



September 5, 2014

Devon Energy
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010

HOBSOCD

FEB 19 2015

RECEIVED

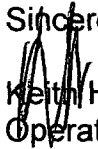
Attn: David Cook

Re: **Mean Green 23 Federal No. 001H**

Please find enclosed a copy of the survey from 0.00' to 8465.00' ran on the above referenced well.

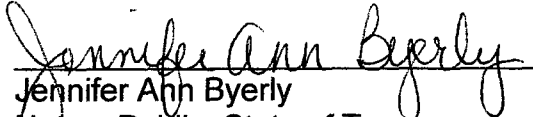
If I can be of any further service please do not hesitate to call me at 800-606-4976.

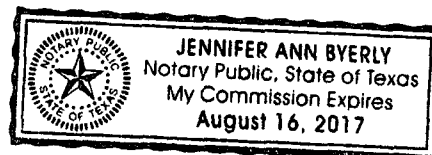
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 5 day of September A.D., 2014, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas



FEB 24 2015



Company: Devon Energy
Lease/Well: Mean Green 23 Federal/No. 001H

Rig Name: H&P 391
State/County: New Mexico /Lea
Latitude: 32.02, Longitude: -103.43
GRID North is 0.48 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : R.K.B= 25 FT

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: mean green 23 fed 1h survey .ut

Minimum Curvature Method

Report Date/Time: 9/4/2014 / 11:55

VES Survey International

(432) 563-5444

West Texas

Surveyor: Javier Estrada

Mean Green 23 Federal No. 001H / API 30-025-41292

HOESOC
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RECEIVED

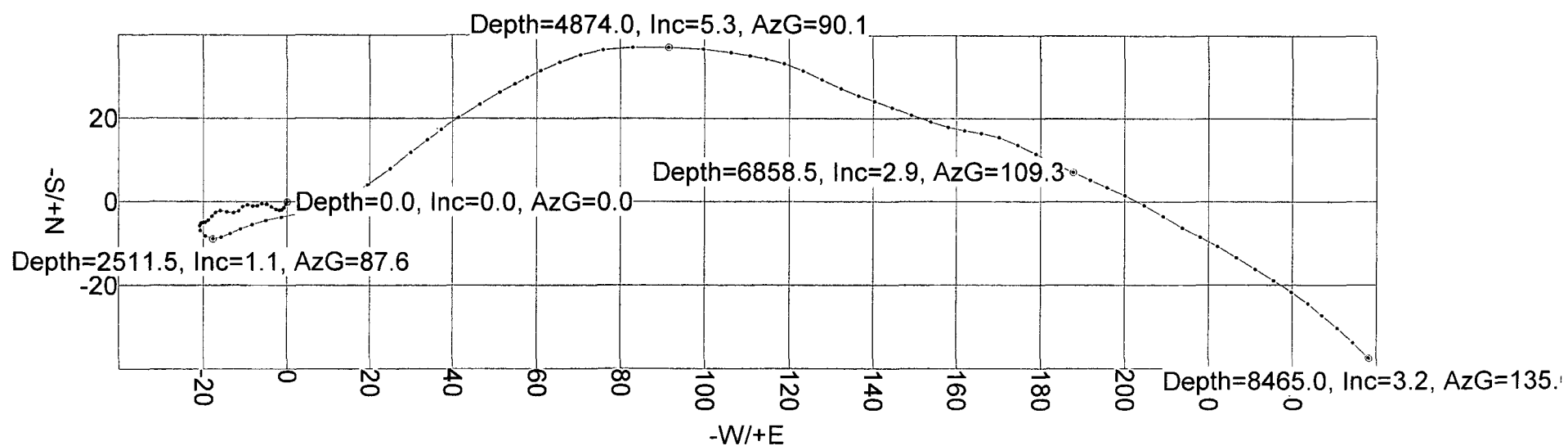
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
149.00	0.53	205.87	149.00	-0.62	-0.30	-0.62	0.69	205.87	0.36
243.50	0.66	211.41	243.49	-1.49	-0.78	-1.49	1.68	207.67	0.15
338.00	0.34	268.82	337.99	-1.96	-1.34	-1.96	2.37	214.48	0.59
432.50	0.39	253.02	432.49	-2.06	-1.94	-2.06	2.82	223.27	0.12
527.00	0.68	302.38	526.98	-1.85	-2.72	-1.85	3.29	235.80	0.55
621.50	0.78	296.75	621.48	-1.26	-3.77	-1.26	3.98	251.58	0.13
716.00	0.85	297.57	715.97	-0.64	-4.97	-0.64	5.01	262.62	0.07
810.50	0.73	249.61	810.46	-0.53	-6.15	-0.53	6.17	265.07	0.69
905.00	0.72	241.02	904.95	-1.03	-7.23	-1.03	7.31	261.90	0.12
999.50	0.78	292.66	999.44	-1.07	-8.35	-1.07	8.42	262.69	0.70
1094.00	0.83	272.64	1093.93	-0.79	-9.62	-0.79	9.66	265.29	0.30
1188.50	0.80	222.05	1188.43	-1.25	-10.75	-1.25	10.82	263.36	0.74
1283.00	0.83	226.38	1282.92	-2.21	-11.68	-2.21	11.89	259.27	0.07
1377.50	0.92	271.40	1377.41	-2.67	-12.94	-2.67	13.21	258.35	0.72
1472.00	1.00	282.75	1471.89	-2.47	-14.51	-2.47	14.72	260.35	0.22
1566.50	0.93	278.26	1566.38	-2.17	-16.08	-2.17	16.22	262.30	0.11
1661.00	0.76	215.92	1660.87	-2.57	-17.20	-2.57	17.39	261.51	0.94
1755.50	0.77	227.70	1755.36	-3.50	-18.04	-3.50	18.37	259.02	0.17

