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**SUNSET HILL OIL CO., INC.**

SUNSET HILL OIL CO., INC.

#2-30 Thayer

(NE,SW) Sec. 30, T6N, R67W

City of Windsor, Colorado Area

Weld County, Colorado

Joseph Cardoso  
Consulting Wellsite Geologist

Paul G. Gagnon  
Company Geologist

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TABLE OF CONTENTS

Well Summary . . . . .	1
Well Resume . . . . .	3
Bit Record . . . . .	5
Drilling Parameters . . . . .	5
Deviation Record . . . . .	6
Mud Record . . . . .	6
Daily Chronology. . . . .	7
Lagged Sample Descriptions . . . . .	8
Strip Log . . . . .	.21
Log Analysis . . . . .	.29
Reservoir Study . . . . .	.69

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MAR 12 1985

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WELL SUMMARY

Orbit Drilling rig No. 1 drilled the Sunset Hill Oil Company/Walter Properties No. 2-30 Thayer to a total depth of 7900' in the late hours in the afternoon of November 5, 1984.

Objectives of this well included the delta plain facies of the South Platte J-Sandstone, the Codell Sandstone member of the Carlile Formation and the shaley chalks of the Smoky Hill member of the Niobrara Formation. The Parkman Sandstone, Sussex Sandstone and Shannon Sandstone, all members of the Pierre Formation were also considered potential pay zones.

The J-Sandstone . The No. 2-30 Thayer penetrated the J-Sandstone at a log depth of 7765' (-2800'), i.e. 45' low to the prognosis. As in the No 1-30 Thayer (the key well to the north), two distinct facies are present, namely the Delta Plain and the Delta Front. The former was found to be a very clean sandstone, with very poor porosity. Sample shows consisted of occasional light brown stain, very dull yellow to gold spotty to pin-point fluorescence , with no visible cut. Such weak shows are typical of the producing wells in the area.

The water saturation calculations yield values clearly within the acceptable range, and the Seismic Spectrum Log indicates some fracturing in the J-Sandstone Delta Plain interval. The occurrence of natural fractures plays a critical role in the production of hydrocarbons from this "tight reservoir".

The Codell Sandstone . The top of the Codell Sandstone was signaled by a good drilling break at 7290' (-2325'). The sandstone was observed to be lower very fine grain to fine grain, poorly sorted, very friable, with poor to fair visible porosity, clay filled in part. Sample shows consisted of widespread homogeneous tan to light brown stain , spotty pale yellow fluorescence and

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MAR 12 1985

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very weak barely streaming milky white cut . The hotwire registered a peak of 256 units over the interval, from a previous background of 88 units.

Due to its friable nature, it is felt that the recovered samples are not representative of the presumably very porous sand that would trigger such a good drilling break.

The Smoky Hills member of the Niobrara . This zone was topped at 6976' (-2011'). Similar to the key well, three well-developed benches were encountered. The best sample shows occurred in the second bench, namely the A-zone. Shows consisted of widespread dull yellow fluorescence , and strong streaming pale yellow green cut . Evidence of fracturing was observed throughout the three benches.

The "Upper" Sandstone . As previously mentioned, the Parkman, Sussex and Shannon, were considered potential pay zones of secondary interest. Careful sample analysis of these horizons revealed only very poor shows, consisting of very dull yellow to gold fluorescence . Subsequently run geophysical logs confirm that none of these reservoirs is of economic interest in the No. 2-30 Thayer.

On November 6, 1984, a decision was made to run 5 1/2" production casing to the total depth of 7900'. Along with the Delta Plain facies (J-1) of the J-Sandstone and the Codell Sandstone, the B-zone of the Niobrara Formation should also prove to be productive in the No. 2-30 Thayer.



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WELL RESUME

OPERATOR: Sunset Hill Oil Co., Inc.

WELL NAME: #2-30 Thayer

LOCATION: (NE, SW) Sec. 30, T6N, R67W  
City of Windsor, Colorado Area  
Weld County, Colorado

ELEVATION: G.L. 4955' K.B. 4965'

FIELD: Unnamed (Proposed as Bellevue)

SPUD DATE: October 28, 1984 at 8:30 p.m.

DRILLING  
TERMINATED: November 5, 1984 at 4:00 p.m.

CONTRACTOR: Orbit Drilling Co., Inc. Rig #1

TOOLPUSHER: Robert Shaw

ENGINEER: Kent L. Gilbert: Sunset Hill Oil Co., Inc.

COMPANY  
GEOLOGIST: Paul G. Gagnon: Sunset Hill Oil Co.

CONSULTING  
GEOLOGIST: Joseph Cardoso: Goolsby Brothers & Associates

HOLE SIZE: 13 1/4" hole from Grass Roots to 532'  
7 7/8" hole from 532' to Total Depth

SURFACE CASING: Set 13 joints or 532.5' 9 5/8" 24# csg.  
Cemented with 300 sx. Class "G" with 3% CaCl

PRODUCTION  
CASING: Ran 195 joints 5 1/2" 20#, landed at 7900'. Cemented with  
390 sx. of Class G 10% salt.

DRILLING FLUID  
COMPANY: Summit Drilling Fluids, Denver, Colorado  
Fred Spadi - Engineer

MUD LOGGING  
COMPANY: Tooke Engineering Inc., Casper, Wyoming  
Chromatograph and Hot Wire - Unmanned unit

CORES: None

DRILL STEM TEST: None

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OPEN HOLE  
LOGGING PROGRAM: Gearhart Industries, Inc.

DATE: November 5, 1984 LOG SUITE #1

LOGS CONDUCTED

Dual Induction / SFL with Sp 527' to 7899'

Density / Neutron with Gamma 2350' to 7898'

Seismic Spectrum 7050' to 7895'

SAMPLE PROGRAM: 30 ft. samples from 2000' ft. to 6900' ft.  
10 ft. samples from 6900' ft. to 7900' ft.

