

GEOLOGICAL WELL REPORT

EDWARD MIKE DAVIS - TIGER OIL COMPANY

STATE #1

Section 8 - T 4 N - R 17 W

(1930' FNL & 660' FEL)

Valencia County, New Mexico

Prepared by:

Charles V. Lee

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WELL HISTORY

Tiger Oil Company
State #1
1980' FNL & 660' FEL
Sec. 8 - T 4 N - R 17 W
Valencia County, New Mexico

ELEVATION: Grd. 6781'
Kb 6791'

DRILLING CONTRACTOR: Tiger Drilling Company

MUD LOGGER: IMC

TOOL PUSHER: Joe Vincent

4/03/78 MIRT

4/1-78 RURT

4/12/78 Spudded 6:00 P.M. 4/12/78 Ø at 45'

4/13/78 Ø 230' (185') Dev. 3/4°
Ran 5 jnts. (211') 8 5/8" 24# csg. Set 211' w/140 sax

4/14/78 WOC

4/15/78 WOC

4/16/78 Ø 262' (32') Lost circ. @ 260'

4/17/78 Ø 658' (395')

4/18/78 Ø 1242' (584') (1261' @ 9:15 tripping)
Lost circ. @ 808'
SAMPLE TOP CHINLE 895'

4/19/78 Ø 1735' (493')
Ø sh., red, occ. ss. & Ls. interbeds
wt. 9# Vis. 55 WL 8 (1799' Logging)

4/20/78 Ø 1983' (248')
Ø sh. & claystone, red to varigated. Traces Ls & chort.
wt. Vis. WL
2037' @ 10:15
2127' @ 6:45PM

4/21/78 T.D. 2186' (203'). Prep to pick up core bbl.
SAMPLE TOP SAN ANDRES Ls. 2170' (+4621)
Ø break @ 2170' from 5'/ft to <1'/ft.
Ø 16'.
4 Unit gas increase from 2 unit bg to 6 units
Core #1 2186-2246. Cut 60'. Rec. 60'.

Ls. poor P & P. No visible shows.

4/22/78 Ø 2267' (81')
 Ø break 2356'. 5'/ft. to 1'/ft.
 Dolo., brn. sucrosic, apparent P & P
 Top 2' 100 units ditch gas.
 Chromatograph/methane .127 Ethane
 Circ. samples @ 2371'. Same fluor and cut in top of break.
 Gas dropped out to only 2 units. Fluor. persisted good to fair. No cut.
 Continued to drill same lithology to
 Ø 2403' @ 6:30 P.M.

4/23/78 Ø 2571' (304')
 Sample top Glorieta 2500'
 SS, white, fn. grd. well sorted, quartzose, good P & P. No shows.
SAMPLE TOP YESO 2720

4/24/78 Ø 2810' (239')

4/25/78 Ø 3075 (265')

4/26/78 Ø 3350' (275')

4/27/78 Ø 3548' (198')
 Dolo. 3470-3500 xln. No shows

4/28/78 Ø 3796 (248')

4/29/78 T.D. 4057' (241')
 Lost circ. 4:00 A.M. @ 4057'

4/30/78 Ø 4090' (33')
 Regained circ. 8:00 P.M.
 Commenced Ø 1:00 A.M.
 4 Units ditch gas (Ø 4119 @ 12:00 Noon)

5/01/78 Ø 4240' (150') 4214' @ 11:30 5'/ft
 4190' 11 units ditch gas C₁ - C₄
 4-5 units 4200 - present 4272'
 No drilling break or sample shows

5/02/78 Ø 4333' (73') (4396 @ 2:00)
 Trip @ 4284'

5/03/78 Ø 4466' (133') (4486 @ 12:00)
SAMPLE TOP GRANITE WASH 4390'
 T.D. 4491'
 4493' Logger
 Ran Dual Laterolog under surface csg. to T.D.
 Ran BHC Sonic w/Gamma Ray under surface csg. to T.D.

