

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CORE ANALYSIS REPORT

FOR

DAKOTA RESOURCES, INC.

SANTA FE PACIFIC 28 NO. 12
WILDCAT
MCKINLEY COUNTY, NEW MEXICO



CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

DAKOTA RESOURCES, INC.
 SANTA FE PACIFIC 28 NO. 12
 WILDCAT
 MCKINLEY COUNTY, NEW MEXICO

DATE : 9-9-81
 FORMATION : HOSPAH
 DRLG. FLUID: WATER BASE GEL
 LOCATION : SW NW SEC. 28 T17N-R9W

FILE NO : RP-3-3131
 ANALYSTS : GG-DG
 ELEVATION: 7024 GL

CONVENTIONAL ANALYSIS

SAMPLE NUMBER	DEPTH	PERM. TO MAXIMUM	AIR (MD) VERTICAL	POR. FLD	FLUID SATS.		DESCRIPTION
					OIL	WTR	
1	1461.0-62.0	0.01	<0.01	10.9	0.9	86.2	SD GRY FGRN SHLY ARG
2	1462.0-63.0	0.03	<0.01	9.9	7.1	77.7	SD GRY FGRN SHLY ARG
3	1463.0-64.0	0.34	<0.01	11.4	0.9	85.1	SD GRY FGRN SHLY ARG
4	1464.0-65.0	<0.01	<0.01	10.9	6.4	79.8	SD GRY FGRN SHLY ARG
5	1465.0-66.0	0.07	0.01	11.9	4.2	79.2	SD GRY FGRN SHL/LAM ARG
6	1466.0-67.0	6.20	0.23	11.5	4.3	81.7	SD GRY FGRN SHLY ARG
7	1467.0-68.0	0.01	<0.01	12.9	3.9	84.5	SD GRY FGRN SHL LAM ARG
8	1468.0-69.0	0.03	0.01	11.7	6.0	80.3	SD GRY FGRN SHLY ARG
9	1469.0-70.0	0.05	0.01	13.4	3.7	82.1	SD GRY FGRN SHLY ARG
10	1470.0-71.0	0.03	0.01	13.5	5.2	80.0	SD GRY FGRN SHLY ARG
11	1471.0-72.0	0.02	0.01	10.2	4.9	85.3	SD GRY FGRN SHLY ARG
12	1472.0-73.0	0.75	0.01	11.9	1.7	84.9	SD GRY FGRN SHLY ARG
13	1473.0-74.0	0.01	0.01	13.6	0.7	89.2	SD GRY FGRN SHLY ARG
14	1474.0-75.0	0.25	0.39	17.6	1.1	80.7	SD GRY FGRN SHLY ARG
15	1475.0-76.0	1.30	0.22	15.9	0.6	84.3	SD GRY FGRN SHLY ARG
16	1476.0-77.0	1.70	0.45	15.8	0.6	84.8	SD LT-GRY FGRN SHLY ARG
17	1477.0-78.0	0.19	0.09	16.2	0.6	84.6	SD GRY FGRN SHLY ARG
18	1478.0-79.0	0.71	0.31	13.8	5.1	79.3	SD GRY FGRN SHLY ARG
19	1479.0-80.0	0.01	0.01	9.4	1.1	79.8	SD GRY FGRN SHLY ARG
20	1480.0-81.0	0.74	0.02	14.0	3.6	72.9	SD GRY FGRN SHLY ARG
21	1481.0-82.0	1.80	0.16	13.3	3.8	76.7	SD GRY FGRN SHLY ARG
22	1482.0-83.0	1.10	0.09	14.5	0.7	82.2	SD GRY FGRN SHLY ARG
23	1483.0-84.0	0.12	0.08	13.6	3.7	80.9	SD GRY FGRN SHLY ARG
24	1484.0-85.0	0.02	<0.01	11.5	6.1	76.5	SD GRY FGRN SHLY ARG
25	1485.0-86.0	1.90	0.04	8.5	2.4	85.9	SD GRY FGRN SHL/LAM ARG
26	1486.0-87.0	0.08	0.01	10.3	6.8	81.6	SD GRY FGRN SHL/LAM ARG
27	1487.0-88.0	0.12	0.04	11.3	0.0	81.4	SD GRY FGRN SHLY ARG
28	1488.0-89.0	0.01	<0.01	10.4	0.0	84.6	SD GRY FGRN SHLY ARG

