

Results of Directional Survey

API number:	30-025-41273		
OGRID:		Operator:	DEVON ENERGY PRODUCTION COMPANY, LP
		Property:	RAGIN CAJUN 13 FEDERAL # 2H

surface	ULSTR:	M	13	T 26S	R 34E
				330 FSL	1295 FWL

BH Loc	ULSTR:	D	13	T 26S	R 34E
13612	MD	9118.5	TVD	327 FNL	643 FWL
				4953 FSL	

Top Perf/OH	ULSTR:	M	13	T 26S	R 34E
9270	MD	9086.4	TVD	629 FSL	978 FWL

Bot Perf/OH	ULSTR:	D	13	T 26S	R 34E
13490	MD	9117.7	TVD	449 FNL	653 FWL
				4831 FSL	

	MD	N/S	E/W	VD
	9239	270.11	-315.21	9075.42
TOP PERFS/OH	9270	299.02	-317.50	9086.37
	9270	299.02	-317.50	9086.37
	13447	4458.53	-638.68	9117.34
BOT PERFS/OH	13490	4501.39	-642.12	9117.65
	13541	4552.23	-646.19	9118.01

NEXT TO LAST	13552	4563.19	-647.10	9118.06
LAST READING	13612	4622.98	-652.12	9118.48
TD	13612	4622.98	-652.12	9118.48

Surface Location	330 FS	1295 FW
Projected BHL	4953 FS	643 FW
Location of		
Top Perfs/OH	629 FS	978 FW
Bottom Perfs/OH	4831 FS	653 FW

SUMMARY of Subsurface Locations

Surface Location	M-13-26S-34E	330 FS	1295 FW	Vert. Depth
Top Perfs/OH	M-13-26S-34E	629 FS	978 FW	9086.37
Bottom Perfs/OH	D-13-26S-34E	4831 FS	653 FW	9117.65
Projected TD	D-13-26S-34E	4953 FS	643 FW	9118.48

AUG 25 2014,



P.O. Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

HOBBS OCD

March 20, 2014

AUG 15 2014

RECEIVED

Devon Energy Production Co., LP
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010

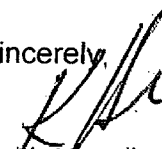
Attn: David Cook

Re: **Ragin Cajun 13 Federal No 002H**

Please find enclosed a copy of the survey from 0' to 5,178' ran on the above referenced well.

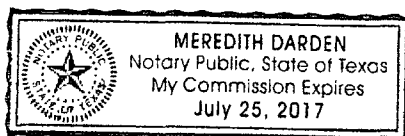
If I can be of any further service, please do not hesitate to call me at 800-606-4976.

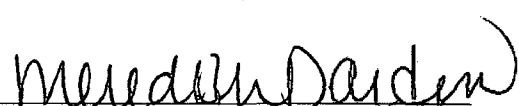
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 20th day of March, A.D., 2014, by Keith Havelka.




Meredith Darden
Notary Public, State of Texas



Company: DEVON ENERGY
Lease/Well: RAGIN CAJUN 13 FEDERAL/No 002H

Rig Name: H&P 391
State/County: NEW MEXICO/LEA
Latitude: 32.04, Longitude: -103.43
GRID North is 0.48 Degrees East of True North
VS-Azi: 351.67 Degrees



Depth Reference : RKB 25 FEET

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: survey_run-01-de_01.ut
Minimum Curvature Method
Report Date/Time: 3/20/2014 / 16:19

