Jim Taylor

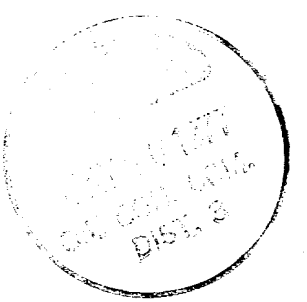
GEOLOGICAL WELL REPORT

OF

Esquibel #1
2094' FWL & ~~2250' FSL~~ Sec. 28-28N-4E
Rio Arriba County, New Mexico

OPERATOR

Coquina Oil Corporation



Charles S. Peters

Charles S. Peters
Geologist
Littleton, Colorado

February 16, 1977

RESUME

OPERATOR:	Coquina Oil Corporation
FARM:	Esquibel #1
LOCATION:	Section 28 - 28 North - 4 East 2094' FWL & 2250' FSL
COUNTY & STATE:	Rio Arriba County, New Mexico
ELEVATION:	7645 gr. 7659 KB
SPUD:	12-11-76
SURFACE CASING:	8 5/8 @ 99' with 100 sx. cement
COMPLETED:	2-11-77 Plugged and Abandoned
CORES:	One in Niobrara for fishing purposes from 346-349.
DST's:	1 Todilto - Entrada by Howco out of Farmington, N.M.
TOTAL DEPTH:	2676 Driller 2675 Log
LOGS:	Schlumberger Dual Induction-Laterolog, Gamma-Gamma-Compensated Formation Density and F Log.
DRILLING CONTRACTOR:	Odeco Drilling Company, Bloomfield, New Mexico from 340 to 2676.
TOOL PUSHER:	Robert Long - Pete Long
GEOLOGIST:	Charles S. Peters from 340 to 2676.

ELECTRIC LOG FORMATION TOPS

	Depth	Subsea
Mancos	At surface	
Gallup ?	1125	+6534
Greenhorn	1406	+6253
Graneros	1470	+6189
Dakota	1597	+6062
Morrison	1928	+5731
Todilto	2562	+5097
Entrada	2628	+5031
Total Depth	2675	

SAMPLE DESCRIPTION

345 - 349	Cored for fishing purposes, recovered 3-1/2 feet. Shale, dark gray, speckeled with foss. shell casts, N.S.
349 - 610	Shale, gray to dark gray, speckeled, inoc. prisms.
610 - 630	Sand, l. gray, v.f. - f., calcareous, bent. inclusions, very low p & p, N.S.
630 - 1018	Shale, dk. gray, with interbedded siltstone, gray to l. gray, N.S.
1018 - 1030	Sand, dk. gray, f. - co., highly glancnitic, pyt. inclusions, calcareous, very low p & p, sl. friable, N.S.
1030 - 1125	Shale, gray to dk. gray with interbedded siltstone gray, N.S.
1125 - 1145	Siltstone, gray grades into a v.f. grained sand carbonaceous, dirty glaucnitic, very low p & p, N.S.
1145 - 1406	Shale, gray to dk. gray with little siltstone, gray and traces of limestone, l. gray to tan, v.f. Xln. to fragmental, N.S.
1406 - 1520	Limestone, l. gray to tan, v.f. to co. Xln, v. low p & p, N.S., with Shale gray to dk. gray calcareous.
1520 - 1597	Shale, dk. gray, silty, with a little siltstone, gray, N.S.
1597 - 1609	Sd, l. gray to white, v.f. - med., hard to sl. friable, sl. clayfilling, low to fair p & p, N.S.
1609 Circ. 15 min.	Sd, as above, N.S.
1609 - 1629	Sd, gray, v.f. - f., hard, semi., qtz., N.S. with Shale, dk. gray, silty.
1629 Circ. 15 min.	Sand as above, N.S.
1629 - 1700	Sand and Shale as above, N.S.
1700 - 1740	Sd, l. gray to white, v.f. - f., sl. friable, sl. clayfilling, sl. carbonaceous, trace of glauc., fair to good p & p., N.S.
1740 - 1818	Shale, dark gray to blk., silty with sand, gray, v.f. - silty, very low p & p, N.S.

