

## CHRONOLOGICAL HISTORY

BEST IMAGE  
AVAILABLE

6- 1-69	Spudded 9:00 A.M. Set surface casing
6- 2-69	WOC.
6- 3-69	Drilling 842'.
6- 4-69	Making trip 1635'.
6- 5-69	Drilling 2229'.
6- 6-69	Making trip 2637'.
6- 7-69	Drilling 2990'. Ran DST #1
6- 8-69	Making trip 3154'.
6- 9-69	Drilling 3412'. TD 3502'. Ran logs.
6-10-69	Plugged and abandoned.

## SAMPLE DESCRIPTION (adjusted for strap correction: 2356 = 2373)

1800 - 1960	Shale - green, gray, lavender, red & maroon, soft; occasional bentonite - white, very soft.
1960 - 1990	Shale - as above; occasional sandstone - white, very fine to fine grained, very poorly sorted, angular to subrounded, friable, tight, no shows.
1990 - 2020	Shale - as above; some quartz wash - light gray, very fine to very coarse grained, angular to subrounded, unconsolidated, excellent porosity and permeability, no shows.
2020 - 2050	Shale - as above; some sandstone - white, very fine to very coarse grained, very poorly sorted, angular to well rounded, friable, clay filled, tight, scattered dark mineral grains, some blue mineral fluorescence, no shows; some bentonite - gray to buff, very soft.
2050 - 2080	Shale - as above; some bentonite - as above; some sandstone - white, very fine to fine grained, poorly sorted, subangular to subrounded, friable, clay filled, slightly glauconitic, tight, no shows.
2080 - 2140	No samples.
2140 - 2170	Quartz wash - light gray, medium to very coarse grained, angular to subangular, unconsolidated, excellent porosity and permeability, no shows; some bentonite - buff, very soft.
2170 - 2200	Quartz wash - as above, unconsolidated to friable to firm, excellent porosity and permeability to tight, no shows.



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2200 - 2250	Shale - as above, occasional pyrite.
2250 - 2260	Quartz wash - light gray, fine to very coarse grained, angular to subrounded, unconsolidated to firm, excellent porosity and permeability to tight, no shows, occasional pyrite.
2260 - 2270	Sandstone - salt and pepper, very fine grained, subangular, friable, clay filled, low porosity and permeability, no shows.
2270 - 2280	Shale - as above.
2280 - 2350	Shale - as above; bentonite - buff, very soft.
2350 - 2360	Sandstone - white, very fine to medium grained, very poorly sorted, angular to subrounded, friable, tight, no shows.
2360 - 2370	Sandstone - white, very fine to very coarse grained, very poorly sorted, angular to rounded, unconsolidated, excellent porosity and permeability, no shows.
2370 - 2480	Shale - as above; bentonite - gray to buff, very soft.
2480 - 2500	Quartz wash - light gray, medium to very coarse grained, subangular to subrounded, unconsolidated, excellent porosity and permeability, no shows.
2500 - 2520	Shale and bentonite - as above.
2520 - 2560	Sandstone - white, very fine to fine grained, very poorly sorted, silty, angular to subangular, friable, glauconitic, some biotite, poor porosity and permeability, no stain, even bright yellow to blue-white fluorescence, no cut.
2560 - 2680	Shale - as above; some bentonite - as above.
2680 - 2710	Shale - as above; bentonite - gray, firm.
2710 - 2800	Shale - as above; occasional bentonite - gray to buff, very soft.
2800 - 2810	Bentonite - buff, very soft.
2810 - 2850	Shale - as above.