Vaughn Energy Services
Midland, TX
432-563-5444

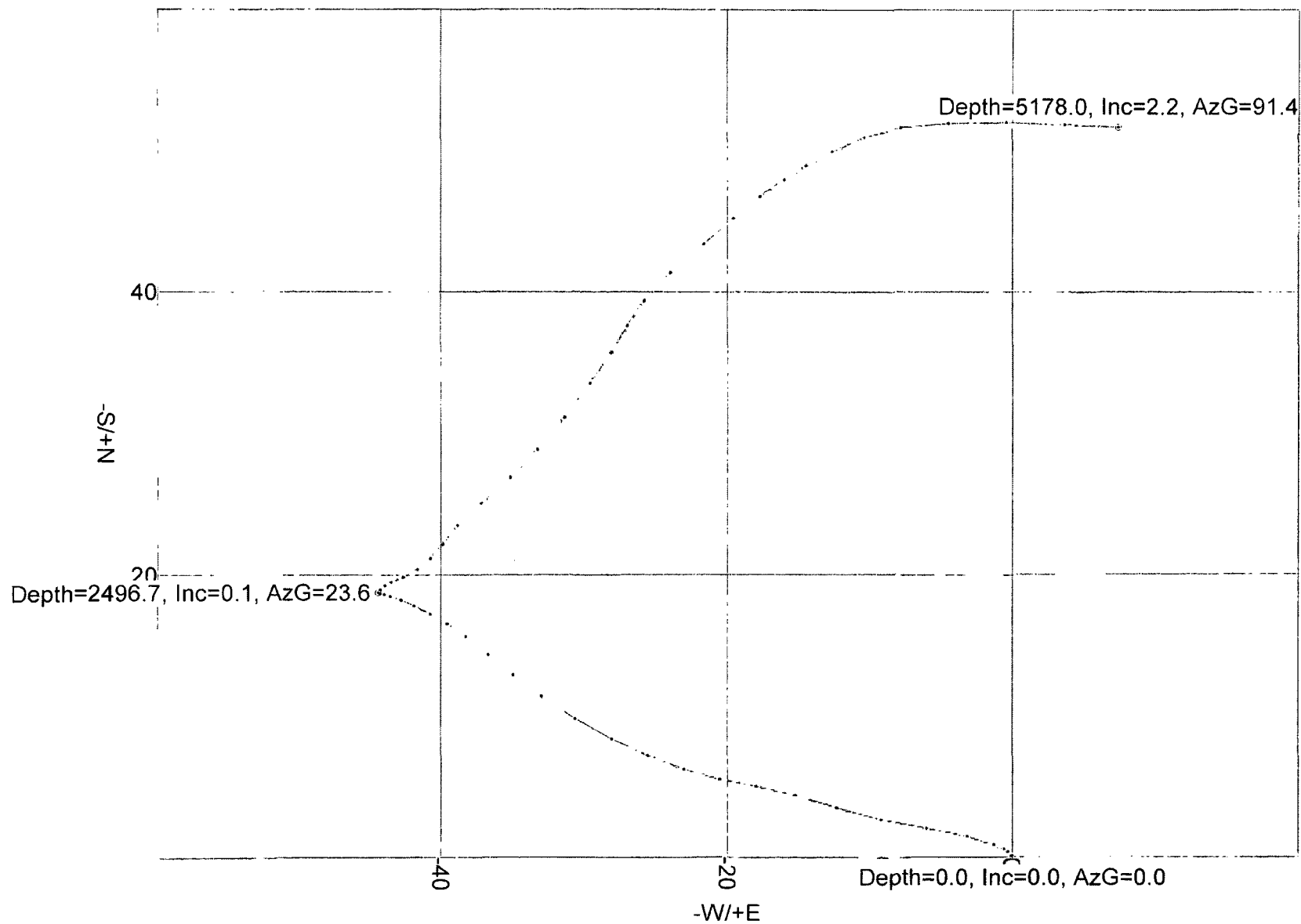
Surveyor: Andrew Meadville
Ragin Cajun 13 Federal No 002H / API 30-025-41273

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	****
92.70	0.14	339.40	92.70	0.11	-0.04	0.11	0.11	339.40	0.15
185.16	0.34	307.40	185.16	0.38	-0.30	0.42	0.48	321.88	0.25
277.62	0.07	297.85	277.62	0.57	-0.57	0.65	0.81	315.39	0.30
370.08	0.89	292.78	370.07	0.88	-1.27	1.05	1.55	304.54	0.88
462.54	1.55	284.91	462.51	1.48	-3.14	1.92	3.47	295.14	0.74
555.00	2.05	278.79	554.93	2.05	-5.99	2.90	6.33	288.90	0.57
647.46	2.00	282.65	647.33	2.66	-9.20	3.96	9.57	286.11	0.16
739.92	2.01	287.72	739.73	3.50	-12.32	5.25	12.81	285.88	0.19
832.38	1.75	285.39	832.14	4.37	-15.23	6.53	15.84	286.02	0.29
924.84	1.71	280.64	924.56	5.00	-17.94	7.55	18.63	285.58	0.16
1017.30	1.54	282.47	1016.98	5.52	-20.51	8.44	21.24	285.08	0.20
1109.76	1.65	289.98	1109.41	6.25	-22.98	9.51	23.81	285.21	0.26
1202.22	1.65	292.28	1201.83	7.21	-25.46	10.82	26.47	285.81	0.07
1294.68	1.84	296.56	1294.25	8.38	-28.03	12.35	29.25	286.65	0.25
1387.14	1.81	302.58	1386.66	9.83	-30.58	14.16	32.12	287.82	0.21
1479.60	1.69	305.81	1479.08	11.41	-32.92	16.06	34.84	289.12	0.16
1572.06	1.41	308.38	1571.50	12.92	-34.92	17.84	37.23	290.30	0.32
1664.52	1.42	310.77	1663.93	14.37	-36.68	19.53	39.39	291.40	0.07

