

PERIODIC ANALYSIS

FOR

THE CLEVELAND CLIFFS IRON COMPANY-WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
60	2.060	36.5	36.5					
61	2.060	38.4	74.9					
62	2.030	39.4	114.3					
63	1.990	43.3	157.6					
64	2.050	37.5	195.0					
65	2.120	31.0	226.0					
66	2.120	31.0	257.1					
67	2.120	31.0	288.1					
68	2.070	35.6	323.7					
69	2.040	38.4	362.1					
70	2.010	41.3	403.4					
71	2.000	42.3	445.7					
72	2.070	35.6	481.3					
73	2.120	31.0	512.3					
74	2.120	31.0	543.3					
75	2.130	30.1	573.4					
76	2.100	32.8	606.3					
77	2.130	30.1	636.4					
78	2.130	30.1	666.5					
79	2.110	31.9	698.5					
80	2.080	34.7	733.1					
81	2.070	35.6	768.7					
82	2.050	37.5	806.2					
83	2.090	33.7	839.9					
84	2.170	26.6	866.5					
85	2.210	23.2	889.8					
86	2.180	25.8	915.6					
87	2.170	26.6	942.2					
88	2.190	24.9	967.1					
89	2.210	23.2	990.4					
90	2.210	23.2	1013.6					
91	2.200	24.1	1037.7					
92	2.160	27.5	1065.2					
93	2.240	20.8	1085.9					
94	2.230	21.6	1107.5					
95	2.130	30.1	1137.6					
96	2.070	35.6	1173.2					
97	2.170	26.6	1199.8					
98	2.140	29.2	1229.1					
99	2.140	25.8	1254.9					
100	2.140	27.5	1282.4					
101	2.140	27.5	1309.9					
102	2.130	30.1	1340.0					
103	2.100	32.8	1372.8					
104	2.110	31.9	1404.8					
105	2.120	31.0	1435.8					
106	2.110	31.0	1467.7					
107	2.110	31.0	1498.7					
108	2.110	31.0	1529.7					
109	2.110	31.0	1560.7					
110	2.110	31.0	1591.7					

K E R O G E N A N A L Y S I S

FOR

THE CLEVELAND CLIFFS IRON COMPANY--WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
110	2.160	27.5	1573.5					
111	2.180	25.8	1599.3					
112	2.190	24.9	1624.2					
113	2.170	26.6	1650.8					
114	2.190	24.9	1675.8					
115	2.210	23.2	1699.0					
116	2.230	21.6	1720.6					
117	2.230	21.6	1742.1					
118	2.220	22.4	1764.5					
119	2.160	27.5	1792.0					
120	2.170	26.6	1818.7					
121	2.210	23.2	1841.9					
122	2.210	23.2	1865.1					
123	2.200	24.1	1889.2					
124	2.210	23.2	1912.5					
125	2.210	23.2	1935.7					
126	2.200	24.1	1959.8					
127	2.210	23.2	1983.0					
128	2.200	24.1	2007.1					
129	2.180	25.8	2032.9					
130	2.200	24.1	2056.9					
131	2.190	24.9	2081.9					
132	2.200	24.1	2105.9					
133	2.240	20.8	2126.7					
134	2.250	19.9	2146.6					
135	2.240	20.8	2167.4					
136	2.200	24.1	2191.4					
137	2.170	26.6	2218.1					
138	2.160	27.5	2245.6					
139	2.130	30.1	2275.7					
140	2.090	33.7	2309.5					
141	2.120	31.0	2340.5					
142	2.140	29.2	2369.7					
143	2.170	26.6	2396.4					
144	2.190	24.9	2421.3					
145	2.180	25.8	2447.1					
146	2.160	27.5	2474.6					
147	2.180	25.8	2500.3					
148	2.140	29.2	2529.6					
149	2.150	28.4	2558.0					
150	2.170	26.6	2584.6					
151	2.210	23.2	2607.8					
152	2.220	22.4	2630.2					
153	2.200	24.1	2654.3					
154	2.180	25.8	2680.1					
155	2.200	24.1	2704.2					
156	2.180	25.8	2729.9					
157	2.150	28.4	2758.3					
158	2.140	29.2	2789.4					
159	2.140	29.2	2817.7					

K E R O G E N A N A L Y S I S

F O R

THE CLEVELAND CLIFFS IRON COMPANY-^{WELL} P-4

DEPTH	D E N S I T Y L O G			V E L O C I T Y L O G			D E N S I T Y A N D V E L O C I T Y	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
160	2.170	26.6	2844.3					
161	2.160	27.5	2871.8					
162	2.170	26.6	2898.5					
163	2.180	25.8	2924.2					
164	2.190	24.9	2949.2					
165	2.200	24.1	2973.2					
166	2.210	23.2	2996.5					
167	2.230	21.6	3018.0					
168	2.240	20.8	3038.8					
169	2.240	20.8	3059.5					
170	2.240	20.8	3080.3					
171	2.220	22.4	3102.7					
172	2.200	24.1	3126.8					
173	2.210	23.2	3150.0					
174	2.220	22.4	3172.4					
175	2.210	23.2	3195.6					
176	2.200	24.1	3219.7					
177	2.180	25.8	3245.5					
178	2.190	24.9	3270.4					
179	2.160	27.5	3297.9					
180	2.300	15.9	3313.9					
181	2.340	12.8	3326.7					
182	2.320	14.4	3341.1					
183	2.290	16.7	3357.8					
184	2.260	19.1	3376.9					
185	2.250	19.9	3396.9					
186	2.250	19.9	3416.8					
187	2.260	19.1	3435.9					
188	2.290	16.7	3452.6					
189	2.300	15.9	3468.6					
190	2.300	15.9	3484.5					
191	2.310	15.2	3499.7					
192	2.320	14.4	3514.0					
193	2.320	14.4	3528.4					
194	2.300	15.9	3544.4					
195	2.300	15.9	3560.3					
196	2.300	15.9	3576.2					
197	2.240	20.8	3597.0					
198	2.240	20.8	3617.7					
199	2.290	16.7	3634.5					
200	2.290	16.7	3651.2					
201	2.280	17.5	3668.7					
202	2.260	19.1	3687.8					
203	2.230	21.6	3709.4					
204	2.180	25.8	3735.2					
205	2.110	31.9	3767.1					
206	2.150	28.4	3795.5					
207	2.170	26.6	3822.1					
208	2.210	23.2	3845.3					
209	2.250	21.6	3866.9					

RESERVOIR LOG

FOR

THE NEW LAND CLIFFS IRON COMPANY-BELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
210	2.280	17.5	3882.8					
211	2.300	15.9	3898.7					
212	2.320	14.4	3913.1					
213	2.330	13.6	3926.7					
214	2.310	15.2	3941.9					
215	2.300	15.9	3957.8					
216	2.300	15.9	3973.7					
217	2.310	15.2	3988.9					
218	2.320	14.4	4003.3					
219	2.310	15.2	4018.4					
220	2.310	15.2	4033.6					
221	2.320	14.4	4048.0					
222	2.330	13.6	4061.6					
223	2.340	12.8	4074.4					
224	2.330	13.6	4088.0					
225	2.310	15.2	4103.2					
226	2.300	15.9	4119.1					
227	2.290	16.7	4135.8					
228	2.320	14.4	4150.2					
229	2.320	14.4	4164.6					
230	2.290	16.7	4181.3					
231	2.280	17.5	4198.8					
232	2.280	17.5	4216.3					
233	2.290	16.7	4233.0					
234	2.290	16.7	4249.8					
235	2.250	19.9	4269.7					
236	2.270	18.3	4288.0					
237	2.300	15.9	4303.9					
238	2.330	13.6	4317.5					
239	2.330	13.6	4331.1					
240	2.250	19.9	4351.1					
241	2.180	25.8	4376.9					
242	2.200	24.1	4400.9					
243	2.250	19.9	4420.9					
244	2.280	17.5	4438.4					
245	2.280	17.5	4455.9					
246	2.290	16.7	4472.6					
247	2.280	17.5	4490.1					
248	2.270	18.3	4508.4					
249	2.270	18.3	4526.8					
250	2.290	16.7	4543.5					
251	2.280	17.5	4561.0					
252	2.230	21.6	4582.6					
253	2.160	27.5	4610.1					
254	2.080	24.7	4644.7					
255	2.170	24.6	4671.4					
256	2.300	15.9	4687.3					
257	2.300	15.9	4706.9					
258	2.300	15.9	4727.9					
259	2.300	15.9	4749.9					

K E R O G E N A N A L Y S I S

FOR

THE CLEVELAND CLIFFS IRON COMPANY--WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
260	2.270	18.3	4754.3					
261	2.360	11.3	4765.6					
262	2.370	10.6	4776.1					
263	2.310	15.2	4791.3					
264	2.230	21.6	4812.9					
265	2.150	28.4	4841.2					
266	2.110	31.9	4873.2					
267	2.050	37.5	4910.6					
268	2.030	39.4	4950.0					
269	2.120	31.0	4981.0					
270	2.110	31.9	5012.9					
271	2.130	30.1	5043.1					
272	2.120	31.0	5074.1					
273	2.120	31.0	5105.1					
274	2.090	33.7	5138.8					
275	2.120	31.0	5169.9					
276	2.160	27.5	5197.4					
277	2.120	31.0	5228.4					
278	2.130	30.1	5258.5					
279	2.160	27.5	5286.0					
280	2.280	17.5	5303.5					
281	2.340	12.8	5316.4					
282	2.340	12.8	5329.2					
283	2.320	14.4	5343.6					
284	2.340	12.8	5356.4					
285	2.370	10.6	5367.0					
286	2.370	10.6	5377.5					
287	2.320	14.4	5391.9					
288	2.310	15.2	5407.1					
289	2.340	12.8	5419.9					
290	2.260	19.1	5439.0					
291	2.150	28.4	5467.4					
292	2.150	28.4	5495.8					
293	2.110	31.9	5527.7					
294	1.960	46.3	5574.0					
295	1.990	43.3	5617.2					
296	2.150	28.4	5645.6					
297	2.160	27.5	5673.1					
298	2.180	25.8	5698.9					
299	2.100	32.8	5731.7					
300	2.070	35.6	5767.3					
301	2.080	34.7	5801.9					
302	2.080	34.7	5836.6					
303	2.080	34.7	5871.3					
304	2.060	36.5	5907.8					
305	2.090	33.7	5941.5					
306	2.120	31.0	5972.5					
307	2.120	31.0	6003.6					
308	2.100	32.8	6036.4					
309	2.120	31.0	6067.4					

K E R O G E N A N A L Y S I S

FOR

THE CLEVELAND CLIFFS IRON COMPANY-WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
310	2.130	30.1	6097.6					
311	2.120	31.0	6128.6					
312	2.220	22.4	6151.0					
313	2.320	14.4	6165.3					
314	2.380	9.8	6175.2					
315	2.310	15.2	6190.3					
316	2.290	16.7	6207.0					
317	2.330	13.6	6220.6					
318	2.280	17.5	6238.2					
319	2.260	19.1	6257.3					
320	2.240	20.8	6278.0					
321	2.230	21.6	6299.6					
322	2.210	23.2	6322.8					
323	2.220	22.4	6345.2					
324	2.280	17.5	6362.8					
325	2.350	12.1	6374.8					
326	2.360	11.3	6386.1					
327	2.400	8.3	6394.5					
328	2.380	9.8	6404.3					
329	2.310	15.2	6419.5					
330	2.240	20.8	6440.2					
331	2.250	19.1	6459.3					
332	2.370	10.6	6469.9					
333	2.230	21.6	6491.5					
334	2.140	29.2	6520.7					
335	2.100	22.8	6553.5					
336	2.410	7.6	6561.2					
337	2.470	3.3	6564.5					
338	2.410	7.6	6572.1					
339	2.350	12.1	6584.2					
340	2.250	19.9	6604.1					
341	2.370	10.6	6614.7					
342	2.430	6.2	6620.8					
343	2.440	5.4	6626.3					
344	2.380	9.8	6636.1					
345	2.340	12.8	6648.9					
346	2.330	13.6	6662.5					
347	2.240	20.8	6683.3					
348	2.080	34.7	6717.9					
349	1.870	55.8	6773.7					
350	2.060	36.5	6810.2					
351	2.290	16.7	6826.9					
352	1.850	58.0	6884.9					
353	1.830	60.2	6945.1					
354	2.250	16.5	6965.0					
355	2.180	18.4	6978.6					
356	2.150	20.2	6990.4					
357	2.100	22.8	7000.5					
358	2.050	25.5	7009.1					

KERDGEN ANALYSIS

FOR

THE CLEVELAND CLIFFS IRON COMPANY—WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
360	2.200	24.1	7042.1					
361	2.040	28.4	7080.5					
362	1.810	62.5	7143.0					
363	1.990	43.3	7186.2					
364	2.280	17.5	7203.8					
365	2.330	13.6	7217.4					
366	2.340	12.8	7230.2					
367	2.350	12.1	7242.3					
368	2.290	16.7	7259.0					
369	2.190	24.9	7283.9					
370	2.190	24.9	7308.8					
371	2.320	14.4	7323.2					
372	2.150	28.4	7351.6					
373	2.200	24.1	7375.7					
374	2.340	12.8	7388.5					
375	2.400	8.3	7396.8					
376	2.390	9.1	7405.9					
377	2.380	9.8	7415.7					
378	2.330	13.6	7429.3					
379	2.280	17.5	7446.9					
380	2.130	30.1	7477.0					
381	2.030	39.4	7516.3					
382	2.170	26.6	7543.0					
383	2.370	10.6	7553.5					
384	2.420	6.9	7560.4					
385	2.410	7.6	7568.0					
386	2.440	5.4	7573.5					
387	2.490	1.9	7575.4					
388	2.450	4.7	7580.2					
389	2.420	6.9	7587.0					
390	2.440	5.4	7592.5					
391	2.420	6.9	7599.4					
392	2.370	10.6	7609.9					
393	2.380	9.8	7615.8					
394	2.440	5.4	7625.2					
395	2.470	3.3	7628.5					
396	2.490	1.9	7630.5					
397	2.490	2.6	7633.1					
398	2.430	6.2	7639.3					
399	2.430	6.2	7645.4					
400	2.380	9.8	7655.2					
401	2.340	12.8	7668.1					
402	2.350	12.1	7680.1					
403	2.340	12.8	7693.0					
404	2.250	19.5	7712.9					
405	2.202	24.1	7737.0					
406	2.220	22.4	7759.4					
407	2.250	19.5	7773.1					
408	2.250	19.5	7777.3					
409	2.250	19.5	7777.3					

THE CLEVELAND CLIFFS IRON COMPANY-BELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
410	2.270	18.3	7891.1					
411	2.440	5.4	7896.6					
412	2.450	4.7	7901.3					

K E R O G E N A N A L Y S I S

F O R

W H I T E R I V E R S H A L E C I L C O M P A N Y P - 4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
416	2.460	10.5	10.5	2.534	2.3	2.3	6.4	6.4
417	2.440	12.7	23.1	2.561	0.0	2.3	6.3	12.7
418	2.420	14.8	37.9	2.521	3.7	6.0	9.3	22.0
419	2.420	14.8	52.7	2.486	7.6	13.6	11.2	33.2
420	2.350	22.2	75.0	2.452	11.3	24.9	16.8	50.0
421	2.340	23.3	98.3	2.452	11.3	36.3	17.3	67.3
422	2.420	14.8	113.1	2.452	11.3	47.6	13.1	80.3
423	2.450	11.6	124.6	2.465	9.9	57.6	10.7	91.1
424	2.440	12.7	137.3	2.500	6.1	63.6	9.4	100.4
425	2.450	11.6	148.8	2.508	5.2	68.8	8.4	108.8
426	2.450	11.6	160.4	2.521	3.7	72.5	7.6	116.5
427	2.450	11.6	172.0	2.508	5.2	77.7	8.4	124.8
428	2.410	15.5	187.9	2.508	5.2	82.8	10.5	135.4
429	2.440	12.7	200.5	2.517	4.2	87.0	8.4	143.8
430	2.440	12.7	213.2	2.521	3.7	90.7	8.2	151.9
431	2.420	14.8	228.0	2.521	3.7	94.4	9.3	161.2
432	2.420	14.8	242.8	2.521	3.7	98.2	9.3	170.5
433	2.420	14.8	257.6	2.513	4.6	102.8	9.7	180.2
434	2.410	15.5	273.5	2.517	4.2	106.9	10.0	190.2
435	2.400	17.0	290.4	2.460	10.5	117.4	13.7	203.9
436	2.380	19.1	309.5	2.465	9.9	127.3	14.5	218.4
437	2.420	14.8	324.3	2.469	9.5	136.8	12.1	230.6
438	2.460	10.5	334.8	2.469	9.5	146.3	10.0	240.6
439	2.480	8.3	343.1	2.473	9.0	155.4	8.7	249.2
440	2.480	8.3	351.3	2.478	8.5	163.9	8.4	257.6
441	2.450	7.2	358.5	2.495	6.6	170.5	6.9	264.5
442	2.490	7.2	365.7	2.521	3.7	174.2	5.4	269.9
443	2.470	9.4	375.1	2.521	3.7	177.9	6.5	276.5
444	2.450	11.6	386.6	2.521	3.7	181.6	7.6	284.1
445	2.440	12.7	399.3	2.521	3.7	185.3	8.2	292.3
446	2.420	13.7	413.0	2.517	4.2	189.5	8.9	301.3
447	2.460	10.5	423.5	2.508	5.2	194.7	7.8	309.1
448	2.460	10.5	434.0	2.495	6.6	201.3	8.5	317.6
449	2.440	12.7	446.6	2.495	6.6	207.9	9.6	327.3
450	2.440	12.7	459.3	2.486	7.6	215.5	10.1	337.4
451	2.440	12.7	471.9	2.469	9.5	225.0	11.1	348.5
452	2.420	14.8	486.7	2.469	9.5	234.5	12.1	360.6
453	2.360	21.2	507.9	2.469	9.5	244.0	15.3	375.9
454	2.330	24.3	532.2	2.469	9.5	253.5	16.9	392.8
455	2.420	14.8	547.0	2.478	8.5	262.0	11.7	404.5
456	2.460	10.5	557.5	2.504	5.6	267.6	8.0	412.5
457	2.460	10.5	568.0	2.486	7.6	275.2	9.0	421.6
458	2.440	12.7	580.6	2.452	11.3	286.6	12.0	433.6
459	2.380	19.1	599.7	2.447	11.9	298.4	15.5	449.1
460	2.350	22.2	621.9	2.434	13.3	311.7	17.8	466.8
461	2.400	17.0	638.9	2.434	13.3	325.0	15.1	482.0
462	2.480	8.3	647.2	2.447	11.9	336.9	10.1	492.0
463	2.490	7.2	654.3	2.486	7.6	344.5	7.4	499.4
464	2.480	8.3	662.6	2.517	4.2	348.7	6.2	505.7
465	2.460	10.5	673.1	2.521	3.7	352.4	7.1	512.8

