



PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 29 2016

RECEIVED

30-015-41667

December 7, 2015

COG, LLC
One Concho Center
600 W. Illinois Ave.
Midland, TX 79701

RE: Pinto 36 State Com 8H
150' FSL & 330' FEL
Sec. 36, T18S, R25E
Eddy County, New Mexico

Dear Sir,

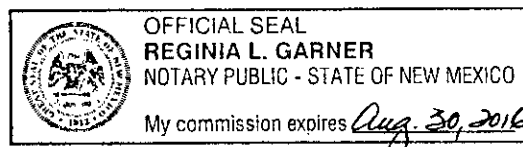
The attached is the Deviation Survey for the above captioned well.

Very truly yours,

Chris Graham
Drilling Superintendent

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 7th day of December, 2015.

Notary Public

Pinto 36 St Com 8H

Date	Depth	Deviation	Direction
11/28/2015	91	0.10	205.50
11/28/2015	154	1.00	163.40
11/28/2015	242	2.20	173.00
11/28/2015	242	2.20	173.00
11/28/2015	329	4.10	180.90
11/28/2015	416	5.00	179.30
11/29/2015	685	5.30	187.80
11/29/2015	747	5.10	186.50
11/29/2015	810	5.00	184.30
11/29/2015	905	4.70	193.00
11/29/2015	999	5.10	195.70
11/29/2015	1093	5.80	199.00
11/29/2015	1172	5.30	199.90
11/30/2015	1278	4.80	200.30
12/1/2015	1309	5.00	201.40
12/1/2015	1404	3.20	178.40
12/1/2015	1498	4.00	194.20
12/1/2015	1592	4.00	195.50
12/1/2015	1687	3.80	194.10
12/1/2015	1781	2.00	188.90
12/1/2015	1875	2.10	191.00
12/1/2015	1969	0.40	152.10
12/1/2015	2064	0.60	156.40
12/1/2015	2095	0.60	141.00
12/1/2015	2127	0.50	25.40
12/1/2015	2158	3.00	346.20
12/1/2015	2190	6.10	342.20
12/1/2015	2221	9.20	346.90
12/2/2015	2316	17.90	358.20
12/2/2015	2347	21.60	357.80
12/2/2015	2379	25.10	358.30
12/2/2015	2410	28.00	0.60
12/2/2015	2442	30.80	1.50
12/2/2015	2473	33.90	1.30
12/2/2015	2505	36.40	0.90
12/2/2015	2536	39.60	0.50
12/2/2015	2568	42.70	0.10
12/2/2015	2590	46.20	0.10
12/2/2015	2631	49.30	0.30
12/2/2015	2662	52.30	1.10
12/2/2015	2694	55.20	1.40
12/2/2015	2725	58.20	0.50

Date	Depth	Deviation	Direction
12/2/2015	2746	73.10	0.90
12/2/2015	2757	61.10	0.20
12/2/2015	2788	63.50	1.10
12/2/2015	2820	65.90	2.20
12/2/2015	2851	6.70	2.00
12/2/2015	2883	68.00	2.20
12/2/2015	2914	70.20	1.70
12/2/2015	2977	75.60	0.60
12/2/2015	3009	77.40	0.20
12/2/2015	3103	81.20	359.00
12/2/2015	3135	81.90	359.00
12/2/2015	3148	89.90	359.00
12/2/2015	3166	83.90	359.00
12/2/2015	3387	90.80	0.30
12/2/2015	3481	91.00	359.90
12/3/2015	3670	91.30	0.00
12/3/2015	3733	91.60	359.70
12/3/2015	3797	91.70	359.60
12/3/2015	3891	91.00	0.70
12/3/2015	3986	91.30	0.50
12/3/2015	4080	91.40	0.30
12/3/2015	4174	91.70	0.20
12/3/2015	4269	92.00	0.20
12/3/2015	4364	91.50	1.40
12/3/2015	4458	91.90	1.40
12/3/2015	4647	91.00	1.70
12/3/2015	4741	91.00	360.00
12/3/2015	4836	90.50	359.20
12/3/2015	4950	90.50	359.20
12/3/2015	5024	90.50	359.20
12/3/2015	5115	90.60	359.30
12/4/2015	5214	90.80	359.40
12/4/2015	5308	90.90	359.20
12/4/2015	5402	91.00	359.00
12/4/2015	5497	91.40	0.80
12/4/2015	5591	91.50	0.80
12/4/2015	5686	91.20	0.50
12/4/2015	5780	90.50	0.20
12/4/2015	5875	90.80	0.10
12/4/2015	5969	91.90	359.20
12/5/2015	6158	92.10	0.80
12/5/2015	6253	91.60	0.20
12/5/2015	6347	91.10	0.00
12/5/2015	6442	90.80	359.50
12/5/2015	6536	91.40	0.20