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
1756.98	1.11	306.77	1756.37	15.66	-38.26	21.03	41.34	292.25	0.35
1849.44	0.84	301.94	1848.82	16.55	-39.55	22.11	42.88	292.71	0.30
1941.90	0.89	298.40	1941.27	17.25	-40.76	22.98	44.27	292.94	0.08
2034.36	0.68	295.40	2033.72	17.83	-41.90	23.71	45.53	293.06	0.23
2126.82	0.61	289.63	2126.17	18.23	-42.85	24.25	46.57	293.05	0.11
2219.28	0.38	287.28	2218.63	18.49	-43.61	24.61	47.37	292.97	0.24
2311.74	0.17	284.43	2311.09	18.61	-44.04	24.80	47.81	292.91	0.23
2404.20	0.19	280.16	2403.55	18.68	-44.32	24.90	48.10	292.85	0.03
2496.66	0.06	23.63	2496.01	18.75	-44.45	24.99	48.25	292.87	0.23
2589.12	0.24	40.10	2588.47	18.94	-44.31	25.16	48.19	293.15	0.20
2681.58	0.30	52.90	2680.93	19.24	-43.99	25.41	48.01	293.63	0.09
2774.04	0.38	64.46	2773.38	19.52	-43.51	25.62	47.69	294.16	0.11
2866.50	0.73	69.16	2865.84	19.86	-42.69	25.84	47.08	294.95	0.39
2958.96	0.71	53.48	2958.29	20.42	-41.67	26.24	46.40	296.10	0.21
3051.42	0.80	48.41	3050.74	21.18	-40.73	26.86	45.91	297.48	0.11
3143.88	0.90	33.25	3143.19	22.22	-39.85	27.76	45.63	299.14	0.27
3236.34	1.19	41.31	3235.64	23.55	-38.82	28.92	45.40	301.24	0.36
3328.80	1.64	50.46	3328.07	25.11	-37.16	30.23	44.85	304.05	0.54
3421.26	1.72	46.52	3420.49	26.91	-35.13	31.72	44.25	307.45	0.15
3513.72	1.70	41.69	3512.91	28.89	-33.21	33.40	44.02	311.02	0.16
3606.18	1.94	38.54	3605.32	31.14	-31.32	35.35	44.17	314.84	0.28
3698.64	1.76	35.06	3697.73	33.53	-29.53	37.46	44.68	318.63	0.23
3791.10	1.53	33.01	3790.16	35.73	-28.04	39.41	45.42	321.87	0.26
3883.56	1.24	28.92	3882.59	37.64	-26.89	41.13	46.25	324.46	0.33
3976.02	1.39	36.64	3975.03	39.41	-25.73	42.72	47.07	326.86	0.25
4068.48	1.94	47.59	4067.45	41.37	-23.91	44.39	47.78	329.97	0.68
4160.94	1.86	48.39	4159.86	43.42	-21.63	46.09	48.51	333.51	0.09
4253.40	1.61	49.13	4252.27	45.26	-19.53	47.61	49.29	336.66	0.28
4345.86	1.36	52.90	4344.70	46.77	-17.68	48.84	50.00	339.29	0.29
4438.32	1.19	55.88	4437.14	47.97	-16.01	49.78	50.57	341.54	0.20
4530.78	1.10	59.33	4529.58	48.96	-14.45	50.54	51.05	343.55	0.12
4623.24	1.44	62.99	4622.02	49.94	-12.65	51.25	51.52	345.79	0.38
4715.70	1.66	69.03	4714.44	50.95	-10.36	51.91	51.99	348.51	0.30
4808.16	1.67	81.06	4806.87	51.64	-7.77	52.22	52.22	351.44	0.38
4900.62	2.40	87.53	4899.27	51.93	-4.51	52.04	52.13	355.04	0.82
4993.08	2.62	90.10	4991.64	52.01	-0.45	51.53	52.02	359.50	0.27
5085.54	2.45	94.44	5084.01	51.86	3.64	50.78	51.98	4.01	0.28
5178.00	2.21	91.44	5176.39	51.66	7.39	50.04	52.18	8.14	0.30



Vaughn Energy Services
Midland, TX
432-563-5444
Surveyor: Andrew Meadville
Ragin Cajun 13 Federal No 002H / API 30-025-41273