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2850 - 2870	Bentonite - gray, very soft.
2870 - 2880	Shale - as above.
2880 - 2900	Bentonite - buff to gray, very soft.
2900 - 2920	Shale - as above.
2920 - 2930	Bentonite - as above.
2930 - 2970	Shale - as above.
2970 - 3015	Quartz wash - light gray, very fine to very coarse grained, angular to well rounded, unconsolidated, excellent porosity and permeability, no shows.
3015 - 3090	Shale - as above.
3090 - 3095	Limestone - brown, dense, dull yellow and blue mineral fluorescence, no shows.
3095 - 3105	Shale - as above.
3105 - 3110	Bentonite - gray to buff, very soft.
<u>ID4 ZONE 3080</u>	
3110 - 3115	Sandstone - white, very fine grained, subangular, clay filled, friable, scattered dark minerals, tight, no shows.
3115 - 3135	Shale - as above.
3135 - 3145	Sandstone - white, very fine to fine grained, subangular to rounded, partly clay filled, friable, scattered dark minerals, occasional glauconite, pyritic, good porosity and permeability, no shows.
3145 - 3150	Shale - as above.
circ. - 3154	Quartz wash - light gray, very fine to very coarse grained, angular to rounded, unconsolidated, excellent porosity and permeability, no shows.
3154 - 3165	Cavings.
3165 - 3180	Shale - as above.
3180 - 3185	Limestone - buff, very finely crystalline to long fossil shell crystals, very soft to firm, frequent oolites, blue-white to pale yellow fluorescence, no cut.

BEST IMAGE  
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3185 - 3190	Quartz wash - light gray, very fine to very coarse grained, angular to subrounded, unconsolidated, excellent porosity and permeability, no shows.
3190 - 3240	Shale - as above.
3240 - 3250	Shale - as above; bentonite - gray, very soft.
3250 - 3260	Shale - as above.
3260 - 3280	Shale - rust, gray, maroon, red, brown and green, soft.
3280 - 3300	No samples.
3300 - 3350	Shale - gray, soft; streaks of bentonite - gray to buff, very soft.
3350 - 3360	Cavings.
3360 - 3370	Quartz wash - light gray, medium to very coarse grained, angular to rounded, unconsolidated, excellent porosity and permeability, no shows.
3370 - 3410	Shale - gray, rust, maroon, red and brown, soft.
3410 - 3415	Sandstone - white, very fine to fine grained, subrounded, partly clay filled, friable, scattered dark minerals, good porosity and permeability, no shows; some bentonite - white soft.
3415 - 3420	Quartz wash - light gray, very fine to very coarse grained, angular to well rounded, unconsolidated, excellent porosity and permeability, no shows.
3420 - 3430	Sandstone - as above, no shows.
3430 - 3440	Quartz wash - as above.
3440 - 3502	Shale - as above.

BEST IMAGE  
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#### DRILL STEM TEST DATA

DST #1 3123-54 open 6', SI 30', open 30', SI 30', bypass tool and re-open 16'.

Preflow opened with strong blow, immediately. Regular flow opened with strong blow, started decreasing immediately to very weak in 11 minutes into regular flow period. Final flow opened with very weak blow and died at end of period.



DRILL STEM TEST DATA continued

Recovered 60' drilling mud, 2273' formation water.

Water resistivity (Schlumberger) is 1.02 at 80°F = .75 at 168°F  
(Schlumberger's BHT)

Field pressures:	Preflow	574 - 913#
	Regular FP	948 - 1002#
	SIP	1002 - 1008#
	HP	1780 - 1768#

MFE sampler: 2500 cc mud  
Pressure: 30#  
BHT 98°F

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DRILLING TIME: Minutes per 5'

1800 - 1900	6-5-7-4-6-6-5-4-5-4-3-3-4-4-4-4-3-5-5-4
1900 - 2000	4-5-5-5-4-2-4-5-5-5-5-4-2-4-3-4-5-4-2-4
2000 - 2100	6-5-5-5-7-5-5-6-6-5-Mud up-4-4-5-6-5-7-7-4-4-4
2100 - 2200	5-3-4-6-6-5-1-2-2-1-3-3-5-4-8-9-7-7-7-8
2200 - 2300	3-5-3-3-4-10-10-10-11-10-11-12-10-12-10-11-13-9-5-7
2300 - 2400	9-7-11-17-10-11-10-8-11-8-11-Trip(2356-2373)-59-6-4-7-8
2400 - 2500	5-3-3-8-7-5-6-6-7-5-4-2-2-2-2-4-5-6-6-5
2500 - 2600	5-5-3-5-6-7-8-9-7-6-6-8-9-7-10-9-9-10-7-8
2600 - 2700	8-7-9-11-8-9-59-Trip-27-8-8-12-8-15-11-8-8-7-7-10-7
2700 - 2800	7-7-10-9-11-11-7-13-8-8-6-13-7-13-15-15-16-19-15-16
2800 - 2900	15-18-18-19-15-10-11-13-13-15-14-15-18-18-11-15-13-20-19-25
2900 - 3000	25-19-22-12-22-22-Trip-5-11-8-13-14-5-6-6-6-6-5-7-9-8
3000 - 3100	9-3-5-6-7-13-12-11-12-16-11-18-13-16-17-13-20-20-19-17
3100 - 3200	16-14-12-15-13-7-6-5-6-5-8-Trip-13-14-4-4-5-10-15-30-20
3200 - 3300	20-12-25-20-20-13-22-14-20-10-25-22-26-25-17-20-22-15-20-35
3300 - 3400	25-28-26-19-22-25-25-20-17-12-8-Trip-13-24-18-28-25-25-41-23-6
3400 - 3500	6-12-9-11-7-12-20-34-19-33-42-47-41-36-34-30-36-40-52-18
3500 - 3502	11



