

FloSurvey - Real Time Survey Tool

1200 Cypress Creek Road

Cedar Park, TX 78613

Phone: (512)340-5000

Fax: (512)340-5441

June 11, 2014

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

HOBBS OCD

NOV 17 2014

RECEIVED

CLIENT: OXY USA
WELL: Copperhead 18 State 5H
FIELD: N/A
RIG: H&P 474
COUNTY: Lea
API NO: 30-025-41463

We hereby certify that the enclosed field survey data performed on the referenced well by National Oilwell Varco, contained in this report represents to the best of our knowledge, a true and accurate survey of the surveyed section of the well at the time the survey was run.

Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Mickey Henderson N/A	Copperhead 18 State 5H Original Hole	162.00 Ft to 1200.00 Ft	June 10, 2014 to June 11, 2014	FloSurvey

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Mark Xenakis
Field Service Manager

CC: OXY USA
Enclosures: [2]
County of Lea
State of New Mexico

Attn: Marinos Baghdati
5 Greenway Plaza, Suite 110
Houston, Texas 77406

Attn: N/A
N/A
N/A

NOV 24 2014

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1200 Cypress Creek Road

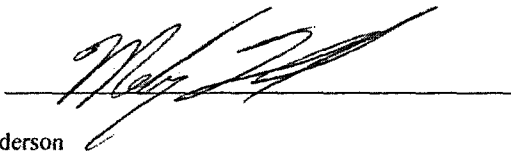
Cedar Park, TX 78613

Phone: (512) 340-5000

Fax: (512) 340-5441

I, Mickey Henderson certify that; I am employed by National Oilwell Varco, L.P.; that the surveys taken on the day(s) of June 10, 2014 through June 11, 2014, from a depth of 162.00 Ft feet to a depth of 1200 feet; are to the best of my knowledge, the data is true, correct, complete and within the limitations of the tool as set forth by National Oilwell Varco, L.P.; that I am authorized and qualified to make this report; that this survey was conducted at the request of OXY USA for the Copperhead 18 State 5H Well (Original Hole) API No. 30-025-41463 in Lea County, New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by National Oilwell Varco, L.P.

Signature



Mickey Henderson

N/A

Survey Depth (ft)	Incl. (°)	(Grid) Azim. (°)	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
162.00	0.260	158.120	162.00	0.34 S	0.14 E	0.00	0.160
339.00	0.070	122.100	339.00	0.77 S	0.38 E	0.05	0.117
749.00	0.290	60.140	749.00	0.39 S	1.49 E	1.23	0.064
884.00	0.570	54.710	883.99	0.17 N	2.33 E	2.22	0.209
1200.00	0.150	357.040	1199.99	1.49 N	3.60 E	3.89	0.160

All data is in Feet (US Survey) unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to Copperhead 18 State 5H. Northings and Eastings are relative to Copperhead 18 State 5H.

The dogleg severity is in Degrees per 100 feet (US Survey).
Vertical Section is from Copperhead 18 State 5H calculated along an azimuth of 67.475° (Grid).

Based upon minimum curvature calculations, at a measured depth of 1200.00ft, the bottom hole displacement is 3.89ft, in the direction of 67.475° (Grid).

The along-hole displacement is 4.94ft. The total accumulated dogleg is 1.424°. The measured tortuosity is 0.131°/100ft. The directional difficulty index is 0.4.

Survey Tool Program for Copperhead 18 State 5H, Surveys: 162`MD - 1200`MD

From		To		Survey Tool Description
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	
0.00	0.00	1200.00	1199.99	FloSurvey TiltOnlyMEM

OCCIDENTAL PERMIAN LTD.

Triple X Bone Spring

Lea County, NM

Copperhead "18" State #5H

DH - Job #320614-MPH-781

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Survey: MWD - Tie-In @ 1200' by Teledrift

SDI Survey Report

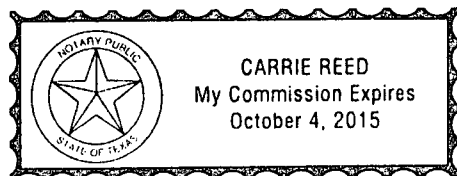
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 11th of September, 2014.

