

OIL SHALE ASSAY
for
GULF MINERAL RESOURCES COMPANY

BZ-32
BOHANZA
UTAH

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

PAGE NO. 1

GULF MINERAL RESOURCES COMPANY FORMATION :
RZ-32 DLG. FLUID :
BONANZA LOCATION :
STATE : UTAH

DATE : 9-27-82
FILE NO. : 3808-OS-512
ANALYSTS : EW:CM:MJ
ELEVATION:

OIL SHALE ASSAY

ASTM D 3904-80

1	2	3	6	7	7	5	10	7	7	
SAMPLE NO.	DEPTH		OIL GAL/TON	OIL WT.%	WATER GAL/TON	WATER WT.%	OIL GRAV.	SHALE WT.%	GAS PLUS LOSS WT.%	TENDENCY TO CO
	FROM	TO	GPT-OIL	PCT-OIL	GPT-WATER	PCT-WATER	SPEC GRAV	SPNT-SHALE	GAS LOSS	
1.	641.6	-643.0	14.4	5.7	4.9	2.0	0.944	90.7	1.6	NIL (NONE)
2.	643.0	-644.0	13.1	5.1	5.2	2.2	0.942	90.6	2.1	NIL (NONE)
3.	644.0	-645.0	21.3	8.4	4.3	1.8	0.941	86.5	3.4	NIL (NONE)
4.	645.0	-646.0	25.3	9.9	3.3	1.4	0.932	86.5	2.3	NIL (NONE)
5.	646.0	-647.0	13.6	5.3	3.6	1.5	0.932	91.5	1.7	NIL (NONE)
6.	647.0	-648.0	16.2	6.3	6.0	2.5	0.934	89.4	1.8	NIL (NONE)
7.	648.0	-649.0	33.2	12.9	4.9	2.0	0.931	82.3	2.7	NIL (NONE)
8.	649.0	-650.0	11.5	4.5	4.6	1.9	0.933	92.1	1.6	NIL (NONE)
9.	650.0	-651.0	6.2	2.4	6.3	2.6	0.936	93.4	1.5	NIL (NONE)
10.	651.0	-652.0	5.5	2.1	7.4	3.1	0.921	93.2	1.6	NIL (NONE)
11.	652.0	-653.0	4.7	1.8	12.9	5.4	0.921	90.5	2.3	NIL (NONE)
12.	653.0	-654.0	2.0	0.8	12.8	5.3	0.921	92.9	1.0	NIL (NONE)
13.	654.0	-655.0	7.4	2.9	8.9	3.7	0.943	92.0	1.4	NIL (NONE)
14.	655.0	-656.0	4.2	1.6	12.4	5.2	0.921	92.3	0.9	NIL (NONE)
15.	656.0	-657.0	5.4	2.1	5.6	2.3	0.942	94.5	1.1	NIL (NONE)
16.	657.0	-658.0	4.6	1.8	5.7	2.4	0.921	95.0	0.9	NIL (NONE)
17.	658.0	-659.0	2.7	1.0	6.1	2.5	0.921	94.6	1.9	NIL (NONE)
18.	659.0	-660.0	1.6	0.6	8.9	3.7	0.921	94.9	0.8	NIL (NONE)
19.	660.0	-661.0	4.3	1.6	4.8	2.0	0.921	93.7	2.7	NIL (NONE)
20.	661.0	-662.0	5.6	2.1	4.9	2.0	0.921	93.5	2.3	NIL (NONE)
21.	662.0	-663.0	17.2	6.7	4.2	1.7	0.929	89.6	2.0	NIL (NONE)
22.	663.0	-664.0	12.8	5.0	3.1	1.3	0.928	91.5	2.2	NIL (NONE)
23.	664.0	-665.0	30.9	11.9	5.9	2.5	0.926	82.9	2.7	NIL (NONE)
24.	665.0	-666.0	28.1	10.9	4.4	1.8	0.929	84.1	2.8	NIL (NONE)