Date	Depth	Deviation	Direction
12/5/2015	6631	91.40	3599.00
12/5/2015	6726	91.70	0.50
12/5/2015	6820	91.10	359.90
12/5/2015	6915	90.60	359.30
12/5/2015	7009	91.40	0.20
12/5/2015	7104	91.10	359.60
12/5/2015	7199	92.10	0.00
12/5/2015	7293	92.40	0.10



2/2/16

State of New Mexico
County of Eddy

I, Donald D. Mason, certify that: I am employed by Terra Directional Services LLC; that I did on the day(s) of 11/28/2015 through 12/05/2015 conduct or supervise the taking of a MWD survey from a depth of 91 feet to a depth of 7387 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Terra Directional Services LLC; that I am authorized and qualified to make this report; that this survey was conducted at the request of COG Operating LLC for the Pinto 36 State Com #8H Well API 30-015-41667 in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Terra Directional Services LLC.

A handwritten signature in black ink, appearing to read "Donald D. Mason", written over a horizontal line.

Donald D. Mason
President

State of Texas
County of Burnet

Before me, a notary public, on this day personally appeared Donald D. Mason, known to me to be the person whose name is subscribed to the foregoing document and, being by me first duly sworn, declared that the statements therein contained are true and correct.

A handwritten signature in black ink, appearing to read "Deborah L. Mason", written over a horizontal line.
Notary Public's Signature



NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 29 2016

RECEIVED

COG Operating LLC

Eddy County, NM (NAD-27 2015)

Pinto 36 State Com #8H

SHL: 150' FSL, 330' FEL, Sec 36, T18S, R25E, Unit P
30-015-41667

BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A

Design: BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A

Standard Survey Report

02 February, 2016





TDS
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well SHL: 150' FSL, 330' FEL, Sec 36, T18S, R25E, Unit P
Project:	Eddy County, NM (NAD-27 2015)	TVD Reference:	KB @ 3467.00usft (Silver Oak 3)
Site:	Pinto 36 State Com #8H	MD Reference:	KB @ 3467.00usft (Silver Oak 3)
Well:	SHL: 150' FSL, 330' FEL, Sec 36, T18S, R25E, Unit P	North Reference:	Grid
Wellbore:	BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A	Survey Calculation Method:	Minimum Curvature
Design:	BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A	Database:	EDM 5000.1 Single User Db

Project	Eddy County, NM (NAD-27 2015)		
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	Pinto 36 State Com #8H			
Site Position:		Northing:	617,373.90 usft	Latitude: 32° 41' 49.999 N
From: Map		Easting:	470,225.00 usft	Longitude: 104° 25' 48.442 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -0.05 °

Well	SHL: 150' FSL, 330' FEL, Sec 36, T18S, R25E, Unit P			
Well Position	+N/-S	0.00 usft	Northing: 617,373.90 usft	Latitude: 32° 41' 49.999 N
	+E/-W	0.00 usft	Easting: 470,225.00 usft	Longitude: 104° 25' 48.442 W
Position Uncertainty		0.00 usft	Wellhead Elevation: 0.00 usft	Ground Level: 3,449.00 usft

Wellbore	BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/19/2015	7.55	60.38	48,288

Design	BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A			
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	359.92

Survey Program	Date 12/7/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
91.00	7,387.00	TDS MWD #1 (BHL: 350' FNL, 350' FEL, S	MWD	MWD - Standard

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
91.00	0.10	205.50	91.00	-0.07	-0.03	-0.07	0.11	0.11	0.00
154.00	1.00	163.40	154.00	-0.65	0.10	-0.65	1.47	1.43	-66.83
242.00	2.20	173.00	241.96	-3.06	0.52	-3.06	1.39	1.36	10.91
329.00	4.10	180.90	328.83	-7.83	0.68	-7.83	2.24	2.18	9.08
416.00	5.00	179.30	415.55	-14.73	0.68	-14.73	1.04	1.03	-1.84
506.00	5.30	180.00	505.19	-22.81	0.72	-22.81	0.34	0.33	0.78
595.00	5.00	185.00	593.83	-30.78	0.39	-30.78	0.61	-0.34	5.62