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
1850.00	0.77	215.10	1849.85	-4.45	-18.87	-4.45	19.39	256.75	0.18
1944.50	0.40	273.90	1944.35	-4.94	-19.56	-4.94	20.18	255.82	0.70
2039.00	0.30	248.01	2038.85	-5.01	-20.12	-5.01	20.73	256.01	0.19
2133.50	0.31	252.41	2133.35	-5.18	-20.58	-5.18	21.23	255.87	0.03
2228.00	0.64	191.31	2227.84	-5.78	-20.93	-5.78	21.71	254.57	0.60
2322.50	0.83	155.70	2322.34	-6.92	-20.75	-6.92	21.87	251.55	0.51
2417.00	1.36	128.16	2416.82	-8.24	-19.59	-8.24	21.25	247.19	0.77
2511.50	1.13	87.62	2511.30	-8.89	-17.77	-8.89	19.87	243.43	0.94
2606.00	1.26	73.92	2605.78	-8.56	-15.84	-8.56	18.00	241.60	0.33
2700.50	1.60	62.48	2700.25	-7.66	-13.67	-7.66	15.67	240.72	0.47
2795.00	1.61	67.74	2794.71	-6.55	-11.27	-6.55	13.03	239.82	0.16
2889.50	2.00	71.83	2889.17	-5.53	-8.47	-5.53	10.12	236.84	0.43
2984.00	2.14	74.99	2983.60	-4.56	-5.20	-4.56	6.92	228.73	0.19
3078.50	2.66	79.22	3078.02	-3.69	-1.34	-3.69	3.93	199.89	0.58
3173.00	2.96	78.93	3172.41	-2.82	3.21	-2.82	4.27	131.23	0.32
3267.50	3.38	68.32	3266.76	-1.32	8.20	-1.32	8.30	99.12	0.76
3362.00	3.84	66.17	3361.07	0.99	13.68	0.99	13.72	85.86	0.50
3456.50	4.00	58.21	3455.35	4.01	19.38	4.01	19.78	78.32	0.60
3551.00	4.15	51.22	3549.62	7.89	24.84	7.89	26.07	72.39	0.55
3645.50	3.52	52.35	3643.90	11.80	29.81	11.80	32.06	68.40	0.67
3740.00	2.56	53.33	3738.27	14.84	33.81	14.84	36.92	66.30	1.02
3834.50	2.66	55.06	3832.67	17.36	37.30	17.36	41.14	65.05	0.13
3929.00	3.30	56.28	3927.04	20.12	41.36	20.12	45.99	64.06	0.67
4023.50	3.97	57.61	4021.35	23.38	46.37	23.38	51.93	63.25	0.72
4118.00	2.83	59.81	4115.69	26.30	51.15	26.30	57.52	62.79	1.21
4212.50	2.11	61.51	4210.10	28.31	54.70	28.31	61.59	62.64	0.76
4307.00	1.92	62.80	4304.54	29.86	57.64	29.86	64.91	62.61	0.21
4401.50	2.51	63.26	4398.97	31.52	60.89	31.52	68.57	62.64	0.62
4496.00	3.57	68.16	4493.33	33.54	65.47	33.54	73.56	62.87	1.16
4590.50	2.98	73.90	4587.68	35.32	70.56	35.32	78.91	63.41	0.71
4685.00	3.73	80.40	4682.02	36.51	75.95	36.51	84.27	64.33	0.89
4779.50	4.91	89.34	4776.25	37.07	83.03	37.07	90.93	65.94	1.44
4874.00	5.34	90.13	4870.37	37.11	91.48	37.11	98.72	67.92	0.45
4968.50	4.70	96.04	4964.51	36.69	99.72	36.69	106.26	69.80	0.87
5063.00	3.27	99.12	5058.78	35.86	106.24	35.86	112.13	71.35	1.53
5157.50	2.23	100.60	5153.17	35.09	110.71	35.09	116.14	72.41	1.11
5252.00	2.45	101.78	5247.59	34.34	114.49	34.34	119.53	73.30	0.24
5346.50	2.87	107.46	5341.98	33.22	118.72	33.22	123.28	74.37	0.52
5441.00	2.97	113.73	5436.36	31.52	123.22	31.52	127.19	75.65	0.36