[Signature]

Notary Signature
County of Midland
State of Texas



SDI
SDI Survey Report

HOBBS OCD
NOV 17 2014

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Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Copperhead "18" State #5H
Project:	Triple X Bone Spring	TVD Reference:	Mean Sea Level (System)
Site:	Lea County, NM	MD Reference:	Mean Sea Level (System)
Well:	Copperhead "18" State #5H	North Reference:	Grid
Wellbore:	DH - Job #320614-MPH-781	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #320614-MPH-781	Database:	EDM-Regulatory

Project	Triple X Bone Spring		
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	Lea County, NM				
Site Position:		Northing:	445,907.52 usft	Latitude:	32° 13' 25.997 N
From:	Lat/Long	Easting:	721,463.19 usft	Longitude:	103° 37' 18.910 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.38 °

Well	Copperhead "18" State #5H, Horizontal					
Well Position	+N/-S	0.0 usft	Northing:	445,930.12 usft	Latitude:	32° 13' 25.975 N
	+E/-W	0.0 usft	Easting:	725,153.61 usft	Longitude:	103° 36' 18.910 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	0.0 usft

Wellbore	DH - Job #320614-MPH-781				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/12/2014	7.23	60.11	48,339

Design	DH - Job #320614-MPH-781				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	173.01	

Survey Program	Date	9/10/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
1,239.0	15,660.0	MWD - Tie-In @ 1200' by Teledrift (DH - Jo	MWD	MWD	

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)
	1,200.0	0.15	357.04	1,200.0	1.5	3.6	67.38	3.9
	1,239.0	0.26	20.47	1,239.0	1.6	3.6	65.76	4.0
	1,333.0	0.26	153.88	1,333.0	1.6	3.8	66.61	4.1
	1,426.0	0.35	59.23	1,426.0	1.6	4.1	68.86	4.4
	1,521.0	0.18	91.57	1,521.0	1.7	4.5	68.97	4.9
	1,615.0	0.18	115.12	1,615.0	1.7	4.8	70.81	5.1
	1,709.0	0.09	96.14	1,709.0	1.6	5.0	72.27	5.3
	1,803.0	0.26	347.42	1,803.0	1.8	5.0	70.32	5.4
	1,897.0	0.26	301.10	1,897.0	2.1	4.8	66.22	5.3
	1,992.0	0.09	113.19	1,992.0	2.2	4.7	64.87	5.2
	2,086.0	0.26	94.29	2,086.0	2.2	5.0	66.56	5.4
	2,180.0	0.18	218.75	2,180.0	2.0	5.1	68.31	5.5

SDI

SDI Survey Report

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Site: Lea County, NM	MD Reference: Mean Sea Level (System)
Well: Copperhead "18" State #5H	North Reference: Grid
Wellbore: DH - Job #320614-MPH-781	Survey Calculation Method: Minimum Curvature
Design: DH - Job #320614-MPH-781	Database: EDM-Regulatory

