

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: <input type="checkbox"/> Test Allowable (C-104RT) <input checked="" type="checkbox"/> New Well (C-104NW) <input type="checkbox"/> Recomplete (C-104RC) <input type="checkbox"/> Pay Add (C-104RC) <input type="checkbox"/> Amended	
Operator Name: OXY USA INC	OGRID: 16696
Property Name and Well Number: DR PI UNIT 111H	Property Code:
Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal	API Number: 30-0 25-48944
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	1615 FWL	32.385290°	-103.700109°	LEA

Section 3 – Completion Information

Producing Method	Ready Date	Perforations MD	Perforations TVD
Gas lift	07/16/24	9287'-19398'MD	9182'-9239'TVD

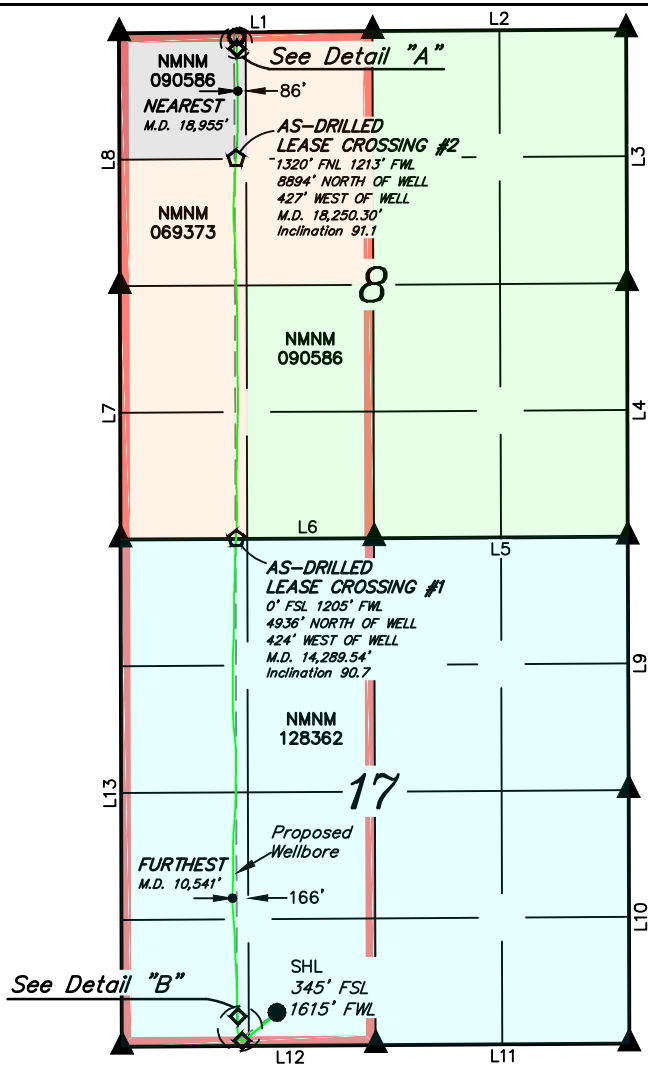
Section 4 – Action IDs for Submissions and Order Numbers

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 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, Order No.
Surface Casing Action ID: 374395	Unit: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, Order No. NMNM143828X
Intermediate 1 Casing Action ID: 374395	Compulsory Pooling: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, Order No.
Intermediate 2 Casing Action ID: NA	Down Hole Commingling: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, Order No.
Production Casing Action ID: 374395	Surface Commingling: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, Order No. PLC-844-D
All casing was pressure tested in accordance with NMAC <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Non-standard Location: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Common ownership Order No.
Liner 1 Action ID: NA	Non-standard Proration: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, Order No.
Casing was installed prior to OCD's Action ID system (Y/N): N	Simultaneous Dedication: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, Order No.

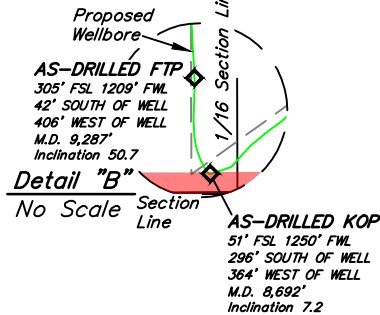
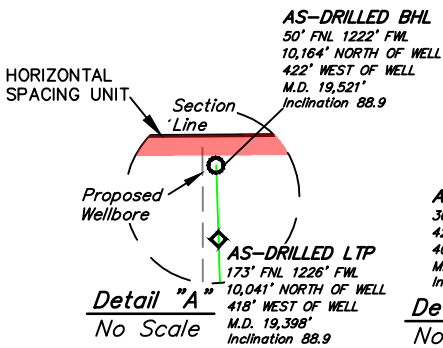
Section 5 - Operator Signature and Certification

<input checked="" type="checkbox"/> I hereby certify that the required Water Use Report has been, or will be, submitted for this well's completion.	
<input checked="" type="checkbox"/> I hereby certify that the required Fracfocus disclosure has been, or will be, submitted for this well's completion.	
<input checked="" type="checkbox"/> 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	09/25/24

Property Name DR PI FED UNIT 17_8 DA	Well Number 11H	Drawn By T.J.S. 08-05-24	Revised By
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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'



NAD 83 (SURFACE HOLE LOCATION) LATITUDE = 32°23'07.05" (32.385290°) LONGITUDE = -103°42'00.39" (-103.700109°) NAD 27 (SURFACE HOLE LOCATION) LATITUDE = 32°23'06.60" (32.385168°) LONGITUDE = -103°41'58.64" (-103.699621°) STATE PLANE NAD 83 (N.M. EAST) N: 504478.70' E: 736805.86' STATE PLANE NAD 27 (N.M. EAST) N: 504418.26' E: 695623.45'	NAD 83 (AS-DRILLED LC 2) LATITUDE = 32°24'35.05" (32.409736°) LONGITUDE = -103°42'05.19" (-103.701443°) NAD 27 (AS-DRILLED LC 2) LATITUDE = 32°24'34.61" (32.409613°) LONGITUDE = -103°42'03.43" (-103.700954°) STATE PLANE NAD 83 (N.M. EAST) N: 513369.42' E: 736341.62' STATE PLANE NAD 27 (N.M. EAST) N: 513308.74' E: 695159.46'
NAD 83 (AS-DRILLED KOP) LATITUDE = 32°23'04.12" (32.384478°) LONGITUDE = -103°42'04.65" (-103.701291°) NAD 27 (AS-DRILLED KOP) LATITUDE = 32°23'03.68" (32.384355°) LONGITUDE = -103°42'02.89" (-103.700803°) STATE PLANE NAD 83 (N.M. EAST) N: 504181.09' E: 736442.92' STATE PLANE NAD 27 (N.M. EAST) N: 504120.66' E: 695260.50'	NAD 83 (AS-DRILLED LTP) LATITUDE = 32°24'46.40" (32.412888°) LONGITUDE = -103°42'05.06" (-103.701407°) NAD 27 (AS-DRILLED LTP) LATITUDE = 32°24'45.95" (32.412765°) LONGITUDE = -103°42'03.30" (-103.700918°) STATE PLANE NAD 83 (N.M. EAST) N: 514516.25' E: 736345.96' STATE PLANE NAD 27 (N.M. EAST) N: 514455.54' E: 695163.84'
NAD 83 (AS-DRILLED FTP) LATITUDE = 32°23'06.63" (32.385176°) LONGITUDE = -103°42'05.13" (-103.701426°) NAD 27 (AS-DRILLED FTP) LATITUDE = 32°23'06.19" (32.385053°) LONGITUDE = -103°42'03.38" (-103.700938°) STATE PLANE NAD 83 (N.M. EAST) N: 504434.65' E: 736399.77' STATE PLANE NAD 27 (N.M. EAST) N: 504374.21' E: 695217.37'	NAD 83 (AS-DRILLED BHL) LATITUDE = 32°24'47.61" (32.413226°) LONGITUDE = -103°42'05.11" (-103.701419°) NAD 27 (AS-DRILLED BHL) LATITUDE = 32°24'47.17" (32.413103°) LONGITUDE = -103°42'03.35" (-103.700930°) STATE PLANE NAD 83 (N.M. EAST) N: 514639.14' E: 736341.36' STATE PLANE NAD 27 (N.M. EAST) N: 514578.43' E: 695159.24'
NAD 83 (AS-DRILLED LC 1) LATITUDE = 32°23'55.88" (32.398856°) LONGITUDE = -103°42'05.24" (-103.701455°) NAD 27 (AS-DRILLED LC 1) LATITUDE = 32°23'55.44" (32.398734°) LONGITUDE = -103°42'03.48" (-103.700966°) STATE PLANE NAD 83 (N.M. EAST) N: 509411.57' E: 736361.34' STATE PLANE NAD 27 (N.M. EAST) N: 509350.99' E: 695179.07'	

- 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.

- = 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

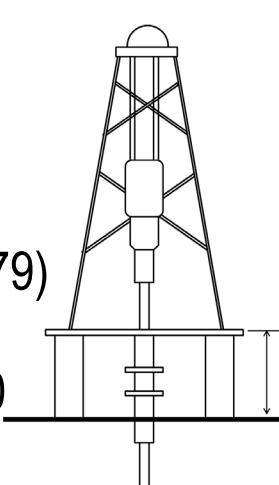
APPROXIMATE WELLBORE MEASURED DEPTH	
LEASE	DISTANCE
NMNM 128362	5,002.54'
NMNM 069373	3,960.76'
NMNM 090586	1,147.70'
TOTAL	10,111.00'



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

RKB @ 3717.00usft (H&P 479)

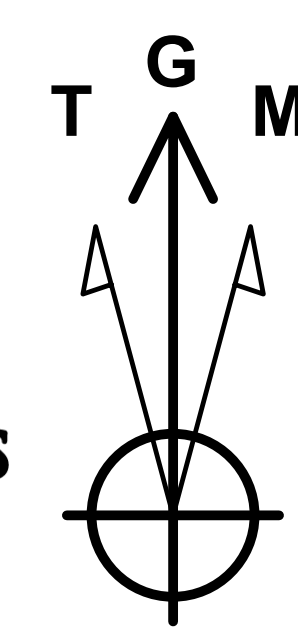
Ground Level: 3692.00



Project: Lea County, NM (NAD83-NME)
Site: Dr Pi Fed Unit 17_8 DA
Well: Dr Pi Fed Unit 17_8 DA 11H
Wellbore: OH / 74651
Design: Plan 2 05-06-24
Rig: H&P 479

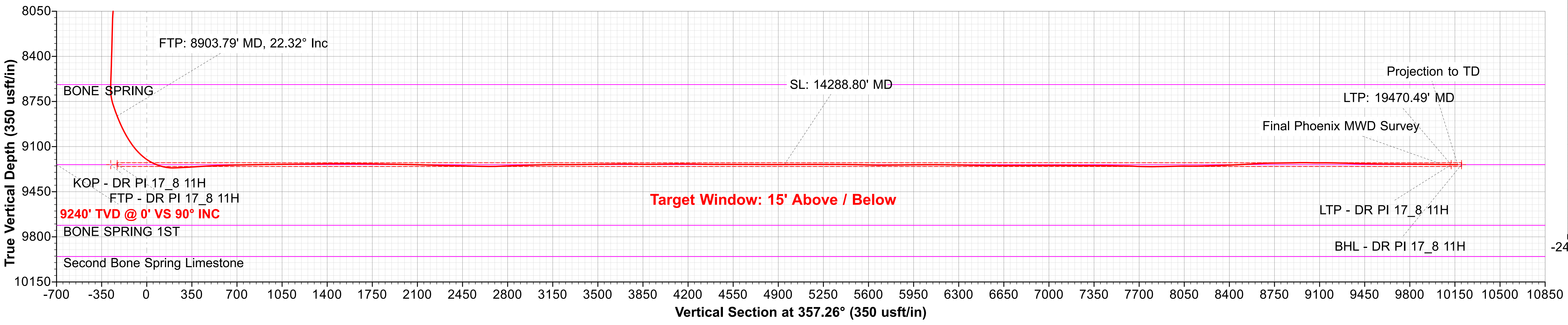
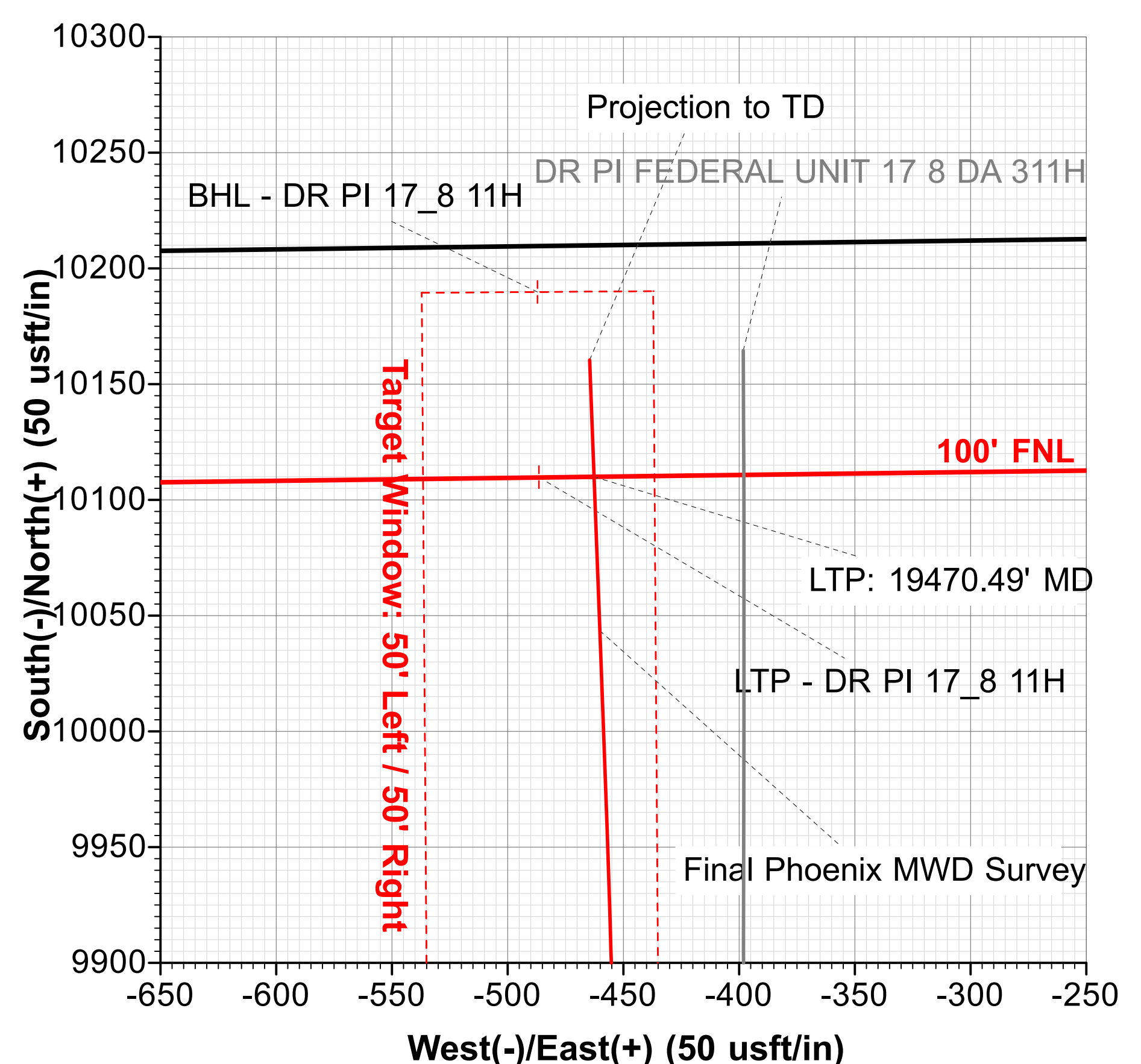
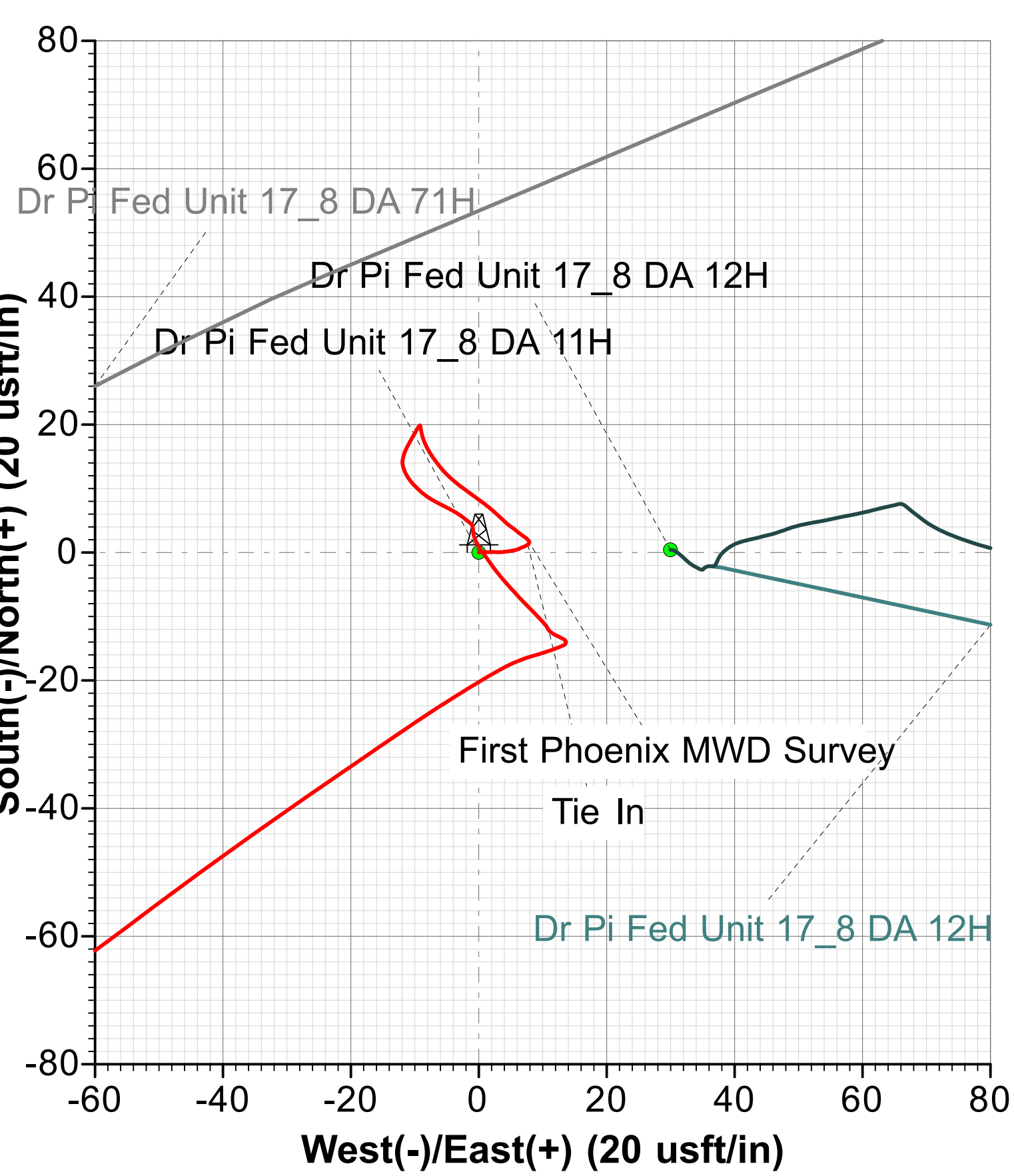
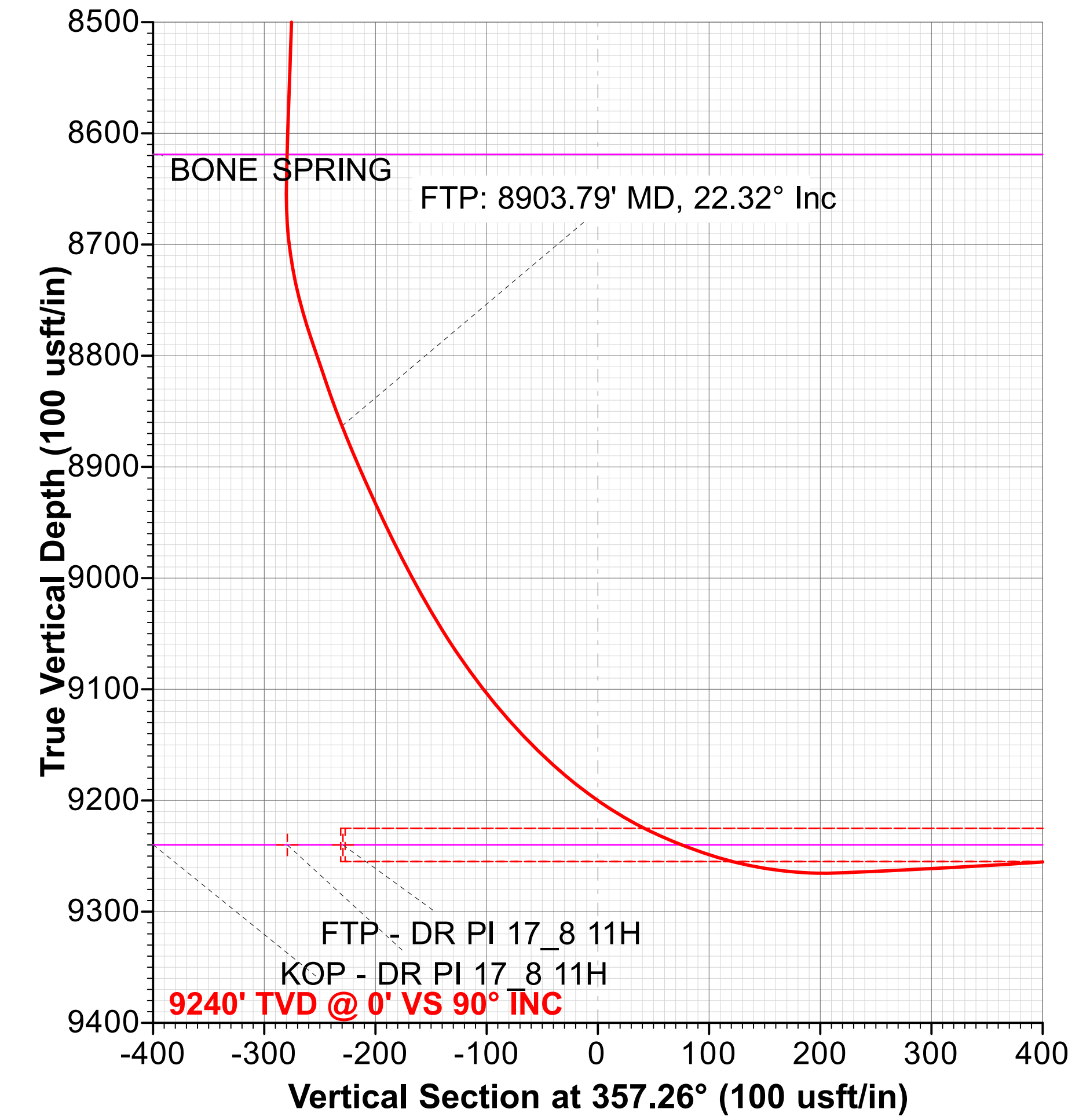
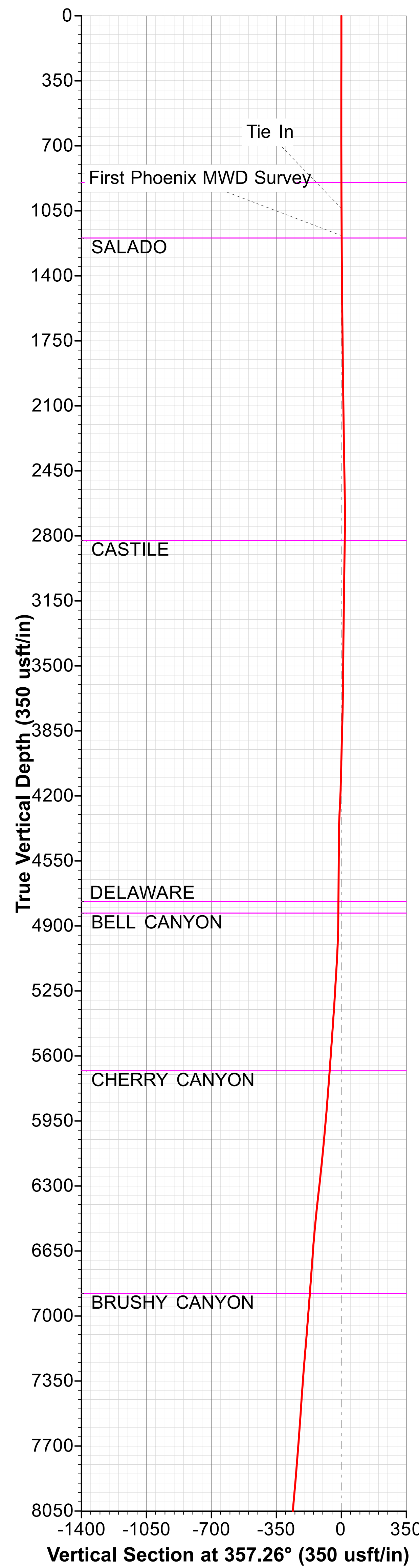


PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: -0.34°
Magnetic North: 6.22°

Magnetic Field
Strength: 47573.7nT
Dip Angle: 60.07°
Date: 5/6/2024
Model: IFR



WELL DETAILS

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	504478.70	736805.86	32° 23' 7.045478 N	103° 42' 0.393129 W

