

HOBBS OCD

JUN 29 2016

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Monet Federal Com #10H

30-025-42767

Sec 4-T25S-R33E

<u>Perfs</u>			<u>7 1/2% Acid (Gal)</u>	<u>Sand (#)</u>	<u>Fluid (Gal)</u>
13616	13569	13518	2016	300044	309498
13467	13417	13366	3024	300993	281106
13320	13264	13213	3024	299432	282660
13162	13112	13061	3024	301991	280938
13010	12955	12908	3024	302066	276108
12857	12807	12756	3024	299023	281988
12705	12654	12606	5754	319443	521850
12552	12502	12451	3024	300459	279888
12400	12349	12298	3024	301730	282702
12247	12193	12146	3024	301354	282828
12095	12044	11993	3066	300240	278964
11942	11892	11483	2982	301107	273000
11790	11739	11688	3024	302088	272580
11637	11586	11536	3024	300795	279006
11485	11431	11383	3024	300126	380562
11332	11281	11231	3024	299919	388416
11180	11129	11072	3024	300631	275646
11027	10976	10926	3024	301162	274848
10875	10824	10773	3024	298661	270186
10721	10670	10621	3024	300138	273462
10570	10519	10468	3024	300088	277158
10417	10361	10316	3024	311975	280518
10265	10214	10163	3024	312378	285684
10112	10061	10013	3024	312900	277788
9959	9909	9858	3024	309459	280140
9807	9756	9705	3024	310802	282534
9657	9603	9553	3024	304856	277914
Totals			83370	8193860	8007972

**McVAY DRILLING COMPANY**

P.O. Box 2450
Hobbs, New Mexico 88241
(575) 397-3311
FAX: 39-DRILL

HOBBS OCD**JUN 29 2016****RECEIVED**

Well Name and Num: Monet Federal Com # 10 H
Location: Sec 4, T25S, R33E
Operator: COG
Drilling Contractor: McVay Drilling Company

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>
0.10	258	2.70	5250	1.00	11077	89.40	13230
0.60	606	1.90	5744	1.70	11460	90.70	13513
1.70	956	2.00	5991	1.80	11845	91.60	13708
1.70	1144	1.40	6300	1.90	12512		
1.40	1344	1.70	6619	1.90	12652		
1.60	1593	0.80	7127	1.20	8819		
0.10	1848	0.90	7381	34.70	9138		
1.20	2088	1.60	7731	58.80	9393		
0.70	2352	1.30	8139	89.90	9744		
1.20	2603	1.10	8649	89.90	10188		
0.70	2854	1.70	8901	90.20	10570		
0.70	3106	1.90	9314	89.30	10953		
0.60	3582	2.30	9600	89.70	11332		
0.90	3772	1.50	9916	88.60	11807		
1.20	4149	1.20	10201	90.60	12228		
3.70	4718	1.30	10487	90.90	12470		
2.90	5010	2.10	10869	89.30	12945		

By: Mario A. Gamm

Subscribed and sworn to before me this 3rd day of February, 2016

Tina Flemens
Notary Public, Lea County, New Mexico



HOBBS OCD

JUN 29 2016

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January 20, 2016

Concho Resources, Inc.
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

Attn: Kanicia Castillo

RE: **Monet Federal Com No 010H**

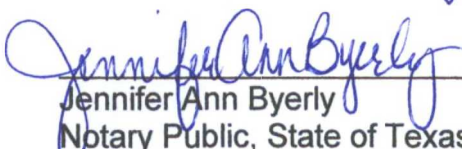
Please find enclosed a copy of the survey from 0' to 9553' ran on the above referenced well.

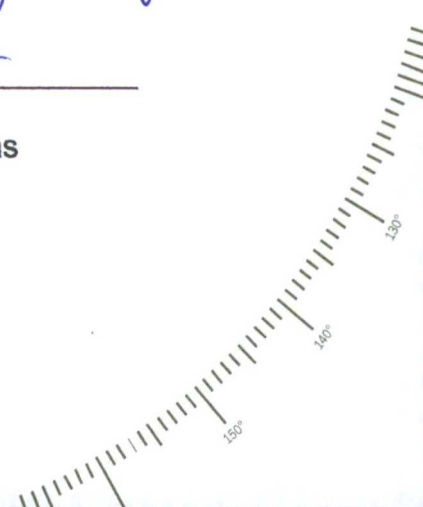
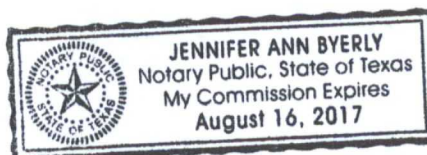
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 20 day of January,
A.D., 2016, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: Concho
Lease/Well: Monet Federal Com No/010H

Rig Name: McVay 7
State/County: New Mexico/Lea
VS-Azi: 0.00 Degrees
Latitude: 32.16622, Longitude: -103.58397
Grid North = True North -0.40 degs (NAD 27)
Grid Correction Applied = -0.40 degs



HOBBS OCD

JUN 29 2016

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Depth Reference : RKB = 17 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 1/20/2016 / 14:18