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
2,274.0	0.35	45.34	2,274.0	2.1	5.2	67.91	5.6	
2,369.0	0.35	68.81	2,369.0	2.4	5.7	66.92	6.2	
2,463.0	0.18	217.16	2,463.0	2.4	5.9	67.67	6.3	
2,558.0	0.44	17.83	2,558.0	2.6	5.9	65.87	6.5	
2,652.0	0.70	66.87	2,652.0	3.2	6.5	63.83	7.3	
2,747.0	0.88	47.27	2,747.0	3.9	7.6	62.65	8.6	
2,841.0	0.97	71.97	2,841.0	4.7	8.9	62.29	10.0	
2,935.0	0.79	42.35	2,935.0	5.4	10.1	61.85	11.4	
3,029.0	1.32	70.21	3,028.9	6.2	11.5	61.60	13.1	
3,124.0	1.06	62.83	3,123.9	7.0	13.3	62.29	15.1	
3,218.0	1.32	49.38	3,217.9	8.1	14.9	61.50	17.0	
3,312.0	1.67	42.35	3,311.9	9.8	16.7	59.50	19.4	
3,406.0	1.58	66.78	3,405.8	11.4	18.8	58.87	22.0	
3,501.0	1.41	81.90	3,500.8	12.0	21.2	60.38	24.3	
3,595.0	1.32	51.58	3,594.8	12.9	23.2	60.93	26.5	
3,689.0	0.70	84.89	3,688.8	13.6	24.6	61.05	28.1	
3,783.0	1.14	191.41	3,782.8	12.7	25.0	62.98	28.0	
3,878.0	1.85	210.13	3,877.7	10.5	24.0	66.43	26.2	
3,972.0	1.85	215.93	3,971.7	7.9	22.4	70.46	23.7	
4,067.0	1.41	205.04	4,066.6	5.6	21.0	74.96	21.7	
4,161.0	1.49	216.20	4,160.6	3.6	19.7	79.67	20.1	
4,255.0	1.32	219.63	4,254.6	1.8	18.3	84.46	18.4	
4,349.0	1.14	187.55	4,348.6	0.0	17.5	89.94	17.5	
4,443.0	1.23	181.48	4,442.5	-1.9	17.4	96.30	17.5	
4,537.0	1.93	171.55	4,536.5	-4.5	17.6	104.33	18.1	
4,631.0	2.37	161.35	4,630.4	-7.9	18.4	113.20	20.1	
4,726.0	2.81	159.95	4,725.3	-11.9	19.9	121.03	23.2	
4,820.0	2.20	169.53	4,819.2	-15.9	21.0	127.14	26.3	
4,914.0	1.58	195.02	4,913.2	-18.9	21.0	132.05	28.2	
5,008.0	0.88	199.41	5,007.2	-20.8	20.4	135.63	29.2	
5,187.0	0.97	191.59	5,186.1	-23.6	19.6	140.27	30.7	
5,280.0	0.70	264.89	5,279.1	-24.4	18.9	142.28	30.9	
5,374.0	0.70	265.50	5,373.1	-24.5	17.8	144.10	30.3	
5,469.0	1.49	325.45	5,468.1	-23.6	16.5	145.03	28.8	
5,564.0	1.85	316.75	5,563.1	-21.4	14.7	145.50	26.0	
5,658.0	0.88	335.29	5,657.0	-19.7	13.4	145.76	23.8	
5,752.0	0.88	338.19	5,751.0	-18.4	12.8	145.06	22.4	
5,847.0	1.06	341.44	5,846.0	-16.8	12.3	143.92	20.8	
5,941.0	0.97	340.39	5,940.0	-15.3	11.7	142.47	19.3	
6,035.0	0.79	357.70	6,034.0	-13.9	11.4	140.49	18.0	
6,129.0	0.70	5.35	6,128.0	-12.6	11.5	137.82	17.1	
6,223.0	0.88	346.89	6,222.0	-11.4	11.4	135.06	16.1	
6,317.0	0.70	338.37	6,316.0	-10.1	11.0	132.73	14.9	
6,411.0	0.79	359.55	6,410.0	-9.0	10.8	129.77	14.0	

SDI
SDI Survey Report

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Site:	Lea County, NM	MD Reference:	Mean Sea Level (System)
Well:	Copperhead "18" State #5H	North Reference:	Grid
Wellbore:	DH - Job #320614-MPH-781	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #320614-MPH-781	Database:	EDM-Regulatory

