DRILL STEM TEST REPORT

BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED

CANDEL MOBIL ET AL IROQUOIS

I-11

TEST NO. 3

BJ BORG WARNER

TESTING REPORT

DRILL-STEM TEST DATA

Well Name	CANDEL ET AL IROQUOIS I-11	Test No.	3
Well Number	I-11	Zone Tested	RONNING
Company	CANDEL OIL LTD.	Interval	3200.0 TO 3614.0
Comp. Rep.	DOUG HADDOW	Tester LEO PENNER	Date MAY 31,1972

Type of Test **DUAL BOTTOM HOLE** RFS Tool No. **105**

Preflow **5.0** mins. ISI **27.0** mins. Flow **114.0** mins. FSI **230.0** mins.

	OUT REC No 3852	OUT REC. No 3689	REC. No.
	5800 RANGE 12 HR. CLOCK	5700 RANGE 12 HR. CLOCK	RANGE HR. CLOCK
DEPTH	3219.0	3225.0	
Initial Hydro Mud Press	1704.0	1707.0	
Initial Shut In Press	1359.0	1361.9	
Initial Flow Press	622.0	625.5	
Final Flow Press	1364.0	1367.6	
Final Shut-In Press	1368.0	1371.8	
Final Hydro Mud Press	1704.0	1707.0	

Mud Drop **YES** Fluid Loss Mud Weight **10.3**

Viscosity **29.0** Temperature °F **68.0** Net Pay Tested **130.0**

Top Packer Depth **3200.0** Bottom Packer Depth Total Depth **3614.0**

Drill Pipe Size **3.5 IF** Wt. **13.5** Drill Collar I.D. **2.375** Ft. Run **450.00**

Surface Choke Size **CLOSED** Bottom Choke Size **0.5** Main Hole Size **8.750**

Anchor Size **4.75** Rat Hole Size Feet of Rat Hole

Cushion Amount Type Rubber Size **7.5**

Fluid Recovery Total Feet **2820.0**

Recovered Feet of **RFS CONT. 2700 CC'S OF CLEAN SALT WATER**

Recovered Feet of

Recovered Feet of

Recovered Feet of

Recovered Feet of

Gas Recovery How Measured Riser size:

mins	Temp °F	Press Rdg	psi	Orifice Size	=	MCF/Day
mins	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins	Temp °F	Press Rdg	psi	Orifice Size	=	MCF/Day
mins	Temp °F	Press Rdg	psi	Orifice Size	=	MCF/Day
mins	Temp °F	Press Rdg	psi	Orifice Size	=	MCF/Day
mins.	Temp °F	Press Rdg.	psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS: **PULL TEST UNTIL REACHED TOP OF FLIUD RECOVERY. CAUGHT** SAMPLE OF MUD THEN WHEN WE CONTINUED PULLING OUT OF THE HOLE **THE PIPE WAS EMPTY. OUR TOOL HAS A PUMP-OFF FEATURE IN CASE IT IS NEEDED FOR FREEING THE PIPE WHEN STUCK THAT IS ACTIVATED BY APPLYING 500 PSI DIFFERENTIAL TO THE DRILL PIPE**

A Core Lab Gas Cont. No Chem - Geo. Lab Gas Cont. No.

BJ BORG WARNER

TESTING REPORT

DRILL-STEM TEST DATA

Well Name **CANDEL ET AL IROQUOIS I-11**		Test No. **3**	
Well Number **I-11**		Zone Tested **RONNING**	
Company **CANDEL OIL LTD**		Interval **3200.0 TO 3614.0**	
Comp. Rep. **DOUG HADDOW**	Tester **LEO PENNER**	Date **MAY 31,1972**	

Type of Test RFS Tool No.

Preflow mins. ISI mins. Flow mins. FSI mins.

	REC. No RANGE	HR CLOCK	REC. No. RANGE	HR. CLOCK	REC. No. RANGE	HR. CLOCK
DEPTH						
Initial Hydro Mud Press						
Initial Shut In Press						
Initial Flow Press						
Final Flow Press						
Final Shut-In Press						
Final Hydro Mud Press						

Mud Drop Fluid Loss Mud Weight

Viscosity Temperature °F Net Pay Tested

Top Packer Depth Bottom Packer Depth Total Depth

Drill Pipe Size Wt. Drill Collar I.D Ft. Run

Surface Choke Size Bottom Choke Size Main Hole Size

Anchor Size Rat Hole Size Feet of Rat Hole

Cushion Amount Type Rubber Size

Fluid Recovery Total Feet

Recovered Feet of

Recovered Feet of

Recovered Feet of

Recovered Feet of

Recovered Feet of

Gas Recovery How Measured Riser size:

mins	Temp °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins	Temp °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp °F	Press Rdg	psi	Orifice Size	=	MCF/Day
mins	Temp °F	Press Rdg	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg	psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS: **ALLOWING YOU TO CIRCULATE OR PRESSURE UP UNDER THE PACKERS. THE SAME RESULTS OCCUR IF THE HOLE IS NOT KEPT FULL WHILE PULLING TEST - THE RECOVERY OVERBALANCES THE ANNULUS PRESSURE BY 500 PSI.**

A Core Lab Gas Cont. No Chem - Geo Lab Gas Cont. No.

BJ BORG WARNER

TESTING REPORT

WEIGHT INDICATER READING

PRIOR TO SETTING PACKERS

AFTER PULL PACKERS LOOSE

	ID	OD	LENGTH	
4S LANDING SUB				
4S CHAMBER				
4S TOOL OR P.O. SUB			1.00	
CO SUB			1.00	
SHUT IN TOOL		4¾	5.00	
R.F.S. No. 105	2¼	4¾	3.25	
R.F.S. No.	2¼	4¾		
HYDRAULIC TOOL		4¾	7.00	
JARS	1	4¾	5.30	
RECORDER No.	2¼	4¾		DEPTH
RECORDER No.	2¼	4¾		DEPTH
SAFETY JOINT	2 11/16	4¾	1.75	
BY PASS SUB	1 5/32	4¾		
1. PACKER DEPTH 3194 — PACKER	1 OR ⅞	7½	6.00	
2. PACKER DEPTH 3200 — PACKER	1 or ⅞	7½	5.00	TOOL ABOVE INTERVAL 35.30
ANCHOR—SPECIFY	2½		1.00	
PERFS			17.00	
BLANK OFF OR BY PASS SUB	1 5/32	4¾		
RECORDER No. 3852	2¼	4¾	6.00	DEPTH 3219
3. PACKER DEPTH — PACKER	1 OR ⅞			TOTAL INTERVAL 413.50
4. PACKER DEPTH — PACKER	1 OR ⅞			
ANCHOR—SPECIFY	2½			
DRILL PIPE		3½ IF	377.00	
RECORDER No 3689	2¼	4¾	5.00	DEPTH 3225
PERFS			5.00	
TOTAL DEPTH 3614 — BULLNOSE	2¾	4¾	2.50	TOTAL TAIL PIPE
				TOTAL TEST TOOL 71.80

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS

HIGH PERMEABILITY STRONG DAMAGE EFFECT | HIGH PERMEABILITY NO DAMAGE EFFECT | MEDIUM PERMEABILITY STRONG DAMAGE EFFECT | MEDIUM PERMEABILITY NO DAMAGE EFFECT | LOW PERMEABILITY STRONG DAMAGE EFFECT | LOW PERMEABILITY NO DAMAGE EFFECT

WELL NAME CANDEL ET AL IROQUOIS I-11 DST. NO. 3

LOCATION I-11 REC. NO. 3689 DEPTH 3225.

MEASURED PRESSURES

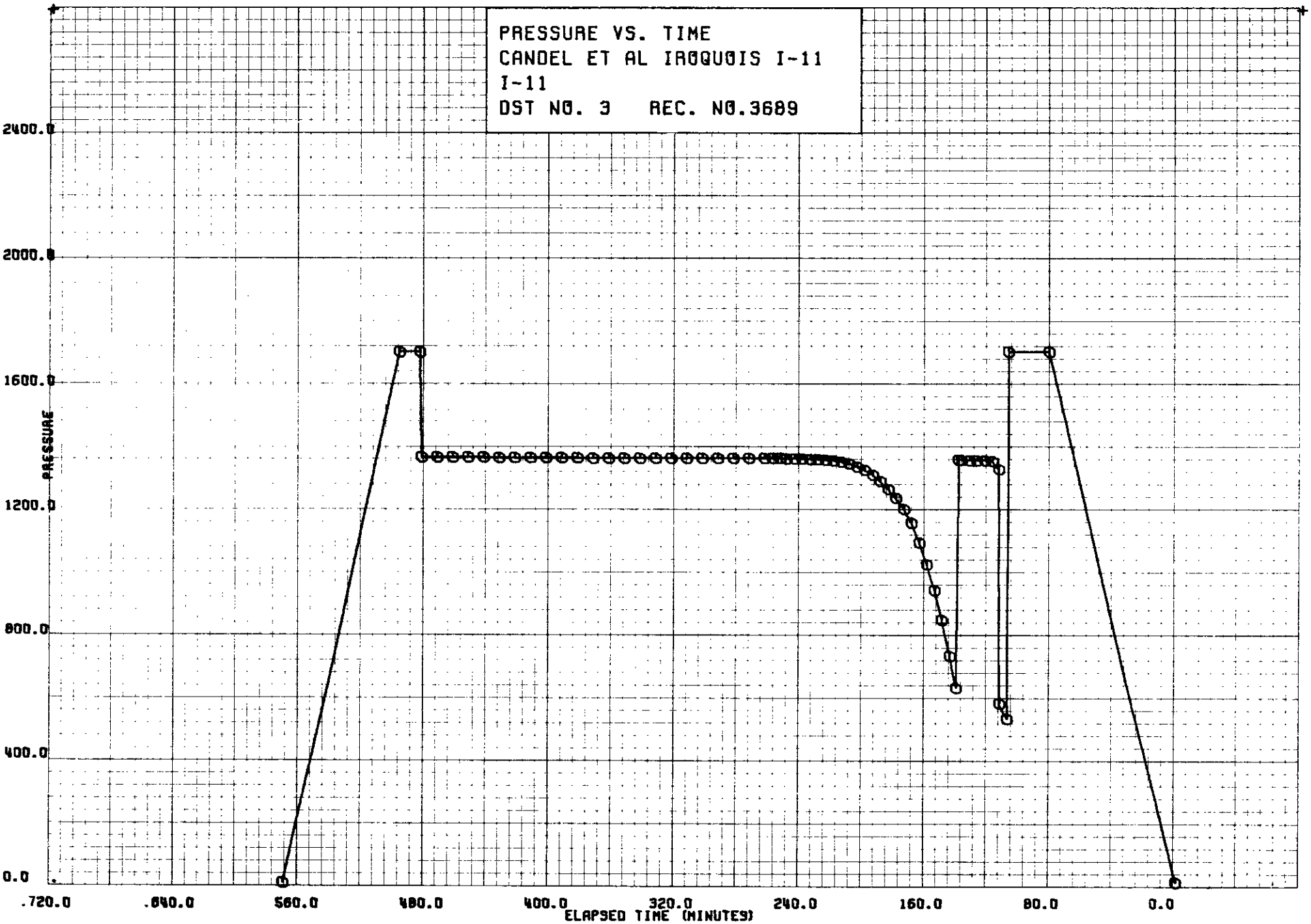
	POINT NUMBER	TIME MIN	PRESSURE PSIG
RUN IN HOLE	1	0.0	0.0
	2	81.0	1707.0
INITIAL HYDRO PRESSURE	3	107.0	1707.0
INITIAL PREFLOW PRESSURE	4	107.0	525.7
FINAL PREFLOW PRESSURE	5	112.0	575.7
START INITIAL SHUT-IN	6	112.0	575.7
	7	113.0	1332.4
	8	117.0	1357.7
	9	122.0	1359.1
	10	127.0	1360.5
	11	132.0	1360.5
	12	137.0	1361.9
INITIAL SHUT-IN PRESSURE	13	139.0	1361.9
START FLOW PERIOD	14	139.0	1361.9
INITIAL FLOW PRESSURE	15	140.0	625.5
	16	144.0	729.4
	17	149.0	846.1
	18	154.0	941.5
	19	159.0	1025.5
	20	164.0	1096.7
	21	169.0	1160.5
	22	174.0	1204.2
	23	179.0	1239.4
	24	184.0	1269.0
	25	189.0	1294.3
	26	194.0	1314.0
	27	199.0	1329.5
	28	204.0	1340.8
	29	209.0	1350.7
	30	214.0	1356.3
	31	219.0	1360.5
	32	224.0	1361.9
	33	229.0	1363.3
	34	234.0	1364.8
	35	239.0	1366.2

WELL NAME CANDEL ET AL IROQUOIS I-11 DST. NO. 3

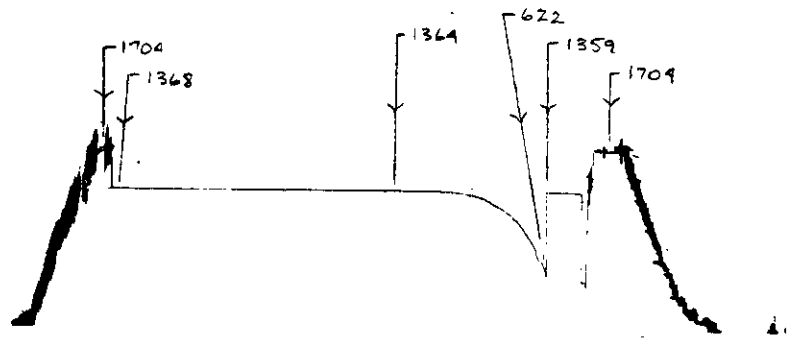
LOCATION I-11 REC. NO. 3689 DEPTH 3225.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
	36	244.0	1366.2
	37	249.0	1366.2
FINAL FLOW PRESSURE	38	253.0	1367.6
START FINAL SHUT-IN	39	253.0	1367.6
	40	258.0	1367.6
	41	263.0	1367.6
	42	273.0	1367.6
	43	283.0	1367.6
	44	293.0	1367.6
	45	303.0	1367.6
	46	313.0	1369.0
	47	323.0	1369.0
	48	333.0	1369.0
	49	343.0	1369.0
	50	353.0	1369.0
	51	363.0	1369.0
	52	373.0	1369.0
	53	383.0	1370.4
	54	393.0	1370.4
	55	403.0	1370.4
	56	413.0	1370.4
	57	423.0	1370.4
	58	433.0	1370.4
	59	443.0	1371.8
	60	453.0	1371.8
	61	463.0	1371.8
	62	473.0	1371.8
FINAL SHUT IN PRESSURE	63	483.0	1371.8
RUN OUT OF HOLE	64	483.0	1371.8
FINAL HYDRO PRESSURE	65	484.0	1707.0
	66	497.0	1707.0
OUT OF HOLE	67	572.0	0.0

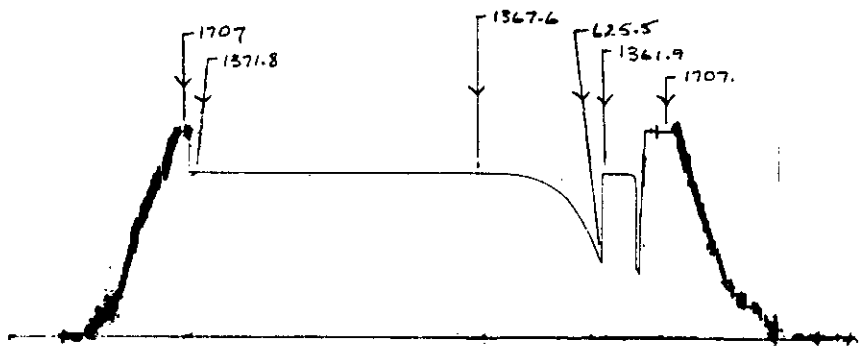

PRESSURE VS. TIME
CANDEL ET AL IROQUOIS I-11
I-11
DST NO. 3 REC. NO.3689
PRESSURE
2400.0
2000.0
1600.0
1200.0
800.0
400.0
0.0
720.0
640.0
560.0
480.0
400.0
320.0
240.0
160.0
80.0
0.0
ELAPSED TIME (MINUTES)

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 3200 - 3614
DST NO. 3 REC. NO. 3852



DST RECORDER CHARTS

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 3200 - 3614
DST NO. 3 REC. NO. 3689



DRILL STEM TEST REPORT

BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED

CANDEL MOBIL ET AL

IROQUOIS I-11

TEST NO. 2

BJ BORG WARNER

TESTING REPORT

DRILL-STEM TEST DATA

Well Name	CANDEL MOBIL ET AL IROQUOIS I-11	Test No.	2
Well Number	I-11	Zone Tested	RONNING
Company	CANDEL OIL LTD.	Interval	2121.0 TO 2261.0
Comp. Rep.	M. MILLER	Tester MEL MOSCRIP	Date MAY 5, 1972

Type of Test DUAL BOTTOM HOLE R F S Tool No. 124

Preflow 5.0 mins. ISI 27.0 mins. Flow 60.0 mins. FSI 60.0 mins.

	IN REC. No 5773	OUT REC. No 5979	REC No.
	1150 RANGE 12 HR. CLOCK	1200 RANGE 12 HR. CLOCK	RANGE HR. CLOCK
DEPTH	2104.0	2138.0	
Initial Hydro Mud Press	904.5	924.3	
Initial Shut-In Press	874.7	891.7	
Initial Flow Press	162.0	181.7	
Final Flow Press	594.2	614.1	
Final Shut-In Press	875.5	892.3	
Final Hydro Mud Press	904.5	924.3	

Mud Drop 10 Fluid Loss Mud Weight 8.4
Viscosity 28.0 Temperature °F 84.0 Net Pay Tested 90.0
Top Packer Depth 2115.0 Bottom Packer Depth 2121.0 Total Depth 2261.0
Drill Pipe Size 3.5 IF Wt. 13.0 Drill Collar I.D. 2.875 Ft Run 447.00
Surface Choke Size CLOSED Bottom Choke Size 0.5 Main Hole Size 8.750
Anchor Size Rat Hole Size Feet of Rat Hole
Cushion Amount Type Rubber Size 8.0

Fluid Recovery Total Feet 1300.0
Recovered 90 Feet of FRESH WATER
Recovered 1210 Feet of SULPHUROUS FRESH WATER
Recovered Feet of
Recovered Feet of
Recovered Feet of

Gas Recovery How Measured Riser size:

mins	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg	psi	Orifice Size	=	MCF/Day
mins	Temp °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS: WEAK INITIAL PUFF. WEAK AIR BLOW DECREASING THROUGHOUT TEST.

A Core Lab Gas Cont. No Chem - Geo. Lab Gas Cont. No.

BJ BORG WARNER

TESTING REPORT

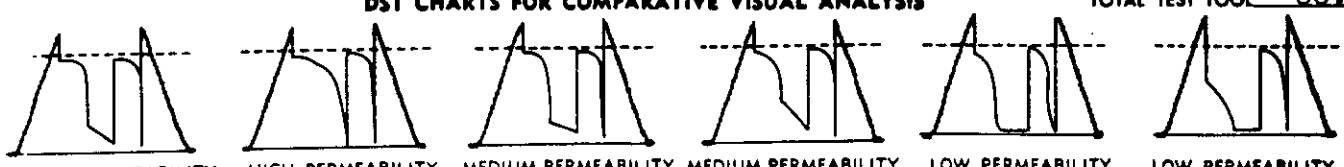
WEIGHT INDICATER READING

PRIOR TO SETTING PACKERS

AFTER PULL PACKERS LOOSE

	ID	OD	LENGTH	
4S LANDING SUB				
4S CHAMBER COS			1.00	
4S TOOL OR P.O. SUB			5.00	
CO SUB				
SHUT IN TOOL		4¾	5.20	
R.F.S. No. 134	2¼	4¾	3.30	
R.F.S. No.	2¼	4¾		
HYDRAULIC TOOL		4¾	7.20	
JARS	1	4¾	6.00	
RECORDER No. 5773	2¼	4¾	5.00	DEPTH 2104
RECORDER No.	2¼	4¾		DEPTH
SAFETY JOINT	2 11/16	4¾	1.75	
BY PASS SUB	1 5/32	4¾		
1. PACKER DEPTH 2115 — PACKER	1 OR ⅞		6.00	
2. PACKER DEPTH 2121 — PACKER	1 or ⅞		5.00	TOOL ABOVE INTERVAL 45.45
ANCHOR—SPECIFY	2½		1.00	
PERF			15.00	
BLANK OFF OR BY PASS SUB	1 5/32	4¾		
RECORDER No. 5979	2¼	4¾	5.00	DEPTH 2138
3. PACKER DEPTH — PACKER	1 OR ⅞			TOTAL INTERVAL
4. PACKER DEPTH — PACKER	1 OR ⅞			
ANCHOR—SPECIFY	2½			
RECORDER No	2¼	4¾		DEPTH
DRILL COLLARS			116.50	
TOTAL DEPTH 2261 — BULLNOSE	2¾	4¾	2.50	TOTAL TAIL PIPE 140.00
				TOTAL TEST TOOL 68.95

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



HIGH PERMEABILITY STRONG DAMAGE EFFECT | HIGH PERMEABILITY NO DAMAGE EFFECT | MEDIUM PERMEABILITY STRONG DAMAGE EFFECT | MEDIUM PERMEABILITY NO DAMAGE EFFECT | LOW PERMEABILITY STRONG DAMAGE EFFECT | LOW PERMEABILITY NO DAMAGE EFFECT

WELL NAME CANOEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

LOCATION I-11 REC. NO. 5979 DEPTH 2138.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
RUN IN HOLE	1	0.0	0.0
	2	93.0	924.3
INITIAL HYDRO PRESSURE	3	124.0	924.3
INITIAL PREFLOW PRESSURE	4	124.0	94.6
FINAL PREFLOW PRESSURE	5	129.0	126.8
START INITIAL SHUT-IN	6	129.0	126.8
	7	134.0	822.5
	8	139.0	873.5
	9	144.0	886.5
	10	149.0	889.8
	11	154.0	891.4
INITIAL SHUT-IN PRESSURE	12	156.0	891.7
START FLOW PERIOD	13	156.0	891.7
INITIAL FLOW PRESSURE	14	157.0	181.7
	15	161.0	214.0
	16	166.0	265.2
	17	171.0	312.5
	18	176.0	355.2
	19	181.0	395.7
	20	186.0	433.6
	21	191.0	467.9
	22	196.0	501.2
	23	201.0	533.3
	24	206.0	563.0
	25	211.0	592.0
FINAL FLOW PRESSURE	26	216.0	614.1
START FINAL SHUT-IN	27	216.0	614.1
	28	221.0	837.5
	29	226.0	871.4
	30	231.0	882.8
	31	236.0	887.4
	32	241.0	889.5
	33	246.0	890.8

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

LOCATION I-11 REC. NO. 5979 DEPTH 2138.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
	34	251.0	891.4
	35	256.0	891.7
	36	261.0	892.0
	37	266.0	892.3
	38	271.0	892.3
FINAL SHUT-IN PRESSURE	39	276.0	892.3
RUN OUT OF HOLE	40	276.0	892.3
FINAL HYDRO PRESSURE	41	277.0	924.3
	42	289.0	924.3
OUT OF HOLE	43	366.0	0.0

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

LOCATION I-11 REC. NO. 5979 DEPTH 2138.

CALCULATIONS FOR LIQUID RECOVERY (FIRST SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	899.5
NO. OF POINTS CONSIDERED IN BUILD-UP	6
NO. OF POINTS USED IN EXTRAPOLATION	4
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI).....	0.21
EFFECTIVE PRODUCING TIME (MIN)	5.0

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

LOCATION I-11 REC. NO. 5979 DEPTH 2138.

DATA FOR BUILD-UP PLOT (FIRST SHUT-IN)

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION					
7	5.0	822.5			2.00
8	10.0	873.5			1.50
POINTS USED IN EXTRAPOLATION					
9	15.0	886.5	886.6	0.2	1.33
10	20.0	889.8	889.5	-0.3	1.25
11	25.0	891.4	891.3	-0.0	1.20
12	27.0	891.7	891.9	0.2	1.19

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

LOCATION I-11 REC. NO. 5979 DEPTH 2138.

CALCULATIONS FOR LIQUID RECOVERY (SECOND SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	895.3
NO. OF POINTS CONSIDERED IN BUILD-UP	12
NO. OF POINTS USED IN EXTRAPOLATION	7
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)	0.13
EFFECTIVE PRODUCING TIME (MIN)	65.0
(B) IN SITU CAPACITY (KH - MD FT)	3341.91
SLOPE OF BUILD-UP CURVE (PSI/CYCLE)	8.76
PRODUCING RATE (BBL/DAY)	219.78
FLUID VISCOSITY (CP)	0.820
FORMATION VOLUME FACTOR (RES BBL/ST BBL)	1.000
(C) EFFECTIVE PERMEABILITY (MD)	37.13
FORMATION THICKNESS	90.00
(D) PRODUCTIVITY INDEX (BBL/DAY/PSI)	0.78
FLOWING PRESSURE (PSIG)	614.1
(E) APPROXIMATE DRAINAGE RADIUS (FT)	267.3
TOTAL FLOWING TIME (MIN)	65.0
(F) ESTIMATED DAMAGE RATIO	5.86
RESERVOIR POROSITY (PERCENT)	9.00
TOTAL COMPRESSIBILITY (VOL/VOL/PSI X 10-6)	8.00
WELL-BORE RADIUS (IN)	4.375
CALCULATED SKIN FACTOR	30.63
(G) PRODUCTION WITH DAMAGE REMOVED (BBL/DAY)	1287.2

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

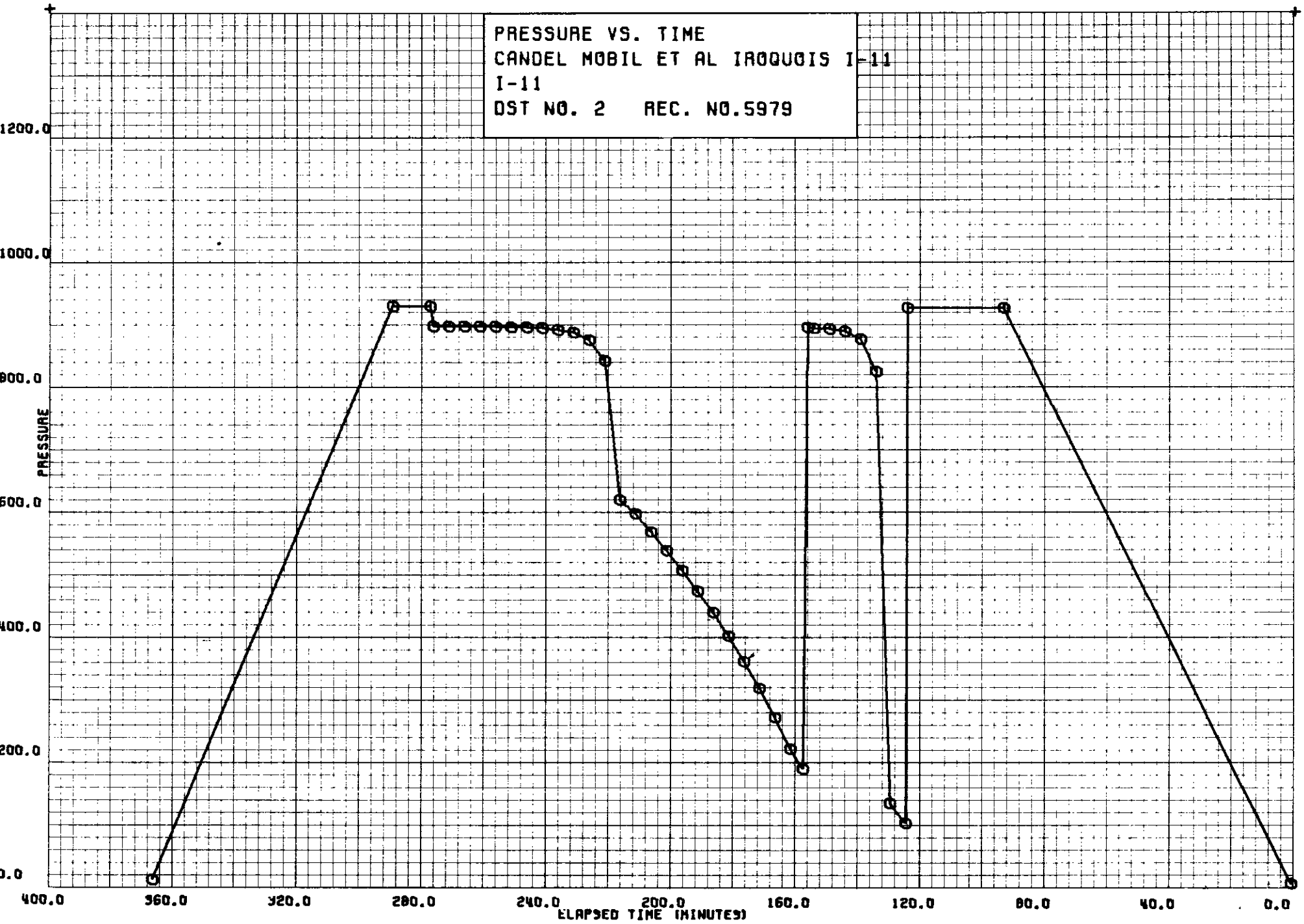
LOCATION I-11 REC. NO. 5979 DEPTH 2138.

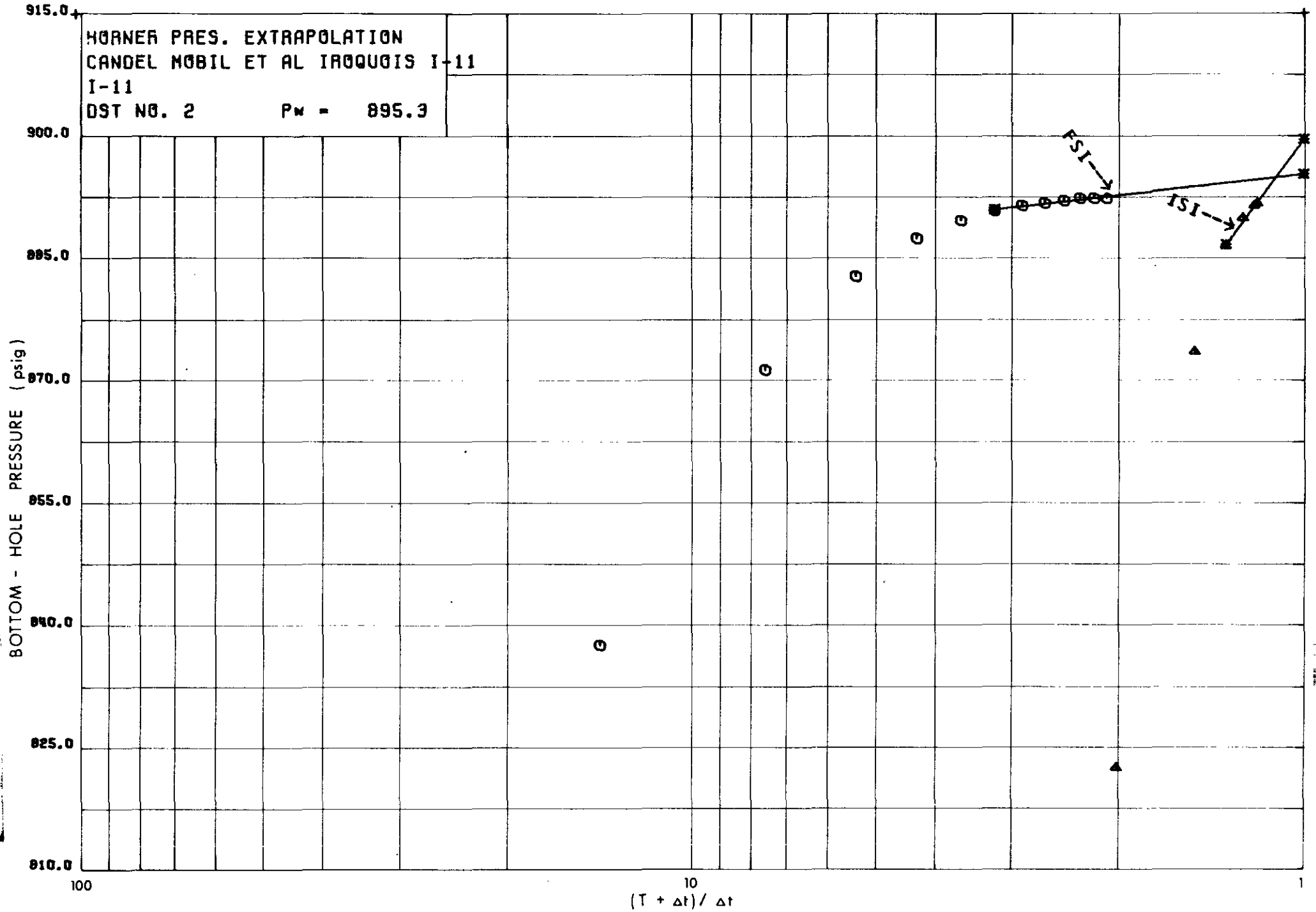
DATA FOR BUILD-UP PLOT (SECOND SHUT-IN)

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION					
28	5.0	837.5			14.00
29	10.0	871.4			7.50
30	15.0	882.8			5.33
31	20.0	887.4			4.25
32	25.0	889.5			3.60
POINTS USED IN EXTRAPOLATION					
33	30.0	890.8	890.9	0.2	3.17
34	35.0	891.4	891.3	-0.1	2.86
35	40.0	891.7	891.6	-0.1	2.62
36	45.0	892.0	891.9	-0.1	2.44
37	50.0	892.3	892.1	-0.2	2.30
38	55.0	892.3	892.3	0.0	2.18
39	60.0	892.3	892.5	0.2	2.08

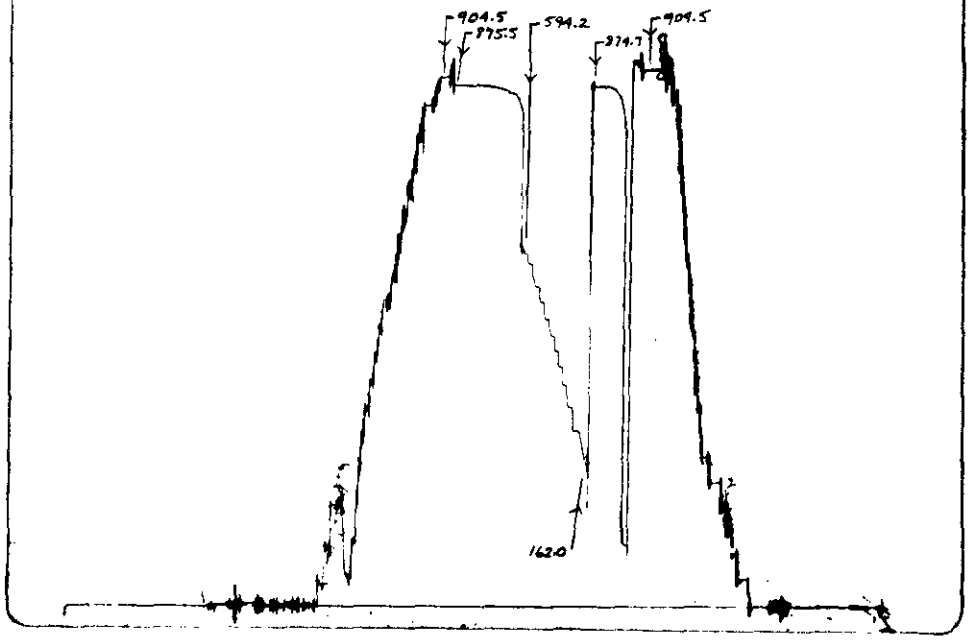
ASSUMPTIONS AND LIMITATIONS

THE ENCLOSED DST INTERPRETATION CALCULATIONS REQUIRE SEVERAL NECESSARY ASSUMPTIONS TO PROVIDE A QUICK ESTIMATE OF MANY OF THE FACTORS INVOLVED. AS A RESULT THE INFORMATION GAINED SHOULD BE USED TO FORM AN OPINION OR ESTIMATE ONLY, UNTIL THE ASSUMPTIONS OF RESERVOIR AND FLUID PROPERTIES CAN BE WHOLLY OR PARTIALLY CLARIFIED BY MORE COMPLETE ANALYSIS AND TESTING.


PRESSURE VS. TIME
CANDEL MOBIL ET AL IROQUOIS I-11
I-11
DST NO. 2 REC. NO.5979
PRESSURE
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
400.0
360.0
320.0
280.0
240.0
200.0
160.0
120.0
80.0
40.0
0.0
ELAPSED TIME (MINUTES)

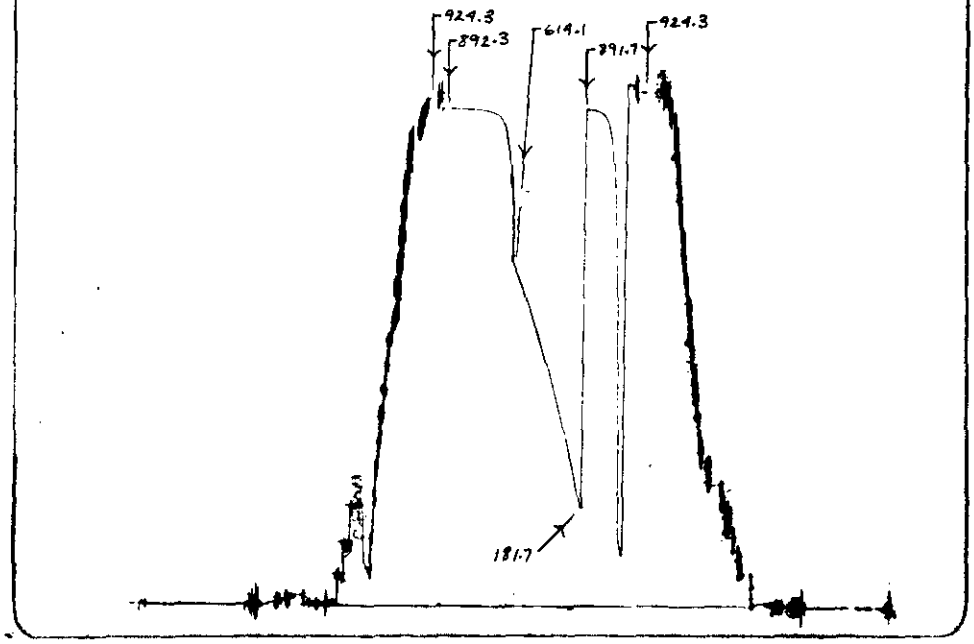

HORNER PRES. EXTRAPOLATION
CANDEL MOBIL ET AL IROQUOIS I-11
I-11
DST NO. 2 Pw = 895.3
FSI
ISI
915.0
900.0
885.0
870.0
855.0
840.0
825.0
810.0
BOTTOM - HOLE PRESSURE (psig)
100
10
1
(T + Δt)/ Δt

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 2121 - 2261
DST NO. 2 REC. NO. 5773



DST RECORDER CHARTS

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 2121 - 2261
DST NO. 2 REC. NO. 5979



DRILL STEM TEST REPORT

BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED

CANDEL MOBIL ET AL

IROQUOIS I-11

TEST NO. 1

BJ BORG WARNER

TESTING REPORT

DRILL-STEM TEST DATA

Well Name	CANDEL MOBIL ET AL IROQUOIS I-11	Test No.	1
Well Number	I-11	Zone Tested	BEAR ROCK
Company	CANDEL OIL CO.	Interval	900.0 TO 1010.0
Comp. Rep.	H. MARTINOFF	Tester MEL MOSCRIP	Date MAY 2, 1972

Type of Test DUAL BOTTOM HOLE RFS Tool No. 29

Preflow 5.0 mins. ISI 57.0 mins. Flow 84.0 mins. FSI 85.0 mins.

	IN REC. No. 5773	OUT REC. No. 5979	REC. No.
	1150 RANGE 12 HR. CLOCK	1200 RANGE 24 HR. CLOCK	RANGE HR. CLOCK
DEPTH	883.0	917.0	
Initial Hydro Mud Press	377.3	396.0	
Initial Shut-In Press	346.8	363.7	
Initial Flow Press	51.5	69.1	
Final Flow Press	311.2	329.6	
Final Shut-In Press	346.0	363.1	
Final Hydro Mud Press	377.3	396.0	

Mud Drop NIL Fluid Loss Mud Weight 8.4

Viscosity 27.0 Temperature °F 80.0 Net Pay Tested 30.0

Top Packer Depth 894.0 Bottom Packer Depth 900.0 Total Depth 1010.0

Drill Pipe Size 3.5 IF Wt 13.0 Drill Collar I.D. 2.750 Ft. Run 443.61

Surface Choke Size Bottom Choke Size 0.5 Main Hole Size 8.750

Anchor Size 4.75 Rat Hole Size Feet of Rat Hole

Cushion Amount Type Rubber Size 7.5 X 2

Fluid Recovery Total Feet 890.0

Recovered 90 Feet of FRESH WATER

Recovered 800 Feet of SULPHUROUS FRESH WATER

Recovered Feet of

Recovered Feet of

Recovered Feet of

Gas Recovery How Measured Riser size:

mins	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins	Temp. °F	Press Rdg	psi	Orifice Size	=	MCF/Day
mins	Temp °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS: VERY WEAK INITIAL PUFF. WEAK AIR BLOW DYING IN 15 MIN.

A Core Lab Gas Cont. No Chem · Geo. Lab Gas Cont. No.

BJ BORG WARNER

TESTING REPORT

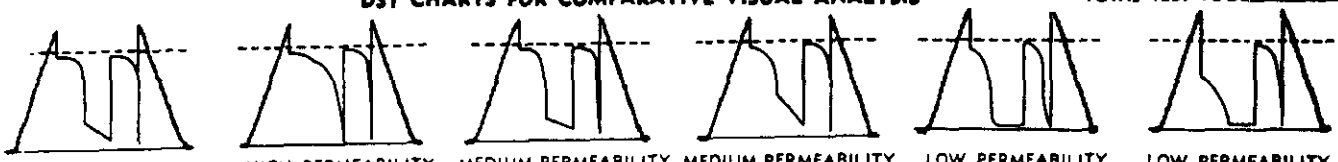
WEIGHT INDICATER READING

PRIOR TO SETTING PACKERS

AFTER PULL PACKERS LOOSE

	ID	OD	LENGTH	
4S LANDING SUB				
4S CHAMBER COS			1.00	
4S TOOL OR P.O. SUB			6.00	
CO SUB				
SHUT IN TOOL		4¾	5.20	
R.F.S. No.	2¼	4¾	3.30	
R.F.S. No.	2¼	4¾		
HYDRAULIC TOOL		4¾	7.20	
JARS	1	4¾	6.00	
RECORDER No. 5773	2¼	4¾	5.00	DEPTH 883
RECORDER No.	2¼	4¾		DEPTH
SAFETY JOINT	2 11/16	4¾	1.75	
BY PASS SUB	1 5/32	4¾		
1. PACKER DEPTH 894 — PACKER	1 OR ⅞		6.00	
2. PACKER DEPTH 900 — PACKER	1 or ⅞		5.00	TOOL ABOVE INTERVAL 46.45
ANCHOR—SPECIFY	2½		1.00	
PERF			15.00	
BLANK OFF OR BY PASS SUB	1 5/32	4¾		
RECORDER No. 5979	2¼	4¾	5.00	DEPTH 917
3. PACKER DEPTH — PACKER	1 OR ⅞			TOTAL INTERVAL
4. PACKER DEPTH — PACKER	1 OR ⅞			
ANCHOR—SPECIFY	2½			
DR. COLLARS			86.72	
RECORDER No	2¼	4¾		DEPTH
TOTAL DEPTH 1010 — BULLNOSE	2¾	4¾	2.50	TOTAL TAIL PIPE 110.22
				TOTAL TEST TOOL 69.95

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



HIGH PERMEABILITY STRONG DAMAGE EFFECT | HIGH PERMEABILITY NO DAMAGE EFFECT | MEDIUM PERMEABILITY STRONG DAMAGE EFFECT | MEDIUM PERMEABILITY NO DAMAGE EFFECT | LOW PERMEABILITY STRONG DAMAGE EFFECT | LOW PERMEABILITY NO DAMAGE EFFECT

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

LOCATION I-11 REC. NO. 5773 DEPTH 883.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
RUN IN HOLE	1	0.0	0.0
	2	34.0	377.3
INITIAL HYDRO PRESSURE	3	84.0	377.3
INITIAL PREFLOW PRESSURE	4	84.0	16.4
FINAL PREFLOW PRESSURE	5	89.0	36.8
START INITIAL SHUT-IN	6	89.0	36.8
	7	90.0	341.4
	8	94.0	343.7
	9	99.0	345.1
	10	104.0	346.0
	11	109.0	346.3
	12	114.0	346.6
	13	119.0	346.6
	14	124.0	346.6
	15	129.0	346.6
	16	134.0	346.6
	17	139.0	346.8
	18	144.0	346.8
INITIAL SHUT-IN PRESSURE	19	146.0	346.8
START FLOW PERIOD	20	146.0	346.8
INITIAL FLOW PRESSURE	21	147.0	51.5
	22	151.0	66.4
	23	156.0	90.1
	24	161.0	111.7
	25	164.0	119.9
	26	165.0	379.3
	27	166.0	379.3
	28	167.0	228.2
	29	171.0	239.7
	30	176.0	249.1
	31	181.0	257.8
	32	186.0	265.8
	33	191.0	272.7
	34	196.0	279.3
	35	201.0	285.1

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

LOCATION I-11 REC. NO. 5773 DEPTH 883.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
	36	206.0	290.5
	37	211.0	295.7
	38	216.0	300.3
	39	221.0	304.6
	40	226.0	308.3
FINAL FLOW PRESSURE	41	230.0	311.2
START FINAL SHUT-IN	42	230.0	311.2
	43	231.0	342.0
	44	235.0	343.4
	45	240.0	344.5
	46	245.0	344.8
	47	250.0	344.8
	48	255.0	345.1
	49	260.0	345.1
	50	265.0	345.1
	51	270.0	345.4
	52	275.0	345.4
	53	280.0	345.4
	54	285.0	345.4
	55	290.0	345.4
	56	295.0	345.4
	57	300.0	345.7
	58	305.0	345.7
	59	310.0	345.7
FINAL SHUT-IN PRESSURE	60	315.0	346.0
RUN OUT OF HOLE	61	315.0	346.0
FINAL HYDRO PRESSURE	62	316.0	377.3
	63	320.0	377.3
OUT OF HOLE	64	365.0	0.0

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

LOCATION I-11 REC. NO. 5773 DEPTH 883.

CALCULATIONS FOR LIQUID RECOVERY (FIRST SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE 347.3

NO. OF POINTS CONSIDERED IN BUILD-UP 13
NO. OF POINTS USED IN EXTRAPOLATION 12
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)..... 0.11
EFFECTIVE PRODUCING TIME (MIN) 5.0

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

LOCATION I-11 REC. NO. 5773 DEPTH 883.

DATA FOR BUILD-UP PLOT (FIRST SHUT-IN)

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION					
7	1.0	341.4			6.00
POINTS USED IN EXTRAPOLATION					
8	5.0	343.7	343.7	0.1	2.00
9	10.0	345.1	345.2	0.1	1.50
10	15.0	346.0	345.8	-0.2	1.33
11	20.0	346.3	346.1	-0.1	1.25
12	25.0	346.6	346.4	-0.2	1.20
13	30.0	346.6	346.5	-0.1	1.17
14	35.0	346.6	346.6	0.1	1.14
15	40.0	346.6	346.7	0.1	1.12
16	45.0	346.6	346.8	0.2	1.11
17	50.0	346.8	346.8	-0.0	1.10
18	55.0	346.8	346.8	0.0	1.09
19	57.0	346.8	346.9	0.0	1.09

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

LOCATION I-11 REC. NO. 5773 DEPTH 883.

CALCULATIONS FOR LIQUID RECOVERY (SECOND SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	346.5
NO. OF POINTS CONSIDERED IN BUILD-UP	18
NO. OF POINTS USED IN EXTRAPOLATION	18
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)	0.15
EFFECTIVE PRODUCING TIME (MIN)	89.0
(B) IN SITU CAPACITY (KH - MD FT)	6570.75
SLOPE OF BUILD-UP CURVE (PSI/CYCLE)	2.26
PRODUCING RATE (BBL/DAY)	106.34
FLUID VISCOSITY (CP)	0.860
FORMATION VOLUME FACTOR (RES BBL/ST BBL)	1.000
(C) EFFECTIVE PERMEABILITY (MD)	219.02
FORMATION THICKNESS	30.00
(D) PRODUCTIVITY INDEX (BBL/DAY/PSI)	3.02
FLOWING PRESSURE (PSIG)	311.2
(E) APPROXIMATE DRAINAGE RADIUS (FT)	856.4
TOTAL FLOWING TIME (MIN)	89.0
(F) ESTIMATED DAMAGE RATIO	2.40
RESERVOIR POROSITY (PERCENT)	6.00
TOTAL COMPRESSIBILITY (VOL/VOL/PSI X 10-6)	9.00
WELL-BORE RADIUS (IN)	4.375
CALCULATED SKIN FACTOR	10.47
(G) PRODUCTION WITH DAMAGE REMOVED (BBL/DAY)	255.4

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

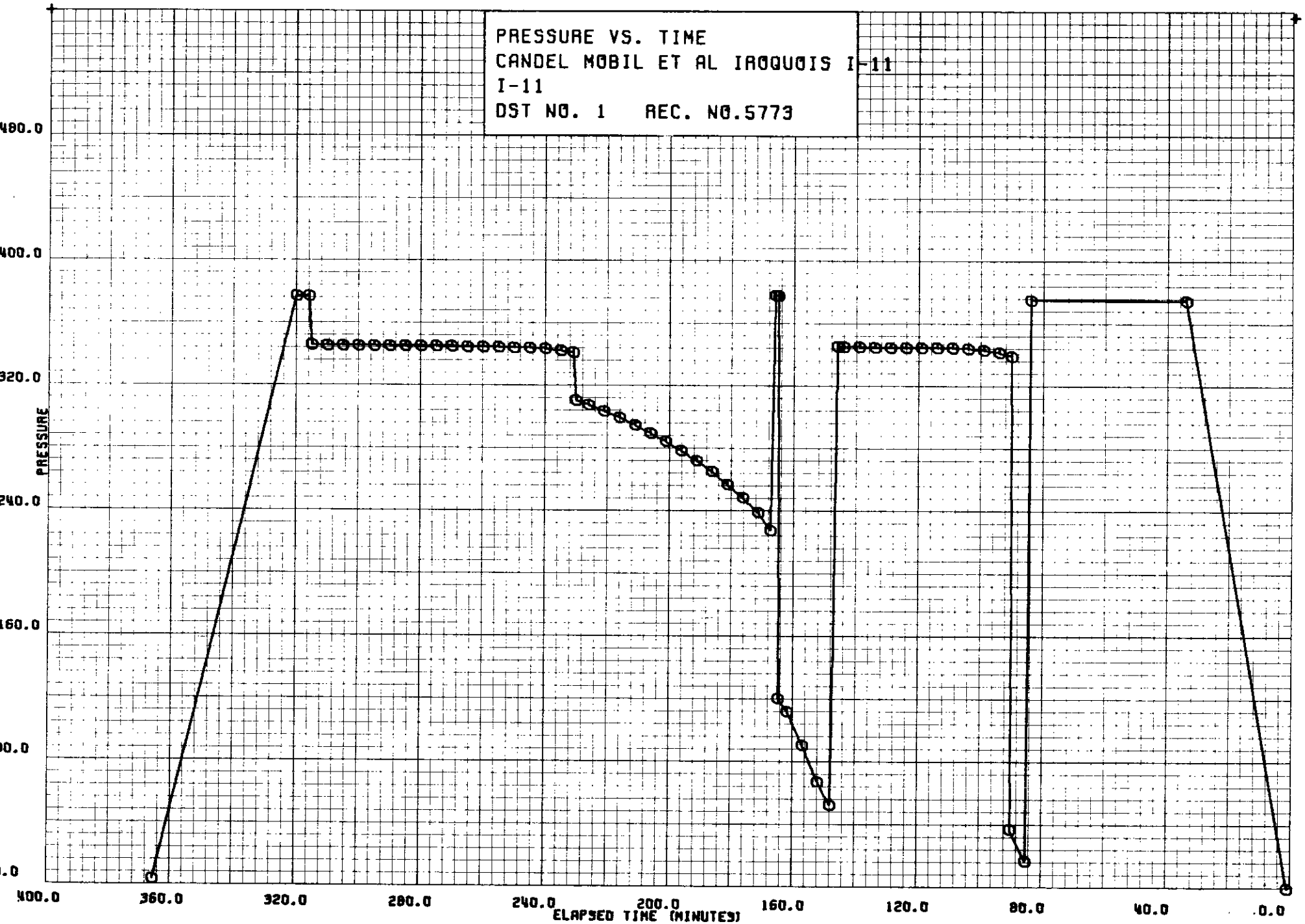
LOCATION I-11 REC. NO. 5773 DEPTH 883.

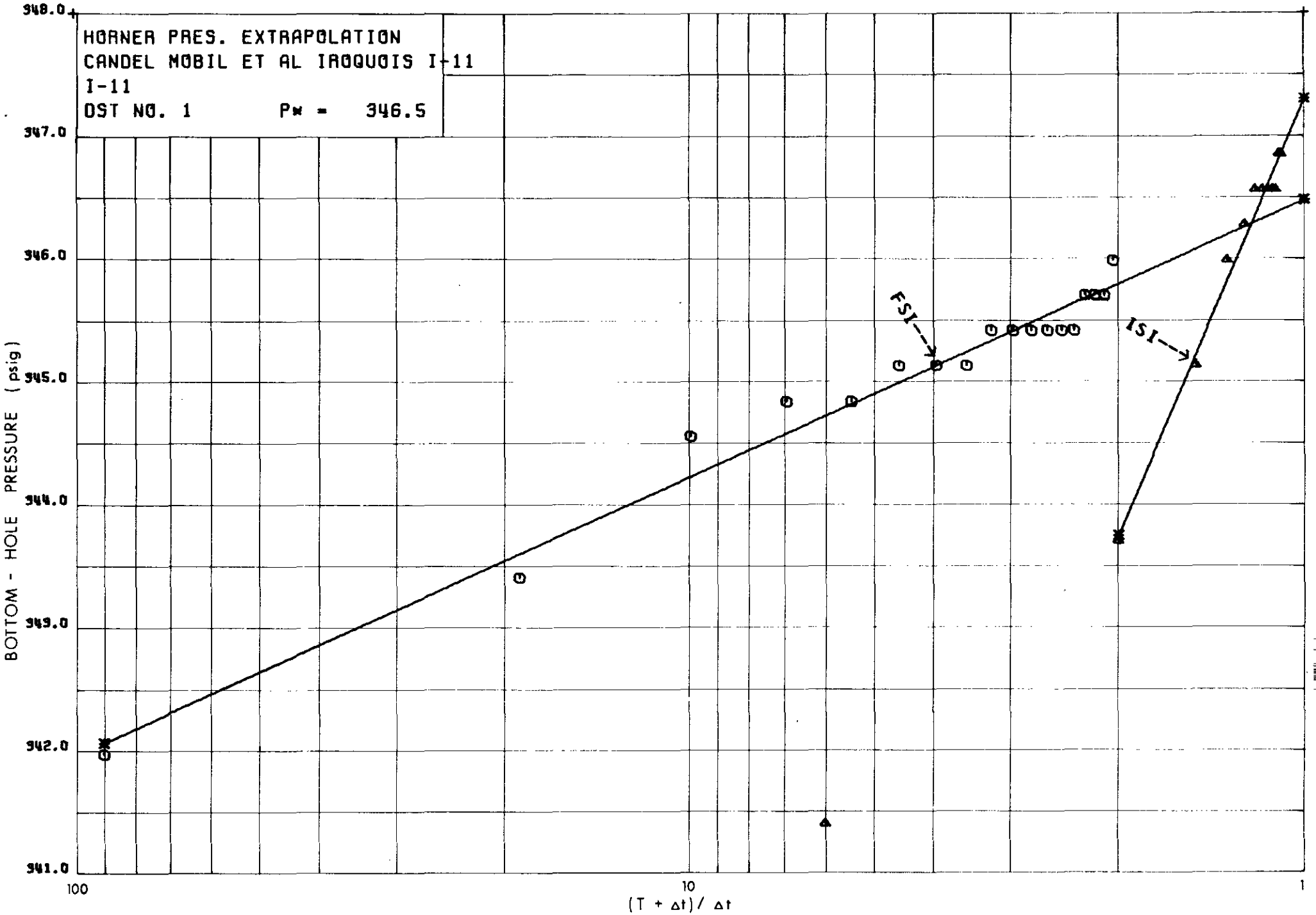
DATA FOR BUILD-UP PLOT (SECOND SHUT-IN)

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
POINTS USED IN EXTRAPOLATION					
43	1.0	342.0	342.1	0.1	90.00
44	5.0	343.4	343.6	0.2	18.80
45	10.0	344.5	344.2	-0.3	9.90
46	15.0	344.8	344.6	-0.3	6.93
47	20.0	344.8	344.8	-0.0	5.45
48	25.0	345.1	345.0	-0.1	4.56
49	30.0	345.1	345.1	0.0	3.97
50	35.0	345.1	345.2	0.1	3.54
51	40.0	345.4	345.3	-0.1	3.22
52	45.0	345.4	345.4	-0.0	2.98
53	50.0	345.4	345.5	0.1	2.78
54	55.0	345.4	345.5	0.1	2.62
55	60.0	345.4	345.6	0.2	2.48
56	65.0	345.4	345.6	0.2	2.37
57	70.0	345.7	345.7	-0.0	2.27
58	75.0	345.7	345.7	0.0	2.19
59	80.0	345.7	345.7	0.0	2.11
60	85.0	346.0	345.8	-0.2	2.05

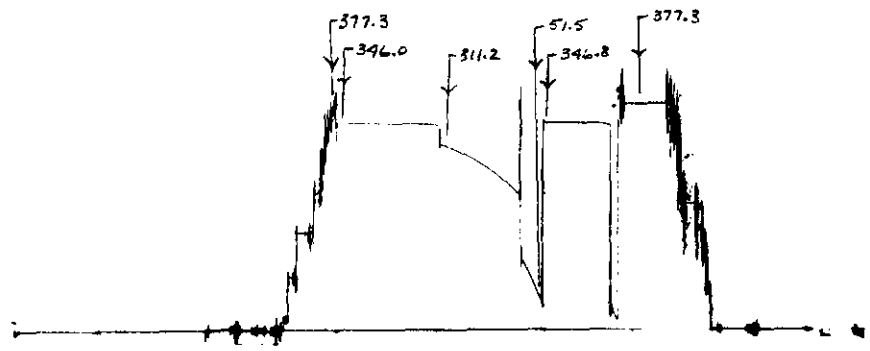
ASSUMPTIONS AND LIMITATIONS

THE ENCLOSED DST INTERPRETATION CALCULATIONS REQUIRE SEVERAL NECESSARY ASSUMPTIONS TO PROVIDE A QUICK ESTIMATE OF MANY OF THE FACTORS INVOLVED. AS A RESULT THE INFORMATION GAINED SHOULD BE USED TO FORM AN OPINION OR ESTIMATE ONLY, UNTIL THE ASSUMPTIONS OF RESERVOIR AND FLUID PROPERTIES CAN BE WHOLLY OR PARTIALLY CLARIFIED BY MORE COMPLETE ANALYSIS AND TESTING.


PRESSURE VS. TIME
CANDEL MOBIL ET AL IROQUOIS I-11
I-11
DST NO. 1 REC. NO.5773
PRESSURE
480.0
400.0
320.0
240.0
160.0
00.0
.0
400.0
360.0
320.0
280.0
240.0
200.0
160.0
120.0
80.0
40.0
.0.0
ELAPSED TIME (MINUTES)

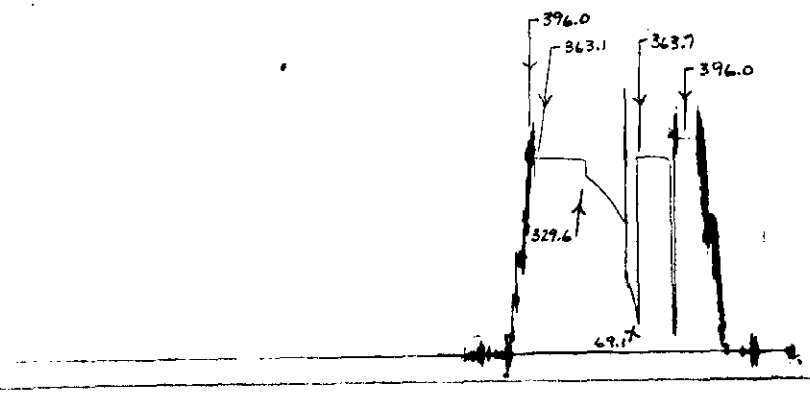

HORNER PRES. EXTRAPOLATION
CANDEL MOBIL ET AL IROQUOIS I-11
I-11
DST NO. 1 Pw = 346.5
348.0
347.0
346.0
345.0
344.0
343.0
342.0
341.0
BOTTOM - HOLE PRESSURE (psig)
100
10
1
(T + Δt)/ Δt
FSI
ISI

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 900 - 1010
DST NO. 1 REC. NO. 5773



DST RECORDER CHARTS

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 900 - 1010
DST NO. 1 REC. NO. 5979



Drilling Authority No. 584

Date Issued 01-03-72

WELL NAME CanDel Mobil et al Iroquois I-11

FIELD

Area:

LOCATION: Unit I Section 11 Grid 67-50-129-30

Latitude 67-40-40 Longitude 129-32-05

U.W.L.R. 67.67778 — 129.53472

U.W.I. 300I116750129300

Rig Release Date: 02-06-72

Status D+A

Information Release Date 02-06-74

CHANGE OF NAME:

DATE RECEIVED		INDEX
25-02-72	RK	Application for a Drilling Authority.
		Well Completion Data.
11-10-72	RK	Well History Report.
29-05-72	RK	Application to Amend a Drilling Authority.
		Application to change a Well Name.
08-06-72	RK	Application to Abandon a Well or ~~Suspend~~ Drilling.
		Application to Alter Condition of a Well.
		Well History Supplement.
		Well Completion Data.
		Work-over Report No. .....
		Application to Commingle Production before Measurement.
		Data for Back Pressure Test on Natural Gas Wells – Monograph 7 Method.
		Data for Back Pressure Test on Natural Gas Wells – Vitter's Method.
		M.P.R. – Oil – Calculations.
		New Oil Well Report.
		New Gas Well Report.
		Well Inspection Report.
		Rig Inspection Report.
		Battery Inspection Report.
		Equipment Report.
		Well Card.
		New Service Well Report.
		Monthly Water Flood Operations Report
		Monthly Water Receipts and Disposal of Fluids Report
		Logs. Large scale..... Small scale.....
RK		

LAND 52-90 (3-69)

DATE RECEIVED

LOGS:

Name	Run No.	Type	Interval
BHC-S	1		
SN-GR	1		
IGR	1		
FDC	1		

ANALYSES:

Sample	Lab. No.	Formation	Interval

A.O.F. Potential	Formation	Interval	MC.F.D.	Test Date

DRILL STEM TESTS:

No.	Formation	Interval

DEPARTMENT OF INDIAN AFFAIRS & NORTHERN DEVELOPMENT
MINISTÈRE DES AFFAIRES INDIENNES ET DU NORD CANADIEN

OIL & MINERAL DIVISION
DIVISION DU PÉTROLE ET DES MINÉRAUX

WELL COMPLETION DATA
RENSEIGNEMENTS SUR LES FORAGES

Drilling Authority No. 584
N° de l'autorisation de forage

Date Issued March 1, 1972
Date de délivrance

To be submitted in duplicate within thirty days after the completion, rework, abandonment, recompletion or suspension of every well.
À présenter en double dans les trente jours suivant l'achèvement, le remaniement, l'abandon et le reconditionnement de chaque puits, ou après suspension.