RFT TESTS:

#1	4201'	-	9 PSI	-	4"	Low Perm.
#2	4202'	-	0 PSI	-	4"	
#3	4208'	-	0 PSI	-	4"	
#4	4200.5	-	1956 PSI	-	24"	Low Perm.
#5	2360	-	910 PSI	-	1"	Good Perm.

State #1 continued:

Rec. 8900 cc water & filtrate.

No oil or gas.

Rf. .163 @ 73°

Sample Pressure 97# - 903#

#6	2365	-	910 PSI	-	1"	Good Perm.
#7	2180	-	820 PSI	-	1"	Good Perm.
#8	2283	-	834 PSI	-	1"	Good Perm.

Rec. 3100' cc. water and filtrate.

No shows oil or gas.

Rf. .203 @ 73°

Sample Pressure 177# - 827#

P & A 5/05/78

DETAILED SAMPLE DESCRIPTIONS

1400 - 1410 Sh., claystone & siltstone, red

1410 - 1420 As above

1420 - 1430 Sh., red as above. SS., vry. fn. grd. well sorted, S & P, friable, quartzose

1430 - 1440 As above

1440 - 1450 Sh., red as above. Ls., white, dense

1450 - 1460 Sh., red to purple, some red siltstone. SS., white to gry., fn. grd., friable

1460 - 1470 Sh., red to purple, as above

1470 - 1480 SS., fn. grd., gry., poorly sorted, vry. glauconitic, friable, S & P

1480 - 1490 As above

1490 - 1500 As above. Sh., red to purple.

1500 - 1510 Sh., red to purple. Ls., white to gry.

1510 - 1520 Sh., red to purple, some waxy

1520 - 1530 As above

1530 - 1540 As above. Ls., white to gry., dense

1540 - 1550 As above. More Ls.

1550 - 1560 Sh., red to purple, some lite gry.

1560 - 1570 As above

1570 - 1580 As above

1580 - 1590 As above. Ls., red to gry., dense

1590 - 1600 Sh., red, purple & maroon, some waxy

1600 - 1610 As above

1610 - 1620 SS., drk. gry., fine grd., poorly sorted, poor P & P

1620 - 1630 Ls., white to gry., some sdy. SS. as above

1630 - 1640 As above

1640 - 1650 Sh., red to maroon. Ls. & ss. as above

1650 - 1660 Sh., as above. Siltstone, red
 1660 - 1670 As above. Ls., gry. to white, dense, sli. brn. gold flour., sli. cut
 1670 - 1680 As above. Ls. as above
 1680 - 1690 As above. No Ls.
 1690 - 1700 Sh., as above. Ls., gry to white. SS., fn., grd., gry., friable
 1700 - 1710 Sh., as above w/siltstone
 1710 - 1720 Sh., brn. to red. Siltstone. Much vry. fn. grd. to silt size, clear well sorted quartz grains
 1720 - 1730 As above. Ls., gry. to white, dense
 1730 - 1740 SS., vry. fn. grd. to silt size, vry. friable, clear subrounded qtz. grains
 1740 - 1750 As above
 1750 - 1760 As above
 1760 - 1770 As above
 1770 - 1780 Ls., white to gry., dense. Good brownish Gold Fluor. Lite gold, slow cut. No visible oil in samples. Traces of chert
 1780 - 1790
 1790 - 1800
 1800 - 1810 Sh., & claystone, red to varigated. Traces Ls., white to gry.
 1810 - 1820 As above
 1820 - 1830 As above
 1830 - 1840 As above
 1840 - 1850 As above
 1850 - 1860 As above
 1860 - 1870 As above
 1870 - 1880 As above
 1880 - 1890 As above
 1890 - 1900 Ls., white to gry., sh. & claystone as above
 1900 - 1910 Sh., & claystone, as above. Traces chert & Ls.
 1910 - 1920 As above
 1920 - 1930 SS., drk. gry., fn. grd., poorly sorted, angular to subangular

