

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: DR PI UNIT 112H	Property Code:
Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal	API Number: 30-0 25-48945
Pool Name: Bilbrey Basin; Bone Spring, South	Pool Code: 97366

Section 2 – Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
N	17	22S	32E		345 FSL	1645 FWL	32.385291°	-103.700012°	LEA

Section 3 – Completion Information

Producing Method	Ready Date	Perforations MD	Perforations TVD
Gas lift	07/17/24	9305'-19538'MD	9082'-9282'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.
Surface Casing Action ID: 374393	Unit: ☒ Yes ☐ No, Order No. NMNM143828X
Intermediate 1 Casing Action ID: 374393	Compulsory Pooling: ☐ Yes ☒ No, Order No.
Intermediate 2 Casing Action ID: NA	Down Hole Commingling: ☐ Yes ☒ No, Order No.
Production Casing Action ID: 374393	Surface Commingling: ☒ Yes ☐ No, Order No. PLC-844-D
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): N	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	
Title Regulatory Advisor	Date 09/24/24

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 30-025-48945	Pool Code 97366	Pool Name Bilbrey Basin; Bone Spring, South
Property Code	Property Name DR PI UNIT	Well Number 112H
OGRID No. 16696	Operator Name OXY USA INC.	Ground Level Elevation 3693.8'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL N	Section 17	Township 22S	Range 32E	Lot	Ft. from N/S 345 SOUTH	Ft. from E/W 1645 WEST	Latitude (NAD 83) 32.385291°	Longitude (NAD 83) -103.700012°	County LEA
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Bottom Hole Location

UL B	Section 8	Township 22S	Range 32E	Lot	Ft. from N/S 51 NORTH	Ft. from E/W 1891 EAST	Latitude (NAD 83) 32.413260°	Longitude (NAD 83) -103.694388°	County LEA
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Dedicated Acres 640	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 O	Section 17	Township 22S	Range 32E	Lot	Ft. from N/S 68 SOUTH	Ft. from E/W 2317 EAST	Latitude (NAD 83) 32.384546°	Longitude (NAD 83) -103.695728°	County LEA
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First Take Point (FTP)

UL O	Section 17	Township 22S	Range 32E	Lot	Ft. from N/S 256 SOUTH	Ft. from E/W 2278 EAST	Latitude (NAD 83) 32.385063°	Longitude (NAD 83) -103.695602°	County LEA
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Last Take Point (LTP)

UL B	Section 8	Township 22S	Range 32E	Lot	Ft. from N/S 171 NORTH	Ft. from E/W 1919 EAST	Latitude (NAD 83) 32.412927°	Longitude (NAD 83) -103.694478°	County LEA
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Unitized Area or Area of Uniform Interest NMNM143828X	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> 09/24/24 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 March 20, 2023 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.

LINE TABLE

LINE	DIRECTION	LENGTH
L1	S89°30'51"W	2641.06'
L2	S89°37'22"W	2642.53'
L3	N00°10'37"W	2644.80'
L4	N00°10'34"W	2639.05'
L5	S89°38'44"W	2643.24'
L6	S89°42'05"W	2640.91'
L7	N00°09'34"W	2638.30'
L8	N00°10'50"W	2635.88'
L9	N00°10'15"W	2640.53'
L10	N00°09'25"W	2641.42'
L11	S89°39'10"W	2641.57'
L12	S89°38'35"W	2643.34'
L13	N00°09'21"W	5284.30'

NOTE:

- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)
- Colored areas within section lines represent oil & gas leases.
- As-Drilled well head has not been field verified.
- Wellbore data provided by Oxy USA Inc.

Legend:

- = SURFACE HOLE LOCATION
- ◆ = AS-DRILLED TAKE POINTS
- ☆ = AS-DRILLED LEASE CROSSING
- = AS-DRILLED BOTTOM HOLE LOCATION
- ▲ = SECTION CORNER LOCATED
- = HORIZONTAL SPACING UNIT
- = AS-DRILLED WELLBORE

APPROXIMATE WELLBORE MEASURED DEPTH DISTANCE FROM FTP TO LTP

LEASE	DISTANCE
NMNM 128362	5,080.09'
NMNM 090586	5,152.91'
TOTAL	10,233.00'

SCALE

2000' 1000' 0' 2000'

DRAWN BY: T.J.S. 08.05.24

- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)
- Colored areas within section lines represent oil & gas leases.
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- Wellbore data provided by Oxy USA Inc.

- = SURFACE HOLE LOCATION
 ◆ = AS-DRILLED TAKE POINTS
 ◐ = AS-DRILLED LEASE CROSSING
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APPROXIMATE WELLBORE MEASURED DEPTH DISTANCE FROM FTP TO LTI	
LEASE	DISTANCE
NMNM 128362	5,080.09'
NMNM 090586	5,152.91'
TOTAL	10,233.00'



SCALE

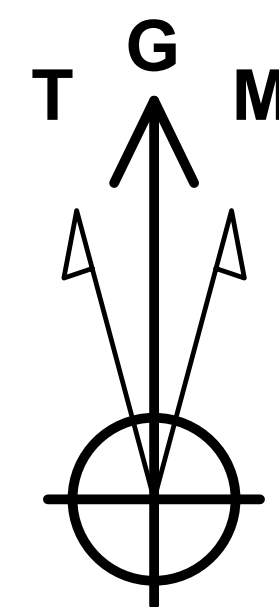
DRAWN BY: T.J.S. 08-05-24



Project: Lea County, NM (NAD83-NME)
Site: Dr Pi Fed Unit 17_8 DA
Well: Dr Pi Fed Unit 17_8 DA 12H
Wellbore: OH / 74652
Design: Plan 3 05-06-24
Ria: H&P 479

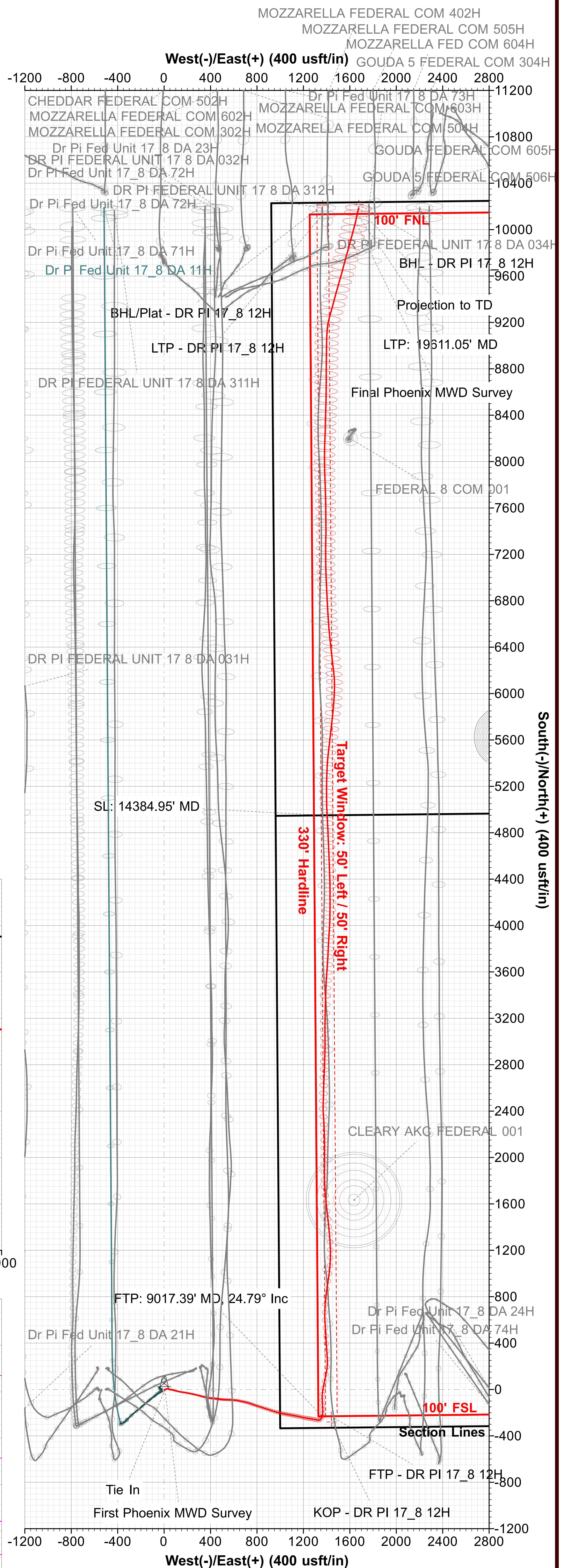
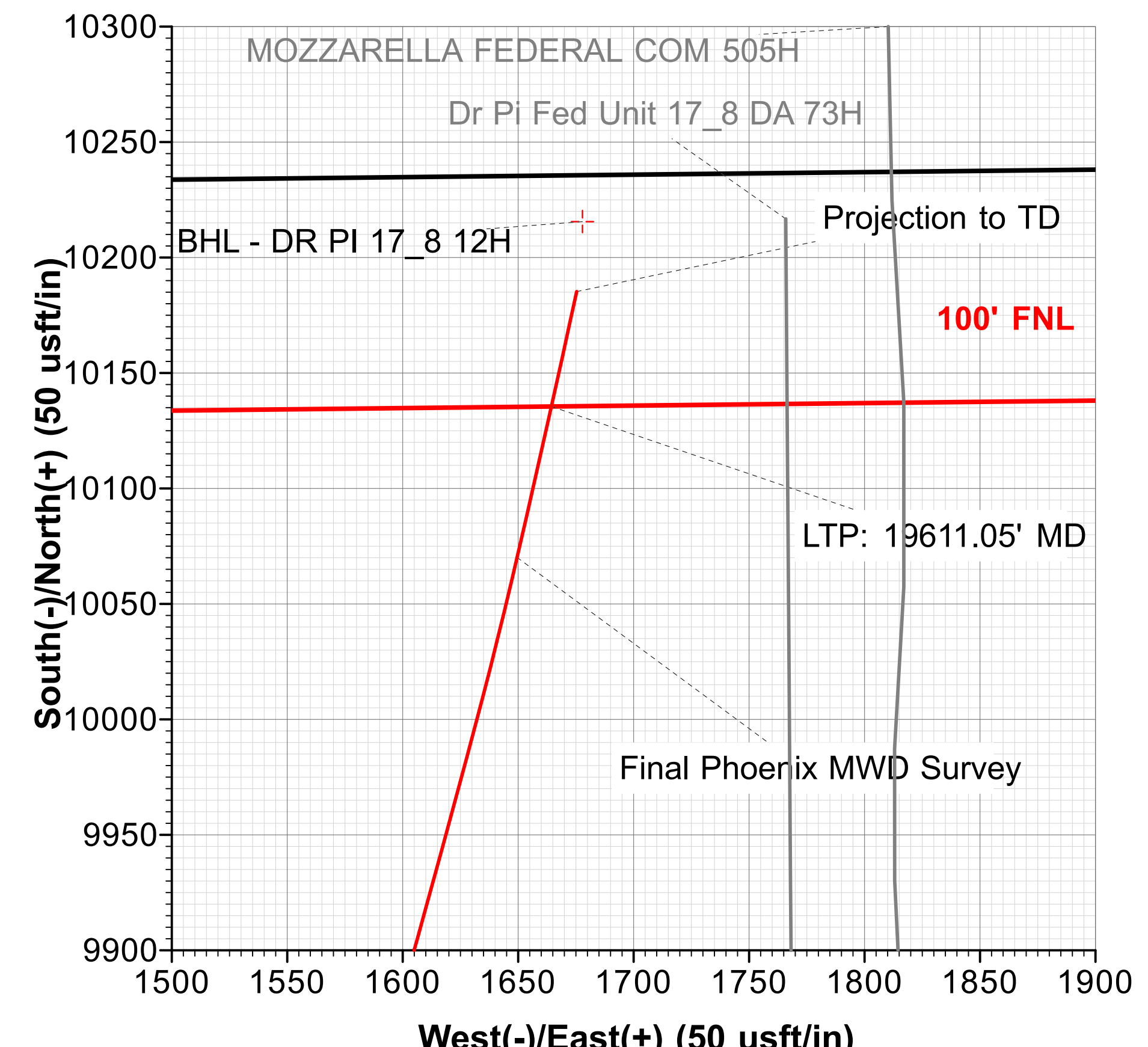
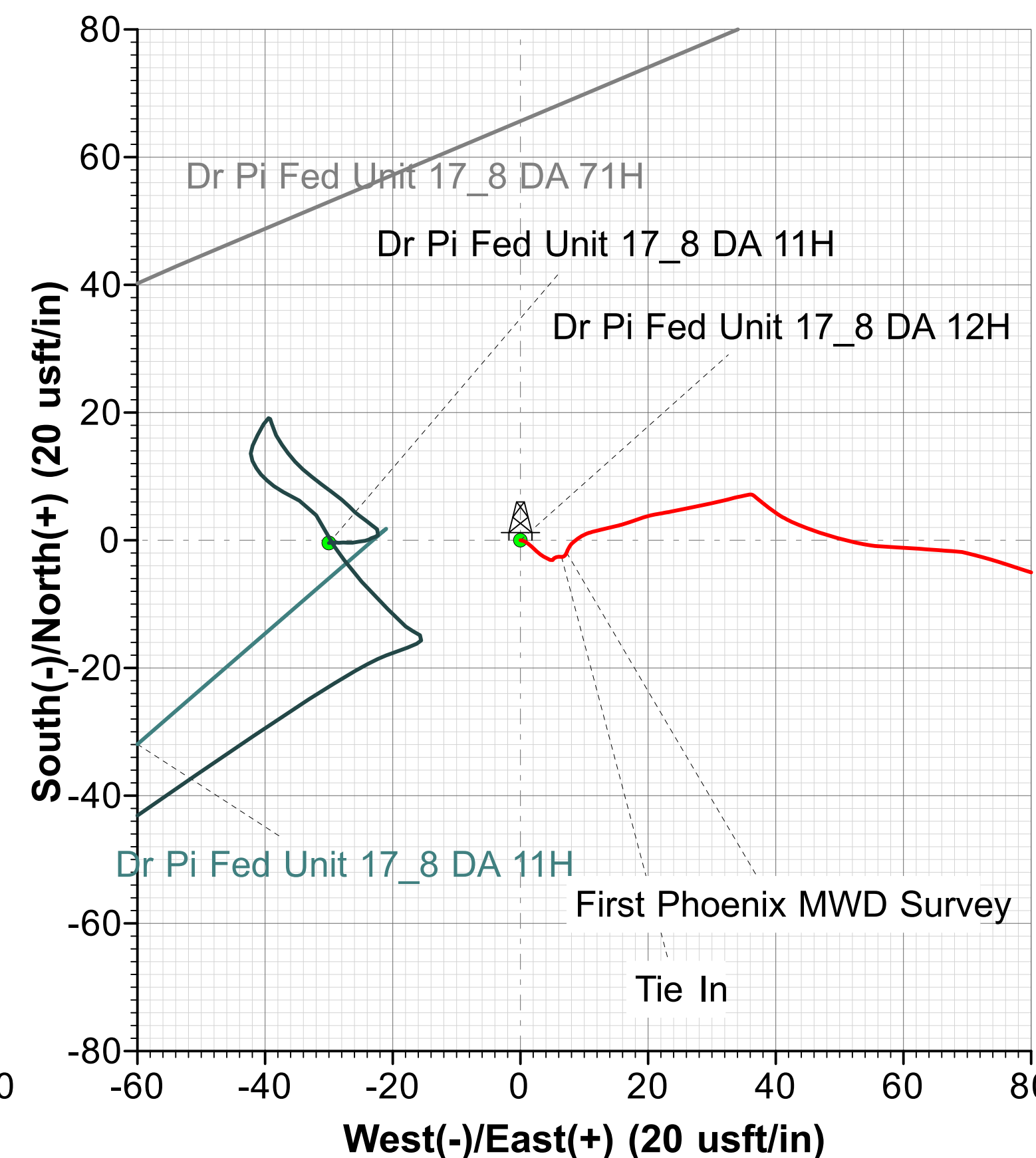
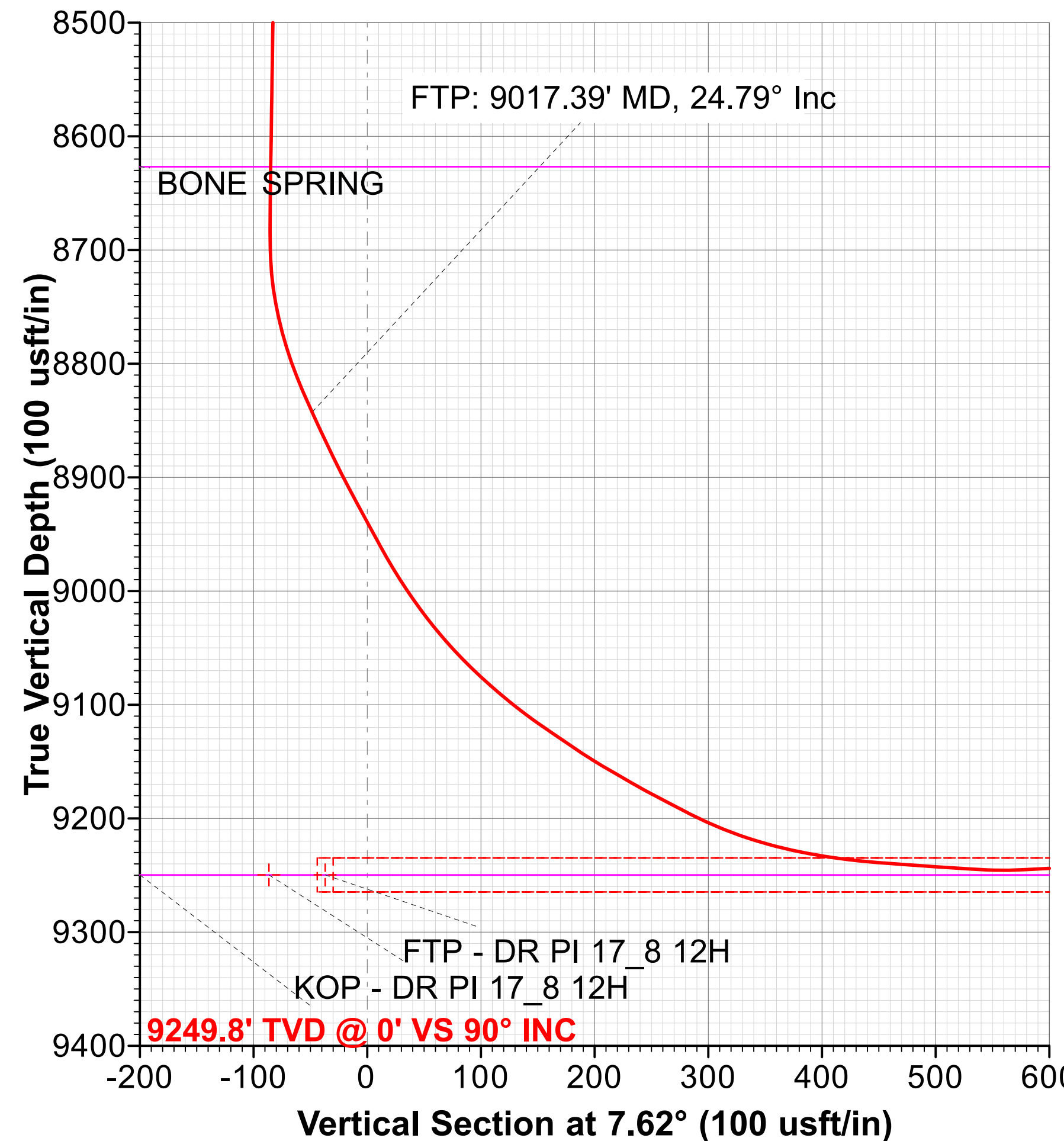
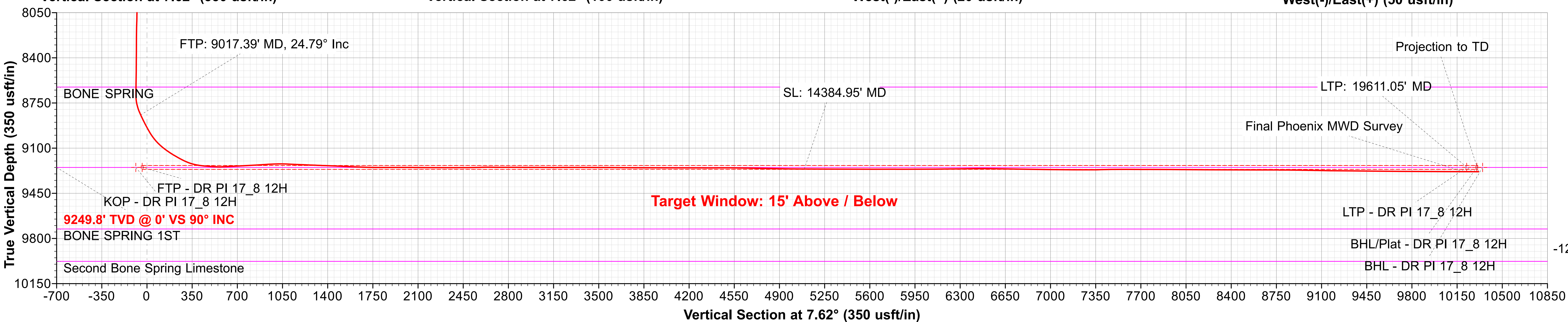
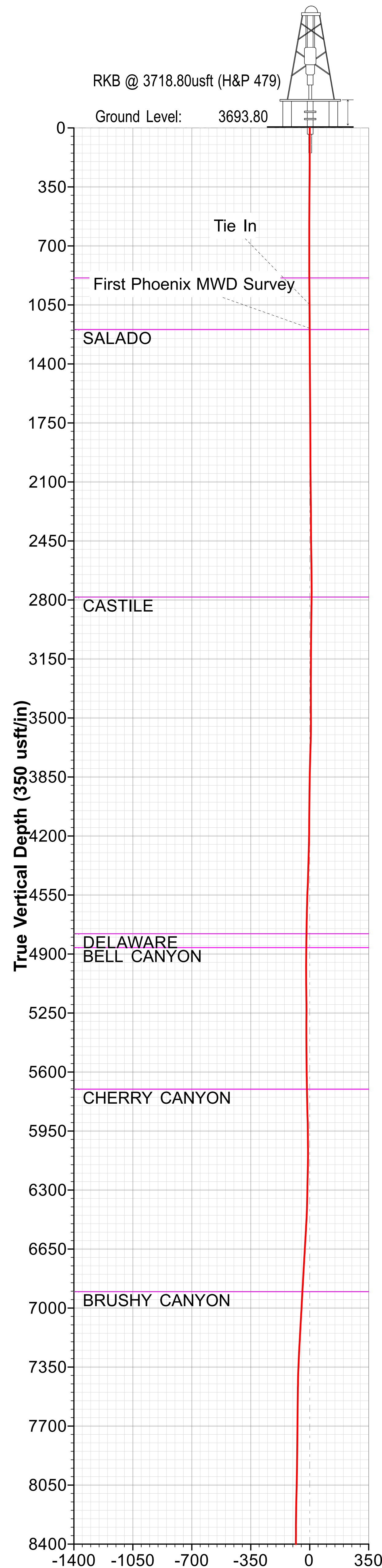


PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: -0.34°
Magnetic North: 6.20°

Magnetic Field
Strength: 47577.1nT
Dip Angle: 60.07°
Date: 5/6/2024
Model: IFR





OXY USA INC.

