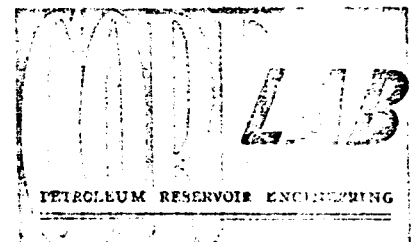
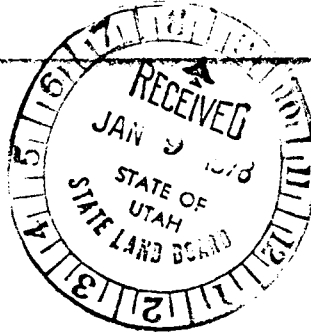


OIL SHALE ASSAY

THE ATLANTIC REFINING COMPANY

NO. 1 SUICIDE CANYON WELL



CORE LABORATORIES, Inc.
Petroleum Reservoir Engineering
Denver, Colorado

Page 1 of 1

File RP-9-OSA-31

Company THE ATLANTIC REFINING COMPANY County _____
Well SUICIDE CANYON NO. 1 State _____
Location _____ Elevation _____

Core Analysis Data

Sample Number	Depth, Feet	Permeability, Millidarcys Before Ext. After Ext.		Porosity, Per Cent	Residual Liquid Saturation			Oil	
					Per Cent Volume	Per Cent Pore	Per Cent by Weight	Total Water	Gal Per Ton
								Per Cent Pore	
1.	548-49	2.5	204	34.2	30.5	89.2	13.4	3.2	33.6
2.	568-69	18	20	29.0	14.4	49.7	16.2	17.6	15.6

For calculations on Oil Per Cent by Weight, an oil specific gravity of 1.05 is assumed.

T 1/8

U087



CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

COMPANY THE ATLANTIC REFINING COMPANY FILE NO. RP-9-OSA-31
WELL SUICIDE CANYON NO. 1 DATE 5-4-65 ENGRS. DAVIS
FIELD _____ FORMATION _____ ELEV. _____
COUNTY _____ STATE _____ DRG. FLD _____ CORES _____
LOCATION 1400' FWL & 2200 FSL Sec 36, REMARKS Elevation 6562' 6362'

T 12S-R 23E, Uintah Co, Utah

OIL SHALE ASSAY

Sample Number	Depth, Feet	OIL		Oil Specific Gravity	WATER		Spent Shale Wt. %	Gas Plus Loss Wt. %	Tendency to Coke	REMARKS
		Gal/Ton	Wt. %		Gal/Ton	Wt. %				
1.	300-01	10.7	4.1	.914	3.4	1.4	93.7	0.8	NIL	
2.	301-02	11.2	4.3	.918	4.1	1.7	93.0	1.0	NIL	
3.	302-03	9.6	3.7	.922	3.1	1.3	94.1	0.9	NIL	
4.	303-04	9.7	3.8	.928	2.9	1.2	94.1	0.9	NIL	
5.	304-05	10.4	4.0	.928	3.1	1.3	93.9	0.8	NIL	
6.	305-06	11.3	4.4	.928	2.9	1.2	93.7	0.7	NIL	
7.	306-07	10.5	4.0	.924	3.6	1.5	93.6	0.9	NIL	
8.	307-08	11.2	4.3	.918	4.8	2.0	92.7	1.0	NIL	
9.	308-09	11.3	4.3	.908	4.3	1.8	92.7	1.2	NIL	
10.	309-10	10.5	4.0	.916	4.8	2.0	93.0	1.0	NIL	
11.	310-11	10.0	3.8	.908	4.8	2.0	93.3	0.9	NIL	
12.	311-12	10.0	3.8	.906	4.3	1.8	93.5	0.9	NIL	
13.	312-13	11.2	4.3	.916	4.3	1.8	93.0	0.9	NIL	
14.	313-14	11.1	4.2	.910	4.3	1.8	92.9	1.1	NIL	
15.	314-15	13.3	5.1	.912	4.1	1.7	92.2	1.0	NIL	
16.	315-16	12.6	4.8	.908	4.3	1.8	92.3	1.1	NIL	
17.	316-17	14.4	5.5	.910	3.6	1.5	91.9	1.1	NIL	
18.	317-18	25.3	9.6	.910	3.6	1.5	87.3	1.6	NIL	
19.	318-19	19.6	7.4	.908	4.3	1.8	89.2	1.6	NIL	
20.	319-20	22.1	8.3	.906	4.1	1.7	88.2	1.8	NIL	
21.	320-21	13.8	5.2	.908	4.3	1.8	91.6	1.4	NIL	
22.	321-22	9.6	3.7	.910	4.3	1.8	93.6	0.9	NIL	
23.	322-23	9.7	3.7	.910	3.6	1.5	93.8	1.0	NIL	
24.	323-24	13.4	5.1	.912	3.6	1.5	92.1	1.3	NIL	
25.	324-25	8.0	3.0	.908	4.8	2.0	94.0	1.0	NIL	
26.	325-26	5.4	2.1	.916	5.5	2.3	94.9	0.7	NIL	
27.	326-27	7.9	3.0	.914	4.8	2.0	94.0	1.0	NIL	
28.	327-28	20.6	7.8	.908	3.4	1.4	89.1	1.7	NIL	
29.	328-29	11.2	4.3	.912	4.3	1.8	92.8	1.1	NIL	
30.	329-30	7.9	3.0	.914	4.8	2.0	93.7	1.3	NIL	