1930 - 1940 Sh., & claystone, varigated
 1940 - 1950 As above. Trace chert & Ls., white to gry.
 1950 - 1960 Sh., gry. Sh. & claystone, as above
 1960 - 1970 Sh. & claystone, red to varigated. Trace Ls.
 1970 - 1980 As above
 1980 - 1990 SS., fn. grd., quartzose, subrounded, friable
 1990 - 2000 SS., as above
 2000 - 2010 Sh. & claystone, red, gry. & varigated
 2010 - 2020 Sh. & claystone, white to lavender
 2020 - 2030 As above
 2030 - 2040 As above
 2040 - 2050 As above
 2050 - 2100 As above
 2100 - 2120 As above
 2140 - 2150 As above
 2150 - 2160 As above. Ls. white to tan. Dense, sli. pyritic
 2160 - 2170 Ls. tan, poor to excellent pinpoint por. Excellent brownish gold fluor. (100%), faint tan spotty stain on few pieces, vry. sli. slow cut Bg gas 2 units. 4 units increase (sli. show)

Sample Top San Andres Ls. 2170'

2160 - 2170 As above. Argillaceous
 2170 - 2180 As above
 2180 - 2186 As above
 2186 - 2246 Core #1

Core #1 2186 - 2246 Cut 60' Rec.

10' Ls., white to cream, soft chalky, scattered PP por. no stain or odor. Good brn. gold fluor. Dead tarry oil on few frags. No cut
 10' Ls., cream, tite brn. gold fluor. No stain or cut
 3' Ls., cream, soft chalky, poor pinpoint por., good brn. gold fluor. No cut
 26' Ls., cream, dense. No fluor.
 3' Dolo., dense x-lin
 4' Ls., chalky as above, dense
 4' Ls., chalky argillaceous, poor P P por. brn. gold fluor.

2186 - 2187 Ls., cream, chalky, some pinpoint por., pyritic, scat. calcite xls., argillaceous. Brn. gold fluor. (possibly mineral) No cut or stain
 2187 - 2188 As above
 2188 - 2189 Ls., as above. Excellent P P por.
 2189 - 2190 Ls., as above. Poor P P por.
 2190 - 2191 Ls., as above
 2191 - 2192 Ls., as above. Large open stylolite w/carbonaceous lining
 2192 - 2193 Ls., gry., algal., good P P por., mottled brn. gold fluor. (possibly mineral) No cut or stain
 2193 - 2194 Claystone, white, calc., soft, chalky (Argilite?)
 2194 - 2195 As above
 2195 - 2196 As above
 2196 - 2197 As above
 2197 - 2198 As above
 2198 - 2199 As above
 2199 - 2200 As above
 2200 - 2201 As above
 2201 - 2202 As above
 2202 - 2203 As above. Fair P P por.
 2203 - 2204 As above
 2204 - 2205 As above
 2205 - 2206 Ls., algal., good P P por., tan. Large brachopod.
 2206 - 2207 Ls., tan algal as above. Argillaceous
 2207 - 2208 Ls., vry. argillaceous
 2208 - 2209 Claystone, non-calc.
 2209 - 2210 As above
 2210 - 2211 Ls., argillaceous, calcite inclusions, poor P P por.
 2211 - 2212 As above
 2212 - 2213 Ls., white dense, argillaceous, tite. Large vertical fracture.
 2213 - 2214 As above. Large vertical fracture.
 2214 - 2215 As above

