

KINGSLEY ENERGY SERVICES

OPERATOR: Enduring Resources LLC
 WELL: University 47-48 #1809H
 LOCATION: Reagan County, Texas
 Rig: Ensign 765
 TIE-IN SURVEY PROVIDED BY:

UPDATED

START:

FINISH:

DIR. DRILLE M. Johnston D. Gresha
 CO. REP. Mike Doyle

Comments:

DECLINATION (+E / -W 6.19

Directional by Marksmen Directional

Grid Conv.

MWD Surveys Provided By Kingsley Energy Services

MINIMUM CURVATURE CALCULATIONS(SPE-3362)

PROPOSED DIR.: 0.66

*****Survey Input*****

Survey No.	Measured inc	TRUE AZM	TVD	North + - South	East + - West	Vertical Section	DLS/ 100
GYRO	0	0	0	0	0	0	0
GYRO	100	0.36	300.3	99.99934	0.158502	-0.27124	0.155367 0.360001
GYRO	200	0.36	280.3	199.9974	0.373175	-0.85158	0.363341 0.125026
GYRO	300	0.28	275.7	299.9958	0.453615	-1.40381	0.437414 0.083961
GYRO	400	0.11	315.41	399.9953	0.546245	-1.71434	0.526461 0.207634
GYRO	500	0.11	335.67	499.9951	0.702074	-1.82128	0.681048 0.038695
GYRO	600	0.19	317.68	599.9947	0.912138	-1.97246	0.889357 0.09189
GYRO	700	0.23	288.87	699.9941	1.099649	-2.27401	1.073382 0.111437
GYRO	800	0.25	284.72	799.9932	1.219998	-2.67494	1.189105 0.026487
GYRO	900	0.15	322.56	899.9926	1.379366	-2.96553	1.345115 0.160532
GYRO	994	0.4	266.55	993.9916	1.457318	-3.36786	1.418428 0.361412
1	1073	0.6	289.5	1072.989	1.578798	-4.03303	1.532237 0.353511
2	1167	1.1	288.5	1166.978	2.02939	-5.35263	1.967599 0.532129
3	1261	1.7	285	1260.95	2.676568	-7.55511	2.589364 0.644452
4	1355	3.2	277.2	1354.861	3.36631	-11.5051	3.233561 1.631032
5	1449	3.7	278.3	1448.691	4.132976	-17.1093	3.935621 0.536532
6	1543	3.8	281.6	1542.489	5.197144	-23.1618	4.930001 0.253008
7	1637	3.6	271.1	1636.294	5.88014	-29.1637	5.543815 0.75037
8	1732	3.8	270.6	1731.096	5.970363	-35.2936	5.563423 0.213247
9	1826	4	271.3	1824.879	6.077363	-41.686	5.596782 0.218708
10	1920	3.9	262	1918.656	5.706843	-48.1294	5.152066 0.688995
11	2014	4.1	259	2012.427	4.620753	-54.5936	3.991586 0.30788
12	2108	3.6	256.5	2106.215	3.290619	-60.7619	2.590489 0.560967
13	2202	3.8	257	2200.019	1.900991	-66.6666	1.132937 0.215516
14	2296	2.3	248	2293.884	0.493628	-71.4508	-0.32944 1.670253
15	2390	2	246.5	2387.817	-0.86702	-74.7039	-1.72747 0.324689
16	2484	1	231.7	2481.784	-2.02949	-76.8519	-2.91461 1.132207
17	2578	0.5	225	2575.776	-2.82789	-77.7856	-3.72371 0.539131
18	2673	0.7	231.4	2670.771	-3.48304	-78.5323	-4.38742 0.22171
19	2766	0.9	215.4	2763.762	-4.43282	-79.3993	-5.34712 0.320437
20	2860	0.1	350.4	2857.758	-4.95372	-79.8407	-5.87307 1.035408
21	2954	0.4	23.4	2951.757	-4.5717	-79.7241	-5.48973 0.341267
22	3049	0.7	22.7	3046.753	-3.73201	-79.3684	-4.646 0.315863

