

SEP 11 2014

30-015-41857

RECEIVED

OCCIDENTAL PERMIAN LTD.

Old Millman Ranch (NAD27)
Eddy County, NM (Grid North)
State CV Com #2H
DH - Job #320514-MPH-678

Survey: MWD - Tie-in @ 1057 by NOV

SDI Survey Report

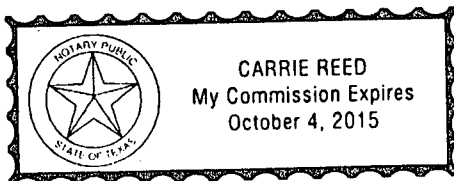
This survey is correct to the best of my knowledge and is supported by actual field data.

K. Wharton

Notarized this date 4th of August, 2014.

Carrie Reed

Notary Signature
County of Midland
State of Texas



SDI
SDI Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well State CV Com #2H
Project:	Old Millman Ranch (NAD27)	TVD Reference:	Mean Sea Level (System)
Site:	Eddy County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	State CV Com #2H	North Reference:	Grid
Wellbore:	DH - Job #320514-MPH-678	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #320514-MPH-678	Database:	EDM-Regulatory

Project	Old Millman Ranch (NAD27)		
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	Eddy County, NM (Grid North)		
Site Position:	Northing:	573,304.83 usft	Latitude: 32° 34' 33.742 N
From: Lat/Long	Easting:	544,233.03 usft	Longitude: 104° 11' 23.060 W
Position Uncertainty: 0.0 usft	Slot Radius: 13-3/16"	Grid Convergence:	0.08 °

Well	State CV Com #2H, Horizontal		
Well Position	+N/-S	0.0 usft	Northing: 573,304.83 usft
	+E/-W	0.0 usft	Easting: 544,233.03 usft
Position Uncertainty	0.0 usft	Wellhead Elevation: 0.0 usft	Ground Level: 0.0 usft

Wellbore	DH - Job #320514-MPH-678				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/18/2014	7.54	60.33	48,494

Design	DH - Job #320514-MPH-678				
Audit Notes:					
Version: 1.0	Phase:	ACTUAL		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction (°)	
	(usft)	(usft)	(usft)		
	0.0	0.0	0.0	268.65	

Survey Program	Date	8/14/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
1,151.0	11,921.0	MWD - Tie-in @ 1057 by NOV (DH - Job #	MWD	MWD	

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
1,057.0	1.81	330.49	1,056.8	7.1	-8.4	310.21	11.0	
1,151.0	2.29	343.10	1,150.7	10.2	-9.7	316.48	14.1	
1,245.0	1.14	0.32	1,244.7	12.9	-10.2	321.66	16.5	
1,340.0	0.62	52.44	1,339.7	14.2	-9.8	325.34	17.2	
1,434.0	0.88	94.63	1,433.7	14.4	-8.7	328.97	16.8	
1,529.0	0.88	73.62	1,528.7	14.6	-7.3	333.54	16.3	
1,623.0	0.70	73.45	1,622.7	14.9	-6.0	338.08	16.1	
1,717.0	0.70	71.25	1,716.7	15.3	-4.9	342.17	16.1	
1,812.0	0.35	96.65	1,811.6	15.4	-4.1	345.20	16.0	
1,906.0	0.62	117.48	1,905.6	15.2	-3.3	347.57	15.5	
2,001.0	0.53	143.50	2,000.6	14.6	-2.6	349.79	14.8	
2,095.0	0.26	127.24	2,094.6	14.1	-2.2	351.14	14.3	

SDI

SDI Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well State CV Com #2H
Project:	Old Millman Ranch (NAD27)	TVD Reference:	Mean Sea Level (System)
Site:	Eddy County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	State CV Com #2H	North Reference:	Grid
Wellbore:	DH - Job #320514-MPH-678	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #320514-MPH-678	Database:	EDM-Regulatory