VES Survey International
Midland, TX
(432)-563-5444

Surveyor: Andy Askew

Monet Federal Com No 010H / API 30-025-42767

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.60	338.68	100.00	0.49	-0.19	0.49	0.53	338.68	0.60
200.00	0.24	296.96	200.00	1.08	-0.57	1.08	1.22	332.19	0.46
300.00	0.20	350.72	299.99	1.34	-0.78	1.34	1.55	329.79	0.20
400.00	0.58	313.48	399.99	1.86	-1.18	1.86	2.20	327.68	0.44
500.00	0.56	303.34	499.99	2.47	-1.95	2.47	3.15	321.77	0.10
600.00	0.74	250.97	599.98	2.53	-2.96	2.53	3.90	310.46	0.60
700.00	0.56	236.60	699.98	2.05	-3.98	2.05	4.48	297.24	0.24
800.00	1.27	234.02	799.96	1.13	-5.28	1.13	5.40	282.12	0.71
900.00	1.70	237.99	899.93	-0.30	-7.43	-0.30	7.44	267.69	0.44
1000.00	2.13	239.64	999.87	-2.02	-10.29	-2.02	10.48	258.88	0.43
1100.00	2.58	245.71	1099.79	-3.88	-13.94	-3.88	14.47	254.43	0.52
1200.00	2.52	245.82	1199.69	-5.71	-17.99	-5.71	18.87	252.39	0.06
1300.00	1.81	240.77	1299.62	-7.38	-21.37	-7.38	22.61	250.95	0.73
1400.00	1.50	243.76	1399.58	-8.73	-23.92	-8.73	25.47	249.95	0.33
1500.00	0.96	241.44	1499.55	-9.71	-25.84	-9.71	27.60	249.40	0.54
1600.00	1.18	250.73	1599.53	-10.45	-27.55	-10.45	29.47	249.22	0.28

