16	148.56	174.50	-0.17	0.10	-0.17	0.11	0.11	0.00	
255.50	0.23	198.30	255.50	-0.42	0.11	-0.42	0.22	0.09	61.41	
349.50	0.24	207.83	349.50	-0.78	-0.04	-0.78	0.04	0.01	10.14	
444.50	0.31	209.77	444.50	-1.17	-0.26	-1.19	0.07	0.07	2.04	
538.50	0.16	192.50	538.50	-1.52	-0.41	-1.54	0.17	-0.16	-18.37	
633.50	0.11	322.93	633.50	-1.58	-0.50	-1.61	0.26	-0.05	137.29	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
727.50	0.19	17.63	727.50	-1.36	-0.50	-1.39	0.16	0.09	58.19
822.50	0.22	39.74	822.50	-1.07	-0.34	-1.09	0.09	0.03	23.27
865.50	0.30	38.16	865.50	-0.92	-0.22	-0.93	0.19	0.19	-3.67
Tie In									
879.55	0.31	49.55	879.55	-0.86	-0.17	-0.87	0.44	0.07	81.07
893.60	0.34	59.58	893.59	-0.82	-0.10	-0.82	0.46	0.21	71.39
907.65	0.37	68.05	907.64	-0.78	-0.02	-0.78	0.43	0.21	60.28
921.70	0.41	74.99	921.69	-0.75	0.07	-0.74	0.44	0.28	49.40
935.75	0.45	80.62	935.74	-0.73	0.17	-0.72	0.41	0.28	40.07
949.80	0.50	85.19	949.79	-0.71	0.29	-0.70	0.45	0.36	32.53
963.85	0.55	88.91	963.84	-0.71	0.41	-0.68	0.43	0.36	26.48
977.90	0.61	91.98	977.89	-0.71	0.56	-0.68	0.48	0.43	21.85
991.95	0.66	94.53	991.94	-0.72	0.71	-0.68	0.41	0.36	18.15
1,006.00	0.72	96.67	1,005.99	-0.73	0.88	-0.68	0.46	0.43	15.23
First Phoenix MWD Survey									
1,019.43	0.71	95.28	1,019.42	-0.75	1.05	-0.69	0.15	-0.07	-10.35
1,032.86	0.71	93.86	1,032.85	-0.77	1.21	-0.69	0.13	0.00	-10.57
1,046.29	0.70	92.39	1,046.28	-0.77	1.38	-0.69	0.15	-0.07	-10.95
1,059.71	0.69	90.89	1,059.70	-0.78	1.54	-0.69	0.15	-0.07	-11.18
1,073.14	0.69	89.36	1,073.13	-0.78	1.70	-0.68	0.14	0.00	-11.39
1,086.57	0.68	87.79	1,086.55	-0.78	1.86	-0.67	0.16	-0.07	-11.69
1,100.00	0.68	86.20	1,099.98	-0.77	2.02	-0.65	0.14	0.00	-11.84
1,113.29	0.68	83.34	1,113.27	-0.75	2.18	-0.63	0.26	0.00	-21.52
1,126.57	0.67	80.45	1,126.55	-0.73	2.33	-0.60	0.27	-0.08	-21.76
1,139.86	0.67	77.53	1,139.84	-0.70	2.49	-0.56	0.26	0.00	-21.97
1,153.14	0.68	74.62	1,153.12	-0.66	2.64	-0.51	0.27	0.08	-21.91
1,166.43	0.68	71.72	1,166.41	-0.62	2.79	-0.46	0.26	0.00	-21.82
1,179.71	0.68	68.86	1,179.69	-0.56	2.94	-0.40	0.26	0.00	-21.54
1,193.00	0.69	66.04	1,192.98	-0.50	3.08	-0.33	0.26	0.08	-21.22
1,206.29	0.70	64.89	1,206.27	-0.44	3.23	-0.25	0.13	0.08	-8.65
1,219.57	0.70	63.76	1,219.54	-0.37	3.38	-0.17	0.10	0.00	-8.51
1,232.86	0.71	62.63	1,232.83	-0.29	3.52	-0.09	0.13	0.08	-8.50
1,246.14	0.71	61.52	1,246.11	-0.22	3.67	-0.01	0.10	0.00	-8.36
1,259.43	0.72	60.43	1,259.40	-0.13	3.81	0.08	0.13	0.08	-8.20
1,272.71	0.72	59.35	1,272.68	-0.05	3.96	0.18	0.10	0.00	-8.13
1,286.00	0.73	58.29	1,285.97	0.04	4.10	0.27	0.13	0.08	-7.98
1,299.29	0.73	59.95	1,299.26	0.12	4.25	0.37	0.16	0.00	12.49
1,312.57	0.73	61.62	1,312.54	0.21	4.39	0.46	0.16	0.00	12.58
1,325.86	0.73	63.27	1,325.83	0.28	4.54	0.54	0.16	0.00	12.42
1,339.14	0.73	64.91	1,339.11	0.36	4.70	0.63	0.16	0.00	12.35
1,352.43	0.74	66.54	1,352.39	0.43	4.85	0.70	0.17	0.08	12.26
1,365.71	0.74	68.15	1,365.67	0.49	5.01	0.78	0.16	0.00	12.12
1,379.00	0.75	69.73	1,378.96	0.56	5.17	0.85	0.17	0.08	11.89
1,392.57	0.73	68.02	1,392.53	0.62	5.34	0.92	0.22	-0.15	-12.60



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,406.14	0.72	66.23	1,406.10	0.69	5.49	1.00	0.18	-0.07	-13.19
1,419.71	0.70	64.37	1,419.67	0.76	5.65	1.08	0.22	-0.15	-13.71
1,433.29	0.69	62.44	1,433.25	0.83	5.79	1.16	0.19	-0.07	-14.21
1,446.86	0.68	60.44	1,446.82	0.91	5.94	1.25	0.19	-0.07	-14.74
1,460.43	0.67	58.38	1,460.39	0.99	6.07	1.33	0.19	-0.07	-15.18
1,474.00	0.66	56.25	1,473.95	1.07	6.21	1.43	0.20	-0.07	-15.70
1,487.43	0.66	55.95	1,487.38	1.16	6.33	1.52	0.03	0.00	-2.23
1,500.86	0.67	55.66	1,500.81	1.25	6.46	1.61	0.08	0.07	-2.16
1,514.29	0.67	55.36	1,514.24	1.34	6.59	1.71	0.03	0.00	-2.23
1,527.71	0.68	55.07	1,527.66	1.43	6.72	1.81	0.08	0.07	-2.16
1,541.14	0.68	54.78	1,541.09	1.52	6.85	1.91	0.03	0.00	-2.16
1,554.57	0.68	54.50	1,554.52	1.61	6.98	2.01	0.02	0.00	-2.08
1,568.00	0.69	54.21	1,567.95	1.70	7.11	2.11	0.08	0.07	-2.16
1,581.57	0.68	53.19	1,581.52	1.80	7.24	2.21	0.12	-0.07	-7.52
1,595.14	0.67	52.14	1,595.09	1.90	7.37	2.32	0.12	-0.07	-7.74
1,608.71	0.67	51.08	1,608.66	2.00	7.50	2.42	0.09	0.00	-7.81
1,622.29	0.66	49.99	1,622.23	2.10	7.62	2.53	0.12	-0.07	-8.03
1,635.86	0.66	48.88	1,635.80	2.20	7.74	2.64	0.09	0.00	-8.18
1,649.43	0.65	47.76	1,649.37	2.30	7.85	2.75	0.12	-0.07	-8.25
1,663.00	0.65	46.63	1,662.94	2.41	7.96	2.86	0.09	0.00	-8.33
1,676.57	0.66	48.32	1,676.51	2.51	8.08	2.97	0.16	0.07	12.45
1,690.14	0.67	49.94	1,690.08	2.61	8.20	3.08	0.16	0.07	11.94
1,703.71	0.69	51.50	1,703.65	2.71	8.32	3.19	0.20	0.15	11.50
1,717.29	0.71	52.99	1,717.23	2.82	8.45	3.30	0.20	0.15	10.97
1,730.86	0.72	54.41	1,730.80	2.92	8.59	3.40	0.15	0.07	10.46
1,744.43	0.74	55.76	1,744.37	3.02	8.73	3.51	0.19	0.15	9.95
1,758.00	0.76	57.06	1,757.93	3.11	8.88	3.62	0.19	0.15	9.58
1,771.57	0.73	59.37	1,771.50	3.21	9.03	3.72	0.31	-0.22	17.02
1,785.14	0.70	61.86	1,785.07	3.29	9.18	3.81	0.32	-0.22	18.35
1,798.71	0.68	64.52	1,798.64	3.36	9.32	3.89	0.28	-0.15	19.60
1,812.29	0.66	67.36	1,812.22	3.43	9.47	3.96	0.29	-0.15	20.91
1,825.86	0.64	70.38	1,825.79	3.48	9.61	4.03	0.29	-0.15	22.25
1,839.43	0.62	73.58	1,839.36	3.53	9.75	4.08	0.30	-0.15	23.58
1,853.00	0.61	76.94	1,852.93	3.57	9.89	4.13	0.28	-0.07	24.76
1,866.43	0.61	81.20	1,866.36	3.59	10.03	4.16	0.34	0.00	31.72
1,879.86	0.62	85.37	1,879.79	3.61	10.18	4.19	0.34	0.07	31.05
1,893.29	0.63	89.42	1,893.22	3.62	10.32	4.20	0.34	0.07	30.16
1,906.71	0.64	93.30	1,906.64	3.61	10.47	4.21	0.33	0.07	28.91
1,920.14	0.66	97.00	1,920.06	3.60	10.62	4.20	0.35	0.15	27.55
1,933.57	0.67	100.49	1,933.49	3.58	10.78	4.19	0.31	0.07	25.99
1,947.00	0.70	103.76	1,946.92	3.54	10.94	4.16	0.37	0.22	24.35
1,960.57	0.72	104.35	1,960.49	3.50	11.10	4.13	0.16	0.15	4.35
1,974.14	0.74	104.89	1,974.06	3.46	11.27	4.10	0.16	0.15	3.98



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,987.71	0.76	105.39	1,987.63	3.41	11.44	4.06	0.16	0.15	3.68
2,001.29	0.78	105.84	2,001.21	3.36	11.61	4.02	0.15	0.15	3.31
2,014.86	0.81	106.26	2,014.78	3.31	11.79	3.98	0.23	0.22	3.10
2,028.43	0.83	106.65	2,028.35	3.26	11.98	3.94	0.15	0.15	2.87
2,042.00	0.85	107.00	2,041.91	3.20	12.17	3.89	0.15	0.15	2.58
2,055.57	0.84	108.80	2,055.48	3.14	12.36	3.84	0.21	-0.07	13.26
2,069.14	0.84	110.62	2,069.05	3.07	12.55	3.78	0.20	0.00	13.41
2,082.71	0.83	112.46	2,082.62	3.00	12.73	3.72	0.21	-0.07	13.56
2,096.29	0.82	114.32	2,096.20	2.92	12.91	3.65	0.21	-0.07	13.70
2,109.86	0.82	116.19	2,109.77	2.84	13.09	3.58	0.20	0.00	13.78
2,123.43	0.81	118.06	2,123.34	2.75	13.26	3.50	0.21	-0.07	13.78
2,137.00	0.81	119.94	2,136.90	2.66	13.43	3.42	0.20	0.00	13.85
2,150.43	0.84	119.06	2,150.33	2.56	13.60	3.33	0.24	0.22	-6.55
2,163.86	0.87	118.24	2,163.76	2.46	13.77	3.25	0.24	0.22	-6.11
2,177.29	0.90	117.45	2,177.19	2.37	13.95	3.16	0.24	0.22	-5.88
2,190.71	0.93	116.71	2,190.61	2.27	14.15	3.08	0.24	0.22	-5.51
2,204.14	0.96	116.00	2,204.04	2.17	14.34	2.99	0.24	0.22	-5.29
2,217.57	0.99	115.33	2,217.46	2.07	14.55	2.90	0.24	0.22	-4.99
2,231.00	1.02	114.68	2,230.89	1.97	14.76	2.81	0.24	0.22	-4.84
2,244.43	1.05	114.18	2,244.32	1.87	14.98	2.73	0.23	0.22	-3.72
2,257.86	1.09	113.67	2,257.75	1.77	15.21	2.64	0.31	0.30	-3.80
2,271.29	1.13	113.19	2,271.17	1.67	15.45	2.55	0.31	0.30	-3.57
2,284.71	1.16	112.75	2,284.59	1.56	15.70	2.46	0.23	0.22	-3.28
2,298.14	1.20	112.38	2,298.02	1.46	15.95	2.37	0.30	0.30	-2.76
2,311.57	1.23	112.10	2,311.45	1.35	16.22	2.27	0.23	0.22	-2.08
2,325.00	1.26	111.93	2,324.87	1.24	16.49	2.18	0.23	0.22	-1.27
2,338.57	1.27	111.91	2,338.44	1.13	16.77	2.08	0.07	0.07	-0.15
2,352.14	1.28	111.99	2,352.01	1.02	17.05	1.99	0.07	0.07	0.59
2,365.71	1.29	112.10	2,365.57	0.90	17.33	1.89	0.08	0.07	0.81
2,379.29	1.29	112.17	2,379.15	0.79	17.61	1.79	0.01	0.00	0.52
2,392.86	1.30	112.14	2,392.72	0.67	17.90	1.69	0.07	0.07	-0.22
2,406.43	1.31	111.95	2,406.28	0.55	18.18	1.59	0.08	0.07	-1.40
2,420.00	1.33	111.51	2,419.85	0.44	18.47	1.49	0.17	0.15	-3.24
2,433.57	1.37	110.77	2,433.42	0.32	18.77	1.40	0.32	0.29	-5.45
2,447.14	1.41	109.87	2,446.98	0.21	19.08	1.30	0.34	0.29	-6.63
2,460.71	1.45	108.91	2,460.55	0.10	19.40	1.21	0.34	0.29	-7.07
2,474.29	1.50	107.94	2,474.12	-0.01	19.73	1.11	0.41	0.37	-7.14
2,487.86	1.54	107.02	2,487.69	-0.12	20.07	1.03	0.35	0.29	-6.78
2,501.43	1.57	106.16	2,501.25	-0.23	20.43	0.94	0.28	0.22	-6.34
2,515.00	1.58	105.38	2,514.82	-0.33	20.79	0.86	0.17	0.07	-5.75
2,528.43	1.57	104.80	2,528.24	-0.42	21.14	0.78	0.14	-0.07	-4.32
2,541.86	1.54	104.35	2,541.67	-0.52	21.49	0.71	0.24	-0.22	-3.35
2,555.29	1.36	103.30	2,555.09	-0.60	21.82	0.65	1.35	-1.34	-7.82