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
5535.50	3.07	117.86	5530.73	29.35	127.70	29.35	131.03	77.05	0.25
5630.00	3.04	112.03	5625.10	27.23	132.26	27.23	135.04	78.37	0.33
5724.50	2.46	112.37	5719.49	25.52	136.46	25.52	138.82	79.41	0.62
5819.00	2.45	106.22	5813.90	24.19	140.27	24.19	142.34	80.22	0.28
5913.50	2.97	112.92	5908.30	22.67	144.46	22.67	146.23	81.08	0.65
6008.00	3.01	110.42	6002.67	20.85	149.04	20.85	150.49	82.04	0.14
6102.50	3.01	109.05	6097.04	19.18	153.70	19.18	154.89	82.89	0.08
6197.00	2.42	103.80	6191.43	17.89	157.98	17.89	158.99	83.54	0.67
6291.50	2.47	100.53	6285.84	17.04	161.93	17.04	162.82	83.99	0.16
6386.00	2.41	96.91	6380.26	16.43	165.90	16.43	166.72	84.34	0.18
6480.50	2.88	109.01	6474.66	15.42	170.12	15.42	170.81	84.82	0.77
6575.00	2.92	115.49	6569.04	13.61	174.53	13.61	175.06	85.54	0.35
6669.50	2.90	117.21	6663.42	11.48	178.84	11.48	179.20	86.33	0.10
6764.00	3.11	119.18	6757.79	9.14	183.19	9.14	183.42	87.14	0.25
6858.50	2.89	109.32	6852.16	7.10	187.68	7.10	187.81	87.83	0.59
6953.00	2.67	121.15	6946.55	5.18	191.81	5.18	191.88	88.45	0.65
7047.50	2.61	107.07	7040.95	3.40	195.76	3.40	195.79	89.00	0.69
7142.00	3.16	119.32	7135.33	1.49	200.09	1.49	200.10	89.57	0.87
7236.50	3.10	115.79	7229.69	-0.89	204.67	-0.89	204.67	90.25	0.22
7331.00	3.20	124.03	7324.04	-3.48	209.15	-3.48	209.18	90.95	0.49
7425.50	3.23	118.71	7418.40	-6.24	213.67	-6.24	213.76	91.67	0.32
7520.00	2.70	115.58	7512.77	-8.47	218.01	-8.47	218.18	92.23	0.59
7614.50	3.01	119.98	7607.15	-10.67	222.17	-10.67	222.42	92.75	0.40
7709.00	3.33	122.54	7701.51	-13.39	226.63	-13.39	227.02	93.38	0.37
7803.50	3.16	120.77	7795.86	-16.20	231.18	-16.20	231.74	94.01	0.20
7898.00	2.99	123.97	7890.22	-18.91	235.46	-18.91	236.22	94.59	0.26
7992.50	3.19	121.90	7984.58	-21.68	239.74	-21.68	240.72	95.17	0.24
8087.00	2.70	130.99	8078.96	-24.53	243.65	-24.53	244.88	95.75	0.72
8181.50	2.58	128.75	8173.36	-27.32	246.99	-27.32	248.50	96.31	0.17
8276.00	3.15	130.89	8267.74	-30.35	250.61	-30.35	252.44	96.90	0.62
8370.50	3.13	134.88	8362.10	-33.87	254.41	-33.87	256.65	97.58	0.23
8465.00	3.19	134.96	8456.45	-37.55	258.10	-37.55	260.81	98.28	0.06



VES Survey International
(432) 563-5444
West Texas
Surveyor: Javier Estrada
Mean Green 23 Federal No. 001H / API 30-025-41292





