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CORE PLUG ANALYSIS OF THE UPPER SMACKOVER FORMATION IN LAFAYETTE COUNTY, SOUTHWESTERN ARKANSAS

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North Little Rock, Arkansas

2023

Core Plug Analysis of the Upper Smackover Formation in Lafayette County, Southwestern Arkansas

Peng Li

Disclaimer

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Introduction

This publication includes conventional core plug analysis of the Upper Smackover Formation from three wells in Lafayette County in southwestern Arkansas (Table 1). One-inch diameter plugs were drilled at one-foot intervals per core from the porous Reynolds oolitic member of the Smackover Formation. The analysis was performed to determine rock quality parameters including drainable porosity and permeability in core samples taken from wells within leaseholds where SLL has acquired lithium brine rights.

Table 1. Core intervals analyzed in each well.

Sample Number	Well Name	API	Permit	Sec-Twp-Rg	Total Core Interval (ft)
1	Haskell Teague et al #1	03-073-10902-0000	28668	4-17S-23W	8363-8484
2	Riggins et al. #1	03-073-10896-0000	28591	1-17S-23W	8217-8457
3	Hendrix-Hyman SWS #1	03-073-11016-0000	29766	14-17S-23W	8602-8726

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
1-1	8363.00	2580	0.166	1.50	.0001	.001	10.919	2.730	29.808	2.361	2.461
1-2	8364.00	2580	0.226	2.09	.001	.004	10.585	2.713	28.721	2.295	2.460
1-3	8365.00	2580	0.377	3.38	.002	.008	10.772	2.739	29.504	2.368	2.459
1-4	8366.00	2580	0.214	1.38	.0002	.001	15.212	2.743	41.727	3.285	2.462
1-5	8367.00	2580	0.202	1.52	.0002	.001	13.089	2.744	35.917	2.822	2.464
1-6	8368.00	2580	0.354	2.73	.134	.191	12.611	2.724	34.347	2.761	2.466
1-7	8369.00	2580	0.345	2.23	.0004	.003	15.130	2.719	41.136	3.272	2.466
1-8	8370.00	2580	0.271	2.22	.024	.031	11.942	2.787	33.277	2.587	2.465
1-9	8371.00	2580	0.964	8.09	.697	.836	10.959	2.718	29.785	2.538	2.462
1-11	8373.00	2580	0.406	4.11	.008	.018	9.490	2.707	25.691	2.147	2.464
1-12	8375.00	2580	1.418	10.97	1.68	2.12	11.500	2.723	31.309	2.762	2.463
1-13	8376.00	2580	1.508	17.41	N/A	N/A	7.151	2.693	19.259	2.009	2.448
1-14	8378.00	2580	1.213	13.85	N/A	N/A	7.544	2.692	20.310	1.894	2.452
1-15	8379.00	2580	1.713	14.86	30.8	35.5	9.815	2.713	26.633	2.449	2.462
1-16	8381.00	2580	2.281	16.76	11.0	13.4	11.327	2.709	30.686	2.898	2.461
1-17	8382.00	2580	2.070	14.59	.221	.383	12.116	2.706	32.786	3.019	2.466
1-18	8383.00	2580	2.524	17.52	1.28	1.62	11.881	2.717	32.285	3.064	2.468
1-19	8385.00	2580	2.794	19.77	23.8	26.6	11.341	2.719	30.837	3.031	2.466
1-20	8387.00	2580	1.720	14.84	.333	.511	9.867	2.715	26.787	2.459	2.467
1-21	8390.00	2580	2.549	17.09	84.2	87.5	12.365	2.758	34.108	3.169	2.463
1-22	8391.00	2580	1.382	8.89	.082	.157	14.171	2.769	39.238	3.305	2.464
1-23	8392.00	2580	2.403	14.15	16.3	21.2	14.583	2.747	40.066	3.599	2.463
1-24	8393.00	2580	2.967	29.02	264	335	7.258	2.727	19.794	2.293	2.463
1-25	8394.00	2580	2.542	18.04	4.59	5.09	11.544	2.727	31.478	2.990	2.465
1-26	8395.00	2580	1.808	13.20	10.1	11.6	11.891	2.755	32.764	2.914	2.461
1-27	8396.00	2580	1.417	10.01	2.87	3.28	12.730	2.723	34.666	2.993	2.467
1-28	8397.00	2580	2.314	16.14	95.1	98.5	12.020	2.721	32.702	3.057	2.462
1-29	8398.00	2580	3.293	19.27	175	179	13.794	2.711	37.394	3.632	2.460
1-30	8399.00	2580	3.232	22.41	115	119	11.190	2.719	30.428	3.068	2.466
1-31	8400.00	2580	2.885	22.19	24.5	25.3	10.113	2.714	27.450	2.770	2.464