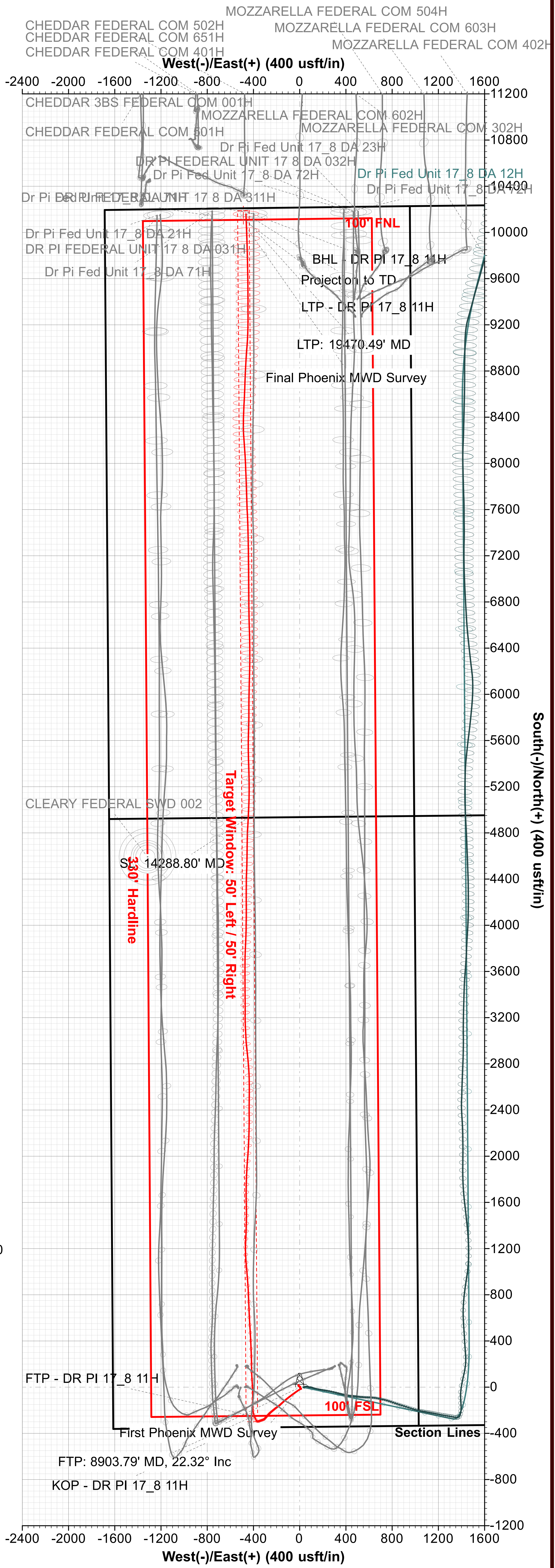
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
1037.00	0.48	51.77	1036.97	1.23	7.70	0.86	7.97	Tie In
1184.00	0.63	309.94	1183.96	2.12	7.57	1.76	9.05	First Phoenix MWD Survey
8903.79	22.32	339.29	8863.23	-249.03	-393.53	-229.95	615.54	FTP: 8903.79' MD, 22.32° Inc
14288.80	90.68	2.48	9239.34	4932.12	-444.55	4947.72	5802.91	SL: 14288.80' MD
19404.00	88.98	357.85	9238.90	10043.54	-460.11	10054.06	10917.14	Final Phoenix MWD Survey
19470.49	88.98	357.85	9240.08	10109.97	-462.61	10120.53	10983.62	LTP: 19470.49' MD
19521.00	88.98	357.85	9240.98	10160.44	-464.50	10171.03	11034.12	Projection to TD

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
898.00	898.03	RUSTLER
1196.00	1196.04	SALADO
2824.00	2824.04	CASTILE
4770.00	4770.04	DELAWARE
4831.00	4831.04	BELL CANYON
5680.00	5686.23	CHERRY CANYON
6878.00	6896.00	BRUSHY CANYON
8619.00	8649.00	BONE SPRING
9240.00	9638.79	9240' TVD @ 0° VS 90° INC

Map System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone Name: New Mexico Eastern Zone
Local Origin: Well Dr Pi Fed Unit 17_8 DA 11H, Grid North
Latitude: 32° 23' 7.045478 N
Longitude: 103° 42' 0.393129 W
Grid East: 736805.86
Grid North: 504478.70
Scale Factor: 1.000
Geomagnetic Model: IFR
Sample Date: 06-May-24
Magnetic Declination: 6.555°
Dip Angle from Horizontal: 60.066°
Magnetic Field Strength: 47573.70000000nT
To convert a Magnetic Direction to a Grid Direction, Add 6.216°
To convert a Magnetic Direction to a True Direction, Add 6.555° East
To convert a True Direction to a Grid Direction, Subtract 0.339°





OXY USA INC.

Lea County, NM (NAD83-NME)

Dr Pi Fed Unit 17_8 DA

Dr Pi Fed Unit 17_8 DA 11H

3002548944

OH / 74651

Design: Surveys (H&P 479)

Standard Survey Report

30 May, 2024





Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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 11H		
Well Position	+N/-S	0.00 usft	Northing: 504,478.70 usft
	+E/-W	0.00 usft	Easting: 736,805.86 usft
Position Uncertainty	2.00 usft	Wellhead Elevation:	usft
Grid Convergence:	0.339 °		
		Latitude:	32° 23' 7.045478 N
		Longitude:	103° 42' 0.393129 W
		Ground Level:	3,692.00 usft

Wellbore	OH / 74651				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IFR	5/6/2024	6.555	60.066	47,573.70000000

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)	Direction (°)
	0.00	0.00	0.00	357.26

Survey Program	Date 5/30/2024			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
25.00	1,037.00	MWD Surveys - Adj Surface (OH / 74651)	SQC_C705Mb_MWD+IFF	MWD+IFR1+Sag+FDIR
1,051.70	8,657.50	Phoenix MWD Surveys 1 - SQC Final (OH	SQC_C705Mb_MWD+IFF	MWD+IFR1+Sag+FDIR
8,672.00	19,521.00	Phoenix MWD Surveys 2 - SQC Final (OH	SQC_C705Mb_MWD+IFF	MWD+IFR1+Sag+FDIR

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
132.00	0.43	78.40	132.00	0.08	0.39	0.06	0.40	0.40	0.00
218.00	0.48	102.10	218.00	0.07	1.06	0.02	0.22	0.06	27.56
274.00	0.50	84.05	273.99	0.05	1.53	-0.03	0.28	0.04	-32.23
361.00	0.47	89.62	360.99	0.09	2.27	-0.02	0.06	-0.03	6.40
447.00	0.40	97.68	446.99	0.05	2.92	-0.09	0.11	-0.08	9.37
535.00	0.62	82.93	534.99	0.07	3.70	-0.11	0.29	0.25	-16.76



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
620.00	0.75	80.35	619.98	0.22	4.70	-0.01	0.16	0.15	-3.04	
708.00	0.53	82.21	707.97	0.37	5.67	0.10	0.25	-0.25	2.11	
795.00	0.29	57.43	794.97	0.54	6.26	0.24	0.34	-0.28	-28.48	
882.00	0.29	65.79	881.97	0.75	6.64	0.43	0.05	0.00	9.61	
969.00	0.49	71.54	968.97	0.96	7.20	0.61	0.23	0.23	6.61	
1,037.00	0.48	51.77	1,036.97	1.23	7.70	0.86	0.25	-0.01	-29.07	
Tie In										
1,051.70	0.42	43.61	1,051.67	1.30	7.78	0.93	0.60	-0.41	-55.51	
1,066.40	0.38	33.31	1,066.37	1.38	7.84	1.01	0.56	-0.27	-70.07	
1,081.10	0.35	20.73	1,081.06	1.47	7.89	1.09	0.58	-0.20	-85.58	
1,095.80	0.34	6.59	1,095.76	1.55	7.91	1.17	0.58	-0.07	-96.19	
1,110.50	0.35	352.42	1,110.46	1.64	7.91	1.26	0.58	0.07	-96.39	
1,125.20	0.38	339.77	1,125.16	1.73	7.88	1.35	0.58	0.20	-86.05	
1,139.90	0.43	329.40	1,139.86	1.82	7.84	1.45	0.60	0.34	-70.54	
1,154.60	0.49	321.24	1,154.56	1.92	7.77	1.55	0.60	0.41	-55.51	
1,169.30	0.55	314.90	1,169.26	2.02	7.68	1.65	0.56	0.41	-43.13	
1,184.00	0.63	309.94	1,183.96	2.12	7.57	1.76	0.65	0.54	-33.74	
First Phoenix MWD Survey										
1,197.57	0.63	309.07	1,197.53	2.22	7.46	1.86	0.07	0.00	-6.41	
1,211.14	0.63	308.20	1,211.10	2.31	7.34	1.96	0.07	0.00	-6.41	
1,224.71	0.64	307.31	1,224.67	2.40	7.22	2.05	0.10	0.07	-6.56	
1,238.29	0.64	306.43	1,238.25	2.49	7.10	2.15	0.07	0.00	-6.48	
1,251.86	0.64	305.54	1,251.82	2.58	6.98	2.24	0.07	0.00	-6.56	
1,265.43	0.65	304.66	1,265.39	2.67	6.85	2.34	0.10	0.07	-6.48	
1,279.00	0.66	303.77	1,278.96	2.76	6.72	2.43	0.11	0.07	-6.56	
1,292.57	0.66	304.87	1,292.52	2.84	6.59	2.53	0.09	0.00	8.11	
1,306.14	0.66	305.95	1,306.09	2.93	6.47	2.62	0.09	0.00	7.96	
1,319.71	0.66	307.01	1,319.66	3.03	6.34	2.72	0.09	0.00	7.81	
1,333.29	0.67	308.04	1,333.24	3.12	6.22	2.82	0.11	0.07	7.58	
1,346.86	0.67	309.05	1,346.81	3.22	6.09	2.93	0.09	0.00	7.44	
1,360.43	0.67	310.03	1,360.38	3.32	5.97	3.03	0.08	0.00	7.22	
1,374.00	0.68	310.98	1,373.95	3.43	5.85	3.14	0.11	0.07	7.00	
1,387.57	0.67	309.95	1,387.52	3.53	5.73	3.25	0.12	-0.07	-7.59	
1,401.14	0.67	308.90	1,401.09	3.63	5.60	3.36	0.09	0.00	-7.74	
1,414.71	0.67	307.81	1,414.66	3.73	5.48	3.46	0.09	0.00	-8.03	
1,428.29	0.66	306.70	1,428.24	3.83	5.35	3.57	0.12	-0.07	-8.17	
1,441.86	0.66	305.57	1,441.80	3.92	5.23	3.66	0.10	0.00	-8.33	
1,455.43	0.66	304.41	1,455.37	4.01	5.10	3.76	0.10	0.00	-8.55	
1,469.00	0.66	303.24	1,468.94	4.09	4.97	3.85	0.10	0.00	-8.62	
1,482.43	0.65	304.91	1,482.37	4.18	4.84	3.94	0.16	-0.07	12.43	
1,495.86	0.65	306.58	1,495.80	4.27	4.72	4.04	0.14	0.00	12.43	
1,509.29	0.65	308.24	1,509.23	4.36	4.60	4.14	0.14	0.00	12.36	
1,522.71	0.65	309.88	1,522.65	4.46	4.48	4.24	0.14	0.00	12.22	
1,536.14	0.65	311.51	1,536.08	4.56	4.36	4.34	0.14	0.00	12.14	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
1,549.57	0.66	313.11	1,549.51	4.66	4.25	4.45	0.16	0.07	11.91	
1,563.00	0.66	314.68	1,562.94	4.77	4.14	4.56	0.13	0.00	11.69	
1,576.57	0.70	314.28	1,576.51	4.88	4.02	4.68	0.30	0.29	-2.95	
1,590.14	0.74	313.91	1,590.07	5.00	3.90	4.81	0.30	0.29	-2.73	
1,603.71	0.77	313.57	1,603.64	5.12	3.77	4.94	0.22	0.22	-2.51	
1,617.29	0.81	313.24	1,617.22	5.25	3.64	5.07	0.30	0.29	-2.43	
1,630.86	0.85	312.93	1,630.79	5.39	3.49	5.21	0.30	0.29	-2.28	
1,644.43	0.89	312.63	1,644.36	5.53	3.34	5.36	0.30	0.29	-2.21	
1,658.00	0.93	312.35	1,657.93	5.67	3.18	5.51	0.30	0.29	-2.06	
1,671.43	0.94	312.19	1,671.36	5.82	3.02	5.67	0.08	0.07	-1.19	
1,684.86	0.96	312.02	1,684.78	5.97	2.86	5.83	0.15	0.15	-1.27	
1,698.29	0.97	311.85	1,698.21	6.12	2.69	5.98	0.08	0.07	-1.27	
1,711.71	0.99	311.68	1,711.63	6.27	2.52	6.14	0.15	0.15	-1.27	
1,725.14	1.00	311.49	1,725.06	6.43	2.34	6.31	0.08	0.07	-1.41	
1,738.57	1.02	311.31	1,738.49	6.58	2.16	6.47	0.15	0.15	-1.34	
1,752.00	1.03	311.12	1,751.91	6.74	1.98	6.64	0.08	0.07	-1.41	
1,765.57	1.06	310.35	1,765.48	6.90	1.80	6.81	0.24	0.22	-5.67	
1,779.14	1.09	309.49	1,779.05	7.07	1.60	6.98	0.25	0.22	-6.34	
1,792.71	1.12	308.63	1,792.62	7.23	1.40	7.16	0.25	0.22	-6.34	
1,806.29	1.15	307.81	1,806.19	7.40	1.19	7.33	0.25	0.22	-6.04	
1,819.86	1.18	307.07	1,819.76	7.57	0.97	7.51	0.25	0.22	-5.45	
1,833.43	1.21	306.45	1,833.33	7.74	0.74	7.69	0.24	0.22	-4.57	
1,847.00	1.22	305.98	1,846.90	7.91	0.51	7.87	0.10	0.07	-3.46	
1,860.57	1.23	305.74	1,860.46	8.08	0.27	8.05	0.08	0.07	-1.77	
1,874.14	1.22	305.65	1,874.03	8.24	0.04	8.23	0.08	-0.07	-0.66	
1,887.71	1.22	305.68	1,887.60	8.41	-0.20	8.41	0.00	0.00	0.22	
1,901.29	1.20	305.77	1,901.17	8.58	-0.43	8.59	0.15	-0.15	0.66	
1,914.86	1.19	305.91	1,914.74	8.75	-0.66	8.77	0.08	-0.07	1.03	
1,928.43	1.18	306.06	1,928.31	8.91	-0.89	8.94	0.08	-0.07	1.11	
1,942.00	1.17	306.19	1,941.87	9.07	-1.11	9.12	0.08	-0.07	0.96	
1,955.57	1.16	306.24	1,955.44	9.24	-1.33	9.29	0.07	-0.07	0.37	
1,969.14	1.15	306.26	1,969.01	9.40	-1.55	9.46	0.07	-0.07	0.15	
1,982.71	1.15	306.29	1,982.58	9.56	-1.77	9.63	0.00	0.00	0.22	
1,996.29	1.14	306.33	1,996.15	9.72	-1.99	9.81	0.07	-0.07	0.29	
2,009.86	1.14	306.41	2,009.72	9.88	-2.21	9.98	0.01	0.00	0.59	
2,023.43	1.13	306.56	2,023.29	10.04	-2.43	10.15	0.08	-0.07	1.11	
2,037.00	1.13	306.81	2,036.86	10.20	-2.64	10.32	0.04	0.00	1.84	
2,050.57	1.12	307.22	2,050.42	10.36	-2.85	10.49	0.09	-0.07	3.02	
2,064.14	1.10	307.75	2,063.99	10.52	-3.06	10.66	0.17	-0.15	3.91	
2,077.71	1.09	308.36	2,077.56	10.68	-3.27	10.83	0.11	-0.07	4.50	
2,091.29	1.08	309.04	2,091.14	10.84	-3.47	11.00	0.12	-0.07	5.01	
2,104.86	1.07	309.78	2,104.70	11.00	-3.66	11.17	0.13	-0.07	5.45	
2,118.43	1.05	310.55	2,118.27	11.17	-3.86	11.34	0.18	-0.15	5.67	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
2,132.00	1.05	311.36	2,131.84	11.33	-4.04	11.51	0.11	0.00	5.97	
2,145.57	1.04	312.15	2,145.41	11.49	-4.23	11.68	0.13	-0.07	5.82	
2,159.14	1.04	312.95	2,158.97	11.66	-4.41	11.86	0.11	0.00	5.90	
2,172.71	1.04	313.76	2,172.54	11.83	-4.59	12.03	0.11	0.00	5.97	
2,186.29	1.03	314.56	2,186.12	12.00	-4.76	12.21	0.13	-0.07	5.89	
2,199.86	1.05	315.08	2,199.69	12.17	-4.94	12.40	0.16	0.15	3.83	
2,213.43	1.06	315.51	2,213.25	12.35	-5.12	12.58	0.09	0.07	3.17	
2,227.00	1.07	315.93	2,226.82	12.53	-5.29	12.77	0.09	0.07	3.10	
2,240.57	1.06	316.93	2,240.39	12.71	-5.47	12.96	0.16	-0.07	7.37	
2,254.14	1.05	318.03	2,253.96	12.90	-5.63	13.15	0.17	-0.07	8.11	
2,267.71	1.04	319.19	2,267.53	13.08	-5.80	13.35	0.17	-0.07	8.55	
2,281.29	1.03	320.37	2,281.10	13.27	-5.96	13.54	0.17	-0.07	8.69	
2,294.86	1.02	321.50	2,294.67	13.46	-6.11	13.74	0.17	-0.07	8.33	
2,308.43	1.01	322.54	2,308.24	13.65	-6.26	13.93	0.15	-0.07	7.66	
2,322.00	1.00	323.39	2,321.81	13.84	-6.40	14.13	0.13	-0.07	6.26	
2,335.57	1.00	323.90	2,335.37	14.03	-6.54	14.33	0.07	0.00	3.76	
2,349.14	1.00	324.23	2,348.94	14.22	-6.68	14.52	0.04	0.00	2.43	
2,362.71	1.00	324.44	2,362.51	14.41	-6.82	14.72	0.03	0.00	1.55	
2,376.29	1.00	324.59	2,376.09	14.61	-6.96	14.92	0.02	0.00	1.10	
2,389.86	1.00	324.73	2,389.66	14.80	-7.09	15.12	0.02	0.00	1.03	
2,403.43	1.00	324.91	2,403.22	14.99	-7.23	15.32	0.02	0.00	1.33	
2,417.00	1.00	325.17	2,416.79	15.19	-7.36	15.52	0.03	0.00	1.92	
2,430.57	1.02	326.54	2,430.36	15.39	-7.50	15.73	0.23	0.15	10.10	
2,444.14	1.03	327.86	2,443.93	15.59	-7.63	15.94	0.19	0.07	9.73	
2,457.71	1.05	329.13	2,457.50	15.80	-7.76	16.15	0.22	0.15	9.36	
2,471.29	1.06	330.35	2,471.07	16.02	-7.88	16.37	0.18	0.07	8.98	
2,484.86	1.08	331.52	2,484.64	16.24	-8.01	16.60	0.22	0.15	8.62	
2,498.43	1.09	332.64	2,498.21	16.46	-8.13	16.83	0.17	0.07	8.25	
2,512.00	1.11	333.70	2,511.78	16.70	-8.25	17.07	0.21	0.15	7.81	
2,525.57	1.13	335.64	2,525.34	16.94	-8.36	17.32	0.32	0.15	14.30	
2,539.14	1.16	337.76	2,538.91	17.19	-8.47	17.57	0.38	0.22	15.62	
2,552.71	1.18	339.90	2,552.48	17.44	-8.57	17.83	0.35	0.15	15.77	
2,566.29	1.21	341.99	2,566.06	17.71	-8.66	18.11	0.39	0.22	15.39	
2,579.86	1.23	343.97	2,579.62	17.99	-8.74	18.39	0.34	0.15	14.59	
2,593.43	1.23	345.85	2,593.19	18.27	-8.82	18.67	0.30	0.00	13.85	
2,607.00	1.21	347.64	2,606.76	18.55	-8.89	18.95	0.32	-0.15	13.19	
2,620.57	1.14	348.61	2,620.32	18.82	-8.94	19.23	0.54	-0.52	7.15	
2,634.14	1.04	349.24	2,633.89	19.08	-8.99	19.48	0.74	-0.74	4.64	
2,647.71	0.94	349.63	2,647.46	19.31	-9.04	19.72	0.74	-0.74	2.87	
2,661.29	0.83	349.82	2,661.04	19.51	-9.07	19.92	0.81	-0.81	1.40	
2,674.86	0.73	349.88	2,674.61	19.69	-9.11	20.11	0.74	-0.74	0.44	
2,688.43	0.56	345.63	2,688.17	19.84	-9.14	20.26	1.30	-1.25	-31.32	
2,702.00	0.37	244.44	2,701.74	19.89	-9.19	20.31	5.37	-1.40	-745.69	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
2,715.57	0.81	215.71	2,715.31	19.79	-9.29	20.21	3.81	3.24	-211.72	
2,729.14	0.87	214.25	2,728.88	19.63	-9.40	20.06	0.47	0.44	-10.76	
2,742.71	0.93	212.99	2,742.45	19.45	-9.52	19.88	0.47	0.44	-9.29	
2,756.29	0.99	211.91	2,756.03	19.26	-9.64	19.70	0.46	0.44	-7.95	
2,769.86	1.05	210.98	2,769.60	19.05	-9.77	19.50	0.46	0.44	-6.85	
2,783.43	1.12	210.16	2,783.16	18.83	-9.90	19.28	0.53	0.52	-6.04	
2,797.00	1.18	209.45	2,796.73	18.60	-10.03	19.05	0.45	0.44	-5.23	
2,810.57	1.17	209.40	2,810.30	18.35	-10.17	18.82	0.07	-0.07	-0.37	
2,824.14	1.17	209.30	2,823.87	18.11	-10.31	18.58	0.02	0.00	-0.74	
2,837.71	1.17	209.14	2,837.43	17.87	-10.44	18.35	0.02	0.00	-1.18	
2,851.29	1.17	208.92	2,851.01	17.63	-10.58	18.11	0.03	0.00	-1.62	
2,864.86	1.17	208.62	2,864.58	17.39	-10.71	17.88	0.05	0.00	-2.21	
2,878.43	1.16	208.20	2,878.14	17.14	-10.84	17.64	0.10	-0.07	-3.10	
2,892.00	1.19	207.70	2,891.71	16.90	-10.97	17.40	0.23	0.22	-3.68	
2,905.57	1.15	207.00	2,905.28	16.65	-11.10	17.16	0.31	-0.29	-5.16	
2,919.14	1.11	206.13	2,918.85	16.41	-11.22	16.93	0.32	-0.29	-6.41	
2,932.71	1.06	205.12	2,932.41	16.18	-11.33	16.70	0.39	-0.37	-7.44	
2,946.29	1.00	203.97	2,945.99	15.96	-11.43	16.49	0.47	-0.44	-8.47	
2,959.86	0.95	202.74	2,959.56	15.75	-11.52	16.28	0.40	-0.37	-9.06	
2,973.43	0.91	201.46	2,973.13	15.54	-11.61	16.08	0.33	-0.29	-9.43	
2,987.00	0.87	200.24	2,986.70	15.34	-11.68	15.89	0.33	-0.29	-8.99	
3,000.57	0.83	197.84	3,000.26	15.15	-11.75	15.70	0.39	-0.29	-17.69	
3,014.14	0.80	195.26	3,013.83	14.97	-11.80	15.52	0.35	-0.22	-19.01	
3,027.71	0.77	192.50	3,027.40	14.79	-11.85	15.34	0.36	-0.22	-20.34	
3,041.29	0.74	189.55	3,040.98	14.61	-11.88	15.16	0.36	-0.22	-21.72	
3,054.86	0.71	186.39	3,054.55	14.44	-11.90	15.00	0.37	-0.22	-23.29	
3,068.43	0.69	183.03	3,068.12	14.28	-11.92	14.83	0.34	-0.15	-24.76	
3,082.00	0.67	179.46	3,081.69	14.12	-11.92	14.67	0.35	-0.15	-26.31	
3,095.57	0.68	175.99	3,095.26	13.96	-11.92	14.51	0.31	0.07	-25.57	
3,109.14	0.70	172.70	3,108.83	13.80	-11.90	14.35	0.33	0.15	-24.24	
3,122.71	0.71	169.59	3,122.39	13.63	-11.87	14.18	0.29	0.07	-22.92	
3,136.29	0.73	166.67	3,135.97	13.46	-11.84	14.01	0.31	0.15	-21.50	
3,149.86	0.76	163.94	3,149.54	13.29	-11.79	13.84	0.34	0.22	-20.12	
3,163.43	0.78	161.39	3,163.11	13.12	-11.74	13.66	0.29	0.15	-18.79	
3,177.00	0.80	159.02	3,176.68	12.94	-11.68	13.49	0.28	0.15	-17.46	
3,190.43	0.80	157.37	3,190.11	12.77	-11.61	13.31	0.17	0.00	-12.29	
3,203.86	0.79	155.72	3,203.54	12.60	-11.53	13.13	0.19	-0.07	-12.29	
3,217.29	0.79	154.08	3,216.97	12.43	-11.45	12.96	0.17	0.00	-12.21	
3,230.71	0.79	152.44	3,230.38	12.27	-11.37	12.79	0.17	0.00	-12.22	
3,244.14	0.78	150.80	3,243.81	12.10	-11.28	12.63	0.18	-0.07	-12.21	
3,257.57	0.78	149.18	3,257.24	11.94	-11.19	12.47	0.16	0.00	-12.06	
3,271.00	0.78	147.56	3,270.67	11.79	-11.10	12.31	0.16	0.00	-12.06	
3,284.57	0.76	146.35	3,284.24	11.64	-11.00	12.15	0.19	-0.15	-8.92	
3,298.14	0.75	145.11	3,297.81	11.49	-10.90	12.00	0.14	-0.07	-9.14	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)
3,311.71	0.74	143.85	3,311.38	11.35	-10.79	11.85	0.14	-0.07	-9.29
3,325.29	0.72	142.56	3,324.96	11.21	-10.69	11.70	0.19	-0.15	-9.50
3,338.86	0.71	141.24	3,338.53	11.07	-10.58	11.57	0.14	-0.07	-9.73
3,352.43	0.70	139.89	3,352.09	10.94	-10.48	11.43	0.14	-0.07	-9.95
3,366.00	0.68	138.50	3,365.66	10.82	-10.37	11.30	0.19	-0.15	-10.24
3,379.57	0.72	137.34	3,379.23	10.70	-10.26	11.18	0.31	0.29	-8.55
3,393.14	0.75	136.30	3,392.80	10.57	-10.14	11.04	0.24	0.22	-7.66
3,406.71	0.79	135.36	3,406.37	10.44	-10.01	10.91	0.31	0.29	-6.93
3,420.29	0.82	134.52	3,419.95	10.31	-9.88	10.77	0.24	0.22	-6.19
3,433.86	0.85	133.76	3,433.52	10.17	-9.74	10.62	0.24	0.22	-5.60
3,447.43	0.89	133.07	3,447.09	10.03	-9.59	10.47	0.30	0.29	-5.08
3,461.00	0.92	132.44	3,460.65	9.88	-9.43	10.32	0.23	0.22	-4.64
3,474.43	0.91	131.96	3,474.08	9.74	-9.27	10.17	0.09	-0.07	-3.57
3,487.86	0.90	131.47	3,487.51	9.60	-9.11	10.02	0.09	-0.07	-3.65
3,501.29	0.89	130.98	3,500.94	9.46	-8.96	9.87	0.09	-0.07	-3.65
3,514.71	0.87	130.49	3,514.36	9.32	-8.80	9.73	0.16	-0.15	-3.65
3,528.14	0.86	130.00	3,527.79	9.19	-8.64	9.59	0.09	-0.07	-3.65
3,541.57	0.85	129.50	3,541.21	9.06	-8.49	9.46	0.09	-0.07	-3.72
3,555.00	0.83	129.00	3,554.64	8.94	-8.34	9.33	0.16	-0.15	-3.72
3,568.57	0.89	126.73	3,568.21	8.81	-8.18	9.19	0.51	0.44	-16.73
3,582.14	0.96	124.76	3,581.78	8.69	-8.00	9.06	0.57	0.52	-14.52
3,595.71	1.02	123.04	3,595.35	8.56	-7.80	8.92	0.49	0.44	-12.68
3,609.29	1.08	121.53	3,608.93	8.42	-7.59	8.78	0.49	0.44	-11.12
3,622.86	1.15	120.19	3,622.49	8.29	-7.37	8.63	0.55	0.52	-9.87
3,636.43	1.21	119.00	3,636.06	8.15	-7.12	8.48	0.48	0.44	-8.77
3,650.00	1.27	117.94	3,649.63	8.01	-6.87	8.33	0.47	0.44	-7.81
3,663.57	1.40	117.56	3,663.19	7.86	-6.59	8.17	0.96	0.96	-2.80
3,677.14	1.54	117.26	3,676.76	7.70	-6.28	7.99	1.03	1.03	-2.21
3,690.71	1.70	117.09	3,690.32	7.53	-5.94	7.80	1.18	1.18	-1.25
3,704.29	1.85	117.10	3,703.90	7.34	-5.56	7.59	1.10	1.10	0.07
3,717.86	2.00	117.33	3,717.46	7.13	-5.16	7.36	1.11	1.11	1.69
3,731.43	2.13	117.86	3,731.02	6.90	-4.72	7.12	0.97	0.96	3.91
3,745.00	2.24	118.82	3,744.58	6.65	-4.27	6.85	0.85	0.81	7.07
3,758.57	2.31	120.48	3,758.14	6.39	-3.80	6.56	0.71	0.52	12.23
3,772.14	2.37	122.48	3,771.70	6.10	-3.33	6.25	0.75	0.44	14.74
3,785.71	2.41	124.56	3,785.26	5.79	-2.86	5.92	0.70	0.29	15.33
3,799.29	2.44	126.52	3,798.82	5.45	-2.39	5.56	0.65	0.22	14.43
3,812.86	2.47	128.13	3,812.38	5.10	-1.93	5.19	0.55	0.22	11.86
3,826.43	2.49	129.13	3,825.94	4.73	-1.47	4.80	0.35	0.15	7.37
3,840.00	2.07	144.20	3,839.50	4.35	-1.10	4.40	5.37	-3.10	111.05
3,853.57	1.62	170.40	3,853.06	3.96	-0.92	4.00	6.96	-3.32	193.07
3,867.14	1.56	178.50	3,866.63	3.59	-0.88	3.62	1.71	-0.44	59.69
3,880.71	1.56	174.15	3,880.19	3.22	-0.86	3.26	0.87	0.00	-32.06



