

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOESS OCD

OCT 23 2013

FORM APPROVED
OMB NO. 1004-0137
Expires: October 31, 2014

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other		1b. Type of Completion: ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr., Other: _____		5. Lease Serial No. NMMN110840					
2. Name of Operator OXY USA Inc.		16696		6. If Indian, Allottee or Tribe Name					
3. Address P.O. Box 50250 Midland, TX 79710		3a. Phone No. (include area code) 432-685-5717		7. Unit or CA Agreement Name and No.					
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface 400 FNL 329 FNL NWNW(D) At top prod. interval reported below 443 FNL 1017 FNL NWNW(D) PBTD - 360 FNL 659 FEL NENE(A) At total depth 368 FNL 329 FEL NENE(A)		10. Field and Pool or Exploratory Wildcat Bone Springs		11. Sec., T., R., M., on Block and Survey or Area Sec 35 T26S R34E					
14. Date Spudded 5/22/13		15. Date T.D. Reached 7/23/13		12. County or Parish Lea					
16. Date Completed ☐ D & A ☒ Ready to Prod. 9/13/13		17. Elevations (DF, RKB, RT, GL)* 3226' GL		13. State NM					
18. Total Depth: MD 16330' TVD 12496'		19. Plug Back T.D.: MD 16309' TVD 12504'		20. Depth Bridge Plug Set: MD TVD					
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) HRUA(TDCL)CBL(CBL)GR(MWD)		22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit report) Directional Survey? ☐ No ☒ Yes (Submit copy)							
23. Casing and Liner Record (Report all strings set in well)									
Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL.)	Cement Top*	Amount Pulled
17 1/2"	13 7/8"	48-H40	0	990'	-	1090-C	303	SURF-CINC	N/A
12 1/4"	9 5/8"	40-J55	0	5370'	-	1820-C	579	SURF-CINC	N/A
7 7/8"	5 1/2"	20-P110	0	16379'	5572'	1920-C/H	772	4194-CBL	N/A
24. Tubing Record									
Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	
2 7/8"	11160'	11160'							
25. Producing Intervals						26. Perforation Record			
Formation		Top	Bottom	Perforated Interval		Size	No. Holes	Perf. Status	
A) Bone Springs		12891'	16272'	12891-16272'		.39	235	Open	
B)									
C)									
D)									
27. Acid, Fracture, Treatment, Cement Squeeze, etc.									
Depth Interval		Amount and Type of Material							
12800 - 11300'		550st (108 bbl) Poz/H cmt - P. 6th hole Plug							
12891 - 16272'		9378lb WF GR-6 + 19500g 15% HCL acid + 291700g WF GR20 + 685084g DF146-RID w/ 1134704 # SURF							
28. Production - Interval A									
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
9/5/13	9/10/13	24	→	288	136	1359			RECLAMATION
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
1 1/4"	280	-	→	288	136	1359	472	Prod.	DUE 3-3-14
28a. Production - Interval B						ACCEPTED FOR RECORD			
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						OCT 20 2013
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						

*(See instructions and spaces for additional data on page 2)

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

OCT 24 2013

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						

29. Disposition of Gas (Solid, used for fuel, vented, etc.)

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				T. Salt	480'
				B. Salt	5325'
				B. Anhydrite	5368'
				T. Delaware	5405'
				Bone Springs	9492'
				1 st Bone Springs	10519'
				2 nd Bone Springs	10715'
				3 rd Bone Springs	12150'
				Wolfcamp	12581'

32. Additional remarks (include plugging procedure):

33. Indicate which items have been attached by placing a check in the appropriate boxes:

- ☒ Electrical/Mechanical Logs (1 full set req'd.)
 ☐ Geologic Report
 ☐ DST Report
 ☒ Directional Survey
☐ Sundry Notice for plugging and cement verification
 ☐ Core Analysis
 ☐ Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name (please print) David Stewart

Title Sr. Regulatory Advisor

Signature

Date

9/16/13

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

(Continued on page 3)

(Form 3160-4, page 2)

