

OXY USA, INC.  
Chesney "A" No. 231  
1320' FSL, 1310' FEL  
Sec. 21-T25S-R5E  
Butler Co., Kansas  
El Dorado Field

API# 15-015-23416

## Open Hole Completion

Contractor: J.W. Gibson Well Service  
Elevations: K.B. 1393', G.L. 1388'  
R.T.D. 2378' -985  
Production Casing: 5½" at 2376'.  
Arbuckle Top: 2374' -981  
Arbuckle Penetration: 4'  
Geologist: Herbert R. Johnson

September 14, 1994. Drilled cement and shoe. Ran cased hole log.  
Drilled cement to 2377'.

September 15, 1994. Drilled out to 2378'.

5' Pen. -986            2378-2379'   8 min., 40 sec.  
Top Dolomite, gray, buff, fine crystalline, dense, sandy, trace  
fluorescence.  
Mid AA, trace green shale.  
Bot Dolomite, AA; 10% Shale, gray, green.  
6' Pen. -987            2379-2380'   8 min., 45 sec.  
Top Dolomite, AA.  
Mid Dolomite, gray, fine to medium crystalline, 5% rhombic-vug-  
ular, fair to good porosity with stain and fluorescence.  
Bot Dolomite, gray, medium crystalline, 10% fair porosity with  
stain and fluorescence, trace good porosity with S & F.  
7' Pen. -988            2380-2381'   6 min., 40 sec.  
Top Dolomite, gray, buff, medium crystalline, dense, trace poor  
to fair porosity with S & F.  
Mid Dolomite, buff, medium to coarse crystalline, trace poor to  
fair porosity with S & F. Drill cuttings up to 3/4" long.  
Bot Dolomite, AA. Large cuttings. Note one fragment with green  
shale and striations on frac surface, 10% poor porosity with  
S & F, trace fair to good porosity with S & F.  
8' Pen. -989            2381-2382'  
Top Dolomite, buff, medium crystalline, trace poor to fair por-  
osity with S & F. 20% Chert, gray, white, trace quartz.  
Mid 30% Chert, white, gray, black. 70% Dolomite, grayish tan, buff,  
fine to medium crystalline, dense, trace poor porosity with  
S & F.  
Bot Dolomite, buff, fine crystalline, dense. Trace black shale.  
9' Pen. -990            2382-2383'   10 min., 25 sec.  
Top Dolomite, grayish tan, buff, fine crystalline, dense; trace  
gray and green shale.  
Mid AA.  
Bot AA.  
10' Pen. -991            2383-2384'   12 min., 45 sec.  
Top Dolomite, buff, fine crystalline, dense, trace gray shale.  
Mid AA.  
Bot Dolomite, tan, buff, fine crystalline, dense; 10% Shale, gray.

- 11' Pen. -992 2384-2385' 11 min., 50 sec.  
 Top Dolomite, grayish brown, medium crystalline, dense, trace poor porosity with S & F; trace Chert, white, gray.  
 Mid AA.  
 Bot AA, trace fair vugular porosity with S & F.
- 12' Pen. -993 2385-2386' 16 min., 20 sec.  
 Top 30% Chert, white, gray; 70% Dolomite, grayish brown, fine to medium crystalline, dense.  
 Mid Dolomite, grayish brown, fine to medium crystalline, dense, 5% poor porosity with stain and fluorescence, fair odor, trace good vugular porosity lined with coarse dolomite rhombs.  
 Bot AA.
- 13' Pen. -994 2386-2387' 7 min., 20 sec.  
 Top Dolomite, grayish tan, fine crystalline, dense, trace poor porosity with S & F.  
 Mid AA, note frac faces with S & F.  
 Bot Dolomite, gray, cream, medium to coarse crystalline, rhombic-vugular, 30% poor to fair porosity with S & F. 5% Chert, gray.
- 14' Pen. -995 2387-2388' 10 min., 15 sec.  
 Top Dolomite, gray, medium crystalline, very cherty, vugular, 30% poor to fair porosity, trace good porosity with coarse dolomite rhombs, S & F.  
 Mid Dolomite, gray, medium to coarse crystalline, rhombic-vugular, 30% poor to fair porosity, 5% good porosity with S & F.  
 Bot Dolomite, gray, fine to medium crystalline, 10% fair porosity, trace good porosity with S & F.
- Stopped at 2388' to pull tubing and casing swab. Swabbed fluid down to 2350'. Took 30 minute test. No kick back. Ran in hole with tubing and new bit. Circulated some oil off bottom (about a gallon).
- 15' Pen. -996 2388-2389' 5 min., 10 sec.  
 Top Dolomite, gray, fine to medium crystalline, dense, trace pyrite. 20% Shale, black, carbonaceous.  
 Mid Dolomite, AA; 5% Shale, AA.  
 Bot Dolomite, white, medium to coarse crystalline, dense, trace poor porosity with S & F.
- 16' Pen. -997 2389-2390' 3 min., 30 sec.  
 Top 70% Shale, gray, black, carbonaceous; 30% Dolomite, white, gray, medium crystalline, trace poor porosity with S & F.  
 Big Change  
 Mid Dolomite, white, coarse crystalline, rhombic-vugular, 80% poor porosity with S & F, trace fair porosity with S & F.  
 Bot Dolomite, AA, 90% poor porosity with S & F, 5% fair porosity with S & F.
- 17' Pen. -998 2390-2391' 4 min., 10 sec.  
 Top Dolomite, white, gray, medium crystalline, dense.  
 Mid Dolomite, white, medium to coarse crystalline, 20% poor to fair porosity with S & F.  
 Bot Dolomite, AA, 80% poor porosity, 5% fair porosity with S & F.
- 18' Pen. -999 2391-2392' 3 min., 55 sec.  
 Top Dolomite, AA, 80% poor porosity, 5% fair porosity with S & F.  
 Mid AA.  
 Bot Dolomite, white, medium crystalline, rhombic-vugular, 60% poor porosity, 5% fair porosity with S & F.