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
1-32	8401.00	2580	2.380	15.40	.106	.194	13.073	2.718	35.526	3.269	2.469
1-33	8402.00	2580	1.179	10.35	.044	.083	10.210	2.717	27.742	2.425	2.467
1-34	8403.00	2580	1.279	12.55	.005	.012	8.908	2.718	24.216	2.159	2.467
1-35	8404.00	2580	2.540	17.57	.046	.096	11.911	2.717	32.366	3.070	2.466
1-36	8405.00	2580	1.657	10.50	.013	.031	14.132	2.703	38.203	3.325	2.468
1-37	8406.00	2580	1.968	16.50	.041	.101	9.960	2.704	26.930	2.518	2.469
1-38	8407.00	2580	1.684	12.55	.162	.236	11.736	2.702	31.708	2.815	2.466
1-39	8408.00	2580	1.412	9.97	.009	.025	12.757	2.716	34.645	2.998	2.468
1-40	8409.00	2580	2.167	13.11	.275	.363	14.360	2.708	38.881	3.484	2.468
1-41	8410.00	2580	2.637	15.92	.015	.041	13.929	2.694	37.520	3.486	2.466
1-42	8411.00	2580	1.584	12.38	N/A	N/A	11.215	2.709	30.379	2.825	2.465
1-43	8412.00	2580	6.347	12.78	8.52	9.80	43.331	2.710	117.410	4.618	3.728
1-44	8413.00	2580	3.683	10.42	7.55	8.20	31.649	2.709	85.738	3.383	3.658
1-45	8414.00	2580	3.372	10.64	3.97	4.36	28.332	2.700	76.486	3.082	3.629
1-46	8415.00	2580	3.984	11.77	3.83	4.30	29.878	2.722	81.313	3.327	3.621
1-47	8416.00	2580	5.943	15.86	22.6	24.3	31.527	2.711	85.480	3.411	3.756
1-48	8417.00	2580	5.206	15.41	6.64	7.51	28.573	2.722	77.769	3.089	3.753
1-49	8418.00	2580	5.156	12.95	.276	.377	34.649	2.723	94.359	3.646	3.752
1-50	8419.00	2580	5.297	13.38	5.21	5.71	34.289	2.721	93.316	3.613	3.749
1-51	8420.00	2580	3.584	11.78	.511	.678	26.839	2.720	73.003	2.778	3.751
1-52	8421.00	2580	6.650	17.91	1.23	1.51	30.484	2.721	82.960	3.394	3.744
1-53	8422.00	2580	6.316	17.87	1.67	2.25	29.023	2.718	78.877	3.238	3.746
1-54	8423.00	2580	6.321	17.70	1.87	2.45	29.379	2.718	79.843	3.309	3.742
1-55	8424.00	2580	7.579	15.50	9.35	10.4	41.304	2.712	112.029	4.520	3.731
1-56	8425.00	2580	4.816	14.16	2.52	3.01	29.200	2.720	79.417	3.112	3.750
1-57	8427.00	2580	5.613	14.54	32.8	35.1	32.994	2.724	89.861	3.528	3.749
1-58	8428.00	2580	6.814	18.18	3.23	3.72	30.677	2.715	83.273	3.416	3.759
1-59	8429.00	2580	5.715	16.13	3.53	4.29	29.721	2.716	80.732	3.233	3.752
1-60	8430.00	2580	6.908	19.44	39.6	43.9	28.634	2.719	77.869	3.235	3.746
1-61	8431.00	2580	5.730	13.76	.629	1.32	35.922	2.720	97.698	3.814	3.748

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
1-62	8432.00	2580	4.169	11.46	15.2	16.9	32.198	2.730	87.906	3.329	3.754
1-63	8433.00	2580	5.970	17.10	19.0	21.0	28.938	2.712	78.489	3.167	3.757
1-64	8434.00	2580	6.834	17.72	17.5	20.3	31.736	2.717	86.239	3.533	3.756
1-65	8435.00	2580	5.987	17.70	13.2	15.0	27.845	2.722	75.801	3.087	3.757
1-66	8436.00	2580	6.022	16.93	12.5	14.6	29.552	2.711	80.124	3.216	3.758
1-67	8437.00	2580	6.113	16.38	94.1	103	31.210	2.716	84.776	3.396	3.759
1-68	8438.00	2580	4.485	13.95	100.0	110	27.657	2.708	74.891	2.905	3.761
1-69	8439.00	2580	5.673	14.36	8.08	9.65	33.834	2.716	91.893	3.588	3.757
1-70	8440.00	2580	4.811	13.52	5.79	6.54	30.780	2.708	83.356	3.236	3.756
1-71	8441.00	2580	4.917	12.08	1.88	2.36	35.800	2.718	97.303	3.741	3.755
1-72	8442.00	2580	5.830	15.63	7.12	8.28	31.470	2.710	85.292	3.381	3.754
1-73	8443.00	2580	6.118	15.59	15.3	17.0	33.132	2.710	89.775	3.556	3.751
1-74	8444.00	2580	6.404	15.59	2.02	2.72	34.684	2.707	93.880	3.714	3.756
1-75	8445.00	2580	4.334	12.58	.284	.471	30.124	2.714	81.762	3.128	3.757
1-76	8445.50	2580	5.281	14.46	10.5	11.7	31.229	2.714	84.764	3.328	3.755
1-77	8446.00	2580	5.845	15.56	1.79	2.34	31.708	2.707	85.824	3.434	3.751
1-78	8447.00	2580	3.333	8.65	.008	.019	35.213	2.705	95.260	3.517	3.752
1-79	8448.00	2580	2.822	8.83	.008	.021	29.138	2.716	79.151	2.889	3.758
1-80	8449.00	2580	5.269	14.54	.179	.292	30.982	2.720	84.258	3.307	3.754
1-81	8450.00	2580	3.077	8.80	.009	.022	31.897	2.718	86.681	3.166	3.759
1-82	8451.00	2580	2.554	6.77	.029	.067	35.184	2.720	95.685	3.461	3.759
1-83	8452.00	2580	3.012	7.29	.004	.014	38.303	2.722	104.275	3.755	3.761
1-84	8453.00	2580	2.371	6.39	.011	.029	34.742	2.718	94.413	3.363	3.757
1-85	8454.00	2580	0.557	5.13	.002	.010	10.301	2.703	27.846	2.295	2.462
1-86	8455.00	2580	2.130	5.65	N/A	N/A	35.584	2.705	96.262	3.408	3.756
1-87	8456.00	2580	1.904	4.74	.015	.024	38.259	2.709	103.637	3.645	3.757
1-88	8457.00	2580	2.206	5.77	.012	.028	36.041	2.714	97.820	3.472	3.759
1-89	8458.00	2580	2.185	6.69	1.47	1.63	30.458	2.711	82.576	2.957	3.755
1-90	8459.00	2580	2.204	5.57	.007	.018	37.326	2.727	101.786	3.591	3.751
1-91	8460.00	2580	2.376	6.43	.093	.131	34.576	2.713	93.803	3.355	3.754