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
2,190.0	0.18	120.38	2,189.6	13.9	-1.9	352.23	14.0	
2,284.0	0.35	134.18	2,283.6	13.6	-1.6	353.45	13.7	
2,378.0	0.35	164.59	2,377.6	13.2	-1.3	354.43	13.2	
2,473.0	0.44	178.48	2,472.6	12.5	-1.2	354.54	12.6	
2,567.0	0.35	177.68	2,566.6	11.9	-1.2	354.34	11.9	
2,662.0	0.44	155.01	2,661.6	11.2	-1.0	354.87	11.3	
2,756.0	0.44	187.35	2,755.6	10.6	-0.9	355.11	10.6	
2,850.0	0.26	200.62	2,849.6	10.0	-1.0	354.15	10.0	
2,945.0	0.44	165.73	2,944.6	9.4	-1.0	353.89	9.5	
3,039.0	0.35	163.27	3,038.6	8.8	-0.8	354.57	8.9	
3,113.0	0.35	189.20	3,112.6	8.4	-0.8	354.48	8.4	
3,216.0	0.53	271.99	3,215.6	8.1	-1.3	350.62	8.2	
3,310.0	0.70	273.75	3,309.6	8.1	-2.3	343.93	8.5	
3,405.0	0.62	292.91	3,404.6	8.4	-3.4	337.93	9.0	
3,499.0	0.70	295.72	3,498.6	8.8	-4.4	333.59	9.8	
3,593.0	0.62	287.64	3,592.6	9.2	-5.4	329.73	10.7	
3,688.0	0.79	294.93	3,687.6	9.7	-6.5	326.19	11.6	
3,782.0	0.88	283.77	3,781.6	10.1	-7.8	322.48	12.7	
3,876.0	0.70	286.67	3,875.6	10.4	-9.0	319.21	13.8	
3,970.0	0.70	284.03	3,969.6	10.7	-10.1	316.72	14.8	
4,065.0	1.06	297.48	4,064.5	11.3	-11.5	314.57	16.1	
4,159.0	0.62	206.25	4,158.5	11.2	-12.5	312.05	16.8	
4,254.0	0.70	209.77	4,253.5	10.3	-13.0	308.37	16.5	
4,348.0	1.49	124.34	4,347.5	9.1	-12.2	306.56	15.2	
4,442.0	1.14	131.63	4,441.5	7.8	-10.5	306.40	13.1	
4,536.0	1.23	134.53	4,535.5	6.4	-9.1	305.23	11.2	
4,630.0	1.14	140.68	4,629.5	5.0	-7.8	302.69	9.3	
4,724.0	1.14	143.76	4,723.4	3.5	-6.7	297.93	7.5	
4,819.0	0.97	142.62	4,818.4	2.1	-5.6	290.78	6.0	
4,913.0	0.97	120.12	4,912.4	1.1	-4.4	283.90	4.6	
5,008.0	0.53	100.87	5,007.4	0.6	-3.3	280.47	3.4	
5,102.0	0.88	102.71	5,101.4	0.4	-2.2	279.67	2.2	
5,196.0	0.62	109.92	5,195.4	0.0	-1.0	272.29	1.0	
5,291.0	0.44	131.89	5,290.4	-0.4	-0.2	213.22	0.5	
5,386.0	0.26	186.21	5,385.4	-0.8	0.0	179.98	0.8	
5,480.0	0.18	293.44	5,479.4	-1.0	-0.2	189.08	1.0	
5,575.0	0.18	324.81	5,574.4	-0.8	-0.4	205.24	0.9	
5,669.0	0.62	322.27	5,668.4	-0.3	-0.8	249.83	0.8	
5,764.0	0.70	338.88	5,763.4	0.7	-1.3	296.98	1.5	
5,859.0	0.88	345.56	5,858.4	1.9	-1.7	318.46	2.6	
5,953.0	0.79	32.67	5,952.4	3.2	-1.5	334.24	3.5	
6,047.0	0.79	46.29	6,046.3	4.1	-0.7	350.37	4.2	
6,141.0	0.53	46.02	6,140.3	4.9	0.1	0.90	4.9	
6,235.0	0.44	107.37	6,234.3	5.1	0.7	8.21	5.1	