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
6,506.0	0.62	359.20	6,505.0	-7.8	10.7	125.93	12.7	13.3
6,601.0	0.44	353.40	6,600.0	-6.9	10.7	122.86	12.2	12.7
6,696.0	0.44	335.47	6,695.0	-6.2	10.5	120.62	11.7	12.2
6,791.0	0.26	324.57	6,789.9	-5.7	10.2	119.17	11.4	11.7
6,886.0	0.44	5.08	6,884.9	-5.2	10.1	117.03	11.0	11.4
6,982.0	0.53	348.47	6,980.9	-4.4	10.1	113.43	10.6	11.0
7,076.0	0.53	355.33	7,074.9	-3.5	10.0	109.41	10.3	10.6
7,171.0	0.18	331.60	7,169.9	-2.9	9.9	106.62	10.2	10.3
7,266.0	0.18	7.28	7,264.9	-2.7	9.8	105.19	10.1	10.2
7,361.0	0.44	7.37	7,359.9	-2.2	9.9	102.30	10.2	10.1
7,456.0	0.18	55.45	7,454.9	-1.7	10.0	99.64	10.4	10.2
7,550.0	0.35	41.56	7,548.9	-1.4	10.3	97.74	10.6	10.4
7,644.0	0.00	235.71	7,642.9	-1.2	10.5	96.45	10.2	10.6
7,739.0	0.44	274.21	7,737.9	-1.2	10.2	96.53	9.7	10.2
7,833.0	0.26	268.58	7,831.9	-1.1	9.6	96.79	9.2	9.7
7,926.0	0.26	274.03	7,924.9	-1.1	9.2	97.04	8.9	9.2
8,020.0	0.26	241.51	8,018.9	-1.2	8.8	97.91	8.6	8.9
8,114.0	0.18	241.07	8,112.9	-1.4	8.5	99.35	8.2	8.6
8,208.0	0.35	240.28	8,206.9	-1.6	8.1	101.25	8.1	8.2
8,302.0	0.35	188.42	8,300.9	-2.0	7.8	104.63	8.1	8.1
8,397.0	0.26	199.41	8,395.9	-2.5	7.7	108.20	8.1	8.1
8,491.0	0.79	196.51	8,489.9	-3.3	7.4	114.27	8.2	8.1
8,585.0	0.70	218.57	8,583.9	-4.4	6.9	122.70	8.4	8.2
8,679.0	0.88	197.30	8,677.9	-5.6	6.3	131.37	9.0	8.4
8,773.0	0.88	207.50	8,771.9	-6.9	5.8	140.08	9.8	9.0
8,867.0	0.79	174.63	8,865.9	-8.2	5.5	146.11	11.0	9.8
8,961.0	0.79	183.24	8,959.9	-9.5	5.5	149.78	12.6	11.0
9,055.0	1.49	179.37	9,053.9	-11.3	5.5	154.16	14.0	12.6
9,149.0	0.79	216.55	9,147.8	-13.1	5.1	158.63	14.8	14.0
9,243.0	0.70	207.32	9,241.8	-14.1	4.5	162.43	15.2	14.8
9,337.0	0.44	261.37	9,335.8	-14.7	3.8	165.31	15.2	15.2
9,431.0	0.09	195.28	9,429.8	-14.8	3.5	166.80	16.0	15.2
9,525.0	1.06	202.93	9,523.8	-15.7	3.1	168.77	16.8	16.0
9,620.0	0.09	214.44	9,618.8	-16.5	2.7	170.64	15.8	16.8
9,714.0	1.93	302.42	9,712.8	-15.7	1.3	175.11	13.3	15.8
9,808.0	2.73	320.17	9,806.7	-13.2	-1.4	186.15	10.6	13.3
9,902.0	2.29	326.33	9,900.6	-9.9	-3.9	201.49	9.2	10.6
9,996.0	1.67	326.15	9,994.6	-7.2	-5.7	218.38	9.1	9.2
10,090.0	1.67	309.80	10,088.5	-5.2	-7.5	235.40	10.3	9.1
10,185.0	1.23	293.37	10,183.5	-3.9	-9.5	247.75	11.9	10.3
10,279.0	1.14	278.60	10,277.5	-3.4	-11.4	253.56	12.4	11.9
10,374.0	0.00	354.10	10,372.5	-3.2	-12.3	255.36	12.3	12.7
10,469.0	0.44	43.32	10,467.5	-2.9	-12.1	256.26	12.3	12.4
10,485.0	0.70	18.62	10,483.5	-2.8	-12.0	256.80	12.3	12.3

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Site: Lea County, NM	MD Reference: Mean Sea Level (System)
Well: Copperhead "18" State #5H	North Reference: Grid
Wellbore: DH - Job #320614-MPH-781	Survey Calculation Method: Minimum Curvature
Design: DH - Job #320614-MPH-781	Database: EDM-Regulatory