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

DAKOTA RESOURCES, INC.
 SANTA FE PACIFIC 28 NO. 12

DATE : 9-9-81
 FORMATION : HOSPAH

FILE NO : RP-3-3131
 ANALYSTS : GG-DS

CONVENTIONAL ANALYSIS

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM VERTICAL	POR. FLD	FLUID SATS.		DESCRIPTION
				OIL	WTR	
29	1489.0-90.0	0.02	11.2	1.8	83.0	SD GRY FGRN SHL/LAM ARG
30	1490.0-91.0	0.29	10.3	1.0	79.6	SD GRY FGRN SHL/LAM ARG
31	1491.0-92.0	2.00	8.5	5.9	83.5	SD GRY FGRN SHL/LAM ARG
32	1492.0-93.0		9.3	7.5	80.6	SD GRY FGRN SL/SHL/LAM ARG
33	1493.0-94.0	0.08	9.8	0.0	79.6	SD GRY FGRN SHLY ARG
34	1494.0-95.0	0.04	13.1	0.8	77.9	SD GRY SHLY ARG
35	1495.0-96.0	8.30	18.2	2.7	79.7	SD GRY FGRN SHLY ARG
36	1496.0-97.0	68.	18.2	4.4	81.9	SD GRY FGRN SL/SHL/LAM ARG
37	1497.0-98.0	64.	16.1	0.6	82.6	SD GRY FGRN SL/SHL/LAM ARG
38	1498.0-99.0		16.9	7.7	81.1	SD GRY FGRN SL/SHL/LAM ARG
39	1499.0-00.0	0.59	14.9	4.7	75.2	SD GRY FGRN SL/SHL/LAM
40	1500.0-01.0	0.02	13.9	5.0	78.4	SD GRY FGRN SHL/LAM ARG
41	1501.0-02.0	0.61	10.2	8.8	83.8	SD GRY FGRN SHLY ARG
42	1502.0-03.0	277.	22.1	32.6	56.6	SD BRN MGRN SL/SHLY ARG
43	1503.0-04.0	2.80	9.0	5.6	85.6	SHL BLK VFGRN SD
44	1504.0-05.0		9.3	9.7	85.0	SHL BLK VFGRN SD
45	1505.0-06.0	1.80	13.7	0.7	84.7	SD LT-GRY FGRN SHL/LAM ARG
46	1506.0-07.0	0.27	16.9	0.6	84.0	SD LT-GRY FGRN SL/SHL ARG
47	1507.0-08.0	0.40	11.2	20.5	70.5	SD GRY FGRN V/SHL WT/LAM
48	1508.0-09.0	0.04	13.5	1.5	79.3	SD GRY FGRN V/SHL ARG
49	1509.0-10.0	168.	14.5	1.4	84.1	SD GRY MGRN SL/SHL ARG
50	1510.0-11.0	0.59	16.4	0.6	79.9	SD GRY MGRN SL/SHL ARG
51	1511.0-12.0	0.12	10.0	7.0	93.0	SD GRY FGRN SHL/LAM ARG
52	1512.0-13.0		8.9	7.9	84.3	SD GRY FGRN V/SHL
53	1513.0-14.0	13.	9.6	5.2	88.5	SD BRY FGRN VSHL
54	1514.0-15.0	0.08	16.3	4.9	81.6	SD LT-GRY FGRN SL/SHL
55	1515.0-16.0	2.10	17.8	6.2	79.8	SD LT-GRY FGRN SL/SHL
56	1516.0-17.0	0.11	15.7	12.1	73.9	SD GRY FGRN V/SHL LAM
57	1517.0-18.0	1.30	17.3	0.6	85.5	SD GRY FGRN V/SHL LAM
58	1518.0-19.0	0.25	14.4	11.8	65.3	SD GRY FGRN V/SHL LAM

