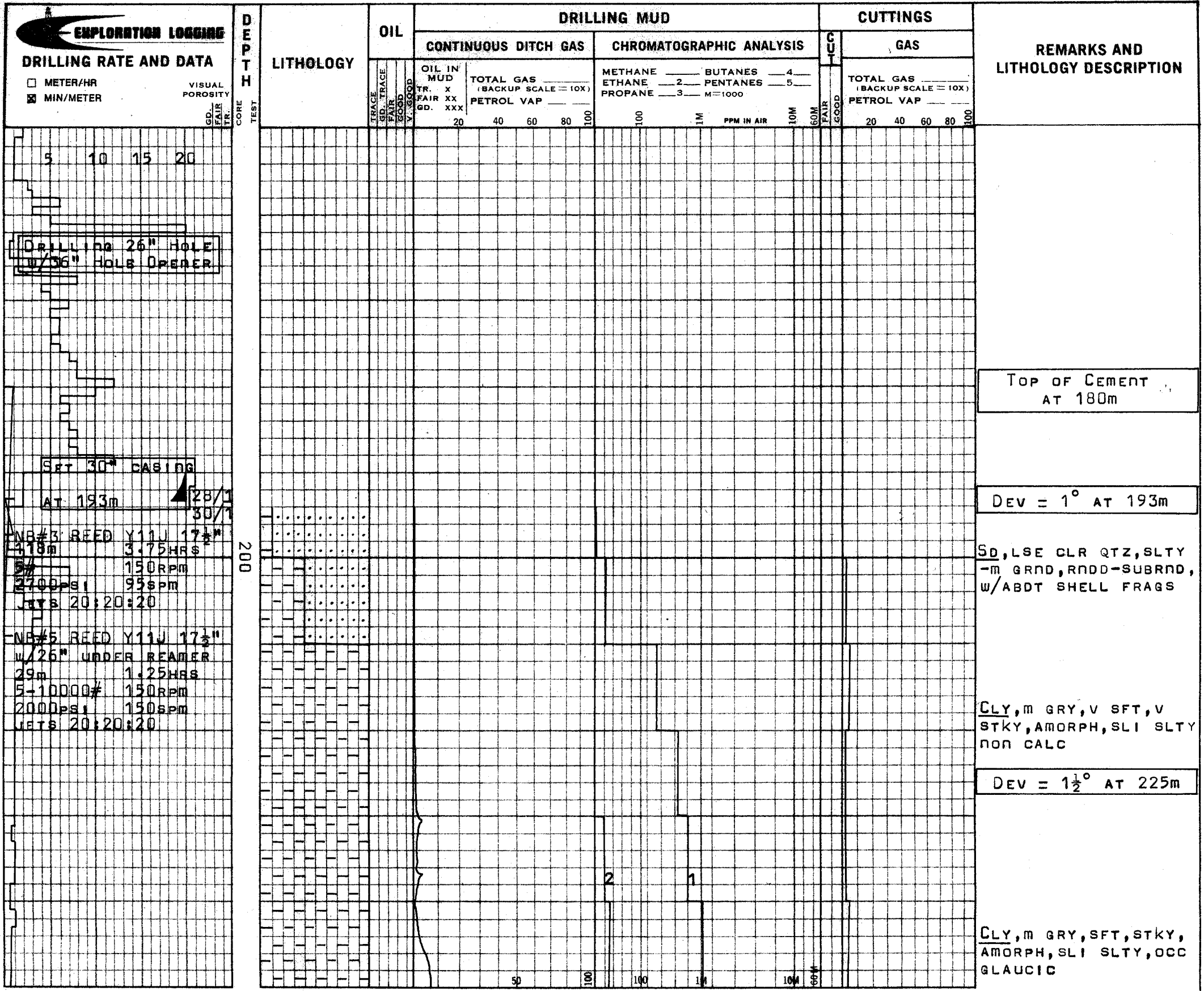


EXPLORATION LOGGING

A GEOLOGICAL - ENGINEERING SERVICE

<p>REMARKS</p> <p>DRILLING CONTRACTOR RIG NO.</p> <p>RASMUSSEN-GLOBAL POLYGLOMAR-</p> <p>SPUD DATE DRILLER</p> <p>25TH JAN 1977</p> <p>TYPE MUDS</p> <p>SEAWATER TO 193m</p> <p>LIGDOSULPHONATE TO 778m</p> <p style="text-align: center;">CASING RECORD</p> <p>30" AT 193m AT _____</p> <p>_____ AT _____</p> <p style="text-align: center;">HOLE SIZE</p> <p>36" TO 193m TO _____</p> <p>_____ TO _____</p>	<p style="text-align: center;">ABBREVIATIONS</p> <table style="width:100%;"> <tr> <td>NB NEW BIT</td> <td>W MUD WEIGHT</td> </tr> <tr> <td>RRB RERUN BIT</td> <td>V MUD VISCOSITY</td> </tr> <tr> <td>CB CORE BIT</td> <td>F MUD FILTRATE <input type="checkbox"/> CC/30 MIN</td> </tr> <tr> <td>CR CIRCULATE RETURNS</td> <td>FC FILTER CAKE</td> </tr> <tr> <td>NR NO RETURNS</td> <td>SD SAND CONTENT</td> </tr> <tr> <td>PR POOR