TOTAL DEPTH: Driller 7900' Logger 7900'

BOTTOM HOLE  
FORMATION: Skull Creek Shale

WELL STATUS: Awaiting on Completion

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BIT RECORD

<u>Bit No.</u>	<u>Company</u>	<u>Size</u>	<u>Depth Out</u>	<u>Ftg.</u>	<u>Hrs.</u>	<u>Jets</u>	<u>Condition</u>
1A	STC-DT	12 1/4"	540'	540'	8 1/4	16,16,16	NR
1	STC-FDS	7 7/8"	2417'	1877'	20 1/2	11,11,11	5T-4B-IG
2	STC-FDT	7 7/8"	4412'	1995'	28 1/4	11,12,12	6T-2B-1/8G
3	HTC-J11	7 7/8"	7777'	3365'	75 3/4	12,12,12	8T-3B-3/8G
4	RBI-CJ3	7 7/8"	7900'	123'	12 1/4	12,12,12	7T-4B-1/4G

DRILLING PARAMETERS

<u>DEPTH</u>	<u>W.O.B.</u>	<u>R.P.M.</u>	<u>P.P.</u>
Grass Roots-72'	5-10K		
72'-540'	10-15K		
540'-1429'	15-20K	90	1400
1429'-1925'	15-20K	90	1400
1925'-2417'	20-25K	96	1400
2417'-2958'	20-30K	96	1350
2958'-3219'	35K	96	1300
3219'-3540'	30K	96	1300
3540'-3998'	30K	96	1300
3998'-4381'	30K	96	1300
4381'-4570'	30-35K	96	1400
4570'-4992'	35-40K	96	1400/1250
4992'-5440'	40K	96	1300
5440'-5815'	40K	96	1300
5815'-6088'	40K	96	1300
6088'-6204'	40K	96	1300/1200
6204'-6480'	35-40K	96	1100
6480'-6957'	40K	96	1300
6957'-6985'	40K	96	1300
6985'-7210'	40K	96	1400
7210'-7415'	40K	76	1000
7415'-7680'	40K	78	1000
7680'-7805'	40K	78/80	1000/1400
7805'-7888'	40K	80/59	1400/1000
7888'-7900'	40K	59/65	1000/1200
	40K	65	1200

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DEVIATION RECORD  
SURE SHOT DEVIATION

<u>DEPTH</u>	<u>DEVIATION</u>	<u>TYPE</u>
150'	0	Wireline
300'	1/4	Wireline
500'	1/2	Wireline
1026'	3/4	Wireline
1523'	1 1/4	Wireline
1994'	3/4	Wireline
2216'	3/4	Wireline
2417'	3/4	Wireline
3219'	1 1/2	Wireline
3471'	1	Wireline
4412'	1	Wireline
4920'	1	Dropped
5454'	1	Wireline
6018'	1	Wireline
6520'	1	Wireline
7777'	1	Wireline
7900'	1	Dropped

MUD RECORD

<u>DATE</u>	<u>DEPTH</u>	<u>WT</u>	<u>VIS</u>	<u>WL</u>	<u>Ph</u>	<u>FC</u>	<u>Cl</u>	<u>SOL%</u>
10/29/84	540'	Drilling with water & gel sweeps						
10/30/84	1925'	Drilling with fresh water & gel sweeps						
10/31/84	3540'	Drilling with water & gel sweeps						
11/01/84	4570'	Drilling with water						
11/02/84	5815'	Drilling with water						
11/03/84	6480'	Drilling with water						
11/04/84	7410'	9.4	38	7.3	10.0	2/32	300	7.5
11/04/84	7729'	9.4+	39	7.8	10.0	2/32	300	7.5
11/05/84	7805'	9.7	40	7.8	10.0	2/32	300	9.7
11/06/84	7893'	9.5	56	7.7	10.0	2/32	300	8.2



## DAILY CHRONOLOGY

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DATE	DEPTH	24 HOUR ACTIVITIES
10/29/84	540' Drilling Ahead	13 1/2 - tear down, move & rig up; 2 1/2 - drill; 7 1/4 - drill; 1/4 - trip out.
10/30/84	1925' Drilling Ahead	2 - run 13 jts. 9 5/8" surf. csg.; 6 - WOC; 3 3/4 - drill; 1/2 - surv.; 3 3/4 - drill; 1/4 - rig serv.; 1/2 - surv.; 1 1/4 - drill; 1/2 - pump repair; 5 1/2 - drill.
10/31/84	3540' Drilling Ahead	1/4 - rig serv.; 1/4 - drill; 1/4 - surv.; 3 1/4 - drill; 1/4 - surv.; 2 3/4 - drill; 1 - TOH Bit #1; 1 1/4 - T1H Bit #2; 1/2 - surv.; 3 1/2 - drill; 1/4 - rig serv.; 2 1/4 - drill; 1/2 - surv.; 3 - drill; 1/2 - surv.; 1 1/2 - drill; 1/2 - surv.; 2 1/4 - drill;
11/01/84	4570' Drilling Ahead	1/2 - rig serv.; 1/2 - surv.; 3 1/2 - trip for Bit #3; 19 1/2 - drill.
11/02/84	5815' Drilling Ahead	1/4 - rig serv.; 5 1/2 - drill; 1/4 - surv. 2 - drill; 7 3/4 - drill; 1/4 - rig serv.; 1/4 - surv. @ 5454'; 1/4 - rig serv.; 1/2 - drill; 1/4 - lay down 1 jt. w/ hole; 6 3/4 - drill.
11/03/84	6480' Drilling Ahead	1/4 - rig serv.; 3 - drill; 2 3/4 - trip to recover broken straight hole line; 2 - drill; 1/4 - rig serv.; 3/4 - drill; 1 3/4 - rig repair; 2 - drill; 3 1/4 - trip for hole in pipe; 1 1/4 - finish trip for hole; 6 3/4 - drill.
11/04/84	7415' Drilling Ahead	1/4 - rig serv.; 1/4 - drill; 1/4 - surv. @ 6520'; 7 1/4 - drill; 8 - drill; 1/4 - rig serv.; 7 3/4 - drill.
11/05/84	7805' Drilling Ahead	1/4 - rig serv.; 3 3/4 - drill; 1/4 - repairs; 3 3/4 - drill; 1/2 - drill; 1/4 - rig serv.; 3 1/4 - drill; 1 1/2 - circ. for samples @ 7777'; 2 1/2 - trip for Bit #4; 3 - trip for Bit #4.
11/06/84	7900' Logging	2 - drill; 1/4 - rig serv.; 5 3/4 - drill; 1 - drill; 1 1/2 - circ. for logs; 2 3/4 - trip out for logs; 1 1/2 - wait on loggers; 1 1/4 - rig up loggers & log; Log.
11/07/87	7900' Rig Release 4:30 P.M.	2 3/4 - trip; 1 1/2 - log; 4 3/4 - lay down drill pipe; 1 - nipple up to run csg.; 5 1/4 - run csg.; 3/4 - cmt.; 4 1/2 - circ.; 1 - clean tanks.