TDS
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well SHL: 150' FSL, 330' FEL, Sec 36, T18S, R25E, Unit P
Project:	Eddy County, NM (NAD-27 2015)	TVD Reference:	KB @ 3467.00usft (Silver Oak 3)
Site:	Pinto 36 State Com #8H	MD Reference:	KB @ 3467.00usft (Silver Oak 3)
Well:	SHL: 150' FSL, 330' FEL, Sec 36, T18S, R25E, Unit P	North Reference:	Grid
Wellbore:	BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A	Survey Calculation Method:	Minimum Curvature
Design:	BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A	Database:	EDM 5000.1 Single User Db

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)
685.00	5.30	187.80	683.47	-38.81	-0.52	-38.81	0.43	0.33	3.11
747.00	5.10	186.50	745.21	-44.38	-1.22	-44.38	0.37	-0.32	-2.10
810.00	5.00	184.30	807.97	-49.90	-1.74	-49.90	0.35	-0.16	-3.49
905.00	4.70	193.00	902.63	-57.82	-2.93	-57.82	0.84	-0.32	9.16
999.00	5.10	195.70	996.28	-65.60	-4.93	-65.59	0.49	0.43	2.87
1,093.00	5.80	199.00	1,089.86	-74.11	-7.60	-74.10	0.82	0.74	3.51
1,172.00	5.30	199.90	1,168.49	-81.32	-10.14	-81.30	0.64	-0.63	1.14
1,278.00	4.80	200.30	1,274.08	-90.08	-13.35	-90.06	0.47	-0.47	0.38
1,309.00	5.00	201.40	1,304.96	-92.55	-14.29	-92.53	0.71	0.65	3.55
1,404.00	3.20	178.40	1,399.72	-99.06	-15.73	-99.04	2.53	-1.89	-24.21
1,498.00	4.00	194.20	1,493.54	-104.86	-16.46	-104.84	1.35	0.85	16.81
1,592.00	4.00	195.50	1,587.31	-111.20	-18.14	-111.17	0.10	0.00	1.38
1,687.00	3.80	194.10	1,682.09	-117.44	-19.79	-117.42	0.23	-0.21	-1.47
1,781.00	2.00	188.90	1,775.96	-122.09	-20.81	-122.06	1.93	-1.91	-5.53
1,875.00	2.10	191.00	1,869.90	-125.40	-21.39	-125.37	0.13	0.11	2.23
1,969.00	0.40	152.10	1,963.88	-127.38	-21.56	-127.35	1.92	-1.81	-41.38
2,064.00	0.60	156.40	2,058.88	-128.13	-21.21	-128.10	0.21	0.21	4.53
2,095.00	0.60	141.00	2,089.87	-128.40	-21.04	-128.37	0.52	0.00	-49.68
2,127.00	0.50	25.60	2,121.87	-128.41	-20.88	-128.38	2.91	-0.31	-360.63
2,158.00	3.00	346.20	2,152.86	-127.50	-21.01	-127.47	8.49	8.06	-127.10
2,190.00	6.10	342.20	2,184.75	-125.06	-21.73	-125.03	9.73	9.69	-12.50
2,221.00	9.20	346.90	2,215.47	-121.08	-22.80	-121.05	10.19	10.00	15.16
2,253.00	11.70	354.70	2,246.94	-115.36	-23.68	-115.32	8.96	7.81	24.38
2,284.00	14.50	357.70	2,277.13	-108.35	-24.12	-108.31	9.29	9.03	9.68
2,316.00	17.90	358.20	2,307.86	-99.43	-24.44	-99.39	10.63	10.63	1.56
2,347.00	21.60	357.80	2,337.03	-88.96	-24.81	-88.92	11.94	11.94	-1.29
2,379.00	25.10	358.30	2,366.40	-76.29	-25.23	-76.25	10.95	10.94	1.56
2,410.00	28.00	0.60	2,394.13	-62.43	-25.35	-62.40	9.92	9.35	7.42
2,442.00	30.80	1.50	2,422.01	-46.73	-25.06	-46.69	8.86	8.75	2.81
2,473.00	33.90	1.30	2,448.19	-30.15	-24.66	-30.11	10.01	10.00	-0.65
2,505.00	36.40	0.90	2,474.36	-11.73	-24.30	-11.70	7.85	7.81	-1.25
2,536.00	39.60	0.50	2,498.78	7.35	-24.07	7.38	10.35	10.32	-1.29
2,568.00	42.70	0.10	2,522.87	28.40	-23.96	28.44	9.72	9.69	-1.25
2,599.00	46.20	0.10	2,545.00	50.11	-23.93	50.14	11.29	11.29	0.00
2,631.00	49.30	0.30	2,566.51	73.79	-23.84	73.83	9.70	9.69	0.63
2,662.00	52.30	1.10	2,586.10	97.81	-23.55	97.85	9.88	9.68	2.58
2,694.00	55.20	1.40	2,605.02	123.61	-22.98	123.64	9.09	9.06	0.94
2,725.00	58.20	0.50	2,622.04	149.51	-22.56	149.54	9.98	9.68	-2.80
2,757.00	61.10	0.20	2,638.21	177.12	-22.39	177.16	9.10	9.06	-0.94
2,788.00	63.50	1.10	2,652.62	204.57	-22.07	204.60	8.16	7.74	2.90
2,820.00	65.90	2.20	2,666.29	233.48	-21.24	233.51	8.12	7.50	3.44