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,568.71	0.73	106.66	2,568.51	-0.66	22.06	0.60	4.71	-4.69	25.04
2,582.14	0.49	182.82	2,581.94	-0.74	22.14	0.53	5.78	-1.79	567.09
2,595.57	0.52	197.49	2,595.37	-0.86	22.12	0.41	0.99	0.22	109.23
2,609.00	0.58	210.01	2,608.80	-0.97	22.07	0.29	1.00	0.45	93.22
2,622.57	0.61	212.08	2,622.37	-1.09	21.99	0.17	0.27	0.22	15.25
2,636.14	0.64	213.93	2,635.94	-1.22	21.91	0.04	0.27	0.22	13.63
2,649.71	0.68	215.60	2,649.51	-1.35	21.82	-0.10	0.33	0.29	12.31
2,663.29	0.71	217.10	2,663.09	-1.48	21.73	-0.23	0.26	0.22	11.05
2,676.86	0.75	218.46	2,676.65	-1.62	21.62	-0.38	0.32	0.29	10.02
2,690.43	0.78	219.69	2,690.22	-1.76	21.51	-0.52	0.25	0.22	9.06
2,704.00	0.82	220.82	2,703.79	-1.90	21.38	-0.67	0.32	0.29	8.33
2,717.57	0.80	218.54	2,717.36	-2.05	21.26	-0.83	0.28	-0.15	-16.80
2,731.14	0.78	216.17	2,730.93	-2.20	21.15	-0.98	0.28	-0.15	-17.46
2,744.71	0.77	213.69	2,744.50	-2.35	21.04	-1.14	0.26	-0.07	-18.28
2,758.29	0.75	211.11	2,758.08	-2.50	20.95	-1.30	0.29	-0.15	-19.00
2,771.86	0.74	208.44	2,771.65	-2.65	20.86	-1.46	0.27	-0.07	-19.68
2,785.43	0.73	205.68	2,785.21	-2.81	20.78	-1.61	0.27	-0.07	-20.34
2,799.00	0.72	202.84	2,798.78	-2.96	20.71	-1.77	0.27	-0.07	-20.93
2,812.43	0.66	200.45	2,812.21	-3.11	20.65	-1.93	0.50	-0.45	-17.80
2,825.86	0.60	197.57	2,825.64	-3.25	20.60	-2.07	0.51	-0.45	-21.44
2,839.29	0.55	194.08	2,839.07	-3.38	20.56	-2.20	0.45	-0.37	-25.99
2,852.71	0.49	189.79	2,852.49	-3.50	20.54	-2.32	0.53	-0.45	-31.97
2,866.14	0.44	184.45	2,865.92	-3.61	20.53	-2.43	0.49	-0.37	-39.76
2,879.57	0.39	177.77	2,879.35	-3.71	20.52	-2.53	0.52	-0.37	-49.74
2,893.00	0.35	169.44	2,892.78	-3.79	20.53	-2.61	0.50	-0.30	-62.03
2,906.57	0.36	165.11	2,906.35	-3.88	20.55	-2.69	0.21	0.07	-31.91
2,920.14	0.36	160.81	2,919.92	-3.96	20.58	-2.77	0.20	0.00	-31.69
2,933.71	0.37	156.58	2,933.49	-4.04	20.61	-2.85	0.21	0.07	-31.17
2,947.29	0.37	152.48	2,947.07	-4.12	20.65	-2.93	0.19	0.00	-30.19
2,960.86	0.38	148.53	2,960.64	-4.19	20.69	-3.00	0.20	0.07	-29.11
2,974.43	0.39	144.76	2,974.21	-4.27	20.74	-3.08	0.20	0.07	-27.78
2,988.00	0.41	141.18	2,987.78	-4.35	20.80	-3.15	0.24	0.15	-26.38
3,001.43	0.39	140.97	3,001.21	-4.42	20.85	-3.22	0.15	-0.15	-1.56
3,014.86	0.38	140.72	3,014.64	-4.49	20.91	-3.29	0.08	-0.07	-1.86
3,028.29	0.37	140.43	3,028.07	-4.56	20.97	-3.35	0.08	-0.07	-2.16
3,041.71	0.36	140.09	3,041.49	-4.62	21.02	-3.41	0.08	-0.07	-2.53
3,055.14	0.35	139.70	3,054.92	-4.69	21.08	-3.47	0.08	-0.07	-2.90
3,068.57	0.34	139.25	3,068.35	-4.75	21.13	-3.53	0.08	-0.07	-3.35
3,082.00	0.33	138.75	3,081.78	-4.81	21.18	-3.59	0.08	-0.07	-3.72
3,095.57	0.24	136.92	3,095.35	-4.86	21.23	-3.63	0.67	-0.66	-13.49
3,109.14	0.37	245.81	3,108.92	-4.90	21.20	-3.67	3.70	0.96	802.43
3,122.71	1.18	275.63	3,122.48	-4.90	21.03	-3.69	6.47	5.97	219.75
3,136.29	1.66	288.75	3,136.06	-4.82	20.70	-3.63	4.25	3.53	96.61
3,149.86	1.74	289.12	3,149.62	-4.69	20.32	-3.52	0.60	0.59	2.73



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,163.43	1.82	289.46	3,163.19	-4.55	19.92	-3.41	0.59	0.59	2.51
3,177.00	1.90	289.78	3,176.75	-4.40	19.51	-3.28	0.59	0.59	2.36
3,190.57	1.91	289.77	3,190.31	-4.25	19.08	-3.15	0.07	0.07	-0.07
3,204.14	1.94	289.83	3,203.88	-4.10	18.65	-3.02	0.22	0.22	0.44
3,217.71	1.96	289.91	3,217.44	-3.94	18.22	-2.89	0.15	0.15	0.59
3,231.29	1.98	289.99	3,231.01	-3.78	17.78	-2.76	0.15	0.15	0.59
3,244.86	2.01	290.04	3,244.57	-3.62	17.34	-2.62	0.22	0.22	0.37
3,258.43	2.04	290.05	3,258.13	-3.46	16.89	-2.48	0.22	0.22	0.07
3,272.00	2.07	289.97	3,271.69	-3.29	16.43	-2.34	0.22	0.22	-0.59
3,285.57	2.10	289.78	3,285.25	-3.12	15.96	-2.20	0.23	0.22	-1.40
3,299.14	2.13	289.51	3,298.82	-2.95	15.49	-2.06	0.23	0.22	-1.99
3,312.71	2.15	289.17	3,312.38	-2.78	15.01	-1.92	0.17	0.15	-2.51
3,326.29	2.18	288.79	3,325.95	-2.62	14.53	-1.78	0.24	0.22	-2.80
3,339.86	2.21	288.36	3,339.51	-2.45	14.04	-1.65	0.25	0.22	-3.17
3,353.43	2.23	287.89	3,353.07	-2.29	13.54	-1.51	0.20	0.15	-3.46
3,367.00	2.24	287.37	3,366.63	-2.13	13.03	-1.38	0.17	0.07	-3.83
3,380.43	2.25	286.78	3,380.05	-1.97	12.53	-1.25	0.19	0.07	-4.39
3,393.86	2.25	286.15	3,393.47	-1.82	12.02	-1.13	0.18	0.00	-4.69
3,407.29	2.25	285.51	3,406.88	-1.68	11.52	-1.02	0.19	0.00	-4.77
3,420.71	2.24	284.86	3,420.29	-1.54	11.01	-0.91	0.20	-0.07	-4.84
3,434.14	2.23	284.23	3,433.71	-1.41	10.50	-0.81	0.20	-0.07	-4.69
3,447.57	2.20	283.66	3,447.13	-1.29	10.00	-0.71	0.28	-0.22	-4.24
3,461.00	2.17	283.19	3,460.55	-1.17	9.50	-0.62	0.26	-0.22	-3.50
3,474.43	2.11	283.01	3,473.98	-1.05	9.01	-0.54	0.45	-0.45	-1.34
3,487.86	2.05	282.93	3,487.40	-0.94	8.54	-0.45	0.45	-0.45	-0.60
3,501.29	1.97	282.85	3,500.82	-0.84	8.08	-0.38	0.60	-0.60	-0.60
3,514.71	1.89	282.63	3,514.23	-0.74	7.64	-0.30	0.60	-0.60	-1.64
3,528.14	1.78	282.13	3,527.65	-0.65	7.22	-0.23	0.83	-0.82	-3.72
3,541.57	1.66	281.08	3,541.08	-0.57	6.82	-0.18	0.92	-0.89	-7.82
3,555.00	1.52	279.02	3,554.50	-0.50	6.46	-0.13	1.13	-1.04	-15.34
3,568.57	1.34	275.20	3,568.07	-0.46	6.12	-0.11	1.50	-1.33	-28.15
3,582.14	1.15	269.03	3,581.63	-0.45	5.83	-0.11	1.71	-1.40	-45.47
3,595.71	0.96	259.66	3,595.20	-0.47	5.58	-0.15	1.89	-1.40	-69.05
3,609.29	0.82	246.12	3,608.78	-0.53	5.38	-0.22	1.85	-1.03	-99.71
3,622.86	0.74	228.74	3,622.35	-0.63	5.22	-0.33	1.83	-0.59	-128.08
3,636.43	0.74	210.84	3,635.92	-0.76	5.11	-0.47	1.70	0.00	-131.91
3,650.00	0.81	196.70	3,649.49	-0.93	5.04	-0.64	1.50	0.52	-104.20
3,663.43	0.89	183.87	3,662.92	-1.12	5.00	-0.83	1.53	0.60	-95.53
3,676.86	1.01	173.71	3,676.34	-1.34	5.01	-1.05	1.54	0.89	-75.65
3,690.29	1.16	165.91	3,689.77	-1.59	5.06	-1.30	1.57	1.12	-58.08
3,703.71	1.33	159.95	3,703.19	-1.87	5.14	-1.57	1.59	1.27	-44.41
3,717.14	1.50	155.33	3,716.61	-2.18	5.27	-1.87	1.52	1.27	-34.40
3,730.57	1.68	151.68	3,730.04	-2.51	5.44	-2.19	1.54	1.34	-27.18



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,744.00	1.87	148.76	3,743.46	-2.87	5.64	-2.54	1.57	1.41	-21.74
3,757.57	1.91	146.52	3,757.03	-3.25	5.88	-2.91	0.62	0.29	-16.51
3,771.14	1.97	144.31	3,770.59	-3.63	6.14	-3.27	0.71	0.44	-16.29
3,784.71	2.05	142.22	3,784.15	-4.01	6.43	-3.63	0.80	0.59	-15.40
3,798.29	2.13	140.34	3,797.72	-4.39	6.74	-4.00	0.78	0.59	-13.84
3,811.86	2.21	138.70	3,811.28	-4.78	7.07	-4.37	0.75	0.59	-12.09
3,825.43	2.28	137.33	3,824.84	-5.18	7.43	-4.75	0.65	0.52	-10.10
3,839.00	2.35	136.28	3,838.40	-5.58	7.80	-5.12	0.60	0.52	-7.74
3,852.57	2.39	135.52	3,851.96	-5.98	8.19	-5.50	0.37	0.29	-5.60
3,866.14	2.42	135.02	3,865.52	-6.39	8.59	-5.88	0.27	0.22	-3.68
3,879.71	2.44	134.66	3,879.07	-6.79	9.00	-6.27	0.19	0.15	-2.65
3,893.29	2.46	134.35	3,892.64	-7.20	9.42	-6.65	0.18	0.15	-2.28
3,906.86	2.47	134.02	3,906.20	-7.61	9.84	-7.03	0.13	0.07	-2.43
3,920.43	2.48	133.58	3,919.76	-8.01	10.26	-7.41	0.16	0.07	-3.24
3,934.00	2.49	132.95	3,933.31	-8.41	10.69	-7.79	0.21	0.07	-4.64
3,947.57	2.29	134.56	3,946.87	-8.81	11.10	-8.16	1.55	-1.47	11.86
3,961.14	1.44	151.97	3,960.43	-9.15	11.37	-8.48	7.46	-6.26	128.30
3,974.71	0.69	146.83	3,974.00	-9.37	11.49	-8.69	5.57	-5.53	-37.88
3,988.29	0.64	141.06	3,987.58	-9.49	11.59	-8.81	0.61	-0.37	-42.49
4,001.86	0.65	135.44	4,001.15	-9.61	11.69	-8.92	0.47	0.07	-41.41
4,015.43	0.66	129.99	4,014.72	-9.71	11.80	-9.02	0.46	0.07	-40.16
4,029.00	0.68	125.06	4,028.29	-9.81	11.93	-9.11	0.45	0.15	-36.33
4,042.43	0.80	126.11	4,041.72	-9.91	12.07	-9.20	0.90	0.89	7.82
4,055.86	0.92	126.88	4,055.15	-10.03	12.23	-9.31	0.90	0.89	5.73
4,069.29	1.04	127.45	4,068.57	-10.17	12.41	-9.44	0.90	0.89	4.24
4,082.71	1.16	127.90	4,081.99	-10.33	12.62	-9.59	0.90	0.89	3.35
4,096.14	1.29	128.26	4,095.42	-10.50	12.84	-9.75	0.97	0.97	2.68
4,109.57	1.41	128.54	4,108.84	-10.70	13.09	-9.93	0.89	0.89	2.08
4,123.00	1.53	128.77	4,122.27	-10.91	13.36	-10.13	0.89	0.89	1.71
4,136.57	1.61	126.96	4,135.83	-11.14	13.65	-10.34	0.69	0.59	-13.34
4,150.14	1.70	125.22	4,149.40	-11.37	13.97	-10.56	0.76	0.66	-12.82
4,163.71	1.79	123.59	4,162.96	-11.61	14.31	-10.77	0.76	0.66	-12.01
4,177.29	1.89	122.05	4,176.54	-11.84	14.68	-10.98	0.82	0.74	-11.34
4,190.86	1.97	120.56	4,190.10	-12.08	15.07	-11.20	0.70	0.59	-10.98
4,204.43	2.04	119.07	4,203.66	-12.32	15.48	-11.41	0.64	0.52	-10.98
4,218.00	2.07	117.47	4,217.22	-12.55	15.91	-11.62	0.48	0.22	-11.79
4,231.57	2.05	115.60	4,230.78	-12.76	16.35	-11.81	0.52	-0.15	-13.78
4,245.14	2.00	113.53	4,244.34	-12.96	16.78	-11.98	0.65	-0.37	-15.25
4,258.71	1.93	111.29	4,257.91	-13.14	17.21	-12.14	0.77	-0.52	-16.51
4,272.29	1.85	108.90	4,271.48	-13.30	17.63	-12.27	0.83	-0.59	-17.60
4,285.86	1.78	106.48	4,285.04	-13.43	18.04	-12.37	0.76	-0.52	-17.83
4,299.43	1.72	104.20	4,298.61	-13.54	18.44	-12.46	0.68	-0.44	-16.80
4,313.00	0.80	101.84	4,312.17	-13.61	18.73	-12.51	6.79	-6.78	-17.39