Core Lab.

Core Lab.

Core Lab.

OIL SHALE ASSAY

RP-9-OSA-31
PAGE 2

Core
Lab.

Sample Number	Depth, Foot	OIL		Oil Specific Gravity	WATER		Spent Shale Wt. %	Gas Plus Loss Wt. %	Tendency to Coke	REMARKS
		Gal/Ton	Wt. %		Gal/Ton	Wt. %				
31.	330-31	4.9	1.9	.908	3.4	1.4	96.0	0.7	NIL	
32.	331-32	9.0	3.4	.910	4.1	1.7	94.0	0.9	NIL	
33.	332-33	13.0	4.9	.908	4.6	1.9	92.2	1.0	NIL	
34.	333-34	7.3	2.8	.910	6.2	2.6	93.9	0.7	NIL	
35.	334-35	4.4	1.7	.908	6.0	2.5	95.2	0.6	NIL	
36.	335-36	4.8	1.8	.908	6.2	2.6	94.8	0.8	NIL	
37.	336-37	7.6	2.9	.906	5.8	2.4	93.8	0.9	NIL	
38.	337-38	6.6	2.5	.914	6.0	2.5	94.0	1.0	NIL	
39.	338-39	8.1	3.1	.914	4.8	2.0	94.3	0.6	NIL	
40.	339-40	12.3	4.7	.916	4.6	1.9	92.4	1.0	NIL	
41.	340-41	15.0	5.7	.916	4.3	1.8	91.4	1.1	NIL	
42.	341-42	6.1	2.3	.908	5.3	2.2	95.0	0.5	NIL	
43.	342-43	6.2	2.3	.908	5.0	2.1	95.0	0.6	NIL	
44.	343-44	5.5	2.1	.908	4.8	2.0	95.3	0.6	NIL	
45.	344-45	8.3	3.1	.908	4.3	1.8	94.4	0.7	NIL	
46.	345-46	17.7	6.8	.918	4.3	1.8	90.2	1.2	NIL	
47.	346-47	5.8	2.2	.918	5.3	2.2	95.0	0.6	NIL	
48.	347-48	5.0	1.9	.918	5.3	2.2	95.3	0.6	NIL	
49.	348-49	5.7	2.2	.924	5.0	2.1	95.0	0.7	NIL	
50.	349-50	13.8	5.2	.910	4.3	1.8	92.0	1.0	NIL	
51.	350-51	20.6	7.8	.910	3.8	1.6	89.4	1.2	NIL	
52.	351-52	6.1	2.4	.908	4.3	1.8	95.4	0.4	NIL	
53.	352-53	6.2	2.3	.906	4.3	1.8	95.4	0.5	NIL	
54.	353-54	6.1	2.3	.906	5.3	2.2	94.9	0.6	NIL	
55.	354-55	6.9	2.6	.908	5.3	2.2	93.9	1.3	NIL	
56.	355-56	5.5	2.1	.914	5.5	2.3	95.1	0.5	NIL	
57.	356-57	5.7	2.2	.918	4.8	2.0	95.1	0.7	NIL	
58.	357-58	20.5	7.8	.916	4.1	1.7	89.1	1.4	NIL	
59.	358-59	21.6	8.2	.908	7.0	2.9	87.4	1.5	NIL	
60.	359-60	8.3	3.2	.914	6.0	2.5	93.7	0.6	NIL	
61.	360-61	10.3	3.9	.908	5.5	2.3	93.2	0.6	NIL	
62.	361-62	8.1	3.1	.918	6.7	2.8	93.4	0.7	NIL	
63.	362-63	9.9	3.8	.910	5.3	2.2	93.2	0.8	NIL	
64.	363-64	27.2	10.4	.914	5.8	2.4	85.5	1.7	NIL	
65.	364-65	11.4	4.4	.916	4.6	1.9	92.8	0.9	NIL	