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Petroleum Reservoir Engineering
 DALLAS, TEXAS

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 BZ-32 DLG. FLUID :
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DATE : 9-27-82
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 ANALYSTS : EW:CM:MJ
 ELEVATION:

OIL SHALE ASSAY

ASTM D 3904-80

SAMPLE NO.	DEPTH	OIL GAL/TON	OIL WT.%	WATER GAL/TON	WATER WT.%	OIL GRAV.	SHALE WT.%	GAS PLUS LOSS WT.%	TENDENCY TO COK
25.	666.0 -667.0	12.7	5.0	4.6	1.9	0.933	89.5	3.6	NIL (NONE)
26.	667.0 -668.0	16.7	6.5	3.7	1.6	0.930	91.2	0.8	NIL (NONE)
27.	668.0 -669.0	10.7	4.2	3.8	1.6	0.936	79.9	14.3	NIL (NONE)
28.	669.0 -670.0	20.7	8.0	7.1	2.9	0.929	63.9	25.1	NIL (NONE)
29.	670.0 -671.0	19.0	7.4	3.4	1.4	0.931	89.2	2.0	NIL (NONE)
30.	671.0 -672.0	28.5	11.1	3.6	1.5	0.932	83.8	3.6	NIL (NONE)
31.	672.0 -673.0	23.5	9.1	3.8	1.6	0.930	87.3	2.0	NIL (NONE)
32.	673.0 -674.0	39.0	15.0	3.4	1.4	0.924	80.6	3.0	SLIGHT
33.	674.0 -675.0	37.6	14.5	6.3	2.6	0.926	79.8	3.0	NIL (NONE)
34.	675.0 -676.0	27.1	10.5	4.2	1.8	0.932	86.0	1.6	NIL (NONE)
35.	676.0 -677.0	19.1	7.4	4.8	2.0	0.929	88.6	1.9	NIL (NONE)
36.	677.0 -678.0	15.8	6.2	4.2	1.8	0.938	90.5	1.6	NIL (NONE)
37.	678.0 -679.0	11.3	4.4	5.2	2.2	0.942	92.2	1.2	NIL (NONE)
38.	679.0 -680.0	20.7	8.1	4.0	1.7	0.936	88.8	1.5	NIL (NONE)
39.	680.0 -681.0	14.7	5.7	3.3	1.4	0.939	91.4	1.4	NIL (NONE)
40.	681.0 -682.0	11.8	4.6	4.3	1.8	0.938	92.4	1.1	NIL (NONE)
41.	682.0 -683.0	13.4	5.2	4.0	1.6	0.930	91.8	1.4	NIL (NONE)
42.	683.0 -684.0	12.6	4.9	3.4	1.4	0.929	92.0	1.7	NIL (NONE)
43.	684.0 -685.0	11.1	4.3	2.9	1.2	0.932	92.9	1.6	NIL (NONE)
44.	685.0 -686.0	9.8	3.8	3.4	1.4	0.932	93.6	1.2	NIL (NONE)
45.	686.0 -687.0	16.0	6.2	1.9	0.8	0.927	91.7	1.3	NIL (NONE)
46.	687.0 -688.0	37.9	14.8	5.0	2.1	0.933	80.1	3.1	NIL (NONE)
47.	688.0 -689.0	25.4	9.9	6.4	2.7	0.931	84.8	2.7	NIL (NONE)
48.	689.0 -690.0	16.9	6.6	6.8	2.8	0.928	88.1	2.5	NIL (NONE)
49.	690.0 -691.0	25.3	9.9	5.2	2.2	0.933	85.4	2.6	SLIGHT

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

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GULF MINERAL RESOURCES COMPANY FORMATION :
BZ-32 DLG. FLUID :
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DATE : 9-27-82
FILE NO. : 3808-05-512
ANALYSTS : EW:CM:MJ
ELEVATION:

OIL SHALE ASSAY

ASTM D 3904-80

SAMPLE NO.	DEPTH	OIL GAL/TON	OIL WT.%	WATER GAL/TON	WATER WT.%	OIL GRAV.	SHALE WT.%	GAS PLUS LOSS WT.%	TENDENCY TO COK
50.	691.0 -692.0	24.0	9.3	6.2	2.6	0.930	85.8	2.3	NIL (NONE)
51.	692.0 -693.0	38.5	15.0	3.8	1.6	0.932	79.3	4.1	NIL (NONE)
52.	693.0 -694.0	58.4	22.6	5.1	2.1	0.929	69.9	5.3	MEDIUM
53.	694.0 -695.0	43.8	16.9	4.9	2.1	0.926	76.4	4.6	NIL (NONE)
54.	695.0 -696.0	70.3	29.2	11.0	4.6	0.997	60.0	6.2	HIGH
55.	696.0 -697.0	50.2	19.1	14.7	6.1	0.912	64.5	10.3	SLIGHT
56.	697.0 -698.0	5.9	2.3	23.4	9.8	0.921	62.8	25.1	MEDIUM
57.	698.0 -699.0	38.6	14.7	7.9	3.3	0.913	74.6	7.4	NIL (NONE)
58.	699.0 -700.0	49.0	18.8	5.3	2.2	0.921	74.4	4.6	SLIGHT
59.	700.0 -701.0	47.0	18.1	4.3	1.8	0.925	75.6	4.4	NIL (NONE)
60.	701.0 -702.0	24.2	9.5	2.9	1.2	0.937	86.4	2.9	NIL (NONE)
61.	702.0 -703.0	17.4	6.8	5.4	2.3	0.936	88.7	2.2	NIL (NONE)
62.	703.0 -704.0	33.8	13.1	3.9	1.6	0.928	82.6	2.7	NIL (NONE)
63.	704.0 -705.0	44.2	17.1	3.7	1.5	0.924	77.8	3.6	NIL (NONE)
64.	705.0 -706.0	17.0	6.6	5.8	2.4	0.926	89.2	1.8	NIL (NONE)
65.	706.0 -707.0	16.7	6.5	6.4	2.7	0.929	88.8	2.1	NIL (NONE)
66.	707.0 -708.0	20.0	7.7	6.9	2.9	0.926	87.4	2.0	NIL (NONE)
67.	708.0 -709.0	56.0	21.6	3.5	1.4	0.925	72.5	4.4	NIL (NONE)
68.	709.0 -710.0	36.6	14.1	4.1	1.7	0.923	79.6	4.6	NIL (NONE)
69.	710.0 -711.0	44.2	17.1	3.0	1.3	0.927	77.6	4.1	NIL (NONE)
70.	711.0 -712.0	6.2	2.4	4.2	1.8	0.921	88.8	7.1	NIL (NONE)
71.	712.0 -713.0	21.8	8.2	3.0	1.2	0.900	88.9	1.7	NIL (NONE)
72.	713.0 -714.0	42.6	16.1	3.9	1.6	0.907	78.6	3.6	NIL (NONE)
73.	714.0 -715.0	16.5	6.3	6.0	2.5	0.918	89.8	1.4	NIL (NONE)
74.	715.0 -716.0	17.7	6.8	7.7	3.2	0.921	88.4	1.6	NIL (NONE)

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Petroleum Reservoir Engineering
 DALLAS, TEXAS

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DATE : 9-27-82
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OIL SHALE ASSAY