Well Name & No — *Nom et n° du puits*	Permit No. — *N° de permis*	Lease No. — *N° de concession*
CanDel Mobil etal Iroquois I-11	4119	

(Permittee, License, Lessee) — *(Détenteur de permis ou de licence, du concessionnaire)*	Exploratory Licence No. — *N° de licence de sondage*
* See Below	

(Operator) — *(Exécutant)*	Exploratory Licence No. — *N° de licence de sondage*
CanDel Oil Ltd.	1938

LOCATION — *EMPLACEMENT*

Unit — *Unité*	Section	Grid — *Étendue quadrillée*	Latitude	Longitude
I	11	67-50-129-30	67° 40' 40"	129° 32' 05"

Unique Well Identifier — *Code d'ordinateur*	Universal Well Location Reference — *Références universelles d'emplacement du puits*
300I116750129300	67.67778° 129.53472

	Date	Depth — *Profoneur*
Spudded *Début des travaux*	2:30 a.m. Apr. 25/72	
Suspended *Suspension des travaux*		
Resumed Operations *Reprise des travaux*		
Finished Drilling *Forage terminé*	Midnight May 27/72	6962' (Driller) 6944' (Logger)
Deepened *Approfondissement*		
Complete (Gas/Oil) *Achèvement (Gaz/Pétrole)*		
Abandoned *Abandon*	June 2/72	
Rig Released *Fin des travaux*	12:00 noon June 2/72	

Pool(s) *Gisement(s)* —

Interval(s) Open to Production *Intervalle(s) de production* —

Elevation: Gr. *Altitude du sol* 400' K.B. *du carré d'entraînement* 418'

Rig No. *N° de la tour de forage* 8

Drilling Contractor *Entrepreneur en forage* Nabors Drilling Limited

Contractor's Business Licence No. *N° du permis de l'entrepreneur* 0968

CASING RECORD — *TUBAGE*

Casing Size (Inches) *Diamètre (en pouces)*	Grade *Qualité*	Weight *Poids*	Amount *Longeur*	Set at — *Fixation à*	Sacks of Cement and Additives *Sacs de ciment et d'additifs*
1. 16" Conductor Pipe	New, shop fabricated		Cemented full length w/100 sx fondu		
2. 9-5/8"	J-55	36#	724.91'	704'	350 sacks Fondue
3.					down 12:04 pm. Apr. 29
4.					
5.					
6.					

Geological Tops *Sommet des formations*	Elevation — *Profondeur* Depths *Sous le niveau du sol*	Sub-Sea *Sous le niveau de la mer*
Drift	Surface	-
Devonian-Hare/Ind	17	+ 401
Hume	98	+ 320
Gossage/Bear kk.Ls.	347	+ 71
Dol.		
Sil/Ord. Ronning	2106	- 1688
Cherty Mbr.		
Cambrian	5665	- 5247
Main Salt	5842	- 5424
Main Salt Base	6087	- 5669
Proterozoic	6428	- 6010
T.D. Driller	6961	- 6543

Core Record — *Carottes*

From — *de*	To — *à*	Rec. *Récupérés*	From — *de*	To — *à*	Rec. *Récup.*
No Cores					

Log Record — *Diagrammes*

Run *Série*	Type of Log *Genre de diagramme*	From — *De*	To — *À*
	Dresser Atlas:		
1	Ind. Electrolog w/Gamma	6940	704
1	B.H.C. Acoustilog w/Gamma	6924	Surface
1	Compensated Densilog w/Caliper Gamma	6932	704
1	Sidewall Neutron w/Caliper Gamma	6932	704

* Mobil Oil Canada, Ltd. 1432
Sun Oil Company 1941
Inexco 1929
North Canadian Oils 1973

52-90-2 (7-71)

CEMENTING RECORD (Plug, Squeeze, etc.)
CIMENTATION (Bouchon, sous pression, etc.)

Date	From – de	To – à	Remarks – Remarques
May 31	6961	6861	55 sx. Down @ 3:00 a.m.
May 31	3600	3450	100 sx. + 3% $CaCl_2$. Down @ 5:00 a.m. Felt @ 3614'
June 1	2150	2000	100 sx. + 3% $CaCl_2$. Down @ 11:20 a.m. Felt @ 2010'
June 1	780	630	100 sx. + 3% $CaCl_2$. Down @ 9:00 p.m. Felt @ 622'
			5 sacks in top of surface casing. Plate welded on same with name tag.

PERFORATING RECORD (Bullet, Jet)
PERFORATION (à balles, à jet)

Date	From – de	To – à	Remarks – Remarques

SERVICING RECORD (Acidizing, Fracing, etc.)
ENTRETIEN (acidification, fracturation, etc.)

Date	From – de	To – à	Remarks – Remarques

DRILL STEM TESTS – ESSAIS AUX TIGES

No. – No°	Date	Formation	From – de	To – à	V.O. Mins. Vanne ouverte (minutes)	I.S.I. Mins. Première obturation (minutes)	F.S.I. Mins. Obturation définitive (minutes)	I.S.I.P.H.P. Pression de fond à la 1re obturation	F.S.I.P.H.P. Pression de fond à l'obturation définitive	I.F.S.H.P. Pression de fond au jaillissement	F.F.S.H.P. Pression de fond à l'écoulement définitif	L.H.P. Pression hydrostatique de début	F.H.P. Pression hydrostatique définitif	Remarks – Remarques
1	May 2	Dev. Bear Rk.	900	1010	84	57	85	346.8	346.0	51.5	311.2	377.3	377.3	Rec. 90' fresh water 800' sulf. fresh water
2	May 5	Sil\Ord. - Ronning	2121	2261	60	27	60	874.7	875.5	162.0	594.2	904.5	904.5	Rec. 90' fresh water 1210' sulf. fresh water
3	May 31	Sil\Ord. - Ronning	3200	3614	114	27	290	1359.0	1368.0	622.0	1364.0	1704.0	1704.0	Rec. 2820' mud and salt water.

ANALYSIS – ANALYSE

No de laboratoire Lab. No.	Sample Échantillon	From – de	To – à	Source	Remarks – Remarques
933-2670	Water	3200	3614	DST.#3 - Ronning	Water Analysis
933-2581	Water	900	1010	DST. #1 - Bear Rock	Water Analysis
933-2581	Water	2121	2261	DST. #2 - Ronning	Water Analysis

PRESENT STATUS OF WELL
ÉTAT ACTUEL DU PUITS

Oil / Pétrole ..... (Interval)(Intervalle)

Gas / Gaz ..... (Interval)(Intervalle)

Dry / Sec ..... Dry & Abandoned

Susp. / Travaux sus. .....

Company / Société ..... CanDel Oil Ltd.

Signed by / Signé par .....

Title / Titre ..... Vice President, Production

Date ..... June 23, 1972

Forms to be prepared in duplicate and forwarded to the District Conservation Engineer.

Présenter les formules remplies à l'ingénieur en conservation du district.

Drilling Authority No. 584

CANADA

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

OIL & MINERAL DIVISION
JUN 2 1972
INUVIK, N.W.T.

Application to Abandon a Well or [redacted]

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made for approval to abandon, to suspend drilling:—

Name and number of well: CanDel Mobil etal Iroquois I-11

Location: Unit: I Section: 11 Grid: 67-50-129-30

Latitude: 67° 40' 40" Longitude: 129° 32' 05"

From Established Reference Marker: Shot Point 478

Universal Well Location Reference: 67.67778° 129.53472°

Permit No.: 4119 Lease No.:

Attached
(Permittee, Licencee, Lessee)

Date of commencement of proposed program: May 31, 1972

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at: Nil

Gas at: Nil

Water at: 900-1010; 2121-2261

Total Depth: 6961' Date of last operations: Present

Present condition of well: 8-3/4" hole to T.D. - Waiting on Orders

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1. 9-5/8"	36# J-55	704	704	350 sacks Fondue Cement	nil
2.					
3.					
4. 20"			39'	100 sacks Fondu	
5.					

PROPOSED ABANDONMENT PROGRAM

Plug No.	Plug Position	Geological Formation	Number of Sacks of Cement	Remarks
1	6861 to 6961'	Proterozoic	55	On bottom
2	3450 to 3600'	Ronning	100	Feel for after 8 hrs.
3	2000 to 2150	Bear Rock & Ronning	100	Feel for after 8 hrs.
4	630 to 780	Bear Rock	100	Feel for after 8 hrs.
5	Inside stub @ top of casing		5	Weld plate on top of casing stub with 5' riser and sign above ground

The following logs have been run: I-E log, Acoustilog, Density log & Neutron Porosity

Other operations proposed: D.S.T. from 3200 to 3450'

Operations to be carried out by: Nabors Drilling Limited Contractor Licence No.: 0968

Address: 440 Bentall Building Address

Responsible Agent in field

Dated at: CALGARY, this 31st Day of May 19 72

Signed by: [signature] Company: CanDel Oil Ltd.

Title: Drilling Manager Operator's Exploratory Licence No.: 1938

Note:—The District Conservation Engineer's office must be notified before work is commenced.

(For OIL AND MINERAL DIVISION use only)

APPROVAL

This application has been examined and proposed programme approved, subject to the following conditions:

Confirming oral approval given by Mr. D. A. Bohun on the 1st June 1972

Dated: 8 June 1972, 19

[signature]
District Conservation Engineer

Forms to be submitted in triplicate to District Conservation Engineer, Department of Indian Affairs and Northern Development.

IAND 52-90-5 (7-71)

Voir au verso

Drilling Authority No. 584

CANADA

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

OIL AND MINERAL DIVISION

DEPT. OF INDIAN AFFAIRS & NORTHERN DEVELOPMENT OIL & MINERAL DIVISION MAY 29 1972 CALGARY 21, ALBERTA OIL CONSERVATION ENGINEER Northwest Territories & Yukon Territory

Application to Amend a Drilling Authority

This application, in triplicate, must be submitted and approved before commencing operations. If the well location is changed, this application must be accompanied where required, with a plan of survey approved by the Surveyor General.

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made to amend Drilling Authority No. 584, concerning

CanDel Mobil et al Iroquois I-11

(Name and Number of Well)

'Expected total final depth' was listed as 6500'-. It is requested that this be changed to 7040' (9-5/8" surface casing landed @ 704' K.B.). This well is scheduled to drill into the Proterozoic, originally expected at a depth of 6450', but the lower formations are low to prognosis. Change of total depth to 7040' was approved by telephone May 27, 1972 by Mr. D. Thomas, District Oil & Gas Conservation Engineer, Calgary.

Reasons for the amendments

Dated at Calgary, this 29th day of May, 19 72

Signed by K.E. Basaraba (K.E. Basaraba)

Title Geologist

Company CANDEL OIL LTD.

(For Oil and Mineral Division use only)

APPROVED

This application has been examined and approved subject to the following conditions:

Date May 29, 19 72

District Conservation Engineer

Forms to be submitted to the District Conservation Engineer, Department of Indian Affairs and Northern Development.

IAND 52-90-3 (7-71)

Voir au verso

Drilling Authority No. 584
Project No.

CANADA

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

OIL AND MINERAL DIVISION

Application for a Drilling Authority

This notice of intention to begin drilling operations, in triplicate, and where required a plan of survey approved by the Surveyor General showing the target area or the site of the well must be submitted and approved before commencing operations.

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made for approval to drill:–

Name and number of well: CanDel Mobil etal Iroquois I-11

Location: Unit I Section 11 Grid 67-50-129-30
Latitude 67° 40' 40" Longitude 129° 32' 05"
Unique Well Identifier 300I116750129300
Universal Well Location Reference 67.67778° 129.53472°
Shot Pt. 478

Elevation: Ground 400' Line 226 K.B. 415' Est. feet above sea-level.
Well is expected to produce from Devonian, Sil-Ord. Cambrian formation at a depth of about - feet. Expected total final depth 6500'
Area assigned to well
(for District Conservation Engineer's use only)

Permit No. 411 Lease No. Acreage 48,546
Permittee, licensee, or lessee as attached
Explanatory Licence No. as attached
Surface owned by Crown or Crown
(If alienated submit name and address of owner and occupant.)

Petroleum and natural gas rights owned by Crown
We propose to use the following strings of casing, either cementing or landing them as indicated below:–

Ceasing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	New or Used	Estimated Depth	Sacks of Cement
1. 16"		Conductor	New	40'	full length
2. 9-5/8"	36	J-55	New	700'	" "
3. Other casing - If required will be negotiated					
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment
Devonian, Sil-Ord., Cambrian
BOP Stack and drilling fluid

Well will be drilled with Rotary Rig No. 8 by Nabors Drilling Limited
(Drilling Contractor or company)

Responsible agent of applicant:– Contractor's Business Licence No. 0968
At well D. R. Nelson At registered office R. K. Terrell
Address Mackenzie Mtn. Lodge, Norman Wells Address 330 - 5th Avenue S.W., Calgary 1.
It is understood that if changes become necessary, notice of the change of plan will be submitted.
Dated at Calgary, this 25th day of February 19 72
Signed by [signature] Company CanDel Oil Ltd.
Title Exploration Manager Operator's Licence No. 1938

(For Oil and Mineral Division use only)

APPROVED

This application has been examined and approved subject to the following conditions:

Please see attached sheet for Conditions of Approval

Dated March 1 19 72 [signature]
District Conservation Engineer

Forms to be submitted to District Conservation Engineer, Department of Indian Affairs and Northern Development.

IAND 52-90-1 (7-71)

Voir au verso

Exploratory Licence Nos

Mobil Oil Canada, Ltd.	1432
Sun Oil Company	1941
Inexco	1929
North Canadian Oils	1973

CONDITIONS OF APPROVAL FOR DRILLING AUTHORITY NO. 584
FOR CanDel Mobil etal Iroquois I-11

1. Copies of this Drilling Authority shall be exhibited at the Drilling Rig in both the Doghouse and the Drilling Foreman's Office between spud and rig release dates.

2. The Company will submit to this office, on Tuesday of each week [redacted] the latest reports received by radio on the progress of the well.

3. During well drilling and testing operations, every effort shall be made to ensure that drilling fluids, chemicals and wastes shall be disposed of or contained in a manner that will prevent the contamination of adjacent vegetation and surface or sub-surface waters.

4. We draw your attention to Sections 95 and 96 of the Canada Oil and Gas Land Regulations.

5. Any additional strings of casing must be approved by the District Conservation Engineer prior to running.

M. D. Thomas
District Conservation Engineer
Districts 2 and 3

March 1, 1972

GEOLOGICAL PROGNOSIS

Well Name: CanDel Mobil etal Iroquois I-11

Location: I-11-67-50-129-30

Elevation: Ground 400' (SP. 478, Line 226)

K.B. 415' Est.

Operator: CanDel Oil Ltd.

Contractor: Nabors Drilling Limited Rig #8

Markers:

Formation		Drilling Depth	Sub-Sea Depth
Devonian			
	Hare Indian	near surface	
	Hume	140'	+275'
	Gossage (Bear Rock)	405'	+10'
Sil-Ord.	Ronning	2090'	-1675'
Cambrian		5490'	-5075'
	Salt	5585'	-5170'
	Base Salt	5815'	-5400'
Proterozoic		6450'	-6035'
Total Depth		6500'	-6085'

Note: Some anhydrite and approximately 230' of salt should be present in the Cambrian section.

Samples: One bag of washed samples will be taken at 10 foot intervals from surface to total depth.

Testing: All tests at discretion of wellsite geologist.

Coring: If water free hydrocarbons are recovered on a test, a core should be cut and further tests run if warranted.

..... 2

Logging:	Induction Electrolog	2" T.D. to surface casing 5" T.D. to surface casing
	BHC Acoustilog w/Caliper	2" T.D. to surface casing 5" T.D. to surface casing
Depends on well results.	Formation Density	2" T.D. to surface casing 5" T.D. to surface casing
	Sidewall Neutron Porosity	2" T.D. to surface casing 5" T.D. to surface casing

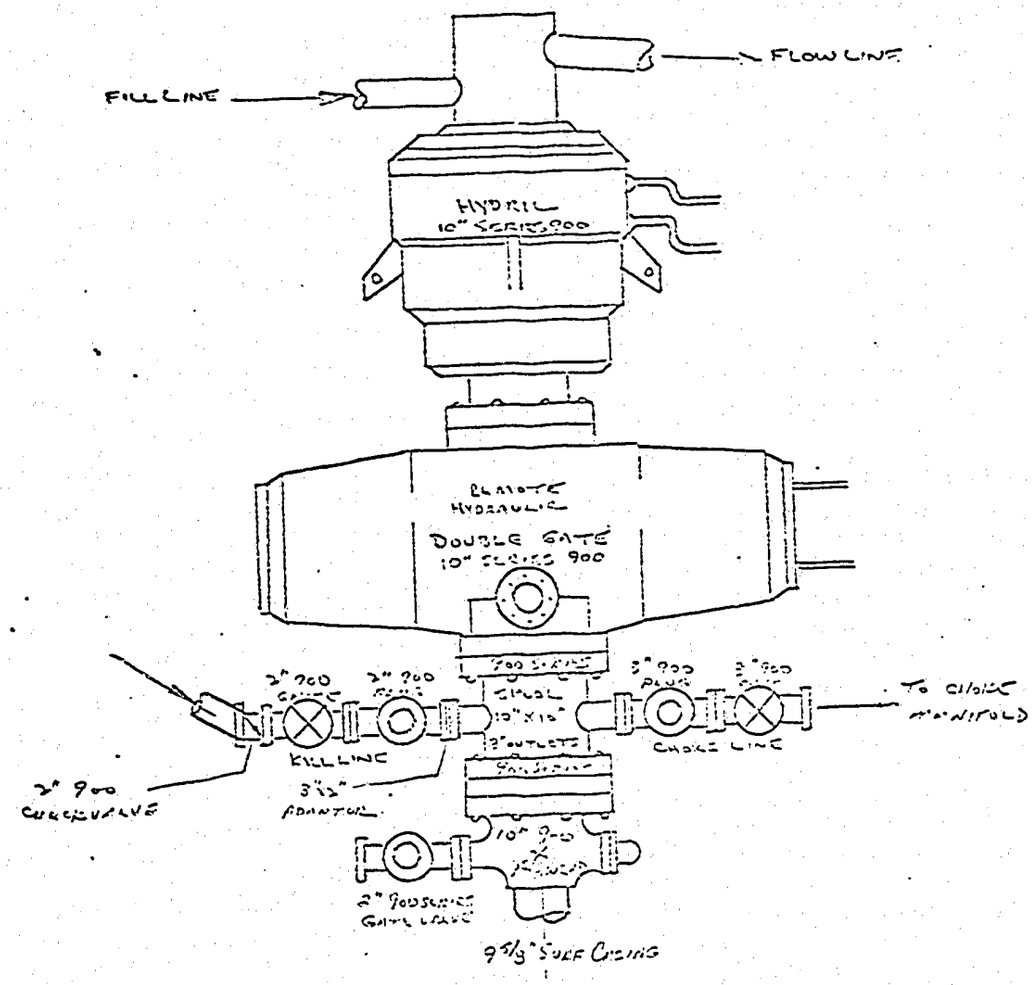
Measurements:

Pipe must be tallied on all trips out for coring, testing, logging or as requested by the wellsite geologist or engineer in charge.

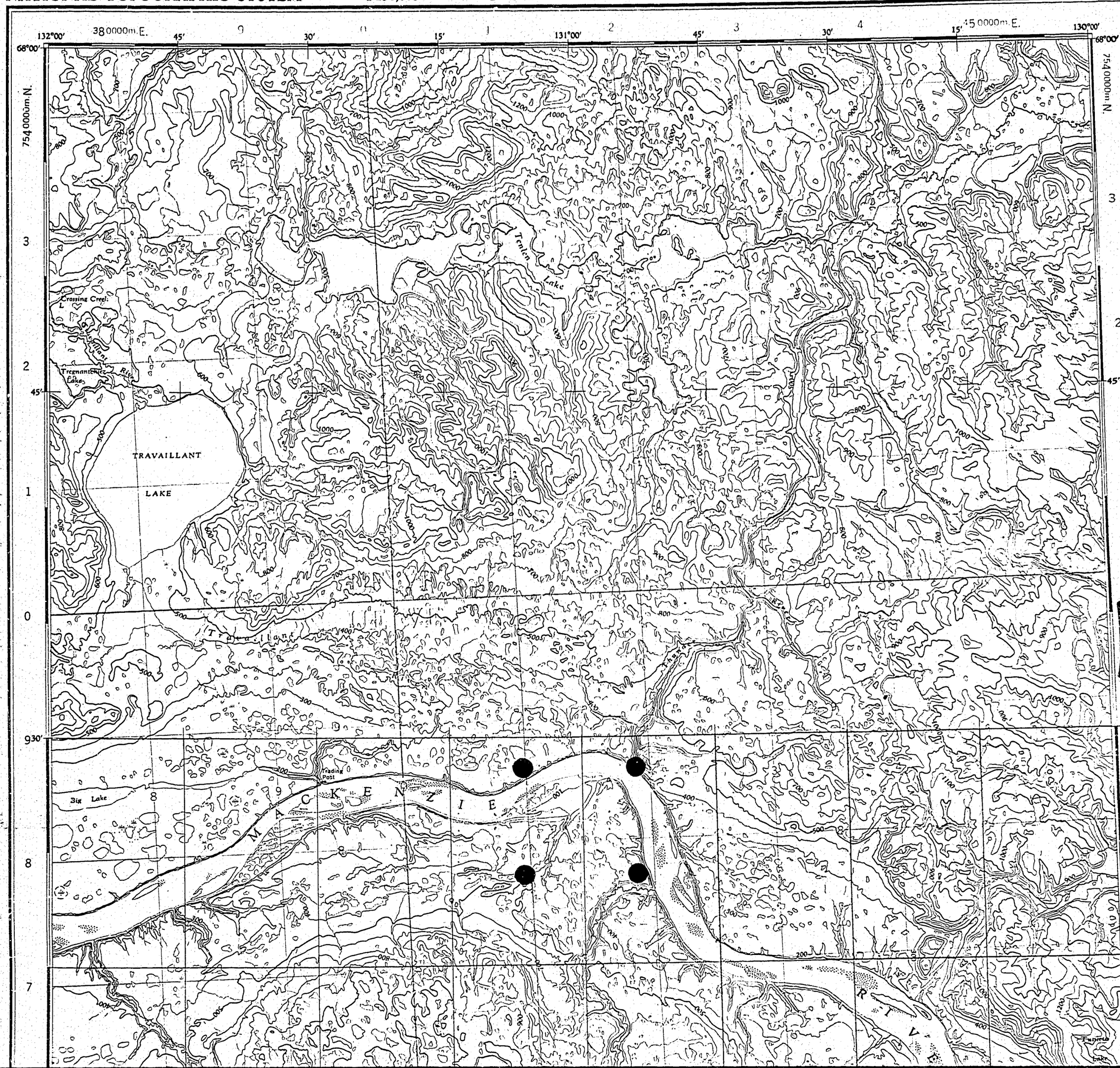
CanDel Oil Ltd.,
28th floor, Calgary Place One,
330 - 5th Avenue S.W.,
CALGARY 1, Alberta. Telephone: 265-3430

K. E. Basaraba	Home Phone	282-4698
D. M. Ericson	" "	252-3277
R. K. Terrell	" "	289-7652

PROPOSED B.O.P. INSTALLATION
NABORS DRILLING RIG 3



Gcf Dec/70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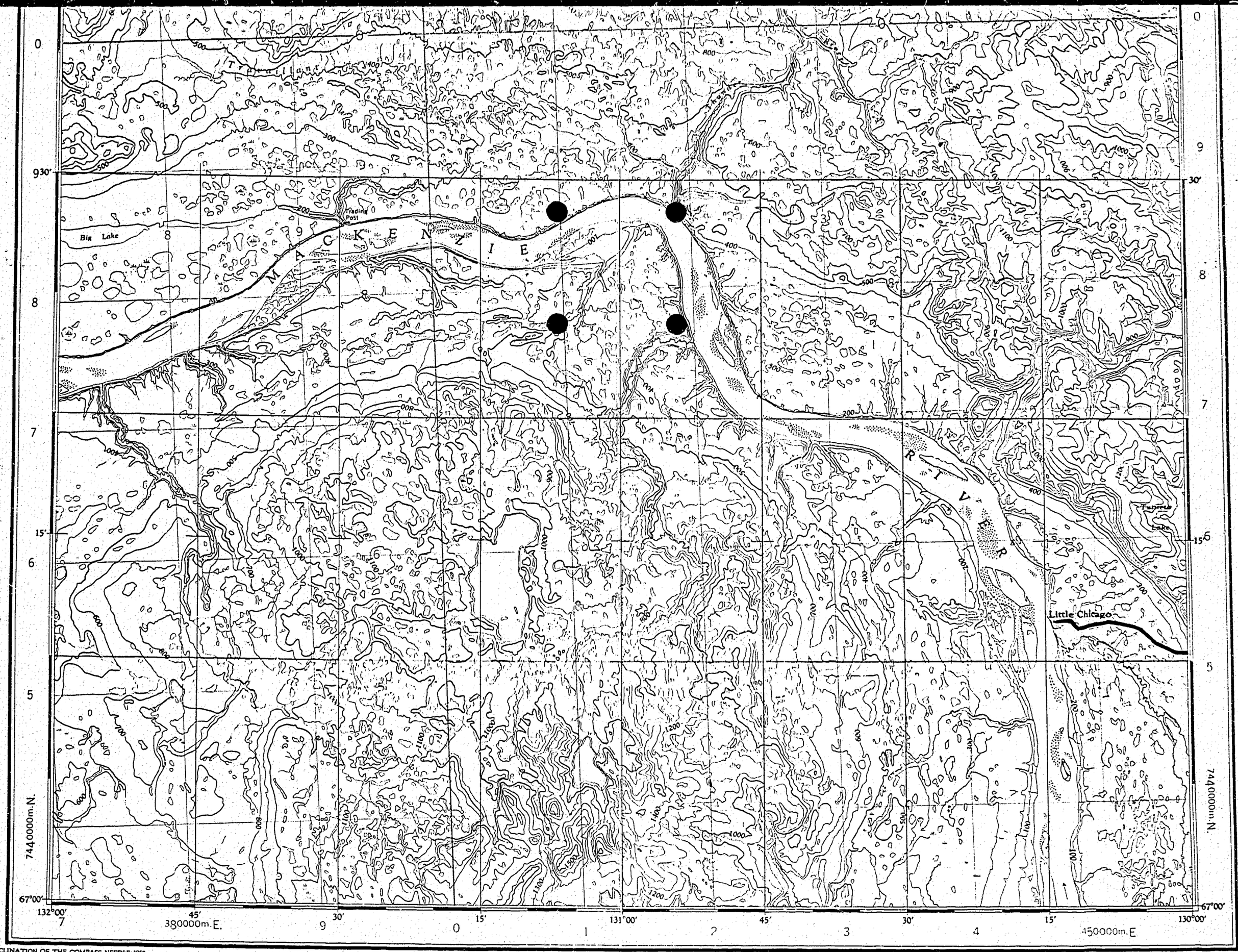
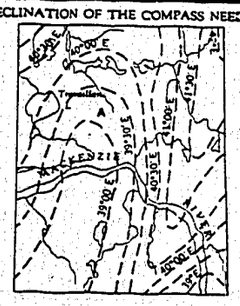
Travaillant River
TRAVAILLANT
LAKE
Tenlan Lake
Trading Post
Six Lake
MACKENZIE
RIVER

1 of



THE DECLINATION OF THE COMPASS NEEDLE 1958



The declination of the compass needle at any place along a broken line is the declination given on that broken line. At other places the declination is between those given on the neighbouring broken lines; thus at the place marked A, the declination is between 39°00'E and 39°30'E. The declination of the compass needle is decreasing 9 minutes annually.

Produced and printed by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF MINES AND TECHNICAL SURVEYS, 1959, from air photographs taken in 1950, 1951 and 1952.

Transverse Mercator Projection

Contour interval 100 Feet

REFERENCE

- Wagon or winter road
- Trail or portage
- Village or settlement
- Post office
- Building or cabin
- R.C.M.P. post
- Horizontal control point
- Astronomical position
- Spot elevation (in feet) 2905

TRAVAILLANT LAKE

NORTHWEST TERRITORIES

DISTRICT OF MACKENZIE

Scale 1:250,000

1 Inch to 4 Miles Approximately

Miles 5 0 5 10 15

Kilometres 5 0 5 10 15 20

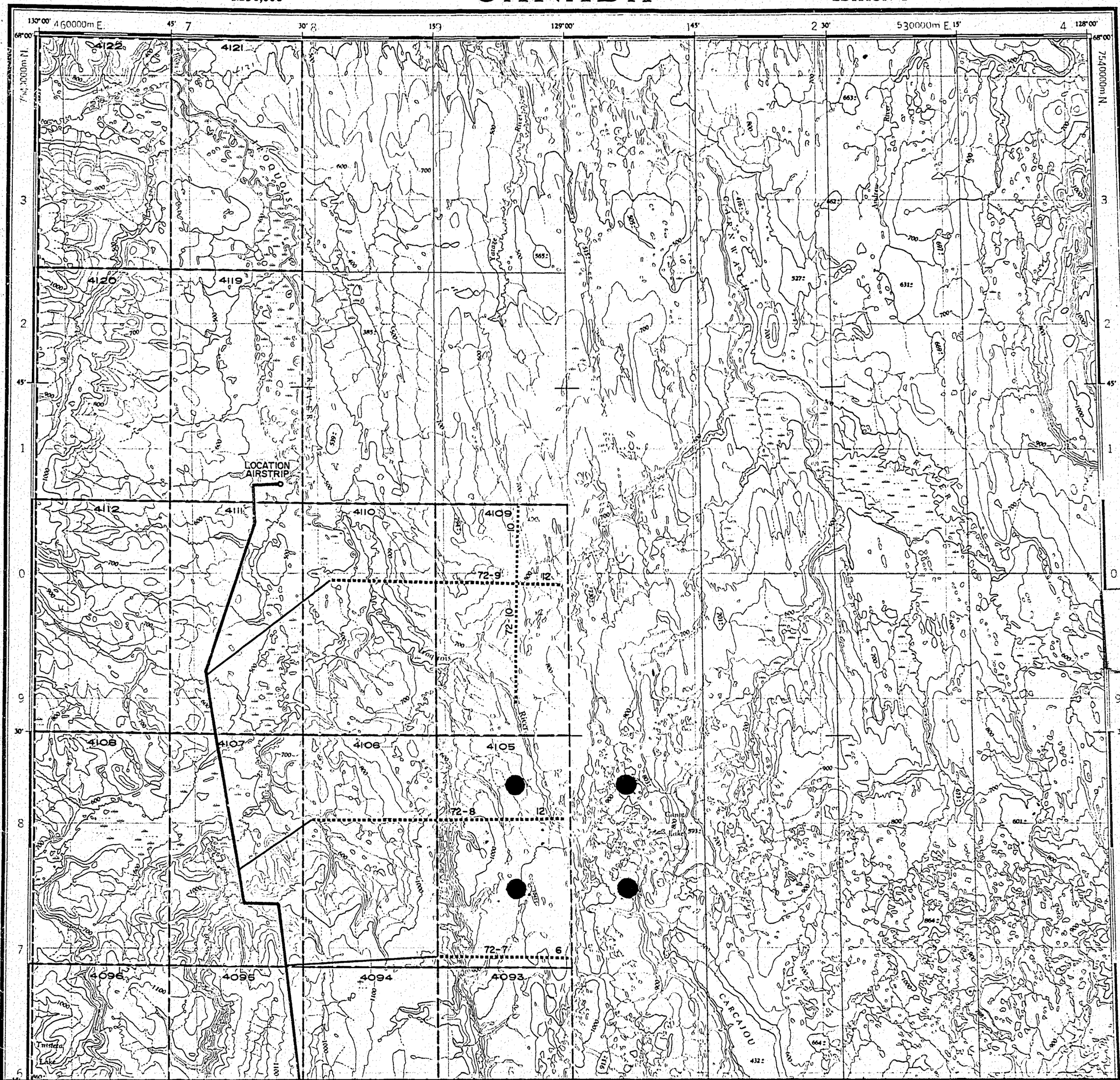
CANDEL OIL LTD.

NOMAC AREA

PROPOSED SEISMIC PROGRAM & ACCESS ROADS

- Proposed Seismic Lines (143 miles)
- Proposed Seismic Access Roads (Mobil Seismic Lines)
- Proposed Wellsite Access Road

2 of 2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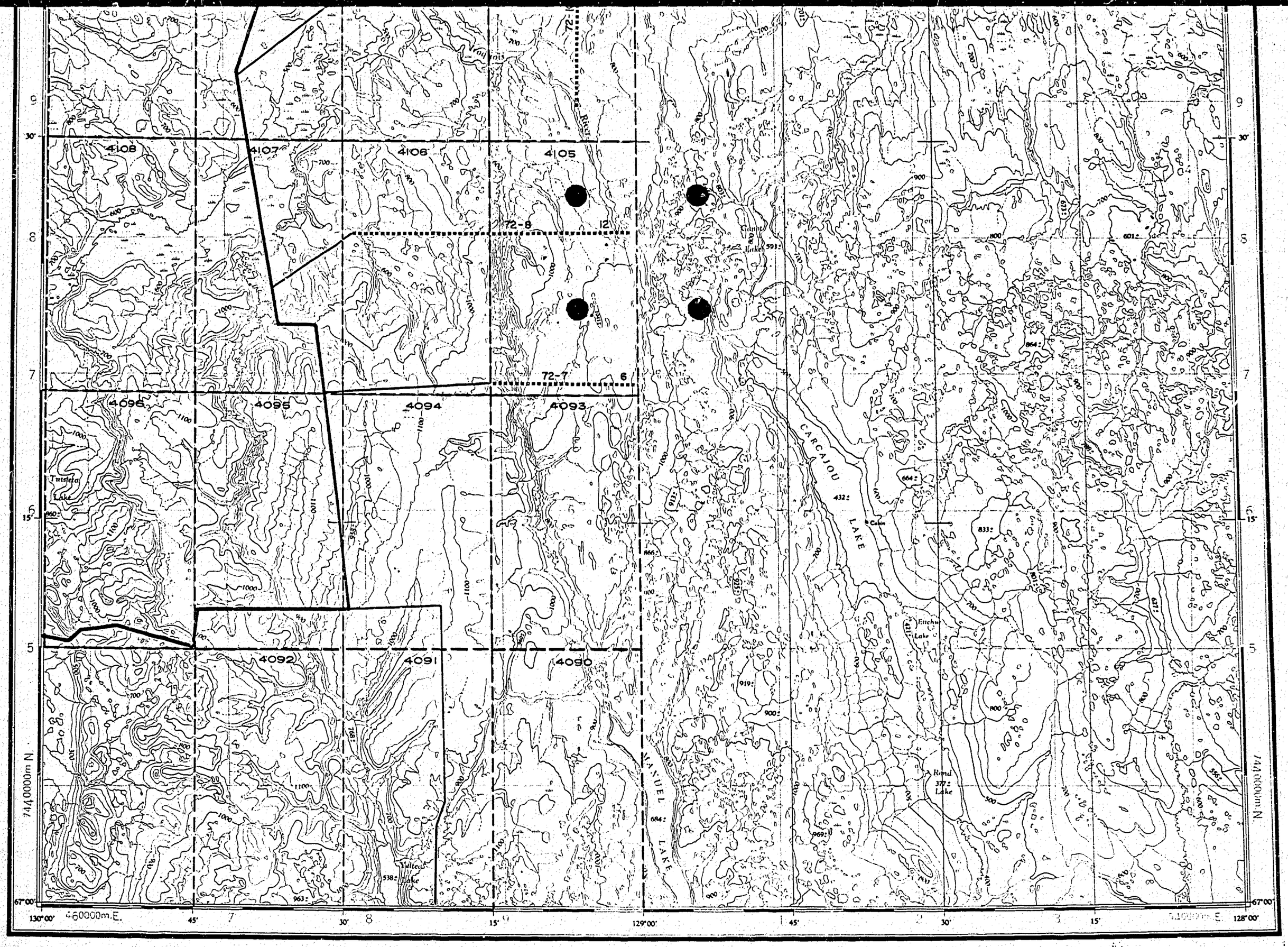
4121
4120
4119
4112
4111
4110
4109
4108
4107
4106
4105
4096
4095
4094
4093
LOCATION AIRSTRIP
72-9
12
72-10
72-8
12
72-7
6
Yanage River
GRANT ALT
Andrew River
CARCAJOU
Twisted Lake
663
565
527
631
862
416
385
530
601
864
664
432
911
593

1 of



Produced by the **ARMY SURVEY ESTABLISHMENT**
R.C.E. 1957-61. Aerial photography 1955.

Copies may be obtained from the Map Distribution Office,
Department of Mines and Technical Surveys, Ottawa,

CANOT LAKE

DISTRICT OF MACKENZIE

NORTHWEST TERRITORIES

Scale 1:250,000 Échelle

Miles 5 0 5 10

Kilometres 5 0 5 10 15 20

Transverse Mercator Projection
North American Datum 1927(1954)
Contour Interval 100 feet
Elevations in feet above Mean Sea Level

Projection transverse de Merc
Réseau géodésique nord-américain unifie 1927(1954)
Équidistance des courbes: 100 pieds
Élévations en pieds au-dessus du niveau moyen de la mer

CANDEL OIL LTD.

NOMAC AREA

PROPOSED SEISMIC PROGRAM & ACCESS ROADS

- Proposed Seismic Lines (140 miles)
- Proposed Seismic Access Roads (Mobil Seismic Lines)
- Proposed Wellsite Access Road

Roads: Routes:

Loose surface, all weather	de gravier, toute saison	less then 2 lanes / moins de 2 voies	dry weather / période sèche
cart track, trail	de terre, sentier		
Spot elevation; precise, approximate	Point coté; précis, approximatif	950	950±
Boundary monument	Borne-frontière		
Tango	Buttes de terre		
Depression contours	Courbes de cuvette		
Cliff or low relief	Falaise ou relief peu accentué		
Esker	Esker		

Horizontal control point ..... Point géodésique ..... Tundra Polygons ..... Sols polygonaux .....
Landing ground ..... Piste d'atterrissage ..... Tundra Ponds ..... Étangs de toundra .....

2 of 2


Location
Santa Rita Estate Sequoia
226

THIS IS A CONCISE REPORT OF THE
OPERATIONS CONDUCTED AT THE WELL

'CANDEL MOBIL ET AL IROQUOIS I-11'

Data in this report was compiled for
CanDel Oil Ltd. by T. A. D. Haddow, P. Geol.,
Geological Consultant at the well

K. E. Basaraba,
CANDEL OIL LTD.

July 28, 1972

WELL HISTORY REPORT

ON

CANDEL MOBIL et al IROQUOIS I-11

Unit I Section 11, Grid 67-50-129-30

Latitude 67° 40' 40" Longitude 129° 32' 05"

NORTHWEST TERRITORIES, CANADA

FOR

CANDEL OIL LTD.

June, 1972

Submitted by:

T.A.D. Haddow, P.Geol.

INDEX

SECTION I - SUMMARY OF WELL DATA

Well Name and Number:	CanDel Mobil et al Iroquois I-11
Permittee:	Mobil Oil Canada Ltd. License No. 1432 Sun Oil Company License No. 1941 Inexco Oil Company License No. 1929 North Canadian Oils Ltd. " No. 1973
Operator:	CanDel Oil Ltd. License No. 1938 28th Floor - Calgary Place One 330-5th Avenue S.W. Calgary, Alberta
Location:	Unit I, Section 11, Grid 67-50-129-30 Latitude 67° 40' 40" Longitude 129° 32' 05" Unique Well Identifier: 3001116750129300 Universal Well Location Reference: 67.67778° 129.53472°
Permit No.:	4119
Contractor:	Nabors Drilling Limited Rig #8 Emsco JA 500
Drilling Authority:	584 - Issued March 1, 1972
Classification:	Wildcat
Elevations:	Ground 400' K.B. 418'
Spudded:	2:30 a.m. - April 25, 1972
Completed Drilling:	May 28, 1972
Total Depth:	Driller 6961' Logger 6944'
Well Status:	Dry & Abandoned
Rig Released:	12:00 - noon - June 2, 1972
Hole Sizes:	Surface - 704' 12 1/4"
	704' - 6961' 8 3/4"

Summary of Well Data (Cont'd)

Conductor Pipe: Ran new 20" conductor pipe, landed at 78' K.B.
Cemented with 100 sacks Fondu cement.
Finished cementing at 12:00 p.m. April 22, 1972

Surface Casing: Ran 9 5/8" (724.91') Grade J-55, 36#, Rge. 3, ST & C, 8rd, New Mannesmann Casing. Landed at 704' K.B.
Cemented with 350 sacks of Fondu Cement.
Displaced plug with water.
Plug down at 12:04 p.m. April 29, 1972

Representative for Operator: T.A.D. Haddow, P.Geol.

Representative for Contractor: H. Martinoff

SECTION II - GEOLOGICAL SUMMARY

FORMATION TOPS

K.B. 418'

Formation	Sample Depth	E-Log Depth	E-Log Sub-sea Depth
Devonian			
Hare Indian	30'	17'	+ 401'
Hume	125'	98'	+ 320'
Gossage (Bear Rock)	350'	347'	+ 71'
Sil - Ord Ronning	2120'	2106'	-1688'
Cambrian	5675'	5665'	-5247'
Salt	5850'	5842'	-5424'
Base Salt	6084'	6087'	-5669'
Proterozoic	6420'	6428'	-6010'
Total Depth	6961'	6944'	-6526'

Candel Mobil et al Iroquois I-11

Sample Descriptions

K.B. 418'

Interval	Lithology
Surface - 30'	Glacial drift - unconsolidated sand, granules, pebbles and cobbles
	Hare Indian 30' (E-Log 17')
30 - 40'	Shale - grey, fissile, micromicaceous, scattered black plant spores.
40 - 80'	Shale - medium grey, hard, fissile, micromicaceous, slightly bituminous in part, scattered, flecks of carbonaceous material (plant spores).
80 - 90'	Shale - dark grey to black, fissile, micromicaceous, bituminous, rare laminae of calcareous siltstone.
90 - 110'	Shale - as above, scattered plant remains and plant spores, trace of scattered pyrite.
110 - 120'	Shale - dark grey to black, brittle, micromicaceous, bituminous for the most part, scattered plant remains and spores, scattered fossils, calcareous in part - limy streaks.
	Hume 125' (E-Log 98')
120 - 130'	Shale - as above Limestone - grey - greenish to brownish in part, microcrystalline, very fine to fine crystalline in part, dense, silty, argillaceous, thin interbedded grey-calcareous shale, some dolomitic streaks - brownish grey, microcrystalline dense, abundant fossils - ostracods, brachiopods, bryozoa.
130 - 140'	Shale - medium grey, hard, micromicaceous, calcareous. Limestone - grey - greenish to brownish in part, microcrystalline to very fine crystalline, dense, bioclastic - micritic in part, fossiliferous, scattered fractures filled with coarse calcite crystals.
140 - 150'	Limestone - medium browish to greenish grey, microcrystalline, some very fine to fine crystalline, bioclastic, peletoid in part, micritic in part, dense, argillaceous, some thin interbeds of grey calcareous shale, some cherty streaks, scattered fractures filled with crystalline calcite, fossiliferous, scattered pyrite.

150 - 160' Limestone - as above
Shale - medium grey, hard, micromicaceous, calcareous, pyritic in part.

160 - 170' Limestone - medium brownish to greenish grey, microcrystalline to very fine crystalline, bioclastic, dense, abundant fossils - brachiopods, ostracods, crinoids, some interbedded shale - medium grey, hard, micromicaceous, calcareous.

170 - 210' Limestone - medium brownish to greenish grey, microcrystalline to very fine crystalline, dense, argillaceous, fossiliferous.
Shale - medium grey, micromicaceous, calcareous.

210 - 220' Limestone - medium brownish to greenish grey, microcrystalline to very fine crystalline, bioclastic, micritic in part, dense, argillaceous, streaks, some interbedded grey calcareous shale, fossiliferous.

220 - 250' Limestone - medium brownish to greenish grey, microcrystalline to fine crystalline, bioclastic, micritic in part, dense, argillaceous, shaly, fossiliferous, scattered fractures filled with dog tooth spar.

250 - 270' Limestone - as above.
Shale - medium grey, fissile to blocky, micromicaceous, calcareous.

270 - 300' Limestone - greyish brown - some greenish to brownish grey, microcrystalline to fine crystalline, fragmental, micritic in part, dense, argillaceous, fossiliferous, some partings of dark grey calcareous shale and thin interbeds of medium grey calcareous shale, some scattered fractures filled with crystalline calcite.

300 - 350' Limestone - brownish grey, microcrystalline to very fine crystallin micritic, dense, argillaceous, some partings of dark grey calcareous shale, some scattered pyrite, scattered fossils - brachiopods, crinoids, bryozoa.

Gossage 350' (E-Log 347')

350 - 370' Limestone - light brownish grey, microcrystalline to fine crystalline, oolitic, dense, slightly argillaceous, some scattered fractures filled with crystalline calcite, rare scattered small vugs filled with crystalline calcite.

370 - 390' Limestone - as above and limestone - brownish to greenish grey, cryptocrystalline, micritic, dense, some scattered hairline fractures, some dolomitization along the fractures.

390 - 420' Limestone - brownish grey, microcrystalline, micritic, dense, argillaceous, some scattered ostracods, some scattered small patches and streaks of black carbonaceous material.

420 - 430' Limestone - medium dark brownish grey, cryptocrystalline to microcrystalline, micritic, dense, argillaceous, some partings of dark grey shale.

430 - 440' Limestone - greyish brown, microcrystalline to fine crystalline, fragmental - micritic in part, dense, argillaceous, scattered ostracods.

440 - 470' Limestone - light greyish brown, microcrystalline to fine crystalline - some bands of cryptocrystalline, fragmental, - organic in part, micritic in part, dense, argillaceous, some algal material, scattered ostracods, some partings of black bituminous shale.

470 - 480' Limestone - medium to dark greyish brown, microcrystalline to fine crystalline, micritic in part - fragmental, pelletoid and oolitic in part, dense, argillaceous, scattered stylolites, some scattered partings of black bituminous shale, ostracods.

480 - 490' Limestone - light greyish brown, microcrystalline to fine crystalline, bioclastic, dense, fossiliferous - ostracods, brachiopods, rare corals.

490 - 510' Limestone - grey brown, cryptocrystalline to very fine crystalline, micritic, dense, scattered brachiopods, some scattered fine fractures filled with calcite.

510 - 520' Limestone - as above - some scattered hairline fractures, some streaks of shale - bluish grey, blocky, micromicaceous, bentonitic, scattered pyrite.

520 - 530' Limestone - light brownish grey, microcrystalline to fine crystalline, fragmental, dense, dolomitic, argillaceous, fossiliferous - brachiopods, ostracods.

530 - 540' Limestone - medium dark grey, microcrystalline to very fine crystalline, algal, dense, argillaceous, scattered ostracods, partings of black bituminous shale.

540 - 550' Limestone - light brownish grey, microcrystalline to fine crystalline, fragmental, dense, argillaceous, scattered ostracods, some scattered corals.

550 - 590' Limestone - brownish grey - some greenish streaks, cryptocrystalline to microcrystalline, micritic, dense, argillaceous.

590 - 600' Limestone - medium greyish brown, microcrystalline to fine crystalline, fragmental, dense, argillaceous, some partings of black bituminous shale. Trace of light greenish grey waxy shale, some scattered gastrapods and brachiopods.

600 - 630'. Limestone - as above - light to medium greyish brown, micritic in part.

630 - 640' Limestone - as above and limestone - brownish grey, cryptocrystalline, micritic, dense.

640 - 650' Limestone - greyish brown, cryptocrystalline to very fine crystalline, micritic, dense, argillaceous, scattered hairline and fine fractures - filled with calcite, a few scattered fossils.

650 - 680' Limestone - as above - few fragmental streaks - slightly dolomitic, a few streaks of dark grey shale and bluish grey bentonitic shale.

680 - 690' Limestone - as above - few fragmental streaks - dolomitic in part with dead oil stain.

690 - 700' Limestone - brownish grey, microcrystalline to very fine crystalline, fragmental - micritic in part, dense, argillaceous, some scattered ostracods.

700 - 720' Limestone - medium greyish brown - dark streaks, microcrystalline to very fine crystalline, fragmental in part, micritic in part, dense, argillaceous, partings of dark grey shale and thin interbeds of grey calcareous shale, scattered ostracods.

720 - 740' Limestone - brownish grey, microcrystalline to very fine crystalline, micritic, fragmental in part, dense, slightly argillaceous, some thin streaks of grey calcareous shale.

740 - 750' Limestone - as above and limestone - brownish grey, cryptocrystalline to microcrystalline, micritic, dense, argillaceous, some laminae of shale - bluish grey, blocky, finely disseminated pyrite.

750 - 770' Limestone - greyish brown, microcrystalline to very fine crystalline, fragmental in part, micritic in part, dense, argillaceous, few scattered fractures filled with crystalline calcite, some scattered ostracods.

770 - 790' Limestone - greyish brown, microcrystalline to very fine crystalline, fragmental, dense, argillaceous, some partings of black bituminous shale and bluish grey shale with finely disseminated pyrite.

790 - 800' Limestone - as above, partings of grey calcareous shale.

800 - 810' Limestone - greyish brown, cryptocrystalline to micro - crystalline, micritic, argillaceous, calcite crystals infilling some fine scattered fractures and rare small vugs.

810 - 830' Limestone - greyish brown, microcrystalline to very fine crystalline, micritic, dense, argillaceous, some interbedded grey calcareous shale, some scattered brachiopods.

830 - 840'	Limestone - greyish brown, microcrystalline to fine crystalline, micritic, organic in part, fragmental in part, dense, argillaceous, pyritic in part, some thin interbedded grey calcareous shale and partings of bluish grey shale - fossiliferous - coral, algae, brachiopods, ostracods.
840 - 850'	Limestone - greyish brown, microcrystalline to very fine crystalline, micritic, algal in part, dense, argillaceous, some interbedded grey calcareous shale, pyritic in part, some scattered crinoids and brachiopods.
850 - 860'	Shale - greenish grey, hard, micromicaceous, very calcareous, finely disseminated pyrite, some scattered limestone pellets. Limestone - greyish brown, cryptocrystalline to microcrystalline, micritic, dense, argillaceous.
860 - 870'	Limestone - greyish brown, very fine crystalline, micritic - fragmental in part, dense, argillaceous, some interbedded shale as above.
870 - 910'	Limestone - greyish brown, microcrystalline to very fine crystalline, micritic, dense, argillaceous (trace of stromatoporoids at 890').
910 - 920'	Limestone - as above, some streaks of very light grey chalky limestone, some thin interbedded dolomite (5%) - greyish brown very fine crystalline, chalky in part, slight intercrystalline porosity - non effective, slightly calcitic.
920 - 940'	Limestone - 75% and dolomite 25% as above.
940 - 950'	Limestone - greyish brown, microcrystalline to very fine crystalline, micritic - fragmental in part, some cream chalky streaks, some interbedded dolomite with slight intercrystalline porosity - noneffective, some scattered coarse crystals of secondary dolomite.
950 - 960'	Limestone - greyish brown microcrystalline to very fine crystalline with streaks of very light grey to cream - chalky, micritic; fragmental in part, some interbedded dolomite - greyish brown, very fine crystalline, earthy in part, slight intercrystalline porosity - noneffective.
960 - 980'	Dolomite - greyish brown, very fine crystalline, slightly calcitic in part, slight intercrystalline porosity.
980 - 990'	Limestone - cream to greyish brown, microcrystalline to very fine crystalline - chalky in part, micritic in part, fragmental in part, dense, slightly argillaceous in part, some streaks and thin interbedded dolomite as above - slight intercrystalline porosity - noneffective.

990 - 1010'	Limestone - cream to greyish brown, microcrystalline to very fine crystalline - chalky in part, fragmental, tight, argillaceous streaks, slightly dolomitic - earthy in part.
1010 - 1030'	Limestone - as above - micritic and fragmental.
1030 - 1050'	Limestone - as above - micritic and fragmental, trace of milky chert.
1050 - 1060'	Limestone - very light greyish brown - cream in part, microcrystalline, fragmental, micritic in part, some oolites, dense.
1060 - 1080'	Limestone - very light to light greyish brown, microcrystalline to very fine crystalline - as above.
1080 - 1130'	Limestone - very light greyish brown - cream in part, microcrystalline to very fine crystalline, fragmental and micritic, dense.
1130 - 1150'	Limestone - light greyish brown, microcrystalline to very fine crystalline, fragmental and micritic, dolomitic streaks, tight.
1150 - 1160'	Limestone - light greyish brown, microcrystalline to very fine crystalline, fragmental, micritic in part, dense. Dolomite - greyish brown, very fine crystalline, slight intercrystalline porosity - noneffective.
1160 - 1170'	Dolomite - greyish brown, microcrystalline to very fine crystalline, slight intercrystalline porosity, argillaceous.
1170 - 1180'	Dolomite - as above. Limestone - brownish grey, microcrystalline to very fine crystalline, fragmental, micritic in part, dense, argillaceous.
1180 - 1200'	Limestone - greyish brown, microcrystalline to very fine crystalline, fragmental, micritic in part, pelletoidal in part, dolomitic streaks, tight, argillaceous.
1200 - 1230'	Dolomite - greyish brown, microcrystalline to very fine crystalline, slight intercrystalline porosity, argillaceous, a few scattered fine fractures filled with calcite.
1230 - 1240'	Dolomite - very light greyish brown - some darker streaks, microcrystalline to very fine crystalline, slight intercrystalline porosity, some argillaceous streaks, some streaks of limestone as above.
1240 - 1250'	Dolomite - brown - greyish, microcrystalline to very fine crystalline, slight intercrystalline porosity, argillaceous, trace of quartz crystals.

1250 - 1260'	Dolomite - greyish brown, microcrystalline to very fine crystalline, slight to poor intercrystalline, pinpoint and scattered small vuggy porosity, some scattered white coarse secondary dolomite crystals, argillaceous.
1260 - 1280'	Dolomite - light greyish brown, microcrystalline to very fine crystalline, slight to poor intercrystalline, pinpoint and scattered small vuggy porosity, some scattered white coarse secondary dolomite crystals, slightly argillaceous in part.
1280 - 1360'	Dolomite - greyish brown - some light streaks, microcrystalline to very fine crystalline, slight intercrystalline porosity, argillaceous.
1360 - 1380'	Dolomite - very light greyish brown - some dark streaks - very fine to fine crystalline, slight to poor intercrystalline porosity.
1380 - 1400'	Dolomite - greyish brown, microcrystalline to fine crystalline, slight intercrystalline porosity, argillaceous, some scattered fractures filled with crystalline calcite.
1400 - 1410'	Dolomite - greyish brown to medium dark greyish brown, very fine to fine crystalline, slight intercrystalline porosity, argillaceous, some scattered partings of black bituminous shale, trace of quartz crystals.
1410 - 1420'	Dolomite - greyish brown, very fine to fine crystalline, slight intercrystalline porosity, argillaceous, scattered fractures filled with crystalline calcite.
1420 - 1450'	Dolomite - medium greyish brown, very fine to fine crystalline, slight to poor intercrystalline, pinpoint and small vuggy porosity, argillaceous, scattered fractures filled with crystalline calcite.
1450 - 1480'	Dolomite - light greyish brown - some dark streaks, very fine to fine crystalline, poor intercrystalline & scattered small vuggy porosity, slightly argillaceous in part.
1480 - 1510'	Dolomite - greyish brown, very fine to fine crystalline, slight to poor intercrystalline porosity, argillaceous.
1510 - 1540'	Dolomite - light brownish grey - as above.
1540 - 1560'	Dolomite - brownish grey - some dark streaks, very fine to fine crystalline, slight to poor intercrystalline porosity argillaceous.
1560 - 1580'	Dolomite - as above, trace of quartz crystals, some calcite crystals (infilling fractures).
1580 - 1590'	Dolomite - as above - marked increase in quartz crystals & calcite crystals.

1590 - 1600'	Dolomite - brownish grey - some dark streaks, very fine to fine crystalline, slight to poor intercrystalline porosity, argillaceous.
1600 - 1610'	Dolomite - light to medium dark greyish brown, microcrystalline to very fine crystalline, slight streaky intercrystalline porosity, streaky argillaceous content, few scattered quartz crystals.
1610 - 1620'	Dolomite - light greyish brown, microcrystalline to very fine crystalline, streaky slight intercrystalline porosity, slightly argillaceous.
1620 - 1690'	Dolomite - greyish brown, microcrystalline to very fine crystalline, streaky, slight intercrystalline porosity, argillaceous, few scattered quartz crystals, some scattered calcite crystals.
1690 - 1700'	Dolomite - greyish brown - light streaks, microcrystalline to very fine crystalline, streaky slight intercrystalline porosity - noneffective, few quartz crystals and calcite crystals.
1700 - 1730'	Dolomite - light greyish brown, microcrystalline to very fine crystalline, tight, silty, few quartz crystals and calcite crystals.
1730 - 1790'	Dolomite - buff, some dark streaks in part, fine to medium crystalline, dense, silty, abundant, quartz crystals.
1790 - 1820'	Dolomite - buff, microcrystalline to very fine crystalline, dense, silty (samples powdered - difficult to interpret).
1820 - 1910'	Dolomite - medium grey, microcrystalline to very fine crystalline, dense, argillaceous, trace of quartz crystals, trace of greenish grey shale partings - silty.
1910 - 1940'	Dolomite - light grey, microcrystalline, dense, silty.
1940 - 1960'	Dolomite - light grey, microcrystalline to very fine crystalline, tight, silty - very fine, rare greenish grey shaly streaks.
1960 - 1990'	Dolomite - grey, microcrystalline, tight, some argillaceous streaks, silty, some partings of dark grey shale.
1990 - 2010'	Dolomite - brownish grey - some dark streaks, microcrystalline to very fine crystalline, dense, argillaceous, silty, rare partings of black bituminous shale, some scattered fractures filled with crystalline calcite.
2010 - 2020'	Dolomite - dark brownish grey - some light streaks, microcrystalline, tight very argillaceous, silty, some partings of black bituminous shale.

2020 - 2030' Dolomite - grey, microcrystalline, tight, argillaceous, silty, some partings of greenish grey shale.

2030 - 2040' Dolomite - medium to dark brownish grey, microcrystalline to very fine crystalline - some fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty, some partings of dark grey shale and black bituminous shale.

2040 - 2050' Dolomite - light grey - slightly greenish to brownish cast, microcrystalline to very fine crystalline, tight, silty.

2050 - 2070' Dolomite - medium to dark brownish grey, microcrystalline to very fine crystalline, tight, very argillaceous, slightly silty, scattered fractures filled with crystalline calcite, partings of dark grey shale.

2070 - 2090' Dolomite - medium grey - slightly brownish, microcrystalline, dense, argillaceous, silty, scattered fractures with calcite.

2090 - 2100' Dolomite - brownish grey - some darker streaks, microcrystalline to fine crystalline, dense, argillaceous in part, silty, scattered fractures with calcite.

2100 - 2120' Dolomite - grey - slightly brownish - some light streaks, microcrystalline to very fine crystalline, dense, hard, argillaceous, silty, some scattered fractures filled with crystalline calcite.

Ronning 2120' (E-Log 2106')

2120 - 2140' Dolomite - greyish brown - some light streaks, microcrystalline to fine crystalline - some light colored streaks are fine to medium crystalline, tight for the most part, some streaky slight intercrystalline porosity, argillaceous, silty, some streaks of greyish green shale, scattered fractures filled with crystalline calcite - trace of quartz crystals.

2140 - 2150' Dolomite - buff, microcrystalline to very fine crystalline slight intercrystalline porosity, silty, some streaks of greyish green shale, scattered fractures filled with calcite.

2150 - 2160' Dolomite - light greyish brown, microcrystalline to very fine crystalline, streaky, slight intercrystalline porosity, argillaceous, silty, trace of quartz crystals.

2160 - 2190' Dolomite - as above - some light colored streaks - very fine to fine crystalline, streaky intercrystalline porosity, scattered fractures filled with crystalline calcite.

2190 - 2220' Dolomite - very light buff, fine to medium crystalline, poor intercrystalline and vuggy porosity - abundant loose coarse dolomite rhombs - scattered quartz crystals, slightly silty and argillaceous.

2220 - 2230' Dolomite - greyish brown, fine to medium crystalline, slight to poor intercrystalline porosity, argillaceous, scattered quartz crystals.

2230 - 2240' Dolomite - light greyish brown - some dark streaks, fine to medium crystalline, poor intercrystalline and vuggy porosity - scattered dolomite rhombs, scattered quartz crystals, slightly argillaceous, silty.

2240 - 2250' Dolomite - very light buff - fine to medium crystalline, poor intercrystalline and vuggy porosity, scattered dolomite rhombs and quartz crystals.

2250 - 2280' Dolomite - very light greyish brown - fine to medium crystalline, poor intercrystalline & vuggy porosity, scattered dolomitic rhombs and quartz crystals, slightly silty, scattered fractures filled with crystalline calcite.

2280 - 2300' Dolomite - medium dark to dark greyish brown, very fine to medium crystalline, slight intercrystalline and vuggy porosity, scattered dolomite rhombs and quartz crystals, argillaceous and silty.

2300 - 2310' Dolomite - medium greyish brown, fine to medium crystalline - euhedral, slight scattered vuggy porosity, argillaceous, silty, scattered dolomite rhombs, trace of quartz crystals.

2310 - 2320' Dolomite - light to medium greyish brown - as above.

2320 - 2380' Dolomite - greyish brown, very fine to fine crystalline, streaky, slight intercrystalline porosity, argillaceous, silty, scattered quartz crystals.

2380 - 2390' Dolomite - very light buff, fine to medium crystalline, slight intercrystalline porosity, scattered vugs - some coarse dolomite rhombs.

2390 - 2410' Dolomite - very light buff to very light brown, very fine to medium crystalline - euhedral, slight vuggy porosity - scattered coarse dolomite rhombs, streaky slight intercrystalline porosity.

2410 - 2440' Dolomite - medium brownish grey - some light streaks, very fine to fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty, scattered fractures filled with white coarse crystalline secondary dolomite. Some fractures filled with crystalline calcite.