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
1-92	8461.00	2580	1.648	7.45	.044	.089	20.464	2.708	55.408	2.045	3.716
1-93	8462.00	2580	2.074	5.84	.006	.018	33.414	2.711	90.589	3.219	3.749
1-94	8463.00	2580	1.914	6.50	.379	.434	27.546	2.709	74.635	2.668	3.750
1-95	8464.00	2580	3.328	6.24	.004	.015	49.978	2.706	135.260	4.914	3.732
1-96	8465.00	2580	2.307	8.17	.015	.043	25.930	2.707	70.204	2.583	3.758
1-97	8466.00	2580	2.290	6.24	.006	.010	34.419	2.707	93.164	3.310	3.760
1-98	8467.00	2580	1.412	4.40	.049	.106	30.672	2.710	83.119	2.911	3.754
1-99	8468.00	2580	2.359	6.07	.003	.006	36.528	2.705	98.794	3.525	3.755
1-100	8469.00	2580	2.090	5.86	.004	.010	33.587	2.707	90.934	3.243	3.759
1-101	8469.50	2580	2.437	8.25	2.10	2.56	27.087	2.717	73.607	2.682	3.755
1-102	8470.00	2580	2.711	8.22	.054	.103	30.250	2.710	81.973	3.018	3.759
1-103	8471.00	2580	2.103	6.23	.004	.010	31.679	2.705	85.693	3.068	3.758
1-104	8472.00	2580	1.514	5.66	.186	.231	25.228	2.711	68.381	2.422	3.757
1-105	8473.00	2580	2.939	8.25	.091	.140	32.685	2.713	88.689	3.275	3.759
1-106	8474.00	2580	1.768	5.96	.516	.591	27.875	2.701	75.304	2.686	3.757
1-107	8475.00	2580	1.386	4.28	.001	.003	30.967	2.709	83.875	2.943	3.757
1-108	8476.00	2580	2.077	6.20	.004	.007	31.421	2.710	85.152	3.041	3.758
1-109	8477.00	2580	2.347	5.66	.002	.007	39.108	2.714	106.151	3.767	3.755
1-110	8478.00	2580	0.489	4.63	.001	.005	10.072	2.703	27.228	2.223	2.468
1-111	8479.00	2580	1.666	5.03	.001	.007	31.491	2.721	85.691	3.012	3.752
1-112	8480.00	2580	0.851	3.00	.005	.013	27.550	2.712	74.721	2.575	3.752
1-113	8481.00	2580	1.239	4.03	.040	.045	29.505	2.711	80.000	2.790	3.749
1-114	8482.00	2580	1.087	3.66	.060	.124	28.631	2.710	77.579	2.691	3.750
1-115	8483.00	2580	1.237	3.80	.0004	.002	31.289	2.711	84.825	2.955	3.754
1-116	8484.00	2580	2.628	6.29	.029	.040	39.180	2.720	106.583	3.809	3.754
2-1	8217.00	2580	1.529	3.48	.002	.009	42.433	2.882	122.292	4.044	3.754
2-2	8218.00	2580	2.426	5.74	N/A	N/A	39.850	2.881	114.809	3.823	3.762
2-3	8219.00	2580	0.790	1.62	.002	.008	48.104	2.915	140.222	4.435	3.752
2-4	8220.00	2580	2.821	5.96	N/A	N/A	44.513	2.878	128.127	4.495	3.754
2-5	8220.50	2580	3.655	8.09	.016	.059	41.534	2.794	116.056	4.127	3.747