ASTM D 3904-80

SAMPLE NO.	DEPTH	OIL GAL/TON	OIL WT.%	WATER GAL/TON	WATER WT.%	OIL GRAV.	SHALE WT.%	GAS PLUS LOSS WT.%	TENDENCY TO CO
75.	716.0 -717.0	30.8	11.9	6.0	2.5	0.923	83.0	2.7	NIL (NONE)
76.	717.0 -718.0	51.2	20.0	3.8	1.6	0.937	74.0	4.4	NIL (NONE)
77.	718.0 -719.0	19.0	7.4	6.4	2.7	0.934	87.3	2.6	NIL (NONE)
78.	719.0 -720.0	10.3	4.0	10.6	4.4	0.926	90.1	1.5	NIL (NONE)
79.	720.0 -721.0	10.5	4.1	10.2	4.2	0.932	89.6	2.0	NIL (NONE)
80.	721.0 -722.0	9.5	3.7	8.9	3.7	0.933	91.2	1.4	NIL (NONE)
81.	722.0 -723.0	22.3	8.6	4.8	2.0	0.924	87.4	2.0	NIL (NONE)
82.	723.0 -724.0	39.8	15.3	2.8	1.2	0.919	80.2	3.4	NIL (NONE)
83.	724.0 -725.0	35.2	13.6	2.6	1.1	0.923	82.7	2.7	NIL (NONE)
84.	725.0 -726.0	25.4	9.8	2.7	1.1	0.921	86.3	2.8	NIL (NONE)
85.	726.0 -727.0	21.1	8.1	4.5	1.9	0.926	87.3	2.6	NIL (NONE)
86.	727.0 -728.0	23.3	9.0	4.8	2.0	0.929	86.9	2.1	NIL (NONE)
87.	728.0 -729.0	33.5	12.9	3.9	1.6	0.925	83.0	2.5	NIL (NONE)
88.	729.0 -730.0	21.1	8.2	3.9	1.6	0.928	87.8	2.4	NIL (NONE)
89.	730.0 -731.0	19.0	7.4	6.8	2.9	0.932	87.6	2.2	NIL (NONE)
90.	731.0 -732.0	12.0	4.7	8.1	3.4	0.937	89.8	2.1	NIL (NONE)
91.	732.0 -733.0	10.4	4.1	7.6	3.2	0.943	90.3	2.4	NIL (NONE)
92.	733.0 -734.0	13.2	5.2	7.4	3.1	0.939	89.5	2.3	NIL (NONE)
93.	734.0 -735.0	20.1	7.9	6.7	2.8	0.936	87.2	2.1	NIL (NONE)
94.	735.0 -736.0	16.9	6.6	3.5	1.4	0.936	90.2	1.8	NIL (NONE)
95.	736.0 -737.0	11.7	4.6	4.4	1.9	0.936	92.5	1.1	NIL (NONE)
96.	737.0 -738.0	5.3	2.1	11.5	4.8	0.921	91.9	1.3	NIL (NONE)
97.	738.0 -739.0	6.8	2.6	10.3	4.3	0.921	91.9	1.1	NIL (NONE)
98.	739.0 -740.0	4.2	1.6	11.0	4.6	0.921	92.2	1.6	NIL (NONE)
99.	740.0 -741.0	12.1	4.7	5.3	2.2	0.921	91.5	1.7	NIL (NONE)