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
3,894.29	1.57	169.15	3,893.77	2.85	-0.81	2.89	1.01	0.07	-36.82	
3,907.86	1.58	164.00	3,907.33	2.49	-0.72	2.52	1.05	0.07	-37.95	
3,921.43	1.61	159.12	3,920.90	2.13	-0.60	2.16	1.02	0.22	-35.96	
3,935.00	1.63	154.87	3,934.46	1.78	-0.45	1.80	0.90	0.15	-31.32	
3,948.57	1.59	151.92	3,948.03	1.44	-0.28	1.45	0.68	-0.29	-21.74	
3,962.14	1.54	149.66	3,961.59	1.11	-0.10	1.12	0.59	-0.37	-16.65	
3,975.71	1.50	147.86	3,975.16	0.81	0.09	0.80	0.46	-0.29	-13.26	
3,989.29	1.45	146.40	3,988.73	0.51	0.28	0.50	0.46	-0.37	-10.75	
4,002.86	1.42	145.22	4,002.30	0.23	0.47	0.21	0.31	-0.22	-8.70	
4,016.43	1.39	144.37	4,015.86	-0.04	0.66	-0.07	0.27	-0.22	-6.26	
4,030.00	1.38	143.91	4,029.43	-0.31	0.85	-0.35	0.11	-0.07	-3.39	
4,043.57	1.40	143.94	4,042.99	-0.57	1.05	-0.62	0.15	0.15	0.22	
4,057.14	1.45	144.17	4,056.56	-0.85	1.24	-0.90	0.37	0.37	1.69	
4,070.71	1.50	144.45	4,070.13	-1.13	1.45	-1.20	0.37	0.37	2.06	
4,084.29	1.58	144.62	4,083.70	-1.43	1.66	-1.50	0.59	0.59	1.25	
4,097.86	1.67	144.59	4,097.27	-1.74	1.88	-1.83	0.66	0.66	-0.22	
4,111.43	1.78	144.25	4,110.83	-2.07	2.12	-2.17	0.81	0.81	-2.51	
4,125.00	1.91	143.47	4,124.39	-2.43	2.38	-2.54	0.98	0.96	-5.75	
4,138.57	2.09	142.59	4,137.95	-2.80	2.66	-2.93	1.35	1.33	-6.48	
4,152.14	2.29	141.57	4,151.51	-3.21	2.98	-3.35	1.50	1.47	-7.52	
4,165.71	2.51	140.57	4,165.07	-3.65	3.34	-3.81	1.65	1.62	-7.37	
4,179.29	2.73	139.66	4,178.64	-4.13	3.74	-4.30	1.65	1.62	-6.70	
4,192.86	2.94	138.88	4,192.19	-4.64	4.18	-4.83	1.57	1.55	-5.75	
4,206.43	3.15	138.24	4,205.74	-5.18	4.65	-5.40	1.57	1.55	-4.72	
4,220.00	3.33	137.76	4,219.29	-5.75	5.17	-5.99	1.34	1.33	-3.54	
4,233.43	3.46	137.20	4,232.70	-6.34	5.70	-6.60	1.00	0.97	-4.17	
4,246.86	3.57	136.79	4,246.10	-6.94	6.27	-7.23	0.84	0.82	-3.05	
4,260.29	3.65	136.45	4,259.51	-7.55	6.85	-7.87	0.62	0.60	-2.53	
4,273.71	3.73	136.13	4,272.90	-8.18	7.44	-8.52	0.62	0.60	-2.38	
4,287.14	3.79	135.78	4,286.30	-8.81	8.05	-9.18	0.48	0.45	-2.61	
4,300.57	3.85	135.35	4,299.70	-9.45	8.68	-9.85	0.50	0.45	-3.20	
4,314.00	3.90	134.79	4,313.10	-10.09	9.32	-10.52	0.47	0.37	-4.17	
4,327.57	3.48	137.28	4,326.64	-10.72	9.93	-11.18	3.31	-3.10	18.35	
4,341.14	2.53	142.98	4,340.19	-11.26	10.39	-11.74	7.33	-7.00	42.00	
4,354.71	1.43	146.81	4,353.75	-11.64	10.66	-12.14	8.16	-8.11	28.22	
4,368.29	0.73	157.55	4,367.33	-11.86	10.79	-12.36	5.34	-5.15	79.09	
4,381.86	0.72	149.04	4,380.90	-12.02	10.86	-12.52	0.80	-0.07	-62.71	
4,395.43	0.72	140.03	4,394.47	-12.15	10.96	-12.66	0.83	0.00	-66.40	
4,409.00	0.74	131.97	4,408.04	-12.28	11.08	-12.79	0.77	0.15	-59.40	
4,422.57	0.74	129.39	4,421.61	-12.39	11.22	-12.91	0.25	0.00	-19.01	
4,436.14	0.75	126.85	4,435.17	-12.50	11.35	-13.03	0.25	0.07	-18.72	
4,449.71	0.75	124.35	4,448.74	-12.60	11.50	-13.14	0.24	0.00	-18.42	
4,463.29	0.76	121.90	4,462.32	-12.70	11.65	-13.24	0.25	0.07	-18.04	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
4,476.86	0.77	119.51	4,475.89	-12.79	11.80	-13.34	0.25	0.07	-17.61	
4,490.43	0.78	117.18	4,489.46	-12.88	11.97	-13.44	0.24	0.07	-17.17	
4,504.00	0.79	114.90	4,503.03	-12.96	12.13	-13.53	0.24	0.07	-16.80	
4,517.57	0.78	115.52	4,516.60	-13.04	12.30	-13.62	0.10	-0.07	4.57	
4,531.14	0.78	116.14	4,530.17	-13.12	12.47	-13.70	0.06	0.00	4.57	
4,544.71	0.78	116.77	4,543.73	-13.21	12.63	-13.79	0.06	0.00	4.64	
4,558.29	0.78	117.42	4,557.31	-13.29	12.80	-13.89	0.07	0.00	4.79	
4,571.86	0.77	118.08	4,570.88	-13.38	12.96	-13.98	0.10	-0.07	4.86	
4,585.43	0.77	118.75	4,584.45	-13.46	13.12	-14.07	0.07	0.00	4.94	
4,599.00	0.77	119.43	4,598.02	-13.55	13.28	-14.17	0.07	0.00	5.01	
4,612.57	0.66	127.84	4,611.59	-13.64	13.42	-14.27	1.12	-0.81	61.97	
4,626.14	0.57	139.19	4,625.16	-13.74	13.53	-14.37	1.11	-0.66	83.64	
4,639.71	0.51	153.92	4,638.73	-13.85	13.60	-14.48	1.11	-0.44	108.55	
4,653.29	0.49	171.10	4,652.31	-13.96	13.63	-14.59	1.11	-0.15	126.51	
4,666.86	0.52	188.05	4,665.88	-14.08	13.63	-14.71	1.12	0.22	124.91	
4,680.43	0.59	202.31	4,679.45	-14.20	13.60	-14.84	1.14	0.52	105.08	
4,694.00	0.71	218.17	4,693.01	-14.33	13.52	-14.96	1.59	0.88	116.88	
4,707.71	1.36	243.03	4,706.72	-14.47	13.32	-15.09	5.66	4.74	181.33	
4,721.43	1.89	247.86	4,720.44	-14.63	12.97	-15.24	3.99	3.86	35.20	
4,735.14	1.96	248.45	4,734.14	-14.80	12.54	-15.39	0.53	0.51	4.30	
4,748.86	2.03	249.17	4,747.85	-14.98	12.10	-15.54	0.54	0.51	5.25	
4,762.57	2.10	249.94	4,761.55	-15.15	11.63	-15.69	0.55	0.51	5.62	
4,776.29	2.15	250.72	4,775.26	-15.32	11.15	-15.84	0.42	0.36	5.69	
4,790.00	2.19	251.49	4,788.96	-15.49	10.66	-15.98	0.36	0.29	5.62	
4,803.43	2.19	252.28	4,802.38	-15.65	10.17	-16.12	0.22	0.00	5.88	
4,816.86	2.18	252.98	4,815.80	-15.80	9.69	-16.25	0.21	-0.07	5.21	
4,830.29	2.16	253.56	4,829.22	-15.95	9.20	-16.37	0.22	-0.15	4.32	
4,843.71	2.14	253.96	4,842.63	-16.09	8.72	-16.49	0.19	-0.15	2.98	
4,857.14	2.13	254.08	4,856.05	-16.23	8.23	-16.60	0.08	-0.07	0.89	
4,870.57	2.13	253.04	4,869.48	-16.37	7.76	-16.72	0.29	0.00	-7.74	
4,884.00	2.23	247.86	4,882.90	-16.54	7.27	-16.87	1.64	0.74	-38.57	
4,897.57	2.64	250.74	4,896.45	-16.74	6.74	-17.04	3.15	3.02	21.22	
4,911.14	2.73	248.84	4,910.01	-16.96	6.14	-17.24	0.93	0.66	-14.00	
4,924.71	2.83	246.78	4,923.56	-17.21	5.53	-17.45	1.04	0.74	-15.18	
4,938.29	2.96	244.78	4,937.13	-17.49	4.90	-17.71	1.21	0.96	-14.73	
4,951.86	3.08	243.02	4,950.68	-17.81	4.26	-17.99	1.12	0.88	-12.97	
4,965.43	3.33	241.45	4,964.23	-18.16	3.59	-18.31	1.95	1.84	-11.57	
4,979.00	4.33	239.99	4,977.76	-18.60	2.80	-18.72	7.40	7.37	-10.76	
4,992.57	5.36	239.91	4,991.29	-19.18	1.81	-19.24	7.59	7.59	-0.59	
5,006.14	5.47	239.37	5,004.80	-19.83	0.70	-19.84	0.89	0.81	-3.98	
5,019.71	5.59	238.91	5,018.30	-20.50	-0.42	-20.45	0.94	0.88	-3.39	
5,033.29	5.70	238.50	5,031.82	-21.19	-1.56	-21.09	0.86	0.81	-3.02	
5,046.86	5.82	238.13	5,045.32	-21.91	-2.72	-21.75	0.93	0.88	-2.73	
5,060.43	5.93	237.78	5,058.82	-22.64	-3.90	-22.43	0.85	0.81	-2.58	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)
5,074.00	6.04	237.45	5,072.31	-23.40	-5.09	-23.13	0.85	0.81	-2.43
5,087.57	6.13	237.11	5,085.81	-24.18	-6.30	-23.85	0.71	0.66	-2.51
5,101.14	6.21	236.79	5,099.30	-24.97	-7.52	-24.59	0.64	0.59	-2.36
5,114.71	6.28	236.47	5,112.79	-25.79	-8.76	-25.34	0.58	0.52	-2.36
5,128.29	6.35	236.19	5,126.28	-26.61	-10.00	-26.11	0.56	0.52	-2.06
5,141.86	6.41	235.93	5,139.77	-27.46	-11.25	-26.89	0.49	0.44	-1.92
5,155.43	6.46	235.72	5,153.26	-28.31	-12.51	-27.68	0.41	0.37	-1.55
5,169.00	6.51	235.56	5,166.74	-29.18	-13.77	-28.48	0.39	0.37	-1.18
5,182.57	6.54	235.49	5,180.22	-30.05	-15.04	-29.30	0.23	0.22	-0.52
5,196.14	6.56	235.46	5,193.70	-30.93	-16.32	-30.11	0.15	0.15	-0.22
5,209.71	6.58	235.47	5,207.18	-31.81	-17.60	-30.93	0.15	0.15	0.07
5,223.29	6.59	235.50	5,220.67	-32.69	-18.88	-31.75	0.08	0.07	0.22
5,236.86	6.61	235.53	5,234.15	-33.57	-20.17	-32.57	0.15	0.15	0.22
5,250.43	6.62	235.55	5,247.63	-34.46	-21.46	-33.39	0.08	0.07	0.15
5,264.00	6.65	235.54	5,261.11	-35.34	-22.75	-34.22	0.22	0.22	-0.07
5,277.57	6.68	235.49	5,274.59	-36.23	-24.05	-35.05	0.23	0.22	-0.37
5,291.14	6.72	235.41	5,288.07	-37.13	-25.35	-35.88	0.30	0.29	-0.59
5,304.71	6.76	235.32	5,301.54	-38.04	-26.66	-36.72	0.30	0.29	-0.66
5,318.29	6.81	235.22	5,315.03	-38.95	-27.98	-37.57	0.38	0.37	-0.74
5,331.86	6.86	235.11	5,328.50	-39.87	-29.31	-38.43	0.38	0.37	-0.81
5,345.43	6.90	235.01	5,341.97	-40.81	-30.64	-39.30	0.31	0.29	-0.74
5,359.00	6.95	234.91	5,355.45	-41.74	-31.98	-40.17	0.38	0.37	-0.74
5,372.57	7.00	234.81	5,368.92	-42.69	-33.33	-41.05	0.38	0.37	-0.74
5,386.14	7.05	234.71	5,382.38	-43.65	-34.68	-41.95	0.38	0.37	-0.74
5,399.71	7.09	234.62	5,395.85	-44.62	-36.04	-42.84	0.31	0.29	-0.66
5,413.29	7.14	234.52	5,409.33	-45.59	-37.41	-43.75	0.38	0.37	-0.74
5,426.86	7.18	234.41	5,422.79	-46.57	-38.79	-44.67	0.31	0.29	-0.81
5,440.43	7.21	234.29	5,436.25	-47.57	-40.17	-45.59	0.25	0.22	-0.88
5,454.00	7.23	234.15	5,449.72	-48.56	-41.56	-46.52	0.20	0.15	-1.03
5,467.57	7.23	233.96	5,463.18	-49.57	-42.94	-47.46	0.18	0.00	-1.40
5,481.14	7.23	233.76	5,476.64	-50.57	-44.32	-48.40	0.19	0.00	-1.47
5,494.71	7.22	233.55	5,490.10	-51.58	-45.69	-49.34	0.21	-0.07	-1.55
5,508.29	7.21	233.35	5,503.57	-52.60	-47.06	-50.29	0.20	-0.07	-1.47
5,521.86	7.20	233.18	5,517.04	-53.62	-48.43	-51.24	0.17	-0.07	-1.25
5,535.43	7.19	233.05	5,530.50	-54.64	-49.79	-52.20	0.14	-0.07	-0.96
5,549.00	7.19	232.99	5,543.96	-55.66	-51.14	-53.15	0.06	0.00	-0.44
5,562.57	7.21	233.04	5,557.43	-56.68	-52.50	-54.11	0.15	0.15	0.37
5,576.14	7.23	233.15	5,570.89	-57.71	-53.86	-55.07	0.18	0.15	0.81
5,589.71	7.26	233.30	5,584.35	-58.73	-55.24	-56.03	0.26	0.22	1.11
5,603.29	7.29	233.46	5,597.82	-59.76	-56.62	-56.99	0.27	0.22	1.18
5,616.86	7.32	233.61	5,611.28	-60.78	-58.00	-57.94	0.26	0.22	1.11
5,630.43	7.36	233.73	5,624.74	-61.81	-59.40	-58.90	0.32	0.29	0.88
5,644.00	7.40	233.80	5,638.20	-62.84	-60.81	-59.86	0.30	0.29	0.52