Directional Survey

District DELAWARE BASIN	County LEA	Field Name RATTLESNAKE (NM)	Project Group DELAWARE BASIN REG	State/Province NM			
Surface Legal Location Sec. 23 T26S R34E	API/UWI 3002541292	Latitude (°) 32° 1' 17.586" N	Longitude (°) 103° 25' 57.922" W	Ground Elev... 3,223.00	KB - GL (ft) 25.00	Orig KB Elev (ft) 3,248.00	Tubing Head Elevation (ft)

Wellbores							
Wellbore Name OH	Parent Wellbore	SAP Well ID	Kick Off Depth (ftKB) 8,650.0	Vertical Section Direction (°)			
Actual Deviation Survey GYRO, Proposed? No		Definitive? Yes	Proposed? No	Proposed Deviation Survey			

Deviation Survey							
Date 8/29/2014	Description GYRO						
MD Tie In (ftKB) 0.00	TVD Tie In (ftKB) 0.00	Inclination Tie In (°) 0.00	Azimuth Tie In (°) 0.00	NSTie In (ft) 0.00	EWTie In (ft) 0.00		

Survey Data										
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
8/29/2014	149.00	0.53	205.87	149.00	-0.61	-0.62	-0.30	0.36	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	243.50	0.66	211.41	243.49	-1.46	-1.48	-0.78	0.15	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	338.00	0.34	268.82	337.99	-1.92	-1.95	-1.34	0.59	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	432.50	0.39	253.02	432.49	-2.01	-2.05	-1.93	0.12	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	527.00	0.68	302.38	526.98	-1.79	-1.84	-2.71	0.55	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	621.50	0.78	296.75	621.48	-1.18	-1.25	-3.76	0.13	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	716.00	0.85	297.57	715.97	-0.54	-0.64	-4.95	0.08	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	810.50	0.73	249.61	810.46	-0.40	-0.52	-6.14	0.69	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	905.00	0.72	241.02	904.95	-0.88	-1.02	-7.22	0.12	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	999.50	0.78	292.66	999.44	-0.89	-1.06	-8.33	0.69	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	1,094.00	0.83	272.64	1,093.93	-0.59	-0.78	-9.61	0.30	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	1,188.50	0.80	222.05	1,188.43	-1.02	-1.24	-10.74	0.74	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	1,283.00	0.83	226.38	1,282.92	-1.97	-2.20	-11.67	0.07	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	1,377.50	0.92	271.40	1,377.41	-2.40	-2.66	-12.93	0.71	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	1,472.00	1.00	282.75	1,471.89	-2.16	-2.45	-14.49	0.22	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	1,566.50	0.93	278.26	1,566.38	-1.84	-2.16	-16.05	0.11	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	1,661.00	0.76	215.92	1,660.87	-2.22	-2.56	-17.18	0.94	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	1,755.50	0.77	227.70	1,755.36	-3.13	-3.49	-18.02	0.17	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	1,850.00	0.77	215.10	1,849.86	-4.06	-4.44	-18.85	0.18	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	1,944.50	0.40	273.90	1,944.35	-4.55	-4.94	-19.55	0.70	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,039.00	0.30	248.01	2,038.85	-4.60	-5.01	-20.11	0.20	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,133.50	0.31	252.41	2,133.35	-4.77	-5.18	-20.58	0.03	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,228.00	0.64	191.31	2,227.84	-5.35	-5.77	-20.93	0.59	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,322.50	0.83	155.70	2,322.34	-6.50	-6.91	-20.75	0.51	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,417.00	1.36	128.16	2,416.82	-7.84	-8.23	-19.58	0.78	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,511.50	1.13	87.62	2,511.30	-8.53	-8.89	-17.77	0.94	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,606.00	1.26	73.92	2,605.78	-8.24	-8.56	-15.84	0.33	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,700.50	1.60	62.48	2,700.25	-7.39	-7.66	-13.67	0.47	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,795.00	1.61	67.74	2,794.71	-6.32	-6.55	-11.28	0.16	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,889.50	2.00	71.83	2,889.17	-5.36	-5.53	-8.48	0.43	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	2,984.00	2.14	74.99	2,983.60	-4.46	-4.56	-5.21	0.19	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	3,078.50	2.66	79.22	3,078.02	-3.67	-3.69	-1.35	0.58	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	3,173.00	2.96	78.93	3,172.41	-2.88	-2.82	3.20	0.32	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	3,267.50	3.38	68.32	3,266.76	-1.48	-1.32	8.18	0.76	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	3,362.00	3.84	66.17	3,361.08	0.72	0.99	13.66	0.51	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	3,456.50	4.00	58.21	3,455.36	3.62	4.00	19.36	0.60	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	3,551.00	4.15	51.22	3,549.62	7.38	7.88	24.83	0.55	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	3,645.50	3.52	52.35	3,643.90	11.20	11.80	29.79	0.67	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	3,740.00	2.56	53.33	3,738.27	14.15	14.83	33.78	1.02	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	3,834.50	2.66	55.06	3,832.67	16.60	17.35	37.27	0.13	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	3,929.00	3.30	56.28	3,927.04	19.28	20.11	41.33	0.68	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	4,023.50	3.97	57.61	4,021.35	22.44	23.37	46.36	0.71	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	4,118.00	2.83	59.81	4,115.69	25.27	26.30	51.13	1.21	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	4,212.50	2.11	61.51	4,210.10	27.20	28.30	54.68	0.77	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	4,307.00	1.92	62.80	4,304.54	28.70	29.86	57.62	0.21	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	4,401.50	2.51	63.26	4,398.97	30.28	31.51	60.87	0.62	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	4,496.00	3.57	68.16	4,493.33	32.22	33.54	65.45	1.15	GYRO	VAUHGN ENERGY SERVICES