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 DALLAS, TEXAS

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OIL SHALE ASSAY

ASTM D 3904-80

SAMPLE NO.	DEPTH	OIL GAL/TON	OIL WT.%	WATER GAL/TON	WATER WT.%	OIL GRAV.	SHALE WT.%	GAS PLUS LOSS WT.%	TENDENCY TO CO
100.	741.0 -742.0	20.0	7.7	3.1	1.3	0.921	89.4	1.7	NIL (NONE)
101.	742.0 -743.0	7.2	2.9	7.1	3.0	0.946	93.1	1.1	NIL (NONE)
102.	743.0 -744.0	13.8	5.4	3.6	1.5	0.941	91.9	1.2	NIL (NONE)
103.	744.0 -745.0	36.1	14.0	3.7	1.5	0.933	82.0	2.5	NIL (NONE)
104.	745.0 -746.0	13.2	5.2	3.3	1.4	0.937	92.1	1.4	NIL (NONE)
105.	746.0 -747.0	8.1	3.1	4.7	1.9	0.933	93.5	1.4	NIL (NONE)
106.	747.0 -748.0	8.0	3.1	8.6	3.6	0.921	92.1	1.2	NIL (NONE)
107.	748.0 -749.0	22.1	8.6	2.8	1.2	0.932	88.2	2.0	NIL (NONE)
108.	749.0 -750.0	33.0	12.9	3.6	1.5	0.934	83.1	2.5	NIL (NONE)
109.	750.0 -751.0	7.6	3.0	6.8	2.9	0.938	89.9	4.2	NIL (NONE)
110.	751.0 -752.0	5.6	2.2	9.9	4.1	0.945	92.7	1.0	NIL (NONE)
111.	752.0 -753.0	3.8	1.4	13.4	5.6	0.921	91.6	1.3	NIL (NONE)
112.	753.0 -754.0	4.5	1.7	9.8	4.1	0.921	92.1	2.1	NIL (NONE)
113.	754.0 -755.0	7.4	2.9	7.1	3.0	0.942	92.4	1.7	NIL (NONE)
114.	755.0 -756.0	25.4	9.9	4.5	1.9	0.938	85.9	2.3	NIL (NONE)
115.	756.0 -757.0	4.4	1.7	10.7	4.5	0.921	92.5	1.4	NIL (NONE)
116.	757.0 -758.0	20.4	8.1	7.0	2.9	0.947	87.4	1.6	NIL (NONE)
117.	758.0 -759.0	16.9	6.6	4.7	2.0	0.940	89.7	1.7	NIL (NONE)
118.	759.0 -760.0	7.4	2.9	6.8	2.8	0.943	92.9	1.3	NIL (NONE)
119.	760.0 -761.0	9.4	3.7	6.8	2.9	0.936	91.6	1.9	NIL (NONE)
120.	761.0 -762.0	4.9	1.9	8.7	3.6	0.921	93.2	1.3	NIL (NONE)
121.	762.0 -763.0	5.5	2.1	6.4	2.7	0.921	94.3	0.9	NIL (NONE)
122.	763.0 -764.0	6.5	2.5	6.9	2.9	0.941	92.6	2.0	NIL (NONE)
123.	764.0 -765.0	6.1	2.4	7.8	3.2	0.939	92.9	1.5	NIL (NONE)
124.	765.0 -766.0	7.2	2.8	7.4	3.1	0.944	92.9	1.1	NIL (NONE)