K E R O G E N A N A L Y S I S

FOR

WHITE RIVER SHALE OIL COMPANY P-4

DENSITY LOG

VELOCITY LOG

DENSITY AND VELOCITY

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
466	2.430	13.7	686.8	2.530	2.7	355.1	8.2	521.0
467	2.410	15.9	702.7	2.508	5.2	360.3	10.5	531.5
468	2.420	14.8	717.5	2.517	4.2	364.5	9.5	541.0
469	2.460	10.5	728.0	2.534	2.3	366.7	6.4	547.4
470	2.450	11.6	739.5	2.534	2.3	369.0	6.9	554.3
471	2.440	12.7	752.2	2.539	1.7	370.7	7.2	561.4
472	2.390	18.0	770.2	2.530	2.7	373.4	10.4	571.8
473	2.400	17.0	787.2	2.508	5.2	378.6	11.1	582.9
474	2.390	18.0	805.2	2.495	6.6	385.2	12.3	595.2
475	2.360	21.2	826.4	2.491	7.1	392.2	14.1	609.3
476	2.380	19.1	845.4	2.491	7.1	399.3	13.1	622.4
477	2.460	10.5	855.9	2.478	8.5	407.8	9.5	631.9
478	2.440	12.7	868.6	2.478	8.5	416.3	10.6	642.4
479	2.440	12.7	881.2	2.517	4.2	420.5	8.4	650.8
480	2.440	12.7	893.9	2.469	9.5	429.9	11.1	661.9
481	2.440	12.7	906.5	2.469	9.5	439.4	11.1	673.0
482	2.440	12.7	919.2	2.465	9.9	449.4	11.3	684.3
483	2.380	19.1	938.3	2.452	11.3	460.7	15.2	699.5
484	2.410	15.9	954.1	2.443	12.3	473.0	14.1	713.6
485	2.450	11.6	965.7	2.421	14.7	487.7	13.1	726.7
486	2.420	14.8	980.5	2.421	14.7	502.4	14.8	741.5
487	2.390	18.0	998.5	2.421	14.7	517.1	16.4	757.8
488	2.280	29.4	1028.0	2.425	14.3	531.4	21.9	779.7
489	2.310	26.4	1054.3	2.447	11.9	543.3	19.1	798.8
490	2.480	8.3	1062.6	2.447	11.9	555.2	10.1	808.9
491	2.490	7.2	1069.8	2.460	10.5	565.7	8.8	817.7
492	2.460	10.5	1080.3	2.486	7.6	573.3	9.0	826.8
493	2.420	14.8	1095.1	2.486	7.6	580.9	11.2	838.0
494	2.410	15.9	1111.0	2.469	9.5	590.4	12.7	850.7
495	2.360	21.2	1132.1	2.465	9.9	600.3	15.6	866.2
496	2.360	21.2	1153.3	2.447	11.9	612.2	16.5	882.8
497	2.420	14.8	1168.1	2.434	13.3	625.5	14.1	896.8
498	2.460	10.5	1178.6	2.421	14.7	640.2	12.6	909.4
499	2.420	14.8	1193.4	2.408	16.1	656.3	15.5	924.9
500	2.320	25.3	1218.8	2.421	14.7	671.0	20.0	944.9
501	2.290	28.4	1247.2	2.434	13.3	684.3	20.9	965.7
502	2.380	19.1	1266.3	2.425	14.3	698.6	16.7	982.4
503	2.400	17.0	1283.2	2.425	14.3	712.8	15.6	998.0
504	2.390	18.0	1301.2	2.452	11.3	724.2	14.7	1012.7
505	2.380	19.1	1320.3	2.478	8.5	732.7	13.8	1026.5
506	2.360	21.2	1341.5	2.452	11.3	744.0	16.3	1042.8
507	2.340	23.3	1364.8	2.408	16.1	760.1	19.7	1062.5
508	2.320	25.3	1390.1	2.386	18.4	778.6	21.9	1084.3
509	2.340	23.3	1413.4	2.390	18.0	796.6	20.6	1105.0
510	2.380	19.1	1432.5	2.390	18.0	814.6	18.5	1123.5
511	2.380	19.1	1451.6	2.421	14.7	829.3	16.9	1140.4
512	2.380	19.1	1470.6	2.465	9.9	839.2	14.5	1154.9
513	2.380	19.1	1489.7	2.491	7.1	846.3	13.1	1168.0
514	2.290	18.0	1507.7	2.478	8.5	854.8	13.3	1181.3
515	2.380	19.1	1526.8	2.478	8.5	863.3	13.8	1195.0

K E R O G E N A N A L Y S I S

FOR

WHITE RIVER SHALE OIL COMPANY P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
516	2.390	18.0	1544.8	2.486	7.6	870.9	12.8	1207.9
517	2.380	19.1	1563.9	2.478	8.5	879.4	13.8	1221.7
518	2.350	22.2	1586.1	2.469	9.5	888.9	15.9	1237.5
519	2.360	21.2	1607.3	2.425	14.3	903.2	17.7	1255.2
520	2.370	20.1	1627.5	2.404	16.5	919.7	18.3	1273.6
521	2.330	24.3	1651.8	2.386	18.4	938.1	21.4	1295.0
522	2.370	20.1	1671.9	2.390	18.0	956.1	19.1	1314.0
523	2.380	19.1	1691.0	2.386	18.4	974.6	18.8	1332.8
524	2.370	20.1	1711.1	2.386	18.4	993.0	19.3	1352.1
525	2.350	22.2	1733.4	2.386	18.4	1011.5	20.3	1372.4
526	2.310	26.4	1759.7	2.390	18.0	1029.5	22.2	1394.6
527	2.290	28.4	1788.2	2.373	19.8	1049.3	24.1	1418.7
528	2.280	29.4	1817.6	2.343	23.0	1072.3	26.2	1444.9
529	2.230	34.4	1852.0	2.296	27.9	1100.1	31.1	1476.1
530	2.190	38.4	1890.4	2.260	31.5	1131.6	34.9	1511.0
531	2.190	38.4	1928.8	2.233	34.1	1165.7	36.3	1547.3
532	2.220	35.4	1964.2	2.233	34.1	1199.9	34.8	1582.1
533	2.220	35.4	1999.7	2.260	31.5	1231.4	33.5	1615.5
534	2.270	30.4	2030.1	2.311	26.3	1257.6	28.4	1643.9
535	2.330	24.3	2054.4	2.311	26.3	1283.9	25.3	1669.2
536	2.370	20.1	2074.6	2.347	22.5	1306.4	21.3	1690.5
537	2.400	17.0	2091.5	2.390	18.0	1324.4	17.5	1708.0
538	2.370	20.1	2111.7	2.408	16.1	1340.5	18.1	1726.1
539	2.360	21.2	2132.9	2.425	14.3	1354.8	17.7	1743.8
540	2.390	18.0	2150.9	2.425	14.3	1369.1	16.1	1760.0
541	2.390	18.0	2168.9	2.421	14.7	1383.8	16.4	1776.3
542	2.350	22.2	2191.1	2.390	18.0	1401.8	20.1	1796.5
543	2.250	32.5	2223.6	2.386	18.4	1420.3	25.5	1821.9
544	2.230	34.4	2258.0	2.386	18.4	1438.7	26.4	1848.4
545	2.360	21.2	2279.2	2.386	18.4	1457.1	19.8	1868.2
546	2.390	18.0	2297.2	2.390	18.0	1475.2	18.0	1886.2
547	2.420	14.8	2312.0	2.390	18.0	1493.2	16.4	1902.6
548	2.410	15.9	2327.9	2.430	13.7	1506.9	14.8	1917.4
549	2.370	20.1	2348.1	2.452	11.3	1518.3	15.7	1933.2
550	2.390	18.0	2366.1	2.460	10.5	1528.7	14.2	1947.4
551	2.410	15.9	2382.0	2.447	11.9	1540.6	13.9	1961.3
552	2.410	15.9	2397.9	2.425	14.3	1554.9	15.1	1976.4
553	2.400	17.0	2414.8	2.434	13.3	1568.2	15.1	1991.5
554	2.390	18.0	2432.8	2.425	14.3	1582.5	16.1	2007.6
555	2.400	17.0	2449.8	2.408	16.1	1598.6	16.5	2024.2
556	2.410	15.9	2465.7	2.421	14.7	1613.3	15.3	2039.5
557	2.320	25.3	2491.0	2.434	13.3	1626.6	19.3	2058.8
558	2.310	26.4	2517.4	2.430	13.7	1640.3	20.1	2078.8
559	2.400	17.0	2534.3	2.421	14.7	1655.0	15.8	2094.7
560	2.410	15.9	2550.2	2.425	14.3	1669.3	15.1	2109.7
561	2.420	14.8	2565.0	2.430	13.7	1683.0	14.3	2124.0
562	2.410	15.9	2580.9	2.421	14.7	1697.7	15.3	2139.3
563	2.380	19.1	2600.0	2.421	14.7	1712.4	16.9	2156.2
564	2.320	25.3	2625.3	2.421	14.7	1727.1	20.0	2176.2
565	2.310	26.4	2651.7	2.430	13.7	1740.8	20.1	2196.3

K E R O G E N A N A L Y S I S

F O R

W H I T E R I V E R S H A L E C I L C O M P A N Y P - 4

D E N S I T Y L O G

V E L O C I T Y L O G

D E N S I T Y A N D V E L O C I T Y

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
566	2.400	17.0	2668.7	2.425	14.3	1755.1	15.6	2211.9
567	2.430	13.7	2682.4	2.425	14.3	1769.4	14.0	2225.9
568	2.400	17.0	2699.4	2.421	14.7	1784.1	15.8	2241.7
569	2.370	20.1	2719.5	2.434	13.3	1797.4	16.7	2258.4
570	2.260	31.5	2751.0	2.443	12.3	1809.7	21.9	2280.3
571	2.290	26.4	2779.4	2.425	14.3	1824.0	21.3	2301.7
572	2.380	19.1	2798.5	2.386	18.4	1842.4	18.8	2320.4
573	2.370	20.1	2818.6	2.390	18.0	1860.5	19.1	2339.5
574	2.350	22.2	2840.8	2.382	18.9	1879.3	20.6	2360.1
575	2.240	28.4	2869.2	2.356	21.6	1900.9	25.0	2385.1
576	2.240	33.5	2902.7	2.347	22.5	1923.5	28.0	2413.1
577	2.190	38.4	2941.1	2.360	21.2	1944.7	29.8	2442.9
578	2.350	22.2	2963.3	2.369	20.2	1964.9	21.2	2464.1
579	2.440	12.7	2976.0	2.390	18.0	1982.9	15.3	2479.4
580	2.460	10.5	2986.4	2.425	14.3	1997.2	12.4	2491.8
581	2.470	9.4	2995.8	2.491	7.1	2004.3	8.2	2500.0
582	2.440	12.7	3008.5	2.495	6.6	2010.9	9.6	2509.7
583	2.390	18.0	3026.5	2.478	8.5	2019.4	13.3	2522.9
584	2.330	24.3	3050.8	2.478	8.5	2027.9	16.4	2539.3
585	2.340	23.3	3074.1	2.469	9.5	2037.3	16.4	2555.7
586	2.350	22.2	3096.3	2.434	13.3	2050.6	17.8	2573.5
587	2.340	23.3	3119.6	2.408	16.1	2066.7	19.7	2592.2
588	2.310	26.4	3145.9	2.386	18.4	2085.2	22.4	2615.6
589	2.260	31.5	3177.4	2.377	19.4	2104.6	25.4	2641.0
590	2.190	38.4	3215.8	2.364	20.8	2125.3	29.6	2670.6
591	2.210	26.4	3242.2	2.373	19.8	2145.2	23.1	2693.7
592	2.400	17.0	3259.1	2.421	14.7	2159.9	15.8	2709.5
593	2.440	12.7	3271.8	2.434	13.3	2173.2	13.0	2722.5
594	2.420	14.8	3286.6	2.434	13.3	2186.5	14.1	2736.5
595	2.330	24.3	3310.9	2.430	13.7	2200.2	19.0	2755.5
596	2.290	28.4	3339.3	2.430	13.7	2213.9	21.1	2776.6
597	2.350	22.2	3361.5	2.434	13.3	2227.2	17.8	2794.4
598	2.380	19.1	3380.6	2.434	13.3	2240.5	16.2	2810.6
599	2.380	19.1	3399.7	2.452	11.3	2251.9	15.2	2825.8
600	2.360	21.2	3420.9	2.473	9.0	2260.9	15.1	2840.9
601	2.320	24.3	3445.2	2.486	7.6	2268.5	16.0	2856.9
602	2.360	21.2	3466.4	2.478	8.5	2277.0	14.8	2871.7
603	2.390	18.0	3484.4	2.478	8.5	2285.5	13.3	2885.0
604	2.390	18.0	3502.4	2.491	7.1	2292.6	12.5	2897.5
605	2.400	17.0	3519.4	2.513	4.6	2297.2	10.8	2908.3
606	2.420	14.8	3534.2	2.504	5.6	2302.8	10.2	2918.5
607	2.420	14.8	3549.0	2.491	7.1	2309.9	10.9	2929.4
608	2.370	20.1	3569.1	2.491	7.1	2316.9	13.6	2943.0
609	2.340	23.3	3592.4	2.495	6.6	2323.6	14.9	2958.0
610	2.320	25.3	3617.8	2.491	7.1	2330.6	16.2	2974.2
611	2.340	23.3	3641.0	2.491	7.1	2337.7	15.2	2989.4
612	2.400	17.0	3658.0	2.495	6.6	2344.3	11.8	3001.1
613	2.420	14.8	3672.8	2.495	6.6	2350.9	10.7	3011.9
614	2.430	13.7	3686.5	2.491	7.1	2358.0	10.4	3022.3
615	2.400	17.0	3703.5	2.491	7.1	2365.0	12.0	3034.3

K E R O G E N A N A L Y S I S

FOR

WHITE RIVER SHALE OIL COMPANY P-4

DENSITY LOG

VELOCITY LOG

DENSITY AND VELOCITY

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
616	2.390	18.0	3721.5	2.495	6.6	2371.7	12.3	3046.6
617	2.380	19.1	3740.6	2.495	6.6	2378.3	12.8	3059.4
618	2.350	22.2	3762.8	2.491	7.1	2385.3	14.6	3074.1
619	2.320	25.3	3788.2	2.491	7.1	2392.4	16.2	3090.3
620	2.370	20.1	3808.3	2.495	6.6	2399.0	13.4	3103.6
621	2.390	18.0	3826.3	2.491	7.1	2406.1	12.5	3116.2
622	2.370	20.1	3846.4	2.486	7.6	2413.7	13.9	3130.1
623	2.390	18.0	3864.5	2.491	7.1	2420.7	12.5	3142.6
624	2.390	18.0	3882.5	2.495	6.6	2427.4	12.3	3154.9
625	2.360	21.2	3903.7	2.491	7.1	2434.4	14.1	3169.0
626	2.390	18.0	3921.7	2.486	7.6	2442.0	12.8	3181.9
627	2.420	14.8	3936.5	2.491	7.1	2449.1	10.9	3192.8
628	2.440	12.7	3949.2	2.495	6.6	2455.7	9.6	3202.4
629	2.460	10.5	3959.6	2.495	6.6	2462.3	8.5	3211.0
630	2.400	17.0	3976.6	2.491	7.1	2469.4	12.0	3221.0
631	2.350	22.2	3998.8	2.495	6.6	2476.0	14.4	3237.4
632	2.380	19.1	4017.9	2.486	7.6	2483.6	13.3	3250.8
633	2.420	14.8	4032.7	2.469	9.5	2493.1	12.1	3262.9
634	2.380	19.1	4051.8	2.473	9.0	2502.2	14.1	3277.0
635	2.320	25.3	4077.1	2.478	8.5	2510.7	16.9	3293.9
636	2.240	33.5	4110.6	2.469	9.5	2520.1	21.5	3315.4
637	2.210	36.4	4147.0	2.469	9.5	2529.6	23.0	3338.3
638	2.160	39.4	4186.3	2.469	9.5	2539.1	24.4	3362.7
639	2.290	28.4	4214.8	2.478	8.5	2547.6	18.5	3381.2
640	2.360	21.2	4235.9	2.469	9.5	2557.1	15.3	3396.5
641	2.360	21.2	4257.1	2.460	10.5	2567.6	15.8	3412.4
642	2.340	23.3	4280.4	2.460	10.5	2578.0	16.9	3429.2
643	2.320	25.2	4305.8	2.469	9.5	2587.5	17.4	3446.6
644	2.320	25.3	4331.1	2.465	9.9	2597.4	17.6	3464.3
645	2.370	20.1	4351.2	2.491	7.1	2604.5	13.6	3477.9
646	2.410	15.9	4367.1	2.508	5.2	2609.7	10.5	3488.4
647	2.450	11.6	4378.7	2.521	3.7	2613.4	7.6	3496.0
648	2.450	11.6	4390.2	2.508	5.2	2618.5	8.4	3504.4
649	2.420	14.8	4405.0	2.508	5.2	2623.7	10.0	3514.4
650	2.410	15.9	4420.9	2.517	4.2	2627.9	10.0	3524.4
651	2.420	14.8	4435.7	2.513	4.6	2632.5	9.7	3534.1
652	2.450	11.6	4447.3	2.508	5.2	2637.7	8.4	3542.5
653	2.440	12.7	4459.5	2.508	5.2	2642.2	8.9	3551.4
654	2.420	14.8	4474.8	2.508	5.2	2648.0	10.0	3561.4
655	2.380	19.1	4493.8	2.495	6.6	2654.6	12.8	3574.3
656	2.360	21.2	4515.0	2.495	6.6	2661.3	13.9	3588.2
657	2.370	20.1	4535.1	2.434	13.3	2674.6	16.7	3604.9
658	2.380	19.1	4554.2	2.434	13.3	2687.9	16.2	3621.1
659	2.350	22.2	4576.5	2.434	13.3	2701.2	17.8	3638.8
660	2.230	34.4	4610.9	2.425	14.3	2715.4	24.4	3663.2
661	2.160	41.3	4652.2	2.404	16.5	2732.0	28.9	3692.1
662	2.250	32.5	4684.6	2.408	16.1	2748.1	24.3	3716.4
663	2.230	34.3	4709.0	2.408	16.1	2764.2	20.2	3736.6
664	2.350	22.2	4731.2	2.399	17.1	2781.2	19.6	3756.2
665	2.330	24.3	4755.5	2.390	18.0	2799.2	21.2	3777.4