RETURNS</td> <td>S SALINITY <input type="checkbox"/> G/G _____</td> </tr> <tr> <td>LAT LOGGED AFTER TRIP</td> <td style="text-align: center;"><input checked="" type="checkbox"/> PPM _____</td> </tr> <tr> <td>TG TRIP GAS</td> <td>R RESISTIVITY OF MUD</td> </tr> <tr> <td>CG CONNECTION GAS</td> <td>RF RESISTIVITY MUD FILTRATE</td> </tr> <tr> <td>C CARBIDE</td> <td></td> </tr> <tr> <td>DST DRILL STEM TEST</td> <td></td> </tr> <tr> <td>J DST INTERVAL</td> <td></td> </tr> <tr> <td>I CORE INTERVAL</td> <td></td> </tr> </table>	NB NEW BIT	W MUD WEIGHT	RRB RERUN BIT	V MUD VISCOSITY	CB CORE BIT	F MUD FILTRATE <input type="checkbox"/> CC/30 MIN	CR CIRCULATE RETURNS	FC FILTER CAKE	NR NO RETURNS	SD SAND CONTENT	PR POOR RETURNS	S SALINITY <input type="checkbox"/> G/G _____	LAT LOGGED AFTER TRIP	<input checked="" type="checkbox"/> PPM _____	TG TRIP GAS	R RESISTIVITY OF MUD	CG CONNECTION GAS	RF RESISTIVITY MUD FILTRATE	C CARBIDE		DST DRILL STEM TEST		J DST INTERVAL		I CORE INTERVAL		<p>COMPANY Norsk HYDRO A.S.