TDS
Survey Report



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Wellbore:	BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A	Survey Calculation Method:	Minimum Curvature
Design:	BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A	Database:	EDM 5000.1 Single User Db

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)	
2,851.00	66.70	2.00	2,678.75	261.85	-20.20	261.88	2.65	2.58	-0.65	
2,883.00	68.00	2.20	2,691.08	291.36	-19.12	291.39	4.10	4.06	0.63	
2,914.00	70.20	1.70	2,702.13	320.30	-18.13	320.33	7.25	7.10	-1.61	
2,946.00	73.10	0.90	2,712.21	350.66	-17.44	350.69	9.37	9.06	-2.50	
2,977.00	75.60	0.60	2,720.57	380.51	-17.05	380.53	8.12	8.06	-0.97	
3,009.00	77.40	0.20	2,728.04	411.62	-16.84	411.65	5.75	5.63	-1.25	
3,040.00	79.20	359.70	2,734.33	441.98	-16.86	442.00	6.02	5.81	-1.61	
3,072.00	79.60	359.30	2,740.21	473.43	-17.14	473.45	1.75	1.25	-1.25	
3,103.00	81.20	359.00	2,745.38	503.99	-17.59	504.02	5.25	5.16	-0.97	
3,135.00	81.90	359.00	2,750.08	535.64	-18.15	535.66	2.19	2.19	0.00	
3,166.00	83.90	359.00	2,753.92	566.40	-18.68	566.42	6.45	6.45	0.00	
3,198.00	86.90	359.00	2,756.48	598.28	-19.24	598.31	9.38	9.38	0.00	
3,292.00	90.30	0.70	2,758.78	692.24	-19.48	692.27	4.04	3.62	1.81	
3,387.00	90.80	0.30	2,757.87	787.23	-18.65	787.26	0.67	0.53	-0.42	
3,481.00	91.00	359.90	2,756.39	881.22	-18.49	881.24	0.48	0.21	-0.43	
3,576.00	91.20	359.90	2,754.57	976.20	-18.66	976.23	0.21	0.21	0.00	
3,670.00	91.30	0.00	2,752.52	1,070.18	-18.74	1,070.20	0.15	0.11	0.11	
3,733.00	91.60	359.70	2,750.92	1,133.16	-18.90	1,133.18	0.67	0.48	-0.48	
3,797.00	91.70	359.60	2,749.08	1,197.13	-19.29	1,197.16	0.22	0.16	-0.16	
3,891.00	91.00	0.70	2,746.86	1,291.10	-19.05	1,291.13	1.39	-0.74	1.17	
3,986.00	91.30	0.50	2,744.96	1,386.08	-18.05	1,386.10	0.38	0.32	-0.21	
4,080.00	91.40	0.30	2,742.74	1,480.05	-17.40	1,480.07	0.24	0.11	-0.21	
4,174.00	91.70	0.20	2,740.20	1,574.01	-16.99	1,574.04	0.34	0.32	-0.11	
4,269.00	92.00	0.20	2,737.13	1,668.96	-16.66	1,668.98	0.32	0.32	0.00	
4,364.00	91.50	1.40	2,734.23	1,763.91	-15.33	1,763.93	1.37	-0.53	1.26	
4,458.00	91.90	1.40	2,731.44	1,857.84	-13.03	1,857.85	0.43	0.43	0.00	
4,552.00	90.50	1.60	2,729.47	1,951.78	-10.57	1,951.80	1.50	-1.49	0.21	
4,647.00	91.00	1.70	2,728.23	2,046.73	-7.84	2,046.74	0.54	0.53	0.11	
4,741.00	91.40	0.00	2,726.26	2,140.70	-6.45	2,140.71	1.86	0.43	-1.81	
4,836.00	90.50	359.20	2,724.69	2,235.68	-7.11	2,235.69	1.27	-0.95	-0.84	
4,930.00	90.30	359.20	2,724.03	2,329.67	-8.42	2,329.68	0.21	-0.21	0.00	
5,024.00	90.50	359.20	2,723.37	2,423.66	-9.73	2,423.67	0.21	0.21	0.00	
5,119.00	90.60	359.30	2,722.46	2,518.65	-10.98	2,518.66	0.15	0.11	0.11	
5,213.00	90.80	359.40	2,721.31	2,612.63	-12.04	2,612.65	0.24	0.21	0.11	
5,308.00	90.90	359.20	2,719.90	2,707.62	-13.20	2,707.63	0.24	0.11	-0.21	
5,402.00	91.00	359.00	2,718.35	2,801.59	-14.68	2,801.61	0.24	0.11	-0.21	
5,497.00	91.40	0.80	2,716.36	2,896.57	-14.85	2,896.58	1.94	0.42	1.89	
5,591.00	91.50	0.80	2,713.98	2,990.53	-13.53	2,990.54	0.11	0.11	0.00	
5,686.00	91.20	0.50	2,711.74	3,085.49	-12.46	3,085.51	0.45	-0.32	-0.32	
5,780.00	90.50	0.20	2,710.35	3,179.48	-11.88	3,179.50	0.81	-0.74	-0.32	
5,875.00	90.80	0.10	2,709.27	3,274.48	-11.63	3,274.49	0.33	0.32	-0.11	