K E R O G E N A N A L Y S I S

F O R

W H I T E R I V E R S H A L E C I L C O M P A N Y P - 4

D E N S I T Y L O G

V E L O C I T Y L O G

D E N S I T Y A N D V E L O C I T Y

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
666	2.290	28.4	4783.9	2.390	18.0	2817.3	23.2	3800.6
667	2.210	36.4	4820.3	2.343	23.0	2840.2	29.7	3830.3
668	2.210	36.4	4856.8	2.317	25.6	2865.9	31.0	3861.3
669	2.260	31.5	4888.2	2.343	23.0	2886.8	27.2	3888.5
670	2.230	34.4	4922.7	2.382	18.9	2907.7	26.7	3915.2
671	2.230	34.4	4957.1	2.399	17.1	2924.9	25.8	3941.0
672	2.430	13.7	4970.8	2.434	13.3	2938.1	13.5	3954.5
673	2.400	17.0	4987.8	2.513	4.6	2942.7	10.8	3965.3
674	2.370	20.1	5007.9	2.530	2.7	2945.4	11.4	3976.7
675	2.370	20.1	5028.1	2.534	2.3	2947.6	11.2	3987.9
676	2.380	19.1	5047.1	2.530	2.7	2950.3	10.9	3998.8
677	2.400	17.0	5064.1	2.539	1.7	2952.0	9.3	4008.1
678	2.460	10.5	5074.6	2.539	1.7	2953.7	6.1	4014.2
679	2.450	11.6	5086.1	2.534	2.3	2956.0	6.9	4021.1
680	2.450	11.6	5097.7	2.521	3.7	2959.7	7.6	4028.7
681	2.440	12.7	5110.3	2.469	9.5	2969.2	11.1	4039.8
682	2.420	14.8	5125.1	2.425	14.3	2983.5	14.5	4054.3
683	2.350	22.2	5147.4	2.377	19.4	3002.9	20.8	4075.2
684	2.290	28.4	5175.8	2.360	21.2	3024.0	24.8	4100.0
685	2.210	36.4	5212.2	2.347	22.5	3046.6	29.5	4129.4
686	2.150	42.2	5254.4	2.343	23.0	3069.5	32.6	4162.0
687	2.280	29.4	5283.9	2.347	22.5	3092.1	26.0	4188.0
688	2.330	24.3	5308.2	2.360	21.2	3113.3	22.7	4210.8
689	2.350	22.2	5330.4	2.364	20.8	3134.0	21.5	4232.3
690	2.230	24.4	5364.9	2.317	25.6	3159.7	30.0	4262.3
691	2.170	40.3	5405.2	2.244	33.1	3192.7	36.7	4299.0
692	2.130	44.1	5449.3	2.205	37.0	3229.7	40.5	4339.5
693	2.120	45.1	5494.4	2.150	42.2	3271.9	43.7	4383.2
694	2.030	53.4	5547.8	2.163	41.0	3313.0	47.2	4430.4
695	2.000	56.1	5603.9	2.186	38.7	3351.7	47.4	4477.8
696	2.140	43.2	5647.1	2.275	29.9	3381.6	36.6	4514.4
697	2.250	32.5	5679.5	2.347	22.5	3404.2	27.5	4541.9
698	2.310	26.4	5705.9	2.377	19.4	3423.6	22.9	4564.7
699	2.340	23.3	5729.2	2.430	13.7	3437.3	18.5	4582.2
700	2.350	22.2	5751.4	2.452	11.3	3448.6	16.8	4600.0
701	2.300	27.4	5778.8	2.452	11.3	3460.0	19.4	4619.4
702	2.350	22.2	5801.0	2.452	11.3	3471.3	16.8	4636.2
703	2.370	20.1	5821.2	2.491	7.1	3478.4	13.6	4649.8
704	2.330	24.3	5845.5	2.495	6.6	3485.0	15.5	4665.3
705	2.350	22.2	5867.7	2.469	9.5	3494.5	15.9	4681.1
706	2.360	21.2	5888.9	2.421	14.7	3509.2	17.9	4695.1
707	2.290	28.4	5917.3	2.390	18.0	3527.2	23.2	4722.3
708	2.130	44.1	5961.4	2.347	22.5	3549.8	33.3	4755.6
709	2.000	56.1	6017.5	2.306	26.7	3576.5	41.4	4797.0
710	1.950	60.5	6078.0	2.260	31.5	3608.0	46.0	4843.0
711	2.150	42.2	6120.2	2.260	31.5	3639.5	36.9	4879.9
712	2.230	34.4	6154.7	2.264	31.0	3670.5	32.7	4912.6
713	2.220	35.4	6190.1	2.264	31.0	3701.5	33.2	4945.8
714	2.230	34.4	6224.6	2.228	34.6	3736.1	34.5	4980.3
715	2.150	42.2	6266.8	2.174	40.0	3776.1	41.1	5021.4

K E R O G E N A N A L Y S I S

F O R

W H I T E R I V E R S H A L E O I L C O M P A N Y P - 4

D E N S I T Y L O G

V E L O C I T Y L O G

D E N S I T Y A N D V E L O C I T Y

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
716	1.990	57.0	6323.8	2.114	45.7	3821.8	51.3	5072.8
717	1.870	67.3	6391.0	1.992	56.8	3878.5	62.0	5134.8
718	1.770	75.3	6466.4	1.899	64.8	3943.4	70.1	5204.9
719	1.690	81.5	6547.9	1.840	69.7	4013.1	75.6	5280.5
720	1.690	81.5	6629.4	1.816	71.7	4084.8	76.6	5357.1
721	1.780	74.6	6703.9	1.833	70.3	4155.1	72.4	5425.5
722	1.880	66.4	6770.3	2.083	48.6	4203.7	57.5	5487.0
723	1.900	64.7	6835.1	2.174	40.0	4243.6	52.3	5535.4
724	2.020	54.3	6889.4	2.181	39.3	4282.9	46.8	5586.1
725	2.150	38.4	6927.7	2.238	33.7	4316.6	36.0	5622.1
726	2.120	45.1	6972.8	2.280	29.4	4346.0	37.2	5659.4
727	2.050	51.6	7024.4	2.275	29.9	4375.9	40.7	5700.2
728	2.210	26.4	7060.8	2.264	31.0	4406.9	33.7	5733.5
729	2.250	22.5	7093.3	2.244	33.1	4440.0	32.8	5766.6
730	2.110	46.0	7139.3	2.244	33.1	4473.0	39.5	5806.2
731	2.000	56.1	7195.4	2.205	37.0	4510.0	46.5	5852.7
732	1.940	61.3	7256.7	2.181	39.3	4549.3	50.3	5903.0
733	2.040	52.5	7309.2	2.125	44.6	4593.9	48.6	5951.5
734	2.140	43.2	7352.4	2.174	40.0	4633.8	41.6	5993.1
735	2.160	41.3	7393.6	2.222	35.2	4669.0	38.2	6031.3
736	2.130	44.1	7437.8	2.296	27.9	4696.9	36.0	6067.3
737	2.260	21.5	7469.2	2.317	25.6	4722.5	28.5	6095.9
738	2.290	23.4	7497.7	2.333	24.0	4746.5	26.2	6122.1
739	2.310	26.4	7524.0	2.347	22.5	4769.1	24.5	6146.6
740	2.290	28.4	7552.5	2.360	21.2	4790.3	24.8	6171.4
741	2.250	22.5	7584.9	2.364	20.8	4811.0	26.6	6198.0
742	2.230	24.4	7619.4	2.364	20.8	4831.8	27.6	6225.6
743	2.300	27.4	7646.8	2.386	18.4	4850.2	22.9	6248.5
744	2.310	26.4	7673.1	2.382	18.9	4869.1	22.6	6271.1
745	2.270	30.4	7703.6	2.347	22.5	4891.6	26.5	6297.6
746	2.230	24.4	7738.0	2.327	24.6	4916.3	29.5	6327.2
747	2.140	42.2	7781.2	2.296	27.9	4944.1	35.5	6362.7
748	2.060	50.7	7831.9	2.264	31.0	4975.1	40.8	6403.5
749	2.130	44.1	7876.0	2.212	36.3	5011.4	40.2	6443.7
750	2.200	37.4	7913.4	2.212	36.3	5047.7	36.8	6480.5
751	2.150	42.2	7955.7	2.244	33.1	5080.7	37.6	6518.2
752	2.130	44.1	7999.8	2.260	31.5	5112.2	37.8	6556.0
753	2.250	22.5	8032.3	2.286	28.8	5141.1	30.6	6586.6
754	2.260	25.4	8061.7	2.343	23.0	5164.0	26.2	6612.8
755	2.310	26.4	8088.1	2.373	19.8	5183.8	23.1	6635.5
756	2.320	24.3	8112.4	2.364	20.8	5204.6	22.5	6658.5
757	2.320	25.3	8137.7	2.373	19.8	5224.4	22.6	6681.1
758	2.270	30.4	8168.2	2.404	16.5	5240.9	23.5	6704.5
759	2.280	29.4	8197.6	2.425	14.3	5255.2	21.9	6726.4
760	2.370	20.1	8217.7	2.447	11.9	5267.1	16.0	6742.4
761	2.330	24.3	8242.0	2.465	9.9	5277.0	17.1	6759.5
762	2.370	20.1	8262.2	2.491	7.1	5284.1	13.6	6772.1
763	2.360	21.2	8283.4	2.491	7.1	5291.1	14.1	6787.2
764	2.330	24.3	8307.7	2.478	8.5	5296.6	16.4	6803.6
765	2.290	28.4	8336.1	2.491	7.1	5306.7	17.7	6821.4

K E R O G E N A N A L Y S I S

F O R

W H I T E R I V E R S H A L E C I L C O M P A N Y P - 4

D E N S I T Y L O G

V E L O C I T Y L O G

D E N S I T Y A N D V E L O C I T Y

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
766	2.300	27.4	8363.5	2.465	9.9	5316.6	18.7	6840.0
767	2.280	29.4	8392.9	2.430	13.7	5330.3	21.6	6861.6
768	2.210	36.4	8429.3	2.434	13.3	5343.6	24.9	6886.5
769	2.230	34.4	8463.8	2.430	13.7	5357.4	24.1	6910.6
770	2.320	25.3	8489.1	2.382	18.9	5376.2	22.1	6932.7
771	2.270	20.4	8515.6	2.343	23.0	5399.2	26.7	6959.4
772	2.140	43.2	8562.8	2.356	21.6	5420.8	32.4	6991.8
773	2.210	36.4	8599.2	2.404	16.5	5437.3	26.5	7018.3
774	2.350	22.2	8621.4	2.404	16.5	5453.8	19.4	7037.6
775	2.370	20.1	8641.6	2.421	14.7	5468.5	17.4	7055.0
776	2.370	20.1	8661.7	2.460	10.5	5479.0	15.3	7070.3
777	2.370	20.1	8681.8	2.465	9.9	5488.9	15.0	7085.4
778	2.280	29.4	8711.3	2.447	11.9	5500.8	20.7	7106.0
779	2.190	38.4	8749.6	2.434	13.3	5514.1	25.8	7131.9
780	2.210	36.4	8786.1	2.447	11.9	5526.0	24.2	7156.0
781	2.170	40.3	8826.4	2.434	13.3	5539.3	26.8	7182.8
782	2.130	44.1	8870.5	2.447	11.9	5551.2	28.0	7210.9
783	2.210	36.4	8906.9	2.478	8.5	5559.7	22.5	7233.3
784	2.320	25.3	8932.3	2.491	7.1	5566.7	16.2	7249.5
785	2.420	14.8	8947.1	2.495	6.6	5573.4	10.7	7260.2
786	2.450	11.6	8958.7	2.508	5.2	5578.5	8.4	7268.6
787	2.450	11.6	8970.2	2.517	4.2	5582.7	7.9	7276.5
788	2.440	12.7	8982.9	2.517	4.2	5586.9	8.4	7284.9
789	2.420	14.8	8997.7	2.508	5.2	5592.0	10.0	7294.8
790	2.410	15.9	9013.6	2.491	7.1	5599.1	11.5	7306.3
791	2.400	17.0	9030.5	2.495	6.6	5605.7	11.8	7318.1
792	2.400	17.0	9047.5	2.495	6.6	5612.3	11.8	7329.9
793	2.370	20.1	9067.6	2.491	7.1	5619.4	13.6	7343.5
794	2.350	22.2	9089.8	2.491	7.1	5626.4	14.6	7358.1
795	2.350	22.2	9112.1	2.491	7.1	5633.5	14.6	7372.8
796	2.330	24.3	9136.4	2.486	7.6	5641.1	16.0	7388.7
797	2.300	27.4	9163.8	2.486	7.6	5648.7	17.5	7406.2
798	2.300	27.4	9191.2	2.491	7.1	5655.8	17.2	7423.5
799	2.320	25.3	9216.5	2.495	6.6	5662.4	16.0	7439.4
800	2.330	24.3	9240.8	2.495	6.6	5669.0	15.5	7454.9
801	2.370	20.1	9261.0	2.495	6.6	5675.6	13.4	7468.3
802	2.360	21.2	9282.1	2.521	3.7	5679.3	12.5	7480.7
803	2.350	22.2	9304.4	2.521	3.7	5683.1	13.0	7493.7
804	2.380	19.1	9323.4	2.521	3.7	5686.8	11.4	7505.1
805	2.420	14.8	9338.3	2.534	2.3	5689.0	8.5	7513.6
806	2.420	14.8	9353.1	2.539	1.7	5690.7	8.3	7521.9
807	2.400	17.0	9370.0	2.539	1.7	5692.4	9.3	7531.2
808	2.420	14.8	9384.8	2.534	2.3	5694.7	8.5	7535.7
809	2.450	11.6	9396.4	2.539	1.7	5696.4	6.6	7546.4
810	2.420	14.8	9411.2	2.539	1.7	5698.0	8.3	7554.6
811	2.400	17.0	9428.1	2.534	2.3	5700.3	9.6	7564.2
812	2.410	15.9	9444.0	2.534	2.3	5702.6	9.1	7573.3
813	2.420	14.8	9458.8	2.521	3.7	5706.3	9.3	7582.6
814	2.350	18.0	9476.9	2.495	6.6	5712.9	12.3	7594.9
815	2.350	22.2	9499.1	2.491	7.1	5719.9	14.6	7609.5

K E R O G E N A N A L Y S I S

F O R

W H I T E R I V E R S H A L E C I L C O M P A N Y P-4

D E N S I T Y L O G

V E L O C I T Y L O G

D E N S I T Y A N D V E L O C I T Y

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
816	2.320	25.3	9524.4	2.491	7.1	5727.0	16.2	7625.7
817	2.340	23.3	9547.7	2.495	6.6	5733.6	14.9	7640.7
818	2.400	17.0	9564.7	2.491	7.1	5740.7	12.0	7652.7
819	2.460	10.5	9575.1	2.495	6.6	5747.3	8.5	7661.2
820	2.460	10.5	9585.6	2.521	3.7	5751.0	7.1	7668.3
821	2.420	14.8	9600.4	2.508	5.2	5756.2	10.0	7679.3
822	2.400	17.0	9617.4	2.465	9.9	5766.1	13.4	7691.7
823	2.380	19.1	9636.4	2.434	13.3	5779.4	16.2	7707.9
824	2.370	25.3	9661.8	2.425	14.3	5793.7	19.8	7721.7
825	2.270	30.4	9692.2	2.390	18.0	5811.7	24.2	7752.0
826	2.340	23.3	9715.5	2.333	24.0	5835.7	23.6	7775.6
827	2.370	20.1	9735.6	2.296	27.9	5863.5	24.0	7799.6
828	2.250	32.5	9768.1	2.286	28.8	5892.4	30.6	7830.2
829	2.090	47.9	9816.0	2.317	25.6	5918.0	36.8	7867.0
830	2.140	43.2	9859.2	2.317	25.6	5943.5	34.4	7901.4
831	2.270	30.4	9889.6	2.338	23.5	5967.2	27.0	7928.4
832	2.360	21.2	9910.8	2.408	16.1	5983.3	18.6	7947.0
833	2.410	15.9	9926.7	2.434	13.3	5996.6	14.6	7961.6
834	2.370	20.1	9946.8	2.452	11.3	6007.9	15.7	7977.4
835	2.380	19.1	9965.9	2.452	11.3	6019.2	15.2	7992.6
836	2.400	17.0	9982.8	2.465	9.9	6029.2	13.4	8006.0
837	2.390	18.0	10000.9	2.491	7.1	6036.2	12.5	8018.5
838	2.420	14.8	10015.7	2.504	5.6	6041.8	10.2	8028.3
839	2.440	12.7	10028.3	2.504	5.6	6047.4	9.1	8037.9
840	2.450	11.6	10039.9	2.495	6.6	6054.1	9.1	8047.0
841	2.420	14.8	10054.7	2.495	6.6	6060.7	10.7	8057.7
842	2.420	14.8	10069.5	2.469	9.5	6070.2	12.1	8069.8
843	2.420	14.8	10084.3	2.452	11.3	6081.5	13.1	8082.9
844	2.420	14.8	10099.1	2.434	13.3	6094.8	14.1	8097.0
845	2.410	15.9	10115.0	2.434	13.3	6108.1	14.6	8111.6
846	2.370	24.3	10139.3	2.421	14.7	6122.8	19.5	8131.1
847	2.340	23.3	10162.6	2.408	16.1	6138.9	19.7	8150.8
848	2.390	18.0	10180.6	2.421	14.7	6153.6	16.4	8167.1
849	2.400	17.0	10197.6	2.421	14.7	6168.3	15.8	8182.9
850	2.400	17.0	10214.5	2.417	15.1	6183.4	16.0	8199.0
851	2.400	17.0	10231.5	2.421	14.7	6198.1	15.8	8214.8
852	2.370	20.1	10251.6	2.425	14.3	6212.4	17.2	8232.0
853	2.350	22.2	10273.8	2.425	14.3	6226.7	18.3	8250.3
854	2.330	24.3	10298.1	2.421	14.7	6241.4	19.5	8269.8
855	2.300	27.4	10325.5	2.421	14.7	6256.1	21.1	8290.8
856	2.260	31.5	10357.0	2.377	19.4	6275.5	25.4	8316.2
857	2.250	32.5	10389.4	2.364	20.8	6296.3	26.6	8342.9
858	2.300	27.4	10416.8	2.311	26.3	6322.5	26.8	8369.7
859	2.350	22.2	10439.1	2.327	24.6	6347.1	23.4	8393.1
860	2.320	25.3	10464.4	2.317	25.6	6372.8	25.5	8418.6
861	2.210	36.4	10500.8	2.306	26.7	6399.5	31.6	8450.2
862	2.120	45.1	10545.9	2.280	29.4	6429.0	37.3	8487.4
863	2.160	41.3	10587.2	2.244	33.1	6462.0	37.2	8524.6
864	2.250	32.5	10619.7	2.286	28.8	6490.8	30.6	8555.3
865	2.160	41.3	10660.9	2.390	18.0	6508.9	29.6	8584.9

K E R O G E N A N A L Y S I S

F O R

W H I T E R I V E R S H A L E C I L C O M P A N Y P - 4

D E N S I T Y L O G

V E L O C I T Y L O G

D E N S I T Y A N D V E L O C I T Y

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
866	2.250	32.5	10693.4	2.425	14.3	6523.1	23.4	8608.3
867	2.360	21.2	10714.6	2.430	13.7	6536.9	17.5	8625.7
868	2.410	15.9	10730.5	2.465	9.9	6546.8	12.9	8638.6
869	2.360	21.2	10751.6	2.469	9.5	6556.3	15.3	8654.0
870	2.330	24.3	10775.9	2.465	9.9	6566.2	17.1	8671.1
871	2.310	26.4	10802.3	2.447	11.9	6578.1	19.1	8690.2
872	2.300	27.4	10829.7	2.390	18.0	6596.1	22.7	8712.9
873	2.300	27.4	10857.1	2.356	21.6	6617.7	24.5	8737.4
874	2.220	29.4	10891.6	2.347	22.5	6640.2	28.5	8765.9
875	2.220	29.4	10921.0	2.347	22.5	6662.8	26.0	8791.9
876	2.340	23.3	10944.3	2.360	21.2	6684.0	22.2	8814.1
877	2.250	32.5	10976.7	2.377	19.4	6703.3	25.9	8840.1
878	2.160	41.3	11018.0	2.386	18.4	6721.8	29.9	8869.9
879	2.170	40.3	11058.3	2.390	18.0	6739.8	29.2	8895.1
880	2.310	26.4	11084.7	2.417	15.1	6754.9	20.8	8919.8
881	2.440	12.7	11097.4	2.447	11.9	6766.8	12.3	8932.1
882	2.450	11.6	11108.9	2.452	11.3	6778.2	11.5	8943.6
883	2.460	10.5	11119.4	2.460	10.5	6788.6	10.5	8954.0
884	2.450	11.6	11130.9	2.452	11.3	6800.0	11.5	8965.5
885	2.460	10.5	11141.4	2.447	11.9	6811.9	11.2	8976.7
886	2.370	20.1	11161.5	2.452	11.3	6823.2	15.7	8992.4
887	2.320	25.3	11186.9	2.347	22.5	6845.3	23.9	9016.3
888	2.310	26.4	11213.3	2.317	25.6	6871.4	26.0	9042.4
889	2.240	33.5	11246.7	2.343	23.0	6894.3	28.2	9070.6
890	2.220	34.4	11281.2	2.364	20.8	6915.1	27.6	9098.2
891	2.370	20.1	11301.3	2.399	17.1	6932.2	18.6	9116.8
892	2.380	19.1	11320.4	2.408	16.1	6948.3	17.6	9134.3
893	2.350	22.2	11342.6	2.421	14.7	6963.0	18.5	9152.8
894	2.340	23.3	11365.9	2.408	16.1	6979.1	19.7	9172.5
895	2.330	24.3	11390.2	2.390	18.0	6997.1	21.2	9193.7
896	2.330	24.3	11414.5	2.377	19.4	7016.5	21.9	9215.5
897	2.300	27.4	11441.9	2.364	20.8	7037.2	24.1	9239.6
898	2.310	26.4	11468.3	2.360	21.2	7058.4	23.8	9263.4
899	2.320	25.3	11493.6	2.347	22.5	7081.0	23.9	9287.3
900	2.310	26.4	11520.0	2.386	18.4	7099.4	22.4	9309.7
901	2.330	24.3	11544.3	2.404	16.5	7115.9	20.4	9330.1
902	2.370	20.1	11564.4	2.421	14.7	7130.6	17.4	9347.6
903	2.410	15.9	11580.3	2.447	11.9	7142.5	13.9	9361.4
904	2.440	12.7	11593.0	2.447	11.9	7154.4	12.3	9373.7
905	2.410	15.9	11608.9	2.417	15.1	7169.5	15.5	9389.2
906	2.390	18.0	11626.9	2.386	18.4	7188.0	18.2	9407.4
907	2.300	27.4	11654.3	2.390	18.0	7206.0	22.7	9430.2
908	2.170	40.2	11694.6	2.382	18.9	7224.9	29.6	9459.7
909	2.210	36.4	11731.0	2.390	18.0	7242.9	27.2	9487.0
910	2.350	22.2	11753.2	2.408	16.1	7259.0	19.2	9506.1
911	2.390	18.0	11771.3	2.417	15.1	7274.1	16.6	9522.7
912	2.420	14.8	11786.1	2.403	16.1	7290.2	15.5	9538.2
913	2.370	20.1	11806.2	2.386	18.4	7308.7	19.3	9557.4
914	2.290	28.4	11834.6	2.377	19.4	7328.0	23.9	9581.3
915	2.210	36.4	11871.0	2.364	20.8	7348.8	28.6	9609.9