</p> <p>WELL 30/7-4</p> <p>FIELD WILDCAT</p> <p>LOCATION LAT 60°29'29.72"N</p> <p style="padding-left: 100px;">LON 02°03'24.32"E</p> <p>COUNTY, STATE NORWEGIAN NORTH SEA</p> <p>API WELL INDEX NO.</p> <p>ELEVATION RKB-MSL = 25.05m</p> <p style="padding-left: 100px;">RKB-SB = 141.27m</p> <p>DATE FROM 25/1/77 TO _____</p> <p>DEPTH FROM 141m TO _____</p> <p>UNIT NO. 102</p> <p>LOGGING GEOLOGISTS DEAN HINKS WARD</p>						
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<p>OIL Based on live oil in unwashed cuttings and percentage staining of washed cuttings.</p> <p>GAS UNITS Gas Detector calibrated to record 100 units with a mixture of 2% methane-in-air.</p>																																		
<p>LITHOLOGY SYMBOLS AS Norsk HYDRO SYMBOLS</p> <table style="width:100%; font-size: x-small;"> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>LIME- STONE</td> <td>DOLO- MITE</td> <td>GYPSUM AND ANHYDRITE</td> <td>SALT</td> <td>COAL AND LIGNITE</td> <td>CLAY</td> <td>SHALE</td> <td>SILT- STONE</td> <td>SANDY SILTST.</td> <td>SAND</td> <td>CONGL- OMERATE</td> <td>CHERT</td> <td>VOL- CANICS</td> <td>INTRU- SIVE</td> <td></td> <td></td> </tr> </table>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LIME- STONE	DOLO- MITE	GYPSUM AND ANHYDRITE	SALT	COAL AND LIGNITE	CLAY	SHALE	SILT- STONE	SANDY SILTST.	SAND	CONGL- OMERATE	CHERT	VOL- CANICS	INTRU- SIVE		
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EXPLORATION LOGGING				DEPTH CORE TEST	LITHOLOGY	OIL TRACE GD. TRACE FAIR GOOD V. GOOD	DRILLING MUD						CUTTINGS			REMARKS AND LITHOLOGY DESCRIPTION		
DRILLING RATE AND DATA							CONTINUOUS DITCH GAS			CHROMATOGRAPHIC ANALYSIS			GAS					
