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TEXAS OIL & GAS CORPORATION

NELSON FEDERAL #1

SECTION 21-T2N-R2W

MESA COUNTY, COLORADO

GEOLOGIC REPORT

BY

BILL COVEY

ROCKY MOUNTAIN GEO-ENGINEERING COMPANY

DVR	✓
FJP	
HHM	✓
JAM	✓
RCC	
LAR	✓
GCM	

✓

I-14 to 25

WELL SUMMARY

OPERATOR: TEXAS OIL & GAS CORPORATION  
WELL NAME: NELSON FEDERAL #1  
AREA: 6 MILES NORTH OF FRUITA, COLORADO  
LOCATION: SECTION 21, T2N, R2W  
FNL 429' - FEL 802'  
COUNTY: MESA  
STATE: COLORADO  
ELEVATIONS: GL 4747' - KB 4752'  
SPUD DATE: 10 FEBRUARY 1983  
LOGGING DATE: 22 FEBRUARY 1983  
TOTAL DEPTH: 2425' DRILLER - 2380' LOGGER  
WELLSITE GEOLOGY:  
GEOLOGIST: ROCKY MOUNTAIN GEO-ENGINEERING COMPANY  
BILL COVEY  
DRILLING ENGINEER: WES SUTTON  
CONTRACTOR:  
RIG: SHANNON SERVICE COMPANY  
SMITH %L5547 PORTA-DRILL  
TOOL PUSHER: DON STEVENS  
AIR COMPRESSORS: SHANNON SERVICE COMPANY  
DRILLING MUD:  
ENGINEER: CHICASHA MUD COMPANY  
JERRY ROSE  
HOLE SIZE: 12¼" TO 300' - 7 7/8" TO T.D.  
CASING RECORD: 8 5/8" TO 292'  
ELECTRIC LOGGING:  
TYPE OF LOGS: DRESSER ATLAS  
DIL/GR, FDC/CNL/GR/CAL  
ENGINEER: PAUL FAHLSING  
OBJECTIVES: DAKOTA & MORRISON SANDS  
STATUS: RUN 2 7/8" TUBING

TEXAS OIL & GAS CORP.  
 NELSON FEDERAL #1  
 SECTION 21-T2N-R2W  
 MESA COUNTY, COLO.

WELL CHRONOLOGY

DATE & # DAYS	MDNT DEPTH	FTG/ DAY	DAILY OPERATIONS
2/10/83 (1)	300	300	SPUD 12½" HOLE IN MANCOS FM @ 8:00 AM WITH AIR - AIR DRL TO 300' @ 6 PM
2/11 (2)	300	---	RUN 8 5/8" CSG TO 292'
2/12 (3)	300	---	WO WELL HEAD PARTS, ETC - NIPPLE UP
2/13 (4)	533	233	NIP UP - CHG WELLHEAD - START AIR DRLG @ 1:30 PM - DRL TO 533' IN MANCOS
2/14 (5)	NR	---	DRL - NO RETURNS - NO RECORD GEOL ON SB
2/15 (6)	NR	---	" " " " " " " "
2/16 (7)	1673	350	DRL TO 1673' - TOH TO CHG BLOOIE LINE - DRLG - LAY DOWN STAB
2/17 (8)	2044	371	TIH - DRLG @ NOON - DRL DAKOTA SILT & SAND TO 2044'
2/18 (9)	2425	381	DRL MORRISON - HOLE MAKING ABNT WATER ON CONN @ 2425' & 350# AIR COULD NOT LIFT WTR - TD @ 11:15 PM @ 2425'
2/19 (10)	2425	---	TOH FOR LOGS - HOLE TT - WORK PIPE
2/20 (11)	2425	---	MIX & COND MUD - TIH TO 2415 - LOSE MUD - TOH FOR LOGS
2/21 (12)	2425	---	TIH FOR LOGS & HIT BRIDGE @ 1950' - TOOL WON'T GO - TOH - MIX & COND MUD - TIH & CIRC - TOH FOR LOGS - START LOGGING @ 11 PM
2/22 (13)	2425	---	LOGGING TIL 4 AM - TELECOPY LOGS FOR EVALUATION - RUN TUBING





TEXAS OIL & GAS CORP.  
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 MESA COUNTY, COLO.