2440 - 2460'	Dolomite - medium to dark brownish grey, very fine to fine crystalline, dense, argillaceous, silty, some scattered loose dolomite rhombs (infilling fractures?)
2460 - 2480'	Dolomite - brownish grey - some dark streaks, as above.
2480 - 2490'	Dolomite - brownish grey, very fine to fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty.
2490 - 2500'	Dolomite - greyish brown, very fine to fine crystalline, dense, argillaceous, silty.
2500 - 2510'	Dolomite - light greyish brown, very fine to fine crystalline, slight intercrystalline porosity, slightly argillaceous, silty, some secondary dolomite
2510 - 2540'	Dolomite - greyish brown, very fine to fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty.
2540 - 2580'	Dolomite - light greyish brown - as above, slight intercrystalline and scattered vuggy porosity, argillaceous, silty, scattered white coarse crystals of dolomite (druses).
2580 - 2590'	Dolomite - very light buff, very fine to medium crystalline, slight intercrystalline porosity, slightly silty.
2590 - 2610'	Dolomite - greyish brown, very fine to fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty.
2610 - 2620'	Dolomite - greyish brown - some dark streaks, very fine crystalline, dense, argillaceous, silty.
2620 - 2700'	Dolomite - greyish brown, very fine to fine crystalline, streaky slight intercrystalline and vuggy porosity - scattered dolomite rhombs, silty, slightly argillaceous, some scattered fractures filled with secondary dolomite.
2700 - 2720'	Dolomite - gr yish brown, microcrystalline to very fine crystalline - streaks of microsucrose with streaky slight intercrystalline porosity, argillaceous, silty.
2720 - 2740'	Dolomite - brownish grey, microcrystalline to very fine crystalline, dense - some light buff microsucrosic streaks with slight intercrystalline porosity - noneffective, silty and sandy, abundant calcite crystals and some dolomite rhombs infilling fractures, trace of quartz crystals.
2740 - 2780'	Dolomite - light buff - microsucrose and light greyish brown - microcrystalline to very fine crystalline; streaky slight intercrystalline porosity - noneffective, silty, argillaceous, some scattered calcite crystals, trace of quartz crystals and dolomite rhombs.

2780 - 2790'	Dolomite - buff, microcrystalline to very fine crystalline, dense, silty.
2790 - 2800'	Dolomite - light greyish brown, microcrystalline to very fine crystalline, tight, silty, some scattered inclusions of calcite crystals, rare quartz crystals.
2800 - 2850'	Dolomite - greyish brown - light streaks, microcrystalline to fine crystalline, tight, silty, some scattered inclusions of calcite crystals.
2850 - 2880'	Dolomite - brownish grey, microcrystalline to fine crystalline, dense for the most part - scattered blind vugs with coarse dolomite druses, silty, slightly argillaceous, some scattered fractures filled with secondary dolomite.
2880 - 2890'	Dolomite - brownish grey, microcrystalline to fine crystalline, dense - scattered vugs partially to completely infilled with secondary dolomite, silty, argillaceous.
2890 - 2910'	Dolomite - buff, microcrystalline to fine crystalline, slight intercrystalline porosity, rare drusy vugs, rare quartz crystals, some loose calcite and secondary dolomite crystals, argillaceous, silty (very fine).
2910 - 2920'	Dolomite - greyish brown, microcrystalline to fine crystalline, dense, rare scattered vugs, argillaceous, silty, loose calcite crystals (fractures?).
2920 - 2940'	Dolomite - as above slight scattered vuggy porosity - secondary dolomite druses.
2940 - 2950'	Dolomite - as above, some light colored streaks and patches, slight vuggy porosity
2950 - 2970'	Dolomite - greyish brown, microcrystalline to fine crystalline - sucrosic in part, streaky slight intercrystalline and scattered vuggy porosity, argillaceous, silty, scattered fractures filled with crystalline calcite, secondary dolomite druses.
2970 - 2990'	Dolomite - as above, numerous fractures indicated by abundant loose white coarse calcite crystals, streaky slight intercrystalline and vuggy porosity, dolomite druses.
2990 - 3000'	Dolomite - greyish brown, microcrystalline to fine crystalline, slight intercrystalline and vuggy porosity, coarse secondary dolomite rhombs partially to completely infilling scattered vugs, trace of quartz crystals, trace of milky chert, argillaceous, silty, some scattered fractures infilled with calcite.
3000 - 3010'	Dolomite - light greyish brown, microcrystalline to fine crystalline, dense, some scattered fractures filled with calcite.
3010 - 3020'	Dolomite - light buff, microcrystalline to fine crystalline, dense, silty, some scattered fractures filled with calcite.

3020 - 3050'	Dolomite - light brownish and greenish grey, microcrystall ne to fine crystalline, dense, fractures filled with calcite, a few vugs with druses of secondary dolomite, some finely disseminated pyrite.
3050 - 3060'	Dolomite - very light greyish brown to buff, microcrystalline to fine & some medium crystalline, slight scattered vuggy porosity - druses of secondary dolomite, some fractures filled with calcite, trace of pyrobitumen.
3060 - 3100'	Dolomite - light greyish brown, very fine to coarse crystalline, slight to poor intercrystalline and vuggy porosity, scattered slightly argillaceous streaks, some scattered pyrite.
3100 - 3120'	Dolomite - very light to light grey - brownish in part, microcrystalline to medium crystalline, dense, a few fractures filled with calcite.
3120 - 3140'	Dolomite - light greyish brown, microcrystalline to coarse crystalline, slight intercrystalline and vuggy porosity, loose dolomite rhombs.
3140 - 3160'	Dolomite - as above, very light buff in part, microcrystalline to coarse crystalline, a few streaks of medium dark brownish grey, very fine crystalline dolomite; a few slightly argillaceous streaks - some pyrite.
3160 - 3190'	Dolomite - very light to light grey - brownish in part, microcrystalline to coarse crystalline, slight intercrystalline and vuggy porosity, trace of green waxy shale, rare scattered glauconite.
3190 - 3210'	Dolomite - very light grey, microcrystalline to coarse crystalline, slight intercrystalline and vuggy porosity, milky & avery light bluish grey chert, trace of quartz crystals, some scattered pyrite.
3210 - 3230'	Dolomite - very light to light brownish grey, microcrystalline to coarse crystalline, slight to poor intercrystalline and vuggy porosity, rare scattered glauconite, silty.
3230 - 3240'	Dolomite - light grey, very fine to coarse crystalline, slight intercrystalline and small vuggy porosity - very good cavernous porosity (kelly dropped five feet) trace of glauconite.
3240 - 3250'	Dolomite - light grey - brownish in part, very fine to coarse crystalline, slight to poor intercrystalline and vuggy porosity, scattered pyrite.
3250 - 3260'	Dolomite - as above, some dark streaks of microcrystalline to very fine crystalline dolomite - silty and argillaceous, some quartz crystals.

3260 - 3280'	Dolomite - light grey - brownish in part, very fine to coarse crystalline, slight intercrystalline and vuggy porosity, siliceous in part, very light grey chert, some quartz crystals, trace of bright green shale, scattered pyrite.
3280 - 3290'	Dolomite - as above, abundant very light grey to milky chert, quartz crystals.
3290 - 3400'	Dolomite - light greyish brown, microcrystalline to coarse crystalline, slight intercrystalline and vuggy porosity - some cavernous porosity at 3380', light grey chert, siliceous in part, quartz crystals, some scattered pyrite.
3400 - 3410'	Dolomite - as above (trip sample)
3410 - 3440'	Dolomite - light greyish brown, very fine to coarse crystalline, scattered slight intercrystalline and vuggy porosity, cherty - light grey.
3440 - 3520'	Dolomite - buff to light greyish brown, as above, a few quartz crystals, cherty.
3520 - 3560'	Dolomite - buff, very fine crystalline to coarse crystalline, scattered slight intercrystalline and vuggy porosity, cherty.
3560 - 3570'	Dolomite - as above and dolomite - medium to dark grey - slightly brownish, microcrystalline to very fine crystalline, dense, argillaceous, streaks of dark grey to black chert, some streaks of sandy dolomite - light grey, very fine crystalline, dense, very silty to sandy (very fine grained) - grading to a dolomitic sandstone, finely disseminated pyrite.
3570 - 3580'	Dolomite - medium to dark grey with light grey silty to sandy streaks as above.
3580 - 3630'	Dolomite - light buff to light greyish brown, very fine to medium crystalline, streaky, slight intercrystalline and vuggy porosity, silty, very light grey chert, some quartz crystals.
3630 - 3650'	Dolomite - light buff, very fine to coarse crystalline, streaky slight intercrystalline and vuggy porosity, silty, some light grey chert, some quartz crystals.
3650 - 3670'	Dolomite - light buff, very fine to coarse crystalline, streaky slight intercrystalline and vuggy porosity, silty.
3670 - 3690'	Dolomite - as above, trace of light grey chert & quartz crystals.
3690 - 3700'	Dolomite - as above, quartz crystals and very light grey chert - faint outline of oolites.
3700 - 3710'	Dolomite - light buff to light greyish brown, very fine to coarse crystalline, streaky slight intercrystalline and vuggy porosity, quartz crystals, trace of very light grey chert.

3710 - 3750' Dolomite - very light buff, as above.

3750 - 3790' Dolomite - very light buff - brownish in part, very fine to coarse crystalline, streaky slight intercrystalline and vuggy porosity, quartz crystals.

3790 - 3800' Dolomite - very light buff, trace of reddish streaks, microcrystalline to medium crystalline, slight to poor intercrystalline porosity, silty, siliceous in part, very light grey to milky chert, quartz crystals.

3800 - 3820' Dolomite - very light grey and buff, very fine to medium crystalline, streaky slight intercrystalline porosity, silty, some quartz crystals, trace of very light grey chert.

3820 - 3850' Dolomite - very light buff - brownish in part, microcrystalline to coarse crystalline, streaky, slight intercrystalline and vuggy porosity, silty, siliceous in part, some very light grey chert & rare streaks of medium to dark grey chert, some quartz crystals.

3850 - 3860' Dolomite - very light grey - brownish in part, very fine to medium crystalline dense, some streaks - greyish brown - microcrystalline to very fine crystalline, argillaceous, silty, tight; trace of milky and medium to dark grey chert - banded in part.

3860 - 3880' Dolomite - as above, some very light grey chert, some quartz crystals.

3880 - 3890' Dolomite - very light grey - slightly brownish in part, microcrystalline to medium crystalline, dense, silty, siliceous in part, some chert - light to very light grey, quartz crystals.

3890 - 3920' Dolomite - very light grey - slightly brownish in part, microcrystalline to medium crystalline, dense, silty, very cherty - very light grey (faint outline of oolites) siliceous in part, quartz crystals, trace of gypsum crystals.

3920 - 3950' Dolomite - as above - chert becoming slightly darker in color.

3950 - 3970' Dolomite - light greyish brown, microcrystalline to medium crystalline, dense, silty, abundant very light grey to very light greyish brown oolitic chert, some loose calcite crystals.

3970 - 3990' Dolomite - very light greyish brown, microcrystalline to medium crystalline, dense, silty, very light grey chert, some quartz crystals.

3990 - 4020' Dolomite - very light buff, microcrystalline to fine crystalline, streaky slight intercrystalline porosity, silty, some light colored chert - oolitic in part, quartz crystals.

4020 - 4040'	Dolomite - very light buff, microcrystalline to fine crystalline, streaky slight intercrystalline porosity, silty, some light colored chert, some quartz crystals.
4040 - 4090'	Dolomite - very light buff, microcrystalline to medium crystalline, slight intercrystalline porosity - dense streaks, some very light grey chert, some quartz crystals.
4090 - 4120'	Dolomite - very light buff to very light greyish brown, microcrystalline to medium crystalline, some medium greyish brownish streaks - microcrystalline to very fine crystalline, slightly argillaceous, silty; streaky - slight intercrystalline porosity, slightly cherty - oolitic in part, some quartz crystals.
4120 - 4180'	Dolomite - very light to medium greyish brown, microcrystalline to fine crystalline, dense, silty, argillaceous streaks, some very light grey chert, some quartz crystals, some loose calcite crystals.
4180 - 4210'	Dolomite - very light to medium greyish brown, microcrystalline to fine crystalline, dense, silty, argillaceous streaks, cherty - very light grey to dark grey, some loose calcite crystals, some quartz crystals.
4210 - 4230'	Dolomite - as above - abundant quartz crystals, slight vuggy porosity.
4230 - 4280'	Dolomite - very light to medium greyish brown, microcrystalline to fine crystalline, streaky slight intercrystalline porosity, silty, argillaceous streaks, quartz crystals, some cherty streaks - very light brownish grey to dark grey.
4280 - 4290'	Dolomite - very light grey - slightly brownish - some dark streaks, microcrystalline to fine crystalline, dense ,for the most part, some scattered small vugs, silty, quartz crystals.
4290 - 4300'	Dolomite - brownish grey - light streaks, microcrystalline to fine crystalline, streaky slight intercrystalline porosity, silty, argillaceous streaks, quartz crystals, some very light to dark grey chert.
4300 - 4370'	Dolomite - grey - very light in part - slightly brownish, microcrystalline to fine crystalline, slight streaky intercrystalline porosity, silty, argillaceous in part, slightly cherty, few quartz crystals.
4370 - 4390'	Dolomite - as above, few partings of dark grey shale.
4390 - 4430'	Dolomite - very light buff, microcrystalline to medium crystalline, slight intercrystalline porosity, trace of scattered vugs, silty, pyritic in part, trace of light colored chert and quartz crystals.

4430 - 4490'	Dolomite - very light to light grey, slightly brownish, some dark streaks, microcrystalline to coarse crystalline, streaky slight intercrystalline porosity, silty, slightly cherty, some scattered pyrite, some scattered partings of greyish green shale and dark grey shale - bituminous in part.
4490 - 4500'	Dolomite - medium brownish grey - some light streaks microcrystalline to medium crystalline, tight, silty, argillaceous, rare light colored chert & quartz crystals, scattered pyrite.
4500 - 4510'	Dolomite - very light grey - brownish - some dark streaks microcrystalline to medium crystalline, slight intercrystalline porosity, silty, argillaceous streaks, some quartz crystals, scattered pyrite, trace of shale partings.
4510 - 4540'	Dolomite - very light greyish brown, very fine to coarse crystalline, streaky slight intercrystalline and vuggy porosity, slightly cherty - oolitic in part, some quartz crystals.
4540 - 4550'	Dolomite - as above - some darker colored streaks.
4550 - 4570'	Dolomite - greyish brown - microcrystalline to fine crystalline, tight, argillaceous, silty, some partings of dark grey shale, some scattered pyrite.
4570 - 4580'	Dolomite - brownish grey, microcrystalline to fine crystalline, tight, silty.
4580 - 4650'	Dolomite - greyish brown, microcrystalline to fine crystalline, tight, silty, argillaceous, some partings of dark grey and black bituminous shale.
4650 - 4670'	Dolomite - light brownish grey, microcrystalline to fine crystalline, tight, silty, slightly argillaceous.
4670 - 4720'	Dolomite - light to medium greyish brown, microcrystalline to fine crystalline, tight, silty, argillaceous, some scattered fractures filled with crystalline calcite, scattered shale partings.

4720 - 4740'	Dolomite - very light grey to greyish brown - rare reddish streaks, microcrystalline to coarse crystalline, slight vuggy and intercrystalline porosity, silty, argillaceous streaks, some dark grey shale partings - some dark reddish coloration, trace of light grey chert and quartz crystals.
4740 - 4770'	Dolomite - greyish brown, microcrystalline to fine crystalline, tight, silty, argillaceous, some partings of black bituminous shale and dark grey shale.
4770 - 4780'	Dolomite - light to medium greyish brown - some streaks of very light grey, microcrystalline to fine crystalline, streaky - slight intercrystalline porosity, shale partings - dark grey - some rare purple streaks.
4780 - 4800'	Dolomite - greyish brown, microcrystalline to fine crystalline tight, silty, argillaceous.
4800 - 4810	Dolomite - as above - some dolomite - very light grey to brownish grey, microcrystalline to coarse crystalline, slight intercrystalline and vuggy porosity - dense streaks, silty, argillaceous in part, rare quartz crystals.
4810 - 4830'	Dolomite - very light grey, microcrystalline to very fine crystalline, streaky slight intercrystalline porosity silty (very fine).
4830 - 4840'	Dolomite - very light to medium greyish brown, microcrystalline to medium crystalline, streaky slight intercrystalline porosity, silty, argillaceous in part.
4840 - 4850'	Dolomite - very light grey - slightly brownish - some dark streaks, microcrystalline to medium crystalline, slight intercrystalline porosity, slightly argillaceous in part.
4850 - 4860'	Dolomite - as above - increase in darker streaks, streaky, slight intercrystalline porosity, argillaceous in part.
4860 - 4880'	Dolomite - medium to dark brownish grey, microcrystalline to very fine crystalline, tight, argillaceous, silty, some partings of dark grey shale.
4880 - 4920'	Dolomite - light to medium greyish brown, microcrystalline to medium crystalline, streaky - slight intercrystalline porosity, silty, argillaceous in part, partings of dark grey shale.
4920 - 4930'	Dolomite - greyish brown - some dark streaks, microcrystalline to fine crystalline, tight, silty, argillaceous.
4930 - 4980'	Dolomite - light to medium greyish brown, microcrystalline to medium crystalline, streaky - slight intercrystalline porosity, silty, argillaceous in part, scattered partings of dark grey shale.

4980 - 5010'	Dolomite - as above, microcrystalline to fine crystalline.
5010 - 5030'	Dolomite - very light buff, microcrystalline to fine crystalline, slight intercrystalline porosity, some scattered argillaceous streaks.
5030 - 5050'	Dolomite - as above - some greyish brown streaks, a band of slightly greenish grey dolomite - microcrystalline to very fine crystalline, silty, dense.
5050 - 5060'	Dolomite - very light grey - brownish in part to greyish brown, microcrystalline to fine crystalline, streaky slight intercrystalline porosity, some silty and argillaceous streaks.
5060 - 5070'	Dolomite - as above - partings of black bituminous shale.
5070 - 5110'	Dolomite - very light grey to greyish brown, microcrystalline to fine crystalline, trace of slight intercrystalline porosity, silty and argillaceous streaks, trace of dark grey chert at 5090'
5110 - 5140'	Dolomite - very light grey - brownish in part to light greyish brown, microcrystalline to very fine and some fine crystalline, tight, trace of very light grey to light brown chert at the top.
5140 - 5150'	Dolomite - light to medium grey - some dark streaks - brownish in part, microcrystalline to fine crystalline, tight, silty and argillaceous, trace of very thin streaks of very light grey chert.
5150 - 5180'	Dolomite - very light brownish grey to greyish brown, microcrystalline to very fine crystalline, tight, silty.
5180 - 5220'	Dolomite - very light grey - slightly brownish in part, microcrystalline to very fine crystalline, dense, silty.
5220 - 5230'	Dolomite - as above - greyish brown in part, some partings of dark grey shale.
5230 - 5240'	Dolomite - greyish brown - very light in part - dark in part, microcrystalline to very fine crystalline, tight, silty, slightly argillaceous in part.
5240 - 5280'	Dolomite - greyish brown, microcrystalline to fine crystalline, trace of slight intercrystalline porosity, silty, argillaceous.
5280 - 5300'	Dolomite - very light buff - some greyish brown, microcrystalline to fine crystalline, trace of slight intercrystalline porosity, silty, some partings of black bituminous shale.
5300 - 5310'	Dolomite - very light grey to greyish brown, microcrystalline to very fine crystalline, tight, silty, argillaceous streaks.

5310 - 5340'	Dolomite - very light grey, very fine crystalline, slight intercrystalline porosity, silty.
5340 - 5350'	Dolomite - medium to dark brownish grey, microcrystalline to very fine crystalline, tight, argillaceous, silty.
5350 - 5370'	Dolomite - as above - some light brownish grey.
5370 - 5450'	Dolomite - very light to medium grey - brownish in part, microcrystalline to very fine crystalline, dense, silty, some partings of black bituminous shale and dark grey shale.
5450 - 5480'	Dolomite - light grey - grey, microcrystalline, dense, silty, some partings of greenish grey and black bituminous shale.
5480 - 5500'	Dolomite - as above, some rare faint reddish streaks.
5500 - 5520'	Dolomite - light to dark grey, brownish, microcrystalline to very fine crystalline, dense, silty, argillaceous streaks, scattered shale partings, trace of quartz crystals.
5520 - 5580'	Dolomite - light to dark grey, microcrystalline to very fine crystalline, dense, few scattered blind vugs, banded in part, silty, argillaceous in part, trace of inclusions of gypsum, some partings of black bituminous shale.
5580 - 5590'	Dolomite - medium to dark grey, microcrystalline to very fine crystalline, dense, silty, argillaceous, some thin interbeds of dark grey and greenish grey shale - hard, brittle, dolomitic.
5590 - 5620'	Dolomite - light to medium grey - brownish in part, microcrystalline to very fine and some fine crystalline, dense, argillaceous, silty, some scattered pyrite, interbedded greenish grey dolomitic shale, trace of gypsum crystals.
5620 - 5630'	Dolomite - as above, streaks of very light grey dolomite - microcrystalline to very fine crystalline - chalky in part.
5630 - 5640'	Dolomite - light to medium greyish brown - rare reddish streaks, microcrystalline to very fine crystalline, dense, silty, argillaceous, some thin interbeds of greenish grey dolomitic shale.
5640 - 5650'	Dolomite - as above; dolomite - light grey - reddish streaks, dense, argillaceous, trace of floating quartz grains. Shale - greenish grey and maroon.
5650 - 5660'	Dolomite - light brownish grey, microcrystalline, dense.
5660 - 5670'	Dolomite - brownish grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, thin interbedded greenish grey shale.

Cambrian 5675' (E-Log 5665')

5670 - 5710'	Dolomite - reddish and greenish grey, microcrystalline to very fine crystalline, dense, very silty, argillaceous Shale - maroon and greyish green, hard, blocky, micromicaceous.
5710 - 5730'	Dolomite - pink to red, and greenish grey, microcrystalline to very fine crystalline - chalky in part, silty, argillaceous, a trace of anhydrite. Shale - maroon and greyish green, blocky, micromicaceous.
5730 - 5740'	Shale - maroon, fissile to blocky, micromicaceous, some streaks of dolomite.
5740 - 5760'	Shale - maroon & greyish green, fissile to blocky, micromicaceous. Dolomite - very light grey - pink & brownish in part tight, microcrystalline to very fine crystalline, silty, some sandy streaks, trace of quartzite.
5760 - 5780'	Dolomite - grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, some sandy streaks. Shale - maroon and green, micromicaceous.
5780 - 5800'	Shale - greenish grey - some maroon streaks, fissile to blocky, micromicaceous, some streaks of dolomite.
5800 - 5820'	Shale - as above Dolomite - grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, trace of quartz crystals, trace of gypsum.
5820 - 5850'	Dolomite - as above. Shale - greenish grey & maroon, fissile to blocky, micromicaceous.

Salt 5850' (E-Log 5842')

5850 - 5890'	Salt - with shaly streaks, thin interbeds and streaks of dolomite, some slightly brownish grey anhydrite (salt not recovered in samples)
5890 - 5910'	Samples Missing - no recovery.
5910 - 5920'	Dolomite - grey, microcrystalline to very fine crystalline, dense, pelletoid in part, silty, some streaks of maroon and greyish green shale. Salt -(no recovery in samples)
5920 - 6080'	Salt -(no recovery - except 6080' sample) thin interbeds and streaks of dolomite, shale laminae, minor anhydrite and gypsum.

Base of Salt 6084' (E-Log 6087')

6080 - 6090'	Salt - (no recovery) Dolomite - grey, microcrystalline, dense, earthy in part, silty some scattered salt casts.

6090 - 6100'	Dolomite - grey - slightly brownish, microcrystalline - earthy for the most part, tight, argillaceous, silty, some scattered salt casts.
6100 - 6110'	Shale - greyish green - fine white specks, fissile to blocky, micromicaceous, slightly dolomitic, some fine veins of gypsum.
6110 - 6120'	Shale - medium grey - trace of white specks, brittle, micromicaceous, slightly dolomitic, some streaks of dolomite - light grey, microcrystalline to very fine crystalline, tight.
6120 - 6150'	Shale - medium grey - some greyish green and reddish streaks, brittle, micromicaceous, slightly dolomitic, some streaks of dolomite - grey to brownish grey and pink to reddish grey, microcrystalline to very fine crystalline, tight - silty and sandy streaks.
6150 - 6170'	Shale - with interbedded dolomite as above - ochre cast in part.
6170 - 6190'	Shale - greenish and brownish grey, brittle, micromicaceous, some interbedded dolomite - light grey to greenish and reddish grey, very fine to fine crystalline, dense, silty and sandy streaks, trace of floating quartz grains.
6190 - 6210'	Dolomite - medium to dark grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, shale streaks, very cherty - milky and brownish grey - oolitic in part, trace of quartzite, trace of gypsum crystals.
6210 - 6220'	Dolomite - brownish grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, some shale streaks, some inclusions of anhydrite and gypsum (also infilling fine fractures).
6220 - 6270'	Dolomite - medium grey, microcrystalline to fine crystalline, dense, very argillaceous, silty, shale streaks, pyritic in part, scattered blebs of anhydrite, few gypsum crystals, trace of salt casts.
6270 - 6280	Dolomite - as above Shale - medium grey and greenish grey, fissile to blocky, micromicaceous, slightly dolomitic.
6280 - 6320'	Dolomite - medium grey, microcrystalline to very fine and some fine crystalline, dense, very argillaceous, very shaly, silty, few scattered blebs of anhydrite, trace of gypsum.
6320 - 6330'	Dolomite - as above - some lighter brownish streaks.
6330 - 6380'	Dolomite - medium to dark grey, microcrystalline, dense, very argillaceous and silty, shaly streaks, scattered blebs of anhydrite, trace of salt casts.
6380 - 6390'	Dolomite - medium grey - slight greenish cast, microcrystalline to very fine crystalline, dense, very argillaceous

6380 - 6390' (cont'd)	and silty, shaly, some anhydrite and gypsum.
6390 - 6410'	Dolomite - grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, shale streaks, scattered glauconite, pyritic in part, scattered blebs and thin interbeds of anhydrite.
6410 - 6420'	Dolomite - medium to dark brownish grey, very fine to fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty, shale streaks, glauconite & pyrite. Proterozoic 6420' (E-Log 6428')
6420 - 6440'	Dolomite - very light grey - brownish - greenish - pinkish in part, microcrystalline to very fine crystalline - chalky in part, streaky slight intercrystalline porosity, some scattered quartz crystals, pyritic in part, glauconitic in part, some blebs and thin streaks of anhydrite, sandy streaks, thin cherty streaks, trace of oolitic texture, some streaks of maroon and green shale.
6440 - 6450'	Dolomite - as above; dolomite - light greyish brown, microcrystalline to very fine crystalline, dense.
6450 - 6470'	Dolomite - very light grey to light greyish brown - some reddish streaks and patches, microcrystalline to fine crystalline, streaky, slight intercrystalline porosity, trace of oolitic texture, scattered inclusions of gypsum crystals, scattered pyrite.
6470 - 6490'	Dolomite - as above; dolomite - medium dark brownish grey, microcrystalline to fine crystalline, dense, argillaceous, streaks of greenish grey shale, silty, sandy streaks, glauconitic, inclusions of gypsum.
6490 - 6520'	Dolomite - greyish brown some scattered red spots and patches, microcrystalline to very fine crystalline, dense, slightly pyritic in part, some inclusions of gypsum & dolomite rhombs, some blebs of anhydrite, silty and sandy, trace of chert.
6520 - 6530'	Dolomite - as above - increase of red patches & streaks.
6530 - 6590'	Dolomite - greyish brown with red streaks and patches, as above.
6590 - 6620'	Dolomite - light to medium greyish brown, a few reddish streaks microcrystalline to very fine crystalline, dense, silty, slightly cherty, some dolomite rhombs, siliceous streaks, trace of salt casts, trace of quartz crystals.
6620 - 6640'	Dolomite - greyish brown - pink to reddish patches - some dark streaks, microcrystalline to very fine crystalline, dense, silty, trace of quartz crystals, some dolomitic rhombs lining and infilling scattered vugs, streaks of greenish grey and some maroon shale, trace of light grey anhydrite, trace of oolitic texture.

6640 - 6650' Dolomite - as above - fewer reddish patches.

6650 - 6670' Dolomite - light brownish grey to greyish brown - some reddish patches, microcrystalline to fine crystalline, dense, slightly silty, cherty - smoky to light greyish brown, some streaks of medium brownish grey dolomite with granules of glauconite. Some dolomite rhombs, some scattered pellets of medium brownish grey dolomite.

6670 - 6710' Dolomite - light brownish grey to greyish brown - some pink and red streaks, microcrystalline to fine crystalline, dense, slightly silty, trace of quartz crystals, some dolomite rhombs, trace of light brownish grey anhydrite, some interbedded greyish green shale, some partings of black bituminous shale.

6710 - 6730' Dolomite - very light grey to greyish brown - pink and red streaks and patches, microcrystalline to fine crystalline, dense, few scattered vugs partially to completely infilled with secondary dolomite, some shale streaks, trace of salt casts.

6730 - 6740' Dolomite - very light grey to light and dark greyish brown, some pink and red streaks, microcrystalline to fine crystalline, dense, scattered blind vugs partially to completely infilled with secondary dolomite, silty, argillaceous streaks & shale streaks, trace of anhydrite, trace of salt casts, trace of green siltstone.

6740 - 6840' Dolomite - very light to medium greyish brown - pink to red streaks and patches, microcrystalline to very fine crystalline, dense, silty, some secondary dolomite infilling vugs, trace of anhydrite, trace of quartz crystals, slightly cherty - greyish brown, some streaks of greyish green shale & dull grey soft shale, some thin streaks of greyish brown anhydrite, trace of salt casts, brecciated in part (along edge of infilled fractures), trace of gypsum, trace of faint pellets.

6840 - 6860' Dolomite - as above - trace of green siltstone, slight increase in salt casts.

6860 - 6870' Dolomite - very light to medium greyish brown - pink to red streaks and patches - some dark greyish brown - argillaceous streaks, microcrystalline to fine crystalline, dense, silty, secondary dolomite, streaks of anhydrite and gypsum, trace of quartz crystals.

6870 - 6890' Dolomite - very light buff - brown, pink and red in part, microcrystalline to fine crystalline, dense, slightly silty, secondary dolomite infilling vugs, streaks of anhydrite and gypsum, streaks of dull grey, soft shale, scattered salt casts.

6890 – 6910' Dolomite – light to medium greyish brown – pink to red streaks and patches – as above.

6910 – 6920' Dolomite – as above – granular in part with streaky slight intercrystalline porosity.

6920 – 6950' Dolomite – dense, as above.

6950 – 6960' Dolomite – very light to medium greyish brown – some dark streaks – pink to red streaks and patches, microcrystalline to fine crystalline, dense, trace of oölites, some argillaceous streaks, white medium crystalline secondary dolomite rhombs infilling vugs, abundant shaly streaks – dull grey to medium dark grey and some greyish green, some salt casts, trace of anhydrite & gypsum, some scattered fractures infilled with dolomite.

F.T.D. -- 6961'

DRILL STEM TEST REPORT

Company: CanDel Oil Company — Drill Stem Test No. 1

Name of Well: CanDel Mobil et al Iroquois I-11-67-50-129-30 — Date Test Run: May 2, 1972

Testing Company: B.J. Services — Operator: Mel Moscrip

Type Packer: Bob Tail — Size Packer(s): 7 1/2" — Choke: 1/2"

Interval Tested: 900' to 1010' — Formation: Gossage (Bear Rock)

Test Data: Preflow: Time Tool Opened 7:33 a.m. Time Tool Closed 7:38 a.m. (elapsed) 5 mins.

Initial shut in: Time ~~Packer Set~~ Tool Closed 7:38 a.M. Time Tool Opened 8:38 a.M. (elapsed) 60 mins.

Flow Period: Time Tool Opened 8:38 a.M. Time Tool Closed 10:08 a.M. (elapsed) 90 mins.

Final shut in: Time Tool Closed 10:08 a.M. Time Tool Pulled 11:38 a.M. (elapsed) 90 mins.

Tight Hole Test: Yes ____ No X — Size of Chamber ____

Water Cushion: No — Type of Hole: (Rathole) (Fullhole) (Cased)

T.D. Driller: 1010' — T.D. Tester: 1010' — Was Test A Misrun: No

Cause of Misrun: ____

Flow Data:

Description of Initial Blow: Weak initial puff - weak air blow

Did Blow die or Decrease: died in 15 minutes

Gas Flow To Surface In ____ mins. — Initial Gas Flow ____ MCF/Day

Stabilized Gas Flow ____ MCF/Day — Measured by: (Test) (Impact) (Side Static)

Time For Gas Flow to Stabilize ____ mins. — Gas Description: (Sweet) (Sour) (Dry) (Wet)

Gas Sample Saved After ____ mins. — Fluid To Surface In ____ mins.

Fluid Description: ____

Nature of Flow: ____

Remarks: ____

Recovery:

Total fluid in (size) Collars (2-7/8"ID) 447' OD drill pipe: (3½"I.F.) 443 feet Total 890' ~~barrels~~

(describe fluid) ____ Oil: ____ feet ____ barrels

90' fresh water & 800' sulphurous fresh Water: ____ feet ____ barrels

Mud: ____ feet ____ barrels

Saved Samples At: Top ft. Middle ft. Top ft. above the test tool of

Weight of mud before test ____ lbs./gal.: Chloride content ____ ppm

Weight of mud recovered ____ lbs./gal.: Chloride content ____ ppm

Weight of water recovered ____ lbs./gal.: Chloride content ____ ppm

Oil Recovered: ____ °API Color ____ Smell ____

Pressure Data: Recorder No. 5773 Top @ 882'

Initial Hydrostatic: (Office) ____ (Field) 385 psi Final: (Office) ____ (Field) 385 psi

Initial Shut In Pressure ____ 355 psi Final: ____ 355 psi

Initial Flow Pressure ____ 40 psi Final: ____ 315 psi

Well Bore Temp: 80 °F — Bomb Capacity: Top 1100 Bottom 1200

Engineer: T.A.D. Haddow

DRILL STEM TEST REPORT

Company: CanDel Oil Company — Drill Stem Test No. 2

Name of Well: CanDel Mobil et al Iroquois I-11-67-50-129-30 — Date Test Run: May 5, 1972

Testing Company: B.J. Services — Operator: Mel Moscrip

Type Packer: Bob Tail — Size Packer(s): 7 1/2" — Choke: 1/2"

Interval Tested: 2121' to 2261' — Formation: Ronning

Test Data: reflow: Time Tool Opened 4:15 p.m. Time Tool Closed 4:20 p.m. (elapsed) 5 mins.

Initial shut in: Time Packers set Tool Closed 4:20 p.m. M. Time Tool Opened 4:50p.M. (elapsed) 30 mins.

Flow Period: Time Tool Opened 4:50 PM. Time Tool Closed 5:50p.M. (elapsed) 60 mins.

Final shut in: Time Tool Closed 5:50 PM. Time Tool Pulled 6:50p.M. (elapsed) 60 mins.

Tight Hole Test: Yes ____ No X Size of Chamber ____

Water Cushion: No — Type of Hole: (Rathole) (Fullhole) (Cased)

T.D. Driller: 2261' — T.D. Tester: 2261' — Was Test A Misrun: No

Cause of Misrun: ____

Flow Data:

Description of Initial Blow: Weak I.P. Weak A.B.

Did Blow die or Decrease: decreased slightly throughout

Gas Flow To Surface In ____ mins. Initial Gas Flow ____ MCF/Day

Stabilized Gas Flow ____ MCF/Day Measured by: (Test) (Impact) (Side Static)

Time For Gas Flow to Stabilize ____ mins. Gas Description: (Sweet) (Sour) (Dry) (Wet)

Gas Sample Saved After ____ mins. Fluid To Surface In ____ mins.

Fluid Description: ____

Nature of Flow: ____

Remarks: ____

Recovery:

Total fluid in (size) Drill Collars (2-7/8"ID) 447' OD drill pipe: (3½"I.F.) 853 feet Total 1300' barrels

(describe fluid) ____ Oil: ____ feet ____ barrels

90' fresh water and 1210' sulphurous fresh Water: ____ feet ____ barrels

____ Mud: ____ feet ____ barrels

Saved Samples At: Top ft. Middle ft. Top ft. of above the test tool

Weight of mud before test ____ lbs./gal.: Chloride content ____ ppm

Weight of mud recovered ____ lbs./gal.: Chloride content ____ ppm

Weight of water recovered ____ lbs./gal.: Chloride content ____ ppm

Oil Recovered: ____ °API Color ____ Smell ____

Pressure Data: Recorder No. 5979 Bottom-2138'

Initial Hydrostatic: (Office) ____ (Field) 915 Final: (Office) ____ (Field) 915

Initial Shut In Pressure ____ 890 Final: ____ 890

Initial Flow Pressure ____ 190 Final: ____ 610

Well Bore Temp: 84 °F Bomb Capacity: Top 1100# Bottom 1200#

Engineer: T.A.D. Haddow

DRILL STEM TEST REPORT

Company: CanDel Oil Company — Drill Stem Test No.: 3

Name of Well: CanDel Mobil et al Iroquois I-11-67-50-129-30 — Date Test Run: June 2, 1972

Testing Company: B.J. Services — Operator: Leo Penner

Type Packer: Bob Tail — Size Packer(s): 7 1/2" — Choke: 1/2"

Interval Tested: 3200' to 3614' — Formation: Ronning

Test Data:

Preflow: Time Packer set: 9:20 p.m. Time Tool Opened: 9:25 p.m. (elapsed) 5 mins.

Initial shut in: Time Packer set 9:30p.M. Time Tool Opened 10:00p.M. (elapsed) 30 mins.

Flow Period: Time Tool Opened 10:00p.M. Time Tool Closed 12:00p.M. (elapsed) 120 mins.

Final shut in: Time Tool Closed 12:00p.M. Time Tool Pulled 4:00a.M. (elapsed) 240 mins.

Tight Hole Test: Yes ____ No ____ Size of Chamber ____

Water Cushion: no — Type of Hole: (Rathole) (Fullhole) (Cased)

T.D. Driller: 3614' (plug back) — T.D. Tester: 3614' — Was Test A Misrun: No

Cause of Misrun: ____

Flow Data:

Description of Initial Blow: Fair air blow

Did Blow die or Decrease: died in 120 minutes

Gas Flow To Surface In ____ mins. — Initial Gas Flow ____ MCF/Day

Stabilized Gas Flow ____ MCF/Day — Measured by: (Test) (Impact) (Side Static)

Time For Gas Flow to Stabilize ____ mins. — Gas Description: (Sweet) (Sour) (Dry) (Wet)

Gas Sample Saved After ____ mins. — Fluid To Surface In ____ mins.

Fluid Description: ____

Nature of Flow: ____

Remarks: Did not get sample of recovery as pump-through-feature sheared, however 3 quarts of sw recovered from bottom hole sampler (175,000 ppm of salt)

Recovery:

Total fluid in (size) Collars (2-7/8"ID) 450' — OD drill pipe: (3½"I.F.) 2370' feet — Total 2820' barrels

(describe fluid) ____ Oil: ____ feet ____ barrels

____ Water: ____ feet ____ barrels

____ Mud: ____ feet ____ barrels

Saved Samples At: ____ ft. ____ ft. ____ ft. above the test tool

Weight of mud before test ____ lbs./gal.: Chloride content ____ ppm

Weight of mud recovered ____ lbs./gal.: Chloride content ____ ppm

Weight of water recovered ____ lbs./gal.: Chloride content ____ ppm.

Oil Recovered: ____ °API Color ____ Smell ____

Pressure Data: Recorder No. 3689 Top @ 3468'

Initial Hydrostatic: (Office) ____ (Field) 1660 — Final: (Office) ____ (Field) 1650

Initial Shut In Pressure ____ 1340 — Final: ____ 1340

Initial Flow Pressure ____ 490 — Final: ____ 1340

Well Bore Temp: 68 °F — Bomb Capacity: Top ____ Bottom ____

Engineer: T.A.D. Haddow

CASING REPORT

Well CanDel Mobil et al Iroquois I-11 Date April 29, 1972

Type of Casing String: (surface) (intermediate) (production) (liner) (other)

Drilling Contractor Nabors Rig #8

PIPE DATA

Make of Casing Mannesmann

Type: (seamless) (welded) Size ____ No. of Joints ____

Weight 36# Grade J-55 Range 3 Threads ST & C

Couplings: (short) (long) Minimum I.D. 9-5/8" Maximum O.D. ____

Casing Shoe: make ____ type ____ depth ____ ft.

Cementing Collar: make ____ type ____ depth ____ ft.

Centralizers: No. ____ Make and Type ____

Depths ____

Scratchers: No. ____ Make and Type ____

Depths ____

Welding: (electric) (acetylene) No. of Collars? ____ Casing Shoe? ____

Total amount casing run	724.91 ft.	Kelly Bushing elevation	418 ft.
Amount pipe above K.B.	20.91 ft.	K.B. to Rotary Table	ft.
Depth Casing Shoe landed	704 ft.	R.T. to Derrick Floor	ft.
Top of casing below K.B.	ft.	D.F. to Ground Level	ft.
Amount of casing in hole	ft.	Ground Level elevation	400 ft.
Length of Landing Joint	ft.	G.L. to (casing bowl) to (casing collar)	ft.
Length of Cut off Joint	ft.	Csg. Bowl Flange Elev.	ft.
Length of Shoe Joint overall	ft.	K.B. to top of casing	ft.

CEMENTING DATA

Time Hole Open Before Casing Started in Hole ____ hrs.

Casing Started in Hole ____ M. Casing in ____ M. (elapsed) ____ hrs.

Circulating: Started ____ M. Finished ____ M. (elapsed) ____ hrs.

Mixing Cement: Started ____ M. Finished ____ M. (elapsed) ____ min.

Displacing: Started ____ M. Plug Down 12:04 p.M. (elapsed) ____ min.

Maximum Displacement Pressure ____ psi. Final Pressure ____ psi.

Plug Displaced to ____ ft. Displacement Fluid: (mud) (water) (other)

Method of Displacement with water

Method of Cementing ____

Amount Cement Used 350 Sacks. Average Cement Slurry Weight ____ lbs./gal.

Kind of Cement: (Canadian) (American) (bulk) (sack): Weight per sack ____ lbs.

Estimated Amount Cement Returns 16 bbls. sacks. Time Cement to Set ____ hrs.

Was Pipe Worked During Circulating? ____ Cementing? ____ How Long ____

Additives to Cement ____

Cementing Company B-J Service Operator Mel Moscrip

Casing Landed in ____ hrs. Well Head Make ____

Remarks

See summary of Well Data for information on conductor pipe.

Signed ____

BIT RECORD

Well: CanDel Mobil et al Iroquois I-11-67-50-129-30

Date Spudded: 2:30 a.m. April 25, 1972 Date Finished Drilling: May 28, 1972

Bit No.	Size	Make & Type	Serial	Depth In	Depth Out	Footage	Hours	Condition
1A	8-3/4	HW OSC 3J	23593	60	127	67	7½	3-2-1
2A	8-3/4	Smith DT2	37621	127	424	307	16¼	5-2-1
3A	8-3/4	HW ODV	14702	424	750	326	25½	3-6-1
4A RR	8-3/4	Smith DT2	37621	750	819	69	5¼	
5A	12¼	Reamer	845-P	78	704	626	20½	4-8-1
6	8-3/4	HW ODV	16694	819	1010	191	10	6-5-1
7	8-3/4	HW X55R	38833	1010	2141	1131	50 3/4	8-7-1
8	8-3/4	HW RRG2BX	WF216	2141	2261	120	10	6-5-1
9 RR	8-3/4	HW RRG2BX	WF216	2261	2671	410	32½	2-3-1
10	8-3/4	HW RRG2BX	ZL998	2671	3403	732	50 3/4	7-6-1
11	8-3/4	HW RRG2BX	WF001	3403	3815	412	24 3/4	4-4-1
12	8-3/4	HW RGIX	NB121	3815	4445	630	36½	4-8-1
13	8-3/4	HW RRGIX	RT487	4445	4946	501	36½	6-8-1
14	8-3/4	HW J-88	HH341	4946	5484	538	44	6-4-1
15	8-3/4	HW RRG1	DP954	5484	5628	144	26½	6-8-1
16	8-3/4	HW X55R	37892	5628	6119	491	45	6-8-1
17	8-3/4	HW X55R	38291	6119	6285	166	26	6-8-1
18	8-3/4	HW WD7	40025	6285	6350	65	13	6-5-1
19	8-3/4	HW X55R	31208	6350	6500	150	28½	6-8-1
20	8-3/4	HW X55R	38288	6500	6923	181	22	7-8-1
21	8-3/4	HW WD7	38284	6923	6961	38	4 3/4	2-2-1

DAILY MUD RECORD

Date 1972	Depth Feet	Weight #/ Gal.	Viscosity Seconds	Water Loss 15 min. C.C.	Filter Cake 32nds	Ph.	Remarks and Additives: Gel	Rapi drill	Lost Circulation Material	Caustic	Salt	Remarks & Misc.
April 25	120	8.4	52				7000#					Spud at 2:30 a.m.
26	391		67				500#					
27	662		53				1000#					
28	819											Reaming surface hole
29	819											Running Csg.
30	819											W.O.C.
May 1	819											W.O.C.
2	1010	8.4	27					24#				
3	1356	8.4	28					20#				
4	1930	8.4	28					20#				
5	2222	8.4	28									
6	2373	8.4	28					8#				
7	2630	8.4	28					12#				
8	2872	8.4	28					16#				
9	3205	8.4	28					16#				
10	3403	8.4	28					20#	Fibre Seal 6 Sx.			Partial lost circulation at 3403'
11	3763	8.4	28					8#				
12	4090	8.4	28					12#				
13	4420	8.4	28						Sawdust 15 Sx.			Losing fluid to formation.
14	4686	8.4	28					4#	Sawdust 30 Sx.			
15	4946	8.4	28						(Sawdust 12 Sx (Fibre Seal 8 Sx (Quick Seal 6 Sx			
16	5214	8.4	28				4000#		(Fibre Seal 15 Sx (Quick Seal 11 Sx (Sawdust 14 Sx	300		
17	5468	8.5	32			10.5	3900#		(Sawdust 50 Sx (Cotton (Hulls 75 Sx (Quick Seal 25 Sx (Cell-O-Seal 25 Sx	100	8000	Fluid loss 10 - 12 bbls. per hour.
18	5571	9.6	31			10.5			(Cotton (Hulls 6Sx (Fibre Seal 2 Sx (Cell-O-Seal 12 Sx	100	4000	Inhibitor 10 gal. DeFoamer 7 gal.
19	5668	9.7	31			10.5			Cell-O-Seal 2 Sx	300	3600	Inhibitor 5 gal DeFoamer 2 gal
20	5882	9.7	30		2				Cell-O-Seal 10 Sx Fibre Seal 6 Sx	250	19,000	Losing 8 bbls. per hour.
21	6128	10.4	30								43,000	Inhibitor 4 gal.
22	6280	10.4	30			10.5				150	18,000	DeFoamer 2 gal
23	6350	10.3	30								10,000	
24	6429	10.3	30							200	12,000	Inhibitor 7 gal
25	6570	10.3	31								10,000	
26	6740	10.3	30			10.5					20,000	
27	6886	9.3	30			11.5				150		Inhibitor 5 gal
28	6961	10.3	30			10.5						Running Logs
29	6961	10.3	30			10.5					12,000	Losing 5 bbls/hr
30	6961	10.3	30			10.5			Fibre Seal 5 Sx		28,000	W.O.O.
31	6961											Running Plugs - no more additives.

DAILY PROGRESS REPORT

DATE 1972	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
April 25	60'	120'	60'	4 3/4	1			Drilling. Started conductor hole at 6:00 p.m. April 20, 1972 drill 20" hole with bucket - ream to 24" Ran 89' of 20" conductor pipe, landed at 78' K.B. Cemented with 100 sacks Fondu cement- Finished Cementing 12:00 p.m. April 22. Drill rat hole - gravel falling in - complete rat hole and cementing around same at 12:00 midnight April 24. Spud with 8 3/4" bit at 2:30 a.m. April 25, 1972.
						120	3/4	
						150	1/2	
						240	1/2	
						300	1/2	
April 26	120'	391'	271'	17 1/4	1 & 2	350	1/4	Drilling - Trip to remove bucket tooth from bit. Trip Bit #1 - Jets plugged. Run Bit #2 - trip out - iron from bucket wedged in cones - run #2 back in
						440	1/2	
						530	1/8	
April 27	391'	662'	271'	19 3/4	2 & 3	620	3/4	Drilling
						650	3/4	
						710	1/4	
April 28	662'	819'	(D)157' (R)207'	18	4&Reamer	800	1/2	Reaming - Drill 8 3/4" pilot hole to 819' - commence reaming 8 3/4" hole to 12 1/4"
April 29		819'	(R)419'	15¼	Reamer			Running Casing - Reamed to 12¼" to depth of 704'.Start running Csg.
April 30		819'						W.O.C. Ran 9 5/8" Casing (724.91") Mannesman Grade J-55,36#,Rge. 3 ST C, 8 rd. Landed at 704' K.B. Cemented with 350 sacks of Fondu cement. Displaced plug w/water. 16 bbls/cement returns Plug down at 12:04 p.m. April 29, 1972
May 1		819'						W.O.C. - Nipple up - drill mouse hole - gravel falling in. Pressure test blind rams, Hydril & 3 1/2" pipe rams to 1400# for 15 mins. - o.k. Drill Out - plug @ 659'. Clean to 819' K.B. Trip out for stabilizers.
May 2	819'	1010'	191'	10	4	990	1/8	Running DST #1. Drill to 1010' - testing porosity in Bear Rock
May 3	1010'	1356'	346'	16 1/4	5			Drilling. Completed DST #1 - good test.
May 4	1356'	1930'	574'	22 3/4	5	1385	1	Drilling
						1800	1 3/4	

DAILY PROGRESS REPORT

DATE 1972	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G	REMARKS
May 5	1930'	2222'	292'	19 1/2	5&6	2130	2 3/4	Drilling. Tripped for new bit at 2141'
May 6	2222'	2373'	151'	9 3/4	6	2300	2	Drilling. Drilled to 2261' and ran DST #2 in Ronning porosity Good test - drilled ahead with Bit #7
May 7	2373'	2630'	257'	22 3/4	7	2450	2	Drilling
May 8	2630'	2872'	242'	19 1/2	7 & 8	2650	1 3/4	Drilling. Tripped for new bit at 2671'
May 9	2872'	3205'	333'	19	8	2920	1 1/2	Drilling
May 10	3205'	3403'	198'	11 3/4	8	3100 3400	1 1/2 1	Rig Repairs. Tripped for new bit at 3403' - slip line, repair brakes
May 11	3403'	3763'	360'	21	9			Drilling. Partially lost circulation at 3403' -- drilled 10' and regained circulation.
May 12	3763'	4090'	327'	17 3/4	9 & 10	3815	1¼	Drilling. Tripped for new bit at 3815'
May 13	4090'	4420'	330'	22 3/4	10	4330	1 3/4	Drilling
May 14	4420'	4686'	266'	18 3/4	10&11			Drilling - Tripped for new bit at 4445' - Losing from 10 - 20 barrels of drilling fluid to the formation.
May 15	4686'	4946'	260'	19 1/2	11 & 12	4820	1 1/2	Rig Repairs. Tripped for new bit at 4946'
May 16	4946'	5214'	268'	20 3/4	12			Drilling
May 17	5214'	5468'	254'	22 3/4	12	5360	¼	Drilling - Fluid loss 10 - 12 bbls/hr.
May 18	5468'	5571'	103'	16 3/4	12 & 13			Drilling - Trip for new bit at 5484'
May 19	5571'	5668'	97'	18 1/2	13 & 14	5628	0	Drilling. Tripped for new bit at 5628'
May 20	5668'	5882'	214'	23 1/4	14			Drilling.
May 21	5882'	6128'	246'	17	14 & 15			Drilling - Tripped for new bit at 6119'
May 22	6128'	6280'	152'	23 1/4	15			Drilling
May 23	6280'	6350'	70'	14 1/4	15 & 16	6285	2	Tripping for new bit. Tripped for new bit at 6285' and 6350'
May 24	6350'	6429'	79'	20 1/4	17			Drilling
May 25	6429'	6570'	141'	17 3/4	17 & 18			Drilling - Tripped for new bit at 6500'
May 26	6570'	6740'	170'	23 1/4	18	6500	2	Drilling
May 27	6740'	6886'	146'	17 3/4	18 & 19	6742	2 1/8	Drilling - Tripped for new bit at 6742'
May 28	6886'	6961'	75'	10	19 & 20			Running Logs. Tripped for new bit at 6923' drilled to Final Total Depth at 6961' - started logging with Dresser Atlas.
May 29		6961'	0	0				Running Logs

DAILY PROGRESS REPORT

DATE 1972	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
May 30		6961'	0	0				Waiting on Orders. Finished running logs. Losing mud at 5 bbls/hr
May 31		6961'	0	0				W.O.C. Run Plug #1 6961 - 6861' & Plug #2 3600 - 3450'
June 1		6961'	0	0				Running DST #3. Waited 8 hrs. on Plug #2. Felt at 3614' Polished off top. Commence DST #3 3200 - 3614'
June 2		6961'	0	0				Dismantle B.O.P.'s Complete DST #3 - good test. Ran Plug #3 2150 - 2000'. Felt Plug #3 at 2010' after 8 hours. Ran Plug #4 630 - 780' Felt top of Plug #4 at 623' after 8 hours.
June 3		6961'	0	0				Clean up location. Weld plate on casing. Rig Released at 12:00 noon - June 2, 1972

ABANDONMENT PLUGS

#1 - 6961 - 6861' - 55 sacks cement, plug down at 3:00 a.m. May 31, 1972 - no feel

#2 - 3600 - 3450' - 100 sacks cement + 3% $CaCl_2$, plug down at 5:00 a.m. May 31,1972
Felt plug at 3614' after 10 hours

#3 - 2150 - 2000' - 100 sacks cement + 3% $CaCl_2$, plug down at 11:30 a.m. June 1,1972
Felt plug at 2010' after 8 hours

#4 - 780 - 630' - 100 sacks + 3% $CaCl_2$, plug down at 9:00 p.m., June 1, 1972
Felt plug at 623' after 8 hours
Five sacks of cement put in top of surface casing - plate welded on with name tag.

LOST CIRCULTAION ZONES

Intercrystalline, vuggy and some cavernous porosity is present in the Ronning formation. Below 3400 feet the drilling fluid was being lost to the formation at the rate of approximately 10 barrels per hour. Lost circulation material was added daily to the system to hold this loss to a minimum. On two occasions circulation was lost following a trip for a new bit, this occurred at 3403 feet and 4445 feet. In both instances, circulation was regained after drilling a few feet.

SECTION IV - LOGS

Electrical Logs: by Dresser Atlas

Induction Electrolog	Run 1	May 27, 1972	704 - 6940'
Sidewall Neutron Gamma Ray	Run 1	May 28, 1972	704 - 6932'
Compensated Densilog	Run 1	May 28, 1972	704 - 6932'
BHC Acoustilog	Run 1	May 29, 1972	704 - 6924'

SECTION V - ANALYSIS

Lab No.	Sample	From	To	Source	Remarks
933-2670	Water	3200	3614	DST #3 Ronning	Water Analysis
933-2581	Water	900	1010	DST #1 Bear Rock	Water Analysis
933-2581	Water	2121	2261	DST #2 Ronning	Water Analysis

WELL HISTORY LOG
of

CANDEL MOBIL et al IROQUOIS I-11

located at

UNIT I, SECTION 11, GRID 67-50-129-30
Latitude 67° 40' 40" Longitude 129° 32' 05"
NORTHWEST TERRITORIES, CANADA

Well Status: Dry & Abandoned

Date Spudded: April 25, 1972
Date Completed Drilling: May 28, 1972
Operator: CanDel Oil Ltd.
Geology By: T.A.D. Haddow

Elevation: Gr. 400'
K.B 418'
Total Depth: Driller 6961' Logger 6944'
Drilling Contractor: Nabor Drilling Limited
Rig No. 8

LEGEND

SIDERITE, bedded	GYPSUM	ANHYDRITE, secondary	GRANITE WASH
SANDSTONE	MARLSTONE, limy-dolomitic	SHALE	IGNEOUS, basic
SILTSTONE	LIMESTONE	CLAYSTONE	IGNEOUS, acidic
BENTONITE	DOLOMITE, primary	GLACIAL TILL	VOLCANIC
COAL	DOLOMITE, secondary	CONGLOMERATE, ie. 40% cht., 40% ls., etc.	METAMORPHIC
SALT	ANHYDRITE, primary	BRECCIA	
ARKOSIC	FLOATING SAND GRAIN	CHERT, sandy & oolitic	SIDERITE PELLETS
ARGILLACEOUS, disseminated	SILTY	NODULES, fe-st	GLAUCONITIC
DOLOMITIC	SANDY	NODULES, limy	SALT CAST or INFILL
CALCAREOUS	ARGILLITE GRAIN	NODULES, dolomitic	
ANHYDRITIC	CHERT, light & dark	NODULES, phosphatic	
GYPSIFEROUS	CHERT, tripolitic	NODULES, siderite	
LITHOGRAPHIC	CRYPTOCRYSTALLINE	EARTHY	CHALKY
KARST TOPOGRAPHY	VERY POOR SAMPLES, questionable	CAVINGS, cannot interpret	NO SAMPLES
ALGAL, nondescript	BIOCLASTIC or FRAGMENTAL	BRYOZOA	MOLLUSKS
ALGAL, encrusting	PSEUDO OOLITES or PELLETS	FORAMINIFERA	OSTRACODS
ALGAL, oöroid	CORAL	CRINOID	
ALGAL, coralline	STROMATOPOROID	OOLITES	
MARL, limy	PYRITE	SIDERITE CEMENT	PLANT REMAINS
MARL, dolomitic	BENTONITIC	PLANT SPORES	FISH REMAINS
LIMESTONE STREAKS	SILICEOUS	MINERAL CRYSTALS	FOSSILS
DOLOMITE STREAKS	SHALE, laminae	CALCITE or secondary DOLOMITE crystals	CARBONACEOUS

1 of

OIL STAIN OR RECOVERY

FORMATION TESTS

CANDEL MOBIL et al IROQUOIS I-11

located at

UNIT I, SECTION 11, GRID 67-50-129-30

Latitude 67° 40' 40" Longitude 129° 32' 05"

NORTHWEST TERRITORIES, CANADA

Well Status: Dry & Abandoned

Date Spudded: April 25, 1972

Date Completed Drilling: May 28, 1972

Operator: CanDel Oil Ltd.

Geology By: T.A.D. Haddow

Elevation: Gr. 400'

K.B. 418'

Total Depth: Driller 6961' Logger 6944'

Drilling Contractor: Nabor Drilling Limited

Rig No. 8

LEGEND

SIDERITE, bedded	GYPSUM	ANHYDRITE, secondary	GRANITE WASH
SANDSTONE	MARLSTONE, limy-dolomitic	SHALE	IGNEOUS, basic
SILTSTONE	LIMESTONE	CLAYSTONE	IGNEOUS, acidic
BENTONITE	DOLOMITE, primary	GLACIAL TILL	VOLCANIC
COAL	DOLOMITE, secondary	CONGLOMERATE, ie. 40% cht., 40% ls., etc.	METAMORPHIC
SALT	ANHYDRITE, primary	BRECCIA	
ARKOSIC	FLOATING SAND GRAIN	CHERT, sandy & oolitic	SIDERITE PELLETS
ARGILLACEOUS, disseminated	SILTY	NODULES, fe-st	GLAUCONITIC
DOLOMITIC	SANDY	NODULES, limy	SALT CAST or INFILL
CALCAREOUS	ARGILLITE GRAIN	NODULES, dolomitic	
ANHYDRITIC	CHERT, light & dark	NODULES, phosphatic	
GYPSIFEROUS	CHERT, tripolitic	NODULES, siderite	
LITHOGRAPHIC	CRYPTOCRYSTALLINE	EARTHY	CHALKY
KARST TOPOGRAPHY	VERY POOR SAMPLES, questionable	CAVINGS, cannot interpret.	NO SAMPLES
ALGAL, nondescript	BIOCLASTIC or FRAGMENTAL	BRYOZOA	MOLLUSKS
ALGAL, encrusting	PSEUDO OÖLITES or PELLETS	FORAMINIFERA	OSTRACODS
ALGAL, oötoid	CORAL	CRINOID	
ALGAL, coralline	STROMATOPOROID	OÖLITES	
MARL, limy	PYRITE	SIDERITE CEMENT	PLANT REMAINS
MARL, dolomitic	BENTONITIC	PLANT SPORES	FISH REMAINS
LIMESTONE STREAKS	SILICEOUS	MINERAL CRYSTALS	FOSSILS
DOLOMITE STREAKS	SHALE, laminae	CALCITE or secondary DOLOMITE crystals	CARBONACEOUS

2 of 2

OIL STAIN OR RECOVERY

GAS SHOW OR RECOVERY

FLOURESCENCE

BITUMIN

FORMATION WATER RECOVERY - exponent shows ppm Cl.