Core
Lab.

Core
Lab.

OIL SHALE ASSAY

RP-9-OSA-31
PAGE 3

Sample Number	Depth, Feet	OIL		Oil Specific Gravity	WATER		Spent Shale Wt. %	Gas Plus Loss Wt. %	Tendency to Coke	REMARKS
		Gal/Ton	Wt. %		Gal/Ton	Wt. %				
66.	365-66	6.2	2.3	.906	5.3	2.2	94.8	0.7	NIL	
67.	366-67	1.7	0.6	*.908	6.0	2.5	96.4	0.5	NIL	
68.	367-68	2.8	1.1	*.908	6.7	2.8	95.6	0.5	NIL	
69.	368-69	9.0	3.4	.908	6.7	2.8	93.2	0.6	NIL	
70.	369-70	17.2	6.5	.908	4.8	2.0	90.6	0.9	NIL	
71.	370-71	8.3	3.1	.908	5.5	2.3	94.1	0.5	NIL	
72.	371-72	7.6	2.9	.916	6.5	2.7	94.0	0.4	NIL	
73.	372-73	7.5	2.8	.910	6.0	2.5	94.2	0.5	NIL	
74.	373-74	16.1	6.0	.900	4.8	2.0	91.3	0.7	NIL	
75.	374-75	8.6	3.3	.920	5.3	2.2	94.0	0.5	NIL	
76.	375-76	8.0	3.0	.908	4.3	1.8	94.8	0.4	NIL	
77.	376-77	7.5	2.9	.914	4.8	2.0	94.6	0.5	NIL	
78.	377-78	7.4	2.8	.918	6.0	2.5	93.9	0.8	NIL	
79.	378-79	16.5	6.2	.908	4.8	2.0	91.1	0.7	NIL	
80.	379-80	11.6	4.4	.908	6.0	2.5	92.5	0.6	NIL	
81.	380-81	9.6	3.7	.924	7.2	3.0	92.8	0.5	NIL	
82.	381-82	7.1	2.8	.926	8.4	3.5	93.3	0.6	NIL	
83.	382-83	9.9	3.8	.918	6.7	2.8	92.9	0.5	NIL	
84.	383-84	9.1	3.5	.916	5.5	2.3	93.8	0.4	NIL	
85.	384-85	8.7	3.3	.914	6.7	2.8	93.5	0.4	NIL	
86.	385-86	9.9	3.8	.920	6.7	2.8	92.8	0.4	NIL	
87.	386-87	7.5	2.9	.918	7.2	3.0	93.6	0.5	NIL	
88.	387-88	10.2	3.9	.920	4.8	2.0	93.4	0.7	NIL	
89.	388-89	6.3	2.4	.920	4.6	1.9	95.1	0.6	NIL	
90.	389-90	4.1	1.5	.912	5.3	2.2	95.9	0.4	NIL	
91.	390-91	2.8	1.1	.916	5.8	2.4	96.3	0.2	NIL	
92.	391-92	7.5	2.9	.916	6.0	2.5	94.1	0.5	NIL	
93.	392-93	9.8	3.7	.912	5.3	2.2	93.5	0.6	NIL	
94.	393-94	7.6	2.9	.918	7.2	3.0	93.6	0.5	NIL	
95.	394-95	8.1	3.1	.918	8.6	3.6	92.8	0.5	NIL	
96.	395-96	8.3	3.2	.918	8.0	3.3	93.0	0.5	NIL	
97.	396-97	21.2	7.9	.898	3.6	1.5	90.0	0.6	NIL	
98.	397-98	24.1	9.0	.898	3.6	1.5	89.1	0.4	NIL	
99.	398-99	10.2	3.9	.916	3.6	1.5	94.9	0.7	NIL	
100.	399-00	14.8	5.6	.916	2.9	1.2	92.1	1.1	NIL	