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,326.57	0.43	323.33	4,325.74	-13.58	18.79	-12.49	8.53	-2.73	-1,020.71
4,340.14	1.20	300.37	4,339.31	-13.47	18.64	-12.38	6.05	5.67	-169.20
4,353.71	1.27	299.24	4,352.88	-13.33	18.39	-12.25	0.55	0.52	-8.33
4,367.29	1.34	298.24	4,366.45	-13.18	18.12	-12.12	0.54	0.52	-7.36
4,380.86	1.41	297.34	4,380.02	-13.03	17.83	-11.98	0.54	0.52	-6.63
4,394.43	1.48	296.53	4,393.58	-12.87	17.52	-11.85	0.54	0.52	-5.97
4,408.00	1.55	295.80	4,407.15	-12.71	17.20	-11.71	0.54	0.52	-5.38
4,421.43	1.57	295.87	4,420.58	-12.55	16.87	-11.57	0.15	0.15	0.52
4,434.86	1.60	296.09	4,434.00	-12.39	16.54	-11.42	0.23	0.22	1.64
4,448.29	1.63	296.45	4,447.42	-12.22	16.20	-11.28	0.24	0.22	2.68
4,461.71	1.66	296.91	4,460.84	-12.05	15.85	-11.12	0.24	0.22	3.43
4,475.14	1.68	297.48	4,474.26	-11.87	15.51	-10.96	0.19	0.15	4.24
4,488.57	1.71	298.17	4,487.69	-11.69	15.15	-10.80	0.27	0.22	5.14
4,502.00	1.73	299.01	4,501.11	-11.49	14.80	-10.63	0.24	0.15	6.25
4,515.57	1.74	300.14	4,514.68	-11.29	14.44	-10.45	0.26	0.07	8.33
4,529.14	1.74	301.40	4,528.24	-11.08	14.09	-10.26	0.28	0.00	9.29
4,542.71	1.74	302.73	4,541.80	-10.86	13.74	-10.06	0.30	0.00	9.80
4,556.29	1.74	304.08	4,555.38	-10.63	13.40	-9.85	0.30	0.00	9.94
4,569.86	1.75	305.40	4,568.94	-10.40	13.06	-9.63	0.31	0.07	9.73
4,583.43	1.76	306.62	4,582.50	-10.15	12.72	-9.41	0.29	0.07	8.99
4,597.00	1.78	307.65	4,596.07	-9.90	12.39	-9.18	0.28	0.15	7.59
4,610.43	1.80	308.53	4,609.49	-9.64	12.06	-8.94	0.25	0.15	6.55
4,623.86	1.84	309.25	4,622.91	-9.37	11.72	-8.69	0.34	0.30	5.36
4,637.29	1.88	309.83	4,636.34	-9.10	11.39	-8.43	0.33	0.30	4.32
4,650.71	1.92	310.30	4,649.75	-8.81	11.05	-8.16	0.32	0.30	3.50
4,664.14	1.96	310.67	4,663.17	-8.51	10.70	-7.89	0.31	0.30	2.76
4,677.57	1.99	310.91	4,676.59	-8.21	10.35	-7.61	0.23	0.22	1.79
4,691.00	2.02	311.02	4,690.02	-7.90	10.00	-7.32	0.23	0.22	0.82
4,704.57	2.04	310.93	4,703.58	-7.59	9.63	-7.03	0.15	0.15	-0.66
4,718.14	2.05	310.73	4,717.14	-7.27	9.27	-6.73	0.09	0.07	-1.47
4,731.71	2.05	310.47	4,730.70	-6.96	8.90	-6.44	0.07	0.00	-1.92
4,745.29	2.06	310.21	4,744.27	-6.64	8.53	-6.14	0.10	0.07	-1.91
4,758.86	2.06	310.00	4,757.83	-6.33	8.15	-5.85	0.06	0.00	-1.55
4,772.43	2.06	309.91	4,771.39	-6.01	7.78	-5.56	0.02	0.00	-0.66
4,786.00	2.07	310.01	4,784.95	-5.70	7.40	-5.27	0.08	0.07	0.74
4,799.57	2.07	310.45	4,798.52	-5.38	7.03	-4.97	0.12	0.00	3.24
4,813.14	2.08	311.08	4,812.08	-5.06	6.66	-4.67	0.18	0.07	4.64
4,826.71	2.10	311.79	4,825.64	-4.73	6.29	-4.37	0.24	0.15	5.23
4,840.29	2.11	312.52	4,839.21	-4.40	5.92	-4.05	0.21	0.07	5.38
4,853.86	2.13	313.19	4,852.77	-4.06	5.55	-3.73	0.23	0.15	4.94
4,867.43	2.14	313.74	4,866.33	-3.71	5.18	-3.41	0.17	0.07	4.05
4,881.00	2.16	314.07	4,879.89	-3.36	4.82	-3.08	0.17	0.15	2.43
4,894.43	2.18	314.10	4,893.31	-3.00	4.45	-2.74	0.15	0.15	0.22
4,907.86	2.10	318.55	4,906.73	-2.64	4.10	-2.40	1.37	-0.60	33.13



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,921.29	1.84	330.89	4,920.15	-2.27	3.84	-2.05	3.69	-1.94	91.88
4,934.71	1.71	335.18	4,933.57	-1.90	3.65	-1.69	1.38	-0.97	31.97
4,948.14	1.74	334.66	4,946.99	-1.53	3.48	-1.33	0.25	0.22	-3.87
4,961.57	1.77	334.14	4,960.41	-1.16	3.30	-0.97	0.25	0.22	-3.87
4,975.00	1.80	333.69	4,973.84	-0.79	3.11	-0.61	0.25	0.22	-3.35
4,988.57	1.83	333.38	4,987.40	-0.40	2.92	-0.23	0.23	0.22	-2.28
5,002.14	1.40	344.18	5,000.97	-0.05	2.78	0.11	3.87	-3.17	79.59
5,015.71	0.81	2.94	5,014.53	0.21	2.74	0.36	5.04	-4.35	138.25
5,029.29	0.85	6.64	5,028.11	0.40	2.76	0.56	0.49	0.29	27.25
5,042.86	0.90	10.00	5,041.68	0.61	2.79	0.77	0.53	0.37	24.76
5,056.43	0.94	13.05	5,055.25	0.82	2.83	0.98	0.47	0.29	22.48
5,070.00	0.99	15.81	5,068.82	1.04	2.89	1.21	0.50	0.37	20.34
5,083.57	1.08	14.41	5,082.38	1.28	2.95	1.45	0.69	0.66	-10.32
5,097.14	0.85	13.09	5,095.95	1.50	3.01	1.67	1.70	-1.69	-9.73
5,110.71	1.02	9.44	5,109.52	1.72	3.05	1.89	1.33	1.25	-26.90
5,124.29	1.10	9.79	5,123.10	1.97	3.09	2.14	0.59	0.59	2.58
5,137.86	1.19	10.09	5,136.67	2.23	3.14	2.41	0.66	0.66	2.21
5,151.43	1.27	10.37	5,150.23	2.52	3.19	2.70	0.59	0.59	2.06
5,165.00	1.35	10.61	5,163.80	2.82	3.25	3.01	0.59	0.59	1.77
5,178.43	1.40	10.75	5,177.23	3.14	3.31	3.33	0.37	0.37	1.04
5,191.86	1.07	17.04	5,190.65	3.42	3.37	3.61	2.65	-2.46	46.84
5,205.29	0.58	73.12	5,204.08	3.56	3.48	3.75	6.61	-3.65	417.57
5,218.71	1.19	104.49	5,217.50	3.55	3.68	3.75	5.64	4.55	233.76
5,232.14	1.35	98.82	5,230.93	3.49	3.97	3.71	1.51	1.19	-42.22
5,245.57	1.53	94.43	5,244.35	3.45	4.30	3.69	1.57	1.34	-32.69
5,259.00	1.75	91.62	5,257.78	3.43	4.69	3.69	1.74	1.64	-20.92
5,272.57	2.20	99.24	5,271.34	3.38	5.15	3.67	3.83	3.32	56.15
5,286.14	2.98	99.77	5,284.89	3.28	5.75	3.60	5.75	5.75	3.91
5,299.71	3.56	102.69	5,298.44	3.13	6.51	3.50	4.45	4.27	21.52
5,313.29	3.54	101.77	5,312.00	2.95	7.33	3.36	0.44	-0.15	-6.77
5,326.86	3.51	100.76	5,325.54	2.79	8.15	3.25	0.51	-0.22	-7.44
5,340.43	3.49	99.71	5,339.09	2.64	8.97	3.15	0.49	-0.15	-7.74
5,354.00	3.67	100.66	5,352.63	2.49	9.80	3.05	1.40	1.33	7.00
5,367.43	4.23	104.51	5,366.03	2.29	10.70	2.89	4.61	4.17	28.67
5,380.86	5.19	107.19	5,379.41	1.98	11.76	2.65	7.33	7.15	19.96
5,394.29	5.52	107.07	5,392.78	1.61	12.96	2.35	2.46	2.46	-0.89
5,407.71	5.60	106.22	5,406.14	1.24	14.21	2.05	0.86	0.60	-6.33
5,421.14	5.68	105.31	5,419.50	0.88	15.48	1.77	0.89	0.60	-6.78
5,434.57	5.77	104.34	5,432.87	0.54	16.77	1.50	0.98	0.67	-7.22
5,448.00	5.83	103.54	5,446.23	0.21	18.09	1.25	0.75	0.45	-5.96
5,461.57	5.65	104.73	5,459.73	-0.12	19.41	0.99	1.59	-1.33	8.77
5,475.14	6.51	103.14	5,473.22	-0.46	20.80	0.73	6.46	6.34	-11.72
5,488.71	6.87	98.82	5,486.70	-0.76	22.35	0.52	4.56	2.65	-31.83



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,502.29	7.05	95.85	5,500.18	-0.97	23.98	0.40	2.96	1.33	-21.87
5,515.86	7.19	94.10	5,513.65	-1.12	25.66	0.35	1.90	1.03	-12.90
5,529.43	7.34	92.47	5,527.11	-1.22	27.37	0.35	1.88	1.11	-12.01
5,543.00	7.49	91.22	5,540.56	-1.27	29.12	0.40	1.62	1.11	-9.21
5,556.57	7.60	90.56	5,554.02	-1.30	30.90	0.47	1.03	0.81	-4.86
5,570.14	7.58	89.86	5,567.47	-1.31	32.70	0.57	0.70	-0.15	-5.16
5,583.71	7.60	89.50	5,580.92	-1.30	34.49	0.68	0.38	0.15	-2.65
5,597.29	8.01	90.73	5,594.37	-1.30	36.33	0.78	3.26	3.02	9.06
5,610.86	8.26	92.09	5,607.81	-1.35	38.25	0.84	2.32	1.84	10.02
5,624.43	8.35	92.25	5,621.23	-1.42	40.21	0.88	0.68	0.66	1.18
5,638.00	8.60	92.51	5,634.66	-1.50	42.21	0.91	1.86	1.84	1.92
5,651.57	9.47	93.15	5,648.06	-1.61	44.34	0.93	6.45	6.41	4.72
5,665.14	10.16	99.40	5,661.43	-1.87	46.63	0.80	9.35	5.08	46.06
5,678.71	10.94	101.62	5,674.77	-2.32	49.08	0.49	6.48	5.75	16.36
5,692.29	11.02	101.67	5,688.10	-2.84	51.61	0.11	0.59	0.59	0.37
5,705.86	11.11	101.71	5,701.42	-3.37	54.16	-0.27	0.67	0.66	0.29
5,719.43	11.19	101.74	5,714.73	-3.91	56.73	-0.65	0.59	0.59	0.22
5,733.00	11.29	101.73	5,728.04	-4.44	59.32	-1.04	0.74	0.74	-0.07
5,746.57	11.38	101.67	5,741.35	-4.98	61.93	-1.43	0.67	0.66	-0.44
5,760.14	11.48	101.58	5,754.65	-5.53	64.56	-1.82	0.75	0.74	-0.66
5,773.71	11.59	101.46	5,767.95	-6.07	67.22	-2.21	0.83	0.81	-0.88
5,787.29	11.69	101.34	5,781.25	-6.61	69.91	-2.60	0.76	0.74	-0.88
5,800.86	11.79	101.21	5,794.53	-7.15	72.62	-2.99	0.76	0.74	-0.96
5,814.43	11.89	101.09	5,807.81	-7.69	75.35	-3.37	0.76	0.74	-0.88
5,828.00	11.98	101.00	5,821.09	-8.23	78.10	-3.75	0.68	0.66	-0.66
5,841.43	12.07	100.95	5,834.23	-8.76	80.85	-4.12	0.67	0.67	-0.37
5,854.86	12.15	100.92	5,847.36	-9.29	83.62	-4.50	0.60	0.60	-0.22
5,868.29	12.22	100.90	5,860.48	-9.83	86.40	-4.87	0.52	0.52	-0.15
5,881.71	12.29	100.87	5,873.60	-10.37	89.20	-5.25	0.52	0.52	-0.22
5,895.14	12.36	100.83	5,886.72	-10.91	92.01	-5.63	0.53	0.52	-0.30
5,908.57	12.42	100.77	5,899.84	-11.45	94.84	-6.00	0.46	0.45	-0.45
5,922.00	12.47	100.68	5,912.95	-11.99	97.69	-6.38	0.40	0.37	-0.67
5,935.57	12.52	100.53	5,926.20	-12.53	100.57	-6.75	0.44	0.37	-1.11
5,949.14	12.56	100.35	5,939.45	-13.06	103.47	-7.12	0.41	0.29	-1.33
5,962.71	12.59	100.14	5,952.69	-13.58	106.38	-7.48	0.40	0.22	-1.55
5,976.29	12.62	99.93	5,965.94	-14.10	109.29	-7.83	0.40	0.22	-1.55
5,989.86	12.65	99.72	5,979.18	-14.61	112.22	-8.17	0.40	0.22	-1.55
6,003.43	12.67	99.52	5,992.42	-15.10	115.15	-8.49	0.36	0.15	-1.47
6,017.00	12.69	99.34	6,005.66	-15.59	118.09	-8.81	0.33	0.15	-1.33
6,030.43	12.70	99.22	6,018.76	-16.07	121.00	-9.12	0.21	0.07	-0.89
6,043.86	12.70	99.12	6,031.87	-16.54	123.92	-9.43	0.16	0.00	-0.74
6,057.29	12.71	99.04	6,044.97	-17.01	126.83	-9.72	0.15	0.07	-0.60
6,070.71	12.71	98.96	6,058.06	-17.47	129.75	-10.02	0.13	0.00	-0.60



