

Computer Printout

Geological Report

API#15-015-23345

OXY USA, Inc.
Pierpoint "A" No. 121
2310' FSL, 330' FWL
Sec. 33-T25S-R5E
Butler Co., Kansas
El Dorado Field

Contractor: Allen Drilling Co., Rig #2.
Commenced 9:45 PM August 26, 1993. Reached R.T.D. 2550' at 2:45 AM August 31, 1993.

Completed:

Casing: Surface-8 5/8" at 238' with 200 sacks cement.
Production- 5 1/2" at 2349' (driller's measurement)
with 375 sacks cement.

Elevations: K.B. 1358', Gr. 1353'.

Total Depth: R.T.D. 2550', L.T.D. 2554'.

Logging Program: Atlas Wireline Services- Dual Induction with Gamma Ray and SP; Density-Neutron with Gamma Ray and Caliper; Minilog with Gamma Ray and Caliper.

Samples: 10' dry from 500' to 1650'; 10' wet and dry from 1650' to 2450'; 5' wet and dry from 2450' to 2550'.

Drilling Time: One foot from 500' to 2550'.

Geologist: Herbert R. Johnson

Log Tops

Admire	622 + 736
Oread	1376 - 18
Heebner	1428 - 70
Douglas Shale	1447 - 89
Lansing	1702 - 344
Base Lansing	1832 - 474
Kansas City	1989 - 631
Base Kansas City	2147 - 789
Checkerboard	2219 - 861
Altamont	2272 - 914
Pawnee	2310 - 952
Cherokee	2357 - 999
Viola	2500 -1142
Simpson	2529 -1171
L.T.D.	2554 -1196
R.T.D.	2550 -1192

K C C

MAR 25 1993

Sample Description

- 500-514 Interbedded limestone and shale, NS.
- 514-522 Sandstone, white, very fine grained, micaceous, friable, good porosity, NS.
- 522-625 Interbedded limestone and shale, NS.

Admire 625 +733

625-638 Sandstone, tan to brown, very fine to fine grained, micaceous, poor to fair to good porosity, well stained with fluorescence.

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638-700 Interbedded siltstone and shale.
 700-735 Shale, with interbedded dense limestone.
 735-1372 Interbedded limestone and shale, NS

Oread 1372 -14

1372-1412 Limestoen, white, cream, gray, fine crystalline, dense.

Heebner 1412 -54

1412-1415 Shale, black, carbonaceous.
 1415-1418 Limestone, gray, fine crystalline, dense.
 1418-1422 Shale, gray.

Toronto 1422 -64

1422-1444 Limestone, white, fine crystalline, chalky, poor porosity, NS.

Douglas Shale 1444 -86

1444-1469 Shale, gray.
 1469-1475 Limestone, white to tan, fine crystalline, dense.
 1475-1482 Shale, gray.
 1482-1484 Limestone, tan, fine crystalline, dense.
 1484-1518 Shale, gray with interbedded siltstone and sandstone, tight, NS.
 1518-1535 Sandstoen, white to gray, very fine grained, micaceous, fair porosity, NS.
 1535-1592 Shale, gray with interlaminated gray, tight, micaceous, siltstone and very fine grained sandstone.
 1592-1604 Limestone, white to tan, fine crystalline, dense.
 1604-1634 Shale, gray.
 1634-1638 Limestone, tan, fine to medium crystalline, dense.
 1638-1642 Shale, gray.
 1642-1645 Limestone, white to tan, fine crystalline, dense.
 1645-1698 Shale, gray, partly interbedded with gray siltstone and sandstone.

Lansing 1698 -340

1698-1736 Limestone, white to tan, fine crystalline, dense, NS.
 1736-1756 Limestoen, white, cream, fine crystalline, slightly vugular, poor to fair porosity, NS.
 1756-1834 Limestone, tan, buff, fine crystalline, dense, NS.
 Base Lansing 1834 -476

1834-1838 Shale, gray, silty.

1838-1842 Limestone, gray, tan, fine crystalline, dense.
 1842-1900 Shale, gray, pyritic.
 1900-1984 Shale, gray.

Kansas City 1984 -626

1984-1992 Limestone, off white, tight, NS.
 1992-2000 Limestone, white, fine crystalline, chalky, slightly vugular, poor porosity, NS.
 2000-2040 Limestone, white to cream, fine crystalline, dense; trace chert, white.
 2040-2052 Limestone, buff, fine crystalline, trace oolitic, poor porosity, NS.
 2052-2089 Limestone, off white to light buff, fine crystalline, dense, NS.