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
2-6	8221.00	2580	2.754	5.82	.004	.010	44.589	2.837	126.490	4.283	3.761
2-7	8222.00	2580	0.837	1.86	.0002	.002	44.173	2.821	124.630	4.083	3.752
2-8	8223.00	2580	1.870	4.47	.439	.498	39.993	2.788	111.489	3.793	3.750
2-9	8224.00	2580	1.863	3.94	.001	.004	45.398	2.752	124.913	4.285	3.751
2-10	8225.00	2580	1.433	3.08	.001	.004	45.043	2.767	124.651	4.213	3.752
2-11	8226.00	2580	3.415	6.94	.023	.061	45.787	2.777	127.130	4.484	3.751
2-12	8227.00	2580	0.352	1.63	N/A	N/A	21.299	2.707	57.652	4.594	2.453
2-13	8228.00	2580	1.726	3.64	.058	.089	45.650	2.736	124.909	4.293	3.750
2-14	8229.00	2580	2.981	6.69	.009	.016	41.588	2.771	115.229	4.046	3.747
2-15	8230.00	2580	2.647	5.69	.001	.005	43.856	2.780	121.910	4.304	3.720
2-16	8231.00	2580	0.530	0.97	.003	.010	54.288	2.731	148.243	4.950	3.762
2-17	8232.00	2580	1.135	2.83	N/A	N/A	39.011	2.781	108.507	3.683	3.752
2-18	8233.00	2580	0.256	0.51	.017	.021	49.655	2.732	135.654	4.527	3.760
2-19	8233.50	2580	0.343	0.72	.003	.011	47.278	2.722	128.684	4.387	3.724
2-20	8235.00	2580	1.674	3.40	.006	.010	47.499	2.711	128.772	4.458	3.751
2-21	8236.00	2580	0.920	5.53	.066	.144	15.718	2.722	42.782	3.531	2.465
2-22	8237.00	2580	2.032	7.69	1.58	1.95	24.374	2.741	66.810	2.450	3.716
2-23	8238.50	2580	0.293	0.60	.00006	.001	48.735	2.753	134.153	4.483	3.751
2-24	8240.00	2580	0.234	0.54	.00005	.001	42.625	2.724	116.110	3.924	3.751
2-25	8241.00	2580	0.843	1.83	N/A	N/A	45.146	2.716	122.618	4.217	3.728
2-26	8242.00	2580	1.361	3.40	.433	.488	38.643	2.754	106.441	3.677	3.737
2-27	8243.00	2580	1.607	3.31	.033	.052	46.934	2.739	128.565	4.386	3.756
2-28	8244.00	2580	0.432	0.93	.00008	.001	45.941	2.731	125.451	4.240	3.756
2-29	8245.00	2580	2.582	6.91	.024	.048	34.762	2.715	94.367	3.461	3.724
2-30	8246.00	2580	5.495	12.29	.657	.739	39.198	2.705	106.031	4.091	3.739
2-31	8247.00	2580	6.650	15.32	1.90	2.14	36.756	2.703	99.365	4.029	3.716
2-32	8248.00	2580	4.717	10.55	.001	.003	39.991	2.706	108.232	4.136	3.748
2-33	8249.00	2580	7.771	18.62	16.5	18.1	33.958	2.709	91.990	3.887	3.714
2-34	8250.00	2580	7.803	17.72	7.85	9.52	36.223	2.712	98.222	4.029	3.747
2-35	8251.00	2580	4.959	11.75	4.20	5.08	37.235	2.710	100.897	3.855	3.748

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
2-36	8252.00	2580	3.122	6.68	.421	.541	43.585	2.709	118.076	4.317	3.733
2-37	8253.00	2580	9.434	19.51	129	138	38.928	2.725	106.094	4.423	3.741
2-38	8254.00	2580	8.838	21.94	.068	.138	31.440	2.703	84.993	3.764	3.708
2-39	8255.00	2580	10.030	23.98	3.67	4.46	31.789	2.711	86.183	3.846	3.737
2-40	8256.00	2580	10.267	24.91	.795	1.18	30.949	2.730	84.499	3.872	3.702
2-41	8257.00	2580	10.240	23.70	.929	1.35	32.971	2.714	89.473	4.013	3.737
2-42	8258.00	2580	9.592	21.96	.295	.573	34.092	2.703	92.139	4.089	3.713
2-43	8259.00	2580	9.774	22.98	.282	.379	32.758	2.718	89.028	3.953	3.742
2-44	8260.00	2580	7.550	23.79	.176	.281	24.189	2.717	65.729	3.048	3.696
2-45	8261.00	2580	8.404	22.29	.373	.644	29.299	2.708	79.328	3.473	3.734
2-46	8262.00	2580	7.550	20.34	.318	.593	29.564	2.712	80.182	3.380	3.752
2-47	8263.00	2580	8.294	20.61	.415	.703	31.941	2.712	86.616	3.677	3.735
2-48	8265.00	2580	7.859	21.00	.492	.865	29.569	2.709	80.089	3.443	3.728
2-49	8266.00	2580	9.128	22.27	.214	.369	31.854	2.715	86.484	3.766	3.733
2-50	8267.00	2580	8.707	21.53	.115	.207	31.739	2.714	86.136	3.695	3.740
2-51	8268.00	2580	8.578	20.51	.532	.895	33.255	2.702	89.846	3.810	3.756
2-52	8269.00	2580	7.968	21.05	.759	1.23	29.888	2.715	81.133	3.496	3.739
2-53	8270.00	2580	7.909	21.32	.373	.680	29.188	2.723	79.491	3.420	3.731
2-54	8271.00	2580	8.535	20.01	.560	.930	34.116	2.708	92.391	3.950	3.728
2-55	8272.00	2580	7.920	20.20	.755	1.19	31.285	2.715	84.941	3.585	3.757
2-56	8273.00	2580	3.651	21.20	.203	.365	13.573	2.713	36.823	3.724	2.451
2-57	8274.00	2580	7.807	20.06	.916	1.42	31.111	2.704	84.137	3.565	3.751
2-58	8275.00	2580	8.465	21.36	.452	.744	31.169	2.713	84.577	3.652	3.747
2-59	8276.00	2580	5.916	13.72	.050	.077	37.197	2.711	100.838	3.948	3.763
2-60	8278.00	2580	5.813	13.60	.057	.079	36.945	2.700	99.748	3.941	3.750
2-61	8279.00	2580	8.616	21.53	1.66	1.98	31.407	2.710	85.099	3.674	3.753
2-62	8280.00	2580	8.125	17.88	.454	.657	37.309	2.694	100.526	4.163	3.752
2-63	8281.00	2580	8.311	18.96	.128	.231	35.529	2.694	95.729	4.010	3.754
2-64	8282.00	2580	8.923	18.97	.034	.079	38.116	2.703	103.012	4.300	3.744
2-65	8283.00	2580	6.237	14.34	.050	.082	37.252	2.698	100.500	3.975	3.741