Lea County, NM (NAD83-NME)

Dr Pi Fed Unit 17_8 DA

Dr Pi Fed Unit 17_8 DA 12H

3002548945

OH / 74652

Design: Surveys (H&P 479)

Standard Survey Report

22 May, 2024



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	Database:	USAEDMDB

Project	Lea 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	Dr Pi Fed Unit 17_8 DA		
Site Position:		Northing:	504,610.59 usft
From:	Map	Easting:	738,908.99 usft
Position Uncertainty:	0.90 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 23' 8.226697 N
		Longitude:	103° 41' 35.857943 W

Well	Dr Pi Fed Unit 17_8 DA 12H		
Well Position	+N/-S	0.00 usft	Northing: 504,479.13 usft
	+E/-W	0.00 usft	Easting: 736,835.85 usft
Position Uncertainty	2.00 usft	Wellhead Elevation:	usft
Grid Convergence:	0.339 °	Ground Level:	3,693.80 usft

Wellbore	OH / 74652		
Magnetics	Model Name	Sample Date	Declination (°)
	IFR	5/6/2024	6.543
			Dip Angle (°)
			60.066
			Field Strength (nT)
			47,577.10000000

Design	Surveys (H&P 479)		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Tie On Depth:			0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			7.62

Survey Program	Date	5/22/2024		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
25.00	1,047.00	MWD Surveys - Adj Surface (OH / 74652)	A009Mc_MWD+IFR1+SA	MWD+IFR1+Sag
1,061.10	19,662.00	Phoenix MWD Surveys - SQC R4 (OH / 74	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	
25.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	
159.00	0.46	100.88	159.00	-0.10	0.53	-0.03	0.34	0.34	0.00	
218.00	0.77	130.57	218.00	-0.40	1.06	-0.26	0.74	0.53	50.32	
274.00	0.56	127.98	273.99	-0.82	1.56	-0.60	0.38	-0.38	-4.63	
361.00	0.70	136.43	360.99	-1.46	2.26	-1.15	0.19	0.16	9.71	
448.00	0.69	124.55	447.98	-2.15	3.06	-1.72	0.17	-0.01	-13.66	
534.00	0.66	119.90	533.97	-2.69	3.92	-2.14	0.07	-0.03	-5.41	
619.00	0.48	114.70	618.97	-3.08	4.67	-2.43	0.22	-0.21	-6.12	



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
707.00	0.20	24.46	706.97	-3.09	5.06	-2.39	0.59	-0.32	-102.55
794.00	0.25	49.35	793.97	-2.83	5.27	-2.11	0.12	0.06	28.61
882.00	0.30	73.75	881.97	-2.64	5.64	-1.87	0.14	0.06	27.73
968.00	0.21	85.15	967.97	-2.57	6.01	-1.75	0.12	-0.10	13.26
1,047.00	0.42	96.88	1,046.96	-2.59	6.44	-1.71	0.28	0.27	14.85
Tie In									
1,061.10	0.40	88.31	1,061.06	-2.59	6.54	-1.70	0.46	-0.14	-60.78
1,075.20	0.39	79.00	1,075.16	-2.58	6.64	-1.68	0.46	-0.07	-66.03
1,089.30	0.39	69.31	1,089.26	-2.56	6.73	-1.64	0.47	0.00	-68.72
1,103.40	0.40	59.78	1,103.36	-2.51	6.82	-1.59	0.47	0.07	-67.59
1,117.50	0.42	50.91	1,117.46	-2.46	6.90	-1.52	0.47	0.14	-62.91
1,131.60	0.45	43.01	1,131.56	-2.38	6.98	-1.44	0.48	0.21	-56.03
1,145.70	0.49	36.19	1,145.66	-2.30	7.05	-1.34	0.49	0.28	-48.37
1,159.80	0.53	30.40	1,159.76	-2.19	7.12	-1.23	0.46	0.28	-41.06
1,173.90	0.58	25.52	1,173.86	-2.07	7.19	-1.10	0.49	0.35	-34.61
1,188.00	0.64	21.42	1,187.96	-1.93	7.25	-0.95	0.53	0.43	-29.08
First Phoenix MWD Survey									
1,201.43	0.63	22.70	1,201.39	-1.79	7.30	-0.81	0.13	-0.07	9.53
1,214.86	0.62	24.01	1,214.82	-1.66	7.36	-0.67	0.13	-0.07	9.75
1,228.29	0.61	25.33	1,228.25	-1.53	7.42	-0.53	0.13	-0.07	9.83
1,241.71	0.60	26.67	1,241.67	-1.40	7.48	-0.40	0.13	-0.07	9.99
1,255.14	0.59	28.01	1,255.10	-1.28	7.55	-0.27	0.13	-0.07	9.98
1,268.57	0.59	29.36	1,268.53	-1.16	7.61	-0.14	0.10	0.00	10.05
1,282.00	0.58	30.71	1,281.95	-1.04	7.68	-0.01	0.13	-0.07	10.05
1,295.57	0.56	32.95	1,295.52	-0.92	7.75	0.11	0.22	-0.15	16.51
1,309.14	0.54	35.32	1,309.09	-0.81	7.82	0.23	0.22	-0.15	17.46
1,322.71	0.52	37.84	1,322.66	-0.71	7.90	0.34	0.23	-0.15	18.57
1,336.29	0.50	40.50	1,336.24	-0.62	7.98	0.44	0.23	-0.15	19.59
1,349.86	0.49	43.30	1,349.81	-0.53	8.05	0.54	0.19	-0.07	20.63
1,363.43	0.47	46.23	1,363.38	-0.45	8.13	0.63	0.23	-0.15	21.59
1,377.00	0.46	49.27	1,376.95	-0.38	8.22	0.71	0.20	-0.07	22.40
1,390.57	0.49	49.92	1,390.52	-0.31	8.30	0.80	0.22	0.22	4.79
1,404.14	0.53	50.43	1,404.09	-0.23	8.39	0.89	0.30	0.29	3.76
1,417.71	0.56	50.83	1,417.66	-0.15	8.49	0.98	0.22	0.22	2.95
1,431.29	0.60	51.15	1,431.24	-0.06	8.60	1.08	0.30	0.29	2.36
1,444.86	0.64	51.39	1,444.81	0.03	8.72	1.19	0.30	0.29	1.77
1,458.43	0.67	51.56	1,458.38	0.13	8.84	1.30	0.22	0.22	1.25
1,472.00	0.71	51.68	1,471.95	0.23	8.96	1.42	0.29	0.29	0.88
1,485.57	0.71	53.77	1,485.51	0.33	9.10	1.54	0.19	0.00	15.40
1,499.14	0.71	55.82	1,499.08	0.43	9.24	1.65	0.19	0.00	15.11
1,512.71	0.71	57.83	1,512.65	0.52	9.38	1.76	0.18	0.00	14.81
1,526.29	0.71	59.80	1,526.23	0.61	9.52	1.87	0.18	0.00	14.51
1,539.86	0.71	61.71	1,539.80	0.69	9.67	1.97	0.17	0.00	14.08



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
1,553.43	0.72	63.56	1,553.37	0.77	9.82	2.06	0.19	0.07	13.63
1,567.00	0.72	65.34	1,566.94	0.84	9.97	2.16	0.16	0.00	13.12
1,580.43	0.73	66.60	1,580.37	0.91	10.13	2.25	0.14	0.07	9.38
1,593.86	0.74	67.80	1,593.80	0.98	10.29	2.33	0.14	0.07	8.94
1,607.29	0.74	68.94	1,607.23	1.04	10.45	2.42	0.11	0.00	8.49
1,620.71	0.75	70.01	1,620.64	1.10	10.61	2.50	0.13	0.07	7.97
1,634.14	0.76	71.02	1,634.07	1.16	10.78	2.58	0.12	0.07	7.52
1,647.57	0.77	71.96	1,647.50	1.22	10.95	2.66	0.12	0.07	7.00
1,661.00	0.78	72.85	1,660.93	1.27	11.12	2.74	0.12	0.07	6.63
1,674.57	0.80	73.77	1,674.50	1.33	11.30	2.81	0.17	0.15	6.78
1,688.14	0.81	74.63	1,688.07	1.38	11.48	2.89	0.12	0.07	6.34
1,701.71	0.83	75.41	1,701.64	1.43	11.67	2.96	0.17	0.15	5.75
1,715.29	0.85	76.12	1,715.22	1.48	11.86	3.04	0.17	0.15	5.23
1,728.86	0.86	76.76	1,728.78	1.53	12.06	3.11	0.10	0.07	4.72
1,742.43	0.88	77.35	1,742.35	1.57	12.26	3.18	0.16	0.15	4.35
1,756.00	0.90	77.87	1,755.92	1.62	12.47	3.26	0.16	0.15	3.83
1,769.57	0.88	77.63	1,769.49	1.66	12.67	3.33	0.15	-0.15	-1.77
1,783.14	0.86	77.34	1,783.06	1.71	12.87	3.40	0.15	-0.15	-2.14
1,796.71	0.84	77.00	1,796.63	1.75	13.07	3.47	0.15	-0.15	-2.51
1,810.29	0.82	76.61	1,810.20	1.80	13.26	3.54	0.15	-0.15	-2.87
1,823.86	0.81	76.16	1,823.77	1.84	13.45	3.61	0.09	-0.07	-3.32
1,837.43	0.79	75.64	1,837.34	1.89	13.63	3.68	0.16	-0.15	-3.83
1,851.00	0.77	75.06	1,850.91	1.93	13.81	3.75	0.16	-0.15	-4.27
1,864.57	0.77	75.46	1,864.48	1.98	13.99	3.82	0.04	0.00	2.95
1,878.14	0.77	75.81	1,878.05	2.03	14.16	3.89	0.03	0.00	2.58
1,891.71	0.77	76.13	1,891.62	2.07	14.34	3.95	0.03	0.00	2.36
1,905.29	0.78	76.40	1,905.20	2.11	14.52	4.02	0.08	0.07	1.99
1,918.86	0.78	76.62	1,918.76	2.16	14.70	4.09	0.02	0.00	1.62
1,932.43	0.78	76.81	1,932.33	2.20	14.88	4.15	0.02	0.00	1.40
1,946.00	0.78	76.95	1,945.90	2.24	15.06	4.22	0.01	0.00	1.03
1,959.57	0.80	76.37	1,959.47	2.28	15.24	4.29	0.16	0.15	-4.27
1,973.14	0.82	75.77	1,973.04	2.33	15.43	4.36	0.16	0.15	-4.42
1,986.71	0.84	75.17	1,986.61	2.38	15.62	4.43	0.16	0.15	-4.42
2,000.29	0.87	74.56	2,000.19	2.43	15.81	4.51	0.23	0.22	-4.49
2,013.86	0.89	73.95	2,013.75	2.49	16.01	4.59	0.16	0.15	-4.50
2,027.43	0.91	73.33	2,027.32	2.55	16.22	4.68	0.16	0.15	-4.57
2,041.00	0.93	72.70	2,040.89	2.61	16.43	4.77	0.17	0.15	-4.64
2,054.57	0.97	72.21	2,054.46	2.68	16.64	4.86	0.30	0.29	-3.61
2,068.14	1.02	71.74	2,068.03	2.75	16.87	4.97	0.37	0.37	-3.46
2,081.71	1.06	71.27	2,081.59	2.83	17.10	5.07	0.30	0.29	-3.46
2,095.29	1.10	70.81	2,095.17	2.92	17.34	5.19	0.30	0.29	-3.39
2,108.86	1.15	70.36	2,108.74	3.00	17.59	5.31	0.37	0.37	-3.32
2,122.43	1.19	69.91	2,122.31	3.10	17.85	5.44	0.30	0.29	-3.32
2,136.00	1.24	69.48	2,135.87	3.20	18.12	5.57	0.37	0.37	-3.17



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
2,149.57	1.25	70.37	2,149.44	3.30	18.40	5.71	0.16	0.07	6.56
2,163.14	1.26	71.36	2,163.01	3.40	18.68	5.84	0.18	0.07	7.30
2,176.71	1.28	72.39	2,176.57	3.49	18.97	5.97	0.22	0.15	7.59
2,190.29	1.30	73.43	2,190.15	3.58	19.26	6.10	0.23	0.15	7.66
2,203.86	1.32	74.43	2,203.72	3.67	19.56	6.23	0.22	0.15	7.37
2,217.43	1.34	75.37	2,217.28	3.75	19.86	6.35	0.22	0.15	6.93
2,231.00	1.36	76.22	2,230.85	3.83	20.17	6.47	0.21	0.15	6.26
2,244.57	1.39	77.11	2,244.42	3.90	20.49	6.58	0.27	0.22	6.56
2,258.14	1.42	77.90	2,257.98	3.97	20.81	6.70	0.26	0.22	5.82
2,271.71	1.45	78.60	2,271.55	4.04	21.15	6.81	0.26	0.22	5.16
2,285.29	1.48	79.19	2,285.12	4.11	21.49	6.92	0.25	0.22	4.34
2,298.86	1.51	79.65	2,298.69	4.17	21.83	7.03	0.24	0.22	3.39
2,312.43	1.53	79.97	2,312.25	4.24	22.19	7.14	0.16	0.15	2.36
2,326.00	1.56	80.10	2,325.82	4.30	22.55	7.25	0.22	0.22	0.96
2,339.57	1.58	79.97	2,339.38	4.37	22.91	7.37	0.15	0.15	-0.96
2,353.14	1.59	79.68	2,352.95	4.43	23.28	7.48	0.09	0.07	-2.14
2,366.71	1.61	79.30	2,366.51	4.50	23.66	7.60	0.17	0.15	-2.80
2,380.29	1.63	78.89	2,380.09	4.57	24.03	7.72	0.17	0.15	-3.02
2,393.86	1.64	78.51	2,393.65	4.65	24.41	7.85	0.11	0.07	-2.80
2,407.43	1.66	78.22	2,407.22	4.73	24.80	7.97	0.16	0.15	-2.14
2,421.00	1.68	78.09	2,420.78	4.81	25.18	8.11	0.15	0.15	-0.96
2,434.57	1.71	78.13	2,434.34	4.89	25.58	8.24	0.22	0.22	0.29
2,448.14	1.75	78.30	2,447.91	4.98	25.98	8.38	0.30	0.29	1.25
2,461.71	1.78	78.52	2,461.47	5.06	26.39	8.51	0.23	0.22	1.62
2,475.29	1.82	78.73	2,475.05	5.14	26.80	8.65	0.30	0.29	1.55
2,488.86	1.86	78.89	2,488.61	5.23	27.23	8.79	0.30	0.29	1.18
2,502.43	1.90	78.94	2,502.17	5.31	27.67	8.94	0.30	0.29	0.37
2,516.00	1.94	78.84	2,515.73	5.40	28.12	9.08	0.30	0.29	-0.74
2,529.57	1.98	78.56	2,529.30	5.49	28.57	9.23	0.30	0.29	-2.06
2,543.14	2.02	78.16	2,542.86	5.59	29.03	9.39	0.31	0.29	-2.95
2,556.71	2.05	77.69	2,556.42	5.69	29.51	9.55	0.25	0.22	-3.46
2,570.29	2.09	77.21	2,569.99	5.80	29.98	9.72	0.32	0.29	-3.53
2,583.86	2.12	76.77	2,583.55	5.91	30.47	9.90	0.25	0.22	-3.24
2,597.43	2.16	76.42	2,597.11	6.03	30.96	10.08	0.31	0.29	-2.58
2,611.00	2.18	76.23	2,610.67	6.15	31.46	10.26	0.16	0.15	-1.40
2,624.57	2.21	76.24	2,624.23	6.27	31.97	10.45	0.22	0.22	0.07
2,638.14	2.23	76.41	2,637.79	6.39	32.48	10.64	0.16	0.15	1.25
2,651.71	2.25	76.65	2,651.35	6.52	32.99	10.84	0.16	0.15	1.77
2,665.29	2.26	76.92	2,664.92	6.64	33.51	11.03	0.11	0.07	1.99
2,678.86	2.27	77.18	2,678.48	6.76	34.04	11.21	0.11	0.07	1.92
2,692.43	2.28	77.40	2,692.04	6.88	34.56	11.40	0.10	0.07	1.62
2,706.00	2.28	77.54	2,705.60	7.00	35.09	11.59	0.04	0.00	1.03
2,719.43	2.27	77.54	2,719.02	7.11	35.61	11.77	0.07	-0.07	0.00



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
2,732.86	1.92	90.91	2,732.44	7.17	36.09	11.89	4.46	-2.61	99.55
2,746.29	1.68	127.81	2,745.86	7.04	36.47	11.81	8.65	-1.79	274.76
2,759.71	1.66	128.16	2,759.28	6.80	36.78	11.62	0.17	-0.15	2.61
2,773.14	1.63	128.57	2,772.70	6.56	37.08	11.42	0.24	-0.22	3.05
2,786.57	1.60	128.93	2,786.13	6.32	37.38	11.22	0.24	-0.22	2.68
2,800.00	1.58	129.16	2,799.55	6.09	37.67	11.03	0.16	-0.15	1.71
2,813.57	1.57	128.93	2,813.12	5.85	37.96	10.84	0.09	-0.07	-1.69
2,827.14	1.57	128.59	2,826.68	5.62	38.25	10.64	0.07	0.00	-2.51
2,840.71	1.58	128.17	2,840.25	5.39	38.54	10.45	0.11	0.07	-3.10
2,854.29	1.58	127.68	2,853.82	5.16	38.84	10.26	0.10	0.00	-3.61
2,867.86	1.59	127.09	2,867.39	4.93	39.14	10.08	0.14	0.07	-4.35
2,881.43	1.61	126.38	2,880.95	4.71	39.44	9.89	0.21	0.15	-5.23
2,895.00	1.62	125.51	2,894.51	4.48	39.75	9.71	0.20	0.07	-6.41
2,908.57	1.63	124.27	2,908.08	4.26	40.06	9.53	0.27	0.07	-9.14
2,922.14	1.64	122.87	2,921.64	4.05	40.39	9.37	0.30	0.07	-10.32
2,935.71	1.65	121.39	2,935.21	3.84	40.72	9.20	0.32	0.07	-10.91
2,949.29	1.67	119.89	2,948.78	3.64	41.05	9.05	0.35	0.15	-11.05
2,962.86	1.69	118.43	2,962.35	3.45	41.40	8.90	0.35	0.15	-10.76
2,976.43	1.71	117.08	2,975.91	3.26	41.76	8.77	0.33	0.15	-9.95
2,990.00	1.74	115.92	2,989.47	3.08	42.12	8.63	0.34	0.22	-8.55
3,003.57	1.77	114.88	3,003.04	2.90	42.50	8.51	0.32	0.22	-7.66
3,017.14	1.81	114.01	3,016.60	2.72	42.89	8.38	0.36	0.29	-6.41
3,030.71	1.85	113.25	3,030.16	2.55	43.28	8.26	0.34	0.29	-5.60
3,044.29	1.90	112.55	3,043.74	2.38	43.69	8.15	0.40	0.37	-5.15
3,057.86	1.94	111.90	3,057.30	2.20	44.11	8.03	0.34	0.29	-4.79
3,071.43	1.99	111.27	3,070.86	2.03	44.55	7.92	0.40	0.37	-4.64
3,085.00	2.05	110.66	3,084.42	1.86	44.99	7.81	0.47	0.44	-4.50
3,098.57	2.10	109.99	3,097.98	1.69	45.45	7.70	0.41	0.37	-4.94
3,112.14	2.15	109.32	3,111.55	1.52	45.93	7.60	0.41	0.37	-4.94
3,125.71	2.21	108.67	3,125.11	1.35	46.41	7.50	0.48	0.44	-4.79
3,139.29	2.26	108.04	3,138.68	1.19	46.92	7.40	0.41	0.37	-4.64
3,152.86	2.32	107.45	3,152.23	1.02	47.43	7.30	0.48	0.44	-4.35
3,166.43	2.37	106.90	3,165.79	0.86	47.96	7.21	0.40	0.37	-4.05
3,180.00	2.41	106.41	3,179.35	0.70	48.51	7.12	0.33	0.29	-3.61
3,193.57	2.45	105.97	3,192.91	0.54	49.06	7.03	0.33	0.29	-3.24
3,207.14	2.48	105.56	3,206.47	0.38	49.62	6.95	0.26	0.22	-3.02
3,220.71	2.50	105.15	3,220.02	0.22	50.19	6.87	0.20	0.15	-3.02
3,234.29	2.53	104.71	3,233.59	0.07	50.76	6.80	0.26	0.22	-3.24
3,247.86	2.55	104.20	3,247.15	-0.08	51.35	6.73	0.22	0.15	-3.76
3,261.43	2.57	103.57	3,260.70	-0.23	51.94	6.66	0.25	0.15	-4.64
3,275.00	2.58	102.76	3,274.26	-0.37	52.53	6.60	0.28	0.07	-5.97
3,288.57	2.59	101.63	3,287.82	-0.50	53.13	6.55	0.38	0.07	-8.33
3,302.14	2.59	100.34	3,301.37	-0.61	53.73	6.52	0.43	0.00	-9.51



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
3,315.71	2.60	99.02	3,314.93	-0.72	54.33	6.49	0.45	0.07	-9.73
3,329.29	2.62	97.76	3,328.49	-0.81	54.95	6.48	0.45	0.15	-9.28
3,342.86	2.64	96.68	3,342.05	-0.89	55.56	6.49	0.39	0.15	-7.96
3,356.43	3.50	94.08	3,355.60	-0.95	56.29	6.52	6.42	6.34	-19.16
3,370.00	3.61	93.51	3,369.14	-1.01	57.13	6.58	0.85	0.81	-4.20
3,383.43	3.67	93.32	3,382.55	-1.06	57.98	6.64	0.46	0.45	-1.41
3,396.86	3.75	93.30	3,395.95	-1.11	58.85	6.70	0.60	0.60	-0.15
3,410.29	3.84	93.39	3,409.35	-1.16	59.73	6.77	0.67	0.67	0.67
3,423.71	3.93	93.53	3,422.74	-1.21	60.64	6.84	0.67	0.67	1.04
3,437.14	4.02	93.68	3,436.14	-1.27	61.57	6.90	0.67	0.67	1.12
3,450.57	4.12	93.83	3,449.53	-1.34	62.52	6.97	0.75	0.74	1.12
3,464.00	4.20	93.96	3,462.93	-1.40	63.49	7.03	0.60	0.60	0.97
3,477.57	4.27	94.07	3,476.46	-1.47	64.49	7.09	0.52	0.52	0.81
3,491.14	4.33	94.15	3,489.99	-1.54	65.51	7.15	0.44	0.44	0.59
3,504.71	4.40	94.26	3,503.52	-1.62	66.54	7.22	0.52	0.52	0.81
3,518.29	4.46	94.40	3,517.06	-1.70	67.58	7.28	0.45	0.44	1.03
3,531.86	4.54	94.63	3,530.59	-1.78	68.65	7.33	0.60	0.59	1.69
3,545.43	5.33	103.31	3,544.11	-1.97	69.79	7.30	7.99	5.82	63.96
3,559.00	5.54	104.77	3,557.62	-2.28	71.04	7.15	1.85	1.55	10.76
3,572.57	5.66	105.46	3,571.12	-2.63	72.32	6.98	1.01	0.88	5.08
3,586.14	5.79	106.25	3,584.63	-3.00	73.62	6.79	1.12	0.96	5.82
3,599.71	5.93	107.06	3,598.13	-3.40	74.95	6.57	1.20	1.03	5.97
3,613.29	6.09	107.79	3,611.63	-3.82	76.30	6.33	1.31	1.18	5.38
3,626.86	6.27	108.40	3,625.12	-4.28	77.69	6.06	1.41	1.33	4.50
3,640.43	7.17	107.30	3,638.60	-4.76	79.21	5.78	6.70	6.63	-8.11
3,654.00	8.20	108.45	3,652.05	-5.32	80.93	5.46	7.67	7.59	8.47
3,667.57	8.48	108.66	3,665.47	-5.95	82.80	5.08	2.08	2.06	1.55
3,681.14	8.78	108.81	3,678.89	-6.60	84.73	4.69	2.22	2.21	1.11
3,694.71	9.10	108.93	3,692.29	-7.28	86.72	4.28	2.36	2.36	0.88
3,708.29	9.41	109.03	3,705.70	-7.99	88.79	3.85	2.29	2.28	0.74
3,721.86	9.70	109.12	3,719.08	-8.73	90.92	3.40	2.14	2.14	0.66
3,735.43	10.22	106.33	3,732.44	-9.44	93.15	2.99	5.23	3.83	-20.56
3,749.00	11.16	103.68	3,745.78	-10.09	95.58	2.67	7.82	6.93	-19.53
3,762.57	11.36	103.82	3,759.09	-10.72	98.16	2.39	1.49	1.47	1.03
3,776.14	11.56	103.97	3,772.39	-11.37	100.77	2.09	1.49	1.47	1.11
3,789.71	11.74	104.11	3,785.68	-12.03	103.43	1.79	1.34	1.33	1.03
3,803.29	11.92	104.23	3,798.97	-12.71	106.13	1.47	1.34	1.33	0.88
3,816.86	12.10	104.33	3,812.24	-13.41	108.87	1.14	1.34	1.33	0.74
3,830.43	12.98	102.92	3,825.49	-14.10	111.73	0.83	6.87	6.48	-10.39
3,844.00	13.98	101.75	3,838.68	-14.78	114.82	0.57	7.64	7.37	-8.62
3,857.57	14.16	101.74	3,851.85	-15.45	118.05	0.34	1.33	1.33	-0.07
3,871.14	14.35	101.71	3,865.00	-16.13	121.32	0.10	1.40	1.40	-0.22
3,884.71	14.54	101.65	3,878.14	-16.81	124.64	-0.14	1.40	1.40	-0.44
3,898.29	14.73	101.57	3,891.28	-17.50	128.00	-0.38	1.41	1.40	-0.59