<input type="checkbox"/> METER/HR <input checked="" type="checkbox"/> MIN/METER VISUAL POROSITY GD. FAIR TR. TR.							OIL IN MUD TR. X FAIR XX GD. XXX			TOTAL GAS (BACKUP SCALE = 10X) PETROL VAP			METHANE _____ BUTANES _____ 4 ETHANE _____ 2 _____ PENTANES _____ 5 PROPANE _____ 3 _____ M=1000				TOTAL GAS (BACKUP SCALE = 10X) PETROL VAP	
5	10	15	20	20	40	60	80	100	100	1M	PPM IN AIR	10M	60M	20	40	60	80	100
Using 100ml UNWASHED SAMPLE																		
ALL DEPTHS RECORDED IN METRES FROM RKB																		
NB#2 TSK S3 26" w/HD 52m 5HRS 0-5# 60RPM 1700psi 100SPM JETS: 22; 22; 22																		
RKB-SEABED = 141.2m																		
RETURNS TO SEABED																		

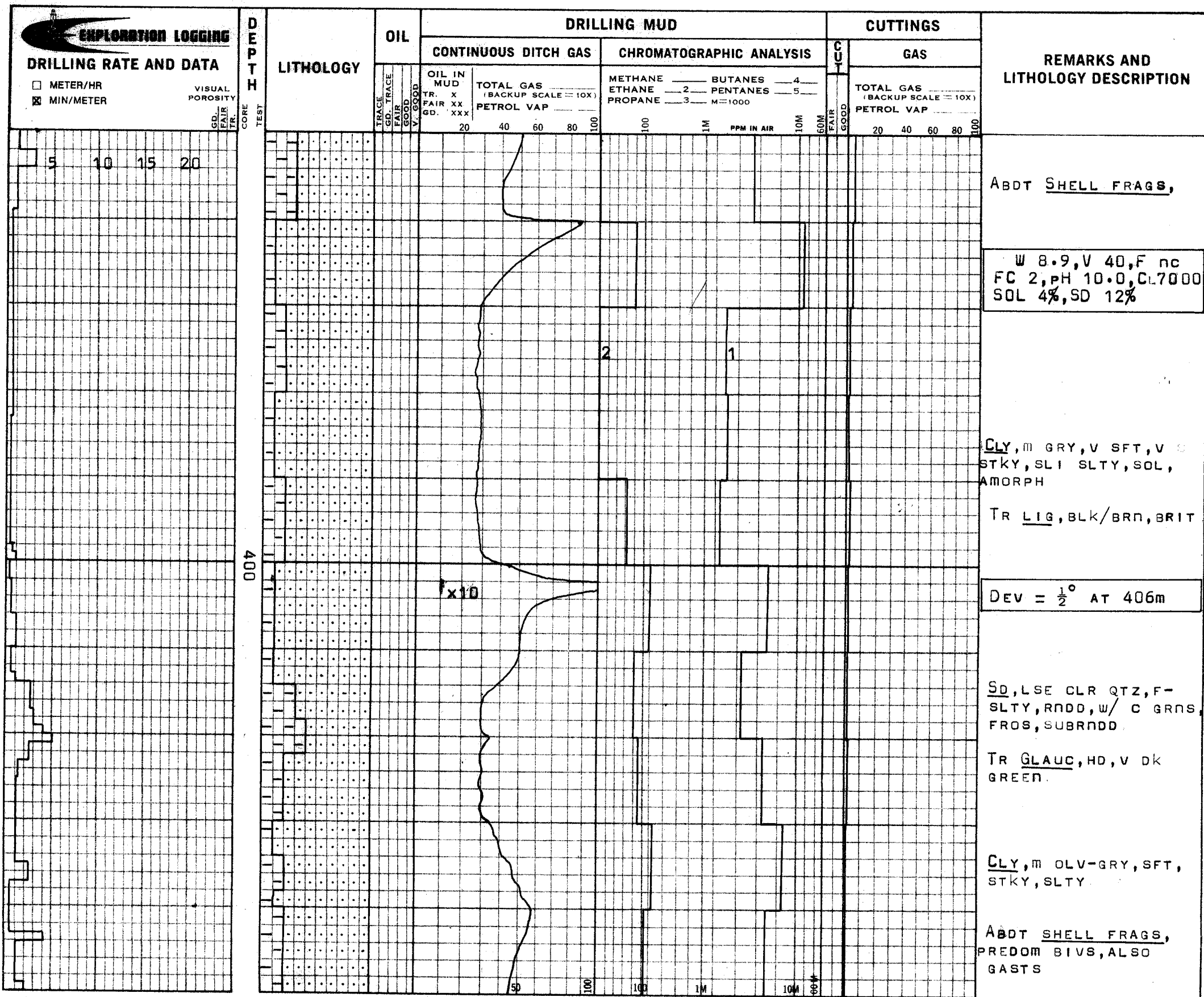


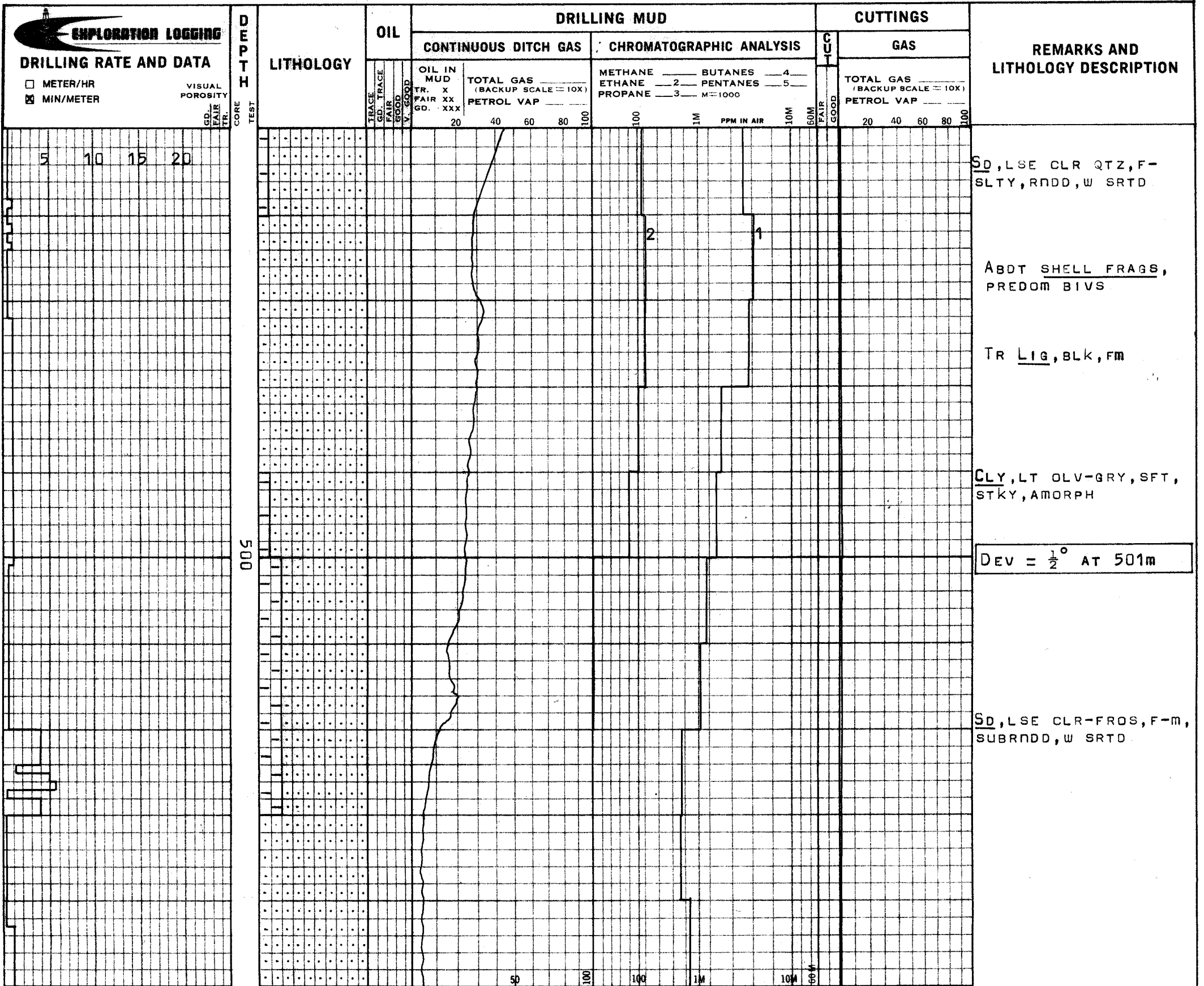
EXPLORATION LOGGING
DRILLING RATE AND DATA
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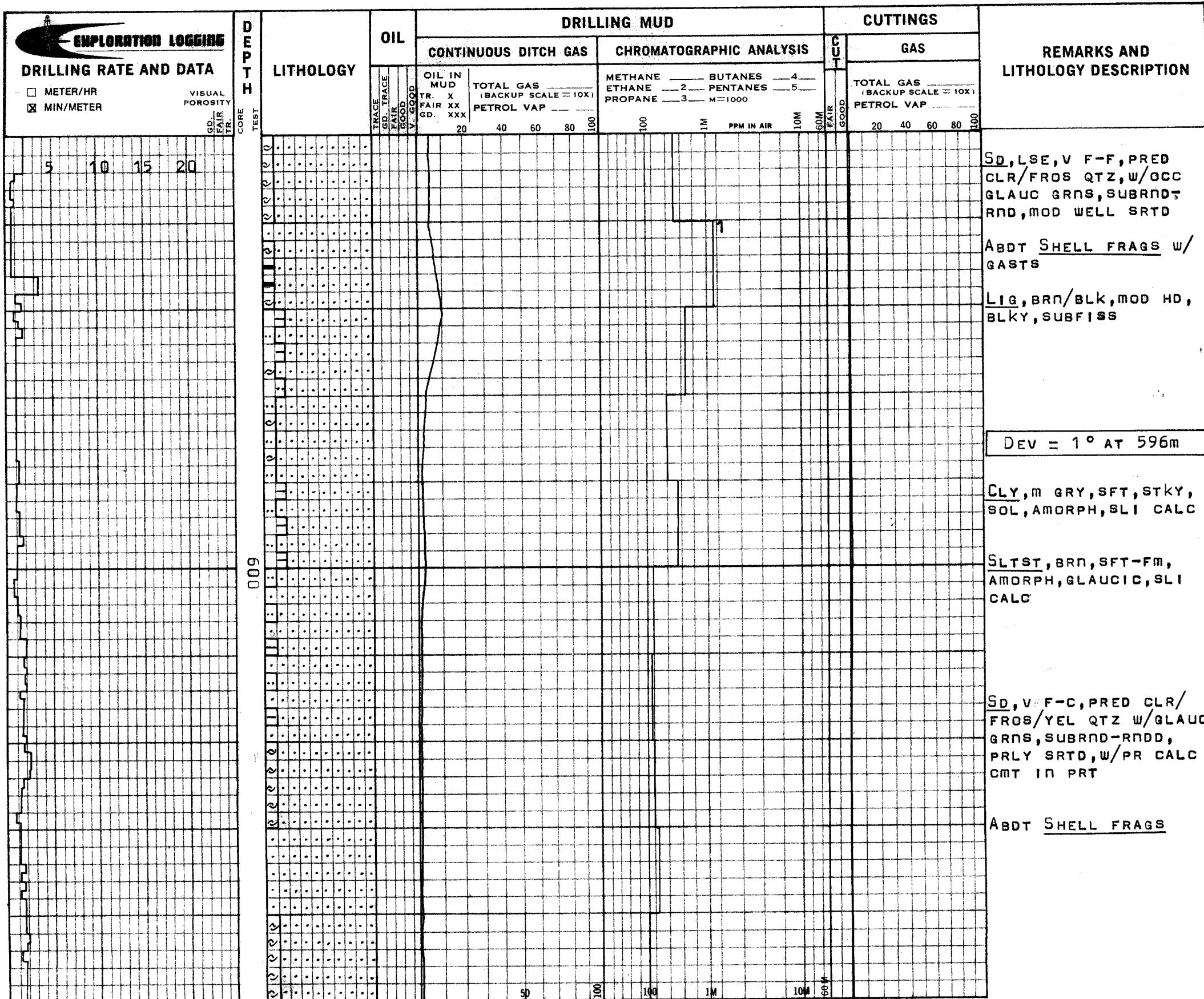
DEPTH TEST	LITHOLOGY	OIL		DRILLING MUD								CUTTINGS				REMARKS AND LITHOLOGY DESCRIPTION			