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
2-66	8285.00	2580	3.275	10.33	.025	.059	28.429	2.705	76.894	2.877	3.747
2-67	8286.00	2580	8.899	19.46	.261	.434	36.823	2.704	99.571	4.184	3.745
2-68	8287.00	2580	8.472	19.47	.172	.247	35.046	2.698	94.568	3.996	3.746
2-69	8289.00	2580	4.297	9.31	.031	.050	41.871	2.710	113.454	4.195	3.747
2-70	8291.00	2580	3.439	8.46	4.79	6.09	37.212	2.715	101.034	3.710	3.754
2-71	8292.00	2580	5.891	13.46	.264	.342	37.877	2.712	102.716	3.986	3.754
2-72	8293.00	2580	6.065	13.61	1.18	1.51	38.504	2.716	104.561	4.050	3.756
2-73	8295.00	2580	6.122	13.30	5.79	6.48	39.899	2.716	108.373	4.194	3.757
2-74	8296.00	2580	6.901	15.26	9.36	10.5	38.316	2.715	104.010	4.134	3.744
2-75	8298.00	2580	2.715	6.05	.033	.046	42.202	2.743	115.776	4.079	3.747
2-76	8299.00	2580	5.949	13.15	37.5	40.0	39.296	2.711	106.528	4.109	3.745
2-77	8300.00	2580	5.379	11.37	17.1	18.8	41.953	2.712	113.793	4.298	3.746
2-78	8301.00	2580	2.308	7.23	.012	.027	29.607	2.717	80.439	2.901	3.752
2-79	8302.00	2580	4.028	10.03	.571	.724	36.149	2.718	98.261	3.662	3.751
2-80	8303.00	2580	4.442	10.04	.793	.993	39.807	2.702	107.540	4.012	3.759
2-81	8304.00	2580	1.947	5.73	.014	.026	32.066	2.710	86.902	3.088	3.754
2-82	8305.00	2580	0.603	2.95	.001	.006	19.863	2.702	53.670	4.312	2.466
2-83	8306.00	2580	2.422	5.22	.001	.005	43.991	2.702	118.865	4.211	3.759
2-84	8307.00	2580	3.242	6.23	.007	.015	48.786	2.705	131.943	4.723	3.751
2-85	8308.00	2580	1.804	4.65	.001	.004	36.967	2.706	100.027	3.523	3.746
2-86	8309.00	2580	3.891	7.15	.041	.065	50.550	2.704	136.686	4.946	3.752
2-87	8310.00	2580	4.167	7.78	.143	.219	49.373	2.705	133.537	4.858	3.746
2-88	8311.00	2580	4.319	8.17	.038	.069	48.531	2.711	131.575	4.804	3.751
2-89	8312.00	2580	4.051	7.64	.009	.027	49.003	2.701	132.343	4.835	3.757
2-90	8313.00	2580	3.776	7.77	.036	.075	44.841	2.699	121.006	4.419	3.752
2-91	8314.00	2580	5.214	9.60	.718	.913	49.087	2.707	132.900	4.910	3.764
2-92	8315.00	2580	6.834	12.81	1.90	2.45	46.520	2.723	126.651	4.843	3.760
2-93	8316.00	2580	3.818	7.11	.018	.033	49.860	2.699	134.584	4.859	3.761
2-94	8317.00	2580	0.137	0.94	.0001	.001	14.484	2.704	39.170	3.119	2.462
2-95	8318.00	2580	0.864	1.65	N/A	N/A	51.602	2.703	139.488	4.728	3.761