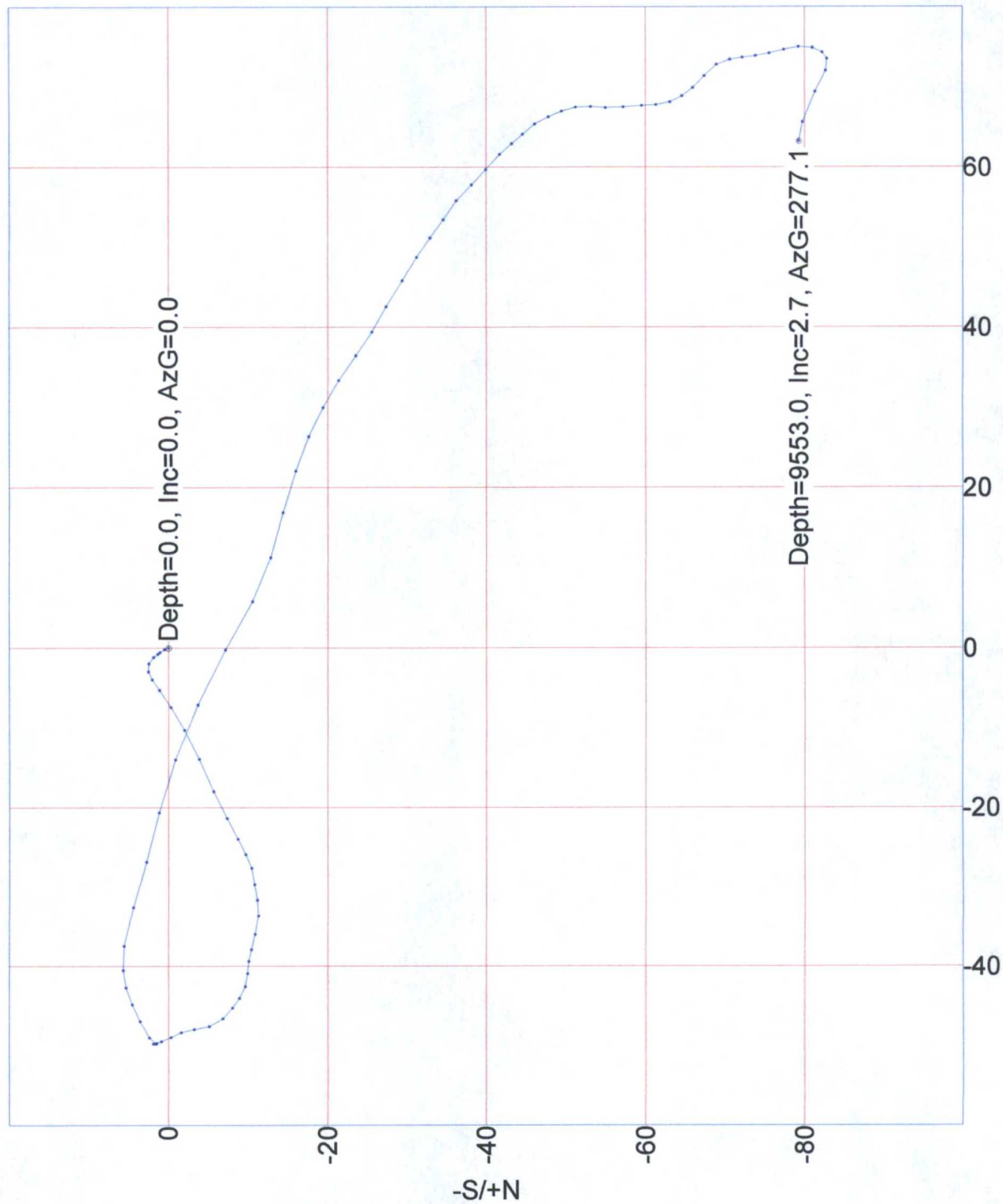
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/S FT	+E/W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1700.00	1.31	268.32	1699.51	-10.83	-29.66	-10.83	31.58	249.95	0.40
1800.00	1.01	251.03	1799.49	-11.15	-31.64	-11.15	33.55	250.59	0.45
1900.00	1.38	277.70	1899.47	-11.28	-33.67	-11.28	35.51	251.48	0.66
2000.00	1.31	280.96	1999.44	-10.90	-35.99	-10.90	37.60	253.15	0.10
2100.00	0.97	286.98	2099.42	-10.43	-37.92	-10.43	39.33	254.62	0.36
2200.00	0.78	279.67	2199.41	-10.07	-39.40	-10.07	40.67	255.66	0.22
2300.00	0.96	272.37	2299.40	-9.92	-40.91	-9.92	42.10	256.37	0.22
2400.00	1.01	287.21	2399.38	-9.63	-42.60	-9.63	43.67	257.27	0.26
2500.00	0.89	306.36	2499.37	-8.91	-44.07	-8.91	44.96	258.57	0.34
2600.00	0.85	304.44	2599.36	-8.03	-45.30	-8.03	46.00	259.95	0.05
2700.00	1.23	315.85	2699.34	-6.84	-46.66	-6.84	47.16	261.66	0.44
2800.00	1.12	345.88	2799.32	-5.11	-47.65	-5.11	47.92	263.87	0.62
2900.00	1.08	352.21	2899.30	-3.23	-48.01	-3.23	48.12	266.15	0.13
3000.00	0.87	339.28	2999.29	-1.60	-48.41	-1.60	48.44	268.11	0.30
3100.00	0.76	329.09	3099.28	-0.32	-49.02	-0.32	49.02	269.62	0.18
3200.00	0.78	343.98	3199.27	0.90	-49.55	0.90	49.55	271.04	0.20
3300.00	0.13	303.84	3299.27	1.62	-49.83	1.62	49.85	271.86	0.69
3400.00	0.28	20.31	3399.27	1.91	-49.84	1.91	49.87	272.20	0.28
3500.00	0.38	190.60	3499.27	1.82	-49.81	1.82	49.84	272.09	0.65
3600.00	0.17	115.03	3599.27	1.44	-49.74	1.44	49.76	271.66	0.37
3700.00	0.33	298.37	3699.27	1.51	-49.86	1.51	49.88	271.74	0.50
3800.00	1.46	54.68	3799.25	2.39	-49.07	2.39	49.13	272.79	1.64
3900.00	1.30	66.99	3899.23	3.57	-46.99	3.57	47.12	274.35	0.34
4000.00	1.38	62.73	3999.20	4.57	-44.87	4.57	45.11	275.81	0.13
4100.00	1.28	77.20	4099.17	5.36	-42.72	5.36	43.06	277.15	0.35
4200.00	1.28	85.83	4199.15	5.69	-40.52	5.69	40.92	277.99	0.19
4300.00	2.23	95.91	4299.10	5.57	-37.47	5.57	37.88	278.46	0.99
4400.00	3.53	107.97	4398.97	4.42	-32.61	4.42	32.91	277.72	1.43
4500.00	3.41	103.91	4498.79	2.76	-26.79	2.76	26.93	275.87	0.27
4600.00	3.87	104.96	4598.59	1.17	-20.64	1.17	20.67	273.24	0.46
4700.00	4.11	109.30	4698.34	-0.89	-14.00	-0.89	14.03	266.37	0.38
4800.00	4.43	114.93	4798.07	-3.70	-7.12	-3.70	8.02	242.54	0.53
4900.00	4.40	118.79	4897.77	-7.17	-0.25	-7.17	7.18	182.02	0.30
5000.00	3.55	119.78	4997.53	-10.56	5.79	-10.56	12.04	151.24	0.86
5100.00	3.34	105.00	5097.35	-12.85	11.29	-12.85	17.11	138.68	0.91
5200.00	3.31	105.93	5197.18	-14.39	16.88	-14.39	22.19	130.45	0.07
5300.00	2.90	108.66	5297.04	-16.00	22.06	-16.00	27.25	125.95	0.43
5400.00	2.33	113.66	5396.93	-17.62	26.32	-17.62	31.67	123.81	0.62
5500.00	2.33	119.15	5496.85	-19.43	29.95	-19.43	35.70	122.97	0.22