- 2215 - 2216 Argillite, sort, cream. Occ. P P por.
- 2216 - 2217 As above
- 2217 - 2218 As above. Large calcite xls.
- 2218 - 2219 As above. Large vertical fracture.
- 2219 - 2220 As above
- 2220 - 2221 As above
- 2221 - 2222 As above. Large calcite xls. Fossiliferous
- 2222 - 2223 As above
- 2223 - 2224 As above. Large calcite xls.
- 2224 - 2225 As above. Large calcite xls & calcite veins. 25° Core dips
- 2225 - 2226 Ls., dense, calcite veinlets, gry to white
- 2226 - 2227 Ls., as above., numerous calcite xls. and calcite filled fractures
- 2227 - 2228 As above
- 2228 - 2229 Argillite, tan to gry.
- 2229 - 2230 As above
- 2230 - 2231 Ls., white, dense, calcite xls. & calcite filled fractures. Large stylolite w/pyrite lining
- 2231 - 2232 Ls., xln., dense, gry., vry. hard
- 2232 - 2233 Ls. as above
- 2233 - 2234 Siltstone, gry., slitly sdy. non-calc. Large stylolite Core dip 25°
- 2234 - 2235 Claystone, gry., hrd., pyritic
- 2235 - 2236 Ls., gry., silty, calcite xls., pyritic
- 2236 - 2237 Ls. as above. Vry. pyritic
- 2237 - 2238 Ls., tan, poor P P por., calcite veinlets, calcite xls.
- 2238 - 2239 As above
- 2239 - 2240 Sh., gry., waxy, hrd., non-calc
- 2240 - 2241 As above
- 2241 - 2242 Sh., grn., pyritic
- 2242 - 2243 Argillite, pebbly w/Ls. pebs., soft, crumbly
- 2243 - 2244 As above

2244 - 2245 As above. Some small vugs.
 2245 - 2246 As above
 2250 - 2260 Ls., gry., xln., calcite xls., no visible P & P
 2260 - 2270 Ls., brn., xln., no visible P & P
 2270 - 2280 As above
 2280 - 2290 As above
 2290 - 2300 Ls., gr. to brn., xln., no visible P & P
 2300 - 2310 As above
 2310 - 2320 As above
 2320 - 2330 Ls., white, argillaceous, sli. P P por.
 2330 - 2340 Ls., brn., xln. to argillaceous, sli. P P por.
 2340 - 2350 As above
 2350 - 2356 As above
 2356 - 2360 Dolo., brn., xln., excellent visible por., excellent brn. gold fluor.,
 sucrosic. Sli. slow cut.
 Drl. break from 5'/ft. to <1'/ft. at 2356. 100 unit gas kick in
 top of break. Did not persist. Good sho in top 2' $\pm$ of zone.
 2360 - 2370 Dolo., as above. Fluor. but no cut & no ditch gas
 2370 - 2380 Dolo., as above
 2380 - 2390 Ls., brn., argillaceous, some P P por., some xln., calcite xls.
 2390 - 2400 Ls., as above. Dolo., sucrosic, excellent por., no shows
 2400 - 2410 As above
 2410 - 2420 As above. More dolo.
 2420 - 2430 Dolo., brn., xln to sucrocic, some visible por.
 2430 - 2440 As above. More porosity
 2440 - 2450 As above
 2450 - 2460 As above
 2460 - 2470 Ls., brn., argillaceous
 2470 - 2480 Ls., brn., argillaceous, sdy. SS., white, fn. grd., calc., quartzose,
 well sorted
 2480 - 2490 SS., as above

2490 - 2500 Ls., brn., argillaceous, some P P por., trace sd. as above

2500 - 2510 SS., white, vry. fn. grd., quartzose, well sorted, calc.

2510 - 2520 SS., as above

Sample Top Glorieta 2500

2520 - 2530 SS., as above

2530 - 2540 SS., as above

2540 - 2550 SS., as above

2550 - 2560 SS., as above

2560 - 2570 SS., as above. Traces sh., gry., grn., waxy

2570 - 2580 SS., as above. More sh.

2580 - 2590 SS. & sh. as above

2590 - 2600 As above

2600 - 2610 As above

2610 - 2620 As above

2620 - 2630 As above

2630 - 2640 As above

2640 - 2650 SS., pink, quartzose, fn. grd., well sorted

2650 - 2660 As above

2660 - 2670 As above

2670 - 2680 As above

2680 - 2690 SS., red to pink, quartzose, well sorted, fn. grd.