TDS
Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well SHL: 150' FSL, 330' FEL, Sec 36, T18S, R25E, Unit P
Project:	Eddy County, NM (NAD-27 2015)	TVD Reference:	KB @ 3467.00usft (Silver Oak 3)
Site:	Pinto 36 State Com #8H	MD Reference:	KB @ 3467.00usft (Silver Oak 3)
Well:	SHL: 150' FSL, 330' FEL, Sec 36, T18S, R25E, Unit P	North Reference:	Grid
Wellbore:	BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A	Survey Calculation Method:	Minimum Curvature
Design:	BHL: 350' FNL, 350' FEL, Sec 36, T18S, R25E, Unit A	Database:	EDM 5000.1 Single User Db

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)
5,989.00	91.90	359.20	2,707.05	3,368.45	-12.21	3,368.46	1.51	1.17	-0.96
6,064.00	92.00	359.20	2,703.82	3,463.38	-13.53	3,463.40	0.11	0.11	0.00
6,158.00	92.10	0.80	2,700.46	3,557.32	-13.53	3,557.33	1.70	0.11	1.70
6,253.00	91.80	0.20	2,697.39	3,652.26	-12.70	3,652.28	0.82	-0.53	-0.63
6,347.00	91.10	0.00	2,695.18	3,746.24	-12.54	3,746.25	0.57	-0.53	-0.21
6,442.00	90.80	359.50	2,693.60	3,841.22	-12.95	3,841.24	0.61	-0.32	-0.53
6,536.00	91.40	0.20	2,691.80	3,935.20	-13.20	3,935.22	0.98	0.64	0.74
6,631.00	91.40	359.90	2,689.48	4,030.18	-13.12	4,030.19	0.32	0.00	-0.32
6,726.00	91.70	0.50	2,686.91	4,125.14	-12.78	4,125.15	0.71	0.32	0.63
6,820.00	91.10	359.90	2,684.61	4,219.11	-12.46	4,219.12	0.90	-0.64	-0.64
6,915.00	90.60	359.30	2,683.20	4,314.10	-13.12	4,314.11	0.82	-0.53	-0.63
7,009.00	91.40	0.20	2,681.56	4,408.08	-13.53	4,408.09	1.28	0.85	0.96
7,104.00	91.10	359.60	2,679.49	4,503.06	-13.70	4,503.07	0.71	-0.32	-0.63
7,199.00	92.10	0.00	2,676.83	4,598.02	-14.03	4,598.03	1.13	1.05	0.42
7,293.00	92.40	0.10	2,673.14	4,691.94	-13.95	4,691.95	0.34	0.32	0.11
Final MWD Survey									
7,387.00	92.40	0.10	2,669.21	4,785.86	-13.78	4,785.88	0.00	0.00	0.00
Projection to Bit/TD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,293.00	2,673.14	4,691.94	-13.95	Final MWD Survey
7,387.00	2,669.21	4,785.86	-13.78	Projection to Bit/TD

Checked By: Deborah L. Mason Approved By: [Signature] Date: 2/2/16