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OIL SHALE ASSAY

ASTM D 3904-80

SAMPLE NO.	DEPTH	OIL GAL/TON	OIL WT.%	WATER GAL/TON	WATER WT.%	OIL GRAV.	SHALE WT.%	GAS PLUS LOSS WT.%	TENDENCY TO CO
125.	766.0 -767.0	6.6	2.6	7.5	3.1	0.945	93.1	1.2	NIL (NONE)
126.	767.0 -768.0	6.9	2.6	6.0	2.5	0.921	93.8	1.1	NIL (NONE)
127.	768.0 -769.0	9.8	3.8	5.6	2.3	0.939	87.5	6.4	NIL (NONE)
128.	769.0 -770.0	5.8	2.3	7.1	2.9	0.942	93.4	1.3	NIL (NONE)
129.	770.0 -771.0	3.1	1.2	10.1	4.2	0.921	93.4	1.2	NIL (NONE)
130.	771.0 -772.0	3.1	1.2	11.6	4.9	0.921	93.0	0.9	NIL (NONE)
131.	772.0 -773.0	7.4	2.8	6.5	2.7	0.921	93.5	0.9	NIL (NONE)
132.	773.0 -774.0	4.3	1.7	13.3	5.5	0.921	92.8	0.0	NIL (NONE)
133.	774.0 -775.0	2.4	0.9	14.5	6.1	0.921	92.9	0.1	NIL (NONE)
134.	775.0 -776.0	1.7	0.6	15.0	6.2	0.921	93.2	-0.1	NIL (NONE)
135.	776.0 -777.0	2.7	1.1	14.0	5.8	0.921	91.9	1.2	NIL (NONE)
136.	777.0 -778.0	1.6	0.6	13.5	5.6	0.921	93.6	0.2	NIL (NONE)
137.	778.0 -779.0	10.2	3.9	7.1	3.0	0.916	92.7	0.5	NIL (NONE)
138.	779.0 -780.0	5.9	2.3	8.9	3.7	0.921	93.8	0.2	NIL (NONE)
139.	780.0 -781.0	2.5	1.0	10.1	4.2	0.921	94.2	0.7	NIL (NONE)
140.	781.0 -782.0	6.3	2.4	7.6	3.2	0.932	93.9	0.5	NIL (NONE)
141.	782.0 -783.0	9.9	3.8	4.3	1.8	0.921	93.2	1.2	NIL (NONE)
142.	783.0 -784.0	6.2	2.4	6.5	2.7	0.921	93.8	1.1	NIL (NONE)
143.	784.0 -785.0	1.7	0.7	9.2	3.8	0.921	95.0	0.5	NIL (NONE)
144.	785.0 -786.0	4.6	1.8	6.4	2.7	0.921	94.6	0.9	NIL (NONE)
145.	786.0 -787.0	6.4	2.5	6.2	2.6	0.921	94.1	0.9	NIL (NONE)
146.	787.0 -788.0	7.7	3.0	5.5	2.3	0.921	93.8	1.0	NIL (NONE)
147.	788.0 -789.0	2.9	1.1	8.9	3.7	0.921	94.2	0.9	NIL (NONE)
148.	789.0 -790.0	2.4	0.9	8.7	3.6	0.921	94.4	1.1	NIL (NONE)
149.	790.0 -791.0	4.3	1.6	9.1	3.8	0.921	93.3	1.3	NIL (NONE)

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

PAGE NO. 7

GULF MINERAL RESOURCES COMPANY FORMATION :
BZ-32 DLG. FLUID :
BONANZA LOCATION :
STATE : UTAH

DATE : 9-27-82
FILE NO. : 3808-OS-512
ANALYSTS : EW:CM:MJ
ELEVATION:

OIL SHALE ASSAY

ASTM D 3904-80

SAMPLE NO.	DEPTH	OIL GAL/TON	OIL WT.%	WATER GAL/TON	WATER WT.%	OIL GRAV.	SHALE WT.%	GAS PLUS LOSS WT.%	TENDENCY TO CO
150.	791.0 -792.0	4.2	1.6	9.1	3.8	0.921	93.2	1.4	NIL (NONE)
151.	792.0 -793.0	2.5	0.9	12.6	5.3	0.921	92.6	1.2	NIL (NONE)
152.	793.0 -794.0	0.9	0.3	13.2	5.5	0.921	93.0	1.2	NIL (NONE)
153.	794.0 -795.0	1.7	0.7	8.6	3.6	0.921	95.0	0.7	NIL (NONE)
154.	795.0 -796.0	2.9	1.1	5.7	2.4	0.921	95.5	1.0	NIL (NONE)
155.	796.0 -797.0	6.9	2.6	5.0	2.1	0.921	93.7	1.6	NIL (NONE)
156.	797.0 -798.0	3.6	1.4	8.6	3.6	0.921	93.7	1.4	NIL (NONE)
157.	798.0 -799.0	3.5	1.3	7.2	3.0	0.921	94.5	1.1	NIL (NONE)
158.	799.0 -800.0	12.6	4.9	3.6	1.5	0.936	92.2	1.4	NIL (NONE)
159.	800.0 -801.0	15.0	5.8	3.6	1.5	0.934	90.4	2.3	NIL (NONE)
160.	801.0 -802.0	31.4	12.2	4.0	1.7	0.928	83.0	3.2	NIL (NONE)
161.	802.0 -803.0	10.0	3.8	4.2	1.8	0.924	93.1	1.3	NIL (NONE)
162.	803.0 -804.0	8.9	3.4	3.6	1.5	0.928	93.2	1.8	NIL (NONE)
163.	804.0 -805.0	19.5	7.5	5.1	2.1	0.925	88.0	2.4	NIL (NONE)
164.	805.0 -806.0	40.6	15.6	3.9	1.6	0.920	79.6	3.2	NIL (NONE)
165.	806.0 -807.0	16.4	6.4	4.2	1.7	0.931	90.2	1.7	NIL (NONE)
166.	807.0 -808.0	9.1	3.5	7.0	2.9	0.930	92.2	1.4	NIL (NONE)
167.	808.0 -809.0	9.7	3.8	5.3	2.2	0.929	92.8	1.2	NIL (NONE)
168.	809.0 -810.0	10.3	4.0	4.2	1.7	0.925	92.9	1.4	NIL (NONE)
169.	810.0 -811.0	14.0	5.4	5.6	2.3	0.927	90.3	2.0	NIL (NONE)
170.	811.0 -812.0	10.7	4.2	3.0	1.3	0.928	93.1	1.4	NIL (NONE)
171.	812.0 -813.0	6.9	2.7	9.0	3.7	0.926	92.0	1.5	NIL (NONE)
172.	813.0 -814.0	4.7	1.8	14.4	6.0	0.921	91.3	0.9	NIL (NONE)
173.	814.0 -815.0	3.3	1.3	10.6	4.4	0.921	93.4	0.9	NIL (NONE)
174.	815.0 -816.0	3.6	1.4	9.9	4.1	0.921	93.8	0.7	NIL (NONE)