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

DAKOTA RESOURCES, INC.
 SANTA FE PACIFIC 28 NO. 12

DATE : 9-9-81
 FORMATION : HOSPAH

FILE NO : RP-3-3131
 ANALYSTS : GG-DS

CONVENTIONAL ANALYSIS

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM VERTICAL	POR. FLD	FLUID SATS.		DESCRIPTION
				OIL	WTR	
59	1519.0-20.0	0.08	14.6	17.8	70.0	SD GRY FGFRN V/SHL LAM
60	1520.0-21.0	0.19	14.6	8.9	78.8	SE GRY FGFRN V/SHL LAM
61	1521.0-22.0		21.2	60.4	33.0	SD DK-GRY FGFRN CARB SHLY
62	1522.0-23.0	0.61	16.7	3.0	85.0	SD LT-GRY FGFRN ARG
63	1523.0-24.0	0.07	14.4	4.9	66.7	SD GRY FGFRN SHL/LAM ARG
64	1524.0-25.0	0.01	6.4	7.8	75.0	SD GRY FGFRN SL/SHL LAM ARG
65	1525.0-26.0		9.1	2.2	89.0	SD GRY FGFRN V/SHL LAM
66	1526.0-27.0		9.6	1.0	92.7	SD GRY FGFRN V/SHL LAM
67	1527.0-28.0		9.4	5.3	87.2	SHL BLK VFGRN SD R
68	1528.0-29.0		9.6	7.3	84.4	SHL BLK VFGRN SD R
69	1529.0-30.0		10.6	6.6	84.0	SHL BLK VFGRN SD R
70	1530.0-31.0	0.04	9.7	7.2	82.5	SD GRY FGFRN SHL LAM ARG
71	1531.0-32.0		11.8	8.5	74.6	SD GRY FGFRN V/SHL LAM ARG
72	1532.0-33.0	0.05	10.9	6.4	80.7	SD GRY FGFRN V/SHL LAM ARG
73	1533.0-34.0	0.05	10.0	11.9	76.2	SD GRY FGFRN V/SHL LAM ARG
74	1534.0-35.0		15.0	1.3	77.3	SD DK-GRY FGFRN V/SHLY
75	1535.0-36.0	0.24	15.3	0.7	79.1	SD GRY FGFRN SHLY ARG
76	1536.0-37.0		10.0	5.0	89.0	SHL BLK VFGRN SD
77	1537.0-38.0	6.80	20.8	3.4	81.7	SD BLK FGFRN SHL ARG
78	1538.0-39.0	14.	18.4	2.7	83.7	SD LT-GRY FGFRN SL/SHL ARG
79	1539.0-40.0	10.	15.7	0.6	82.8	SD LT-GRY FGFRN SHL LAM ARG
80	1540.0-41.0	3.20	13.3	5.3	82.0	SD LT-GRY FGFRN SHL LAM ARG
81	1541.0-42.0		8.2	34.1	57.3	SD GRY FGFRN SHLY ARG
82	1542.0-43.0	21.	17.6	0.6	85.8	SD GRY FGFRN SL/SHL LAM ARG
83	1543.0-44.0	3.20	15.5	0.0	83.2	SD GRY FGFRN SHL/LAM ARG
84	1544.0-45.0	1.10	15.6	5.1	80.1	SD GRY FGFRN SHL LAM ARG
85	1545.0-46.0	0.11	10.6	10.4	81.1	SD GRY FGFRN SHL LAM ARG
86	1546.0-47.0		8.5	5.9	84.7	SD GRY FGFRN V/SHLY
87	1547.0-48.0	0.03	9.2	7.6	82.6	SD GRY FGFRN SHL LAM ARG
88	1548.0-49.0	0.23	13.5	0.7	82.2	SD GRY FGFRN SL/SHL LAM ARG

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FILE NO : RP-3-3131
 ANALYSTS : GG-DS