K E R O G E N A N A L Y S I S

•
FOR

WHITE RIVER SHALE CIL COMPANY P-4

DENSITY LOG

VELOCITY LOG

DENSITY AND VELOCITY

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
916	2.230	34.4	11905.5	2.364	20.8	7369.6	27.6	9637.5
917	2.280	29.4	11934.9	2.390	18.0	7387.6	23.7	9661.3
918	2.320	24.3	11959.2	2.408	16.1	7403.7	20.2	9681.5
919	2.330	24.3	11963.5	2.382	18.9	7422.6	21.6	9703.1
920	2.330	24.3	12007.9	2.306	26.7	7449.3	25.5	9728.6
921	2.230	34.4	12042.3	2.260	31.5	7480.8	33.0	9761.6
922	2.150	42.2	12084.5	2.260	31.5	7512.3	36.9	9798.4
923	2.110	46.0	12130.6	2.264	31.0	7543.3	38.5	9836.9
924	2.220	35.4	12166.0	2.311	26.3	7569.5	30.8	9867.8
925	2.340	23.3	12189.3	2.356	21.6	7591.1	22.4	9890.2
926	2.390	18.0	12207.3	2.377	19.4	7610.5	18.7	9908.9
927	2.400	17.0	12224.2	2.390	18.0	7628.6	17.5	9926.4
928	2.410	15.9	12240.1	2.443	12.3	7640.9	14.1	9940.5
929	2.420	14.8	12254.9	2.434	13.3	7654.2	14.1	9954.6
930	2.410	15.9	12270.8	2.430	13.7	7667.9	14.8	9969.4
931	2.360	19.1	12289.9	2.434	13.3	7681.2	16.2	9985.6
932	2.380	19.1	12309.0	2.434	13.3	7694.5	16.2	10001.8
933	2.410	15.9	12324.9	2.425	14.3	7708.8	15.1	10016.8
934	2.380	19.1	12343.9	2.421	14.7	7723.5	16.9	10033.7
935	2.410	15.9	12359.8	2.434	13.3	7736.8	14.6	10048.3
936	2.400	17.0	12376.8	2.425	14.3	7751.0	15.6	10063.9
937	2.390	18.0	12394.8	2.425	14.3	7765.3	16.1	10080.1
938	2.390	18.0	12412.8	2.447	11.9	7777.2	15.0	10095.0
939	2.380	19.1	12431.9	2.469	9.5	7786.7	14.3	10109.3
940	2.350	22.2	12454.1	2.478	8.5	7795.2	15.4	10124.7
941	2.390	18.0	12472.1	2.491	7.1	7802.2	12.5	10137.2
942	2.390	18.0	12490.1	2.491	7.1	7809.3	12.5	10149.7
943	2.420	14.8	12505.0	2.478	8.5	7817.8	11.7	10161.4
944	2.420	14.8	12519.8	2.469	9.5	7827.3	12.1	10173.5
945	2.400	17.0	12536.7	2.465	9.9	7837.2	13.4	10187.0
946	2.410	15.9	12552.6	2.452	11.3	7848.5	13.6	10200.6
947	2.410	15.9	12568.5	2.434	13.3	7861.3	14.6	10215.2
948	2.380	19.1	12587.6	2.421	14.7	7876.5	16.9	10232.1
949	2.370	20.1	12607.7	2.425	14.3	7890.9	17.2	10249.3
950	2.360	21.2	12628.9	2.425	14.3	7905.1	17.7	10267.0
951	2.340	23.3	12652.1	2.430	13.7	7918.8	18.5	10285.5
952	2.320	25.3	12677.5	2.460	10.5	7929.3	17.9	10303.4
953	2.330	24.3	12701.8	2.469	9.5	7938.9	16.9	10320.3
954	2.350	22.2	12724.0	2.486	7.6	7946.4	14.9	10335.2
955	2.370	20.1	12744.2	2.491	7.1	7953.4	13.6	10348.8
956	2.390	18.0	12762.2	2.452	11.3	7964.8	14.7	10363.5
957	2.420	14.8	12777.0	2.434	13.3	7978.1	14.1	10377.6
958	2.390	18.0	12795.0	2.404	16.5	7994.6	17.3	10394.8
959	2.250	32.5	12827.5	2.386	18.4	8013.0	25.5	10420.3
960	2.260	31.5	12858.9	2.360	21.2	8034.2	26.3	10446.6
961	2.330	24.3	12883.2	2.356	21.6	8055.8	23.0	10465.6
962	2.320	25.3	12908.6	2.360	21.2	8077.0	23.3	10482.8
963	2.350	22.2	12930.8	2.373	19.8	8096.8	21.0	10513.8
964	2.380	19.1	12949.9	2.399	17.1	8113.9	18.1	10531.9
965	2.390	18.0	12967.9	2.421	14.7	8128.6	16.4	10548.3

KEROGEN ANALYSIS

FOR

WHITE RIVER SHALE OIL COMPANY P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
966	2.400	17.0	12584.9	2.447	11.9	8140.5	14.4	10562.7
967	2.370	20.1	13005.0	2.452	11.3	8151.8	15.7	10578.4
968	2.390	18.0	13023.0	2.452	11.3	8163.2	14.7	10592.1
969	2.350	22.2	13045.2	2.452	11.3	8174.5	16.8	10609.9
970	2.350	22.2	13067.5	2.443	12.3	8186.8	17.2	10627.2
971	2.380	19.1	13086.5	2.425	14.3	8201.1	16.7	10643.9
972	2.350	18.0	13104.6	2.430	13.7	8214.8	15.9	10655.7
973	2.380	19.1	13123.6	2.434	13.3	8228.1	16.2	10675.9
974	2.380	19.1	13142.7	2.425	14.3	8242.4	16.7	10692.6
975	2.370	20.1	13162.8	2.421	14.7	8257.1	17.4	10710.0
976	2.370	20.1	13183.0	2.404	16.5	8273.6	18.3	10728.3
977	2.350	22.2	13205.2	2.382	18.9	8292.5	20.6	10748.9
978	2.300	27.4	13232.6	2.360	21.2	8313.7	24.3	10773.2
979	2.240	33.5	13266.1	2.343	23.0	8336.6	28.2	10801.4
980	2.280	29.4	13295.5	2.347	22.5	8359.2	26.0	10827.4
981	2.330	24.3	13319.8	2.327	24.6	8383.8	24.5	10851.8
982	2.330	24.3	13344.1	2.343	23.0	8406.8	23.6	10875.5
983	2.280	29.4	13373.6	2.360	21.2	8428.0	25.2	10900.8
984	2.290	28.4	13402.0	2.327	24.6	8452.6	26.5	10927.3
985	2.280	29.4	13431.4	2.333	24.0	8476.6	26.7	10954.0
986	2.240	33.5	13464.9	2.347	22.5	8499.2	28.0	10982.0
987	2.250	32.5	13497.3	2.373	19.8	8519.0	26.1	11008.2
988	2.240	28.4	13525.7	2.390	18.0	8537.0	23.2	11031.4
989	2.330	24.3	13550.0	2.421	14.7	8551.7	19.5	11050.9
990	2.370	20.1	13570.2	2.447	11.9	8563.6	16.0	11066.9
991	2.400	17.0	13587.1	2.452	11.3	8574.9	14.1	11081.1
992	2.420	14.8	13601.9	2.452	11.3	8586.3	13.1	11094.1
993	2.440	12.7	13614.6	2.460	10.5	8596.7	11.6	11105.7
994	2.440	12.7	13627.2	2.452	11.3	8608.1	12.0	11117.7
995	2.450	11.6	13638.8	2.452	11.3	8619.4	11.5	11129.2
996	2.440	12.7	13651.4	2.465	9.9	8629.4	11.3	11140.4
997	2.420	14.8	13666.3	2.469	9.5	8638.8	12.1	11152.6
998	2.390	18.0	13684.3	2.460	10.5	8649.3	14.2	11166.8
999	2.380	19.1	13703.3	2.447	11.9	8661.2	15.5	11182.3
1000	2.400	17.0	13720.3	2.447	11.9	8673.1	14.4	11196.7
1001	2.420	14.8	13735.1	2.434	13.3	8686.4	14.1	11210.8
1002	2.420	14.8	13749.9	2.421	14.7	8701.1	14.8	11225.5
1003	2.420	14.8	13764.7	2.408	16.1	8717.2	15.5	11241.0
1004	2.400	17.0	13781.7	2.425	14.3	8731.4	15.6	11256.6
1005	2.390	18.0	13799.7	2.434	13.3	8744.7	15.7	11272.3
1006	2.390	18.0	13817.7	2.434	13.3	8758.0	15.7	11287.9
1007	2.450	11.6	13829.3	2.452	11.3	8769.4	11.5	11299.4
1008	2.500	6.1	13835.3	2.447	11.9	8781.3	9.0	11308.3
1009	2.490	7.2	13842.5	2.452	11.3	8792.6	9.3	11317.6
1010	2.480	8.3	13850.8	2.465	9.9	8802.5	9.1	11326.7
1011	2.460	10.5	13861.2	2.495	6.6	8809.2	8.5	11335.2
1012	2.460	10.5	13871.7	2.495	6.6	8815.8	8.5	11343.8
1013	2.460	10.5	13882.2	2.500	6.1	8821.8	8.3	11352.1
1014	2.470	9.4	13891.6	2.508	5.2	8827.0	7.3	11359.3
1015	2.490	7.2	13898.7	2.504	5.6	8832.6	6.4	11365.7

KEROGEN ANALYSIS

FOR

WHITE RIVER SHALE OIL COMPANY P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
1016	2.510	4.9	13903.7	2.508	5.2	8837.8	5.1	11370.8
1017	2.510	4.9	13908.6	2.508	5.2	8842.9	5.1	11375.8
1018	2.490	7.2	13915.8	2.486	7.6	8850.6	7.4	11382.2
1019	2.440	12.7	13928.4	2.460	10.5	8861.0	11.6	11394.8
1020	2.440	12.7	13941.1	2.447	11.9	8872.9	12.3	11407.1
1021	2.420	14.8	13955.9	2.447	11.9	8884.8	13.4	11420.4
1022	2.400	17.0	13972.8	2.447	11.9	8896.7	14.4	11434.6
1023	2.460	10.5	13983.3	2.447	11.9	8908.6	11.2	11446.0
1024	2.490	7.2	13990.5	2.469	9.5	8918.1	8.3	11454.3
1025	2.480	8.2	13998.8	2.469	9.5	8927.5	8.9	11463.2
1026	2.480	8.3	14007.0	2.478	8.5	8936.0	8.4	11471.6
1027	2.450	11.6	14018.6	2.491	7.1	8943.1	9.3	11480.9
1028	2.420	14.8	14033.4	2.495	6.6	8949.7	10.7	11491.6
1029	2.440	12.7	14046.0	2.478	8.5	8958.2	10.6	11502.2
1030	2.460	10.5	14056.5	2.478	8.5	8966.7	9.5	11511.7
1031	2.470	9.4	14065.9	2.491	7.1	8973.8	8.2	11519.9
1032	2.510	4.9	14070.8	2.486	7.6	8981.4	6.3	11526.2
1033	2.490	7.2	14078.0	2.478	8.5	8989.9	7.8	11534.0
1034	2.480	8.3	14086.3	2.478	8.5	8998.4	8.4	11542.4
1035	2.460	10.5	14096.7	2.486	7.6	9006.0	9.0	11551.4
1036	2.460	10.5	14107.2	2.469	9.5	9015.5	10.0	11561.4
1037	2.460	10.5	14117.7	2.469	9.5	9025.0	10.0	11571.4
1038	2.470	9.4	14127.1	2.478	8.5	9033.5	8.9	11580.3
1039	2.480	8.3	14135.3	2.460	10.5	9043.9	9.4	11589.7
1040	2.510	4.9	14140.3	2.460	10.5	9054.4	7.7	11597.4
1041	2.500	6.1	14146.3	2.465	9.9	9064.3	8.0	11605.4
1042	2.470	9.4	14155.7	2.469	9.5	9073.8	9.4	11614.8
1043	2.450	11.6	14167.3	2.486	7.6	9081.4	9.6	11624.4
1044	2.400	17.0	14184.2	2.491	7.1	9088.5	12.0	11636.4
1045	2.350	22.2	14206.5	2.504	5.6	9094.1	13.9	11650.3
1046	2.340	22.3	14225.7	2.530	2.7	9096.8	13.0	11663.3
1047	2.420	14.8	14244.5	2.521	3.7	9100.5	9.3	11672.6
1048	2.490	7.2	14251.7	2.521	3.7	9104.2	5.4	11678.0
1049	2.490	7.2	14258.9	2.495	6.6	9110.8	6.9	11684.9
1050	2.490	7.2	14266.0	2.469	9.5	9120.3	8.3	11693.2
1051	2.460	10.5	14276.5	2.452	11.3	9131.7	10.9	11704.1
1052	2.400	17.0	14293.5	2.460	10.5	9142.1	13.7	11717.8
1053	2.390	18.0	14311.5	2.452	11.3	9153.5	14.7	11732.5
1054	2.420	14.8	14326.3	2.434	13.3	9166.8	14.1	11746.6
1055	2.420	14.8	14341.1	2.452	11.3	9178.1	13.1	11759.6
1056	2.450	11.6	14352.7	2.443	12.3	9190.4	11.9	11771.6
1057	2.420	13.7	14366.4	2.443	12.3	9202.8	13.0	11784.6
1058	2.450	11.6	14377.9	2.452	11.3	9214.1	11.5	11796.1
1059	2.470	9.4	14387.3	2.460	10.5	9224.6	9.9	11806.0
1060	2.480	8.3	14395.6	2.460	10.5	9235.0	9.4	11815.4
1061	2.480	8.3	14403.9	2.460	10.5	9245.5	9.4	11824.7
1062	2.470	9.4	14413.2	2.465	9.9	9255.4	9.7	11834.4
1063	2.460	10.5	14423.7	2.447	11.9	9267.3	11.2	11845.6
1064	2.440	12.7	14436.4	2.404	16.5	9283.8	14.6	11860.1
1065	2.380	19.1	14455.4	2.377	19.4	9303.2	19.2	11879.4

KEROGEN ANALYST'S

FOR

WHITE RIVER SHALE OIL COMPANY P-4

DENSITY LOG

VELOCITY LOG

DENSITY AND VELOCITY

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
1066	2.420	14.8	14470.3	2.364	20.8	9324.0	17.8	11897.2
1067	2.390	18.0	14488.3	2.399	17.1	9341.1	17.5	11914.7
1068	2.310	26.4	14514.6	2.408	16.1	9357.2	21.2	11935.9
1069	2.370	20.1	14534.8	2.421	14.7	9371.9	17.4	11953.4
1070	2.460	10.5	14545.2	2.434	13.3	9385.2	11.9	11965.2
1071	2.490	7.2	14552.4	2.452	11.3	9396.5	9.3	11974.5
1072	2.490	7.2	14554.6	2.434	13.3	9409.3	10.2	11984.7
1073	2.440	12.7	14572.2	2.390	18.0	9427.8	15.3	12000.1
1074	2.340	23.3	14595.5	2.373	19.8	9447.6	21.5	12021.6
1075	2.210	36.4	14631.9	2.360	21.2	9468.8	28.8	12050.4
1076	2.300	27.4	14659.3	2.317	25.6	9494.5	26.5	12076.9
1077	2.440	12.7	14672.0	2.317	25.6	9520.1	19.1	12096.1
1078	2.380	19.1	14691.0	2.347	22.5	9542.6	20.8	12116.9
1079	2.250	32.5	14723.5	2.377	19.4	9562.0	25.9	12142.8
1080	2.210	36.4	14759.9	2.343	23.0	9585.0	24.7	12172.5
1081	2.260	31.5	14791.4	2.333	24.0	9600.0	27.7	12200.2
1082	2.300	27.4	14818.8	2.343	23.0	9632.0	25.2	12225.4
1083	2.330	24.3	14843.1	2.347	22.5	9654.5	23.4	12248.8
1084	2.340	23.3	14866.4	2.408	16.1	9670.6	19.7	12268.5
1085	2.290	28.4	14894.8	2.408	16.1	9686.7	22.3	12290.8
1086	2.320	25.3	14920.1	2.408	16.1	9702.8	20.7	12311.5
1087	2.380	19.1	14939.2	2.408	16.1	9718.9	17.6	12329.1
1088	2.370	20.1	14959.3	2.404	16.5	9735.4	18.3	12347.4
1089	2.330	24.3	14983.6	2.356	21.6	9757.0	23.0	12370.4
1090	2.360	21.2	15004.8	2.327	24.6	9781.7	22.9	12393.3
1091	2.360	21.2	15026.0	2.333	24.0	9805.7	22.6	12415.9
1092	2.320	25.3	15051.4	2.386	18.4	9824.1	21.9	12437.8
1093	2.320	25.3	15076.7	2.390	18.0	9842.1	21.7	12459.5
1094	2.340	23.3	15100.0	2.417	15.1	9857.3	19.2	12478.7
1095	2.370	20.1	15120.1	2.421	14.7	9872.0	17.4	12496.1
1096	2.360	21.2	15141.3	2.430	13.7	9885.7	17.5	12513.6
1097	2.370	20.1	15161.4	2.421	14.7	9900.4	17.4	12531.0
1098	2.390	18.0	15179.4	2.417	15.1	9915.5	16.6	12547.5
1099	2.380	19.1	15198.5	2.412	15.7	9931.2	17.4	12564.9
1100	2.390	18.0	15216.5	2.399	17.1	9948.3	17.5	12582.5
1101	2.340	23.3	15239.8	2.343	23.0	9971.2	23.1	12605.6
1102	2.290	28.4	15268.2	2.343	23.0	9994.2	25.7	12631.3
1103	2.220	35.4	15303.7	2.333	24.0	10018.2	29.7	12661.0
1104	2.170	40.3	15344.0	2.306	26.7	10045.0	33.5	12694.5
1105	2.240	23.5	15377.4	2.286	28.8	10073.8	31.1	12725.7
1106	2.340	23.3	15400.7	2.311	26.3	10100.0	24.8	12750.4
1107	2.350	22.2	15422.9	2.347	22.5	10122.6	22.4	12772.8
1108	2.320	25.3	15448.3	2.364	20.8	10143.3	23.1	12795.9
1109	2.310	26.4	15474.7	2.360	21.2	10164.5	23.8	12819.6
1110	2.330	24.3	15499.0	2.347	22.5	10187.1	23.4	12843.1
1111	2.280	29.4	15528.4	2.360	21.2	10208.3	25.3	12868.4
1112	2.270	30.4	15558.8	2.343	23.0	10231.2	26.7	12895.1
1113	2.230	34.4	15593.3	2.286	28.8	10260.0	31.6	12926.7
1114	2.190	38.4	15631.7	2.280	29.4	10289.5	33.9	12960.6
1115	2.150	42.2	15673.9	2.286	28.8	10318.3	35.5	12996.2