VES Survey Date: 03/09/2014



RAGIN CAJUN 13 FED 2H

WEST UNRESTRICTED

Directional Survey

District DELAWARE BASIN	County LEA	Field Name RATTLESNAKE (NM)	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location SEC13 T26S R34E	API/UWI 3002541273	Latitude (°) 32° 2' 13.312" N	Longitude (°) 103° 25' 40.733" W	Ground Elev... 3,245.20
				KB - GL (ft) 25.00
				Orig KB Elev (ft) 3,270.20
				Tubing Head Elevation (ft)

Wellbores

Wellbore Name OH	Parent Wellbore OH	SAP Well ID 34679	Kick Off Depth (ftKB) 8,587.0	Vertical Section Direction (°)
Actual Deviation Survey VES GYRO, Proposed? No	Definitive? Yes	Proposed? No	Proposed Deviation Survey PRODRIFT SURVEY, Proposed? No	

Deviation Survey

Date 3/10/2014		Description VES GYRO			
MD Tie In (ftKB)	TVD Tie In (ftKB)	Inclination Tie In (°)	Azimuth Tie In (°)	NSTie In (ft)	EW Tie In (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
3/10/2014	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	185.16	0.34	307.40	185.16	0.39	0.33	-0.44	0.18	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	277.62	0.07	297.85	277.62	0.62	0.53	-0.70	0.29	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	370.08	0.89	292.78	370.07	1.02	0.83	-1.42	0.89	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	462.54	1.55	284.91	462.51	1.88	1.43	-3.29	0.73	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	555.00	2.05	278.79	554.93	2.84	2.01	-6.13	0.58	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	647.46	2.00	282.65	647.33	3.89	2.61	-9.34	0.16	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	739.92	2.01	287.72	739.73	5.16	3.46	-12.46	0.19	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	832.38	1.75	285.39	832.14	6.43	4.33	-15.36	0.29	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	924.84	1.71	280.64	924.56	7.43	4.96	-18.08	0.16	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,017.30	1.54	282.47	1,016.98	8.31	5.48	-20.65	0.19	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,109.76	1.65	289.98	1,109.41	9.37	6.20	-23.11	0.26	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,202.22	1.65	292.28	1,201.83	10.67	7.16	-25.60	0.07	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,294.68	1.84	296.56	1,294.25	12.18	8.33	-28.15	0.25	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,387.14	1.81	302.58	1,386.66	13.97	9.78	-30.71	0.21	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,479.60	1.69	305.81	1,479.08	15.87	11.36	-33.05	0.17	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,572.06	1.41	308.38	1,571.50	17.64	12.87	-35.05	0.31	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,664.52	1.42	310.77	1,663.93	19.32	14.32	-36.81	0.06	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,756.98	1.11	306.77	1,756.37	20.82	15.61	-38.39	0.35	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,849.44	0.84	301.94	1,848.82	21.88	16.50	-39.68	0.30	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	1,941.90	0.89	298.40	1,941.27	22.74	17.20	-40.89	0.08	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,034.36	0.68	295.40	2,033.72	23.47	17.78	-42.02	0.23	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,126.82	0.61	289.63	2,126.17	24.00	18.18	-42.98	0.10	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,219.28	0.38	287.28	2,218.63	24.36	18.44	-43.73	0.25	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,311.74	0.17	284.43	2,311.09	24.55	18.56	-44.16	0.23	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,402.20	0.19	280.16	2,401.55	24.64	18.62	-44.44	0.03	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,496.66	0.06	23.63	2,496.01	24.74	18.69	-44.57	0.22	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,589.12	0.24	40.10	2,588.47	24.91	18.89	-44.43	0.20	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,681.58	0.30	52.90	2,680.93	25.15	19.18	-44.11	0.09	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,774.04	0.38	64.46	2,773.39	25.36	19.46	-43.64	0.11	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,866.50	0.73	69.16	2,865.84	25.59	19.80	-42.81	0.38	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	2,958.96	0.71	53.48	2,958.29	25.99	20.35	-41.80	0.21	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,051.42	0.80	48.41	3,050.75	26.62	21.12	-40.86	0.12	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,143.88	0.90	33.25	3,143.20	27.52	22.16	-39.98	0.27	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,236.34	1.19	41.31	3,235.64	28.69	23.48	-38.95	0.35	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,328.80	1.64	50.46	3,328.07	30.01	25.05	-37.29	0.54	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,421.26	1.72	46.52	3,420.49	31.51	26.84	-35.26	0.15	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,513.72	1.70	41.69	3,512.91	33.20	28.82	-33.34	0.16	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,606.18	1.94	38.54	3,605.32	35.16	31.07	-31.46	0.28	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,698.64	1.76	35.06	3,697.74	37.27	33.46	-29.67	0.23	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,791.10	1.53	33.01	3,790.16	39.24	35.66	-28.18	0.26	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,883.56	1.24	28.92	3,882.59	40.97	37.57	-27.02	0.33	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	3,976.02	1.39	36.64	3,975.03	42.57	39.34	-25.87	0.25	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	4,068.48	1.94	47.59	4,067.45	44.25	41.30	-24.04	0.68	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	4,160.94	1.86	48.39	4,159.86	45.96	43.35	-21.77	0.09	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	4,253.40	1.61	49.13	4,252.27	47.50	45.20	-19.66	0.27	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	4,345.86	1.36	52.90	4,344.70	48.74	46.71	-17.81	0.29	GYRO	VAUHG N ENERGY SERVICES