DATE : 9-9-81
 FORMATION : HOSFAH

DAKOTA RESOURCES, INC.
 SANTA FE PACIFIC 28 NO. 12

CONVENTIONAL ANALYSIS

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM VERTICAL	POR. FLD	FLUID SATS.		DESCRIPTION
				OIL	WTR	
89	1549.0-50.0	25.	17.1	2.9	80.7	SD GRY SL/SHL LAM ARG
90	1550.0-51.0		9.3	9.7	81.7	SD GRY FGGRN SHL LAM ARG
91	1551.0-52.0		9.0	1.1	91.1	SHL BLK VFGRN SD
92	1552.0-53.0		11.6	7.8	85.3	SHL BLK VFGRN SD
93	1553.0-54.0	0.54	17.1	0.6	87.1	SD GRY FGGRN SHLY ARG W/LAM
94	1554.0-55.0	0.27	14.1	3.5	78.7	SD GRY FGGRN SHLY ARG W/LAM
95	1555.0-56.0	0.49	6.5	10.8	75.4	SD GRY FGGRN SHLY ARG W/LAM
96	1556.0-57.0	0.52	18.9	3.7	79.4	SD GRY SHLY ARG W/LAM
97	1557.0-58.0	0.37	14.4	19.4	66.7	SD GRY FGGRN SHLY ARG W/LAM
98	1558.0-59.0	0.73	15.1	23.2	63.6	SD GRY SHLY ARG W/LAM
99	1559.0-60.0	1.80	17.6	3.4	80.7	SD GRY FGGRN SHLY ARG W/LAM
100	1560.0-61.0	0.92	14.0	7.9	80.0	SD GRY FGGRN SHLY ARG W/LAM
101	1561.0-62.0	0.43	17.4	3.4	86.2	SD DK-GRY FGGRN V/SHLY
102	1562.0-63.0		16.1	3.1	7.2	SD GRY FGGRN SL/SHL LAM ARG
103	1563.0-64.0	294.	16.4	0.6	82.9	SD GRY MGRY SL/SHLY ARG
104	1564.0-65.0	596.	15.2	0.7	82.2	SD GRY MGRN SL/SHLY ARG
105	1565.0-66.0	280.	16.9	0.0	83.4	SD GRY MGRN SL/SHLY ARG
106	1566.0-67.0	796.	17.2	0.0	81.3	SD GRY MGRN SL/SHLY ARG
107	1567.0-68.0	179.	17.7	6.8	70.1	SD GRY MGRN SL/SHLY ARG
108	1568.0-69.0	13.	11.4	9.6	73.7	SD GRY FGGRN SHL LAM ARG
109	1569.0-70.0	0.03	12.7	5.5	79.5	SD GRY FGGRN SHL LAM ARG
110	1570.0-71.0		15.8	20.9	47.5	SD GRY FGGRN V/SHLY
111	1571.0-72.0	47.	18.1	1.1	77.2	SD GRY MGRN SL/SHLY ARG
112	1572.0-73.0	148.	16.3	0.6	82.8	SD GRY MGRN SL/SHL ARG
113	1573.0-74.0	312.	17.1	1.2	85.4	SD GRY MGRN SL/SHLY ARG
114	1574.0-75.0	260.	16.8	0.0	85.1	SD GRY MGRN SL/SHLY ARG
115	1575.0-76.0	77.	16.9	0.0	83.4	SD GRY MGRN SL/SHLY ARG
116	1576.0-77.0	27.	16.2	0.6	80.9	SD GRY FGGRN SHL LAM ARG
117	1577.0-78.0	7.20	14.4	7.6	78.5	SD GRY FGGRN SHL LAM ARG
118	1578.0-79.0	0.75	15.2	0.7	84.9	SD GRY FGGRN SHL LAM ARG

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FILE NO : RP-3-3131
 ANALYSTS : GG-DS

DAKOTA RESOURCES, INC. DATE : 9-9-81
 SANTA FE PACIFIC 28 NO. 12 FORMATION : HOSFAH

CONVENTIONAL ANALYSIS

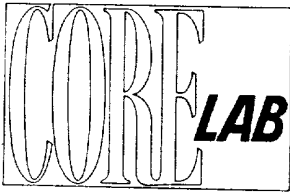
SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM VERTICAL	POR. FLD	FLUID SATS.		DESCRIPTION
				OIL	WTR	
119	1579.0-80.0	0.13	12.2	5.7	79.5	SD GRY FGRN SHL ALM ARG
120	1580.0-81.0		6.9	10.1	76.8	SD DK-GRY FGRN V/SHLY

ARG.....ARGILLACEOUS

R.....RUBBLE

1461.0-1581.0 Feet - Water productive where permeable.

CORE LABORATORIES, INC.



Petroleum Reservoir Engineering

COMPANY DAKOTA RESOURCES, INC. FILE NO. RP-3-3131
WELL SANTA FE PACIFIC 28 NO. 12 DATE 9-9-81
ELD WILDCAT FORMATION HOSPAN ELEV. 7084 GL
COUNTY MCKINLEY STATE NEW MEX DRILLING FLD. WATER BASE GEL CORES _____
LOCATION SW NW SEC. 28 T17N-R9W

CORRELATION COREGRAPH

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VERTICAL SCALE: 5" = 100'

Total Water _____

PERCENT PORE SPACE
100 80 60 40 20 0

Oil Saturation _____

PERCENT PORE SPACE
0 0 20 40 60 80 100

Gamma Ray

RADIATION INCREASE →

Permeability _____

MILLIDARCIES

Porosity _____

PERCENT