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5600.00	2.18	121.34	5596.77	-21.41	33.35	-21.41	39.63	122.69	0.17
5700.00	2.16	128.39	5696.70	-23.56	36.45	-23.56	43.40	122.88	0.27
5800.00	1.96	119.69	5796.64	-25.58	39.41	-25.58	46.98	122.99	0.37
5900.00	2.19	119.27	5896.57	-27.36	42.56	-27.36	50.59	122.73	0.22
6000.00	2.19	124.65	5996.50	-29.38	45.79	-29.38	54.40	122.68	0.21
6100.00	1.78	118.05	6096.44	-31.19	48.73	-31.19	57.86	122.62	0.47
6200.00	1.64	132.20	6196.39	-32.88	51.16	-32.88	60.81	122.73	0.44
6300.00	1.62	119.96	6296.35	-34.55	53.44	-34.55	63.64	122.88	0.35
6400.00	1.70	129.73	6396.31	-36.20	55.80	-36.20	66.52	122.97	0.29
6500.00	1.49	138.79	6496.27	-38.12	57.80	-38.12	69.24	123.41	0.32
6600.00	1.49	128.80	6596.24	-39.91	59.67	-39.91	71.79	123.78	0.26
6700.00	1.48	136.19	6696.21	-41.66	61.58	-41.66	74.35	124.08	0.19
6800.00	0.86	144.12	6796.18	-43.20	62.91	-43.20	76.32	124.48	0.64
6900.00	1.21	134.96	6896.17	-44.55	64.09	-44.55	78.06	124.80	0.39
7000.00	1.10	145.42	6996.15	-46.09	65.39	-46.09	80.00	125.18	0.24
7100.00	1.12	159.11	7096.13	-47.79	66.28	-47.79	81.71	125.79	0.27
7200.00	0.95	153.98	7196.11	-49.45	66.99	-49.45	83.26	126.43	0.19
7300.00	1.16	172.55	7296.10	-51.20	67.49	-51.20	84.71	127.19	0.40
7400.00	1.02	184.42	7396.08	-53.09	67.55	-53.09	85.92	128.17	0.27
7500.00	1.12	183.46	7496.06	-54.95	67.42	-54.95	86.98	129.18	0.10
7600.00	1.47	173.39	7596.04	-57.20	67.51	-57.20	88.49	130.27	0.42
7700.00	1.16	177.91	7696.01	-59.49	67.70	-59.49	90.12	131.31	0.33
7800.00	0.93	174.98	7795.99	-61.31	67.81	-61.31	91.42	132.12	0.24
7900.00	1.14	164.77	7895.98	-63.08	68.14	-63.08	92.85	132.79	0.28
8000.00	0.86	139.41	7995.96	-64.61	68.89	-64.61	94.44	133.17	0.52
8100.00	1.09	144.34	8095.95	-65.95	69.93	-65.95	96.12	133.32	0.25
8200.00	1.30	126.56	8195.92	-67.40	71.39	-67.40	98.18	133.35	0.42
8300.00	1.16	149.07	8295.90	-68.94	72.82	-68.94	100.28	133.43	0.50
8400.00	0.94	173.42	8395.89	-70.62	73.43	-70.62	101.88	133.88	0.49
8500.00	0.87	167.36	8495.87	-72.18	73.69	-72.18	103.15	134.41	0.12
8600.00	1.04	177.24	8595.86	-73.83	73.90	-73.83	104.47	134.97	0.24
8700.00	0.99	160.16	8695.84	-75.55	74.24	-75.55	105.92	135.50	0.31
8800.00	1.18	172.12	8795.83	-77.38	74.67	-77.38	107.54	136.02	0.30
8900.00	0.97	166.49	8895.81	-79.23	75.01	-79.23	109.10	136.56	0.23
9000.00	1.12	198.60	8995.79	-80.97	74.90	-80.97	110.30	137.23	0.59
9100.00	0.48	217.15	9095.78	-82.23	74.34	-82.23	110.85	137.88	0.68
9200.00	0.68	244.24	9195.78	-82.82	73.55	-82.82	110.76	138.39	0.34
9300.00	1.21	293.12	9295.77	-82.67	72.04	-82.67	109.65	138.93	0.92
9400.00	2.17	299.66	9395.72	-81.32	69.43	-81.32	106.92	139.51	0.98

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9500.00	2.60	286.09	9495.64	-79.75	65.61	-79.75	103.27	140.56	0.71
9553.00	2.66	277.10	9548.58	-79.27	63.23	-79.27	101.40	141.42	0.78



VES Survey International
Midland, TX
(432)-563-5444
Surveyor: Andy Askew
Monet Federal Com No 010H / API 30-025-42767



V.E.S Survey Date: 1/14/2016



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I Andy Askew certify that I am employed by VES Survey International. That I did on the day(s) of 01/15/16 through 01/15/16 conduct or supervise the taking of a Rate Gyro survey from a depth of 0.00 feet to a depth of 9,553.00 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Vaughn Energy Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Concho for the Monet Federal Com Well # 10H API # 30-025-42767 in Lea County / Parish New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Vaughn Energy Services

A handwritten signature in blue ink, appearing to read "Andy Askew", is written over a horizontal line.

