

Computer inventoried

Geological Report

KCC

MAR 3 1994

OXY USA, INC.
Robinson "A" No. 71
330' FSL, 1700' FWL
Sec. 31-T25S-R5E
Butler Co., Kansas
El Dorado Field
API# 15-015-23379

Contractor: Allen Drilling Co., Rig #2.
Commenced: 7 PM November 8, 1993. Reached R.T.D. 2465' at 6:45 PM November 12, 1993.
Completed:
Casing: Surface- 8 5/8" at 262' with 225 sacks cement.
Production- 5 1/2" at 2464' with 375 sacks cement.
Elevations: K.B. 1403', Gr. 1398'.
Total Depth: 2465' (-1062)
Samples: 10' dry from 1000' to 1600'; 10' wet and dry from 1600' to 2430'; 5' wet and dry from 2435' to 2465'.
Logging Program: Atlas Wireline-SBT Bond Log with Gamma Ray.
Drill Stem Tests: None.
Geologist: Herbert R. Johnson.

Vertical Hole Deviation Surveys:

	1 degree at	263'
3/4 "	" "	768'
1/2 "	" "	1267'
1/4 "	" "	1764'
3/4 "	" "	2294'
1/4 "	" "	2465'

Formation Tops

Topeka	1090 + 313
Oread	1395 + 8
Heebner	1433 - 30
Douglas	1459 - 56
Lansing	1722 - 319
Base Lansing	1854 - 451
Kansas City	2007 - 604
Base Kansas City	2169 - 766
Checkerboard	2244 - 841
Altamont	2284 - 881
Pawnee	2328 - 925
Cherokee	2373 - 970
Arbuckle	2463 -1060
R.T.D.	2465 -1062

Sample Description

1000-1090 Interbedded limestone and shale, NS.

Topeka 1090 +313

1090-1130 Limestone, off white, tan, fine crystalline, cherty, fossiliferous, dense.

1130-1140 Shale, gray.

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1140-1157 Limestone, tan, fine crystalline, fossiliferous, partly chalky, dense.
1157-1159 Shale, black, carbonaceous.
1159-1164 Limestone, gray, tan, fine crystalline, dense.
1164-1184 Shale, gray, green.
1184-1395 Interbedded shale and limestone, NS.

Oread 1395 +8

1395-1433 Limestone, tan, cream, fine crystalline, dense.

Heebner 1433 -30

1433-1436 Shale, black, carbonaceous.
1436-1438 Limestone, grayish brown, fine crystalline, dense.
1438-1443 Shale, gray.

Toronto 1443 -40

1443-1459 Limestone, off white, fine crystalline, dense.

Douglas 1459 -56

1459-1480 Shale, gray with interbedded gray, very fine grained sandstone, NS.
1480-1498 Shale, gray.
1498-1462 Sandstone, gray, very fine grained, friable, micaceous, poor to fair porosity, NS.
1562-1622 Shale, gray, reddish brown, interbedded siltstone.
1622-1628 Limestone, tan, fine crystalline, fossiliferous, dense.
1628-1650 Shale, gray with interbedded siltstone.
1650-1663 Shale, grayish green, buff and siltstone.
1663-1669 Limestone, tan, fine crystalline, dense.
1669-1722 Shale, gray, reddish brown.

Lansing 1722 -319

1722-1742 Limestone, tan, fine crystalline, dense.
1742-1748 Limestone, white, off white, fine crystalline, oolitic, poor to fair porosity, light stain, fluorescence, fair odor, fair show free oil.
1748-1752 Limestone, buff, fine crystalline, dense.
1752-1756 Limestone, tan, fine crystalline, clastic, fossiliferous, fair to good porosity with light spotted stain, fluorescence, trace free oil.
1756-1762 Limestone, tan, fine crystalline, dense.
1762-1780 Limestone, tan, fine crystalline, chalky, fair to good porosity, NS.
1780-1800 Limestone, off white, buff, cream, fine crystalline, fossiliferous, partly chalky, trace poor to fair porosity, NS.
1800-1818 Limestone, buff, tan, fine crystalline, dense.
1818-1837 Limestone, tan, cream, fine crystalline, chalky, dense, NS.
1837-1854 Limestone, tan, buff, gray, fine crystalline, dense.

Base Lansing 1854 -451

1854-1857 Shale, gray.
1857-1872 Limestone, tan, gray, fine crystalline, dense.
1872-1900 Shale, gray, silty.

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STATE GEOLOGICAL SURVEY
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1900-2007 Shale, gray.