2690 - 2700 As above

2700 - 2710 As above

2710 - 2720 SS., vry. fn. grd. red, calc., hrd., tite

2720 - 2730 Dolo., brn., hrd., xln., no visible por., sh., gry to drk gry.

Sample Top Yeso 2720'

2730 - 2740 SS., gry., pyritic, calc., hrd., tite. Sh. as above

2740 - 2750 SS., red, quartzose, hrd., tite, calc., Sh. as above

2750 - 2760 Anhydrite, white to pink

2760 - 2770 As above

2770 - 2780 As above
 2780 - 2790 As above
 2790 - 2800 Sh., gry. to maroon. Trace anhydrite, as above
 2800 - 2810 As above
 2810 - 2820 As above. Selenife xls.
 2820 - 2830 Sh., as above
 2830 - 2840 Sh., siltstone, red, gry. & drk. gry. Trace selenife xls.
 & ss., red. fn. grd.
 2840 - 2850 SS., red, quartzone, vry. fn. grd., well sorted, angular, non-calc.
 No show
 2850 - 2860 As above
 2860 - 2870 Sh., red to purple, siltstone, red
 2870 - 2880 As above. (Sehenite xls.)
 2880 - 2890 Anhydrite, white, Ls., red, sdy.
 2890 - 2900 Anhydrite, as above. Ls., as above. (selenite xls.)
 2900 - 2910 As above
 2910 - 2920 Anhydrite, as above. Sh. & claystone, red, brn. & purple, calc.
 2920 - 2930 Sh., claystone & siltstone, red, brn., gry. & purple, calc.
 2930 - 2940 As above
 2940 - 2950 Anhydrite, white. Sh. & claystone, as above
 2950 - 2960 As above
 2960 - 2970 As above
 2970 - 2980 As above
 2980 - 2990 Sh. & claystone, as above
 2990 - 3000 Sh., brn. to red. Possible salt interbeds
 3000 - 3010 Sh., as above Salt?
 3010 - 3020 As above. Salt? Traces anhydrite
 3020 - 3030 As above Salt?
 3030 - 3040 As above Salt?
 3040 - 3050 As above Salt?
 3050 - 3060 Ls., brn., xln., some silty, tite

3060 - 3070 Sh., red to l. l., gry.
3070 - 3080 As above
3080 - 3090 As above. Anhydrite, white
3090 - 3100 As above
3100 - 3110 Anhydrite, white to gry.
3110 - 3120 Sh., red, brn. & gry.
3120 - 3130 As above
3130 - 3140 As above
3140 - 3150 As above
3150 - 3160 As above
3160 - 3170 As above
3170 - 3180 As above, Anhydrite
3170 - 3180 Sh. as above
3180 - 3190 Sh., as above, slat encrusting
3190 - 3200 Sh., as above
3200 - 3210 As above
3210 - 3220 As above
3220 - 3230 As above
3230 - 3240 As above
3240 - 3250 As above
3250 - 3260 As above
3260 - 3270 As above
3270 - 3290 As above
3290 - 3300 As above
3300 - 3310 As above, anhydrite
3310 - 3320 Sh., as above, red, gry., vericolored, purple
3320 - 3330 As above
3330 - 3340 As above
3340 - 3350 As above
3350 - 3360 As above. Dolo., gry. to white, xln., hrd.