Andy Askew
Service Technician
Vaughn Energy Services



COG Operating, LLC

Lea County, NM

Sec 4, T25S, R33E

Monet Federal #10H

Curve & Lateral

Survey: MWD

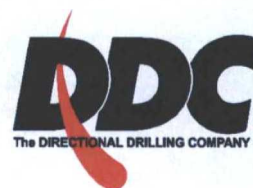
Survey Report - Geographic

03 February, 2016

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Company:	COG Operating, LLC	Local Co-ordinate Reference:	Well Monet Federal #10H
Project:	Lea County, NM	TVD Reference:	well @ 3481.0usft (McVay #7)
Site:	Sec 4, T25S, R33E	MD Reference:	well @ 3481.0usft (McVay #7)
Well:	Monet Federal #10H	North Reference:	Grid
Wellbore:	Curve & Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Curve & Lateral	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM		
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	Sec 4, T25S, R33E		
Site Position:		Northing:	424,999.76 usft
From:	Lat/Long	Easting:	731,880.25 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 9' 58.399 N
		Longitude:	103° 35' 2.306 W
		Grid Convergence:	0.40 °

Well	Monet Federal #10H		
Well Position	+N/-S	0.0 usft	Northing: 424,999.90 usft
	+E/-W	0.0 usft	Easting: 731,880.20 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 9' 58.401 N
		Longitude:	103° 35' 2.307 W
		Ground Level:	3,464.0 usft

Wellbore	Curve & Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/4/2016	7.11	60.03	48,051

Design	Curve & Lateral				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	8,800.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	179.90	

Survey Program	Date	2/3/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	8,800.0	Gyro (Pilot Hole)	Good_gyro	Good Gyro	
8,800.0	13,797.0	MWD (Curve & Lateral)	MWD default	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
8,800.0	1.18	172.12	8,795.8	-77.4	74.7	424,922.52	731,954.87	32° 9' 57.630 N	103° 35' 1.445 W	
First MWD Survey @ 8800' MD / 8795' TVD										
8,819.0	1.20	180.00	8,814.8	-77.8	74.7	424,922.13	731,954.89	32° 9' 57.626 N	103° 35' 1.444 W	
8,850.0	2.40	184.40	8,845.8	-78.7	74.6	424,921.15	731,954.84	32° 9' 57.616 N	103° 35' 1.445 W	
8,882.0	5.50	186.90	8,877.7	-80.9	74.4	424,918.96	731,954.61	32° 9' 57.594 N	103° 35' 1.448 W	
8,914.0	10.10	185.70	8,909.4	-85.3	73.9	424,914.65	731,954.14	32° 9' 57.552 N	103° 35' 1.454 W	
8,946.0	15.60	182.80	8,940.6	-92.3	73.5	424,907.55	731,953.66	32° 9' 57.482 N	103° 35' 1.460 W	
8,978.0	19.70	182.80	8,971.1	-102.0	73.0	424,897.86	731,953.18	32° 9' 57.386 N	103° 35' 1.466 W	
9,010.0	23.60	184.60	9,000.8	-113.8	72.2	424,886.09	731,952.40	32° 9' 57.269 N	103° 35' 1.476 W	
9,042.0	27.10	185.50	9,029.8	-127.5	71.0	424,872.44	731,951.19	32° 9' 57.134 N	103° 35' 1.491 W	