FORMATION TESTS

A. BOTTOM HOLE

B. DUAL PACKERS

C. PACKER SET IN CASING

D. F.T.T. SCHLUMBERGER

A. B. C. D.

FORM 923101

DresserAtlas CANADA
WIRELINE SERVICES

BHC Acoustilog

FILE NO. 1760-E

COMPANY CANDEL OIL LIMITED

WELL CANDEL MOBIL ET AL IROQUOIS I-11

FIELD WILDCAT

PROVINCE NORTH WEST TERRITORIES

LOCATION:
67° 50' 40"N
129° 30' 05"W

LSD ____ SEC ____ TWP ____ RGE ____

Other Services
I/L-GR
S/N-GR
COMP DENS/L

Permanent Datum GROUND LEVEL Elev. 400'
Log Measured from KELLY BUSHING 18.0 Ft. Above Permanent Datum
Drilling Measured from KELLY BUSHING

Elevations
KB 418'
DF
GL 400'

Date	5-29-72			
Run No.	ONE			
Depth—Driller	6961'			
Depth—Logger	6934'			
Bottom Logged Interval	6924'			
Top Logged Interval	SURF.			
Casing—Driller	9 5/8'@704'			
Casing—Logger	704			
Bit Size	8 3/4"			
Type Fluid in Hole	SALT WATER			
Density and Viscosity				
pH and Fluid Loss	cc	cc	cc	cc
Source of Sample	CIRC.			
Rm @ Meas. Temp.	.06 @ 65 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Source of Rmf and Rmc				
Rm @ BHT	0.49 @ 85 °F	@ °F	@ °F	@ °F
Time Since Circ.	22HRS.			
Max. Rec. Temp. Deg. F.	85° °F	°F	°F	°F
Equip. No. and Location	1300 EDM			
Recorded By	MACLEAN	FAYE		
Witnessed By	HADDOW			

THIS HEADING AND LOG CONFORMS TO API RECOMMENDED STANDARD PRACTICE RP 31

FOLD HERE

REMARKS

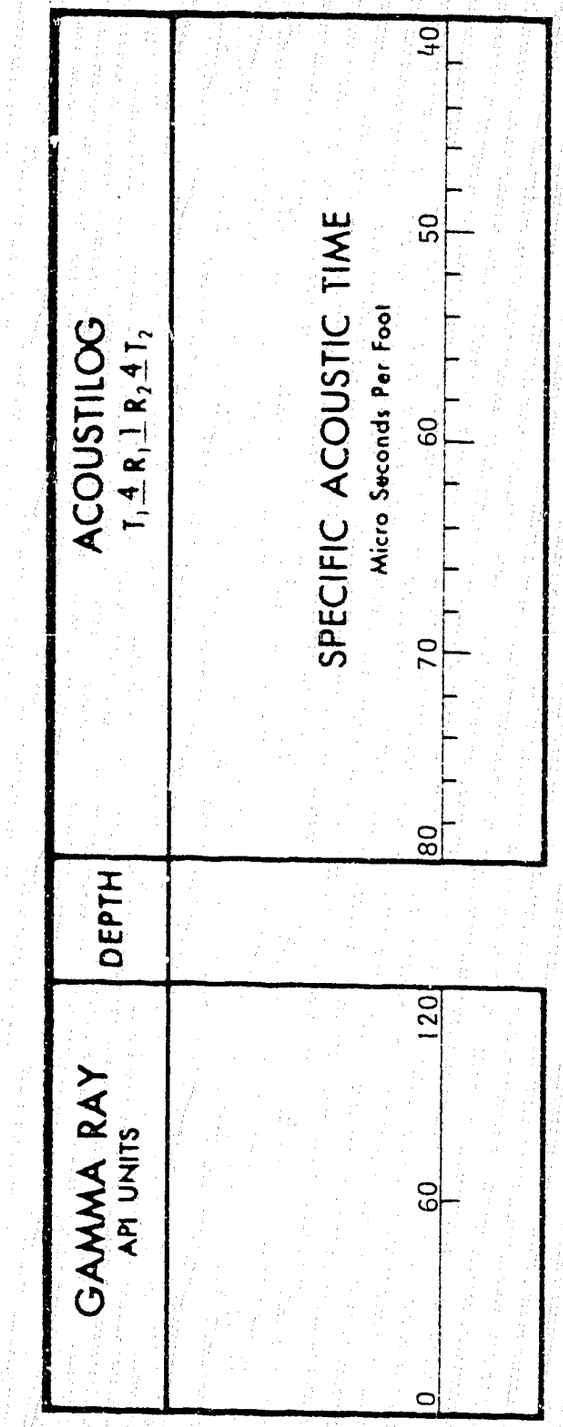
Scale Changes: Type Log | Depth | Scale Up Hole | Scale Down Hole

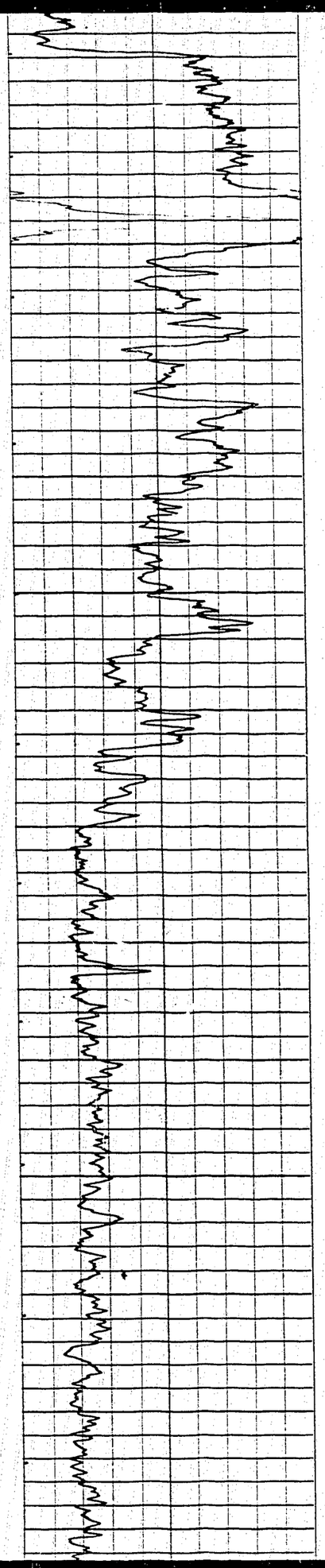
Equipment Data: Tool Type 1601-24885 | Pad Type | Tool Position CENTERED | Other

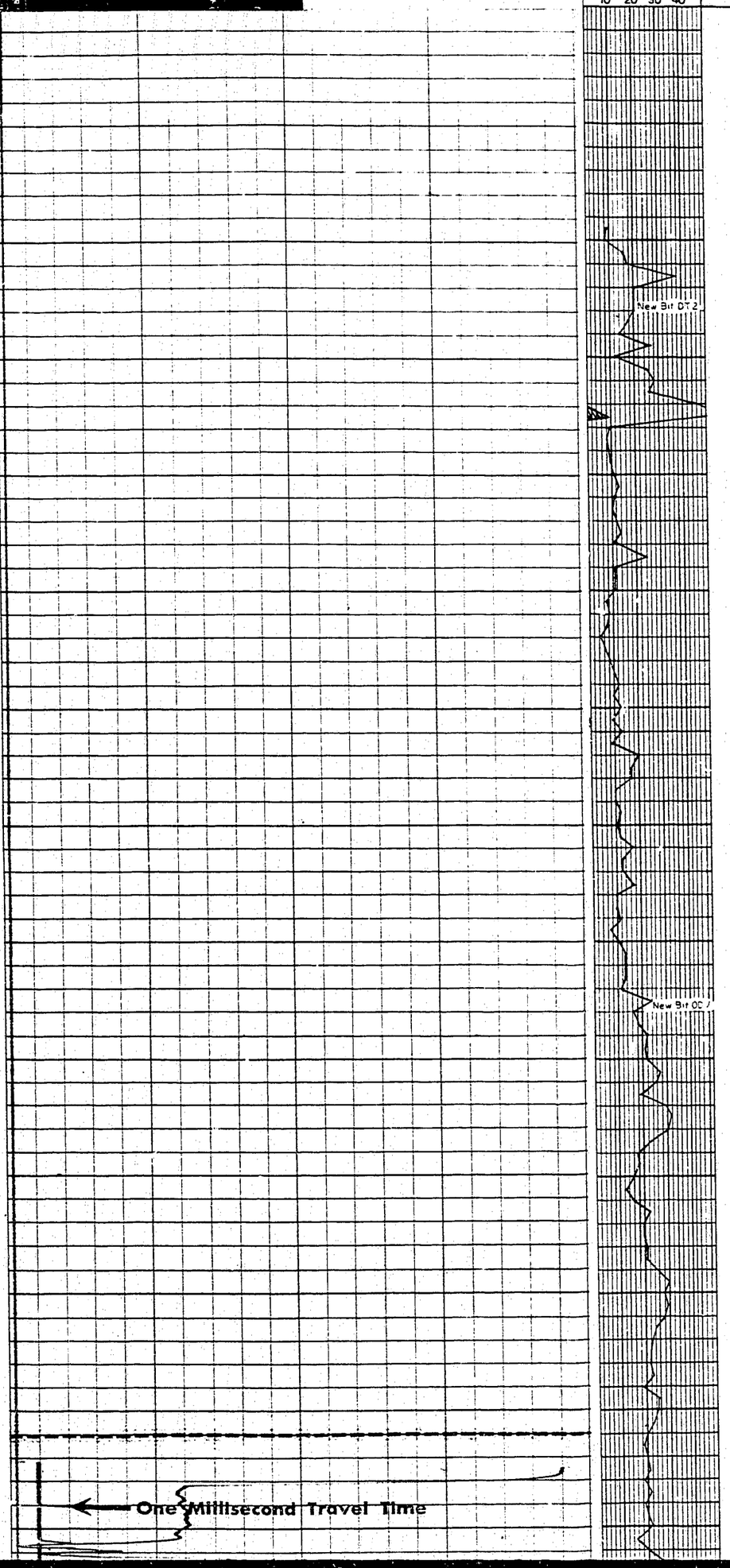
Run No. ONE

Changes in Mud Type or Additional Samples

Date / Sample No				
Depth-Driller				
Type Fluid in Hole				
Dens / Visc.				
pH / Fluid Loss	cc	cc		
Source of Sample				
Rm @ Meas. Temp	@ °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Source Rmf / Rmc				
Rm @ BHT	@ °F	@ °F	@ °F	@ °F
Rmf @ BHT	@ °F	@ °F	@ °F	@ °F
Rmc @ BHT	@ °F	@ °F	@ °F	@ °F





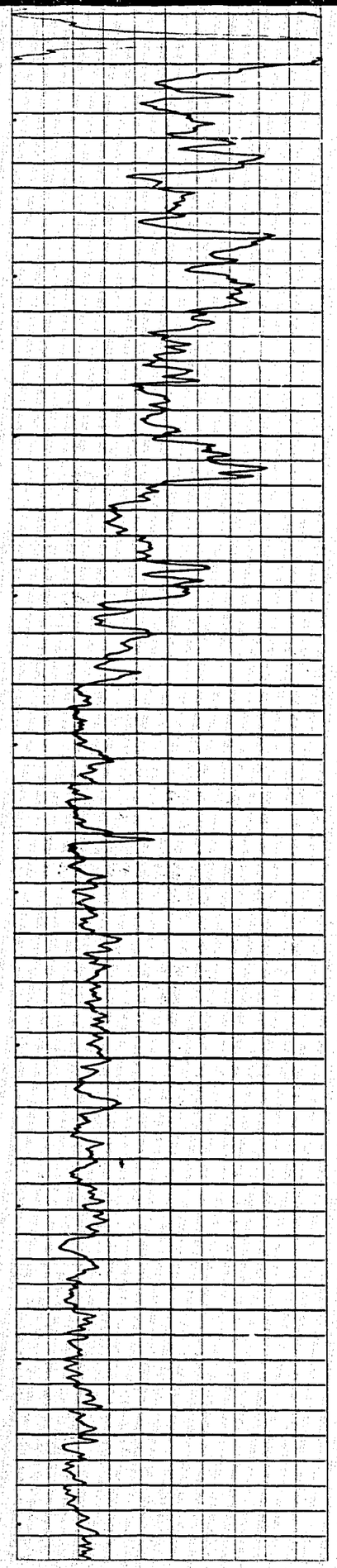


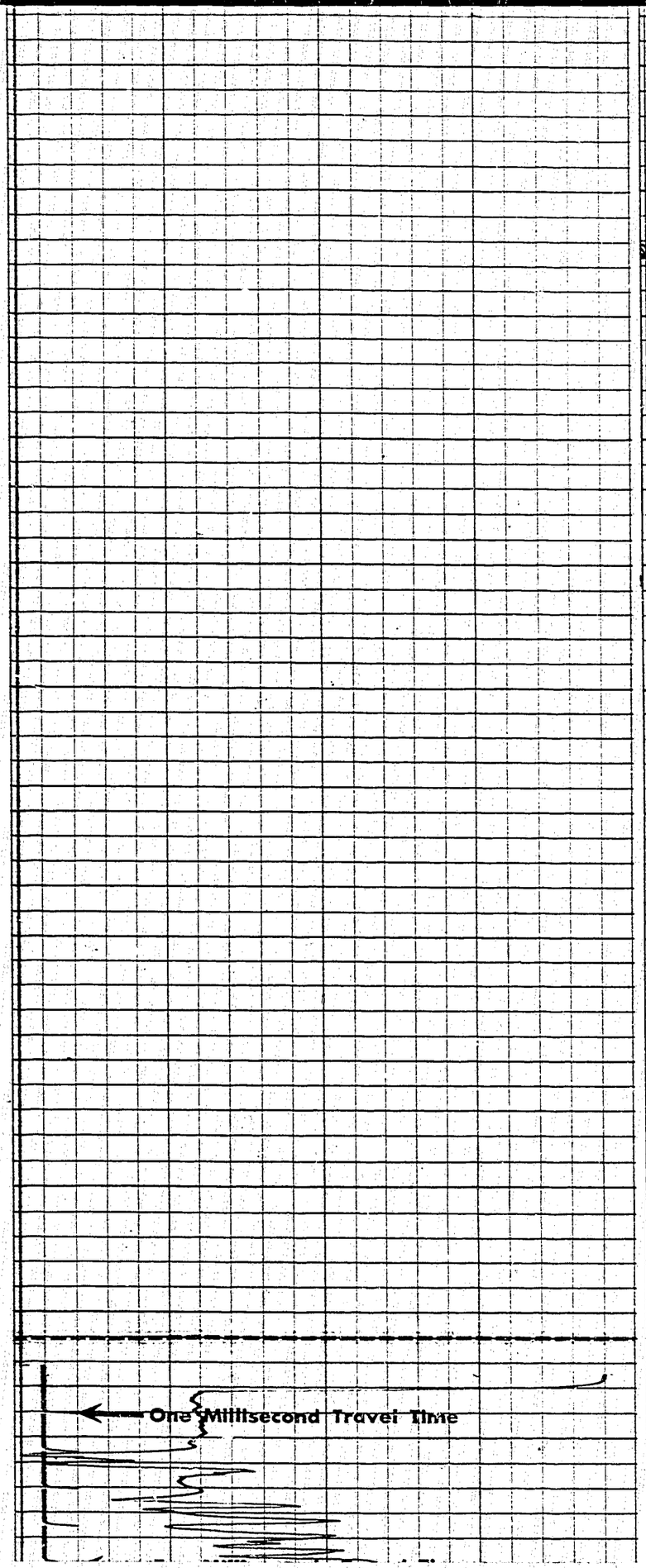
FORMATION	LITHOLOGY
E-LOG TOPS	
DEV. - HARE INDIAN	Glacial drift - uncons sd, gran, peb & cob
	Sh - gy,fis,mic-mic,scat blk plnt spr
	Sh - m gy,hd,fis,mic-mic,sli bit/prt,scat flk/carb mat (plnt spr)
	Sh - dk gy-blk,fis,mic-mic,bit, rr lam/calc sltst.
	Sh - aa,scat plnt rmn & spr, tr/scat py
DEVONIAN - HUME	Sh - dk gy - blk,brit,mic-mic,bit/mst prt,scat plnt rmns & spr,scat fos,calc/ prt-lmy stks
	Sh - aa; Ls - gy-grnsh-brnsh/prt,micx-vf-fx/prt,dns,slty,arg,thn inbd gy calc sh,sm dol stks-brnsh gy,micx,dns,abun fos - ost,brach, bry
	Sh - m gy,hd,micmic,calc; Ls - gy - grnsh-brnsh/prt,micx-vfx,dns,bioc-micritic in prt,fos,scat frac fld w/c calc xtls.
	Ls - m brnsh-grnsh gy,micx-sm vf-fx,bioc,pel/prt,micritic/prt,dns,arg,sm thn inbd of gy calc sh,sm ch stks,scat frac fld/xtln calc,fos,scat py
	Ls - aa; Sh - m gy, hd, mic-mic,calc,py/prt
	Ls - m brnsh-grnsh gy,micx-vfx,bio,dns,abun fos-brach ost crin sm inbd/Sh - m gy, hd,mic-mic,calc.
	Ls - m brnsh to grnsh gy,micx-vfx,dns,arg,fos; Sh - m gy,mic-mic,calc.
	Ls - m brnsh-grnsh gy,micx-vfx,bioc-micritic/prt,dns,arg stks,sm inbd gy calc sh,fos
	Ls - m brnsh-grnsh gy,micx-fx,bioc-micritic/prt,dns,arg,shly,fos,scat frac fld w/dog tooth spar
	Ls - aa; sh - m gy,fis-blky,mic-mic,calc.
	Ls - gysh brn-sm grnsh-brnsh gy,micx-fx,frag,micritic/prt,dns,arg,fos,sm prtg/ dk gy calc sh & thn inbd/m gy calc sh
	Ls - brnsh gy,micx-vfx,micritic,dns,arg,sm prtg/dk gy calc sh,sm scat py,scat fos - brach, crin, bry
DEVONIAN - GOSSAGE (BEAR ROCK)	Ls - lt brnsh gy,micx-fx,pel, dns,sli arg,sm scat frac fld w/xtln calc,rr scat sml vf fld w/xtln calc.
	Ls - aa; ls-brnsh-grnsh gy,crpx,micritic,dns,sm scat hrln frac - sm dol - assoc w/frac
	Ls - brnsh gy,micx,micritic,dns,arg,sm scat ost,sm scat sml ptch & stks/blck carb mat
	Ls - m dk brnsh gy,crpx-micx,micritic,dns,arg,sm prtg/dk gy sh
	Ls - gysh brn,micx-fx,frag-micritic/prt,dns,arg,scat ost
	Ls - lt gysh brn,micx-fx-sm bnd crpx,frag-arg/prt,micritic/prt,dns,arg, sm alg mat,scat ost,sm prtg/blk-bit sh
	Ls - m-dk gysh brn,micx-fx,micritic/prt-frag,pel & col/prt,dns,arg,scat styl prtg/bit sh,ost.
	Ls - lt gysh brn,micx-fx,bioc,dns,fos-ost,brach,rr cor
	Ls - gysh brn,crpx-vfx,micritic,dns,scat brach,sm scat f frac fld w/calc.
	Ls - aa-sm scat hrln frac,sm stks/sh-blsh gy,blky,mic-mic bent,scat py
	Ls - lt brnsh gy,micx-fx,frag,dns,dol,arg,fos-brach ost
	Ls - m dk gy,micx-vfx,alg,dns,arg,scat ost,prtg/blk bit sh
	Ls - lt brnsh gy,micx-fx,frag,dns,arg,scat ost,sm scat cor
	Ls - brnsh gy - sm grnsh stks,crpx - micx,micritic dns, arg
	Ls - m gysh brn,micx-fx,frag,dns,arg,prtg/bit sh,tr/lt grnsh gy wxy sh,sm scat gast & brach
	Ls - aa - lt - m gysh brn,micritic/prt
	Ls - aa & ls - brnsh gy crpx,micritic,dns
	Ls - gysh brn,crpx-vfx,micritic,dns,arg,scat hrln & f frac-fld/calc,fw scat fos
	Ls - aa - fw frag stk - sli dol,fw stks/dk gy sh & blsh gy bent sh

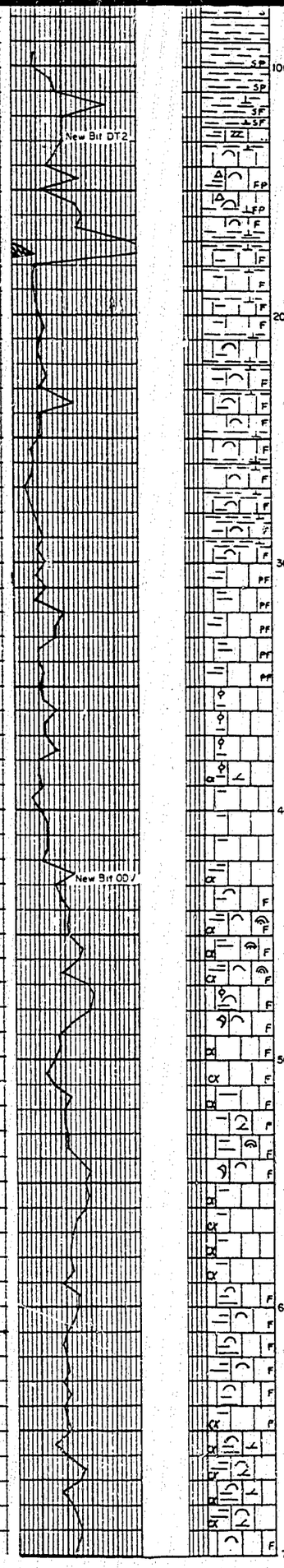
CSG.-PERF PLUGS

SURFACE CASING 9 5/8" X 704' w/100 SACKS

10







DEVONIAN

Sh - dk gy-blk,fis,mic-mic,bit, rr lam/calc sltst.

Sh - aa,scat plnt rmn & spr, tr/scat py

DEVONIAN - HUME

Sh - dk gy - blk,brit,mic-mic,bit/mst prt,scat plnt rmns & spr,scat fos,calc/prt-lmy stks

Sh - aa; Ls - gy-grnsh-brnsh/prt,micx-vf-fx/prt,dns,slty,arg,thn inbd gy calc sh,sm dol stks-brnsh gy,micx,dns,abun fos - ost,brach, bry

Sh - m gy,hd,micmic,calc; Ls - gy - grnsh-brnsh/prt,micx-vfx,dns,bioc-micritic in prt,fos,scat frac fld w/c calc xtls.

Ls - m brnsh-grnsh gy,micx-sm vf-fx,bioc,pel/prt,micritic/prt,dns,arg,sm thn inbd of gy calc sh,sm ch stks,scat frac fld/xtln calc,fos,scat py

Ls - aa; Sh - m gy, hd, mic-mic,calc,py/prt

Ls - m brnsh-grnsh gy,micx-vfx,bio,dns,abun fos-brach ost crin sm inbd/Sh - m gy, hd,mic-mic,calc.

Ls - m brnsh to grnsh gy,micx-vfx,dns,arg,fos; Sh - m gy,mic-mic,calc.

Ls - m brnsh-grnsh gy,micx-vfx,bioc-micritic/prt,dns,arg stks,sm inbd gy calc sh,fos

Ls - m brnsh-grnsh gy,micx-fx,bioc-micritic/prt,dns,arg,shly,fos,scat frac fld w/dog tooth spar

Ls - aa; sh - m gy,fis-blky,mic-mic,calc.

Ls - gysh brn-sm grnsh-brnsh gy,micx-fx,frag,micritic/prt,dns,arg,fos,sm prtg/dk gy calc sh & thn inbd/m gy calc sh

Ls - brnsh gy,micx-vfx,micritic,dns,arg,sm prtg/dk gy calc sh,sm scat py,scat fos - brach, crin, bry

DEVONIAN - GOSSAGE (BEAR ROCK)

Ls - lt brnsh gy,micx-fx,ool, dns,sli arg,sm scat frac fld w/xtln calc,rr - scat sml vf fld w/xtln calc.

Ls - aa; ls-brnsh-grnsh gy,crpx,micritic,dns,sm scat hrln frac - sm dol - assoc w/frac

Ls - brnsh gy,micx,micritic,dns,arg,sm scat ost,sm scat sml ptch & stks/blck - carb mat

Ls - m dk brnsh gy,crpx-micx,micritic,dns,arg,sm prtg/dk gy sh

Ls - gysh brn,micx-fx,frag-micritic/prt,dns,arg,scat ost

Ls - lt gysh brn,micx-fx,sm bnd crpx,frag-arg/prt,micritic/prt,dns,arg, sm - alg mat,scat ost,sm prtg/blk-bit sh

Ls - m-dk gysh brn,micx-fx,micritic/prt-frag,pel & ool/prt,dns,arg,scat styl prtg/bit sh,ost.

Ls - lt gysh brn,micx-fx,bioc,dns,fos-ost,brach,rr ccr

Ls - gysh brn,crpx-vfx,micritic,dns,scat brach,sm scat f frac fld w/calc.

Ls - aa-sm scat hrln frac,sm stks/sh-blsh gy,blky,mic-mic bent,scat py

Ls - lt brnsh gy,micx-fx,frag,dns,dol,arg,fos-brach ost

Ls - m dk gy,micx-vfx,alg,dns,arg,scat ost,prtg/blk bit sh

Ls - lt brnsh gy,micx-fx,frag,dns,arg,scat ost,sm scat ccr

Ls - brnsh gy - sm grnsh stks,crpx - micx,micritic dns, arg

Ls - m gysh brn,micx-fx,frag,dns,arg,prtg/bit sh,tr/lt grnsh gy wxy sh,sm scat cast & brach

Ls - aa - lt - m gysh brn,micritic/prt

Ls - aa & ls - brnsh gy crpx,micritic,dns

Ls - gysh brn,crpx-vfx,micritic,dns,arg,scat hrln & f frac-fld/calc,fw scat fos

Ls - aa - fw frag stk - sli dol,fw stks/dk gy sh & blsh gy bent sh

Ls - aa - fw frag stks - dol/prt w/d o stn

Ls - brnsh,gy,micx-vfx,frag-micritic/prt,dns,arg,sm scat ost

SURFACE CASING 9 5/8" X 704' w/100 SAKS

PLUG No. 4

Well name CanDel Mobil etal Iroquois I-11

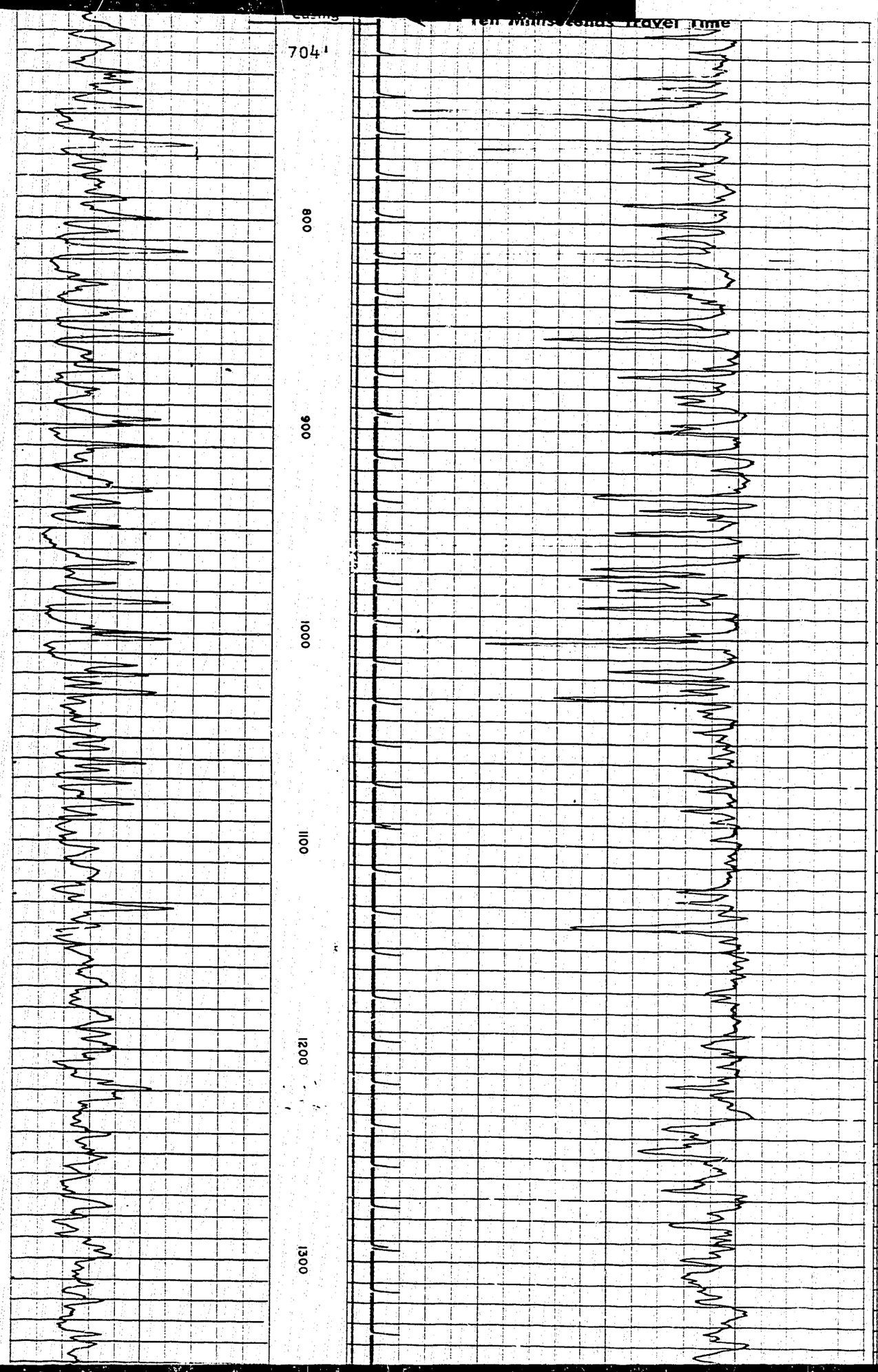
Location I-11 67-50 129-30

K.B. elev. 418'

Geologist T.A.D. Haddow

Sheet No. 1

2 of 2



LITHOLOGY

CSC - PEW PLUGS

PLUG No. 4

Ls - m gysh brn - dk stks,micx-vfx,frag/prt,micritic/prt,dns,arg,prtg/dk
gy sh & tnn inbd/gy calc sh,scat ost.

Ls - brnsh gy,micx-vfx,micritic,frag/prt,dns,sli arg,sm thn stks of
gy calc sh

Ls - aa & ls - brnsh gy,orpx-micx,micritic,dns,arg,sm sh lam - blsh gy blcky,
f dism py

Ls - gysh brn,micx-vfx,frag/prt,micritic/prt,dns,arg,fw scat frac fld w/xtln
calc sm scat ost

Ls - gysh brn,micx-vfx,frag,dns,arg,sm prtg/blk bit sh & blsh gy sh w/f
dism py

Ls - aa, prtg/gy calc sh

Ls - gysh brn,orpx-micx,micritic,arg,calc xtls inflg sm f frac & rr sml vg

Ls - gysh brn,micx-vfx,micritic,dns,arg,sm inbd gy calc sh, sm scat brach

Ls - gysh brn,micx-fx,micritic,arg/prt,frag/prt,dns,arg,py/prt,sm thn inbd gy
calc sh & prtg/blsh gy sh - fos - ccr,alg,brach,ost.

Ls - gysh brn, micx-vfx,micritic,alg/prt,dns,arg,sm inbd gy calc sh,py/prt,
sm scat crin brach

Sh - grnsh gy,hrd,mic-mic,v calc,f dism py,sm scat ls ;sl; Ls-gysh brn,orp-
micx,micritic,dns,arg

Ls - gysh brn, vfx,micritic-frag/prt,dns,arg,sm inbd sh aa

Ls - gysh brn,micx-vfx,micritic,dns,arg, (tr/strom @ 890')

Ls - aa sm stks/v lt gy chky ls, sm thn inbd dol (5%) - gysh brn vfx, chky/prt,
sli inx por-noneff,sli calc

Ls - (75%) & dol (25%) aa

Ls - gysh brn,micx-vfx,morto-frag/prt,sm crm chky stks,sm inbd dol w/sli inx
por - noneff,sm sec dol xtls.

Ls - gysh brn,micx-vfx w/stks/v lt gy - crm - chky,morto,frag/prt,sm inbd dol -
gysh brn,vfx,earthy/prt sli inx por - noneff.

Dol - gysh brn, vfx,sl calc/prt,sli inx por

Ls - crm - gysh brn,micx-vfx, chky/prt,morto/prt,frag/prt,dns,sli arg/prt, sm
dol aa - sli in x por noneff

Ls - crm-gysh brn,micx-vfx - chky/prt,frag,ti,arg stks,sli dol - earthy/prt.

Ls - aa morto & frag

Ls - aa morto & frag, tr/mlky ch

Ls - v lt gysh brn - crm/prt,micx,frag,morto/prt,sm col, dns

Ls - v lt - lt gysh brn, micx-vfx aa

Ls - v lt gysh brn-crm/prt,micx-vfx,frag & morto,dns

Ls - lt gysh brn, micx-vfx,frag & morto,dol stks, ti

Ls - lt gysh brn,micx-vfx,frag,morto/prt,dns; Dol-gysh brn,vfx,sli inx por-
noneff.

Dol - gysh brn, micx-vfx,sli inx por, arg

Dol - aa; Ls - brnsh gy,micx-vfx,frag,morto/prt,dns,arg.

Ls - gysh brn,micx-vfx,frag,morto/prt,pel/prt,dol stks,ti, arg

Dol - gysh brn,micx-vfx,sli inx por,arg,fw scat f frac fld w/calc

Dol - v lt gysh brn-sm drkr stks,micx-vfx,sli inx por,sm arg stks,sm stks/ls aa

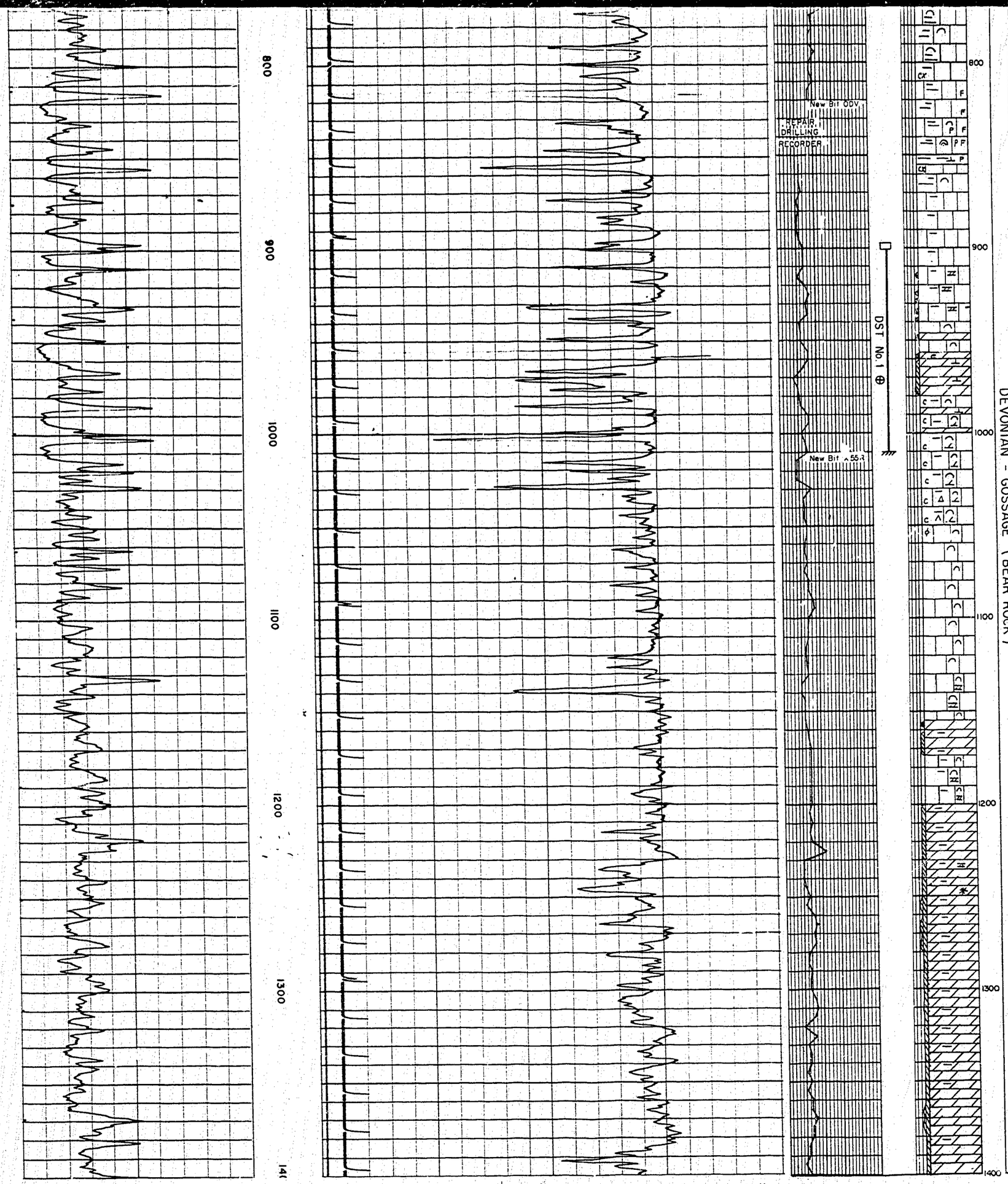
Dol - gysh brn,micx-vfx,sli inx por, arg, tr/qtz xtls

Dol - gysh brn,micx-vfx,sli p inx pp & scat sml vg por,sm scat wh c sec dol
xtls, arg.

Dol - lt gysh brn,micx-vfx,sli-p inx pp & scat sml vg por calc xtls (from frac)
sli arg/prt

Dol - gysh brn - sm lt stks,micx-vfx,sli inx por, arg.

1 of



Ls - gysh brn,micx-vfx,frag,dns,arg,sm prtg/blk bit sh & blsh gy sh w/f dism py

Ls - aa, prtg/gy calc sh

Ls - gysh brn,orpx-micx,micritic,arg,calc xtls inflg sm f frac & rr sml vg

Ls - gysh brn,micx-vfx,micritic,dns,arg,sm inbd gy calc sh, sm scat brach.

Ls - gysh brn,micx-fx,micritic,arg/prt,frag/prt,dns,arg,py/prt,sm thn inbd gy calc sh & prtg/blsh gy sh - fos - cor,alg,brach,ost.

Ls - gysh brn, micx-vfx,micritic,alg/prt,dns,arg,sm inbd gy calc sh,py/prt, sm scat crin brach

Sh - grnsh gy,hrd,mic-mic,v calc,f dism py,sm scat ls pel; Ls-gysh brn,orp-micx,micritic,dns,arg

Ls - gysh brn, vfx,micritic-frag/prt,dns,arg,sm inbd sh aa

Ls - gysh brn,micx-vfx,micritic,dns,arg, (tr/strom @ 890')

Ls - aa sm stks/v lt gy chky ls, sm thn inbd dol (5%) - gysh brn vfx, chky/prt, sli inx por-noneff,sli calc

Ls - (75%) & dol (25%) aa

Ls - gysh brn,micx-vfx,morto-frag/prt,sm crm chky stks,sm inbd dol w/sli inx por - noneff,sm sec dol xtls.

Ls - gysh brn,micx-vfx w/stks/v lt gy - crm - chky,morto,frag/prt,sm inbd dol - gysh brn,vfx,earthy/prt sli inx por - noneff.

Dol - gysh brn, vfx,sl calc/prt,sli inx por

Ls - crm - gysh brn,micx-vfx, chky/prt,morto/prt,frag/prt,dns,sli arg/prt, sm dol aa - sli in x por noneff

Ls - crm-gysh brn,micx-vfx - chky/prt,frag,ti,arg stks,sli dol - earthy/prt.

Ls - aa morto & frag

Ls - aa morto & frag, tr/mlky ch

Ls - v lt gysh brn - crm/prt,micx,frag,morto/prt,sm col, dns

Ls - v lt - lt gysh brn, micx-vfx aa

Ls - v lt gysh brn-crm/prt,micx-vfx,frag & morto,dns

Ls - lt gysh brn, micx-vfx,frag & morto,dol stks, ti

Ls - lt gysh brn,micx-vfx,frag,morto/prt,dns; Dol-gysh brn,vfx,sli inx por-noneff.

Dol - gysh brn, micx-vfx,sli inx por, arg

Dol - aa; Ls - brnsh gy,micx-vfx,frag,morto/prt,dns,arg.

Ls - gysh brn,micx-vfx,frag,morto/prt,pel/prt,dol stks,ti, arg

Dol - gysh brn,micx-vfx,sli inx por,arg,fw scat f frac fld w/calc

Dol - v lt gysh brn-sm drkr stks,micx-vfx,sli inx por,sm arg stks,sm stks/ls aa

Dol - gysh brn,micx-vfx,sli inx por, arg, tr/qtz xtls

Dol - gysh brn,micx-vfx,sli p inx pp & scat sml vg por,sm scat wh c sec dol xtls, arg.

Dol - lt gysh brn,micx-vfx,sli-p inx pp & scat sml vg por calc xtls (from frac) sli arg/prt

Dol - gysh brn - sm lt stks,micx-vfx,sli inx por, arg.

Dol - v lt gysh brn - sm dk stks, vf - fx, sli-p inx port.

Dol - gysh brn,micx-fx,sli inx por,arg,sm scat frac fld w/xtln calc.

Well name CanDel Mobil et al Iroquois I-11

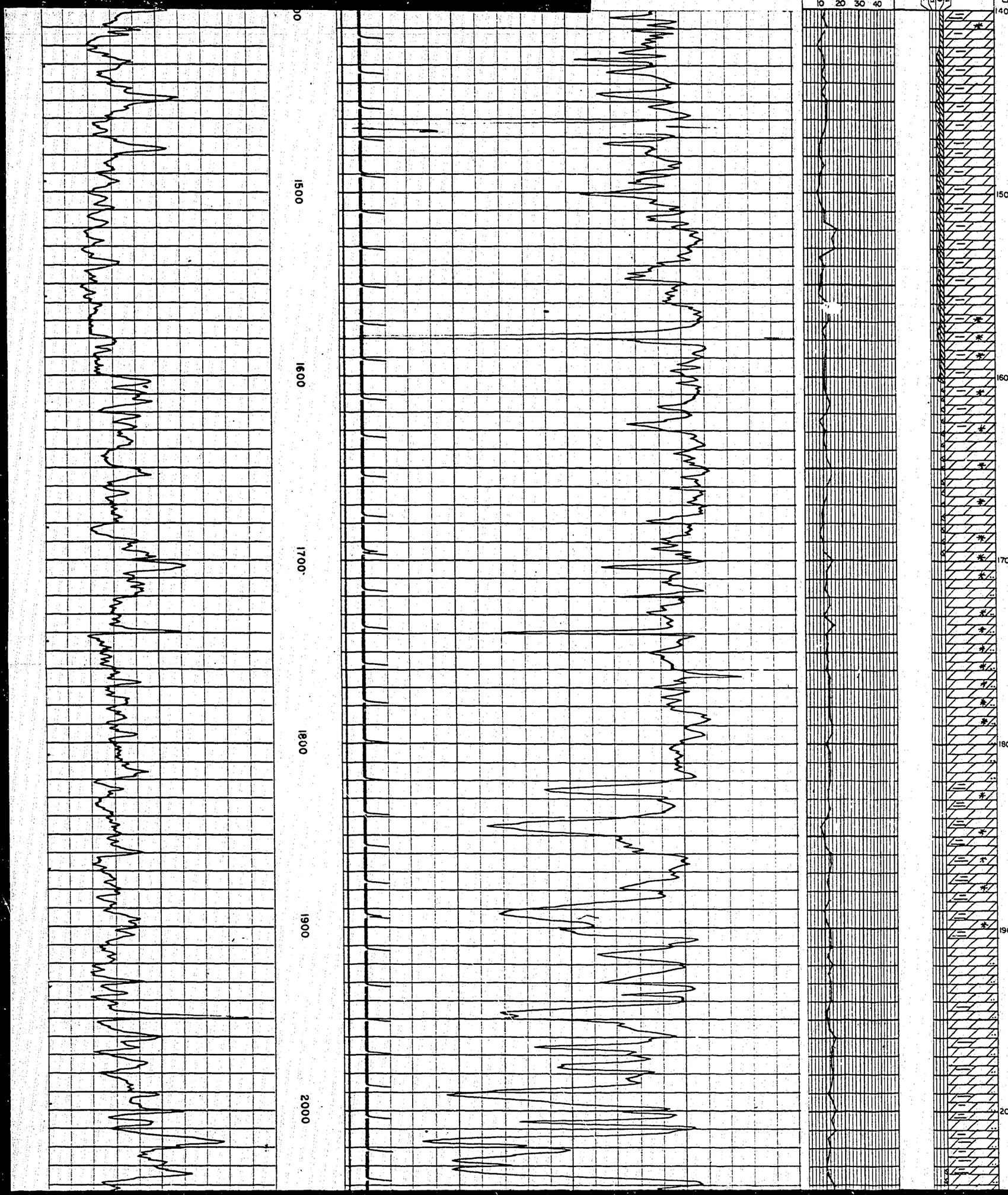
Location I-11 67-50 129-30

K.B. elev. 418'

Geologist T.A.D. Haddow

Sheet No. 2

2 of 2



LITHOLOGY

CSC.-PERF PLUGS

Dol - gysh brn - m dk gysh brn,vf-fx,sli inx por,arg,sm scat prtg/blk bit sh, tr/qtz xtls.

Dol - gysh brn,vf-fx,sli inx por,arg,scat frac fld w/xtln calc.

Dol - m gysh brn, vf-fx,sli-p inx pp & sml vg por,arg,scat frac fld w/xtln calc

Dol - lt gysh brn-sm dk stks,vf-fx,p inx & scat sml vg por,sli arg/prt

Dol - gysh brn, vf-fx,sli-p inx por, arg

Dol - lt brnsh gy - aa

Dol - brnsh gy - sm dk stks,vf-fx,sli- p inx por, arg

Dol - aa tr/qtz xtls, sm calc xtls (inflg frac)

Dol - aa, incrs qtz xtls & calc xtls

Dol - brnsh gy - sm dk stks,vf-fx,sli-p inx por, arg

Dol - lt-m dk gysh brn,micx-vfx,sli stky inx por,arg stks,fw scat qtz xtls

Dol - lt gysh brn,micx-vfx,stky sli inx por, sli arg

Dol - gysh brn,micx-vfx,stky sli inx por,arg,fw scat qtz xtls, sm scat calc xtls

Dol - gysh brn - lt stks,micx-vfx,stky sli inx por-noneff,fw qtz xtls, & calc xtls

Dol - lt gysh brn,micx-vfx,ti; slty,fw qtz xtls & calc xtls.

Dol - buff - sm dk stks/prt,dns,slty,sm scat qtz xtls

Dol - buff,micx-vfx,dns,slty, (smpl powdered difficult to interpret)

Dol - m gy,micx-vfx,dns,arg,tr/qtz xtls,tr/grnsh gy sh prtg, slty

1 of

Dol - lt gy, micx,dns, slty

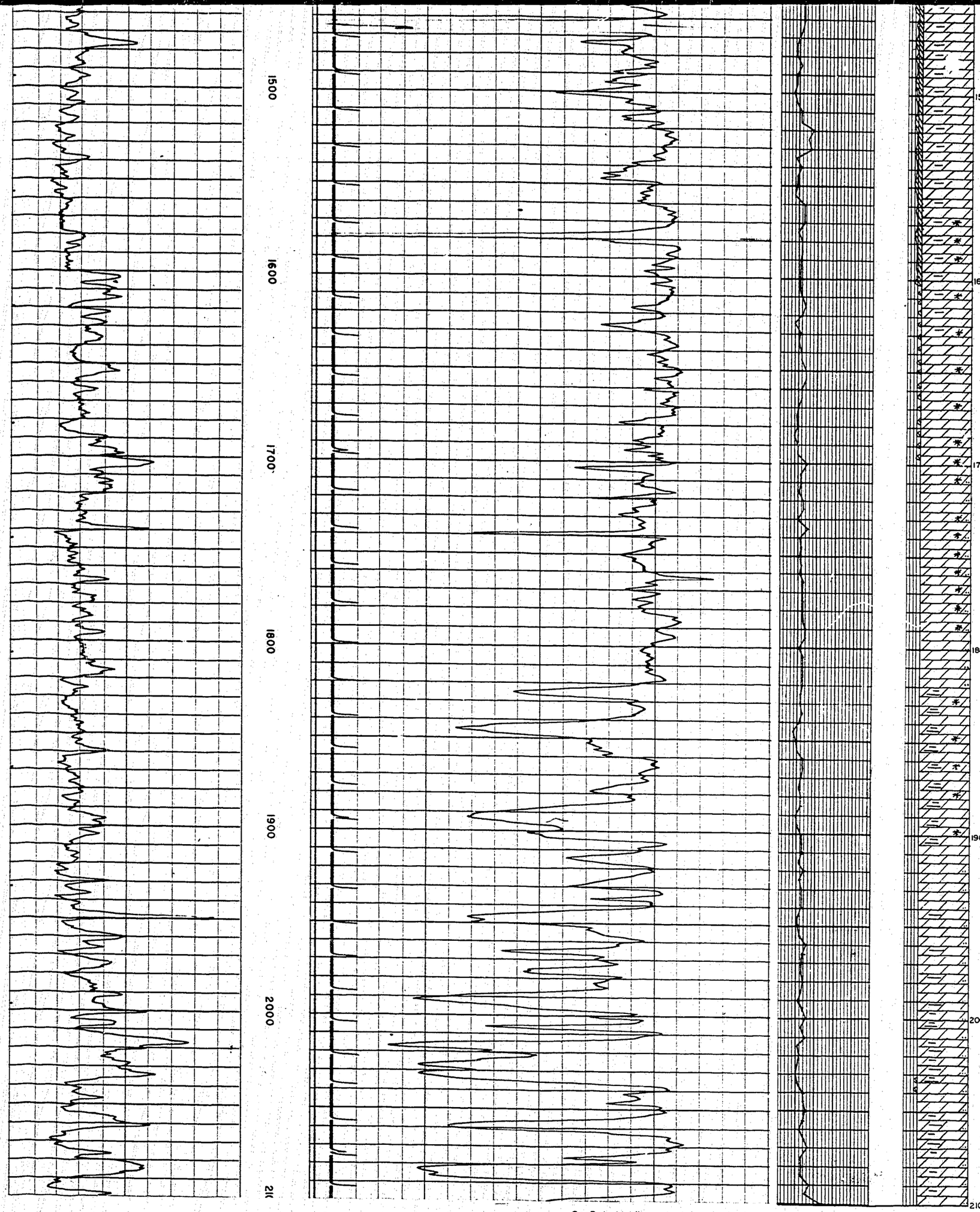
Dol - lt gy,micx-vfx,ti,slty (v fine) rr grnsh gy shly stks

Dol - brnsh gy - sm dk stks,micx-vfx,dns,arg,slty, rr prtg/blk bit sh, sm scat frac fld w/xtln calc.

Dol - dk brnsh gy-sm lt stks,micx,ti,v arg,slty sm prtg/blk bit sh

Dol - gy, micx,ti, arg, slty sm prtg/grnsh gy sh

Dol - m dk brnsh gy, micx-vfx-sm fx,stky sli inx por,arg,slty,sm prtg/dk gy sh & blk bit sh



Dol - lt gysh brn-sm dk stks,vf-fx,p inx & scat sml vg por,sli arg/prt

Dol - gysh brn, vf-fx,sli-p inx por, arg

Dol - lt brnsh gy - aa

Dol - brnsh gy - sm dk stks,vf-fx,sli- p inx por, arg

Dol - aa tr/qtz xtls, sm calc xtls (inflg frac)

Dol - aa, incrs qtz xtls & calc xtls

Dol - brnsh gy - sm dk stks,vf-fx,sli-p inx por, arg

Dol - lt-m dk gysh brn,micx-vfx,sli stky inx por,arg stks,fw scat qtz xtls

Dol - lt gysh brn,micx-vfx,stky sli inx por, sli arg

Dol - gysh brn,micx-vfx,stky sli inx por,arg,fw scat qtz xtls, sm scat calc xtls

Dol - gysh brn - lt stks,micx-vfx,stky sli inx por-noneff,fw qtz xtls, & calc xtls

Dol - lt gysh brn,micx-vfx,ti; slty,fw qtz xtls & calc xtls.

Dol - buff - sm dk stks/prt,dns,slty,sm scat qtz xtls

Dol - buff,micx-vfx,dns,slty, (smpl powdered difficult to interpret)

Dol - m gy,micx-vfx,dns,arg,tr/qtz xtls,tr/grnsh gy sh prtg, slty

Dol - lt gy, micx,dns, slty

Dol - lt gy,micx-vfx,ti,slty (v fine) rr grnsh gy shly stks

Dol - brnsh gy - sm dk stks,micx-vfx,dns,arg,slty, rr prtg/blk bit sh, sm scat frac fld w/xtln calc.

Dol - dk brnsh gy-sm lt stks,micx,ti,v arg,slty sm prtg/blk bit sh

Dol - gy, micx,ti,arg, slty sm prtg/grnsh gy sh

Dol - m dk brnsh gy, micx-vfx-sm fx,stky sli inx por,arg,slty,sm prtg/dk gy sh & blk bit sh

Dol - lt gy - sli grnsh - brnsh cst, micx - vfx, ti, slty

Dol - m - dk brnsh gy,micx-vfx,ti, v arg, sli slty,scat frac fld w/xtln calc prtg/dk gy sh

Dol - m gy - sli brnsh, micx,dns,arg,slty,scat frac w/calc.

Dol - brnsh gy - sm dkr stks,micx-fx,dns, arg/prt,slty,scat frac w/calc

PLUG No. 3

Well name CanDel Mobil et al Iroquois I-11

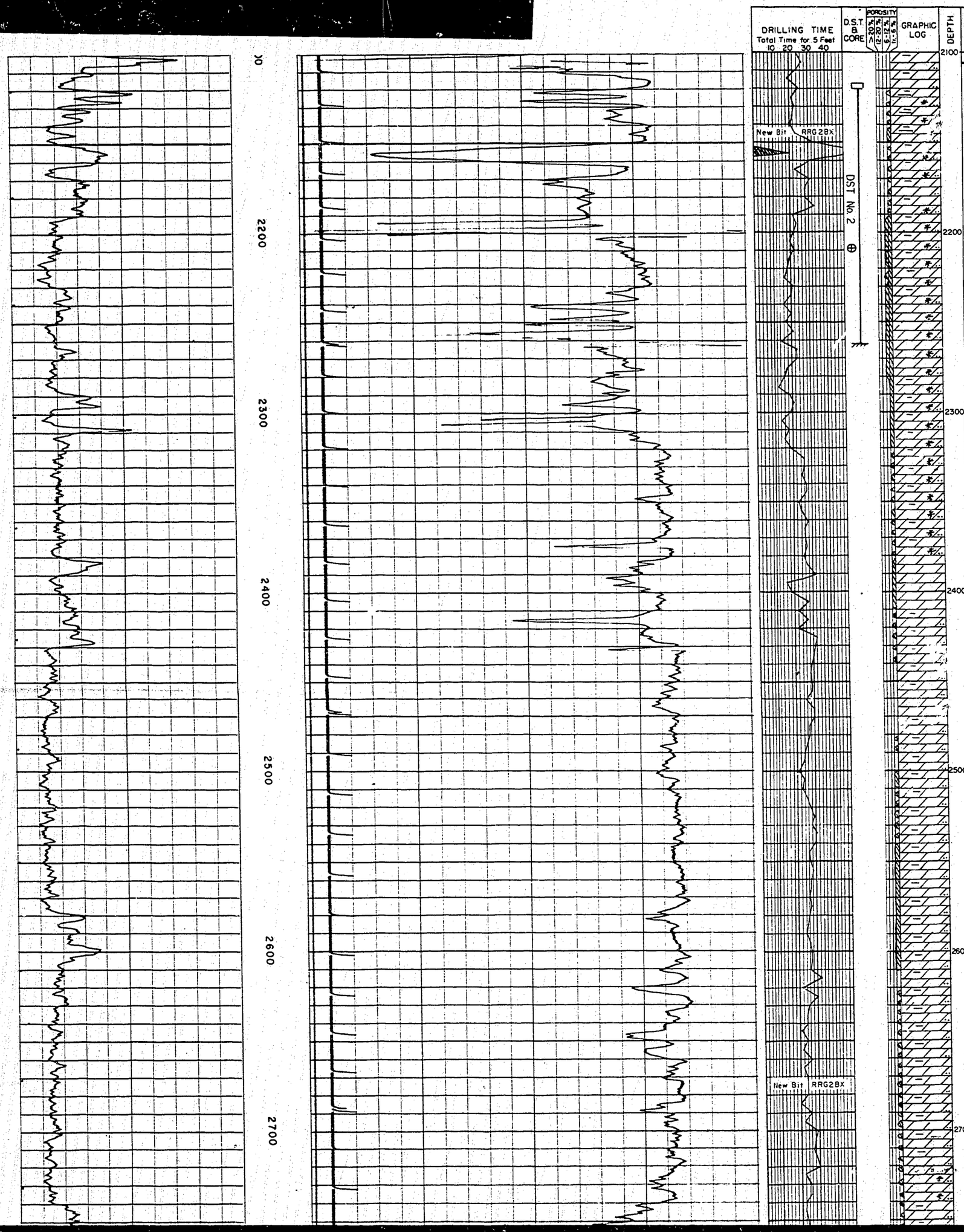
Location I-11 67-50 129-30

K.B. elev. 418'

Geologist T.A.D. Haddow

Sheet No. 3

2 of 2



LITHOLOGY

CSC - PERF PLUGS

PLUG No. 3

Dol - gy - sli brnsh - sm lt stks,micx-vfx,dns,hrd,arg, slty, sm scat frac fld w/xtln calc

Dol - gysh brn-sm lt stks,micx-fx-sm lt col stks are f-mx,ti/mst prt, sm stky sli inx por,arg,slty,sm stks/gysh grn sh,scat fracs fld/xtln calc tr qtz xtls.

Dol - buff micx-vfx,sli inx por,slty,sm stks/gysh grn sh,scat frac fld/cal

Dol - lt gysh brn,micx-vfx,stky sli inx por,arg,slty,tr/qtz xtls

Dol - aa sm lt col stks - vf-fx,stky inx por,scat frac fld/xtln calc

Dol - v lt buff,f-mx,p inx & vug por-abun lse c dol rhmb,scat qtz xtls,sli slty & arg

Dol - gysh brn,f-mx,sli-p inx por,arg,scat qtz xtls

Dol - lt gysh brn-sm dk stks,f-mx,p inx & vug por-scat dol rhmb,qtz xtls,arg,slty

Dol - v lt buff,f-mx,p inx & vug por,scat dol rhmb & qtz xtls

Dol - v lt gysh brn-f-mx p inx & vug por,scat dol rhmbs & qtz xtls,sli slty, scat frac fld/calc

Dol - m-dk gysh brn,vf-mx,sli inx & vug por,scat dol rhmbs & qtz xtls,arg & slty

Dol- m gysh brn f-mx-euhedral,sli scat vug por,arg,slty,scat dol rhmbs,tr/qtz xtls

Dol - lt - m gysh brn aa

Dol - gysh brn,vf-fx,stky sli inx por,arg,slty,scat qtz xtls

Dol - v lt buff,f-mx,sli inx por,scat vug - sm c dol rhmb

Dol - v lt buff - v lt brn,vf-m xtln - euhedral, sli vug por - scat c dol rhmb

Dol - m brnsh gy - sm lt stks,vf-fx,stky sli inx por,arg,slty,scat frac fld/ wh ox sec dol, sm frac fld/xtln calc

Dol - m - dk brnsh gy,vf-fx,dns,arg,slty,sm lse dol rhmb (inflg frac?)

Dol - brnsh gy - sm dk stks aa

Dol - brnsh gy,vf-fx,stky sli inx por, arg, slty

Dol - gysh brn,vf-fx,dns,arg, slty

Dol - lt gysh brn,vf-fx,sli inx por,sli arg,slty, sm sec dol

Dol - gysh brn, vf-fx,stky sli inx por, arg, slty

Dol - lt gysh brn,aa,sli inx & scat vug por,arg,slty,scat wh c xtls/dol (druses)

Dol - v lt buff,vf-mx,sli inx por, sli slty

Dol - gysh brn, vf-fx,stky sli inx por,arg, slty

Dol - gysh brn - sm dk stks, vfx,dns,arg, slty

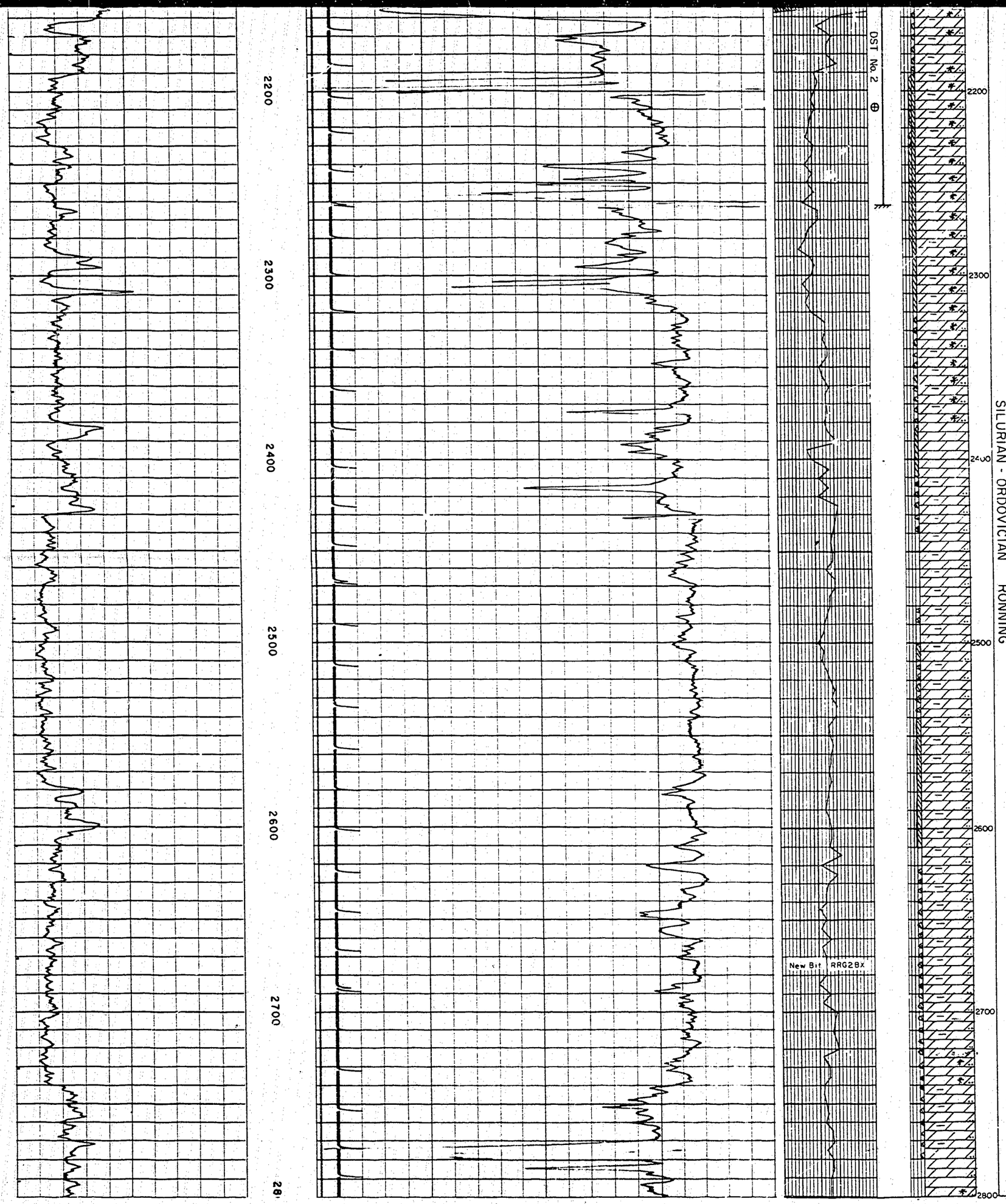
Dol - gysh brn,vf-fx,stky sli inx & vug por,scat dol rhmbs,slty,sli arg, sm scat frac fld/sec dol

Dol - gysh brn,micx-vfx-stks/mic-suc w/stky sli inx por,arg, slty

Dol - brnsh gy,micx-vfx,dns-sm lt buff mic-suc stks w/sl inx por - noneff slty & sdy, abun calc xtls & sm dol rhmbs inflg frac,tr qtz xtls

Dol - lt buff - microsuc & lt brn-gysh-micx-vfx,stky sli inx por-noneff,slty

1 of



SILURIAN - ORDOVICIAN RONNING

Dol - aa sm lt col stks - vf-fx,stky inx por,scat frac fld/xtln calc

Dol - v lt buff,f-mx,p inx & vug por-abun lse c dol rhmb,scat qtz xtls,sli slty & arg

Dol - gysh brn,f-mx,sli-p inx por,arg,scat qtz xtls

Dol - lt gysh brn-sm dk stks,f-mx,p inx & vug por-scat dol rhmb,qtz xtls,arg,slty

Dol - v lt buff,f-mx,p inx & vug por,scat dol rhmb & qtz xtls

Dol - v lt gysh brn-f-mx p inx & vug por,scat dol rhmbs & qtz xtls,sli slty, scat frac fld/calc

Dol - m-dk gysh brn,vf-mx,sli inx & vug por,scat dol rhmbs & qtz xtls,arg & slty

Dol- m gysh brn f-mx-euhedral,sli scat vug por,arg,slty,scat dol rhmbs,tr/qtz xtls

Dol - lt - m gysh brn aa

Dol - gysh brn,vf-fx,stky sli inx por,arg,slty,scat qtz xtls

Dol - v lt buff,f-mx,sli inx por,scat vug - sm c dol rhmb

Dol - v lt buff - v lt brn,vf-m xtln - euhedral, sli vug por - scat c dol rhmb

Dol - m brnsh gy - sm lt stks,vf-fx,stky sli inx por,arg,slty,scat frac fld/ wh cx sec dol, sm frac fld/xtln calc

Dol - m - dk brnsh gy,vf-fx,dns,arg,slty,sm lse dol rhmb (inflg frac?)