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,084.14	12.70	98.89	6,071.16	-17.93	132.67	-10.31	0.14	-0.07	-0.52
6,097.57	12.70	98.81	6,084.26	-18.38	135.59	-10.60	0.13	0.00	-0.60
6,111.00	12.70	98.71	6,097.36	-18.83	138.50	-10.88	0.16	0.00	-0.74
6,124.57	12.69	98.59	6,110.60	-19.28	141.45	-11.16	0.21	-0.07	-0.88
6,138.14	12.69	98.46	6,123.84	-19.72	144.40	-11.43	0.21	0.00	-0.96
6,151.71	12.69	98.32	6,137.08	-20.15	147.35	-11.70	0.23	0.00	-1.03
6,165.29	12.69	98.19	6,150.33	-20.58	150.30	-11.95	0.21	0.00	-0.96
6,178.86	12.69	98.06	6,163.56	-21.00	153.25	-12.21	0.21	0.00	-0.96
6,192.43	12.69	97.95	6,176.80	-21.42	156.20	-12.45	0.18	0.00	-0.81
6,206.00	12.70	97.87	6,190.04	-21.83	159.16	-12.69	0.15	0.07	-0.59
6,219.43	12.71	97.83	6,203.14	-22.23	162.08	-12.93	0.10	0.07	-0.30
6,232.86	12.72	97.82	6,216.24	-22.64	165.01	-13.16	0.08	0.07	-0.07
6,246.29	12.74	97.83	6,229.34	-23.04	167.94	-13.40	0.15	0.15	0.07
6,259.71	12.76	97.85	6,242.43	-23.44	170.88	-13.63	0.15	0.15	0.15
6,273.14	12.79	97.87	6,255.53	-23.85	173.82	-13.87	0.23	0.22	0.15
6,286.57	12.82	97.90	6,268.63	-24.26	176.77	-14.11	0.23	0.22	0.22
6,300.00	12.85	97.93	6,281.72	-24.67	179.72	-14.35	0.23	0.22	0.22
6,313.57	12.90	98.18	6,294.95	-25.09	182.72	-14.60	0.55	0.37	1.84
6,327.14	13.05	101.16	6,308.17	-25.60	185.72	-14.94	5.05	1.11	21.96
6,340.71	13.52	103.57	6,321.38	-26.27	188.77	-15.43	5.35	3.46	17.76
6,354.29	13.48	105.77	6,334.58	-27.08	191.83	-16.06	3.79	-0.29	16.20
6,367.86	13.57	105.74	6,347.78	-27.94	194.89	-16.75	0.67	0.66	-0.22
6,381.43	13.66	105.69	6,360.97	-28.80	197.96	-17.43	0.67	0.66	-0.37
6,395.00	13.75	105.60	6,374.15	-29.67	201.06	-18.12	0.68	0.66	-0.66
6,408.43	13.85	105.44	6,387.19	-30.53	204.14	-18.80	0.80	0.74	-1.19
6,421.86	13.95	105.23	6,400.23	-31.38	207.26	-19.48	0.83	0.74	-1.56
6,435.29	14.05	104.99	6,413.26	-32.23	210.39	-20.14	0.86	0.74	-1.79
6,448.71	14.14	104.75	6,426.28	-33.06	213.55	-20.80	0.80	0.67	-1.79
6,462.14	14.23	104.50	6,439.30	-33.90	216.73	-21.45	0.81	0.67	-1.86
6,475.57	14.30	104.26	6,452.31	-34.72	219.94	-22.08	0.68	0.52	-1.79
6,489.00	14.30	105.77	6,465.33	-35.58	223.14	-22.76	2.78	0.00	11.24
6,502.57	14.31	106.51	6,478.48	-36.51	226.36	-23.50	1.35	0.07	5.45
6,516.14	14.34	106.26	6,491.62	-37.46	229.59	-24.27	0.51	0.22	-1.84
6,529.71	14.37	106.01	6,504.77	-38.39	232.82	-25.01	0.51	0.22	-1.84
6,543.29	14.39	105.76	6,517.92	-39.31	236.06	-25.75	0.48	0.15	-1.84
6,556.86	14.40	105.52	6,531.07	-40.22	239.31	-26.47	0.45	0.07	-1.77
6,570.43	14.42	105.31	6,544.21	-41.12	242.57	-27.18	0.41	0.15	-1.55
6,584.00	14.45	105.12	6,557.35	-42.01	245.83	-27.88	0.41	0.22	-1.40
6,597.43	14.47	104.98	6,570.36	-42.88	249.07	-28.57	0.30	0.15	-1.04
6,610.86	14.51	104.87	6,583.36	-43.75	252.32	-29.25	0.36	0.30	-0.82
6,624.29	14.55	104.80	6,596.36	-44.61	255.57	-29.92	0.33	0.30	-0.52
6,637.71	14.59	104.76	6,609.35	-45.47	258.84	-30.59	0.31	0.30	-0.30
6,651.14	14.63	104.75	6,622.35	-46.33	262.11	-31.27	0.30	0.30	-0.07
6,664.57	14.69	104.78	6,635.34	-47.20	265.40	-31.94	0.45	0.45	0.22



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,678.00	14.75	104.87	6,648.33	-48.07	268.70	-32.63	0.48	0.45	0.67
6,691.57	14.83	105.04	6,661.45	-48.97	272.05	-33.33	0.67	0.59	1.25
6,705.14	14.92	105.25	6,674.56	-49.88	275.41	-34.04	0.77	0.66	1.55
6,718.71	15.01	105.49	6,687.67	-50.80	278.79	-34.78	0.81	0.66	1.77
6,732.29	15.09	105.74	6,700.79	-51.75	282.18	-35.53	0.76	0.59	1.84
6,745.86	15.18	105.98	6,713.89	-52.72	285.59	-36.30	0.81	0.66	1.77
6,759.43	15.25	106.20	6,726.98	-53.71	289.01	-37.09	0.67	0.52	1.62
6,773.00	15.25	108.25	6,740.07	-54.77	292.42	-37.95	3.97	0.00	15.11
6,786.57	15.13	111.13	6,753.17	-55.96	295.77	-38.96	5.63	-0.88	21.22
6,800.14	14.79	112.94	6,766.28	-57.28	299.02	-40.08	4.26	-2.51	13.34
6,813.71	14.64	113.03	6,779.40	-58.62	302.19	-41.25	1.12	-1.11	0.66
6,827.29	14.64	113.04	6,792.54	-59.97	305.35	-42.41	0.02	0.00	0.07
6,840.86	14.62	113.08	6,805.67	-61.31	308.50	-43.57	0.17	-0.15	0.29
6,854.43	14.58	113.22	6,818.81	-62.65	311.65	-44.73	0.39	-0.29	1.03
6,868.00	14.49	113.53	6,831.94	-64.00	314.77	-45.90	0.88	-0.66	2.28
6,881.43	14.20	113.48	6,844.95	-65.33	317.82	-47.05	2.16	-2.16	-0.37
6,894.86	13.70	116.28	6,857.99	-66.69	320.76	-48.24	6.25	-3.72	20.85
6,908.29	13.29	118.68	6,871.05	-68.14	323.54	-49.52	5.17	-3.05	17.87
6,921.71	12.99	120.16	6,884.11	-69.63	326.20	-50.87	3.36	-2.24	11.03
6,935.14	12.68	121.80	6,897.21	-71.17	328.76	-52.25	3.56	-2.31	12.21
6,948.57	12.40	123.45	6,910.32	-72.74	331.21	-53.68	3.39	-2.08	12.29
6,962.00	12.18	124.91	6,923.44	-74.35	333.58	-55.15	2.84	-1.64	10.87
6,975.57	11.78	129.02	6,936.72	-76.04	335.83	-56.71	6.94	-2.95	30.29
6,989.14	11.18	134.33	6,950.01	-77.83	337.84	-58.38	8.95	-4.42	39.13
7,002.71	10.67	139.93	6,963.34	-79.71	339.59	-60.16	8.67	-3.76	41.27
7,016.29	10.64	141.28	6,976.68	-81.65	341.19	-62.01	1.85	-0.22	9.94
7,029.86	10.72	141.27	6,990.02	-83.61	342.76	-63.87	0.59	0.59	-0.07
7,043.43	10.81	141.16	7,003.35	-85.59	344.35	-65.76	0.68	0.66	-0.81
7,057.00	10.88	140.96	7,016.68	-87.57	345.95	-67.65	0.59	0.52	-1.47
7,070.57	10.88	140.70	7,030.00	-89.56	347.57	-69.54	0.36	0.00	-1.92
7,084.14	10.86	140.41	7,043.33	-91.54	349.20	-71.42	0.43	-0.15	-2.14
7,097.71	10.81	140.10	7,056.66	-93.50	350.83	-73.28	0.57	-0.37	-2.28
7,111.29	10.75	139.79	7,070.00	-95.44	352.46	-75.13	0.61	-0.44	-2.28
7,124.86	10.69	139.48	7,083.33	-97.36	354.10	-76.96	0.61	-0.44	-2.28
7,138.43	10.63	139.21	7,096.67	-99.27	355.73	-78.76	0.58	-0.44	-1.99
7,152.00	10.05	139.26	7,110.02	-101.11	357.32	-80.52	4.27	-4.27	0.37
7,165.43	9.15	137.89	7,123.26	-102.79	358.80	-82.11	6.91	-6.70	-10.20
7,178.86	8.32	133.55	7,136.53	-104.26	360.22	-83.49	7.89	-6.18	-32.32
7,192.29	7.58	130.85	7,149.83	-105.50	361.60	-84.65	6.17	-5.51	-20.10
7,205.71	7.54	130.68	7,163.14	-106.66	362.94	-85.73	0.34	-0.30	-1.27
7,219.14	7.52	130.49	7,176.45	-107.80	364.27	-86.80	0.24	-0.15	-1.41
7,232.57	7.50	130.28	7,189.77	-108.94	365.61	-87.85	0.25	-0.15	-1.56
7,246.00	7.51	130.05	7,203.08	-110.07	366.95	-88.91	0.24	0.07	-1.71



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,259.57	7.53	129.77	7,216.54	-111.21	368.31	-89.97	0.31	0.15	-2.06
7,273.14	7.58	129.47	7,229.99	-112.35	369.69	-91.02	0.47	0.37	-2.21
7,286.71	7.64	129.16	7,243.44	-113.49	371.08	-92.08	0.54	0.44	-2.28
7,300.29	7.71	128.87	7,256.90	-114.63	372.49	-93.14	0.59	0.52	-2.14
7,313.86	7.77	128.60	7,270.34	-115.77	373.91	-94.20	0.52	0.44	-1.99
7,327.43	7.84	128.37	7,283.79	-116.92	375.35	-95.26	0.56	0.52	-1.69
7,341.00	7.89	128.19	7,297.23	-118.07	376.81	-96.33	0.41	0.37	-1.33
7,354.57	7.94	128.10	7,310.67	-119.22	378.28	-97.40	0.38	0.37	-0.66
7,368.14	7.97	128.06	7,324.11	-120.38	379.76	-98.47	0.22	0.22	-0.29
7,381.71	8.00	128.06	7,337.55	-121.54	381.24	-99.54	0.22	0.22	0.00
7,395.29	8.02	128.08	7,351.00	-122.71	382.73	-100.62	0.15	0.15	0.15
7,408.86	8.04	128.13	7,364.43	-123.88	384.22	-101.71	0.16	0.15	0.37
7,422.43	8.06	128.19	7,377.87	-125.05	385.72	-102.79	0.16	0.15	0.44
7,436.00	8.08	128.27	7,391.30	-126.23	387.22	-103.88	0.17	0.15	0.59
7,449.43	8.10	128.37	7,404.60	-127.41	388.70	-104.97	0.18	0.15	0.74
7,462.86	8.11	128.48	7,417.90	-128.58	390.18	-106.06	0.14	0.07	0.82
7,476.29	8.13	128.60	7,431.19	-129.76	391.67	-107.15	0.20	0.15	0.89
7,489.71	8.14	128.72	7,444.48	-130.95	393.15	-108.25	0.15	0.07	0.89
7,503.14	8.15	128.84	7,457.77	-132.14	394.63	-109.36	0.15	0.07	0.89
7,516.57	8.16	128.96	7,471.07	-133.34	396.11	-110.47	0.15	0.07	0.89
7,530.00	8.17	129.09	7,484.36	-134.54	397.60	-111.58	0.16	0.07	0.97
7,543.43	8.18	129.20	7,497.65	-135.74	399.08	-112.70	0.14	0.07	0.82
7,556.86	8.18	129.32	7,510.95	-136.95	400.56	-113.82	0.13	0.00	0.89
7,570.29	8.19	129.43	7,524.24	-138.17	402.03	-114.95	0.14	0.07	0.82
7,583.71	8.19	129.55	7,537.52	-139.38	403.51	-116.08	0.13	0.00	0.89
7,597.14	8.20	129.67	7,550.82	-140.60	404.98	-117.21	0.15	0.07	0.89
7,610.57	8.20	129.80	7,564.11	-141.83	406.46	-118.35	0.14	0.00	0.97
7,624.00	8.21	129.94	7,577.40	-143.06	407.93	-119.50	0.17	0.07	1.04
7,637.43	8.21	130.11	7,590.69	-144.29	409.40	-120.64	0.18	0.00	1.27
7,650.86	8.21	130.28	7,603.99	-145.53	410.86	-121.79	0.18	0.00	1.27
7,664.29	8.22	130.46	7,617.28	-146.77	412.32	-122.95	0.21	0.07	1.34
7,677.71	8.22	130.63	7,630.56	-148.02	413.78	-124.11	0.18	0.00	1.27
7,691.14	8.23	130.78	7,643.85	-149.27	415.24	-125.28	0.18	0.07	1.12
7,704.57	8.24	130.89	7,657.14	-150.53	416.69	-126.45	0.14	0.07	0.82
7,718.00	8.26	130.96	7,670.43	-151.79	418.15	-127.63	0.17	0.15	0.52
7,731.57	8.28	130.96	7,683.86	-153.07	419.62	-128.82	0.15	0.15	0.00
7,745.14	8.31	130.91	7,697.29	-154.35	421.10	-130.02	0.23	0.22	-0.37
7,758.71	8.34	130.83	7,710.72	-155.64	422.59	-131.22	0.24	0.22	-0.59
7,772.29	8.37	130.75	7,724.15	-156.93	424.08	-132.42	0.24	0.22	-0.59
7,785.86	8.39	130.67	7,737.58	-158.22	425.58	-133.62	0.17	0.15	-0.59
7,799.43	8.40	130.61	7,751.00	-159.51	427.09	-134.82	0.10	0.07	-0.44
7,813.00	8.39	130.58	7,764.43	-160.80	428.59	-136.03	0.08	-0.07	-0.22
7,826.57	8.36	130.64	7,777.85	-162.08	430.09	-137.22	0.23	-0.22	0.44