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
2-96	8319.00	2580	0.451	1.89	N/A	N/A	23.455	2.698	63.282	5.010	2.466
2-97	8320.00	2580	1.889	3.56	.001	.005	51.204	2.710	138.738	4.827	3.757
2-98	8321.00	2580	0.905	1.69	.00008	.001	52.649	2.709	142.621	4.942	3.747
2-99	8322.00	2580	1.319	2.60	.010	.029	49.369	2.708	133.696	4.604	3.746
2-100	8323.00	2580	2.384	4.55	.001	.005	50.070	2.710	135.708	4.780	3.746
2-101	8324.00	2580	4.523	8.72	.035	.057	47.371	2.708	128.285	4.721	3.760
2-102	8325.00	2580	4.822	8.96	.080	.153	49.023	2.705	132.623	4.879	3.757
2-103	8326.00	2580	4.485	8.27	.028	.042	49.764	2.708	134.756	4.924	3.756
2-104	8327.00	2580	1.071	2.12	.0002	.001	49.461	2.717	134.395	4.644	3.754
2-105	8328.00	2580	3.250	6.14	.004	.016	49.680	2.717	134.979	4.815	3.758
2-106	8329.00	2580	3.657	7.09	.018	.025	47.924	2.711	129.922	4.692	3.755
2-107	8330.00	2580	1.871	6.26	.021	.032	28.037	2.716	76.137	2.730	3.751
2-108	8331.00	2580	1.598	6.98	N/A	N/A	21.289	2.710	57.693	2.211	3.746
2-109	8332.00	2580	3.770	6.92	.010	.029	50.739	2.721	138.051	4.946	3.749
2-110	8333.00	2580	4.729	8.80	.036	.058	49.028	2.720	133.336	4.888	3.747
2-111	8334.00	2580	1.387	6.78	.007	.016	19.065	2.706	51.599	4.304	2.467
2-112	8335.00	2580	1.446	6.98	.009	.024	19.278	2.712	52.289	4.374	2.466
2-113	8336.00	2580	4.183	8.74	.047	.093	43.699	2.717	118.749	4.362	3.754
2-114	8337.00	2580	3.479	8.31	.047	.095	38.401	2.722	104.515	3.824	3.755
2-115	8338.00	2580	3.202	7.24	.020	.037	41.041	2.724	111.798	4.036	3.758
2-116	8339.00	2580	3.153	6.87	.010	.018	42.755	2.711	115.909	4.160	3.759
2-117	8340.00	2580	4.341	8.87	.038	.083	44.618	2.710	120.929	4.439	3.757
2-118	8341.00	2580	3.613	8.05	.036	.067	41.260	2.720	112.211	4.098	3.759
2-119	8342.00	2580	3.394	7.12	.021	.035	44.242	2.724	120.510	4.339	3.757
2-120	8343.00	2580	3.200	7.38	.018	.035	40.133	2.728	109.484	3.936	3.758
2-121	8344.00	2580	0.695	4.17	.006	.020	15.974	2.733	43.662	3.522	2.465
2-122	8345.00	2580	2.158	4.89	.003	.008	41.955	2.718	114.028	3.990	3.761
2-123	8346.00	2580	3.389	7.27	.022	.041	43.246	2.733	118.200	4.256	3.760
2-124	8347.00	2580	3.485	7.62	.027	.055	42.264	2.736	115.628	4.150	3.755
2-125	8348.00	2580	2.210	5.12	.050	.077	40.961	2.737	112.093	3.917	3.758

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
2-126	8349.00	2580	0.929	3.16	.003	.011	28.470	2.759	78.543	2.692	3.754
2-127	8350.00	2580	3.242	6.50	.018	.039	46.649	2.769	129.161	4.509	3.758
2-128	8351.00	2580	1.924	6.52	.015	.039	27.596	2.753	75.980	2.686	3.752
2-129	8352.00	2580	2.770	5.73	.015	.025	45.562	2.794	127.281	4.392	3.758
2-130	8353.00	2580	3.322	7.12	.081	.117	43.348	2.781	120.563	4.235	3.761
2-131	8354.00	2580	3.660	8.09	.048	.097	41.585	2.760	114.757	4.125	3.757
2-132	8355.00	2580	3.143	6.24	.018	.029	47.191	2.762	130.343	4.571	3.758
2-133	8356.00	2580	2.413	5.23	.007	.013	43.745	2.749	120.240	4.184	3.759
2-134	8400.00	2580	11.819	24.25	17.0	19.2	36.919	2.836	104.703	4.422	3.755
2-135	8401.00	2580	12.560	24.63	16.8	18.8	38.434	2.845	109.328	4.651	3.756
2-136	8402.00	2580	7.327	25.59	15.9	19.7	21.309	2.844	60.598	2.611	3.750
2-137	8403.00	2580	14.110	28.28	19.9	25.0	35.789	2.836	101.507	4.548	3.758
2-138	8404.00	2580	14.212	28.84	18.0	23.6	35.071	2.825	99.067	4.512	3.753
2-139	8405.00	2580	13.095	26.87	17.6	22.3	35.632	2.825	100.669	4.423	3.760
2-140	8406.00	2580	10.742	22.63	7.27	9.64	36.718	2.800	102.808	4.326	3.755
2-141	8407.00	2580	10.366	21.86	6.97	9.42	37.053	2.792	103.456	4.303	3.756
2-142	8408.00	2580	8.730	18.79	2.81	4.22	37.733	2.774	104.663	4.225	3.757
2-143	8409.00	2580	10.056	21.60	5.51	7.31	36.497	2.796	102.028	4.253	3.749
2-144	8412.00	2580	8.826	18.93	2.13	3.33	37.793	2.753	104.062	4.246	3.752
2-145	8413.00	2580	8.554	18.25	2.44	3.58	38.318	2.750	105.379	4.268	3.756
2-146	8414.00	2580	11.457	24.53	7.24	9.87	35.256	2.794	98.507	4.261	3.759
2-147	8415.00	2580	12.498	22.82	8.32	11.0	42.265	2.816	119.013	4.988	3.757
2-148	8416.00	2580	11.902	23.27	6.99	9.21	39.235	2.838	111.351	4.636	3.754
2-149	8417.00	2580	12.861	24.39	9.99	13.0	39.875	2.827	112.717	4.788	3.756
2-150	8418.00	2580	11.897	22.61	6.57	8.93	40.727	2.792	113.690	4.793	3.756
2-151	8419.00	2580	11.967	22.41	6.21	8.33	41.433	2.790	115.608	4.850	3.751
2-152	8420.00	2580	12.225	22.39	5.59	7.75	42.362	2.799	118.557	4.958	3.750
2-153	8421.00	2580	11.323	22.30	6.57	8.99	39.446	2.811	110.887	4.612	3.745
2-154	8422.00	2580	8.973	17.88	1.82	2.76	41.226	2.783	114.749	4.568	3.747
2-155	8423.00	2580	4.541	10.03	.145	.280	40.713	2.747	111.844	4.110	3.747