Directional Survey

District DELAWARE BASIN	County LEA	Field Name RATTLESNAKE (NM)	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location Sec. 23 T26S R34E	API/UWI 3002541292	Latitude (°) 32° 1' 17.586" N	Longitude (°) 103° 25' 57.922" W	Ground Elev... 3,223.00
			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,248.00
				Tubing Head Elevation (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (%/100ft)	Survey Tool	Survey Company
8/29/2014	4,590.50	2.98	73.90	4,587.68	33.89	35.31	70.54	0.71	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	4,685.00	3.73	80.40	4,682.02	34.98	36.51	75.93	0.89	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	4,779.50	4.91	89.34	4,776.25	35.39	37.06	83.01	1.43	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	4,874.00	5.34	90.13	4,870.37	35.26	37.10	91.45	0.46	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	4,968.50	4.70	96.04	4,964.51	34.68	36.68	99.70	0.87	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	5,063.00	3.27	99.12	5,058.78	33.71	35.85	106.21	1.53	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	5,157.50	2.23	100.60	5,153.17	32.86	35.08	110.68	1.10	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	5,252.00	2.45	101.78	5,247.59	32.03	34.33	114.46	0.24	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	5,346.50	2.87	107.46	5,341.99	30.83	33.21	118.70	0.52	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	5,441.00	2.97	113.73	5,436.36	29.04	31.52	123.19	0.35	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	5,535.50	3.07	117.86	5,530.73	26.78	29.35	127.67	0.25	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	5,630.00	3.04	112.03	5,625.10	24.57	27.23	132.23	0.33	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	5,724.50	2.46	112.37	5,719.49	22.78	25.51	136.43	0.61	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	5,819.00	2.45	106.22	5,813.90	21.36	24.18	140.25	0.28	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	5,913.50	2.97	112.92	5,908.30	19.76	22.66	144.44	0.64	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,008.00	3.01	110.42	6,002.67	17.85	20.84	149.02	0.14	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,102.50	3.01	109.05	6,097.04	16.08	19.17	153.69	0.08	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,197.00	2.42	103.80	6,191.43	14.71	17.88	157.97	0.68	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,291.50	2.47	100.53	6,285.85	13.78	17.03	161.91	0.16	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,386.00	2.41	96.91	6,380.26	13.09	16.42	165.89	0.17	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,480.50	2.88	109.01	6,474.66	12.00	15.41	170.10	0.77	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,575.00	2.92	115.49	6,569.04	10.10	13.60	174.52	0.35	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,669.50	2.90	117.21	6,663.42	7.89	11.47	178.82	0.09	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,764.00	3.11	119.18	6,757.79	5.46	9.13	183.18	0.25	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,858.50	2.89	109.32	6,852.16	3.33	7.09	187.67	0.59	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	6,953.00	2.67	121.15	6,946.55	1.32	5.16	191.80	0.65	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,047.50	2.61	107.07	7,040.95	-0.53	3.39	195.74	0.69	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,142.00	3.16	119.32	7,135.33	-2.52	1.49	200.07	0.87	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,236.50	3.10	115.79	7,229.69	-5.00	-0.90	204.64	0.21	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,331.00	3.20	124.03	7,324.05	-7.68	-3.49	209.13	0.49	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,425.50	3.23	118.71	7,418.40	-10.52	-6.24	213.65	0.32	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,520.00	2.70	115.58	7,512.77	-12.85	-8.48	217.99	0.59	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,614.50	3.01	119.98	7,607.15	-15.13	-10.69	222.15	0.40	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,709.00	3.33	122.54	7,701.51	-17.94	-13.40	226.61	0.37	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,803.50	3.16	120.77	7,795.86	-20.84	-16.21	231.16	0.21	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,898.00	2.99	123.97	7,890.22	-23.63	-18.92	235.45	0.26	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	7,992.50	3.19	121.90	7,984.58	-26.48	-21.69	239.72	0.24	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	8,087.00	2.70	130.99	8,078.96	-29.41	-24.54	243.64	0.71	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	8,181.50	2.58	128.75	8,173.36	-32.27	-27.33	246.97	0.17	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	8,276.00	3.15	130.89	8,267.74	-35.37	-30.36	250.60	0.61	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	8,370.50	3.13	134.88	8,362.10	-38.97	-33.88	254.39	0.23	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	8,465.00	3.19	134.96	8,456.45	-42.72	-37.56	258.08	0.06	GYRO	VAUHGN ENERGY SERVICES
8/29/2014	8,618.00	2.82	145.44	8,609.25	-48.93	-43.66	263.22	0.43	MWD	WEATHERFORD
8/29/2014	8,649.00	1.95	163.30	8,640.22	-50.07	-44.80	263.81	3.66	MWD	WEATHERFORD
8/29/2014	8,681.00	2.04	307.94	8,672.21	-50.24	-44.97	263.51	11.88	MWD	WEATHERFORD
8/29/2014	8,712.00	5.42	317.15	8,703.14	-48.80	-43.56	262.08	11.04	MWD	WEATHERFORD
8/29/2014	8,744.00	9.73	316.63	8,734.85	-45.67	-40.48	259.20	13.47	MWD	WEATHERFORD
8/29/2014	8,775.00	13.17	318.80	8,765.23	-41.02	-35.92	255.07	11.18	MWD	WEATHERFORD
8/29/2014	8,807.00	15.98	322.53	8,796.20	-34.68	-29.68	249.99	9.25	MWD	WEATHERFORD
8/29/2014	8,838.00	19.23	327.60	8,825.75	-26.87	-21.98	244.66	11.58	MWD	WEATHERFORD
8/29/2014	8,870.00	22.74	329.79	8,855.62	-16.96	-12.18	238.72	11.24	MWD	WEATHERFORD
8/29/2014	8,902.00	26.02	330.75	8,884.76	-5.36	-0.71	232.17	10.32	MWD	WEATHERFORD
8/29/2014	8,933.00	30.57	330.15	8,912.05	7.56	12.07	224.92	14.71	MWD	WEATHERFORD
8/29/2014	8,965.00	34.38	329.89	8,939.04	22.61	26.95	216.34	11.91	MWD	WEATHERFORD
8/29/2014	8,996.00	37.76	328.76	8,964.10	38.48	42.64	207.02	11.11	MWD	WEATHERFORD