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
3,911.86	14.90	101.46	3,904.40	-18.20	131.40	-0.62	1.27	1.25	-0.81
3,925.43	15.05	101.32	3,917.51	-18.89	134.84	-0.85	1.14	1.11	-1.03
3,939.00	15.17	101.12	3,930.61	-19.58	138.31	-1.07	0.96	0.88	-1.47
3,952.43	15.23	100.85	3,943.57	-20.25	141.76	-1.28	0.69	0.45	-2.01
3,965.86	15.27	100.54	3,956.53	-20.90	145.23	-1.47	0.68	0.30	-2.31
3,979.29	15.28	100.21	3,969.48	-21.54	148.71	-1.64	0.65	0.07	-2.46
3,992.71	15.28	99.87	3,982.43	-22.16	152.20	-1.79	0.67	0.00	-2.53
4,006.14	15.28	99.54	3,995.38	-22.76	155.69	-1.91	0.65	0.00	-2.46
4,019.57	15.27	99.23	4,008.34	-23.33	159.18	-2.02	0.61	-0.07	-2.31
4,033.00	15.26	98.97	4,021.29	-23.89	162.67	-2.11	0.52	-0.07	-1.94
4,046.57	15.25	98.80	4,034.39	-24.44	166.19	-2.19	0.34	-0.07	-1.25
4,060.14	15.25	98.68	4,047.48	-24.99	169.72	-2.26	0.23	0.00	-0.88
4,073.71	15.25	98.61	4,060.57	-25.52	173.25	-2.33	0.14	0.00	-0.52
4,087.29	15.26	98.58	4,073.67	-26.06	176.78	-2.39	0.09	0.07	-0.22
4,100.86	15.28	98.60	4,086.76	-26.59	180.32	-2.45	0.15	0.15	0.15
4,114.43	15.31	98.68	4,099.85	-27.13	183.86	-2.51	0.27	0.22	0.59
4,128.00	15.36	98.83	4,112.94	-27.67	187.40	-2.58	0.47	0.37	1.11
4,141.57	15.45	99.10	4,126.02	-28.24	190.96	-2.67	0.85	0.66	1.99
4,155.14	15.55	99.44	4,139.10	-28.82	194.54	-2.77	1.00	0.74	2.51
4,168.71	15.67	99.81	4,152.17	-29.43	198.14	-2.90	1.15	0.88	2.73
4,182.29	15.80	100.20	4,165.24	-30.07	201.77	-3.05	1.23	0.96	2.87
4,195.86	15.93	100.57	4,178.29	-30.74	205.42	-3.23	1.21	0.96	2.73
4,209.43	16.07	100.92	4,191.34	-31.44	209.09	-3.44	1.25	1.03	2.58
4,223.00	16.20	101.22	4,204.37	-32.16	212.80	-3.66	1.14	0.96	2.21
4,236.57	16.34	101.46	4,217.40	-32.91	216.52	-3.91	1.14	1.03	1.77
4,250.14	16.46	101.65	4,230.42	-33.68	220.28	-4.17	0.97	0.88	1.40
4,263.71	16.59	101.81	4,243.43	-34.46	224.06	-4.45	1.02	0.96	1.18
4,277.29	16.72	101.94	4,256.44	-35.26	227.86	-4.74	1.00	0.96	0.96
4,290.86	16.85	102.05	4,269.43	-36.08	231.70	-5.04	0.99	0.96	0.81
4,304.43	16.99	102.15	4,282.41	-36.90	235.56	-5.35	1.05	1.03	0.74
4,318.00	17.13	102.23	4,295.38	-37.74	239.45	-5.66	1.05	1.03	0.59
4,331.57	17.28	102.31	4,308.35	-38.60	243.37	-5.99	1.12	1.11	0.59
4,345.14	17.44	102.38	4,321.30	-39.46	247.33	-6.32	1.19	1.18	0.52
4,358.71	17.60	102.44	4,334.24	-40.34	251.32	-6.67	1.19	1.18	0.44
4,372.29	17.74	102.50	4,347.18	-41.23	255.34	-7.01	1.04	1.03	0.44
4,385.86	17.87	102.56	4,360.10	-42.13	259.39	-7.37	0.97	0.96	0.44
4,399.43	17.97	102.62	4,373.01	-43.04	263.47	-7.73	0.75	0.74	0.44
4,413.00	18.02	102.70	4,385.92	-43.96	267.56	-8.10	0.41	0.37	0.59
4,426.57	18.01	102.80	4,398.82	-44.89	271.65	-8.47	0.24	-0.07	0.74
4,440.14	17.95	102.91	4,411.73	-45.82	275.74	-8.86	0.51	-0.44	0.81
4,453.71	17.86	103.02	4,424.64	-46.75	279.80	-9.25	0.71	-0.66	0.81
4,467.29	17.76	103.11	4,437.57	-47.69	283.85	-9.64	0.76	-0.74	0.66
4,480.86	17.64	103.17	4,450.50	-48.63	287.87	-10.04	0.89	-0.88	0.44



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
4,494.43	17.51	103.18	4,463.43	-49.56	291.85	-10.43	0.96	-0.96	0.07
4,508.00	17.12	104.74	4,476.39	-50.54	295.77	-10.88	4.47	-2.87	11.50
4,521.57	16.27	106.91	4,489.39	-51.60	299.52	-11.43	7.77	-6.26	15.99
4,535.14	14.91	107.76	4,502.46	-52.68	303.01	-12.05	10.16	-10.02	6.26
4,548.71	13.79	107.96	4,515.60	-53.72	306.21	-12.65	8.26	-8.25	1.47
4,562.29	13.53	107.27	4,528.80	-54.69	309.26	-13.20	2.26	-1.91	-5.08
4,575.86	13.25	106.46	4,542.00	-55.60	312.27	-13.71	2.48	-2.06	-5.97
4,589.43	12.98	105.64	4,555.22	-56.45	315.23	-14.16	2.42	-1.99	-6.04
4,603.00	12.74	104.90	4,568.45	-57.25	318.14	-14.56	2.14	-1.77	-5.45
4,616.57	12.55	104.48	4,581.69	-58.00	321.02	-14.93	1.56	-1.40	-3.10
4,630.14	12.40	104.22	4,594.94	-58.73	323.86	-15.27	1.18	-1.11	-1.92
4,643.71	12.27	104.07	4,608.19	-59.43	326.67	-15.60	0.99	-0.96	-1.11
4,657.29	12.16	103.98	4,621.47	-60.13	329.46	-15.92	0.82	-0.81	-0.66
4,670.86	12.05	103.93	4,634.73	-60.82	332.22	-16.24	0.81	-0.81	-0.37
4,684.43	11.95	103.89	4,648.01	-61.49	334.96	-16.54	0.74	-0.74	-0.29
4,698.00	11.85	103.85	4,661.29	-62.17	337.67	-16.85	0.74	-0.74	-0.29
4,711.57	11.75	103.76	4,674.57	-62.83	340.37	-17.15	0.75	-0.74	-0.66
4,725.14	11.64	103.65	4,687.86	-63.48	343.04	-17.44	0.83	-0.81	-0.81
4,738.71	11.53	103.52	4,701.15	-64.12	345.69	-17.72	0.83	-0.81	-0.96
4,752.29	11.42	103.38	4,714.46	-64.75	348.32	-18.00	0.84	-0.81	-1.03
4,765.86	11.30	103.23	4,727.76	-65.36	350.92	-18.26	0.91	-0.88	-1.11
4,779.43	11.19	103.08	4,741.07	-65.97	353.49	-18.52	0.84	-0.81	-1.11
4,793.00	11.07	102.92	4,754.39	-66.55	356.05	-18.76	0.91	-0.88	-1.18
4,806.57	10.95	102.76	4,767.71	-67.13	358.57	-19.00	0.91	-0.88	-1.18
4,820.14	10.83	102.60	4,781.03	-67.69	361.07	-19.23	0.91	-0.88	-1.18
4,833.71	10.71	102.43	4,794.37	-68.24	363.55	-19.44	0.91	-0.88	-1.25
4,847.29	10.60	102.24	4,807.71	-68.78	366.00	-19.65	0.85	-0.81	-1.40
4,860.86	10.50	102.03	4,821.05	-69.30	368.43	-19.84	0.79	-0.74	-1.55
4,874.43	10.42	101.79	4,834.40	-69.81	370.84	-20.03	0.67	-0.59	-1.77
4,888.00	10.36	101.51	4,847.74	-70.30	373.24	-20.20	0.58	-0.44	-2.06
4,901.57	10.35	101.18	4,861.09	-70.78	375.63	-20.36	0.44	-0.07	-2.43
4,915.14	10.36	100.81	4,874.44	-71.25	378.02	-20.50	0.50	0.07	-2.73
4,928.71	10.38	100.42	4,887.79	-71.70	380.43	-20.63	0.54	0.15	-2.87
4,942.29	10.42	100.01	4,901.15	-72.13	382.84	-20.74	0.62	0.29	-3.02
4,955.86	10.46	99.61	4,914.49	-72.55	385.26	-20.84	0.61	0.29	-2.95
4,969.43	10.49	99.22	4,927.84	-72.96	387.70	-20.91	0.57	0.22	-2.87
4,983.00	10.51	98.84	4,941.18	-73.34	390.14	-20.97	0.53	0.15	-2.80
4,996.57	10.51	98.50	4,954.52	-73.72	392.58	-21.02	0.46	0.00	-2.51
5,010.14	10.49	98.17	4,967.86	-74.08	395.03	-21.05	0.47	-0.15	-2.43
5,023.71	10.47	97.85	4,981.21	-74.42	397.48	-21.07	0.45	-0.15	-2.36
5,037.29	10.44	97.53	4,994.56	-74.75	399.92	-21.07	0.48	-0.22	-2.36
5,050.86	10.41	97.20	5,007.91	-75.06	402.35	-21.06	0.49	-0.22	-2.43
5,064.43	10.38	96.86	5,021.26	-75.36	404.78	-21.03	0.50	-0.22	-2.51



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
5,078.00	10.35	96.48	5,034.60	-75.65	407.21	-20.99	0.55	-0.22	-2.80
5,091.57	10.32	96.07	5,047.95	-75.91	409.63	-20.94	0.59	-0.22	-3.02
5,105.14	10.30	95.63	5,061.30	-76.16	412.04	-20.86	0.60	-0.15	-3.24
5,118.71	10.29	95.19	5,074.66	-76.39	414.46	-20.77	0.58	-0.07	-3.24
5,132.29	10.28	94.77	5,088.02	-76.60	416.87	-20.66	0.56	-0.07	-3.09
5,145.86	10.27	94.38	5,101.37	-76.79	419.29	-20.53	0.52	-0.07	-2.87
5,159.43	10.28	94.05	5,114.72	-76.97	421.70	-20.38	0.44	0.07	-2.43
5,173.00	10.29	93.83	5,128.07	-77.14	424.12	-20.23	0.30	0.07	-1.62
5,186.57	10.31	93.78	5,141.43	-77.30	426.54	-20.07	0.16	0.15	-0.37
5,200.14	10.35	93.81	5,154.78	-77.46	428.97	-19.91	0.30	0.29	0.22
5,213.71	10.39	93.89	5,168.12	-77.62	431.40	-19.74	0.31	0.29	0.59
5,227.29	10.43	93.99	5,181.48	-77.79	433.85	-19.59	0.32	0.29	0.74
5,240.86	10.48	94.07	5,194.83	-77.97	436.31	-19.43	0.38	0.37	0.59
5,254.43	10.51	94.09	5,208.17	-78.14	438.77	-19.28	0.22	0.22	0.15
5,268.00	10.67	95.52	5,221.51	-78.35	441.26	-19.16	2.27	1.18	10.54
5,281.57	10.89	98.62	5,234.84	-78.66	443.78	-19.13	4.57	1.62	22.84
5,295.14	10.65	100.87	5,248.17	-79.09	446.27	-19.23	3.57	-1.77	16.58
5,308.71	10.63	100.41	5,261.51	-79.56	448.74	-19.36	0.64	-0.15	-3.39
5,322.29	10.61	99.86	5,274.85	-80.00	451.20	-19.47	0.76	-0.15	-4.05
5,335.86	10.59	99.29	5,288.19	-80.41	453.66	-19.56	0.79	-0.15	-4.20
5,349.43	10.58	98.74	5,301.53	-80.80	456.12	-19.62	0.75	-0.07	-4.05
5,363.00	10.59	98.26	5,314.87	-81.17	458.59	-19.65	0.65	0.07	-3.54
5,376.43	10.63	97.93	5,328.07	-81.52	461.04	-19.68	0.54	0.30	-2.46
5,389.86	10.69	97.69	5,341.27	-81.86	463.50	-19.68	0.56	0.45	-1.79
5,403.29	10.75	97.49	5,354.46	-82.19	465.98	-19.68	0.53	0.45	-1.49
5,416.71	10.81	97.33	5,367.65	-82.51	468.46	-19.67	0.50	0.45	-1.19
5,430.14	10.87	97.19	5,380.84	-82.83	470.97	-19.66	0.49	0.45	-1.04
5,443.57	10.91	97.04	5,394.03	-83.14	473.49	-19.64	0.37	0.30	-1.12
5,457.00	10.92	96.89	5,407.21	-83.45	476.01	-19.61	0.22	0.07	-1.12
5,470.57	10.89	96.69	5,420.54	-83.75	478.56	-19.57	0.36	-0.22	-1.47
5,484.14	10.83	96.47	5,433.86	-84.05	481.10	-19.52	0.54	-0.44	-1.62
5,497.71	10.76	96.23	5,447.19	-84.33	483.63	-19.47	0.61	-0.52	-1.77
5,511.29	10.69	95.97	5,460.54	-84.60	486.14	-19.40	0.63	-0.52	-1.91
5,524.86	10.62	95.70	5,473.87	-84.85	488.64	-19.32	0.63	-0.52	-1.99
5,538.43	10.57	95.41	5,487.21	-85.09	491.12	-19.23	0.54	-0.37	-2.14
5,552.00	10.53	95.11	5,500.55	-85.32	493.59	-19.13	0.50	-0.29	-2.21
5,565.71	10.54	94.78	5,514.03	-85.54	496.09	-19.01	0.45	0.07	-2.41
5,579.43	10.58	94.45	5,527.52	-85.74	498.60	-18.88	0.53	0.29	-2.41
5,593.14	10.64	94.12	5,540.99	-85.93	501.11	-18.73	0.62	0.44	-2.41
5,606.86	10.71	93.80	5,554.48	-86.10	503.65	-18.57	0.67	0.51	-2.33
5,620.57	10.78	93.49	5,567.95	-86.27	506.20	-18.39	0.66	0.51	-2.26
5,634.29	10.86	93.22	5,581.42	-86.42	508.77	-18.20	0.69	0.58	-1.97
5,648.00	10.94	92.99	5,594.89	-86.56	511.36	-18.00	0.66	0.58	-1.68
5,661.43	11.14	93.47	5,608.07	-86.70	513.93	-17.80	1.64	1.49	3.57



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
5,674.86	11.34	93.48	5,621.24	-86.86	516.54	-17.61	1.49	1.49	0.07
5,688.29	12.17	93.45	5,634.39	-87.03	519.27	-17.41	6.18	6.18	-0.22
5,701.71	12.34	93.92	5,647.50	-87.21	522.11	-17.22	1.47	1.27	3.50
5,715.14	12.41	93.84	5,660.62	-87.40	524.99	-17.03	0.54	0.52	-0.60
5,728.57	12.48	93.76	5,673.73	-87.60	527.87	-16.84	0.54	0.52	-0.60
5,742.00	12.54	93.66	5,686.85	-87.78	530.78	-16.64	0.47	0.45	-0.74
5,755.57	12.59	93.50	5,700.09	-87.97	533.72	-16.43	0.45	0.37	-1.18
5,769.14	12.63	93.31	5,713.33	-88.15	536.68	-16.22	0.42	0.29	-1.40
5,782.71	12.66	93.10	5,726.57	-88.31	539.65	-15.99	0.40	0.22	-1.55
5,796.29	12.69	92.88	5,739.82	-88.47	542.62	-15.75	0.42	0.22	-1.62
5,809.86	12.71	92.65	5,753.06	-88.61	545.60	-15.49	0.40	0.15	-1.69
5,823.43	12.74	92.41	5,766.30	-88.74	548.59	-15.23	0.45	0.22	-1.77
5,837.00	12.75	92.17	5,779.53	-88.86	551.58	-14.95	0.40	0.07	-1.77
5,850.57	12.77	91.91	5,792.77	-88.97	554.57	-14.66	0.45	0.15	-1.92
5,864.14	12.78	91.65	5,806.00	-89.06	557.57	-14.35	0.43	0.07	-1.92
5,877.71	12.78	91.42	5,819.24	-89.14	560.57	-14.04	0.37	0.00	-1.69
5,891.29	12.79	91.21	5,832.48	-89.21	563.58	-13.71	0.35	0.07	-1.55
5,904.86	12.80	91.07	5,845.71	-89.27	566.58	-13.37	0.24	0.07	-1.03
5,918.43	12.80	91.01	5,858.95	-89.33	569.59	-13.02	0.10	0.00	-0.44
5,932.00	12.80	91.08	5,872.18	-89.38	572.60	-12.68	0.11	0.00	0.52
5,945.57	12.80	91.36	5,885.41	-89.44	575.60	-12.34	0.46	0.00	2.06
5,959.14	12.81	91.73	5,898.64	-89.53	578.61	-12.02	0.61	0.07	2.73
5,972.71	12.90	91.92	5,911.87	-89.62	581.63	-11.72	0.73	0.66	1.40
5,986.29	13.13	91.96	5,925.10	-89.73	584.68	-11.42	1.69	1.69	0.29
5,999.86	13.69	95.00	5,938.30	-89.92	587.82	-11.19	6.63	4.13	22.40
6,013.43	13.77	95.50	5,951.49	-90.21	591.03	-11.06	1.05	0.59	3.68
6,027.00	13.83	95.73	5,964.67	-90.53	594.25	-10.95	0.60	0.44	1.69
6,040.57	13.92	95.80	5,977.84	-90.86	597.49	-10.84	0.67	0.66	0.52
6,054.14	14.04	95.77	5,991.01	-91.19	600.75	-10.74	0.89	0.88	-0.22
6,067.71	14.16	95.68	6,004.17	-91.52	604.04	-10.63	0.90	0.88	-0.66
6,081.29	14.28	95.57	6,017.33	-91.84	607.36	-10.51	0.91	0.88	-0.81
6,094.86	14.40	95.46	6,030.48	-92.17	610.70	-10.39	0.91	0.88	-0.81
6,108.43	14.50	95.38	6,043.62	-92.49	614.08	-10.26	0.75	0.74	-0.59
6,122.00	14.58	95.36	6,056.76	-92.81	617.47	-10.12	0.59	0.59	-0.15
6,135.57	14.61	95.43	6,069.89	-93.13	620.87	-9.99	0.26	0.22	0.52
6,149.14	14.62	95.55	6,083.02	-93.45	624.28	-9.86	0.23	0.07	0.88
6,162.71	15.08	97.73	6,096.14	-93.86	627.73	-9.81	5.33	3.39	16.06
6,176.29	14.97	99.39	6,109.25	-94.38	631.21	-9.86	3.27	-0.81	12.22
6,189.86	15.08	101.95	6,122.36	-95.03	634.67	-10.05	4.96	0.81	18.87
6,203.43	15.10	102.32	6,135.46	-95.78	638.12	-10.33	0.72	0.15	2.73
6,217.00	15.09	102.43	6,148.56	-96.53	641.58	-10.62	0.22	-0.07	0.81
6,230.43	15.10	102.44	6,161.53	-97.29	644.99	-10.92	0.08	0.07	0.07
6,243.86	15.12	102.41	6,174.49	-98.04	648.41	-11.21	0.16	0.15	-0.22



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
6,257.29	15.15	102.34	6,187.46	-98.79	651.84	-11.50	0.26	0.22	-0.52
6,270.71	15.18	102.25	6,200.41	-99.54	655.27	-11.79	0.28	0.22	-0.67
6,284.14	15.21	102.14	6,213.37	-100.28	658.71	-12.07	0.31	0.22	-0.82
6,297.57	15.24	102.03	6,226.33	-101.02	662.15	-12.34	0.31	0.22	-0.82
6,311.00	15.26	101.93	6,239.29	-101.75	665.61	-12.61	0.25	0.15	-0.74
6,324.57	15.27	101.84	6,252.38	-102.49	669.11	-12.88	0.19	0.07	-0.66
6,338.14	15.27	101.75	6,265.47	-103.22	672.61	-13.14	0.17	0.00	-0.66
6,351.71	15.27	101.68	6,278.56	-103.95	676.10	-13.39	0.14	0.00	-0.52
6,365.29	15.27	101.63	6,291.66	-104.67	679.61	-13.64	0.10	0.00	-0.37
6,378.86	15.27	101.61	6,304.75	-105.39	683.11	-13.89	0.04	0.00	-0.15
6,392.43	15.27	101.63	6,317.84	-106.11	686.61	-14.14	0.04	0.00	0.15
6,406.00	15.27	101.70	6,330.93	-106.83	690.11	-14.39	0.14	0.00	0.52
6,419.57	15.29	101.87	6,344.02	-107.56	693.61	-14.65	0.36	0.15	1.25
6,433.14	15.31	102.09	6,357.11	-108.30	697.11	-14.93	0.45	0.15	1.62
6,446.71	15.34	102.34	6,370.20	-109.06	700.62	-15.21	0.53	0.22	1.84
6,460.29	15.36	102.61	6,383.30	-109.84	704.13	-15.52	0.55	0.15	1.99
6,473.86	15.38	102.87	6,396.38	-110.63	707.64	-15.84	0.53	0.15	1.92
6,487.43	15.40	103.12	6,409.46	-111.44	711.14	-16.18	0.51	0.15	1.84
6,501.00	15.39	103.33	6,422.55	-112.27	714.65	-16.53	0.42	-0.07	1.55
6,514.57	15.68	105.38	6,435.62	-113.17	718.17	-16.96	4.58	2.14	15.11
6,528.14	16.21	108.64	6,448.67	-114.26	721.73	-17.56	7.67	3.91	24.02
6,541.71	16.14	108.72	6,461.70	-115.47	725.32	-18.29	0.54	-0.52	0.59
6,555.29	16.06	108.78	6,474.75	-116.68	728.88	-19.02	0.60	-0.59	0.44
6,568.86	15.98	108.83	6,487.79	-117.89	732.43	-19.74	0.60	-0.59	0.37
6,582.43	15.92	108.87	6,500.84	-119.09	735.96	-20.47	0.45	-0.44	0.29
6,596.00	15.89	108.89	6,513.89	-120.30	739.47	-21.20	0.22	-0.22	0.15
6,609.57	15.92	108.88	6,526.94	-121.50	742.99	-21.92	0.22	0.22	-0.07
6,623.14	15.98	108.86	6,539.99	-122.71	746.52	-22.65	0.44	0.44	-0.15
6,636.71	16.06	108.83	6,553.03	-123.92	750.07	-23.38	0.59	0.59	-0.22
6,650.29	16.16	108.79	6,566.08	-125.13	753.63	-24.11	0.74	0.74	-0.29
6,663.86	16.27	108.75	6,579.11	-126.35	757.22	-24.84	0.81	0.81	-0.29
6,677.43	16.37	108.71	6,592.13	-127.57	760.83	-25.58	0.74	0.74	-0.29
6,691.00	16.47	108.68	6,605.15	-128.80	764.47	-26.32	0.74	0.74	-0.22
6,704.57	16.56	108.67	6,618.16	-130.04	768.12	-27.06	0.66	0.66	-0.07
6,718.14	16.64	108.66	6,631.16	-131.28	771.79	-27.80	0.59	0.59	-0.07
6,731.71	16.72	108.65	6,644.16	-132.53	775.48	-28.54	0.59	0.59	-0.07
6,745.29	16.79	108.64	6,657.17	-133.78	779.19	-29.29	0.52	0.52	-0.07
6,758.86	16.85	108.63	6,670.15	-135.03	782.91	-30.04	0.44	0.44	-0.07
6,772.43	16.91	108.61	6,683.14	-136.29	786.65	-30.79	0.44	0.44	-0.15
6,786.00	16.96	108.58	6,696.12	-137.55	790.39	-31.55	0.37	0.37	-0.22
6,799.57	16.99	108.54	6,709.10	-138.81	794.15	-32.30	0.24	0.22	-0.29
6,813.14	17.02	108.48	6,722.08	-140.07	797.91	-33.05	0.26	0.22	-0.44
6,826.71	17.05	108.42	6,735.05	-141.33	801.68	-33.80	0.26	0.22	-0.44