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)
10,516.0	0.24	72.24	10,514.5	-2.6	-11.9	257.58	12.1
10,548.0	2.83	184.61	10,546.5	-3.4	-11.9	254.10	12.3
10,579.0	5.98	186.67	10,577.4	-5.7	-12.1	244.61	13.4
10,611.0	10.14	179.31	10,609.0	-10.2	-12.3	230.19	16.0
10,642.0	12.74	177.73	10,639.4	-16.4	-12.1	216.47	20.3
10,674.0	15.48	177.09	10,670.5	-24.2	-11.7	205.92	26.9
10,705.0	18.64	177.35	10,700.1	-33.2	-11.3	198.77	35.1
10,736.0	20.31	180.95	10,729.3	-43.6	-11.2	194.37	45.0
10,768.0	23.83	178.84	10,759.0	-55.6	-11.1	191.31	56.7
10,799.0	27.44	177.53	10,786.9	-69.0	-10.7	188.80	69.8
10,830.0	30.34	176.74	10,814.0	-83.9	-9.9	186.75	84.5
10,862.0	33.50	175.15	10,841.2	-100.8	-8.7	184.95	101.2
10,893.0	35.79	176.65	10,866.7	-118.4	-7.5	183.61	118.6
10,924.0	38.34	178.67	10,891.4	-137.1	-6.7	182.81	137.2
10,956.0	40.27	178.93	10,916.2	-157.3	-6.3	182.29	157.5
10,987.0	42.03	182.71	10,939.5	-177.7	-6.6	182.13	177.8
11,018.0	45.11	182.98	10,962.0	-199.1	-7.7	182.20	199.2
11,050.0	48.19	182.89	10,984.0	-222.3	-8.9	182.28	222.5
11,081.0	52.26	181.48	11,003.8	-246.1	-9.8	182.27	246.3
11,113.0	55.40	179.55	11,022.7	-271.9	-10.0	182.10	272.1
11,144.0	58.21	177.88	11,039.7	-297.8	-9.4	181.81	298.0
11,175.0	60.76	176.30	11,055.4	-324.5	-8.0	181.42	324.6
11,207.0	63.58	176.38	11,070.3	-352.8	-6.2	181.01	352.8
11,238.0	67.09	177.17	11,083.3	-380.9	-4.6	180.70	380.9
11,270.0	70.79	177.53	11,094.8	-410.7	-3.3	180.45	410.7
11,301.0	74.39	178.14	11,104.0	-440.3	-2.1	180.28	440.3
11,332.0	77.29	177.88	11,111.6	-470.3	-1.1	180.13	470.3
11,364.0	81.69	177.61	11,117.5	-501.7	0.1	179.98	501.7
11,395.0	84.50	177.97	11,121.2	-532.5	1.3	179.86	532.5
11,426.0	87.14	179.64	11,123.4	-563.4	2.0	179.80	563.4
11,458.0	89.87	179.28	11,124.3	-595.4	2.3	179.78	595.4
11,490.0	91.63	177.35	11,123.9	-627.3	3.2	179.71	627.4
11,521.0	92.07	176.21	11,122.9	-658.3	5.0	179.57	658.3
11,565.0	92.95	174.10	11,120.9	-702.1	8.7	179.29	702.1
11,596.0	93.65	172.78	11,119.1	-732.8	12.2	179.05	732.9
11,628.0	93.21	171.20	11,117.2	-764.5	16.6	178.75	764.6
11,659.0	92.42	170.76	11,115.7	-795.0	21.5	178.45	795.3
11,690.0	91.45	169.44	11,114.7	-825.6	26.8	178.14	826.0
11,785.0	91.10	168.47	11,112.5	-918.8	45.0	177.19	919.9
11,879.0	90.75	167.68	11,111.0	-1,010.7	64.4	176.35	1,012.8
11,973.0	91.54	168.30	11,109.2	-1,102.6	84.0	175.64	1,105.8
12,067.0	90.57	168.12	11,107.4	-1,194.6	103.2	175.06	1,199.1
12,162.0	90.92	167.86	11,106.2	-1,287.6	123.0	174.54	1,293.4
12,256.0	89.78	169.09	11,105.6	-1,379.7	141.8	174.13	1,386.9
12,351.0	89.60	169.00	11,106.1	-1,472.9	159.8	173.81	1,481.6

SDI
SDI Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Copperhead "18" State #5H
Project:	Triple X Bone Spring	TVD Reference:	Mean Sea Level (System)
Site:	Lea County, NM	MD Reference:	Mean Sea Level (System)
Well:	Copperhead "18" State #5H	North Reference:	Grid
Wellbore:	DH - Job #320614-MPH-781	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #320614-MPH-781	Database:	EDM-Regulatory