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
5,657.57	7.44	233.77	5,651.65	-63.88	-62.22	-60.83	0.30	0.29	-0.22	
5,671.14	7.48	233.68	5,665.11	-64.92	-63.64	-61.80	0.31	0.29	-0.66	
5,684.71	7.52	233.56	5,678.56	-65.97	-65.07	-62.79	0.32	0.29	-0.88	
5,698.29	7.56	233.42	5,692.03	-67.03	-66.50	-63.78	0.32	0.29	-1.03	
5,711.86	7.60	233.28	5,705.48	-68.10	-67.93	-64.78	0.32	0.29	-1.03	
5,725.43	7.64	233.15	5,718.93	-69.17	-69.38	-65.78	0.32	0.29	-0.96	
5,739.00	7.68	233.05	5,732.38	-70.26	-70.82	-66.80	0.31	0.29	-0.74	
5,752.43	7.73	232.99	5,745.68	-71.34	-72.26	-67.81	0.38	0.37	-0.45	
5,765.86	7.77	232.96	5,758.99	-72.43	-73.71	-68.83	0.30	0.30	-0.22	
5,779.29	7.81	232.95	5,772.30	-73.53	-75.16	-69.86	0.30	0.30	-0.07	
5,792.71	7.86	232.94	5,785.59	-74.63	-76.62	-70.89	0.37	0.37	-0.07	
5,806.14	7.90	232.94	5,798.90	-75.74	-78.09	-71.93	0.30	0.30	0.00	
5,819.57	7.94	232.93	5,812.20	-76.86	-79.57	-72.97	0.30	0.30	-0.07	
5,833.00	7.98	232.90	5,825.50	-77.98	-81.05	-74.02	0.30	0.30	-0.22	
5,846.57	8.02	232.85	5,838.94	-79.12	-82.55	-75.09	0.30	0.29	-0.37	
5,860.14	8.06	232.78	5,852.37	-80.27	-84.07	-76.16	0.30	0.29	-0.52	
5,873.71	8.10	232.70	5,865.81	-81.42	-85.58	-77.24	0.31	0.29	-0.59	
5,887.29	8.14	232.61	5,879.25	-82.58	-87.11	-78.33	0.31	0.29	-0.66	
5,900.86	8.18	232.52	5,892.68	-83.76	-88.64	-79.43	0.31	0.29	-0.66	
5,914.43	8.22	232.43	5,906.12	-84.93	-90.17	-80.53	0.31	0.29	-0.66	
5,928.00	8.28	232.34	5,919.55	-86.12	-91.72	-81.65	0.45	0.44	-0.66	
5,941.57	8.34	232.24	5,932.97	-87.32	-93.27	-82.77	0.45	0.44	-0.74	
5,955.14	8.40	232.14	5,946.40	-88.53	-94.83	-83.90	0.45	0.44	-0.74	
5,968.71	8.47	232.04	5,959.82	-89.76	-96.40	-85.05	0.53	0.52	-0.74	
5,982.29	8.55	231.93	5,973.25	-90.99	-97.98	-86.21	0.60	0.59	-0.81	
5,995.86	8.62	231.83	5,986.67	-92.24	-99.58	-87.39	0.53	0.52	-0.74	
6,009.43	8.70	231.72	6,000.09	-93.51	-101.18	-88.57	0.60	0.59	-0.81	
6,023.00	8.77	231.61	6,013.50	-94.79	-102.80	-89.77	0.53	0.52	-0.81	
6,036.57	8.84	231.49	6,026.91	-96.08	-104.42	-90.98	0.53	0.52	-0.88	
6,050.14	8.92	231.36	6,040.32	-97.39	-106.06	-92.21	0.61	0.59	-0.96	
6,063.71	8.99	231.22	6,053.72	-98.71	-107.71	-93.45	0.54	0.52	-1.03	
6,077.29	9.06	231.09	6,067.13	-100.04	-109.37	-94.71	0.54	0.52	-0.96	
6,090.86	9.13	230.96	6,080.53	-101.39	-111.04	-95.97	0.54	0.52	-0.96	
6,104.43	9.19	230.83	6,093.93	-102.75	-112.71	-97.26	0.47	0.44	-0.96	
6,118.00	9.26	230.71	6,107.32	-104.13	-114.40	-98.55	0.53	0.52	-0.88	
6,131.57	9.32	230.59	6,120.72	-105.52	-116.09	-99.86	0.46	0.44	-0.88	
6,145.14	9.38	230.47	6,134.10	-106.92	-117.79	-101.17	0.46	0.44	-0.88	
6,158.71	9.44	230.35	6,147.49	-108.33	-119.50	-102.50	0.47	0.44	-0.88	
6,172.29	9.50	230.22	6,160.89	-109.76	-121.22	-103.85	0.47	0.44	-0.96	
6,185.86	9.55	230.10	6,174.27	-111.20	-122.95	-105.20	0.40	0.37	-0.88	
6,199.43	9.60	229.96	6,187.65	-112.65	-124.68	-106.57	0.41	0.37	-1.03	
6,213.00	9.64	229.81	6,201.03	-114.11	-126.41	-107.95	0.35	0.29	-1.11	
6,226.57	9.67	229.63	6,214.41	-115.58	-128.15	-109.33	0.31	0.22	-1.33	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
6,240.14	9.70	229.44	6,227.78	-117.06	-129.88	-110.73	0.32	0.22	-1.40	
6,253.71	9.73	229.24	6,241.16	-118.56	-131.62	-112.14	0.33	0.22	-1.47	
6,267.29	9.75	229.04	6,254.54	-120.06	-133.36	-113.56	0.29	0.15	-1.47	
6,280.86	9.78	228.85	6,267.92	-121.57	-135.09	-114.98	0.32	0.22	-1.40	
6,294.43	9.82	228.67	6,281.29	-123.09	-136.83	-116.42	0.37	0.29	-1.33	
6,308.00	9.87	228.52	6,294.66	-124.63	-138.57	-117.87	0.41	0.37	-1.11	
6,321.43	9.94	228.40	6,307.89	-126.16	-140.30	-119.32	0.54	0.52	-0.89	
6,334.86	10.02	228.29	6,321.12	-127.71	-142.04	-120.78	0.61	0.60	-0.82	
6,348.29	10.09	228.19	6,334.34	-129.27	-143.79	-122.26	0.54	0.52	-0.74	
6,361.71	10.16	228.09	6,347.55	-130.84	-145.55	-123.74	0.54	0.52	-0.75	
6,375.14	10.20	227.97	6,360.77	-132.43	-147.31	-125.25	0.34	0.30	-0.89	
6,388.57	10.21	227.81	6,373.99	-134.03	-149.08	-126.76	0.22	0.07	-1.19	
6,402.00	10.15	227.60	6,387.21	-135.62	-150.83	-128.27	0.53	-0.45	-1.56	
6,415.57	10.01	227.27	6,400.57	-137.23	-152.58	-129.79	1.12	-1.03	-2.43	
6,429.14	9.82	226.88	6,413.93	-138.82	-154.29	-131.30	1.49	-1.40	-2.87	
6,442.71	9.57	226.68	6,427.31	-140.39	-155.96	-132.78	1.86	-1.84	-1.47	
6,456.29	9.27	227.73	6,440.71	-141.90	-157.59	-134.21	2.55	-2.21	7.73	
6,469.86	9.03	227.35	6,454.10	-143.35	-159.18	-135.59	1.82	-1.77	-2.80	
6,483.43	8.71	226.40	6,467.51	-144.78	-160.71	-136.94	2.59	-2.36	-7.00	
6,497.00	8.50	226.15	6,480.93	-146.19	-162.17	-138.28	1.57	-1.55	-1.84	
6,510.57	8.34	226.16	6,494.35	-147.56	-163.61	-139.58	1.18	-1.18	0.07	
6,524.14	8.21	226.31	6,507.78	-148.91	-165.02	-140.86	0.97	-0.96	1.11	
6,537.71	8.11	226.56	6,521.21	-150.24	-166.41	-142.12	0.78	-0.74	1.84	
6,551.29	8.02	226.86	6,534.66	-151.55	-167.80	-143.36	0.73	-0.66	2.21	
6,564.86	7.94	227.18	6,548.10	-152.83	-169.18	-144.58	0.67	-0.59	2.36	
6,578.43	7.89	227.32	6,561.54	-154.10	-170.55	-145.78	0.39	-0.37	1.03	
6,592.00	7.47	229.09	6,574.99	-155.31	-171.90	-146.92	3.55	-3.10	13.04	
6,605.57	7.47	231.36	6,588.44	-156.44	-173.26	-147.99	2.17	0.00	16.73	
6,619.14	7.49	231.76	6,601.90	-157.54	-174.64	-149.02	0.41	0.15	2.95	
6,632.71	7.45	232.09	6,615.35	-158.62	-176.03	-150.04	0.43	-0.29	2.43	
6,646.29	7.42	232.42	6,628.82	-159.70	-177.42	-151.05	0.38	-0.22	2.43	
6,659.86	7.39	232.74	6,642.27	-160.76	-178.81	-152.04	0.38	-0.22	2.36	
6,673.43	7.37	233.02	6,655.73	-161.81	-180.20	-153.03	0.30	-0.15	2.06	
6,687.00	7.37	233.24	6,669.19	-162.86	-181.59	-154.00	0.21	0.00	1.62	
6,700.57	7.38	233.36	6,682.65	-163.90	-182.99	-154.98	0.14	0.07	0.88	
6,714.14	7.40	233.41	6,696.10	-164.94	-184.39	-155.95	0.15	0.15	0.37	
6,727.71	7.43	233.43	6,709.56	-165.98	-185.80	-156.92	0.22	0.22	0.15	
6,741.29	7.47	233.43	6,723.03	-167.03	-187.21	-157.90	0.29	0.29	0.00	
6,754.86	7.52	233.42	6,736.48	-168.09	-188.63	-158.89	0.37	0.37	-0.07	
6,768.43	7.57	233.43	6,749.93	-169.15	-190.06	-159.88	0.37	0.37	0.07	
6,782.00	7.63	233.45	6,763.38	-170.22	-191.50	-160.88	0.44	0.44	0.15	
6,795.57	7.70	233.52	6,776.83	-171.30	-192.96	-161.89	0.52	0.52	0.52	
6,809.14	7.77	233.62	6,790.28	-172.38	-194.43	-162.90	0.53	0.52	0.74	
6,822.71	7.84	233.71	6,803.72	-173.47	-195.91	-163.92	0.52	0.52	0.66	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)
6,836.29	7.90	233.80	6,817.18	-174.57	-197.41	-164.95	0.45	0.44	0.66
6,849.86	7.94	233.86	6,830.62	-175.68	-198.92	-165.98	0.30	0.29	0.44
6,863.43	7.94	233.86	6,844.06	-176.78	-200.44	-167.01	0.00	0.00	0.00
6,877.00	7.88	233.80	6,857.50	-177.88	-201.94	-168.04	0.45	-0.44	-0.44
6,890.57	7.74	233.60	6,870.94	-178.97	-203.43	-169.06	1.05	-1.03	-1.47
6,904.14	7.55	233.32	6,884.39	-180.05	-204.88	-170.06	1.43	-1.40	-2.06
6,917.71	7.58	232.59	6,897.84	-181.13	-206.31	-171.07	0.74	0.22	-5.38
6,931.29	7.36	232.14	6,911.31	-182.20	-207.70	-172.08	1.68	-1.62	-3.31
6,944.86	7.56	231.54	6,924.76	-183.29	-209.09	-173.10	1.58	1.47	-4.42
6,958.43	7.43	231.14	6,938.22	-184.40	-210.47	-174.14	1.03	-0.96	-2.95
6,972.00	7.29	230.85	6,951.67	-185.49	-211.82	-175.17	1.07	-1.03	-2.14
6,985.57	7.22	230.70	6,965.14	-186.58	-213.15	-176.19	0.53	-0.52	-1.11
6,999.14	7.21	230.61	6,978.60	-187.66	-214.47	-177.20	0.11	-0.07	-0.66
7,012.71	7.23	230.56	6,992.06	-188.74	-215.78	-178.22	0.15	0.15	-0.37
7,026.29	7.27	230.53	7,005.53	-189.83	-217.11	-179.25	0.30	0.29	-0.22
7,039.86	7.32	230.51	7,018.99	-190.92	-218.44	-180.28	0.37	0.37	-0.15
7,053.43	7.38	230.48	7,032.45	-192.03	-219.78	-181.32	0.44	0.44	-0.22
7,067.00	7.43	230.45	7,045.91	-193.14	-221.13	-182.36	0.37	0.37	-0.22
7,080.43	7.47	230.39	7,059.22	-194.25	-222.47	-183.41	0.30	0.30	-0.45
7,093.86	7.51	230.32	7,072.54	-195.37	-223.82	-184.46	0.31	0.30	-0.52
7,107.29	7.55	230.25	7,085.85	-196.49	-225.17	-185.52	0.31	0.30	-0.52
7,120.71	7.59	230.18	7,099.16	-197.62	-226.53	-186.58	0.31	0.30	-0.52
7,134.14	7.63	230.12	7,112.47	-198.76	-227.89	-187.66	0.30	0.30	-0.45
7,147.57	7.68	230.08	7,125.78	-199.91	-229.27	-188.74	0.37	0.37	-0.30
7,161.00	7.73	230.07	7,139.09	-201.07	-230.65	-189.82	0.37	0.37	-0.07
7,174.71	7.81	230.10	7,152.67	-202.26	-232.07	-190.95	0.58	0.58	0.22
7,188.43	7.88	230.17	7,166.26	-203.46	-233.51	-192.08	0.51	0.51	0.51
7,202.14	7.97	230.24	7,179.84	-204.67	-234.96	-193.21	0.66	0.66	0.51
7,215.86	8.05	230.32	7,193.43	-205.89	-236.43	-194.36	0.59	0.58	0.58
7,229.57	8.12	230.39	7,207.00	-207.12	-237.91	-195.52	0.52	0.51	0.51
7,243.29	8.17	230.43	7,220.58	-208.36	-239.41	-196.69	0.37	0.36	0.29
7,257.00	8.20	230.45	7,234.15	-209.60	-240.92	-197.86	0.22	0.22	0.15
7,270.43	8.19	230.41	7,247.45	-210.82	-242.39	-199.01	0.09	-0.07	-0.30
7,283.86	8.16	230.33	7,260.74	-212.04	-243.86	-200.15	0.24	-0.22	-0.60
7,297.29	8.10	230.22	7,274.04	-213.25	-245.32	-201.30	0.46	-0.45	-0.82
7,310.71	8.04	230.08	7,287.32	-214.46	-246.77	-202.43	0.47	-0.45	-1.04
7,324.14	7.98	229.91	7,300.62	-215.66	-248.20	-203.57	0.48	-0.45	-1.27
7,337.57	7.84	229.64	7,313.92	-216.86	-249.62	-204.69	1.08	-1.04	-2.01
7,351.00	7.26	228.89	7,327.24	-218.01	-250.95	-205.78	4.38	-4.32	-5.58
7,364.57	6.86	230.42	7,340.70	-219.09	-252.22	-206.79	3.26	-2.95	11.27
7,378.14	6.09	228.53	7,354.19	-220.08	-253.39	-207.73	5.89	-5.67	-13.93
7,391.71	5.98	227.80	7,367.68	-221.03	-254.45	-208.63	0.99	-0.81	-5.38
7,405.29	5.87	226.96	7,381.19	-221.98	-255.48	-209.53	1.03	-0.81	-6.19



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
7,418.86	5.76	226.08	7,394.69	-222.93	-256.48	-210.43	1.04	-0.81	-6.48	
7,432.43	5.66	225.23	7,408.19	-223.87	-257.45	-211.32	0.97	-0.74	-6.26	
7,446.00	5.58	224.50	7,421.70	-224.81	-258.38	-212.22	0.79	-0.59	-5.38	
7,459.57	5.55	224.07	7,435.20	-225.75	-259.30	-213.12	0.38	-0.22	-3.17	
7,473.14	5.53	223.80	7,448.71	-226.70	-260.21	-214.01	0.24	-0.15	-1.99	
7,486.71	5.54	223.63	7,462.22	-227.64	-261.11	-214.92	0.14	0.07	-1.25	
7,500.29	5.56	223.53	7,475.73	-228.59	-262.02	-215.82	0.16	0.15	-0.74	
7,513.86	5.59	223.45	7,489.24	-229.55	-262.93	-216.74	0.23	0.22	-0.59	
7,527.43	5.63	223.38	7,502.74	-230.51	-263.84	-217.65	0.30	0.29	-0.52	
7,541.00	5.67	223.29	7,516.25	-231.49	-264.76	-218.58	0.30	0.29	-0.66	
7,554.43	5.71	223.16	7,529.61	-232.46	-265.67	-219.51	0.31	0.30	-0.97	
7,567.86	5.76	223.02	7,542.98	-233.44	-266.58	-220.44	0.39	0.37	-1.04	
7,581.29	5.80	222.86	7,556.34	-234.43	-267.51	-221.39	0.32	0.30	-1.19	
7,594.71	5.85	222.70	7,569.69	-235.43	-268.43	-222.34	0.39	0.37	-1.19	
7,608.14	5.90	222.56	7,583.05	-236.44	-269.36	-223.31	0.39	0.37	-1.04	
7,621.57	5.94	222.44	7,596.41	-237.46	-270.30	-224.28	0.31	0.30	-0.89	
7,635.00	5.98	222.35	7,609.76	-238.49	-271.24	-225.27	0.31	0.30	-0.67	
7,648.57	6.01	222.30	7,623.26	-239.54	-272.19	-226.27	0.22	0.22	-0.37	
7,662.14	6.04	222.29	7,636.75	-240.59	-273.15	-227.27	0.22	0.22	-0.07	
7,675.71	6.06	222.30	7,650.25	-241.65	-274.11	-228.28	0.15	0.15	0.07	
7,689.29	6.08	222.32	7,663.75	-242.71	-275.08	-229.30	0.15	0.15	0.15	
7,702.86	6.10	222.34	7,677.25	-243.77	-276.05	-230.32	0.15	0.15	0.15	
7,716.43	6.13	222.35	7,690.74	-244.84	-277.02	-231.34	0.22	0.22	0.07	
7,730.00	6.15	222.34	7,704.23	-245.92	-278.00	-232.36	0.15	0.15	-0.07	
7,743.43	6.18	222.30	7,717.58	-246.98	-278.97	-233.38	0.23	0.22	-0.30	
7,756.86	6.20	222.23	7,730.93	-248.05	-279.95	-234.40	0.16	0.15	-0.52	
7,770.29	6.23	222.15	7,744.29	-249.13	-280.92	-235.43	0.23	0.22	-0.60	
7,783.71	6.27	222.07	7,757.63	-250.21	-281.90	-236.47	0.31	0.30	-0.60	
7,797.14	6.30	221.98	7,770.97	-251.31	-282.89	-237.51	0.24	0.22	-0.67	
7,810.57	6.34	221.89	7,784.32	-252.41	-283.87	-238.57	0.31	0.30	-0.67	
7,824.00	6.38	221.79	7,797.67	-253.52	-284.87	-239.62	0.31	0.30	-0.74	
7,837.57	6.43	221.67	7,811.16	-254.64	-285.87	-240.71	0.38	0.37	-0.88	
7,851.14	6.48	221.56	7,824.64	-255.79	-286.89	-241.80	0.38	0.37	-0.81	
7,864.71	6.54	221.44	7,838.12	-256.94	-287.91	-242.90	0.45	0.44	-0.88	
7,878.29	6.60	221.33	7,851.61	-258.10	-288.93	-244.01	0.45	0.44	-0.81	
7,891.86	6.65	221.21	7,865.09	-259.28	-289.97	-245.14	0.38	0.37	-0.88	
7,905.43	6.71	221.09	7,878.57	-260.47	-291.01	-246.28	0.45	0.44	-0.88	
7,919.00	6.76	220.96	7,892.05	-261.67	-292.05	-247.43	0.39	0.37	-0.96	
7,932.57	6.80	220.81	7,905.52	-262.88	-293.10	-248.59	0.32	0.29	-1.11	
7,946.14	6.84	220.67	7,919.00	-264.10	-294.15	-249.76	0.32	0.29	-1.03	
7,959.71	6.88	220.54	7,932.47	-265.33	-295.21	-250.93	0.32	0.29	-0.96	
7,973.29	6.91	220.44	7,945.95	-266.57	-296.26	-252.12	0.24	0.22	-0.74	
7,986.86	6.94	220.40	7,959.42	-267.82	-297.32	-253.32	0.22	0.22	-0.29	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
8,000.43	6.96	220.43	7,972.89	-269.07	-298.39	-254.51	0.15	0.15	0.22	
8,014.00	6.96	220.58	7,986.36	-270.32	-299.46	-255.71	0.13	0.00	1.11	
8,027.57	6.95	220.92	7,999.83	-271.56	-300.53	-256.90	0.31	-0.07	2.51	
8,041.14	6.79	221.73	8,013.30	-272.78	-301.60	-258.07	1.38	-1.18	5.97	
8,054.71	6.61	222.64	8,026.78	-273.96	-302.66	-259.19	1.54	-1.33	6.71	
8,068.29	6.57	223.22	8,040.27	-275.10	-303.73	-260.28	0.57	-0.29	4.27	
8,081.86	6.54	223.79	8,053.75	-276.22	-304.79	-261.35	0.53	-0.22	4.20	
8,095.43	6.50	224.31	8,067.24	-277.33	-305.86	-262.41	0.53	-0.29	3.83	
8,109.00	6.24	229.54	8,080.72	-278.36	-306.96	-263.38	4.68	-1.92	38.54	
8,122.57	5.67	238.20	8,094.22	-279.19	-308.09	-264.16	7.83	-4.20	63.82	
8,136.14	5.20	248.36	8,107.73	-279.77	-309.23	-264.68	7.88	-3.46	74.87	
8,149.71	5.20	251.05	8,121.24	-280.19	-310.39	-265.05	1.80	0.00	19.82	
8,163.29	5.18	250.75	8,134.77	-280.60	-311.55	-265.40	0.25	-0.15	-2.21	
8,176.86	5.16	250.40	8,148.28	-281.00	-312.70	-265.75	0.28	-0.15	-2.58	
8,190.43	5.14	250.07	8,161.80	-281.41	-313.85	-266.11	0.26	-0.15	-2.43	
8,204.00	5.14	249.85	8,175.31	-281.83	-314.99	-266.47	0.15	0.00	-1.62	
8,217.57	5.16	249.87	8,188.83	-282.25	-316.13	-266.83	0.15	0.15	0.15	
8,231.14	5.19	250.03	8,202.34	-282.67	-317.28	-267.20	0.25	0.22	1.18	
8,244.71	5.23	250.27	8,215.86	-283.09	-318.44	-267.56	0.34	0.29	1.77	
8,258.29	5.28	250.56	8,229.38	-283.51	-319.61	-267.92	0.42	0.37	2.14	
8,271.86	5.33	250.86	8,242.89	-283.92	-320.80	-268.28	0.42	0.37	2.21	
8,285.43	5.38	251.15	8,256.40	-284.33	-322.00	-268.63	0.42	0.37	2.14	
8,299.00	5.43	251.38	8,269.91	-284.74	-323.21	-268.99	0.40	0.37	1.69	
8,312.57	5.47	251.53	8,283.42	-285.15	-324.43	-269.34	0.31	0.29	1.11	
8,326.14	5.52	251.63	8,296.93	-285.56	-325.66	-269.69	0.38	0.37	0.74	
8,339.71	5.56	251.69	8,310.43	-285.98	-326.90	-270.04	0.30	0.29	0.44	
8,353.29	5.61	251.72	8,323.95	-286.39	-328.16	-270.40	0.37	0.37	0.22	
8,366.86	5.66	251.73	8,337.45	-286.81	-329.42	-270.75	0.37	0.37	0.07	
8,380.43	5.70	251.72	8,350.96	-287.23	-330.70	-271.11	0.29	0.29	-0.07	
8,394.00	5.75	251.67	8,364.46	-287.65	-331.98	-271.48	0.37	0.37	-0.37	
8,407.57	5.80	251.57	8,377.96	-288.08	-333.28	-271.84	0.38	0.37	-0.74	
8,421.14	5.85	251.44	8,391.46	-288.52	-334.59	-272.22	0.38	0.37	-0.96	
8,434.71	5.90	251.29	8,404.96	-288.97	-335.90	-272.60	0.39	0.37	-1.11	
8,448.29	5.94	251.15	8,418.47	-289.42	-337.23	-272.99	0.31	0.29	-1.03	
8,461.86	5.99	251.00	8,431.96	-289.87	-338.56	-273.38	0.39	0.37	-1.11	
8,475.43	6.04	250.86	8,445.46	-290.34	-339.91	-273.78	0.38	0.37	-1.03	
8,489.00	6.08	250.70	8,458.95	-290.81	-341.26	-274.18	0.32	0.29	-1.18	
8,502.57	6.12	250.51	8,472.45	-291.29	-342.62	-274.60	0.33	0.29	-1.40	
8,516.14	6.16	250.31	8,485.94	-291.78	-343.99	-275.02	0.33	0.29	-1.47	
8,529.71	6.20	250.13	8,499.43	-292.27	-345.36	-275.45	0.33	0.29	-1.33	
8,543.29	6.23	249.98	8,512.93	-292.77	-346.74	-275.88	0.25	0.22	-1.10	
8,556.86	6.27	249.86	8,526.42	-293.28	-348.13	-276.32	0.31	0.29	-0.88	
8,570.43	6.31	249.79	8,539.91	-293.79	-349.53	-276.77	0.30	0.29	-0.52	
8,584.00	6.36	249.76	8,553.39	-294.31	-350.93	-277.22	0.37	0.37	-0.22	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)
8,599.00	6.43	249.77	8,568.30	-294.89	-352.50	-277.72	0.47	0.47	0.07
8,614.00	6.50	250.02	8,583.21	-295.47	-354.09	-278.22	0.50	0.47	1.67
8,628.50	6.56	250.69	8,597.61	-296.02	-355.64	-278.70	0.67	0.41	4.62
8,643.00	6.63	252.11	8,612.02	-296.55	-357.22	-279.16	1.22	0.48	9.79
8,657.50	6.73	254.69	8,626.42	-297.03	-358.83	-279.56	2.18	0.69	17.79
8,672.00	6.87	259.02	8,640.82	-297.42	-360.50	-279.87	3.66	0.97	29.86
8,685.57	7.13	265.87	8,654.28	-297.64	-362.14	-280.01	6.44	1.92	50.48
8,699.14	7.31	278.19	8,667.75	-297.58	-363.83	-279.87	11.46	1.33	90.79
8,712.71	7.78	296.03	8,681.20	-297.05	-365.51	-279.26	17.53	3.46	131.47
8,726.29	8.84	310.29	8,694.64	-295.97	-367.14	-278.11	17.00	7.81	105.01
8,739.86	10.42	316.27	8,708.02	-294.41	-368.78	-276.47	13.77	11.64	44.07
8,753.43	12.67	318.48	8,721.31	-292.41	-370.62	-274.38	16.90	16.58	16.29
8,767.00	14.77	322.11	8,734.50	-289.93	-372.66	-271.81	16.72	15.48	26.75
8,780.43	16.69	324.99	8,747.42	-287.00	-374.82	-268.78	15.43	14.30	21.44
8,793.86	18.08	328.61	8,760.24	-283.64	-377.02	-265.32	13.11	10.35	26.95
8,807.29	19.11	331.33	8,772.97	-279.93	-379.16	-261.51	10.02	7.67	20.25
8,820.71	20.24	332.19	8,785.60	-275.95	-381.29	-257.43	8.69	8.42	6.41
8,834.14	20.75	333.32	8,798.18	-271.77	-383.44	-253.15	4.81	3.80	8.41
8,847.57	20.32	333.96	8,810.76	-267.55	-385.54	-248.84	3.61	-3.20	4.77
8,861.00	20.18	334.96	8,823.36	-263.36	-387.54	-244.55	2.78	-1.04	7.45
8,874.57	20.81	336.84	8,836.07	-259.02	-389.48	-240.13	6.71	4.64	13.85
8,888.14	21.71	337.62	8,848.72	-254.48	-391.38	-235.51	6.95	6.63	5.75
8,901.71	22.21	339.11	8,861.30	-249.77	-393.25	-230.70	5.52	3.68	10.98
8,903.79	22.32	339.29	8,863.23	-249.03	-393.53	-229.95	6.32	5.42	8.54
FTP: 8903.79' MD, 22.32° Inc									
8,915.29	22.95	340.24	8,873.84	-244.88	-395.06	-225.73	6.32	5.45	8.28
8,928.86	23.60	341.91	8,886.31	-239.80	-396.80	-220.58	6.83	4.79	12.31
8,942.43	24.13	343.89	8,898.72	-234.56	-398.41	-215.27	7.08	3.91	14.59
8,956.00	24.59	345.58	8,911.08	-229.16	-399.89	-209.80	6.15	3.39	12.45
8,969.57	24.75	347.26	8,923.41	-223.65	-401.22	-204.24	5.30	1.18	12.38
8,983.14	25.05	349.45	8,935.72	-218.06	-402.37	-198.60	7.15	2.21	16.14
8,996.71	25.29	351.96	8,948.00	-212.36	-403.30	-192.86	8.06	1.77	18.50
9,010.29	25.85	352.23	8,960.25	-206.56	-404.11	-187.03	4.21	4.12	1.99
9,023.86	26.59	353.06	8,972.43	-200.61	-404.87	-181.05	6.09	5.45	6.12
9,037.43	27.55	354.29	8,984.51	-194.47	-405.55	-174.89	8.19	7.07	9.06
9,051.00	28.40	355.95	8,996.49	-188.13	-406.09	-168.53	8.49	6.26	12.23
9,064.43	28.80	356.98	9,008.29	-181.71	-406.49	-162.10	4.73	2.98	7.67
9,077.86	28.92	357.09	9,020.05	-175.24	-406.82	-155.62	0.98	0.89	0.82
9,091.29	30.19	358.19	9,031.73	-168.62	-407.10	-148.99	10.28	9.46	8.19
9,104.71	31.58	358.78	9,043.25	-161.74	-407.28	-142.11	10.60	10.36	4.40
9,118.14	32.74	359.47	9,054.62	-154.59	-407.39	-134.96	9.06	8.64	5.14
9,131.57	33.98	359.79	9,065.83	-147.20	-407.43	-127.58	9.33	9.23	2.38
9,145.00	35.18	0.40	9,076.89	-139.58	-407.42	-119.97	9.30	8.94	4.54