SDI
SDI Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well State CV Com #2H
Project:	Old Millman Ranch (NAD27)	TVD Reference:	Mean Sea Level (System)
Site:	Eddy County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	State CV Com #2H	North Reference:	Grid
Wellbore:	DH - Job #320514-MPH-678	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #320514-MPH-678	Database:	EDM-Regulatory

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
6,330.0	0.70	87.60	6,329.3	5.0	1.7	18.37	5.3	
6,424.0	0.88	81.36	6,423.3	5.1	2.9	29.85	5.9	
6,518.0	0.79	111.15	6,517.3	5.0	4.3	40.40	6.6	
6,612.0	0.97	112.82	6,611.3	4.5	5.6	51.42	7.2	
6,635.0	1.06	118.80	6,634.3	4.3	6.0	54.28	7.4	
6,656.0	1.14	122.84	6,655.3	4.1	6.3	57.10	7.5	
6,687.0	1.14	143.50	6,686.3	3.7	6.8	61.49	7.7	
6,719.0	2.02	226.99	6,718.3	3.0	6.5	65.12	7.2	
6,750.0	5.01	261.09	6,749.2	2.4	4.8	62.97	5.4	
6,782.0	8.00	265.75	6,781.0	2.1	1.2	30.08	2.4	
6,813.0	10.55	272.87	6,811.6	2.0	-3.8	298.41	4.3	
6,844.0	12.66	274.01	6,842.0	2.4	-10.0	283.64	10.3	
6,876.0	14.33	274.80	6,873.1	3.0	-17.5	279.77	17.7	
6,907.0	16.09	272.61	6,903.0	3.5	-25.6	277.84	25.8	
6,938.0	18.47	268.48	6,932.6	3.6	-34.8	275.89	35.0	
6,970.0	21.28	265.66	6,962.7	3.0	-45.6	273.78	45.7	
7,001.0	24.36	265.93	6,991.3	2.1	-57.6	272.12	57.7	
7,032.0	27.44	267.25	7,019.1	1.3	-71.1	271.08	71.2	
7,064.0	29.99	269.27	7,047.2	0.9	-86.5	270.58	86.5	
7,095.0	32.45	269.44	7,073.7	0.7	-102.6	270.39	102.6	
7,126.0	34.82	269.18	7,099.5	0.5	-119.7	270.24	119.7	
7,158.0	36.76	267.95	7,125.5	0.0	-138.4	270.01	138.4	
7,189.0	38.34	266.54	7,150.1	-0.9	-157.3	269.68	157.3	
7,221.0	40.71	267.33	7,174.7	-2.0	-177.6	269.36	177.7	
7,252.0	43.70	267.60	7,197.7	-2.9	-198.5	269.16	198.5	
7,284.0	46.25	267.42	7,220.3	-3.9	-221.0	268.99	221.1	
7,315.0	48.45	266.63	7,241.3	-5.1	-243.8	268.81	243.9	
7,346.0	50.56	265.75	7,261.5	-6.6	-267.3	268.58	267.4	
7,377.0	52.41	267.07	7,280.8	-8.2	-291.5	268.40	291.7	
7,409.0	54.26	267.86	7,299.9	-9.3	-317.2	268.32	317.3	
7,440.0	55.40	269.00	7,317.7	-10.0	-342.5	268.33	342.7	
7,472.0	57.77	269.62	7,335.4	-10.3	-369.2	268.40	369.4	
7,503.0	59.09	271.11	7,351.6	-10.1	-395.6	268.53	395.8	
7,534.0	62.17	271.64	7,366.8	-9.5	-422.6	268.72	422.7	
7,566.0	65.07	271.64	7,381.0	-8.7	-451.3	268.90	451.4	
7,598.0	68.06	273.05	7,393.7	-7.4	-480.6	269.11	480.7	
7,629.0	70.26	273.66	7,404.8	-5.8	-509.5	269.35	509.6	
7,660.0	72.63	273.13	7,414.6	-4.0	-538.9	269.57	538.9	
7,692.0	74.83	271.99	7,423.6	-2.6	-569.6	269.73	569.6	
7,723.0	77.29	271.38	7,431.0	-1.8	-599.6	269.83	599.6	
7,755.0	79.40	270.94	7,437.5	-1.1	-631.0	269.90	631.0	
7,850.0	83.36	269.44	7,451.8	-0.8	-724.9	269.94	724.9	
7,881.0	83.54	269.35	7,455.3	-1.1	-755.7	269.91	755.7	
7,912.0	84.68	268.83	7,458.5	-1.6	-786.5	269.88	786.5	