LOG ANALYSIS:

Interpreted by Ken Weeks, Schlumberger field representative

	<u>Zone</u>	<u>Rw Used</u>	<u>% Porosity</u>	<u>% Water Saturation</u>
	2140-67	3.0	41	100
	2212-41	3.0	37	90
	2301-19	3.0	37	85
	2451-65	0.75	33	70
	2468-78	0.75	33	65
	2952-72	0.75	35	95
	2975-99	0.75	33	100
	3120-46	0.75	26	100
	3163-81	0.75	30	80
BEST IMAGE	3342-57	0.75	22	100
AVAILABLE	3390-3403	0.55	26	100
	3485-17	0.55	22	100
	3418-32	0.55	19	85

BIT RECORD

<u>No.</u>	<u>Size</u>	<u>Make</u>	<u>Type</u>	<u>Serial #</u>	<u>Depth Out</u>	<u>Feet</u>	<u>Hours</u>
1	7-7/8	Hughes	OSC3A	EK351	1034	798	?
2	7-7/8	Hughes	OSC3	CE642	1637	603	?
3	7-7/8	Hughes	OSC3	JB683	2356	719	17-1/4
4	7-7/8	Hughes	OSC3	JB654	2636	290	7
5	7-7/8	Hughes	OSC3	EX657	2945	309	15-1/4
6	7-7/8	Hughes	OSC3	JB631	3154	209	9
7	7-7/8	Hughes	OSC3	KH391	3354	200	14
8	7-7/8	Hughes	ISCIG	HA117	3502	148	14

PLUGGING DATA

25 sacks from 3120-95  
 15 sacks half in and half out of base of surface casing  
 10 sacks at surface

REMARKS

The JD4 sand is not developed in this well as it is in the surrounding wells. The sand that was tested is stratigraphically below the JD4 zone.

Structurally, the top of the JD4 zone is +3727, which is 8' high to the #1 State (east offset) and 10' low to the #11 Musser (north offset).

Bright, even fluorescence was found in a thin sand at 2496-2501 (Induction log measurements). However, the porosity and permeability were considered to be poor, and there was no cut from chloroethene.

Respectfully submitted,  
*C. Pleas Stringer Jr.*  
 C. Pleas Stringer, Jr.



GEORGE DOLEZAL, R.P. CULLEN, BOEKEL  
ASSOCIATES 1969, BEL OIL CORP. #31-16 WASATCH-STATE  
NW NE SECTION 16-T11N-R97W  
MOFFAT COUNTY, COLORADO

CONTRACTOR: Colorado Well Service, Inc., rig #9  
TOOL PUSHER: Hershl, Pilcher  
GEOLOGIST: Pleas Stringer, Jr.  
ELEVATIONS: 6797 Ground, 6807 KB  
FOOTAGE: 660' FNL, 1760' FEL  
SPUD DATE: June 1, 1969  
SURFACE CASING: Set 225' of 8-5/8" at 236' KB with 150 sacks of cement  
CORES: No cores  
TESTS: DST #1 3123-54  
MUD: Chemical Gel with approximately 1% oil emulsion  
LOG SURVEYS: Schlumberger Induction-Electrical log from 235 - 3501'  
Schlumberger Gamma Ray-Sonic log from 2000 - 3500'

INDUCTION LOG TOPS:	<u>FORMATION</u> JD4	<u>DEPTH</u> 3080
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TOTAL DEPTH: 3502 Schlumberger and Driller  
STATUS: Plugged and abandoned June 10, 1969

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