Company:	COG Operating, LLC	Local Co-ordinate Reference:	Well Monet Federal #10H
Project:	Lea County, NM	TVD Reference:	well @ 3481.0usft (McVay #7)
Site:	Sec 4, T25S, R33E	MD Reference:	well @ 3481.0usft (McVay #7)
Well:	Monet Federal #10H	North Reference:	Grid
Wellbore:	Curve & Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Curve & Lateral	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,067.8	29.28	185.17	9,052.5	-139.6	69.9	424,860.31	731,950.06	32° 9' 57.014 N	103° 35' 1.506 W
Crossed 330' Hard Line @ 9068' MD / 9053' TVD									
9,074.0	29.80	185.10	9,057.9	-142.6	69.6	424,857.26	731,949.79	32° 9' 56.984 N	103° 35' 1.509 W
9,106.0	32.00	184.90	9,085.3	-159.0	68.2	424,840.89	731,948.35	32° 9' 56.822 N	103° 35' 1.527 W
9,138.0	34.70	184.90	9,112.1	-176.5	66.7	424,823.37	731,946.85	32° 9' 56.649 N	103° 35' 1.546 W
9,170.0	38.40	184.80	9,137.8	-195.5	65.0	424,804.38	731,945.24	32° 9' 56.461 N	103° 35' 1.566 W
9,202.0	42.30	184.10	9,162.2	-216.2	63.4	424,783.73	731,943.64	32° 9' 56.257 N	103° 35' 1.586 W
9,233.0	45.10	184.80	9,184.6	-237.5	61.8	424,762.38	731,941.97	32° 9' 56.046 N	103° 35' 1.608 W
9,265.0	47.60	185.10	9,206.6	-260.6	59.8	424,739.31	731,939.98	32° 9' 55.818 N	103° 35' 1.633 W
9,297.0	50.30	184.60	9,227.7	-284.6	57.7	424,715.27	731,937.94	32° 9' 55.580 N	103° 35' 1.658 W
9,329.0	53.30	185.10	9,247.4	-309.7	55.6	424,690.22	731,935.81	32° 9' 55.332 N	103° 35' 1.685 W
9,361.0	56.10	184.80	9,265.9	-335.7	53.4	424,664.20	731,933.56	32° 9' 55.075 N	103° 35' 1.713 W
9,393.0	58.80	184.30	9,283.2	-362.6	51.2	424,637.31	731,931.42	32° 9' 54.809 N	103° 35' 1.741 W
9,425.0	61.50	184.30	9,299.1	-390.3	49.1	424,609.64	731,929.34	32° 9' 54.535 N	103° 35' 1.767 W
9,457.0	64.70	184.30	9,313.6	-418.7	47.0	424,581.19	731,927.20	32° 9' 54.254 N	103° 35' 1.794 W
9,489.0	68.50	183.40	9,326.3	-448.0	45.0	424,551.89	731,925.23	32° 9' 53.964 N	103° 35' 1.819 W
9,521.0	71.70	182.50	9,337.2	-478.1	43.5	424,521.85	731,923.69	32° 9' 53.667 N	103° 35' 1.840 W
9,553.0	75.20	183.20	9,346.3	-508.7	42.0	424,491.21	731,922.16	32° 9' 53.364 N	103° 35' 1.860 W
9,584.0	78.00	184.90	9,353.5	-538.8	39.8	424,461.14	731,920.03	32° 9' 53.066 N	103° 35' 1.887 W
9,616.0	80.90	185.30	9,359.3	-570.1	37.0	424,429.81	731,917.23	32° 9' 52.757 N	103° 35' 1.922 W
9,649.0	84.00	187.10	9,363.6	-602.6	33.5	424,397.29	731,913.70	32° 9' 52.435 N	103° 35' 1.966 W
9,681.0	87.10	187.20	9,366.1	-634.3	29.5	424,365.64	731,909.72	32° 9' 52.122 N	103° 35' 2.015 W
9,713.0	89.20	186.50	9,367.2	-666.0	25.7	424,333.88	731,905.91	32° 9' 51.808 N	103° 35' 2.062 W
9,744.0	89.90	186.50	9,367.4	-696.8	22.2	424,303.09	731,902.40	32° 9' 51.504 N	103° 35' 2.105 W
9,807.0	89.00	185.30	9,368.0	-759.5	15.7	424,240.42	731,895.93	32° 9' 50.884 N	103° 35' 2.186 W
9,902.0	89.30	184.40	9,369.4	-854.1	7.7	424,145.78	731,887.89	32° 9' 49.948 N	103° 35' 2.287 W
9,998.0	90.50	184.60	9,369.6	-949.8	0.2	424,050.07	731,880.36	32° 9' 49.001 N	103° 35' 2.382 W
10,092.0	90.30	182.50	9,368.9	-1,043.6	-5.7	423,956.26	731,874.54	32° 9' 48.073 N	103° 35' 2.457 W
10,188.0	89.80	181.10	9,368.8	-1,139.6	-8.7	423,860.31	731,871.53	32° 9' 47.124 N	103° 35' 2.500 W
10,283.0	89.30	179.10	9,369.6	-1,234.6	-8.8	423,765.32	731,871.36	32° 9' 46.184 N	103° 35' 2.510 W
10,379.0	90.80	179.00	9,369.5	-1,330.6	-7.2	423,669.34	731,872.95	32° 9' 45.234 N	103° 35' 2.499 W
10,475.0	89.40	177.60	9,369.3	-1,426.5	-4.4	423,573.38	731,875.80	32° 9' 44.285 N	103° 35' 2.474 W
10,570.0	90.20	177.40	9,369.7	-1,521.4	-0.3	423,478.47	731,879.94	32° 9' 43.345 N	103° 35' 2.433 W
10,666.0	91.10	177.80	9,368.6	-1,617.3	3.8	423,382.57	731,883.96	32° 9' 42.396 N	103° 35' 2.394 W
10,762.0	91.50	177.40	9,366.4	-1,713.2	7.8	423,286.68	731,887.98	32° 9' 41.447 N	103° 35' 2.355 W
10,857.0	90.40	177.90	9,364.8	-1,808.1	11.7	423,191.77	731,891.88	32° 9' 40.507 N	103° 35' 2.318 W
10,953.0	89.30	179.00	9,365.1	-1,904.1	14.3	423,095.81	731,894.48	32° 9' 39.557 N	103° 35' 2.295 W
11,049.0	89.20	179.10	9,366.3	-2,000.1	15.9	422,999.83	731,896.07	32° 9' 38.607 N	103° 35' 2.284 W
11,142.0	90.20	178.80	9,366.8	-2,093.1	17.6	422,906.85	731,897.77	32° 9' 37.687 N	103° 35' 2.272 W
11,237.0	89.00	179.50	9,367.5	-2,188.0	19.0	422,811.86	731,899.18	32° 9' 36.747 N	103° 35' 2.263 W
11,332.0	89.70	179.70	9,368.6	-2,283.0	19.6	422,716.87	731,899.84	32° 9' 35.807 N	103° 35' 2.263 W
11,427.0	90.60	179.50	9,368.3	-2,378.0	20.3	422,621.88	731,900.51	32° 9' 34.867 N	103° 35' 2.263 W
11,522.0	89.10	181.10	9,368.6	-2,473.0	19.8	422,526.88	731,900.01	32° 9' 33.927 N	103° 35' 2.277 W
11,617.0	89.50	181.30	9,369.7	-2,568.0	17.8	422,431.91	731,898.02	32° 9' 32.987 N	103° 35' 2.308 W
11,712.0	90.30	180.90	9,369.9	-2,663.0	16.0	422,336.93	731,896.20	32° 9' 32.048 N	103° 35' 2.337 W
11,807.0	88.60	181.30	9,370.8	-2,757.9	14.2	422,241.96	731,894.37	32° 9' 31.108 N	103° 35' 2.365 W
11,902.0	89.20	181.10	9,372.6	-2,852.9	12.2	422,146.99	731,892.38	32° 9' 30.168 N	103° 35' 2.396 W
11,997.0	88.60	180.60	9,374.5	-2,947.9	10.8	422,052.02	731,890.97	32° 9' 29.229 N	103° 35' 2.420 W
12,092.0	91.00	181.80	9,374.8	-3,042.8	8.8	421,957.05	731,888.98	32° 9' 28.289 N	103° 35' 2.451 W
12,187.0	89.60	181.30	9,374.3	-3,137.8	6.2	421,862.09	731,886.42	32° 9' 27.350 N	103° 35' 2.489 W
12,281.0	90.60	182.10	9,374.1	-3,231.8	3.4	421,768.14	731,883.63	32° 9' 26.420 N	103° 35' 2.529 W
12,375.0	88.20	179.70	9,375.1	-3,325.7	2.0	421,674.17	731,882.15	32° 9' 25.490 N	103° 35' 2.554 W
12,470.0	90.90	179.10	9,375.9	-3,420.7	2.9	421,579.18	731,883.14	32° 9' 24.550 N	103° 35' 2.550 W
12,565.0	90.10	179.50	9,375.0	-3,515.7	4.1	421,484.19	731,884.31	32° 9' 23.610 N	103° 35' 2.544 W
12,660.0	89.90	179.00	9,375.0	-3,610.7	5.4	421,389.20	731,885.55	32° 9' 22.670 N	103° 35' 2.537 W