Directional Survey

District DELAWARE BASIN	County LEA	Field Name RATTLESNAKE (NM)	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location Sec. 23 T26S R34E	API/UWI 3002541292	Latitude (") 32° 1' 17.586" N	Longitude (") 103° 25' 57.922" W	Ground Elev... 3,223.00
				KB - GL (ft) 25.00
				Orig KB Elev (ft) 3,248.00
				Tubing Head Elevation (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (ft/100ft)	Survey Tool	Survey Company
8/29/2014	9,028.00	42.04	326.80	8,988.64	56.05	59.99	196.07	13.94	MWD	WEATHERFORD
8/29/2014	9,059.00	46.24	325.44	9,010.88	74.20	77.90	184.03	13.89	MWD	WEATHERFORD
8/29/2014	9,091.00	49.43	326.05	9,032.36	94.07	97.51	170.68	10.07	MWD	WEATHERFORD
8/29/2014	9,122.00	53.90	325.81	9,051.58	114.47	117.64	157.06	14.43	MWD	WEATHERFORD
8/29/2014	9,154.00	58.17	327.45	9,069.46	136.92	139.81	142.48	14.00	MWD	WEATHERFORD
8/29/2014	9,186.00	62.04	328.90	9,085.41	160.78	163.38	127.86	12.72	MWD	WEATHERFORD
8/29/2014	9,217.00	67.55	329.88	9,098.60	185.20	187.51	113.58	18.00	MWD	WEATHERFORD
8/29/2014	9,249.00	71.29	331.24	9,109.85	211.57	213.60	98.87	12.35	MWD	WEATHERFORD
8/29/2014	9,280.00	74.34	331.99	9,119.01	237.90	239.65	84.79	10.11	MWD	WEATHERFORD
8/29/2014	9,312.00	79.32	333.17	9,126.30	265.83	267.30	70.45	15.97	MWD	WEATHERFORD
8/29/2014	9,343.00	84.12	334.02	9,130.76	293.57	294.77	56.81	15.72	MWD	WEATHERFORD
8/29/2014	9,375.00	87.83	334.91	9,133.01	322.64	323.57	43.06	11.92	MWD	WEATHERFORD
8/29/2014	9,392.00	88.32	334.22	9,133.58	338.12	338.91	35.76	4.98	MWD	WEATHERFORD
8/29/2014	9,423.00	88.74	334.74	9,134.37	366.35	366.87	22.41	2.16	MWD	WEATHERFORD
8/29/2014	9,455.00	88.67	336.82	9,135.10	395.78	396.05	9.28	6.50	MWD	WEATHERFORD
8/29/2014	9,486.00	88.18	339.34	9,135.95	424.76	424.79	-2.28	8.28	MWD	WEATHERFORD
8/29/2014	9,518.00	87.68	341.82	9,137.10	455.12	454.95	-12.92	7.90	MWD	WEATHERFORD
8/29/2014	9,549.00	87.33	343.64	9,138.45	484.87	484.52	-22.11	5.97	MWD	WEATHERFORD
8/29/2014	9,580.00	88.25	344.91	9,139.65	514.85	514.34	-30.50	5.06	MWD	WEATHERFORD
8/29/2014	9,612.00	89.09	345.35	9,140.39	545.93	545.26	-38.71	2.96	MWD	WEATHERFORD
9/2/2014	9,644.00	90.28	349.27	9,140.57	577.27	576.47	-45.74	12.80	MWD	WEATHERFORD
8/29/2014	9,675.00	90.35	351.58	9,140.40	607.94	607.04	-50.90	7.45	MWD	WEATHERFORD
8/29/2014	9,707.00	90.14	353.68	9,140.26	639.75	638.77	-55.00	6.60	MWD	WEATHERFORD
8/29/2014	9,738.00	89.79	354.98	9,140.28	670.65	669.62	-58.07	4.34	MWD	WEATHERFORD
8/29/2014	9,770.00	90.21	355.95	9,140.28	702.59	701.52	-60.60	3.30	MWD	WEATHERFORD