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,840.14	8.30	130.73	7,791.28	-163.37	431.58	-138.42	0.45	-0.44	0.66
7,853.71	8.24	130.84	7,804.71	-164.64	433.06	-139.61	0.46	-0.44	0.81
7,867.29	8.17	130.97	7,818.15	-165.91	434.52	-140.79	0.53	-0.52	0.96
7,880.86	8.10	131.08	7,831.58	-167.17	435.97	-141.97	0.53	-0.52	0.81
7,894.43	8.04	131.17	7,845.02	-168.42	437.41	-143.13	0.45	-0.44	0.66
7,908.00	7.95	131.36	7,858.46	-169.67	438.83	-144.30	0.69	-0.66	1.40
7,921.43	7.54	132.44	7,871.76	-170.88	440.17	-145.43	3.24	-3.05	8.04
7,934.86	6.67	129.13	7,885.09	-171.96	441.43	-146.44	7.16	-6.48	-24.65
7,948.29	6.56	128.41	7,898.43	-172.93	442.63	-147.34	1.03	-0.82	-5.36
7,961.71	6.59	128.12	7,911.76	-173.88	443.84	-148.22	0.33	0.22	-2.16
7,975.14	6.62	127.82	7,925.10	-174.83	445.06	-149.10	0.34	0.22	-2.23
7,988.57	6.66	127.55	7,938.44	-175.78	446.29	-149.97	0.38	0.30	-2.01
8,002.00	6.71	127.35	7,951.78	-176.73	447.53	-150.85	0.41	0.37	-1.49
8,015.57	6.75	127.27	7,965.26	-177.70	448.79	-151.74	0.30	0.29	-0.59
8,029.14	6.79	127.26	7,978.74	-178.67	450.07	-152.64	0.29	0.29	-0.07
8,042.71	6.84	127.31	7,992.21	-179.64	451.35	-153.54	0.37	0.37	0.37
8,056.29	6.88	127.38	8,005.69	-180.63	452.64	-154.45	0.30	0.29	0.52
8,069.86	6.91	127.46	8,019.16	-181.62	453.93	-155.36	0.23	0.22	0.59
8,083.43	6.94	127.55	8,032.63	-182.61	455.23	-156.28	0.24	0.22	0.66
8,097.00	6.96	127.63	8,046.11	-183.61	456.53	-157.21	0.16	0.15	0.59
8,110.57	6.97	127.69	8,059.58	-184.62	457.83	-158.14	0.09	0.07	0.44
8,124.14	6.96	127.74	8,073.04	-185.63	459.14	-159.07	0.09	-0.07	0.37
8,137.71	6.95	127.76	8,086.52	-186.63	460.43	-160.00	0.08	-0.07	0.15
8,151.29	6.94	127.76	8,100.00	-187.64	461.73	-160.93	0.07	-0.07	0.00
8,164.86	6.92	127.73	8,113.47	-188.64	463.03	-161.85	0.15	-0.15	-0.22
8,178.43	6.92	127.67	8,126.94	-189.64	464.32	-162.78	0.05	0.00	-0.44
8,192.00	6.91	127.55	8,140.41	-190.64	465.62	-163.70	0.13	-0.07	-0.88
8,205.43	6.93	127.34	8,153.74	-191.62	466.90	-164.61	0.24	0.15	-1.56
8,218.86	6.94	127.09	8,167.07	-192.60	468.19	-165.51	0.24	0.07	-1.86
8,232.29	6.97	126.82	8,180.40	-193.58	469.49	-166.41	0.33	0.22	-2.01
8,245.71	6.99	126.54	8,193.72	-194.55	470.80	-167.31	0.29	0.15	-2.09
8,259.14	7.02	126.26	8,207.05	-195.52	472.12	-168.21	0.34	0.22	-2.08
8,272.57	7.05	126.02	8,220.38	-196.49	473.45	-169.10	0.31	0.22	-1.79
8,286.00	7.08	125.82	8,233.71	-197.46	474.78	-169.99	0.29	0.22	-1.49
8,299.43	7.10	125.70	8,247.04	-198.43	476.13	-170.88	0.19	0.15	-0.89
8,312.86	7.12	125.62	8,260.37	-199.40	477.48	-171.77	0.17	0.15	-0.60
8,326.29	7.15	125.59	8,273.69	-200.37	478.83	-172.66	0.23	0.22	-0.22
8,339.71	7.17	125.58	8,287.01	-201.35	480.20	-173.56	0.15	0.15	-0.07
8,353.14	7.18	125.59	8,300.33	-202.32	481.56	-174.45	0.08	0.07	0.07
8,366.57	7.20	125.63	8,313.66	-203.30	482.93	-175.35	0.15	0.15	0.30
8,380.00	7.21	125.70	8,326.98	-204.28	484.29	-176.25	0.10	0.07	0.52
8,393.57	7.23	125.80	8,340.44	-205.28	485.68	-177.17	0.17	0.15	0.74
8,407.14	7.24	125.93	8,353.90	-206.28	487.06	-178.09	0.14	0.07	0.96
8,420.71	7.24	126.08	8,367.37	-207.29	488.45	-179.01	0.14	0.00	1.11



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,434.29	7.24	126.23	8,380.84	-208.30	489.83	-179.94	0.14	0.00	1.10
8,447.86	7.24	126.39	8,394.30	-209.31	491.21	-180.88	0.15	0.00	1.18
8,461.43	7.22	126.55	8,407.76	-210.32	492.58	-181.81	0.21	-0.15	1.18
8,475.00	7.20	126.70	8,421.22	-211.34	493.95	-182.75	0.20	-0.15	1.11
8,488.43	7.15	126.84	8,434.55	-212.34	495.29	-183.67	0.39	-0.37	1.04
8,501.86	7.09	126.97	8,447.88	-213.34	496.62	-184.59	0.46	-0.45	0.97
8,515.29	7.02	127.10	8,461.20	-214.34	497.94	-185.51	0.53	-0.52	0.97
8,528.71	6.95	127.22	8,474.52	-215.32	499.24	-186.42	0.53	-0.52	0.89
8,542.14	6.89	127.33	8,487.86	-216.30	500.53	-187.33	0.46	-0.45	0.82
8,555.57	6.82	127.44	8,501.19	-217.28	501.80	-188.22	0.53	-0.52	0.82
8,569.00	6.77	127.55	8,514.53	-218.24	503.06	-189.12	0.38	-0.37	0.82
8,582.57	6.74	127.63	8,528.00	-219.22	504.33	-190.02	0.23	-0.22	0.59
8,596.14	6.72	127.71	8,541.48	-220.19	505.58	-190.92	0.16	-0.15	0.59
8,609.71	6.71	127.77	8,554.96	-221.16	506.84	-191.81	0.09	-0.07	0.44
8,623.29	6.69	127.82	8,568.44	-222.13	508.09	-192.71	0.15	-0.15	0.37
8,636.86	6.67	127.85	8,581.92	-223.10	509.34	-193.61	0.15	-0.15	0.22
8,650.43	6.63	127.86	8,595.40	-224.06	510.58	-194.50	0.29	-0.29	0.07
8,664.00	6.57	127.81	8,608.88	-225.02	511.81	-195.38	0.44	-0.44	-0.37
8,677.43	6.46	127.69	8,622.22	-225.95	513.02	-196.25	0.83	-0.82	-0.89
8,690.86	6.34	127.53	8,635.57	-226.87	514.20	-197.09	0.90	-0.89	-1.19
8,704.29	6.20	127.35	8,648.92	-227.76	515.37	-197.91	1.05	-1.04	-1.34
8,717.71	6.05	127.17	8,662.26	-228.62	516.51	-198.71	1.13	-1.12	-1.34
8,731.14	5.91	127.02	8,675.62	-229.47	517.62	-199.49	1.05	-1.04	-1.12
8,744.57	5.77	126.95	8,688.98	-230.29	518.71	-200.25	1.04	-1.04	-0.52
8,758.00	5.64	126.99	8,702.34	-231.09	519.78	-200.99	0.97	-0.97	0.30
8,771.57	5.55	127.29	8,715.85	-231.89	520.83	-201.73	0.70	-0.66	2.21
8,785.14	5.46	127.73	8,729.36	-232.69	521.87	-202.46	0.73	-0.66	3.24
8,798.71	5.39	128.29	8,742.86	-233.48	522.88	-203.19	0.65	-0.52	4.13
8,812.29	5.33	128.94	8,756.38	-234.27	523.87	-203.93	0.63	-0.44	4.79
8,825.86	5.26	129.66	8,769.90	-235.06	524.84	-204.66	0.71	-0.52	5.31
8,839.43	5.19	130.46	8,783.41	-235.86	525.78	-205.40	0.74	-0.52	5.90
8,853.00	5.12	131.34	8,796.93	-236.65	526.71	-206.15	0.78	-0.52	6.48
8,866.43	5.02	132.23	8,810.30	-237.44	527.59	-206.89	0.95	-0.74	6.63
8,879.86	4.92	133.19	8,823.68	-238.23	528.45	-207.62	0.97	-0.74	7.15
8,893.29	4.81	134.21	8,837.06	-239.02	529.27	-208.36	1.04	-0.82	7.59
8,906.71	4.70	135.27	8,850.44	-239.80	530.06	-209.10	1.05	-0.82	7.90
8,920.14	4.59	136.38	8,863.82	-240.58	530.82	-209.83	1.06	-0.82	8.27
8,933.57	4.49	137.52	8,877.21	-241.36	531.54	-210.57	1.00	-0.74	8.49
8,947.00	4.39	138.68	8,890.60	-242.13	532.24	-211.30	1.00	-0.74	8.64
8,960.43	4.29	139.72	8,903.99	-242.90	532.90	-212.03	0.95	-0.74	7.74
8,973.86	4.21	140.76	8,917.39	-243.67	533.54	-212.76	0.83	-0.60	7.74
8,987.29	4.12	141.79	8,930.78	-244.43	534.15	-213.48	0.87	-0.67	7.67
9,000.71	4.04	142.81	8,944.17	-245.18	534.73	-214.20	0.80	-0.60	7.60



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,014.14	3.96	143.82	8,957.56	-245.94	535.29	-214.92	0.79	-0.60	7.52
9,027.57	3.89	144.82	8,970.96	-246.68	535.83	-215.64	0.73	-0.52	7.45
9,041.00	3.81	145.82	8,984.36	-247.42	536.34	-216.35	0.78	-0.60	7.45
9,055.80	3.73	146.79	8,999.13	-248.23	536.88	-217.13	0.69	-0.54	6.55
9,070.60	3.64	147.74	9,013.90	-249.03	537.40	-217.89	0.73	-0.61	6.42
9,085.40	3.56	148.69	9,028.67	-249.82	537.89	-218.65	0.67	-0.54	6.42
9,100.20	3.48	149.67	9,043.44	-250.60	538.35	-219.41	0.68	-0.54	6.62
9,115.00	3.40	150.76	9,058.22	-251.37	538.79	-220.15	0.70	-0.54	7.36
9,130.00	3.32	152.09	9,073.19	-252.15	539.21	-220.90	0.74	-0.53	8.87
9,145.00	3.25	153.39	9,088.17	-252.91	539.61	-221.64	0.68	-0.47	8.67
9,160.00	3.19	154.39	9,103.14	-253.67	539.98	-222.37	0.55	-0.40	6.67
9,175.00	3.13	154.78	9,118.12	-254.41	540.33	-223.10	0.42	-0.40	2.60
9,190.00	3.08	154.14	9,133.10	-255.15	540.68	-223.81	0.41	-0.33	-4.27
9,205.00	3.06	151.91	9,148.08	-255.86	541.05	-224.50	0.81	-0.13	-14.87
9,218.57	3.09	147.60	9,161.63	-256.49	541.41	-225.11	1.72	0.22	-31.76
9,232.14	3.16	142.19	9,175.18	-257.09	541.84	-225.69	2.23	0.52	-39.87
9,245.71	3.27	136.36	9,188.72	-257.67	542.34	-226.24	2.54	0.81	-42.96
9,259.29	3.41	130.59	9,202.28	-258.21	542.91	-226.74	2.68	1.03	-42.49
9,272.86	3.55	125.13	9,215.83	-258.72	543.56	-227.21	2.65	1.03	-40.24
9,286.43	3.62	88.77	9,229.37	-258.95	544.33	-227.40	16.48	0.52	-267.94
9,300.00	5.64	70.13	9,242.90	-258.71	545.39	-227.10	18.38	14.89	-137.36
9,313.43	8.22	68.12	9,256.23	-258.13	546.90	-226.44	19.29	19.21	-14.97
9,326.86	10.51	68.93	9,269.48	-257.33	548.93	-225.52	17.08	17.05	6.03
9,340.29	13.11	70.96	9,282.62	-256.40	551.52	-224.44	19.60	19.36	15.12
9,353.71	14.86	62.79	9,295.65	-255.11	554.49	-222.99	19.63	13.04	-60.88
9,367.14	17.02	58.37	9,308.56	-253.29	557.69	-220.99	18.44	16.08	-32.91
9,380.57	19.06	51.85	9,321.33	-250.91	561.09	-218.41	21.35	15.19	-48.55
9,394.00	21.15	45.54	9,333.94	-247.86	564.54	-215.17	22.41	15.56	-46.98
9,407.43	23.26	40.54	9,346.38	-244.14	568.00	-211.26	21.08	15.71	-37.23
9,420.86	25.16	36.21	9,358.63	-239.82	571.41	-206.76	19.36	14.15	-32.24
9,434.29	26.14	29.74	9,370.73	-234.95	574.56	-201.71	22.08	7.30	-48.18
9,447.71	26.50	26.36	9,382.76	-229.70	577.36	-196.31	11.48	2.68	-25.19
9,461.14	26.45	21.41	9,394.79	-224.23	579.78	-190.71	16.43	-0.37	-36.86
9,474.57	27.16	15.74	9,406.78	-218.49	581.71	-184.87	19.75	5.29	-42.22
9,488.00	27.18	12.34	9,418.72	-212.55	583.19	-178.85	11.56	0.15	-25.32
9,499.72	26.33	11.00	9,429.19	-207.38	584.26	-173.63	8.88	-7.23	-11.44
FTP: 9499.72' MD, 26.33° Inc									
9,501.57	26.20	10.78	9,430.85	-206.58	584.42	-172.82	8.88	-7.17	-11.84
9,515.14	27.01	6.30	9,442.98	-200.57	585.31	-166.77	15.94	5.97	-33.01
9,528.71	27.91	3.44	9,455.02	-194.34	585.84	-160.52	11.76	6.63	-21.08
9,542.29	26.91	1.94	9,467.08	-188.09	586.14	-154.27	8.95	-7.36	-11.05
9,555.86	27.89	0.99	9,479.13	-181.85	586.30	-148.03	7.91	7.22	-7.00
9,569.43	28.90	359.47	9,491.06	-175.40	586.32	-141.58	9.15	7.44	-11.20