RAGIN CAJUN 13 FED 2H

WEST UNRESTRICTED

Directional Survey

District DELAWARE BASIN	County LEA	Field Name RATTLESNAKE (NM)	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location SEC13 T26S R34E	API/UWI 3002541273	Latitude (°) 32° 2' 13.312" N	Longitude (°) 103° 25' 40.733" W	Ground Elev... 3,245.20
			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,270.20
				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
3/10/2014	4,438.32	1.19	55.88	4,437.14	49.69	47.91	-16.14	0.20	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	4,530.78	1.10	59.33	4,529.58	50.46	48.90	-14.58	0.12	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	4,623.24	1.44	62.99	4,622.02	51.18	49.88	-12.78	0.38	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	4,715.70	1.66	69.03	4,714.44	51.85	50.89	-10.49	0.30	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	4,808.16	1.67	81.06	4,806.87	52.17	51.57	-7.91	0.38	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	4,900.62	2.40	87.53	4,899.27	52.01	51.87	-4.65	0.83	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	4,993.08	2.62	90.10	4,991.64	51.52	51.95	-0.60	0.27	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	5,085.54	2.45	94.44	5,084.01	50.80	51.79	3.48	0.28	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	5,178.00	2.21	91.44	5,176.39	50.08	51.59	7.24	0.29	GYRO	VAUHG N ENERGY SERVICES
3/10/2014	5,294.00	1.78	97.89	5,292.32	49.21	51.29	11.26	0.42	MWD	BAKER
3/10/2014	5,388.00	0.64	168.05	5,386.30	48.29	50.58	12.81	1.78	MWD	BAKER
3/10/2014	5,483.00	2.94	247.69	5,481.26	47.16	49.13	10.67	3.05	MWD	BAKER
3/10/2014	5,578.00	5.70	247.47	5,575.98	45.38	46.40	4.05	2.91	MWD	BAKER
3/10/2014	5,672.00	5.93	244.03	5,669.49	42.71	42.48	-4.62	0.44	MWD	BAKER
3/10/2014	5,767.00	6.78	243.32	5,763.91	39.41	37.82	-14.05	0.90	MWD	BAKER
3/10/2014	5,861.00	6.88	241.67	5,857.24	35.68	32.65	-23.96	0.23	MWD	BAKER
3/10/2014	5,956.00	6.50	240.31	5,951.60	31.72	27.29	-33.64	0.43	MWD	BAKER
3/10/2014	6,051.00	7.45	242.51	6,045.89	27.68	21.78	-43.77	1.04	MWD	BAKER
3/10/2014	6,145.00	7.37	241.06	6,139.11	23.50	16.05	-54.46	0.22	MWD	BAKER
3/10/2014	6,239.00	7.21	240.01	6,232.35	19.14	10.19	-64.84	0.22	MWD	BAKER
3/10/2014	6,333.00	7.12	241.23	6,325.61	14.87	4.43	-75.06	0.19	MWD	BAKER
3/10/2014	6,428.00	6.76	239.78	6,419.92	10.68	-1.21	-85.05	0.42	MWD	BAKER
3/10/2014	6,522.00	7.15	250.28	6,513.23	7.40	-5.97	-95.34	1.41	MWD	BAKER
3/10/2014	6,617.00	7.28	252.86	6,607.48	5.25	-9.74	-106.65	0.37	MWD	BAKER
3/10/2014	6,712.00	7.40	252.78	6,701.70	3.32	-13.33	-118.25	0.13	MWD	BAKER
3/10/2014	6,806.00	7.47	252.49	6,794.91	1.35	-16.96	-129.86	0.08	MWD	BAKER
3/10/2014	6,901.00	7.71	251.30	6,889.08	-0.85	-20.86	-141.78	0.30	MWD	BAKER
3/10/2014	6,995.00	7.81	252.22	6,982.21	-3.10	-24.83	-153.84	0.17	MWD	BAKER
3/10/2014	7,090.00	7.91	252.18	7,076.32	-5.30	-28.80	-166.21	0.11	MWD	BAKER
3/10/2014	7,185.00	6.65	252.44	7,170.55	-7.33	-32.46	-177.68	1.33	MWD	BAKER
3/10/2014	7,279.00	6.34	250.16	7,263.95	-9.29	-35.87	-187.75	0.43	MWD	BAKER
3/10/2014	7,374.00	6.33	248.51	7,358.37	-11.58	-39.56	-197.55	0.19	MWD	BAKER
3/10/2014	7,468.00	6.50	247.81	7,451.78	-14.09	-43.47	-207.30	0.20	MWD	BAKER
3/10/2014	7,563.00	6.49	249.84	7,546.17	-16.53	-47.35	-217.32	0.24	MWD	BAKER
3/10/2014	7,657.00	6.54	250.99	7,639.57	-18.67	-50.93	-227.37	0.15	MWD	BAKER
3/10/2014	7,752.00	6.46	250.37	7,733.96	-20.78	-54.49	-237.52	0.11	MWD	BAKER
3/10/2014	7,847.00	6.40	250.20	7,828.36	-22.93	-58.07	-247.53	0.07	MWD	BAKER
3/10/2014	7,941.00	6.28	252.65	7,921.78	-24.83	-61.38	-257.37	0.31	MWD	BAKER
3/10/2014	8,036.00	5.81	253.03	8,016.25	-26.42	-64.33	-266.93	0.50	MWD	BAKER
3/10/2014	8,130.00	5.76	255.91	8,109.78	-27.66	-66.87	-276.05	0.31	MWD	BAKER
3/10/2014	8,225.00	4.20	257.04	8,204.41	-28.46	-68.81	-284.07	1.65	MWD	BAKER
3/10/2014	8,320.00	2.99	261.21	8,299.23	-28.79	-69.97	-289.91	1.30	MWD	BAKER
3/10/2014	8,414.00	2.01	233.46	8,393.14	-29.61	-71.33	-293.66	1.63	MWD	BAKER
3/16/2014	8,544.00	0.98	170.03	8,523.10	-31.81	-73.78	-295.29	1.38	MWD	BAKER
3/16/2014	8,575.00	1.12	108.05	8,554.10	-32.21	-74.14	-294.96	3.51	MWD	BAKER
3/16/2014	8,607.00	2.47	19.21	8,586.08	-31.73	-73.58	-294.44	8.41	MWD	BAKER
3/16/2014	8,638.00	5.44	359.62	8,617.01	-29.68	-71.48	-294.23	10.39	MWD	BAKER
3/16/2014	8,670.00	9.35	1.23	8,648.74	-25.61	-67.36	-294.18	12.23	MWD	BAKER
3/16/2014	8,701.00	12.34	5.24	8,679.18	-19.90	-61.54	-293.82	9.94	MWD	BAKER
3/16/2014	8,733.00	15.67	3.21	8,710.22	-12.33	-53.82	-293.27	10.52	MWD	BAKER
3/16/2014	8,765.00	18.99	359.37	8,740.77	-2.93	-44.30	-293.08	10.97	MWD	BAKER
3/16/2014	8,796.00	22.21	353.47	8,769.78	7.94	-33.43	-293.81	12.35	MWD	BAKER
3/16/2014	8,828.00	25.39	350.96	8,799.06	20.84	-20.64	-295.57	10.43	MWD	BAKER
3/16/2014	8,860.00	28.85	352.18	8,827.54	35.43	-6.21	-297.70	10.95	MWD	BAKER
3/16/2014	8,892.00	31.79	354.10	8,855.16	51.58	9.82	-299.62	9.67	MWD	BAKER