8/29/2014	9,801.00	90.28	357.90	9,140.15	733.57	732.47	-62.26	6.29	MWD	WEATHERFORD
8/29/2014	9,833.00	90.42	359.79	9,139.95	765.57	764.46	-62.90	5.92	MWD	WEATHERFORD
8/29/2014	9,896.00	89.93	0.13	9,139.76	828.56	827.46	-62.95	0.95	MWD	WEATHERFORD
8/29/2014	9,991.00	89.51	0.04	9,140.22	923.53	922.46	-62.81	0.45	MWD	WEATHERFORD
8/29/2014	10,085.00	89.37	0.02	9,141.14	1,017.51	1,016.46	-62.76	0.15	MWD	WEATHERFORD
8/29/2014	10,180.00	89.86	358.96	9,141.78	1,112.50	1,111.45	-63.60	1.23	MWD	WEATHERFORD
8/29/2014	10,274.00	90.77	359.03	9,141.26	1,206.50	1,205.43	-65.25	0.97	MWD	WEATHERFORD
8/29/2014	10,369.00	90.42	358.74	9,140.28	1,301.49	1,300.41	-67.10	0.48	MWD	WEATHERFORD
8/29/2014	10,463.00	91.05	359.48	9,139.07	1,395.48	1,394.39	-68.56	1.03	MWD	WEATHERFORD
8/29/2014	10,653.00	91.47	0.87	9,134.89	1,585.38	1,584.34	-67.98	0.76	MWD	WEATHERFORD
8/29/2014	10,747.00	91.12	0.99	9,132.77	1,679.30	1,678.30	-66.45	0.39	MWD	WEATHERFORD
8/29/2014	10,842.00	90.56	1.10	9,131.38	1,774.21	1,773.27	-64.72	0.60	MWD	WEATHERFORD
8/29/2014	11,032.00	89.51	1.89	9,131.26	1,964.01	1,963.21	-59.77	0.69	MWD	WEATHERFORD
8/29/2014	11,126.00	88.95	1.94	9,132.52	2,057.87	2,057.14	-56.62	0.60	MWD	WEATHERFORD
8/29/2014	11,221.00	90.00	1.52	9,133.39	2,152.74	2,152.10	-53.76	1.19	MWD	WEATHERFORD
8/29/2014	11,315.00	90.14	1.09	9,133.28	2,246.65	2,246.07	-51.62	0.48	MWD	WEATHERFORD
8/29/2014	11,410.00	89.51	359.27	9,133.57	2,341.62	2,341.07	-51.32	2.03	MWD	WEATHERFORD
8/29/2014	11,505.00	90.00	358.92	9,133.97	2,436.62	2,436.05	-52.82	0.63	MWD	WEATHERFORD
8/29/2014	11,599.00	90.42	359.02	9,133.63	2,530.62	2,530.04	-54.51	0.46	MWD	WEATHERFORD
8/29/2014	11,694.00	90.42	359.21	9,132.93	2,625.62	2,625.02	-55.97	0.20	MWD	WEATHERFORD
9/4/2014	11,789.00	89.86	358.20	9,132.70	2,720.61	2,720.00	-58.12	1.22	MWD	WEATHERFORD
9/4/2014	11,884.00	89.44	357.90	9,133.28	2,815.60	2,814.94	-61.35	0.54	MWD	WEATHERFORD
9/4/2014	11,979.00	88.74	357.65	9,134.79	2,910.57	2,909.85	-65.04	0.78	MWD	WEATHERFORD
9/4/2014	12,072.00	89.02	358.13	9,136.61	3,003.54	3,002.77	-68.47	0.60	MWD	WEATHERFORD
9/4/2014	12,166.00	90.63	358.37	9,136.90	3,097.53	3,096.73	-71.34	1.73	MWD	WEATHERFORD
9/4/2014	12,261.00	90.77	358.25	9,135.74	3,192.52	3,191.68	-74.14	0.19	MWD	WEATHERFORD
9/4/2014	12,356.00	90.42	358.62	9,134.75	3,287.51	3,286.64	-76.73	0.54	MWD	WEATHERFORD
9/4/2014	12,450.00	90.14	358.62	9,134.29	3,381.51	3,380.61	-79.00	0.30	MWD	WEATHERFORD
9/4/2014	12,545.00	89.86	358.97	9,134.29	3,476.51	3,475.59	-80.99	0.47	MWD	WEATHERFORD
9/6/2014	12,640.00	90.77	359.63	9,133.77	3,571.51	3,570.58	-82.15	1.18	MWD	WEATHERFORD