Core Lab.

Core Lab.

Core Lab.

OIL SHALE ASSAY

RP-9-OSA-31
PAGE 4

Sample Number	Depth, Feet	OIL		Oil Specific Gravity	WATER		Spent Shale Wt. %	Gas Plus Loss Wt. %	Tendency to Coke	REMARKS
		Gal/Ton	Wt. %		Gal/Ton	Wt. %				
101.	400-01	8.1	3.1	.920	3.4	1.4	94.6	0.9	NIL	
102.	401-02	5.5	2.1	.918	3.4	1.4	95.9	0.6	NIL	
103.	402-03	7.4	2.8	.918	3.1	1.3	95.2	0.7	NIL	
104.	403-04	10.2	3.9	.918	3.1	1.3	93.9	0.9	NIL	
105.	404-05	5.7	2.2	.912	3.8	1.6	95.5	0.7	NIL	
106.	405-06	6.2	2.4	.918	4.3	1.8	95.2	0.6	NIL	
107.	406-07	7.7	3.0	.920	3.6	1.5	94.7	0.8	NIL	
108.	407-08	7.1	2.7	.914	2.4	1.0	95.9	0.4	NIL	
109.	408-09	9.1	3.5	.908	3.1	1.3	94.5	0.7	NIL	
110.	409-10	10.0	3.8	.908	2.9	1.2	94.0	1.0	NIL	
X 111.	410-11	7.6	2.9	.908	2.6	1.1	95.3	0.7	NIL	
112.	411-12	14.7	5.5	.900	2.4	1.0	92.4	1.1	NIL	
113.	412-13	22.6	8.6	.916	2.6	1.1	88.9	1.4	NIL	
114.	413-14	10.2	3.9	.908	2.4	1.0	94.2	0.9	NIL	
115.	414-15	11.7	4.4	.908	2.4	1.0	93.4	1.2	NIL	
116.	415-16	13.2	5.0	.908	2.4	1.0	92.9	1.1	NIL	
117.	416-17	24.9	9.3	.898	3.1	1.3	87.4	2.0	NIL	
118.	417-18	12.7	4.8	.910	2.4	1.0	92.9	1.3	NIL	
119.	418-19	14.3	5.4	.904	1.9	0.8	92.4	1.4	NIL	
Y 120.	419-20	35.1	13.1	.898	2.9	1.2	83.3	2.4	SLIGHT	
121.	420-21	9.5	3.6	.908	1.9	0.8	94.6	1.0	NIL	
122.	421-22	3.9	1.5	.908	2.4	1.0	96.7	0.8	NIL	
123.	422-23	3.8	1.4	.916	2.4	1.0	96.8	0.8	NIL	
124.	423-24	1.5	0.6	*.918	1.9	0.8	98.0	0.6	NIL	
125.	424-25	3.1	1.2	.920	2.2	0.9	97.0	0.9	NIL	
126.	425-26	6.7	2.6	.918	2.2	0.9	95.5	1.0	NIL	
127.	426-27	2.9	1.1	.918	1.9	0.8	97.2	0.9	NIL	
128.	427-28	2.5	1.0	*.918	2.6	1.1	97.5	0.4	NIL	
129.	428-29	1.4	0.6	*.918	2.2	0.9	98.2	0.3	NIL	
130.	429-30	1.0	0.4	*.918	1.9	0.8	98.3	0.5	NIL	
131.	430-31	1.7	0.7	*.918	1.9	0.8	98.0	0.5	NIL	
A 132.	431-32	8.1	3.0	.898	3.1	1.3	94.8	0.9	NIL	
133.	432-33	13.0	4.9	.898	2.9	1.2	92.6	1.3	NIL	
134.	433-34	9.9	3.7	.900	3.1	1.3	94.1	0.9	NIL	
135.	434-35	32.8	12.3	.898	4.3	1.8	83.7	2.2	SLIGHT	

Core Lab.