1818 - 1820	Sd., white, med. - co. grained, highly friable, considerable loose co. grains in sample, very few clusters, N.S.
1820 - 1840	No sample, lost circulation at 1838.
1840 - 1868	Sd., white, mainly consolidated med to co. grains, N.S. in the few clusters observed.
1868 - 1930	No samples due to lost circulation mainly at 1868.
1930 - 1950	Shale, green, with siltstone, l. green, hard, N.S.
1950 - 2070	Shale, varigated, with sand, l. gray to l. green, v.f. - med., clay-filling, low p & p., N.S.
2070 - 2090	Sand, l. gray to white, f.-co. micaceous, little glauc., some qtz. have Fe stain, some chalcedony grains, N.S.
2090 - 2190	Shale varigated with interbedded sands as above.
2190 - 2200	No sample, lost circulation.
2200 - 2220	Poor samples, most cavings after lost circulation.
2220 - 2240	Shale, varigated with a little siltstone green.
2240 - 2266	Sd., v.f. - med., friable, loose sand grains, good p & p, N.S.
2266 - 2340	Shale, varigated with siltstone, light gray to l. red., N.S.
2340 - 2355	Sand, l. gray to white, considerable clayfilling, Fe stain, low p & p, due to clayfilling, N.S.
2355 - 2455	Shale, red, with siltstone, l. gray to red.
2455 - 2475	Sand, white, f.-med., friable, sl. clayfilling, fair p & p, N.S.
2475 - 2550	Shale, red, with sands gray to white, v.f. - silty, qtztic., hard, low p & p, N.S., and interbedded siltstones white to gray, hard.
2550 - 2555	No sample, lost circulation.
2555 - 2562	Sand, white, v.f. - f., semi. qtztic., low p & p., N.S.
2562 - 2602	Anhydrite, white, some with tan ls. inclusions and a little ls. l. gray to tan, v.f. Xln. with inclusions of anhydrite, N.S.
2602 - 2620	Ls., tan, v.f. - Xln. to fragmental, anhydrite inclusions, dense, v. low p & p, N.S.
2620 - 2628	Ls., tan, v.f. Xln. to fragmental, inclusions of anhydrite, poor dull yellow to tan fluorescence in 15-25% of the sample, trace of heavy tan free oil on one cluster, fair tan streaming cut from a few clusters.
2645 Circ.	
15 min.	Ls. as above.
30 min.	Ls. as above with a little Sand, gray to white, v.f. - med., v. good p & p, spotty heavy dark oil stain in 2 or 3 clusters poor to fair cut, sand shows are in less than 5% of the sample.
2628 - 2634	Sand as above with Sand, white f.-med., sl. clayfilling, very good p & p., N.S.
2634 - 2664	Sand, white, f.-med., SA-R, highly friable, clayfilling, very good p & p, few pyt. inclusions in a few clusters and a few carbonaceous inclusions., N.S.

For some unexplainable reason the tool pusher drilled the kelly down at a later time after we had reached total depth of 2664. Twelve more feet were made for a final total depth of 2676. No samples were caught for this 12 feet. Sample description has been adjusted to Electric Log depths.

DRILL STEM TEST

DST #1

Open 15 min., weak blow increased to good; ISI 30 min; 2nd open 40 min. weak blow increased to good and remained through out the test; FSI 80 min.
Recovered: 60' water cut drilling mud, 465' mud water.

Pressures:	1st open	Top Recorder	Middle Recorder
	IF	13	40
	FF	79	93
	SI	919	932
	2nd open		
	IF	79	93
	FF	250	267
	FSI	919	932
	IH	1170	1199
	FH	1170	1186

Bottom Hole Sampler:
Recovered: 2100 cc water, no shows, no pressure on sampler.
RW on sampler water: 4.00 at 48°. BHT = 76°.

$$Rw = \frac{4.0 \times 48}{76} = 2.53 =$$

LOG ANALYSIS

By John Rusen - Schlumberger Engr.

Depth	RT	RW	Porosity %	Water %	Formation
1594-1602	200	4.0	13	100	Dakota
1674-1680	200	4.0	13	100	Dakota
1702-1720	175	4.0	16	95	Dakota
1796-1814	400	4.0	18	100	Dakota
1916-1926	400	4.0	16	100	Dakota
2070-2086	30	1.0	18	100	Dakota
2250-2262	15	1.0	20	100	Morrison
2628-2630	40	1.3	19	82	Entrada
2632-2660	25	1.3	20 avg.	100	Entrada

RW values were determined from the "F" Log.