19' Pen. -1000 2392-2393' 3 min., 15 sec.  
 Top AA, 90% poor porosity, trace fair porosity with S & F.  
 Mid AA, 5% fair porosity with S & F.  
 Bot AA, 70% poor porosity, 10% fair porosity, with S & F, strong odor, 100% fluorescence.

20' Pen. -1001 2393-2394' 2 min., 30 sec.  
 Top Dolomite, AA 70% poor porosity, 20% fair to good porosity with stain and fluorescence, strong odor, 100% fluorescence.  
 Mid Dolomite, AA, 90% poor porosity, 10% fair porosity with S & F.  
 Bot 70% Dolomite, white, buff, fine to medium crystalline, trace poor porosity with S & F; 30% Chert, white, gray, partly oolitic, trace vugular with poor porosity, S & F.

Stopped at 2394' to pull tubing and casing swab. Swabbed fluid down to 2350'. Took 30 minute test. Had 2 feet kick back, trace oil, balance drilling fluid.  
 Shut down at 5:45 PM for overnight fill up.

September 16, 1994. 35 feet overnight fill up, all oil.  
 Ran in hole with tubing and bit to drill ahead.

21' Pen. -1002 2394-2395' 3 min.  
 Top Dolomite, white, medium crystalline, dense; 5% Chert, gray.  
 Mid Chert, white, gray, oolitic, trace poor to fair vugular porosity with S & F.  
 Bot AA, 2% fair to good porosity with S & F.

22' Pen. -1003 2395-2396' 7 min.  
 Top Chert, AA.  
 Mid 70% Chert, AA; 30% Dolomite, white, cream, fine crystalline, dense.  
 Bot Dolomite, white, cream, medium crystalline, dense.

23' Pen. -1004 2396-2397' 8 min., 10 sec.  
 Top Dolomite, grayish tan, medium crystalline, dense.  
 Mid Dolomite, grayish tan, very cherty, 10% poor to fair to good porosity, S & F.  
 Bot Dolomite, grayish brown, fine to medium crystalline, dense.

24' Pen. -1005 2397-2398' 11 min., 10 sec.  
 Top Dolomite, grayish brown, medium crystalline, dense, trace poor to fair porosity with S & F; 2% Chert, white.  
 Mid AA  
 Bot Dolomite, grayish tan, fine to medium crystalline, dense.

25' Pen. -1006 2398-2399' 11 min., 40 sec.  
 Top 70% Dolomite, AA; 30% Chert, white, dense.  
 Mid Dolomite, grayish brown, medium crystalline, dense.  
 Bot Dolomite, grayish brown, medium crystalline, dense, trace poor porosity with S & F.

26' Pen. -1007 2399-2400' 7 min., 35 sec.  
 Top Dolomite, grayish brown, medium crystalline, dense.  
 Mid 30% Chert, white, gray, tan, dense; 70% Dolomite, tan, fine to medium crystalline, dense.  
 Bot 70% Chert, white, gray, tan, dense; 30% Dolomite, brown, tan, fine crystalline, dense, trace poor porosity with S & F.