# BOREHOLE CUTTINGS DESCRIPTION

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MAR 12 1985

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Samples were air dried.

<u>LAGGED</u>	<u>DEPTH CAUGHT</u>	<u>ROCK TYPE</u>	<u>DESCRIPTION</u>
*** THE PARKMAN INTERVAL ***			
3457'	(3500')	Shale 100%	medium gray, very silty, firm-brittle, sub blocky-irregular, micro-mica, none-occasional very slight calcite.
3495'	(3530')	Shale 85%	medium gray, very silty, firm-brittle, sub blocky-irregular, occasionally micro-mica, none-occasional very slight calcite;
		Sandstone 15%	trace, light gray-white, occasional glauco- nitic, slight s & p with bedded mica flakes, silt size-very fine grain, poorly sorted, sub angular, poor-fair cemented, poor inter- granular porosity, widespread clay filled, no visible stain, but occasional homogeneous gold fluorescence, but no cut; presume mineral fluorescence only.
3518'	(3560')	100%	No change.
3546'	(3590')	Sandstone 40%	clear-white/off white, very slight s & p, occasional glauconitic, very fine-fine grain, sub round, poor-fair cemented, occasional very slight calcite, fair-occasional good intergranular porosity, mostly clay filled, no visible stain, no fluorescence, no cut.
		Shale 60%	silty, as above.
3572'	(3520')	Sandstone 40%	clear-off white, very slight s & p, occasional glauconitic, very fine-fine grain, sub round- sub angular, poor-fair cemented, occasional very slight calcite, predominant fair inter- granular porosity, mostly clay filled, occasional cluster with poor porosity, tight, no show.
		Siltstone 40%	medium gray, micaceous, firm, very argillaceous,
		Shale 20%	as above.

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MAR 12 1985

COLO. OIL &amp; GAS CONS. COMM.

LAGGED	DEPTH CAUGHT	ROCK TYPE	DESCRIPTION
3613'	(3650')	Shale	Shale as above
		Sandstone 70%	clear-tan, slight s&p, occasional glauconitic, with occasional bedded mica flakes, predominant very fine grain, sub angular-sub round, predominantly poor intergranular porosity, clay filled, some clusters exhibit quartz overgrowth, occasional <u>questionable light brown stain</u> (due to grain color), <u>widespread very dull gold fluorescence</u> , but no cut.
3641'	(3680')	Sandstone 30%	clear-off white/light gray, very slight s & p, very fine grain, sub angular, fair cemented, predominantly poor intergranular porosity, clay filled, increasing clusters exhibit quartz overgrowth, no visible stain, <u>decreasing dull gold spotty fluorescence as above</u> , no cut.
		Shale 70%	medium-dark gray, very silty in part, soft-firm, platy-sub blocky, occasional micro-mica, noncalcareous.
3682'	(3710')	Shale 100%	medium-dark gray, very silty in part, firm-brittle, sub blocky-irregular, occasional micro-mica, noncalcareous, decreasing sandstone as above.
3705'	(3740')	Shale 100%	No change.
3731'	(3770')	Shale 100%	dark gray, soft-firm, platy-sub blocky, non-calcareous, occasional micro-mica.
3764'	(3800')	Shale 100%	generally as above, scattered bentonite flakes.
4183'	(4220')	Shale 100%	dark gray, soft, platy-irregular, noncalcareous, trace pyrite, abundant bentonite flakes.
4218'	(4250')	Shale 95%	dark gray, soft, platy-irregular, noncalcareous, trace pyrite, abundant bentonitic flakes.
		Sandstone 5%	clear-white, occasional glauconitic, occasional bedded mica flakes, very fine grained, sub angular, poor-fair cemented, very slightly calcareous, poor intergranular porosity, clay filled in part, no visible stain, <u>very dull gold fluorescence</u> , with <u>occasional very weak slow streaming milky white cut</u> .



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MAR 12 1985

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<u>LAGGED</u>	<u>DEPTH CAUGHT</u>	<u>ROCK TYPE</u>	<u>DESCRIPTION</u>
4250'	(4280')	Sandstone 5%	clear-white, very slight s & p, occasional glauconitic, very fine grain, sub angular, poor cemented, poor intergranular porosity, clay filled, rare very light tan stain, with very dull <u>gold milky fluorescence</u> , but no cut.
		Shale 95%	and bentonite, as above, <u>Inoceramus</u> .
4265'	(4310')	Sandstone 15%	clear-white, very slight s & p, occasional bedded mica flakes, very fine grain, sub angular, poor-fair cemented, poor intergranular porosity, clay filled, <u>rare very light tan stain, with very dull milky spotty fluorescence</u> , but no cut.
		Shale 85%	as above.
4302'	(4340')		No change, as above.
4340'	(4370')	Shale 100%	medium-dark gray, soft, platy, noncalcareous, scattered bentonite flakes, trace sandstone as above, presume carvings.
4370'	(4400')	Sandstone 20%	clear-white/off white, very slight s & p, very fine-fine grain, poor-fair cemented, slightly calcareous, poor-fair intergranular porosity, widespread clay filled, no visible stain, <u>but scattered spotty homogeneous gold fluorescence</u> , no cut; presume mineral fluorescence only.
		Shale 80%	medium dark gray, soft, platy, noncalcareous, scattered bentonite flakes, presume cavings.
L.A.T.	(4430')		No sample caught.
4432'	(4460')	Shale 100%	dark gray, soft-firm, platy-irregular, non- calcareous, occasional scattered bentonitic flakes, trace sandstone as above, presume cavings.
4548'	(4580')	Limestone 40%	off white, microcrystalline, chalky, soft- firm, blocky, no show.
		Shale 60%	medium gray, soft-firm, sub blocky, non- calcareous, scattered bentonitic flakes.