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2089-2091 Shale, black, carbonaceous.
2091-2113 Limestone, white, fine crystalline, chalky, poor porosity, NS.
5% Chert, white.
2113-2115 Shale, black, carbonaceous.
2115-2128 Limestone, white, tan, fine crystalline, dense, NS.
2128-2136 Siltstone, light gray, dense.
2136-2144 Limestone, tan, fine crystalline, oolitic, dense, NS.

Base Kansas City 2144 -786

2144-2215 Shale, dark gray, silty, pyritic.

Checkerboard 2215 -857

2215-2225 Limestone, white to tan, fine crystalline, dense.
2225-2268 Shale, gray to grayish green with thin interbeds of gray, very fine grained, dense sandstone and siltstone.

Altamont 2268 -912

2268-2275 Limestone, tan, fine crystalline, dense.
2275-2278 Shale, black, carbonaceous.
2278-2283 Limestone, white, gray, tan, fine crystalline, dense, 10% fluorescence, no visible stain.
2283-2306 Shale, gray, pyritic.

Pawnee 2306 -948

2306-2330 Limestone, white to tan, fine crystalline, dense.
2330-2332 Shale, black, carbonaceous.
2332-2352 Limestone, white, tan, fine crystalline, chalky, dense.

Cherokee 2352 -994

2352-2355 Shale, black, carbonaceous.
2355-2359 Limestone, off white, tan, fine crystalline, dense.
2359-2360 Shale, black, carbonaceous.
2360-2378 Shale, gray to green, silty.
2378-2392 Shale, reddish brown, green.
2392-2398 Siltstone, gray, micaceous, firm.
2398-2421 Shale, dark gray, pyritic.
2421-2431 Limestone, tan, buff, fine crystalline, dense.
2431-2434 Shale, black, carbonaceous.
2434-2438 Limestone, tan, fine crystalline, dense.
2438-2448 Siltstone, gray, micaceous, pyritic, poor porosity, NS.
2448-2454 Shale, varicolored with loose sand grains, trace red chert.
2454-2459 Limestone, tan, gray, fine crystalline, dense.
2459-2472 Shale, light green, red, yellow, gray, violet; trace orange and black chert.
2472-2475 Limestone, tan, buff, fine crystalline, oolitic, dense.
2475-2482 Shale, varicolored.
2482-2496 Shale, brownish gray.

Viola 2496 -1138

2496-2510 Dolomite, tan, fine crystalline, sucrosic, poor to fair porosity, bright fluorescence, fair show free oil, 10% Chert, white.

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- 2510-2514 Dolomite, AA, less saturated, trace free oil; 10% Chert, white.
- 2514-2524 Dolomite, tan, fine crystalline, sucrosic, to sub-sucrosic, bright fluorescence, trace free oil. Slightly sandy at base; 5% Chert, white.
- 2524-2529 Dolomite, tan, buff, fine crystalline, sandy, dense.

Simpson 2529 -1171

- 2529-2533 Sandstone, white, very fine to fine grained, dolomitic cement, poor porosity, spotted stain and fluorescence, trace free oil.
- 2533-2536 Sandstone, white, very fine grained, friable, good porosity, light stain, fluorescence, droplet of oil released when crushed. Very poor sample, 98% of sample is recirculated.
- 2536-2540 Sandstone, white, fine grained, well cemented, dense.
- 2540-2544 Sandstone, white, fine grained, well rounded, friable, good porosity, lightly stained to unstained.
- 2544-2550 Sandstone, white, very dolomitic, dense; some black residual oil stain.

Circulated for samples 45 minutes at 2550'.
 Reached R.T.D. 2550' at 2:45 AM August 31, 1993.
 Vertical hole deviation $\frac{1}{4}$ degree at 2550'.
 Pipe strap at 2550:

Strap	2563.49'
Board	<u>2562.02</u>
Strap long to board	1.47'

D.S.T. No. 1 2532-2550 Miss-run due to approximately 15' of cuttings in hole.

D.S.T. No.2 2532-2550' 15-30-30-60

Initial Flow: Good blow, off bottom of bucket in 4 minutes.

Final Flow: 3 inch blow building to 2 inches off bottom of bucket.

Recovered 390' saltwater (17,000 PPM). Rw .352 by Atlas Wireline. at 70 degrees F.

IHMP 1233 psi, IFP 121-121 psi, ICIP 182 psi,

FFP 172-172 psi, FCIP 202 psi, FHMP 1233 psi.

BHT 95 degrees F.

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