23	3143	0.7	13.2	3140.746	-2.64326	-79.0157	-3.55326	0.123329
24	3237	0.8	39.9	3234.738	-1.5808	-78.4637	-2.48451	0.38271
25	3331	0.8	52.8	3328.729	-0.68061	-77.52	-1.57351	0.191205
26	3425	0.8	35.5	3422.72	0.250381	-76.6162	-0.63217	0.255989
27	3519	0.9	40.6	3516.71	1.34515	-75.7547	0.472448	0.1333
28	3613	0.6	70	3610.702	2.074015	-74.8118	1.212126	0.509176
29	3707	0.8	86.7	3704.695	2.280123	-73.6942	1.431095	0.301814
30	3801	0.8	74.2	3798.686	2.496575	-72.4076	1.662352	0.1853
31	3895	0.1	122.5	3892.682	2.631178	-71.707	1.805016	0.784327
32	3989	0.2	272.3	3986.682	2.593687	-71.8017	1.766437	0.309374
33	4083	0.5	311	4080.68	2.869353	-72.2752	2.03663	0.389301
34	4177	0.7	292	4174.675	3.353533	-73.1171	2.51108	0.29737
35	4270	0.8	314.5	4267.667	4.021405	-74.1069	3.167506	0.331857
36	4365	0.9	302.4	4362.657	4.88603	-75.2099	4.019369	0.2157
37	4459	0.4	291.3	4456.651	5.400794	-76.139	4.523397	0.546056
38	4553	0.3	222.7	4550.649	5.339128	-76.6116	4.456292	0.428749
39	4647	0.1	186.9	4644.649	5.076836	-76.7883	4.191981	0.241038
40	4741	0.4	133.6	4738.648	4.769122	-76.5605	3.886911	0.371869
41	4842	0.4	109.2	4839.645	4.41005	-75.9723	3.534639	0.167385
42	4936	0.4	86.3	4933.643	4.323317	-75.335	3.455253	0.168946
43	5030	0.4	71	5027.641	4.451317	-74.6973	3.590589	0.113294
44	5124	0.4	53.3	5121.639	4.754234	-74.124	3.900091	0.130934
45	5218	1.1	246.1	5215.634	4.584766	-74.6859	3.724161	1.587971
46	5312	0.8	239.8	5309.621	3.88912	-76.0779	3.012527	0.337467
47	5406	0.6	240.1	5403.614	3.313684	-77.0717	2.425681	0.212802
48	5500	0.4	226.6	5497.611	2.842894	-77.7368	1.947261	0.245517
49	5594	0.3	217.3	5591.609	2.421689	-78.1243	1.52162	0.122015
50	5689	0.1	259.1	5686.608	2.208171	-78.3565	1.305443	0.247473
51	5783	1.6	179.7	5780.596	0.880276	-78.4302	-0.02321	1.685804
52	5877	1.2	165.4	5874.568	-1.38455	-78.1752	-2.28495	0.561877
53	5971	1	158.2	5968.551	-3.09866	-77.6224	-3.99259	0.258234
54	6065	0.8	147.9	6062.539	-4.41617	-76.9691	-5.30248	0.272851
55	6159	0.7	128	6156.531	-5.32558	-76.1679	-6.2026	0.294959
56	6253	0.6	109	6250.525	-5.83933	-75.2501	-6.70575	0.251214
57	6347	0.7	93.5	6344.519	-6.03462	-74.2116	-6.88906	0.214222
58	6378	0.8	46.8	6375.517	-5.89804	-73.8648	-6.74849	1.940497
59	6409	3.1	14.3	6406.497	-4.93749	-73.5	-5.78381	7.945313
60	6441	6.4	9.3	6438.383	-2.33825	-72.9979	-3.17896	10.38361
61	6472	10.2	8.6	6469.053	2.082378	-72.308	1.24933	12.26217
62	6503	13.5	7.9	6499.388	8.382137	-71.3999	7.559131	10.65506
63	6535	16.7	6.7	6530.279	16.65035	-70.3499	15.83889	10.04708
64	6566	19.8	5.1	6559.716	26.30609	-69.3632	25.50536	10.12888
65	6598	22.5	3.9	6589.558	37.81538	-68.4648	37.02423	8.54488
66	6629	25.1	2.7	6617.92	50.30325	-67.7515	49.51949	8.530924
67	6660	27.8	1.6	6645.672	64.09985	-67.2398	63.32107	8.851576
68	6692	30.4	0.2	6673.631	79.65847	-67.0032	78.88138	8.398474
69	6723	32.9	359.2	6700.018	95.92302	-67.0934	95.14382	8.239994