K E R O G E N A N A L Y S I S

F C R

WHITE RIVER SHALE OIL COMPANY P-4

DENSITY LOG

VELOCITY LOG

DENSITY AND VELOCITY

DEPTH	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
1116	2.260	31.5	15705.4	2.286	28.8	10347.1	30.1	13026.3
1117	2.350	22.2	15727.6	2.286	28.8	10375.9	25.5	13051.8
1118	2.370	20.1	15747.7	2.356	21.6	10397.5	20.9	13072.7
1119	2.320	25.3	15773.1	2.390	18.0	10415.6	21.7	13094.4
1120	2.340	23.3	15796.3	2.390	18.0	10433.6	20.6	13115.0
1121	2.320	25.3	15821.7	2.386	18.4	10452.0	21.9	13136.9
1122	2.350	22.2	15843.5	2.386	18.4	10470.5	20.3	13157.3
1123	2.370	20.1	15864.1	2.390	18.0	10488.5	19.1	13176.3
1124	2.330	24.3	15886.4	2.382	18.9	10507.3	21.6	13197.9
1125	2.310	26.4	15914.7	2.386	18.4	10525.8	22.4	13220.3
1126	2.320	25.3	15940.1	2.386	18.4	10544.2	21.9	13242.2
1127	2.350	22.2	15962.3	2.364	20.8	10565.0	21.5	13263.7
1128	2.340	23.3	15985.6	2.364	20.8	10585.8	22.0	13285.7
1129	2.300	27.4	16013.0	2.364	20.8	10606.5	24.1	13309.8
1130	2.260	31.5	16044.4	2.347	22.5	10629.1	27.0	13336.8
1131	2.280	29.4	16073.9	2.286	28.8	10657.9	29.1	13365.9
1132	2.240	33.5	16107.3	2.264	31.0	10688.9	32.2	13398.2
1133	2.190	38.4	16145.7	2.311	26.3	10715.1	32.2	13430.5
1134	2.190	38.4	16184.1	2.286	28.8	10744.0	33.6	13464.1
1135	2.290	28.4	16212.5	2.260	31.5	10775.5	30.0	13494.0
1136	2.320	25.3	16237.8	2.306	26.7	10802.2	26.0	13520.1
1137	2.290	28.4	16266.3	2.364	20.8	10823.0	24.6	13544.7
1138	2.220	35.4	16301.7	2.382	18.9	10841.8	27.2	13571.8
1139	2.300	27.4	16329.1	2.390	18.0	10859.8	22.7	13594.5
1140	2.360	21.2	16350.3	2.421	14.7	10874.6	17.9	13612.5
1141	2.400	17.0	16367.2	2.434	13.3	10887.8	15.1	13627.6
1142	2.410	15.9	16383.1	2.452	11.3	10899.2	13.6	13641.2
1143	2.420	14.8	16397.9	2.469	9.5	10908.7	12.1	13653.4
1144	2.420	14.8	16412.7	2.478	8.5	10917.2	11.7	13665.0
1145	2.440	12.7	16425.4	2.469	9.5	10926.7	11.1	13676.1
1146	2.460	10.5	16435.5	2.486	7.6	10934.3	9.0	13685.1
1147	2.460	10.5	16446.3	2.486	7.6	10941.9	9.0	13694.2
1148	2.460	10.5	16456.8	2.478	8.5	10950.4	9.5	13702.6
1149	2.450	11.6	16468.4	2.473	9.0	10959.4	10.3	13713.9
1150	2.440	12.7	16481.0	2.469	9.5	10968.9	11.1	13725.0
1151	2.400	17.0	16498.0	2.452	11.3	10980.3	14.1	13739.2
1152	2.370	20.1	16518.1	2.434	13.3	10993.5	16.7	13755.9
1153	2.340	23.3	16541.4	2.443	12.3	11005.9	17.8	13773.7
1154	2.300	27.4	16568.8	2.417	15.1	11021.0	21.3	13794.9
1155	2.320	25.3	16594.1	2.404	16.5	11037.5	20.9	13815.9
1156	2.310	26.4	16620.5	2.404	16.5	11054.1	21.5	13837.3
1157	2.320	25.3	16645.8	2.408	16.1	11070.1	20.7	13850.0
1158	2.310	26.4	16672.2	2.408	16.1	11086.2	21.2	13879.3
1159	2.330	24.3	16696.5	2.408	16.1	11102.3	20.2	13895.5
1160	2.340	23.3	16719.8	2.408	16.1	11118.4	19.7	13919.2
1161	2.320	25.3	16745.1	2.425	14.3	11132.7	19.8	13939.0
1162	2.300	27.4	16772.5	2.421	14.7	11147.4	21.1	13960.0
1163	2.310	26.4	16798.5	2.421	14.7	11162.1	20.5	13980.6
1164	2.330	24.3	16823.2	2.390	18.0	11180.1	21.2	14001.7
1165	2.310	26.4	16849.6	2.333	24.0	11204.2	25.2	14026.9

K E R O G E A A N A L Y S I S

F O R

W H I T E R I V E R S H A L E C I L C O M P A N Y P - 4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
1166	2.280	29.4	16879.0	2.317	25.6	11229.8	27.5	14054.5
1167	2.180	39.4	16918.4	2.327	24.6	11254.4	32.0	14086.5
1169	2.180	39.4	16957.7	2.286	28.8	11283.3	34.1	14120.5
1169	2.340	23.3	16981.0	2.280	29.4	11312.7	26.4	14146.9
1170	2.440	12.7	16993.6	2.343	23.0	11335.6	17.8	14164.7

K E R O G E N A N A L Y S I S

F O R

T H E C L E V E L A N D C L I F F S I R O N C O M P A N Y - W E L L P - 4

D E P T H	D E N S I T Y L O G			V E L O C I T Y L O G			D E N S I T Y A N D V E L O C I T Y	
	P W - P	G A L / T O N	A C C U M . Y I E L D	R H C - B	G A L / T O N	A C C U M . Y I E L D	G A L / T O N	A C C U M . Y I E L D
456	2.460	4.0	4.0	73.6	6.8	6.8	5.4	5.4
457	2.460	4.0	8.1	75.4	8.4	15.1	6.2	11.6
458	2.440	5.4	13.5	78.8	11.5	26.6	8.5	20.1
459	2.380	9.8	23.3	79.3	11.9	38.6	10.9	30.9
460	2.350	12.1	35.4	80.6	13.2	51.7	12.6	43.6
461	2.400	8.3	43.8	80.6	13.2	64.9	10.8	54.3
462	2.480	2.6	46.4	79.3	11.9	76.8	7.3	61.6
463	2.490	1.9	48.3	75.4	8.4	85.2	5.2	66.8
464	2.480	2.6	50.9	72.3	5.6	90.8	4.1	70.9
465	2.460	4.0	55.0	71.9	5.3	96.1	4.7	75.5
466	2.420	6.2	61.1	71.0	4.5	100.6	5.3	80.9
467	2.410	7.6	68.7	73.2	6.4	107.1	7.0	87.9
468	2.420	6.9	75.6	72.3	5.6	112.7	6.3	94.2
469	2.460	4.0	79.7	70.6	4.2	116.9	4.1	98.3
470	2.450	4.7	84.4	70.6	4.2	121.1	4.5	102.7
471	2.440	5.4	89.8	70.1	3.8	124.8	4.6	107.3
472	2.390	9.1	98.9	71.0	4.5	129.3	6.8	114.1
473	2.400	8.3	107.3	73.2	6.4	135.8	7.4	121.5
474	2.390	9.1	116.4	74.5	7.6	143.3	8.3	129.8
475	2.360	11.3	127.7	74.9	7.9	151.3	9.6	139.5
476	2.380	9.8	137.5	74.9	7.9	159.2	8.9	148.3
477	2.460	4.0	141.5	76.2	9.1	168.3	6.6	154.9
478	2.440	5.4	147.0	76.2	9.1	177.4	7.3	162.2
479	2.440	5.4	152.4	72.3	5.6	183.0	5.5	167.7
480	2.440	5.4	157.9	77.1	9.9	192.9	7.7	175.4
481	2.440	5.4	163.3	77.1	9.9	202.8	7.7	183.1
482	2.440	5.4	168.8	77.5	10.3	213.1	7.9	190.9
483	2.380	9.8	178.6	78.8	11.5	224.6	10.6	201.6
484	2.410	7.6	186.2	79.7	12.3	236.9	10.0	211.5
485	2.450	4.7	190.9	81.9	14.4	251.3	9.6	221.1
486	2.420	6.9	197.8	81.9	14.4	265.7	10.6	231.8
487	2.350	9.1	206.9	81.9	14.4	280.1	11.7	243.5
488	2.290	17.5	224.4	81.5	14.0	294.1	15.8	259.3
489	2.310	15.2	239.6	79.3	11.9	306.0	13.5	272.8
490	2.480	2.6	242.2	79.3	11.9	318.9	7.3	280.1
491	2.490	1.9	244.1	78.0	10.7	328.7	6.3	286.4
492	2.460	4.0	248.2	75.4	8.4	337.1	6.2	292.6
493	2.420	6.9	255.1	75.4	8.4	345.5	7.6	300.3
494	2.410	7.6	262.7	77.1	9.9	355.4	8.8	309.0
495	2.300	11.3	274.0	77.5	10.3	365.6	10.8	319.8
496	2.260	11.3	285.3	79.3	11.9	377.6	11.6	331.4
497	2.420	6.9	292.2	80.6	13.2	390.7	10.0	341.5
498	2.460	4.0	296.2	81.9	14.4	405.1	9.2	350.7
499	2.420	6.9	303.1	83.2	15.6	420.8	11.3	362.0
500	2.300	14.4	317.5	81.9	14.4	435.2	14.4	376.3
501	2.200	16.7	334.2	80.5	13.2	448.3	14.9	391.3
502	2.200	16.7	344.0	81.5	14.0	462.4	11.7	403.0
503	2.200	16.7	352.4	81.5	14.0	476.4	11.7	414.7
504	2.200	16.7	360.0	73.2	11.5	487.0	10.3	425.0
505	2.200	16.7	367.0	75.2	9.1	495.0	9.5	434.5

K E R O G E N A N A L Y S I S

* F C R

THE CLEVELAND CLIFFS IRON COMPANY--WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RH-1-B	GAL/TON	ACCUM. YIELD	RH-2-B	GAL/TON	ACCUM. YIELD	CAL/TON	ACCUM. YIELD
506	2.370	11.3	382.6	78.8	11.5	508.4	11.4	445.5
507	2.340	12.8	395.5	83.2	15.6	524.1	14.2	455.8
508	2.320	14.4	409.8	85.4	17.8	541.9	16.1	475.8
509	2.340	12.8	422.7	85.0	17.4	559.3	15.1	491.0
510	2.380	9.8	432.5	85.0	17.4	576.7	13.6	504.6
511	2.380	9.8	442.3	81.9	14.4	591.1	12.1	516.7
512	2.380	9.8	452.1	77.5	10.3	601.4	10.0	526.7
513	2.380	9.8	462.0	74.9	7.9	609.3	8.9	535.6
514	2.390	9.1	471.0	76.2	9.1	618.4	9.1	544.7
515	2.380	9.8	480.5	76.2	9.1	627.5	9.5	554.2
516	2.390	9.1	489.5	75.4	8.4	635.8	8.7	562.9
517	2.380	9.8	499.8	76.2	9.1	644.9	9.5	572.3
518	2.350	12.1	511.8	77.1	9.9	654.8	11.0	583.3
519	2.360	11.3	523.2	81.5	14.0	668.9	12.7	596.0
520	2.370	10.6	533.7	83.6	16.0	684.9	13.3	609.3
521	2.330	13.6	547.3	85.4	17.8	702.7	15.7	625.0
522	2.370	10.6	557.9	85.0	17.4	720.1	14.0	639.0
523	2.380	9.8	567.7	85.4	17.8	737.9	13.8	652.8
524	2.370	10.6	578.3	85.4	17.8	755.7	14.2	667.0
525	2.350	12.1	590.4	85.4	17.8	773.5	14.9	681.9
526	2.310	15.2	605.5	85.0	17.4	790.9	16.3	698.2
527	2.290	16.7	622.3	86.7	19.1	810.0	17.9	716.1
528	2.280	17.5	639.8	89.7	22.1	832.2	19.8	736.0
529	2.230	21.6	661.3	93.7	26.3	858.5	24.0	759.9
530	2.190	24.9	686.3	96.7	29.6	888.1	27.3	787.2
531	2.190	24.9	711.2	98.9	32.0	920.1	28.5	815.7
532	2.220	22.4	733.6	98.9	32.0	952.1	27.2	842.9
533	2.220	22.4	756.0	96.7	29.6	981.7	26.0	868.8
534	2.270	18.3	774.3	92.4	25.0	1006.7	21.6	890.5
535	2.330	13.6	787.5	92.4	25.0	1031.6	19.3	909.8
536	2.370	10.6	798.5	89.3	21.7	1053.4	16.2	925.9
537	2.400	8.3	806.8	85.0	17.4	1070.8	12.9	938.8
538	2.370	10.6	817.4	83.2	15.6	1086.4	13.1	951.9
539	2.360	11.3	828.7	81.5	14.0	1100.4	12.7	964.6
540	2.390	9.1	837.8	81.5	14.0	1114.5	11.5	976.1
541	2.390	9.1	846.9	81.9	14.4	1128.9	11.7	987.9
542	2.350	12.1	859.0	85.0	17.4	1146.3	14.7	1002.6
543	2.250	15.9	873.9	85.4	17.8	1164.1	18.9	1021.5
544	2.230	21.6	900.5	85.4	17.8	1181.9	19.7	1041.2
545	2.360	11.3	911.8	85.4	17.8	1199.7	14.6	1055.7
546	2.290	9.1	920.9	85.0	17.4	1217.1	13.2	1069.0
547	2.420	6.5	927.8	85.0	17.4	1234.5	12.1	1081.1
548	2.410	7.6	935.4	81.0	13.5	1248.0	10.6	1091.7
549	2.270	10.6	945.0	78.8	11.5	1259.5	11.0	1102.7
550	2.370	9.1	955.0	78.0	10.7	1270.1	9.9	1112.2
551	2.410	7.6	962.6	79.3	11.0	1282.2	9.8	1122.4
552	2.410	7.6	970.2	81.5	14.0	1296.2	10.8	1133.2
553	2.410	7.6	977.6	80.6	13.2	1309.4	11.1	1144.0
554	2.410	7.6	985.0	81.5	14.0	1323.4	11.2	1155.0
555	2.410	7.6	992.4	83.2	15.6	1339.0	12.0	1167.5

K I R C G E N A N A L Y S I S

FC3

THE CLEVELAND CLIFFS IRON COMPANY-WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
556	2.410	7.6	1003.6	81.9	14.4	1353.4	11.0	1178.5
557	2.320	14.4	1018.0	80.6	13.2	1366.6	13.8	1192.3
558	2.310	15.2	1033.2	81.0	13.5	1380.1	14.3	1206.6
559	2.400	8.3	1041.5	81.9	14.4	1394.5	11.4	1218.0
560	2.410	7.6	1049.1	81.5	14.0	1408.5	10.8	1228.8
561	2.420	6.9	1056.0	81.0	13.5	1422.1	10.2	1239.0
562	2.410	7.6	1063.6	81.9	14.4	1436.5	11.0	1250.0
563	2.380	9.8	1073.4	81.9	14.4	1450.9	12.1	1262.2
564	2.320	14.4	1087.8	81.9	14.4	1465.3	14.4	1276.5
565	2.310	15.2	1103.0	81.0	13.5	1478.8	14.3	1290.9
566	2.400	8.3	1111.3	81.5	14.0	1492.8	11.2	1302.1
567	2.430	6.2	1117.5	81.5	14.0	1506.8	10.1	1312.2
568	2.400	8.3	1125.8	81.9	14.4	1521.2	11.4	1323.5
569	2.370	10.6	1136.4	80.6	13.2	1534.4	11.9	1335.4
570	2.260	19.1	1155.5	79.7	12.3	1546.7	15.7	1351.1
571	2.290	16.7	1172.3	81.5	14.0	1560.7	15.4	1366.5
572	2.380	9.8	1182.1	85.4	17.8	1578.5	13.8	1380.3
573	2.370	10.6	1192.6	85.0	17.4	1595.9	14.0	1394.3
574	2.350	12.1	1204.7	85.8	18.2	1614.1	15.1	1409.4
575	2.290	16.7	1221.4	88.4	20.8	1635.0	18.8	1428.2
576	2.240	20.8	1242.2	89.3	21.7	1656.7	21.2	1449.4
577	2.190	24.9	1267.1	88.0	20.4	1677.1	22.7	1472.1
578	2.350	12.1	1279.2	87.1	19.5	1696.6	15.8	1487.9
579	2.440	5.4	1284.6	85.0	17.4	1714.0	11.4	1499.3
580	2.460	4.0	1288.7	81.5	14.0	1728.0	9.0	1508.4
581	2.470	3.3	1292.0	74.9	7.9	1736.0	5.6	1514.0
582	2.440	5.4	1297.4	74.5	7.6	1743.5	6.5	1520.5
583	2.390	9.1	1306.5	76.2	9.1	1752.6	9.1	1529.6
584	2.330	13.6	1320.1	76.2	9.1	1761.7	11.3	1540.9
585	2.340	12.8	1333.0	77.1	9.9	1771.6	11.4	1552.3
586	2.350	12.1	1345.1	80.6	13.2	1784.8	12.6	1564.9
587	2.340	12.8	1357.9	83.2	15.6	1800.4	14.2	1579.2
588	2.310	15.2	1373.0	85.4	17.8	1818.2	16.5	1595.6
589	2.260	19.1	1392.2	86.3	18.7	1836.9	18.9	1614.6
590	2.190	24.9	1417.1	87.6	20.0	1857.0	22.5	1637.0
591	2.310	15.2	1432.2	86.7	19.1	1876.1	17.1	1654.1
592	2.400	8.3	1440.6	81.9	14.4	1890.4	11.4	1665.5
593	2.440	5.4	1446.0	80.6	13.2	1903.6	9.2	1674.0
594	2.420	6.9	1452.9	80.6	13.2	1916.8	10.0	1684.8
595	2.330	13.6	1456.5	81.0	13.5	1930.3	13.6	1698.4
596	2.290	16.7	1483.3	81.0	13.5	1943.8	15.1	1713.5
597	2.280	12.1	1495.3	80.6	13.2	1957.0	12.6	1726.2
598	2.300	9.8	1505.2	80.6	13.2	1970.2	11.5	1737.7
599	2.380	9.8	1515.0	78.8	11.5	1981.6	10.6	1748.3
600	2.370	11.2	1526.3	76.7	9.5	1991.2	10.4	1759.7
601	2.370	11.2	1536.6	75.4	8.4	1999.8	11.0	1769.7
602	2.370	11.2	1547.1	76.2	9.1	2008.7	10.2	1779.7
603	2.370	11.2	1557.6	76.2	9.1	2017.7	9.1	1789.7
604	2.370	11.2	1568.1	75.4	7.9	2026.7	8.0	1799.7
605	2.370	11.2	1578.6	72.7	6.0	2031.7	7.2	1804.7