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
6,840.29	17.07	108.36	6,748.03	-142.59	805.46	-34.54	0.20	0.15	-0.44
6,853.86	17.08	108.29	6,761.01	-143.84	809.25	-35.28	0.17	0.07	-0.52
6,867.43	17.10	108.23	6,773.98	-145.09	813.03	-36.02	0.20	0.15	-0.44
6,881.00	17.11	108.18	6,786.95	-146.34	816.83	-36.75	0.13	0.07	-0.37
6,894.57	17.13	108.14	6,799.92	-147.58	820.62	-37.48	0.17	0.15	-0.29
6,908.14	17.15	108.11	6,812.88	-148.82	824.42	-38.21	0.16	0.15	-0.22
6,921.71	17.16	108.08	6,825.85	-150.07	828.23	-38.94	0.10	0.07	-0.22
6,935.29	17.18	108.05	6,838.82	-151.31	832.04	-39.67	0.16	0.15	-0.22
6,948.86	17.20	108.02	6,851.79	-152.55	835.85	-40.39	0.16	0.15	-0.22
6,962.43	17.22	107.98	6,864.75	-153.79	839.67	-41.11	0.17	0.15	-0.29
6,976.00	17.24	107.94	6,877.71	-155.03	843.49	-41.84	0.17	0.15	-0.29
6,989.43	17.26	107.89	6,890.54	-156.26	847.28	-42.55	0.19	0.15	-0.37
7,002.86	17.29	107.83	6,903.36	-157.48	851.08	-43.26	0.26	0.22	-0.45
7,016.29	17.32	107.77	6,916.18	-158.70	854.88	-43.96	0.26	0.22	-0.45
7,029.71	17.35	107.72	6,928.99	-159.92	858.69	-44.67	0.25	0.22	-0.37
7,043.14	17.38	107.66	6,941.81	-161.14	862.51	-45.37	0.26	0.22	-0.45
7,056.57	17.41	107.62	6,954.63	-162.36	866.34	-46.07	0.24	0.22	-0.30
7,070.00	17.43	107.60	6,967.44	-163.57	870.17	-46.76	0.16	0.15	-0.15
7,083.57	17.44	107.60	6,980.39	-164.80	874.04	-47.47	0.07	0.07	0.00
7,097.14	17.45	107.62	6,993.33	-166.03	877.92	-48.17	0.09	0.07	0.15
7,110.71	17.46	107.65	7,006.28	-167.27	881.80	-48.88	0.10	0.07	0.22
7,124.29	17.46	107.68	7,019.23	-168.50	885.68	-49.59	0.07	0.00	0.22
7,137.86	17.47	107.72	7,032.18	-169.74	889.56	-50.31	0.12	0.07	0.29
7,151.43	17.49	107.75	7,045.12	-170.98	893.45	-51.02	0.16	0.15	0.22
7,165.00	17.51	107.78	7,058.06	-172.23	897.33	-51.74	0.16	0.15	0.22
7,178.57	17.54	107.80	7,071.00	-173.47	901.22	-52.46	0.23	0.22	0.15
7,192.14	17.58	107.81	7,083.94	-174.73	905.12	-53.19	0.30	0.29	0.07
7,205.71	17.63	107.82	7,096.88	-175.98	909.03	-53.91	0.37	0.37	0.07
7,219.29	17.68	107.82	7,109.82	-177.24	912.95	-54.64	0.37	0.37	0.00
7,232.86	17.73	107.83	7,122.74	-178.51	916.88	-55.37	0.37	0.37	0.07
7,246.43	17.79	107.83	7,135.67	-179.77	920.82	-56.11	0.44	0.44	0.00
7,260.00	17.85	107.84	7,148.59	-181.05	924.77	-56.84	0.44	0.44	0.07
7,273.57	17.90	107.86	7,161.50	-182.32	928.74	-57.58	0.37	0.37	0.15
7,287.14	17.96	107.88	7,174.41	-183.60	932.71	-58.33	0.44	0.44	0.15
7,300.71	18.02	107.90	7,187.32	-184.89	936.70	-59.07	0.44	0.44	0.15
7,314.29	18.08	107.91	7,200.23	-186.19	940.70	-59.83	0.44	0.44	0.07
7,327.86	18.14	107.92	7,213.13	-187.48	944.72	-60.58	0.44	0.44	0.07
7,341.43	18.19	107.92	7,226.02	-188.78	948.74	-61.34	0.37	0.37	0.00
7,355.00	18.25	107.91	7,238.91	-190.09	952.78	-62.09	0.44	0.44	-0.07
7,368.57	17.87	107.31	7,251.81	-191.36	956.79	-62.82	3.12	-2.80	-4.42
7,382.14	17.27	106.24	7,264.75	-192.55	960.71	-63.48	5.02	-4.42	-7.89
7,395.71	16.80	104.96	7,277.72	-193.61	964.54	-64.03	4.43	-3.46	-9.43
7,409.29	16.76	104.50	7,290.73	-194.61	968.33	-64.51	1.02	-0.29	-3.39
7,422.86	16.84	104.39	7,303.72	-195.59	972.13	-64.98	0.63	0.59	-0.81



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
7,436.43	16.91	104.28	7,316.70	-196.57	975.95	-65.44	0.57	0.52	-0.81
7,450.00	16.96	104.19	7,329.68	-197.54	979.78	-65.90	0.42	0.37	-0.66
7,463.43	16.98	104.13	7,342.53	-198.50	983.58	-66.34	0.20	0.15	-0.45
7,476.86	16.98	104.09	7,355.37	-199.45	987.38	-66.79	0.09	0.00	-0.30
7,490.29	16.96	104.07	7,368.22	-200.41	991.18	-67.23	0.16	-0.15	-0.15
7,503.71	16.94	104.05	7,381.06	-201.36	994.98	-67.67	0.16	-0.15	-0.15
7,517.14	16.91	104.03	7,393.90	-202.30	998.77	-68.10	0.23	-0.22	-0.15
7,530.57	16.88	104.01	7,406.75	-203.25	1,002.56	-68.54	0.23	-0.22	-0.15
7,544.00	16.54	103.62	7,419.62	-204.17	1,006.31	-68.96	2.67	-2.53	-2.90
7,557.57	15.60	102.65	7,432.66	-205.03	1,009.97	-69.32	7.20	-6.93	-7.15
7,571.14	14.73	102.49	7,445.75	-205.80	1,013.43	-69.62	6.42	-6.41	-1.18
7,584.71	13.73	100.73	7,458.91	-206.47	1,016.70	-69.86	8.03	-7.37	-12.97
7,598.29	13.72	100.65	7,472.10	-207.07	1,019.86	-70.03	0.16	-0.07	-0.59
7,611.86	13.70	100.55	7,485.28	-207.66	1,023.03	-70.20	0.23	-0.15	-0.74
7,625.43	13.69	100.42	7,498.47	-208.25	1,026.18	-70.36	0.24	-0.07	-0.96
7,639.00	13.70	100.25	7,511.65	-208.82	1,029.34	-70.51	0.31	0.07	-1.25
7,652.57	13.56	100.84	7,524.84	-209.41	1,032.49	-70.67	1.45	-1.03	4.35
7,666.14	13.36	101.13	7,538.04	-210.01	1,035.59	-70.86	1.56	-1.47	2.14
7,679.71	13.12	101.39	7,551.25	-210.62	1,038.64	-71.06	1.82	-1.77	1.92
7,693.29	13.19	100.98	7,564.47	-211.22	1,041.67	-71.25	0.86	0.52	-3.02
7,706.86	13.27	100.56	7,577.68	-211.80	1,044.72	-71.42	0.92	0.59	-3.10
7,720.43	13.34	100.19	7,590.88	-212.36	1,047.79	-71.57	0.81	0.52	-2.73
7,734.00	13.41	99.89	7,604.09	-212.91	1,050.88	-71.70	0.73	0.52	-2.21
7,747.43	13.45	99.76	7,617.15	-213.44	1,053.96	-71.82	0.37	0.30	-0.97
7,760.86	13.49	99.73	7,630.21	-213.97	1,057.04	-71.94	0.30	0.30	-0.22
7,774.29	13.51	99.76	7,643.27	-214.50	1,060.13	-72.06	0.16	0.15	0.22
7,787.71	13.54	99.83	7,656.32	-215.03	1,063.22	-72.17	0.25	0.22	0.52
7,801.14	13.56	99.91	7,669.37	-215.57	1,066.32	-72.30	0.20	0.15	0.60
7,814.57	13.59	100.01	7,682.43	-216.12	1,069.43	-72.43	0.28	0.22	0.74
7,828.00	13.62	100.09	7,695.48	-216.67	1,072.54	-72.56	0.26	0.22	0.60
7,841.57	13.66	100.14	7,708.67	-217.23	1,075.69	-72.70	0.31	0.29	0.37
7,855.14	13.70	100.17	7,721.85	-217.80	1,078.85	-72.84	0.30	0.29	0.22
7,868.71	13.75	100.20	7,735.04	-218.37	1,082.02	-72.99	0.37	0.37	0.22
7,882.29	13.81	100.21	7,748.22	-218.94	1,085.20	-73.13	0.44	0.44	0.07
7,895.86	13.87	100.23	7,761.40	-219.51	1,088.39	-73.28	0.44	0.44	0.15
7,909.43	13.94	100.24	7,774.57	-220.09	1,091.60	-73.43	0.52	0.52	0.07
7,923.00	14.02	100.25	7,787.74	-220.68	1,094.83	-73.58	0.59	0.59	0.07
7,936.57	14.12	100.28	7,800.90	-221.27	1,098.08	-73.73	0.74	0.74	0.22
7,950.14	14.23	100.30	7,814.06	-221.86	1,101.35	-73.89	0.81	0.81	0.15
7,963.71	14.35	100.32	7,827.21	-222.46	1,104.64	-74.04	0.89	0.88	0.15
7,977.29	14.47	100.35	7,840.36	-223.06	1,107.97	-74.20	0.89	0.88	0.22
7,990.86	14.58	100.37	7,853.50	-223.68	1,111.31	-74.37	0.81	0.81	0.15
8,004.43	14.68	100.40	7,866.63	-224.29	1,114.68	-74.53	0.74	0.74	0.22



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
8,018.00	14.77	100.42	7,879.75	-224.92	1,118.08	-74.70	0.66	0.66	0.15
8,031.57	14.84	100.44	7,892.87	-225.55	1,121.49	-74.87	0.52	0.52	0.15
8,045.14	14.89	100.46	7,905.99	-226.18	1,124.91	-75.04	0.37	0.37	0.15
8,058.71	14.93	100.48	7,919.10	-226.81	1,128.34	-75.22	0.30	0.29	0.15
8,072.29	14.97	100.50	7,932.22	-227.45	1,131.79	-75.39	0.30	0.29	0.15
8,085.86	15.02	100.54	7,945.33	-228.09	1,135.24	-75.57	0.38	0.37	0.29
8,099.43	15.08	100.58	7,958.44	-228.74	1,138.71	-75.75	0.45	0.44	0.29
8,113.00	15.17	100.65	7,971.54	-229.39	1,142.19	-75.94	0.68	0.66	0.52
8,126.57	15.29	100.75	7,984.63	-230.05	1,145.69	-76.13	0.91	0.88	0.74
8,140.14	15.44	100.87	7,997.71	-230.72	1,149.22	-76.33	1.13	1.11	0.88
8,153.71	15.59	101.00	8,010.79	-231.41	1,152.78	-76.54	1.13	1.11	0.96
8,167.29	15.75	101.14	8,023.86	-232.12	1,156.38	-76.76	1.21	1.18	1.03
8,180.86	15.91	101.29	8,036.92	-232.84	1,160.01	-76.99	1.22	1.18	1.11
8,194.43	16.06	101.45	8,049.97	-233.57	1,163.68	-77.23	1.15	1.11	1.18
8,208.00	16.20	101.62	8,063.00	-234.33	1,167.37	-77.49	1.09	1.03	1.25
8,221.43	16.29	101.82	8,075.90	-235.09	1,171.05	-77.76	0.79	0.67	1.49
8,234.86	16.37	102.03	8,088.78	-235.87	1,174.75	-78.04	0.74	0.60	1.56
8,248.29	16.44	102.22	8,101.67	-236.67	1,178.45	-78.34	0.66	0.52	1.41
8,261.71	16.51	102.40	8,114.54	-237.48	1,182.17	-78.65	0.65	0.52	1.34
8,275.14	16.57	102.53	8,127.41	-238.30	1,185.90	-78.98	0.52	0.45	0.97
8,288.57	16.63	102.59	8,140.28	-239.14	1,189.65	-79.31	0.46	0.45	0.45
8,302.00	16.70	102.57	8,153.15	-239.98	1,193.41	-79.64	0.52	0.52	-0.15
8,315.71	16.79	102.38	8,166.27	-240.83	1,197.27	-79.97	0.77	0.66	-1.39
8,329.43	16.88	102.16	8,179.41	-241.68	1,201.15	-80.30	0.80	0.66	-1.60
8,343.14	16.20	102.19	8,192.55	-242.50	1,204.96	-80.61	4.96	-4.96	0.22
8,356.86	15.30	100.98	8,205.75	-243.25	1,208.61	-80.87	6.98	-6.56	-8.82
8,370.57	14.50	100.29	8,219.00	-243.90	1,212.08	-81.05	5.98	-5.84	-5.03
8,384.29	13.88	100.06	8,232.30	-244.49	1,215.39	-81.20	4.54	-4.52	-1.68
8,398.00	13.39	99.54	8,245.63	-245.04	1,218.57	-81.32	3.68	-3.57	-3.79
8,411.57	13.21	99.09	8,258.83	-245.55	1,221.65	-81.42	1.53	-1.33	-3.32
8,425.14	13.26	99.01	8,272.04	-246.04	1,224.72	-81.50	0.39	0.37	-0.59
8,438.71	13.32	98.94	8,285.25	-246.52	1,227.80	-81.57	0.46	0.44	-0.52
8,452.29	13.38	98.87	8,298.46	-247.01	1,230.90	-81.64	0.46	0.44	-0.52
8,465.86	13.44	98.82	8,311.66	-247.49	1,234.01	-81.71	0.45	0.44	-0.37
8,479.43	13.50	98.78	8,324.86	-247.98	1,237.13	-81.77	0.45	0.44	-0.29
8,493.00	13.55	98.76	8,338.05	-248.46	1,240.27	-81.84	0.37	0.37	-0.15
8,506.57	13.61	98.79	8,351.24	-248.95	1,243.42	-81.90	0.45	0.44	0.22
8,520.14	13.66	98.84	8,364.43	-249.44	1,246.58	-81.97	0.38	0.37	0.37
8,533.71	13.71	98.91	8,377.62	-249.93	1,249.75	-82.04	0.39	0.37	0.52
8,547.29	13.76	98.99	8,390.81	-250.43	1,252.94	-82.11	0.39	0.37	0.59
8,560.86	13.81	99.08	8,403.99	-250.94	1,256.13	-82.19	0.40	0.37	0.66
8,574.43	13.87	99.17	8,417.16	-251.46	1,259.33	-82.28	0.47	0.44	0.66
8,588.00	13.92	99.28	8,430.34	-251.98	1,262.55	-82.37	0.42	0.37	0.81



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
8,601.57	13.98	99.41	8,443.51	-252.51	1,265.78	-82.47	0.50	0.44	0.96
8,615.14	14.05	99.55	8,456.67	-253.05	1,269.02	-82.57	0.57	0.52	1.03
8,628.71	14.12	99.69	8,469.83	-253.60	1,272.28	-82.69	0.57	0.52	1.03
8,642.29	14.19	99.84	8,483.00	-254.17	1,275.55	-82.81	0.58	0.52	1.10
8,655.86	14.27	100.00	8,496.16	-254.74	1,278.83	-82.95	0.66	0.59	1.18
8,669.43	14.34	100.16	8,509.30	-255.33	1,282.14	-83.09	0.59	0.52	1.18
8,683.00	14.43	100.35	8,522.45	-255.93	1,285.45	-83.25	0.75	0.66	1.40
8,696.71	14.54	100.58	8,535.72	-256.55	1,288.83	-83.42	0.91	0.80	1.68
8,710.43	14.65	100.82	8,549.00	-257.19	1,292.22	-83.60	0.91	0.80	1.75
8,724.14	14.76	101.04	8,562.26	-257.85	1,295.64	-83.80	0.90	0.80	1.60
8,737.86	14.86	101.22	8,575.53	-258.53	1,299.08	-84.02	0.80	0.73	1.31
8,751.57	14.95	101.32	8,588.77	-259.22	1,302.54	-84.24	0.68	0.66	0.73
8,765.29	15.02	101.32	8,602.03	-259.92	1,306.02	-84.47	0.51	0.51	0.00
8,779.00	15.06	101.18	8,615.27	-260.61	1,309.51	-84.70	0.39	0.29	-1.02
8,792.67	15.06	100.82	8,628.47	-261.29	1,312.99	-84.91	0.68	0.00	-2.63
8,806.33	15.02	100.31	8,641.66	-261.94	1,316.48	-85.09	1.01	-0.29	-3.73
8,820.00	14.96	99.69	8,654.87	-262.55	1,319.96	-85.24	1.25	-0.44	-4.54
8,833.67	14.88	99.00	8,668.07	-263.12	1,323.43	-85.34	1.43	-0.59	-5.05
8,847.33	14.78	98.26	8,681.28	-263.65	1,326.89	-85.40	1.57	-0.73	-5.42
8,861.00	14.57	95.12	8,694.50	-264.05	1,330.33	-85.35	6.02	-1.54	-22.97
8,874.57	14.25	86.85	8,707.65	-264.11	1,333.70	-84.96	15.34	-2.36	-60.94
8,888.14	14.28	76.07	8,720.80	-263.62	1,336.99	-84.04	19.55	0.22	-79.44
8,901.71	14.70	65.76	8,733.94	-262.51	1,340.18	-82.51	19.23	3.10	-75.98
8,915.29	15.49	56.26	8,747.06	-260.79	1,343.26	-80.40	19.10	5.82	-69.96
8,928.86	16.65	48.23	8,760.10	-258.49	1,346.22	-77.73	18.46	8.55	-59.17
8,942.43	17.72	40.77	8,773.06	-255.63	1,349.02	-74.52	18.04	7.89	-54.97
8,956.00	18.96	34.44	8,785.95	-252.25	1,351.61	-70.83	17.28	9.14	-46.65
8,969.57	20.61	29.63	8,798.71	-248.35	1,354.04	-66.65	17.07	12.16	-35.45
8,983.14	22.39	25.76	8,811.34	-243.95	1,356.35	-61.97	16.77	13.12	-28.52
8,996.71	23.83	21.57	8,823.82	-239.07	1,358.48	-56.86	16.10	10.61	-30.88
9,010.29	25.06	17.65	8,836.19	-233.78	1,360.36	-51.36	14.99	9.06	-28.87
9,017.39	24.79	16.35	8,842.62	-230.92	1,361.23	-48.41	8.59	-3.76	-18.33
FTP: 9017.39' MD, 24.79° Inc									
9,023.86	24.56	15.14	8,848.50	-228.32	1,361.97	-45.74	8.59	-3.60	-18.68
9,037.43	25.30	12.67	8,860.81	-222.77	1,363.34	-40.05	9.41	5.45	-18.20
9,051.00	25.10	10.12	8,873.09	-217.10	1,364.48	-34.29	8.14	-1.47	-18.79
9,064.43	26.09	7.58	8,885.20	-211.37	1,365.37	-28.49	11.00	7.37	-18.91
9,077.86	27.06	4.67	8,897.21	-205.40	1,366.01	-22.48	12.09	7.22	-21.67
9,091.29	28.46	3.29	8,909.10	-199.16	1,366.44	-16.24	11.47	10.42	-10.28
9,104.71	28.02	2.21	8,920.92	-192.82	1,366.75	-9.92	5.02	-3.28	-8.05
9,118.14	28.47	0.87	8,932.75	-186.47	1,366.92	-3.60	5.79	3.35	-9.98
9,131.57	29.04	0.07	8,944.52	-180.00	1,366.97	2.81	5.12	4.24	-5.96
9,145.00	28.54	359.19	8,956.29	-173.54	1,366.93	9.22	4.88	-3.72	-6.55
9,158.57	29.87	358.58	8,968.14	-166.92	1,366.80	15.76	10.04	9.80	-4.50



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
9,172.14	31.57	358.39	8,979.80	-159.99	1,366.62	22.61	12.55	12.53	-1.40
9,185.71	33.13	357.08	8,991.27	-152.73	1,366.33	29.76	12.60	11.50	-9.65
9,199.29	34.76	356.01	9,002.53	-145.16	1,365.87	37.20	12.78	12.00	-7.88
9,212.86	36.48	355.77	9,013.56	-137.28	1,365.30	44.94	12.72	12.68	-1.77
9,226.43	38.31	355.80	9,024.34	-129.06	1,364.70	53.00	13.49	13.49	0.22
9,240.00	40.20	355.94	9,034.85	-120.50	1,364.08	61.41	13.94	13.93	1.03
9,253.57	42.05	356.24	9,045.07	-111.60	1,363.47	70.16	13.71	13.63	2.21
9,267.14	43.87	356.74	9,055.00	-102.37	1,362.90	79.23	13.64	13.41	3.68
9,280.71	45.69	357.59	9,064.63	-92.82	1,362.43	88.63	14.12	13.41	6.26
9,294.29	47.47	358.37	9,073.97	-82.96	1,362.09	98.35	13.76	13.11	5.74
9,307.86	48.72	0.09	9,083.03	-72.86	1,361.95	108.34	13.18	9.21	12.68
9,321.43	50.03	1.84	9,091.87	-62.57	1,362.13	118.57	13.75	9.65	12.90
9,335.00	51.62	3.32	9,100.44	-52.06	1,362.60	129.05	14.45	11.72	10.91
9,348.43	53.13	4.87	9,108.64	-41.45	1,363.36	139.67	14.49	11.24	11.54
9,361.86	54.68	6.41	9,116.55	-30.65	1,364.43	150.51	14.80	11.54	11.47
9,375.29	56.10	8.10	9,124.18	-19.69	1,365.83	161.56	14.80	10.57	12.58
9,388.71	56.02	8.55	9,131.67	-8.67	1,367.44	172.70	2.85	-0.60	3.35
9,402.14	55.70	8.70	9,139.21	2.32	1,369.11	183.81	2.56	-2.38	1.12
9,415.57	57.55	9.34	9,146.60	13.39	1,370.87	195.02	14.34	13.78	4.77
9,429.00	59.47	10.01	9,153.61	24.68	1,372.79	206.47	14.92	14.30	4.99
9,442.57	60.29	10.64	9,160.42	36.23	1,374.89	218.19	7.26	6.04	4.64
9,456.14	59.90	11.10	9,167.19	47.78	1,377.11	229.93	4.11	-2.87	3.39
9,469.71	60.70	11.69	9,173.91	59.34	1,379.44	241.70	7.00	5.90	4.35
9,483.29	62.67	12.31	9,180.35	71.03	1,381.93	253.62	15.05	14.51	4.57
9,496.86	62.39	12.84	9,186.61	82.78	1,384.55	265.61	4.03	-2.06	3.91
9,510.43	62.48	13.11	9,192.89	94.50	1,387.25	277.59	1.88	0.66	1.99
9,524.00	64.18	13.00	9,198.98	106.32	1,389.99	289.66	12.55	12.53	-0.81
9,537.57	66.29	12.43	9,204.67	118.33	1,392.70	301.93	16.01	15.55	-4.20
9,551.14	68.14	10.88	9,209.92	130.59	1,395.23	314.41	17.23	13.63	-11.42
9,564.71	70.49	10.42	9,214.71	143.06	1,397.57	327.09	17.61	17.32	-3.39
9,578.29	72.78	9.45	9,218.99	155.76	1,399.80	339.96	18.17	16.86	-7.14
9,591.86	74.54	8.19	9,222.81	168.62	1,401.79	352.98	15.74	12.97	-9.29
9,605.43	76.28	6.90	9,226.23	181.64	1,403.51	366.11	15.78	12.82	-9.51
9,619.00	78.29	5.68	9,229.21	194.80	1,404.96	379.35	17.21	14.81	-8.99
9,632.43	80.17	4.28	9,231.72	207.94	1,406.11	392.52	17.34	14.00	-10.42
9,645.86	81.27	2.18	9,233.89	221.17	1,406.86	405.74	17.47	8.19	-15.64
9,659.29	82.71	0.20	9,235.76	234.47	1,407.13	418.95	18.11	10.72	-14.74
9,672.71	84.01	358.09	9,237.31	247.80	1,406.93	432.14	18.38	9.69	-15.72
9,686.14	85.25	357.14	9,238.57	261.16	1,406.38	445.30	11.61	9.23	-7.07
9,699.57	86.10	356.97	9,239.58	274.53	1,405.69	458.47	6.45	6.33	-1.27
9,713.00	85.90	356.56	9,240.52	287.91	1,404.93	471.63	3.39	-1.49	-3.05
9,726.57	85.92	356.23	9,241.49	301.41	1,404.08	484.90	2.43	0.15	-2.43
9,740.14	86.07	355.96	9,242.44	314.92	1,403.16	498.17	2.27	1.11	-1.99