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,583.00	28.04	357.76	9,502.99	-168.93	586.17	-135.14	8.73	-6.34	-12.60
9,596.57	28.07	355.60	9,514.97	-162.56	585.80	-128.80	7.49	0.22	-15.92
9,610.14	29.36	353.32	9,526.87	-156.07	585.16	-122.36	12.47	9.51	-16.80
9,623.71	31.01	352.12	9,538.60	-149.31	584.30	-115.65	12.95	12.16	-8.84
9,637.29	30.73	350.53	9,550.26	-142.42	583.25	-108.83	6.35	-2.06	-11.71
9,650.86	32.91	350.50	9,561.79	-135.36	582.07	-101.86	16.07	16.06	-0.22
9,664.43	34.97	352.31	9,573.04	-127.87	580.94	-94.44	16.91	15.18	13.34
9,678.00	36.58	352.88	9,584.05	-120.00	579.92	-86.65	12.12	11.86	4.20
9,691.57	36.98	352.37	9,594.92	-111.95	578.87	-78.66	3.71	2.95	-3.76
9,705.14	38.35	352.78	9,605.66	-103.72	577.80	-70.51	10.26	10.10	3.02
9,718.71	40.81	353.70	9,616.12	-95.14	576.79	-62.00	18.64	18.13	6.78
9,732.29	41.25	353.25	9,626.37	-86.28	575.77	-53.22	3.90	3.24	-3.31
9,745.86	42.58	353.90	9,636.46	-77.27	574.76	-44.28	10.31	9.80	4.79
9,759.43	43.13	353.51	9,646.41	-68.10	573.75	-35.18	4.50	4.05	-2.87
9,773.00	43.79	353.18	9,656.26	-58.83	572.67	-25.99	5.14	4.86	-2.43
9,786.43	44.93	353.82	9,665.86	-49.50	571.60	-16.73	9.12	8.49	4.77
9,799.86	45.78	354.03	9,675.30	-40.00	570.59	-7.30	6.43	6.33	1.56
9,813.29	46.26	353.83	9,684.63	-30.39	569.57	2.23	3.73	3.57	-1.49
9,826.71	46.65	353.37	9,693.87	-20.72	568.49	11.82	3.82	2.91	-3.43
9,840.14	47.68	354.93	9,703.00	-10.93	567.48	21.54	11.46	7.67	11.62
9,853.57	49.38	356.75	9,711.90	-0.89	566.76	31.52	16.23	12.66	13.55
9,867.00	50.23	357.28	9,720.56	9.35	566.22	41.72	7.01	6.33	3.95
9,880.57	50.33	356.99	9,729.24	19.78	565.70	52.10	1.80	0.74	-2.14
9,894.14	52.05	358.15	9,737.74	30.34	565.25	62.62	14.32	12.68	8.55
9,907.71	53.65	359.84	9,745.94	41.16	565.07	73.40	15.41	11.79	12.45
9,921.29	54.10	0.66	9,753.94	52.12	565.11	84.36	5.90	3.31	6.04
9,934.86	54.95	2.00	9,761.82	63.17	565.37	95.40	10.19	6.26	9.87
9,948.43	55.88	3.46	9,769.52	74.33	565.90	106.57	11.20	6.85	10.76
9,962.00	55.83	3.46	9,777.14	85.54	566.58	117.80	0.37	-0.37	0.00
9,975.57	55.65	3.31	9,784.78	96.74	567.24	129.02	1.61	-1.33	-1.11
9,989.14	56.61	4.06	9,792.34	107.98	567.97	140.28	8.43	7.07	5.53
10,002.71	56.85	3.82	9,799.78	119.30	568.75	151.63	2.31	1.77	-1.77
10,016.29	56.47	3.31	9,807.25	130.62	569.45	162.97	4.20	-2.80	-3.76
10,029.86	57.43	2.34	9,814.65	141.98	570.01	174.35	9.27	7.07	-7.15
10,043.43	59.09	1.82	9,821.79	153.52	570.43	185.88	12.66	12.23	-3.83
10,057.00	60.17	1.75	9,828.65	165.22	570.80	197.59	7.97	7.96	-0.52
10,070.43	60.38	1.27	9,835.31	176.88	571.10	209.24	3.48	1.56	-3.57
10,083.86	62.07	1.84	9,841.77	188.64	571.42	221.01	13.12	12.58	4.24
10,097.29	63.89	0.94	9,847.87	200.60	571.71	232.97	14.81	13.55	-6.70
10,110.71	63.95	0.19	9,853.77	212.66	571.83	245.01	5.04	0.45	-5.59
10,124.14	65.19	1.17	9,859.54	224.78	571.98	257.12	11.34	9.23	7.30
10,137.57	66.61	0.32	9,865.02	237.04	572.14	269.37	12.05	10.57	-6.33
10,151.00	68.42	359.91	9,870.16	249.45	572.16	281.76	13.77	13.48	-3.05
10,164.57	70.59	359.64	9,874.91	262.16	572.11	294.45	16.10	15.99	-1.99



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,178.14	72.88	359.29	9,879.16	275.04	571.99	307.30	17.05	16.88	-2.58
10,191.71	75.22	359.25	9,882.89	288.09	571.82	320.32	17.25	17.24	-0.29
10,205.29	77.61	359.26	9,886.08	301.29	571.65	333.48	17.60	17.60	0.07
10,218.86	79.54	358.92	9,888.77	314.59	571.44	346.75	14.43	14.22	-2.51
10,232.43	81.74	359.28	9,890.98	327.97	571.23	360.10	16.42	16.21	2.65
10,246.00	83.81	0.30	9,892.68	341.43	571.18	373.54	16.98	15.25	7.52
10,257.33	85.45	1.37	9,893.74	352.71	571.35	384.81	17.26	14.47	9.44
10,268.67	87.10	2.39	9,894.48	364.02	571.72	396.12	17.10	14.55	8.99
10,280.00	88.44	3.80	9,894.92	375.33	572.33	407.44	17.16	11.83	12.44
10,295.00	89.01	4.45	9,895.25	390.28	573.41	422.44	5.76	3.80	4.33
10,310.00	89.00	4.26	9,895.51	405.24	574.55	437.43	1.27	-0.07	-1.27
10,325.00	89.00	4.08	9,895.78	420.20	575.64	452.43	1.20	0.00	-1.20
10,340.00	89.00	3.91	9,896.04	435.16	576.68	467.42	1.13	0.00	-1.13
10,355.00	89.00	3.73	9,896.30	450.12	577.68	482.42	1.20	0.00	-1.20
10,370.00	88.99	3.54	9,896.56	465.09	578.63	497.42	1.27	-0.07	-1.27
10,383.57	88.97	3.35	9,896.80	478.63	579.45	510.99	1.41	-0.15	-1.40
10,397.14	88.94	3.14	9,897.05	492.18	580.21	524.55	1.56	-0.22	-1.55
10,410.71	88.91	2.94	9,897.31	505.73	580.93	538.12	1.49	-0.22	-1.47
10,424.29	88.89	2.74	9,897.57	519.29	581.61	551.70	1.48	-0.15	-1.47
10,437.86	88.87	2.54	9,897.83	532.84	582.23	565.26	1.48	-0.15	-1.47
10,451.43	88.86	2.36	9,898.10	546.40	582.81	578.83	1.33	-0.07	-1.33
10,465.00	88.90	2.19	9,898.37	559.95	583.35	592.40	1.29	0.29	-1.25
10,478.43	89.23	2.11	9,898.59	573.37	583.85	605.82	2.53	2.46	-0.60
10,491.86	89.48	2.18	9,898.74	586.79	584.36	619.25	1.93	1.86	0.52
10,505.29	89.12	2.26	9,898.90	600.21	584.88	632.67	2.75	-2.68	0.60
10,518.71	88.89	2.29	9,899.13	613.62	585.41	646.09	1.73	-1.71	0.22
10,532.14	88.62	2.26	9,899.43	627.03	585.94	659.52	2.02	-2.01	-0.22
10,545.57	88.51	2.26	9,899.76	640.45	586.47	672.94	0.82	-0.82	0.00
10,559.00	88.87	2.30	9,900.07	653.87	587.01	686.36	2.70	2.68	0.30
10,572.57	89.09	2.32	9,900.31	667.42	587.55	699.93	1.63	1.62	0.15
10,586.14	88.97	1.99	9,900.54	680.98	588.06	713.49	2.59	-0.88	-2.43
10,599.71	88.83	1.65	9,900.80	694.54	588.49	727.06	2.71	-1.03	-2.51
10,613.29	88.70	1.32	9,901.09	708.11	588.85	740.63	2.61	-0.96	-2.43
10,626.86	88.58	1.01	9,901.42	721.68	589.12	754.18	2.45	-0.88	-2.28
10,640.43	88.51	0.80	9,901.76	735.24	589.34	767.74	1.63	-0.52	-1.55
10,654.00	88.51	0.72	9,902.11	748.81	589.52	781.29	0.59	0.00	-0.59
10,667.43	88.73	0.74	9,902.44	762.23	589.69	794.70	1.64	1.64	0.15
10,680.86	89.28	0.81	9,902.67	775.66	589.87	808.12	4.13	4.10	0.52
10,694.29	89.88	0.89	9,902.77	789.08	590.07	821.54	4.51	4.47	0.60
10,707.71	90.50	0.96	9,902.72	802.50	590.28	834.95	4.65	4.62	0.52
10,721.14	90.95	1.12	9,902.55	815.93	590.53	848.36	3.56	3.35	1.19
10,734.57	91.19	1.44	9,902.30	829.35	590.83	861.78	2.98	1.79	2.38
10,748.00	91.21	2.09	9,902.02	842.77	591.24	875.21	4.84	0.15	4.84



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,761.29	91.18	2.63	9,901.74	856.05	591.79	888.49	4.07	-0.23	4.06
10,774.57	91.22	2.42	9,901.47	869.31	592.37	901.77	1.61	0.30	-1.58
10,787.86	91.23	2.21	9,901.18	882.59	592.91	915.05	1.58	0.08	-1.58
10,801.14	91.19	1.99	9,900.90	895.86	593.40	928.33	1.68	-0.30	-1.66
10,814.43	91.11	1.74	9,900.64	909.14	593.83	941.61	1.97	-0.60	-1.88
10,827.71	90.93	1.52	9,900.40	922.41	594.21	954.88	2.14	-1.36	-1.66
10,841.00	90.64	1.11	9,900.22	935.70	594.51	968.16	3.78	-2.18	-3.09
10,854.43	90.04	0.74	9,900.14	949.12	594.73	981.58	5.25	-4.47	-2.76
10,867.86	89.55	0.18	9,900.19	962.55	594.84	994.99	5.54	-3.65	-4.17
10,881.29	89.14	359.52	9,900.34	975.98	594.80	1,008.40	5.79	-3.05	-4.91
10,894.71	88.73	358.85	9,900.59	989.40	594.61	1,021.78	5.85	-3.06	-4.99
10,908.14	88.48	358.67	9,900.91	1,002.82	594.32	1,035.17	2.29	-1.86	-1.34
10,921.57	88.43	358.93	9,901.28	1,016.24	594.04	1,048.55	1.97	-0.37	1.94
10,935.00	88.27	358.45	9,901.66	1,029.67	593.73	1,061.93	3.77	-1.19	-3.57
10,948.29	88.20	357.92	9,902.07	1,042.94	593.31	1,075.16	4.02	-0.53	-3.99
10,961.57	88.18	357.94	9,902.49	1,056.21	592.83	1,088.38	0.21	-0.15	0.15
10,974.86	88.18	358.32	9,902.91	1,069.48	592.40	1,101.61	2.86	0.00	2.86
10,988.14	88.33	358.48	9,903.32	1,082.75	592.03	1,114.83	1.65	1.13	1.20
11,001.43	88.39	358.20	9,903.70	1,096.03	591.64	1,128.07	2.15	0.45	-2.11
11,014.71	88.44	357.92	9,904.07	1,109.30	591.19	1,141.29	2.14	0.38	-2.11
11,028.00	88.44	357.53	9,904.43	1,122.57	590.67	1,154.51	2.93	0.00	-2.93
11,041.29	88.43	357.08	9,904.79	1,135.84	590.04	1,167.73	3.39	-0.08	-3.39
11,054.57	88.41	356.61	9,905.16	1,149.10	589.31	1,180.92	3.54	-0.15	-3.54
11,067.86	88.38	356.11	9,905.53	1,162.36	588.47	1,194.10	3.77	-0.23	-3.76
11,081.14	88.34	355.60	9,905.91	1,175.60	587.51	1,207.27	3.85	-0.30	-3.84
11,094.43	88.29	355.09	9,906.30	1,188.84	586.43	1,220.43	3.85	-0.38	-3.84
11,107.71	88.23	354.61	9,906.70	1,202.06	585.24	1,233.56	3.64	-0.45	-3.61
11,121.00	88.39	354.89	9,907.10	1,215.28	584.02	1,246.69	2.43	1.20	2.11
11,134.43	88.45	354.63	9,907.47	1,228.65	582.80	1,259.97	1.99	0.45	-1.94
11,147.86	88.41	354.30	9,907.83	1,242.02	581.50	1,273.24	2.47	-0.30	-2.46
11,161.29	88.36	354.07	9,908.21	1,255.37	580.14	1,286.49	1.75	-0.37	-1.71
11,174.71	88.28	353.86	9,908.61	1,268.71	578.73	1,299.73	1.67	-0.60	-1.56
11,188.14	88.29	353.35	9,909.01	1,282.05	577.24	1,312.96	3.80	0.07	-3.80
11,201.57	88.23	353.25	9,909.42	1,295.38	575.67	1,326.18	0.87	-0.45	-0.74
11,215.00	88.20	353.20	9,909.83	1,308.71	574.09	1,339.40	0.43	-0.22	-0.37
11,228.14	88.26	353.13	9,910.24	1,321.75	572.52	1,352.33	0.70	0.46	-0.53
11,241.29	88.20	353.11	9,910.65	1,334.80	570.95	1,365.27	0.48	-0.46	-0.15
11,254.43	88.15	353.18	9,911.06	1,347.84	569.38	1,378.20	0.65	-0.38	0.53
11,267.57	88.12	353.25	9,911.49	1,360.88	567.83	1,391.13	0.58	-0.23	0.53
11,280.71	88.15	353.35	9,911.92	1,373.93	566.30	1,404.06	0.79	0.23	0.76
11,293.86	88.16	353.42	9,912.34	1,386.98	564.78	1,417.01	0.54	0.08	0.53
11,307.00	88.27	353.52	9,912.75	1,400.03	563.29	1,429.95	1.13	0.84	0.76
11,320.43	88.54	353.59	9,913.13	1,413.37	561.78	1,443.18	2.08	2.01	0.52