DDC
Survey Report - Geographic



Company:	COG Operating, LLC	Local Co-ordinate Reference:	Well Monet Federal #10H
Project:	Lea County, NM	TVD Reference:	well @ 3481.0usft (McVay #7)
Site:	Sec 4, T25S, R33E	MD Reference:	well @ 3481.0usft (McVay #7)
Well:	Monet Federal #10H	North Reference:	Grid
Wellbore:	Curve & Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Curve & Lateral	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,755.0	91.10	179.90	9,374.2	-3,705.7	6.3	421,294.21	731,886.46	32° 9' 21.730 N	103° 35' 2.534 W
12,850.0	89.40	179.50	9,373.8	-3,800.7	6.8	421,199.22	731,886.96	32° 9' 20.790 N	103° 35' 2.536 W
12,945.0	89.30	178.80	9,374.9	-3,895.7	8.2	421,104.24	731,888.37	32° 9' 19.850 N	103° 35' 2.527 W
13,040.0	88.80	178.40	9,376.4	-3,990.6	10.5	421,009.28	731,890.69	32° 9' 18.910 N	103° 35' 2.508 W
13,135.0	88.50	177.40	9,378.7	-4,085.5	14.0	420,914.37	731,894.17	32° 9' 17.971 N	103° 35' 2.475 W
13,230.0	89.40	177.90	9,380.4	-4,180.4	17.9	420,819.47	731,898.06	32° 9' 17.031 N	103° 35' 2.438 W
13,323.0	90.60	178.40	9,380.4	-4,273.4	20.9	420,726.52	731,901.07	32° 9' 16.111 N	103° 35' 2.410 W
13,418.0	91.20	178.80	9,378.9	-4,368.3	23.2	420,631.56	731,903.39	32° 9' 15.171 N	103° 35' 2.391 W
13,513.0	90.70	179.00	9,377.3	-4,463.3	25.0	420,536.59	731,905.21	32° 9' 14.232 N	103° 35' 2.378 W
13,608.0	90.80	178.40	9,376.1	-4,558.3	27.2	420,441.62	731,907.36	32° 9' 13.292 N	103° 35' 2.360 W
13,708.0	91.60	178.60	9,374.0	-4,658.2	29.8	420,341.68	731,909.98	32° 9' 12.302 N	103° 35' 2.338 W
13,747.0	91.70	178.10	9,372.9	-4,697.2	30.9	420,302.71	731,911.10	32° 9' 11.917 N	103° 35' 2.328 W
13,797.0	91.70	178.10	9,371.4	-4,747.1	32.6	420,252.76	731,912.76	32° 9' 11.422 N	103° 35' 2.313 W
TD @ 13797' MD / 9371' TVD									

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,800.0	8,795.8	-77.4	74.7	First MWD Survey @ 8800' MD / 8795' TVD
9,067.8	9,052.5	-139.6	69.9	Crossed 330' Hard Line @ 9068' MD / 9053' TVD
13,797.0	9,371.4	-4,747.1	32.6	TD @ 13797' MD / 9371' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: COG Operating, LLC
 Monet Federal #10H
 Lea County, NM
 Rig: McVay #7
 Created By: Will Jirick
 Date: 2/3/2016

