Company: HUSKY ENERGY INC.
Well: HUSKY LITTLE BEAR H-64

CL File No.: 52141-12-0810
Date: JUL 10, 2012
Analyst(s): DJD

Gas Shale Core Analysis

		As received				Dry & Dean Stark Extracted Conditions [2]				
Sample	**Depth** (m)	**Bulk Density** (g/cc)	**Matrix Permeability** [1] (mD)	**Gas-filled Porosity** (%)	**Gas Saturation** (%)	**Grain Density** (g/cc)	**Matrix Permeability** [5] (mD)	**Porosity** (%)	**Oil Saturation** [3] (%)	**Water Saturation** [4] (%)
1	1170.26	2.489	2.50E-09	0.47	11.1	2.563	7.76E-06	4.21	44.5	44.4
2	1174.25	2.470	3.02E-08	1.40	24.9	2.577	8.90E-05	5.62	42.2	32.9
3	1175.50	2.370	6.79E-07	3.32	43.0	2.528	5.91E-04	7.72	45.5	11.5
4	1179.17	2.433	1.57E-07	2.09	35.8	2.549	3.70E-05	5.86	33.0	31.2
5	1180.27	2.390	1.56E-06	3.43	40.6	2.565	3.95E-04	8.43	48.7	10.7
6	1182.67	2.479	2.74E-08	1.22	22.1	2.585	2.84E-04	5.54	49.9	28.0
7	1184.24	2.416	4.40E-07	2.21	33.6	2.547	2.69E-04	6.57	57.2	9.2
8	1186.69	2.398	1.16E-07	1.89	27.3	2.531	5.60E-04	6.90	59.6	13.0
9	1188.76	2.365	3.11E-07	2.96	38.5	2.519	3.29E-04	7.70	50.1	11.5
10	1190.25	2.358	1.05E-06	3.76	42.9	2.539	6.96E-04	8.78	46.9	10.3
11	1192.74	2.325	9.44E-06	5.30	49.7	2.553	1.71E-03	10.66	44.8	5.4
12	1194.73	2.313	1.19E-05	5.91	52.6	2.557	1.34E-03	11.25	42.3	5.1
13	1197.14	2.373	1.68E-06	3.36	37.8	2.554	5.55E-04	8.88	55.5	6.7
14	1198.70	2.371	2.71E-07	1.55	17.3	2.537	7.50E-04	8.97	69.2	13.5
15	1207.08	2.512	5.42E-08	1.83	29.3	2.639	1.58E-04	6.26	50.8	20.0
16	1209.07	2.486	9.93E-08	2.04	30.0	2.623	2.33E-04	6.82	47.4	22.7
17	1211.18	2.555	2.88E-08	1.57	28.8	2.667	2.70E-05	5.45	53.7	17.5
18	1214.64	2.500	6.75E-09	0.89	20.5	2.583	1.10E-05	4.36	58.1	21.5
19	1218.15	2.499	8.06E-09	0.83	26.1	2.561	1.14E-05	3.16	64.0	9.9
20	1220.51	2.423	9.18E-08	2.05	34.1	2.542	4.04E-05	6.00	45.8	20.1
21	1226.26	2.317	7.17E-07	3.40	33.6	2.516	2.17E-03	10.11	60.6	5.8
22	1229.84	2.331	2.80E-07	2.70	32.9	2.490	4.46E-04	8.20	60.0	7.1
23	1232.84	2.366	1.53E-07	2.39	34.2	2.503	1.78E-04	6.99	57.3	8.5
24	1234.05	2.317	1.20E-07	2.72	36.7	2.461	3.10E-04	7.42	55.6	7.7
25	1236.50	2.503	2.59E-08	0.78	21.7	2.572	1.71E-05	3.58	69.6	8.7
26	1239.84	2.449	8.46E-10	0.31	8.9	2.511	1.68E-05	3.54	69.5	21.6
27	1244.78	2.373	5.47E-08	1.63	25.8	2.491	8.53E-05	6.31	60.2	14.0
28	1246.59	2.361	3.89E-07	2.86	34.7	2.524	3.20E-04	8.24	54.7	10.6
29	1247.40	2.366	3.94E-07	2.87	32.2	2.542	6.34E-04	8.91	57.8	10.0
30	1248.16	2.411	8.03E-08	2.21	31.6	2.549	1.36E-04	7.00	55.6	12.9
31	1250.52	2.727	4.74E-11	0.22	8.5	2.777	6.46E-06	2.55	65.0	26.5
32	1251.95	2.344	8.03E-08	2.56	33.7	2.490	2.21E-04	7.58	50.9	15.4
33	1253.52	2.413	2.64E-08	1.78	29.7	2.528	7.12E-05	5.98	50.2	20.1
34	1270.55	2.519	2.79E-12	0.08	1.9	2.586	4.69E-06	4.09	29.2	69.0
35	1272.26	2.577	3.84E-11	0.17	4.7	2.639	5.73E-06	3.55	32.4	62.9

Shale Analysis Data

36	1273.90	2.612	4.53E-07	4.10	51.4	2.799	6.17E-05	7.98	16.0	32.7
37	1275.38	2.571	2.56E-08	1.48	27.4	2.678	3.04E-05	5.38	19.3	53.2
38	1276.57	2.560	1.43E-08	1.25	20.9	2.675	9.63E-05	5.98	20.4	58.6
39	1279.86	2.536	1.73E-07	2.38	36.7	2.670	1.58E-05	6.49	19.4	43.9
40	1282.60	2.374	8.55E-07	2.93	44.3	2.506	4.56E-05	6.60	28.7	27.0
41	1284.49	2.428	9.24E-09	0.81	16.4	2.514	1.50E-05	4.92	40.6	43.0
42	1287.59	2.502	7.23E-08	1.65	27.5	2.620	2.29E-05	5.99	38.4	34.0
43	1289.26	2.498	2.94E-10	0.34	6.4	2.588	1.19E-05	5.30	29.2	64.4
44	1290.33	2.497	8.99E-09	1.04	17.2	2.609	3.03E-05	6.04	40.6	42.2
45	1294.23	2.447	3.58E-10	0.32	7.4	2.523	3.21E-05	4.39	71.8	20.8
46	1299.11	2.422	2.00E-07	2.31	37.5	2.545	1.39E-04	6.16	43.0	19.5

Footnotes:

(1) Matrix Permeability is an effective Kg determined from pressure decay results on the fresh, crushed, 20/35 mesh size sample.
(2) Dean Stark extracted sample (20/35 mesh size) dried at 110 °C. Porosity and saturations are relative to total interconnected pore space.
(3) Oil volume computed assuming an oil density of 0.8 g/cc
(4) Water volume corrected assuming a brine concentration of 30,000 ppm NaCl with an ambient density of 1.018 g/cc
(5) Matrix Permeability is an absolute Kg determined from pressure decay results on the clean and dry 20/35 mesh size sample.

Reference: "Development of Laboratory and Petrophysical Techniques for Evaluating Shale Reservoirs", GRI-95/0496, Gas Research Institute, April 1996