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2013 SEP 17 AM 8:28

BUREAU OF LAND MGMT
CARLSBAD FIELD OFFICE



Scientific Drilling

OXY

Lea County, New Mexico

Madera 35 Fed 1H

Madera 35 1H

HOBBS OCD

OCT 23 2013

RECEIVED

Original Wellbore

Design: OH

Standard Survey Report

23 July, 2013



Scientific Drilling

www.scientificdrilling.com

Company:	OXY	Local Co-ordinate Reference:	Well Madera 35 1H
Project:	Lea County, New Mexico	TVD Reference:	RKB @ 3250.00usft (RKB - M35Fed1H)
Site:	Madera 35 Fed 1H	MD Reference:	RKB @ 3250.00usft (RKB - M35Fed1H)
Well:	Madera 35 1H	North Reference:	Grid
Wellbore:	Original Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassC

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

Site	Madera 35 Fed 1H			
Site Position:		Northing:	367,007.20 usft	Latitude: 32.006
From:	Map	Easting:	774,519.80 usft	Longitude: -103.448
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.47 °

Well	Madera 35 1H			
Well Position	+N/-S	0.00 usft	Northing:	367,007.20 usft
	+E/-W	0.00 usft	Easting:	774,519.80 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft
			Ground Level:	3,226.00 usft

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	6/25/2013	7.37	59.91	48,267

Design	OH			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 11,203.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	89.72

Survey Program	Date 7/23/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
34.00	882.00	MS Gyro (Pilot Wellpath)	SR Gyro MS	Surface Readout Gyro Multishot
977.00	11,203.00	SDI MWD (Pilot Wellpath)	SDI MWD	SDI MWD - Standard ver 1.0.1
11,263.00	16,830.00	Survey #1 (Original Wellbore)	SDI MWD	SDI MWD - Standard ver 1.0.1

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
34.00	0.18	56.25	34.00	0.03	0.04	0.04	0.53	0.53	0.00	
128.00	0.82	89.21	128.00	0.12	0.84	0.84	0.72	0.68	35.06	
222.00	0.60	84.48	221.99	0.18	2.00	2.00	0.24	-0.23	-5.03	
317.00	0.18	59.54	316.99	0.30	2.63	2.63	0.47	-0.44	-26.25	
411.00	0.24	312.03	410.99	0.51	2.61	2.61	0.36	0.06	-114.37	
506.00	0.40	292.46	505.98	0.77	2.15	2.16	0.20	0.17	-20.60	
600.00	0.62	297.12	599.98	1.12	1.40	1.40	0.24	0.23	4.96	
694.00	1.12	295.34	693.97	1.75	0.11	0.12	0.53	0.53	-1.89	

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Well:	Madera 35 1H	North Reference:	Grid
Wellbore:	Original Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassC

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)
788.00	0.90	297.20	787.95	2.48	-1.37	-1.36	0.24	-0.23	1.98
882.00	0.63	299.58	881.95	3.07	-2.48	-2.46	0.29	-0.29	2.53
977.00	0.33	11.36	976.94	3.60	-2.88	-2.86	0.65	-0.32	75.56
1,037.00	0.31	47.82	1,036.94	3.88	-2.73	-2.71	0.34	-0.03	60.77
1,132.00	0.31	341.11	1,131.94	4.29	-2.62	-2.60	0.36	0.00	-70.22
1,604.00	0.88	327.14	1,603.91	8.55	-5.00	-4.96	0.12	0.12	-2.96
1,698.00	1.01	326.52	1,697.90	9.84	-5.85	-5.80	0.14	0.14	-0.66
1,886.00	1.36	342.43	1,885.86	13.35	-7.43	-7.37	0.25	0.19	8.46
1,981.00	0.70	346.03	1,980.85	14.99	-7.91	-7.84	0.70	-0.69	3.79
2,075.00	0.70	358.82	2,074.84	16.12	-8.06	-7.99	0.17	0.00	13.61
2,169.00	0.70	24.90	2,168.83	17.22	-7.84	-7.75	0.34	0.00	27.74
2,264.00	0.62	222.46	2,263.83	17.36	-7.94	-7.85	1.37	-0.08	-170.99
2,358.00	0.79	68.03	2,357.83	17.23	-7.68	-7.60	1.46	0.18	-164.29
2,452.00	1.19	84.43	2,451.81	17.57	-6.11	-6.02	0.52	0.43	17.45
2,546.00	1.49	93.52	2,545.79	17.59	-3.92	-3.83	0.39	0.32	9.67
2,640.00	2.02	91.24	2,639.74	17.48	-1.04	-0.95	0.57	0.56	-2.43
2,735.00	2.29	95.94	2,734.68	17.24	2.52	2.61	0.34	0.28	4.95
2,829.00	2.90	93.61	2,828.58	16.90	6.76	6.85	0.66	0.65	-2.48
2,923.00	3.30	96.13	2,922.44	16.46	11.83	11.91	0.45	0.43	2.68
3,014.00	3.25	100.42	3,013.29	15.72	16.97	17.04	0.27	-0.05	4.71
3,108.00	2.37	94.62	3,107.18	15.08	21.53	21.60	0.98	-0.94	-6.17
3,203.00	1.32	111.32	3,202.13	14.52	24.50	24.57	1.23	-1.11	17.58
3,297.00	0.62	115.10	3,296.12	13.91	25.97	26.04	0.75	-0.74	4.02
3,391.00	0.79	264.08	3,390.11	13.63	25.79	25.85	1.45	0.18	158.49
3,485.00	0.70	251.42	3,484.10	13.38	24.60	24.66	0.20	-0.10	-13.47
3,580.00	0.26	170.38	3,579.10	12.98	24.08	24.15	0.74	-0.46	-85.31
3,674.00	0.86	186.64	3,673.10	12.07	24.04	24.10	0.65	0.64	17.30
3,768.00	0.97	171.88	3,767.08	10.58	24.07	24.12	0.28	0.12	-15.70
3,863.00	0.79	152.45	3,862.07	9.21	24.49	24.53	0.36	-0.19	-20.45
3,957.00	1.14	97.17	3,956.06	8.51	25.71	25.75	1.01	0.37	-58.81
4,051.00	1.41	108.33	4,050.04	8.03	27.74	27.78	0.39	0.29	11.87
4,146.00	0.62	96.12	4,145.02	7.61	29.36	29.40	0.86	-0.83	-12.85
4,240.00	1.23	54.19	4,239.01	8.15	30.68	30.72	0.93	0.65	-44.61
4,334.00	1.58	72.47	4,332.98	9.13	32.74	32.78	0.60	0.37	19.45
4,428.00	0.35	328.85	4,426.97	9.76	33.82	33.87	1.81	-1.31	-110.23
4,523.00	0.35	280.95	4,521.97	10.07	33.39	33.44	0.30	0.00	-50.42
4,617.00	0.62	268.29	4,615.97	10.11	32.60	32.65	0.31	0.29	-13.47
4,712.00	0.35	269.26	4,710.96	10.09	31.80	31.84	0.28	-0.28	1.02
4,806.00	0.62	94.89	4,804.96	10.04	32.02	32.06	1.03	0.29	-185.50
4,900.00	1.32	77.31	4,898.95	10.24	33.58	33.63	0.80	0.74	-18.70
4,995.00	1.67	101.57	4,993.92	10.20	36.00	36.05	0.75	0.37	25.54
5,089.00	2.02	88.73	5,087.87	9.96	39.00	39.05	0.57	0.37	-13.66
5,183.00	0.26	122.13	5,181.85	9.88	40.84	40.89	1.92	-1.87	35.53

Company:	OXY	Local Co-ordinate Reference:	Well Madera 35 1H
Project:	Lea County, New Mexico	TVD Reference:	RKB @ 3250.00usft (RKB - M35Fed1H)
Site:	Madera 35 Fed 1H	MD Reference:	RKB @ 3250.00usft (RKB - M35Fed1H)
Well:	Madera 35 1H	North Reference:	Grid
Wellbore:	Original Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassC

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)	
5,277.00	0.79	62.19	5,275.84	10.07	41.59	41.64	0.74	0.56	-63.77	
5,320.00	0.26	86.27	5,318.84	10.22	41.95	42.00	1.31	-1.23	56.00	
5,447.00	0.70	44.53	5,445.84	10.79	42.78	42.83	0.42	0.35	-32.87	
5,541.00	0.79	41.10	5,539.83	11.69	43.61	43.67	0.11	0.10	-3.65	
5,636.00	0.53	304.59	5,634.82	12.43	43.68	43.74	1.05	-0.27	-101.59	
5,730.00	0.79	296.60	5,728.82	12.97	42.74	42.81	0.29	0.28	-8.50	
5,824.00	0.88	301.52	5,822.81	13.63	41.55	41.61	0.12	0.10	5.23	
5,919.00	0.88	288.42	5,917.80	14.25	40.23	40.30	0.21	0.00	-13.79	
6,013.00	0.88	286.40	6,011.79	14.68	38.86	38.93	0.03	0.00	-2.15	
6,108.00	0.88	271.90	6,106.77	14.91	37.43	37.50	0.23	0.00	-15.26	
6,202.00	0.88	281.74	6,200.76	15.08	36.00	36.07	0.16	0.00	10.47	
6,296.00	0.79	272.69	6,294.75	15.26	34.65	34.72	0.17	-0.10	-9.63	
6,391.00	0.79	280.86	6,389.74	15.41	33.35	33.42	0.12	0.00	8.60	
6,485.00	0.88	281.39	6,483.73	15.67	32.00	32.08	0.10	0.10	0.56	
6,579.00	0.79	275.50	6,577.72	15.88	30.65	30.73	0.13	-0.10	-6.27	
6,674.00	0.79	276.64	6,672.72	16.02	29.35	29.43	0.02	0.00	1.20	
6,768.00	0.97	282.27	6,766.70	16.26	27.93	28.01	0.21	0.19	5.99	
6,863.00	0.97	283.24	6,861.69	16.62	26.36	26.44	0.02	0.00	1.02	
6,957.00	0.88	283.94	6,955.68	16.97	24.88	24.97	0.10	-0.10	0.74	
7,051.00	0.88	294.84	7,049.67	17.45	23.53	23.61	0.18	0.00	11.60	
7,146.00	0.79	288.74	7,144.66	17.97	22.25	22.33	0.13	-0.09	-6.42	
7,240.00	1.06	283.06	7,238.65	18.37	20.79	20.87	0.30	0.29	-6.04	
7,334.00	0.97	273.74	7,332.63	18.62	19.14	19.24	0.20	-0.10	-9.91	
7,429.00	0.88	273.74	7,427.62	18.72	17.61	17.71	0.09	-0.09	0.00	
7,523.00	1.14	271.11	7,521.60	18.79	15.96	16.05	0.28	0.28	-2.80	
7,618.00	0.97	259.68	7,616.59	18.66	14.22	14.31	0.28	-0.18	-12.03	
7,712.00	0.88	244.12	7,710.58	18.20	12.79	12.88	0.28	-0.10	-16.55	
7,806.00	1.06	235.25	7,804.56	17.39	11.43	11.51	0.25	0.19	-9.44	
7,900.00	1.06	242.02	7,898.55	16.49	9.94	10.02	0.13	0.00	7.20	
7,995.00	1.14	216.00	7,993.53	15.31	8.61	8.69	0.53	0.08	-27.39	
8,089.00	1.14	224.53	8,087.51	13.89	7.41	7.48	0.18	0.00	9.07	
8,184.00	1.06	227.69	8,182.49	12.62	6.09	6.16	0.11	-0.08	3.33	
8,278.00	1.14	215.21	8,276.48	11.27	4.91	4.97	0.27	0.09	-13.28	
8,372.00	1.14	203.17	8,370.46	9.65	4.01	4.05	0.25	0.00	-12.81	
8,467.00	1.32	196.40	8,465.44	7.73	3.33	3.36	0.24	0.19	-7.13	
8,561.00	1.23	183.74	8,559.41	5.69	2.95	2.98	0.31	-0.10	-13.47	
8,656.00	1.14	181.81	8,654.39	3.72	2.86	2.88	0.10	-0.09	-2.03	
8,750.00	1.41	194.82	8,748.37	1.67	2.53	2.54	0.42	0.29	13.84	
8,845.00	1.41	202.55	8,843.34	-0.54	1.78	1.78	0.20	0.00	8.14	
8,939.00	1.32	193.68	8,937.31	-2.66	1.09	1.07	0.24	-0.10	-9.44	
9,033.00	1.14	174.47	9,031.29	-4.64	0.92	0.90	0.48	-0.19	-20.44	
9,128.00	1.14	177.59	9,126.27	-6.53	1.05	1.02	0.07	0.00	3.28	
9,222.00	1.23	172.76	9,220.25	-8.46	1.22	1.17	0.14	0.10	-5.14	