27' Pen. -1008 2400-2401' 7 min., 35 sec.  
 Top Dolomite, grayish tan, fine to medium crystalline, dense.  
 Mid Dolomite, off white, gray, buff, fine to medium crystalline,

trace poor to fair porosity with S & F.

Bot Dolomite, off white, buff, medium to coarse crystalline, 5% poor to fair porosity with S & F.

28' Pen. -1009 2401-2402' 4 min., 20 sec.

Top Dolomite, off white, medium to coarse crystalline, rhombic-vugular, 80% poor porosity, 10% fair to good porosity with S & F.

Mid AA

Bot AA.

29' Pen. -1010 2402-2403' 5 min., 35 sec.

Top Dolomite, tan, buff, fine to medium crystalline, dense, 5% poor to fair porosity with S & F.

Mid Dolomite, tan, fine crystalline, dense.

Bot Dolomite, AA, trace gray and green shale.

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30' Pen. -1011 2403-2404' 7 min., 10 sec.

Top Dolomite, tan, fine crystalline, dense, trace poor to fair porosity with S & F.

Mid AA

Bot Dolomite, white, tan, buff, fine crystalline, dense; trace medium crystalline with S & F.  
5% Chert, white.

31' Pen. -1012' 2404-2405' 6 min., 10 sec.

Top Dolomite, off white, gray, medium crystalline, rhombic-vugular, 10% poor to fair porosity with S & F; 10% Chert, white.

Mid Dolomite, AA 70% poor porosity, 10% fair porosity with S & F.

Bot Dolomite, off white, gray, fine to medium to coarse crystalline, rhombic-vugular, 70% poor porosity with S & F.

32' Pen. -1013' 2405-2406' 4 min., 25 sec.

Top Dolomite, gray, medium crystalline, 20% poor porosity with S & F.

Mid Dolomite, off white, gray, fine to medium to coarse crystalline, 10% good rhombic-vugular porosity with S & F; trace green shale.

Bot Dolomite, off white, buff, medium to coarse crystalline, large cuttings up to 3/4" long may indicate fracturing, 10% fair to good porosity with S & F.

33' Pen. -1014 2406-2407' 3 min., 20 sec.

Top Dolomite, gray, fine to coarse crystalline, 10% fair to good porosity with S & F; trace white chert.

Mid 30% Chert, white, dense. 70% Dolomite, buff, gray, fine to medium crystalline, dense, trace poor to fair porosity with S & F. Note one cluster of very coarse dolomite rhombs.

Bot AA.

Stopped at 2407' to pull tubing and bit to casing swab.

Swabbed fluid down to 2350'. Took 30 minute test. Had 25 feet kick back, 30% oil, balance drilling fluid.

2nd. 30 minute test had 8 feet kick back, 90% oil. Took one hour test. Had 15 feet kick back, all oil. 15'=.366 bbls X 24= 8.8 BOPD. Shut down at 4:45 PM for week end fill up.

Monday, September 19, 1994. Week end fill up 725' oil (17.26 bbls).

Two 30 minute tests had 7 feet kick back, all oil(.17 bbl.)

Acidized with 100 gallons 15% NE Fe. Displaced .75 bbls. by starting and stopping pump over 6 hours, not exceeding 200 psi. Shut in overnight.

Tuesday, September 20, 1994. Formation took 1½ barrels overnight. Casing swabbed down to 2350'. Took two 30 minutes tests. Each had 15 feet kick back of acid water. Took another 30 minute test which had 10 feet kick back (.24 bbl.) acid water. Ran in hole with tubing and bit to drill.