SAMPLE DESCRIPTION

1400-1430	100%	SH dkgy mfrm blk slicalc s/PYR INCL
1430-1460	100%	SH AA /sli more calc
1460-1475	100%	SH AA /sli dkr gy
1475-1495	100%	SH dkgy mfrm-frm blk calc
1495-1530	100%	SH AA s/mgy sft gummy SH
1530-1550	100%	SH dkgy-blk frm blk w/ltgy cly spks
	TR	PYR free & INOC FRAGS
1550-1570	100%	SH AA /incr in PYR & gybrn FSSL HASH FRAGS
1570-1590	100%	SH AA fssl vPYR w/ltgy-crm mic bent w/brtyel min <u>FLOR</u>
1590-1610	100%	SH AA frm brtl vPYR
	TR	BENT AA s/fssl FRAGS & abnt lse PYR
1610-1630	100%	SH dkgy-blk frm-brtl fiss-blky w/mcPYR INCL & FSSL FRAGS
	TR	PYR mgy vhd & v calc SLTS s/sdy
1630-1650	100%	SH vdkgy s/blk frm fiss-blky ncalc
1650-1670	30%	SLTST mgy frm-hd wcmt n-slcalc s/v mic-PYR
	40%	LS tan-ltbrn amorph drty marly s/FSSL HASH w/brtyel min <u>FLOR</u>
	30%	SH AA
1670-1685	30%	SLTST AA
	70%	SH dkgyfrm blk PYR ip ncalc
1685-1700	10%	SS-SLTST ltgy vfg-slt wcmt hd tt
	90%	SH AA
1700-1710	10%	SS-SLTST AA
	90%	SH AA dkgy slty frm wcalc
1710-1720	100%	SH dkgy mfrm blk ncalc
1720-1730	15%	SLTST lt-mgy frm hd tt
	85%	SH dkgy vslty mcPYR ncalc
1730-1740	15%	SLTST AA s/ltgy vhd tt cln clus
	85%	SH AA
1740-1755	80%	MCPYR-MICA mgy hd ncalc
	20%	SH AA
1755-1765	100%	SS-SLTST brn-gybrn vfg-slt mcmt drty arg w/m-yel <u>FLOR</u> in 80% of sample /gd strmg yel <u>CUT</u>
1765-1775	20%	SS-SLTST AA w/ <u>FLOR</u> & <u>CUT</u> AA
	80%	MCPYR mgy frm tt ncalc
1775-1785	20%	SLTST mgy AA
	80%	SH mdkgy slty frm ncalc
1785-1795	100%	SH dkgy frm blk slty-calc ip
	TR	BENT wh-ltgy wxy
1795-1805	100%	SH vdkgy frm blk ncalc
1805-1815	90%	SH AA
	10%	BENT wh sft mic ip s/clr-smky CALC FRAGS
1815-1830	100%	SH vdkgy blk frm MCPYR ncalc s/slty
1830-1840	70%	SS clr f-mg sub-well rdd lse-wcmt MCPYR
	30%	SH AA
1840-1850	50%	SS AA w/lt-mgy vfg wcmt tt sli sil MCPYR SS
	50%	SH AA
1850-1865	10%	AA
	90%	SH vdkgy s/blk frm blk ncalc
1865-1875		NS
1870		HOLE WET - START MIST DRLG