Kansas City 2007 -604

- 2007-2018 Limestone, gray, tan, fine crystalline, dense.
2018-2025 Limestone, off white, fine crystalline, poor to fair porosity, light stain, fluorescence, trace free oil.
2025-2034 Limestone, off white, light buff, fine crystalline, partly oolitic, dense.
2034-2052 Limestone, cream, fine crystalline, chalky, poor porosity, 10% fluorescence.
2052-2112 Limestone, off white, light buff, cream, partly chalky, dense, NS.
2112-2114 Shale, black, carbonaceous.
2114-2122 Limestone, brown, fine crystalline, poor porosity, light stain, fluorescence.
2122-2137 Limestone, white, fine crystalline, dense; 2% Chert, white.
2137-2139 Shale, black, carbonaceous.
2139-2150 Limestone, white, brown, fine crystalline, poor to fair porosity, light stain, fluorescence, trace free oil. Trace good vugular porosity with vugs lined with coarse calcite crystals.
2150-2155 Limestone, brown, fine crystalline, poor porosity, light stain, no fluorescence.
2155-2160 Siltstone, gray.
2162-2169 Limestone, brown, fine crystalline, oolitic, clastic, poor to fair porosity, well stained, fluorescence, good show free oil.

Base Kansas City 2169 -766

- 2169-2236 Shale, dark gray, silty, pyritic.
2236-2240 Limestone, grayish brown, fine crystalline, dense.
2240-2244 Shale, black, carbonaceous.

Checkerboard 2244 -841

- 2244-2254 Limestone, tan, buff, fine crystalline, dense.
2254-2264 Shale, light grayish green, gray.
2264-2269 Siltstone, gray, argillaceous, NS.
2269-2284 Shale, gray, reddish brown.

Altamont 2284 -881

- 2284-2292 Limestone, buff, fine crystalline, dense, NS.
2292-2295 Shale, black, carbonaceous.
2295-2302 Limestone, tan, fine crystalline, dense.
2302-2328 Shale, gray, green, reddish brown.

Pawnee 2328 -925

- 2328-2350 Limestone, tan, buff, fine crystalline, dense.
2350-2352 Shale, black, carbonaceous.
2352-2373 Limestone, tan, buff, fine crystalline, dense.

Cherokee 2373 -970

- 2373-2375 Shale, black, carbonaceous.

2375-2378 Limestone, tan, fine crystalline, dense.
2378-2409 Shale, green, reddish brown.
2409-2413 Siltstone, gray, firm.
2413-2434 Shale, dark gray, pyritic.
2434-2444 Limestone, grayish brown, gray, brown, fine crystalline,
dense.
2444-2448 Shale, gray, green, partly silty.
2448-2451 Sandstone, gray, very fine grained, argillaceous, dense.
2451-2455 Limestone, brown, fine crystalline, very pyritic, dense.

Circulated for samples 20 minutes at 2455'.

2455-2458 Limestone, white, gray, brown, pyritic, dense; 5%
Shale, bright green.
2458-2460 Shale, bright green, very pyritic, partly slightly
sandy; trace very fine grained sandstone with spotted
stain.

Circulated for samples 20 minutes at 2460'.

Circulated for samples 60 minutes at 2465'.

2460-2463 Shale, as above.

Arbuckle 2463 -1060

2463-2465 Dolomite, white, medium to coarse crystalline, rhombic-
vugular, pyritic, 60% fair to good porosity, well
stained, bright fluorescence, fair show free oil.

Reached R.T.D. 2465' at 6:45 PM November 12, 1993.

Strap	2482.49'
Board	<u>2481.67</u>
Strap long to board	0.82'

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Open Hole Completion

Contractor: J.W. Gibson Well Service
Elevations: K.B. 1403', Gr. 1398'.
Total Depth: 2465' -1062'.
Production Casing: 5½" at 2464'.
Arbuckle Top: 2463' -1060
Arbuckle Penetration: 2'.
Geologist: Herbert R. Johnson

Monday, November 22, 1993. Started drilling cement and casing shoe at 1:30 PM. Started drilling Arbuckle at 2:18 PM.

2465-2466' 1 min., 45 sec.

Dolomite, white, medium to coarse crystalline, rhombic-vugular, good porosity, well stained, good odor, 100% fluorescence.

Stopped at 2466', pulled tubing to casing swab. Swabbed fluid down to 2450', swabbing from 2450'. 90' kick back in 30 minutes, 2.2 barrels (80% oil, balance drilling fluid). Shut down at 5:15 PM. To run in tubing and rods tomorrow.

Tuesday, November 23, 1993. 1450' fluid fill up overnight. Running tubing and rods. To put on pump.