K E P C G E A A N A L Y S I S

FOR

THE CLEVELAND CLIFFS IRON COMPANY-WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
606	2.420	6.9	1584.6	73.6	6.8	2038.4	6.8	1811.5
607	2.420	6.9	1591.5	74.9	7.9	2046.4	7.4	1818.9
608	2.370	10.6	1602.1	74.9	7.9	2054.3	9.2	1828.2
609	2.340	12.8	1614.9	74.5	7.6	2061.8	10.2	1838.4
610	2.320	14.4	1629.3	74.9	7.9	2069.8	11.2	1849.5
611	2.340	12.8	1642.1	74.9	7.9	2077.7	10.4	1859.9
612	2.400	8.3	1650.5	74.5	7.6	2085.3	8.0	1867.9
613	2.420	6.9	1657.4	74.5	7.6	2092.8	7.2	1875.1
614	2.420	6.2	1663.5	74.9	7.9	2100.8	7.0	1882.1
615	2.400	8.3	1671.9	74.9	7.9	2108.7	8.1	1890.3
616	2.390	9.1	1681.0	74.5	7.6	2116.3	8.3	1898.6
617	2.380	9.8	1690.8	74.5	7.6	2123.8	8.7	1907.3
618	2.350	12.1	1702.9	74.9	7.9	2131.8	10.0	1917.3
619	2.320	14.4	1717.2	74.9	7.9	2139.7	11.2	1928.4
620	2.370	10.6	1727.8	74.5	7.6	2147.2	9.1	1937.5
621	2.390	9.1	1736.9	74.9	7.9	2155.2	8.5	1946.0
622	2.370	10.6	1747.4	75.4	8.4	2163.5	9.5	1955.5
623	2.390	9.1	1756.5	74.9	7.9	2171.5	8.5	1964.0
624	2.390	9.1	1765.6	74.5	7.6	2179.0	8.3	1972.3
625	2.360	11.3	1776.9	74.9	7.9	2187.0	9.6	1981.9
626	2.390	9.1	1786.0	75.4	8.4	2195.3	8.7	1990.7
627	2.420	6.9	1792.5	74.9	7.9	2203.3	7.4	1998.1
628	2.440	5.4	1798.3	74.5	7.6	2210.8	6.5	2004.6
629	2.460	4.0	1802.4	74.5	7.6	2218.4	5.8	2010.4
630	2.400	8.3	1810.7	74.9	7.9	2226.3	8.1	2018.5
631	2.350	12.1	1822.8	74.5	7.6	2233.9	9.8	2028.3
632	2.380	9.8	1832.6	75.4	8.4	2242.3	9.1	2037.4
633	2.420	6.9	1839.5	77.1	9.9	2252.2	8.4	2045.8
634	2.380	5.8	1849.3	76.7	9.5	2261.7	9.7	2055.5
635	2.320	14.4	1863.7	76.2	9.1	2270.8	11.7	2067.2
636	2.240	20.8	1884.5	77.1	9.9	2280.7	15.3	2082.6
637	2.210	23.2	1907.7	77.1	9.9	2290.6	16.6	2099.2
638	2.180	25.8	1933.5	77.1	9.9	2300.5	17.8	2117.0
639	2.290	16.7	1950.2	76.2	9.1	2309.6	12.9	2129.9
640	2.360	11.3	1961.5	77.1	9.9	2319.5	10.6	2140.5
641	2.360	11.3	1972.8	78.0	10.7	2330.3	11.0	2151.5
642	2.340	12.3	1985.7	78.0	10.7	2341.0	11.8	2163.3
643	2.320	14.4	2000.1	77.1	9.9	2350.9	12.1	2175.5
644	2.220	14.4	2014.4	77.5	10.3	2361.2	12.3	2187.8
645	2.370	10.6	2025.0	74.9	7.9	2369.1	9.2	2197.0
646	2.410	7.6	2032.6	73.2	6.4	2375.5	7.0	2204.1
647	2.450	4.7	2037.3	71.9	5.3	2380.8	5.0	2209.1
648	2.450	4.7	2042.1	73.2	6.4	2387.3	5.6	2214.7
649	2.420	6.9	2049.0	73.2	6.4	2393.7	6.7	2221.3
650	2.410	7.6	2056.6	72.3	5.6	2399.3	6.6	2227.6
651	2.420	7.6	2063.5	72.7	6.0	2405.3	6.6	2234.6
652	2.410	7.7	2071.2	73.2	6.4	2411.7	5.6	2240.0
653	2.410	7.7	2078.7	73.2	6.4	2418.2	5.0	2245.0
654	2.410	7.7	2086.2	73.2	6.4	2424.7	5.7	2250.0
655	2.410	7.7	2093.7	74.5	7.6	2432.1	5.7	2255.0

ROCK ANALYSIS

FOR

THE CLEVELAND CLIFFS IRON COMPANY—WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
656	2.360	11.3	2101.7	74.5	7.6	2439.7	9.4	2270.7
657	2.370	10.6	2112.3	80.6	13.2	2452.9	11.9	2282.6
658	2.380	9.8	2122.1	80.6	13.2	2466.0	11.5	2294.0
659	2.350	12.1	2134.2	80.6	13.2	2479.2	12.6	2306.7
660	2.230	21.6	2155.7	81.5	14.0	2493.2	17.8	2324.5
661	2.160	27.5	2183.2	83.6	16.0	2509.2	21.8	2346.2
662	2.250	19.9	2203.2	83.2	15.6	2524.9	17.8	2364.0
663	2.330	13.6	2216.8	83.2	15.6	2540.5	14.6	2378.6
664	2.350	12.1	2228.8	84.1	16.5	2557.1	14.3	2392.9
665	2.330	13.6	2242.4	85.0	17.4	2574.5	15.5	2408.5
666	2.290	16.7	2259.2	85.0	17.4	2591.9	17.1	2425.5
667	2.210	23.2	2282.4	89.7	22.1	2614.0	22.7	2448.2
668	2.210	23.2	2305.6	91.9	24.4	2638.5	23.8	2472.1
669	2.260	19.1	2324.8	89.7	22.1	2660.6	20.6	2492.7
670	2.230	21.6	2346.3	85.8	18.2	2678.8	19.9	2512.6
671	2.230	21.6	2367.9	84.1	16.5	2695.4	19.0	2531.6
672	2.430	6.2	2374.1	80.6	13.2	2708.5	9.7	2541.3
673	2.400	8.3	2382.4	72.7	6.0	2714.5	7.2	2548.5
674	2.370	10.6	2393.0	71.0	4.5	2719.0	7.5	2556.0
675	2.370	10.6	2403.6	70.6	4.2	2723.2	7.4	2563.4
676	2.380	9.8	2413.4	71.0	4.5	2727.7	7.2	2570.5
677	2.400	8.3	2421.7	70.1	3.8	2731.5	6.1	2576.6
678	2.460	4.0	2425.8	70.1	3.8	2735.2	3.9	2580.5
679	2.450	4.7	2430.5	70.6	4.2	2739.4	4.5	2584.9
680	2.450	4.7	2435.2	71.9	5.3	2744.7	5.0	2590.0
681	2.440	5.4	2440.7	77.1	9.9	2754.6	7.7	2597.6
682	2.420	6.9	2447.6	81.5	14.0	2768.6	10.5	2608.1
683	2.350	12.1	2459.6	86.3	18.7	2787.3	15.4	2623.5
684	2.290	16.7	2476.4	88.0	20.4	2807.7	18.6	2642.0
685	2.210	23.2	2499.6	89.3	21.7	2829.5	22.5	2664.5
686	2.150	28.4	2528.0	89.7	22.1	2851.6	25.2	2685.8
687	2.280	17.5	2545.5	89.3	21.7	2873.4	19.6	2709.4
688	2.330	13.6	2559.1	88.0	20.4	2893.8	17.0	2726.4
689	2.350	12.1	2571.2	87.6	20.0	2913.8	16.0	2742.5
690	2.230	21.6	2592.8	91.9	24.4	2938.2	23.0	2765.5
691	2.170	26.6	2619.4	98.0	31.0	2969.2	28.8	2794.3
692	2.130	30.1	2649.5	101.1	34.5	3003.7	32.3	2826.6
693	2.120	31.0	2680.5	105.0	39.0	3042.7	35.0	2861.7
694	2.030	35.4	2719.5	104.1	37.9	3080.6	38.6	2900.2
695	2.000	42.3	2762.2	102.4	36.0	3116.6	39.1	2939.4
696	2.140	29.2	2791.4	95.4	28.2	3144.7	28.7	2968.1
697	2.250	19.9	2811.4	89.3	21.7	3166.5	20.8	2988.6
698	2.210	15.2	2826.5	86.3	18.7	3185.2	16.9	3005.9
699	2.340	12.8	2839.4	81.0	13.5	3198.7	13.2	3019.0
700	2.250	12.1	2851.4	78.8	11.5	3210.2	11.8	3020.6
701	2.300	15.9	2867.6	78.8	11.5	3221.7	13.7	3044.5
702	2.250	12.1	2879.5	72.3	11.5	3233.1	11.7	3057.7
703	2.250	12.1	2890.0	74.9	7.9	3241.1	7.2	3066.7
704	2.250	12.1	2900.0	74.5	7.5	3249.1	7.6	3074.7
705	2.250	12.1	2910.0	77.1	9.9	3259.5	11.0	3087.1

K E R O G E N A N A L Y S I S

5-14-47

PCH

THE CLEVELAND CLIFFS IRON COMPANY--WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-P	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
705	2.360	11.3	2927.0	81.9	14.4	3272.9	12.9	3100.0
707	2.290	16.7	2943.8	85.0	17.4	3290.3	17.1	3117.0
708	2.130	30.1	2973.9	89.3	21.7	3312.1	25.9	3143.0
709	2.000	42.3	3016.2	92.8	25.4	3337.5	33.8	3176.8
710	1.950	47.3	3063.5	96.7	29.6	3367.0	38.4	3215.2
711	2.150	28.4	3091.8	96.7	29.6	3396.6	29.0	3244.2
712	2.230	21.6	3113.4	96.3	29.1	3425.8	25.4	3269.6
713	2.220	22.4	3135.8	96.3	29.1	3454.9	25.8	3295.3
714	2.230	21.6	3157.4	99.3	32.5	3487.4	27.0	3322.4
715	2.150	28.4	3185.7	103.3	37.0	3524.4	32.7	3355.0
716	1.990	43.3	3229.0	107.6	42.0	3566.4	42.6	3357.7
717	1.870	55.8	3284.8	115.5	51.7	3618.1	53.7	3451.4
718	1.770	67.2	3351.9	121.1	58.9	3677.0	63.0	3514.5
719	1.690	77.1	3429.0	124.2	63.0	3740.1	70.1	3584.5
720	1.690	77.1	3506.1	125.5	64.8	3804.8	70.9	3655.5
721	1.780	66.0	3572.1	124.6	63.6	3868.4	64.8	3720.2
722	1.880	54.7	3626.8	109.8	44.7	3913.0	49.7	3769.9
723	1.900	52.5	3679.3	103.3	37.0	3950.0	44.8	3814.7
724	2.020	40.3	3719.6	102.8	36.4	3986.5	38.4	3853.0
725	2.190	24.9	3744.5	98.5	31.6	4018.0	29.2	3881.3
726	2.120	31.0	3775.6	95.0	27.7	4045.8	29.4	3910.6
727	2.050	37.5	3813.0	95.4	28.2	4073.9	32.8	3943.5
728	2.210	23.2	3836.3	96.3	29.1	4103.1	26.2	3969.7
729	2.250	19.9	3856.2	98.0	31.0	4134.1	25.5	3995.1
730	2.110	31.9	3888.1	98.0	31.0	4165.1	31.5	4026.6
731	2.000	42.3	3930.4	101.1	34.5	4199.6	38.4	4065.0
732	1.940	48.3	3978.7	102.8	35.4	4236.0	42.4	4107.3
733	2.040	38.4	4017.1	106.8	41.1	4277.1	39.7	4147.1
734	2.140	29.2	4046.4	103.3	37.0	4314.1	33.1	4180.2
735	2.160	27.5	4073.9	99.8	33.0	4347.1	30.3	4210.5
736	2.130	30.1	4104.0	95.0	27.7	4374.8	28.9	4239.4
737	2.260	19.1	4123.1	92.5	25.1	4399.9	22.1	4261.5
738	2.290	16.7	4139.9	90.8	23.3	4423.2	20.0	4281.5
739	2.310	15.2	4155.0	88.9	21.3	4444.5	18.2	4299.7
740	2.290	16.7	4171.7	88.1	20.5	4465.0	18.6	4318.3
741	2.250	19.9	4191.7	87.8	20.2	4485.2	20.1	4338.4
742	2.230	21.6	4213.2	87.5	19.9	4505.1	20.7	4359.2
743	2.300	15.9	4229.2	85.5	17.9	4523.0	16.9	4376.1
744	2.310	15.2	4244.3	86.1	18.5	4541.5	16.8	4392.9
745	2.270	18.3	4262.6	86.7	21.1	4562.6	19.7	4412.6
746	2.230	21.6	4284.2	91.2	23.7	4586.3	22.6	4435.3
747	2.140	29.2	4313.4	94.5	27.2	4613.5	28.2	4463.5
748	2.060	46.5	4350.0	97.1	30.0	4643.5	33.3	4496.7
749	2.130	20.1	4380.1	101.1	34.5	4678.0	32.3	4529.0
750	2.200	24.1	4404.2	100.8	34.1	4712.2	29.1	4559.2
751	2.190	24.4	4432.5	98.1	31.1	4743.3	29.7	4587.0
752	2.170	20.1	4462.7	97.0	29.9	4773.2	30.0	4617.0
753	2.150	15.2	4492.6	94.9	27.6	4809.3	23.3	4641.0
754	2.130	15.2	4522.1	92.4	22.9	4842.4	17.2	4673.0
755	2.110	15.2	4551.5	87.1	19.5	4872.4	17.2	4673.0

K E R O G E N A N A L Y S I S

FOR

THE CLEVELAND CLIFFS IRON COMPANY—WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHC-P	GAL/TON	ACCUM. YIELD	RHC-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
755	2.330	12.6	4528.9	87.6	20.0	4862.4	16.8	4655.6
757	2.320	14.4	4543.3	86.7	19.1	4881.5	16.7	4712.3
758	2.270	18.3	4561.6	83.6	16.0	4897.5	17.2	4725.5
759	2.280	17.5	4579.1	81.5	14.0	4911.5	15.8	4745.3
760	2.370	10.6	4589.7	79.3	11.9	4923.4	11.3	4756.5
761	2.330	13.6	4603.3	77.5	10.3	4933.7	11.9	4768.5
762	2.370	10.6	4613.8	74.9	7.9	4941.6	9.2	4777.7
763	2.360	11.3	4625.1	74.9	7.9	4949.6	9.6	4787.3
764	2.330	13.6	4638.7	76.2	9.1	4958.6	11.3	4798.7
765	2.290	16.7	4655.5	74.9	7.9	4966.6	12.3	4811.0
766	2.300	15.9	4671.4	77.5	10.3	4976.8	13.1	4824.1
767	2.280	17.5	4688.9	81.0	13.5	4990.4	15.5	4839.7
768	2.210	23.2	4712.2	80.6	13.2	5003.5	18.2	4857.8
769	2.230	21.6	4733.7	81.0	13.5	5017.1	17.6	4875.4
770	2.320	14.4	4748.1	85.8	18.2	5035.3	16.3	4891.7
771	2.270	18.3	4766.4	89.7	22.1	5057.4	20.2	4911.9
772	2.140	29.2	4795.7	88.4	20.8	5078.2	25.0	4937.0
773	2.210	23.2	4818.9	83.6	16.0	5094.3	19.6	4956.6
774	2.350	12.1	4831.0	83.6	16.0	5110.3	14.1	4970.6
775	2.370	10.6	4841.5	81.9	14.4	5124.7	12.5	4983.1
776	2.370	10.6	4852.1	78.0	10.7	5135.4	10.7	4993.8
777	2.370	10.6	4862.7	77.5	10.3	5145.7	10.4	5004.2
778	2.280	17.5	4880.2	79.3	11.9	5157.7	14.7	5018.9
779	2.190	24.9	4905.1	80.6	13.2	5170.8	19.0	5038.0
780	2.210	23.2	4928.3	79.3	11.9	5182.8	17.6	5055.5
781	2.170	26.6	4955.0	80.6	13.2	5195.9	19.9	5075.4
782	2.130	30.1	4985.1	79.3	11.9	5207.8	21.0	5096.5
783	2.210	23.2	5008.3	76.2	9.1	5216.9	16.2	5112.6
784	2.320	14.4	5022.7	74.9	7.9	5224.9	11.2	5123.8
785	2.420	6.9	5029.6	74.5	7.6	5232.4	7.2	5131.0
786	2.450	4.7	5034.3	73.2	6.4	5238.8	5.6	5136.6
787	2.450	4.7	5039.1	72.3	5.6	5244.5	5.2	5141.8
788	2.440	5.4	5044.6	72.3	5.6	5250.1	5.5	5147.3
789	2.420	6.9	5051.1	73.2	6.4	5256.5	6.7	5154.0
790	2.410	7.6	5059.1	74.9	7.9	5264.5	7.8	5161.7
791	2.400	8.3	5067.4	74.5	7.6	5272.0	8.0	5169.7
792	2.400	8.3	5075.7	74.5	7.6	5279.6	8.0	5177.7
793	2.370	10.6	5086.4	74.9	7.9	5287.5	9.2	5186.9
794	2.350	12.1	5098.3	74.9	7.9	5295.4	10.0	5196.9
795	2.350	12.1	5110.4	74.9	7.9	5303.4	10.0	5206.9
796	2.330	12.6	5124.0	75.4	8.4	5311.7	11.0	5217.9
797	2.300	15.9	5140.0	75.4	8.4	5320.1	12.2	5230.0
798	2.300	15.9	5155.9	74.9	7.9	5328.0	11.9	5242.0
799	2.320	14.4	5170.3	74.5	7.6	5335.6	11.0	5252.9
800	2.330	12.6	5183.9	74.5	7.6	5343.2	10.6	5263.5
801	2.370	10.6	5194.4	74.5	7.6	5350.7	9.1	5272.6
802	2.370	10.6	5201.8	71.9	5.3	5354.0	6.3	5280.7
803	2.370	10.6	5211.1	71.9	5.3	5361.3	6.7	5286.1
804	2.370	10.6	5221.1	71.9	5.3	5367.6	7.5	5297.1
805	2.370	10.6	5231.1	70.6	4.2	5370.8	5.5	5302.7