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,333.86	88.91	353.71	9,913.43	1,426.71	560.30	1,456.42	2.90	2.76	0.89
11,347.29	89.35	353.85	9,913.63	1,440.06	558.84	1,469.67	3.44	3.28	1.04
11,360.71	89.82	354.00	9,913.73	1,453.41	557.42	1,482.91	3.68	3.50	1.12
11,374.14	90.52	354.24	9,913.69	1,466.77	556.05	1,496.17	5.51	5.21	1.79
11,387.57	91.17	354.63	9,913.49	1,480.13	554.75	1,509.43	5.64	4.84	2.90
11,401.00	91.41	355.02	9,913.19	1,493.50	553.53	1,522.71	3.41	1.79	2.90
11,414.29	91.43	355.41	9,912.86	1,506.74	552.43	1,535.87	2.94	0.15	2.93
11,427.57	91.42	355.82	9,912.53	1,519.98	551.41	1,549.03	3.09	-0.08	3.09
11,440.86	91.35	356.23	9,912.21	1,533.24	550.49	1,562.21	3.13	-0.53	3.09
11,454.14	91.43	356.61	9,911.88	1,546.49	549.66	1,575.39	2.92	0.60	2.86
11,467.43	91.52	357.00	9,911.54	1,559.75	548.92	1,588.59	3.01	0.68	2.93
11,480.71	91.47	357.45	9,911.19	1,573.01	548.28	1,601.79	3.41	-0.38	3.39
11,494.00	91.27	357.94	9,910.88	1,586.29	547.74	1,615.01	3.98	-1.50	3.69
11,507.29	91.04	358.48	9,910.61	1,599.57	547.33	1,628.25	4.42	-1.73	4.06
11,520.57	90.86	359.08	9,910.39	1,612.84	547.05	1,641.49	4.72	-1.36	4.52
11,533.86	90.96	359.53	9,910.18	1,626.13	546.88	1,654.74	3.47	0.75	3.39
11,547.14	91.06	359.98	9,909.94	1,639.41	546.83	1,667.99	3.47	0.75	3.39
11,560.43	91.18	0.42	9,909.68	1,652.69	546.87	1,681.26	3.43	0.90	3.31
11,573.71	91.32	0.83	9,909.39	1,665.97	547.02	1,694.53	3.26	1.05	3.09
11,587.00	91.46	1.19	9,909.07	1,679.25	547.25	1,707.80	2.91	1.05	2.71
11,600.29	91.27	1.65	9,908.76	1,692.54	547.58	1,721.08	3.74	-1.43	3.46
11,613.57	91.32	2.06	9,908.46	1,705.81	548.01	1,734.35	3.11	0.38	3.09
11,626.86	91.44	2.45	9,908.14	1,719.08	548.53	1,747.64	3.07	0.90	2.93
11,640.14	91.56	2.63	9,907.79	1,732.34	549.12	1,760.91	1.63	0.90	1.36
11,653.43	91.32	2.94	9,907.45	1,745.61	549.77	1,774.20	2.95	-1.81	2.33
11,666.71	91.26	3.36	9,907.15	1,758.87	550.50	1,787.47	3.19	-0.45	3.16
11,680.00	91.35	3.76	9,906.85	1,772.13	551.32	1,800.76	3.08	0.68	3.01
11,693.57	91.58	4.15	9,906.50	1,785.66	552.26	1,814.32	3.34	1.69	2.87
11,707.14	91.79	4.58	9,906.11	1,799.19	553.29	1,827.89	3.53	1.55	3.17
11,720.71	91.92	4.99	9,905.67	1,812.71	554.42	1,841.44	3.17	0.96	3.02
11,734.29	91.99	5.18	9,905.20	1,826.22	555.63	1,855.01	1.49	0.52	1.40
11,747.86	92.00	5.46	9,904.73	1,839.73	556.88	1,868.56	2.06	0.07	2.06
11,761.43	91.95	5.91	9,904.26	1,853.22	558.23	1,882.11	3.33	-0.37	3.32
11,775.00	91.78	6.35	9,903.82	1,866.71	559.67	1,895.66	3.47	-1.25	3.24
11,788.57	91.61	6.72	9,903.42	1,880.18	561.22	1,909.20	3.00	-1.25	2.73
11,802.14	91.45	7.08	9,903.06	1,893.65	562.85	1,922.74	2.90	-1.18	2.65
11,815.71	91.26	7.46	9,902.74	1,907.11	564.56	1,936.27	3.13	-1.40	2.80
11,829.29	91.11	7.79	9,902.46	1,920.56	566.37	1,949.81	2.67	-1.10	2.43
11,842.86	91.01	8.14	9,902.21	1,934.00	568.25	1,963.33	2.68	-0.74	2.58
11,856.43	90.93	8.41	9,901.98	1,947.43	570.20	1,976.85	2.07	-0.59	1.99
11,870.00	90.97	8.53	9,901.75	1,960.85	572.20	1,990.36	0.93	0.29	0.88
11,883.43	90.95	8.71	9,901.53	1,974.12	574.21	2,003.73	1.35	-0.15	1.34
11,896.86	90.79	8.99	9,901.32	1,987.39	576.28	2,017.10	2.40	-1.19	2.08
11,910.29	90.90	9.12	9,901.12	2,000.65	578.39	2,030.46	1.27	0.82	0.97



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,923.71	91.13	9.41	9,900.89	2,013.90	580.55	2,043.80	2.76	1.71	2.16
11,937.14	91.39	9.66	9,900.59	2,027.14	582.77	2,057.15	2.69	1.94	1.86
11,950.57	91.63	9.95	9,900.24	2,040.37	585.06	2,070.49	2.80	1.79	2.16
11,964.00	91.62	10.26	9,899.86	2,053.58	587.42	2,083.81	2.31	-0.07	2.31
12,059.00	90.94	12.09	9,897.73	2,146.75	605.82	2,177.89	2.05	-0.72	1.93
12,153.00	91.33	11.32	9,895.87	2,238.78	624.89	2,270.85	0.92	0.41	-0.82
12,248.00	91.33	9.04	9,893.67	2,332.25	641.67	2,365.13	2.40	0.00	-2.40
12,343.00	90.18	7.74	9,892.41	2,426.23	655.53	2,459.74	1.83	-1.21	-1.37
12,437.00	89.49	6.92	9,892.68	2,519.46	667.53	2,553.51	1.14	-0.73	-0.87
12,532.00	88.93	4.64	9,893.99	2,613.96	677.09	2,648.40	2.47	-0.59	-2.40
12,627.00	88.88	3.03	9,895.81	2,708.72	683.44	2,743.37	1.70	-0.05	-1.69
12,721.00	89.99	1.25	9,896.74	2,802.65	686.95	2,837.35	2.23	1.18	-1.89
12,816.00	89.15	358.13	9,897.45	2,897.63	686.44	2,932.14	3.40	-0.88	-3.28
12,911.00	89.51	353.96	9,898.56	2,992.38	679.89	3,026.36	4.41	0.38	-4.39
13,006.00	90.00	352.19	9,898.97	3,086.68	668.44	3,119.85	1.93	0.52	-1.86
13,100.00	89.06	353.16	9,899.74	3,179.91	656.45	3,212.24	1.44	-1.00	1.03
13,195.00	89.50	356.01	9,900.93	3,274.47	647.49	3,306.13	3.04	0.46	3.00
13,289.00	88.30	358.31	9,902.74	3,368.33	642.83	3,399.57	2.76	-1.28	2.45
13,384.00	88.94	0.04	9,905.03	3,463.28	641.46	3,494.30	1.94	0.67	1.82
13,478.00	89.00	359.58	9,906.72	3,557.27	641.15	3,588.11	0.49	0.06	-0.49
13,573.00	89.70	359.44	9,907.79	3,652.26	640.34	3,682.90	0.75	0.74	-0.15
13,668.00	89.66	359.72	9,908.32	3,747.25	639.64	3,777.70	0.30	-0.04	0.29
13,762.00	90.00	359.43	9,908.60	3,841.25	638.95	3,871.50	0.48	0.36	-0.31
13,857.00	89.07	358.61	9,909.37	3,936.23	637.32	3,966.24	1.31	-0.98	-0.86
13,951.00	88.67	356.31	9,911.23	4,030.11	633.16	4,059.73	2.48	-0.43	-2.45
14,045.00	88.64	354.00	9,913.43	4,123.75	625.22	4,152.75	2.46	-0.03	-2.46
14,140.00	90.69	353.39	9,913.99	4,218.17	614.79	4,246.42	2.25	2.16	-0.64
14,235.00	90.26	353.22	9,913.20	4,312.51	603.71	4,339.98	0.49	-0.45	-0.18
14,329.00	90.50	352.85	9,912.58	4,405.82	592.31	4,432.48	0.47	0.26	-0.39
14,424.00	90.70	354.81	9,911.58	4,500.26	582.11	4,526.18	2.07	0.21	2.06
14,518.00	90.59	357.83	9,910.53	4,594.05	576.07	4,619.47	3.21	-0.12	3.21
14,613.00	90.46	358.83	9,909.66	4,689.00	573.30	4,714.11	1.06	-0.14	1.05
14,707.00	90.31	358.44	9,909.02	4,782.97	571.07	4,807.80	0.44	-0.16	-0.41
14,802.00	89.91	357.43	9,908.84	4,877.91	567.64	4,902.39	1.14	-0.42	-1.06
14,895.75	91.31	357.57	9,907.84	4,971.56	563.55	4,995.65	1.50	1.49	0.15
SL: 14895.75' MD									
14,897.00	91.33	357.57	9,907.81	4,972.81	563.50	4,996.90	1.50	1.49	0.15
14,991.00	89.59	356.65	9,907.06	5,066.68	558.76	5,090.35	2.09	-1.85	-0.98
15,086.00	91.12	356.11	9,906.47	5,161.49	552.76	5,184.65	1.71	1.61	-0.57
15,181.00	89.85	355.82	9,905.67	5,256.25	546.08	5,278.87	1.37	-1.34	-0.31
15,275.00	89.76	357.22	9,905.99	5,350.07	540.37	5,372.22	1.49	-0.10	1.49
15,370.00	90.44	359.58	9,905.82	5,445.03	537.72	5,466.87	2.59	0.72	2.48
15,465.00	90.69	2.33	9,904.88	5,540.00	539.30	5,561.77	2.91	0.26	2.89