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
9,158.57	36.31	1.45	9,087.90	-131.66	-407.29	-112.06	9.47	8.33	7.74	
9,172.14	37.79	1.62	9,098.73	-123.48	-407.07	-103.91	10.93	10.91	1.25	
9,185.71	39.26	2.30	9,109.35	-115.04	-406.78	-95.48	11.27	10.83	5.01	
9,199.29	40.54	1.67	9,119.77	-106.33	-406.48	-86.80	9.88	9.43	-4.64	
9,212.86	41.96	1.33	9,129.97	-97.39	-406.25	-77.88	10.59	10.46	-2.51	
9,226.43	43.36	1.12	9,139.95	-88.19	-406.05	-68.71	10.37	10.32	-1.55	
9,240.00	44.27	0.52	9,149.74	-78.80	-405.92	-59.33	7.37	6.71	-4.42	
9,253.57	46.34	0.47	9,159.29	-69.15	-405.83	-49.70	15.26	15.25	-0.37	
9,267.14	48.35	359.65	9,168.48	-59.18	-405.82	-39.73	15.46	14.81	-6.04	
9,280.71	49.89	358.88	9,177.36	-48.92	-405.96	-29.48	12.13	11.35	-5.67	
9,294.29	51.58	358.18	9,185.96	-38.41	-406.23	-18.97	13.07	12.44	-5.15	
9,307.86	53.60	357.52	9,194.20	-27.64	-406.63	-8.19	15.38	14.89	-4.86	
9,321.43	55.73	356.77	9,202.05	-16.58	-407.18	2.88	16.33	15.70	-5.53	
9,335.00	57.75	355.94	9,209.49	-5.26	-407.91	14.22	15.74	14.89	-6.12	
9,348.43	60.03	356.30	9,216.43	6.21	-408.68	25.72	17.13	16.98	2.68	
9,361.86	62.38	355.99	9,222.90	17.96	-409.48	37.49	17.61	17.50	-2.31	
9,375.29	64.71	356.62	9,228.88	29.95	-410.25	49.51	17.85	17.35	4.69	
9,388.71	67.08	356.89	9,234.36	42.18	-410.94	61.76	17.76	17.66	2.01	
9,402.14	68.70	356.84	9,239.41	54.61	-411.62	74.20	12.07	12.06	-0.37	
9,415.57	69.57	356.89	9,244.20	67.14	-412.31	86.75	6.49	6.48	0.37	
9,429.00	71.84	357.09	9,248.63	79.79	-412.98	99.42	16.96	16.90	1.49	
9,442.57	74.16	356.79	9,252.60	92.75	-413.67	112.40	17.23	17.10	-2.21	
9,456.14	76.40	357.55	9,256.05	105.86	-414.32	125.52	17.37	16.51	5.60	
9,469.71	78.67	358.26	9,258.98	119.10	-414.80	138.77	17.49	16.73	5.23	
9,483.29	80.96	358.65	9,261.38	132.46	-415.16	152.13	17.10	16.86	2.87	
9,496.86	83.30	358.73	9,263.24	145.90	-415.47	165.57	17.25	17.24	0.59	
9,510.43	85.65	358.73	9,264.54	159.40	-415.77	179.07	17.32	17.32	0.00	
9,524.00	87.97	358.89	9,265.30	172.95	-416.05	192.61	17.14	17.10	1.18	
9,537.57	90.29	359.32	9,265.51	186.51	-416.26	206.17	17.39	17.10	3.17	
9,551.14	92.57	358.86	9,265.17	200.07	-416.47	219.73	17.14	16.80	-3.39	
9,564.71	92.63	358.76	9,264.55	213.63	-416.76	233.28	0.86	0.44	-0.74	
9,578.29	92.70	358.65	9,263.92	227.19	-417.06	246.84	0.96	0.52	-0.81	
9,591.86	92.76	358.53	9,263.27	240.74	-417.40	260.39	0.99	0.44	-0.88	
9,605.43	92.82	358.39	9,262.61	254.29	-417.76	273.95	1.12	0.44	-1.03	
9,619.00	92.87	358.24	9,261.94	267.84	-418.16	287.50	1.16	0.37	-1.11	
9,629.00	92.90	358.11	9,261.44	277.82	-418.48	297.48	1.33	0.30	-1.30	
9,639.00	92.94	358.00	9,260.93	287.80	-418.82	307.47	1.17	0.40	-1.10	
9,653.83	93.07	357.90	9,260.15	302.60	-419.35	322.28	1.11	0.88	-0.67	
9,668.67	93.25	357.85	9,259.33	317.41	-419.90	337.09	1.26	1.21	-0.34	
9,683.50	93.45	357.82	9,258.46	332.20	-420.45	351.90	1.36	1.35	-0.20	
9,698.33	93.63	357.79	9,257.55	346.99	-421.02	366.70	1.23	1.21	-0.20	
9,713.17	93.76	357.75	9,256.59	361.79	-421.60	381.51	0.92	0.88	-0.27	
9,728.00	93.81	357.65	9,255.61	376.58	-422.19	396.30	0.75	0.34	-0.67	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
9,741.57	93.71	357.49	9,254.72	390.10	-422.77	409.85	1.39	-0.74	-1.18	
9,755.14	93.53	357.28	9,253.87	403.63	-423.38	423.39	2.04	-1.33	-1.55	
9,768.71	93.31	357.05	9,253.06	417.16	-424.05	436.93	2.34	-1.62	-1.69	
9,782.29	93.07	356.84	9,252.30	430.70	-424.78	450.49	2.35	-1.77	-1.55	
9,795.86	92.86	356.66	9,251.60	444.23	-425.54	464.04	2.04	-1.55	-1.33	
9,809.43	92.72	356.52	9,250.94	457.76	-426.35	477.60	1.46	-1.03	-1.03	
9,823.00	92.63	356.43	9,250.31	471.29	-427.18	491.15	0.94	-0.66	-0.66	
9,836.57	92.50	356.44	9,249.70	484.82	-428.03	504.71	0.96	-0.96	0.07	
9,850.14	92.40	356.47	9,249.12	498.35	-428.87	518.26	0.77	-0.74	0.22	
9,863.71	92.36	356.52	9,248.55	511.89	-429.69	531.82	0.47	-0.29	0.37	
9,877.29	92.34	356.58	9,248.00	525.43	-430.51	545.39	0.47	-0.15	0.44	
9,890.86	92.32	356.66	9,247.45	538.97	-431.31	558.94	0.61	-0.15	0.59	
9,904.43	92.29	356.77	9,246.90	552.50	-432.09	572.50	0.84	-0.22	0.81	
9,918.00	92.25	356.88	9,246.36	566.04	-432.84	586.06	0.86	-0.29	0.81	
9,931.57	92.16	356.97	9,245.84	579.58	-433.57	599.62	0.94	-0.66	0.66	
9,945.14	92.03	357.04	9,245.34	593.12	-434.27	613.18	1.09	-0.96	0.52	
9,958.71	91.88	357.11	9,244.88	606.67	-434.97	626.74	1.22	-1.11	0.52	
9,972.29	91.72	357.17	9,244.46	620.22	-435.64	640.32	1.26	-1.18	0.44	
9,985.86	91.56	357.21	9,244.07	633.77	-436.31	653.88	1.22	-1.18	0.29	
9,999.43	91.44	357.29	9,243.71	647.32	-436.96	667.45	1.06	-0.88	0.59	
10,013.00	91.31	357.39	9,243.39	660.87	-437.59	681.01	1.21	-0.96	0.74	
10,026.43	91.30	357.47	9,243.08	674.29	-438.19	694.44	0.60	-0.07	0.60	
10,039.86	91.27	357.58	9,242.78	687.70	-438.77	707.87	0.85	-0.22	0.82	
10,053.29	91.23	357.73	9,242.49	701.12	-439.32	721.29	1.16	-0.30	1.12	
10,066.71	91.19	357.87	9,242.20	714.52	-439.84	734.71	1.08	-0.30	1.04	
10,080.14	91.13	357.97	9,241.93	727.94	-440.32	748.14	0.87	-0.45	0.74	
10,093.57	91.06	358.03	9,241.67	741.36	-440.79	761.56	0.69	-0.52	0.45	
10,107.00	91.01	358.02	9,241.43	754.78	-441.25	774.99	0.38	-0.37	-0.07	
10,120.57	90.96	357.93	9,241.20	768.34	-441.73	788.56	0.76	-0.37	-0.66	
10,134.14	90.92	357.79	9,240.98	781.90	-442.24	802.12	1.07	-0.29	-1.03	
10,147.71	90.89	357.61	9,240.76	795.46	-442.78	815.69	1.34	-0.22	-1.33	
10,161.29	90.86	357.42	9,240.55	809.02	-443.37	829.27	1.42	-0.22	-1.40	
10,174.86	90.84	357.20	9,240.35	822.58	-444.01	842.84	1.63	-0.15	-1.62	
10,188.43	90.87	356.91	9,240.15	836.13	-444.71	856.41	2.15	0.22	-2.14	
10,202.00	90.91	356.64	9,239.94	849.67	-445.47	869.97	2.01	0.29	-1.99	
10,215.57	90.95	356.39	9,239.72	863.22	-446.30	883.54	1.87	0.29	-1.84	
10,229.14	90.99	356.18	9,239.49	876.76	-447.17	897.11	1.58	0.29	-1.55	
10,242.71	91.02	355.98	9,239.25	890.29	-448.10	910.67	1.49	0.22	-1.47	
10,256.29	91.02	355.81	9,239.01	903.84	-449.07	924.25	1.25	0.00	-1.25	
10,269.86	90.99	355.64	9,238.77	917.37	-450.09	937.81	1.27	-0.22	-1.25	
10,283.43	90.91	355.49	9,238.55	930.89	-451.13	951.37	1.25	-0.59	-1.11	
10,297.00	90.75	355.38	9,238.35	944.42	-452.21	964.93	1.43	-1.18	-0.81	
10,310.57	90.59	355.25	9,238.19	957.94	-453.32	978.49	1.52	-1.18	-0.96	
10,324.14	90.45	355.14	9,238.07	971.46	-454.46	992.05	1.31	-1.03	-0.81	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
10,337.71	90.41	355.08	9,237.97	984.98	-455.62	1,005.61	0.53	-0.29	-0.44	
10,351.29	90.39	355.03	9,237.87	998.51	-456.79	1,019.18	0.40	-0.15	-0.37	
10,364.86	90.38	355.00	9,237.78	1,012.03	-457.97	1,032.74	0.23	-0.07	-0.22	
10,378.43	90.49	355.01	9,237.68	1,025.55	-459.15	1,046.30	0.81	0.81	0.07	
10,392.00	90.87	355.07	9,237.52	1,039.07	-460.32	1,059.86	2.83	2.80	0.44	
10,405.57	91.15	355.23	9,237.28	1,052.59	-461.47	1,073.42	2.38	2.06	1.18	
10,419.14	90.97	355.55	9,237.03	1,066.11	-462.56	1,086.98	2.71	-1.33	2.36	
10,432.71	90.77	355.93	9,236.82	1,079.64	-463.57	1,100.54	3.16	-1.47	2.80	
10,446.29	90.57	356.35	9,236.66	1,093.19	-464.48	1,114.12	3.43	-1.47	3.09	
10,459.86	90.55	356.62	9,236.53	1,106.73	-465.31	1,127.69	2.00	-0.15	1.99	
10,473.43	90.34	356.84	9,236.42	1,120.28	-466.09	1,141.26	2.24	-1.55	1.62	
10,487.00	90.09	357.22	9,236.37	1,133.83	-466.79	1,154.83	3.35	-1.84	2.80	
10,500.43	90.09	357.72	9,236.35	1,147.25	-467.38	1,168.26	3.72	0.00	3.72	
10,513.86	90.23	358.25	9,236.31	1,160.67	-467.85	1,181.69	4.08	1.04	3.95	
10,527.29	90.60	358.80	9,236.22	1,174.10	-468.20	1,195.11	4.94	2.76	4.10	
10,540.71	90.98	359.37	9,236.03	1,187.51	-468.41	1,208.52	5.10	2.83	4.25	
10,554.14	90.78	0.05	9,235.82	1,200.94	-468.48	1,221.94	5.28	-1.49	5.06	
10,567.57	90.64	0.86	9,235.66	1,214.37	-468.38	1,235.35	6.12	-1.04	6.03	
10,581.00	90.64	1.33	9,235.51	1,227.80	-468.12	1,248.75	3.50	0.00	3.50	
10,594.57	90.56	1.49	9,235.37	1,241.36	-467.79	1,262.28	1.32	-0.59	1.18	
10,608.14	90.57	1.83	9,235.23	1,254.93	-467.39	1,275.81	2.51	0.07	2.51	
10,621.71	90.65	2.36	9,235.09	1,268.49	-466.90	1,289.33	3.95	0.59	3.91	
10,635.29	90.75	2.86	9,234.92	1,282.05	-466.28	1,302.85	3.75	0.74	3.68	
10,648.86	90.81	2.95	9,234.74	1,295.60	-465.59	1,316.35	0.80	0.44	0.66	
10,662.43	90.80	2.97	9,234.55	1,309.15	-464.89	1,329.86	0.16	-0.07	0.15	
10,676.00	90.87	2.73	9,234.35	1,322.70	-464.21	1,343.36	1.84	0.52	-1.77	
10,689.43	90.98	2.36	9,234.13	1,336.12	-463.62	1,356.73	2.87	0.82	-2.76	
10,702.86	90.77	2.25	9,233.93	1,349.54	-463.08	1,370.11	1.77	-1.56	-0.82	
10,716.29	90.62	2.15	9,233.76	1,362.96	-462.56	1,383.49	1.34	-1.12	-0.74	
10,729.71	90.69	2.01	9,233.61	1,376.37	-462.08	1,396.86	1.17	0.52	-1.04	
10,743.14	90.72	1.68	9,233.45	1,389.79	-461.64	1,410.24	2.47	0.22	-2.46	
10,756.57	90.40	1.36	9,233.31	1,403.21	-461.29	1,423.64	3.37	-2.38	-2.38	
10,770.00	90.22	1.01	9,233.24	1,416.64	-461.01	1,437.04	2.93	-1.34	-2.61	
10,783.57	90.00	0.65	9,233.22	1,430.21	-460.81	1,450.58	3.11	-1.62	-2.65	
10,797.14	89.88	0.41	9,233.23	1,443.78	-460.69	1,464.13	1.98	-0.88	-1.77	
10,810.71	90.22	0.41	9,233.22	1,457.35	-460.59	1,477.68	2.51	2.51	0.00	
10,824.29	90.54	0.38	9,233.13	1,470.93	-460.50	1,491.24	2.37	2.36	-0.22	
10,837.86	90.76	0.25	9,232.97	1,484.50	-460.42	1,504.79	1.88	1.62	-0.96	
10,851.43	90.54	359.88	9,232.82	1,498.06	-460.41	1,518.34	3.17	-1.62	-2.73	
10,865.00	90.32	359.52	9,232.72	1,511.63	-460.48	1,531.90	3.11	-1.62	-2.65	
10,878.43	90.14	359.31	9,232.66	1,525.06	-460.61	1,545.32	2.06	-1.34	-1.56	
10,891.86	89.95	359.15	9,232.65	1,538.49	-460.80	1,558.74	1.85	-1.41	-1.19	
10,905.29	89.76	359.01	9,232.69	1,551.92	-461.01	1,572.16	1.76	-1.41	-1.04	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
10,918.71	89.58	358.88	9,232.77	1,565.34	-461.26	1,585.58	1.65	-1.34	-0.97	
10,932.14	89.42	358.75	9,232.88	1,578.76	-461.54	1,599.00	1.54	-1.19	-0.97	
10,945.57	89.32	358.68	9,233.03	1,592.19	-461.84	1,612.43	0.91	-0.74	-0.52	
10,959.00	89.24	358.65	9,233.20	1,605.62	-462.15	1,625.85	0.64	-0.60	-0.22	
10,972.57	89.22	358.71	9,233.38	1,619.18	-462.46	1,639.41	0.47	-0.15	0.44	
10,986.14	89.20	359.03	9,233.57	1,632.75	-462.73	1,652.98	2.36	-0.15	2.36	
10,999.71	89.20	359.39	9,233.76	1,646.31	-462.92	1,666.54	2.65	0.00	2.65	
11,013.29	89.20	359.74	9,233.95	1,659.89	-463.02	1,680.11	2.58	0.00	2.58	
11,026.86	89.26	0.00	9,234.13	1,673.46	-463.05	1,693.66	1.97	0.44	1.92	
11,040.43	89.42	0.17	9,234.29	1,687.03	-463.03	1,707.21	1.72	1.18	1.25	
11,054.00	89.57	0.30	9,234.41	1,700.60	-462.98	1,720.77	1.46	1.11	0.96	
11,067.43	89.55	0.48	9,234.51	1,714.03	-462.88	1,734.17	1.35	-0.15	1.34	
11,080.86	89.46	0.76	9,234.62	1,727.46	-462.74	1,747.58	2.19	-0.67	2.08	
11,094.29	89.36	1.04	9,234.76	1,740.89	-462.53	1,760.98	2.21	-0.74	2.08	
11,107.71	89.26	1.32	9,234.92	1,754.30	-462.25	1,774.37	2.22	-0.75	2.09	
11,121.14	89.19	1.58	9,235.11	1,767.73	-461.91	1,787.76	2.00	-0.52	1.94	
11,134.57	89.22	1.77	9,235.29	1,781.15	-461.52	1,801.15	1.43	0.22	1.41	
11,148.00	89.24	1.96	9,235.47	1,794.57	-461.08	1,814.54	1.42	0.15	1.41	
11,161.57	89.16	2.17	9,235.66	1,808.13	-460.59	1,828.06	1.66	-0.59	1.55	
11,175.14	89.16	2.37	9,235.86	1,821.69	-460.06	1,841.58	1.47	0.00	1.47	
11,188.71	89.39	2.44	9,236.03	1,835.25	-459.49	1,855.09	1.77	1.69	0.52	
11,202.29	89.63	2.50	9,236.15	1,848.81	-458.90	1,868.61	1.82	1.77	0.44	
11,215.86	89.59	2.65	9,236.24	1,862.37	-458.29	1,882.13	1.14	-0.29	1.11	
11,229.43	89.42	2.93	9,236.36	1,875.92	-457.63	1,895.63	2.41	-1.25	2.06	
11,243.00	89.23	3.26	9,236.52	1,889.47	-456.90	1,909.13	2.81	-1.40	2.43	
11,256.57	88.97	3.68	9,236.73	1,903.01	-456.08	1,922.62	3.64	-1.92	3.10	
11,270.14	88.76	3.97	9,237.00	1,916.55	-455.17	1,936.10	2.64	-1.55	2.14	
11,283.71	88.56	4.24	9,237.32	1,930.08	-454.20	1,949.57	2.48	-1.47	1.99	
11,297.29	88.37	4.50	9,237.68	1,943.62	-453.17	1,963.04	2.37	-1.40	1.91	
11,310.86	88.39	4.62	9,238.07	1,957.14	-452.09	1,976.49	0.90	0.15	0.88	
11,324.43	88.54	4.61	9,238.43	1,970.66	-451.00	1,989.95	1.11	1.11	-0.07	
11,338.00	88.66	4.56	9,238.76	1,984.18	-449.91	2,003.40	0.96	0.88	-0.37	
11,351.43	88.78	4.39	9,239.06	1,997.57	-448.86	2,016.72	1.55	0.89	-1.27	
11,364.86	88.89	4.16	9,239.33	2,010.96	-447.86	2,030.05	1.90	0.82	-1.71	
11,378.29	88.99	3.92	9,239.58	2,024.35	-446.92	2,043.38	1.94	0.74	-1.79	
11,391.71	89.11	3.71	9,239.80	2,037.74	-446.02	2,056.71	1.80	0.89	-1.56	
11,405.14	89.23	3.57	9,240.00	2,051.14	-445.17	2,070.06	1.37	0.89	-1.04	
11,418.57	88.91	3.48	9,240.22	2,064.55	-444.35	2,083.41	2.48	-2.38	-0.67	
11,432.00	88.60	3.31	9,240.51	2,077.95	-443.55	2,096.76	2.63	-2.31	-1.27	
11,445.57	88.37	3.14	9,240.87	2,091.49	-442.79	2,110.25	2.11	-1.69	-1.25	
11,459.14	88.14	2.98	9,241.28	2,105.04	-442.06	2,123.74	2.06	-1.69	-1.18	
11,472.71	88.07	2.79	9,241.73	2,118.58	-441.38	2,137.24	1.49	-0.52	-1.40	
11,486.29	88.26	2.51	9,242.16	2,132.14	-440.75	2,150.75	2.49	1.40	-2.06	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
11,499.86	88.42	2.24	9,242.56	2,145.69	-440.19	2,164.26	2.31	1.18	-1.99	
11,513.43	88.42	1.93	9,242.93	2,159.25	-439.70	2,177.78	2.28	0.00	-2.28	
11,527.00	88.41	1.64	9,243.31	2,172.81	-439.28	2,191.30	2.14	-0.07	-2.14	
11,540.57	88.36	1.53	9,243.69	2,186.37	-438.90	2,204.83	0.89	-0.37	-0.81	
11,554.14	88.28	1.45	9,244.09	2,199.93	-438.55	2,218.36	0.83	-0.59	-0.59	
11,567.71	88.21	1.40	9,244.50	2,213.49	-438.21	2,231.88	0.63	-0.52	-0.37	
11,581.29	88.13	1.38	9,244.94	2,227.06	-437.88	2,245.42	0.61	-0.59	-0.15	
11,594.86	88.08	1.38	9,245.39	2,240.61	-437.55	2,258.95	0.37	-0.37	0.00	
11,608.43	88.20	1.31	9,245.83	2,254.17	-437.24	2,272.48	1.02	0.88	-0.52	
11,622.00	88.31	1.20	9,246.24	2,267.73	-436.94	2,286.01	1.15	0.81	-0.81	
11,635.57	88.37	1.03	9,246.63	2,281.30	-436.68	2,299.54	1.33	0.44	-1.25	
11,649.14	88.44	0.82	9,247.01	2,294.86	-436.46	2,313.08	1.63	0.52	-1.55	
11,662.71	88.59	0.45	9,247.36	2,308.42	-436.31	2,326.62	2.94	1.11	-2.73	
11,676.29	88.76	0.05	9,247.68	2,322.00	-436.25	2,340.18	3.20	1.25	-2.95	
11,689.86	88.92	359.65	9,247.95	2,335.57	-436.28	2,353.73	3.17	1.18	-2.95	
11,703.43	89.07	359.30	9,248.19	2,349.13	-436.41	2,367.29	2.81	1.11	-2.58	
11,717.00	89.18	359.05	9,248.40	2,362.70	-436.60	2,380.85	2.01	0.81	-1.84	
11,730.57	89.18	359.08	9,248.59	2,376.27	-436.82	2,394.41	0.22	0.00	0.22	
11,744.14	89.05	359.42	9,248.80	2,389.83	-437.00	2,407.97	2.68	-0.96	2.51	
11,757.71	88.92	359.76	9,249.04	2,403.40	-437.10	2,421.53	2.68	-0.96	2.51	
11,771.29	88.79	0.10	9,249.31	2,416.98	-437.11	2,435.09	2.68	-0.96	2.50	
11,784.86	88.67	0.41	9,249.61	2,430.55	-437.05	2,448.64	2.45	-0.88	2.28	
11,798.43	88.56	0.55	9,249.94	2,444.11	-436.94	2,462.19	1.31	-0.81	1.03	
11,812.00	88.49	0.76	9,250.29	2,457.68	-436.79	2,475.73	1.63	-0.52	1.55	
11,825.57	88.43	0.84	9,250.65	2,471.24	-436.60	2,489.27	0.74	-0.44	0.59	
11,839.14	88.41	0.73	9,251.03	2,484.80	-436.41	2,502.81	0.82	-0.15	-0.81	
11,852.71	88.43	0.65	9,251.40	2,498.37	-436.25	2,516.35	0.61	0.15	-0.59	
11,866.29	88.48	0.61	9,251.77	2,511.94	-436.10	2,529.90	0.47	0.37	-0.29	
11,879.86	88.51	0.55	9,252.12	2,525.51	-435.96	2,543.44	0.49	0.22	-0.44	
11,893.43	88.47	0.46	9,252.48	2,539.07	-435.84	2,556.98	0.73	-0.29	-0.66	
11,907.00	88.44	0.36	9,252.85	2,552.64	-435.74	2,570.53	0.77	-0.22	-0.74	
11,920.57	88.51	0.10	9,253.21	2,566.20	-435.69	2,584.08	1.98	0.52	-1.92	
11,934.14	88.61	359.78	9,253.55	2,579.77	-435.70	2,597.63	2.47	0.74	-2.36	
11,947.71	88.83	359.59	9,253.85	2,593.33	-435.78	2,611.18	2.14	1.62	-1.40	
11,961.29	89.28	359.54	9,254.08	2,606.91	-435.88	2,624.75	3.33	3.31	-0.37	
11,974.86	89.75	359.69	9,254.19	2,620.48	-435.97	2,638.31	3.64	3.46	1.11	
11,988.43	90.12	359.71	9,254.21	2,634.05	-436.04	2,651.86	2.73	2.73	0.15	
12,002.00	90.27	359.24	9,254.16	2,647.62	-436.17	2,665.42	3.64	1.11	-3.46	
12,015.57	90.45	358.68	9,254.08	2,661.19	-436.41	2,678.99	4.33	1.33	-4.13	
12,029.14	90.72	358.24	9,253.94	2,674.75	-436.78	2,692.55	3.80	1.99	-3.24	
12,042.71	91.26	358.16	9,253.70	2,688.31	-437.20	2,706.12	4.02	3.98	-0.59	
12,056.29	91.81	358.09	9,253.34	2,701.88	-437.65	2,719.69	4.08	4.05	-0.52	
12,069.86	92.29	357.96	9,252.85	2,715.43	-438.12	2,733.25	3.66	3.54	-0.96	
12,083.43	92.32	357.22	9,252.31	2,728.98	-438.69	2,746.81	5.45	0.22	-5.45	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
12,097.00	92.34	356.48	9,251.76	2,742.52	-439.43	2,760.37	5.45	0.15	-5.45	
12,110.57	92.50	356.27	9,251.18	2,756.05	-440.29	2,773.93	1.94	1.18	-1.55	
12,124.14	92.43	355.95	9,250.60	2,769.57	-441.21	2,787.48	2.41	-0.52	-2.36	
12,137.71	92.25	355.28	9,250.05	2,783.09	-442.25	2,801.04	5.11	-1.33	-4.94	
12,151.29	92.08	354.66	9,249.53	2,796.61	-443.43	2,814.59	4.73	-1.25	-4.57	
12,164.86	92.28	354.31	9,249.02	2,810.11	-444.74	2,828.14	2.97	1.47	-2.58	
12,178.43	92.24	354.31	9,248.48	2,823.60	-446.08	2,841.68	0.29	-0.29	0.00	
12,192.00	92.20	354.40	9,247.96	2,837.10	-447.42	2,855.22	0.73	-0.29	0.66	
12,205.57	92.16	354.65	9,247.44	2,850.59	-448.71	2,868.77	1.86	-0.29	1.84	
12,219.14	92.10	354.39	9,246.94	2,864.09	-450.01	2,882.31	1.97	-0.44	-1.92	
12,232.71	92.04	354.15	9,246.45	2,877.59	-451.36	2,895.85	1.82	-0.44	-1.77	
12,246.29	91.98	353.94	9,245.97	2,891.08	-452.77	2,909.41	1.61	-0.44	-1.55	
12,259.86	91.92	353.84	9,245.51	2,904.57	-454.21	2,922.94	0.86	-0.44	-0.74	
12,273.43	91.77	353.54	9,245.07	2,918.05	-455.70	2,936.48	2.47	-1.11	-2.21	
12,287.00	91.63	353.51	9,244.67	2,931.53	-457.23	2,950.02	1.06	-1.03	-0.22	
12,300.57	91.40	353.80	9,244.31	2,945.01	-458.73	2,963.55	2.73	-1.69	2.14	
12,314.14	91.47	354.29	9,243.97	2,958.50	-460.14	2,977.10	3.65	0.52	3.61	
12,327.71	91.46	355.01	9,243.62	2,972.01	-461.40	2,990.65	5.30	-0.07	5.31	
12,341.29	91.45	355.74	9,243.28	2,985.54	-462.50	3,004.22	5.37	-0.07	5.38	
12,354.86	91.45	356.41	9,242.93	2,999.07	-463.43	3,017.78	4.94	0.00	4.94	
12,368.43	91.55	356.87	9,242.58	3,012.62	-464.22	3,031.34	3.47	0.74	3.39	
12,382.00	91.55	357.25	9,242.21	3,026.16	-464.92	3,044.91	2.80	0.00	2.80	
12,395.57	91.53	357.38	9,241.85	3,039.71	-465.55	3,058.47	0.97	-0.15	0.96	
12,409.14	91.50	357.37	9,241.49	3,053.26	-466.17	3,072.04	0.23	-0.22	-0.07	
12,422.71	91.47	357.29	9,241.14	3,066.82	-466.81	3,085.61	0.63	-0.22	-0.59	
12,436.29	91.43	357.21	9,240.79	3,080.38	-467.46	3,099.18	0.66	-0.29	-0.59	
12,449.86	91.22	357.07	9,240.48	3,093.92	-468.13	3,112.75	1.86	-1.55	-1.03	
12,463.43	90.86	357.15	9,240.23	3,107.48	-468.82	3,126.32	2.72	-2.65	0.59	
12,477.00	90.63	357.27	9,240.06	3,121.03	-469.48	3,139.88	1.91	-1.69	0.88	
12,490.57	90.38	357.50	9,239.94	3,134.58	-470.10	3,153.45	2.50	-1.84	1.69	
12,504.14	90.30	357.87	9,239.86	3,148.14	-470.65	3,167.02	2.79	-0.59	2.73	
12,517.71	90.13	358.34	9,239.81	3,161.70	-471.09	3,180.59	3.68	-1.25	3.46	
12,531.29	89.97	358.80	9,239.79	3,175.28	-471.43	3,194.17	3.59	-1.18	3.39	
12,544.86	89.88	359.24	9,239.81	3,188.85	-471.66	3,207.73	3.31	-0.66	3.24	
12,558.43	89.83	359.70	9,239.85	3,202.42	-471.79	3,221.29	3.41	-0.37	3.39	
12,572.00	89.77	0.14	9,239.89	3,215.99	-471.81	3,234.85	3.27	-0.44	3.24	
12,585.43	89.78	0.55	9,239.95	3,229.42	-471.73	3,248.26	3.05	0.07	3.05	
12,598.86	89.82	0.69	9,239.99	3,242.85	-471.58	3,261.66	1.08	0.30	1.04	
12,612.29	89.98	0.34	9,240.02	3,256.28	-471.46	3,275.07	2.87	1.19	-2.61	
12,625.71	90.14	0.02	9,240.00	3,269.70	-471.42	3,288.47	2.67	1.19	-2.38	
12,639.14	90.31	359.72	9,239.95	3,283.13	-471.45	3,301.89	2.57	1.27	-2.23	
12,652.57	90.52	359.63	9,239.85	3,296.55	-471.53	3,315.31	1.70	1.56	-0.67	
12,666.00	90.70	359.71	9,239.71	3,309.98	-471.60	3,328.73	1.47	1.34	0.60	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
12,679.57	90.79	359.73	9,239.53	3,323.55	-471.67	3,342.28	0.68	0.66	0.15	
12,693.14	90.82	359.71	9,239.34	3,337.12	-471.74	3,355.84	0.27	0.22	-0.15	
12,706.71	90.82	359.66	9,239.15	3,350.69	-471.81	3,369.39	0.37	0.00	-0.37	
12,720.29	90.79	359.61	9,238.96	3,364.27	-471.90	3,382.96	0.43	-0.22	-0.37	
12,733.86	90.75	359.56	9,238.77	3,377.84	-472.00	3,396.52	0.47	-0.29	-0.37	
12,747.43	90.70	359.53	9,238.60	3,391.40	-472.10	3,410.08	0.43	-0.37	-0.22	
12,761.00	90.66	359.53	9,238.44	3,404.97	-472.22	3,423.64	0.29	-0.29	0.00	
12,774.57	90.71	359.48	9,238.28	3,418.54	-472.33	3,437.19	0.52	0.37	-0.37	
12,788.14	90.74	359.47	9,238.11	3,432.11	-472.46	3,450.75	0.23	0.22	-0.07	
12,801.71	90.79	359.48	9,237.93	3,445.68	-472.58	3,464.31	0.38	0.37	0.07	
12,815.29	90.83	359.49	9,237.73	3,459.26	-472.70	3,477.88	0.30	0.29	0.07	
12,828.86	90.85	359.51	9,237.54	3,472.82	-472.82	3,491.44	0.21	0.15	0.15	
12,842.43	90.83	359.53	9,237.34	3,486.39	-472.94	3,505.00	0.21	-0.15	0.15	
12,856.00	90.80	359.55	9,237.14	3,499.96	-473.04	3,518.55	0.27	-0.22	0.15	
12,869.57	90.78	359.69	9,236.96	3,513.53	-473.13	3,532.11	1.04	-0.15	1.03	
12,883.14	90.75	359.86	9,236.78	3,527.10	-473.19	3,545.67	1.27	-0.22	1.25	
12,896.71	90.72	0.02	9,236.60	3,540.67	-473.20	3,559.22	1.20	-0.22	1.18	
12,910.29	90.68	0.18	9,236.44	3,554.25	-473.18	3,572.78	1.21	-0.29	1.18	
12,923.86	90.65	0.31	9,236.28	3,567.81	-473.12	3,586.33	0.98	-0.22	0.96	
12,937.43	90.69	0.25	9,236.12	3,581.38	-473.05	3,599.89	0.53	0.29	-0.44	
12,951.00	90.73	0.17	9,235.95	3,594.95	-473.00	3,613.44	0.66	0.29	-0.59	
12,964.57	90.68	0.16	9,235.78	3,608.52	-472.96	3,626.99	0.38	-0.37	-0.07	
12,978.14	90.58	0.15	9,235.63	3,622.09	-472.93	3,640.54	0.74	-0.74	-0.07	
12,991.71	90.48	0.15	9,235.51	3,635.66	-472.89	3,654.09	0.74	-0.74	0.00	
13,005.29	90.36	0.16	9,235.41	3,649.24	-472.86	3,667.65	0.89	-0.88	0.07	
13,018.86	90.27	0.15	9,235.34	3,662.81	-472.82	3,681.21	0.67	-0.66	-0.07	
13,032.43	90.20	0.09	9,235.28	3,676.38	-472.79	3,694.76	0.68	-0.52	-0.44	
13,046.00	90.20	0.00	9,235.23	3,689.95	-472.78	3,708.31	0.66	0.00	-0.66	
13,059.57	89.88	0.40	9,235.22	3,703.52	-472.73	3,721.87	3.77	-2.36	2.95	
13,073.14	89.52	0.88	9,235.29	3,717.09	-472.58	3,735.41	4.42	-2.65	3.54	
13,086.71	89.11	1.40	9,235.46	3,730.65	-472.31	3,748.95	4.88	-3.02	3.83	
13,100.29	88.71	1.91	9,235.71	3,744.23	-471.92	3,762.49	4.77	-2.95	3.76	
13,113.86	88.34	2.37	9,236.06	3,757.78	-471.41	3,776.00	4.35	-2.73	3.39	
13,127.43	88.31	2.62	9,236.46	3,771.33	-470.82	3,789.51	1.85	-0.22	1.84	
13,141.00	88.44	2.69	9,236.85	3,784.88	-470.19	3,803.02	1.09	0.96	0.52	
13,154.57	88.70	2.75	9,237.18	3,798.43	-469.55	3,816.52	1.97	1.92	0.44	
13,168.14	89.00	2.74	9,237.46	3,811.98	-468.90	3,830.03	2.21	2.21	-0.07	
13,181.71	89.31	2.72	9,237.66	3,825.54	-468.25	3,843.53	2.29	2.28	-0.15	
13,195.29	89.63	2.71	9,237.78	3,839.10	-467.61	3,857.05	2.36	2.36	-0.07	
13,208.86	89.94	2.71	9,237.83	3,852.66	-466.97	3,870.56	2.28	2.28	0.00	
13,222.43	90.16	2.55	9,237.82	3,866.21	-466.35	3,884.07	2.00	1.62	-1.18	
13,236.00	90.56	2.22	9,237.74	3,879.77	-465.78	3,897.58	3.82	2.95	-2.43	
13,249.57	90.86	1.86	9,237.57	3,893.33	-465.30	3,911.11	3.45	2.21	-2.65	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
13,263.14	91.00	1.58	9,237.35	3,906.89	-464.89	3,924.63	2.31	1.03	-2.06	
13,276.71	90.91	1.42	9,237.12	3,920.46	-464.54	3,938.16	1.35	-0.66	-1.18	
13,290.29	90.82	1.26	9,236.92	3,934.03	-464.22	3,951.71	1.35	-0.66	-1.18	
13,303.86	90.74	1.11	9,236.73	3,947.60	-463.94	3,965.25	1.25	-0.59	-1.11	
13,317.43	90.81	0.98	9,236.55	3,961.16	-463.69	3,978.79	1.09	0.52	-0.96	
13,331.00	90.92	0.84	9,236.34	3,974.73	-463.48	3,992.33	1.31	0.81	-1.03	
13,344.43	91.00	0.88	9,236.12	3,988.16	-463.27	4,005.73	0.67	0.60	0.30	
13,357.86	90.98	0.86	9,235.89	4,001.58	-463.07	4,019.13	0.21	-0.15	-0.15	
13,371.29	90.92	0.83	9,235.66	4,015.01	-462.87	4,032.53	0.50	-0.45	-0.22	
13,384.71	90.87	0.79	9,235.45	4,028.43	-462.68	4,045.92	0.48	-0.37	-0.30	
13,398.14	90.85	0.77	9,235.25	4,041.85	-462.50	4,059.33	0.21	-0.15	-0.15	
13,411.57	90.82	0.80	9,235.06	4,055.28	-462.32	4,072.73	0.32	-0.22	0.22	
13,425.00	90.75	0.79	9,234.87	4,068.71	-462.13	4,086.13	0.53	-0.52	-0.07	
13,438.57	90.57	0.65	9,234.72	4,082.28	-461.96	4,099.68	1.68	-1.33	-1.03	
13,452.14	90.33	0.44	9,234.61	4,095.85	-461.83	4,113.23	2.35	-1.77	-1.55	
13,465.71	90.07	0.20	9,234.56	4,109.42	-461.75	4,126.78	2.61	-1.92	-1.77	
13,479.29	89.83	359.98	9,234.57	4,123.00	-461.73	4,140.34	2.40	-1.77	-1.62	
13,492.86	89.67	359.81	9,234.63	4,136.57	-461.76	4,153.89	1.72	-1.18	-1.25	
13,506.43	89.57	359.72	9,234.72	4,150.14	-461.81	4,167.45	0.99	-0.74	-0.66	
13,520.00	89.48	359.69	9,234.84	4,163.70	-461.88	4,181.01	0.70	-0.66	-0.22	
13,533.57	89.36	359.73	9,234.97	4,177.27	-461.95	4,194.57	0.93	-0.88	0.29	
13,547.14	89.25	359.78	9,235.14	4,190.84	-462.01	4,208.12	0.89	-0.81	0.37	
13,560.71	89.13	359.82	9,235.33	4,204.41	-462.06	4,221.68	0.93	-0.88	0.29	
13,574.29	89.03	359.86	9,235.55	4,217.99	-462.09	4,235.24	0.79	-0.74	0.29	
13,587.86	88.94	359.88	9,235.79	4,231.56	-462.13	4,248.80	0.68	-0.66	0.15	
13,601.43	88.84	359.92	9,236.05	4,245.12	-462.15	4,262.35	0.79	-0.74	0.29	
13,615.00	88.79	359.97	9,236.33	4,258.69	-462.16	4,275.90	0.52	-0.37	0.37	
13,628.57	88.85	0.00	9,236.61	4,272.26	-462.17	4,289.45	0.49	0.44	0.22	
13,642.14	88.90	0.08	9,236.88	4,285.83	-462.16	4,303.00	0.70	0.37	0.59	
13,655.71	88.97	0.19	9,237.13	4,299.39	-462.12	4,316.55	0.96	0.52	0.81	
13,669.29	89.06	0.33	9,237.36	4,312.97	-462.06	4,330.11	1.23	0.66	1.03	
13,682.86	89.16	0.50	9,237.57	4,326.54	-461.96	4,343.66	1.45	0.74	1.25	
13,696.43	89.29	0.50	9,237.76	4,340.11	-461.85	4,357.21	0.96	0.96	0.00	
13,710.00	89.46	0.35	9,237.91	4,353.68	-461.75	4,370.76	1.67	1.25	-1.11	
13,723.57	89.63	0.21	9,238.01	4,367.25	-461.68	4,384.31	1.62	1.25	-1.03	
13,737.14	89.75	0.32	9,238.09	4,380.82	-461.62	4,397.86	1.20	0.88	0.81	
13,750.71	89.78	0.77	9,238.14	4,394.38	-461.49	4,411.41	3.32	0.22	3.32	
13,764.29	89.83	1.26	9,238.19	4,407.96	-461.25	4,424.96	3.63	0.37	3.61	
13,777.86	89.88	1.74	9,238.22	4,421.53	-460.89	4,438.49	3.56	0.37	3.54	
13,791.43	89.97	2.16	9,238.24	4,435.09	-460.43	4,452.02	3.17	0.66	3.10	
13,805.00	90.06	2.51	9,238.24	4,448.65	-459.88	4,465.53	2.66	0.66	2.58	
13,818.57	90.15	2.61	9,238.21	4,462.21	-459.27	4,479.04	0.99	0.66	0.74	
13,832.14	90.16	2.50	9,238.18	4,475.76	-458.67	4,492.56	0.81	0.07	-0.81	
13,845.71	90.07	2.19	9,238.15	4,489.32	-458.11	4,506.07	2.38	-0.66	-2.28	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
13,859.29	89.96	1.86	9,238.14	4,502.89	-457.63	4,519.61	2.56	-0.81	-2.43	
13,872.86	89.85	1.52	9,238.17	4,516.46	-457.23	4,533.14	2.63	-0.81	-2.51	
13,886.43	89.91	1.33	9,238.20	4,530.02	-456.89	4,546.67	1.47	0.44	-1.40	
13,900.00	89.91	1.19	9,238.22	4,543.59	-456.59	4,560.21	1.03	0.00	-1.03	
13,913.43	89.87	1.13	9,238.24	4,557.02	-456.32	4,573.61	0.54	-0.30	-0.45	
13,926.86	89.82	1.11	9,238.28	4,570.44	-456.06	4,587.01	0.40	-0.37	-0.15	
13,940.29	89.75	1.11	9,238.33	4,583.87	-455.80	4,600.40	0.52	-0.52	0.00	
13,953.71	89.66	1.12	9,238.40	4,597.29	-455.54	4,613.79	0.67	-0.67	0.07	
13,967.14	89.57	1.11	9,238.49	4,610.71	-455.28	4,627.19	0.67	-0.67	-0.07	
13,980.57	89.59	1.02	9,238.59	4,624.14	-455.03	4,640.59	0.69	0.15	-0.67	
13,994.00	89.81	0.84	9,238.66	4,637.57	-454.81	4,654.00	2.12	1.64	-1.34	
14,007.57	90.03	0.64	9,238.68	4,651.14	-454.63	4,667.54	2.19	1.62	-1.47	
14,021.14	89.96	0.59	9,238.68	4,664.71	-454.49	4,681.09	0.63	-0.52	-0.37	
14,034.71	89.99	0.56	9,238.68	4,678.28	-454.35	4,694.64	0.31	0.22	-0.22	
14,048.29	90.00	0.53	9,238.68	4,691.86	-454.22	4,708.19	0.23	0.07	-0.22	
14,061.86	90.02	0.54	9,238.68	4,705.43	-454.10	4,721.74	0.16	0.15	0.07	
14,075.43	89.94	0.78	9,238.69	4,719.00	-453.94	4,735.29	1.86	-0.59	1.77	
14,089.00	89.88	1.24	9,238.71	4,732.56	-453.70	4,748.83	3.42	-0.44	3.39	
14,102.57	89.75	1.53	9,238.75	4,746.13	-453.37	4,762.36	2.34	-0.96	2.14	
14,116.14	89.55	1.65	9,238.83	4,759.69	-453.00	4,775.89	1.72	-1.47	0.88	
14,129.71	89.53	1.18	9,238.94	4,773.26	-452.66	4,789.43	3.47	-0.15	-3.46	
14,143.29	89.48	1.04	9,239.06	4,786.84	-452.40	4,802.98	1.09	-0.37	-1.03	
14,156.86	89.45	1.72	9,239.19	4,800.40	-452.07	4,816.51	5.02	-0.22	5.01	
14,170.43	89.41	2.44	9,239.32	4,813.96	-451.58	4,830.03	5.31	-0.29	5.31	
14,184.00	89.40	3.16	9,239.46	4,827.51	-450.92	4,843.54	5.31	-0.07	5.31	
14,197.57	89.51	3.87	9,239.59	4,841.06	-450.08	4,857.03	5.29	0.81	5.23	
14,211.14	89.70	4.08	9,239.69	4,854.60	-449.14	4,870.50	2.09	1.40	1.55	
14,224.71	90.02	3.61	9,239.72	4,868.13	-448.23	4,883.98	4.19	2.36	-3.46	
14,238.29	90.19	3.48	9,239.69	4,881.69	-447.39	4,897.48	1.58	1.25	-0.96	
14,251.86	90.24	3.86	9,239.64	4,895.23	-446.53	4,910.97	2.82	0.37	2.80	
14,265.43	90.40	3.24	9,239.57	4,908.77	-445.69	4,924.46	4.72	1.18	-4.57	
14,279.00	90.60	2.65	9,239.45	4,922.33	-444.99	4,937.96	4.59	1.47	-4.35	
14,288.80	90.68	2.48	9,239.34	4,932.12	-444.55	4,947.72	1.95	0.81	-1.77	
SL: 14288.80' MD										
14,292.57	90.71	2.41	9,239.29	4,935.88	-444.39	4,951.47	1.95	0.81	-1.77	
14,306.14	90.60	2.48	9,239.14	4,949.44	-443.81	4,964.98	0.96	-0.81	0.52	
14,319.71	90.48	2.55	9,239.01	4,962.99	-443.22	4,978.50	1.02	-0.88	0.52	
14,333.29	90.36	2.61	9,238.91	4,976.56	-442.60	4,992.02	0.99	-0.88	0.44	
14,346.86	90.24	2.62	9,238.84	4,990.12	-441.98	5,005.53	0.89	-0.88	0.07	
14,360.43	90.12	2.56	9,238.80	5,003.67	-441.37	5,019.04	0.99	-0.88	-0.44	
14,374.00	90.02	2.38	9,238.78	5,017.23	-440.79	5,032.55	1.52	-0.74	-1.33	
14,387.57	89.93	1.97	9,238.79	5,030.79	-440.27	5,046.07	3.09	-0.66	-3.02	
14,401.14	89.84	1.79	9,238.81	5,044.35	-439.83	5,059.60	1.48	-0.66	-1.33	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
14,414.71	90.01	1.92	9,238.83	5,057.92	-439.39	5,073.13	1.58	1.25	0.96	
14,428.29	90.17	2.00	9,238.81	5,071.49	-438.92	5,086.66	1.32	1.18	0.59	
14,441.86	90.32	2.08	9,238.75	5,085.05	-438.44	5,100.18	1.25	1.11	0.59	
14,455.43	90.26	1.65	9,238.68	5,098.61	-438.00	5,113.71	3.20	-0.44	-3.17	
14,469.00	90.20	1.18	9,238.63	5,112.18	-437.66	5,127.24	3.49	-0.44	-3.46	
14,482.57	90.09	0.91	9,238.60	5,125.74	-437.42	5,140.78	2.15	-0.81	-1.99	
14,496.14	89.97	0.86	9,238.59	5,139.31	-437.21	5,154.33	0.96	-0.88	-0.37	
14,509.71	90.08	0.56	9,238.58	5,152.88	-437.04	5,167.87	2.35	0.81	-2.21	
14,523.29	90.09	0.29	9,238.56	5,166.46	-436.94	5,181.43	1.99	0.07	-1.99	
14,536.86	90.16	0.40	9,238.53	5,180.03	-436.86	5,194.98	0.96	0.52	0.81	
14,550.43	90.23	359.89	9,238.49	5,193.60	-436.82	5,208.53	3.79	0.52	-3.76	
14,564.00	90.25	359.43	9,238.43	5,207.17	-436.90	5,222.09	3.39	0.15	-3.39	
14,577.57	90.29	359.31	9,238.37	5,220.74	-437.05	5,235.65	0.93	0.29	-0.88	
14,591.14	90.27	359.20	9,238.30	5,234.31	-437.23	5,249.21	0.82	-0.15	-0.81	
14,604.71	90.24	359.13	9,238.24	5,247.88	-437.42	5,262.78	0.56	-0.22	-0.52	
14,618.29	90.15	359.02	9,238.19	5,261.46	-437.64	5,276.35	1.05	-0.66	-0.81	
14,631.86	89.95	358.85	9,238.18	5,275.02	-437.90	5,289.91	1.93	-1.47	-1.25	
14,645.43	89.81	358.77	9,238.21	5,288.59	-438.18	5,303.48	1.19	-1.03	-0.59	
14,659.00	89.73	358.75	9,238.26	5,302.16	-438.47	5,317.04	0.61	-0.59	-0.15	
14,672.57	89.64	358.63	9,238.34	5,315.72	-438.78	5,330.61	1.11	-0.66	-0.88	
14,686.14	89.54	358.47	9,238.44	5,329.29	-439.13	5,344.18	1.39	-0.74	-1.18	
14,699.71	89.48	358.32	9,238.55	5,342.85	-439.51	5,357.74	1.19	-0.44	-1.11	
14,713.29	89.39	358.17	9,238.69	5,356.43	-439.92	5,371.32	1.29	-0.66	-1.10	
14,726.86	89.31	358.17	9,238.84	5,369.99	-440.35	5,384.89	0.59	-0.59	0.00	
14,740.43	89.27	358.18	9,239.01	5,383.55	-440.79	5,398.46	0.30	-0.29	0.07	
14,754.00	89.24	358.19	9,239.18	5,397.11	-441.22	5,412.02	0.23	-0.22	0.07	
14,767.57	89.24	358.24	9,239.36	5,410.67	-441.64	5,425.59	0.37	0.00	0.37	
14,781.14	89.26	358.31	9,239.54	5,424.24	-442.05	5,439.16	0.54	0.15	0.52	
14,794.71	89.29	358.40	9,239.71	5,437.80	-442.44	5,452.72	0.70	0.22	0.66	
14,808.29	89.32	358.50	9,239.88	5,451.37	-442.80	5,466.30	0.77	0.22	0.74	
14,821.86	89.33	358.73	9,240.04	5,464.94	-443.13	5,479.86	1.70	0.07	1.69	
14,835.43	89.31	358.84	9,240.20	5,478.50	-443.42	5,493.43	0.82	-0.15	0.81	
14,849.00	89.21	358.87	9,240.37	5,492.07	-443.69	5,506.99	0.77	-0.74	0.22	
14,862.57	89.16	359.04	9,240.57	5,505.64	-443.94	5,520.55	1.31	-0.37	1.25	
14,876.14	89.05	359.24	9,240.78	5,519.20	-444.14	5,534.12	1.68	-0.81	1.47	
14,889.71	88.95	359.38	9,241.02	5,532.77	-444.31	5,547.67	1.27	-0.74	1.03	
14,903.29	88.85	359.60	9,241.28	5,546.35	-444.43	5,561.24	1.78	-0.74	1.62	
14,916.86	88.62	0.09	9,241.58	5,559.91	-444.46	5,574.80	3.99	-1.69	3.61	
14,930.43	88.45	0.25	9,241.92	5,573.48	-444.42	5,588.34	1.72	-1.25	1.18	
14,944.00	88.33	0.36	9,242.30	5,587.04	-444.35	5,601.89	1.20	-0.88	0.81	
14,957.57	88.39	0.57	9,242.69	5,600.61	-444.24	5,615.43	1.61	0.44	1.55	
14,971.14	88.45	0.69	9,243.07	5,614.17	-444.09	5,628.97	0.99	0.44	0.88	
14,984.71	88.55	0.86	9,243.42	5,627.74	-443.91	5,642.51	1.45	0.74	1.25	
14,998.29	88.64	1.03	9,243.76	5,641.31	-443.68	5,656.06	1.42	0.66	1.25	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)
15,011.86	89.15	1.77	9,244.02	5,654.87	-443.35	5,669.59	6.62	3.76	5.45
15,025.43	89.67	2.40	9,244.16	5,668.43	-442.86	5,683.11	6.02	3.83	4.64
15,039.00	89.95	2.52	9,244.20	5,681.99	-442.28	5,696.63	2.24	2.06	0.88
15,052.57	90.19	2.44	9,244.19	5,695.55	-441.69	5,710.14	1.86	1.77	-0.59
15,066.14	90.42	2.04	9,244.11	5,709.11	-441.16	5,723.66	3.40	1.69	-2.95
15,079.71	90.66	1.61	9,243.99	5,722.67	-440.73	5,737.19	3.63	1.77	-3.17
15,093.29	90.92	1.18	9,243.80	5,736.25	-440.40	5,750.73	3.70	1.91	-3.17
15,106.86	91.12	0.82	9,243.56	5,749.81	-440.16	5,764.27	3.03	1.47	-2.65
15,120.43	90.74	0.82	9,243.34	5,763.38	-439.97	5,777.81	2.80	-2.80	0.00
15,134.00	90.88	0.57	9,243.14	5,776.95	-439.80	5,791.36	2.11	1.03	-1.84
15,147.57	90.90	0.42	9,242.93	5,790.51	-439.68	5,804.90	1.12	0.15	-1.11
15,161.14	90.88	0.39	9,242.72	5,804.08	-439.59	5,818.45	0.27	-0.15	-0.22
15,174.71	90.83	0.38	9,242.52	5,817.65	-439.50	5,832.00	0.38	-0.37	-0.07
15,188.29	90.75	0.38	9,242.33	5,831.23	-439.41	5,845.56	0.59	-0.59	0.00
15,201.86	90.68	0.42	9,242.16	5,844.80	-439.31	5,859.11	0.59	-0.52	0.29
15,215.43	90.61	0.47	9,242.01	5,858.37	-439.21	5,872.65	0.63	-0.52	0.37
15,229.00	90.61	0.44	9,241.87	5,871.93	-439.10	5,886.20	0.22	0.00	-0.22
15,242.43	90.66	0.35	9,241.72	5,885.36	-439.01	5,899.61	0.77	0.37	-0.67
15,255.86	90.67	0.32	9,241.56	5,898.79	-438.93	5,913.02	0.24	0.07	-0.22
15,269.29	90.56	0.30	9,241.42	5,912.22	-438.85	5,926.43	0.83	-0.82	-0.15
15,282.71	90.47	0.26	9,241.30	5,925.64	-438.79	5,939.83	0.73	-0.67	-0.30
15,296.14	90.47	0.25	9,241.19	5,939.07	-438.73	5,953.24	0.07	0.00	-0.07
15,309.57	90.48	0.31	9,241.08	5,952.50	-438.66	5,966.65	0.45	0.07	0.45
15,323.00	90.48	0.40	9,240.96	5,965.93	-438.58	5,980.06	0.67	0.00	0.67
15,336.57	90.48	0.54	9,240.85	5,979.50	-438.47	5,993.61	1.03	0.00	1.03
15,350.14	90.41	0.71	9,240.74	5,993.07	-438.32	6,007.16	1.35	-0.52	1.25
15,363.71	90.23	0.91	9,240.67	6,006.63	-438.13	6,020.70	1.98	-1.33	1.47
15,377.29	90.09	1.15	9,240.63	6,020.21	-437.89	6,034.25	2.05	-1.03	1.77
15,390.86	90.05	1.39	9,240.61	6,033.78	-437.58	6,047.79	1.79	-0.29	1.77
15,404.43	89.81	1.68	9,240.63	6,047.34	-437.22	6,061.32	2.77	-1.77	2.14
15,418.00	89.71	1.95	9,240.69	6,060.91	-436.79	6,074.85	2.12	-0.74	1.99
15,431.57	89.74	2.26	9,240.75	6,074.47	-436.29	6,088.37	2.30	0.22	2.28
15,445.14	89.85	2.12	9,240.80	6,088.03	-435.77	6,101.89	1.31	0.81	-1.03
15,458.71	90.07	1.78	9,240.81	6,101.59	-435.31	6,115.42	2.98	1.62	-2.51
15,472.29	90.13	1.39	9,240.79	6,115.16	-434.94	6,128.96	2.91	0.44	-2.87
15,485.86	90.14	1.07	9,240.75	6,128.73	-434.65	6,142.49	2.36	0.07	-2.36
15,499.43	90.06	0.83	9,240.73	6,142.30	-434.42	6,156.04	1.86	-0.59	-1.77
15,513.00	90.03	0.81	9,240.72	6,155.87	-434.23	6,169.58	0.27	-0.22	-0.15
15,526.57	90.03	1.24	9,240.71	6,169.44	-433.98	6,183.12	3.17	0.00	3.17
15,540.14	89.64	1.33	9,240.75	6,183.00	-433.68	6,196.66	2.95	-2.87	0.66
15,553.71	89.18	1.37	9,240.89	6,196.57	-433.36	6,210.19	3.40	-3.39	0.29
15,567.29	89.12	1.14	9,241.09	6,210.14	-433.06	6,223.74	1.75	-0.44	-1.69
15,580.86	88.86	1.09	9,241.33	6,223.71	-432.80	6,237.27	1.95	-1.92	-0.37