Company:	OXY	Local Co-ordinate Reference:	Well Madera 35 1H
Project:	Lea County, New Mexico	TVD Reference:	RKB @ 3250.00usft (RKB - M35Fed1H)
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Well:	Madera 35 1H	North Reference:	Grid
Wellbore:	Original Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassC

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)	
9,317.00	1.32	177.06	9,315.23	-10.57	1.40	1.35	0.14	0.09	4.53	
9,411.00	1.41	175.92	9,409.20	-12.80	1.54	1.48	0.10	0.10	-1.21	
9,505.00	1.23	153.07	9,503.18	-14.85	2.08	2.01	0.59	-0.19	-24.31	
9,600.00	1.14	113.34	9,598.16	-16.14	3.41	3.33	0.85	-0.09	-41.82	
9,694.00	1.32	115.10	9,692.14	-16.97	5.25	5.16	0.20	0.19	1.87	
9,788.00	1.58	115.10	9,786.11	-17.98	7.40	7.31	0.28	0.28	0.00	
9,883.00	0.88	101.30	9,881.09	-18.67	9.30	9.21	0.79	-0.74	-14.53	
9,977.00	0.70	138.39	9,975.08	-19.24	10.39	10.30	0.56	-0.19	39.46	
10,072.00	0.88	221.45	10,070.07	-20.23	10.29	10.19	1.11	0.19	87.43	
10,166.00	1.85	229.89	10,164.04	-21.74	8.66	8.55	1.05	1.03	8.98	
10,260.00	1.14	181.02	10,258.01	-23.66	7.48	7.36	1.48	-0.76	-51.99	
10,355.00	0.79	130.22	10,353.00	-25.02	7.96	7.84	0.93	-0.37	-53.47	
10,449.00	1.41	139.01	10,446.98	-26.32	9.21	9.09	0.68	0.66	9.35	
10,543.00	2.02	142.44	10,540.94	-28.50	10.98	10.84	0.66	0.65	3.65	
10,637.00	1.06	144.54	10,634.91	-30.52	12.50	12.35	1.02	-1.02	2.23	
10,732.00	1.14	139.27	10,729.89	-31.96	13.62	13.47	0.14	0.08	-5.55	
10,826.00	1.67	174.34	10,823.86	-34.03	14.37	14.20	1.05	0.56	37.31	
10,920.00	1.85	168.63	10,917.82	-36.88	14.80	14.62	0.27	0.19	-6.07	
11,014.00	1.23	191.57	11,011.78	-39.35	14.90	14.71	0.92	-0.66	24.40	
11,108.00	1.23	202.55	11,105.76	-41.27	14.31	14.11	0.25	0.00	11.68	
11,203.00	1.58	215.38	11,200.73	-43.28	13.16	12.95	0.49	0.37	13.51	
11,263.00	1.49	140.06	11,260.72	-44.56	13.18	12.97	3.13	-0.15	-125.53	