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,559.00	90.67	5.50	9,903.77	5,633.76	545.72	5,655.75	3.37	-0.02	3.37
15,654.00	89.69	5.71	9,903.47	5,728.31	555.00	5,750.67	1.05	-1.03	0.22
15,748.00	89.10	4.42	9,904.46	5,821.93	563.30	5,844.62	1.51	-0.63	-1.37
15,843.00	90.36	3.93	9,904.91	5,916.68	570.21	5,939.60	1.42	1.33	-0.52
15,937.00	90.39	3.53	9,904.29	6,010.48	576.33	6,033.60	0.43	0.03	-0.43
16,032.00	90.21	4.71	9,903.80	6,105.23	583.15	6,128.58	1.26	-0.19	1.24
16,127.00	89.38	5.70	9,904.14	6,199.83	591.77	6,223.53	1.36	-0.87	1.04
16,221.00	89.82	4.76	9,904.79	6,293.44	600.34	6,317.47	1.10	0.47	-1.00
16,316.00	90.04	2.46	9,904.91	6,388.24	606.32	6,412.46	2.43	0.23	-2.42
16,410.00	90.12	359.72	9,904.78	6,482.22	608.11	6,506.38	2.92	0.09	-2.91
16,505.00	90.06	357.73	9,904.63	6,577.19	605.99	6,601.08	2.10	-0.06	-2.09
16,599.00	89.15	359.51	9,905.28	6,671.15	603.73	6,694.76	2.13	-0.97	1.89
16,694.00	89.89	2.94	9,906.07	6,766.11	605.76	6,789.68	3.69	0.78	3.61
16,788.00	89.40	359.81	9,906.65	6,860.07	608.02	6,883.62	3.37	-0.52	-3.33
16,882.00	89.38	359.93	9,907.66	6,954.07	607.80	6,977.45	0.13	-0.02	0.13
16,977.00	89.31	0.74	9,908.74	7,049.06	608.36	7,072.31	0.86	-0.07	0.85
17,072.00	90.69	359.35	9,908.74	7,144.05	608.43	7,167.16	2.06	1.45	-1.46
17,166.00	90.72	0.86	9,907.58	7,238.04	608.61	7,261.00	1.61	0.03	1.61
17,261.00	90.59	359.79	9,906.50	7,333.04	609.14	7,355.87	1.13	-0.14	-1.13
17,356.00	90.44	359.63	9,905.65	7,428.03	608.66	7,450.68	0.23	-0.16	-0.17
17,450.00	90.33	359.52	9,905.01	7,522.03	607.97	7,544.48	0.17	-0.12	-0.12
17,545.00	90.49	359.29	9,904.33	7,617.02	606.98	7,639.26	0.29	0.17	-0.24
17,639.00	90.22	359.98	9,903.75	7,711.01	606.38	7,733.07	0.79	-0.29	0.73
17,734.00	89.08	359.51	9,904.33	7,806.01	605.96	7,827.89	1.30	-1.20	-0.49
17,828.00	89.34	359.88	9,905.63	7,900.00	605.46	7,921.69	0.48	0.28	0.39
17,923.00	89.53	359.95	9,906.56	7,994.99	605.32	8,016.53	0.21	0.20	0.07
18,017.00	89.57	359.91	9,907.30	8,088.99	605.20	8,110.36	0.06	0.04	-0.04
18,112.00	88.97	359.68	9,908.51	8,183.98	604.86	8,205.18	0.68	-0.63	-0.24
18,206.00	90.19	0.92	9,909.20	8,277.97	605.35	8,299.05	1.85	1.30	1.32
18,301.00	90.36	0.89	9,908.75	8,372.96	606.85	8,393.96	0.18	0.18	-0.03
18,395.00	90.35	359.85	9,908.16	8,466.96	607.46	8,487.84	1.11	-0.01	-1.11
18,490.00	90.01	359.92	9,907.87	8,561.96	607.27	8,582.67	0.37	-0.36	0.07
18,585.00	89.90	359.57	9,907.94	8,656.95	606.85	8,677.49	0.39	-0.12	-0.37
18,678.00	89.72	0.29	9,908.25	8,749.95	606.73	8,770.33	0.80	-0.19	0.77
18,773.00	90.53	0.33	9,908.04	8,844.95	607.25	8,865.20	0.85	0.85	0.04
18,867.00	90.68	8.31	9,907.05	8,938.60	614.32	8,959.11	8.49	0.16	8.49
18,962.00	90.54	6.69	9,906.04	9,032.78	626.72	9,053.84	1.71	-0.15	-1.71
19,057.00	90.43	10.13	9,905.23	9,126.74	640.61	9,148.44	3.62	-0.12	3.62
19,152.00	90.73	1.15	9,904.27	9,221.18	649.94	9,243.26	9.46	0.32	-9.45
19,246.00	90.38	356.91	9,903.36	9,315.14	648.35	9,336.97	4.53	-0.37	-4.51
19,341.00	90.37	0.30	9,902.73	9,410.10	646.04	9,431.64	3.57	-0.01	3.57
19,435.00	89.88	359.05	9,902.53	9,504.09	645.50	9,525.45	1.43	-0.52	-1.33
19,530.00	90.56	358.38	9,902.16	9,599.07	643.37	9,620.15	1.00	0.72	-0.71
19,624.00	90.54	357.15	9,901.26	9,692.99	639.71	9,713.71	1.31	-0.02	-1.31



Phoenix
Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Top Spot 12_13 Fed Com 33H
Project:	Eddy County, NM (NAD83-NME)	TVD Reference:	RKB @ 3614.10usft (H&P 620)
Site:	Top Spot 12_13	MD Reference:	RKB @ 3614.10usft (H&P 620)
Well:	Top Spot 12_13 Fed Com 33H	North Reference:	Grid
Wellbore:	OH / 74953	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 620)	Database:	USAEDMDB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,719.00	90.34	359.33	9,900.53	9,787.94	636.79	9,808.33	2.30	-0.21	2.29
19,813.00	90.51	352.36	9,899.83	9,881.63	629.98	9,901.48	7.42	0.18	-7.41
19,908.00	90.54	359.61	9,898.96	9,976.33	623.34	9,995.65	7.63	0.03	7.63
20,008.00	90.83	351.80	9,897.77	10,075.96	615.85	10,094.69	7.81	0.29	-7.81
Final Phoenix MWD Survey									
20,084.26	90.83	351.80	9,896.66	10,151.44	604.98	10,169.42	0.00	0.00	0.00
LTP: 20084.26' MD									
20,130.00	90.83	351.80	9,896.00	10,196.70	598.46	10,214.24	0.00	0.00	0.00
Projection to TD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
865.50	865.50	-0.92	-0.22	Tie In
1,006.00	1,005.99	-0.73	0.88	First Phoenix MWD Survey

C-105	State of New Mexico	Revised July 9, 2024
Submit Electronically Via OCD Permitting	Energy, Minerals & Natural Resources Department	
OIL CONSERVATION DIVISION		

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

Section 1 - Operator and Well Information

Submittal Type: ☒ New Well ☐ Workover ☐ Deepening ☐ Plugback ☐ Different Reservoir ☐ C-144 Closure Attachment ☐ Other	
Operator Name: OXY USA INC	OGRID: 16696
Property Name and Well Number: TOP SPOT 12-13 FEDERAL COM 33H	Property Code: 329719
Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal	API Number: 30-0 15-47953
Pool Name: Bilbrey Basin; Bone Spring	Pool Code: 5695

Section 2 – Well Location

	UI or lot no.	Section	Township	Range	Lot Id	Feet from	N/S Line	Feet from	E/W Line	County
SHL:	P	13	22S	31E		310	S	1186	E	EDDY
BHL	A	12	22S	31E		55	N	533	E	EDDY

Section 3 – Completion Information

Date T.D. Reached 07/07/24	Total Measured Depth of Well 20130' MD	Acid Volume (bbls)	☒ Directional Survey Submitted ☐ Deviation Survey Submitted
Date Rig Released 07/09/24	Plug-Back Measured Depth 20089' MD	Completion Fluid Used (bbls) 354157 BBL	Were Logs Ran (Y/N) Y
Completion Date 08/28/24	Perforations (MD and TVD) 9920-20006'MD/9753-9898'TVD	Completion Proppant Used (lbs) 25303200#	List Type of Logs Ran if applicable: CBL, Gamma Ray

Section 4 – Action IDs for Submissions and Order Numbers

Surface Casing Action ID: 392363	UIC Permit/Order (UIC wells only) ☐ Yes ☒ No, Order No.
Intermediate 1 Casing Action ID: 392363	NOI Recomplete Action ID (if applicable):
Intermediate 2 Casing Action ID: NA	NOI Plugback Action ID (if applicable):
Production Casing Action ID: 392363	Cement Squeeze Action ID (if applicable):
Tubing Action ID: 407747	All casing was pressure tested in accordance with NMAC ☒ Yes ☐ No
Liner 1 Action ID: NA	Casing was installed prior to Action ID system (Y/N): N

Section 5 – Test Data

Date First Production 09/07/24	Production Method Gas lift	Well Status Producing	Gas – Oil Ratio 1659
Date of Test 10/04/24	Choke Size	Flowing Tubing Pressure	Casing Pressure 554
24 hr Oil (bbls) 2216	24 hr Gas (MCF) 3676	24 hr Water (bbls) 4217	Oil Gravity - API
Disposition of Gas: sold			

Section 6 – Pits

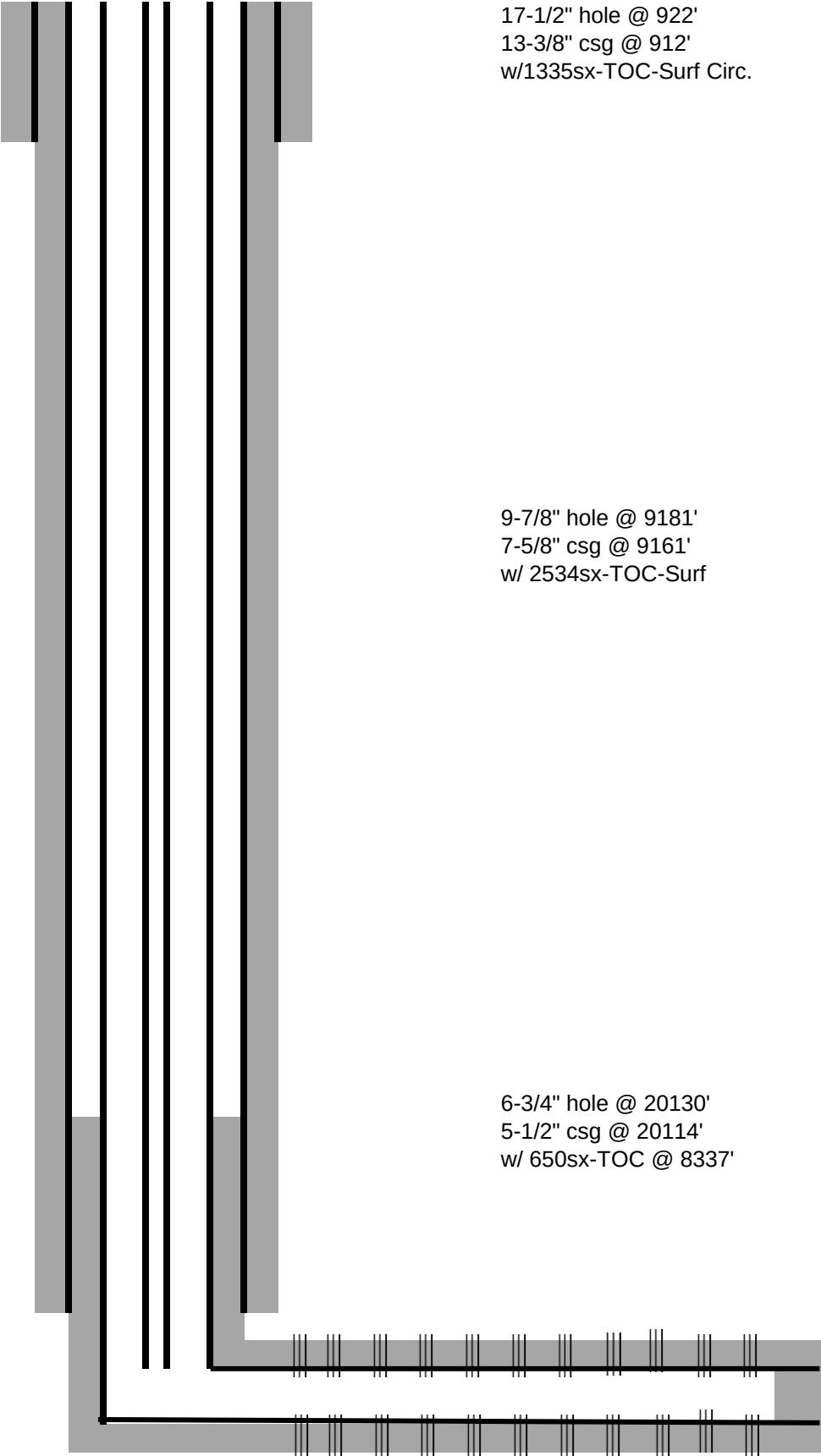
☐ A temporary pit was used at the well. If so, attach a plat with the location of the temporary pit.
☒ A Closed Loop System was used.
☐ If an on-site burial was used at the well, report the exact location of the on-site burial: LAT: LONG:

Section 7 - Operator Signature and Certification

☒ I hereby certify that the required Water Use Report has been, or will be, submitted for this well’s completion.	
☒ I hereby certify that the required Fracfocus disclosure has been, or will be, submitted for this well’s completion.	
☒ I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.	
Name Jana Mendiola	<i>Jana Mendiola</i>
Title Regulatory Advisor	Date 12/05/24

South Formations				North Formations			
Formation/Zone	MD	TVD	W/O/G	Formation/Zone	MD	TVD	W/O/G
T. Anhy	857	857	W	T. San Jose			
T. Salt	1183	1183		T. Nacimiento			
B. Salt	3024	3022		T. Ojo Alamo			
T. Yates				T. Kirtland			
T. 7 Rivers				T. Fruitland			
T. Queen				T. Pictured Cliffs			
T. Grayburg				T. Lewis Shale			
T. San Andres				T. Chacra			
T. Glorieta				T. Cliff House			
T. Yeso				T. Menefee			
T. Paddock				T. Point Lookout			
T. Blinebry				T. Mancos			
T.Tubb				T. Gallup			
T. Drinkard				T. Greenhorn			
T. Abo				T. Graneros			
T. Wolfcamp				T. Dakota			
T. Penn				T. Morrison			
T. Cisco				T. Bluff			
T. Canyon				T.Todilto			
T. Strawn				T. Entrada			
T. Atoka				T. Wingate			
T. Morrow				T. Chinle			
T. Barnett Shale				T. Permian			
T. Miss				T. Penn A"			
T. Woodford Shale				T. Penn. "B"			
T. Devonian				T. Penn. "C"			
T. Silurian				T. Penn. "D"			
T. Fusselman				T. Leadville			
T. Montoya				T. Madison			
T. Simpson				T. Elbert			
T. McKee				T. McCracken			
T. Waddell				T. Ignacio Otzte			
T. Connel				T. Granite			
T. Ellenburger				T. Hermosa			
T. Gr. Wash				T. De Chelly			
T. Delaware Sand				T. Pinkerton			
T. Lamar Lime	4512	4511	o/g				
T. Bell Canyon	4543	4542	o/g				
T. Cherry Canyon	5436	5434	o/g				
T. Brushy Canyon	6660	6631	o/g				
T. Bone Springs	8446	8392	o/g				
T. 1st BS Sand	9506	9436	o/g				
T. 2nd BS Carbonate							
T. 2nd BS Sand							
T. 3rd BS Carbonate							
T. 3rd BS Sand							

OXY USA Inc.
Top Spot 12-13 Federal Com 33H
API No. 30-015-47953



17-1/2" hole @ 922'
13-3/8" csg @ 912'
w/1335sx-TOC-Surf Circ.

9-7/8" hole @ 9181'
7-5/8" csg @ 9161'
w/ 2534sx-TOC-Surf

6-3/4" hole @ 20130'
5-1/2" csg @ 20114'
w/ 650sx-TOC @ 8337'

2-3/8" tbg & gas lift @ 9793'

Perfs @ 9920-20006' TD- 20130'M 9896'V

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

ACKNOWLEDGMENTS

Action 409196

ACKNOWLEDGMENTS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 409196
	Action Type: [C-104] Completion Packet - New Well (C-104NW)

ACKNOWLEDGMENTS

☒	I hereby certify that the required Water Use Report has been, or will be, submitted for this wells completion.
☒	I hereby certify that the required FracFocus disclosure has been, or will be, submitted for this wells completion.
☒	I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

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CONDITIONS

Action 409196

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 409196
	Action Type: [C-104] Completion Packet - New Well (C-104NW)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	File 3160-4 Completion Report and 3160-5 Completion Sundry within 10 days of BLM approval.	1/31/2025