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	Closure Azimuth (°)	Closure Distance (usft)
12,445.0	89.25	169.09	11,107.1	-1,565.2	177.7	173.52	1,575.3
12,539.0	88.11	169.26	11,109.2	-1,657.5	195.3	173.28	1,669.0
12,633.0	88.64	170.50	11,111.9	-1,750.0	211.8	173.10	1,762.8
12,727.0	89.08	172.08	11,113.8	-1,842.9	226.1	173.01	1,856.7
12,821.0	88.64	170.93	11,115.6	-1,935.9	239.9	172.93	1,950.7
12,916.0	89.60	170.67	11,117.1	-2,029.6	255.1	172.84	2,045.6
13,010.0	91.89	173.31	11,115.9	-2,122.7	268.2	172.80	2,139.6
13,104.0	91.98	172.87	11,112.7	-2,215.9	279.5	172.81	2,233.5
13,198.0	91.01	172.96	11,110.3	-2,309.2	291.1	172.81	2,327.5
13,293.0	90.22	171.99	11,109.2	-2,403.4	303.6	172.80	2,422.5
13,387.0	88.99	172.25	11,109.9	-2,496.5	316.4	172.78	2,516.4
13,481.0	89.16	172.25	11,111.4	-2,589.6	329.1	172.76	2,610.4
13,576.0	89.25	173.31	11,112.7	-2,683.8	341.1	172.76	2,705.4
13,670.0	88.72	172.96	11,114.4	-2,777.2	352.3	172.77	2,799.4
13,763.0	89.60	173.66	11,115.7	-2,869.5	363.1	172.79	2,892.4
13,858.0	89.52	173.66	11,116.5	-2,963.9	373.6	172.82	2,987.4
13,952.0	89.08	173.22	11,117.6	-3,057.3	384.4	172.83	3,081.4
14,047.0	89.96	172.52	11,118.4	-3,151.6	396.1	172.84	3,176.4
14,141.0	90.13	172.87	11,118.3	-3,244.8	408.1	172.83	3,270.4
14,177.0	90.57	173.40	11,118.1	-3,280.5	412.4	172.83	3,306.4
14,204.0	90.66	173.75	11,117.8	-3,307.4	415.4	172.84	3,333.4
14,236.0	91.45	174.27	11,117.2	-3,339.2	418.8	172.85	3,365.3
14,267.0	92.68	174.71	11,116.1	-3,370.0	421.7	172.87	3,396.3
14,299.0	93.56	175.15	11,114.4	-3,401.8	424.6	172.89	3,428.2
14,330.0	93.74	175.50	11,112.4	-3,432.7	427.1	172.91	3,459.1
14,393.0	90.57	175.94	11,110.0	-3,495.5	431.8	172.96	3,522.0
14,424.0	91.01	175.50	11,109.6	-3,526.4	434.1	172.98	3,553.0
14,518.0	93.74	174.71	11,105.7	-3,619.9	442.1	173.04	3,646.8
14,613.0	91.98	175.07	11,101.0	-3,714.4	450.5	173.08	3,741.7
14,707.0	89.25	175.50	11,100.0	-3,808.1	458.3	173.14	3,835.6
14,801.0	89.52	175.86	11,101.0	-3,901.8	465.4	173.20	3,929.5
14,895.0	89.52	175.07	11,101.8	-3,995.5	472.8	173.25	4,023.4
14,989.0	87.93	173.31	11,103.9	-4,089.0	482.3	173.27	4,117.4
15,084.0	88.20	172.25	11,107.1	-4,183.2	494.2	173.26	4,212.3
15,178.0	88.81	171.64	11,109.5	-4,276.2	507.4	173.23	4,306.2
15,272.0	89.08	171.46	11,111.3	-4,369.2	521.2	173.20	4,400.2
15,366.0	89.34	170.93	11,112.5	-4,462.1	535.6	173.16	4,494.1
15,460.0	90.04	169.79	11,113.1	-4,554.8	551.3	173.10	4,588.0
15,503.8	90.53	169.83	11,112.8	-4,597.9	559.1	173.07	4,631.7
15,555.0	91.10	169.88	11,112.1	-4,648.3	568.1	173.03	4,682.9
15,610.0	91.63	170.32	11,110.8	-4,702.4	577.6	173.00	4,737.8
Last MWD Survey							
15,660.0	91.63	170.32	11,109.4	-4,751.7	586.0	172.97	4,787.7
Projection to Bit							