SDI
SDI Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well State CV Com #2H
Project:	Old Millman Ranch (NAD27)	TVD Reference:	Mean Sea Level (System)
Site:	Eddy County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	State CV Com #2H	North Reference:	Grid
Wellbore:	DH - Job #320514-MPH-678	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #320514-MPH-678	Database:	EDM-Regulatory

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
7,944.0	86.53	268.65	7,460.9	-2.3	-818.4	269.84	818.4	
7,975.0	89.34	267.77	7,462.0	-3.3	-849.4	269.78	849.4	
8,007.0	90.40	267.68	7,462.1	-4.6	-881.3	269.70	881.3	
8,038.0	91.89	267.68	7,461.5	-5.8	-912.3	269.63	912.3	
8,087.0	93.39	266.02	7,459.2	-8.5	-961.2	269.49	961.2	
8,119.0	94.00	265.84	7,457.2	-10.8	-993.0	269.38	993.1	
8,150.0	94.48	265.88	7,454.9	-13.0	-1,023.9	269.27	1,023.9	
8,182.0	93.30	266.28	7,452.7	-15.2	-1,055.7	269.18	1,055.8	
8,213.0	93.47	266.54	7,450.9	-17.1	-1,086.6	269.10	1,086.7	
8,245.0	94.44	267.33	7,448.7	-18.8	-1,118.5	269.03	1,118.6	
8,276.0	95.06	267.77	7,446.1	-20.2	-1,149.3	268.99	1,149.5	
8,308.0	95.67	267.60	7,443.1	-21.5	-1,181.2	268.96	1,181.4	
8,339.0	95.67	267.86	7,440.0	-22.7	-1,212.0	268.93	1,212.2	
8,370.0	93.91	269.27	7,437.5	-23.4	-1,242.9	268.92	1,243.1	
8,401.0	93.56	269.79	7,435.4	-23.7	-1,273.8	268.93	1,274.0	
8,433.0	93.83	269.35	7,433.4	-23.9	-1,305.7	268.95	1,306.0	
8,464.0	94.09	268.83	7,431.2	-24.4	-1,336.7	268.95	1,336.9	
8,496.0	93.91	269.35	7,429.0	-24.9	-1,368.6	268.96	1,368.8	
8,527.0	91.63	269.44	7,427.5	-25.3	-1,399.5	268.97	1,399.8	
8,590.0	91.71	270.67	7,425.7	-25.2	-1,462.5	269.01	1,462.7	
8,684.0	93.65	270.41	7,421.3	-24.3	-1,556.4	269.10	1,556.6	
8,778.0	92.42	270.32	7,416.3	-23.7	-1,650.3	269.18	1,650.4	
8,872.0	94.00	270.23	7,411.0	-23.3	-1,744.1	269.24	1,744.3	
8,967.0	93.47	271.46	7,404.8	-21.9	-1,838.9	269.32	1,839.0	
9,061.0	89.60	271.90	7,402.3	-19.1	-1,932.8	269.43	1,932.9	
9,155.0	87.85	272.43	7,404.4	-15.6	-2,026.7	269.56	2,026.8	
9,250.0	90.40	272.17	7,405.9	-11.8	-2,121.6	269.68	2,121.6	
9,345.0	91.71	271.20	7,404.1	-9.0	-2,216.5	269.77	2,216.6	
9,439.0	90.84	270.67	7,402.0	-7.4	-2,310.5	269.82	2,310.5	
9,534.0	92.07	270.50	7,399.6	-6.5	-2,405.5	269.85	2,405.5	
9,628.0	91.28	270.94	7,396.9	-5.3	-2,499.4	269.88	2,499.4	
9,723.0	91.10	270.15	7,394.9	-4.4	-2,594.4	269.90	2,594.4	
9,817.0	90.13	269.44	7,393.9	-4.7	-2,688.4	269.90	2,688.4	
9,911.0	90.92	268.83	7,393.0	-6.1	-2,782.4	269.87	2,782.4	
10,006.0	90.40	266.98	7,391.9	-9.6	-2,877.3	269.81	2,877.3	
10,100.0	90.40	266.19	7,391.3	-15.2	-2,971.1	269.71	2,971.2	
10,194.0	90.40	267.07	7,390.6	-20.7	-3,065.0	269.61	3,065.0	
10,288.0	90.66	267.68	7,389.8	-25.0	-3,158.9	269.55	3,159.0	
10,382.0	90.57	269.09	7,388.7	-27.7	-3,252.8	269.51	3,252.9	
10,476.0	91.01	269.88	7,387.4	-28.5	-3,346.8	269.51	3,346.9	
10,570.0	90.48	269.88	7,386.2	-28.7	-3,440.8	269.52	3,440.9	
10,665.0	89.96	270.15	7,385.9	-28.7	-3,535.8	269.53	3,535.9	
10,759.0	90.04	269.97	7,385.9	-28.6	-3,629.8	269.55	3,629.9	
10,853.0	90.92	269.97	7,385.1	-28.7	-3,723.8	269.56	3,723.9	
10,947.0	91.71	269.35	7,382.9	-29.2	-3,817.8	269.56	3,817.9	