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
9,753.71	86.28	355.72	9,243.34	328.42	1,402.18	511.42	2.35	1.55	-1.77
9,767.29	86.51	355.50	9,244.19	341.94	1,401.14	524.68	2.34	1.69	-1.62
9,780.86	86.70	355.31	9,245.00	355.44	1,400.05	537.92	1.98	1.40	-1.40
9,794.43	88.68	355.55	9,245.55	368.95	1,398.97	551.17	14.70	14.59	1.77
9,808.00	90.72	356.60	9,245.62	382.49	1,398.04	564.46	16.91	15.03	7.74
9,821.43	92.85	357.41	9,245.20	395.90	1,397.34	577.66	16.97	15.86	6.03
9,834.86	93.25	357.38	9,244.48	409.29	1,396.73	590.86	2.99	2.98	-0.22
9,848.29	93.12	357.12	9,243.74	422.69	1,396.09	604.05	2.16	-0.97	-1.94
9,861.71	92.98	356.86	9,243.02	436.07	1,395.39	617.22	2.20	-1.04	-1.94
9,875.14	92.84	356.60	9,242.34	449.46	1,394.62	630.39	2.20	-1.04	-1.94
9,888.57	92.71	356.36	9,241.69	462.85	1,393.80	643.55	2.03	-0.97	-1.79
9,902.00	92.61	356.15	9,241.07	476.24	1,392.92	656.70	1.73	-0.74	-1.56
9,916.00	92.56	355.98	9,240.44	490.19	1,391.96	670.40	1.26	-0.36	-1.21
9,929.57	92.56	355.96	9,239.83	503.71	1,391.01	683.68	0.15	0.00	-0.15
9,943.14	92.58	356.02	9,239.22	517.23	1,390.06	696.96	0.47	0.15	0.44
9,956.71	92.62	356.14	9,238.61	530.76	1,389.13	710.24	0.93	0.29	0.88
9,970.29	92.70	356.30	9,237.98	544.29	1,388.24	723.54	1.32	0.59	1.18
9,983.86	92.80	356.47	9,237.33	557.82	1,387.39	736.83	1.45	0.74	1.25
9,997.43	92.94	356.70	9,236.65	571.35	1,386.58	750.14	1.98	1.03	1.69
10,011.00	92.97	357.32	9,235.95	584.88	1,385.87	763.46	4.57	0.22	4.57
10,024.57	93.05	357.93	9,235.23	598.42	1,385.31	776.80	4.53	0.59	4.50
10,038.14	93.13	358.60	9,234.50	611.97	1,384.90	790.17	4.97	0.59	4.94
10,051.71	93.14	359.38	9,233.76	625.52	1,384.66	803.57	5.74	0.07	5.75
10,065.29	93.18	0.13	9,233.01	639.07	1,384.60	817.00	5.52	0.29	5.52
10,078.86	93.32	0.72	9,232.24	652.62	1,384.70	830.44	4.46	1.03	4.35
10,092.43	93.45	1.31	9,231.44	666.17	1,384.94	843.90	4.44	0.96	4.35
10,106.00	93.55	1.88	9,230.61	679.71	1,385.32	857.37	4.26	0.74	4.20
10,119.57	93.61	2.44	9,229.77	693.24	1,385.83	870.85	4.14	0.44	4.13
10,133.14	93.62	2.97	9,228.91	706.77	1,386.47	884.34	3.90	0.07	3.91
10,146.71	93.61	3.50	9,228.05	720.29	1,387.23	897.85	3.90	-0.07	3.91
10,160.29	93.56	4.02	9,227.20	733.81	1,388.12	911.37	3.84	-0.37	3.83
10,173.86	93.47	4.53	9,226.37	747.32	1,389.13	924.89	3.81	-0.66	3.76
10,187.43	93.34	5.03	9,225.57	760.82	1,390.26	938.42	3.80	-0.96	3.68
10,201.00	93.13	5.53	9,224.80	774.31	1,391.51	951.96	3.99	-1.55	3.68
10,214.43	92.82	6.01	9,224.10	787.65	1,392.86	965.36	4.25	-2.31	3.57
10,227.86	92.46	6.48	9,223.49	800.99	1,394.32	978.77	4.41	-2.68	3.50
10,241.29	92.09	6.95	9,222.95	814.32	1,395.88	992.19	4.45	-2.76	3.50
10,254.71	91.58	7.29	9,222.52	827.63	1,397.55	1,005.60	4.57	-3.80	2.53
10,268.14	90.77	7.52	9,222.25	840.94	1,399.28	1,019.03	6.27	-6.03	1.71
10,281.57	90.01	7.73	9,222.16	854.25	1,401.06	1,032.46	5.87	-5.66	1.56
10,295.00	89.32	7.92	9,222.23	867.56	1,402.89	1,045.89	5.33	-5.14	1.41
10,308.57	88.73	8.08	9,222.47	880.99	1,404.78	1,059.46	4.50	-4.35	1.18
10,322.14	88.18	8.24	9,222.83	894.42	1,406.70	1,073.02	4.22	-4.05	1.18
10,335.71	87.59	8.42	9,223.33	907.84	1,408.67	1,086.58	4.55	-4.35	1.33



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
10,349.29	87.10	8.57	9,223.96	921.25	1,410.67	1,100.15	3.77	-3.61	1.10
10,362.86	86.60	8.71	9,224.71	934.65	1,412.71	1,113.69	3.83	-3.68	1.03
10,376.43	87.22	8.57	9,225.44	948.05	1,414.74	1,127.24	4.68	4.57	-1.03
10,390.00	87.70	8.19	9,226.04	961.46	1,416.72	1,140.80	4.51	3.54	-2.80
10,403.57	87.77	7.96	9,226.58	974.88	1,418.62	1,154.36	1.77	0.52	-1.69
10,417.14	87.79	7.62	9,227.10	988.32	1,420.46	1,167.92	2.51	0.15	-2.51
10,430.71	87.78	7.27	9,227.63	1,001.76	1,422.22	1,181.48	2.58	-0.07	-2.58
10,444.29	87.77	6.72	9,228.15	1,015.23	1,423.87	1,195.04	4.05	-0.07	-4.05
10,457.86	87.78	6.20	9,228.68	1,028.71	1,425.40	1,208.60	3.83	0.07	-3.83
10,471.43	87.73	5.53	9,229.21	1,042.19	1,426.78	1,222.15	4.95	-0.37	-4.94
10,485.00	87.64	5.01	9,229.76	1,055.70	1,428.03	1,235.70	3.89	-0.66	-3.83
10,498.57	87.54	4.40	9,230.33	1,069.21	1,429.14	1,249.24	4.55	-0.74	-4.50
10,512.14	87.57	3.70	9,230.91	1,082.73	1,430.10	1,262.77	5.16	0.22	-5.16
10,525.71	87.60	2.98	9,231.48	1,096.27	1,430.89	1,276.29	5.31	0.22	-5.31
10,539.29	87.62	2.26	9,232.05	1,109.82	1,431.51	1,289.81	5.30	0.15	-5.30
10,552.86	87.59	1.56	9,232.61	1,123.37	1,431.96	1,303.30	5.16	-0.22	-5.16
10,566.43	87.53	0.78	9,233.19	1,136.93	1,432.23	1,316.77	5.76	-0.44	-5.75
10,580.00	87.76	0.88	9,233.75	1,150.48	1,432.43	1,330.24	1.85	1.69	0.74
10,593.43	87.86	0.70	9,234.26	1,163.90	1,432.62	1,343.56	1.53	0.74	-1.34
10,606.86	87.79	359.98	9,234.77	1,177.32	1,432.70	1,356.87	5.38	-0.52	-5.36
10,620.29	87.89	359.34	9,235.28	1,190.74	1,432.62	1,370.16	4.82	0.74	-4.77
10,633.71	88.12	358.70	9,235.75	1,204.15	1,432.39	1,383.43	5.06	1.71	-4.77
10,647.14	88.04	358.21	9,236.20	1,217.57	1,432.02	1,396.68	3.69	-0.60	-3.65
10,660.57	87.90	357.82	9,236.67	1,230.98	1,431.56	1,409.91	3.08	-1.04	-2.90
10,674.00	87.90	357.39	9,237.16	1,244.39	1,431.00	1,423.13	3.20	0.00	-3.20
10,687.57	87.90	357.01	9,237.66	1,257.94	1,430.34	1,436.46	2.80	0.00	-2.80
10,701.14	87.82	356.52	9,238.17	1,271.48	1,429.57	1,449.78	3.66	-0.59	-3.61
10,714.71	87.76	356.05	9,238.69	1,285.01	1,428.69	1,463.08	3.49	-0.44	-3.46
10,728.29	87.71	355.67	9,239.23	1,298.54	1,427.71	1,476.36	2.82	-0.37	-2.80
10,741.86	87.70	355.33	9,239.77	1,312.06	1,426.65	1,489.62	2.50	-0.07	-2.51
10,755.43	87.63	355.04	9,240.32	1,325.57	1,425.51	1,502.86	2.20	-0.52	-2.14
10,769.00	87.47	354.86	9,240.90	1,339.07	1,424.32	1,516.09	1.77	-1.18	-1.33
10,782.43	87.34	354.61	9,241.51	1,352.43	1,423.09	1,529.17	2.10	-0.97	-1.86
10,795.86	87.34	354.55	9,242.14	1,365.79	1,421.82	1,542.23	0.45	0.00	-0.45
10,809.29	87.38	354.65	9,242.75	1,379.15	1,420.56	1,555.31	0.80	0.30	0.74
10,822.71	87.43	354.75	9,243.36	1,392.49	1,419.32	1,568.37	0.83	0.37	0.75
10,836.14	87.46	354.75	9,243.96	1,405.86	1,418.09	1,581.45	0.22	0.22	0.00
10,849.57	87.48	354.35	9,244.55	1,419.21	1,416.82	1,594.52	2.98	0.15	-2.98
10,863.00	87.50	353.95	9,245.14	1,432.56	1,415.45	1,607.57	2.98	0.15	-2.98
10,876.57	87.46	353.86	9,245.74	1,446.04	1,414.01	1,620.74	0.73	-0.29	-0.66
10,890.14	87.41	353.90	9,246.35	1,459.52	1,412.56	1,633.91	0.47	-0.37	0.29
10,903.71	87.72	353.91	9,246.92	1,473.00	1,411.12	1,647.08	2.29	2.28	0.07
10,917.29	88.04	353.94	9,247.42	1,486.49	1,409.69	1,660.27	2.37	2.36	0.22



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
10,930.86	88.31	353.91	9,247.86	1,499.98	1,408.25	1,673.44	2.00	1.99	-0.22
10,944.43	88.38	353.61	9,248.25	1,513.46	1,406.78	1,686.61	2.27	0.52	-2.21
10,958.00	88.23	353.53	9,248.65	1,526.94	1,405.26	1,699.77	1.25	-1.11	-0.59
10,971.43	88.21	353.48	9,249.07	1,540.28	1,403.74	1,712.79	0.40	-0.15	-0.37
10,984.86	88.73	353.44	9,249.43	1,553.62	1,402.21	1,725.81	3.88	3.87	-0.30
10,998.29	89.30	353.41	9,249.66	1,566.96	1,400.67	1,738.82	4.25	4.24	-0.22
11,011.71	89.58	353.45	9,249.79	1,580.29	1,399.14	1,751.83	2.11	2.09	0.30
11,025.14	89.23	353.78	9,249.93	1,593.64	1,397.65	1,764.86	3.58	-2.61	2.46
11,038.57	89.52	353.76	9,250.07	1,606.99	1,396.19	1,777.90	2.16	2.16	-0.15
11,052.00	89.81	353.79	9,250.15	1,620.34	1,394.73	1,790.94	2.17	2.16	0.22
11,065.57	90.00	354.02	9,250.17	1,633.83	1,393.29	1,804.13	2.20	1.40	1.69
11,079.14	90.11	354.37	9,250.16	1,647.33	1,391.92	1,817.33	2.70	0.81	2.58
11,092.71	90.19	354.75	9,250.13	1,660.84	1,390.63	1,830.54	2.86	0.59	2.80
11,106.29	90.26	355.15	9,250.07	1,674.37	1,389.44	1,843.79	2.99	0.52	2.95
11,119.86	90.30	355.56	9,250.01	1,687.89	1,388.34	1,857.05	3.04	0.29	3.02
11,133.43	90.24	355.94	9,249.94	1,701.42	1,387.33	1,870.33	2.83	-0.44	2.80
11,147.00	90.11	356.31	9,249.90	1,714.96	1,386.42	1,883.63	2.89	-0.96	2.73
11,160.43	90.09	356.60	9,249.88	1,728.37	1,385.59	1,896.81	2.16	-0.15	2.16
11,173.86	90.09	356.92	9,249.86	1,741.77	1,384.83	1,910.00	2.38	0.00	2.38
11,187.29	90.07	357.14	9,249.84	1,755.19	1,384.13	1,923.20	1.64	-0.15	1.64
11,200.71	90.02	357.43	9,249.83	1,768.59	1,383.49	1,936.40	2.19	-0.37	2.16
11,214.14	89.93	357.79	9,249.83	1,782.01	1,382.93	1,949.63	2.76	-0.67	2.68
11,227.57	89.89	358.17	9,249.85	1,795.43	1,382.46	1,962.87	2.85	-0.30	2.83
11,241.00	89.86	358.55	9,249.88	1,808.86	1,382.08	1,976.12	2.84	-0.22	2.83
11,254.57	89.86	358.90	9,249.92	1,822.42	1,381.77	1,989.53	2.58	0.00	2.58
11,268.14	89.96	359.23	9,249.94	1,835.99	1,381.55	2,002.95	2.54	0.74	2.43
11,281.71	89.93	359.53	9,249.95	1,849.56	1,381.41	2,016.38	2.22	-0.22	2.21
11,295.29	89.86	359.83	9,249.98	1,863.14	1,381.33	2,029.83	2.27	-0.52	2.21
11,308.86	89.77	0.09	9,250.02	1,876.71	1,381.32	2,043.28	2.03	-0.66	1.92
11,322.43	89.67	0.34	9,250.09	1,890.28	1,381.37	2,056.73	1.98	-0.74	1.84
11,336.00	89.59	0.47	9,250.17	1,903.85	1,381.47	2,070.19	1.12	-0.59	0.96
11,349.43	89.56	0.48	9,250.27	1,917.28	1,381.58	2,083.52	0.24	-0.22	0.07
11,362.86	89.51	0.52	9,250.38	1,930.71	1,381.70	2,096.85	0.48	-0.37	0.30
11,376.29	89.48	0.54	9,250.50	1,944.14	1,381.82	2,110.17	0.27	-0.22	0.15
11,389.71	89.46	0.55	9,250.62	1,957.55	1,381.95	2,123.49	0.17	-0.15	0.07
11,403.14	89.45	0.54	9,250.75	1,970.98	1,382.08	2,136.82	0.11	-0.07	-0.07
11,416.57	89.47	0.49	9,250.88	1,984.41	1,382.20	2,150.14	0.40	0.15	-0.37
11,430.00	89.53	0.41	9,251.00	1,997.84	1,382.30	2,163.47	0.74	0.45	-0.60
11,443.71	89.68	0.27	9,251.09	2,011.55	1,382.38	2,177.07	1.50	1.09	-1.02
11,457.43	89.65	0.17	9,251.17	2,025.27	1,382.44	2,190.67	0.76	-0.22	-0.73
11,471.14	89.60	0.06	9,251.26	2,038.98	1,382.46	2,204.27	0.88	-0.36	-0.80
11,484.86	89.71	359.92	9,251.34	2,052.70	1,382.46	2,217.86	1.30	0.80	-1.02
11,498.57	89.87	359.77	9,251.39	2,066.41	1,382.42	2,231.45	1.60	1.17	-1.09



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
11,512.29	89.98	359.65	9,251.41	2,080.13	1,382.36	2,245.04	1.19	0.80	-0.87
11,526.00	90.07	359.55	9,251.41	2,093.84	1,382.26	2,258.61	0.98	0.66	-0.73
11,539.57	90.13	359.48	9,251.38	2,107.41	1,382.14	2,272.05	0.68	0.44	-0.52
11,553.14	90.15	359.44	9,251.35	2,120.98	1,382.02	2,285.48	0.33	0.15	-0.29
11,566.71	90.13	359.45	9,251.32	2,134.55	1,381.89	2,298.91	0.16	-0.15	0.07
11,580.29	90.09	359.48	9,251.29	2,148.13	1,381.76	2,312.35	0.37	-0.29	0.22
11,593.86	90.05	359.36	9,251.27	2,161.70	1,381.62	2,325.79	0.93	-0.29	-0.88
11,607.43	90.00	359.16	9,251.27	2,175.26	1,381.45	2,339.21	1.52	-0.37	-1.47
11,621.00	89.98	358.95	9,251.27	2,188.83	1,381.22	2,352.63	1.55	-0.15	-1.55
11,634.57	89.98	358.69	9,251.27	2,202.40	1,380.94	2,366.04	1.92	0.00	-1.92
11,648.14	90.03	358.32	9,251.27	2,215.97	1,380.59	2,379.44	2.75	0.37	-2.73
11,661.71	90.10	357.91	9,251.26	2,229.53	1,380.14	2,392.82	3.07	0.52	-3.02
11,675.29	90.18	357.54	9,251.22	2,243.10	1,379.60	2,406.20	2.79	0.59	-2.72
11,688.86	90.14	357.30	9,251.19	2,256.65	1,378.99	2,419.56	1.79	-0.29	-1.77
11,702.43	89.97	357.14	9,251.17	2,270.21	1,378.33	2,432.90	1.72	-1.25	-1.18
11,716.00	90.01	356.92	9,251.18	2,283.76	1,377.63	2,446.24	1.65	0.29	-1.62
11,729.57	90.11	356.59	9,251.16	2,297.31	1,376.86	2,459.57	2.54	0.74	-2.43
11,743.14	90.23	356.36	9,251.12	2,310.85	1,376.03	2,472.88	1.91	0.88	-1.69
11,756.71	90.45	356.43	9,251.04	2,324.39	1,375.18	2,486.19	1.70	1.62	0.52
11,770.29	90.68	356.56	9,250.91	2,337.95	1,374.35	2,499.52	1.95	1.69	0.96
11,783.86	90.84	356.59	9,250.73	2,351.49	1,373.53	2,512.84	1.20	1.18	0.22
11,797.43	90.86	356.40	9,250.53	2,365.04	1,372.70	2,526.15	1.41	0.15	-1.40
11,811.00	90.92	356.40	9,250.31	2,378.58	1,371.85	2,539.46	0.44	0.44	0.00
11,824.57	91.07	357.02	9,250.08	2,392.12	1,371.07	2,552.78	4.70	1.11	4.57
11,838.14	91.31	357.81	9,249.80	2,405.68	1,370.46	2,566.13	6.08	1.77	5.82
11,851.71	91.48	358.78	9,249.47	2,419.24	1,370.06	2,579.52	7.25	1.25	7.15
11,865.29	91.65	359.81	9,249.10	2,432.81	1,369.89	2,592.95	7.68	1.25	7.58
11,878.86	91.56	0.88	9,248.72	2,446.37	1,369.97	2,606.41	7.91	-0.66	7.89
11,892.43	91.11	1.52	9,248.40	2,459.94	1,370.26	2,619.89	5.76	-3.32	4.72
11,906.00	90.47	2.14	9,248.21	2,473.50	1,370.69	2,633.39	6.57	-4.72	4.57
11,919.43	89.81	2.50	9,248.18	2,486.92	1,371.23	2,646.76	5.60	-4.91	2.68
11,932.86	89.09	2.77	9,248.31	2,500.33	1,371.85	2,660.14	5.73	-5.36	2.01
11,946.29	89.24	1.98	9,248.50	2,513.75	1,372.41	2,673.51	5.99	1.12	-5.88
11,959.71	89.38	1.24	9,248.67	2,527.16	1,372.79	2,686.86	5.61	1.04	-5.51
11,973.14	89.36	0.99	9,248.81	2,540.59	1,373.05	2,700.20	1.87	-0.15	-1.86
11,986.57	89.83	1.13	9,248.91	2,554.02	1,373.30	2,713.54	3.65	3.50	1.04
12,000.00	90.14	1.39	9,248.91	2,567.44	1,373.59	2,726.89	3.01	2.31	1.94
12,013.57	90.09	1.74	9,248.88	2,581.01	1,373.96	2,740.38	2.61	-0.37	2.58
12,027.14	90.04	1.98	9,248.87	2,594.57	1,374.40	2,753.88	1.81	-0.37	1.77
12,040.71	89.99	2.04	9,248.87	2,608.13	1,374.88	2,767.39	0.58	-0.37	0.44
12,054.29	89.95	2.10	9,248.87	2,621.70	1,375.37	2,780.91	0.53	-0.29	0.44
12,067.86	89.91	2.17	9,248.89	2,635.27	1,375.87	2,794.41	0.59	-0.29	0.52
12,081.43	89.87	2.22	9,248.92	2,648.83	1,376.39	2,807.92	0.47	-0.29	0.37
12,095.00	89.86	2.47	9,248.95	2,662.38	1,376.95	2,821.43	1.84	-0.07	1.84



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
12,108.57	89.84	2.61	9,248.98	2,675.94	1,377.55	2,834.95	1.04	-0.15	1.03
12,122.14	89.81	2.66	9,249.02	2,689.50	1,378.17	2,848.47	0.43	-0.22	0.37
12,135.71	89.77	2.60	9,249.07	2,703.05	1,378.80	2,861.99	0.53	-0.29	-0.44
12,149.29	89.73	2.51	9,249.13	2,716.62	1,379.40	2,875.52	0.73	-0.29	-0.66
12,162.86	89.70	2.41	9,249.20	2,730.18	1,379.98	2,889.03	0.77	-0.22	-0.74
12,176.43	89.68	2.31	9,249.27	2,743.73	1,380.54	2,902.54	0.75	-0.15	-0.74
12,190.00	89.66	2.18	9,249.35	2,757.29	1,381.07	2,916.05	0.97	-0.15	-0.96
12,203.57	89.66	2.09	9,249.43	2,770.85	1,381.58	2,929.56	0.66	0.00	-0.66
12,217.14	89.69	2.03	9,249.51	2,784.41	1,382.07	2,943.07	0.49	0.22	-0.44
12,230.71	89.72	1.97	9,249.58	2,797.98	1,382.54	2,956.57	0.49	0.22	-0.44
12,244.29	89.76	1.92	9,249.64	2,811.55	1,383.00	2,970.08	0.47	0.29	-0.37
12,257.86	89.80	1.86	9,249.69	2,825.11	1,383.45	2,983.59	0.53	0.29	-0.44
12,271.43	89.83	1.80	9,249.74	2,838.67	1,383.88	2,997.09	0.49	0.22	-0.44
12,285.00	89.84	1.68	9,249.78	2,852.24	1,384.30	3,010.59	0.89	0.07	-0.88
12,298.57	89.83	1.54	9,249.82	2,865.80	1,384.68	3,024.08	1.03	-0.07	-1.03
12,312.14	89.83	1.41	9,249.86	2,879.37	1,385.03	3,037.57	0.96	0.00	-0.96
12,325.71	89.83	1.28	9,249.90	2,892.93	1,385.34	3,051.06	0.96	0.00	-0.96
12,339.29	89.83	1.13	9,249.94	2,906.51	1,385.63	3,064.56	1.10	0.00	-1.10
12,352.86	89.82	0.98	9,249.98	2,920.08	1,385.88	3,078.04	1.11	-0.07	-1.11
12,366.43	89.82	0.82	9,250.02	2,933.65	1,386.09	3,091.51	1.18	0.00	-1.18
12,380.00	89.84	0.65	9,250.06	2,947.22	1,386.27	3,104.99	1.26	0.15	-1.25
12,393.57	89.87	0.46	9,250.10	2,960.78	1,386.40	3,118.45	1.42	0.22	-1.40
12,407.14	89.90	0.25	9,250.12	2,974.35	1,386.48	3,131.92	1.56	0.22	-1.55
12,420.71	89.94	0.05	9,250.14	2,987.92	1,386.52	3,145.37	1.50	0.29	-1.47
12,434.29	89.98	359.86	9,250.15	3,001.50	1,386.51	3,158.83	1.43	0.29	-1.40
12,447.86	90.02	359.69	9,250.15	3,015.07	1,386.45	3,172.27	1.29	0.29	-1.25
12,461.43	90.05	359.55	9,250.14	3,028.64	1,386.36	3,185.71	1.06	0.22	-1.03
12,475.00	90.06	359.50	9,250.13	3,042.21	1,386.25	3,199.14	0.38	0.07	-0.37
12,489.62	90.04	359.58	9,250.12	3,056.83	1,386.13	3,213.62	0.56	-0.14	0.55
12,504.23	90.03	359.68	9,250.11	3,071.44	1,386.04	3,228.09	0.69	-0.07	0.68
12,518.85	90.03	359.80	9,250.10	3,086.06	1,385.97	3,242.57	0.82	0.00	0.82
12,533.46	90.02	359.92	9,250.09	3,100.67	1,385.94	3,257.05	0.82	-0.07	0.82
12,548.08	90.01	0.11	9,250.09	3,115.29	1,385.94	3,271.54	1.30	-0.07	1.30
12,562.69	90.01	0.33	9,250.09	3,129.90	1,386.00	3,286.03	1.51	0.00	1.51
12,577.31	90.03	0.50	9,250.08	3,144.52	1,386.10	3,300.53	1.17	0.14	1.16
12,591.92	90.04	0.67	9,250.07	3,159.13	1,386.25	3,315.03	1.17	0.07	1.16
12,606.54	90.02	0.78	9,250.07	3,173.75	1,386.44	3,329.54	0.76	-0.14	0.75
12,621.15	90.01	0.89	9,250.06	3,188.36	1,386.65	3,344.05	0.76	-0.07	0.75
12,635.77	89.99	1.01	9,250.06	3,202.98	1,386.89	3,358.57	0.83	-0.14	0.82
12,650.38	89.98	1.19	9,250.07	3,217.58	1,387.17	3,373.09	1.23	-0.07	1.23
12,665.00	89.97	1.35	9,250.07	3,232.20	1,387.50	3,387.62	1.10	-0.07	1.09
12,679.62	89.96	1.45	9,250.08	3,246.82	1,387.85	3,402.15	0.69	-0.07	0.68
12,694.23	89.95	1.51	9,250.09	3,261.42	1,388.23	3,416.68	0.42	-0.07	0.41