SDI
SDI Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Copperhead "18" State #5H
Project:	Triple X Bone Spring	TVD Reference:	Mean Sea Level (System)
Site:	Lea County, NM	MD Reference:	Mean Sea Level (System)
Well:	Copperhead "18" State #5H	North Reference:	Grid
Wellbore:	DH - Job #320614-MPH-781	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #320614-MPH-781	Database:	EDM-Regulatory

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
15,610.0	11,110.8	-4,702.4	577.6	Last MWD Survey
15,660.0	11,109.4	-4,751.7	586.0	Projection to Bit



C18S 5H
Lea County, New Mexico
Northing: 445929.80
Easting: 725153.60
Original Wellbore



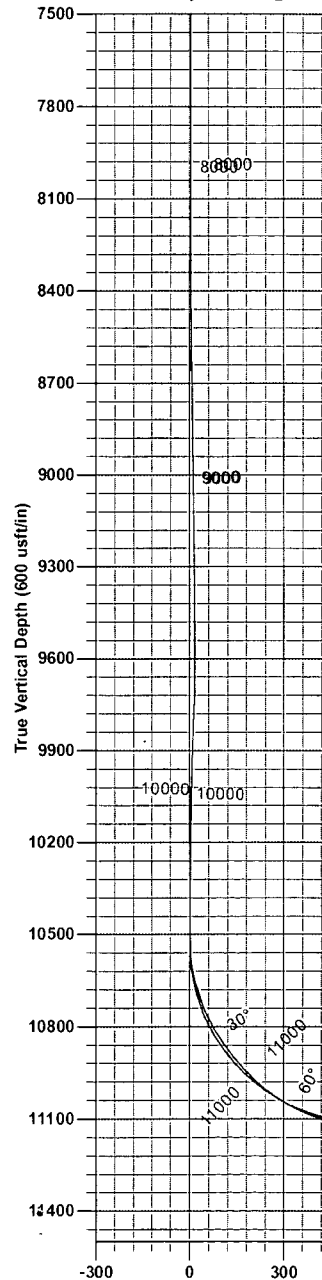
KB @ 3592.0usft
Gr @ 3568.0



To convert Magnetic North to Grid, Add 6.84°
To convert True North to Grid, Subtract 0.39°

Azimuths to Grid North
True North: -0.39°
Magnetic North: 6.84°

Magnetic Field
Strength: 48309.2snT
Dip Angle: 60.11°
Date: 6/23/2014
Model: IGRF2010



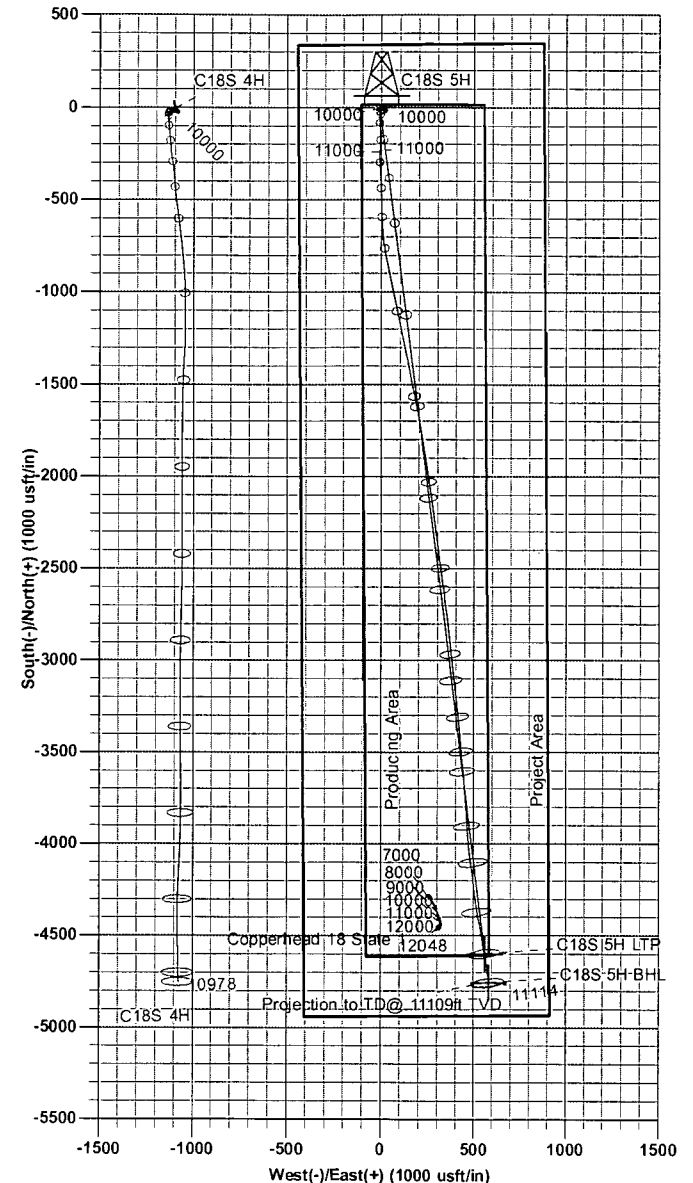
WELL DETAILS C18S 5H						
Ground Level: 3568.0						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.0	0.0	445929.80	725153.60	32° 13' 25.972 N	103° 36' 18.910 W	