WELL LOG

WELL NO. 1

THE CLEVELAND CLIFFS IRON COMPANY-WELL NO. 1

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	REC-B	GAL/TON	ACCUM. YIELD	REC-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
806	2.420	6.2	5241.4	70.1	3.6	5374.5	5.2	5308.0
807	2.400	6.3	5245.8	70.1	3.8	5378.3	6.1	5314.0
808	2.420	6.9	5254.6	70.6	4.2	5382.5	5.5	5319.6
809	2.450	4.7	5261.4	70.1	3.8	5386.2	4.2	5323.8
810	2.420	6.5	5268.3	70.1	3.8	5390.0	5.3	5329.1
811	2.400	6.3	5276.6	70.6	4.2	5394.2	6.3	5335.4
812	2.410	7.6	5284.2	70.6	4.2	5398.3	5.9	5341.3
813	2.420	6.9	5291.1	71.9	5.3	5403.6	6.1	5347.4
814	2.350	9.1	5300.2	74.5	7.6	5411.2	8.3	5355.7
815	2.350	12.1	5312.3	74.9	7.9	5419.1	10.0	5365.7
816	2.320	14.4	5326.6	74.9	7.9	5427.0	11.2	5376.0
817	2.340	12.8	5339.5	74.5	7.6	5434.6	10.2	5387.1
818	2.400	8.3	5347.8	74.9	7.9	5442.5	8.1	5395.2
819	2.460	4.0	5351.8	74.5	7.6	5450.1	5.8	5401.0
820	2.460	4.0	5355.9	71.9	5.3	5455.4	4.7	5405.6
821	2.420	6.9	5362.8	73.2	6.4	5461.8	6.7	5412.3
822	2.400	8.3	5371.1	77.5	10.3	5472.1	9.3	5421.6
823	2.380	9.8	5380.9	80.6	13.2	5485.2	11.5	5433.1
824	2.320	14.4	5395.3	81.9	14.0	5499.3	14.2	5447.3
825	2.270	18.3	5413.6	85.0	17.4	5516.7	17.9	5465.2
826	2.340	12.8	5426.5	90.6	23.1	5539.7	18.0	5483.1
827	2.370	10.6	5437.0	93.7	26.3	5566.1	18.5	5501.6
828	2.250	19.5	5457.0	94.5	27.2	5593.3	23.6	5525.1
829	2.090	23.7	5490.7	91.9	24.4	5617.7	29.1	5554.2
830	2.140	29.2	5519.9	91.9	24.4	5642.1	26.8	5581.1
831	2.270	18.3	5538.3	90.2	22.7	5664.8	20.5	5601.5
832	2.360	11.3	5549.6	83.2	15.6	5680.5	13.5	5616.0
833	2.410	7.6	5557.2	80.6	13.2	5693.6	10.4	5625.4
834	2.370	10.6	5567.8	78.8	11.5	5705.1	11.0	5636.4
835	2.380	9.8	5577.6	78.8	11.5	5716.6	10.6	5647.1
836	2.400	8.3	5585.9	77.5	10.3	5726.8	9.3	5656.4
837	2.390	9.1	5595.0	74.9	7.9	5734.8	8.5	5664.0
838	2.420	6.9	5601.9	73.6	6.8	5741.5	6.8	5671.7
839	2.440	5.4	5607.3	73.6	6.8	5748.3	6.1	5677.8
840	2.450	4.7	5612.1	74.5	7.6	5755.9	6.2	5684.0
841	2.420	6.9	5618.9	74.5	7.6	5763.4	7.2	5691.2
842	2.400	6.9	5625.8	77.1	9.9	5773.3	8.4	5699.6
843	2.420	6.9	5632.7	79.8	11.5	5784.8	9.2	5708.8
844	2.420	6.9	5639.6	80.6	13.2	5798.0	10.0	5719.8
845	2.410	7.6	5647.2	80.6	13.2	5811.1	10.4	5729.2
846	2.330	12.8	5660.8	81.9	14.0	5825.5	14.0	5742.2
847	2.340	12.8	5672.7	83.2	15.6	5841.2	14.2	5757.4
848	2.340	12.8	5682.7	81.9	14.0	5855.5	11.7	5775.2
849	2.440	5.4	5691.1	81.9	14.0	5870.0	11.4	5790.5
850	2.440	5.4	5699.4	82.3	14.4	5884.3	11.6	5805.9
851	2.440	5.4	5707.7	81.9	14.0	5898.1	11.4	5821.3
852	2.440	5.4	5716.0	81.9	14.0	5912.2	11.4	5836.7
853	2.440	5.4	5724.3	81.9	14.0	5926.3	11.4	5852.1
854	2.440	5.4	5732.6	81.9	14.0	5940.4	11.4	5867.5
855	2.440	5.4	5740.9	81.9	14.0	5954.5	11.4	5882.9

K E R O G E N A N A L Y S I S

FOR

THE CLEVELAND CLIFFS IRON COMPANY-WELL P-4

DEPTH	DENSITY LOG				VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD		RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
856	2.260	19.1	5779.1	86.3	18.7	5974.7	18.9	5876.9	
857	2.250	19.9	5799.0	87.6	20.0	5994.7	20.0	5896.8	
858	2.300	15.9	5814.5	92.4	25.0	6019.6	20.4	5917.3	
859	2.350	12.1	5827.0	91.1	23.6	6043.2	17.8	5935.1	
860	2.320	14.4	5841.4	91.9	24.4	6067.7	19.4	5954.5	
861	2.210	22.2	5864.6	92.8	25.4	6093.0	24.3	5978.8	
862	2.120	21.0	5895.6	95.0	27.7	6120.8	29.4	6008.2	
863	2.160	27.5	5923.1	98.0	31.0	6151.8	29.3	6037.5	
864	2.250	19.9	5943.1	94.5	27.2	6179.0	23.6	6061.0	
865	2.160	27.5	5970.6	85.0	17.4	6196.4	22.5	6083.5	
866	2.250	19.9	5990.5	81.5	14.0	6210.4	17.0	6100.5	
867	2.360	11.3	6001.8	81.0	13.5	6223.9	12.4	6112.9	
868	2.410	7.6	6009.4	77.5	10.3	6234.2	8.9	6121.8	
869	2.360	11.3	6020.8	77.1	9.9	6244.1	10.6	6132.5	
870	2.330	13.6	6034.4	77.5	10.3	6254.4	11.9	6144.4	
871	2.310	15.2	6049.5	79.3	11.9	6266.3	13.5	6157.9	
872	2.300	15.9	6065.4	85.0	17.4	6283.7	16.7	6174.6	
873	2.300	15.5	6081.4	88.4	20.8	6304.6	18.4	6193.0	
874	2.230	21.6	6102.9	89.3	21.7	6326.3	21.7	6214.6	
875	2.280	17.5	6120.5	89.3	21.7	6348.0	19.6	6234.3	
876	2.340	12.8	6133.3	88.0	20.4	6368.4	16.6	6250.9	
877	2.250	19.9	6153.2	86.3	18.7	6387.1	19.3	6270.2	
878	2.160	27.5	6180.7	85.4	17.8	6404.9	22.7	6292.8	
879	2.170	26.6	6207.4	85.0	17.4	6422.3	22.0	6314.9	
880	2.210	15.2	6222.5	82.3	14.8	6437.1	15.0	6329.8	
881	2.440	5.4	6228.0	79.3	11.9	6449.1	8.7	6338.5	
882	2.450	4.7	6232.7	78.8	11.5	6460.5	8.1	6346.6	
883	2.460	4.0	6236.7	78.0	10.7	6471.3	7.4	6354.0	
884	2.450	4.7	6241.5	78.8	11.5	6482.7	8.1	6362.1	
885	2.460	4.0	6245.5	79.3	11.9	6494.7	8.0	6370.1	
886	2.370	10.6	6256.0	78.8	11.5	6506.1	11.0	6381.1	
887	2.320	14.4	6270.4	89.3	21.7	6527.9	18.1	6399.2	
888	2.310	15.2	6285.6	91.9	24.4	6552.3	19.8	6419.0	
889	2.240	20.8	6306.3	89.7	22.1	6574.5	21.4	6440.4	
890	2.230	21.6	6327.9	87.6	20.0	6594.5	20.8	6461.2	
891	2.370	10.6	6338.5	84.1	16.5	6611.0	13.5	6474.7	
892	2.380	9.8	6348.3	83.2	15.6	6626.6	12.7	6487.5	
893	2.350	12.1	6370.6	81.9	14.4	6641.0	13.2	6500.7	
894	2.360	12.8	6373.2	83.2	15.6	6656.7	14.2	6514.5	
895	2.330	12.6	6386.8	85.0	17.4	6674.1	15.5	6530.5	
896	2.320	13.6	6400.4	86.3	18.7	6692.8	16.2	6546.6	
897	2.300	15.9	6416.3	87.6	20.0	6712.8	18.0	6564.6	
898	2.210	15.2	6431.5	88.0	20.4	6733.2	17.8	6582.4	
899	2.320	14.4	6445.5	89.3	21.7	6754.9	18.1	6600.4	
900	2.410	10.2	6461.0	85.4	17.8	6772.7	16.5	6614.5	
901	2.370	10.6	6474.6	83.6	16.0	6786.2	14.8	6633.7	
902	2.370	10.6	6485.0	81.9	14.4	6803.2	12.5	6651.0	
903	2.370	10.6	6495.0	79.3	11.9	6815.1	8.7	6661.0	
904	2.370	10.6	6505.0	77.1	9.9	6827.0	8.7	6671.0	
905	2.370	10.6	6515.0	82.3	14.8	6841.3	11.2	6681.0	

WATER LOG DATA

FOR

THE CLEVELAND CLIFF IRON COMPANY-WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	DEPTH	GAL/TON	ACCUM. YIELD	PHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
905	2.300	9.1	6514.9	85.4	17.8	6859.6	13.4	6687.3
907	2.300	15.5	6530.9	85.0	17.4	6877.0	16.7	6704.0
908	2.170	26.6	6557.5	85.8	18.2	6895.2	22.4	6726.4
909	2.210	27.2	6580.7	85.0	17.4	6912.6	20.3	6746.7
910	2.250	12.1	6592.8	83.2	15.6	6928.3	13.9	6760.6
911	2.350	9.1	6601.9	82.3	14.8	6943.1	11.9	6772.5
912	2.420	6.9	6608.8	83.2	15.6	6958.7	11.3	6783.8
913	2.370	10.6	6618.3	85.4	17.8	6976.5	14.2	6797.9
914	2.290	16.7	6636.1	86.3	18.7	6995.2	17.7	6815.6
915	2.210	23.2	6659.3	87.6	20.0	7015.2	21.6	6837.3
916	2.230	21.6	6680.9	87.6	20.0	7035.2	20.8	6858.1
917	2.280	17.5	6698.4	85.0	17.4	7052.6	17.5	6875.5
918	2.300	17.0	6712.0	83.2	15.6	7068.3	14.6	6890.1
919	2.350	13.6	6725.6	85.8	18.2	7086.5	15.9	6906.0
920	2.330	13.6	6739.2	92.8	25.4	7111.9	19.5	6925.5
921	2.230	21.6	6760.8	96.7	29.6	7141.5	25.6	6951.1
922	2.150	28.4	6789.1	96.7	29.6	7171.0	29.0	6980.1
923	2.110	31.9	6821.0	96.3	29.1	7200.2	30.5	7010.6
924	2.220	22.4	6843.4	92.4	25.0	7225.1	23.7	7024.3
925	2.340	12.8	6856.3	88.4	20.8	7246.0	16.8	7051.1
926	2.300	9.1	6865.4	86.3	18.7	7264.7	13.9	7065.0
927	2.400	9.3	6873.7	85.0	17.4	7282.1	12.9	7077.9
928	2.410	7.6	6881.3	79.7	12.3	7294.4	10.0	7087.8
929	2.420	6.9	6888.2	80.6	13.2	7307.5	10.0	7097.9
930	2.410	7.6	6895.8	81.0	13.5	7321.1	10.6	7108.4
931	2.380	9.8	6905.6	80.6	13.2	7334.2	11.5	7119.9
932	2.380	9.8	6915.5	80.6	13.2	7347.4	11.5	7131.4
933	2.410	7.6	6923.1	81.5	14.0	7361.4	10.8	7142.2
934	2.380	9.8	6932.9	81.9	14.4	7375.8	12.1	7154.3
935	2.410	7.6	6940.5	80.6	13.2	7389.0	10.4	7164.7
936	2.400	8.2	6948.8	81.5	14.0	7403.0	11.2	7175.9
937	2.390	9.1	6957.9	81.5	14.0	7417.0	11.5	7187.5
938	2.390	9.1	6967.0	79.3	11.9	7428.9	10.5	7198.0
939	2.380	9.8	6976.8	77.1	9.9	7438.9	9.9	7207.8
940	2.350	12.1	6988.9	76.2	9.1	7447.9	10.6	7218.4
941	2.350	9.1	6998.0	74.9	7.9	7455.8	8.5	7226.9
942	2.350	9.1	7007.1	74.9	7.9	7463.8	8.5	7235.4
943	2.420	6.9	7013.9	76.2	9.1	7472.9	8.0	7243.4
944	2.420	6.9	7020.8	77.1	9.9	7482.8	8.4	7251.8
945	2.400	6.3	7029.2	77.5	10.3	7493.0	9.3	7261.1
946	2.410	7.6	7036.6	78.8	11.5	7504.5	9.5	7270.6
947	2.410	7.6	7044.4	80.6	13.2	7517.7	10.4	7281.0
948	2.370	9.5	7054.2	81.9	14.4	7532.1	12.1	7293.1
949	2.370	10.6	7064.8	81.5	14.0	7546.1	12.3	7305.4
950	2.360	11.3	7076.1	81.5	14.0	7560.1	12.7	7318.1
951	2.350	12.1	7088.9	81.0	13.5	7572.6	13.2	7331.7
952	2.350	12.1	7101.2	78.0	10.7	7584.4	12.6	7343.7
953	2.350	12.1	7113.5	77.1	9.9	7596.3	11.9	7355.7
954	2.350	12.1	7125.8	75.4	8.9	7608.6	10.9	7367.7
955	2.350	12.1	7138.1	74.7	7.9	7610.6	9.2	7379.7

KERGEN ANALYSIS

*** FCP

THE CLEVELAND CLIFFS IRON COMPANY—WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
956	2.310	9.1	7148.6	78.8	11.5	7622.0	10.3	7385.3
957	2.420	6.9	7155.5	80.6	13.2	7635.2	10.0	7395.4
958	2.350	9.1	7164.6	83.6	16.0	7651.2	12.6	7407.5
959	2.250	19.9	7184.5	85.4	17.3	7669.0	18.9	7426.8
960	2.240	19.1	7203.7	88.0	20.4	7689.4	19.8	7446.6
961	2.330	13.6	7217.3	88.4	20.8	7710.3	17.2	7463.8
962	2.320	14.4	7231.6	88.0	20.4	7730.7	17.4	7481.2
963	2.350	12.1	7243.7	86.7	19.1	7749.8	15.6	7496.7
964	2.380	9.3	7253.5	84.1	16.5	7766.3	13.2	7509.9
965	2.390	9.1	7262.6	81.9	14.4	7780.7	11.7	7521.6
966	2.400	8.3	7270.9	79.3	11.9	7792.6	10.1	7531.8
967	2.370	10.6	7281.5	78.8	11.5	7804.1	11.0	7542.8
968	2.350	9.1	7290.6	78.8	11.5	7815.6	10.3	7553.1
969	2.350	12.1	7302.7	78.8	11.5	7827.0	11.3	7564.9
970	2.350	12.1	7314.7	79.7	12.3	7839.3	12.2	7577.1
971	2.380	9.8	7324.6	81.5	14.0	7853.4	11.9	7589.0
972	2.350	9.1	7333.6	81.0	13.5	7866.9	11.3	7600.3
973	2.380	9.8	7343.5	80.6	13.2	7880.1	11.5	7611.8
974	2.380	9.8	7353.3	81.5	14.0	7894.1	11.9	7623.7
975	2.370	10.6	7363.8	81.9	14.4	7908.5	12.5	7636.2
976	2.370	10.6	7374.4	83.6	16.0	7924.5	13.3	7648.5
977	2.350	12.1	7386.5	85.8	18.2	7942.7	15.1	7664.6
978	2.300	15.5	7402.4	88.0	20.4	7963.1	18.2	7682.8
979	2.240	20.9	7423.2	89.7	22.1	7985.3	21.4	7704.2
980	2.250	17.5	7440.7	89.3	21.7	8007.0	19.6	7723.8
981	2.330	13.6	7454.3	91.1	23.6	8030.6	18.6	7742.4
982	2.330	13.6	7467.5	89.7	22.1	8052.7	17.9	7760.3
983	2.230	17.5	7485.4	88.0	20.4	8073.1	19.0	7779.3
984	2.250	16.7	7502.1	91.1	23.6	8096.7	20.2	7799.4
985	2.280	17.5	7519.6	90.6	23.1	8119.8	20.3	7819.7
986	2.240	20.8	7540.4	89.3	21.7	8141.6	21.2	7841.0
987	2.250	19.9	7560.3	86.7	19.1	8160.7	19.5	7860.5
988	2.250	16.7	7577.0	85.0	17.4	8178.1	17.1	7877.6
989	2.330	13.6	7590.6	81.9	14.4	8192.5	14.0	7891.6
990	2.370	10.6	7601.2	79.3	11.9	8204.5	11.3	7902.8
991	2.400	8.3	7609.6	78.3	11.5	8215.5	9.9	7912.7
992	2.420	6.9	7616.4	78.8	11.5	8227.5	9.2	7921.9
993	2.440	5.4	7621.5	78.0	10.7	8238.1	8.1	7930.0
994	2.460	5.4	7627.3	78.8	11.5	8249.5	8.5	7938.5
995	2.450	4.7	7632.1	78.3	11.5	8261.0	8.1	7946.6
996	2.440	5.4	7637.5	77.5	10.3	8271.3	7.9	7954.4
997	2.420	6.9	7644.4	77.1	9.9	8281.2	8.4	7962.8
998	2.400	9.1	7653.5	78.0	10.7	8291.9	9.9	7972.7
999	2.400	9.3	7662.3	79.3	11.9	8303.9	10.9	7983.5
1000	2.400	9.3	7671.1	79.3	11.9	8315.3	10.1	7993.7
1001	2.400	9.3	7679.9	80.6	13.2	8327.0	10.0	8003.9
1002	2.400	9.3	7688.7	81.9	14.4	8338.6	10.6	8014.1
1003	2.400	9.3	7697.5	83.2	15.6	8350.2	11.3	8024.3
1004	2.400	9.3	7706.3	84.5	16.9	8361.8	11.9	8034.5
1005	2.400	9.3	7715.1	85.8	18.2	8373.4	12.6	8044.7
1006	2.400	9.3	7723.9	87.1	19.5	8385.0	13.3	8054.9
1007	2.400	9.3	7732.7	88.4	20.8	8396.6	14.0	8065.1
1008	2.400	9.3	7741.5	89.7	22.1	8408.2	14.7	8075.3
1009	2.400	9.3	7750.3	91.0	23.4	8419.8	15.4	8085.5
1010	2.400	9.3	7759.1	92.3	24.7	8431.4	16.1	8095.7
1011	2.400	9.3	7767.9	93.6	26.0	8443.0	16.8	8105.9
1012	2.400	9.3	7776.7	94.9	27.3	8454.6	17.5	8116.1
1013	2.400	9.3	7785.5	96.2	28.6	8466.2	18.2	8126.3
1014	2.400	9.3	7794.3	97.5	29.9	8477.8	18.9	8136.5
1015	2.400	9.3	7803.1	98.8	31.2	8489.4	19.6	8146.7
1016	2.400	9.3	7811.9	100.1	32.5	8501.0	20.3	8156.9
1017	2.400	9.3	7820.7	101.4	33.8	8512.6	21.0	8167.1
1018	2.400	9.3	7829.5	102.7	35.1	8524.2	21.7	8177.3
1019	2.400	9.3	7838.3	104.0	36.4	8535.8	22.4	8187.5
1020	2.400	9.3	7847.1	105.3	37.7	8547.4	23.1	8197.7
1021	2.400	9.3	7855.9	106.6	39.0	8559.0	23.8	8207.9
1022	2.400	9.3	7864.7	107.9	40.3	8570.6	24.5	8218.1
1023	2.400	9.3	7873.5	109.2	41.6	8582.2	25.2	8228.3
1024	2.400	9.3	7882.3	110.5	42.9	8593.8	25.9	8238.5
1025	2.400	9.3	7891.1	111.8	44.2	8605.4	26.6	8248.7
1026	2.400	9.3	7900.0	113.1	45.5	8617.0	27.3	8258.9
1027	2.400	9.3	7908.8	114.4	46.8	8628.6	28.0	8269.1
1028	2.400	9.3	7917.6	115.7	48.1	8640.2	28.7	8279.3
1029	2.400	9.3	7926.4	117.0	49.4	8651.8	29.4	8289.5
1030	2.400	9.3	7935.2	118.3	50.7	8663.4	30.1	8299.7
1031	2.400	9.3	7944.0	119.6	52.0	8675.0	30.8	8309.9
1032	2.400	9.3	7952.8	120.9	53.3	8686.6	31.5	8320.1
1033	2.400	9.3	7961.6	122.2	54.6	8698.2	32.2	8330.3
1034	2.400	9.3	7970.4	123.5	55.9	8709.8	32.9	8340.5
1035	2.400	9.3	7979.2	124.8	57.2	8721.4	33.6	8350.7
1036	2.400	9.3	7988.0	126.1	58.5	8733.0	34.3	8360.9
1037	2.400	9.3	7996.8	127.4	59.8	8744.6	35.0	8371.1
1038	2.400	9.3	8005.6	128.7	61.1	8756.2	35.7	8381.3
1039	2.400	9.3	8014.4	130.0	62.4	8767.8	36.4	8391.5
1040	2.400	9.3	8023.2	131.3	63.7	8779.4	37.1	8401.7
1041	2.400	9.3	8032.0	132.6	65.0	8791.0	37.8	8411.9
1042	2.400	9.3	8040.8	133.9	66.3	8802.6	38.5	8422.1
1043	2.400	9.3	8049.6	135.2	67.6	8814.2	39.2	8432.3
1044	2.400	9.3	8058.4	136.5	68.9	8825.8	39.9	8442.5
1045	2.400	9.3	8067.2	137.8	70.2	8837.4	40.6	8452.7
1046	2.400	9.3	8076.0	139.1	71.5	8849.0	41.3	8462.9
1047	2.400	9.3	8084.8	140.4	72.8	8860.6	42.0	8473.1
1048	2.400	9.3	8093.6	141.7	74.1	8872.2	42.7	8483.3
1049	2.400	9.3	8102.4	143.0	75.4	8883.8	43.4	8493.5
1050	2.400	9.3	8111.2	144.3	76.7	8895.4	44.1	8503.7
1051	2.400	9.3	8120.0	145.6	78.0	8907.0	44.8	8513.9
1052	2.400	9.3	8128.8	146.9	79.3	8918.6	45.5	8524.1
1053	2.400	9.3	8137.6	148.2	80.6	8930.2	46.2	8534.3
1054	2.400	9.3	8146.4	149.5	81.9	8941.8	46.9	8544.5
1055	2.400	9.3	8155.2	150.8	83.2	8953.4	47.6	8554.7
1056	2.400	9.3	8164.0	152.1	84.5	8965.0	48.3	8564.9
1057	2.400	9.3	8172.8	153.4	85.8	8976.6	49.0	8575.1
1058	2.400	9.3	8181.6	154.7	87.1	8988.2	49.7	8585.3
1059	2.400	9.3	8190.4	156.0	88.4	8999.8	50.4	8595.5
1060	2.400	9.3	8199.2	157.3	89.7	9011.4	51.1	8605.7
1061	2.400	9.3	8208.0	158.6	91.0	9023.0	51.8	8615.9
1062	2.400	9.3	8216.8	159.9	92.3	9034.6	52.5	8626.1
1063	2.400	9.3	8225.6	161.2	93.6	9046.2	53.2	8636.3
1064	2.400	9.3	8234.4	162.5	94.9	9057.8	53.9	8646.5
1065	2.400	9.3	8243.2	163.8	96.2	9069.4	54.6	8656.7
1066	2.400	9.3	8252.0	165.1	97.5	9081.0	55.3	8666.9
1067	2.400	9.3	8260.8	166.4	98.8	9092.6	56.0	8677.1
1068	2.400	9.3	8269.6	167.7	100.1	9104.2	56.7	8687.3
1069	2.400	9.3	8278.4	169.0	101.4	9115.8	57.4	8697.5
1070	2.400	9.3	8287.2	170.3	102.7	9127.4	58.1	8707.7
1071	2.400	9.3	8296.0	171.6	104.0	9139.0	58.8	8717.9
1072	2.400	9.3	8304.8	172.9	105.3	9150.6	59.5	8728.1
1073	2.400	9.3	8313.6	174.2	106.6	9162.2	60.2	8738.3
1074	2.400	9.3	8322.4	175.5	107.9	9173.8	60.9	8748.5
1075	2.400	9.3	8331.2	176.8	109.2	9185.4	61.6	8758.7
1076	2.400	9.3	8340.0	178.1	110.5	9197.0	62.3	8768.9
1077	2.400	9.3	8348.8	179.4	111.8	9208.6	63.0	8779.1
1078	2.400	9.3	8357.6	180.7	113.1	9220.2	63.7	8789.3
1079	2.400	9.3	8366.4	182.0	114.4	9231.8	64.4	8799.5
1080	2.400	9.3	8375.2	183.3	115.7	9243.4	65.1	8809.7
1081	2.400	9.3	8384.0	184.6	117.0	9255.0	65.8	8819.9
1082	2.400	9.3	8392.8	185.9	118.3	9266.6	66.5	8830.1
1083	2.400	9.3	8401.6	187.2	119.6	9278.2	67.2	8840.3
1084	2.400	9.3	8410.4	188.5	120.9	9289.8	67.9	8850.5
1085	2.400	9.3	8419.2	189.8	122.2	9301.4	68.6	8860.