Core Lab.

Core Lab.

OIL SHALE ASSAY

RP-9-OSA-31
PAGE 5

Sample Number	Depth, Feet	OIL		Oil Specific Gravity	WATER		Spent Shale Wt. %	Gas Plus Loss Wt. %	Tendency to Coke	REMARKS
		Gal/Ton	Wt. %		Gal/Ton	Wt. %				
136.	435-36	15.0	1.113	5.6	.904	2.4	1.0	92.1	1.3	NIL
137.	436-37	13.8	1.047	5.2	.904	3.4	1.4	92.2	1.2	NIL
138.	437-38	11.6	.912	4.4	.908	1.9	0.8	93.7	1.1	NIL
139.	438-39	9.7	.772	3.7	.908	1.9	0.8	94.8	0.7	NIL
140.	439-40	14.2	1.047	5.4	.910	2.9	1.2	92.5	0.9	NIL
141.	440-41	30.6	2.057	11.7	.916	2.4	1.0	85.1	2.2	NIL
142.	441-42	22.7	1.611	8.5	.900	1.9	0.8	89.2	1.5	NIL
143.	442-43	25.6	1.761	9.6	.900	2.4	1.0	86.6	2.8	NIL
144.	443-44	51.0	2.984	19.0	.896	1.9	0.8	77.3	2.9	SLIGHT
145.	444-45	36.0	2.313	13.5	.900	1.9	0.8	83.2	2.5	SLIGHT
146.	445-46	20.2	1.431	7.6	.906	2.2	0.9	90.0	1.5	SLIGHT
147.	446-47	17.2	1.242	6.5	.908	1.9	0.8	91.1	1.6	NIL
148.	447-48	11.4	.842	4.3	.908	1.9	0.8	93.7	1.2	NIL
149.	448-49	9.8	.772	3.8	.914	1.4	0.6	94.8	0.8	NIL
150.	449-50	20.7	1.492	7.8	.902	2.2	0.9	89.6	1.7	NIL
151.	450-51	14.8	1.113	5.5	.900	1.4	0.6	92.9	1.0	NIL
152.	451-52	8.3	.627	3.2	.906	1.9	0.8	95.4	0.6	NIL
153.	452-53	11.4	.842	4.3	.902	1.4	0.6	93.9	0.2	NIL
154.	453-54	9.5	.736	3.6	.900	2.4	1.0	94.7	0.7	NIL
155.	454-55	9.2	.700	3.5	.914	1.4	0.6	94.9	1.0	NIL
156.	455-56	5.9	.479	2.2	.902	1.7	0.7	96.2	0.8	NIL
157.	456-57	9.3	.700	3.5	.902	1.7	0.7	95.1	0.7	NIL
158.	457-58	18.1	1.300	6.8	.904	1.7	0.7	91.4	1.1	NIL
159.	458-59	41.5	2.576	15.7	.908	3.8	1.6	80.1	2.6	SLIGHT
160.	459-60	19.7	1.431	7.4	.896	1.9	0.8	90.3	1.5	NIL
161.	460-61	19.8	1.431	7.4	.898	2.2	0.9	90.3	1.4	NIL
162.	461-62	34.9	2.263	13.1	.898	2.6	1.1	83.7	2.1	NIL
163.	462-63	36.8	2.362	13.7	.894	2.6	1.1	82.9	2.3	NIL
164.	463-64	45.5	2.754	17.0	.900	3.1	1.3	78.9	2.8	MEDIUM
165.	464-65	56.9	3.217	21.1	.898	3.4	1.4	74.2	3.2	MEDIUM
166.	465-66	72.4	3.714	27.2	.898	4.8	2.0	66.6	4.2	HIGH
167.	466-67	68.5	3.608	25.6	.898	5.8	2.4	66.8	5.2	HIGH
168.	467-68	50.8	2.984	19.0	.898	2.9	1.2	75.8	4.0	MEDIUM
169.	468-69	46.8	2.819	17.4	.888	2.9	1.2	79.0	2.4	MEDIUM
170.	469-70	45.2	2.732	17.0	.906	2.4	1.0	79.2	2.8	SLIGHT

Core Lab.