BIT RECORD

No.	Size	Make	Type	Depth Out	Footage
1	7 7/8	Smith	DG	745	396
2	7 7/8	Sec.	S4T	1253	508
3	7 7/8	Sec.	S4T	1609	356
4	7 7/8	Smith	F3	2198	589
5	7 7/8	Smith	F2	2566	368
6	7 7/8	Smith	SL	2676	100

Note: This bit record starts at 349. A core was cut for fishing purposes from 345-349. A small rig spudded the well and used 3 bits in drilling to 345.

DEVIATION SURVEYS

Depth	Deviation
306	1 1/2°
745	1°
1253	1 1/4°
2198	2°
2676	1 1/2°

MUD CHARACTERISTICS

Date	Weight	Vis.	Cake	Filtrate	LCM % vd.
1-29-77	8.9	53	2/32	8.0	4
1-30-77	9.5	41	2/32	8.2	3
1-31-77	9.5	38	2/32	9.4	4
2- 1-77	8.7	68	2/32	6.8	10
2- 3-77	8.5	45	2/32	6.0	35
	Lost returns 1609, 1838, 1875, lost 1000 bbls.				
2- 4-77	8.6	91	2/32	6.2	20
	Lost returns 1875 400 bbls; 1974 50 bbls; 1987 200 bbls; 2006 200 bbls.				
2- 5-77	8.5	52	2/32	7.6	22
	Lost returns at 2162, spotted Palmar slug at 1350				
2- 6-77	8.5	69	2/32	7.2	29
	Lost returns 2198 1200 bbls.				
2- 7-77	Lost returns 2557 1400 bbls., spotted 30 bbls. Palmar slug on bottom.				
2- 8-77	8.5	68	2/32	7.8	23
2- 9-77	8.5	38	2/32	10.4	5

CHRONOLOGICAL WELL HISTORY

12-11-76	Spud 8 5/8 @ 100 with 100 sx.
12-15-76	Drilling 155
12-17-76	Drilling 327
12-20-76	Moved rig off
1-26-77	Moved in Odeco Drilling Co. Rig
1-27-77	Rig up
1-28-77	Rig up; cut core 345-349 to check for junk in hole, no junk in basket.
1-29-77	Drilling 349-693
1-30-77	Drilling 693-1252
1-31-77	Drilling 1252-1393, 6 hrs. fishing, 3 hrs. lost circulation
2- 1-77	Drilling 1393-1612, 9 hrs. lost circulation
2- 2-77	Drilling 1612-1838, 11 1/2 hrs. lost circulation
2- 3-77	Drilling 1838-1964, 15 3/4 hrs. lost circulation
2- 4-77	Drilling 1964-2106, 8 3/4 hrs. lost circulation
2- 5-77	Drilling 2106-2198, 11 1/2 hrs. lost, 4 1/2 hrs. trip for bit #5, spotted Palmar slug for lost circulation at 1350 displaced downward to 2198.
2- 6-77	Drilling 2198-2338, 15 hrs. lost circulation, spotted Palmar slug
2- 7-77	Drilling 2338-2557, 14 hrs. lost circulation at 2557.
2- 8-77	Drilling 2557-2566 lost circulation 18 hrs., spotted 30 bbls. Palmar slug on bottom covers approximately 800'.
2- 9-77	Drilling 2566-2676, ran Schlumberger Logs.
2-10-77	Ran DST #1
2-11-77	Howco on location plugged well.

PLUGGING

As specified by the New Mexico Oil and Gas Conservation Commission:

1st plug	2650-2500	75 sx.
2nd plug	1950-1850	40 sx.
3rd plug	1650-1400	110 sx.
4th plug	150-50	40 sx.
5th plug	Surface	10 sx.

SAMPLES

The samples from this well were delivered to American Stratigraphic Company in Denver, Colorado.

COMMENTS

This well was only 7' high on top of the Dakota to the Hamilton #1 Spill Bros. well in Section 33. It was 58' high on top of the Todilto formation, apparently due to a thinning of the Morrison section. Scattered poor oil shows were observed in the very base of the Todilto and the top 3 or 4' of the Entrada; fresh water was recovered on a DST of the above section. No other shows were observed in the samples and none was calculated from the electric log, other than the top 2' of the Entrada. Extreme lost circulation problems were encountered in this well; see mud record and chronological well history for details.