HEROGEN TEST LOG

FOR

THE CLEVELAND CLIFFS IRON COMPANY--WELL P-4

DEPTH	DENSITY LOG			RHO-B	VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD		GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD	
1006	2.390	9.1	7718.8	80.6	13.2	8399.3	11.1	8059.1	
1007	2.450	4.7	7723.5	78.8	11.5	8410.8	8.1	8067.2	
1008	2.500	1.2	7724.8	79.3	11.9	8422.7	6.6	8073.8	
1009	2.490	1.9	7726.7	78.8	11.5	8434.2	6.7	8080.5	
1010	2.400	2.6	7729.3	77.5	10.3	8444.5	6.5	8086.9	
1011	2.460	4.0	7733.4	74.5	7.6	8452.1	5.8	8092.7	
1012	2.460	4.0	7737.4	74.5	7.6	8459.6	5.8	8098.5	
1013	2.460	4.0	7741.4	74.0	7.1	8466.8	5.6	8104.1	
1014	2.470	3.3	7744.7	73.2	6.4	8473.2	4.9	8109.0	
1015	2.490	1.9	7746.7	73.6	6.8	8479.9	4.4	8113.3	
1016	2.510	0.6	7747.2	73.2	6.4	8486.4	3.5	8116.8	
1017	2.510	0.6	7747.8	73.2	6.4	8492.8	3.5	8120.3	
1018	2.490	1.9	7749.7	75.4	8.4	8501.2	5.2	8125.4	
1019	2.440	5.4	7755.2	78.0	10.7	8511.9	8.1	8133.5	
1020	2.440	5.4	7760.6	79.3	11.9	8523.8	8.7	8142.2	
1021	2.420	6.9	7767.5	79.3	11.9	8535.8	9.4	8151.6	
1022	2.400	8.3	7775.9	79.3	11.9	8547.7	10.1	8161.8	
1023	2.460	4.0	7779.9	79.3	11.9	8559.6	8.0	8169.8	
1024	2.490	1.9	7781.8	77.1	9.9	8569.5	5.9	8175.7	
1025	2.480	2.6	7784.4	77.1	9.9	8579.5	6.3	8181.9	
1026	2.480	2.6	7787.0	76.2	9.1	8588.5	5.9	8187.8	
1027	2.450	4.7	7791.8	74.9	7.9	8596.5	6.3	8194.1	
1028	2.420	6.9	7798.7	74.5	7.6	8604.0	7.2	8201.4	
1029	2.440	5.4	7804.1	76.2	9.1	8613.1	7.3	8208.6	
1030	2.460	4.0	7808.1	76.2	9.1	8622.2	6.6	8215.2	
1031	2.470	3.3	7811.5	74.9	7.9	8630.1	5.6	8220.8	
1032	2.510	0.6	7812.0	75.4	8.4	8638.5	4.5	8225.3	
1033	2.490	1.9	7813.9	76.2	9.1	8647.4	5.5	8230.8	
1034	2.480	2.6	7816.6	76.2	9.1	8656.7	5.9	8236.6	
1035	2.460	4.0	7820.6	75.4	8.4	8665.1	6.2	8242.8	
1036	2.460	4.0	7824.6	77.1	9.9	8675.0	7.0	8249.8	
1037	2.460	4.0	7828.6	77.1	9.9	8684.9	7.0	8256.8	
1038	2.470	3.3	7832.0	76.2	9.1	8694.8	6.2	8263.0	
1039	2.480	2.6	7834.6	78.0	10.7	8704.7	6.7	8269.7	
1040	2.510	0.6	7835.2	78.0	10.7	8715.5	5.6	8275.3	
1041	2.500	1.2	7836.4	77.5	10.3	8725.7	5.8	8281.1	
1042	2.470	3.3	7839.7	77.1	9.9	8735.6	6.6	8287.7	
1043	2.480	4.7	7844.5	75.4	8.4	8744.0	6.6	8294.2	
1044	2.420	8.3	7852.8	74.9	7.9	8751.9	8.1	8302.4	
1045	2.350	12.1	7864.7	73.6	6.8	8758.7	9.4	8311.8	
1046	2.340	12.8	7877.7	71.0	4.5	8763.2	8.7	8320.5	
1047	2.420	7.9	7884.6	71.9	5.3	8768.5	6.1	8326.6	
1048	2.450	1.9	7887.5	71.9	5.3	8773.8	3.6	8330.2	
1049	2.450	1.9	7890.5	74.5	7.6	8781.3	4.3	8334.9	
1050	2.450	1.9	7893.4	77.1	9.9	8791.2	5.9	8340.9	
1051	2.450	1.9	7896.4	74.8	11.5	8802.7	7.2	8347.4	
1052	2.450	1.9	7899.4	74.8	11.5	8812.4	7.2	8353.4	
1053	2.450	1.9	7902.4	74.8	11.5	8822.4	7.2	8359.4	
1054	2.450	1.9	7905.4	74.8	11.5	8832.4	7.2	8365.4	
1055	2.450	1.9	7908.4	74.8	11.5	8842.4	7.2	8371.4	

K E R O G E N A N A L Y S I S

FOR

THE CLEVELAND CLIFFS IRON COMPANY-WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHO-B	GAL/TON	ACCUM. YIELD	RHO-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
1056	2.450	4.7	7930.3	79.7	12.3	8861.9	8.5	8396.1
1057	2.430	6.2	7936.5	79.7	12.3	8874.2	9.2	8405.4
1058	2.450	4.7	7941.2	78.8	11.5	8885.6	8.1	8413.5
1059	2.470	3.3	7944.6	78.0	10.7	8896.4	7.0	8420.5
1060	2.480	2.6	7947.2	78.0	10.7	8907.1	6.7	8427.2
1061	2.480	2.6	7949.8	78.0	10.7	8917.8	6.7	8433.9
1062	2.470	3.3	7953.1	77.5	10.3	8928.1	6.8	8440.7
1063	2.460	4.0	7957.2	79.3	11.9	8940.1	8.0	8448.6
1064	2.440	5.4	7962.6	83.6	16.0	8956.1	10.7	8459.4
1065	2.380	9.8	7972.4	86.3	18.7	8974.8	14.3	8473.6
1066	2.420	6.9	7979.3	87.6	20.0	8994.8	13.4	8487.1
1067	2.390	9.1	7988.4	84.1	16.5	9011.3	12.8	8499.9
1068	2.310	15.2	8003.5	83.2	15.6	9027.0	15.4	8515.3
1069	2.370	10.6	8014.1	81.9	14.4	9041.4	12.5	8527.8
1070	2.460	4.0	8018.1	80.6	13.2	9054.5	8.6	8536.4
1071	2.490	1.9	8020.1	78.8	11.5	9066.0	6.7	8543.1
1072	2.490	1.9	8022.0	80.6	13.2	9079.1	7.5	8550.6
1073	2.440	5.4	8027.4	85.0	17.4	9096.6	11.4	8562.0
1074	2.340	12.8	8040.3	86.7	19.1	9115.7	16.0	8578.0
1075	2.210	23.2	8063.5	88.0	20.4	9136.1	21.8	8599.8
1076	2.300	15.9	8079.4	91.9	24.4	9160.5	20.2	8620.0
1077	2.440	5.4	8084.9	91.9	24.4	9184.9	14.9	8634.9
1078	2.380	9.8	8094.7	89.3	21.7	9206.7	15.8	8650.7
1079	2.250	19.9	8114.6	86.3	18.7	9225.4	19.3	8670.0
1080	2.210	23.2	8137.5	89.7	22.1	9247.5	22.7	8692.7
1081	2.260	19.1	8157.0	90.6	23.1	9270.6	21.1	8713.8
1082	2.300	15.9	8172.9	89.7	22.1	9292.7	19.0	8732.9
1083	2.330	13.6	8186.5	89.3	21.7	9314.5	17.7	8750.5
1084	2.340	12.8	8199.4	83.2	15.6	9330.1	14.2	8764.8
1085	2.290	16.7	8216.1	83.2	15.6	9345.8	16.2	8781.0
1086	2.320	14.4	8230.5	83.2	15.6	9361.4	15.0	8796.0
1087	2.380	9.8	8240.3	83.2	15.6	9377.1	12.7	8808.7
1088	2.370	10.6	8250.5	83.6	16.0	9393.1	13.3	8822.0
1089	2.330	13.6	8264.5	88.4	20.8	9413.9	17.2	8839.2
1090	2.360	11.3	8275.8	91.1	23.6	9437.5	17.5	8856.7
1091	2.360	11.3	8287.1	90.6	23.1	9460.6	17.2	8873.9
1092	2.320	14.4	8301.5	85.4	17.8	9478.4	16.1	8890.0
1093	2.220	14.4	8315.5	85.0	17.4	9495.8	15.9	8905.9
1094	2.340	12.8	8328.7	82.3	14.8	9510.6	13.8	8919.7
1095	2.270	10.6	8339.3	81.9	14.4	9525.0	12.5	8932.1
1096	2.360	11.3	8350.6	81.0	13.5	9538.5	12.4	8944.6
1097	2.370	10.6	8361.1	81.9	14.4	9552.9	12.5	8957.1
1098	2.390	9.1	8370.2	82.3	14.8	9567.7	11.9	8969.0
1099	2.380	9.8	8380.0	82.3	15.3	9583.0	12.5	8981.5
1100	2.360	9.1	8389.1	84.1	16.5	9599.5	12.8	8994.3
1101	2.240	12.8	8402.0	89.7	22.1	9621.6	17.5	9011.8
1102	2.270	14.4	8417.7	89.7	22.1	9643.3	19.4	9021.7
1103	2.270	14.4	8431.1	90.6	23.1	9664.9	22.7	9034.0
1104	2.270	14.4	8444.5	92.3	25.4	9687.2	25.0	9050.1
1105	2.240	12.8	8458.5	94.5	27.2	9719.4	24.0	9104.0

K E R O G E N A N A L Y S I S

F C R

THE CLEVELAND CLIFFS IRON COMPANY--WELL P-4

DEPTH	DENSITY LOG			VELOCITY LOG			DENSITY AND VELOCITY	
	RHC-B	GAL/TON	ACCUM. YIELD	RHC-B	GAL/TON	ACCUM. YIELD	GAL/TON	ACCUM. YIELD
1106	2.340	12.8	8501.3	92.4	25.0	9744.4	18.9	9122.9
1107	2.350	12.1	8513.4	89.3	21.7	9766.1	16.9	9135.8
1108	2.320	14.4	8527.7	87.6	20.0	9786.1	17.2	9157.0
1109	2.310	15.2	8542.9	88.0	20.4	9806.5	17.8	9174.7
1110	2.330	13.6	8556.5	89.3	21.7	9828.3	17.7	9192.4
1111	2.280	17.5	8574.0	88.0	20.4	9848.7	19.0	9211.4
1112	2.270	18.3	8592.3	89.7	22.1	9870.8	20.2	9231.6
1113	2.230	21.6	8613.9	94.5	27.2	9898.0	24.4	9256.0
1114	2.190	24.9	8638.8	95.0	27.7	9925.8	26.3	9282.3
1115	2.150	28.4	8667.2	94.5	27.2	9953.0	27.8	9310.1
1116	2.260	19.1	8686.3	94.5	27.2	9980.2	23.2	9333.3
1117	2.350	12.1	8698.4	94.5	27.2	10007.4	19.6	9352.9
1118	2.370	10.6	8709.0	88.4	20.8	10028.2	15.7	9368.6
1119	2.320	14.4	8723.3	85.0	17.4	10045.6	15.9	9384.5
1120	2.340	12.8	8736.2	85.0	17.4	10063.0	15.1	9399.6
1121	2.320	14.4	8750.5	85.4	17.8	10080.8	16.1	9415.7
1122	2.350	12.1	8762.6	85.4	17.8	10098.6	14.9	9430.6
1123	2.370	10.6	8773.2	85.0	17.4	10116.0	14.0	9444.6
1124	2.330	13.6	8786.8	85.8	18.2	10134.2	15.9	9460.5
1125	2.310	15.2	8801.9	85.4	17.8	10152.0	16.5	9477.0
1126	2.220	14.4	8816.3	85.4	17.8	10169.8	16.1	9493.1
1127	2.350	12.1	8828.4	87.6	20.0	10189.8	16.0	9509.1
1128	2.340	12.8	8841.2	87.6	20.0	10209.8	16.4	9525.5
1129	2.300	15.9	8857.2	87.6	20.0	10229.8	18.0	9543.5
1130	2.260	19.1	8876.3	89.3	21.7	10251.8	20.4	9563.9
1131	2.280	17.5	8893.8	94.5	27.2	10278.8	22.4	9586.3
1132	2.240	20.8	8914.5	96.3	29.1	10307.9	24.9	9611.2
1133	2.190	24.9	8939.5	92.4	25.0	10332.9	24.9	9636.2
1134	2.190	24.9	8964.4	94.5	27.2	10360.1	26.1	9662.2
1135	2.290	16.7	8981.1	96.7	29.6	10389.6	23.2	9685.4
1136	2.320	14.4	8995.5	92.8	25.4	10415.0	19.9	9705.3
1137	2.290	16.7	9012.2	87.6	20.0	10435.0	18.4	9723.6
1138	2.220	22.4	9034.6	85.8	18.2	10453.2	20.3	9743.9
1139	2.300	15.9	9050.5	85.0	17.4	10470.6	16.7	9760.6
1140	2.360	11.3	9061.9	81.9	14.4	10485.0	12.9	9773.5
1141	2.400	8.3	9070.2	80.6	13.2	10498.2	10.8	9784.2
1142	2.410	7.6	9077.0	78.8	11.5	10509.7	9.5	9793.8
1143	2.420	6.9	9084.7	77.1	9.9	10519.6	8.4	9802.7
1144	2.420	6.9	9091.6	76.2	9.1	10528.7	6.0	9810.1
1145	2.440	5.4	9097.0	77.1	9.9	10538.6	7.7	9817.8
1146	2.460	4.0	9101.1	75.4	8.4	10546.9	6.2	9824.0
1147	2.460	4.0	9105.1	75.4	8.4	10555.3	6.2	9830.2
1148	2.460	4.0	9109.1	76.2	9.1	10564.4	6.6	9836.9
1149	2.460	4.0	9113.2	76.7	9.5	10572.7	7.1	9843.1