		TRACE GD. TRACE	FAIR GOOD V. GOOD	CONTINUOUS DITCH GAS	CHROMATOGRAPHIC ANALYSIS				GAS	GAS			REMARKS AND LITHOLOGY DESCRIPTION						
				OIL IN MUD TR. X FAIR XX GD. XXX		TOTAL GAS (BACKUP SCALE = 10X) PETROL VAP	METHANE	ETHANE	PROPANE	BUTANES	PENTANES	M=1000			TOTAL GAS (BACKUP SCALE = 10X) PETROL VAP				
				20	40	60	80	100	100	1M	PPM IN AIR	10M	60M	20	40	60	80	100	
5 10 15 20																			CLY, m GRY, v SFT, STKY AMORPH
																			ω 8.7, V 33, F nc FC 4, pH 9.0, CL 8000 SOL 5%
									2	1									SD, LSE, m-c, PRED CLR QTZ, SUBRND-RND, PRLY SRTD
																			ABDT FOSS FRAGS
																			DEV = 1/2° AT 311m
																			CLY, DK GRY, v SFT, v STKY, AMORPH, SLTY IN PRT
																			SD, LSE, F-m, OCC C, PRED CLR QTZ, SUBRND, MOD WELL SRTD

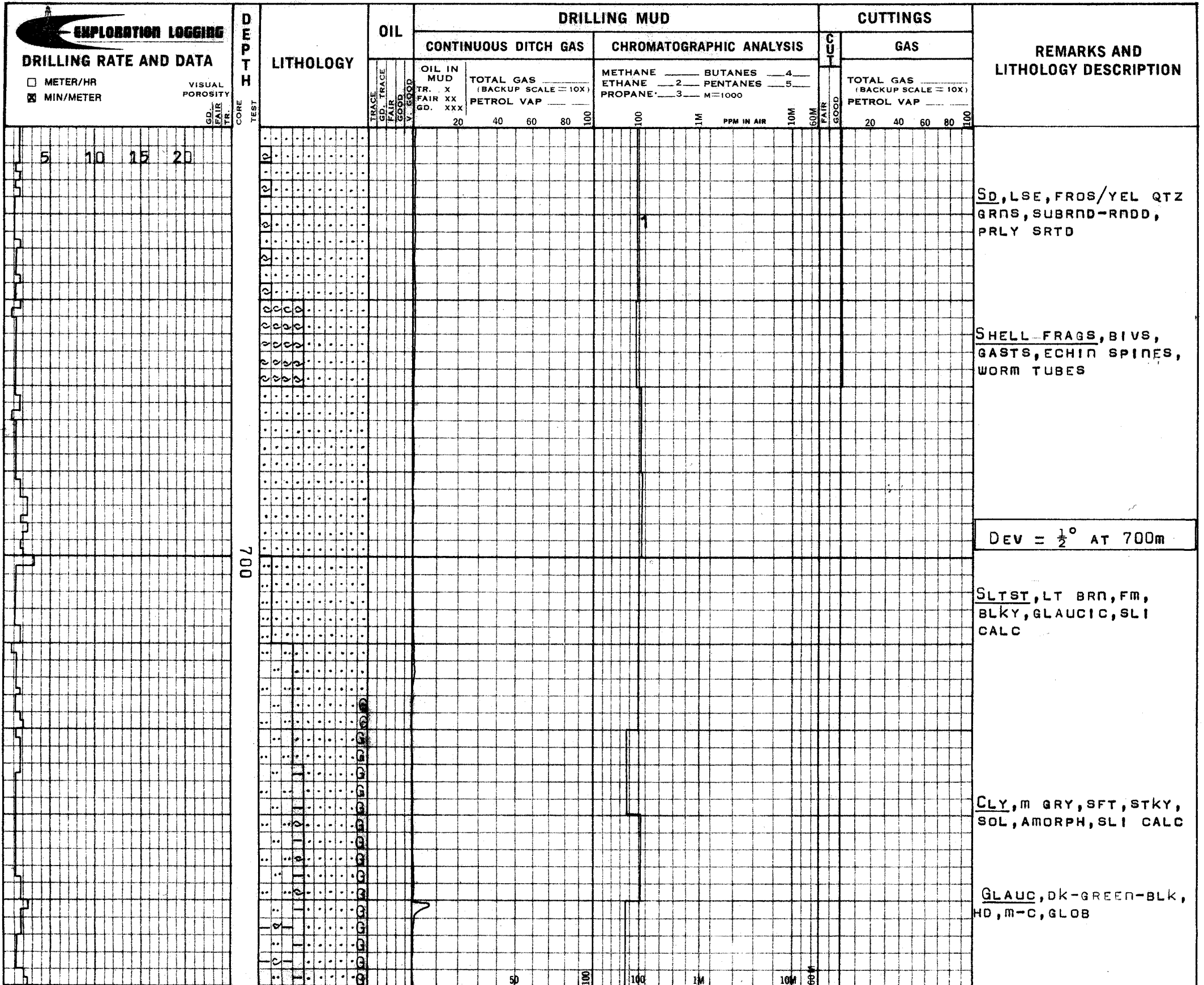
30/11
1/2
 NB#4 REED Y11U 17 1/2"
 467m 16HRS
 5-10000# 150RPM
 20000es 150RPM
 JETS 20:20:20