SDI

SDI Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well State CV Com #2H
Project:	Old Millman Ranch (NAD27)	TVD Reference:	Mean Sea Level (System)
Site:	Eddy County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	State CV Com #2H	North Reference:	Grid
Wellbore:	DH - Job #320514-MPH-678	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #320514-MPH-678	Database:	EDM-Regulatory

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)
11,041.0	90.22	269.44	7,381.3	-30.2	-3,911.7	269.56	3,911.9
11,136.0	89.87	269.79	7,381.3	-30.8	-4,006.7	269.56	4,006.9
11,230.0	90.66	269.09	7,380.8	-31.8	-4,100.7	269.56	4,100.9
11,324.0	91.71	269.27	7,378.9	-33.1	-4,194.7	269.55	4,194.8
11,417.0	91.54	269.09	7,376.2	-34.4	-4,287.7	269.54	4,287.8
11,511.0	90.84	270.50	7,374.3	-34.8	-4,381.6	269.55	4,381.8
11,605.0	90.66	272.17	7,373.1	-32.6	-4,475.6	269.58	4,475.7
11,700.0	91.54	272.78	7,371.2	-28.5	-4,570.5	269.64	4,570.6
11,795.0	90.66	272.61	7,369.4	-24.0	-4,665.4	269.71	4,665.4
11,921.0	92.86	271.82	7,365.5	-19.1	-4,791.2	269.77	4,791.2
Last MWD Survey							

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,921.0	7,365.5	-19.1	-4,791.2	Last MWD Survey