Dol - brnsh gy - sm dk stks aa

Dol - brnsh gy,vf-fx,stky sli inx por, arg, slty

Dol - gysh brn,vf-fx,dns,arg, slty

Dol - lt gysh brn,vf-fx,sli inx por,sli arg,slty, sm sec dol

Dol - gysh brn, vf-fx,stky sli inx por, arg, slty

Dol - lt gysh brn,aa,sli inx & scat vug por,arg,slty,scat wh c xtls/dol (druses)

Dol - v lt buff,vf-mx,sli inx por, sli slty

Dol - gysh brn, vf-fx,stky sli inx por,arg, slty

Dol - gysh brn - sm dk stks, vfx,dns,arg, slty

Dol - gysh brn,vf-fx,stky sli inx & vug por,scat dol rhmbs,slty,sli arg, sm scat frac fld/sec dol

Dol - gysh brn,micx-vfx-stks/mic-suc w/stky sli inx por,arg, slty

Dol - brnsh gy,micx-vfx,dns-sm lt buff mic-suc stks w/sl inx por - noneff slty & sdy, abun calc xtls & sm dol rhmbs inflg frac,tr qtz xtls

Dol - lt buff - microsuc & lt brn-gysh-micx-vfx,stky sli inx por-noneff,slty arg,sm scat calc xtls,tr/qtz xtls & dol rhmbx

Dol - buff micx-vfx,dns,slty

Dol - lt gysh brn,micx-vfx,ti,slty,sm scat inclus/calc xtls,rr qtz xtls

Well name CanDel Mobil et al Iroquois I-11

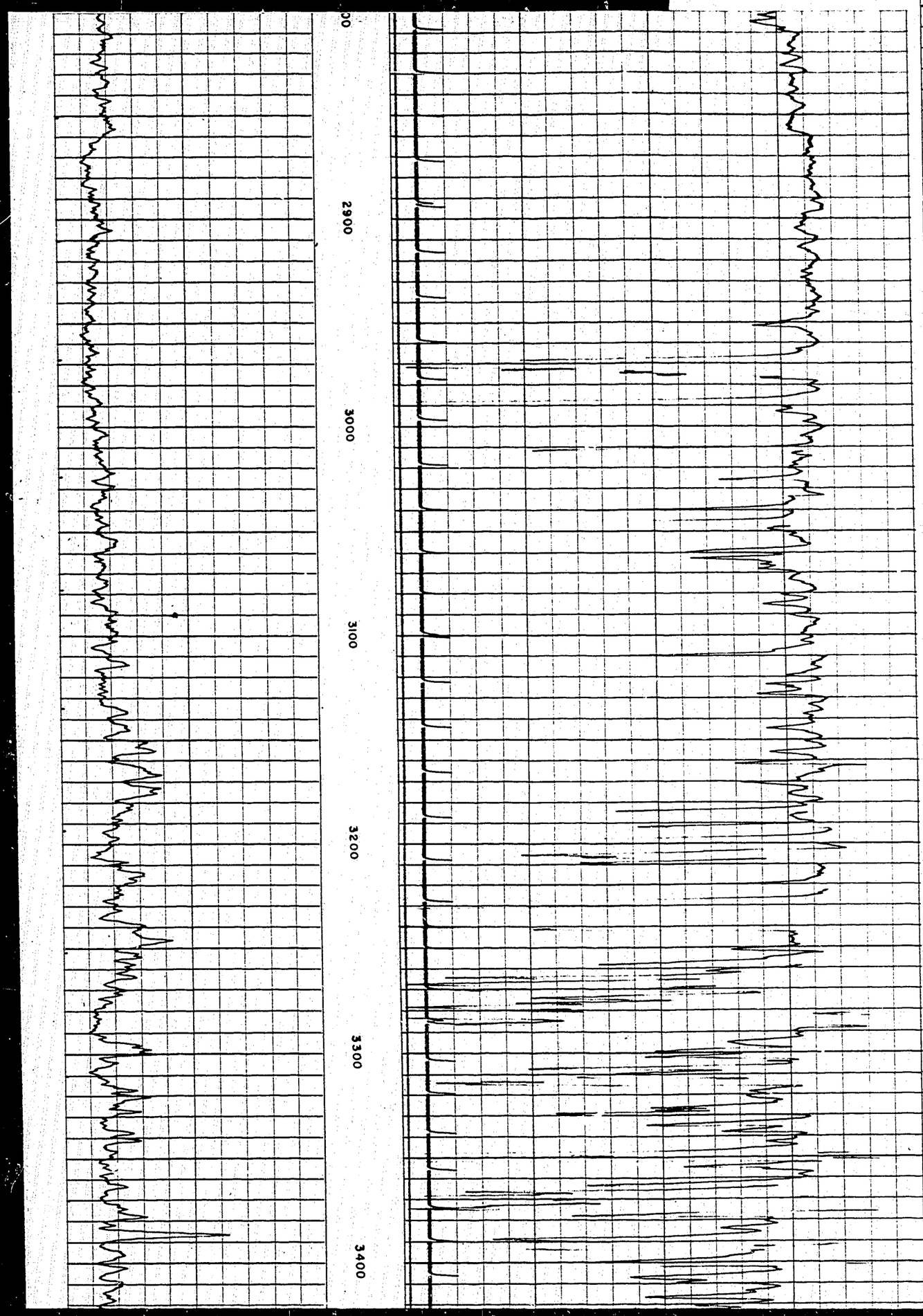
Location I-11 67-50 129-30

K.B. elev. 418'

Geologist T.A.D. Haddow

Sheet No. 4

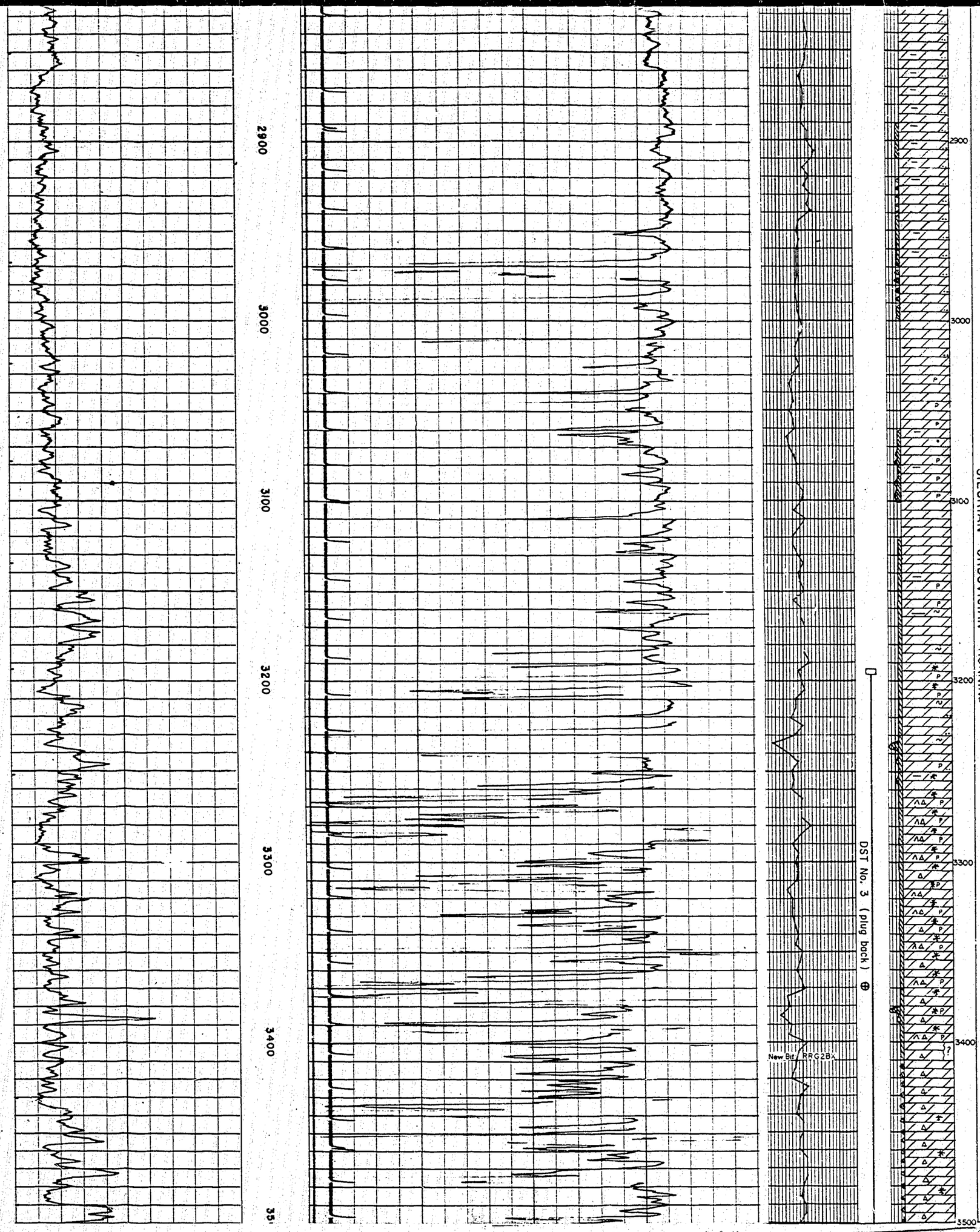
2 of 2



FORMATION: SILURIAN - ORDOVICIAN RONNING

LITHOLOGY	CSC - PERF PLUGS
Dol - gysh brn - lt stks,micx-fx,ti,slty,sm scat incl/calc xtls	
Dol - brnsh gy,micx-fx,dns/mst prt - scat blnd vug w/c dol druses,slty,sli arg sm scat frac fld/sec dol	
Dol - brnsh gy,micx-fx,dns - scat vugs w/sec dol, slty, arg	
Dol - buff,micx-fx,sli inx por,rr drusy vug,rr qtz xtls,sm lse calc & sec dol xtls,arg, slty (vf)	
Dol - gysh brn,micx-fx,dns,rr scat vug,arg,slty,lse calc xtls (frac?)	
Dol - aa, sli scat vug por - sec dol druses	
Dol - aa, sm lt col stks & ptchs, sli vug por	
Dol - gysh brn,micx-fx-suc/prt,stky sli inx & scat vug por,arg,slty,scat frac fld/calc xtls,sec dol druses	
Dol - aa, abun frac w/calc xtls,stky sli inx & vug por,dol druses	
Dol - gysh brn,micx-fx,sli inx & vug por,c sec dol rhmos infig vugs, tr/qtz xtls,tr/mlky ch,arg,slty,sm scat frac infld/calc	
Dol - lt gysh brn,micx-fx,dns,sm scat frac fld/calc	
Dol - lt buff,micx-fx,dns,slty,sm scat frac fld/calc	
Dol - lt brnsh & grnsh gy - micx - fx, dns,frac fld/calc,fw vugs w/druses of sec dol sm f dism py	
Dol - v lt gysh brn-buff,micx-f & sm mx,sli scat vug por-druses,frac w/calc tr pyrbit	
Dol - lt gysh brn,vf-cx,sli p inx & vug por,scat sli arg stks,sm scat py	
Dol - v lt - lt gy - brnsh/prt,micx-mx,dns,fw frac fld/calc	
Dol - lt gysh brn,micx-cx,sli inv & vug por,lse dol rhmbs	
Dol - aa - v lt buff/prt,fw stks/m dk brnsh gy vfx dol; fw sli arg stks, sm py	
Dol - v lt - lt gy - brnsh/prt,micx - cx,sli inx & vug por, tr/grn wxy sh, rr scat glauc	
Dol - v lt gy, micx-cx,sli inx & vug por, mlky & v lt blsh gy ch, tr qtz xtls, sm scat py	
Dol - v lt - lt brnsh gy,micx-cx,sli-p inx & vug por,rr scat glauc, slty	
Dol - lt gy,vf-cx,sli inx & sml vug por,v g cvrn por(kelly dropped 5')tr/glauc	
Dol - lt gy - brnsh/prt,vf-cx,sli p inx & vug por, scat py	
Dol - aa, sm dk stks of micx - vfx dol - slty & arg; sm qtz xtls	
Dol - lt gy - brnsh/prt,vf-cx,sli inx & vug por,sil/prt,v lt gy ch,sm qtz xtls,tr/bright-grn sh, scat py	
Dol - aa, abun v lt gy - mlky ch, qtz xtls	
Dol - lt gysh brn,micx-cx,sli inx & vug por - sm cvrn por at 3380', lt gy ch, sil/prt,qtz xtls,sm scat pyr	
Dol - aa (trip sample)	
Dol - lt gysh brn,vf-cx,scat sli inx por & vug por, lt gy ch	

1 of



Dol - brnsh gy,micx-fx,dns/mst prt - scat blnd vug w/c dol druses,slty,sli arg sm scat frac fld/sec dol

Dol - brnsh gy,micx-fx,dns - scat vugs w/sec dol, slty, arg

Dol - buff,micx-fx,sli inx por,rr drusy vug,rr qtz xtls,sm lse calc & sec dol xtls,arg, slty (vf)

Dol - gysh brn,micx-fx,dns,rr scat vug,arg,slty,lse calc xtls (frac?)

Dol - aa, sli scat vug por - sec dol druses

Dol - aa, sm lt col stks & ptchs, sli vug por

Dol - gysh brn,micx-fx-suc/prt,stky sli inx & scat vug por,arg,slty,scat frac fld/calc xtls,sec dol druses

Dol - aa, abun frac w/calc xtls,stky sli inx & vug por,dol druses

Dol - gysh brn,micx-fx,sli inx & vug por,c sec dol rhmbs inflg vugs, tr/qtz xtls,tr/mlky ch,arg,slty,sm scat frac infld/calc

Dol - lt gysh brn,micx-fx,dns,sm scat frac fld/calc

Dol - lt buff,micx-fx,dns,slty,sm scat frac fld/calc

Dol - lt brnsh & grnsh gy - micx - fx, dns,frac fld/calc,fw vugs w/druses of sec dol sm f dism py

Dol - v lt gysh brn-buff,micx-f & sm mx,sli scat vug por-druses,frac w/calc tr pyrite

Dol - lt gysh brn,vf-cx,sli p inx & vug por,scat sli arg stks,sm scat py

Dol - v lt - lt gy - brnsh/prt,micx-mx,dns,fw frac fld/calc

Dol - lt gysh brn,micx-cx,sli inv & vug por,lse dol rhmbs

Dol - aa - v lt buff/prt,fw stks/m dk brnsh gy vfx dol; fw sli arg stks, sm py

Dol - v lt - lt gy - brnsh/prt,micx - cx,sli inx & vug por, tr/grn wxy sh, rr scat glauc

Dol - v lt gy, micx-cx,sli inx & vug por, mlky & v lt blsh gy ch, tr qtz xtls, sm scat py

Dol - v lt - lt brnsh gy,micx-cx,sli-p inx & vug por,rr scat glauc, slty

Dol - lt gy,vf-cx,sli inx & sml vug por,v g cvrn por(kelly dropped 5')tr/glauc

Dol - lt gy - brnsh/prt,vf-cx,sli p inx & vug por, scat py

Dol - aa, sm dk stks of micx - vfx dol - slty & arg; sm qtz xtls

Dol - lt gy - brnsh/prt,vf-cx,sli inx & vug por,sil/prt,v lt gy ch,sm qtz xtls,tr/bright-grn sh, scat py

Dol - aa, abun v lt gy - mlky ch, qtz xtls

Dol - lt gysh brn,micx-cx,sli inx & vug por - sm cvrn por at 3380', lt gy ch, sil/prt,qtz xtls,sm scat pyr

Dol - aa (trip sample)

Dol - lt gysh brn,vf-cx,scat sli inx por & vug por, lt gy ch

Dol - buff - lt gysh brn, aa, fw qtz xtls, ch

PLUG No. 2

Well name CanDel Mobil et al Iroquois I-11

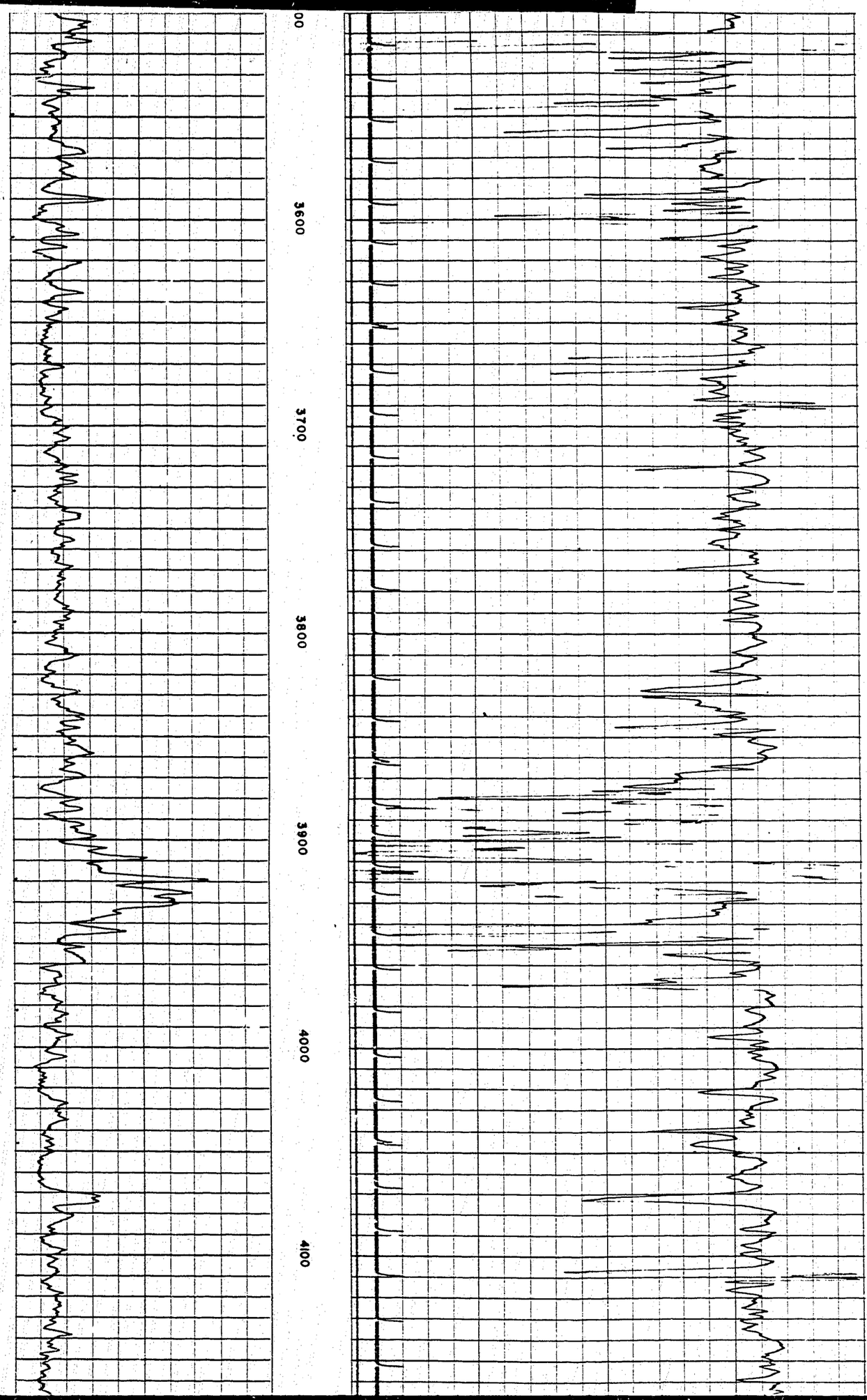
Location I-11 67-50 129-30

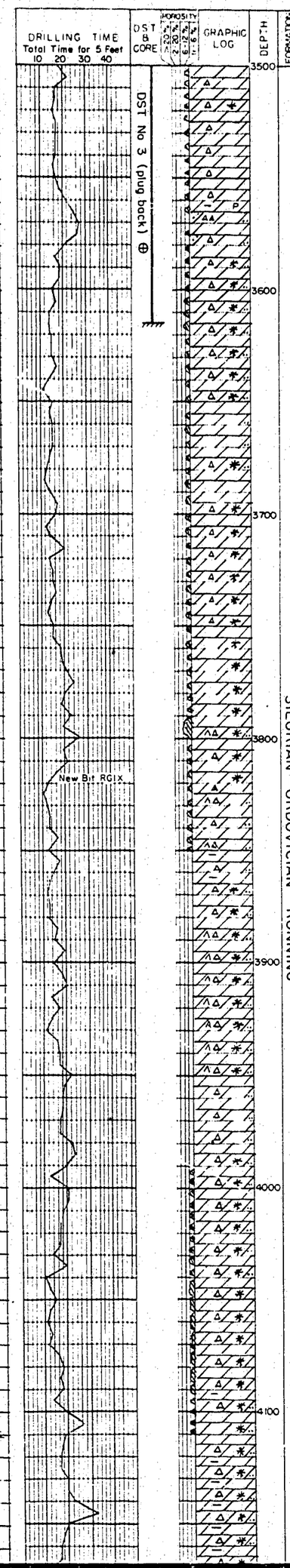
2 of 2

K.B. elev. 418'

Geologist T.A.D. Haddow

Sheet No. 5





FORMATION: SILURIAN - ORDOVICIAN RONNING

LITHOLOGY

CSC - PERM PLUGS: PLUG No. 2

Dol - buff,vf-cx,sccat sli inx & vug por, ch

Dol - aa & dol - m-dk gy - sli brnsh,micx-vfx,arg,dns,stks/dk gy-blk ch,sm stks/sdy dol-lt gy,vfx,dns,v slty-sdy(vfg)-grdg/dol ss,f dism py

Dol - m - dk gy -/lt gy slty - sdy stks aa

Dol - lt buff - lt gysh brn,vf-mx,slty sli inx & vug por,slty,v lt gy ch sm qtz xtls

Dol - lt buff,vf-cx,stky sli inx & vug por,slty,sm lt gy ch,sm qtz xtls

Dol - lt buff,vf-cx,stky sli inx & vug por,slty

Dol - aa, tr/lt gy ch & qtz xtls

Dol - aa, qtz xtls & v lt gy ch - fnt outline/ool

Dol - lt buff,lt gysh brn,vf-cx,stky sli inx & vug por,qtz xtls,tr/v lt gy ch

Dol - v lt buff, aa

Dol - v lt buff-brnsh/prt,vf-cx,stky sli inx & vug por,qtz xtls

Dol - v lt buff - tr/rdsh stks,micx-mx,sli-p inx por,slty,sil/prt,v lt gy -mlky ch,qtz xtls

Dol - v lt gy & buff,vf-mx,stky sli inx por,slty,sm qtz xtls,tr/v lt gy ch

Dol - v lt buff - brnsh/prt,micx-cx,stky sli inx & vug por,slty,sil/prt,sm v lt gy ch & tr stks/m-dk gy ch,sm qtz xtls

Dol - v lt gy-brnsh/prt,vf-mx,dns,sm stks-gysh brn-micx-vfx,arg,slty,ti; tr ch

Dol - aa, sm v lt gy ch sm qtz xtls

Dol - v lt gy - sli brnsh/prt,micx-mx,dns,slty sil/prt,sm ch-lt-v lt gy,qtz xtls

Dol - v lt gy-sli brnsh/prt,micx-mx,dns,slty,v ch-v lt gy(fnt ool) sil/prt, qtz xtls, tr/gyp xtls.

Dol - aa - ch being sli drkr/ool

Dol - lt gysh brn,micx-mx,dns,slty,abun v lt gy-v lt gysh brn ool ch,sm lse calc xtls

Dol - v lt gysh brn,micx-mx,dns,slty,v lt gy ch,sm qtz xtls

Dol - v lt buff,micx-fx,stky sli inx por,slty sm lt ool ch-ool/prt,qtz xtls

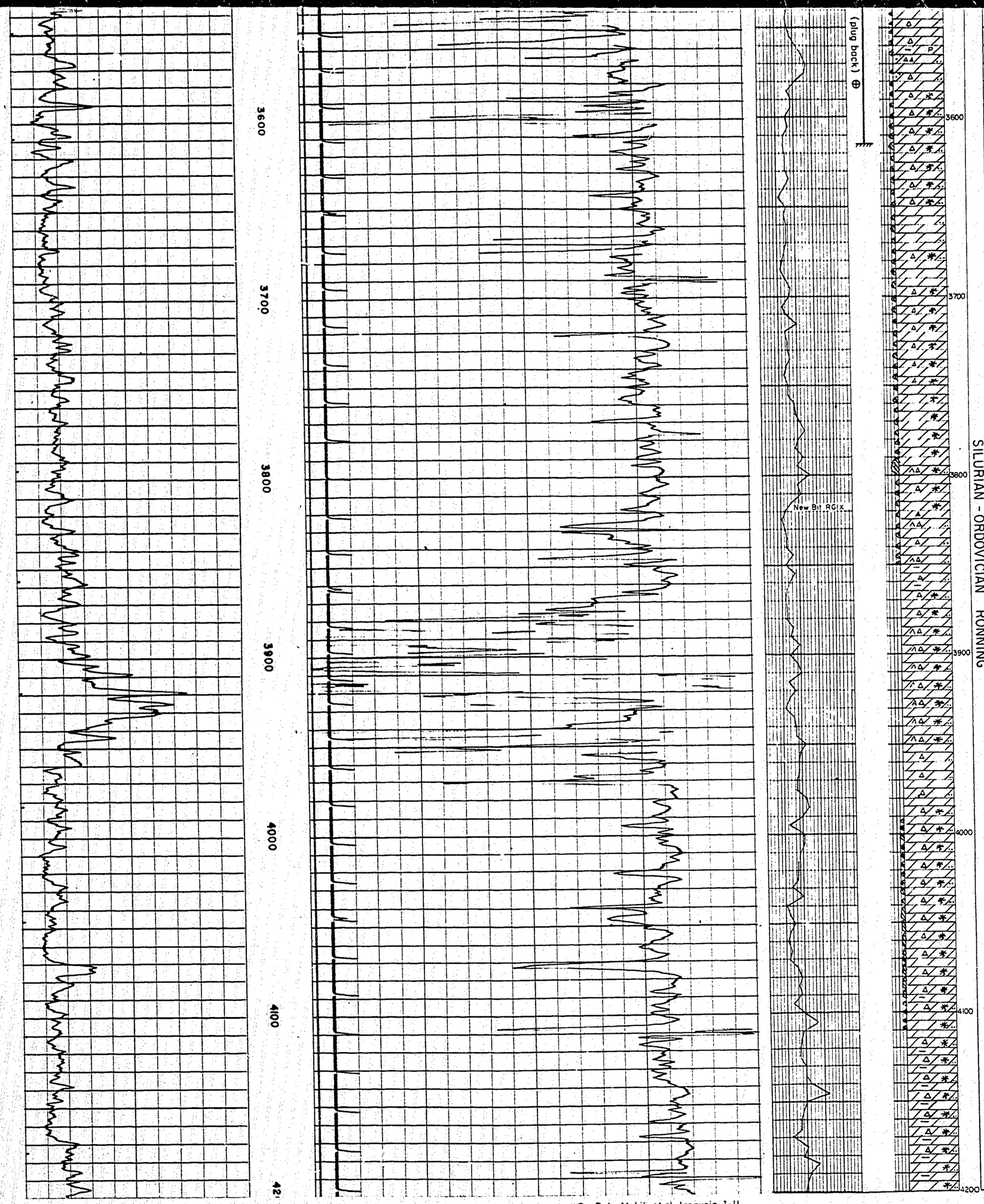
Dol - v lt buff,micx-fx,stky sli inx por,slty,sm lt ool ch,sm qtz xtls

Dol - v lt buff,micx-mx,sli inx por-dns stks,sm v lt gy ch,sm qtz xtls

Dol - v lt buff-v lt gysh brn,micx-mx,sm m gysh brn stks-micx-vfx,sli arg slty; stky sli inx por,sli ch - ool/prt, sm qtz xtls.

Dol - v lt - m gysh brn,micx-fx,dns,slty,arg stks,m sm v lt gy ch, sm qtz xtls, sm lse calc xtls

1 of



PLUG No.

Dol - aa & dol - m-dk gy - sli brnsh,micx-vfx,arg,dns,stks/dk gy-blk ch,sm stks/sdy dol-lt gy,vfx,dns,v slty-sdy(vfg)-grdg/dol ss,f diam py

Dol - m - dk gy w/lt gy slty - sdy stks aa

Dol - lt buff - lt gysh brn,vf-mx,slty sli inx & vug por,slty,v lt gy ch sm qtz xtls

Dol - lt buff,vf-cx,stky sli inx & vug por,slty,sm lt gy ch,sm qtz xtls

Dol - lt buff,vf-cx,stky sli inx & vug por,slty

Dol - aa, tr/lt gy ch & qtz xtls

Dol - aa, qtz xtls & v lt gy ch - fnt outline/ool

Dol - lt buff,lt gysh brn,vf-cx,stky sli inx & vug por,qtz xtls,tr/v lt gy ch

Dol - v lt buff, aa

Dol - v lt buff-brnsh/prt,vf-cx,stky sli inx & vug por,qtz xtls

Dol - v lt buff - tr/rdsh stks,micx-mx,sli-p inx por,slty,sil/prt,v lt gy -mlky ch,qtz xtls

Dol - v lt gy & buff,vf-mx,stky sli inx por,slty,sm qtz xtls,tr/v lt gy ch

Dol - v lt buff - brnsh/prt,micx-cx,stky sli inx & vug por,slty,sil/prt,sm v lt gy ch & tr stks/m-dk gy ch,sm qtz xtls

Dol - v lt gy-brnsh/prt,vf-mx,dns,sm stks-gysh brn-micx-vfx,arg,slty,ti; tr ch

Dol - aa, sm v lt gy ch sm qtz xtls

Dol - v lt gy - sli brnsh/prt,micx-mx,dns,slty sil/prt,sm ch-lt-v lt gy,qtz xtls

Dol - v lt gy-sli brnsh/prt,micx-mx,dns,slty,v ch-v lt gy(fnt ool) sil/prt, qtz xtls, tr/gyp xtls.

Dol - aa - ch being sli drkr/ool

Dol - lt gysh brn,micx-mx,dns,slty,abun v lt gy-v lt gysh brn ool ch,sm lse calc xtls

Dol - v lt gysh brn,micx-mx,dns,slty,v lt gy ch,sm qtz xtls

Dol - v lt buff,micx-fx,stky sli inx por,slty sm lt ool ch-ool/prt,qtz xtls

Dol - v lt buff,micx-fx,stky sli inx por,slty,sm lt ool ch,sm qtz xtls

Dol - v lt buff,micx-mx,sli inx por-dns stks,sm v lt gy ch,sm qtz xtls

Dol - v lt buff-v lt gysh brn,micx-mx,sm m gysh brn stks-micx-vfx,sli arg slty; stky sli inx por,sli ch - ool/prt, sm qtz xtls.

Dol - v lt - m gysh brn,micx-fx,dns,slty,arg stks,m sm v lt gy ch, sm qtz xtls, sm lse calc xtls

Dol - v lt - m gysh brn,micx-fx,dns,slty,arg stks,ch - v lt gy - dk gy, sm lse calc xtls, sm qtz xtls

Well name CanDel Mobil et al Iroquois I-11

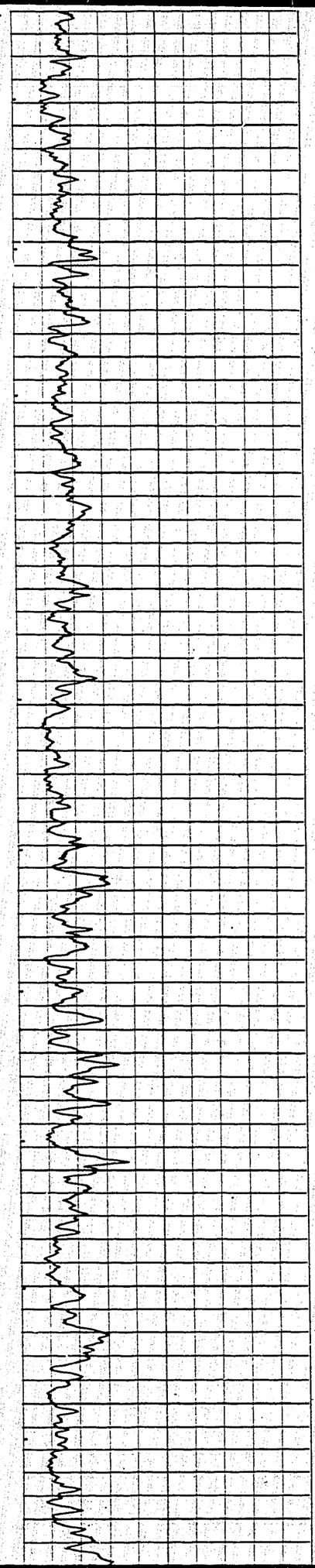
Location I-11 67-50 129-30

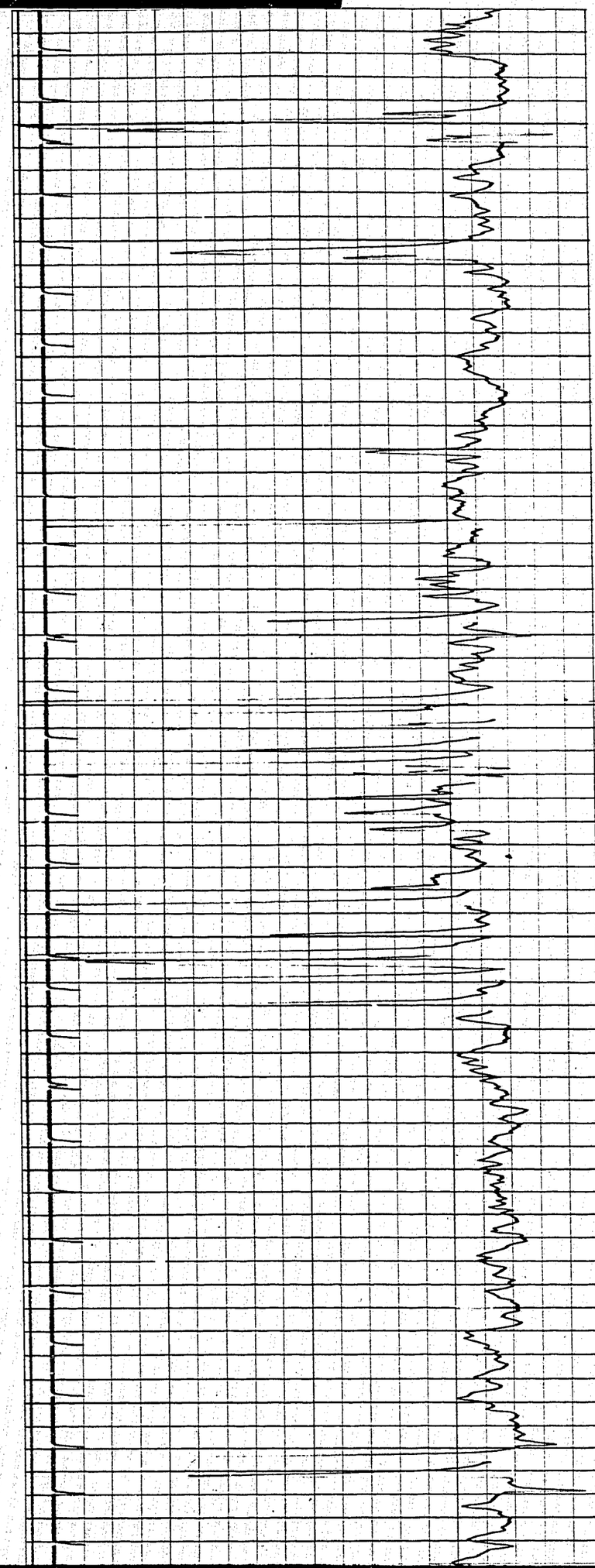
2 of 2

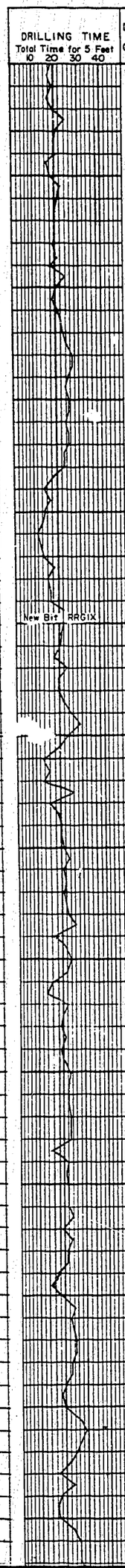
K.B. elev. 418'

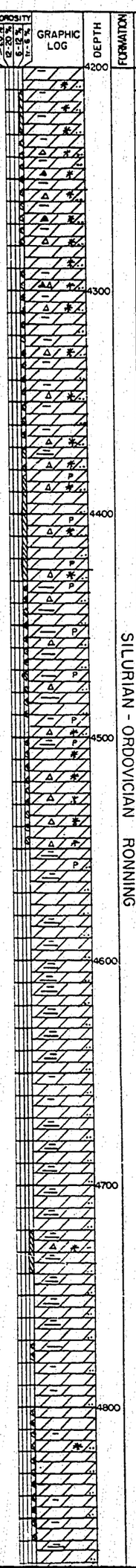
Geologist T.A.D. Haddow

Sheet No. 6



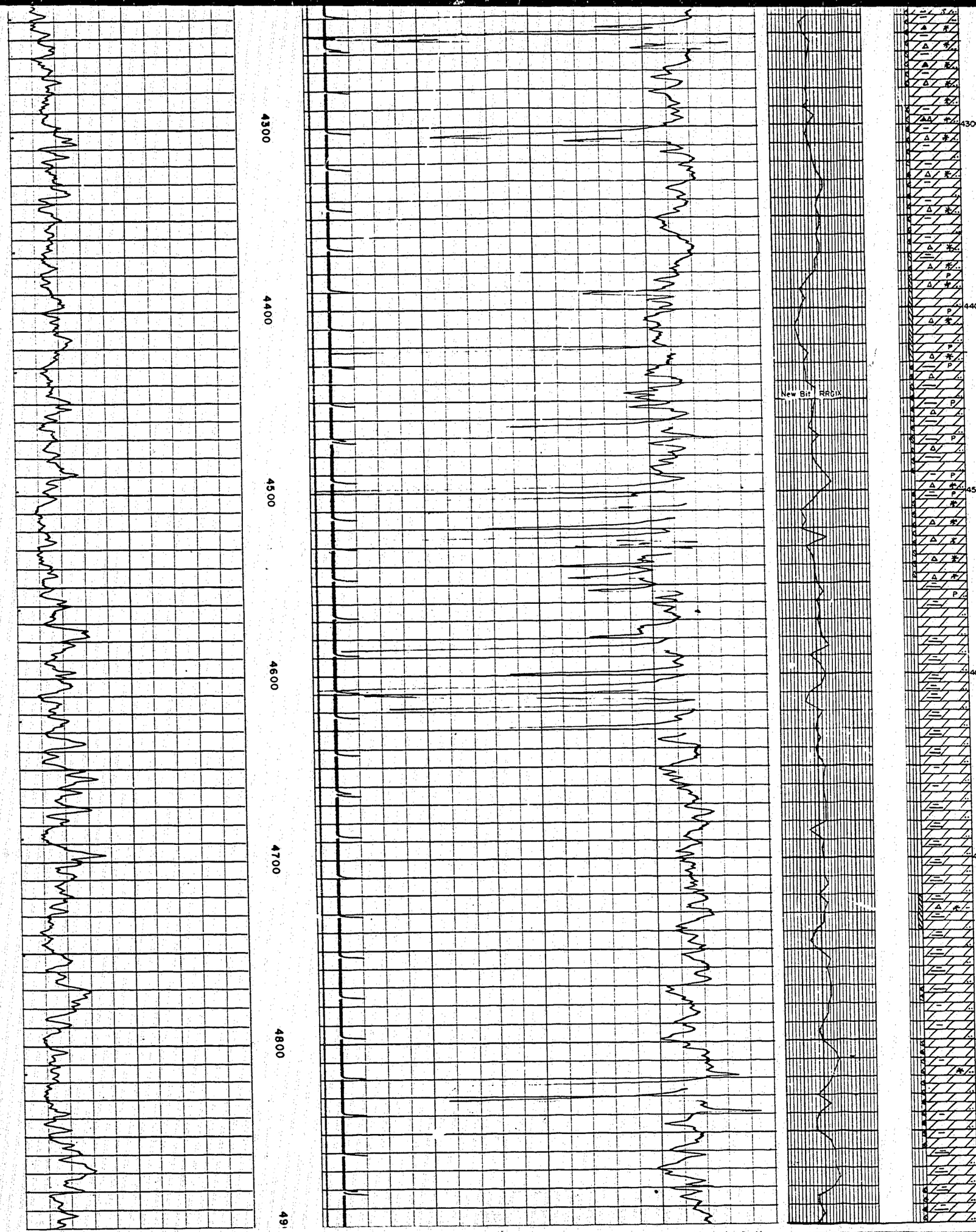






DRILLING TIME Total Time for 5 Feet (10 20 30 40)	D.S.T & CORE	POROSITY (>20% 12-20% 6-12% 0-6%)	GRAPHIC LOG	DEPTH	FORMATION	LITHOLOGY	CSC.-PERM PLUGS
				4200	SILURIAN - ORDOVICIAN RONNING		
						Dol - aa - abun qtz xtls, sli vug por	
						Dol - v lt - m gysh brn,micx-fx,stky sli inx por,slty,arg stks,qtz xtls,sm stk/oh v lt brnsh gy - dk gy	
						Dol - v lt gy-sli brnsh-sm dk stks,micx-fx,dns/mst prt,sm scat sm/vug,slty,qtz xtls	
						Dol - brnsh gy - lt stks,micx-fx,stky sli inx por,slty,arg stks,qtz xtls,sm v lt - dk gy oh	
				4300		Dol - gy - v lt/prt - sli brnsh,micx-fx,sli inx por-stky,slty,arg/prt,sli oh f w qtz xtls	
						Dol - aa fw prtg/dk gy sh	
						Dol - v lt buff,micx-mx,sli inx por,tr/scat vug,slty,py/prt, tr/lt col ch & qtz xtls	
				4400		Dol - v lt - lt gy - sli brnsh - sm dk stks,micx-cx,stky sli inx por,slty,sli oh,sm scat py, sm scat prtg/gysh grn sh & dk gy sh - bit/prt	
						Dol - m brnsh gy-sm lt stks,micx-mx,ti,slty,arg,rr lt col ch & qtz xtls,scat py	
				4500		Dol - v lt gy-brnsh stks,micx-mx,sli inx por,slty,arg stks,sm qtz xtls,py, tr sh prtg	
						Dol - v lt gysh brn,vf-cx,stky sli inx & vug por,sli ch-col/prt,sm qtz xtls	
						Dol - aa - sm drkr col stk	
						Dol - gysh brn-micx-fx,til arg,slty,sm prtg/dk gy sh,sm scat py	
						Dol - brnsh gy,micx-fx,ti,slty	
						Dol - gysh brn,micx-fx,ti,slty,arg,sm prtg/dk gy & blk bit sh	
				4600			
						Dol - lt brnsh gy,micx-fx,ti,slty,sli arg	
						Dol - lt-m gysh brn,micx-fx,ti,slty,arg,sm scat frac fld w/xtln calc,scat sh prtg	
				4700			
						Dol - v lt gy - gysh brn - rr rdsh stks,micx-cx,sli vug & inx por,slty,arg stk sm dk gy sh prtg - sm dk rdsh col,tr/lt gy oh & qtz xtls	
						Dol - gysh brn,micx-fx,ti,slty,arg,sm prtg/blk bit sh & dk gy sh	
						Dol - lt - m gysh brn,sm stks/v lt gy,micx-fx,stky sli inx por,sh prtg-dk gy,rr prpl stk	
						Dol - gysh brn,micx-fx,ti,slty,arg.	
				4800		Dol - aa, sm dol - v lt gy-brnsh gy,micx-cx,sli inx & vug por - dns stk, slty, arg/prt,rr qtz xtls.	
						Dol - v lt gy, micx-vfx,stky sli inx por, slty (vf)	
						Dol - v lt - m gysh brn,micx-mx,stky,sli inx por, slty, arg/prt	
						Dol - v lt gy - sli brnsh - sm dk stks,micx-mx,sli inx por,sli arg/prt.	
						Dol - aa - incr dkr stks,stky sli inx por, arg/prt.	
						Dol - m - dk brnsh gy,micx-vfx,ti, arg, slty, sm prtg/dk gy sh	

1 of



stk/ch v lt brnsh gy - dk gy

Dol - v lt gy-sli brnsh-sm dk stks,micx-fx,dns/mst prt,sm scat sm/vug,slty,qtz xtls

Dol - brnsh gy - lt stks,micx-fx,stky sli inx por,slty,arg stks,qtz xtls,sm v lt - dk gy ch

Dol - gy - v lt/prt - sli brnsh,micx-fx,sli inx por-stky,slty,arg/prt,sli ch f w qtz xtls

Dol - aa fw prtg/dk gy sh

Dol - v lt buff,micx-mx,sli inx por,tr/scat vug,slty,py/prt, tr/lt col ch & qtz xtls

Dol - v lt - lt gy - sli brnsh - sm dk stks,micx-cx,stky sli inx por,slty,sli ch,sm scat py, sm scat prtg/gysh grn sh & dk gy sh - bit/prt

Dol - m brnsh gy-sm lt stks,micx-mx,ti,slty,arg,rr lt col ch & qtz xtls,scat py

Dol - v lt gy-brnsh stks,micx-mx,sli inx por,slty,arg stks,sm qtz xtls,py, tr sh prtg

Dol - v lt gysh brn,vf-cx,stky sli inx & vug por,sli ch-col/prt,sm qtz xtls

Dol - aa - sm drkr col stk

Dol - gysh brn-micx-fx,til arg,slty,sm prtg/dk gy sh,sm scat py

Dol - brnsh gy,micx-fx,ti,slty

Dol - gysh brn,micx-fx,ti,slty,arg,sm prtg/dk gy & blk bit sh

Dol - lt brnsh gy,micx-fx,ti,slty,sli arg

Dol - lt-m gysh brn,micx-fx,ti,slty,arg,sm scat frac fld w/xtln calc,scat sh prtg

Dol - v lt gy - gysh brn - rr rdsh stks,micx-cx,sli vug & inx por,slty,arg stk sm dk gy sh prtg - sm dk rdsh col,tr/lt gy ch & qtz xtls

Dol - gysh brn,micx-fx,ti,slty,arg,sm prtg/blk bit sh & dk gy sh

Dol - lt - m gysh brn,sm stks/v lt gy,micx-fx,stky sli inx por,sh prtg-dk gy,rr prpl stk

Dol - gysh brn,micx-fx,ti,slty,arg.

Dol - aa, sm dol - v lt gy-brnsh gy,micx-cx,sli inx & vug por - dns stk, slty, arg/prt,rr qtz xtls.

Dol - v lt gy, micx-vfx,stky sli inx por, slty (vf)

Dol - v lt - m gysh brn,micx-mx,stky,sli inx por, slty, arg/prt

Dol - v lt gy - sli brnsh - sm dk stks,micx-mx,sli inx por,sli arg/prt.

Dol - aa - incr dkr stks,stky sli inx por, arg/prt.

Dol - m - dk brnsh gy,micx-vfx,ti, arg, slty, sm prtg/dk gy sh

Dol - lt - m gysh brn,micx-mx,stky sli inx por,slty,arg/prt,prtg/dk gy sh

Well name CanDel Mobil et al Iroquois I-11

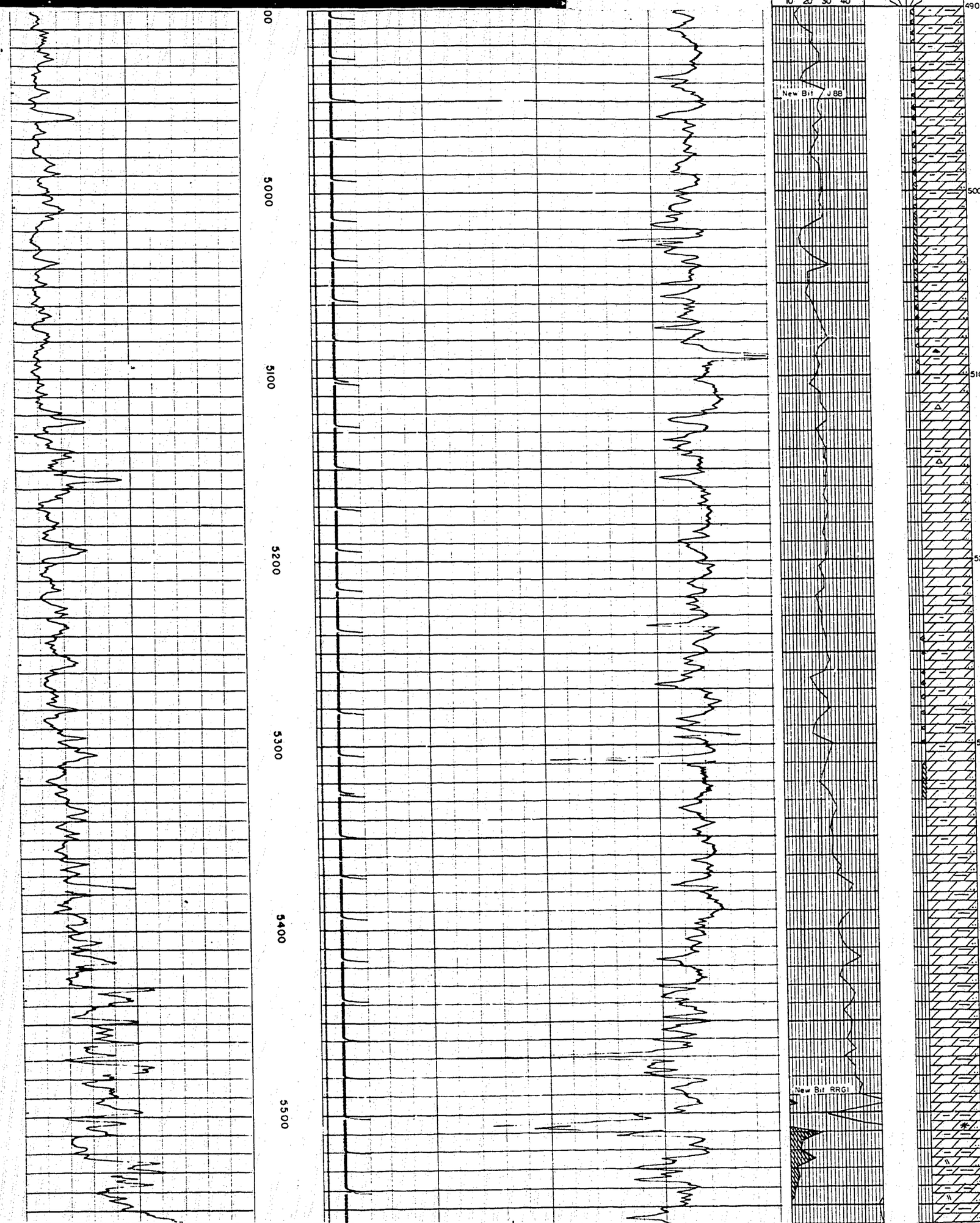
Location I-11 67-50 129-30

2 of 2

K.B. elev. 418'

Geologist T.A.D. Haddow

Sheet No. 7



LITHOLOGY

CSC-PERF PLUGS

Dol - gysh brn - sm dk stks,micx-fx,ti,slty,arg.

Dol - lt - m gysh brn,micx-mx,stky sli inx por,slty,arg/prt,scat prtg/dk gy sh

Dol - aa micx - fx

Dol - v lt buff,micx-fx,sli inx por,sm scat arg stks

Dol - aa - sm gysh brn stks,bnd/sli grnsh gy dol-micx-vfx,slty,dns

Dol - v lt gy-brnsh/prt-gysh brn,micx-fx,stky sli inx por,sm slty & arg stks

Dol - aa - prtg blk bit sh

Dol - v lt gy - gysh brn,micx-fx,tr sli inx por,slty & arg stks,tr/dk gy ch

Dol - v lt gy-brnsh/prt-lt gysh brn,micx-vf & sm fx,ti,tr/v lt gy-lt brn ch

Dol - lt-m gy-sm dk stks-brnsh/prt,micx-fx,ti,slty & arg,tr/v lt gy ch

Dol - v lt brnsh gy - gysh brn, micx-vfx, ti, slty

Dol - v lt gy - sli brnsh/prt, micx-vfx,dns, slty

Dol - aa - gysh brn/prt,sm prtg/dk gy sh

Dol - gysh brn- v lt/prt-dk/prt micx-vfx,ti,slty,sli arg/prt

Dol - gysh brn,micx-fx,tr/sli inx por,slty, arg

Dol - v lt buff - sm gysh brn,micx-fx,tr/sli inx por,slty,sm prtg/blk bit sh

Dol - v lt gy - gysh brn,micx-vfx,ti,slty,arg stk

Dol - v lt gy, v fx,sli inx por, slty

Dol - m - dk brnsh gy, micx-vfx,ti,arg, slty

Dol - aa - sm lt brnsh gy

Dol - v lt - m gy-brnsh/prt,micx-vfx,dns,slty,sm prtg/blk bit & dk gy sh

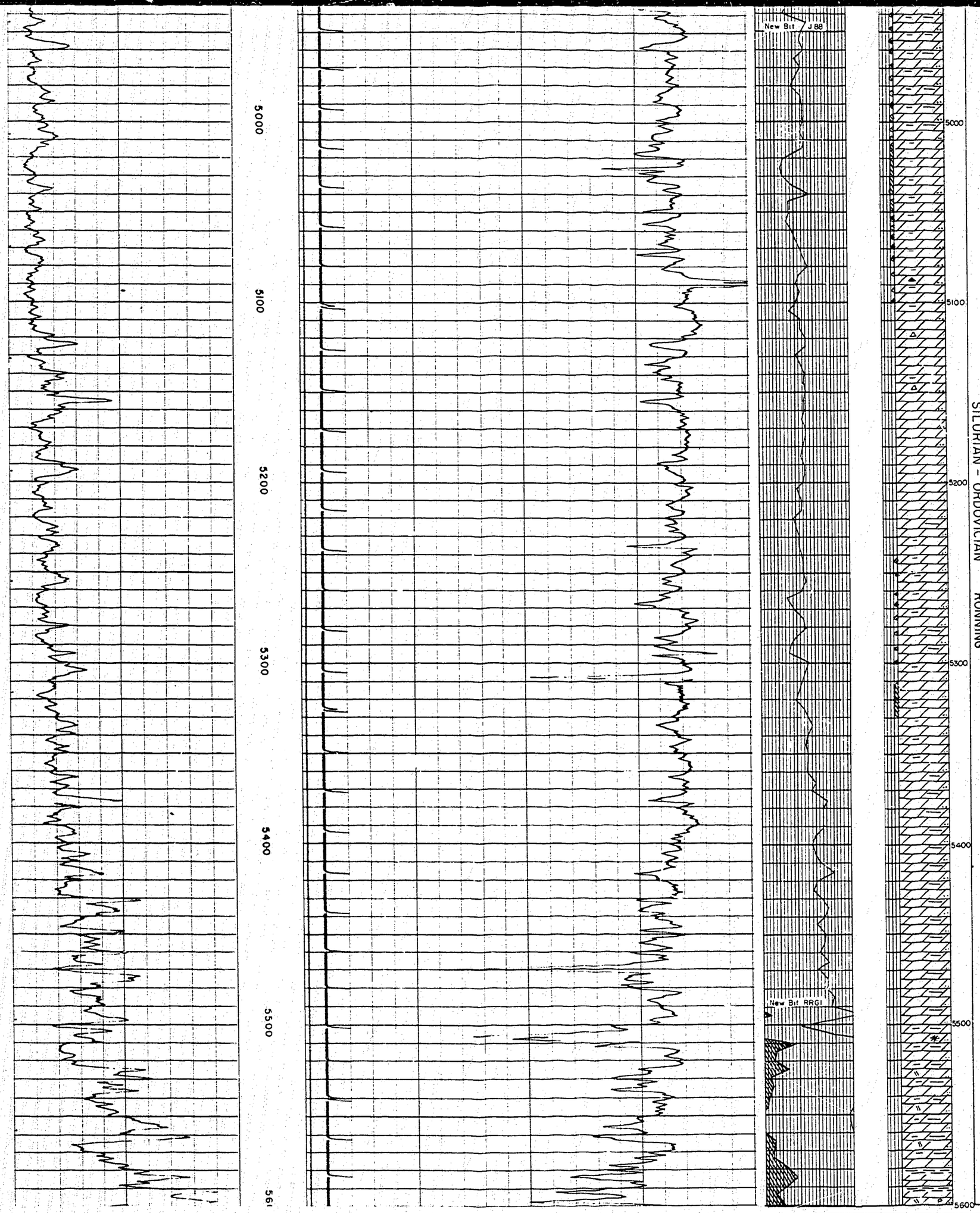
Dol - lt gy, micx,dns,slty, sm prtg/grnsh gy & blk bit sh

Dol - aa, sm rr fnt rdsh stks

Dol - lt - dk gy - brnsh,micx-vfx,dns,slty,arg stks,scat sh prtgs,tr/qtz xtls.

Dol - lt - dk gy, micx-vfx,dns,fw scat blnd vug,bnd/prt,slty,arg/prt, tr/gyp incl, sm prtg/blk bit sh

1 of



Dol - aa micx - fx

Dol - v lt buff,micx-fx,sli inx por,sm scat arg stks

Dol - aa - sm gysh brn stks,bnd/sli grnsh gy dol-micx-vfx,slty,dns

Dol - v lt gy-brnsh/prt-gysh brn,micx-fx,stky sli inx por,sm slty & arg stks

Dol - aa - prtg blk bit sh

Dol - v lt gy - gysh brn,micx-fx,tr sli inx por,slty & arg stks,tr/dk gy ch

Dol - v lt gy-brnsh/prt-lt gysh brn,micx-vf & sm fx,ti,tr/v lt gy-lt brn ch

Dol - lt-m gy-sm dk stks-brnsh/prt,micx-fx,ti,slty & arg,tr/v lt gy ch

Dol - v lt brnsh gy - gysh brn, micx-vfx, ti, slty

Dol - v lt gy - sli brnsh/prt, micx-vfx,dns, slty

Dol - aa - gysh brn/prt,sm prtg/dk gy sh

Dol - gysh brn- v lt/prt-dk/prt micx-vfx,ti,slty,sli arg/prt

Dol - gysh brn,micx-fx,tr/sli inx por,slty, arg

Dol - v lt buff - sm gysh brn,micx-fx,tr/sli inx por,slty,sm prtg/blk bit sh

Dol - v lt gy - gysh brn,micx-vfx,ti,slty,arg stk

Dol - v lt gy, v fx,sli inx por, slty

Dol - m - dk brnsh gy, micx-vfx,ti,arg, slty

Dol - aa - sm lt brnsh gy

Dol - v lt - m gy-brnsh/prt,micx-vfx,dns,slty,sm prtg/blk bit & dk gy sh

Dol - lt gy, micx,dns,slty, sm prtg/grnsh gy & blk bit sh

Dol - aa, sm rr fnt rdsh stks

Dol - lt - dk gy - brnsh,micx-vfx,dns,slty,arg stks,scat sh prtgs,tr/qtz xtls.

Dol - lt - dk gy,micx-vfx,dns,fw scat blnd vug,bnd/prt,slty,arg/prt, tr/gyp incl, sm prtg/blk bit sh

Dol - m - dk gy,micx-vfx,dns,slty,arg,sm thn inbds/dk gy & grnsh gy sh - hrd brit dol

Dol - lt - m gy - brnsh/prt,micx-vf & sm fx,dns, arg,slty, sm scat py,inbd grnsh

Well name CanDel Mobil et al Iroquois I-11

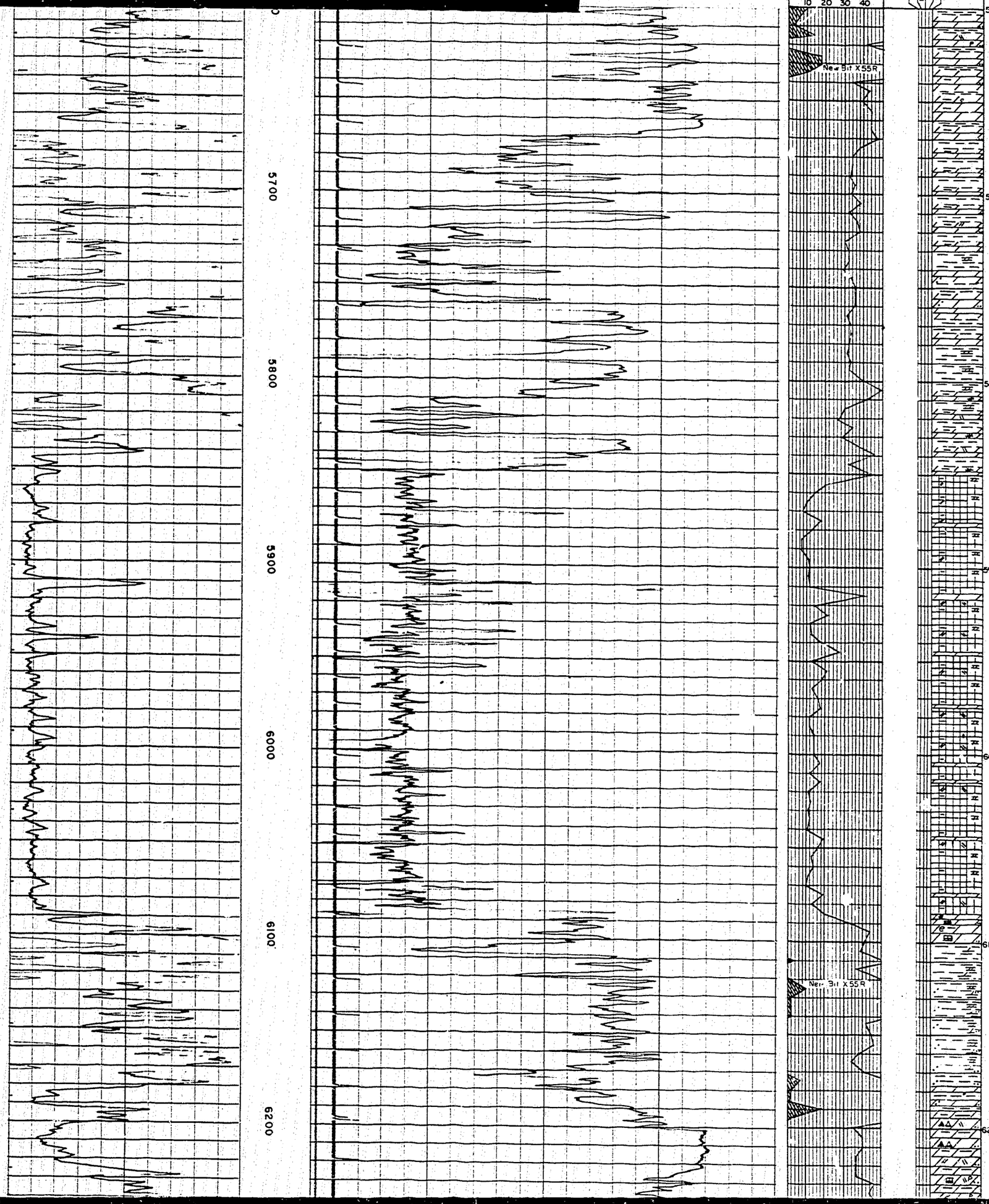
Location I-11 67-50 129-30

2 of 2

K.B. elev. 418'

Geologist T.A.D. Haddow

Sheet No. 8



FORMATION

SIL-ORD RONNING

CAMBRIAN

LITHOLOGY

CSC-PERF PLUGS

gy dol sh - tr/gyp xtls

Dol - aa, stks/v lt gy dol - mic-vfx-chky/prt

Dol - lt - m gysh brn - rr rdsh stks, mic-vfx,dns,slty,arg,sm thn inbds/grnsh gy dol sh

Dol - aa; dol - lt gy-rdsh stks,dns,arg,tr/fltg qtz grains;Sh - grnsh gy & mar

Dol - lt brnsh gy,micx,dns,

Dol - brnsh gy,micx-vfx,dns,arg,slty, thn inbd grnsh gy sh

Dol - rdsh & grnsh gy,micx-vfx,dns,v slty, arg; Sh - mar & gysh grn,hrd,blky, mic-mic

Dol - pnk-rd & grnsh gy,micx-vfx-chky/prt,slty,arg,tr/anhy; sh - mar & gysh grn,blky,mic-mic

Sh- mar,fis-blky,mic-mic,stks/dol

Sh - mar & gysh grn,fis - lky,mic-mic; Dol - v lt gy - pnk sh & brnsh/prt,ti; micx-vfx,slty,sm sdy stks,tr/qtzt

Dol - gy,micx-vfx,dns,arg,slty,sm sdy stks; Sh - mar & grn, mic-mic

Sh - grnsh gy - sm mar stks,fis-blky,mic-mic,sm stk/dol

Sh - aa; Dol-gy,micx-vfx,dns,arg,slty,tr/qtz xtls,tr/gyp

Dol - aa; sh - grnsh gy & mar,fis - blky,mic-mic

Salt - shly stks,thn inbd & stks/dol,sm sli brnsh gy anhy

Dol - gy micx-vfx,dns,pel/prt,slty,sm stks/mar & grnsh gy sh; salt

Salt - thn inbd & stks/dol, sh lam,mar anhy & gyp

1 of

Salt;Dol - gy micx,dns,earthy/prt,slty,sm scat salt cst

Dol - gy - sli brnsh,micx-earthy,ti,slty,scat salt cst

Sh - gysh grn - f wh sp,hrd,brit,sli mic-mic,sli dol

Sh - m gy - tr/wh sp,hrd,brit,mic-mic,sli dol-sm stk/dol-lt gy,micx-vfx,ti

Sh - m gy - sm gysh grn & rdsh stks,brit,mic-mic,sli dol,sm stks/dol-gy-brnsh gy & pnk rdsh gy,micx-vfx,ti - slty & sdy stks.