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
15,594.43	88.64	0.98	9,241.63	6,237.27	-432.55	6,250.81	1.81	-1.62	-0.81	
15,608.00	88.46	1.03	9,241.97	6,250.84	-432.32	6,264.35	1.38	-1.33	0.37	
15,621.57	88.39	1.17	9,242.34	6,264.40	-432.05	6,277.88	1.15	-0.52	1.03	
15,635.14	88.41	1.31	9,242.72	6,277.96	-431.76	6,291.42	1.04	0.15	1.03	
15,648.71	88.58	0.87	9,243.08	6,291.52	-431.50	6,304.95	3.47	1.25	-3.24	
15,662.29	88.74	0.44	9,243.40	6,305.10	-431.35	6,318.50	3.38	1.18	-3.17	
15,675.86	88.92	0.15	9,243.67	6,318.67	-431.28	6,332.05	2.51	1.33	-2.14	
15,689.43	89.05	359.77	9,243.92	6,332.23	-431.29	6,345.60	2.96	0.96	-2.80	
15,703.00	89.24	359.41	9,244.12	6,345.80	-431.38	6,359.16	3.00	1.40	-2.65	
15,716.57	89.43	359.05	9,244.28	6,359.37	-431.57	6,372.72	3.00	1.40	-2.65	
15,730.14	89.39	359.37	9,244.42	6,372.94	-431.75	6,386.28	2.38	-0.29	2.36	
15,743.71	89.33	359.71	9,244.57	6,386.51	-431.86	6,399.84	2.54	-0.44	2.51	
15,757.29	89.38	359.69	9,244.72	6,400.09	-431.93	6,413.41	0.40	0.37	-0.15	
15,770.86	89.52	359.41	9,244.85	6,413.65	-432.04	6,426.97	2.31	1.03	-2.06	
15,784.43	89.59	359.12	9,244.96	6,427.22	-432.21	6,440.53	2.20	0.52	-2.14	
15,798.00	89.62	358.84	9,245.05	6,440.79	-432.46	6,454.09	2.08	0.22	-2.06	
15,811.57	89.60	358.85	9,245.14	6,454.36	-432.73	6,467.66	0.16	-0.15	0.07	
15,825.14	89.50	359.04	9,245.25	6,467.92	-432.98	6,481.22	1.58	-0.74	1.40	
15,838.71	89.41	359.22	9,245.38	6,481.49	-433.19	6,494.78	1.48	-0.66	1.33	
15,852.29	89.38	359.12	9,245.52	6,495.07	-433.38	6,508.35	0.77	-0.22	-0.74	
15,865.86	89.40	358.83	9,245.66	6,508.64	-433.63	6,521.92	2.14	0.15	-2.14	
15,879.43	89.27	358.41	9,245.82	6,522.20	-433.95	6,535.48	3.24	-0.96	-3.10	
15,893.00	89.21	357.98	9,246.00	6,535.76	-434.38	6,549.05	3.20	-0.44	-3.17	
15,906.43	89.28	357.69	9,246.18	6,549.18	-434.89	6,562.48	2.22	0.52	-2.16	
15,919.86	89.33	357.76	9,246.34	6,562.60	-435.42	6,575.91	0.64	0.37	0.52	
15,933.29	89.36	357.96	9,246.50	6,576.02	-435.92	6,589.34	1.51	0.22	1.49	
15,946.71	89.40	358.17	9,246.64	6,589.43	-436.37	6,602.75	1.59	0.30	1.56	
15,960.14	89.50	358.36	9,246.77	6,602.86	-436.78	6,616.18	1.60	0.74	1.41	
15,973.57	89.65	358.50	9,246.87	6,616.28	-437.15	6,629.61	1.53	1.12	1.04	
15,987.00	89.86	358.75	9,246.93	6,629.71	-437.47	6,643.03	2.43	1.56	1.86	
16,000.57	89.98	358.93	9,246.95	6,643.27	-437.75	6,656.60	1.59	0.88	1.33	
16,014.14	90.07	359.02	9,246.94	6,656.84	-437.99	6,670.16	0.94	0.66	0.66	
16,027.71	90.13	359.12	9,246.92	6,670.41	-438.21	6,683.73	0.86	0.44	0.74	
16,041.29	90.19	359.25	9,246.88	6,683.99	-438.40	6,697.30	1.05	0.44	0.96	
16,054.86	90.24	359.55	9,246.83	6,697.56	-438.54	6,710.86	2.24	0.37	2.21	
16,068.43	90.25	359.58	9,246.77	6,711.13	-438.65	6,724.42	0.23	0.07	0.22	
16,082.00	90.25	359.55	9,246.71	6,724.70	-438.75	6,737.98	0.22	0.00	-0.22	
16,095.57	90.22	359.50	9,246.65	6,738.27	-438.86	6,751.54	0.43	-0.22	-0.37	
16,109.14	90.20	359.45	9,246.60	6,751.84	-438.99	6,765.10	0.40	-0.15	-0.37	
16,122.71	90.26	359.41	9,246.55	6,765.40	-439.12	6,778.66	0.53	0.44	-0.29	
16,136.29	90.29	359.39	9,246.48	6,778.98	-439.26	6,792.23	0.27	0.22	-0.15	
16,149.86	90.26	359.35	9,246.42	6,792.55	-439.41	6,805.79	0.37	-0.22	-0.29	
16,163.43	90.22	359.26	9,246.36	6,806.12	-439.58	6,819.35	0.73	-0.29	-0.66	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
16,177.00	90.17	359.26	9,246.32	6,819.69	-439.75	6,832.91	0.37	-0.37	0.00	
16,190.57	90.11	359.29	9,246.28	6,833.26	-439.93	6,846.47	0.49	-0.44	0.22	
16,204.14	90.07	359.35	9,246.26	6,846.83	-440.09	6,860.03	0.53	-0.29	0.44	
16,217.71	90.05	359.46	9,246.25	6,860.40	-440.23	6,873.59	0.82	-0.15	0.81	
16,231.29	90.03	359.56	9,246.24	6,873.98	-440.34	6,887.16	0.75	-0.15	0.74	
16,244.86	90.05	359.71	9,246.23	6,887.55	-440.43	6,900.72	1.12	0.15	1.11	
16,258.43	90.09	359.85	9,246.21	6,901.12	-440.48	6,914.28	1.07	0.29	1.03	
16,272.00	90.13	359.99	9,246.19	6,914.69	-440.50	6,927.83	1.07	0.29	1.03	
16,285.57	90.10	359.92	9,246.16	6,928.26	-440.51	6,941.39	0.56	-0.22	-0.52	
16,299.14	90.05	359.76	9,246.14	6,941.83	-440.55	6,954.94	1.24	-0.37	-1.18	
16,312.71	90.00	359.60	9,246.14	6,955.40	-440.63	6,968.50	1.24	-0.37	-1.18	
16,326.29	89.97	359.47	9,246.14	6,968.98	-440.74	6,982.07	0.98	-0.22	-0.96	
16,339.86	89.94	359.66	9,246.15	6,982.55	-440.84	6,995.63	1.42	-0.22	1.40	
16,353.43	89.92	359.85	9,246.17	6,996.12	-440.90	7,009.19	1.41	-0.15	1.40	
16,367.00	89.97	0.06	9,246.18	7,009.69	-440.91	7,022.74	1.59	0.37	1.55	
16,380.57	90.02	0.12	9,246.18	7,023.26	-440.89	7,036.30	0.58	0.37	0.44	
16,394.14	89.97	359.86	9,246.18	7,036.83	-440.89	7,049.85	1.95	-0.37	-1.92	
16,407.71	89.91	359.60	9,246.20	7,050.40	-440.95	7,063.41	1.97	-0.44	-1.92	
16,421.29	89.85	359.33	9,246.22	7,063.97	-441.08	7,076.98	2.04	-0.44	-1.99	
16,434.86	89.85	359.09	9,246.26	7,077.54	-441.27	7,090.54	1.77	0.00	-1.77	
16,448.43	89.89	358.88	9,246.29	7,091.11	-441.51	7,104.10	1.58	0.29	-1.55	
16,462.00	89.84	358.82	9,246.32	7,104.68	-441.78	7,117.67	0.58	-0.37	-0.44	
16,475.57	89.69	358.99	9,246.38	7,118.25	-442.04	7,131.23	1.67	-1.11	1.25	
16,489.14	89.57	359.19	9,246.47	7,131.81	-442.25	7,144.80	1.72	-0.88	1.47	
16,502.71	89.50	359.31	9,246.58	7,145.38	-442.43	7,158.36	1.02	-0.52	0.88	
16,516.29	89.45	359.42	9,246.70	7,158.96	-442.58	7,171.93	0.89	-0.37	0.81	
16,529.86	89.46	359.49	9,246.83	7,172.53	-442.71	7,185.49	0.52	0.07	0.52	
16,543.43	89.53	359.51	9,246.95	7,186.10	-442.83	7,199.05	0.54	0.52	0.15	
16,557.00	89.53	359.53	9,247.06	7,199.67	-442.94	7,212.61	0.15	0.00	0.15	
16,570.57	89.57	359.40	9,247.17	7,213.24	-443.07	7,226.16	1.00	0.29	-0.96	
16,584.14	89.63	359.25	9,247.26	7,226.81	-443.23	7,239.73	1.19	0.44	-1.11	
16,597.71	89.67	359.17	9,247.34	7,240.37	-443.42	7,253.29	0.66	0.29	-0.59	
16,611.29	89.69	359.09	9,247.42	7,253.95	-443.62	7,266.86	0.61	0.15	-0.59	
16,624.86	89.71	359.06	9,247.49	7,267.52	-443.84	7,280.42	0.27	0.15	-0.22	
16,638.43	89.74	359.05	9,247.56	7,281.09	-444.07	7,293.99	0.23	0.22	-0.07	
16,652.00	89.77	359.02	9,247.61	7,294.66	-444.29	7,307.55	0.31	0.22	-0.22	
16,665.57	89.84	358.86	9,247.66	7,308.22	-444.55	7,321.11	1.29	0.52	-1.18	
16,679.14	89.91	358.71	9,247.69	7,321.79	-444.83	7,334.68	1.22	0.52	-1.11	
16,692.71	89.97	358.61	9,247.70	7,335.36	-445.15	7,348.24	0.86	0.44	-0.74	
16,706.29	90.01	358.52	9,247.71	7,348.93	-445.49	7,361.82	0.73	0.29	-0.66	
16,719.86	90.00	358.43	9,247.71	7,362.50	-445.85	7,375.39	0.67	-0.07	-0.66	
16,733.43	89.95	358.36	9,247.71	7,376.06	-446.23	7,388.96	0.63	-0.37	-0.52	
16,747.00	89.87	358.38	9,247.73	7,389.63	-446.62	7,402.52	0.61	-0.59	0.15	
16,760.57	89.74	358.45	9,247.78	7,403.19	-446.99	7,416.09	1.09	-0.96	0.52	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)
16,774.14	89.49	358.51	9,247.87	7,416.76	-447.35	7,429.66	1.89	-1.84	0.44
16,787.71	89.24	358.59	9,248.02	7,430.32	-447.70	7,443.22	1.93	-1.84	0.59
16,801.29	89.01	358.65	9,248.23	7,443.90	-448.02	7,456.80	1.75	-1.69	0.44
16,814.86	88.84	358.63	9,248.48	7,457.46	-448.35	7,470.36	1.26	-1.25	-0.15
16,828.43	88.72	358.58	9,248.77	7,471.02	-448.68	7,483.92	0.96	-0.88	-0.37
16,842.00	88.62	358.45	9,249.09	7,484.58	-449.03	7,497.49	1.21	-0.74	-0.96
16,855.57	88.69	358.19	9,249.41	7,498.14	-449.42	7,511.05	1.98	0.52	-1.92
16,869.14	88.89	357.84	9,249.69	7,511.70	-449.89	7,524.62	2.97	1.47	-2.58
16,882.71	89.19	357.35	9,249.92	7,525.26	-450.46	7,538.18	4.23	2.21	-3.61
16,896.29	89.38	357.07	9,250.09	7,538.82	-451.12	7,551.76	2.49	1.40	-2.06
16,909.86	89.51	356.93	9,250.22	7,552.37	-451.84	7,565.33	1.41	0.96	-1.03
16,923.43	89.73	356.90	9,250.31	7,565.92	-452.57	7,578.90	1.64	1.62	-0.22
16,937.00	89.66	356.82	9,250.38	7,579.47	-453.31	7,592.47	0.78	-0.52	-0.59
16,950.57	89.40	356.74	9,250.49	7,593.02	-454.07	7,606.04	2.00	-1.92	-0.59
16,964.14	88.67	356.99	9,250.72	7,606.57	-454.81	7,619.61	5.69	-5.38	1.84
16,977.71	87.87	357.29	9,251.13	7,620.12	-455.49	7,633.17	6.30	-5.90	2.21
16,991.29	87.16	357.54	9,251.72	7,633.67	-456.10	7,646.74	5.54	-5.23	1.84
17,004.86	87.21	357.84	9,252.39	7,647.21	-456.65	7,660.29	2.24	0.37	2.21
17,018.43	87.31	358.15	9,253.04	7,660.76	-457.12	7,673.85	2.40	0.74	2.28
17,032.00	87.45	358.46	9,253.66	7,674.31	-457.52	7,687.40	2.50	1.03	2.28
17,045.57	87.97	358.64	9,254.20	7,687.86	-457.87	7,700.96	4.05	3.83	1.33
17,059.14	88.28	358.84	9,254.64	7,701.42	-458.16	7,714.51	2.72	2.28	1.47
17,072.71	88.61	359.07	9,255.01	7,714.98	-458.41	7,728.07	2.96	2.43	1.69
17,086.29	88.87	359.04	9,255.31	7,728.56	-458.64	7,741.64	1.93	1.91	-0.22
17,099.86	89.25	358.76	9,255.53	7,742.12	-458.90	7,755.21	3.48	2.80	-2.06
17,113.43	89.67	358.44	9,255.66	7,755.69	-459.23	7,768.77	3.89	3.10	-2.36
17,127.00	89.94	358.12	9,255.71	7,769.25	-459.64	7,782.34	3.09	1.99	-2.36
17,140.57	90.17	357.85	9,255.69	7,782.82	-460.11	7,795.91	2.61	1.69	-1.99
17,154.14	90.35	357.64	9,255.63	7,796.37	-460.65	7,809.48	2.04	1.33	-1.55
17,167.71	90.54	357.48	9,255.53	7,809.93	-461.22	7,823.05	1.83	1.40	-1.18
17,181.29	90.69	357.47	9,255.38	7,823.50	-461.82	7,836.63	1.11	1.10	-0.07
17,194.86	90.68	357.64	9,255.22	7,837.05	-462.40	7,850.19	1.25	-0.07	1.25
17,208.43	90.91	357.61	9,255.03	7,850.61	-462.96	7,863.76	1.71	1.69	-0.22
17,222.00	91.09	357.79	9,254.79	7,864.17	-463.51	7,877.33	1.88	1.33	1.33
17,235.43	91.11	357.81	9,254.53	7,877.59	-464.02	7,890.76	0.21	0.15	0.15
17,248.86	91.14	357.80	9,254.27	7,891.00	-464.54	7,904.18	0.24	0.22	-0.07
17,262.29	91.22	357.74	9,253.99	7,904.42	-465.06	7,917.61	0.74	0.60	-0.45
17,275.71	91.26	357.67	9,253.70	7,917.83	-465.60	7,931.03	0.60	0.30	-0.52
17,289.14	91.26	357.76	9,253.41	7,931.24	-466.13	7,944.45	0.67	0.00	0.67
17,302.57	91.29	357.86	9,253.11	7,944.66	-466.65	7,957.88	0.78	0.22	0.74
17,316.00	91.35	357.93	9,252.80	7,958.08	-467.14	7,971.30	0.69	0.45	0.52
17,329.57	91.41	357.87	9,252.47	7,971.63	-467.64	7,984.87	0.63	0.44	-0.44
17,343.14	91.36	357.70	9,252.15	7,985.19	-468.16	7,998.44	1.31	-0.37	-1.25