11,295.00	4.04	115.01	11,292.68	-45.35	14.47	14.25	8.63	7.97	-78.28	
11,326.00	3.96	121.34	11,323.60	-46.37	16.38	16.15	1.45	-0.26	20.42	
11,357.00	3.69	121.08	11,354.53	-47.44	18.14	17.91	0.87	-0.87	-0.84	
11,452.00	3.52	110.44	11,449.35	-50.04	23.50	23.25	0.73	-0.18	-11.20	
11,546.00	2.37	105.17	11,543.22	-51.56	28.08	27.82	1.26	-1.22	-5.61	
11,641.00	2.20	104.38	11,638.15	-52.52	31.74	31.48	0.18	-0.18	-0.83	
11,672.00	2.11	109.21	11,669.12	-52.86	32.85	32.59	0.65	-0.29	15.58	
11,704.00	2.29	108.60	11,701.10	-53.26	34.02	33.75	0.57	0.56	-1.91	
11,735.00	3.08	118.70	11,732.07	-53.85	35.33	35.07	2.96	2.55	32.58	
11,766.00	4.66	114.93	11,763.00	-54.78	37.21	36.94	5.16	5.10	-12.16	
11,798.00	6.16	100.51	11,794.85	-55.64	40.07	39.80	6.29	4.69	-45.06	
11,829.00	7.83	96.38	11,825.62	-56.18	43.81	43.53	5.62	5.39	-13.32	
11,861.00	8.35	95.77	11,857.30	-56.66	48.28	48.01	1.65	1.63	-1.91	
11,892.00	8.00	82.85	11,887.99	-56.62	52.67	52.39	6.02	-1.13	-41.68	
11,933.00	8.18	85.31	11,928.58	-56.02	58.40	58.13	0.95	0.44	6.00	
11,964.00	7.74	92.25	11,959.28	-55.92	62.69	62.41	3.41	-1.42	22.39	
11,996.00	9.67	93.22	11,990.91	-56.16	67.52	67.25	6.05	6.03	3.03	
12,027.00	12.57	95.33	12,021.33	-56.62	73.48	73.21	9.44	9.35	6.81	
12,059.00	16.36	94.89	12,052.31	-57.33	81.44	81.16	11.85	11.84	-1.38	
12,090.00	18.73	95.06	12,081.87	-58.14	90.75	90.47	7.65	7.65	0.55	
12,122.00	20.58	92.34	12,112.00	-58.82	101.49	101.20	6.45	5.78	-8.50	
12,153.00	22.42	92.16	12,140.84	-59.27	112.84	112.55	5.94	5.94	-0.58	

Company:	OXY	Local Co-ordinate Reference:	Well Madera 35 1H
Project:	Lea County, New Mexico	TVD Reference:	RKB @ 3250.00usft (RKB - M35Fed1H)
Site:	Madera 35 Fed 1H	MD Reference:	RKB @ 3250.00usft (RKB - M35Fed1H)
Well:	Madera 35 1H	North Reference:	Grid
Wellbore:	Original Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassC