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

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GULF MINERAL RESOURCES COMPANY FORMATION :
BZ-32 DLG. FLUID :
BONANZA LOCATION :
STATE : UTAH

DATE : 9-27-82
FILE NO. : 3808-OS-512
ANALYSTS : EW:CM:MJ
ELEVATION:

OIL SHALE ASSAY

ASTM D 3904-80

SAMPLE NO.	DEPTH	OIL GAL/TON	OIL WT.%	WATER GAL/TON	WATER WT.%	OIL GRAV.	SHALE WT.%	GAS PLUS LOSS WT.%	TENDENCY TO CO
175.	816.0 -817.0	5.0	1.9	9.1	3.8	0.921	93.2	1.1	NIL (NONE)
176.	817.0 -818.0	9.5	3.7	5.6	2.3	0.931	92.7	1.3	NIL (NONE)
177.	818.0 -819.0	10.8	4.2	5.1	2.1	0.925	92.3	1.4	NIL (NONE)
178.	819.0 -820.0	10.6	4.1	5.4	2.2	0.929	92.2	1.4	NIL (NONE)
179.	820.0 -821.0	7.2	2.8	5.6	2.3	0.924	93.0	1.9	NIL (NONE)
180.	821.0 -822.0	6.6	2.5	6.0	2.5	0.926	93.3	1.7	NIL (NONE)
181.	822.0 -823.0	12.3	4.7	4.9	2.0	0.922	91.5	1.8	NIL (NONE)
182.	823.0 -824.0	21.2	8.2	5.4	2.2	0.924	86.9	2.7	NIL (NONE)
183.	824.0 -825.0	10.2	3.9	3.3	1.4	0.917	93.3	1.4	NIL (NONE)
184.	825.0 -826.0	6.2	2.4	5.2	2.2	0.921	94.3	1.2	NIL (NONE)
185.	826.0 -827.0	8.6	3.3	3.0	1.3	0.915	92.0	3.5	NIL (NONE)
186.	827.0 -828.0	13.1	5.0	3.3	1.4	0.909	92.0	1.7	NIL (NONE)
187.	828.0 -829.0	9.4	3.6	4.1	1.7	0.912	93.2	1.5	NIL (NONE)
188.	829.0 -830.0	5.8	2.2	7.9	3.3	0.919	93.2	1.3	NIL (NONE)
189.	830.0 -831.0	8.1	3.1	9.6	4.0	0.921	91.3	1.6	NIL (NONE)
190.	831.0 -832.0	5.2	2.0	10.2	4.3	0.921	90.7	3.0	NIL (NONE)
191.	832.0 -833.0	10.5	4.1	5.8	2.4	0.921	92.0	1.5	NIL (NONE)
192.	833.0 -834.0	7.9	3.0	14.5	6.1	0.924	89.3	1.6	NIL (NONE)
193.	834.0 -835.0	21.0	8.1	8.1	3.4	0.928	86.2	2.3	NIL (NONE)
194.	835.0 -836.0	7.0	2.7	9.2	3.8	0.926	92.3	1.1	NIL (NONE)
195.	836.0 -837.0	8.8	3.4	6.0	2.5	0.929	92.5	1.6	NIL (NONE)
196.	837.0 -838.0	19.3	7.4	5.7	2.4	0.924	88.2	2.0	NIL (NONE)
197.	838.0 -839.0	35.3	13.5	6.3	2.6	0.918	80.9	2.9	NIL (NONE)
198.	839.0 -840.0	17.8	6.8	7.1	3.0	0.921	88.3	1.9	NIL (NONE)
199.	840.0 -841.0	15.4	5.9	6.0	2.5	0.923	89.6	1.9	NIL (NONE)