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
2-156	8424.50	2580	2.119	4.56	.002	.007	44.319	2.714	120.284	4.222	3.756
2-157	8426.00	2580	5.452	12.45	.259	.538	38.333	2.728	104.585	3.973	3.748
2-158	8427.00	2580	7.096	15.48	.840	1.53	38.734	2.768	107.202	4.165	3.744
2-159	8428.00	2580	9.397	19.78	2.52	3.84	38.109	2.766	105.394	4.326	3.744
2-160	8429.00	2580	9.821	21.12	3.40	5.07	36.674	2.766	101.440	4.229	3.756
2-161	8430.00	2580	1.733	3.26	.081	.117	51.381	2.742	140.881	4.819	3.760
2-162	8431.00	2580	7.798	14.43	2.35	3.17	46.222	2.748	126.998	4.878	3.755
2-163	8432.00	2580	5.521	9.96	.123	.231	49.911	2.759	137.695	5.042	3.756
2-164	8433.00	2580	0.751	2.29	.002	.007	32.080	2.720	87.254	2.985	3.752
2-165	8434.00	2580	2.818	5.70	.003	.012	46.584	2.732	127.261	4.478	3.751
2-166	8435.00	2580	3.148	5.93	.005	.018	49.892	2.752	137.313	4.810	3.755
2-167	8436.00	2580	1.987	3.85	.001	.005	49.642	2.718	134.909	4.686	3.753
2-168	8437.00	2580	1.478	3.27	.001	.004	43.712	2.715	118.685	4.093	3.758
2-169	8438.00	2580	0.373	1.63	N/A	N/A	22.575	2.710	61.186	4.802	2.473
2-170	8439.00	2580	0.610	4.04	.001	.004	14.513	2.699	39.170	3.198	2.462
2-171	8440.00	2580	2.731	7.32	.026	.064	34.568	2.710	93.680	3.390	3.751
2-172	8441.00	2580	1.366	7.42	.017	.044	17.045	2.702	46.051	3.889	2.468
2-173	8442.00	2580	2.564	5.43	.003	.013	44.658	2.705	120.794	4.299	3.757
2-174	8443.00	2580	0.982	2.10	3.40	5.09	45.888	2.720	124.794	4.248	3.755
2-175	8444.00	2580	1.354	3.36	.0004	.002	38.949	2.716	105.784	3.692	3.759
2-176	8445.00	2580	0.942	2.84	N/A	N/A	32.242	2.707	87.292	3.005	3.757
2-177	8446.00	2580	0.914	2.00	.0001	.001	44.765	2.708	121.232	4.196	3.756
2-178	8447.00	2580	1.116	2.39	.006	.019	45.593	2.710	123.535	4.242	3.759
2-179	8448.00	2580	0.868	1.74	.546	.660	48.959	2.715	132.900	4.543	3.755
2-180	8449.00	2580	1.429	2.74	N/A	N/A	50.669	2.715	137.582	4.721	3.758
2-181	8450.00	2580	1.140	2.16	.010	.019	51.579	2.746	141.616	4.802	3.759
2-182	8451.00	2580	0.826	1.72	N/A	N/A	47.288	2.716	128.449	4.351	3.758
2-183	8452.00	2580	0.316	0.70	.0003	.002	44.714	2.715	121.420	4.092	3.757
2-184	8454.00	2580	0.331	0.87	.0001	.001	37.883	2.724	103.186	3.501	3.752
2-185	8455.00	2580	0.619	1.42	.605	.675	43.124	2.727	117.610	3.976	3.755

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
2-186	8456.00	2580	1.648	3.70	.058	.074	42.936	2.710	116.377	4.048	3.756
2-187	8457.00	2580	1.265	2.80	.010	.031	43.984	2.705	118.969	4.114	3.756
3-1	8602.00	2580	1.343	3.60	.004	.014	36.008	2.703	97.321	3.425	3.749
3-2	8603.00	2580	4.004	6.28	.023	.058	59.726	2.707	161.651	5.822	3.754
3-3	8604.00	2580	3.530	6.84	.079	.093	48.097	2.704	130.071	4.727	3.745
3-4	8608.00	2580	1.207	2.64	.018	.030	44.491	2.707	120.439	4.155	3.758
3-5	8609.00	2580	1.162	2.57	.029	.046	44.111	2.708	119.468	4.119	3.754
3-6	8610.00	2580	2.673	4.81	.117	.127	52.898	2.708	143.255	5.105	3.753
3-7	8614.00	2580	4.116	7.75	.073	.132	49.019	2.709	132.771	4.866	3.758
3-8	8615.00	2580	5.660	9.68	.387	.661	52.830	2.750	145.308	5.334	3.746
3-9	8616.00	2580	8.805	16.07	7.22	9.26	45.990	2.711	124.685	5.001	3.745
3-10	8620.00	2580	9.763	16.00	2.12	2.98	51.247	2.707	138.748	5.552	3.745
3-11	8621.00	2580	8.197	15.16	.674	1.22	45.858	2.708	124.203	4.931	3.746
3-12	8622.00	2580	6.029	11.13	.212	.328	48.133	2.707	130.273	4.934	3.746
3-13	8626.00	2580	8.570	16.12	195	215	44.584	2.709	120.765	4.853	3.744
3-14	8627.00	2580	8.222	16.15	130	139	42.676	2.709	115.597	4.634	3.740
3-15	8628.00	2580	10.422	19.31	375	387	43.552	2.706	117.860	4.935	3.750
3-16	8632.00	2580	7.733	14.07	330	345	47.246	2.681	126.669	5.011	3.749
3-17	8633.00	2580	9.465	17.31	197	208	45.218	2.708	122.453	4.959	3.752
3-18	8634.00	2580	8.981	16.77	629	684	44.578	2.707	120.670	4.873	3.753
3-19	8638.00	2580	4.728	11.60	7.23	8.91	36.028	2.711	97.671	3.702	3.751
3-20	8639.00	2580	5.919	15.15	326	347	33.155	2.703	89.606	3.561	3.756
3-21	8640.00	2580	6.139	15.24	326	341	34.129	2.707	92.377	3.688	3.757
3-22	8644.00	2580	3.309	7.77	4.62	5.41	39.290	2.709	106.435	3.878	3.758
3-23	8645.00	2580	5.011	9.56	29.8	32.6	47.399	2.707	128.328	4.771	3.756
3-24	8646.00	2580	3.685	8.42	8.38	9.19	40.052	2.713	108.671	3.984	3.755
3-25	8647.00	2580	6.136	16.73	17.7	20.4	30.540	2.714	82.874	3.350	3.752
3-26	8648.00	2580	7.858	17.13	44.0	46.7	38.018	2.699	102.614	4.182	3.754
3-27	8649.00	2580	2.622	8.29	.806	1.10	28.987	2.703	78.350	2.892	3.751
3-28	8652.00	2580	3.170	7.47	.111	.187	39.252	2.724	106.911	3.866	3.756