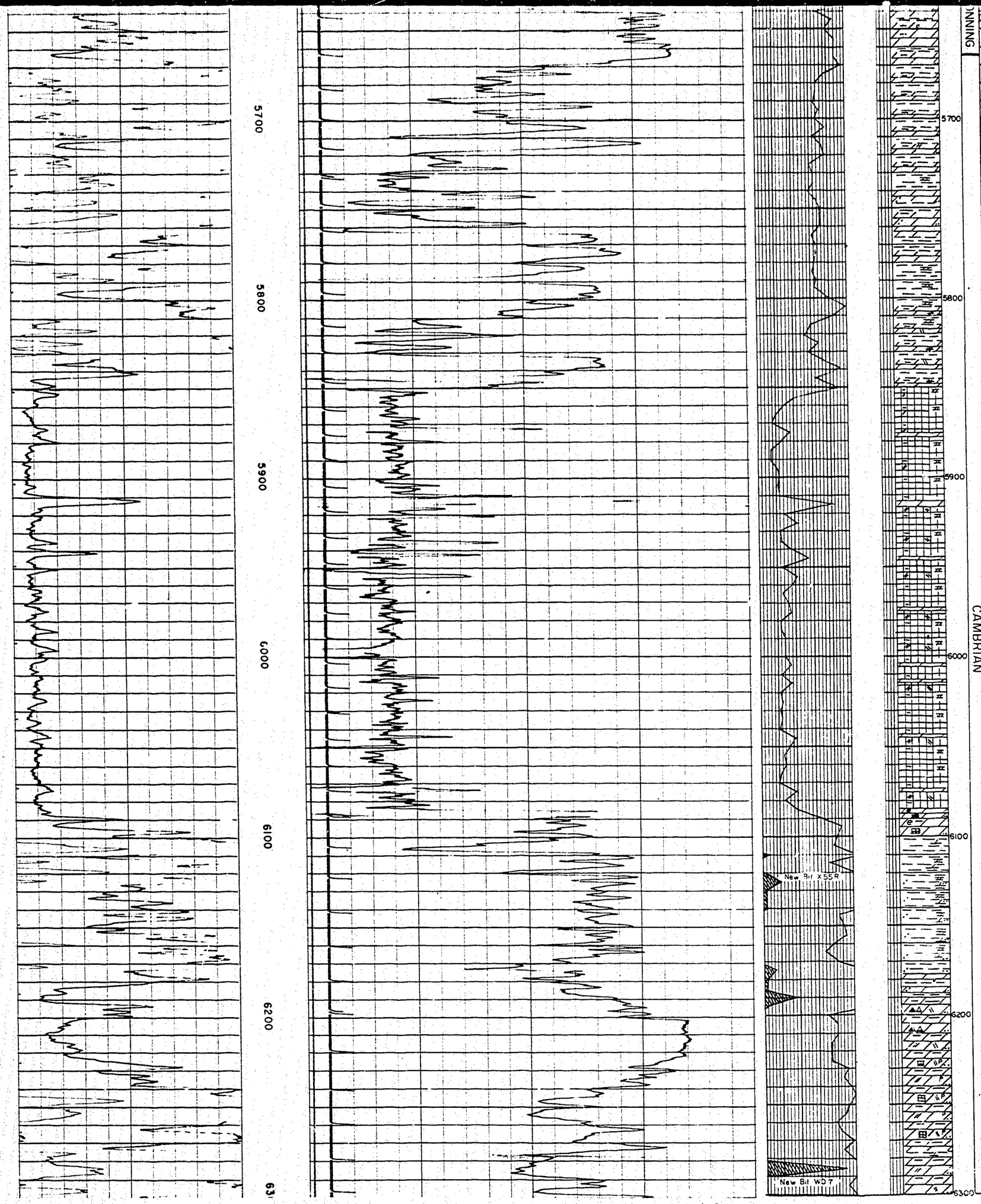
Sh - w/inbd dol aa - ochre cst/prt

Sh - grnsh & brnsh gy,brit,mic-mic,sm inbd dol-lt gy-grnsh & rdsh gy,vf-fx,dns, slty & sdy stks,tr/fltg qtz grains

Dol - m - dk gy,micx-vfx,dns,arg,slty,sh stk,v ch-nlky & brnsh gy-ool/prt, tr qtzt,tr/gyp xtls

Dol - brnsh gy,micx-vfx,dns,arg,slty,sm sh stk,sm incl/anhy & gyp

Dol - m gy, micx-fx,dns,v arg,slty,sh stks,py/prt,scat blebs/anhy,fw gyp xtls, tr/salt cst



CAMBRIAN

Dol - aa; dol - lt gy-rdsh stks,dns,arg,tr/fltg qtz grains;Sh - grnsh gy & mar

Dol - lt brnsh gy,micx,dns,

Dol - brnsh gy,micx-vfx,dns,arg,slty, thn inbd grnsh gy sh

Dol - rdsh & grnsh gy,micx-vfx,dns,v slty, arg; Sh - mar & gysh grn,hrd,blky, mic-mic

Dol - pnk-rd & grnsh gy,micx-vfx-chky/prt,slty,arg,tr/anhy; sh - mar & gysh grn,blky,mic-mic

Sh- mar,fis-blky,mic-mic,stks/dol

Sh - mar & gysh grn,fis - blky,mic-mic; Dol - v lt gy - pnk sh & brnsh/prt,ti; micx-vfx,slty,sm sdy stks,tr/qtzt

Dol - gy,micx-vfx,dns,arg,slty,sm sdy stks; Sh - mar & grn, mic-mic

Sh - grnsh gy - sm mar stks,fis-blky,mic-mic,sm stk/dol

Sh - aa; Dol-gy,micx-vfx,dns,arg,slty,tr/qtz xtls,tr/gyp

Dol - aa; sh - grnsh gy & mar,fis - blky,mic-mic

Salt - shly stks,thn inbd & stks/dol.sm sli brnsh gy anhy

Dol - gy micx-vfx,dns,pel/prt,slty,sm stks/mar & grnsh gy sh; salt

Salt - thn inbd & stks/dol, sh lam,mar anhy & gyp

Salt;Dol - gy micx,dns,earthy/prt,slty,sm scat salt cst

Dol - gy - sli brnsh,micx-earthy,ti,slty,scat salt cst

Sh - gysh grn - f wh sp,hrd,brit,sli mic-mic,sli dol

Sh - m gy - tr/wh sp,hrd,brit,mic-mic,sli dol-sm stk/dol-lt gy,micx-vfx,ti

Sh - m gy - sm gysh grn & rdsh stks,brit,mic-mic,sli dol,sm stks/dol-gy-brnsh gy & pnk rdsh gy,micx-vfx,ti - slty & sdy stks.

Sh - w/inbd dol aa - ochre cst/prt

Sh - grnsh & brnsh gy,brit,mic-mic,sm inbd dol-lt gy-grnsh & rdsh gy,vf-fx,dns, slty & sdy stks,tr/fltg qtz grains

Dol - m - dk gy,micx-vfx,dns,arg,slty,sh stk,v ch-mlky & brnsh gy-col/prt, tr qtzt,tr/gyp xtls

Dol - brnsh gy,micx-vfx,dns,arg,slty,sm sh stk,sm incl/anhy & gyp

Dol - m gy, micx-fx,dns,v arg,slty,sh stks,gy/prt,scat blebs/anhy,fw gyp xtls, tr/salt cst

Dol - aa; Sh - m gy & grnsh gy,fis-blky,mic-mic,sli dol

Dol - m gy, micx-fx,dns,v arg, v shly, slty,fw scat blebs/anhy,tr/gyp

Well name CanDel Mobil et al Iroquois I-11

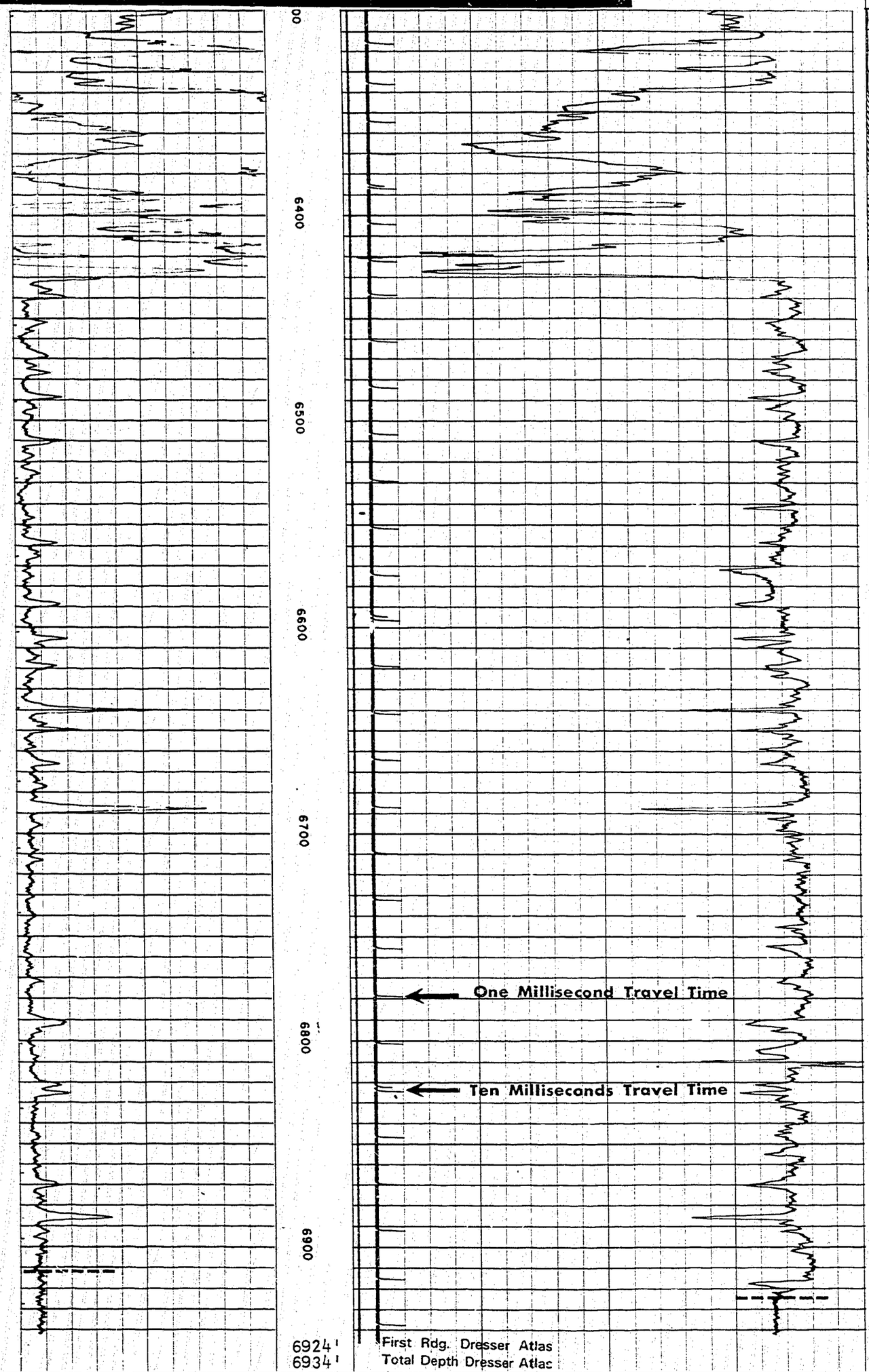
Location I-11 67-50 129-30

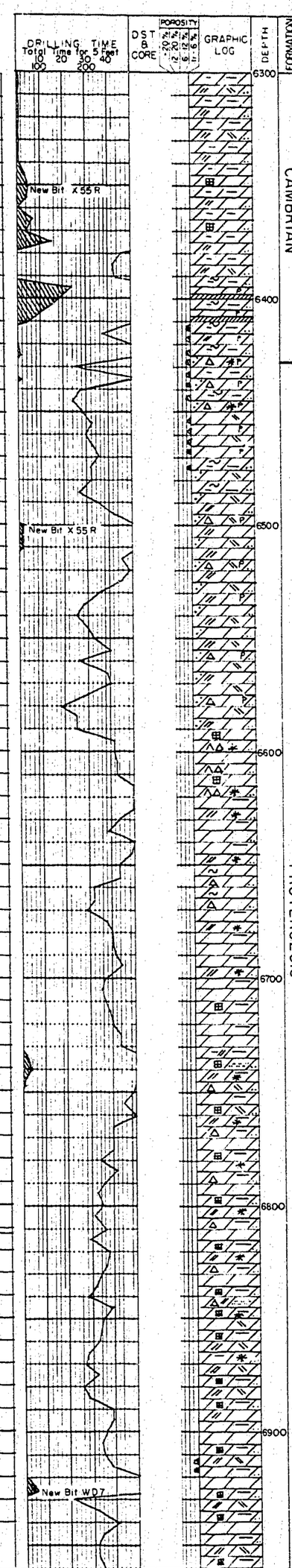
K.B. elev. 418'

Geologist T.A.D. Haddow

Sheet No. 9

2 of 2





FORMATION

CAMBRIAN

PROTEROZOIC

LITHOLOGY

Dol - aa - sm lighter brnsh stks

Dol - m - dk gy,micx,dns,v arg & slty,shly stks,scat blebs/anhy,tr/salt cst

Dol - m gy - sli grnsh cst, micx-vfs,dns, v arg & slty, shly, sm anhy & gyp

Dol - gy micx-vfx,dns,arg,slty,sh stk,scat glauc,py/prt,scat bleb & thn inbd of anhy

Dol - m - dk brnsh gy,vf-fx,stky sli inx por,arg,slty,sh stks,scat glauc & py

Dol - v lt gy - brnsh-grnsh-pnksh/prt,micx-vfx-chky/prt,stky sli inx por,sm scat qtz xtls,py/prt,glauc/prt,sm bleb & thn stk/anhy,sdy stk thn ch stk, tr ool tex,sm stk/mar & grn sh;
Dol - lt gysh brn,micx-vfx,dns

Dol - v lt gy - lt gysh brn - sm rdsh stks & ptch,micx-fx,stky sli inx por, tr/ool tex scat incl/gyp xtls,scat py

Dol - aa; dol - m dk brnsh gy,micx-fx,dns,arg,stks/grnsh gy sh,slty,sndy stks, glauc,incl/gyp

Dol - gysh brn - sm scat rd spts & ptch,micx - vfs,dns,sli py/prt,sm incl/gyp & dol rhomb,sm bleb/anhy,slty & sdy, tr/ch

Dol - aa - incr/rd stk & ptch

Dol - gysh brn w/rd stks & ptch - aa

Dol - lt - m gysh brn - fw rdsh stks,micx-vfx,dns,slty,sli ch,sm dol rhombs, sil stks,tr/salt csts, tr/qtz xtls

Dol - gysh br -pnk-rd ptch-sm dk stk,micx-vfx,dns,slty,tr/qtz xtls,sm dol rhomb lng & inflg scat vug,stk grnsh gy & sm mar sh,tr/lt gy anhy,tr ool tex

Dol - aa less rd

Dol - lt brnsh gy - gysh brn - sm rd ptch,micx-fx,dns,sli slty,ch - smky - lt gysh brn,sm stk/m gy-brnsh w/glauc,sm dol rhombs,sm pel/m brnsh gy dol

Dol - lt brnsh gy-gysh brn-sm pnk & rd stks,micx-fx,dns,sli sil,tr qtz xtls, sm dol rhombs,tr/lt brnsh gy anhy,sm inbd gysh grn sh,sm prtg/blk bit sh

Dol - v lt gy - gysh brn-pnk & rd stks & ptch,micx-fx,dns,fw scat vug part to complt infl w/sec dol,sm sh stk, tr/salt cst

Dol - v lt gy - lt & dk gysh brn-sm pnk & rd stks, micx-fx,dns,scat blnd vug part - compl infld w/sec dol,slty,arg stks,sh stks,tr/anhy,tr salt cst, tr/grn sltst

Dol - v lt - m gysh brn - pnk - rd stks & ptch,micx-vfx,dns,slty,sm sec dol inflg vug, tr/anhy,tr/qtz xtls,sli ch - gysh brn,sm stks/gysh grn sh & dull gy sft sh, sm thn stks/gysh brn anhy,tr/slt csts,brec/prt (along frac), tr/gyp, tr/fnt pel

Dol - aa - tr/grn sltst, sli incr/salt cst

Dol - v lt-m gysh brn - pnk-rd stk & ptch,sm dk gysh brn arg stk,micx-fx,dns, slty,sec dol,stk/anhy & gyp, tr qtz xtls.

Dol - v lt buff-brn pnk rd/prt,micx-fx,dns,sli slty,sec dol inflg vug,stks/anhy & gyp,stk/dull gy sft sh, scat salt cst

Dol - lt - m gysh brn - pnk - rd ptch aa

Dol - aa gran/prt w/stky sli inx por

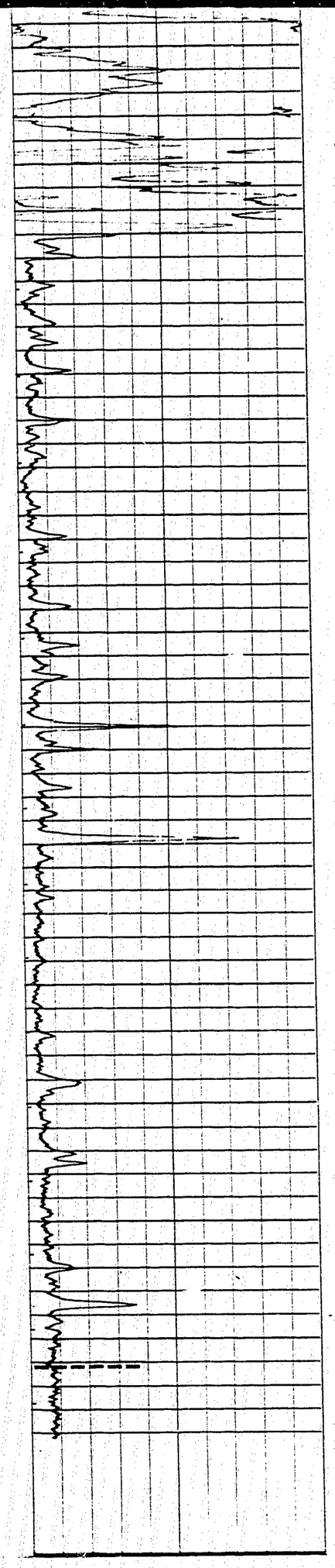
Dol - dns aa

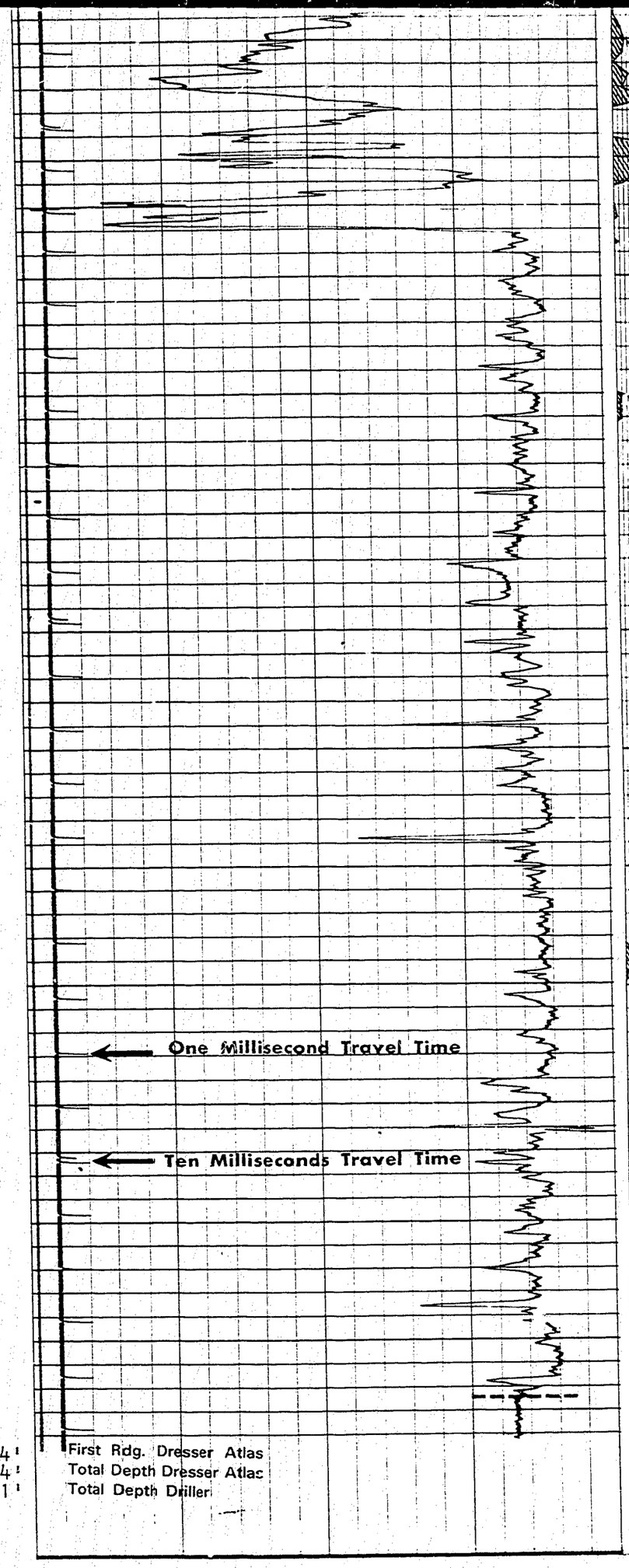
Dol - v lt - m dk gysh brn - sm dk stks - pnk-rd stks & ptch,micx-fx,dns tr/ool, sm arg stk, wh mx sec dol rhomb inflg vug,abun sh stk - dull gy, m dk gy

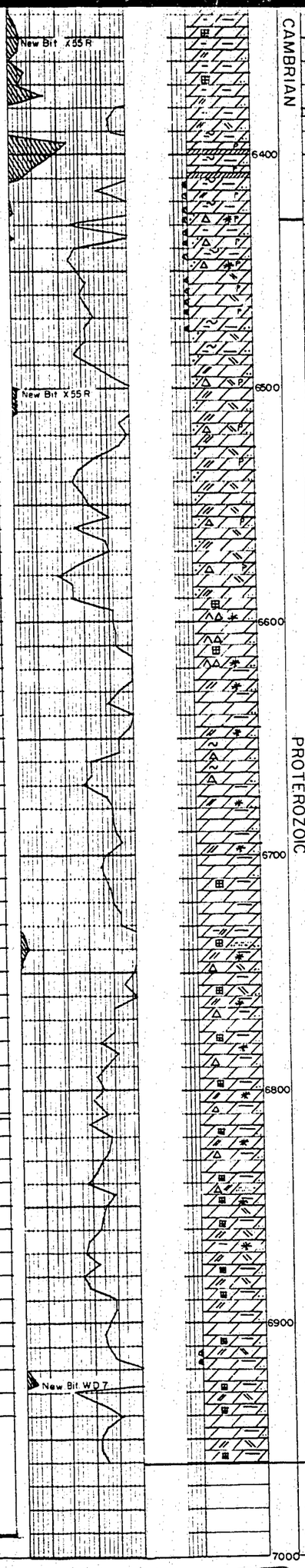
CSC - PERM PLUGS

PLUG No. 1

1 of







Dol - m gy - sli grnsh cst, micx-vfs,dns, v arg & slty, shly, sm anhy & gyp

Dol - gy micx-vfx,dns,arg,slty,sh stk,scat glauc,py/prt,scat bleb & thn inbd of anhy

Dol - m - dk brnsh gy,vf-fx,stky sli inx por,arg,slty,sh stks,scat glauc & py

Dol - v lt gy - brnsh-grnsh-pnksh/prt,micx-vfx-chky/prt,stky sli inx por,sm scat qtz xtls,py/prt,glauc/prt,sm bleb & thn stk/anhy,sdy stk thn ch stk, tr ool tex,sm stk/mar & grn sh;
Dol - lt gysh brn,micx-vfx,dns

Dol - v lt gy - lt gysh brn - sm rdsh stks & ptch,micx-fx,stky sli inx por, tr/ool tex scat incl/gyp xtls,scat py

Dol - aa; dol - m dk brnsh gy,micx-fx,dns,arg,stks/grnsh gy sh,slty,sndy stks, glauc,incl/gyp

Dol - gysh brn - sm scat rd spts & ptch,micx - vfs,dns,sli py/prt,sm incl/gyp & dol rhomb,sm bleb/anhy,slty & sdy, tr/ch

Dol - aa - incr/rd stk & ptch

Dol - gysh brn w/rd stks & ptch - aa

Dol - lt - m gysh brn - fw rdsh stks,micx-vfx,dns,slty,sli ch,sm dol rhombs, sil stks,tr/salt csts, tr/qtz xtls

Dol - gysh br -pnk-rd ptch-sm dk stk,micx-vfx,dns,slty,tr/qtz xtls,sm dol rhomb lng & inflg scat vug,stk grnsh gy & sm mar sh,tr/lt gy anhy,tr ool tex

Dol - aa less rd

Dol - lt brnsh gy - gysh brn - sm rd ptch,micx-fx,dns,sli slty,ch - smky - lt gysh brn,sm stk/m gy-brnsh w/glauc,sm dol rhombs,sm pel/m brnsh gy dol

Dol - lt brnsh gy-gysh brn-sm pnk & rd stks,micx-fx,dns,sli sil,tr qtz xtls, sm dol rhomb ,tr/lt brnsh gy anhy,sm inbd gysh grn sh,sm prtg/blk bit sh

Dol - v lt gy - gysh brn-pnk & rd stks & ptch,micx-fx,dns,fw scat vug part to complt infl w/sec dol,sm sh stk, tr/salt cst

Dol - v lt gy - lt & dk gysh brn-sm pnk & rd stks, micx-fx,dns,scat blnd vug part - compl infld w/sec dol,slty,arg stks,sh stks,tr/anhy,tr salt cst, tr/grn sltst

Dol - v lt - m gysh brn - pnk - rd stks & ptch,micx-vfx,dns,slty,sm sec dol inflg vug, tr/anhy,tr/qtz xtls,sli ch - gysh brn,sm stks/gysh grn sh & dull gy sft sh, sm thn stks/gysh brn anhy,tr/slt csts,brec/prt (along frac), tr/ gyp, tr/fnt pel

Dol - aa - tr/grn sltst, sli incr/salt cst

Dol - v lt-m gysh brn - pnk-rd stk & ptch,sm dk gysh brn arg stk,micx-fx,dns, slty,sec dol,stk/anhy & gyp, tr qtz xtls.

Dol - v lt buff-brn pnk rd/prt,micx-fx,dns,sli slty,sec dol inflg vug,stks/anhy & gyp,stk/dull gy sft sh, scat salt cst

Dol - lt - m gysh brn - pnk - rd ptch aa

Dol - aa gran/prt w/stky sli inx por

Dol - dns aa

Dol - v lt - m dk gysh brn - sm dk stks - pnk-rd stks & ptch,micx-fx,dns tr/ool, sm arg stk, wh mx sec dol rhomb inflg vug,abun sh stk - dull gy, m dk gy & sm gysh grn, sm slt cst,tr/anhy & gyp,sm scat frac infld w/dol

F.T.D. 6961'

PLUG No. 1

Well name CanDel Mobil et al Iroquois I-11

Location I-11 67-50 129-30

2 of 2

K.B. elev. 416'

Geologist T.A.D. Haddow

Sheet No. 10

CORE LABORATORIES – CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS

File 933-2670 Page 1 of 2

Company CanDel Oil Ltd.

Well CanDel Mobil et al Iroquois I-11 K.B. 418 Grd. 400'

Location 67° 40' 40.00 N.L. 129° 32' 05.00 W.L. Field Iroquois River Area Province N. W. T.

Formation Ronning Interval 3290 3450' - 3614'

Sampled from (Top #1) DST #3 by

Date sampled May 31/72 Date analysed June 6/72 Analyst ML

Recovery 2820' liquid.

Mud type Water cushion

Resistivity 0.048 Ohm-meters @ 69 °F

Specific gravity 1.1886 @ 60°F

pH 11.4 H_2S Absent

Refractive Index 1.3772 @ 74°F

Total Solids:

Calculated 287,757 mg/liter

By evaporation @ 110°C - mg/liter

By evaporation @ 180°C - mg/liter

At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO_3	SO_4	CO_3	OH
111819	1104	25	Trace	-	-	-	171489	0	2915	58	347

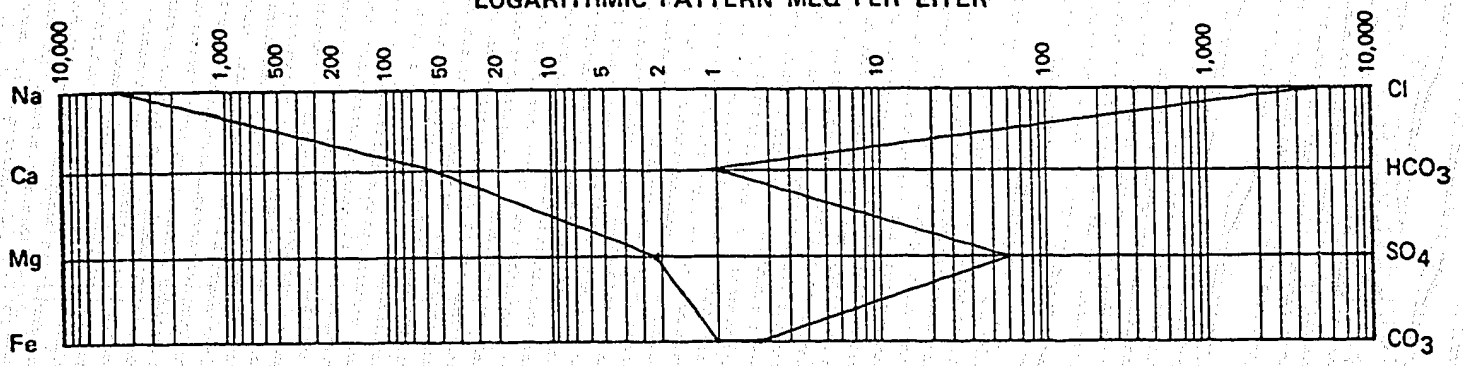
PER CENT CALCULATED SOLIDS

38.9	.4	.0	Trace	-	-	-	59.6	.0	1.0	.0	.1

MEQ PER LITER

4861.7	55.1	2.1	Trace	-	-	-	4836.0	.0	60.6	1.9	20.4

LOGARITHMIC PATTERN MEQ PER LITER



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CORE LABORATORIES – CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS

Company: CanDel Oil Ltd.

Well: CanDel Mobil et al Iroquois I-11 K.B. _____ Grd. _____

Location: 67° 40' 40.00 N.L. 129° 32' 05.00 W.L. Field: Iroquois River Area Province: N. W. T.

Formation: Ronning Interval: 3200 - 3614

Sampled from: DST #3 (Bottomhole Sampler) by _____

Date sampled: May 31/72 Date analysed: June 6/72 Analyst: ML

Recovery: 2820' liquid.

Mud type _____ Water cushion _____

Resistivity: 0.059 Ohm-meters @ 69 °F

Specific gravity: 1.1226 @ 60°F

pH: 11.1 H_2S: Absent

Refractive Index: 1.3617

Total Solids:

Calculated: 181,808 mg/liter

By evaporation @ 110°C: - mg/liter

By evaporation @ 180°C: - mg/liter

At ignition: - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO_3	SO_4	CO_3	OH
70162	1063	25	Trace	Abs.	-	-	108193	0	2167	82	116

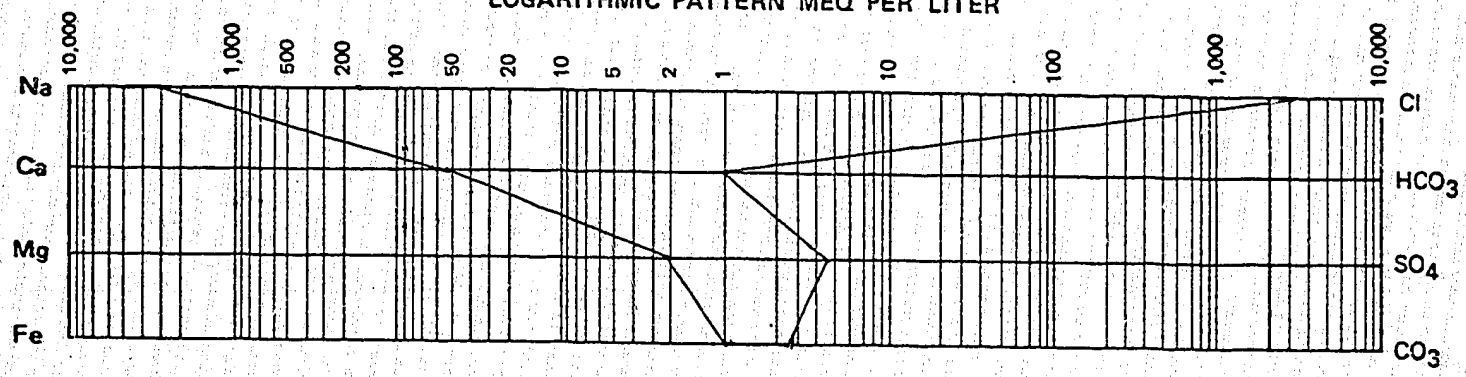
PER CENT CALCULATED SOLIDS

38.6	.6	.0	Trace	Abs.	-	-	59.5	.0	1.2	.0	.1

MEQ PER LITER

3050.5	53.0	2.1	Trace	Abs.	-	-	3051.0	.0	45.1	2.7	6.8

LOGARITHMIC PATTERN MEQ PER LITER



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WATER ANALYSES

FOR

CANDEL OIL LTD.

CANDEL MOBIL ET AL IROQUOIS I-11
IROQUOIS RIVER AREA
NORTHWEST TERRITORIES

CORE LABORATORIES - CANADA LTD.

Petroleum Reservoir Engineering

CALGARY - EDMONTON - REGINA

CORE LABORATORIES – CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS

File 933-2581 Page 1 of 2

Company: CanDel Oil Ltd.

Well: CanDel Mobil et al Iroquois I-11 K.B. _____ Grd. 400'

Location: 67° 40'20.00 N.L. 129° 32'05.00 W.L. Field: Iroquois River Area Province: N.W.T.

Formation: _____ Interval: 900' - 1010'

Sampled from: DST #1 (BJ Tool #RS28) by: BJ Testers

Date sampled: _____ Date analysed: May 17/72 Analyst: LK

Recovery: Tool Recovery: 3000 cc's Water.

Mud type: _____ Water cushion: _____

Resistivity: 3.09 Ohm-meters @ 74 °F

Specific gravity: 1.0027 @ 60°F

pH: 9.3 H_2S: Present

Refractive Index: 1.3326 @ 73°F

Total Solids:

Calculated: 1,858 mg/liter

By evaporation @ 110°C: - mg/liter

By evaporation @ 180°C: - mg/liter

At ignition: - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO_3	SO_4	CO_3	OH
695	3	1	Trace	-	-	-	832	210	31	86	Nil

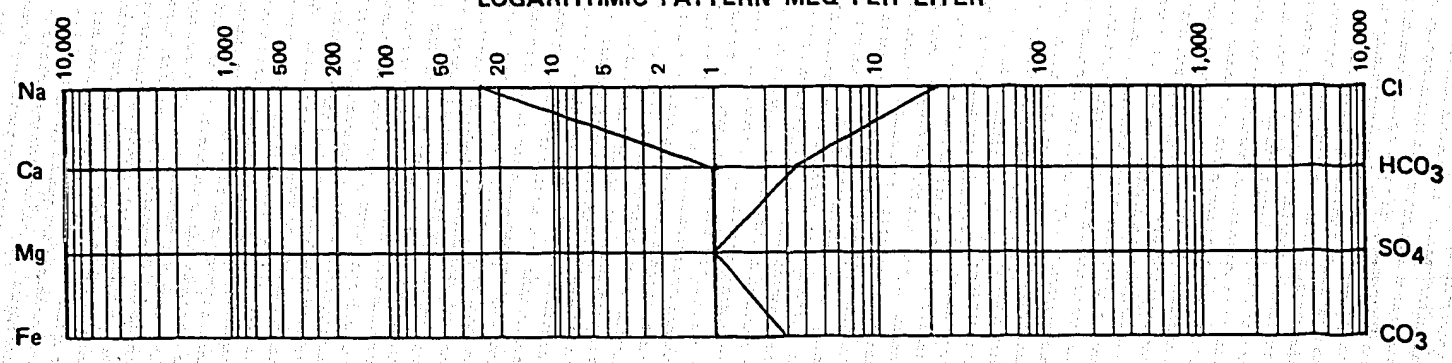
PER CENT CALCULATED SOLIDS

37.4	.2	.1	Trace	-	-	-	44.8	11.3	1.7	4.6	.0

MEQ PER LITER

30.2	.1	.1	Trace	-	-	-	23.5	3.4	.6	2.9	.0

LOGARITHMIC PATTERN MEQ PER LITER



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CORE LABORATORIES – CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS

File 933-2581 Page 2 of 2

Company CanDel Oil Ltd.

Well CanDel Mobil et al Iroquois 1-11 K.B. _____ Grd. 400'

Location 67° 40'20.00 N.L. 129° 32'05.00 W.L. Field Iroquois River Area Province N.W.T.

Formation _____ Interval 2121' - 2261'

Sampled from DST #2 (JB Tool #124) by _____

Date sampled _____ Date analysed May 17/72 Analyst LK

Recovery Tool Recovery: 3000 cc's Water.

_____ Mud type _____ Water cushion _____

Resistivity 1.21 Ohm-meters @ 75 °F

Specific gravity 1.0046 @ 60°F

pH 7.9 H_2S Present

Refractive Index 1.3334 @ 73°F

Total Solids:

Calculated 4,969 mg/liter

By evaporation @ 110°C – mg/liter

By evaporation @ 180°C – mg/liter

At ignition – mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO_3	SO_4	CO_3	OH
1442	209	112	Trace	Abs.	-	-	2399	488	319	Nil	Nil

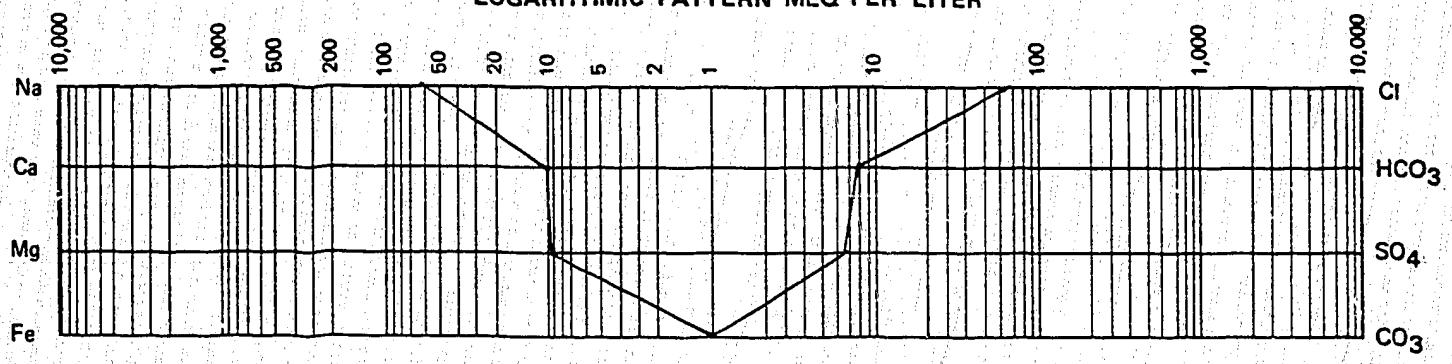
PER CENT CALCULATED SOLIDS

29.0	4.2	2.3	Trace	Abs.	-	-	48.3	9.8	6.4	.0	.0

MEQ PER LITER

62.7	10.4	9.2	Trace	Abs.	-	-	67.7	8.0	6.6	.0	.0

LOGARITHMIC PATTERN MEQ PER LITER



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BJ

BORG WARNER

DRILL STEM TEST REPORT

BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED

CANDEL MOBIL ET AL

IROQUOIS I-11

TEST NO. 1

BJ BORG WARNER

TESTING REPORT

DRILL-STEM TEST DATA

Well Name CANDEL MOBIL ET AL IROQUOIS I-11 Test No. 1

Well Number I-11 Zone Tested BEAR ROCK

Company CANDEL OIL CO. Interval 900.0 TO 1010.0

Comp. Rep. H. MARTINOFF Tester MEL MOSCRIP Date MAY 2, 1972

Type of Test DUAL BOTTOM HOLE RFS Tool No. 28

Preflow 5.0 mins. ISI 57.0 mins. Flow 84.0 mins. FSI 85.0 mins.

	IN REC. No. 5773 1150 RANGE 12 HR. CLOCK	OUT REC. No. 5979 1200 RANGE 24 HR. CLOCK	REC. No. RANGE HR. CLOCK
DEPTH	883.0	917.0	
Initial Hydro Mud Press	377.3	396.0	
Initial Shut-In Press	346.8	363.7	
Initial Flow Press	51.5	69.1	
Final Flow Press	311.2	329.6	
Final Shut-In Press	346.0	363.1	
Final Hydro Mud Press	377.3	396.0	

Mud Drop NIL Fluid Loss Mud Weight 8.4

Viscosity 27.0 Temperature °F 80.0 Net Pay Tested 30.0

Top Packer Depth 894.0 Bottom Packer Depth 900.0 Total Depth 1010.0

Drill Pipe Size 3.5 IF Wt. 13.0 Drill Collar I.D. 2.750 Ft. Run 443.61

Surface Choke Size Bottom Choke Size 0.5 Main Hole Size 8.750

Anchor Size 4.75 Rat Hole Size Feet of Rat Hole

Cushion Amount Type Rubber Size 7.5 X 2

Fluid Recovery Total Feet 890.0

Recovered 90 Feet of FRESH WATER

Recovered 800 Feet of SULPHUROUS FRESH WATER

Recovered Feet of

Recovered Feet of

Recovered Feet of

Gas Recovery How Measured Riser size:

mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS: VERY WEAK INITIAL PUFF. WEAK AIR BLOW DYING IN 15 MIN.

A Core Lab Gas Cont. No. Chem - Geo. Lab Gas Cont. No.

BJ BORG WARNER

TESTING REPORT

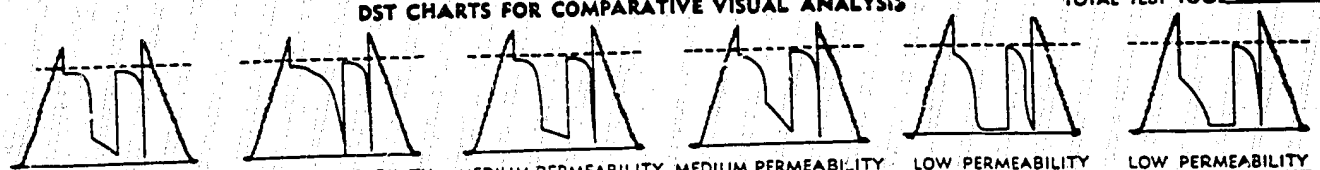
WEIGHT INDICATER READING

PRIOR TO SETTING PACKERS

AFTER PULL PACKERS LOOSE

	ID	OD	LENGTH	
4S LANDING SUB				
4S CHAMBER COS			1.00	
4S TOOL OR P.O. SUB			6.00	
CO SUB				
SHUT IN TOOL		4¾	5.20	
R.F.S. No.	2¼	4¾	3.30	
R.F.S. No.	2¼	4¾		
HYDRAULIC TOOL		4¾	7.20	
JARS	1	4¾	6.00	
RECORDER No. 5773	2¼	4¾	5.00	DEPTH 883
RECORDER No.	2¼	4¾		DEPTH
SAFETY JOINT	2 11/16	4¾	1.75	
BY PASS SUB	1 5/32	4¾		
1. PACKER DEPTH 894 — PACKER	1 OR ⅞		6.00	
2. PACKER DEPTH 900 — PACKER	1 or ⅞		5.00	TOOL ABOVE INTERVAL 46.45
ANCHOR—SPECIFY	2½		1.00	
PERF			15.00	
BLANK OFF OR BY PASS SUB	1 5/32	4¾		
RECORDER No. 5979	2¼	4¾	5.00	DEPTH 917
3. PACKER DEPTH — PACKER	1 OR ⅞			TOTAL INTERVAL
4. PACKER DEPTH — PACKER	1 OR ⅞			
ANCHOR—SPECIFY	2½			
DR. COLLARS			86.72	
RECORDER No	2¼	4¾		DEPTH
TOTAL DEPTH 1010 — BULLNOSE	2¾	4¾	2.50	TOTAL TAIL PIPE 110.22
				TOTAL TEST TOOL 69.95

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



HIGH PERMEABILITY STRONG DAMAGE EFFECT | HIGH PERMEABILITY NO DAMAGE EFFECT | MEDIUM PERMEABILITY STRONG DAMAGE EFFECT | MEDIUM PERMEABILITY NO DAMAGE EFFECT | LOW PERMEABILITY STRONG DAMAGE EFFECT | LOW PERMEABILITY NO DAMAGE EFFECT

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

LOCATION I-11 REC. NO. 5773 DEPTH 883.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
RUN IN HOLE	1	0.0	0.0
	2	34.0	377.3
INITIAL HYDRO PRESSURE	3	84.0	377.3
INITIAL PREFLOW PRESSURE	4	84.0	16.4
FINAL PREFLOW PRESSURE	5	89.0	36.8
START INITIAL SHUT-IN	6	89.0	36.8
	7	90.0	341.4
	8	94.0	343.7
	9	99.0	345.1
	10	104.0	346.0
	11	109.0	346.3
	12	114.0	346.6
	13	119.0	346.6
	14	124.0	346.6
	15	129.0	346.6
	16	134.0	346.6
	17	139.0	346.8
	18	144.0	346.8
INITIAL SHUT-IN PRESSURE	19	146.0	346.8
START FLOW PERIOD	20	146.0	346.8
INITIAL FLOW PRESSURE	21	147.0	51.5
	22	151.0	66.4
	23	156.0	90.1
	24	161.0	111.7
	25	164.0	119.9
	26	165.0	379.3
	27	166.0	379.3
	28	167.0	228.2
	29	171.0	239.7
	30	176.0	249.1
	31	181.0	257.8
	32	186.0	265.8
	33	191.0	272.7
	34	196.0	279.3
	35	201.0	285.1

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

LOCATION I-11 REC. NO. 5773 DEPTH 883.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
	36	206.0	290.5
	37	211.0	295.7
	38	216.0	300.3
	39	221.0	304.6
	40	226.0	308.3
FINAL FLOW PRESSURE	41	230.0	311.2
START FINAL SHUT-IN	42	230.0	311.2
	43	231.0	342.0
	44	235.0	343.4
	45	240.0	344.5
	46	245.0	344.8
	47	250.0	344.8
	48	255.0	345.1
	49	260.0	345.1
	50	265.0	345.1
	51	270.0	345.4
	52	275.0	345.4
	53	280.0	345.4
	54	285.0	345.4
	55	290.0	345.4
	56	295.0	345.4
	57	300.0	345.7
	58	305.0	345.7
	59	310.0	345.7
FINAL SHUT-IN PRESSURE	60	315.0	346.0
RUN OUT OF HOLE	61	315.0	346.0
FINAL HYDRO PRESSURE	62	316.0	377.3
	63	320.0	377.3
OUT OF HOLE	64	365.0	0.0

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

LOCATION I-11 REC. NO. 5773 DEPTH 883.

CALCULATIONS FOR LIQUID RECOVERY (FIRST SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	347.3
NO. OF POINTS CONSIDERED IN BUILD-UP	13
NO. OF POINTS USED IN EXTRAPOLATION	12
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)	0.11
EFFECTIVE PRODUCING TIME (MIN)	5.0

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

LOCATION I-11 REC. NO. 5773 DEPTH 883.

DATA FOR BUILD-UP PLOT (FIRST SHUT-IN)

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION					
7	1.0	341.4			6.00
POINTS USED IN EXTRAPOLATION					
8	5.0	343.7	343.7	0.1	2.00
9	10.0	345.1	345.2	0.1	1.50
10	15.0	346.0	345.8	-0.2	1.33
11	20.0	346.3	346.1	-0.1	1.25
12	25.0	346.6	346.4	-0.2	1.20
13	30.0	346.6	346.5	-0.1	1.17
14	35.0	346.6	346.6	0.1	1.14
15	40.0	346.6	346.7	0.1	1.12
16	45.0	346.6	346.8	0.2	1.11
17	50.0	346.8	346.8	-0.0	1.10
18	55.0	346.8	346.8	0.0	1.09
19	57.0	346.8	346.9	0.0	1.09

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

LOCATION I-11 REC. NO. 5773 DEPTH 883.

CALCULATIONS FOR LIQUID RECOVERY (SECOND SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	346.5
NO. OF POINTS CONSIDERED IN BUILD-UP	18
NO. OF POINTS USED IN EXTRAPOLATION	18
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)	0.15
EFFECTIVE PRODUCING TIME (MIN)	89.0
(B) IN SITU CAPACITY (KH - MD FT)	6570.75
SLOPE OF BUILD-UP CURVE (PSI/CYCLE)	2.26
PRODUCING RATE (BBL/DAY)	106.34
FLUID VISCOSITY (CP)	0.860
FORMATION VOLUME FACTOR (RES BBL/ST BBL)	1.000
(C) EFFECTIVE PERMEABILITY (MD)	219.02
FORMATION THICKNESS	30.00
(D) PRODUCTIVITY INDEX (BBL/DAY/PSI)	3.02
FLOWING PRESSURE (PSIG)	311.2
(E) APPROXIMATE DRAINAGE RADIUS (FT)	856.4
TOTAL FLOWING TIME (MIN)	89.0
(F) ESTIMATED DAMAGE RATIO	2.40
RESERVOIR POROSITY (PERCENT)	6.00
TOTAL COMPRESSIBILITY (VOL/VOL/PSI X 10-6)	9.00
WELL-BORE RADIUS (IN)	4.375
CALCULATED SKIN FACTOR	10.47
(G) PRODUCTION WITH DAMAGE REMOVED (BBL/DAY)	255.4

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 1

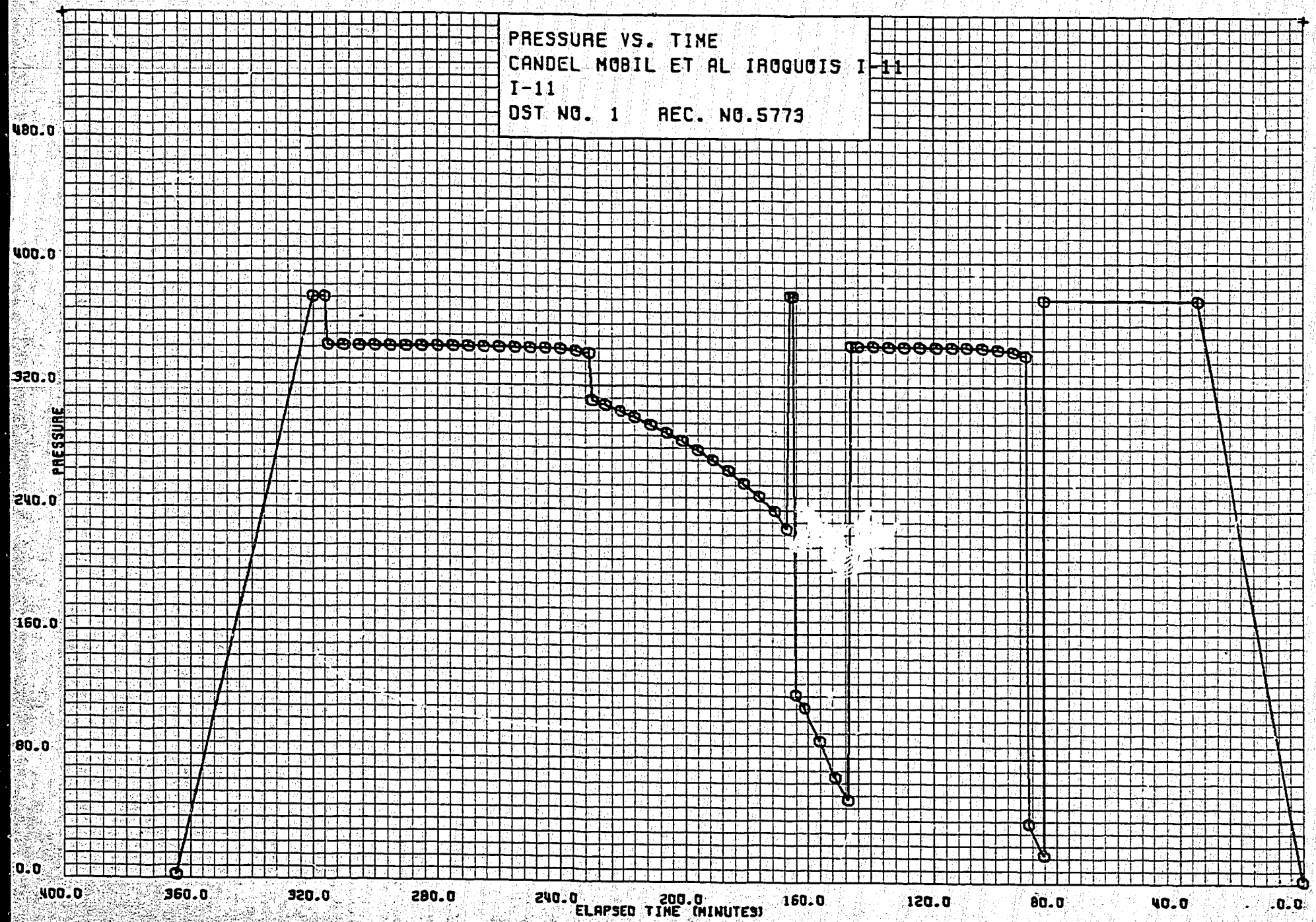
LOCATION I-11 REC. NO. 5773 DEPTH 883.

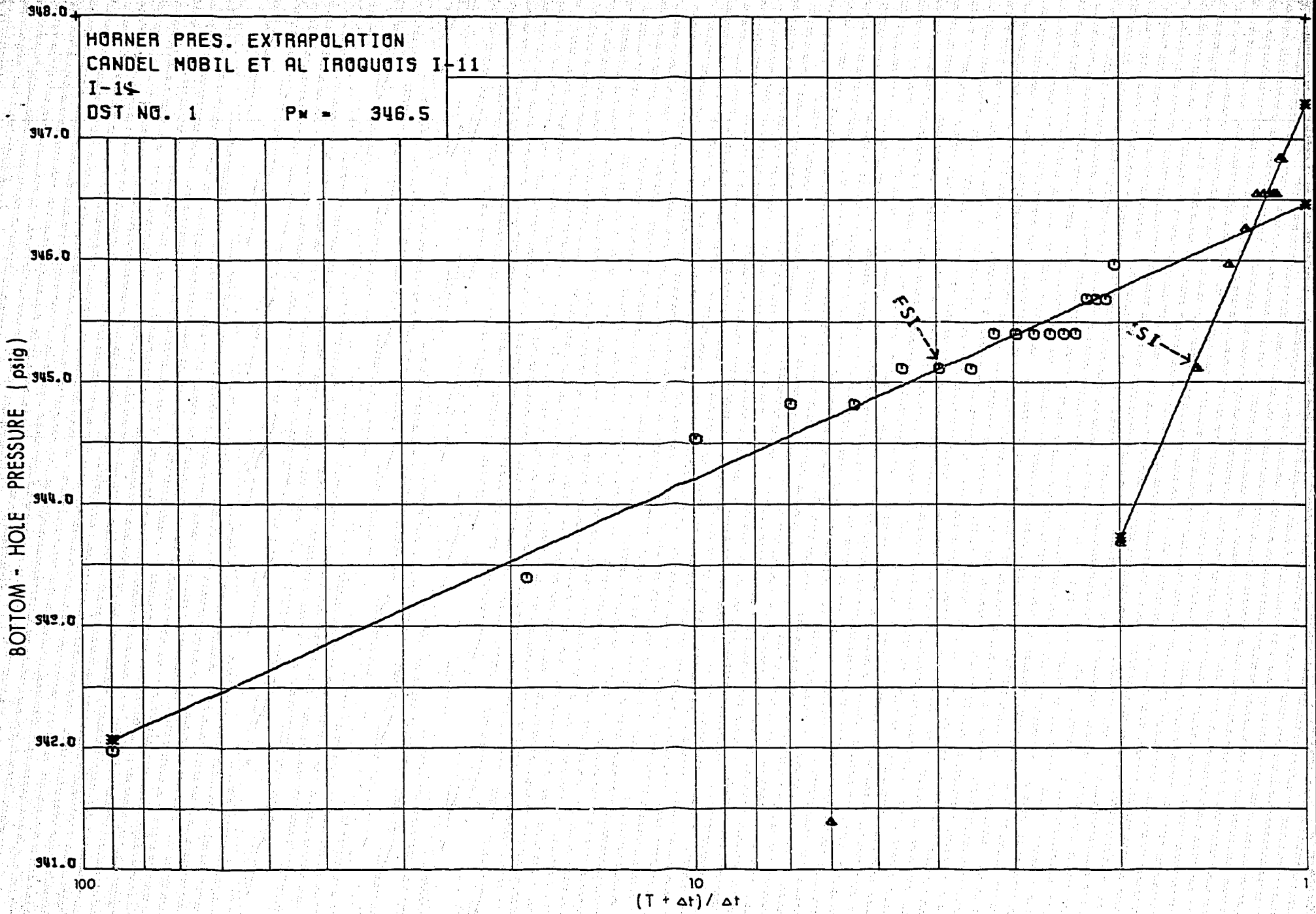
DATA FOR BUILD-UP PLOT (SECOND SHUT-IN)

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
POINTS USED IN EXTRAPOLATION					
43	1.0	342.0	342.1	0.1	90.00
44	5.0	343.4	343.6	0.2	18.80
45	10.0	344.5	344.2	-0.3	9.90
46	15.0	344.8	344.6	-0.3	6.93
47	20.0	344.8	344.8	-0.0	5.45
48	25.0	345.1	345.0	-0.1	4.56
49	30.0	345.1	345.1	0.0	3.97
50	35.0	345.1	345.2	0.1	3.54
51	40.0	345.4	345.3	-0.1	3.22
52	45.0	345.4	345.4	-0.0	2.98
53	50.0	345.4	345.5	0.1	2.78
54	55.0	345.4	345.5	0.1	2.62
55	60.0	345.4	345.6	0.2	2.48
56	65.0	345.4	345.6	0.2	2.37
57	70.0	345.7	345.7	-0.0	2.27
58	75.0	345.7	345.7	0.0	2.19
59	80.0	345.7	345.7	0.0	2.11
60	85.0	346.0	345.8	-0.2	2.05

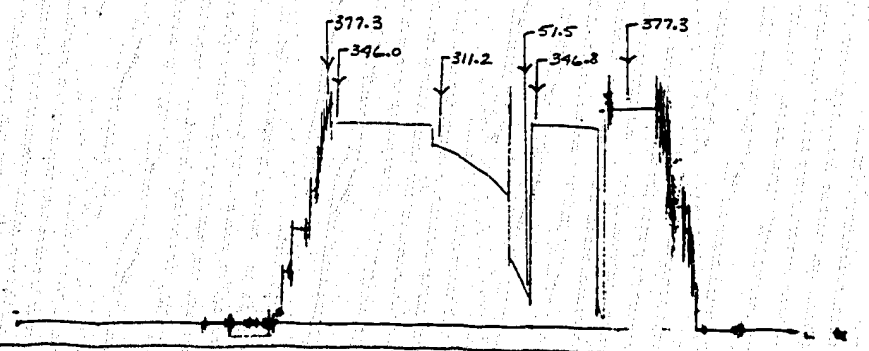
ASSUMPTIONS AND LIMITATIONS

THE ENCLOSED DST INTERPRETATION CALCULATIONS REQUIRE SEVERAL NECESSARY ASSUMPTIONS TO PROVIDE A QUICK ESTIMATE OF MANY OF THE FACTORS INVOLVED. AS A RESULT THE INFORMATION GAINED SHOULD BE USED TO FORM AN OPINION OR ESTIMATE ONLY, UNTIL THE ASSUMPTIONS OF RESERVOIR AND FLUID PROPERTIES CAN BE WHOLLY OR PARTIALLY CLARIFIED BY MORE COMPLETE ANALYSIS AND TESTING.