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
12,708.85	89.95	1.53	9,250.11	3,276.04	1,388.62	3,431.22	0.14	0.00	0.14
12,723.46	89.95	1.54	9,250.12	3,290.64	1,389.01	3,445.74	0.07	0.00	0.07
12,738.08	89.95	1.54	9,250.13	3,305.26	1,389.40	3,460.28	0.00	0.00	0.00
12,752.69	89.94	1.54	9,250.14	3,319.86	1,389.80	3,474.81	0.07	-0.07	0.00
12,767.31	89.94	1.54	9,250.16	3,334.47	1,390.19	3,489.35	0.00	0.00	0.00
12,781.92	89.94	1.54	9,250.18	3,349.08	1,390.58	3,503.88	0.00	0.00	0.00
12,796.54	89.92	1.56	9,250.19	3,363.69	1,390.98	3,518.41	0.19	-0.14	0.14
12,811.15	89.91	1.59	9,250.21	3,378.30	1,391.38	3,532.94	0.22	-0.07	0.21
12,825.77	89.90	1.60	9,250.24	3,392.91	1,391.79	3,547.48	0.10	-0.07	0.07
12,840.38	89.88	1.65	9,250.27	3,407.52	1,392.20	3,562.01	0.37	-0.14	0.34
12,855.00	89.86	1.73	9,250.30	3,422.13	1,392.63	3,576.55	0.56	-0.14	0.55
12,868.43	89.82	1.86	9,250.34	3,435.55	1,393.05	3,589.91	1.01	-0.30	0.97
12,881.86	89.78	2.02	9,250.38	3,448.98	1,393.51	3,603.28	1.23	-0.30	1.19
12,895.29	89.73	2.21	9,250.44	3,462.40	1,394.00	3,616.65	1.46	-0.37	1.41
12,908.71	89.68	2.42	9,250.51	3,475.81	1,394.54	3,630.01	1.61	-0.37	1.56
12,922.14	89.63	2.64	9,250.59	3,489.22	1,395.14	3,643.39	1.68	-0.37	1.64
12,935.57	89.57	2.88	9,250.69	3,502.64	1,395.78	3,656.77	1.84	-0.45	1.79
12,949.00	89.52	3.13	9,250.79	3,516.05	1,396.49	3,670.15	1.90	-0.37	1.86
12,962.57	89.47	3.43	9,250.91	3,529.59	1,397.26	3,683.68	2.24	-0.37	2.21
12,976.14	89.42	3.76	9,251.04	3,543.14	1,398.12	3,697.22	2.46	-0.37	2.43
12,989.71	89.37	4.09	9,251.19	3,556.67	1,399.04	3,710.76	2.46	-0.37	2.43
13,003.29	89.34	4.35	9,251.34	3,570.22	1,400.04	3,724.32	1.93	-0.22	1.91
13,016.86	89.41	4.41	9,251.49	3,583.75	1,401.08	3,737.86	0.68	0.52	0.44
13,030.43	89.48	4.45	9,251.62	3,597.28	1,402.13	3,751.41	0.59	0.52	0.29
13,044.00	89.47	4.41	9,251.74	3,610.80	1,403.18	3,764.96	0.30	-0.07	-0.29
13,057.57	89.45	4.32	9,251.87	3,624.33	1,404.21	3,778.51	0.68	-0.15	-0.66
13,071.14	89.43	4.21	9,252.00	3,637.87	1,405.22	3,792.05	0.82	-0.15	-0.81
13,084.71	89.46	4.09	9,252.14	3,651.40	1,406.20	3,805.60	0.91	0.22	-0.88
13,098.29	89.49	3.93	9,252.26	3,664.95	1,407.15	3,819.15	1.20	0.22	-1.18
13,111.86	89.53	3.75	9,252.38	3,678.48	1,408.06	3,832.69	1.36	0.29	-1.33
13,125.43	89.58	3.56	9,252.48	3,692.03	1,408.92	3,846.23	1.45	0.37	-1.40
13,139.00	89.64	3.36	9,252.57	3,705.57	1,409.74	3,859.76	1.54	0.44	-1.47
13,152.57	89.70	3.17	9,252.65	3,719.12	1,410.52	3,873.29	1.47	0.44	-1.40
13,166.14	89.78	2.98	9,252.71	3,732.67	1,411.24	3,886.82	1.52	0.59	-1.40
13,179.71	89.85	2.81	9,252.76	3,746.22	1,411.93	3,900.34	1.35	0.52	-1.25
13,193.29	89.92	2.66	9,252.78	3,759.79	1,412.58	3,913.87	1.22	0.52	-1.10
13,206.86	89.99	2.53	9,252.80	3,773.34	1,413.19	3,927.39	1.09	0.52	-0.96
13,220.43	90.04	2.45	9,252.79	3,786.90	1,413.78	3,940.91	0.70	0.37	-0.59
13,234.00	90.06	2.43	9,252.78	3,800.46	1,414.36	3,954.42	0.21	0.15	-0.15
13,247.57	90.04	2.55	9,252.77	3,814.02	1,414.95	3,967.94	0.90	-0.15	0.88
13,261.14	90.01	2.72	9,252.76	3,827.57	1,415.57	3,981.46	1.27	-0.22	1.25
13,274.71	90.01	2.98	9,252.76	3,841.12	1,416.25	3,994.98	1.92	0.00	1.92
13,288.29	90.02	3.16	9,252.76	3,854.68	1,416.97	4,008.52	1.33	0.07	1.33



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
13,301.86	90.03	3.37	9,252.75	3,868.23	1,417.75	4,022.05	1.55	0.07	1.55
13,315.43	90.06	3.54	9,252.74	3,881.78	1,418.56	4,035.58	1.27	0.22	1.25
13,329.00	90.07	3.62	9,252.72	3,895.32	1,419.41	4,049.12	0.59	0.07	0.59
13,342.57	90.08	3.65	9,252.71	3,908.86	1,420.27	4,062.66	0.23	0.07	0.22
13,356.14	90.11	3.63	9,252.68	3,922.41	1,421.13	4,076.19	0.27	0.22	-0.15
13,369.71	90.15	3.55	9,252.65	3,935.95	1,421.98	4,089.73	0.66	0.29	-0.59
13,383.29	90.19	3.43	9,252.61	3,949.50	1,422.81	4,103.27	0.93	0.29	-0.88
13,396.86	90.17	3.30	9,252.57	3,963.05	1,423.61	4,116.81	0.97	-0.15	-0.96
13,410.43	90.12	3.15	9,252.54	3,976.60	1,424.37	4,130.34	1.17	-0.37	-1.11
13,424.00	90.05	2.97	9,252.52	3,990.15	1,425.09	4,143.86	1.42	-0.52	-1.33
13,437.43	89.95	2.67	9,252.52	4,003.56	1,425.75	4,157.25	2.35	-0.74	-2.23
13,450.86	89.82	2.36	9,252.54	4,016.98	1,426.34	4,170.62	2.50	-0.97	-2.31
13,464.29	89.72	2.11	9,252.60	4,030.40	1,426.87	4,183.99	2.00	-0.74	-1.86
13,477.71	89.73	1.91	9,252.66	4,043.81	1,427.34	4,197.35	1.49	0.07	-1.49
13,491.14	89.73	1.70	9,252.72	4,057.24	1,427.76	4,210.71	1.56	0.00	-1.56
13,504.57	89.66	1.53	9,252.80	4,070.66	1,428.14	4,224.07	1.37	-0.52	-1.27
13,518.00	89.61	1.36	9,252.88	4,084.09	1,428.48	4,237.42	1.32	-0.37	-1.27
13,531.57	89.61	1.14	9,252.97	4,097.65	1,428.77	4,250.90	1.62	0.00	-1.62
13,545.14	89.62	0.88	9,253.06	4,111.22	1,429.01	4,264.38	1.92	0.07	-1.92
13,558.71	89.65	0.62	9,253.15	4,124.79	1,429.19	4,277.86	1.93	0.22	-1.92
13,572.29	89.75	0.51	9,253.22	4,138.37	1,429.33	4,291.33	1.09	0.74	-0.81
13,585.86	89.85	0.56	9,253.27	4,151.94	1,429.45	4,304.80	0.82	0.74	0.37
13,599.43	89.94	0.60	9,253.29	4,165.51	1,429.59	4,318.27	0.73	0.66	0.29
13,613.00	89.96	0.42	9,253.31	4,179.08	1,429.71	4,331.73	1.33	0.15	-1.33
13,626.57	89.99	0.25	9,253.31	4,192.64	1,429.79	4,345.19	1.27	0.22	-1.25
13,640.14	89.99	0.09	9,253.31	4,206.21	1,429.83	4,358.65	1.18	0.00	-1.18
13,653.71	89.99	359.99	9,253.32	4,219.78	1,429.84	4,372.10	0.74	0.00	-0.74
13,667.29	90.00	359.89	9,253.32	4,233.36	1,429.83	4,385.56	0.74	0.07	-0.74
13,680.86	90.03	359.73	9,253.31	4,246.93	1,429.78	4,399.00	1.20	0.22	-1.18
13,694.43	90.05	359.59	9,253.31	4,260.50	1,429.70	4,412.44	1.04	0.15	-1.03
13,708.00	90.02	359.47	9,253.30	4,274.07	1,429.59	4,425.88	0.91	-0.22	-0.88
13,721.71	90.00	359.38	9,253.29	4,287.78	1,429.45	4,439.45	0.67	-0.15	-0.66
13,735.43	90.02	359.33	9,253.29	4,301.50	1,429.30	4,453.02	0.39	0.15	-0.36
13,749.14	90.07	359.29	9,253.28	4,315.21	1,429.13	4,466.59	0.47	0.36	-0.29
13,762.86	90.11	359.26	9,253.26	4,328.93	1,428.96	4,480.17	0.36	0.29	-0.22
13,776.57	90.14	359.21	9,253.23	4,342.64	1,428.77	4,493.73	0.43	0.22	-0.36
13,790.29	90.14	359.09	9,253.20	4,356.36	1,428.57	4,507.30	0.87	0.00	-0.87
13,804.00	90.11	358.91	9,253.17	4,370.07	1,428.33	4,520.85	1.33	-0.22	-1.31
13,817.57	89.99	358.73	9,253.15	4,383.63	1,428.05	4,534.26	1.59	-0.88	-1.33
13,831.14	89.79	358.57	9,253.18	4,397.20	1,427.73	4,547.67	1.89	-1.47	-1.18
13,844.71	89.59	358.34	9,253.25	4,410.76	1,427.37	4,561.07	2.25	-1.47	-1.69
13,858.29	89.37	358.03	9,253.38	4,424.34	1,426.94	4,574.46	2.80	-1.62	-2.28
13,871.86	89.18	357.95	9,253.55	4,437.90	1,426.46	4,587.84	1.52	-1.40	-0.59
13,885.43	89.01	357.88	9,253.76	4,451.46	1,425.97	4,601.21	1.35	-1.25	-0.52



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
13,899.00	89.00	357.91	9,254.00	4,465.01	1,425.47	4,614.59	0.23	-0.07	0.22
13,912.57	88.95	357.85	9,254.24	4,478.57	1,424.97	4,627.96	0.58	-0.37	-0.44
13,926.14	88.94	357.84	9,254.49	4,492.13	1,424.46	4,641.33	0.10	-0.07	-0.07
13,939.71	88.95	357.86	9,254.74	4,505.69	1,423.95	4,654.70	0.16	0.07	0.15
13,953.29	88.97	357.91	9,254.99	4,519.26	1,423.45	4,668.08	0.40	0.15	0.37
13,966.86	88.98	357.96	9,255.23	4,532.82	1,422.96	4,681.46	0.38	0.07	0.37
13,980.43	88.98	358.00	9,255.47	4,546.38	1,422.48	4,694.83	0.29	0.00	0.29
13,994.00	88.93	358.01	9,255.72	4,559.94	1,422.01	4,708.21	0.38	-0.37	0.07
14,007.43	88.83	357.97	9,255.98	4,573.36	1,421.54	4,721.45	0.80	-0.74	-0.30
14,020.86	88.75	357.93	9,256.27	4,586.77	1,421.06	4,734.68	0.67	-0.60	-0.30
14,034.29	88.77	357.91	9,256.56	4,600.19	1,420.57	4,747.92	0.21	0.15	-0.15
14,047.71	88.80	357.89	9,256.84	4,613.60	1,420.08	4,761.14	0.27	0.22	-0.15
14,061.14	88.81	357.86	9,257.12	4,627.02	1,419.58	4,774.38	0.24	0.07	-0.22
14,074.57	88.70	357.79	9,257.41	4,640.43	1,419.07	4,787.61	0.97	-0.82	-0.52
14,088.00	88.60	357.71	9,257.73	4,653.85	1,418.54	4,800.84	0.95	-0.74	-0.60
14,101.57	88.60	357.65	9,258.06	4,667.41	1,417.99	4,814.20	0.44	0.00	-0.44
14,115.14	88.65	357.61	9,258.39	4,680.96	1,417.43	4,827.56	0.47	0.37	-0.29
14,128.71	88.72	357.58	9,258.70	4,694.51	1,416.86	4,840.92	0.56	0.52	-0.22
14,142.29	88.80	357.54	9,258.99	4,708.08	1,416.28	4,854.29	0.66	0.59	-0.29
14,155.86	88.88	357.50	9,259.27	4,721.63	1,415.70	4,867.64	0.66	0.59	-0.29
14,169.43	88.96	357.46	9,259.52	4,735.19	1,415.10	4,881.00	0.66	0.59	-0.29
14,183.00	89.05	357.41	9,259.76	4,748.74	1,414.49	4,894.35	0.76	0.66	-0.37
14,196.57	89.14	357.36	9,259.97	4,762.30	1,413.88	4,907.71	0.76	0.66	-0.37
14,210.14	89.20	357.32	9,260.17	4,775.85	1,413.25	4,921.06	0.53	0.44	-0.29
14,223.71	89.14	357.34	9,260.37	4,789.40	1,412.61	4,934.41	0.47	-0.44	0.15
14,237.29	89.12	357.34	9,260.57	4,802.97	1,411.98	4,947.77	0.15	-0.15	0.00
14,250.86	89.20	357.27	9,260.77	4,816.52	1,411.35	4,961.12	0.78	0.59	-0.52
14,264.43	89.27	357.21	9,260.95	4,830.07	1,410.69	4,974.46	0.68	0.52	-0.44
14,278.00	89.32	357.16	9,261.12	4,843.63	1,410.03	4,987.81	0.52	0.37	-0.37
14,291.57	89.39	357.17	9,261.27	4,857.18	1,409.35	5,001.15	0.52	0.52	0.07
14,305.14	89.45	357.17	9,261.41	4,870.73	1,408.68	5,014.50	0.44	0.44	0.00
14,318.71	89.51	357.18	9,261.53	4,884.29	1,408.02	5,027.84	0.45	0.44	0.07
14,332.29	89.58	357.21	9,261.64	4,897.85	1,407.35	5,041.20	0.56	0.52	0.22
14,345.86	89.64	357.17	9,261.73	4,911.40	1,406.69	5,054.54	0.53	0.44	-0.29
14,359.43	89.68	357.04	9,261.81	4,924.95	1,406.00	5,067.88	1.00	0.29	-0.96
14,373.00	89.73	356.92	9,261.88	4,938.51	1,405.29	5,081.22	0.96	0.37	-0.88
14,384.95	89.77	357.02	9,261.94	4,950.44	1,404.65	5,092.97	0.86	0.29	0.81
SL: 14384.95' MD									
14,386.57	89.77	357.03	9,261.94	4,952.06	1,404.57	5,094.56	0.86	0.29	0.81
14,400.14	89.80	357.18	9,261.99	4,965.61	1,403.88	5,107.90	1.13	0.22	1.11
14,413.71	89.83	357.36	9,262.04	4,979.16	1,403.24	5,121.25	1.34	0.22	1.33
14,427.29	89.85	357.56	9,262.07	4,992.73	1,402.64	5,134.62	1.48	0.15	1.47
14,440.86	89.82	357.78	9,262.11	5,006.29	1,402.08	5,147.98	1.64	-0.22	1.62



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
14,454.43	89.78	357.99	9,262.16	5,019.85	1,401.58	5,161.36	1.58	-0.29	1.55
14,468.00	89.76	358.24	9,262.22	5,033.41	1,401.14	5,174.74	1.85	-0.15	1.84
14,481.57	89.76	358.49	9,262.27	5,046.98	1,400.75	5,188.13	1.84	0.00	1.84
14,495.14	89.81	358.73	9,262.32	5,060.54	1,400.42	5,201.54	1.81	0.37	1.77
14,508.71	89.86	358.98	9,262.36	5,074.11	1,400.15	5,214.95	1.88	0.37	1.84
14,522.29	89.90	359.22	9,262.39	5,087.69	1,399.94	5,228.38	1.79	0.29	1.77
14,535.86	89.90	359.49	9,262.41	5,101.26	1,399.78	5,241.81	1.99	0.00	1.99
14,549.43	89.89	359.73	9,262.44	5,114.83	1,399.69	5,255.24	1.77	-0.07	1.77
14,563.00	89.80	359.93	9,262.48	5,128.40	1,399.65	5,268.69	1.62	-0.66	1.47
14,576.57	89.74	0.07	9,262.53	5,141.97	1,399.65	5,282.14	1.12	-0.44	1.03
14,590.14	89.73	0.13	9,262.59	5,155.54	1,399.67	5,295.59	0.45	-0.07	0.44
14,603.71	89.75	0.32	9,262.65	5,169.11	1,399.73	5,309.05	1.41	0.15	1.40
14,617.29	89.77	0.50	9,262.71	5,182.69	1,399.83	5,322.52	1.33	0.15	1.33
14,630.86	89.79	0.68	9,262.76	5,196.25	1,399.96	5,335.99	1.33	0.15	1.33
14,644.43	89.82	0.84	9,262.81	5,209.82	1,400.14	5,349.46	1.20	0.22	1.18
14,658.00	89.84	0.99	9,262.85	5,223.39	1,400.36	5,362.94	1.12	0.15	1.11
14,671.57	89.85	1.12	9,262.89	5,236.96	1,400.61	5,376.42	0.96	0.07	0.96
14,685.14	89.86	1.24	9,262.92	5,250.53	1,400.89	5,389.90	0.89	0.07	0.88
14,698.71	89.87	1.37	9,262.95	5,264.09	1,401.20	5,403.39	0.96	0.07	0.96
14,712.29	89.87	1.51	9,262.98	5,277.67	1,401.54	5,416.89	1.03	0.00	1.03
14,725.86	89.88	1.64	9,263.01	5,291.23	1,401.91	5,430.39	0.96	0.07	0.96
14,739.43	89.88	1.79	9,263.04	5,304.80	1,402.32	5,443.89	1.11	0.00	1.11
14,753.00	89.87	2.00	9,263.07	5,318.36	1,402.77	5,457.39	1.55	-0.07	1.55
14,766.57	89.86	2.15	9,263.10	5,331.92	1,403.26	5,470.89	1.11	-0.07	1.11
14,780.14	89.85	2.35	9,263.14	5,345.48	1,403.79	5,484.41	1.48	-0.07	1.47
14,793.71	89.83	2.70	9,263.18	5,359.04	1,404.39	5,497.92	2.58	-0.15	2.58
14,807.29	89.81	3.11	9,263.22	5,372.60	1,405.08	5,511.46	3.02	-0.15	3.02
14,820.86	89.78	3.67	9,263.27	5,386.15	1,405.88	5,524.99	4.13	-0.22	4.13
14,834.43	89.76	4.16	9,263.32	5,399.68	1,406.81	5,538.53	3.61	-0.15	3.61
14,848.00	89.75	4.64	9,263.38	5,413.21	1,407.85	5,552.08	3.54	-0.07	3.54
14,861.57	89.79	5.00	9,263.43	5,426.74	1,408.99	5,565.63	2.67	0.29	2.65
14,875.14	89.84	5.31	9,263.48	5,440.25	1,410.21	5,579.19	2.31	0.37	2.28
14,888.71	89.89	5.58	9,263.51	5,453.76	1,411.50	5,592.75	2.02	0.37	1.99
14,902.29	89.94	5.82	9,263.53	5,467.27	1,412.84	5,606.32	1.81	0.37	1.77
14,915.86	89.98	5.95	9,263.54	5,480.77	1,414.24	5,619.89	1.00	0.29	0.96
14,929.43	90.01	5.97	9,263.54	5,494.27	1,415.65	5,633.45	0.27	0.22	0.15
14,943.00	90.04	6.04	9,263.53	5,507.76	1,417.06	5,647.01	0.56	0.22	0.52
14,956.57	90.07	6.14	9,263.52	5,521.26	1,418.50	5,660.58	0.77	0.22	0.74
14,970.14	90.09	6.27	9,263.50	5,534.75	1,419.97	5,674.15	0.97	0.15	0.96
14,983.71	90.09	6.39	9,263.48	5,548.23	1,421.47	5,687.71	0.88	0.00	0.88
14,997.29	90.08	6.53	9,263.46	5,561.73	1,423.00	5,701.29	1.03	-0.07	1.03
15,010.86	90.07	6.70	9,263.44	5,575.21	1,424.56	5,714.86	1.25	-0.07	1.25
15,024.43	90.05	6.84	9,263.43	5,588.68	1,426.16	5,728.43	1.04	-0.15	1.03