Scientific Drilling

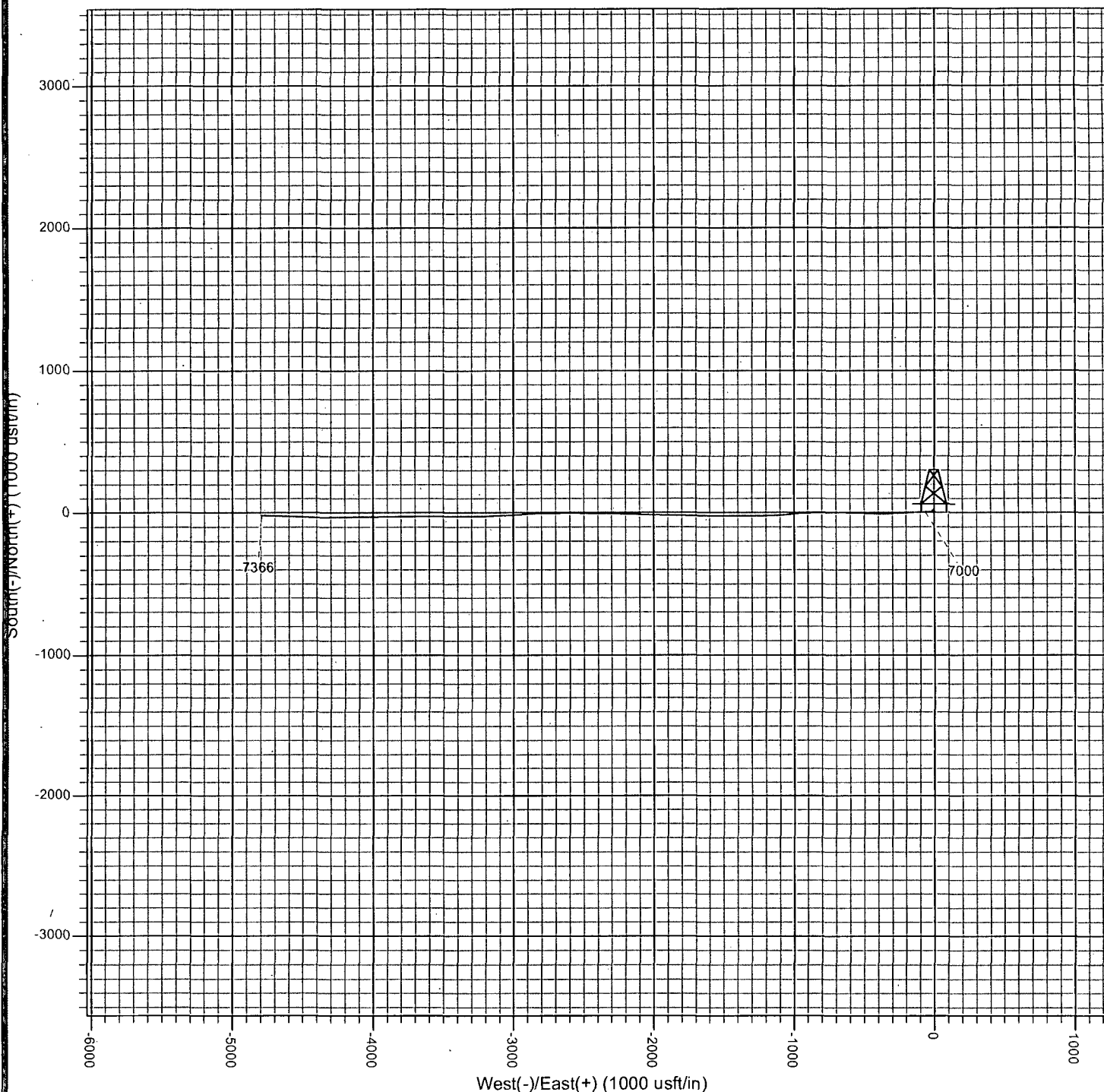
Project: Old Millman Ranch (NAD27)
Eddy County, NM (Grid North)
Well: State CV Com #2H
Wellbore: DH - Job #320514-MPH-678
Design: DH - Job #320514-MPH-678

WELL DETAILS: State CV Com #2H

Mean Sea Level (System)

Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	573304.83	544233.03	32° 34' 33.742 N	104° 11' 23.060 W	



PROJECT DETAILS: Old Millman Ranch (NAD27)	SITE DETAILS: Eddy County, NM (Grid North)
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 34' 33.742 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 104° 11' 23.060 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0.0
Zone: New Mexico East 3001	Convergence: 0.08
System Datum: Mean Sea Level	Local North: Grid