PRESSURE VS. TIME
CANDEL MOBIL ET AL IROQUOIS I-11
I-11
DST NO. 1 REC. NO.5773
PRESSURE
480.0
400.0
320.0
240.0
160.0
80.0
0.0
400.0
360.0
320.0
280.0
240.0
200.0
160.0
120.0
80.0
40.0
0.0
ELAPSED TIME (MINUTES)

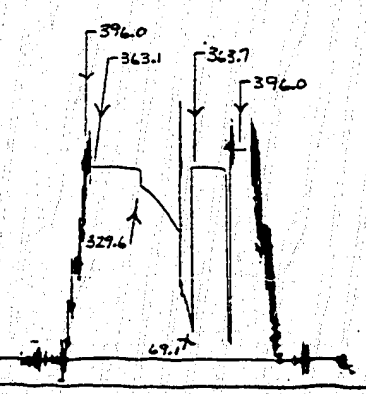

HORNER PRES. EXTRAPOLATION
CANDEL MOBIL ET AL IROQUOIS I-11
I-14
DST NO. 1 Pw = 346.5
348.0
347.0
346.0
345.0
344.0
343.0
342.0
341.0
BOTTOM - HOLE PRESSURE (psig)
FSI
ISI
100
10
1
(T + Δt) / Δt

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 900 - 1010
DST NO. 1 REC. NO. 5773



DST RECORDER CHARTS

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 900 - 1010
DST NO. 1 REC. NO. 5979



BJ

BORG WARNER

DRILL STEM TEST REPORT

BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED

CANDEL MOBIL ET AL

IROQUOIS I-11

TEST NO. 2

BJ BORG WARNER

TESTING REPORT

DRILL-STEM TEST DATA

Well Name	CANDEL MOBIL ET AL IROQUOIS I-11	Test No.	2
Well Number	I-11	Zone Tested	RONNING
Company	CANDEL OIL LTD.	Interval	2121.0 TO 2261.0
Comp. Rep.	M. MILLER	Tester MEL MOSCRIP	Date MAY 5, 1972

Type of Test DUAL BOTTOM HOLE RFS Tool No. 124

Preflow 5.0 mins. ISI 27.0 mins. Flow 60.0 mins. FSI 60.0 mins.

	IN REC. No. 5773	OUT REC. No. 5979	REC. No.
	1190 RANGE 12 HR. CLOCK	1200 RANGE 12 HR. CLOCK	RANGE HR. CLOCK
DEPTH	2104.0	2138.0	
Initial Hydro Mud Press	904.5	924.3	
Initial Shut-In Press	874.7	891.7	
Initial Flow Press	162.0	181.7	
Final Flow Press	594.2	614.1	
Final Shut-In Press	875.5	892.3	
Final Hydro Mud Press	904.5	924.3	

Mud Drop 10 Fluid Loss Mud Weight 8.4

Viscosity 28.0 Temperature °F 84.0 Net Pay Tested 90.0

Top Packer Depth 2115.0 Bottom Packer Depth 2121.0 Total Depth 2261.0

Drill Pipe Size 3.5 IF Wt. 13.0 Drill Collar I.D. 2.875 Ft. Run 447.00

Surface Choke Size CLOSED Bottom Choke Size 0.5 Main Hole Size 8.750

Anchor Size Rat Hole Size Feet of Rat Hole

Cushion Amount Type Rubber Size 8.0

Fluid Recovery Total Feet 1300.0

Recovered	90	Feet of	FRESH WATER
Recovered	1210	Feet of	SULPHUROUS FRESH WATER
Recovered		Feet of	
Recovered		Feet of	
Recovered		Feet of	

Gas Recovery How Measured Riser size:

mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS: WEAK INITIAL PUFF. WEAK AIR BLOW DECREASING THROUGHOUT TEST.

A Core Lab Gas Cont. No. Che. - Geo. Lab Gas Cont. No.

BJ BORG WARNER

TESTING REPORT

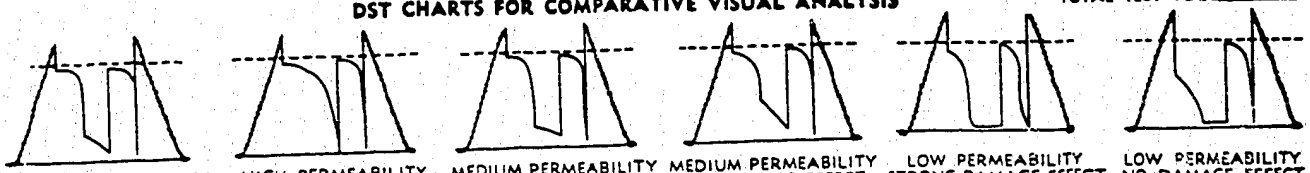
WEIGHT INDICATER READING

PRIOR TO SETTING PACKERS

AFTER PULL PACKERS LOOSE

	ID	OD	LENGTH	
4S LANDING SUB				
4S CHAMBER COS			1.00	
4S TOOL OR P.O. SUB			5.00	
CO SUB				
SHUT IN TOOL		4¾	5.20	
R.F.S. No. 134	2¼	4¾	3.30	
R.F.S. No.	2¼	4¾		
HYDRAULIC TOOL		4¾	7.20	
JARS	1	4¾	6.00	
RECORDER No. 5773	2¼	4¾	5.00	DEPTH 2104
RECORDER No.	2¼	4¾		DEPTH
SAFETY JOINT	2 11/16	4¾	1.75	
BY PASS SUB	1 5/32	4¾		
1. PACKER DEPTH 2115 — PACKER	1 OR ⅞		6.00	
2. PACKER DEPTH 2121 — PACKER	1 or ⅞		5.00	TOOL ABOVE INTERVAL 45.45
ANCHOR—SPECIFY	2½		1.00	
PERF			15.00	
BLANK OFF OR BY PASS SUB	1 5/32	4¾		
RECORDER No. 5979	2¼	4¾	5.00	DEPTH 2138
3. PACKER DEPTH — PACKER	1 OR ⅞			TOTAL INTERVAL
4. PACKER DEPTH — PACKER	1 OR ⅞			
ANCHOR—SPECIFY	2½			
RECORDER No	2¼	4¾		DEPTH
DRILL COLLARS			116.50	
TOTAL DEPTH 2261 — BULLNOSE	2¾	4¾	2.50	TOTAL TAIL PIPE 140.00
				TOTAL TEST TOOL 68.95

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



HIGH PERMEABILITY STRONG DAMAGE EFFECT | HIGH PERMEABILITY NO DAMAGE EFFECT | MEDIUM PERMEABILITY STRONG DAMAGE EFFECT | MEDIUM PERMEABILITY NO DAMAGE EFFECT | LOW PERMEABILITY STRONG DAMAGE EFFECT | LOW PERMEABILITY NO DAMAGE EFFECT

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

LOCATION I-11 REC. NO. 5979 DEPTH 2138.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
RUN IN HOLE	1	0.0	0.0
	2	93.0	924.3
INITIAL HYDRO PRESSURE	3	124.0	924.3
INITIAL PREFLOW PRESSURE	4	124.0	94.6
FINAL PREFLOW PRESSURE	5	129.0	126.8
START INITIAL SHUT-IN	6	129.0	126.8
	7	134.0	822.5
	8	139.0	873.5
	9	144.0	886.5
	10	149.0	889.6
	11	154.0	891.4
INITIAL SHUT-IN PRESSURE	12	156.0	891.7
START FLOW PERIOD	13	156.0	891.7
INITIAL FLOW PRESSURE	14	157.0	181.7
	15	161.0	214.0
	16	166.0	265.2
	17	171.0	312.5
	18	176.0	355.2
	19	181.0	395.7
	20	186.0	433.6
	21	191.0	467.9
	22	196.0	501.2
	23	201.0	533.3
	24	206.0	563.0
	25	211.0	592.0
FINAL FLOW PRESSURE	26	216.0	614.1
START FINAL SHUT-IN	27	216.0	614.1
	28	221.0	837.5
	29	226.0	871.4
	30	231.0	882.6
	31	236.0	887.4
	32	241.0	889.5
	33	246.0	890.8

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

LOCATION I-11 REC. NO. 5979 DEPTH 2138.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
	34	251.0	891.4
	35	256.0	891.7
	36	261.0	892.0
	37	266.0	892.3
	38	271.0	892.3
FINAL SHUT-IN PRESSURE	39	276.0	892.3
RUN OUT OF HOLE	40	276.0	892.3
FINAL HYDRO PRESSURE	41	277.0	924.3
	42	289.0	924.3
OUT OF HOLE	43	366.0	0.0

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

LOCATION I-11 REC. NO. 5979 DEPTH 2138.

CALCULATIONS FOR LIQUID RECOVERY (FIRST SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE 899.5

NO. OF POINTS CONSIDERED IN BUILD-UP 6
NO. OF POINTS USED IN EXTRAPOLATION 4
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)..... 0.21
EFFECTIVE PRODUCING TIME (MIN) 5.0

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

LOCATION I-11 REC. NO. 5979 DEPTH 2138.

DATA FOR BUILD-UP PLOT (FIRST SHUT-IN)

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION					
7	5.0	822.5			2.00
8	10.0	873.5			1.50
POINTS USED IN EXTRAPOLATION					
9	15.0	886.5	886.6	0.2	1.33
10	20.0	889.8	889.5	-0.3	1.25
11	25.0	891.4	891.3	-0.0	1.20
12	27.0	891.7	891.9	0.2	1.19

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

LOCATION I-11 REC. NO. 5979 DEPTH 2138.

CALCULATIONS FOR LIQUID RECOVERY (SECOND SHUT-IN)

(A) EXTRAPOLATED RESERVOIR PRESSURE	895.3
NO. OF POINTS CONSIDERED IN BUILD-UP	12
NO. OF POINTS USED IN EXTRAPOLATION	7
ROOT MEAN SQUARE DEVIATION OF BEST-FIT LINE (PSI)	0.13
EFFECTIVE PRODUCING TIME (MIN)	65.0
(B) IN SITU CAPACITY (KH - MD FT)	3341.91
SLOPE OF BUILD-UP CURVE (PSI/CYCLE)	8.76
PRODUCING RATE (BBL/DAY)	219.78
FLUID VISCOSITY (CP)	0.820
FORMATION VOLUME FACTOR (RES BBL/ST BBL)	1.000
(C) EFFECTIVE PERMEABILITY (MD)	37.13
FORMATION THICKNESS	90.00
(D) PRODUCTIVITY INDEX (BBL/DAY/PSI)	0.78
FLOWING PRESSURE (PSIG)	614.1
(E) APPROXIMATE DRAINAGE RADIUS (FT)	267.3
TOTAL FLOWING TIME (MIN)	65.0
(F) ESTIMATED DAMAGE RATIO	5.86
RESERVOIR POROSITY (PERCENT)	9.00
TOTAL COMPRESSIBILITY (VOL/VOL/PSI X 10-6)	8.00
WELL-BORE RADIUS (IN)	4.375
CALCULATED SKIN FACTOR	30.63
(G) PRODUCTION WITH DAMAGE REMOVED (BBL/DAY)	1287.2

WELL NAME CANDEL MOBIL ET AL IROQUOIS I-11 DST. NO. 2

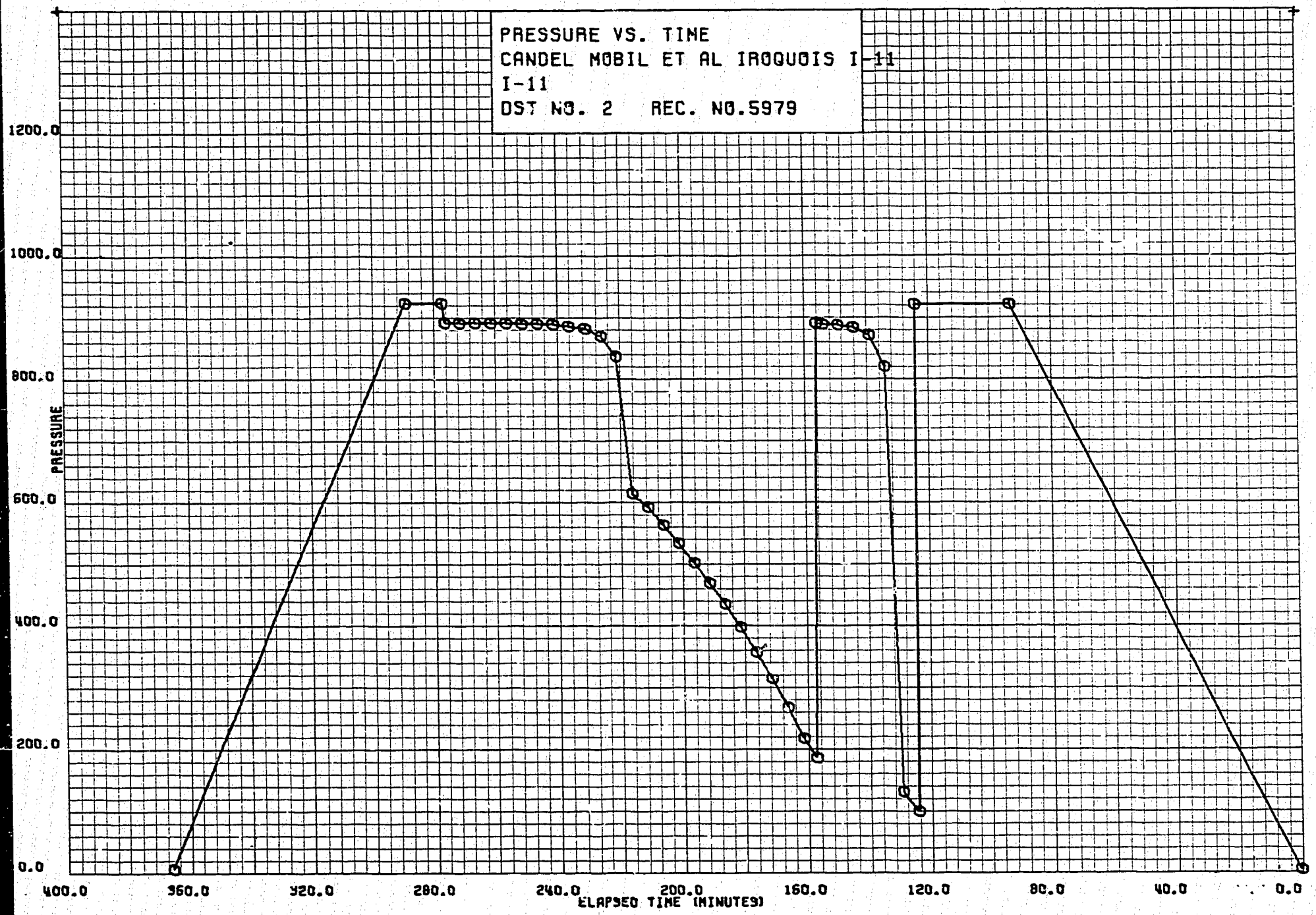
LOCATION I-11 REC. NO. 5979 DEPTH 2138.

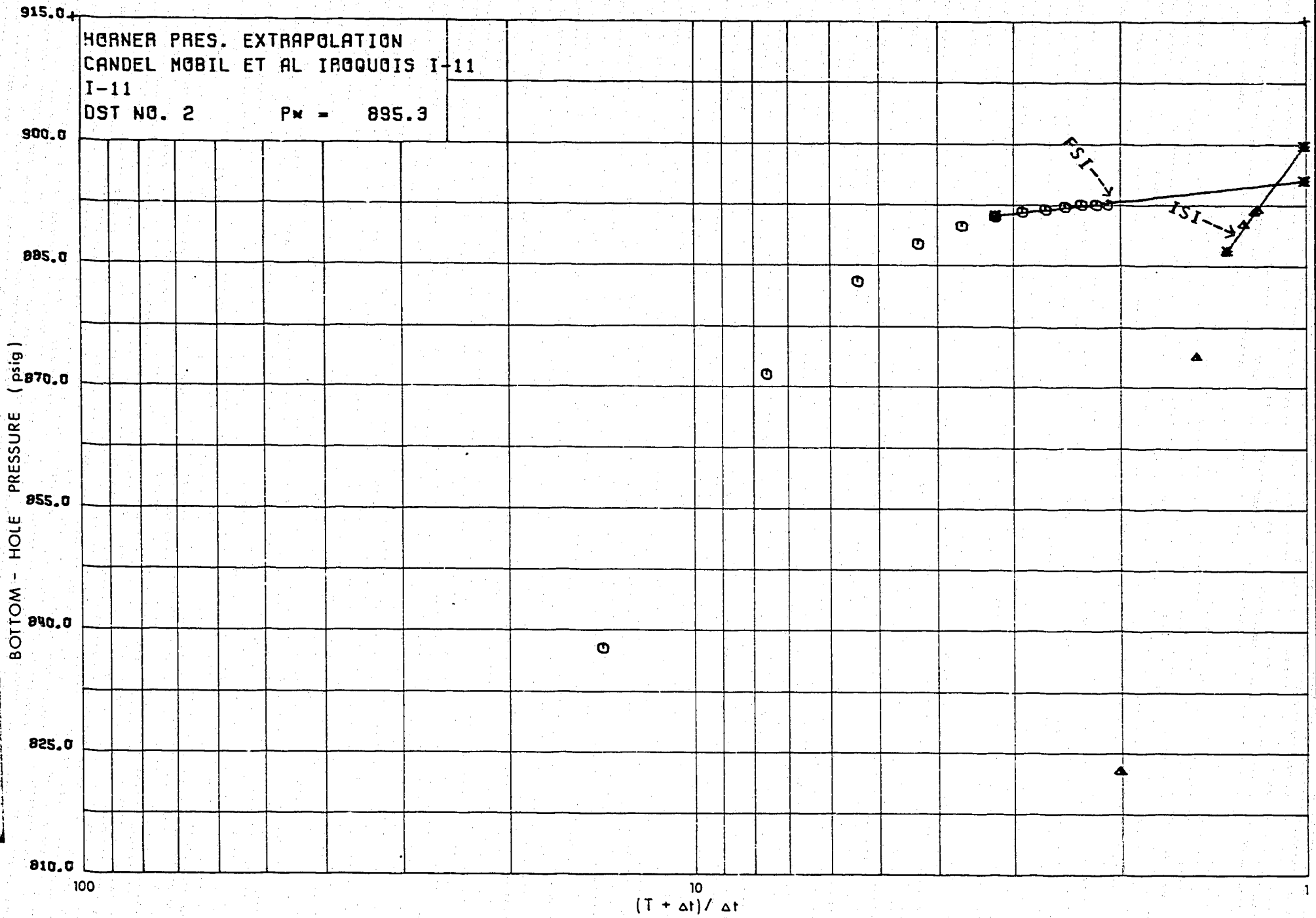
DATA FOR BUILD-UP PLOT (SECOND SHUT-IN)

POINT NUMBER	TIME MIN	PRESSURE PSIG	PRESSURE CALC FROM BEST FIT LINE	PRESSURE DIFFERENCE CALC - OBSERVED	T+DELTA(T)/ DELTA(T)
PORTION OF BUILD-UP CURVE NOT USED IN EXTRAPOLATION					
28	5.0	837.5			14.00
29	10.0	871.4			7.50
30	15.0	882.8			5.33
31	20.0	887.4			4.25
32	25.0	889.5			3.60
POINTS USED IN EXTRAPOLATION					
33	30.0	890.8	890.9	0.2	3.17
34	35.0	891.4	891.3	-0.1	2.86
35	40.0	891.7	891.6	-0.1	2.62
36	45.0	892.0	891.9	-0.1	2.44
37	50.0	892.3	892.1	-0.2	2.30
38	55.0	892.3	892.3	0.0	2.18
39	60.0	892.3	892.5	0.2	2.08

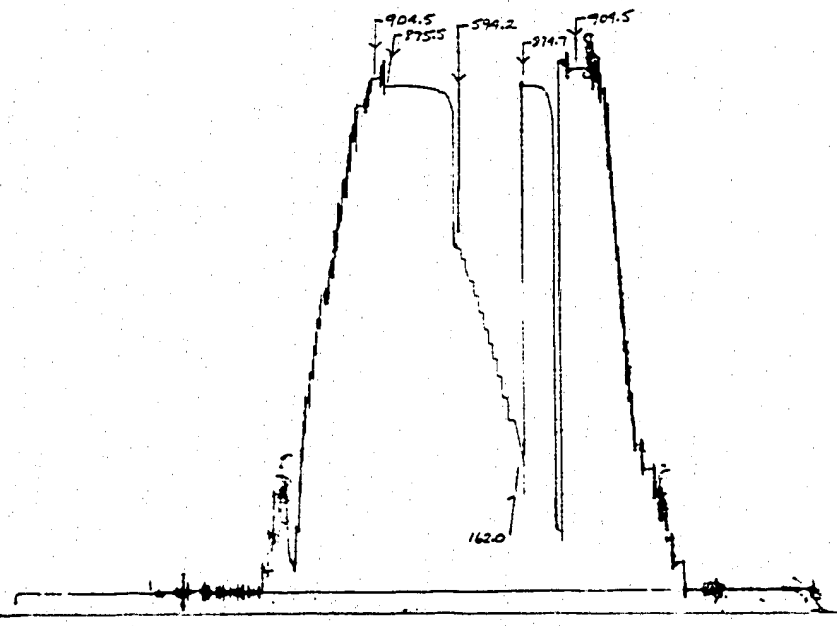
ASSUMPTIONS AND LIMITATIONS

THE ENCLOSED DST INTERPRETATION CALCULATIONS REQUIRE SEVERAL NECESSARY ASSUMPTIONS TO PROVIDE A QUICK ESTIMATE OF MANY OF THE FACTORS INVOLVED. AS A RESULT THE INFORMATION GAINED SHOULD BE USED TO FORM AN OPINION OR ESTIMATE ONLY, UNTIL THE ASSUMPTIONS OF RESERVOIR AND FLUID PROPERTIES CAN BE WHOLLY OR PARTIALLY CLARIFIED BY MORE COMPLETE ANALYSIS AND TESTING.


PRESSURE VS. TIME
CANDEL MOBIL ET AL IROQUOIS I-11
I-11
DST NO. 2 REC. NO.5979
PRESSURE
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
400.0
360.0
320.0
280.0
240.0
200.0
160.0
120.0
80.0
40.0
0.0
ELAPSED TIME (MINUTES)

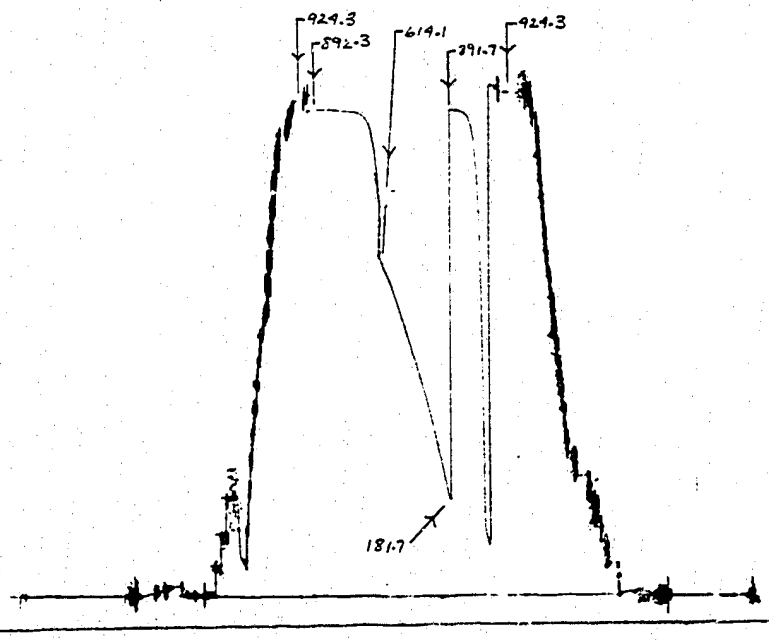

HORNER PRES. EXTRAPOLATION
CANDEL MOBIL ET AL IROQUOIS I-11
I-11
DST NO. 2 Pw = 895.3
FSI
ISI
915.0
900.0
885.0
870.0
855.0
840.0
825.0
810.0
BOTTOM - HOLE PRESSURE (psig)
100
10
1
(T + Δt)/ Δt

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 2121 - 2261
DST NO. 2 REC. NO. 5773



DST RECORDER CHARTS

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 2121 - 2261
DST NO. 2 REC. NO. 5979



BJ

BORG WARNER

DRILL STEM TEST REPORT

BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED

CANDEL MOBIL ET AL IROQUOIS

I-11

TEST NO. 3

BJ BORG WARNER

TESTING REPORT

DRILL-STEM TEST DATA

Well Name CANDEL ET AL IROQUOIS I-11		Test No. 3	
Well Number I-11		Zone Tested RONNING	
Company CANDEL OIL LTD.		Interval 3200.0 TO 3614.0	
Comp. Rep. DOUG HADDOW	Tester LEO PENNER	Date MAY 31,1972	

Type of Test DUAL BOTTOM HOLE R F S Tool No. 105

Preflow 5.0 mins. ISI 27.0 mins. Flow 114.0 mins. FSI 230.0 mins.

	OUT REC. No. 3852	OUT REC. No. 3689	REC. No.
	5800 RANGE 12 HR. CLOCK	5700 RANGE 12 HR. CLOCK	RANGE HR. CLOCK
DEPTH	3219.0	3225.0	
Initial Hydro Mud Press	1704.0	1707.0	
Initial Shut-In Press	1359.0	1361.9	
Initial Flow Press	622.0	625.5	
Final Flow Press	1364.0	1367.6	
Final Shut-In Press	1368.0	1371.8	
Final Hydro Mud Press	1704.0	1707.0	

Mud Drop YES Fluid Loss Mud Weight 10.3
Viscosity 29.0 Temperature °F 68.0 Net Pay Tested 130.0
Top Packer Depth 3200.0 Bottom Packer Depth Total Depth 3614.0
Drill Pipe Size 3.5 IF Wt. 13.5 Drill Collar I.D. 2.375 Ft. Run 450.00
Surface Choke Size CLOSED Bottom Choke Size 0.5 Main Hole Size 8.750
Anchor Size 4.75 Rat Hole Size Feet of Rat Hole
Cushion Amount Type Rubber Size 7.5

Fluid Recovery Total Feet 2820.0
Recovered Feet of RFS CONT. 2700 CC'S OF CLEAN SALT WATER
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Gas Recovery How Measured Riser size:

mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS: PULL TEST UNTIL REACHED TOP OF FLIUD RECOVERY. CAUGHT SAMPLE OF MUD THEN WHEN WE CONTINUED PULLING OUT OF THE HOLE THE PIPE WAS EMPTY. OUR TOOL HAS A PUMP-OFF FEATURE IN CASE IT IS NEEDED FOR FREEING THE PIPE WHEN STUCK THAT IS ACTIVATED BY APPLYING 500 PSI DIFFERENTIAL TO THE DRILL PIPE

A Core Lab Gas Cont. No. Chem - Geo. Lab Gas Cont. No.

BJ BORG WARNER

TESTING REPORT

DRILL-STEM TEST DATA

Well Name CANDEL ET AL IROQUOIS I-11	Test No. 3
Well Number I-11	Zone Tested RONNING
Company CANDEL OIL LTD	Interval 3200.0 TO 3614.0
Comp. Rep. DOUG HADDOW Tester LEO PENNER	Date MAY 31,1972

Type of Test RFS Tool No.

Preflow mins. ISI mins. Flow mins. FSI mins.

	REC. No.		REC. No.		REC. No.	
	RANGE	HR. CLOCK	RANGE	HR. CLOCK	RANGE	HR. CLOCK
DEPTH						
Initial Hydro Mud Press						
Initial Shut-In Press						
Initial Flow Press						
Final Flow Press						
Final Shut-In Press						
Final Hydro Mud Press						

Mud Drop Fluid Loss Mud Weight

Viscosity Temperature °F Net Pay Tested

Top Packer Depth Bottom Packer Depth Total Depth

Drill Pipe Size Wt. Drill Collar I.D. Ft. Run

Surface Choke Size Bottom Choke Size Main Hole Size

Anchor Size Rat Hole Size Feet of Rat Hole

Cushion Amount Type Rubber Size

Fluid Recovery Total Feet

Recovered Feet of

Recovered Feet of

Recovered Feet of

Recovered Feet of

Recovered Feet of

Gas Recovery How Measured Riser size:

mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day
mins.	Temp. °F	Press Rdg.	psi	Orifice Size	=	MCF/Day

Bleed Off Time for Drill Pipe

REMARKS: ALLOWING YOU TO CIRCULATE OR PRESSURE UP UNDER THE PACKERS. THE SAME RESULTS OCCUR IF THE HOLE IS NOT KEPT FULL WHILE PULLING TEST - THE RECOVERY OVERBALANCES THE ANNULUS PRESSURE BY 500 PSI.

A Core Lab Gas Cont. No. Chem - Geo. Lab Gas Cont. No.

BJ BORG WARNER

TESTING REPORT

WEIGHT INDICATER READING

PRIOR TO SETTING PACKERS

AFTER PULL PACKERS LOOSE

	ID	OD	LENGTH	
4S LANDING SUB				
4S CHAMBER				
4S TOOL OR P.O. SUB			1.00	
CO SUB			1.00	
SHUT IN TOOL		4¾	5.00	
R.F.S. No. 105	2¼	4¾	3.25	
R.F.S. No.	2¼	4¾		
HYDRAULIC TOOL		4¾	7.00	
JARS	1	4¾	5.30	
RECORDER No.	2¼	4¾		DEPTH
RECORDER No.	2¼	4¾		DEPTH
SAFETY JOINT	2 11/16	4¾	1.75	
BY PASS SUB	1 5/32	4¾		
1. PACKER DEPTH 3194 — PACKER	1 OR ⅞	7½	6.00	
2. PACKER DEPTH 3200 — PACKER	1 or ⅞	7½	5.00	TOOL ABOVE INTERVAL 35.30
ANCHOR—SPECIFY	2½		1.00	
PERFS			17.00	
BLANK OFF OR BY PASS SUB	1 5/32	4¾		
RECORDER No. 3852	2¼	4¾	6.00	DEPTH 3219
3. PACKER DEPTH — PACKER	1 OR ⅞			TOTAL INTERVAL 413.50
4. PACKER DEPTH — PACKER	1 OR ⅞			
ANCHOR—SPECIFY	2½			
DRILL PIPE		3½ IF	377.00	
RECORDER No 3689	2¼	4¾	5.00	DEPTH 3225
PERFS			5.00	
TOTAL DEPTH 3614 — BULLNOSE	2¾	4¾	2.50	TOTAL TAIL PIPE
				TOTAL TEST TOOL 71.80

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS

HIGH PERMEABILITY STRONG DAMAGE EFFECT | HIGH PERMEABILITY NO DAMAGE EFFECT | MEDIUM PERMEABILITY STRONG DAMAGE EFFECT | MEDIUM PERMEABILITY NO DAMAGE EFFECT | LOW PERMEABILITY STRONG DAMAGE EFFECT | LOW PERMEABILITY NO DAMAGE EFFECT

WELL NAME CANDEL ET AL IROQUOIS I-11 DST. NO. 3

LOCATION I-11 REC. NO. 3689 DEPTH 3225.

MEASURED PRESSURES

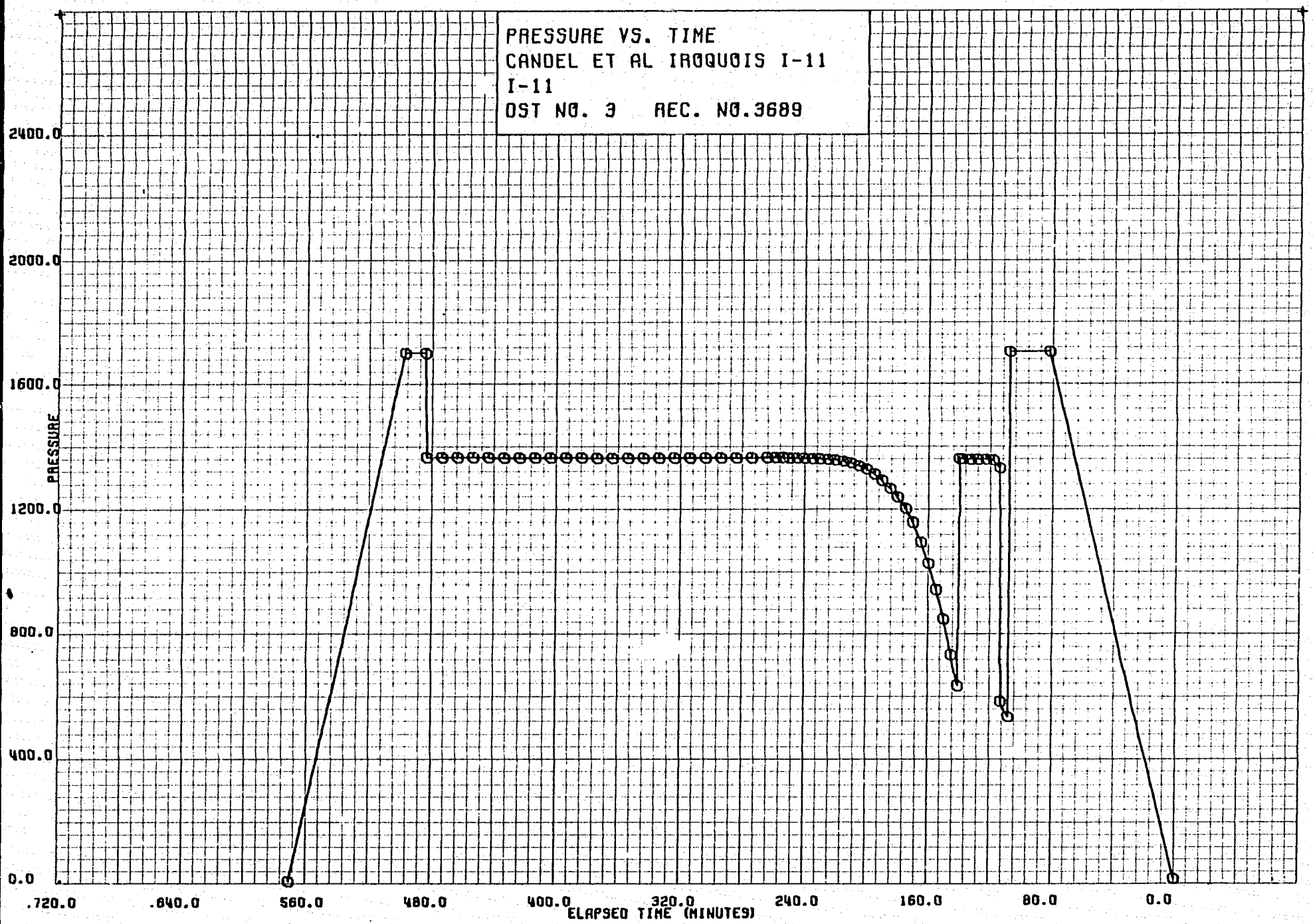
	POINT NUMBER	TIME MIN	PRESSURE PSIG
RUN IN HOLE	1	0.0	0.0
	2	81.0	1707.0
INITIAL HYDRO PRESSURE	3	107.0	1707.0
INITIAL PREFLOW PRESSURE	4	107.0	525.7
FINAL PREFLOW PRESSURE	5	112.0	575.7
START INITIAL SHUT-IN	6	112.0	575.7
	7	113.0	1332.4
	8	117.0	1357.7
	9	122.0	1359.1
	10	127.0	1360.5
	11	132.0	1360.5
	12	137.0	1361.9
INITIAL SHUT-IN PRESSURE	13	139.0	1361.9
START FLOW PERIOD	14	139.0	1361.9
INITIAL FLOW PRESSURE	15	140.0	625.5
	16	144.0	729.4
	17	149.0	846.1
	18	154.0	941.5
	19	159.0	1025.5
	20	164.0	1096.7
	21	169.0	1160.5
	22	174.0	1204.2
	23	179.0	1239.4
	24	184.0	1269.0
	25	189.0	1294.3
	26	194.0	1314.0
	27	199.0	1329.5
	28	204.0	1340.8
	29	209.0	1350.7
	30	214.0	1356.3
	31	219.0	1360.5
	32	224.0	1361.9
	33	229.0	1363.3
	34	234.0	1364.8
	35	239.0	1366.2

WELL NAME CANDEL ET AL IROQUOIS I-11 DST. NO. 3

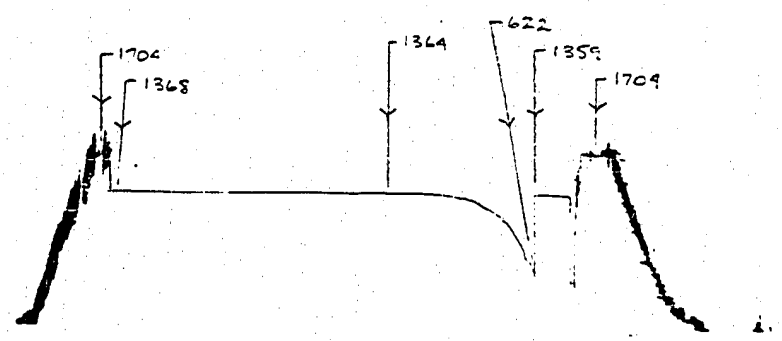
LOCATION I-11 REC. NO. 3689 DEPTH 3225.

MEASURED PRESSURES

	POINT NUMBER	TIME MIN	PRESSURE PSIG
	36	244.0	1366.2
	37	249.0	1366.2
FINAL FLOW PRESSURE	38	253.0	1367.6
START FINAL SHUT-IN	39	253.0	1367.6
	40	258.0	1367.6
	41	263.0	1367.6
	42	273.0	1367.6
	43	283.0	1367.6
	44	293.0	1367.6
	45	303.0	1367.6
	46	313.0	1369.0
	47	323.0	1369.0
	48	333.0	1369.0
	49	343.0	1369.0
	50	353.0	1369.0
	51	363.0	1369.0
	52	373.0	1369.0
	53	383.0	1370.4
	54	393.0	1370.4
	55	403.0	1370.4
	56	413.0	1370.4
	57	423.0	1370.4
	58	433.0	1370.4
	59	443.0	1371.8
	60	453.0	1371.8
	61	463.0	1371.8
	62	473.0	1371.8
FINAL SHUT IN PRESSURE	63	483.0	1371.8
RUN OUT OF HOLE	64	483.0	1371.8
FINAL HYDRO PRESSURE	65	484.0	1707.0
	66	497.0	1707.0
OUT OF HOLE	67	572.0	0.0

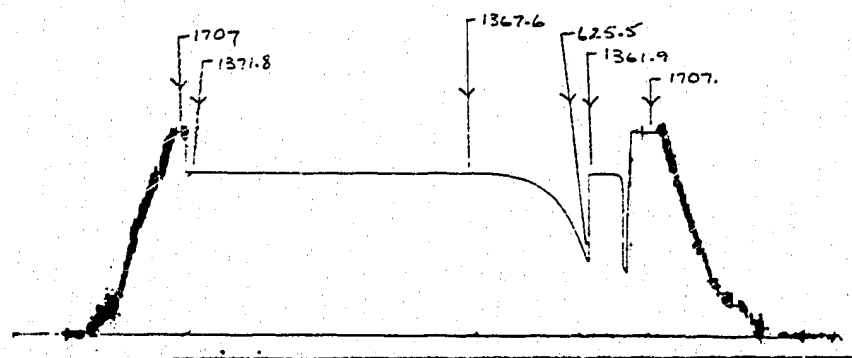

PRESSURE VS. TIME
CANDEL ET AL IROQUOIS I-11
I-11
DST NO. 3 REC. NO.3689
PRESSURE
2400.0
2000.0
1600.0
1200.0
800.0
400.0
0.0
720.0
640.0
560.0
480.0
400.0
320.0
240.0
160.0
80.0
0.0
ELAPSED TIME (MINUTES)

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 3200 - 3614
DST NO. 3 REC. NO. 3852



DST RECORDER CHARTS

CANDEL MOBIL ET AL IROQUOIS I-11
INTERVAL 3200 - 3614
DST NO. 3 REC. NO. 3689



DATE JUNE 3 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

JUN 6 1972

DATE JUNE 3 1972

Rig No. 8 Page No. HO LOCATION CANDEL MORIL IRIQUOIS 7-11

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | Oil Added

MOTOR HOURS: 1 8 ; 2 8 ; 3 ; Light Plant 8 ; BOILER HRS. 9.

PUMPS: No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
RIG OUT	12.00		
drain Pumps and take off.		1	
Pumps Robots Better Pick up and		8.00	8 HRS
clean up around Location			

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | Oil Added

MOTOR HOURS: 1 ; 2 ; 3 ; Light Plant 8. ; BOILER HRS.

PUMPS: No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Start	Stop	Interval
	8.00		
tear out camps Put away		4.00	8 HRS
Light Cores and Water and			
Steam Lines drain Boiler and			
clean up.			

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | Oil Added

MOTOR HOURS: 1 ; 2 ; 3 ; Light Plant ; BOILER HRS.

PUMPS: No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours; Desilter Hours; Desander Hours

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Start	Stop	Interval
drain camps and Pick up	4.00		
around camps.		12.00	8 HRS.
Note use. 15 gals. fuel and 15 gals. Pepsi			
inhibitor in Anti-Pepsi and collars when lay			
Down.			
JW.			

With Pipe Without Pipe Standby

Rig No. 8 Report No. HO

Tour — Midnight - 8 a.m. Specify actual hours worked.	Hrs.
Driller L BATEMAN	12.
Derrick GARRY BARNESS	12.
Motor TOM MCAULEY	12.
Floor MERV GREFF	12.
Floor KEN LEGUERIER	12.

Accidents / Outside Temp. / Weather Conditions / Road Conditions

Tour — 8 a.m. to 4 p.m. Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor Frank Devene.	16.
Floor	

Accidents / Outside Temp. / Weather Conditions / Road Conditions

Tour — 4 p.m. to Midnight Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12.
Derrick HOWARD MACKLY	12
Motor GENE PLATO	12
Floor MEL GUNSON	12.
Floor DON DOUGLAS	12.

Accidents / Outside Temp. / Weather Conditions / Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Toolpusher [signature]

Approved by ..... [signature]

DATE June 2 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 39 LOCATION Candel Mobil Trocuoi I-11

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree: MOTOR HOURS 1 8, 2 8, 3, Light Plant 8, BOILER HRS. 8. Oil Added:

PUMPS: No. 1 Pressure, Model, S.P.M., Liner Size; No. 2 Pressure, Model, S.P.M., Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

WORK RECORD

NOTE: Do Not Record Payroll Information Here

JUN 6 1972

REMARKS	Time Start	Stop	Interval
W.O.C.	12.00	4.30	4½
trip in to feel Plug	4.30	5.00	½
felt plug @ 623.			
Lay down Drill Pipe	5.00	6.00	1
tear out Bops.	6.00	8.00	2
			8
felt Plug at 623.			

With Pipe Without Pipe Standby

REMARKS	Time Start	Stop	Interval
tear out Bops. and weld.	8.00		
cap on casing		12.00	4
Keep Mud Tanks and Tear	12.00		
out floor.		4.00	4
			8

With Pipe Without Pipe Standby

REMARKS	Time Start	Stop	Interval
Tear out Rig Lay down	4.00		
derrick drain water Lines			
and Steam Lines Pick up around			
Location		12.00	
			8

With Pipe Without Pipe Standby

Rig No. 8 Report No. 34

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller L Bateman	12
Derrick G Bateman	12
Motor E McCauley	12
Floor M Greeff	12
Floor K Leguenoi	12

Accidents Nil
Outside Temp. 66
Weather Conditions clear
Road Conditions Poor

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor Sch Frank Denson	16
Floor	
Floor	

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller G Hewitt	12
Derrick H Markow	12
Motor G Plato	12
Floor M Benson	12
Floor R Daughton	12

Accidents Nil
Outside Temp. 60
Weather Conditions clear
Road Conditions Bad

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Toolpusher [signature]

Approved by .....

DATE ~~May~~ June 1 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

JUN 6 1972

DATE June 1 1972

Rig No. 8 Page No. 38 LOCATION Candel. Mobil. Iroquois. I-11

Rig No. 8 Report No. 38

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
TD 6961.											

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				/
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	
Model C 250	S.P.M.	
	Liner Size	5½
No. 2	Pressure	
Model P 214	S.P.M.	
	Liner Size	5½

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
DST No 3.	12⁰⁰	4⁰⁰	4.
Trip out. w/ Test.	4⁰⁰	7⁰⁰	2.
Lay Down Test Tool	7⁰⁰	8⁰⁰	1

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller L. BATEMAN	12
Derrick GARRY BARSNESS	12
Motor TOM MCCARLEY	12
Floor MERV GRIFF	12
Floor KEN LECUERRIER	12

Accidents NIL

Outside Temp. 65

Weather Conditions Clear

Road Conditions Poor

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	
Model	S.P.M.	
	Liner Size	
No. 2	Pressure	
Model	S.P.M.	
	Liner Size	

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
Lay Down Drill Collars.	8⁰⁰.	10⁰⁰.	2.
Trip in Run. Plug. No 3.	10⁰⁰.	11⁰⁰	1
Run- Plug No 3. @ 2150 To 2000	11⁰⁰.	11³⁰.	½.
WOC. Trip out	11³⁰.	4⁰⁰.	4½.
Run Plug. No 3. 100 SX w/ 3% cal. Cly			
felt Plug @ 2000.			

With Pipe Without Pipe Standby

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
MECH. FRANK DENENE	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	
Model C 250	S.P.M.	
	Liner Size	5½
No. 2	Pressure	
Model P 214	S.P.M.	
	Liner Size	5½

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
WOC.	4⁰⁰.	7⁰⁰.	3.
Trip in Felt Plug @ 2000.	7⁰⁰.	8⁰⁰	½
Trip up to 780	8⁰⁰.	8³⁰	½.
Run. Plug No 4. 630 to 780	8³⁰	9⁰⁰.	½.
WOC.	9⁰⁰.	12⁰⁰.	3.
Felt Top of Plug No 4 @ 623			
Run Plug No. 4. 100 SX 3% cal. Cly			

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12
Derrick HOWARD JACKSON	12
Motor GENE FLATO	12
Floor MEL GUNSON	12
Floor DON DOUGLAS.	12
BURKE MORIARTY	6

Accidents GENE FLATO - INJURED BACK.

Outside Temp. 65

Weather Conditions Clear.

Road Conditions FAIR.

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher On Weekday

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher On Weekday

Approved by .....

DATE MAY 31 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

JUN 6 1972

DATE MAY 31 1972

Rig No. 8 Page No. 37 LOCATION CANDAL MORIL IROCUOIS F-11

Rig No. 8 Report No. 37

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
T.D. 6961					15	6 1/8	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8; BOILER HRS. 8

Oil Added

PUMPS		
No. 1	Model	Pressure / S.P.M. / Liner Size
No. 2	Model	Pressure / S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	1 1/2	6	245	1145			4030 @ 700	

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
TRIP IN OPEN END	1200	1230	1/2
PICK UP 21 SINGLES	1230	130	1
CIRC	130	230	1
Run Plug No 1 @6961 to 6861.	230	300	1/2.
Pull up to Run Plug No 2	300	400	1
circ	400	430	1/2.
Run Plug No 2. 3600 to 3450	430	500	1/2.
W.O.C.	500	800	3.
Plug No 1. 6961 to 6861 w/ 55 SACKS cement down at 3:00 AM.			
Plug No 2. 3600 to 3450 w/ 100 SACKS cement 3% cal. down at 7:00 AM.			

With Pipe / Without Pipe / Standby

W.O.C.	800	200	6
Trip in and felt Plug @3614. Trip	200	300	1
circ and Poled of top Plug	300	335	3/4.
Trip out to Run test No 3	335	400	1/4
See Rig			
			MECH

With Pipe / Without Pipe / Standby

trip out	400	545	1 3/4.
See Rig close Blind Rams.	545	600	1/4
Pick up test tool	600	645.	3/4
trip in w/ D.S.T. No 3.	645.	900	2 1/4
TESTING / DST #3	900	1200	3.
D.S.T. #3. 3200 to 3614.			
Preflow 5 min I.S.I. 30 Min			
U.O 120 Min F.S.I. 240 Min			
Recover 2820 Fluid.			

With Pipe / Without Pipe / Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller L. BATEMAN	12
Derrick CARRY BARSNESS	12
Motor TOM MCDAULEY	12
Floor MERV. GRIFF	12
Floor KEN LEGUERRIER	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
	MECH FRANK DENENÉ 12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12
Derrick HOWARD MACKOW	12
Motor GENE FRATO	12
Floor MEL GUNSON	12
Floor DON DOUGLAS	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS: 1; 2; 3; Light Plant; BOILER HRS.

Oil Added

PUMPS		
No. 1	Model	Pressure / S.P.M. / Liner Size
No. 2	Model	Pressure / S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
					15	6 1/8	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS: 1 8; 2; 3; Light Plant 8; BOILER HRS. 8

Oil Added

PUMPS		
No. 1	Model C 250	Pressure / S.P.M. / Liner Size 5 1/2
No. 2	Model P 2	Pressure / S.P.M. / Liner Size 5 1/2

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	2 1/2	6	315	1315			4030 @ 700	

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands 37 / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher [signature]

Approved by .....

DATE MAY 30 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

Rig No. 8 Page No. 36 LOCATION CANDEL MOBIL IROCUOIS I-11

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6961											

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
21	8 3/4	WD7	OPEN	38284				CIRC HOLE					

Stands / Singles / D. Collars 6260' / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT			10.3	
VISCOSITY			30	
GEL				

Additives: SALT 280; FIBER SEAL 5 SKS.

At Surveys Degree

MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8; BOILER HRS. 8

Oil Added

PUMPS				
No. 1	Pressure	700 → 700		
Model C250	S.P.M.	40 → 45		
	Liner Size	5 1/2 X 15		
No. 2	Pressure			
Model F 214	S.P.M.			
	Liner Size			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
11/8	12	6	85	1585		40308 710	

Casing Record: Surface; Prod.

W.L. F.C. pH. 10.5 Solids Cement

Time Start	Stop	Interval	REMARKS
1200	800	8	CIRC W.O.O.
			Mud Loss 5 BBL Per Hr
			5 MIN SAFETY HOW TO OPERATE a STARING VALVE

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives

At Surveys Degree

MOTOR HOURS: 1 8; 2 8; 3 8; Light Plant 8; BOILER HRS. 8

Oil Added

PUMPS				
No. 1	Pressure			
Model	S.P.M.			
	Liner Size			
No. 2	Pressure			
Model	S.P.M.			
	Liner Size			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Time Start	Stop	Interval	REMARKS
800	4:00	8	CIRC W.O.O.
			Mud Loss 5 BBL Per Hr.

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
					15	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
		OPEN ENDED				NO COLLARS							

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives

At Surveys Degree

MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8; BOILER HRS. 8

Oil Added

PUMPS				
No. 1	Pressure	300	TRIP	
Model C250	S.P.M.	45		
	Liner Size	5 1/2 X 15		
No. 2	Pressure			
Model F 214	S.P.M.			
	Liner Size			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
11/8	1 1/2	6	245	1725		40308 710	

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Time Start	Stop	Interval	REMARKS
4:00	7:15	3 1/4	CIRC W.O.O.
7:15	9:30	2 1/4	TRIP OUT
9:30	11:00	1 1/2	LAY DOWN 6 COLLARS
11:00	12:00	1	TRIP IN OPEN ENDED
		8	
			HELD 5 MIN SAFETY MEETING
			- PROPER WAY to LIFT -

With Pipe Without Pipe Standby

DATE MAY 30 1972

Rig No. 8 Report No. 36

Tour — Midnight - 8 a.m. Specify actual hours worked.	Hrs.
Driller L BATEMAN	12
Derrick GARRY BARSNESS	12
Motor TOM MCCAULEY	12
Floor MERV GRIFF	12
Floor KEN LEGUERRIER	12

Accidents NIL

Outside Temp.

Weather Conditions CLOUDY

Road Conditions NIL

Tour — 8 a.m. to 4 p.m. Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor MAY 29 MECH FRANK DENNIE	12
MAY 30 FRANK DENNIE	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 4 p.m. to Midnight Specify actual hours worked.	Hrs.
Driller GARY HEIGHT	12
Derrick HOWARD MERRIN	12
Motor GENE FLATT	12
Floor MEL GRIGAN	12
Floor DON DOUGLAS	12

Accidents NIL

Outside Temp. 25

Weather Conditions Cloudy

Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Toolpusher [signature]

Approved by [signature]

DATE MAY 29 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 29 1972

Rig No. 8 Page No. 35 LOCATION CANDEL MOBIL IROCUOIS 7-11

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6961											

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS | Oil Added

1 8
2 8
3
Light Plant 8
BOILER HRS. 8

PUMPS: No. 1 Pressure / Model / S.P.M. / Liner Size; No. 2 Pressure / Model / S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars 62601 / Other Ft. / C.B. Ft. / Subs. Ft. 9448 / Ft. Down On Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
LOGG ING BY DRESSER ATLAS	12:00	8:00	8
5 MIN SAFETY PROPER WAY TO SPIN CHAIN.			

With Pipe	Without Pipe	Standby		
RIG SERV BOP		7:00	8:15	1/4
SLIP + CUT DRLG LINE		8:15	9:15	1
TRIP		9:15	11:15	2
CIRC - W.O.D.		11:15	4:00	4 1/4
Losing 5 Bbls/hr to formation				8

Rig No. 8 Report No. 35

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller L BATEMAN	12
Derrick GARRY BARSNESS	12
Motor TOM McCAULEY	12
Floor MERV GREFF	12
Floor KEN LEGUERRIER	12

Accidents
Outside Temp.
Weather Conditions CLOUDY
Road Conditions NIL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: SALT - 12 1/2 Bgs | At Surveys Degree | MOTOR HOURS | Oil Added

1
2
3
Light Plant
BOILER HRS.

PUMPS: No. 1 Pressure / Model / S.P.M. / Liner Size; No. 2 Pressure / Model / S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

With Pipe	Without Pipe	Standby		
CIRC - W.O.O.		4:00	12:00	8

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	

Accidents
Outside Temp.
Weather Conditions
Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS | Oil Added

1
2
3
Light Plant
BOILER HRS.

PUMPS: No. 1 Pressure / Model / S.P.M. / Liner Size; No. 2 Pressure / Model / S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	12	6	785	1585	—	—	4/1500 @ 700

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands 1286 / Singles / D. Collars 61 626 / Other Ft. / C.B. Ft. / Subs. Ft. 9448 / Ft. Down on Kelly 18 / TOTAL 6961

With Pipe	Without Pipe	Standby		

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12
Derrick HUARO YORKOW	12
Motor GENE FLATO	12
Floor NEL GUNSON	12
Floor DAN DOUGLAS	12

Accidents NIL
Outside Temp. 95
Weather Conditions Overcast
Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher [signature]

Approved by .....

DATE MAY 28 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 28 1972

Rig No. 8 Page No. 34 LOCATION CANDEL MOBIL IROCUOIS I-11

Rig No. 8 Report No. 34

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.	Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down On Kelly	TOTAL
6959	2	6961	1/4	114000	5	6 1/4	2 7/8					6286		6261			948	18	6961

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
20	8 3/4	WD7	OPEN	38284	45	50	6923	6961	38	4 3/4			

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1 8	
VISCOSITY							2 8	
GEL							3	
							Light Plant 8	
							BOILER HRS. 8	

PUMPS							
No. 1	Pressure	900					
Model	S.P.M.	H8		TRIP			
	Liner Size						
No. 2	Pressure						
Model	S.P.M.						
	Liner Size						

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1 1/16	5	6	741	1500		4090	THIS

Casing Record: Surface 700' 9 5/8; Prod.

W.L. F.C. pH. Solids Cement

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.	Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
6961														6261			948		

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
0													

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
							Light Plant	
							BOILER HRS.	

PUMPS							
No. 1	Pressure						
Model	S.P.M.						
	Liner Size						
No. 2	Pressure						
Model	S.P.M.						
	Liner Size						

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.	Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT					IL 6944' - 704'		1	
VISCOSITY					BHCA w/cal 6944 - Surface		2	
GEL					SNP' 6944' - 704'		3	
					FORM DENS 6944' - 704'		Light Plant	
							BOILER HRS.	

Logging / Dresser Atlas

PUMPS							
No. 1	Pressure						
Model	S.P.M.						
	Liner Size						
No. 2	Pressure						
Model	S.P.M.						
	Liner Size						

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

REMARKS

	Time Start	Stop	Interval
DRLG.	12 00	12 15	1/4
CIRC SAMPLES + CONDITION	1215		
HOLE TO LOGG.		215	2
TRIP OUT STRAP PIPE	215	500	2
LOGGING BY DRESSER	500		
MAGCOBAR		800	3
PIPE TALLY 6961			
STRAP. 6956			
DIFF 5'			
5 MIN SAFETY OIL & GREASE OFF FLOOR			
OR ANYTHING SLIPERY.			

With Pipe / Without Pipe / Standby

Logging / Dresser Atlas	7 00	4 00	8
CHANGE OIL + FILTERS IN #1 + #2			MECH

With Pipe / Without Pipe / Standby

Logging / Dresser Atlas	4	12 00	8

With Pipe / Without Pipe / Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller L BATEMAN	12
Derrick GARRY BARSNESS	12
Motor TOM McCAULEY	12
Floor MERV GREEF	12
Floor KEN LECUERRIER	12

Accidents NIL.
Outside Temp. 25
Weather Conditions CLEAR
Road Conditions

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor FRANK DENENE	12

Accidents NIL
Outside Temp. 30
Weather Conditions CLEAR + SUNNY
Road Conditions NIL

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12
Derrick HOWARD MACKILL	12
Motor GENE FLATO	12
Floor MEL GUNSON	12
Floor DAN DOUGLAS	12

Accidents NIL
Outside Temp. 40
Weather Conditions OVERCAST - RAIN
Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature] Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE MAY 27 19 72

NABORS DRILLING LIMITED

Rig No. 8 Page No. 33 LOCATION CANDEL MOBIL IROC UOIG I-11

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 27 19 72

Rig No. 8 Report No. 33

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6812	74	6886	7 3/4	112000	5/16	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
19	8 3/4	X 55R	OPEN	26663	44	45	6742	6886	144	16 3/4			DRLG

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	9.3	9.3	9.3	9.3
VISCOSITY	30	30	30	30
GEL				

Additives: 150# Caustic Soda

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS			12 a.m.	2 a.m.	4 a.m.	6 a.m.
No. 1	Pressure		900	900	900	900
Model 250	S.P.M.		48	48	48	48
	Liner Size	5 1/2	X	15		
No. 2	Pressure					
Model 214	S.P.M.					
	Liner Size	5 1/2	X	14		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	2 1/2	6	512	1271		HD90	700

Casing Record: Surface 700' 9 5/8; Prod.

W.L. F.C. pH. 11.5 Solids Cement

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down On Kelly	TOTAL
6212	33	6260			948	39	6886

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6886	37	6923	5 1/4	112	5/16	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
19	8 3/4	X 55R	OPEN	26663	45	45	6742	6923	181	22			7 81

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	9.3	9.3		
VISCOSITY	27	27		
GEL				

Additives:

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS			8 a.m.	10 a.m.	12 p.m.	2 p.m.
No. 1	Pressure		900			
Model	S.P.M.		46			
	Liner Size					
No. 2	Pressure					
Model	S.P.M.					
	Liner Size					

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. 11.5 Solids Cement

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
		1260			948		

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6923	36	6959	4 1/2	112	5/16	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
20	8 3/4	WD7	OPEN	38384	45	50	6923	6959	36	4 1/2			

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT			9.3	9.3
VISCOSITY			26	26
GEL				

Additives:

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS			4 p.m.	6 p.m.	8 p.m.	10 p.m.
No. 1	Pressure				900	
Model	S.P.M.				48	
	Liner Size					
No. 2	Pressure					
Model	S.P.M.					
	Liner Size					

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	4 1/2	6	665	1424	60	4090	N.T.D.

Casing Record: Surface; Prod.

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
6301 00		626 01			948	1651	1959

REMARKS	Time Start	Stop	Interval
DRLG. 8 3/4 HOLE	12 00	1 30	1 1/2
RIG. SERV - KELY COCK	1 30	1 45	1/4
DRLG. 8 3/4 HOLE	1 45	8 00	6 1/4
5 GAL INHIBETER			
CLEAN RIG IS @ SAFE RIG 5 MIN.			
42 BBL. FROM DREMIX TO SISTOM 1 PUMP FUEL			

With Pipe / Without Pipe / Standby

RIG SERV	8 00	8 15	1/4
DRLG 8 3/4 HOLE	8 15	1 30	5 1/4
TRIP	1 30	4 00	2 1/2

With Pipe / Without Pipe / Standby

TRIP - RIG SERV - BLIND RAMS	4 00	7 00	3
BREAK CIRC + CLEAN TO BTM	7 00	7 30	1/2
DRLG 8 3/4 HOLE	7 30	12 00	4 1/2
HELD 5 MIN SAFETY MEETING - PROPER WAY TO USE SPINNING CHAIN -			

With Pipe / Without Pipe / Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller L BATEMAN	12
Derrick CARRY BARNESS	12
Motor TOM McCAULEY	12
Floor MERY GREEF	12
Floor KEN LEGUERRIER	12

Accidents NIL.
Outside Temp. 30
Weather Conditions CLEAR
Road Conditions NO

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
MECH FRANK DELUEAE	12

Accidents NIL
Outside Temp. 45
Weather Conditions CLEAR + SUNNY
Road Conditions NIL

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12
Derrick HOWARD MACKOW	12
Motor GENE FLETO	12
Floor MEL GUNSON	12
Floor DON Douglas	12

Accidents NIL
Outside Temp. 30
Weather Conditions CLEAR + SUNNY
Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE May 26 1972 · **NABORS DRILLING LIMITED** · **WORK RECORD** · DATE May 26 1972

Rig No. 8 Page No. 32 LOCATION CANDEL MOBIL IROQUOIS I-11

NOTE: Do Not Record Payroll Information Here

Rig No. 8 Report No. 32

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6689	51	6740	7 3/4	112	5/16	6 1/2	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
16	8 3/4	RX55R	OPEN	38288	45	45	6500	6740	240	32 3/4			

Stands 1123 19 · Singles 3 85 · D. Collars 01 626 · Other Ft. 32 · C.B. Ft. 2 · Subs. Ft. 9 48 · Ft. Down on Kelly 16 49 · TOTAL 6740

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT	10.3	10.3	10.3	10.3	SALT 40 SXS		1 8	
VISCOSITY	30	30	30	30			2 8	
GEL							3	
							Light Plant 8	
							BOILER HRS. 8	

PUMPS: No. 1 Pressure 900 → 900; Model C 250; S.P.M. 48 → 48; Liner Size 5 1/2 X 15. 40 BBLS FROM PRE MIX

No. 2 Pressure; Model 214 P; S.P.M.; Liner Size 5 1/2 X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	2 1/2	6	359	1118	-		-	4090	@ 700

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. 10.5 Solids

REMARKS	Time Start	Stop	Interval
DRLG 8 3/4 HOLE	12 00	1 30	1 1/2
RIG SERV ✓ HYDRIL	1 30	1 45	1/4
DRLG 8 3/4 HOLE	1 45	8 00	6 1/4
			8
— HELD 5 MIN SAFETY MEETING —			
— WORKING AROUND WELL SAFE CONDITIONS —			

With Pipe · Without Pipe · Standby

Accidents NIL
Outside Temp. 20
Weather Conditions OVERCAST
Road Conditions NIL

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	17
Derrick DALE BELL	12
Motor CARL COLLINS	12
Floor CHARLES HENNIG	12
Floor DAVE HRDLICKA	12

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6740	9	6749	2 1/4	112	5/16	6 1/2	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
18	8 3/4	RX55R	OPEN	38288	45	45	6500	6742	242	33 3/4			
19	8 3/4	X55R	OPEN	2666325			6742	6749	7	1 1/4			

Stands 6093 19 · Singles 30 85 · D. Collars 01 626 · Other Ft. · C.B. Ft. · Subs. Ft. 9.48 · Ft. Down on Kelly 25 49 · TOTAL 6749

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT						6742 2 1/2°	1 8	
VISCOSITY							2	
GEL							3	
							Light Plant 8	
							BOILER HRS. 8	

PUMPS: No. 1 Pressure 900; Model C 250; S.P.M. 48; Liner Size 5 1/2 X 15

No. 2 Pressure; Model 214 P; S.P.M.; Liner Size 5 1/2 X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	3 1/2	6	512	1271	-		-	4090	@ 700

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

REMARKS	Time Start	Stop	Interval	
DRLG	8 00	9 00	1	
DROP SURVEY 2 1/2°	9 00	9 15	1/4	
TRIP	9 15	12 00	2 3/4	
RIG SERV & BLIND RAMS, HYDRIL REMOVE	12 00			
CONTROL MOTOR KILL & CROWN SAVER		12 15	1/4	
TRIP IN SLOW	12 15	2 30	2 1/4	
BREAK CIR & CLEAN TO BOTTOM	2 30	2 45	1/4	MECH
DRLG	2 45	4 00	1 1/4	

With Pipe · Without Pipe · Standby

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller BRIAN RIDDLE	12
Derrick	
Motor TOM McCAULEY	12
Floor MERV GREFE	12
Floor KEN LEGUERRIER	12
FRANK PERRINE	12

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6749	63	6812	7 3/4	112	5/16	6 1/2	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
19	8 3/4	X55R	OPEN	26663	44	45	6742	6812	70	9			RUN

Stands 6149 85 · Singles · D. Collars 01 626 · Other Ft. · C.B. Ft. · Subs. Ft. 9 48 · Ft. Down on Kelly 21 66 · TOTAL 6812

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT	10.3	10.3	10.3	10.3	SALT 160 SKS.		1 8	
VISCOSITY	30	30	30	30			2 8	
GEL					126 BBLS FROM PREMIX		3	
							Light Plant 8	
							BOILER HRS. 8	

PUMPS: No. 1 Pressure 925; Model C 250; S.P.M. 48; Liner Size 5 1/2 X 15

No. 2 Pressure; Model 214 P; S.P.M.; Liner Size 5 1/2 X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	3 1/2	6	512	1271	-		-	4090	@ 700

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. 10.5 Solids.