Monet Federal #10H
 Lea County, NM
Q160003 & WT-160005
 Target Change #1

PROJECT DETAILS: Lea County, NM

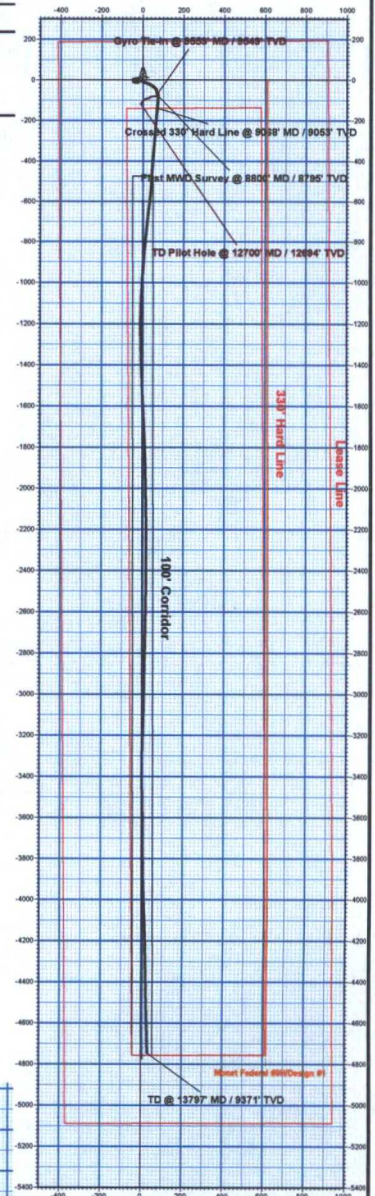
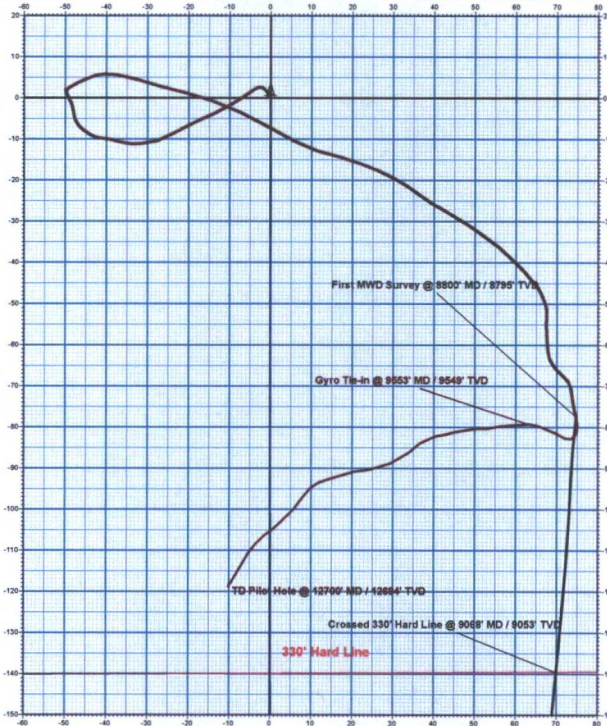
Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001
 System Datum: Mean Sea Level

CURVE & LATERAL ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect Departure Annotation
8800.0	1.18	172.13	8798.9	-77.4	74.7	77.5 228.8 First MWD Survey @ 8800' MD / 8795' TVD
9067.8	29.28	186.17	9062.6	-139.8	89.9	139.7 291.3 Crossed 330' Hard Line @ 9068' MD / 9053' TVD
13797.0	91.70	178.10	9371.4	-4747.2	32.8	4747.2 4903.2 TD @ 13797' MD / 9371' TVD

PILOT ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect Departure Annotation
8800.0	2.88	277.10	8648.6	-79.3	83.3	79.4 246.1 Gyro Tie-in @ 8803' MD / 8549' TVD
12700.0	1.80	213.40	12894.3	-118.9	-10.1	118.9 335.0 TD Pilot Hole @ 12700' MD / 12694' TVD

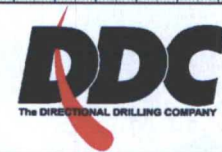


First MWD Survey @ 8800' MD / 8795' TVD

Crossed 330' Hard Line @ 9068' MD / 9053' TVD

Gyro Tie-in @ 8553' MD / 9549' TVD

TD @ 13797' MD / 9371' TVD



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL Monet Federal #10H Target	9390.0	-4788.3	8.0	420241.80	731885.20	32° 9' 11.314 N	103° 35' 2.698 W
- plan hits target center							

WELL DETAILS: Monet Federal #10H

+N/-S	+E/-W	Northing	Easting	Ground Level	Latitude	Longitude
0.0	0.0	424899.90	731880.20	3464.0	32° 9' 58.401 N	103° 35' 2.307 W



Azimuths to Grid North

Magnetic North: 6.71°

Magnetic Field

Strength: 48051.3nT

Dip Angle: 60.03°

Date: 1/4/2016

Model: IGRF2015

TD Pilot Hole @ 12700' MD / 12694' TVD

Vertical Section at 179.90° (200 usft/in)