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LAGGED	DEPTH CAUGHT	ROCK TYPE	DESCRIPTION
4576'	(4610')	Shale 60%	medium gray, soft-firm, sub blocky, non-calcareous, scattered bentonitic flakes.
		Limestone 35%	off white, microcrystalline, chalky, soft-firm, blocky, no show.
		Sandstone 5%	trace, clear-white, occasional glauconitic, occasional bedded mica flakes, very fine-grain, sub angular-sub round, poor cemented, friable, <u>rare light tan stain</u> , <u>very dull gold spotty fluorescence</u> , but no cut under solvent.
4603'	(4640')	Shale 100%	dark gray, soft, platy-irregular, noncalcareous, trace sandstone as above.
4625'	(4670')	Sandstone 5%	clear-white, slightly s & p, occasionally glauconitic, very fine-grain, sub angular-sub round, friable, poorly cemented, slightly calcareous, predominantly poor-fair intergranular porosity (10-12%), clay filled, <u>rare very light tan stain</u> , <u>with very pale yellow fluorescence</u> , but no cut.
		Shale 95%	medium gray, soft, platy-irregular, non-calcareous, scattered bentonitic flakes, <u>Inoceramus</u> .
4640'	(4700')	Sandstone 100%	clear-off white, slight s & p, occasionally glauconitic, lower very fine-grain, poorly sorted, sub angular, poor-fair cemented, predominantly poor-fair intergranular porosity (10-12%), but occasional quartz overgrowth, predominantly poor intergranular porosity, clay filled, <u>rare very light tan stain</u> , <u>with spotty dull gold fluorescence</u> , but no cut.
4660'	(4730')	Sandstone 15%	clear-off white, very slight s & p, occasional glauconitic, lower very fine-grain, poorly sorted, sub angular, poor-fair cemented, friable in part, poor-fair intergranular porosity, clay filled, some clusters exhibit quartz overgrowth, no visible stain, <u>but occasionally very dull yellow spotty fluorescence</u> , no cut.
		Shale 85%	light-medium gray, soft, platy, noncalcareous, occasionally micro-mica, trace pyrite.

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MAR 12 1985

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<u>LAGGED</u>	<u>DEPTH CAUGHT</u>	<u>ROCK TYPE</u>	<u>DESCRIPTION</u>
4725'	(4760')	Sandstone 100%	clear-off white, very slight s & p, occasional glauconitic, lower very fine-very fine grain, poorly sorted, poor-fair intergranular porosity, clay filled, no visible stain, but <u>occasional very dull yellow spotty fluorescence</u> , no cut.
4760'	(4790')	Shale 100%	light-medium gray, soft, platy-irregular, silty in part, occasional micro-mica, noncalcareous, scattered bentonitic flakes, trace sandstone as above, presume cavings.
<u>DISCONTINUOUS SAMPLE DESCRIPTIONS</u>			
6850'	(6760')	Shale 100%	very dark gray-black, soft, platy-irregular, occasional micro-mica, noncalcareous, no visible stain, no fluorescence, no cut; scattered bentonitic flakes.
6860'	(6770')	Shale	very dark gray-black, soft, platy, occasional micro-mica, noncalcareous, no visible stain, no fluorescence, no cut, decreasing bentonite.
6870'	(6780')	100%	
6890'	(6790')		
6902'	(6990')	Shale 100%	very dark gray-black, firm-brittle, platy-sub blocky, noncalcareous, occasional micro-mica.
6914'	(7000')	Shale 100%	No change, as above.
6933'	(7010')	Shale 100%	very dark gray-black, firm-brittle, platy-sub blocky, noncalcareous, occasional micro-mica.
6958'	(7020')	Shale 100%	very dark gray-black, firm-brittle, platy-sub blocky, noncalcareous, occasional micro-mica.
*** NIOBRARA: SMOKY HILLS MEMBER "A" SAMPLE TOP ***			
6978'	(7030')	Shale 100%	black, firm-brittle, platy-sub blocky, slightly calcareous, occasional micro-mica, no visible stain, no fluorescence, <u>but occasionally very slow streaming milky-very pale yellow cut</u> , fair residue ring.

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MAR 12 1985

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LAGGED	DEPTH CAUGHT	ROCK TYPE	DESCRIPTION
6985'	(7040')	Shale 100%	very dark gray-black, firm-brittle, platy-irregular, increasing limy, sub chalky, occasional faint off white-tan <u>calcspheres</u> calcareous specs, no visible stain, no fluorescence, but occasional slow-fair <u>streaming milky white-very pale yellow cut</u> , trace pyrite.
6899'	(7050')	Shale 100%	predominantly dark gray brown, firm-brittle, platy-sub blocky, very limy, sub chalky, abundant <u>calcspheres</u> calcareous specs, no visible stain, but occasional very dull <u>yellow green spotty fluorescence</u> , with fair <u>streaming very pale yellow cut</u> ; trace fractured porosity, trace pyrite.
7007'	(7060')	Shale 100%	No change.
7017'	(7070')	Shale 100%	dark gray brown-black, firm-brittle, platy-irregular, limy, decreasing <u>calcspheres</u> calcareous specs, no visible stain, no fluorescence, but <u>occasional slow-fair streaming pale yellow green cut</u> .
7027'	(7080')	Shale 100%	increasing black, soft-firm, platy, very calcareous, micro-mica, decreasing <u>calcspheres</u> calcareous specs, no visible stain, no fluorescence, but occasional very <u>slow streaming pale yellow green cut</u> .
7035'	(7090')	Shale 100%	increasing black, soft-firm, platy, very calcareous, micro-mica, decreasing <u>calcspheres</u> calcareous specs, no visible stain, no fluorescence, but occasional very <u>slow streaming pale yellow green cut</u> .
7044'	(7100')	Shale 100%	very dark brown-black, firm-brittle, platy-sub platy, very limy, faint <u>calcspheres</u> calcareous specs, no visible stain, no fluorescence, but <u>slow-fair streaming pale yellow green cut</u> .
7057'	(7110')	Shale 100%	very dark gray-black, firm-brittle, platy-irregular, occasional sub fissile, very limy, faint <u>calcspheres</u> calcareous specs, no visible stain, no fluorescence, very slow <u>streaming milky white-very pale yellow cut</u> .