34' Pen. -1015        2407-2408'    5 min., 30 sec.  
Top Dolomite, white, medium crystalline, 10% poor to fair porosity with S & F.  
Mid Dolomite, white, medium crystalline, dense, trace poor to fair porosity with S & F.  
Bot AA  
35' Pen. -1016        2408-2409'    8 minutes.  
Top Dolomite, gray, buff, fine to medium crystalline, trace poor porosity with S & F.  
Mid AA.  
Bot Dolomite, grayish tan, fine crystalline, dense.  
36' Pen. -1017        2409-2410'    4 min.  
Top Dolomite, grayish tan, buff, fine crystalline, trace poor to fair porosity with S & F.  
Mid AA  
Bot Dolomite, grayish tan, buff, fine to medium crystalline, trace white chert oolite inclusions; 5% Chert, white, oolitic.  
37' Pen. -1018        2410-2411'    6 min. 5 sec.  
Top Dolomite, grayish tan, medium crystalline, 5% poor to fair porosity with S & F.  
Mid Dolomite, gray, buff, fine crystalline, sandy, dense. Trace green shale.  
Bot Chert, gray, tan, dense, trace stain on fractures.  
38' Pen. -1019        2411-2412'    7 min.  
Top 90% Dolomite, tan, fine to medium crystalline, dense.  
10% Chert, AA  
Mid AA, partly sandy, trace poor porosity with S & F.  
Bot AA.  
39' Pen. -1020        2412-2413'    7 min.  
Top Dolomite, tan, fine to medium crystalline, dense.  
Mid AA  
Bot AA  
40' Pen. -1021        2413-2414'    8 min., 5 sec.  
Top Dolomite, grayish tan, fine to medium crystalline, trace fair porosity with S & F  
Mid AA  
Bot AA  
41' Pen. -1022'        2414-2415'    8 min., 10 sec.  
Top Dolomite, AA.  
Mid AA Bot 70% AA; 30% Dolomite, gray, buff, fine crystalline, dense, trace slickenside or stylolite striations.  
42' Pen. -1023        2415-2416'    8 min., 35 sec.  
Top Dolomite, tan, fine crystalline, dense; trace Chert, white, gray.  
Mid Dolomite, gray, microcrystalline, dense, trace finely disseminated pyrite.  
Bot Dolomite, 80% AA; 20% Dolomite, tan, fine to medium crystalline, dense.  
43' Pen. -1024        2416-2417'    7 min., 55 sec.  
Top Dolomite, gray, medium crystalline, trace poor to fair porosi-

ity with stain and fluorescence.

Mid Dolomite, grayish tan, fine crystalline, dense. 5% Chert, gray, tan, dense.

Bot Dolomite, grayish tan, fine to medium crystalline, dense.  
44' Pen. -1025 2417-2418' 6 min., 10 sec.

Top Dolomite, grayish tan, medium crystalline, 70% poor porosity, well stained, 5% fair porosity with S & F.

Mid Dolomite, AA, 20% poor porosity with S & F.

Bot AA.  
45' Pen. -1026 2418-2419 6 min., 20 sec.

Top Dolomite, AA, 30% poor porosity, 5% fair porosity with S & F.

Mid AA 20% poor porosity, trace fair porosity with S & F.

Bot Dolomite, grayish tan, fine to medium crystalline, dense, trace poor porosity with S & F.  
46' Pen. -1027 2419-2420' 8 min., 15 sec.

Top Dolomite, grayish tan, fine to medium crystalline, dense, trace poor porosity with S & F.

Mid AA  
Bot 80% Chert, white, gray, dense; 20% Dolomite, tan, medium crystalline, trace poor porosity with S & F.  
47' Pen. -1028 2420-2421' 3 min., 15 sec.

Top 95% Chert, white, gray, dense, 2% vugular with S & F.

Mid 30% Dolomite, cream, tan, fine crystalline, dense, trace medium crystalline with fair porosity, S & F.  
70% Chert, AA.

Bot Dolomite, cream, buff, fine crystalline, dense, trace poor to fair porosity with S & F; 5% Chert, AA.  
48' Pen. -1029 2421-2422' 5 min., 25 sec.

Top 60% Chert, white, gray, slightly vugular, numerous frac faces with stain.

Mid Dolomite, white, fine to medium crystalline, dense, trace good rhombic-vugular porosity with S & F. Some rounded, pebble sized fragments covered with pyrite, oil stain and fluorescence. Also clear, elongated selenite crystals, probably from fractures.

Bot Dolomite, AA, 5% fair to good porosity with S & F. Some coarse dolomite rhombson frac surfaces of dense dolomite. Pyrite covered pebble sized fragments and selenite, AA, 100% fluorescence. 10% Chert, white, gray.

Stopped at 2422' to pull tubing and bit and casing swab. Swabbed fluid down to 2350'. Took 30 minute test. Had 50' kick back, 95% oil 50'=1.22 bbls. X2=2.44 bbls/hr X 24= 58.56 BPD. Shut down at 5:55 PM for overnight fill up.

September 21, 1994. 830' overnight fill up, all oil. Took two 30 minute tests. Each had 45 ft. kick back (1.1 bbls.), all oil. Will run in hole with tubing and put on pump.