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
15,038.00	90.02	6.92	9,263.42	5,602.15	1,427.78	5,741.99	0.63	-0.22	0.59
15,051.57	89.98	6.93	9,263.42	5,615.63	1,429.42	5,755.56	0.30	-0.29	0.07
15,065.14	89.96	6.91	9,263.43	5,629.10	1,431.05	5,769.13	0.21	-0.15	-0.15
15,078.71	89.97	6.92	9,263.44	5,642.57	1,432.69	5,782.70	0.10	0.07	0.07
15,092.29	89.97	6.95	9,263.44	5,656.05	1,434.33	5,796.28	0.22	0.00	0.22
15,105.86	89.96	6.98	9,263.45	5,669.52	1,435.97	5,809.85	0.23	-0.07	0.22
15,119.43	89.93	6.83	9,263.47	5,682.99	1,437.61	5,823.42	1.13	-0.22	-1.11
15,133.00	89.92	6.66	9,263.48	5,696.47	1,439.20	5,836.99	1.25	-0.07	-1.25
15,146.57	89.93	6.50	9,263.50	5,709.95	1,440.75	5,850.56	1.18	0.07	-1.18
15,160.14	89.96	6.34	9,263.51	5,723.43	1,442.27	5,864.12	1.20	0.22	-1.18
15,173.71	89.99	6.19	9,263.52	5,736.92	1,443.75	5,877.69	1.13	0.22	-1.11
15,187.29	90.03	6.03	9,263.52	5,750.42	1,445.20	5,891.26	1.21	0.29	-1.18
15,200.86	90.08	5.89	9,263.50	5,763.92	1,446.61	5,904.83	1.10	0.37	-1.03
15,214.43	90.13	5.82	9,263.48	5,777.42	1,447.99	5,918.39	0.63	0.37	-0.52
15,228.00	90.17	5.75	9,263.44	5,790.92	1,449.36	5,931.95	0.59	0.29	-0.52
15,241.43	90.19	5.68	9,263.40	5,804.28	1,450.70	5,945.38	0.54	0.15	-0.52
15,254.86	90.11	5.67	9,263.37	5,817.65	1,452.02	5,958.80	0.60	-0.60	-0.07
15,268.29	89.95	5.67	9,263.36	5,831.01	1,453.35	5,972.22	1.19	-1.19	0.00
15,281.71	90.03	5.66	9,263.36	5,844.37	1,454.68	5,985.63	0.60	0.60	-0.07
15,295.14	90.18	5.67	9,263.34	5,857.73	1,456.00	5,999.06	1.12	1.12	0.07
15,308.57	90.27	5.42	9,263.28	5,871.10	1,457.30	6,012.48	1.98	0.67	-1.86
15,322.00	90.33	5.21	9,263.21	5,884.47	1,458.54	6,025.90	1.63	0.45	-1.56
15,335.57	90.33	4.95	9,263.14	5,897.99	1,459.74	6,039.45	1.92	0.00	-1.92
15,349.14	90.38	4.67	9,263.05	5,911.51	1,460.88	6,053.01	2.10	0.37	-2.06
15,362.71	90.44	4.37	9,262.95	5,925.04	1,461.95	6,066.56	2.25	0.44	-2.21
15,376.29	90.38	4.05	9,262.86	5,938.58	1,462.95	6,080.11	2.40	-0.44	-2.36
15,389.86	90.29	3.72	9,262.78	5,952.12	1,463.87	6,093.65	2.52	-0.66	-2.43
15,403.43	90.25	3.36	9,262.71	5,965.66	1,464.71	6,107.19	2.67	-0.29	-2.65
15,417.00	90.31	2.97	9,262.65	5,979.21	1,465.46	6,120.72	2.91	0.44	-2.87
15,430.57	90.44	2.58	9,262.56	5,992.76	1,466.11	6,134.24	3.03	0.96	-2.87
15,444.14	90.53	2.18	9,262.44	6,006.32	1,466.68	6,147.75	3.02	0.66	-2.95
15,457.71	90.60	1.73	9,262.31	6,019.88	1,467.14	6,161.25	3.36	0.52	-3.32
15,471.29	90.65	1.42	9,262.16	6,033.46	1,467.51	6,174.76	2.31	0.37	-2.28
15,484.86	90.65	1.25	9,262.01	6,047.02	1,467.83	6,188.24	1.25	0.00	-1.25
15,498.43	90.66	0.55	9,261.85	6,060.59	1,468.04	6,201.72	5.16	0.07	-5.16
15,512.00	90.66	359.74	9,261.70	6,074.16	1,468.08	6,215.17	5.97	0.00	-5.97
15,525.57	90.67	358.93	9,261.54	6,087.73	1,467.92	6,228.60	5.97	0.07	-5.97
15,539.14	90.68	358.10	9,261.38	6,101.29	1,467.57	6,242.00	6.12	0.07	-6.12
15,552.71	90.69	357.28	9,261.22	6,114.85	1,467.02	6,255.37	6.04	0.07	-6.04
15,566.29	90.70	356.46	9,261.05	6,128.41	1,466.28	6,268.71	6.04	0.07	-6.04
15,579.86	90.70	355.65	9,260.89	6,141.94	1,465.34	6,282.00	5.97	0.00	-5.97
15,593.43	90.71	354.85	9,260.72	6,155.47	1,464.22	6,295.25	5.90	0.07	-5.90
15,607.00	90.72	354.06	9,260.55	6,168.97	1,462.91	6,308.47	5.82	0.07	-5.82
15,620.57	90.74	353.88	9,260.38	6,182.47	1,461.48	6,321.65	1.33	0.15	-1.33



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
15,634.14	90.77	353.59	9,260.20	6,195.95	1,460.00	6,334.82	2.15	0.22	-2.14
15,647.71	90.81	353.33	9,260.01	6,209.43	1,458.46	6,347.98	1.94	0.29	-1.92
15,661.29	90.85	353.06	9,259.81	6,222.92	1,456.85	6,361.13	2.01	0.29	-1.99
15,674.86	90.90	352.90	9,259.61	6,236.38	1,455.19	6,374.26	1.24	0.37	-1.18
15,688.43	90.87	353.10	9,259.40	6,249.85	1,453.54	6,387.39	1.49	-0.22	1.47
15,702.00	90.80	353.33	9,259.20	6,263.32	1,451.93	6,400.53	1.77	-0.52	1.69
15,715.57	90.69	353.47	9,259.02	6,276.80	1,450.37	6,413.68	1.31	-0.81	1.03
15,729.14	90.49	353.60	9,258.88	6,290.29	1,448.85	6,426.84	1.76	-1.47	0.96
15,742.71	90.27	353.76	9,258.79	6,303.77	1,447.35	6,440.01	2.00	-1.62	1.18
15,756.29	90.11	353.74	9,258.75	6,317.27	1,445.87	6,453.20	1.19	-1.18	-0.15
15,769.86	90.07	353.56	9,258.73	6,330.76	1,444.37	6,466.37	1.36	-0.29	-1.33
15,783.43	90.10	353.58	9,258.71	6,344.24	1,442.85	6,479.53	0.27	0.22	0.15
15,797.00	89.98	353.62	9,258.70	6,357.73	1,441.34	6,492.70	0.93	-0.88	0.29
15,810.57	89.87	353.68	9,258.72	6,371.22	1,439.84	6,505.87	0.92	-0.81	0.44
15,824.14	89.40	353.78	9,258.80	6,384.71	1,438.36	6,519.04	3.54	-3.46	0.74
15,837.71	88.94	353.87	9,259.00	6,398.20	1,436.90	6,532.22	3.45	-3.39	0.66
15,851.29	88.86	353.87	9,259.26	6,411.69	1,435.45	6,545.40	0.59	-0.59	0.00
15,864.86	88.95	353.83	9,259.52	6,425.18	1,434.00	6,558.58	0.73	0.66	-0.29
15,878.43	89.06	353.82	9,259.75	6,438.67	1,432.54	6,571.76	0.81	0.81	-0.07
15,892.00	89.01	353.84	9,259.98	6,452.16	1,431.08	6,584.94	0.40	-0.37	0.15
15,905.43	89.01	353.95	9,260.22	6,465.51	1,429.65	6,597.98	0.82	0.00	0.82
15,918.86	89.02	354.09	9,260.45	6,478.87	1,428.25	6,611.03	1.04	0.07	1.04
15,932.29	89.04	354.10	9,260.67	6,492.23	1,426.87	6,624.09	0.17	0.15	0.07
15,945.71	89.06	354.11	9,260.90	6,505.57	1,425.49	6,637.14	0.17	0.15	0.07
15,959.14	89.08	354.19	9,261.11	6,518.93	1,424.12	6,650.19	0.61	0.15	0.60
15,972.57	89.09	354.37	9,261.33	6,532.29	1,422.78	6,663.26	1.34	0.07	1.34
15,986.00	89.14	354.58	9,261.54	6,545.66	1,421.49	6,676.34	1.61	0.37	1.56
15,999.57	89.17	354.91	9,261.74	6,559.17	1,420.25	6,689.56	2.44	0.22	2.43
16,013.14	89.20	355.27	9,261.93	6,572.69	1,419.09	6,702.81	2.66	0.22	2.65
16,026.71	89.21	355.68	9,262.12	6,586.22	1,418.02	6,716.07	3.02	0.07	3.02
16,040.29	89.23	356.11	9,262.30	6,599.76	1,417.05	6,729.37	3.17	0.15	3.17
16,053.86	89.23	356.49	9,262.48	6,613.30	1,416.17	6,742.67	2.80	0.00	2.80
16,067.43	89.24	356.82	9,262.67	6,626.85	1,415.38	6,756.00	2.43	0.07	2.43
16,081.00	89.16	357.00	9,262.86	6,640.40	1,414.65	6,769.33	1.45	-0.59	1.33
16,094.57	88.85	356.80	9,263.09	6,653.94	1,413.91	6,782.66	2.72	-2.28	-1.47
16,108.14	88.84	356.73	9,263.36	6,667.49	1,413.15	6,795.98	0.52	-0.07	-0.52
16,121.71	88.95	356.60	9,263.63	6,681.03	1,412.36	6,809.30	1.25	0.81	-0.96
16,135.29	89.06	356.49	9,263.86	6,694.59	1,411.54	6,822.63	1.15	0.81	-0.81
16,148.86	89.13	356.50	9,264.08	6,708.13	1,410.71	6,835.94	0.52	0.52	0.07
16,162.43	89.15	356.35	9,264.28	6,721.67	1,409.86	6,849.25	1.12	0.15	-1.11
16,176.00	89.19	356.31	9,264.48	6,735.21	1,409.00	6,862.56	0.42	0.29	-0.29
16,189.57	89.25	356.43	9,264.66	6,748.75	1,408.14	6,875.87	0.99	0.44	0.88
16,203.14	89.26	356.69	9,264.84	6,762.30	1,407.32	6,889.18	1.92	0.07	1.92



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
16,216.71	89.27	356.94	9,265.01	6,775.85	1,406.57	6,902.51	1.84	0.07	1.84
16,230.29	89.29	357.17	9,265.18	6,789.41	1,405.87	6,915.86	1.70	0.15	1.69
16,243.86	89.17	357.14	9,265.36	6,802.96	1,405.20	6,929.20	0.91	-0.88	-0.22
16,257.43	89.12	357.18	9,265.57	6,816.51	1,404.52	6,942.55	0.47	-0.37	0.29
16,271.00	89.12	357.27	9,265.78	6,830.06	1,403.87	6,955.89	0.66	0.00	0.66
16,284.57	89.14	357.14	9,265.98	6,843.62	1,403.21	6,969.24	0.97	0.15	-0.96
16,298.14	89.16	357.09	9,266.18	6,857.17	1,402.52	6,982.58	0.40	0.15	-0.37
16,311.71	89.20	357.20	9,266.38	6,870.72	1,401.85	6,995.92	0.86	0.29	0.81
16,325.29	89.25	357.31	9,266.56	6,884.28	1,401.20	7,009.28	0.89	0.37	0.81
16,338.86	89.23	357.23	9,266.74	6,897.84	1,400.55	7,022.63	0.61	-0.15	-0.59
16,352.43	89.31	357.22	9,266.91	6,911.39	1,399.89	7,035.97	0.59	0.59	-0.07
16,366.00	89.45	357.25	9,267.06	6,924.94	1,399.24	7,049.32	1.06	1.03	0.22
16,379.57	89.54	357.36	9,267.18	6,938.50	1,398.60	7,062.67	1.05	0.66	0.81
16,393.14	89.64	357.45	9,267.28	6,952.05	1,397.99	7,076.03	0.99	0.74	0.66
16,406.71	89.78	357.54	9,267.35	6,965.61	1,397.39	7,089.38	1.23	1.03	0.66
16,420.29	89.85	357.60	9,267.39	6,979.18	1,396.82	7,102.76	0.68	0.52	0.44
16,433.86	89.85	357.66	9,267.43	6,992.74	1,396.26	7,116.12	0.44	0.00	0.44
16,447.43	89.86	357.79	9,267.46	7,006.29	1,395.72	7,129.49	0.96	0.07	0.96
16,461.00	89.86	357.95	9,267.49	7,019.85	1,395.21	7,142.86	1.18	0.00	1.18
16,474.57	89.85	358.17	9,267.53	7,033.42	1,394.75	7,156.24	1.62	-0.07	1.62
16,488.14	89.83	358.17	9,267.57	7,046.98	1,394.32	7,169.63	0.15	-0.15	0.00
16,501.71	89.81	358.18	9,267.61	7,060.54	1,393.89	7,183.02	0.16	-0.15	0.07
16,515.29	89.78	358.22	9,267.66	7,074.12	1,393.46	7,196.41	0.37	-0.22	0.29
16,528.86	89.98	358.47	9,267.68	7,087.68	1,393.07	7,209.81	2.36	1.47	1.84
16,542.43	89.98	358.79	9,267.69	7,101.25	1,392.75	7,223.21	2.36	0.00	2.36
16,556.00	89.92	359.09	9,267.70	7,114.81	1,392.50	7,236.62	2.25	-0.44	2.21
16,569.57	90.03	359.36	9,267.71	7,128.38	1,392.31	7,250.05	2.15	0.81	1.99
16,583.14	90.05	359.57	9,267.70	7,141.95	1,392.19	7,263.48	1.55	0.15	1.55
16,596.71	90.00	359.63	9,267.69	7,155.52	1,392.09	7,276.92	0.58	-0.37	0.44
16,610.29	89.95	359.67	9,267.70	7,169.10	1,392.01	7,290.37	0.47	-0.37	0.29
16,623.86	89.93	359.62	9,267.71	7,182.67	1,391.92	7,303.81	0.40	-0.15	-0.37
16,637.43	89.96	359.58	9,267.72	7,196.24	1,391.83	7,317.24	0.37	0.22	-0.29
16,651.00	90.01	359.66	9,267.73	7,209.81	1,391.74	7,330.68	0.70	0.37	0.59
16,664.57	90.04	359.91	9,267.72	7,223.38	1,391.69	7,344.12	1.86	0.22	1.84
16,678.14	90.47	0.07	9,267.66	7,236.95	1,391.69	7,357.57	3.38	3.17	1.18
16,691.71	91.01	0.26	9,267.49	7,250.52	1,391.72	7,371.03	4.22	3.98	1.40
16,705.29	91.53	0.44	9,267.19	7,264.10	1,391.81	7,384.50	4.05	3.83	1.33
16,718.86	91.73	0.82	9,266.80	7,277.66	1,391.96	7,397.96	3.16	1.47	2.80
16,732.43	91.62	1.44	9,266.40	7,291.22	1,392.22	7,411.44	4.64	-0.81	4.57
16,746.00	91.43	1.46	9,266.04	7,304.78	1,392.57	7,424.92	1.41	-1.40	0.15
16,759.57	91.19	1.28	9,265.73	7,318.34	1,392.89	7,438.41	2.21	-1.77	-1.33
16,773.14	90.81	1.21	9,265.50	7,331.91	1,393.19	7,451.89	2.85	-2.80	-0.52
16,786.71	91.37	1.65	9,265.24	7,345.47	1,393.52	7,465.38	5.25	4.13	3.24



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
16,800.29	91.13	1.25	9,264.94	7,359.04	1,393.87	7,478.88	3.43	-1.77	-2.95
16,813.86	90.72	0.67	9,264.72	7,372.61	1,394.10	7,492.36	5.23	-3.02	-4.27
16,827.43	90.41	0.35	9,264.59	7,386.18	1,394.22	7,505.82	3.28	-2.28	-2.36
16,841.00	90.14	0.06	9,264.52	7,399.75	1,394.27	7,519.28	2.92	-1.99	-2.14
16,854.57	90.06	0.04	9,264.50	7,413.32	1,394.28	7,532.73	0.61	-0.59	-0.15
16,868.14	89.88	359.81	9,264.51	7,426.89	1,394.26	7,546.18	2.15	-1.33	-1.69
16,881.71	89.71	359.39	9,264.55	7,440.46	1,394.16	7,559.61	3.34	-1.25	-3.10
16,895.29	89.65	359.16	9,264.63	7,454.04	1,393.99	7,573.05	1.75	-0.44	-1.69
16,908.86	89.69	359.04	9,264.71	7,467.61	1,393.78	7,586.47	0.93	0.29	-0.88
16,922.43	89.75	359.09	9,264.77	7,481.17	1,393.56	7,599.89	0.58	0.44	0.37
16,936.00	89.84	359.25	9,264.82	7,494.74	1,393.36	7,613.31	1.35	0.66	1.18
16,949.57	89.68	359.46	9,264.88	7,508.31	1,393.21	7,626.74	1.95	-1.18	1.55
16,963.14	89.60	359.61	9,264.97	7,521.88	1,393.10	7,640.18	1.25	-0.59	1.11
16,976.71	89.68	359.62	9,265.05	7,535.45	1,393.01	7,653.61	0.59	0.59	0.07
16,990.29	89.75	359.60	9,265.12	7,549.03	1,392.91	7,667.06	0.54	0.52	-0.15
17,003.86	89.81	359.49	9,265.17	7,562.60	1,392.81	7,680.50	0.92	0.44	-0.81
17,017.43	89.84	359.54	9,265.21	7,576.17	1,392.69	7,693.93	0.43	0.22	0.37
17,031.00	89.84	359.69	9,265.25	7,589.74	1,392.60	7,707.37	1.11	0.00	1.11
17,044.57	89.95	359.82	9,265.27	7,603.31	1,392.54	7,720.81	1.25	0.81	0.96
17,058.14	90.03	359.81	9,265.28	7,616.88	1,392.50	7,734.26	0.59	0.59	-0.07
17,071.71	90.04	359.43	9,265.27	7,630.45	1,392.41	7,747.69	2.80	0.07	-2.80
17,085.29	90.04	359.04	9,265.26	7,644.03	1,392.23	7,761.13	2.87	0.00	-2.87
17,098.86	90.03	358.66	9,265.25	7,657.59	1,391.96	7,774.54	2.80	-0.07	-2.80
17,112.43	90.01	358.25	9,265.25	7,671.16	1,391.59	7,787.94	3.02	-0.15	-3.02
17,126.00	89.97	357.90	9,265.25	7,684.72	1,391.13	7,801.32	2.60	-0.29	-2.58
17,139.57	89.90	357.65	9,265.26	7,698.28	1,390.61	7,814.69	1.91	-0.52	-1.84
17,153.14	89.84	357.61	9,265.29	7,711.84	1,390.05	7,828.05	0.53	-0.44	-0.29
17,166.71	89.87	357.80	9,265.33	7,725.40	1,389.50	7,841.42	1.42	0.22	1.40
17,180.29	89.83	357.85	9,265.36	7,738.97	1,388.99	7,854.80	0.47	-0.29	0.37
17,193.86	89.73	357.85	9,265.42	7,752.53	1,388.48	7,868.18	0.74	-0.74	0.00
17,207.43	89.70	358.28	9,265.48	7,766.09	1,388.02	7,881.56	3.18	-0.22	3.17
17,221.00	89.64	358.46	9,265.56	7,779.65	1,387.63	7,894.95	1.40	-0.44	1.33
17,234.43	89.62	358.45	9,265.65	7,793.08	1,387.27	7,908.21	0.17	-0.15	-0.07
17,247.86	89.62	358.41	9,265.74	7,806.50	1,386.90	7,921.47	0.30	0.00	-0.30
17,261.29	89.63	358.38	9,265.83	7,819.93	1,386.53	7,934.72	0.24	0.07	-0.22
17,274.71	89.65	358.25	9,265.91	7,833.34	1,386.13	7,947.97	0.98	0.15	-0.97
17,288.14	89.68	358.11	9,265.99	7,846.77	1,385.71	7,961.21	1.07	0.22	-1.04
17,301.57	89.71	358.17	9,266.06	7,860.19	1,385.27	7,974.46	0.50	0.22	0.45
17,315.00	89.62	358.49	9,266.14	7,873.61	1,384.88	7,987.71	2.48	-0.67	2.38
17,328.57	89.63	358.71	9,266.23	7,887.18	1,384.55	8,001.12	1.62	0.07	1.62
17,342.14	89.61	358.71	9,266.32	7,900.74	1,384.24	8,014.52	0.15	-0.15	0.00
17,355.71	89.58	358.59	9,266.41	7,914.31	1,383.92	8,027.92	0.91	-0.22	-0.88
17,369.29	89.58	358.57	9,266.51	7,927.89	1,383.59	8,041.34	0.15	0.00	-0.15
17,382.86	89.60	358.59	9,266.61	7,941.45	1,383.25	8,054.74	0.21	0.15	0.15



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
17,396.43	89.63	358.63	9,266.70	7,955.02	1,382.92	8,068.14	0.37	0.22	0.29
17,410.00	89.70	358.89	9,266.78	7,968.58	1,382.63	8,081.55	1.98	0.52	1.92
17,423.43	89.77	359.19	9,266.84	7,982.01	1,382.40	8,094.83	2.29	0.52	2.23
17,436.86	89.80	359.13	9,266.89	7,995.44	1,382.21	8,108.11	0.50	0.22	-0.45
17,450.29	89.82	359.09	9,266.94	8,008.87	1,382.00	8,121.39	0.33	0.15	-0.30
17,463.71	89.82	359.18	9,266.98	8,022.29	1,381.79	8,134.67	0.67	0.00	0.67
17,477.14	89.78	359.50	9,267.03	8,035.72	1,381.64	8,147.96	2.40	-0.30	2.38
17,490.57	89.70	359.95	9,267.09	8,049.15	1,381.57	8,161.26	3.40	-0.60	3.35
17,504.00	89.63	0.39	9,267.17	8,062.58	1,381.61	8,174.57	3.32	-0.52	3.28
17,517.57	89.59	0.69	9,267.26	8,076.14	1,381.74	8,188.04	2.23	-0.29	2.21
17,531.14	89.54	1.01	9,267.36	8,089.71	1,381.94	8,201.52	2.39	-0.37	2.36
17,544.71	89.51	1.30	9,267.47	8,103.28	1,382.22	8,215.00	2.15	-0.22	2.14
17,558.29	89.49	1.56	9,267.59	8,116.85	1,382.56	8,228.50	1.92	-0.15	1.91
17,571.86	89.48	1.86	9,267.71	8,130.42	1,382.96	8,242.00	2.21	-0.07	2.21
17,585.43	89.49	2.10	9,267.84	8,143.98	1,383.43	8,255.50	1.77	0.07	1.77
17,599.00	89.50	2.36	9,267.96	8,157.54	1,383.96	8,269.01	1.92	0.07	1.92
17,612.57	89.54	2.58	9,268.07	8,171.10	1,384.54	8,282.53	1.65	0.29	1.62
17,626.14	89.61	2.67	9,268.17	8,184.65	1,385.16	8,296.04	0.84	0.52	0.66
17,639.71	89.55	2.51	9,268.27	8,198.21	1,385.78	8,309.56	1.26	-0.44	-1.18
17,653.29	89.50	2.36	9,268.38	8,211.77	1,386.35	8,323.08	1.16	-0.37	-1.10
17,666.86	89.50	2.20	9,268.50	8,225.33	1,386.89	8,336.60	1.18	0.00	-1.18
17,680.43	89.68	1.84	9,268.60	8,238.89	1,387.37	8,350.10	2.97	1.33	-2.65
17,694.00	89.87	1.46	9,268.65	8,252.46	1,387.76	8,363.60	3.13	1.40	-2.80
17,707.57	89.81	1.22	9,268.69	8,266.02	1,388.08	8,377.08	1.82	-0.44	-1.77
17,721.14	89.80	1.13	9,268.74	8,279.59	1,388.36	8,390.57	0.67	-0.07	-0.66
17,734.71	89.80	1.04	9,268.78	8,293.16	1,388.62	8,404.05	0.66	0.00	-0.66
17,748.29	89.89	1.03	9,268.82	8,306.74	1,388.86	8,417.54	0.67	0.66	-0.07
17,761.86	90.07	1.13	9,268.82	8,320.30	1,389.12	8,431.02	1.52	1.33	0.74
17,775.43	90.15	1.26	9,268.80	8,333.87	1,389.40	8,444.51	1.12	0.59	0.96
17,789.00	90.08	1.31	9,268.77	8,347.44	1,389.70	8,458.00	0.63	-0.52	0.37
17,802.43	89.97	1.37	9,268.77	8,360.86	1,390.02	8,471.34	0.93	-0.82	0.45
17,815.86	89.92	1.45	9,268.78	8,374.29	1,390.35	8,484.70	0.70	-0.37	0.60
17,829.29	90.03	1.58	9,268.78	8,387.71	1,390.70	8,498.05	1.27	0.82	0.97
17,842.71	90.13	1.70	9,268.77	8,401.13	1,391.09	8,511.40	1.16	0.75	0.89
17,856.14	90.21	1.81	9,268.73	8,414.55	1,391.50	8,524.76	1.01	0.60	0.82
17,869.57	90.28	1.88	9,268.67	8,427.98	1,391.93	8,538.12	0.74	0.52	0.52
17,883.00	90.24	1.91	9,268.61	8,441.40	1,392.38	8,551.48	0.37	-0.30	0.22
17,896.57	90.10	1.87	9,268.57	8,454.96	1,392.82	8,564.98	1.07	-1.03	-0.29
17,910.14	89.96	1.79	9,268.56	8,468.52	1,393.26	8,578.48	1.19	-1.03	-0.59
17,923.71	89.84	1.67	9,268.58	8,482.09	1,393.67	8,591.98	1.25	-0.88	-0.88
17,937.29	89.71	1.54	9,268.64	8,495.66	1,394.05	8,605.49	1.35	-0.96	-0.96
17,950.86	89.59	1.41	9,268.72	8,509.23	1,394.40	8,618.98	1.30	-0.88	-0.96
17,964.43	89.47	1.27	9,268.83	8,522.79	1,394.71	8,632.47	1.36	-0.88	-1.03