70	6755	35.3	358.3	6726.515	113.8574	-67.4891	113.0724	7.663781
71	6786	38.3	358.6	6751.334	132.4182	-67.9896	131.6262	9.694743
72	6817	41.2	359.2	6775.166	152.2349	-68.3669	151.4373	9.43626
73	6848	44.6	0	6797.872	173.3333	-68.5095	172.5326	11.10735
74	6880	48.1	0	6819.956	196.4839	-68.5095	195.6817	10.9375
75	6911	51	359.3	6840.067	220.0708	-68.6567	219.2654	9.511239
76	6942	53.8	358.8	6858.979	244.6258	-69.0659	243.814	9.12216
77	6974	55.9	359.2	6877.401	270.785	-69.5213	269.9662	6.641592
78	7005	58.3	359	6894.239	296.8081	-69.9308	295.9829	7.760859
79	7037	61	358.4	6910.406	324.4127	-70.5592	323.5785	8.591188
80	7068	63.3	359.7	6924.888	351.8157	-71.0103	350.9744	8.294051
81	7099	65.8	359.7	6938.208	379.8049	-71.1568	378.9601	8.064518
82	7131	68.2	0	6950.71	409.2588	-71.2333	408.4111	7.549475
83	7162	70.8	0.2	6961.566	438.2931	-71.1822	437.444	8.408836
84	7193	73	0	6971.196	467.7572	-71.1311	466.9068	7.123218
85	7225	74.4	0.2	6980.178	498.4701	-71.0773	497.6183	4.415934
86	7256	77	0	6987.834	528.507	-71.0252	527.6538	8.410362
87	7287	80.7	359.9	6993.828	558.9165	-71.0519	558.061	11.93968
88	7319	83.8	359.2	6998.142	590.6192	-71.3016	589.7587	9.926965
89	7350	86.8	0.6	7000.682	621.5106	-71.3547	620.6474	10.67269
90	7381	87.7	0	7002.17	652.474	-71.1926	651.6106	3.487999
91	7475	91.4	0.6	7002.908	746.453	-70.7004	745.5891	3.987568
92	7569	90.7	3	7001.185	840.3834	-67.7483	839.5473	2.659148
93	7663	90.2	2.1	7000.447	934.2862	-63.5663	933.492	1.095252
94	7757	89.8	3.7	7000.447	1028.163	-58.8108	1027.417	1.75451
95	7852	90.3	3	7000.364	1122.999	-53.2595	1122.311	0.905507
96	7946	91	6	6999.297	1216.692	-45.8859	1216.083	3.276998
97	8040	90	5.5	6998.477	1310.214	-36.4687	1309.707	1.189387
98	8134	90.1	5.1	6998.395	1403.812	-27.7859	1403.399	0.438629
99	8228	90.7	5.3	6997.739	1497.422	-19.2667	1497.101	0.672824
100	8322	90.4	4.6	6996.836	1591.067	-11.1562	1590.833	0.810157
101	8416	90.1	2.7	6996.426	1684.871	-5.1724	1684.7	2.046297
102	8510	90.5	3.9	6995.934	1778.712	0.238414	1778.597	1.345631
103	8604	90.4	4.6	6995.196	1872.45	7.204357	1872.409	0.752218
104	8698	90.5	2.1	6994.457	1966.279	12.69668	1966.295	2.66162
105	8756	90.8	359.5	6993.799	2024.264	13.5064	2024.286	4.512211
106	8850	90.7	358.6	6992.569	2118.243	11.94803	2118.24	0.963258
107	8944	90.9	358.6	6991.256	2212.205	9.651633	2212.17	0.212767
108	9038	91.1	357.6	6989.616	2306.138	6.535587	2306.06	1.08474
109	9132	89.4	1.1	6989.205	2400.113	5.469614	2400.017	4.139223
110	9226	90.1	2	6989.615	2494.076	8.012202	2494.003	1.212941
111	9320	90.6	2.3	6989.041	2588.008	11.5386	2587.969	0.620311
112	9415	91	2.5	6987.715	2682.915	15.51638	2682.916	0.470742
113	9509	91.6	3.2	6985.582	2776.774	20.18887	2776.822	0.980655
114	9603	90.1	0.7	6984.188	2870.699	23.38634	2870.778	3.101255
115	9697	90.7	0.9	6983.531	2964.687	24.69874	2964.775	0.672824
116	9791	91.6	1.4	6981.645	3058.648	26.58485	3058.751	1.095225