MAR 12 1985

COLO. OIL &amp; GAS CONS. COMM.

LAGGED	DEPTH CAUGHT	ROCK TYPE	DESCRIPTION
7154'	(7200')	Shale 100%	very dark gray-black, firm-brittle, sub blocky-irregular, very calcareous, decreasing <u>calcspheres</u> , <u>Inoceramus</u> , no visible stain, no fluorescence, <u>very weak barely streaming milky white cut</u> , scattered bentonite flakes.
7165'	(7210')	Shale 100%	very dark gray-black, firm-brittle, sub blocky-irregular, very calcareous, decreasing <u>calcspheres</u> , <u>Inoceramus</u> , no visible stain, no fluorescence, <u>very weak barely streaming milky white cut</u> , scattered bentonite flakes.
7173'	(7220')	Shale 100%	very dark gray-black, firm-brittle, platy-irregular, very calcareous, <u>calcspheres</u> , <u>Inoceramus</u> , no visible stain, scattered <u>very dull fluorescence</u> , <u>slow streaming milky-very pale yellow green cut</u> ; trace fractured porosity.
7182'	(7230')	Shale 100%	very dark gray brown-black, soft-firm, platy, sub blocky, limy, abundant <u>calcspheres</u> , no visible stain, no fluorescence, but <u>slow streaming milky white-very pale yellow green cut</u> ; trace fractured porosity, trace pyrite.
*** NIOBRARA: SMOKY HILLS MEMBER "C" SAMPLE TOP ***			
7193'	(7240')	Shale 100%	predominantly dark gray brown, black, firm-brittle, platy-sub blocky, very limy, sub chalky, widespread <u>calcspheres</u> , <u>Inoceramus</u> , slightly silty in part, no visible stain, but <u>scattered very dull yellow green spotty fluorescence</u> , <u>fair streaming milky white-very pale yellow green cut</u> ; pyrite crystal growth along smooth blocky faces suggests fractured porosity, trace calcite crystals.
7205'	(7250')	Shale 100%	gray brown, firm-brittle, sub blocky-irregular, very limy, <u>calcspheres</u> , <u>Inoceramus</u> , no visible stain, <u>scattered very dull green fluorescence</u> , strong streaming very pale yellow <u>green cut</u> ; fractured porosity.
7218'	(7260')	Shale 100%	gray brown, firm-brittle, sub blocky-irregular, very limy, <u>calcspheres</u> , <u>Inoceramus</u> , no visible stain, <u>scattered very dull green fluorescence</u> , strong streaming very pale yellow <u>green cut</u> ; fractured porosity.



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MAR 12 1985

LAGGED	DEPTH CAUGHT	ROCK TYPE	DESCRIPTION
7230'	(7270')	Shale 100%	gray brown-black, firm-brittle, sub blocky-irregular, jag, very limy, <u>calcspheres</u> , <u>Inoceramus</u> , no visible stain, <u>but scattered very dull green spotty fluorescence</u> , <u>fair-strong streaming very pale yellow green cut</u> ; <u>trace fractured porosity</u> .
7238'	(7280')	Shale 100%	dark gray brown-black, firm-brittle, platy-irregular, very limy, decreasing <u>calcspheres</u> , <u>Inoceramus</u> , no visible stain, <u>decreasing very dull green spotty fluorescence</u> , <u>slow streaming very pale yellow green cut</u> ; <u>trace fractured porosity</u> .
7253'	(7290')	Shale 100%	black, firm-brittle, sub blocky-irregular, very calcareous, no visible stain, no fluorescence, <u>very weak barely streaming milky white cut</u> ; <u>smooth blocky surfaces suggest fractures</u> .
7261'	(7300')	Shale 100%	black, firm-brittle, sub blocky-irregular, very calcareous, no visible stain, no fluorescence, <u>very weak barely streaming milky white cut</u> ; <u>smooth blocky surfaces suggest fractures</u> .
7268'	(7310')	Shale 100%	predominantly black, firm-brittle, sub blocky-irregular, increasing noncalcareous, abundant free pyrite.
7275'	(7320')	Shale 100%	very dark gray-black, soft-firm, platy - irregular, decreasing calcite, occasional micro mica, <u>Inoceramus</u> .
*** NIOBRARA: FORT HAYS LIMESTONE SAMPLE TOP ***			
7288'	(7330')	Limestone 100%	cream-tan, microcrystalline, micrite, soft-firm, dense appearance, no visible stain, <u>very dull milky fluorescence</u> , no cut under solvent; <u>presume mineral fluorescence only</u> .
*** CODELL SANDSTONE OF THE CARLISLE SHALE ***			
7305'	(7340')	Sandstone 5%	clear-tan, gray, occasional glauconite, lower very fine-very fine grain, poorly sorted, sub round, poor cemented, calcite, very friable, poor-fair intergranular porosity (estimated at best 12%), slightly clay filled, <u>widespread light tan stain, with spotty pale yellow fluorescence</u> , <u>very weak barely streaming milky cut, fair residual halo</u> .

MAR 12 1965

COLO. OIL &amp; GAS CONS. COMM.