TEXAS OIL & GAS CORPORATION  
 NELSON FEDERAL #1  
 SAMPLE DESCRIPTION CONTINUED

1875-1885	100%	SH m-dkgy s/gybrn mfrm calc; TR COAL floating	
1885-1895	10%	SLTST ltgy mfrm calc	VPS
	90%	SH AA s/blk carb s/COAL & BENT strks	
1895-1915	15%	SLTST AA w/TR SD wh-clr vfg mcmt	VPS
	80%	SH AA	
	5%	COAL AA	
1915-1925	10%	SLTST AA w/SS AA w/TR COAL AA	VPS
	90%	SH mgy-gybrn AA w/minor gy-wh BENT w/min	<u>FLOR</u>
1925-1935	100%	SH AA s/BENT AA	
	TR	SS clr vfg sil & TR COAL AA	
1935-1945	35%	SS wh-lt-mgy vf-fg sbang wcmt hd tt calc s/CARB PRTGS-INCL & s/lse w-sbrdd clr grs	
	65%	MCPYR m-dkgy-blk frm calc ip	
1945-1955	60%	SS AA s/mg lse clr grs	
	40%	SH AA	
1955-1965	50%	SS wh-clr fg s/mg sbrdd lse s/vfg wcmt	
	50%	SH dkgy-blk AA	
	TR	COAL AA	
1965-1975	35%	SS wh-ltgy vfg wcmt hd tt w/lse fg AA	
	65%	SH AA	
	TR	COAL & CHT FRAGS mlky smky	
1975-1985	40%	SS clr-wh m-cg w-rdd lse s/CHT FRAGS AA	
	60%	SH AA s/BENT strks mic wh-ltgy	
1985-1995	30%	AA	
	70%	AA	
	TR	BENT, COAL, CHT	
1995-2005	30%	SS AA	
	70%	SH AA w/CLYST ltgy-gygn frm brtl sdy	
2005-2015	100%	CLYST ltgy-gygn frm sdy-mcPYR brtl ncalc s/lse CHT	
2015-2025	20%	SS clr f-cg w-rdd lse	
	70%	CLYST AA	
	10%	LS crm-wh mcxl-crppl dse FRAGS	
2025-2035	35%	SS AA	
	55%	SH m-dkgy-blk frm ncalc s/CLYST AA s/CLY wh	
	10%	LS AA	
2035-2045	80%	SS clr-wh f-vcg w-rdd p-srt lse w/TR CHT	
	20%	SH AA incrg wh sft CLY	
2045-2055	60%	SS incrg CHT FRAGS	
	40%	SH AA w/CLY wh sft & CLYST ltgn	
2055-2065	80%	SS AA pred clr m-cg wrdd lse	
	TR	CHT	
	20%	SH AA	
2065-2075	90%	SS clr f-mg wrdd lse AA w/CHT FRAGS	
	10%	SH AA abnt lse wh CLY (cmt mt1 for SS)	
2075-2085	50%	SS AA lse w/CHT clr-mlky	
	50%	SH-CLYST ltgy-gygn frm brtl s/slty-sil	
2085-2095	15%	SS AA	
	85%	SH-CLYST AA	
2095-2115	100%	CLYST ltgy-gygn frm brtl blk ncalc s/MCPYR flks s/sdy sil	
2115-2135	10%	SS-SLTST wh vfg wcmt hd tt sil ncalc	
	90%	SH-CLYST vgt pred lt-mdkgy-gygn wh mfrm ncalc s/lse CHT FRAGS	
2135-2145	70%	CHT-QTZ mc congl clr-wh-or-mlky vcg-mc congl ang-rdd lse	
	30%	SH-CLYST vgt AA	
2145-2155	40%	CHT-QTZ mc congl AA	
	60%	SH-CLYST vgt AA s/redbrn SH	

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2155-2165	100%	SH redbrn frm blk ncalc w/vgt AA
2165-2175	100%	SH vgt redbrn-blk-dkgy blk mfrm ncalc
2175-2185		NS
2185-2205	100%	CLYST-SLTST whfrm brtl slty sl sil
	TR	LS wh calc FRAGS
2205-2225	100%	SH vgt pred dkgy-mgy s/blk w/vgt silty ip
2225-2235	100%	SH-CLYST vgt pale red-pk-gy-wh-ltgn mfrm ncalc
2335-2345	75%	SS clr-wh vf-fg sbrd-rdd cln lse
	25%	SH AA
2245-2255	100%	SH AA vgt
2255-2265	15%	SS clr lse vf-fg sbrd grs
	85%	SH AA
2265-2295	100%	SH vgt pred red-gy-gygn mfrm blk w/wh wxy BENT STRKS
	TR	SLT vfg lse grs
2295-2305	15%	SS-SLTST wh-ltgy vfg-slt lse-pcmt calc
	85%	SH-CLYST vgt AA w/CLY wh-ltgy
	TR	LS FRAGS ltgy
2305-2315	100%	SH-CLYST vgt frm blk ncalc
2315-2325	20%	SS-SLTST clr lse vfg-slt grs
	80%	SH-CLYST AA w/CLY-BENT wh
2325-2345	15%	SS-SLTST AA
	85%	SH-CLYST AA
2345-2355	100%	SH vgt pred dkgy-blk frm blk w/vgt AA
2355-2365	50%	SS clr vf-fg lse rdd qtz grs
	50%	SH vgt pred red AA
2365-2375	20%	SS AA lse
	80%	SH vgt AA minor ltgy-wh BENT STRKS w/ <u>FLOR</u> min
2375-2385	15%	SS clr vf-fg lse AA
	85%	SH AA vgt
2385-2395	40%	SS clr vf-fg wrdd lse grs AA
	60%	SH AA vgt
2395-2405	50%	SS AA s/mg wrdd lse
	50%	SH-CLYST AA vgt abnt wh-ltgy wxy BENT w/ <u>FLOR</u> myel min
2405-2415	50%	SS clr f-mg wrdd lse
	50%	SH-CLYST AA vgt
2415-2425	80%	SS clr mg cln AA
	20%	SH-CLYST AA

ABNT WTR - COULD NOT UNLOAD WTR ON CONN W/350#  
 BIT PLUGGED ON CONN @2425'

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 SECTION 21-T2N-R2W  
 MESA COUNTY, COLO.