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
3-29	8653.00	2580	5.872	13.60	.365	.716	37.310	2.699	100.711	3.935	3.754
3-30	8655.00	2580	3.759	9.60	1.64	2.02	35.397	3.323	117.611	3.605	3.753
3-31	8656.00	2580	4.993	12.67	1.67	2.18	34.404	2.758	94.875	3.628	3.752
3-32	8657.00	2580	3.516	9.01	3.08	4.55	35.516	2.769	98.330	3.608	3.753
3-33	8661.00	2580	2.628	6.97	1.17	1.41	35.056	2.715	95.186	3.459	3.752
3-34	8662.00	2580	4.335	11.62	49.8	54.7	32.958	2.716	89.498	3.412	3.749
3-35	8663.00	2580	5.700	12.01	41.9	45.4	41.754	2.706	112.994	4.323	3.750
3-36	8668.00	2580	2.545	5.69	2.47	2.55	42.196	2.702	113.993	4.107	3.756
3-37	8669.00	2580	4.925	12.73	.461	.641	33.772	2.702	91.255	3.576	3.753
3-38	8670.00	2580	6.815	15.96	6.57	9.03	35.890	2.724	97.760	3.902	3.751
3-39	8673.00	2580	7.116	17.45	N/A	N/A	33.671	2.711	91.273	3.689	3.752
3-40	8674.00	2580	5.466	13.28	77.7	82.7	35.679	2.715	96.883	3.751	3.755
3-41	8679.00	2580	5.635	13.24	80.6	88.6	36.931	2.708	99.999	3.865	3.751
3-42	8680.00	2580	5.165	11.68	49.8	57.4	39.057	2.701	105.478	4.013	3.752
3-43	8681.00	2580	6.029	13.46	69.2	74.0	38.746	2.787	107.995	4.068	3.754
3-44	8686.00	2580	3.731	8.78	.077	.114	38.774	2.702	104.764	3.860	3.751
3-45	8687.00	2580	5.053	13.65	62.5	70.9	31.963	2.708	86.541	3.374	3.753
3-46	8688.00	2580	4.113	9.73	30.2	34.9	38.159	2.705	103.212	3.828	3.757
3-47	8691.00	2580	5.317	14.91	259	306	30.336	2.713	82.302	3.238	3.755
3-48	8692.00	2580	2.460	15.95	342	395	12.963	2.702	35.024	3.271	2.459
3-49	8693.00	2580	3.502	11.60	16.3	18.0	26.680	2.722	72.622	2.758	3.756
3-50	8697.00	2580	4.012	9.89	53.5	62.7	36.566	2.716	99.308	3.699	3.749
3-51	8698.00	2580	4.108	9.46	5.34	7.23	39.336	2.712	106.668	3.947	3.755
3-52	8699.00	2580	3.842	12.04	26.4	29.3	28.059	2.729	76.567	2.917	3.750
3-53	8704.00	2580	1.014	4.85	.001	.007	19.881	2.724	54.158	4.405	2.469
3-54	8705.00	2580	1.365	5.98	.015	.038	21.458	2.726	58.487	2.091	3.758
3-55	8708.00	2580	6.100	13.16	88.5	94.3	40.265	2.712	109.211	4.224	3.757
3-56	8709.00	2580	5.524	11.98	11.8	14.8	40.598	2.706	109.847	4.183	3.755
3-57	8714.00	2580	7.935	14.93	170	188	45.218	2.713	122.665	4.832	3.758
3-58	8715.00	2580	5.933	13.14	15.1	17.0	39.213	2.708	106.200	4.097	3.755

CONVENTIONAL PLUG ANALYSIS

Sample Number	Depth ft	Net Confining Stress psig	Pore Volume cm3	Porosity %	Permeability		Grain Volume cm3	Grain Density g/cm3	Dry Weight g	Length cm	Diameter cm
					Klinkenberg (md)	Kair (md)					
3-59	8716.00	2580	4.554	10.14	11.4	12.6	40.355	2.712	109.460	4.086	3.757
3-60	8725.00	2580	3.590	6.64	N/A	N/A	50.462	2.713	136.903	4.879	3.757
3-61	8726.00	2580	3.830	7.84	.037	.062	45.021	2.712	122.080	4.444	3.758