TG 12u
 x10









EXPLORATION LOGGING DRILLING RATE AND DATA <input type="checkbox"/> METER/HR <input type="checkbox"/> MIN/METER VISUAL POROSITY CORE TEST GP. FAIR TR.	DEPTH TEST	LITHOLOGY	OIL		DRILLING MUD				CUTTINGS				REMARKS AND LITHOLOGY DESCRIPTION	
			TRACE GD. TRACE FAIR GOOD V. GOOD	OIL IN MUD TR. X FAIR XX GD. XXX	CONTINUOUS DITCH GAS		CHROMATOGRAPHIC ANALYSIS		CUT FAIR GOOD	GAS				
					TOTAL GAS (BACKUP SCALE = 10X)		METHANE	BUTANES		TOTAL GAS (BACKUP SCALE = 10X)		PETROL VAP		
					20	40 60 80 100	100	1M		10M	20	40 60 80 100		20
5 10 15 20 1/2 2/2 2/2	008	[Lithology symbols: dots, dashes, and patterns representing rock types]												SLTST, LTBRN, SFT-FM, BLKY, GLAUCIC, GREEN IN PRT. SD, LSE CLR-FROS, F-C, SUBRND, PR SRTD, ALSO SST, LT GRY/GREEN, FRI, SLTY-C, SUBRND, PR SRTD, SLI CALC CMT LIG, DK BRN/BLK, MOD HD, SPL, FIB, SDY IN PRT. DEV = 1° AT 778m WELL ABANDONED DUE TO TWISTOFF