SECTION DETAILS							
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace
10469.0	0.44	43.32	10467.5	-3.0	-12.1	0.00	0.00
10539.8	0.44	43.32	10538.3	-2.6	-11.7	0.00	0.00
11442.6	90.00	172.90	11114.0	-570.7	62.5	10.00	129.58
15660.0	90.00	172.90	11114.0	-4755.8	583.5	0.00	0.00
				4791.5 C18S 5H BHL			

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	
C18S 5H BHL	11114.0	-4755.8	583.5	441173.99	725737.08	
C18S 5H LTP	11114.0	-4597.0	564.0	441332.80	725717.60	

SITE DETAILS:	
Copperhead 18 State 5H	
Site Centre Northing: 445929.80	
Easting: 725153.60	
Positional Uncertainty: 0.0	
Convergence: 0.39	
Local North: Grid	

PROJECT DETAILS:	
Lea County, New Mexico	
Geodetic System: US State Plane 1927 (Exact solution)	
Datum: NAD 1927 (NADCON CONUS)	
Ellipsoid: Clarke 1866	
Zone: New Mexico East 3001	
System Datum: Mean Sea Level	



Lateral TGT
Line
20'up/20'down

Vertical Section at 173.01° (600 usf/in)

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

HOBBS OGD

NOV 17 2014

RECEIVED

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-4463	Pool Code 96674	Pool Name TRIPLE X BONE SPRING, WEST
Property Code	Property Name COPPERHEAD "18" STATE	Well Number 5H
OGRID No. 16696	Operator Name OXY USA INC.	Elevation 3568.0'

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	18	24 SOUTH	33 EAST, N.M.P.M.		360'	NORTH	915'	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	18	24 SOUTH	33 EAST, N.M.P.M.		165'	SOUTH	364'	EAST	LEA

Dedicated Acres 160	Joint or Infill N	Consolidation Code	Order No. TP = 780 FNL 921 FEL (A) BP = 330 FSL 391 FEL (P)
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

SURFACE LOCATION NEW MEXICO EAST NAD 1927 Y=445909.6 X=725118.7 LAT.: N 32.2238261° LONG.: W 103.6053660° GRID AZ = 180°23'48" 420.26' TOP PERF. NEW MEXICO EAST NAD 1927 Y=445489.3 X=725115.8 LAT.: N 32.2226710° LONG.: W 103.6053847° BOTTOM PERF. NEW MEXICO EAST NAD 1927 Y=441322.5 X=725676.3 LAT.: N 32.2112069° LONG.: W 103.6036639° GRID AZ = 170°15'43" 166.92' BOTTOM HOLE LOCATION NEW MEXICO EAST NAD 1927 Y=441158.0 X=725704.5 LAT.: N 32.2107542° LONG.: W 103.6035762°	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>[Signature]</i> 11/12/14 Janelyn Mendiola Printed Name janelyn_mendiola@oxy.com E-mail Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from old notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief. 11/11/2014 Date of Survey Signature and Seal of Professional Surveyor Certificate Number 15079 WO# 130827WL-d (Rev. D) (KA)
	PRODUCING AREA PROJECT AREA
	GRID AZ = 172°20'12" 4204.49'
	GRID AZ = 172°20'12" 4204.49'