<u>LAGGED</u>	<u>DEPTH CAUGHT</u>	<u>ROCK TYPE</u>	<u>DESCRIPTION</u>
		Limestone Shale 95%	cream-tan, microcrystalline, micrite, soft-firm, dense appearance, no visible stain, <u>very dull milky fluorescence</u> , no cut under solvent; presume mineral fluorescence only.
7318'	(7350')	Sandstone 10%	clear-tan, occasional glauconite, very slight salt and pepper, lower very fine-very fine grained, poorly sorted, sub angular-sub round, dirty, poor cemented, very friable, calcareous, predominantly poor intergranular porosity (estimated 8-12%), <u>widespread brown stain</u> , with occasional <u>very dull yellow spotty fluorescence</u> , very weak barely streaming milky cut, poor residual halo.
		Limestone 80%	as above.
		Shale 10%	as above.
7325'	(7360')	Shale 100%	dark-very dark gray, firm-brittle, platy-irregular, occasional splintery, predominantly noncalcareous; abundant Niobrara and Fort Hays cavings.
7352'	(7390')	Shale 100%	dark-very dark gray, occasional black, soft-firm, platy-irregular, increasing noncalcareous, trace pyrite, abundant Niobrara & Fort Hays carvings.
7391'	(7420')	Shale 100%	as above.
7412'	(7450')	Shale 100%	very dark gray, soft, platy, non-occasional very slight calcareous, <u>Inoceramus</u> , trace Limestone, brown, microcrystalline, dense appearance, no show.
7429'	(7480')	Shale 100%	as above, increasing limestone, dense appearance, no show.
7459'	(7510')	Shale 100%	very dark gray-black, soft-firm, platy-sub blocky, increasing calcareous (Kn carvings?), silty in part, trace free pyrite.

MAR 12 1985

COLO. OIL &amp; GAS CONS. COMM.

<u>LAGGED</u>	<u>DEPTH CAUGHT</u>	<u>ROCK TYPE</u>	<u>DESCRIPTION</u>
7489'	(7540')	Shale 100%	predominantly black, carbonaceous, soft-firm, platy-irregular, calcareous, scattered bentonite flakes, <u>Inoceramus</u> .
7517'	(7570')	Shale 100%	as above.
7547'	(7600')	Shale 100%	black, carbonaceous, soft-firm, platy-irregular, calcareous, occasional micro-mica, scattered bentonite flakes, trace pyrite, <u>Inoceramus</u> .
7577'	(7630')	Shale 100%	as above.
*** GRANEROS SHALE- "X" BENTONITE SAMPLE TOP ***			
7617'	(7690')	Shale 100%	black, carbonaceous, platy-irregular, occasional splintery, increasing noncalcareous, occasional micro mica, trace free pyrite, abundant bentonite flakes.
7633'	(7700')	Shale 100%	black, carbonaceous, soft-firm, platy-irregular, noncalcareous, occasional micro-mica, scattered bentonite flakes.
7647'	(7710')	Shale 100%	generally as above, becoming sub blocky.
7657'	(7720')	Shale 100%	as above.
7668' 7689'	(7730') (7740')	Shale 100%	black, firm-brittle, platy-sub blocky, non-calcareous, trace pyrite, occasional micro-mica.
7730'	(7760')	Shale 100%	black, carbonaceous, firm-brittle, platy-irregular, noncalcareous, interbedded with siltstone, very dark gray, black, hard, siliceous, blocky.
*** MOWRY "J" SILTSTONE SAMPLE TOP ***			
7745'	(7770')	Siltstone 100%	very dark gray, very dark brown, hard, siliceous, very tight, sandy in part, shale as above.



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MAR 12 1985

COLO. OIL &amp; GAS CONS. COMM.

MAR 12 1968

LAGGED	DEPTH CAUGHT	ROCK TYPE	DESCRIPTION
*** SOUTH PLATTE - MUDDY "J" SANDSTONE SAMPLE TOP ***			
	7767'	Sandstone 100%	clear-white, fine-medium grained, sub-angular, sub round, fair cemented, clean, poor intergranular porosity, mostly tight, with quartz overgrowth, <u>rare light brown stain, dull yellow spotty fluorescence</u> , no cut, but very faint residual halo, samples have potentially flushed due to the lack of clays.
	7772'	(60 min) Sandstone	clear-white, very slight salt and pepper, fine grain, well sorted, sub angular-sub round, fair-well cemented, siliceous cement, mostly clean, predominantly tight with quartz overgrowth, some clusters exhibit poor intergranular porosity (estimated at best 8%), <u>rare light brown stain, very dull yellow spotty-pin point fluorescence</u> , no cut, but very faint residual halo.
	7777'	(90 min)	
TRIP FOR BIT #4			
L.A.T.	(7780')	Sandstone 20%	clear-white, very slight salt and pepper, fine grain, well sorted, sub angular-sub round, fair well cemented, siliceous cement, predominantly tight, with quartz overgrowth, but some poor intergranular porosity, very slight clay filled, scattered loose clay flakes, <u>occasional light brown stain, with very dull yellow spotty-pin point fluorescence</u> , no cut, but very faint residual halo.
		Shale 80%	black, carbonaceous, firm-brittle, platy-sub blocky, occasional micro-mica, abundant bentonite flakes.
L.A.T.	(7790')	Sandstone 10%	as above
		Shale 90%	with increasing bentonite flakes, trace pyrite.
	7784'	(7800') Sandstone	clear-white, lower fine-very fine grain, sub-angular-sub round, fair-well cemented, friable in part, siliceous cement, poor intergranular porosity, occasional very slight clay filled, widespread quartz overgrowth, no visible stain, but <u>spotty-pin point dull yellow fluorescence</u> , no cut, but very faint residual halo with time; abundant bentonite flakes and black shale as above.