FLARES & QUICK LOOK DATA

DEPTH	FLARE TIME	REMARKS
1750'-65'		FLUO & GOOD CUT
1859'	1 SEC	DRLG (PROBABLY COAL OR SH GAS)
1865'	2 SEC	CONN GAS
1868'	1 SEC	"
1870'	HOLE WET - START	MIST DRLG
1905'	2 SEC	CONN GAS
1925'	2 SEC	"
1945'	3 SEC	"
1965'	NF	"
1985'	3 SEC	"
2005'	3 SEC	"
2025'	NF	CONN GAS - INCR IN WATER
2045'	2 SEC	"
2065'	NF	"
2165'	2 SEC	"
2185'	2 SEC	"
2205'	2 SEC	"
2225'	2 SEC	"
2325'	3 SEC	"
2345'	3 SEC	"
2365'	3 SEC	"
2385'	7 SEC	"
2405'	15 SEC	"
2425'	GTS ca 1 HR-TSTM-2' BALLON FLARE-BIT PLUGGED- ABNT WTR-T.D.	

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MESA COUNTY, COLO.

FORMATION TOPS

FORMATION	DEPTH	DATUM
MANCOS	SURFACE	+4752 KB
DAKOTA SILT	1756'	+2996
DAKOTA	1836'	+2916
DAKOTA "A"	1869'	+2883
DAKOTA "B"	1901'	+2851
LOWER DAKOTA	1928'	+2824
BUCKHORN	2006'	+2746
MORRISON	2074'	+2628
TOTAL DEPTH	2425'	+2327

GEOLOGIC SUMMARY  
AND  
ZONES OF INTEREST

The Texas Oil & Gas Corporation's well, Nelson Federal #1, is located in Section 21, T2N, R2W of Mesa County, Colorado. Spudded at 8:00 A.M., February 2, 1983, in the Mancos Formation, the well reached a total depth of 2425' (Driller's) in the Morrison Formation on February 22, 1983.

A 12¼" hole was air drilled to 300' and 8 5/8" casing was set at 292'. No water was encountered in the surface hole.

DAKOTA SILT (1756' - 1836')

The top of the silt zone was a brown to gray-brown, very fine grained silt, medium cemented, argillaceous, dirty sandstone-siltstone, with a medium yellow fluorescence and good, yellow, streaming cut. No oil balls or flares were noted from this zone. A slight light stain was noted on some grains. No flares were observed in the silt zone.

DAKOTA (1836' - 2074')

The top of the Dakota consisted of a clear, fine to medium grained, subrounded to well rounded, well cemented to loose mica-pyritic sand.

At 1859'-1860' a thin coal was drilled and a 1 second flare was noted.

The top of the Dakota "A" was picked from electric logs at 1869'. The hole began to get wet at 1870'; therefore, no samples were available at the top of the "A" zone. Samples were very few and poor for 60 to 70 feet under the wet zone, making the top of the "B" zone at 1901' difficult to obtain good sample evaluation and descriptions. Connection flares of 2-3 seconds were noted on most connections throughout the Dakota.

The Buckhorn was a clear to white, fine to very coarse grained, well rounded, poorly sorted, loose sand with abundant loose and angular chert fragments. No increase in gas noted, but an increase in water was noted.

MORRISON (2074' - T.D.)

The top of the Morrison was characterized by a very light gray to gray-green, firm, brittle, noncalcareous claystone.

At 2134'-2150' a clear-white-orange-milky, microconglomerate, very coarse grained, angular to rounded, loose sand was drilled. Some gas increase occurred through this zone; however, some increase in water was possible. At this depth, abundant water was unloaded on every connection in conjunction with the gas and any increase in either was difficult to note. No flares were noted after the connection at 2245'.

TEXAS OIL & GAS CORPORATION  
NELSON FEDERAL #1  
SAMPLE DESCRIPTION CONTINUED

Top of the Salt Wash sand was penetrated at 2350'. The sand was characterized by thin bedded, clear, veryfine to fine grained, rounded, loose sand grains, grading to medium grained, loose, rounded grains at 2405'. A good drilling break occurred at 2405', with samples indicating a very clear, clean, medium grained, well rounded, loose sand. A gas and water increase was noted in the lower Salt Wash sands.

On connection at 2425', the water column in the hole could not be lifted with 350 pounds (maxium pressure for compressor) and a total depth was decided on at this depth. The trip out of the hole indicated a plugged bit instead of hydrostatic pressure.

The hole was mudded up for logging, but the logging tool hit a bridge at 1950'. The hole was conditioned and logs were run to a total depth of 2380'.

COMMENTS

Please note that no geolograph was used on this well and the drill rate was obtained by the driller marking the kelly and pushing a switch to record on geologist recorder. Forgetfulness did have to influence the drill rate.

Thanks again for the opportunity to serve as your geologist on this well. I received the utmost in cooperation from everyone involved in this project, and I wish to thank them all.

If I can be of any further service in the final evaluation of this well, please feel free to call on me.

Sincerely,

  
BILL COVEY