117	9885	89.6	0	6980.66	3152.628	27.73288	3152.739	2.59705
118	9979	90	0.4	6980.989	3246.627	28.06101	3246.735	0.601791
119	10073	91	1.8	6980.168	3340.602	29.86534	3340.725	1.830221
120	10168	89	2	6980.168	3435.545	33.01492	3435.698	2.115763
121	10262	88.9	2.1	6981.891	3529.469	36.37689	3529.654	0.150436
122	10356	88.8	2	6983.777	3623.39	39.73874	3623.608	0.150434
123	10450	89	3.2	6985.582	3717.274	44.00203	3717.535	1.293972
124	10544	89.2	1.1	6987.059	3811.191	47.52783	3811.486	2.243877
125	10638	89.3	0.9	6988.289	3905.169	49.16822	3905.476	0.237864
126	10732	89.5	1.1	6989.273	3999.149	50.80865	3999.469	0.300888
127	10826	89.8	1.4	6989.848	4093.125	52.85921	4093.462	0.45134
128	10920	90.7	2	6989.437	4187.081	55.64776	4187.445	1.150701
129	11013	90.6	2.8	6988.382	4279.993	59.54191	4280.395	0.866854
130	11107	91.7	4.2	6986.496	4373.795	65.27887	4374.257	1.893841
131	11201	90.3	1.8	6984.855	4467.643	70.1968	4468.155	2.955449
132	11296	91.5	2.5	6983.363	4562.562	73.76017	4563.109	1.46231
133	11390	91.7	2.5	6980.738	4656.436	77.8588	4657.024	0.212767
134	11484	90	0.4	6979.344	4750.387	80.23657	4750.996	2.874056
135	11578	90.2	1.3	6979.18	4844.375	81.63101	4844.994	0.980801
136	11672	90.3	358.4	6978.769	4938.364	81.38496	4938.974	3.086911
137	11766	89.9	357.6	6978.605	5032.305	78.10444	5032.871	0.951517
138	11860	90.9	359.7	6977.949	5126.271	75.88992	5126.805	2.47433
139	11954	91.7	359.9	6975.816	5220.245	75.56186	5220.769	0.877243
140	12048	89.5	0	6974.832	5314.234	75.47986	5314.751	2.342842
141	12143	89.6	359.9	6975.578	5409.231	75.39696	5409.741	0.148863
142	12237	90.1	0.4	6975.824	5503.23	75.64305	5503.736	0.752239
143	12331	90	0.9	6975.742	5597.223	76.70942	5597.736	0.542449
144	12425	90.4	1.8	6975.414	5691.196	78.92399	5691.727	1.047744
145	12519	91	2.7	6974.266	5785.115	82.61404	5785.683	1.150645
146	12613	89.6	358.8	6973.773	5879.085	83.84397	5879.661	4.40801
147	12707	90.6	359.9	6973.609	5973.076	82.77761	5973.633	1.581485
148	12801	91.5	1.6	6971.887	6067.048	84.00757	6067.613	2.046033
149	12895	91.3	1.4	6969.59	6160.987	86.46746	6161.575	0.300853
150	12989	91.8	1.8	6967.047	6254.916	89.09108	6255.527	0.681086
151	13084	89.5	359.9	6965.97	6349.889	90.49977	6350.51	3.140135
152	13178	90.4	0.7	6966.052	6443.886	90.99195	6444.506	1.281015
153	13272	89.3	359.3	6966.298	6537.881	90.99198	6538.496	1.894074
154	13366	90	359.3	6966.872	6631.872	89.84361	6632.467	0.744681
155	13460	90.7	0.6	6966.298	6725.868	89.76154	6726.455	1.570696
156	13554	89.9	359.9	6965.806	6819.864	90.17166	6820.45	1.130857
157	13649	90	0.7	6965.889	6914.862	90.66907	6915.448	0.848658
158	13743	90.5	2.8	6965.478	7008.812	93.53946	7009.424	2.296465
159	13837	88.3	358.1	6966.463	7102.772	94.27821	7103.386	5.520126
160	13931	87.7	358.8	6969.744	7196.679	91.73705	7197.258	0.980456
161	14025	88.5	358.1	6972.86	7290.592	89.19572	7291.135	1.130594
162	14119	88.8	358.6	6975.075	7384.526	86.48987	7385.032	0.620187
163	14213	91.5	359.3	6974.829	7478.501	84.76747	7478.981	2.967286

164	14307	91.1	359.5	6972.696	7572.471	83.78339	7572.934	0.475735
165	14401	90	358.1	6971.794	7666.442	81.81487	7666.876	1.894024
166	14495	89.2	358.1	6972.45	7760.388	78.69838	7760.779	0.851064
167	14589	89.6	357.4	6973.435	7854.309	75.00817	7854.652	0.857651
168	14683	91.5	359	6972.532	7948.251	72.05572	7948.554	2.642398
169	14777	90.9	359.2	6970.564	8042.219	70.57958	8042.498	0.67281
170	14871	89.9	358.3	6969.907	8136.192	68.52903	8136.441	1.431214
171	14965	91.7	358.1	6968.595	8230.132	65.57687	8230.342	1.926675
172	15059	91.7	358.4	6965.806	8324.047	62.70751	8324.217	0.319008
TDPJ	15160	91.7	358.4	6962.81	8424.963	59.88867	8425.094	5.67E-07

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KINGSLEY ENERGY SERVICES

MWD SURVEY CERTIFICATION STATEMENT

I Jarrett K. Lott (signature) Jarrett K. Lott (print),

certify that: I am employed by Kingsley Energy Services; that I did on the days of

July 31, 2013 through August 13, 2013

conduct or supervise the taking of MWD surveys from a depth of ;

1,073 feet to a depth of 15,059 feet,

that the data is true, complete, and within the limitations of the tool set forth by Kingsley Energy Services; that I am authorized and qualified to make this report, that the surveys were conducted at the request of Enduring Resources, LLC.,

for the University 47-48 #1809H, API no. 42-383-38183, in Reagan County, Texas, and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Kingsley Energy Services.

Signature Jarrett K. Lott

Title OWNER/OPERATOR