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)
12,185.00	24.89	93.57	12,170.15	-59.92	125.66	125.37	7.92	7.72	4.41
12,216.00	26.73	94.27	12,198.06	-60.84	139.13	138.83	6.02	5.94	2.26
12,248.00	29.55	94.18	12,226.27	-61.95	154.18	153.87	8.81	8.81	-0.28
12,279.00	32.54	91.81	12,252.83	-62.77	170.14	169.83	10.42	9.65	-7.65
12,310.00	34.47	88.91	12,278.68	-62.87	187.25	186.94	8.09	6.23	-9.35
12,342.00	37.55	88.29	12,304.56	-62.41	206.05	205.74	9.69	9.63	-1.94
12,373.00	42.12	88.38	12,328.36	-61.83	225.90	225.59	14.74	14.74	0.29
12,405.00	46.34	91.81	12,351.29	-61.89	248.21	247.90	15.16	13.19	10.72
12,437.00	49.24	91.99	12,372.78	-62.68	271.89	271.58	9.07	9.06	0.56
12,468.00	52.14	91.11	12,392.42	-63.32	295.87	295.55	9.61	9.35	-2.84
12,500.00	56.89	90.40	12,410.99	-63.66	321.91	321.60	14.95	14.84	-2.22
12,531.00	60.15	89.70	12,427.18	-63.68	348.35	348.03	10.69	10.52	-2.26
12,563.00	62.17	89.53	12,442.61	-63.49	376.38	376.06	6.33	6.31	-0.53
12,594.00	64.63	88.47	12,456.49	-63.01	404.09	403.77	8.50	7.94	-3.42
12,626.00	66.83	87.77	12,469.65	-62.05	433.24	432.93	7.16	6.88	-2.19
12,657.00	68.59	87.59	12,481.40	-60.89	461.90	461.60	5.70	5.68	-0.58
12,712.00	73.25	83.99	12,499.38	-57.05	513.71	513.43	10.49	8.47	-6.55
12,744.00	75.27	84.52	12,508.06	-53.97	544.36	544.09	6.51	6.31	1.66
12,777.00	76.59	86.62	12,516.09	-51.50	576.27	576.01	7.36	4.00	6.36
12,809.00	77.29	86.36	12,523.32	-49.59	607.38	607.13	2.33	2.19	-0.81
12,842.00	78.52	85.31	12,530.23	-47.25	639.56	639.32	4.86	3.73	-3.18
12,874.00	78.35	84.60	12,536.65	-44.49	670.79	670.57	2.24	-0.53	-2.22
12,910.00	78.88	83.37	12,543.75	-40.79	705.89	705.68	3.66	1.47	-3.42
12,942.00	81.60	83.81	12,549.18	-37.27	737.22	737.03	8.61	8.50	1.38
12,975.00	87.41	86.10	12,552.34	-34.39	769.93	769.75	18.91	17.61	6.94
13,007.00	91.01	88.21	12,552.78	-32.80	801.88	801.71	13.04	11.25	6.59
13,091.00	90.48	90.14	12,551.69	-31.59	885.86	885.69	2.38	-0.63	2.30
13,187.00	89.60	89.17	12,551.62	-31.01	981.86	981.69	1.36	-0.92	-1.01
13,284.00	89.43	87.86	12,552.44	-28.50	1,078.82	1,078.67	1.36	-0.18	-1.35
13,381.00	89.08	88.12	12,553.70	-25.10	1,175.75	1,175.61	0.45	-0.36	0.27
13,478.00	89.34	86.89	12,555.04	-20.87	1,272.65	1,272.53	1.30	0.27	-1.27
13,575.00	90.92	87.42	12,554.82	-16.06	1,369.52	1,369.43	1.72	1.63	0.55
13,672.00	90.66	89.17	12,553.48	-13.17	1,466.47	1,466.39	1.82	-0.27	1.80
13,768.00	91.71	89.26	12,551.50	-11.86	1,562.44	1,562.36	1.10	1.09	0.09
13,865.00	90.04	89.35	12,550.01	-10.68	1,659.41	1,659.34	1.72	-1.72	0.09
13,962.00	90.48	88.56	12,549.57	-8.91	1,756.40	1,756.33	0.93	0.45	-0.81
14,058.00	91.28	89.09	12,548.10	-6.95	1,852.36	1,852.31	1.00	0.83	0.55
14,153.00	91.80	88.29	12,545.55	-4.77	1,947.30	1,947.26	1.00	0.55	-0.84
14,250.00	92.59	87.59	12,541.83	-1.29	2,044.17	2,044.14	1.09	0.81	-0.72
14,347.00	92.51	88.65	12,537.52	1.89	2,141.02	2,141.00	1.09	-0.08	1.09
14,445.00	92.15	89.96	12,533.53	3.08	2,238.93	2,238.92	1.39	-0.37	1.34
14,541.00	92.86	89.44	12,529.34	3.58	2,334.83	2,334.82	0.92	0.74	-0.54
14,580.00	91.10	84.34	12,527.99	5.69	2,373.74	2,373.74	13.83	-4.51	-13.08