Directional Survey

District DELAWARE BASIN	County LEA	Field Name RATTLESNAKE (NM)	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location SEC13 T26S R34E	API/UWI 3002541273	Latitude (") 32° 2' 13.312" N	Longitude (") 103° 25' 40.733" W	Ground Elev... 3,245.20
				KB - GL (ft) 25.00
				Orig KB Elev (ft) 3,270.20
				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
3/16/2014	8,923.00	34.95	356.52	8,881.05	68.59	26.81	-301.00	11.06	MWD	BAKER
3/16/2014	8,955.00	38.59	357.83	8,906.68	87.66	45.94	-301.93	11.64	MWD	BAKER
3/16/2014	8,986.00	42.08	357.80	8,930.30	107.62	65.99	-302.70	11.26	MWD	BAKER
3/16/2014	9,018.00	45.13	357.54	8,953.47	129.58	88.04	-303.60	9.55	MWD	BAKER
3/16/2014	9,050.00	47.79	356.70	8,975.51	152.68	111.20	-304.77	8.53	MWD	BAKER
3/16/2014	9,081.00	51.08	356.31	8,995.67	176.15	134.70	-306.20	10.66	MWD	BAKER
3/16/2014	9,113.00	54.36	356.00	9,015.05	201.54	160.10	-307.91	10.28	MWD	BAKER
3/16/2014	9,144.00	57.76	356.30	9,032.36	227.19	185.76	-309.64	11.00	MWD	BAKER
3/16/2014	9,176.00	61.47	356.21	9,048.54	254.71	213.30	-311.44	11.60	MWD	BAKER
3/16/2014	9,207.00	64.67	356.43	9,062.58	282.27	240.88	-313.21	10.34	MWD	BAKER
3/16/2014	9,239.00	67.98	355.77	9,075.42	311.49	270.11	-315.21	10.51	MWD	BAKER
3/16/2014	9,270.00	70.66	355.16	9,086.37	340.44	299.02	-317.50	8.84	MWD	BAKER
3/16/2014	9,302.00	72.56	354.56	9,096.47	370.77	329.27	-320.22	6.20	MWD	BAKER
3/16/2014	9,333.00	75.59	354.07	9,104.97	400.55	358.93	-323.18	9.89	MWD	BAKER
3/16/2014	9,365.00	78.95	353.75	9,112.02	431.74	389.96	-326.49	10.55	MWD	BAKER
3/16/2014	9,397.00	82.83	353.97	9,117.09	463.31	421.37	-329.87	12.14	MWD	BAKER
3/16/2014	9,410.00	84.91	354.29	9,118.47	476.23	434.22	-331.19	16.19	MWD	BAKER
3/16/2014	9,442.00	87.13	354.58	9,120.70	508.12	465.99	-334.28	7.00	MWD	BAKER
3/16/2014	9,473.00	87.32	354.83	9,122.20	539.05	496.83	-337.14	1.01	MWD	BAKER
3/16/2014	9,505.00	88.52	354.72	9,123.36	570.99	528.67	-340.05	3.77	MWD	BAKER
3/16/2014	9,536.00	89.38	355.15	9,123.93	601.94	559.55	-342.79	3.10	MWD	BAKER
3/16/2014	9,568.00	89.26	355.08	9,124.31	633.89	591.43	-345.52	0.43	MWD	BAKER
3/16/2014	9,662.00	90.19	355.55	9,124.76	727.73	685.11	-353.19	1.11	MWD	BAKER
3/16/2014	9,757.00	90.71	355.95	9,124.01	822.52	779.85	-360.23	0.69	MWD	BAKER
3/16/2014	9,852.00	91.42	356.74	9,122.25	917.22	874.63	-366.29	1.12	MWD	BAKER
3/16/2014	9,946.00	90.28	355.57	9,120.85	1,010.96	968.41	-372.59	1.74	MWD	BAKER