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
17,356.71	91.16	357.62	9,251.85	7,998.75	-468.71	8,012.00	1.59	-1.47	-0.59	
17,370.29	90.75	357.35	9,251.62	8,012.31	-469.31	8,025.58	3.61	-3.02	-1.99	
17,383.86	90.05	356.97	9,251.53	8,025.86	-469.98	8,039.15	5.87	-5.16	-2.80	
17,397.43	89.97	357.06	9,251.52	8,039.41	-470.69	8,052.72	0.89	-0.59	0.66	
17,411.00	89.91	356.91	9,251.54	8,052.97	-471.40	8,066.29	1.19	-0.44	-1.11	
17,424.43	89.89	356.81	9,251.56	8,066.38	-472.14	8,079.72	0.76	-0.15	-0.74	
17,437.86	89.93	356.88	9,251.58	8,079.79	-472.88	8,093.15	0.60	0.30	0.52	
17,451.29	90.02	356.65	9,251.59	8,093.19	-473.64	8,106.58	1.84	0.67	-1.71	
17,464.71	90.17	356.43	9,251.57	8,106.59	-474.45	8,120.00	1.98	1.12	-1.64	
17,478.14	90.39	356.04	9,251.50	8,119.99	-475.33	8,133.42	3.33	1.64	-2.90	
17,491.57	90.58	355.73	9,251.39	8,133.39	-476.29	8,146.85	2.71	1.41	-2.31	
17,505.00	90.81	355.47	9,251.22	8,146.77	-477.32	8,160.27	2.58	1.71	-1.94	
17,518.57	91.08	355.22	9,251.00	8,160.30	-478.42	8,173.83	2.71	1.99	-1.84	
17,532.14	91.40	355.05	9,250.71	8,173.82	-479.57	8,187.39	2.67	2.36	-1.25	
17,545.71	91.81	355.14	9,250.33	8,187.33	-480.73	8,200.95	3.09	3.02	0.66	
17,559.29	91.78	355.64	9,249.90	8,200.86	-481.82	8,214.51	3.69	-0.22	3.68	
17,572.86	91.71	355.99	9,249.49	8,214.39	-482.81	8,228.07	2.63	-0.52	2.58	
17,586.43	91.58	356.31	9,249.10	8,227.92	-483.72	8,241.63	2.54	-0.96	2.36	
17,600.00	91.59	356.66	9,248.72	8,241.46	-484.56	8,255.20	2.58	0.07	2.58	
17,613.57	91.64	357.13	9,248.34	8,255.01	-485.29	8,268.76	3.48	0.37	3.46	
17,627.14	91.76	357.76	9,247.94	8,268.56	-485.90	8,282.33	4.72	0.88	4.64	
17,640.71	91.89	358.40	9,247.51	8,282.11	-486.35	8,295.89	4.81	0.96	4.72	
17,654.29	92.05	358.97	9,247.04	8,295.68	-486.66	8,309.45	4.36	1.18	4.20	
17,667.86	92.45	359.08	9,246.51	8,309.24	-486.89	8,323.01	3.06	2.95	0.81	
17,681.43	92.42	359.46	9,245.93	8,322.79	-487.06	8,336.56	2.81	-0.22	2.80	
17,695.00	92.34	359.89	9,245.37	8,336.35	-487.14	8,350.10	3.22	-0.59	3.17	
17,708.57	92.24	0.22	9,244.82	8,349.91	-487.13	8,363.65	2.54	-0.74	2.43	
17,722.14	92.18	0.78	9,244.30	8,363.47	-487.01	8,377.18	4.15	-0.44	4.13	
17,735.71	92.12	1.32	9,243.79	8,377.03	-486.76	8,390.72	4.00	-0.44	3.98	
17,749.29	92.12	1.75	9,243.29	8,390.59	-486.40	8,404.25	3.16	0.00	3.17	
17,762.86	92.23	1.69	9,242.77	8,404.15	-485.99	8,417.77	0.92	0.81	-0.44	
17,776.43	92.34	1.73	9,242.23	8,417.70	-485.59	8,431.29	0.86	0.81	0.29	
17,790.00	92.35	2.19	9,241.68	8,431.25	-485.12	8,444.80	3.39	0.07	3.39	
17,803.43	92.38	2.50	9,241.12	8,444.66	-484.57	8,458.16	2.32	0.22	2.31	
17,816.86	92.50	2.66	9,240.55	8,458.06	-483.97	8,471.53	1.49	0.89	1.19	
17,830.29	92.85	2.57	9,239.93	8,471.47	-483.36	8,484.88	2.69	2.61	-0.67	
17,843.71	93.11	2.58	9,239.23	8,484.85	-482.76	8,498.23	1.94	1.94	0.07	
17,857.14	93.30	2.83	9,238.48	8,498.25	-482.12	8,511.57	2.34	1.41	1.86	
17,870.57	93.16	2.90	9,237.72	8,511.64	-481.45	8,524.92	1.17	-1.04	0.52	
17,884.00	93.05	2.99	9,236.99	8,525.03	-480.76	8,538.26	1.06	-0.82	0.67	
17,897.57	93.04	3.07	9,236.27	8,538.56	-480.05	8,551.75	0.59	-0.07	0.59	
17,911.14	93.06	3.14	9,235.55	8,552.09	-479.31	8,565.23	0.54	0.15	0.52	
17,924.71	93.15	2.85	9,234.81	8,565.63	-478.61	8,578.71	2.23	0.66	-2.14	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
17,938.29	93.23	2.57	9,234.06	8,579.17	-477.96	8,592.21	2.14	0.59	-2.06	
17,951.86	93.23	2.33	9,233.29	8,592.71	-477.38	8,605.70	1.77	0.00	-1.77	
17,965.43	93.10	2.55	9,232.55	8,606.24	-476.81	8,619.19	1.88	-0.96	1.62	
17,979.00	92.98	2.46	9,231.83	8,619.78	-476.22	8,632.69	1.10	-0.88	-0.66	
17,992.57	92.83	2.17	9,231.14	8,633.32	-475.67	8,646.19	2.40	-1.11	-2.14	
18,006.14	92.62	1.98	9,230.49	8,646.87	-475.18	8,659.69	2.09	-1.55	-1.40	
18,019.71	92.23	2.02	9,229.92	8,660.42	-474.70	8,673.21	2.89	-2.87	0.29	
18,033.29	91.83	2.07	9,229.44	8,673.98	-474.22	8,686.73	2.97	-2.95	0.37	
18,046.86	91.72	1.81	9,229.02	8,687.54	-473.76	8,700.25	2.08	-0.81	-1.92	
18,060.43	91.51	2.12	9,228.63	8,701.09	-473.30	8,713.77	2.76	-1.55	2.28	
18,074.00	91.22	2.23	9,228.31	8,714.65	-472.78	8,727.28	2.29	-2.14	0.81	
18,087.57	91.00	2.25	9,228.05	8,728.21	-472.25	8,740.80	1.63	-1.62	0.15	
18,101.14	90.78	2.21	9,227.84	8,741.76	-471.72	8,754.32	1.65	-1.62	-0.29	
18,114.71	90.60	2.15	9,227.67	8,755.32	-471.21	8,767.84	1.40	-1.33	-0.44	
18,128.29	90.45	2.09	9,227.55	8,768.89	-470.70	8,781.37	1.19	-1.10	-0.44	
18,141.86	90.45	2.46	9,227.44	8,782.45	-470.17	8,794.88	2.73	0.00	2.73	
18,155.43	90.46	2.83	9,227.34	8,796.01	-469.54	8,808.39	2.73	0.07	2.73	
18,169.00	90.46	3.21	9,227.23	8,809.56	-468.82	8,821.90	2.80	0.00	2.80	
18,182.57	90.59	3.29	9,227.10	8,823.11	-468.06	8,835.39	1.12	0.96	0.59	
18,196.14	90.72	3.24	9,226.95	8,836.65	-467.28	8,848.89	1.03	0.96	-0.37	
18,209.71	90.87	3.20	9,226.76	8,850.20	-466.52	8,862.38	1.14	1.11	-0.29	
18,223.29	91.00	3.19	9,226.54	8,863.76	-465.76	8,875.89	0.96	0.96	-0.07	
18,236.86	91.09	3.23	9,226.29	8,877.30	-465.00	8,889.38	0.73	0.66	0.29	
18,250.43	91.09	3.34	9,226.03	8,890.85	-464.23	8,902.87	0.81	0.00	0.81	
18,264.00	91.19	3.11	9,225.76	8,904.40	-463.46	8,916.37	1.85	0.74	-1.69	
18,277.57	91.14	3.07	9,225.49	8,917.94	-462.73	8,929.87	0.47	-0.37	-0.29	
18,291.14	90.64	3.61	9,225.28	8,931.49	-461.94	8,943.36	5.42	-3.68	3.98	
18,304.71	90.40	3.90	9,225.15	8,945.03	-461.05	8,956.84	2.77	-1.77	2.14	
18,318.29	90.41	3.97	9,225.06	8,958.58	-460.12	8,970.33	0.52	0.07	0.52	
18,331.86	89.94	4.39	9,225.01	8,972.11	-459.13	8,983.80	4.64	-3.46	3.10	
18,345.43	89.52	4.60	9,225.08	8,985.64	-458.07	8,997.26	3.46	-3.10	1.55	
18,359.00	89.11	4.78	9,225.24	8,999.16	-456.96	9,010.72	3.30	-3.02	1.33	
18,372.43	88.62	4.96	9,225.51	9,012.54	-455.82	9,024.02	3.89	-3.65	1.34	
18,385.86	88.63	5.16	9,225.83	9,025.91	-454.63	9,037.33	1.49	0.07	1.49	
18,399.29	89.07	4.52	9,226.10	9,039.29	-453.50	9,050.64	5.78	3.28	-4.77	
18,412.71	89.54	3.81	9,226.26	9,052.68	-452.53	9,063.96	6.34	3.50	-5.29	
18,426.14	89.87	3.18	9,226.33	9,066.08	-451.71	9,077.31	5.30	2.46	-4.69	
18,439.57	90.17	2.57	9,226.33	9,079.49	-451.03	9,090.67	5.06	2.23	-4.54	
18,453.00	90.20	2.27	9,226.28	9,092.91	-450.47	9,104.05	2.24	0.22	-2.23	
18,466.57	89.79	2.28	9,226.28	9,106.47	-449.93	9,117.57	3.02	-3.02	0.07	
18,480.14	89.71	1.78	9,226.34	9,120.03	-449.45	9,131.09	3.73	-0.59	-3.68	
18,493.71	90.32	2.00	9,226.34	9,133.60	-449.00	9,144.62	4.78	4.50	1.62	
18,507.29	90.61	2.08	9,226.23	9,147.17	-448.52	9,158.15	2.22	2.14	0.59	
18,520.86	89.88	1.61	9,226.17	9,160.73	-448.08	9,171.68	6.40	-5.38	-3.46	