Core Lab.

Core Lab.

OIL SHALE ASSAY

RP-9-OSA-31
PAGE 6

Sample Number	Depth, Feet	OIL		Oil Specific Gravity	WATER		Spent Shale Wt. %	Gas Plus Loss Wt. %	Tendency to Coke	REMARKS
		Gal/Ton	Wt. %		Gal/Ton	Wt. %				
171.	470-71	20.6	1.492	7.9	.916	2.2	0.9	89.5	1.7	NIL
172.	471-72	16.4	1.178	6.2	.910	2.4	1.0	91.3	1.5	NIL
173.	472-73	26.2	1.795	9.9	.908	1.9	0.8	87.3	2.0	NIL
174.	473-74	32.6	2.161	12.5	.918	2.2	0.9	84.5	2.1	SLIGHT
175.	474-75	16.3	1.178	6.2	.916	1.7	0.7	91.8	1.3	NIL
176.	475-76	16.0	1.178	6.0	.910	1.7	0.7	92.1	1.2	NIL
177.	476-77	36.1	2.313	13.7	.908	2.2	0.9	83.6	1.8	SLIGHT
178.	477-78	39.4	2.457	14.8	.898	2.6	1.1	81.5	2.6	SLIGHT
179.	478-79	47.5	2.841	17.7	.894	2.6	1.1	78.4	2.8	MEDIUM
180.	479-80	19.7	1.471	7.3	.888	1.4	0.6	90.1	2.0	NIL
181.	480-81	27.7	1.890	10.3	.888	1.9	0.8	87.4	1.5	NIL
182.	481-82	20.4	1.431	7.6	.898	1.9	0.8	89.9	1.7	NIL
183.	482-83	19.9	1.431	7.5	.908	2.2	0.9	90.1	1.5	NIL
184.	483-84	21.3	1.492	8.1	.914	1.9	0.8	89.6	1.5	NIL
185.	484-85	45.6	2.771	17.5	.918	2.6	1.1	78.3	3.1	SLIGHT
186.	485-86	18.2	1.305	6.9	.912	2.2	0.9	90.4	1.8	NIL
187.	486-87	8.3	1.627	3.2	.908	1.9	0.8	95.0	1.0	NIL
188.	487-88	10.4	1.772	3.9	.906	1.2	0.5	94.6	1.0	NIL
189.	488-89	16.6	1.242	6.3	.908	1.9	0.8	90.1	2.8	NIL
190.	489-90	15.9	1.178	5.9	.898	1.7	0.7	92.0	1.5	NIL
191.	490-91	27.1	1.846	10.0	.888	1.2	0.5	88.1	1.4	NIL
192.	491-92	21.4	1.492	8.0	.898	1.9	0.8	89.9	1.3	NIL
193.	492-93	23.6	1.667	8.9	.900	1.9	0.8	88.9	1.4	NIL
194.	493-94	27.0	1.844	10.2	.900	2.2	0.9	87.2	1.6	NIL
195.	494-95	17.8	1.305	6.7	.904	2.2	0.9	90.9	1.5	NIL
196.	495-96	11.6		4.4	.908	1.7	0.7	94.0	0.9	NIL
197.	496-97	7.7		2.9	.912	1.4	0.6	95.7	0.8	NIL
198.	497-98	12.9		4.9	.908	1.7	0.7	93.5	0.9	NIL
199.	498-99	20.5		7.8	.908	1.9	0.8	90.1	1.3	NIL
200.	499-00	14.3		5.4	.914	1.9	0.8	92.8	1.0	NIL

* Oil Specific Gravity is estimated when an insufficient amount of oil is recovered to measure the density.

Wabecany 300 132-495 (63') = 24.0 ppt

104.047

11-15 (55') = 25.4 ppt
458 & 491 (33') = 30.2 ppt

55' 95.243

Core Lab.

Core Lab.

Core Lab.