3360 - 3370 As above
3370 - 3380 As above
3380 - 3390 As above. Occ. salt casts
3390 - 3400 Siltstone, red to orange, minutely micaceous. SS., vry. fn. grd., red. calc.
3400 - 3410 As above
3410 - 3420 As above
3420 - 3430 Sh., & claystone, red & varicolored. Occ. salt casts. Occ. selenite xls.
3430 - 3440 Siltstone, red to orange
3440 - 3450 Siltstone, as above, w/sh. as above
3450 - 3460 Siltstone, as above
3460 - 3470 Siltstone & sh. as above
3470 - 3480 Dolo., gry., xln., hrd.
3480 - 3490 As above
3490 - 3500 As above
3500 - 3510 Sh. & claystone, red & varicolored
3510 - 3520 As above
3520 - 3530 As above
3530 - 3540 As above
3540 - 3550 As above
3550 - 3560 As above
3560 - 3570 Dolo., brn., xln., Sh. & claystone as above
3570 - 3580 As above
3580 - 3590 Sh & siltstone, red to orange
3590 - 3600 As above
3600 - 3610 SS., red, vry. fn. grd., Sh & siltstone as above
3610 - 3620 As above
3620 - 3630 As above
3630 - 3640 As above
3640 - 3650 As above
3650 - 3660 As above

3660 - 3670 As above. 1 ce anhydrite
 3670 - 3680 SS., red and claystone, red as above
 3680 - 3690 As above
 3690 - 3700 As above
 3700 - 3710 As above
 3710 - 3740 As above
 3740 - 3750 SS., white to gry., vry. fn. grd., soft, friable, sli. calc.
 3750 - 3760 As above
 3760 - 3770 As above. SS. & siltstone red
 3770 - 3780 As above
 3780 - 3790 Dolo., brn. to gry., sdy. Sh., siltstone & ss. as above
 3790 - 3800 SS., & siltstone red
 3800 - 3810 As above
 3810 - 3820 As above
 3820 - 3830 As above
 3830 - 3840 As above
 3840 - 3850 As above
 3850 - 3860 As above
 3860 - 3900 As above
 3900 - 3950 As above
 3950 - 4000 As above
 4000 - 4050 As above
 4050 - 4080 No samples. Lost circ. @ 4057'
 4080 - 4090 As above
 4090 - 4100 As above. Dolo., brn. to tan. Gas increase 3-4 units. 6 units high.
 SS. fn. grd., white to gry.
 4100 - 4110 As above
 4110 - 4120 As above
 4120 - 4150 As above
 4150 - 4200 As above (4190' 11 units ditch gas C₁ - C₄)
 4200 - 4210 SS., & Siltstone, red w/traces ss. & dolo. as above.
 siltstone, drk. brn.-red

4210- 4220 As above
 4220 - 4230 As above
 4230 - 4240 As above. Dolo., red, xln., to sdy., tite
 4240 - 4250 As above. Dolo., white to gry. & red
 4250 - 5260 As above
 4260 - 4270 As above
 4270 - 4280 SS., red, arkosic, fn. to med. grd., hrd., tite, vry. sli. calc.
 4280 - 4290 SS & siltstone red. Dolo., red, dense xln. to sdy., hrd., tite
 4280 - 4290 SS, red arkosic, fn. to med. grd., hrd., tite, vry. sli. calc.
 4290 - 4300 As above
 4300- 4310 SS. & Siltstone, red. Dolo., red as above
 4310 - 4330 As above
 4330 - 4340 SS., quartzose, fn. grd., friable. No shows
 4340 - 4350 As above
 4350 - 5360 As above. Some coarse rock fragments & coarse grd. ss., arkosic, large red siltstone inclusions. Ø break 4370 from 8-10"/ft. to 1 1/2-3"/ft.
 4360 - 4370 As above. Ls. & dolo., varicolored, sdy. to pebbly
 4370 - 4380 As above. Sh. & siltstone, red
 4380 - 4390 As above. Quartzite, brn. to gry.
 4390 - 4400 As above. Some coarse quartz pebbles and rock frags.
 4400 - 4410 As above. More rock frags. Granitic?
 4410 - 4420 As above. Granitic frags
 4420 - 4450 As above. Granitic frags.
 4450 - 4480 As above. Granitic frags.
 T.D. 4491'