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)
18,534.43	89.15	1.14	9,226.29	9,174.29	-447.75	9,185.21	6.40	-5.38	-3.46
18,548.00	88.55	0.94	9,226.56	9,187.86	-447.51	9,198.75	4.66	-4.42	-1.47
18,561.57	88.08	0.86	9,226.96	9,201.42	-447.30	9,212.28	3.51	-3.46	-0.59
18,575.14	88.75	0.89	9,227.33	9,214.98	-447.09	9,225.82	4.94	4.94	0.22
18,588.71	89.40	0.92	9,227.55	9,228.55	-446.87	9,239.36	4.80	4.79	0.22
18,602.29	89.39	0.61	9,227.70	9,242.13	-446.69	9,252.92	2.28	-0.07	-2.28
18,615.86	88.95	0.20	9,227.89	9,255.70	-446.60	9,266.46	4.43	-3.24	-3.02
18,629.43	88.61	359.79	9,228.18	9,269.26	-446.60	9,280.02	3.92	-2.51	-3.02
18,643.00	88.44	359.33	9,228.53	9,282.83	-446.70	9,293.57	3.61	-1.25	-3.39
18,656.57	88.28	359.07	9,228.92	9,296.39	-446.89	9,307.13	2.25	-1.18	-1.92
18,670.14	88.18	359.21	9,229.34	9,309.95	-447.10	9,320.68	1.27	-0.74	1.03
18,683.71	88.11	359.67	9,229.78	9,323.52	-447.23	9,334.24	3.43	-0.52	3.39
18,697.29	88.10	0.11	9,230.23	9,337.09	-447.25	9,347.80	3.24	-0.07	3.24
18,710.86	88.41	359.82	9,230.64	9,350.65	-447.26	9,361.34	3.13	2.28	-2.14
18,724.43	88.52	359.76	9,231.00	9,364.22	-447.31	9,374.90	0.92	0.81	-0.44
18,738.00	88.36	0.04	9,231.37	9,377.78	-447.34	9,388.45	2.38	-1.18	2.06
18,751.57	88.32	0.38	9,231.76	9,391.35	-447.29	9,401.99	2.52	-0.29	2.51
18,765.14	88.35	0.47	9,232.16	9,404.91	-447.19	9,415.54	0.70	0.22	0.66
18,778.71	88.40	0.09	9,232.54	9,418.48	-447.12	9,429.08	2.82	0.37	-2.80
18,792.29	88.46	359.75	9,232.92	9,432.05	-447.14	9,442.64	2.54	0.44	-2.50
18,805.86	88.61	359.41	9,233.26	9,445.62	-447.24	9,456.20	2.74	1.11	-2.51
18,819.43	88.74	359.19	9,233.58	9,459.18	-447.40	9,469.75	1.88	0.96	-1.62
18,833.00	88.79	359.08	9,233.87	9,472.75	-447.61	9,483.31	0.89	0.37	-0.81
18,846.57	88.85	359.29	9,234.15	9,486.31	-447.80	9,496.87	1.61	0.44	1.55
18,860.14	88.90	359.60	9,234.42	9,499.88	-447.93	9,510.43	2.31	0.37	2.28
18,873.71	88.98	359.92	9,234.67	9,513.45	-447.99	9,523.99	2.43	0.59	2.36
18,887.29	89.07	0.20	9,234.90	9,527.02	-447.97	9,537.55	2.17	0.66	2.06
18,900.86	89.37	0.06	9,235.08	9,540.59	-447.94	9,551.10	2.44	2.21	-1.03
18,914.43	89.47	359.79	9,235.22	9,554.16	-447.96	9,564.65	2.12	0.74	-1.99
18,928.00	89.54	359.50	9,235.34	9,567.73	-448.05	9,578.21	2.20	0.52	-2.14
18,941.57	89.41	359.67	9,235.46	9,581.30	-448.14	9,591.77	1.58	-0.96	1.25
18,955.14	89.43	359.61	9,235.60	9,594.87	-448.23	9,605.33	0.47	0.15	-0.44
18,968.71	89.61	359.38	9,235.71	9,608.44	-448.35	9,618.89	2.15	1.33	-1.69
18,982.29	89.78	359.18	9,235.78	9,622.02	-448.52	9,632.46	1.93	1.25	-1.47
18,995.86	89.91	358.84	9,235.82	9,635.59	-448.75	9,646.02	2.68	0.96	-2.51
19,009.43	89.79	358.65	9,235.86	9,649.15	-449.05	9,659.59	1.66	-0.88	-1.40
19,023.00	89.68	358.56	9,235.92	9,662.72	-449.38	9,673.15	1.05	-0.81	-0.66
19,036.43	89.59	358.59	9,236.00	9,676.14	-449.72	9,686.58	0.71	-0.67	0.22
19,049.86	89.54	358.63	9,236.11	9,689.57	-450.04	9,700.01	0.48	-0.37	0.30
19,063.29	89.57	358.70	9,236.21	9,702.99	-450.35	9,713.43	0.57	0.22	0.52
19,076.71	89.59	358.76	9,236.31	9,716.41	-450.65	9,726.85	0.47	0.15	0.45
19,090.14	89.65	358.70	9,236.40	9,729.84	-450.95	9,740.27	0.63	0.45	-0.45
19,103.57	89.74	358.55	9,236.47	9,743.26	-451.27	9,753.70	1.30	0.67	-1.12



Phoenix Survey Report



Company:	OXY USA INC.	Local Co-ordinate Reference:	Well Dr Pi Fed Unit 17_8 DA 11H
Project:	Lea County, NM (NAD83-NME)	TVD Reference:	RKB @ 3717.00usft (H&P 479)
Site:	Dr Pi Fed Unit 17_8 DA	MD Reference:	RKB @ 3717.00usft (H&P 479)
Well:	Dr Pi Fed Unit 17_8 DA 11H	North Reference:	Grid
Wellbore:	OH / 74651	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)	
19,117.00	89.83	358.47	9,236.52	9,756.69	-451.62	9,767.12	0.90	0.67	-0.60	
19,130.57	89.91	358.47	9,236.55	9,770.25	-451.98	9,780.69	0.59	0.59	0.00	
19,144.14	89.95	358.51	9,236.57	9,783.82	-452.34	9,794.26	0.42	0.29	0.29	
19,157.71	89.97	358.58	9,236.58	9,797.38	-452.69	9,807.82	0.54	0.15	0.52	
19,171.29	89.99	358.65	9,236.58	9,810.96	-453.01	9,821.40	0.54	0.15	0.52	
19,184.86	90.00	358.70	9,236.58	9,824.53	-453.33	9,834.97	0.38	0.07	0.37	
19,198.43	89.99	358.72	9,236.58	9,838.09	-453.63	9,848.53	0.16	-0.07	0.15	
19,212.00	89.93	358.70	9,236.59	9,851.66	-453.94	9,862.10	0.47	-0.44	-0.15	
19,225.57	89.83	358.62	9,236.62	9,865.23	-454.26	9,875.66	0.94	-0.74	-0.59	
19,239.14	89.72	358.51	9,236.68	9,878.79	-454.60	9,889.23	1.15	-0.81	-0.81	
19,252.71	89.61	358.41	9,236.75	9,892.36	-454.96	9,902.80	1.10	-0.81	-0.74	
19,266.29	89.51	358.29	9,236.86	9,905.93	-455.35	9,916.37	1.15	-0.74	-0.88	
19,279.86	89.44	358.29	9,236.98	9,919.49	-455.76	9,929.94	0.52	-0.52	0.00	
19,293.43	89.38	358.26	9,237.12	9,933.06	-456.16	9,943.51	0.49	-0.44	-0.22	
19,307.00	89.25	358.09	9,237.29	9,946.62	-456.60	9,957.08	1.58	-0.96	-1.25	
19,320.86	89.15	357.92	9,237.48	9,960.47	-457.08	9,970.93	1.42	-0.72	-1.23	
19,334.71	89.09	357.90	9,237.69	9,974.31	-457.58	9,984.78	0.46	-0.43	-0.14	
19,348.57	89.05	357.90	9,237.92	9,988.16	-458.09	9,998.64	0.29	-0.29	0.00	
19,362.43	89.00	357.90	9,238.15	10,002.01	-458.60	10,012.50	0.36	-0.36	0.00	
19,376.29	88.97	357.92	9,238.40	10,015.86	-459.11	10,026.35	0.26	-0.22	0.14	
19,390.14	88.95	357.94	9,238.65	10,029.69	-459.61	10,040.20	0.20	-0.14	0.14	
19,404.00	88.98	357.85	9,238.90	10,043.54	-460.11	10,054.06	0.68	0.22	-0.65	
Final Phoenix MWD Survey										
19,470.49	88.98	357.85	9,240.08	10,109.98	-462.61	10,120.53	0.00	0.00	0.00	
LTP: 19470.49' MD										
19,521.00	88.98	357.85	9,240.98	10,160.44	-464.50	10,171.03	0.00	0.00	0.00	
Projection to TD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,037.00	1,036.97	1.23	7.70	Tie In	
1,184.00	1,183.96	2.12	7.57	First Phoenix MWD Survey	
8,903.79	8,863.23	-249.03	-393.53	FTP: 8903.79' MD, 22.32° Inc	
14,288.80	9,239.34	4,932.12	-444.55	SL: 14288.80' MD	
19,404.00	9,238.90	10,043.54	-460.11	Final Phoenix MWD Survey	
19,470.49	9,240.08	10,109.98	-462.61	LTP: 19470.49' MD	
19,521.00	9,240.98	10,160.44	-464.50	Projection to TD	

C-105 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	
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WELL COMPLETION OR RECOMPLETION REPORT AND LOG

Section 1 - Operator and Well Information

Submittal Type: <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Workover <input type="checkbox"/> Deepening <input type="checkbox"/> Plugback <input type="checkbox"/> Different Reservoir <input type="checkbox"/> C-144 Closure Attachment <input type="checkbox"/> Other	
Operator Name: OXY USA INC	OGRID: 16696
Property Name and Well Number: DR PI UNIT 111H	Property Code:
Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal	API Number: 30-0 25-48944
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	1615	W	LEA
BHL	D	8	22S	32E		50	N	1222	W	LEA

Section 3 – Completion Information

Date T.D. Reached 05/27/24	Total Measured Depth of Well 19521'MD	Acid Volume (bbls)	<input checked="" type="checkbox"/> Directional Survey Submitted <input type="checkbox"/> Deviation Survey Submitted
Date Rig Released 05/30/24	Plug-Back Measured Depth 19476'MD	Completion Fluid Used (bbls) 361118	Were Logs Ran (Y/N) Y
Completion Date 07/16/24	Perforations (MD and TVD) 9287'-19398'MD/9182'-9239'TVD	Completion Proppant Used (lbs) 25371137#	List Type of Logs Ran if applicable: CBL

Section 4 – Action IDs for Submissions and Order Numbers

Surface Casing Action ID: 374395	UIC Permit/Order (UIC wells only) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, Order No.
Intermediate 1 Casing Action ID: 374395	NOI Recomplete Action ID (if applicable):
Intermediate 2 Casing Action ID: NA	NOI Plugback Action ID (if applicable):
Production Casing Action ID: 374395	Cement Squeeze Action ID (if applicable):
Tubing Action ID: 382989	All casing was pressure tested in accordance with NMAC <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Liner 1 Action ID: NA	Casing was installed prior to Action ID system (Y/N): N


Section 5 – Test Data

Date First Production 07/28/24	Production Method Gas lift	Well Status Producing	Gas – Oil Ratio 1245
Date of Test 08/13/24	Choke Size	Flowing Tubing Pressure	Casing Pressure 324
24 hr Oil (bbls) 3250	24 hr Gas (MCF) 4047	24 hr Water (bbls) 4252	Oil Gravity - API
Disposition of Gas: sold			

Section 6 – Pits

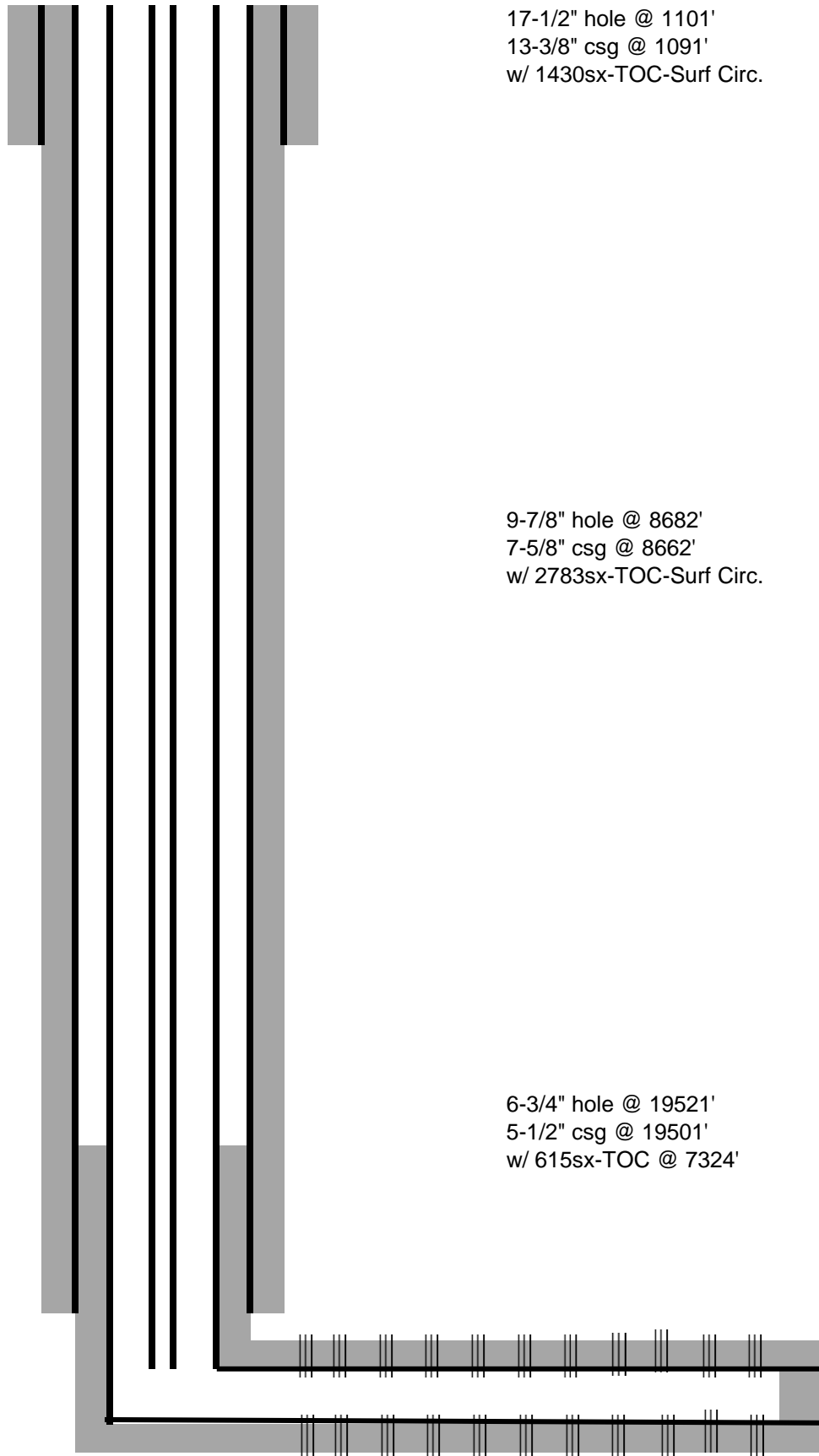
<input type="checkbox"/> A temporary pit was used at the well. If so, attach a plat with the location of the temporary pit. <input checked="" type="checkbox"/> A Closed Loop System was used. <input type="checkbox"/> If an on-site burial was used at the well, report the exact location of the on-site burial: LAT: _____ LONG: _____

Section 7 - Operator Signature and Certification

<input checked="" type="checkbox"/> I hereby certify that the required Water Use Report has been, or will be, submitted for this well's completion.
<input checked="" type="checkbox"/> I hereby certify that the required Fracfocus disclosure has been, or will be, submitted for this well's completion.
<input checked="" type="checkbox"/> 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 09/25/24

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	1246	1246		T. Nacimiento			
B. Salt	3362	3361		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	4727	4726	o/g				
T. Bell Canyon	4768	4767	o/g				
T. Cherry Canyon	5666	5660	o/g				
T. Brushy Canyon	6960	6939	o/g				
T. Bone Springs	8640	8609	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 111H
API No. 30-025-48944



17-1/2" hole @ 1101'
13-3/8" csg @ 1091'
w/ 1430sx-TOC-Surf Circ.

9-7/8" hole @ 8682'
7-5/8" csg @ 8662'
w/ 2783sx-TOC-Surf Circ.

6-3/4" hole @ 19521'
5-1/2" csg @ 19501'
w/ 615sx-TOC @ 7324'

2-3/8" tbg & gas lift @ 9239'

Perfs @ 9287-19398'

TD- 19521'M 9241'V

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

General Information
Phone: (505) 629-6116

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

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

ACKNOWLEDGMENTS

Action 422113

ACKNOWLEDGMENTS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 422113
	Action Type: [C-104] Completion Packet - New Well (C-104NW)

ACKNOWLEDGMENTS

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

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CONDITIONS

Action 422113

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 422113
	Action Type: [C-104] Completion Packet - New Well (C-104NW)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	None	4/1/2026