RECEIVED

MAR 12 1955

LAGGED	DEPTH CAUGHT	ROCK TYPE	DESCRIPTION
7794'	(7810')	Shale 90%	black, carbonaceous, soft-firm, platy-splintery, occasional fissile, noncalcareous, slight micro-mica, trace pyrite, abundant bentonite.
		Sandstone 10%	clear-white, lower fine-very fine grain, sub angular-sub round, fair-well cemented, siliceous cement, friable in part, mostly clean, poor intergranular porosity, widespread quartz overgrowth, no visible stain, but <u>spotty-pin point dull yellow fluorescence</u> persists, no cut.
*** MUDDY "J" DELTA FRONT SAMPLE TOP ***			
7804'	(7820')	Sandstone	clear-white/off white, very slight salt and pepper, lower fine-very fine grained, sub angular, poor-fair cemented, friable, poor intergranular porosity, widespread clay filled, abundant loose white clay flakes, no visible stain, but <u>widespread very dull yellow spotty fluorescence</u> , no cut.
7812'	(7830')	Sandstone	white-very light gray, cream, very slight salt & pepper with occasional chlorite grains, trace shale laminae, very fine grain, sub angular, poor-fair cemented, poor intergranular porosity (estimated 8-10%) with widespread clay filled, no visible stain, but <u>occasional dull yellow-gold spotty fluorescence</u> no cut under solvent.
7825'	(7840')	Sandstone	cream-very light gray, very slight salt and pepper, becoming dirtier, lower very fine-very fine grain, sub angular, poor-fair cemented, poor intergranular porosity, with widespread clay filled, no visible stain, but <u>occasional dull yellow-gold spotty fluorescence</u> , no cut.
7835'	(7850')	Sandstone	No change; abundant bentonite flakes.
7845'	(7860')	Sandstone	very light gray-cream, very slight salt & pepper, trace shale laminae, lower very fine-very fine grain, sub angular, fair-well cemented, siliceous cement, increasing tight, widespread quartz overgrowth, abundant loose clay flakes, no visible stain, no fluorescence, no cut.
7855'	(7870')	Sandstone	as above, no show.

RECEIVED

MAR 12 1984

COLD OIL & GAS CORP.

<u>LAGGED</u>	<u>DEPTH CAUGHT</u>	<u>ROCK TYPE</u>	<u>DESCRIPTION</u>
7866'	(7880')	Shale	black, soft-firm, platy, noncalcareous, some olive green mudstone, decreasing sandstone as above, grades to siltstone.
7878'	(7890')		
7889'	(7900')	Shale	black, firm-brittle, platy-irregular, occasional olive green mudstone, decreasing dirty sandstone as above, no show.
CIRCULATE FOR SAMPLES AT T.D. - 7900'			
7892'	(30 min)	Shale	black, soft-firm, platy, increasing sandstone, very light gray, slight salt & pepper, dirty, lower very fine-very fine grain, sub angular, fair-well cemented, poor intergranular porosity, no visible stain, but <u>dull gold spotty fluorescence</u> , no cut - <u>carvings?</u> , abundant bentonite flakes.
7895'	(60 min)		as above, decreasing sandstone.
7900'	(90 min)	Shale	as above, decreasing sandstone.



RECEIVED

MAR 12 1985

OIL &amp; GAS CONS. COMM.

# GOOLSBY BROTHERS and associates, inc. GEOLOGICAL STRIP LOG

COMPANY SUNSET HILL OIL COMPANY, INC. WELL NO. 2-30 THAYERLOCATION NE SWSEC. 30TWP. 6NRGE. 62WSTATE COLORADOCOUNTY WELDT.D. DRILL. 7900T.D. LOG. 7900BOTTOM HOLE FM. SKULL CREEK

	*	
	30	
	0	
*		

GEOLOGY BY JOE CARDOSOSPUD DATE 10/28/84T.D. DATE 11/5/84WELL STATUS WAITING ON COMPLETION

ELEVATION

K.B. 4965G.L. 4955

CASING RECORD

13115 (520.43') OF 9 5/8" SUBFCSGLANDED @ 532.43

— DRILL TIME (MIN/FT) —

----- TOTAL GAS -----

SAMPLE DESCRIPTIONS

☐ VERY POOR SHOW☐ GOOD SHOW☐ POOR SHOW☐ EXCELLENT SHOW☐ FAIR SHOW

PARKMAN INTERNAL







LITHOLOGY	DEPTH	POROSITY <small>POOR FAIR GOOD EXCELLENT</small>	DST'S	CORES	— DRILL TIME (MIN/FT) —	
					----- TOTAL GAS -----	
					5253K	INTERVAL
	4200					
					5253K (LOG ORCH 4295)	
	4250					
	4300					
					DRILL RATE MISSING	
	4350					
						20% SS
	4400					

RECEIVED	
SAMPLE DESCRIPTIONS	
12 1985	
COLO. OIL & GAS CONS. COMM.	
SS.	CLK-NH. V. SL. SP. OCC. GLAU. V. FINE GR. SUB. ANG. P. MID. P. INTR. AN. P. V. G. COIL. CLY. FILLED. AN. V. LT. TAN. STAL. W/ V. DULL. GOLD-MILKY FLOR. W/ OCC. V. MEX. SLOW STAIN. MEX. W/ CUT
SS.	CL. PLAC. P. FA. INTR. AN. P. CLY. FILLED. AN. V. LT. TAN. STAL. W/ V. DULL. MILKY SPOTTY FLOR. NO CUT
SS.	CLK-NH. V. SL. SP. OCC. GLAU. OCC. BRD. MICA FLS. V. G. SUB. ANG. P. MID. P. INTR. AN. P. CLY. FILLED. AN. V. LT. TAN. STAL. W/ DULL. MILKY SPOTTY FLOR. BUT NO CUT
SH.	MP. Q. - BR. GP. SET. PLTP. NON CALC. SCAT. BENT. FLKS. IR. SS. A/A
SS.	CLK-NH. L. OFE. NH. V. SL. SP. V. E. - F. AN. P. FA. COIL. D. SL. CALC. P. FA. INTR. AN. P. BRD. MICA. CLY. FILLED. NO V. LT. TAN. STAL. BUT STAL. V. CLY. - HOMOGENEOUS GOLD FLOR. NO CUT



**COLO. OIL & GAS CONS. COMM.**

SH. 28 GP, SET, MTF=1000, NON CAC  
 OCC ALL GALL. 0. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834.