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)	
17,978.00	89.47	1.12	9,268.96	8,536.36	1,395.00	8,645.95	1.11	0.00	-1.11	
17,992.62	89.48	1.00	9,269.09	8,550.98	1,395.27	8,660.48	0.82	0.07	-0.82	
18,007.23	89.61	0.91	9,269.21	8,565.58	1,395.51	8,674.99	1.08	0.89	-0.62	
18,021.85	89.75	0.84	9,269.29	8,580.20	1,395.73	8,689.50	1.07	0.96	-0.48	
18,036.46	89.89	0.78	9,269.33	8,594.81	1,395.94	8,704.01	1.04	0.96	-0.41	
18,051.08	89.91	0.70	9,269.36	8,609.43	1,396.13	8,718.53	0.56	0.14	-0.55	
18,065.69	89.96	0.63	9,269.38	8,624.04	1,396.30	8,733.03	0.59	0.34	-0.48	
18,080.31	89.99	0.55	9,269.38	8,638.66	1,396.45	8,747.54	0.58	0.21	-0.55	
18,094.92	89.94	0.49	9,269.39	8,653.27	1,396.58	8,762.04	0.53	-0.34	-0.41	
18,109.54	89.83	0.44	9,269.42	8,667.89	1,396.70	8,776.54	0.83	-0.75	-0.34	
18,124.15	89.72	0.39	9,269.48	8,682.50	1,396.81	8,791.04	0.83	-0.75	-0.34	
18,138.77	89.59	0.34	9,269.57	8,697.12	1,396.90	8,805.54	0.95	-0.89	-0.34	
18,153.38	89.84	0.32	9,269.64	8,711.73	1,396.98	8,820.03	1.72	1.71	-0.14	
18,168.00	89.83	0.30	9,269.68	8,726.34	1,397.06	8,834.53	0.15	-0.07	-0.14	
18,181.57	89.63	0.28	9,269.75	8,739.91	1,397.13	8,847.99	1.48	-1.47	-0.15	
18,195.14	89.36	0.28	9,269.86	8,753.48	1,397.20	8,861.45	1.99	-1.99	0.00	
18,208.71	89.10	0.28	9,270.05	8,767.05	1,397.26	8,874.91	1.92	-1.92	0.00	
18,222.29	88.84	0.27	9,270.29	8,780.63	1,397.33	8,888.37	1.92	-1.91	-0.07	
18,235.86	88.89	0.26	9,270.56	8,794.20	1,397.39	8,901.83	0.38	0.37	-0.07	
18,249.43	89.12	0.25	9,270.80	8,807.77	1,397.45	8,915.29	1.70	1.69	-0.07	
18,263.00	89.18	0.26	9,271.00	8,821.33	1,397.51	8,928.74	0.45	0.44	0.07	
18,276.57	88.97	0.35	9,271.22	8,834.90	1,397.58	8,942.20	1.68	-1.55	0.66	
18,290.14	89.02	0.42	9,271.45	8,848.47	1,397.68	8,955.66	0.63	0.37	0.52	
18,303.71	89.20	0.54	9,271.66	8,862.04	1,397.79	8,969.12	1.59	1.33	0.88	
18,317.29	89.39	0.66	9,271.83	8,875.62	1,397.93	8,982.60	1.65	1.40	0.88	
18,330.86	89.35	0.75	9,271.98	8,889.18	1,398.10	8,996.07	0.73	-0.29	0.66	
18,344.43	89.26	0.80	9,272.15	8,902.75	1,398.28	9,009.54	0.76	-0.66	0.37	
18,358.00	89.17	0.81	9,272.33	8,916.32	1,398.47	9,023.02	0.67	-0.66	0.07	
18,371.43	89.10	0.73	9,272.53	8,929.75	1,398.65	9,036.35	0.79	-0.52	-0.60	
18,384.86	88.90	0.67	9,272.77	8,943.17	1,398.82	9,049.68	1.55	-1.49	-0.45	
18,398.29	88.70	0.61	9,273.05	8,956.60	1,398.97	9,063.01	1.55	-1.49	-0.45	
18,411.71	88.60	0.59	9,273.37	8,970.01	1,399.11	9,076.32	0.76	-0.75	-0.15	
18,425.14	88.76	0.67	9,273.68	8,983.44	1,399.26	9,089.65	1.33	1.19	0.60	
18,438.57	88.78	0.73	9,273.96	8,996.87	1,399.42	9,102.98	0.47	0.15	0.45	
18,452.00	88.84	0.84	9,274.24	9,010.29	1,399.60	9,116.31	0.93	0.45	0.82	
18,465.57	88.94	1.08	9,274.51	9,023.86	1,399.83	9,129.79	1.92	0.74	1.77	
18,479.14	89.11	1.33	9,274.74	9,037.42	1,400.12	9,143.27	2.23	1.25	1.84	
18,492.71	89.47	1.73	9,274.90	9,050.99	1,400.48	9,156.76	3.97	2.65	2.95	
18,506.29	89.72	2.16	9,275.00	9,064.56	1,400.94	9,170.28	3.66	1.84	3.17	
18,519.86	89.87	2.63	9,275.05	9,078.12	1,401.51	9,183.79	3.64	1.11	3.46	
18,533.43	89.78	3.20	9,275.09	9,091.67	1,402.20	9,197.31	4.25	-0.66	4.20	
18,547.00	89.69	3.83	9,275.15	9,105.21	1,403.03	9,210.85	4.69	-0.66	4.64	
18,560.57	89.22	4.50	9,275.28	9,118.75	1,404.01	9,224.39	6.03	-3.46	4.94	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
18,574.14	89.06	5.22	9,275.49	9,132.27	1,405.16	9,237.95	5.43	-1.18	5.31
18,587.71	89.11	5.79	9,275.70	9,145.77	1,406.46	9,251.50	4.22	0.37	4.20
18,601.29	89.18	7.01	9,275.91	9,159.27	1,407.98	9,265.08	9.00	0.52	8.98
18,614.86	89.26	8.31	9,276.09	9,172.71	1,409.79	9,278.65	9.60	0.59	9.58
18,628.43	89.35	9.58	9,276.25	9,186.12	1,411.90	9,292.21	9.38	0.66	9.36
18,642.00	89.43	10.82	9,276.40	9,199.47	1,414.30	9,305.77	9.16	0.59	9.14
18,655.57	89.52	12.00	9,276.52	9,212.77	1,416.98	9,319.31	8.72	0.66	8.70
18,669.14	89.60	13.12	9,276.63	9,226.02	1,419.93	9,332.83	8.27	0.59	8.25
18,682.71	89.69	14.20	9,276.71	9,239.20	1,423.14	9,346.32	7.99	0.66	7.96
18,696.29	89.77	15.23	9,276.78	9,252.34	1,426.59	9,359.80	7.61	0.59	7.58
18,709.86	89.84	16.09	9,276.82	9,265.40	1,430.25	9,373.23	6.36	0.52	6.34
18,723.43	89.43	16.06	9,276.91	9,278.44	1,434.01	9,386.65	3.03	-3.02	-0.22
18,737.00	89.41	15.93	9,277.05	9,291.49	1,437.75	9,400.08	0.97	-0.15	-0.96
18,750.57	89.33	15.71	9,277.20	9,304.54	1,441.45	9,413.51	1.72	-0.59	-1.62
18,764.14	89.17	15.42	9,277.37	9,317.61	1,445.09	9,426.95	2.44	-1.18	-2.14
18,777.71	88.93	15.22	9,277.60	9,330.70	1,448.67	9,440.39	2.30	-1.77	-1.47
18,791.29	88.68	14.99	9,277.88	9,343.81	1,452.21	9,453.86	2.50	-1.84	-1.69
18,804.86	89.29	15.16	9,278.12	9,356.91	1,455.74	9,467.31	4.67	4.50	1.25
18,818.43	89.74	15.30	9,278.24	9,370.00	1,459.30	9,480.76	3.47	3.32	1.03
18,832.00	89.65	15.04	9,278.31	9,383.10	1,462.86	9,494.21	2.03	-0.66	-1.92
18,845.57	89.59	14.79	9,278.40	9,396.21	1,466.35	9,507.67	1.89	-0.44	-1.84
18,859.14	89.59	14.80	9,278.50	9,409.33	1,469.81	9,521.13	0.07	0.00	0.07
18,872.71	89.61	14.83	9,278.59	9,422.45	1,473.28	9,534.60	0.27	0.15	0.22
18,886.29	89.65	14.89	9,278.68	9,435.57	1,476.77	9,548.07	0.53	0.29	0.44
18,899.86	89.60	15.10	9,278.77	9,448.68	1,480.28	9,561.53	1.59	-0.37	1.55
18,913.43	89.47	15.41	9,278.88	9,461.77	1,483.85	9,574.97	2.48	-0.96	2.28
18,927.00	89.38	15.65	9,279.01	9,474.85	1,487.48	9,588.41	1.89	-0.66	1.77
18,940.57	89.26	15.89	9,279.17	9,487.90	1,491.17	9,601.85	1.98	-0.88	1.77
18,954.14	89.33	16.01	9,279.34	9,500.95	1,494.90	9,615.27	1.02	0.52	0.88
18,967.71	89.41	16.15	9,279.49	9,513.99	1,498.65	9,628.69	1.19	0.59	1.03
18,981.29	89.48	16.28	9,279.62	9,527.03	1,502.45	9,642.12	1.09	0.52	0.96
18,994.86	89.49	16.11	9,279.74	9,540.06	1,506.23	9,655.54	1.25	0.07	-1.25
19,008.43	89.47	15.81	9,279.87	9,553.11	1,509.96	9,668.96	2.22	-0.15	-2.21
19,022.00	89.52	15.77	9,279.99	9,566.16	1,513.65	9,682.40	0.47	0.37	-0.29
19,035.43	89.59	15.82	9,280.09	9,579.09	1,517.31	9,695.69	0.64	0.52	0.37
19,048.86	89.68	16.00	9,280.18	9,592.00	1,520.99	9,708.98	1.50	0.67	1.34
19,062.29	89.70	15.78	9,280.25	9,604.92	1,524.67	9,722.27	1.64	0.15	-1.64
19,075.71	89.69	15.51	9,280.32	9,617.84	1,528.29	9,735.56	2.01	-0.07	-2.01
19,089.14	89.67	15.21	9,280.40	9,630.79	1,531.85	9,748.86	2.24	-0.15	-2.23
19,102.57	89.66	15.03	9,280.47	9,643.76	1,535.35	9,762.18	1.34	-0.07	-1.34
19,116.00	89.71	14.93	9,280.55	9,656.73	1,538.82	9,775.50	0.83	0.37	-0.74
19,129.57	89.72	15.01	9,280.62	9,669.84	1,542.32	9,788.96	0.59	0.07	0.59
19,143.14	89.67	15.11	9,280.69	9,682.94	1,545.85	9,802.41	0.82	-0.37	0.74
19,156.71	89.52	14.97	9,280.78	9,696.05	1,549.37	9,815.87	1.51	-1.11	-1.03



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	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)
19,170.29	89.48	14.92	9,280.90	9,709.17	1,552.87	9,829.34	0.47	-0.29	-0.37
19,183.86	89.49	15.03	9,281.02	9,722.28	1,556.38	9,842.79	0.81	0.07	0.81
19,197.43	89.51	15.12	9,281.14	9,735.38	1,559.91	9,856.25	0.68	0.15	0.66
19,211.00	89.53	15.09	9,281.26	9,748.48	1,563.45	9,869.70	0.27	0.15	-0.22
19,224.57	89.57	15.10	9,281.36	9,761.58	1,566.98	9,883.16	0.30	0.29	0.07
19,238.14	89.63	15.14	9,281.46	9,774.68	1,570.52	9,896.61	0.53	0.44	0.29
19,251.71	89.71	15.33	9,281.54	9,787.77	1,574.08	9,910.06	1.52	0.59	1.40
19,265.29	89.79	15.52	9,281.59	9,800.86	1,577.70	9,923.51	1.52	0.59	1.40
19,278.86	89.85	15.53	9,281.64	9,813.94	1,581.33	9,936.96	0.45	0.44	0.07
19,292.43	89.89	15.33	9,281.67	9,827.02	1,584.94	9,950.40	1.50	0.29	-1.47
19,306.00	89.92	15.36	9,281.69	9,840.10	1,588.53	9,963.85	0.31	0.22	0.22
19,319.43	89.91	15.52	9,281.71	9,853.05	1,592.11	9,977.15	1.19	-0.07	1.19
19,332.86	89.83	15.44	9,281.74	9,865.99	1,595.69	9,990.46	0.84	-0.60	-0.60
19,346.29	89.74	15.34	9,281.79	9,878.94	1,599.25	10,003.76	1.00	-0.67	-0.74
19,359.71	89.65	15.25	9,281.86	9,891.89	1,602.79	10,017.06	0.95	-0.67	-0.67
19,373.14	89.62	15.23	9,281.95	9,904.84	1,606.32	10,030.37	0.27	-0.22	-0.15
19,386.57	89.71	15.28	9,282.03	9,917.80	1,609.86	10,043.68	0.77	0.67	0.37
19,400.00	89.94	15.37	9,282.07	9,930.75	1,613.41	10,056.99	1.84	1.71	0.67
19,413.57	90.16	15.45	9,282.06	9,943.83	1,617.01	10,070.44	1.73	1.62	0.59
19,427.14	90.22	15.39	9,282.01	9,956.92	1,620.62	10,083.88	0.63	0.44	-0.44
19,440.71	90.10	15.12	9,281.97	9,970.01	1,624.19	10,097.33	2.18	-0.88	-1.99
19,454.29	89.97	14.82	9,281.97	9,983.13	1,627.70	10,110.80	2.41	-0.96	-2.21
19,467.86	89.97	14.77	9,281.97	9,996.25	1,631.17	10,124.26	0.37	0.00	-0.37
19,481.43	89.97	14.66	9,281.98	10,009.37	1,634.61	10,137.73	0.81	0.00	-0.81
19,495.00	89.87	14.30	9,282.00	10,022.51	1,638.01	10,151.20	2.75	-0.74	-2.65
19,507.25	89.79	13.96	9,282.03	10,034.39	1,641.00	10,163.37	2.85	-0.65	-2.78
19,519.50	89.72	13.62	9,282.09	10,046.29	1,643.92	10,175.55	2.83	-0.57	-2.78
19,531.75	89.69	13.35	9,282.15	10,058.20	1,646.77	10,187.74	2.22	-0.24	-2.20
19,544.00	89.65	13.09	9,282.22	10,070.12	1,649.57	10,199.93	2.15	-0.33	-2.12
Final Phoenix MWD Survey									
19,558.75	89.61	12.94	9,282.32	10,084.49	1,652.90	10,214.61	1.05	-0.27	-1.02
19,573.50	89.60	12.77	9,282.42	10,098.87	1,656.18	10,229.30	1.15	-0.07	-1.15
19,588.25	89.57	12.69	9,282.52	10,113.26	1,659.43	10,243.99	0.58	-0.20	-0.54
19,603.00	89.54	12.61	9,282.64	10,127.65	1,662.66	10,258.68	0.58	-0.20	-0.54
19,611.05	89.52	12.57	9,282.70	10,135.51	1,664.41	10,266.70	0.58	-0.20	-0.54
LTP: 19611.05' MD									
19,617.75	89.51	12.53	9,282.76	10,142.05	1,665.87	10,273.38	0.58	-0.20	-0.54
19,632.50	89.48	12.45	9,282.89	10,156.45	1,669.06	10,288.07	0.58	-0.20	-0.54
19,647.25	89.45	12.38	9,283.03	10,170.85	1,672.23	10,302.77	0.52	-0.20	-0.47
19,662.00	89.42	12.31	9,283.17	10,185.26	1,675.38	10,317.47	0.52	-0.20	-0.47
Projection to TD									



Phoenix
Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 12H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3718.80usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3718.80usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 12H	North Reference:	Grid
Wellbore:	OH / 74652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (H&P 479)	Database:	USAEDMDB

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,047.00	1,046.96	-2.59	6.44	Tie In
1,188.00	1,187.96	-1.93	7.25	First Phoenix MWD Survey
9,017.39	8,842.62	-230.92	1,361.23	FTP: 9017.39' MD, 24.79° Inc
14,384.95	9,261.94	4,950.44	1,404.65	SL: 14384.95' MD
19,544.00	9,282.22	10,070.12	1,649.57	Final Phoenix MWD Survey
19,611.05	9,282.70	10,135.51	1,664.41	LTP: 19611.05' MD
19,662.00	9,283.17	10,185.26	1,675.38	Projection to TD

C-105 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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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: DR PI UNIT 112H	Property Code:
Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal	API Number: 30-0 25-48945
Pool Name: Bilbrey Basin; Bone Spring, South	Pool Code: 97366

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:	N	17	22S	32E		345	S	1645	W	LEA
BHL	B	8	22S	32E		51	N	1891	E	LEA

Section 3 – Completion Information

Date T.D. Reached 05/20/24	Total Measured Depth of Well 19662'MD	Acid Volume (bbls)	☒ Directional Survey Submitted ☐ Deviation Survey Submitted
Date Rig Released 05/22/24	Plug-Back Measured Depth 19617'MD	Completion Fluid Used (bbls) 363111	Were Logs Ran (Y/N) Y
Completion Date 07/17/24	Perforations (MD and TVD) 9305'-19538'MD/9082'-9282'TVD	Completion Proppant Used (lbs) 25672648#	List Type of Logs Ran if applicable: CBL

Section 4 – Action IDs for Submissions and Order Numbers

Surface Casing Action ID: 374393	UIC Permit/Order (UIC wells only) ☐ Yes ☒ No, Order No.
Intermediate 1 Casing Action ID: 374393	NOI Recomplete Action ID (if applicable):
Intermediate 2 Casing Action ID: NA	NOI Plugback Action ID (if applicable):
Production Casing Action ID: 374393	Cement Squeeze Action ID (if applicable):
Tubing Action ID: 382983	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 07/23/24	Production Method Gas lift	Well Status Producing	Gas – Oil Ratio 1073
Date of Test 08/14/24	Choke Size	Flowing Tubing Pressure	Casing Pressure 321
24 hr Oil (bbls) 3534	24 hr Gas (MCF) 3791	24 hr Water (bbls) 4264	Oil Gravity - API
Disposition of Gas: sold			

Section 6 – Pits

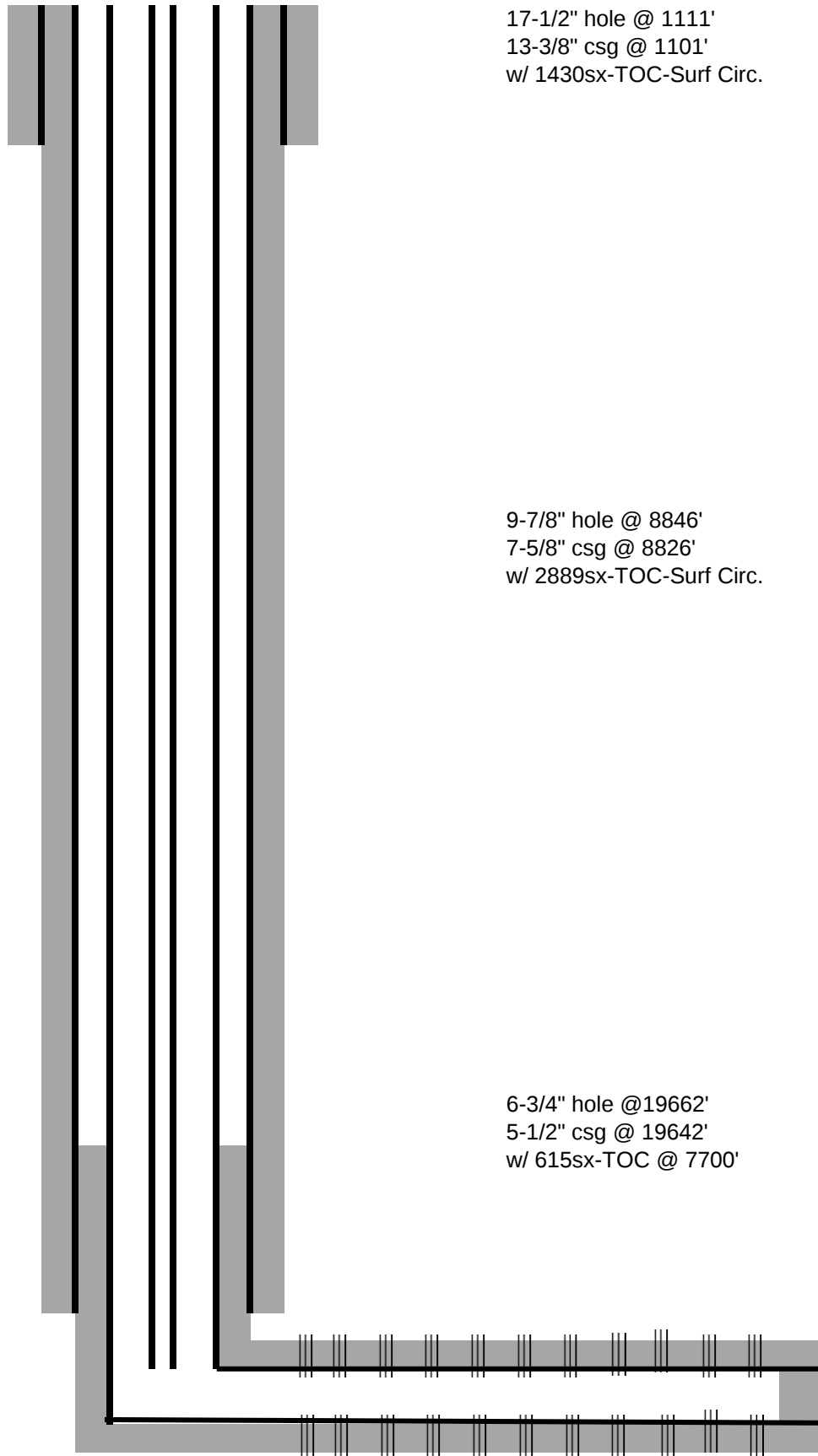
☐ A temporary pit was used at the well. If so, attach a plat with the location of the temporary pit.
☒ A Closed Loop System was used.
☐ If an on-site burial was used at the well, report the exact location of the on-site burial: LAT: LONG:

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 09/24/24

South Formations				North Formations			
Formation/Zone	MD	TVD	W/O/G	Formation/Zone	MD	TVD	W/O/G
T. Anhy	866	866	W	T. San Jose			
T. Salt	1224	1223		T. Nacimiento			
B. Salt	3352	3352		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	4777	4738	o/g				
T. Bell Canyon	4813	4774	o/g				
T. Cherry Canyon	5721	5667	o/g				
T. Brushy Canyon	7032	6932	o/g				
T. Bone Springs	8797	8633	o/g				
T. 1st BS Sand							
T. 2nd BS Carbonate							
T. 2nd BS Sand							
T. 3rd BS Carbonate							
T. 3rd BS Sand							

OXY USA Inc.
DR PI UNIT 112H
API No. 30-025-48945



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

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/oed/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 422112

ACKNOWLEDGMENTS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 422112
	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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State of New Mexico
Energy, Minerals and Natural Resources
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Santa Fe, NM 87505

CONDITIONS

Action 422112

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 422112
	Action Type: [C-104] Completion Packet - New Well (C-104NW)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	None	10/17/2025