3/16/2014	10,041.00	90.15	356.52	9,120.49	1,105.72	1,063.18	-379.14	1.01	MWD	BAKER
3/16/2014	10,136.00	89.72	357.23	9,120.60	1,200.37	1,158.04	-384.32	0.87	MWD	BAKER
3/16/2014	10,230.00	90.00	356.93	9,120.83	1,293.99	1,251.92	-389.11	0.44	MWD	BAKER
3/16/2014	10,325.00	90.37	355.77	9,120.52	1,388.71	1,346.72	-395.16	1.28	MWD	BAKER
3/16/2014	10,420.00	90.74	354.70	9,119.60	1,483.55	1,441.39	-403.05	1.19	MWD	BAKER
3/16/2014	10,515.00	91.73	354.47	9,117.56	1,578.43	1,535.94	-412.01	1.07	MWD	BAKER
3/16/2014	10,609.00	91.91	355.11	9,114.57	1,672.27	1,629.50	-420.54	0.71	MWD	BAKER
3/16/2014	10,704.00	91.72	354.92	9,111.56	1,767.09	1,724.10	-428.79	0.28	MWD	BAKER
3/16/2014	10,799.00	90.52	354.62	9,109.71	1,861.96	1,818.68	-437.45	1.30	MWD	BAKER
3/16/2014	10,893.00	89.02	353.98	9,110.08	1,955.87	1,912.21	-446.79	1.73	MWD	BAKER
3/23/2014	10,988.00	89.17	354.69	9,111.58	2,050.78	2,006.74	-456.16	0.76	MWD	BAKER
3/23/2014	11,083.00	90.15	356.43	9,112.15	2,145.59	2,101.45	-463.52	2.10	MWD	BAKER
3/23/2014	11,177.00	90.28	356.41	9,111.79	2,239.30	2,195.26	-469.39	0.14	MWD	BAKER
3/23/2014	11,272.00	90.92	357.17	9,110.80	2,333.96	2,290.11	-474.71	1.05	MWD	BAKER
3/23/2014	11,366.00	90.87	356.36	9,109.33	2,427.62	2,383.94	-480.01	0.86	MWD	BAKER
3/23/2014	11,461.00	90.62	356.00	9,108.10	2,522.36	2,478.72	-486.34	0.46	MWD	BAKER
3/23/2014	11,556.00	91.05	355.77	9,106.71	2,617.12	2,573.47	-493.16	0.51	MWD	BAKER
3/23/2014	11,650.00	91.51	356.09	9,104.61	2,710.88	2,667.21	-499.83	0.60	MWD	BAKER
3/23/2014	11,745.00	89.48	354.84	9,103.79	2,805.69	2,761.90	-507.34	2.51	MWD	BAKER
3/23/2014	11,840.00	88.92	354.57	9,105.12	2,900.57	2,856.49	-516.10	0.65	MWD	BAKER
3/23/2014	11,934.00	90.28	355.36	9,105.77	2,994.44	2,950.12	-524.35	1.67	MWD	BAKER
3/23/2014	12,029.00	90.12	356.25	9,105.44	3,089.22	3,044.86	-531.30	0.95	MWD	BAKER
3/23/2014	12,124.00	88.95	354.61	9,106.21	3,184.04	3,139.55	-538.87	2.12	MWD	BAKER
3/23/2014	12,218.00	89.14	355.32	9,107.78	3,277.90	3,233.18	-547.12	0.78	MWD	BAKER
3/23/2014	12,313.00	90.49	356.10	9,108.09	3,372.69	3,327.91	-554.22	1.64	MWD	BAKER
3/23/2014	12,407.00	90.52	356.62	9,107.26	3,466.42	3,421.71	-560.19	0.55	MWD	BAKER
3/23/2014	12,502.00	90.71	357.13	9,106.24	3,561.06	3,516.56	-565.37	0.57	MWD	BAKER
3/23/2014	12,596.00	90.15	357.35	9,105.53	3,654.66	3,610.45	-569.90	0.64	MWD	BAKER
3/23/2014	12,690.00	88.83	355.66	9,106.37	3,748.36	3,704.27	-575.63	2.28	MWD	BAKER