OK - N OK OK, FRM - BRIT, CITY - IN,  
CITY - BRIT, BRIT - MON CLE, AM  
MODERATELY FAST WAVE

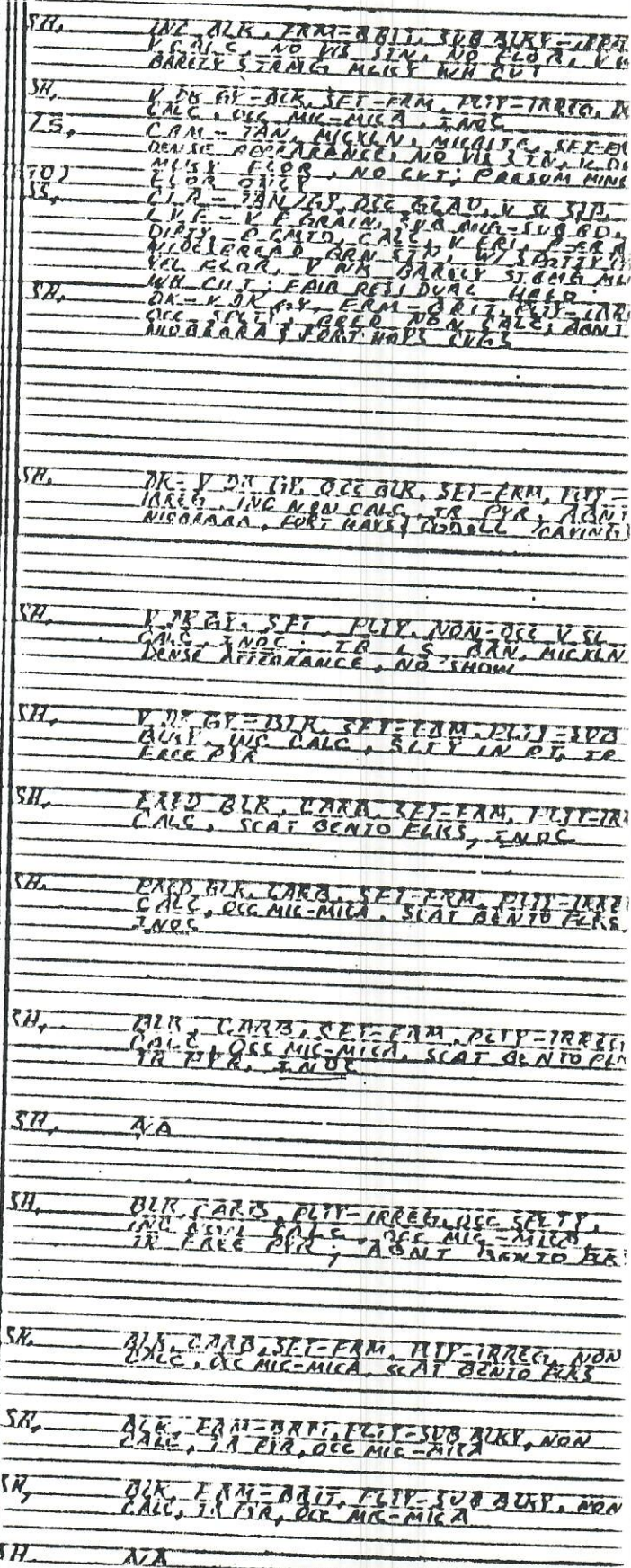


DESCRIPTION

**COLD OIL & GAS CONS. COMM.**

----- TOTAL GAS -----

**CORES**





LITHOLOGY

DEPTH

POROSITY

GOOD  
EXCELLENT

DST'S

CCRES

— DRILL TIME (MIN/FT) —

----- TOTAL GAS -----

RECEIVED

SAMPLE DESCRIPTIONS

MAR 12 1965

COLO. OIL &amp; GAS CONS. COMM.

CALC., DEC. MIC-MICA, SCAT. BENTONITE FLS.

SH, BLK. CARB. SET-FAM. PLTY-IRREG. CALC., DEC. MIC-MICA, SCAT. BENTONITE FLS. IN PVR, INCL.

SH, A/A

SH, BLK. CARB. PLTY-IRREG. DEC. SCALTY, INC. NON CALC., DEC. MIC-MICA, IR. FREE PVR; ABNT. BENTONITE FLS.

SH, BLK. CARB. SET-FAM. PLTY-IRREG. NON CALC., DEC. MIC-MICA, SCAT. BENTONITE FLS.

SH, BLK. ERM-BRIT. PLTY-SUB BLKY, NON CALC., IN PVR, DEC. MIC-MICA

SH, BLK. ERM-BRIT. PLTY-SUB BLKY, NON CALC., IN PVR, DEC. MIC-MICA

SH, A/A

SH, BLK. TAN. ERM-BRIT. PLTY-IRREG. NON CALC., INCL. W/SLTST, V. DR. GR. BLK. NO SIL., V. TIT. VDR. GR. V. DR. GR. HD, SIL., V. TIT. SANDY IN PT.

SS, CL. WH. FINE-MED. GR. TUA ANG-SUB RD. ERM. N. ERM. CL. FAN. PLTY-IRREG. NO SLTST. QTB. PVR. BL. LT. GR. STN. DUL. YEL. STN. FLOA. NO CUT. BUT V. FAINT. RESTORAL HAI.

SS, CL. WH. FINE-MED. GR. TUA ANG-SUB RD. ERM. N. ERM. CL. FAN. PLTY-IRREG. NO SLTST. QTB. PVR. BL. LT. GR. STN. DUL. YEL. STN. FLOA. NO CUT. BUT V. FAINT. RESTORAL HAI.

SS, CL. WH. FINE-MED. GR. TUA ANG-SUB RD. ERM. N. ERM. CL. FAN. PLTY-IRREG. NO SLTST. QTB. PVR. BL. LT. GR. STN. DUL. YEL. STN. FLOA. NO CUT. BUT V. FAINT. RESTORAL HAI.

SS, CL. WH. FINE-MED. GR. TUA ANG-SUB RD. ERM. N. ERM. CL. FAN. PLTY-IRREG. NO SLTST. QTB. PVR. BL. LT. GR. STN. DUL. YEL. STN. FLOA. NO CUT. BUT V. FAINT. RESTORAL HAI.

SH, BLK. SET-FAM. PLTY, NON CALC. SCAT. OLIVE GREEN MUDSTONE, DEC. SS. A/A, PRESUM. CKGS.

SH, BLK. SET-FAM. PLTY, DEC. DUFFY SS. A/A, PRESUM. CKGS.

REACHED TD ON 11/18/64  
@ 4:10 PM  
TO DRILLER: 7900  
TO LUGGER: 7900