Company:	OXY	Local Co-ordinate Reference:	Well Madera 35 1H
Project:	Lea County, New Mexico	TVD Reference:	RKB @ 3250.00usft (RKB - M35Fed1H)
Site:	Madera 35 Fed 1H	MD Reference:	RKB @ 3250.00usft (RKB - M35Fed1H)
Well:	Madera 35 1H	North Reference:	Grid
Wellbore:	Original Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassC

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)
14,677.00	90.84	85.75	12,526.35	14.07	2,470.36	2,470.40	1.48	-0.27	1.45
14,774.00	91.98	86.45	12,523.96	20.67	2,567.10	2,567.17	1.38	1.18	0.72
14,870.00	90.92	88.65	12,521.53	24.77	2,662.98	2,663.07	2.54	-1.10	2.29
14,967.00	92.68	91.63	12,518.48	24.53	2,759.92	2,760.00	3.57	1.81	3.07
15,064.00	91.63	91.19	12,514.83	22.15	2,856.82	2,856.89	1.17	-1.08	-0.45
15,123.00	91.71	90.23	12,513.11	21.42	2,915.79	2,915.86	1.63	0.14	-1.63
15,187.00	91.01	89.96	12,511.60	21.31	2,979.77	2,979.84	1.17	-1.09	-0.42
15,284.00	89.60	89.96	12,511.08	21.38	3,076.76	3,076.83	1.45	-1.45	0.00
15,380.00	90.48	89.61	12,511.01	21.74	3,172.76	3,172.83	0.99	0.92	-0.36
15,477.00	90.66	90.58	12,510.05	21.58	3,269.76	3,269.82	1.02	0.19	1.00
15,574.00	90.75	89.35	12,508.85	21.64	3,366.75	3,366.81	1.27	0.09	-1.27
15,671.00	89.96	90.93	12,508.25	21.40	3,463.74	3,463.80	1.82	-0.81	1.63
15,768.00	91.54	87.68	12,506.98	22.57	3,560.71	3,560.78	3.73	1.63	-3.35
15,864.00	91.10	88.38	12,504.77	25.87	3,656.63	3,656.71	0.86	-0.46	0.73
15,962.00	90.48	88.29	12,503.42	28.72	3,754.57	3,754.67	0.64	-0.63	-0.09
16,058.00	90.13	88.12	12,502.91	31.73	3,850.53	3,850.64	0.41	-0.36	-0.18
16,155.00	89.96	87.33	12,502.83	35.58	3,947.45	3,947.58	0.83	-0.18	-0.81
16,251.00	89.25	88.21	12,503.49	39.31	4,043.37	4,043.52	1.18	-0.74	0.92
16,348.00	89.60	88.91	12,504.47	41.75	4,140.34	4,140.49	0.81	0.36	0.72
16,443.00	89.96	89.61	12,504.83	42.98	4,235.33	4,235.49	0.83	0.38	0.74
16,540.00	89.78	90.23	12,505.05	43.11	4,332.33	4,332.48	0.67	-0.19	0.64
16,637.00	91.45	91.81	12,504.01	41.39	4,429.30	4,429.45	2.37	1.72	1.63
16,734.00	92.33	92.43	12,500.81	37.80	4,526.18	4,526.31	1.11	0.91	0.64
16,782.00	93.39	93.66	12,498.42	35.25	4,574.05	4,574.17	3.38	2.21	2.56
MWD Survey									
16,830.00	93.39	93.66	12,495.58	32.20	4,621.87	4,621.97	0.00	0.00	0.00
Bit Projection - PBHL M35Fed1H									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
16,782.00	12,498.42	35.25	4,574.05	MWD Survey
16,830.00	12,495.58	32.20	4,621.87	Bit Projection

Checked By: _____ Approved By: _____ Date: _____