Directional Survey

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			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,248.00
				Tubing Head Elevation (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	EW (ft)	DLS (°/100ft)	Survey Tool	Survey Company
9/6/2014	12,734.00	90.84	359.81	9,132.45	3,665.49	3,664.57	-82.61	0.21	MWD	WEATHERFORD
9/6/2014	12,829.00	89.86	359.91	9,131.87	3,760.47	3,759.56	-82.85	1.04	MWD	WEATHERFORD
9/6/2014	12,924.00	90.14	0.09	9,131.87	3,855.45	3,854.56	-82.85	0.35	MWD	WEATHERFORD
9/6/2014	13,018.00	90.21	359.86	9,131.58	3,949.43	3,948.56	-82.89	0.26	MWD	WEATHERFORD
9/6/2014	13,113.00	90.91	359.94	9,130.65	4,044.41	4,043.56	-83.05	0.74	MWD	WEATHERFORD
9/6/2014	13,208.00	90.21	359.96	9,129.72	4,139.39	4,138.55	-83.14	0.74	MWD	WEATHERFORD
9/6/2014	13,303.00	91.54	358.96	9,128.27	4,234.37	4,233.53	-84.03	1.75	MWD	WEATHERFORD
9/6/2014	13,397.00	91.82	358.93	9,125.52	4,328.33	4,327.48	-85.76	0.30	MWD	WEATHERFORD
9/6/2014	13,491.00	91.75	358.58	9,122.59	4,422.28	4,421.41	-87.80	0.38	MWD	WEATHERFORD
9/6/2014	13,586.00	91.89	358.79	9,119.57	4,517.23	4,516.34	-89.98	0.27	MWD	WEATHERFORD
9/6/2014	13,681.00	91.40	358.72	9,116.84	4,612.19	4,611.27	-92.04	0.52	MWD	WEATHERFORD
9/6/2014	13,776.00	90.21	358.85	9,115.51	4,707.18	4,706.24	-94.06	1.26	MWD	WEATHERFORD
9/6/2014	13,870.00	89.79	358.99	9,115.51	4,801.18	4,800.22	-95.83	0.47	MWD	WEATHERFORD
9/6/2014	13,934.00	89.65	358.60	9,115.82	4,865.18	4,864.21	-97.18	0.65	MWD	WEATHERFORD
9/6/2014	14,000.00	89.65	358.60	9,116.22	4,931.18	4,930.19	-98.79	0.00	BIT	WEATHERFORD