Directional Survey

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			KB - GL (ft) 25.00	Orig KB Elev (ft) 3,270.20
				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
3/23/2014	12,785.00	89.48	355.75	9,107.77	3,843.15	3,798.99	-582.74	0.69	MWD	BAKER
3/23/2014	12,880.00	89.54	355.34	9,108.58	3,937.96	3,893.70	-590.12	0.44	MWD	BAKER
3/23/2014	12,975.00	89.17	354.15	9,109.65	4,032.84	3,988.29	-598.82	1.31	MWD	BAKER
3/23/2014	13,069.00	88.61	354.99	9,111.47	4,126.72	4,081.85	-607.71	1.07	MWD	BAKER
3/23/2014	13,164.00	89.14	355.32	9,113.34	4,221.56	4,176.49	-615.73	0.66	MWD	BAKER
3/23/2014	13,258.00	88.86	355.03	9,114.98	4,315.40	4,270.15	-623.64	0.43	MWD	BAKER
3/23/2014	13,352.00	89.48	355.63	9,116.34	4,409.22	4,363.82	-631.29	0.92	MWD	BAKER
3/26/2014	13,447.00	89.32	355.45	9,117.34	4,504.03	4,458.53	-638.68	0.25	MWD	BAKER
3/26/2014	13,541.00	89.86	355.38	9,118.01	4,597.86	4,552.23	-646.19	0.58	MWD	BAKER
3/26/2014	13,552.00	89.60	355.20	9,118.06	4,608.84	4,563.19	-647.10	2.87	MWD	BAKER
3/26/2014	13,612.00	89.60	355.20	9,118.48	4,668.75	4,622.98	-652.12	0.00	BIT	BAKER