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

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OIL SHALE ASSAY

ASTM D 3904-80

SAMPLE NO.	DEPTH	OIL GAL/TON	OIL WT. %	WATER GAL/TON	WATER WT. %	OIL GRAV.	SHALE WT. %	GAS PLUS LOSS WT. %	TENDENCY TO CO
200.	841.0 -842.0	24.2	9.3	4.7	2.0	0.922	86.2	2.6	NIL (NONE)
201.	842.0 -843.0	35.6	13.7	7.1	3.0	0.926	80.6	2.7	NIL (NONE)
202.	843.0 -844.0	6.0	2.3	8.4	3.5	0.934	93.1	1.0	NIL (NONE)
203.	844.0 -845.0	4.5	1.7	8.8	3.7	0.921	94.3	0.3	NIL (NONE)
204.	845.0 -846.0	7.5	2.9	9.5	4.0	0.929	92.6	0.6	NIL (NONE)
205.	846.0 -847.0	7.2	2.8	8.5	3.6	0.934	92.4	1.2	NIL (NONE)
206.	847.0 -848.0	11.4	4.5	7.1	3.0	0.935	92.0	0.6	NIL (NONE)
207.	848.0 -849.0	12.4	4.8	6.0	2.5	0.927	91.6	1.1	NIL (NONE)
208.	849.0 -850.0	16.6	6.4	5.3	2.2	0.931	90.2	1.2	NIL (NONE)
209.	850.0 -851.0	13.8	5.3	8.5	3.5	0.926	90.1	1.0	NIL (NONE)
210.	851.0 -852.0	13.0	5.0	7.9	3.3	0.928	90.7	1.0	NIL (NONE)
211.	852.0 -853.0	27.1	10.5	4.5	1.9	0.925	85.5	2.1	NIL (NONE)
212.	853.0 -854.0	12.5	4.8	6.9	2.9	0.917	90.9	1.5	NIL (NONE)
213.	854.0 -855.0	9.7	3.7	8.6	3.6	0.910	91.7	1.0	NIL (NONE)
214.	855.0 -856.0	17.6	6.7	6.1	2.6	0.920	89.5	1.2	NIL (NONE)
215.	856.0 -857.0	25.7	10.0	6.0	2.5	0.932	85.5	2.0	NIL (NONE)
216.	857.0 -858.0	22.9	9.0	6.5	2.7	0.938	86.7	1.6	NIL (NONE)
217.	858.0 -859.0	5.5	2.1	7.8	3.3	0.921	94.3	0.3	NIL (NONE)
218.	859.0 -859.8	7.4	2.9	8.1	3.4	0.932	92.9	0.8	NIL (NONE)

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