REMARKS	Time Start	Stop	Interval
DRLG 8 3/4 HOLE	4 00	4 45	3/4
RIG SERV - CONSERVATION BOARD	4 45		
CHECKED PIPE RAMS - HYDRIL - MITER SMITH (ALL-O-K)		5 00	1/4
DRLG 8 3/4 HOLE	5 00	12 00	7
SET UP MOTORS			
CONSERVATION BOARD CHECK BOP DRILL			

With Pipe · Without Pipe · Standby

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller LORNE BATEMAN	12
Derrick HOWARD MACKEY	12
Motor GERRY BARKNESS	12
Floor MEL GUNSANT	12
Floor GREGG FLATO	12
Floor DON DOUGLAS	12

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher Don Wheatley ..... Toolpusher Don Wheatley

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE May 25 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE May 25 1972

Rig No. 8 Page No. 31 LOCATION CANDEL MOBIL IROQUOIS I-11

Rig No. 8 Report No. 31

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6505	65	6570	7 3/4	110	5	6 1/4	2 7/8				

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	16	8 3/4	RX55R	OPEN	38288	45	45	6500	6570	70	9 1/2			

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT		10.3	10.3	10.3			1 8	
VISCOSITY		30	30	32	40 BBLS FROM PREMIX		2 8	
GEL							3	

PUMPS		12 a.m.	2 a.m.	4 a.m.	6 a.m.
No. 1	Pressure	900	—		700
Model C-250	S.P.M.	48	—		48
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 214-P	S.P.M.				
	Liner Size	5 1/2 X 14			

W.L. 1,000 F.C. pH. Solids

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	2 1/2	6	359	1118	-		-	4090	@ 700

Casing Record: Surface; Prod.; Cement

Light Plant 8; BOILER HRS. 8

Stands 5904.85; Singles; D. Collars 01 1216; Other Ft. Subs 232; C.B. Ft.; Subs. Ft. 9.48; Ft. Down on Kelly 35; TOTAL 6570

REMARKS	Time Start	Stop	Interval
DRLG 8 3/4 HOLE	12 00	12 45	3/4
RIG SERV & HYDRL	12 45	1 00	1/4
DRLG 8 3/4 HOLE	1 00	8 00	7
			8
— HELD 5 MIN SAFETY MEETING —			
— OPERATION OF EQUIPMENT ON & AROUND RIG —			

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6570	60	6630	7 1/2	111M	5	6 1/4	2 7/8				

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	18	8 3/4	RX55R	BUT	38288	45	45	6500	6630	130	17 1/2			WALL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT			10.2	10.2	SALT 40 SXS		1 8	
VISCOSITY			30	30			2 8	
GEL							3	

PUMPS		8 a.m.	10 a.m.	12 p.m.	2 p.m.
No. 1	Pressure	900 ✓		900	✓
Model C-250	S.P.M.	48 ✓		48	✓
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 214-P	S.P.M.				
	Liner Size	5 1/2 X 14			

W.L. F.C. pH. Solids

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	2 1/2	6	359	1118	—		—	4090	700

Casing Record: Surface; Prod.; Cement

Light Plant 8; BOILER HRS. 8

Stands; Singles; D. Collars 01 626; Other Ft. Subs 232; C.B. Ft.; Subs. Ft. 9.48; Ft. Down on Kelly; TOTAL

REMARKS	Time Start	Stop	Interval
DRLG 8 3/4 HOLE	8 00	8 30	1/2
RIG SERV & 3 1/2 RAMS	8 30	8 45	1/4
DRLG 8 3/4 HOLE	8 45	4 00	7 1/4
			8
			MECH

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6630	59	6689	7 3/4	112M	5	6 1/4	2 7/8				

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	18	8 3/4	R-XS5R	OPEN	38288	45	45	6500	6689	189	25			

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT	10.2	10.2	10.2+	10.2	SALT 60 SXS		1 8	
VISCOSITY	31	30	30	30			2 8	
GEL							3	

PUMPS		4 p.m.	6 p.m.	8 p.m.	10 p.m.
No. 1	Pressure	900 ✓		900	✓
Model C-250	S.P.M.	48 ✓		48	✓
	Liner Size	5 1/2	X		15
No. 2	Pressure				
Model 214-P	S.P.M.				
	Liner Size	5 1/2	X		14

W.L. F.C. pH. Solids.

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	2 1/2	6	359	1118	—		—	4090	@ 700

Water Truck Hours:

Desilter Hours:

Desander Hours:

Light Plant 8; BOILER HRS. 8

Stands 5961.06; Singles 6183; D. Collars 01 626.01; Other Ft. 25. 2.37; C.B. Ft.; Subs. Ft. 9.48; Ft. Down on Kelly 28.10; TOTAL 6689

REMARKS	Time Start	Stop	Interval
DRLG	4 00	5 00	1
RIG SERV & KELLY COCK	5 00	5 15	1/4
DRLG.	5 15	12 00	6 3/4
			8

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12
Derrick DALE BELL	12
Motor CARL COLLINS	12
Floor CHARLES HEWITT	12
Floor DAVE HRDLICKA	12

Accidents NIL
Outside Temp. 15
Weather Conditions OVERCAST
Road Conditions NIL

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
MECH FRANK DEVENE	12

Accidents NIL
Outside Temp. + 45
Weather Conditions SUNNY
Road Conditions NIL

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller BRIAN RIDLE	12
Derrick HOWARD MACKIE	12
Motor GERRY BORSNESS	12
Floor MEL GUNSON	12
Floor GENE FLATO	12

Accidents NIL
Outside Temp. + 45
Weather Conditions SUNNY
Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher Don Wembley

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher Don Wembley

Approved by .....

DATE May 24 1972 · **NABORS DRILLING LIMITED** I-11 · **WORK RECORD** · DATE May 24 1972

Rig No. 8 Page No. 30 LOCATION CANDEL MOBIL IBERVILLE

NOTE: Do Not Record Payroll Information Here

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6395	34	6429	7 3/4	105	5/16	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
17	8 3/4	X55R	OUT	31208	45	45	6350	6429	79	20	4		RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	10.3	10.3	10.3	10.3
VISCOSITY	30	30	30	30
GEL				

Additives: ~~CAUSTIC~~ DESILTER UNDERFLOW 116 @ 5 BBL/HR OF 10.3

At Surveys Degree

MOTOR HOURS: 1 8 2 8 Light Plant 8 BOILER HRS. 8

Oil Added

PUMPS No. 1 Model 8 Pressure 425 — 450 S.P.M. 50 — 50 Liner Size 5 1/2 X 14

No. 2 Model 214 P Pressure S.P.M. Liner Size 5 1/2 X 14

W.L. F.C. pH. Solids

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	1 1/2	6	214	973	—		—	4091 @ 700	

Casing Record: Surface / Prod. / Cement

Stands 5769.26 Singles D. Collars 626.01 Other Ft. C.B. Ft. Subs. Ft. 9.48 Ft. Down on Kelly 24.58 TOTAL 1029

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6429	68	6497	7 1/2	105	5/16	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
17	8 3/4	X55R	OUT	31208	45	45	6350	6497	147	28			DULL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	10.3	10.3	10.2	10.2
VISCOSITY	30	30	29	29
GEL				

Additives: CAUSTIC 2 SKS / INHIBITOR 3 gal / SALT 40 SKS

At Surveys Degree

MOTOR HOURS: 1 8 2 8 3 Light Plant 8 BOILER HRS. 8

Oil Added

PUMPS No. 1 Model 850 Pressure 900 700 ✓ 900 S.P.M. 60 48 ✓ 48 Liner Size 5 1/2 X 15

No. 2 Model 214 P Pressure S.P.M. Liner Size 5 1/2 X 14

W.L. F.C. pH. Solids

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	1 1/2	6	214	973				4090 @ 700	

Casing Record: Surface / Prod. / Cement

Stands 5769.26 Singles 63.06 D. Collars 626.01 Other Ft. C.B. Ft. Subs. Ft. 9.48 Ft. Down on Kelly 29.19 TOTAL 6497

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6497	8	6505	2 1/4	110 M	5/16	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
17	8 3/4	X53R	OPEN	31208	45	45	6350	6500	150	39	28 1/2		
18	8 3/4	RX55R	OPEN	38288	30	45	6500	6505	5	1 1/2			

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	10.2			
VISCOSITY	30			
GEL				

Additives: SALT 80 SKS / INHIBITOR 2 gal / CAUSTIC 2 SKS

At Surveys Degree

MOTOR HOURS: 1 8 2 8 3 Light Plant 8 BOILER HRS. 8

Oil Added

PUMPS No. 1 Model C-7 25 Pressure 900 S.P.M. 44 Liner Size 5 1/2 ✓ 15

No. 2 Model 214 P Pressure S.P.M. Liner Size 5 1/2 ✓ 14

W.L. F.C. pH. 10.5 Solids.

TRIP

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8		6							

Water Truck Hours: / Desilter Hours: / Desander Hours:

Stands 5769.26 Singles 63.06 D. Collars 626.01 Other Ft. Junk Sub 2.32 C.B. Ft. Subs. Ft. 9.48 Ft. Down on Kelly TOTAL

REMARKS	Time Start	Stop	Interval
DRLG 8 3/4 HOLE	12:00	5:15	5 1/4
RIG SERV ✓ 8 1/2 RAMS	5:15	5:30	1/4
DRLG 8 3/4 HOLE	5:30	8:00	2 1/2
HELD 5 MIN SAFETY MEETING — TONGS & TOOLJOINTS —			

With Pipe / Without Pipe / Standby

DRLG 8 3/4 HOLE	7:00	9:45	2 3/4
RIG SERV ✓ 8 1/2 RAMS	9:45	11:00	1 1/4
DRLG 8 3/4 HOLE	11:00	4:00	6
			8

Mc.

With Pipe / Without Pipe / Standby

DRLG	4:00	4:30	1/2
RIG SERVICE	4:30	4:45	1/4
TRIP STRAP PIPE DOUBLE	4:45	7:45	3
RIG SERV ✓ BLIND RAMS & MOTOR KILL	7:45	8:00	1/4
TRIP IN	8:00	10:00	2
WORK JUNK SUB	10:00	10:15	1/4
DRLG	10:15	12:00	1 3/4
			8

STRAP 6512.02
BOARD 6508.19
DIFF 3.83 CBR Mike

With Pipe / Without Pipe / Standby

Rig No. 8 Report No. 30

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12
Derrick DALE BELL	12
Motor CARL CULLINS	12
Floor CHARLIE HENWOOD	12
Floor DAVE HEDGPETH	12

Accidents NIL
Outside Temp. 10
Weather Conditions Cloudy
Road Conditions NIL

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
FRANK DEVINE	12

Accidents NIL
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller BOBBY RAGLE	12
Derrick HOWARD MARROW	12
Motor GERRY BERRIGES	12
Floor MC CONNELL	12
Floor GENE FLETA	12

Accidents NIL
Outside Temp.
Weather Conditions
Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by [signature]

Toolpusher [signature]

Approved by [signature]

DATE May 23 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE May 23 1972

Rig No. 8 Page No. 29 LOCATION CANDEL MOBIL IROQUOIS 11-1

Rig No. 8 Report No. 28

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6326	24	6350	5:00	103	5 16	6 1/4 6 1/8	2 7/8				

Stands 567.90; Singles; D. Collars 01 626; Other Ft.; C.B. Ft.; Subs. Ft. 9.48; Ft. Down On Kelly 40.38; TOTAL 6350

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
16	8 3/4	WD7	OUT	40025	30	45	6285	6350	65	13			6 5 1

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	10.3	10.3		
VISCOSITY	30	30		
GEL				

Additives: SALT 100 SXS. At Surveys Degree. MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8; BOILER HRS. 8. Oil Added.

PUMPS			
No. 1	Pressure		
Model 5-30	S.P.M.	8	
	Liner Size	5 1/2 X 15	
No. 2	Pressure	900	
Model 214 P	S.P.M.	30	
	Liner Size	5 1/2 X 14	

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	1 1/2	6	73	832	-		-	4090	@ 700

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

REMARKS	Time Start	Stop	Interval
DRLG 8 3/4 HOLE	12:00	5:00	5:00
TRIP - STRAP PIPE	5	8:00	3
~~RIG SERV BLIND RAMS~~	~~8:00~~	~~8:15~~	~~1/4~~
CANDEL MOBIL etal IROQUOIS 1 - 11 67° 50' N 129° 30' W			
HELD 5 MIN SAFETY MEETING - STRAPPING DRILL PIPE -			

With Pipe / Without Pipe / Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12
Derrick DALE BELL	12
Motor CARL COLLINS	12
Floor CHARLES HEWITT	12
Floor DALE HRDLICKA	12

Accidents NIL
Outside Temp. 5
Weather Conditions SNOWING
Road Conditions NIL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6350	20	6370	4 3/4	105	5 16	6 1/4 6 1/8	2 7/8				

Stands 567.90; Singles 31.26; D. Collars 01 626; Other Ft.; C.B. Ft.; Subs. Ft. 9.48; Ft. Down on Kelly 28.90; TOTAL 6370

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
17	8 3/4	X55R	OUT	31208	35-45	45	6350	6370	20	4 3/4			

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	10.3		10.2	10.2
VISCOSITY	30		30	31
GEL	TRIP			

Additives: At Surveys Degree. MOTOR HOURS: 1 8; 2; 3; Light Plant 8; BOILER HRS. 8. Oil Added.

PUMPS			
No. 1	Pressure	925 ✓	925 ✓
Model C-30	S.P.M.	49 ✓	49 ✓
	Liner Size	5 1/2 X 15	
No. 2	Pressure		
Model 214 P	S.P.M.		
	Liner Size	5 1/2 X 14	

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	1 1/2	6	214	973	-		-	4090	@ 700

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

REMARKS	Time Start	Stop	Interval
RIG SERV BLIND RAMS	8:00	8:15	1/4
TRIP	8:15	11:00	2 3/4
BREAK CIRC CLEAN 5' to BTM	11:00	11:15	1/4
DRLG 8 3/4 HOLE	11:15	4:00	4 3/4
			8
MELL FRANK DEVENE			

With Pipe / Without Pipe / Standby

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor FRANK DEVENE	12

Accidents NIL
Outside Temp.
Weather Conditions OVERCAST
Road Conditions NIL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6370	25	6395	7 3/4	105	5 16	6 1/4 6 1/8	2 7/8				

Stands 567.90; Singles 63.12; D. Collars 01 626; Other Ft.; C.B. Ft.; Subs. Ft. 9.48; Ft. Down on Kelly; TOTAL 6395

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
17	8 3/4	X55R	OPEN	31208	35-45	45	6350	6395	45	12 1/2			

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	10.2	10.2	10.2	10.2
VISCOSITY	31	30	31	31
GEL				

Additives: At Surveys Degree. MOTOR HOURS: 1 8; 2; 3; Light Plant 8; BOILER HRS. 8. Oil Added.

PUMPS			
No. 1	Pressure	925 ✓	925 ✓
Model C-30	S.P.M.	49 ✓	49 ✓
	Liner Size	5 1/2 X 15	
No. 2	Pressure		
Model 214 P	S.P.M.		
	Liner Size	5 1/2 X 14	

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8		6							

Water Truck Hours: SUCTION 10.4
Desilter Hours: Desilter OVERFLOW 10.2
Desander Hours: UNDERFLOW 10.0

W.L. F.C. pH. Solids.

REMARKS	Time Start	Stop	Interval
DRLG.	4:00	7:00	3
RIG SERV - HYDRIL	7:00	7:15	1/4
DRLG.	7:15	12:00	4 3/4
			8

With Pipe / Without Pipe / Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller BRIAN RIDDLE	12
Derrick HOWARD MACKAY	12
Motor GREGORY BARNESS	12
Floor MEL GUNSON	12
Floor GENE FLETA	12

Accidents NIL
Outside Temp.
Weather Conditions OVERCAST WINDY SUNSET
Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher [signature]

Approved by [signature]

DATE May 22 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 28 LOCATION CANDEL MOBIL IROQUOIS 11-1

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE May 22 1972

Rig No. 8 Report No. 28

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6231	49	6280	7 3/4	108	5/16	6 1/4	2 7/8				

Stands 5610.19 Singles D. Collars 01 6226 Other Ft. C.B. Ft. Subs. Ft. 80 11 Ft. Down On Kelly TOTAL 6280

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
15	8 3/4	X55R	OUT	38291	40	50	6119	6280	161	23 3/4			

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT	10.3	10.4	10.4	10.4	CAUSTIC 3 SXS		1 8	
VISCOSITY	30	30	31	30			2 8	
GEL							3	
PUMPS No. 1 Pressure	850	—	—	850			Light Plant 8	
Model C S.P.M.	48	—	—	48			BOILER HRS. 8	
250 Liner Size	5 1/2 X 15							
No. 2 Pressure								
Model P S.P.M.								
214 P Liner Size	5 1/2 X 14							

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or	Cut	Feet Left on Spool	Next Slip
1 1/4	6 1/2	6	687	687	-	-	4150	NEW TRIP

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

REMARKS	Time Start	Stop	Interval
DRLG 8 3/4 HOLE	12:00	4:00	4
RIG SERV ✓ HYDRIL	4:00	4:15	1/4
DRLG 8 3/4 HOLE	4:15	8:00	3 3/4
CANDEL MOBIL etal IROQUOIS 1 - 11 67° 50' N 129° 30' W			
			8
HELD 5 MIN SAFETY MEETING — BLOWOUT CONTROL —			

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6280	7	6287	1 1/2	102	5/16	6 1/4	2 7/8				

Stands 5610.19 Singles D. Collars 01 6226 Other Ft. C.B. Ft. Subs. Ft. 9.48 Ft. Down on Kelly 46.38 TOTAL 6287.27

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
15	8 3/4	X55R	OUT	38291	45	45	6119	6285	166	26			6-8-1
16	8 3/4	WD7	OPEN	40025	40	45	6285	6287	2	1/4			RUN

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT	10.3					6285 2°	1 8	
VISCOSITY	30						2	
GEL							3	
PUMPS No. 1 Pressure	850						Light Plant 8	
Model C S.P.M.	48						BOILER HRS. 8	
250 Liner Size	5 1/2 X 15							
No. 2 Pressure								
Model P S.P.M.								
214 P Liner Size	5 1/2 X 14							

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or	Cut	Feet Left on Spool	Next Slip
1 1/4	7	6	759	882	60	60	4090	

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

REMARKS	Time Start	Stop	Interval	
DRLG 8 3/4 HOLE	7:00	9:15	1 1/4	
TRIP - SURVEY @ 6285	9:15	12:00	2 3/4	
RIG SERV BLIND RAMS & MOTOR K.	12:00			
LAY DOWN JUNK SUB		12:30	1/2	
SLIP & CUT 60' DRLG LINE	12:30	1:30	1	
TRIP IN	1:30	3:30	2	
BREAK CIRC & CLEAN TO BOTTOM	3:30	3:45	1/4	MEH
DRLG.	3:45	4:00	1/4	
			8	

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6287	39	6326	7 3/4	102	5/16	6 1/4	2 7/8				

Stands 5610.90 Singles D. Collars 626.01 Other Ft. C.B. Ft. Subs. Ft. 9.48 Ft. Down on Kelly 15.61 TOTAL 6326.00

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
16	8 3/4	WD7	OPEN	40025	40	45	6285	6326	41	8			2-1-1

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT	10.2	10.2	10.2	10.1	SALT - 180 SKS		1 8	
VISCOSITY	31	30	31	31	DEFOAM - 2 gal.		2	
GEL							3	
PUMPS No. 1 Pressure	900	✓	900	✓			Light Plant 8	
Model C S.P.M.	44	✓	44	✓			BOILER HRS. 8	
250 Liner Size	5 1/2	✓		15				
No. 2 Pressure								
Model P S.P.M.								
214 P Liner Size	5 1/2	✓		4				

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or	Cut	Feet Left on Spool	Next Slip
1 1/4	7	6	73	832	—	—	4090	700

Water Truck Hours: PUMPED CLEAN SHAKER TANK

Desilter Hours:

Desander Hours: CHANGED HEAD RUBBERS F.W. SIDE OF C 250

W.L. F.C. pH 10.5 Solids.

REMARKS	Time Start	Stop	Interval
DRLG	4:00	4:30	1/2
RIG SERV & KELLY COCK	4:30	4:45	1/4
DRLG	4:45	12:00	7 1/4
			8
LOSING 3 bbls per hr to formation			
SCREEN OUT SAWDUST			
HELD 5 MIN SAFETY MEETING — SAFETY WHILE TRIPPING	—		

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12
Derrick DALE BELL	12
Motor CARL COLLINS	12
Floor CHARLES HEMMING	12
Floor DALE HADLICKE	12

Accidents NIL
Outside Temp. 10
Weather Conditions OVERCAST
Road Conditions NIL

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
FRANK WEGENE	12

Accidents NIL
Outside Temp.
Weather Conditions OVERCAST & WINDY
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller BRIAN R. DOLE	12
Derrick HOWARD MACKAY	12
Motor GERRY BARSNESS	12
Floor GENE FLATO	12
Floor MEL GUNSON	12

Accidents NIL
Outside Temp.
Weather Conditions SNOW
Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Toolpusher [signature]

Approved by .....

DATE May 21 19 72

NABORS DRILLING LIMITED

Rig No. 8 Page No. 27 LOCATION Candel Mobil Iroquois 11-1

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE May 21 19 72

Rig No. 8 Report No. 27

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6119	9	6128	1½	106	5 / 16	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
15	8 3/4	XSSR	OPEN	38291	35	45	6119	6128	9	1½			Blk.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				10.4+
VISCOSITY				30
GEL				

Additives: At Surveys Degree

MOTOR HOURS: 1 8; 2; 3; Light Plant 8; BOILER HRS. 8

Oil Added

PUMPS					
No. 1	Pressure				850
Model 23	S.P.M.				48
	Liner Size	5½			15
No. 2	Pressure				
Model 7P	S.P.M.				
	Liner Size	5½			14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1¼	6½	6	687	687	—		—	4150	N.T.

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

Stands 5453.68; Singles; D. Collars 626.01; Other Ft.; C.B. Ft.; Subs. Ft. 11.80; Ft. Down On Kelly 30.21; TOTAL 6128.00

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6128	52	6180	7¾	107	5 / 16	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
15	8 3/4	XSSR	OPEN	38291	45	45	6119	6180	61	9¼			Drlg.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	10.5	10.4	10.4	10.3
VISCOSITY	30	31	31	31
GEL				

Additives: 160 Salt Sks

At Surveys Degree

MOTOR HOURS: 1 8; 2; 3; Light Plant 8; BOILER HRS. 8

Oil Added

PUMPS					
No. 1	Pressure	850	✓	850	✓
Model 23	S.P.M.	48	✓	48	✓
	Liner Size	5½		✗	15
No. 2	Pressure				
Model 7P	S.P.M.				
	Liner Size	5½		✗	14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1¼	6½	6	687	687	—		—	4150	N.T

Casing Record: Surface; Prod. Ran 15 Bbl From Premix; Cement

W.L. F.C. pH. Solids

Stands 5493.01; Singles; D. Collars 626.01; Other Ft.; C.B. Ft.; Subs. Ft. 11.80; Ft. Down on Kelly 23.18; TOTAL 6180.00

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
6180	51	6231	7¾	108	5 / 16	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
15	8 3/4	XSSR	OPEN	38291	45	45	6119	6231	112	17			Drlg

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	10.4	10.3+	10.4	10.4
VISCOSITY	30	30	31	31
GEL				

Additives: Salt - 270 Sks; Inhibitor - 4 gal

At Surveys Degree

MOTOR HOURS: 1 8; 2; 3; Light Plant 8; BOILER HRS. 4

Oil Added

PUMPS					
No. 1	Pressure	850	✓	850	✓
Model 23	S.P.M.	48	✓	48	✓
	Liner Size	5½		✗	15
No. 2	Pressure				
Model 7P	S.P.M.				
	Liner Size	5½		✗	14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1¼	6½	6	687	687	—		—	4150	N.T

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands 5580.22; Singles; D. Collars 626.01; Other Ft.; C.B. Ft.; Subs. Ft. 11.80; Ft. Down on Kelly 17.97; TOTAL 6231.00

REMARKS

	Time Start	Stop	Interval
Trip, Survey @ 6119	12:00	3:00	3
Rig Serv w/ Blind Rams	3:00	3:15	¼
Trip in Run Junk Sub	3:15	6:00	2¾
Break Circ & Work Junk Sub	6:00	6:30	½
Drlg 8¾ Hole	6:30	8:00	1½
			8

CANDEL MOBIL et al
IROQUOIS I - 11
67° 50' N 129° 30' W

Held 5 Min Safety
— Safety While Tripping —

With Pipe / Without Pipe / Standby

	Start	Stop	Interval
Rig Serv w/ Hydril	8:00	8:15	¼
Drlg.	8:15	4:00	7¾
			8
			Mech

Dump & Clean Shaker Tank

With Pipe / Without Pipe / Standby

	Start	Stop	Interval
Drlg	4:00	7:00	3
Rig Serv w/ 3½ Rams	7:00	7:15	¼
Drlg	7:15	12:00	4¾
			8

Safety Meeting
— Blow out Drill —

With Pipe / Without Pipe / Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller Gary Hewitt	12
Derrick Dale Bell	12
Motor Carl Collins	12
Floor Charles Hennigan	12
Floor David Harlick	12

Accidents Nil
Outside Temp. 5
Weather Conditions Overcast
Road Conditions Nil

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
Frank Perone	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller Brian Riddle	12
Derrick Howard Martin	12
Motor Gerry Barnes	12
Floor Mel Lawson	12
Floor Hank Flato	12

Accidents Nil
Outside Temp.
Weather Conditions
Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature] Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE May 20 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 26 LOCATION CANDEL MOBIL IROQUIS 11-1

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE May 20 1972

Rig No. 8 Report No. 26

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5800	82	5882	7 3/4	105	5 / 16	6 1/4 / 6 1/2	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
14	8 3/4	X55R	OUT	37892	45	45	5628	5882	254	29 1/2			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT	9.8	9.7	9.8		SALT 60 SKS		1 8	
VISCOSITY	32	31	30		CAUSTIC 3 SKS		2 8	
GEL							3	

PUMPS	No. 1	No. 2
Pressure	850	850 — —	750 750
Model	8 750	8 750
S.P.M.	50	50 — —	48 48
Liner Size	5 1/2 X 15	

Light Plant 8 BOILER HRS. 8

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	5 1/2	6	552	552	—	—		415	7/8

Casing Record: Surface / Prod.

W.L. F.C. 2/32 pH. Solids Cement

Stands 5232.70 Singles D. Collars 01 626 Other Ft. C.B. Ft. Subs. Ft. 48 9 Ft. Down on Kelly 33.39 TOTAL 5882

Time Start	Stop	Interval	REMARKS
12 00	12 15	1/4	RIG SERV
12 15	8 00	7 3/4	DRLG 8 3/4 HOLE
			CANDEL MOBIL et al IROQUOIS 1 - 11 67° 50' N 129° 30' W
			CHANGE HEAD - LINER OFF
			FLY WHEEL SIDE C250
			TRAVEL FROM ROCKY MTN HOUSE
			HELD 5 MINUTE SAFETY MEETING
			— WORKING ON MUD PUMPS —

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5882	145	6027	7 3/4	106	5 / 16	6 1/4 / 6 1/2	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
14	8 3/4	X55R	OUT	37892	45	45	5628	6027	399	37 1/2			DULL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT			10.1+	10.2	SALT 30 SKS		1 8	
VISCOSITY			32	31			2 8	
GEL							3	

PUMPS	No. 1	No. 2
Pressure	850 ✓	850
Model	C 750	
S.P.M.	48 ✓	48
Liner Size	5 1/2 ×	15

Light Plant 8 BOILER HRS. 8

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8		6							

Casing Record: Surface / Prod. RAN 40 BBLS OIL OF PREMIX

W.L. F.C. pH. 10.5 Solids Cement

Stands 5296.41 Singles 63.33 D. Collars 01 626 Other Ft. C.B. Ft. Subs. Ft. 48 9 Ft. Down on Kelly 33.39 TOTAL 6027 m

With Pipe	Without Pipe	Standby	Time Start	Stop	Interval	
DRLG 8 3/4 HOLE			7 00	9 00	1	
RIG SERV & 1/2 RAMS			9 00	9 15	1/4	
DRLG 8 3/4 HOLE			9 15	4 00	6 3/4	
					8	
TRAVEL FROM EDMONTON						MECH
WORK ON RIG						MECH

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT	10.2	10.1	10.1	10.1+	SALT 100 SKS		1 8	
VISCOSITY	31	30	32	32	CAUSTIC - 2 SKS		2 8	
GEL					CELLOSEAL - 10 SKS		3	

PUMPS	No. 1	No. 2
Pressure	450 ✓	450 ✓
Model	C 750	
S.P.M.	48 ✓	48 ✓
Liner Size	5 1/2 ×	15

Light Plant 8 BOILER HRS. 8

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8		6							

Water Truck Hours: Desilter Hours: RAN 80 BBLS OUT OF PREMIX. Desander Hours:

W.L. F.C. pH. 10.5 Solids.

Stands 5340.04 Singles 63.64 D. Collars 626.01 Other Ft. C.B. Ft. Subs. Ft. 9.48 Ft. Down on Kelly TOTAL

With Pipe	Without Pipe	Standby	Time Start	Stop	Interval	
DRLG			4 00	4 15	1/4	
RIG SERV & KELLY COCK			4 15	4 30	1/4	
DRLG			4 30	12 00	7 1/2	
					8	
LOSS OF FLUID TO FORMATION 6 BBLS HR.						
HELD 5 MIN SAFETY MEETING						
— PROPER USE OF KELLY COCK —						

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller GARY HEWITT	12
Derrick DAVE BELL	12
Motor CARL COLLINS	12
Floor CHARLES HEWINO	12
Floor DAVE HROLICKA	12
MAY 19/72	
GARY HEWITT	12

Accidents NIL
Outside Temp. 5°
Weather Conditions OVERCAST
Road Conditions NIL

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor MAY 19/72	
F. DENEVE	12
MAY 20/72	
F. DENEVE	12

Accidents NIL
Outside Temp. + 10°
Weather Conditions SNOW
Road Conditions NIL

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller BRIAN RIDDLE	12
Derrick HOWARD MACKOW	12
Motor GERRY BARKNESS	12
Floor MEL GUNSON	12
Floor GENE FLOTO	12

Accidents NIL
Outside Temp. + 10°
Weather Conditions SNOW
Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher D. Ackerley

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher D. Ackerley

Approved by .....

DATE MAY 19 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 25 LOCATION CANDEL MOBIL IROQIS 11-1

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 19 1972

Rig No. 8 Report No. 25

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5628	40	5668	6 1/4	104M	5 / 16	6 1/4 / 6 1/8	2 7/8	48M			

Stands 5011.91 Singles D. Collars 626.01 Other Ft. C.B. Ft. Subs. Ft. 9.48 Ft. Down On Kelly 21 TOTAL 5668

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
14	8 3/4	XSSR	OUT	37892	40	45	5628	5668	40	6 1/4			RUN
					45	50							

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS		Oil Added
WEIGHT		9.7	9.7	9.7	SALT 110 SKS		1	8	✓
VISCOSITY		32	32	31	CELLO-SEAL 25 SKS		2	8	✓
GEL					CAUSTIC 4 SKS		3		
							Light Plant	8	✓
							BOILER HRS.	8	

PUMPS		12 a.m.	2 a.m.	4 a.m.	6 a.m.
No. 1	Pressure	650	650	650	650
Model C 250	S.P.M.	50	50	50	50
	Liner Size	5 1/2 x 15			
No. 2	Pressure				
Model 214 P	S.P.M.	5 1/2 x 15			
	Liner Size				

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	5 1/2	6	552	552	—	4150	700

Casing Record: Surface 9 5/8 @ 704 Prod. Cement

W.L. F.C. pH. 10.5 Solids

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5668	62	5730	7 1/4	104M	5 / 16	6 1/4 / 6 1/8	2 7/8				

Stands 5011.91 Singles 63.83 D. Collars 626.01 Other Ft. C.B. Ft. Subs. Ft. 9.48 Ft. Down on Kelly TOTAL 5730

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
14	8 3/4	XSSR	OUT	37892	45	45	5628	5730	102	14			Drlg.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS		Oil Added
WEIGHT			9.7	9.7	SALT 130 SKS		1	8	✓
VISCOSITY			31	31			2	8	✓
GEL							3		
							Light Plant	8	✓
							BOILER HRS.	8	

PUMPS		8 a.m.	10 a.m.	12 p.m.	2 p.m.
No. 1	Pressure	850	-	850	✓
Model C 250	S.P.M.	50	-	50	✓
	Liner Size	5 1/2 x 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5 1/2 x 14			

Had 85 Bbls Of Fluid From Premix

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	5 1/2	6	552	552	—	4150	700

Casing Record: Surface Prod. Cement

W.L. F.C. pH. Solids

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5730	70	5800	7 3/4	104M	5 / 16	6 1/4	2 7/8				

Stands 5138.19 Singles D. Collars 626.01 Other Ft. C.B. Ft. Subs. Ft. 9.48 Ft. Down on Kelly TOTAL 5800

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
14	8 3/4	XSSR	OPEN	37892	45	45	5628	5800	172	21 3/4			Drlg.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS		Oil Added
WEIGHT	10.1	10.1	10.1	10.1	SALT - 120 SKS		1	8	
VISCOSITY	32	31	30	31	CAUSTIC - 2 SKS		2	8	
GEL					D. FOAMER - 2 GAL		3		
					INHIBITOR - 5 GAL		Light Plant	8	
							BOILER HRS.	8	

PUMPS		4 p.m.	6 p.m.	8 p.m.	10 p.m.
No. 1	Pressure	850	✓	850	✓
Model C 250	S.P.M.	50	✓	50	✓
	Liner Size	5 1/2	X		15
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5 1/2	X		14

Ran 160 Bbls Of Fluid From Premix

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	5 1/2	6	552	552	—	4150	700

Water Truck Hours: Desilter Hours: Desander Hours:

W.L. F.C. pH. Solids.

REMARKS	Time Start	Stop	Interval
RUN IN SLOW	1200	130	1 1/2
RIG SERV / MOTOR KILLS	130	145	1/4
DRLG	145	800	16 3/4
			8 HR
HELD BLOWOUT DRILL			
HELD 5 MIN SAFETY MEETING			
CANDEL MOBIL etal IROQUOIS 1 - 11 67° 50' N 129° 30' W			

With Pipe / Without Pipe / Standby

Drlg	8 00	10 00	2 2/4
Rig Serv & Hydril	10 00	11 00	1/4
Drlg	11 00	4 00	5
			8

3 men worked 4 hrs on rig & then trucked out

Chloride PPM x 1000 - 252

With Pipe / Without Pipe / Standby

Drlg	4 00	6 15	2 1/4
Rig Serv	6 15	6 30	1/4
Drlg	6 30	12 00	5 1/2
			8

Held 5 min Safety Meeting
Work With Fork Lift
Pump & Clean Shaker & Desilter
Suction Tanks

With Pipe / Without Pipe / Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick D. BELL	12
Motor C. COLLINS	12
Floor C. HENNIG	12
Floor D. HRDLICKA	12

Accidents NIL
Outside Temp. + 5°
Weather Conditions CLEAR
Road Conditions —

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick KELLY CUMBERNE	12
~~Floor~~ Motor JOHN COULTON	12
Floor BILL STACHNIK	12
Floor DAVID HRDLICKA	6
STAYED OVER FOR CREW CHANGE	

Accidents NIL
Outside Temp. + 30
Weather Conditions CLEAR
Road Conditions NIL

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller BRIAN RIDDLE	12
Derrick HOWARD MECKLIN	12
Motor GARY BARSNESS	12
Floor MEL GUNSON	12
Floor GENE FLATO	12

Accidents NIL
Outside Temp. + 35
Weather Conditions CLEAR
Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Millar

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Toolpusher John Millar

Approved by

DATE MAY 18 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 24 LOCATION CANDEL MOBIL IROQUOIS 11-1

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 18 1972

Rig No. 8 Report No. 24

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5524	47	5571	7¾	100M	5/16	6 1/2 / 6 5/8	2 7/8	45			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
13	8¾	RR61BX	OUT	DP954	45	45	5484	5571	87	14½			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	[illegible]	9.6	9.6	9.6
VISCOSITY	31	32	32	31
GEL				

Additives: 300 SKS SALT; 6 SKS COT HULLS; 2 SKS FIBRE SEAL

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		
Light Plant	8	✓
BOILER HRS.		

PUMPS		12 a.m.	2 a.m.	4 a.m.	6 a.m.
No. 1	Pressure	650	650	650	650
Model C 250	S.P.M.	50	50	50	50
	Liner Size	5½	X	15	
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size				

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1¼	4½	6	433	433	—		—	4150	700

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. 10.5 Solids

Stands 4917.03; Singles; D. Collars 626.01; Other Ft.; C.B. Ft.; Subs. Ft. 9.48; Ft. Down On Kelly 19; TOTAL 5571

REMARKS	Time Start	Stop	Interval
RIG SERV / PIPE RAMS	12⁰⁰	12¹⁵	¼
DRLG	12¹⁵	8⁰⁰	7¾
			8HR SHIFT
HELD 5MIN SAFETY MEETING			
CANDEL MOBIL etal IROQUOIS 1 11 67° 50' N 129° 30' W			

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5571	38	5609	7¾	100M	5/16	6 1/2 / 6 5/8	2 7/8	45			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
13	8¾	RR61BX	OUT	DP954	45	45	5484	5609	125	22			RUN

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	9.6	9.6	9.6	9.6
VISCOSITY	32	31	33	32
GEL				

Additives: INHIBITOR 10 gal; DE FOAM 2 gal

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		
Light Plant	8	✓
BOILER HRS.		

PUMPS		8 a.m.	10 a.m.	12 p.m.	2 p.m.
No. 1	Pressure	650	✓	650	✓
Model C 250	S.P.M.	50	✓	50	✓
	Liner Size	5½	X		15
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5½	X		14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1¼	4½	6	433	433	—		—	4150	700

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands 4917.03; Singles 31.01; D. Collars 626.01; Other Ft.; C.B. Ft.; Subs. Ft. 9.48; Ft. Down on Kelly; TOTAL 5609.00

REMARKS	Time Start	Stop	Interval
RIG SERV / HYDRIL (REMOTE)	8⁰⁰	8¹⁵	¼
DRLG	8¹⁵	4⁰⁰	7¾
			8
			LOST

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5609	19	5628	4½	100M	5/16	6 1/2	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
13	8¾	RR61X	OPEN	DP954	45	45	5484	5628	144	26½			6-4-1
14	8¾	XSSR	OPEN	37892			5628				TRIP IN		

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	9.7	9.7	9.7	
VISCOSITY	32	33	33	
GEL				

Additives: DE FOAM 5 gal; SALT 100 SKS.; CAUSTIC SODA 2 SKS; CELLO-SEAL 12 SKS.

At Surveys Degree: 5628 0°

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS		4 p.m.	6 p.m.	8 p.m.	10 p.m.
No. 1	Pressure	650	650	✓	
Model C 250	S.P.M.	50	50	✓	
	Liner Size	5½	X		15
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5½	X		14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1¼		6							

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands 4917.03; Singles 63.10; D. Collars 626.01; Other Ft.; C.B. Ft.; Subs. Ft. 9.48; Ft. Down on Kelly 12.97; TOTAL 5628

REMARKS	Time Start	Stop	Interval
DRLG.	4⁰⁰	6⁴⁵	2¾
RIG SERV / KELLY COCK	6⁴⁵	7⁰⁰	¼
DRLG.	7⁰⁰	8⁴⁵	1¾
DROP SURVEY @ 5628, 0°	8⁴⁵	9⁰⁰	¼
TRIP OUT	9⁰⁰	11⁳⁰	2½
CLOSE BLIND RAMS		11³⁰	½
TRIP IN	11³⁰	12⁰⁰	
			8

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick D. BELL	12
Motor C. COLLINS	12
Floor C. HEMNIG	12
Floor D. HRDLICKA	12

Accidents NIL

Outside Temp. +10°

Weather Conditions CLEAR

Road Conditions —

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
B. STACHNIK	12

Accidents NIL

Outside Temp. +30

Weather Conditions SUNNY

Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller B. RIDDLE	12
Derrick K. COCHRANE	12
Motor H. MACKOW	12
Floor G. BARSNESS	12
Floor J. COULSON	12

Accidents NIL

Outside Temp. +28

Weather Conditions CLEAR.

Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 17 19 72

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 17 19 72

Rig No. 8 Page No. 23 LOCATION CANDEL MOBIL IROQUOIS 11-1

Rig No. 8 Report No. 23

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5398	70	5468	7 3/4	102M	5/16	6 1/4 / 6 1/8	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
12	8 3/4	J-88	OUT	HH341	45	45	4996	5468	522	41 1/2			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4	8.5	8.5	8.5
VISCOSITY	33	32	32	32
GEL				

Additives: COT HULLS - 50 SKS; KWICK SEAL - 25 SKS; GEL - 35 SKS; CAUSTIC - 2 SKS

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		
Light Plant	8	✓
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	650
Model C 250	S.P.M.	50
	Liner Size	5 1/2 x 15
No. 2	Pressure	
Model 7 1/4 P	S.P.M.	MUD LINE
	Liner Size	5 1/2 x 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	3 1/2	6	314	314	—		—	4150	700

Casing Record: Surface 9 5/8 @ 704; Prod.

Cement

W.L. F.C. pH. 10.5 Solids

Stands 479.66; Singles; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down On Kelly 22; TOTAL 5468

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5468	16	5484	2 1/2	104M	5/16	6 1/4 / 6 1/8	2 7/8	48			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
12	8 3/4	J-88	OUT	HH341	45	45	4996	5484	488	44			

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	8.5	[illegible]		
VISCOSITY	32			
GEL				

Additives: Cot Hulles 15 SKS; Cello SEAL 25 SKS

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	8	✓
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	650
Model C 250	S.P.M.	50
	Liner Size	5 1/2 x 15
No. 2	Pressure	
Model 7 1/4 P	S.P.M.	
	Liner Size	

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8		6							

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands 479.66; Singles; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down on Kelly 28; TOTAL 5484

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5484	40	5524	6 1/4		5/16	6 1/4 / 6 1/8	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
13	8 3/4	RR G1	OPEN	DP954	20-45	45	5484	5524	40	6 1/4			

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	8.5	8.5	8.5	8.5
VISCOSITY	32	32	34	34
GEL				

Additives: GEL - 4 SKS; SALT - 800 SKS; SAWDUST - 50 SKS; COTTON HULLS - 10 SKS

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2		
3		
Light Plant	4	
BOILER HRS.	4	

PUMPS			
No. 1	Pressure	700 ✓	700 ✓
Model C 250	S.P.M.	50 ✓	50 ✓
	Liner Size	5 1/2 X	15
No. 2	Pressure		
Model 7 1/4 P	S.P.M.		
	Liner Size	5 1/2 X	14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 3/4	3 1/2	6	433	433	—		—	4150	700

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands 479.66; Singles; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down on Kelly; TOTAL 5524

REMARKS

Time Start	Stop	Interval	
12:00	12:15	1/4	RIG SERV ✓ 3 1/2" RAMS
12:15	8:00	7 3/4	DRLG FLUID LOSS 12 BBLS PER HR
			@ 6:00 AM LOSS OF 10 BBLS PER HR
			~~CANDEL MOBIL etal~~ IROQUOIS 1 - 11 67° 50' N 129° 30' W
			✓ESCAPE BUGGY ✓DRWKS BRAKES
			✓SCOTT AIR PACKS ✓DRILLING LINE
			✓FIRE EXTINGUISHERS
			ALL OK

With Pipe Without Pipe Standby

Time Start	Stop	Interval	
8:00	8:15	1/4	RIG SERV ✓ MOTOR KILLS
8:15	10:45	2 1/2	DRLG
10:45	12:45	2	HOIST
12:45	1:15	1/2	LAY DOWN DCOLLAR + STAB
1:15	3:15	2	TRIP IN SNOW
3:15	4:00	1/2	BREAK CIRC + CREW TO BOOT
			✓BLIND RAMS
		8	LAY DOWN DRILCO STAB.
			MAY 17-1972 - John Miller

With Pipe Without Pipe Standby

Time Start	Stop	Interval	
4:00	5:45	1 3/4	DRLG
5:45	6:00	1/4	RIG SERV - HYDRIL
6:00			DRLG MIX SALT SAWDUST
	10:00	4	GEL + COTTON HULLS
10:00	11:00		CLEAN OUT PUMPS
11:00	12:00	1	DRLG
		8	

With Pipe Without Pipe Standby

Accidents NIL

Outside Temp. +5°

Weather Conditions CLEAR

Road Conditions —

Tour — Midnight - 8 a.m.

Specify actual hours worked.		Hrs.
Driller	J. WEST	12
Derrick	D. BELL	12
Motor	C. COLLINS	12
Floor	D. HRDLICKA	12
Floor	C. HENNIG	12

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.		Hrs.
Driller		
Derrick		
Motor		
Floor		
Floor		
	R. STACHNIK	12

Accidents NIL

Outside Temp.

Weather Conditions

Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.		Hrs.
Driller	B. KIDDLE	12
Derrick	H. COCHRANE	12
Motor	H. MACHON	12
Floor	G. BARSNESS	12
Floor	J. COLLSON	12

Accidents NIL

Outside Temp.

Weather Conditions

Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 16 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 22 LOCATION CANDIEL MOBIL IROQUOIS 11-1

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5117	97	5214	7 3/4	100M	5 / 16	6 1/4 / 6 1/2	2 1/8	45			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
12	8 3/4	J-88	OUT	HH-341	45	45	4996	5214	218	20 3/4			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS		Oil Added
WEIGHT	8.4	8.4	8.4	8.4	FIBERSEAL 45XS		1	8	✓
VISCOSITY	28	28	28	28	QUICK SEAL 4 SXS		2	8	✓
GEL					SAW DUST 6 SXS		3		
PUMPS No. 1 Pressure	650	650	650	650			Light Plant	8	✓
Model C 250 S.P.M.	50	50	50	50			BOILER HRS.	8	
Liner Size	5 1/2 X 15								
No. 2 Pressure									
Model 214 P S.P.M.									
Liner Size	5 1/2 X 14								

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	3 1/2	6	314	314	—		—	4150	700

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands 4538.33; Singles; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 5 1/2 6.30; Subs. Ft. 9.48; Ft. Down On Kelly 22; TOTAL 5214

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5214	112	5326	7 3/4	102M	5 / 16	6 1/4 / 6 1/2	2 1/8	48			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
12	8 3/4	J-88	OUT	HH-341	45	45	4996	5326	330	28 1/2			1/16

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS		Oil Added
WEIGHT	8.4	8.4	8.4	8.4	SAWDUST 8 SKS		1	8	✓
VISCOSITY	28	28	28	28	FIBERSEAL 11 SKS		2	8	✓
GEL					QUICK SEAL 7 SKS		3		
PUMPS No. 1 Pressure	650	650	650	650			Light Plant	8	✓
Model C 250 S.P.M.	50	50	50	50			BOILER HRS.		
Liner Size	5 1/2 X 15								
No. 2 Pressure									
Model 214 P S.P.M.	STD-BY								
Liner Size	5 1/2 X 14								

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	3 1/2	6	314	314	—		—	4150	700

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands 4838.81; Singles; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down on Kelly 38.38; TOTAL 5326.35

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5326	72	5398	7 1/4	102M	6 / 16	6 1/4 / 6 1/2	2 1/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
12	8 3/4	J-88	OPEN	HH 341	45	45	4996	5398	402	35 1/2			1/16

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS		Oil Added
WEIGHT	8.4	8.4	8.4	8.4	GEL — 40 SKS	5360 1/4	1	8	
VISCOSITY	28	28	28	28	CAUSTIC — 6 SKS		2	8	
GEL							3		
PUMPS No. 1 Pressure	650	✓	650	✓			Light Plant	4 8	
Model C 250 S.P.M.	50	✓	50	✓			BOILER HRS.	4	
Liner Size	5 1/2	✓		15					
No. 2 Pressure									
Model 214 P S.P.M.									
Liner Size	5 1/2	✓		14					

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	3 1/2	6	314	314	—		—	4150	700

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands 4724.78; Singles; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down on Kelly 18.84; TOTAL 5398.00

WORK RECORD

NOTE: Do Not Record Payroll Information Here

REMARKS	Time Start	Stop	Interval
RIG SERV ✓ MOTOR KILLS	12 00	12 15	1/4
DRLG	12 15	8 00	7 3/4
			8 HR
HELD 5 MIN SAFETY MEETING			

With Pipe Without Pipe Standby

REMARKS	Start	Stop	Interval
RIG SERV ✓ HYD RIL	8 00	8 15	1/4
DRLG	8 15	4 00	7 3/4
			8

With Pipe Without Pipe Standby

REMARKS	Start	Stop	Interval
RIG SERV ✓ HENRY COCK	4 00	4 15	1/4
DRLG	4 15	7 00	2 3/4
SURVEY @ 5360 1/4°	7 00	7 30	1/2
DRLG	7 30	12 00	4 1/2
			8

With Pipe Without Pipe Standby

DATE MAY 16 1972

Rig No. 8 Report No. 22

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick D. BELL	12
Motor C. COLLINS	12
Floor C. HENNIG	12
Floor D. HRDLICKA	12

Accidents NIL
Outside Temp. — 10°
Weather Conditions CLEAR
Road Conditions —

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
BILL STACHNIK	12

Accidents NIL
Outside Temp. +40°
Weather Conditions CLEAR
Road Conditions —

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller BRIAN KIDDLE	12
Derrick KELLY COCHRANE	12
Motor HOWARD MACKOW	12
Floor GERRY BARSNESS	12
Floor JOHN COULSON	12

Accidents NIL
Outside Temp. + 40
Weather Conditions SUNNY
Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 15 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

Rig No. 8 Page No. 21 LOCATION CINDER MOBIL IRQUOIS 11-1

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
4885	61	4946	4½	94M	5 / 16	6 1/8 / 6 1/8	2 7/8				

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	11	8 3/4	RR61BX	3-12	RT487	45	45	4885	4946	61	3½			6-8-1
	12	8 3/4	J.88		HH341									

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4			
VISCOSITY	28			
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		
Light Plant	8 8	✓
BOILER HRS.	8	

PUMPS			
No. 1	Pressure	1000	
Model C 250	S.P.M.	50	
	Liner Size	5½ X 15	
No. 2	Pressure		
Model 214 P	S.P.M.		
	Liner Size	5½ x 14	

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1⅛	3	6	260	260	—		—	4150	700

Casing Record: Surface / Prod.

W.L. F.C. pH. Solids Cement

Stands 4254.37 | Singles | D. Collars 626.61 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down On Kelly | TOTAL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
4946	65	5011 58	5 11	98M	5 / 16	6 1/8 / 6 1/8	2 7/8				

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	12	8¾	J-88	OUT	HH341	45	45	4946	5011	65	5 11			2-RG.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT			8.4	8.4
VISCOSITY			28	24
GEL				

Additives: FIBER SEAL 4 SXS; SAW DUST 8 SXS; QUICK SEAL 6 SKS

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8 8	
BOILER HRS.	8	

PUMPS			
No. 1	Pressure	550	625
Model C 250	S.P.M.	45	50
	Liner Size	5½	15
No. 2	Pressure		
Model 214 P	S.P.M.		
	Liner Size	5½	14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1⅛	3½	6	314	314	—		—	4150	700

Casing Record: Surface / Prod.

W.L. F.C. pH. Solids Cement

Stands 4319.04 | Singles | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 40.38 | TOTAL 5011.58

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
5011	106	5117	7¾	98M	5 / 16	6 1/8 / 6 1/8	2 7/8				

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	12	8¾	J 88	OPEN	HH341	45	45	4946	5117	171	13			DULL

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: FIBERSEAL 4 SKS; SAWDUST 4 SKS; PUMP SHAKER TANK

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8 8	
BOILER HRS.	8	

PUMPS			
No. 1	Pressure	650	650
Model C 250	S.P.M.	50	50
	Liner Size	5½	15
No. 2	Pressure		
Model 214 P	S.P.M.		
	Liner Size	5½	14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1⅛	3½	6	314	314					

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands 4413.18 | Singles | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly | TOTAL 5117.00

REMARKS	Time Start	Stop	Interval
RIG SERV ✓ KELLY COCK	12⁰⁰	12¹⁵	¼
DRLG	12¹⁵	4⁴⁵	4½
HOIST (SLOW) BLOW KELLY	4⁴⁵	7³⁰	2¾
✓ BLIND RAMS			
REPAIR COMPOUND CHAIN	7³⁰	8⁰⁰	½
			8

With Pipe Without Pipe Standby

REMARKS	Start	Stop	Interval
RUN IN	8⁰⁰	10⁰⁰	2
RIG SERV + ✓ HYDRIL	10⁰⁰	10¹⁵	¼
BREAK CIRC + CTB 30' 5' FILL	10¹⁵	10⁴⁵	½
DRLG	10⁴⁵	4⁰⁰	5¼
			LEASE

With Pipe Without Pipe Standby

REMARKS	Start	Stop	Interval
RIG SERV + C ✓ 3½ RAMS	4⁰⁰	4¹⁵	¼
DRLG	4¹⁵	12⁰⁰	7¾
			8

With Pipe Without Pipe Standby

DATE MAY 15 1972

Rig No. 8 Report No. 21

Tour — Midnight - 8 a.m. Specify actual hours worked.	Hrs.
Driller T. WEST	12
Derrick D. BELL	12
Motor C. COLLINS	12
Floor C. HENNIG	12
Floor D. HRDLICKA	12

Accidents
Outside Temp. −10°
Weather Conditions OVERCAST
Road Conditions —

Tour — 8 a.m. to 4 p.m. Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor B. STARUNIK	12

Accidents NIL
Outside Temp. +30
Weather Conditions WINDY
Road Conditions NIL

Tour — 4 p.m. to Midnight Specify actual hours worked.	Hrs.
Driller B. RIDDLE	12
Derrick K. COCHRANE	12
Motor H. MACKAY	12
Floor G. BRAINERD	12
Floor J. COLLISON	12

Accidents NIL
Outside Temp. +15
Weather Conditions CLEAR
Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 14 19 72

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 14 19 72

Rig No. 8 Page No. 20 LOCATION CANDEL MOBIL IRUNOIS 11-1

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
4576	110	4686	7 3/4	91M	5/16	6 1/4 / 6 1/8	2 7/8	45			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
11	8 3/4	RRG1XJ	3-12	RT487	45	45	4445	4686	242	17			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: RAPID RING H #

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	X	✓
BOILER HRS.	X	

PUMPS		12 a.m.	2 a.m.	4 a.m.	6 a.m.
No. 1	Pressure	1000	1000	1000	1000
Model C 250	S.P.M.	51	51	51	51
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 7 1/4 P	S.P.M.	STD-BY			
	Liner Size	5 1/2 X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	2 1/2	6	206	206	—	4150	700

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands 400238 Singles; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down On Kelly 30; TOTAL 4686

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
4686	105	4791	7 3/4	92M	5/16	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
11	8 3/4	RRG1BX	3-12	RT487	45	45	4445	4791	346	24 3/4			RUN

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: SAWDUST 15 SKS

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8 8	
BOILER HRS.	8	

PUMPS		8 a.m.	10 a.m.	12 p.m.	2 p.m.
No. 1	Pressure	1000	✓	1000	✓
Mod C 250	S.P.M.	51	✓	51	✓
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 7 1/4 P	S.P.M.				
	Liner Size				

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	2 1/2	6	206	206	—	4150	700

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands 400238 Singles; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down on Kelly 40.38; TOTAL 4791.89

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
4791	94	4885	7 1/4	90M	5/16	6 1/4					

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
11	8 3/4	RRG1	3-12	RT487	45	45	4445	4885	440	32			RUN

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: SAWDUST 15 SKS

At Surveys Degree: 4820 1 1/2

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8 8	
BOILER HRS.	8	

PUMPS		4 p.m.	6 p.m.	8 p.m.	10 p.m.
No. 1	Pressure	1000	✓	1000	✓
Mod C 250	S.P.M.	51	✓	50	✓
	Liner Size	5 1/2	X		15
No. 2	Pressure				
Model 7 1/4 P	S.P.M.				
	Liner Size	5 1/2	X		14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1 1/8	2 1/2	6	206	206	—	4150	700

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands 4859.88 Singles 21.79; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down on Kelly 40.38; TOTAL 4945.60

REMARKS	Time Start	Stop	Interval
RIG SERV ✓ MOTOR KILLS	12:00	12:15	1/4
DRLG (FLUID LOSS 10 BBL'S PER HR)	12:15		
@ 400 AM (FLUID LOSS 10 BBL'S PER HR			
@ 8:00 AM (FLUID LOSS 10 BBL'S PER HR		8:00	7 3/4
HELD 5 MIN SAFETY MEETING			

With Pipe / Without Pipe / Standby

DRLG	4:00	8:30	1/2
RIG SERV & B.O.P.	8:30	8:45	1/4
DRLG	8:45	4:00	7 1/4
FLUID LOSS, 10 BBLS PER HR.			8
RAN 15 SKS OF SAWDUST TO HOLE			
SEAL OFF FORMATION			
			LEASE

With Pipe / Without Pipe / Standby

RIG SERV & 3 1/2 RAMS	4:00	4:15	1/4
DRLG	4:15	6:45	2 1/2
SURVEY @ 4820, 1 1/2°	6:45	7:15	1/2
DRLG	7:15	12:00	4 3/4
			8
HELD 5 MIN SAFETY MEETING.			

With Pipe / Without Pipe / Standby

Rig No. 8 Report No. 20

Tour — Midnight - 8 a.m. Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick D. BELL	12
Motor C. COLLINS	12
Floor D. HRDLICKA	12
Floor C. HENNIG	12

Accidents NIL

Outside Temp. 0°

Weather Conditions OVERCAST

Road Conditions —

Tour — 8 a.m. to 4 p.m. Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
LEASE HOWARD MACKOW	16

Accidents B. STACHNIK INJURED BIG FINGER LEFT HAND & LEFT KNEE

Outside Temp.

Weather Conditions CLOUDY

Road Conditions NIL

Tour — 4 p.m. to Midnight Specify actual hours worked.	Hrs.
Driller BRIAN RIDDLE	12
Derrick KELLY COCHRANE	12
Motor B. STACHNIK	12
Floor GERRY BARSNESS	12
Floor JOHN COULSON	12

Accidents NIL

Outside Temp. +15°

Weather Conditions LIGHT SNOW & WINDY

Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 13 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 13 1972

Rig No. 8 Page No. 19 LOCATION CANDEL MOBIL 11-1

Rig No. 8 Report No. 19

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
4312	108	4420	7¼	88M	5 / 16	6¼ / 6⅛	2⅞				

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	10	8¾	RG1XJ	3-11	NB121	45	45	3815	4420	605	35¼			RUN

Stands 3750.89 | Singles | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down On Kelly 15 | TOTAL 4420

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives | At Surveys Degree: ⊙4330 1¾° | MOTOR HOURS 1: 8, 2: 8, 3: | Light Plant 8 | BOILER HRS. 8 | Oil Added ✓

PUMPS		12 a.m.	2 a.m.	4 a.m.	6 a.m.
No. 1	Pressure	1000	1000	1000	1000
Model C 250	S.P.M.	56	56	56	56
	Liner Size	5½ x 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5½ x 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1⅛	1½	6	111	111	—		—	4150	700

Casing Record: Surface / Prod. / Cement

W.L. F.C. pH. Solids

REMARKS	Time Start	Stop	Interval
RIG SERV - HYDRIL	12⁰⁰	12¹⁵	¼
DRLG	12¹⁵	3⁰⁰	2¾
SURVEY @ 4330	3⁰⁰	3³⁰	½
DRLG	3³⁰	8⁰⁰	4½
			8 HR
HELD 5 MIN SAFETY MEETING			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m. Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick D. BELL	12
Motor C. COLLINS	12
Floor D. HRDLICKA	12
Floor C. HENNIG	12

Accidents NIL
Outside Temp. +5°
Weather Conditions SNOW
Road Conditions —

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
4420	55	4475	3¼	90M	5 / 16	6¼ / 6⅛	2⅞				

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	10	8¾	RG1XJ	3-11	NB121	45	45	3815	4445	630	36½			2-8-1
	11	8¾	RRG1XJ	3-12	RT487	40-45	45	4445	4475	30	2			DRLG.

Stands 3781.41 | Singles | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 40.38 | TOTAL 4475.94

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				8.4
VISCOSITY				28
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1: 8, 2: 8, 3: | Light Plant 8 8 | BOILER HRS. | Oil Added

PUMPS		8 a.m.	10 a.m.	12 p.m.	2 p.m.
No. 1	Pressure	1000			1100
Model C 250	S.P.M.	56			54
	Liner Size	5½ x 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5½ x 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1⅛	1½	6	111	111	—		—	4150	700

Casing Record: Surface / Prod. / Cement

W.L. F.C. pH. Solids

REMARKS	Time Start	Stop	Interval	
RIG SERV - ✓KELLY COCK	8⁰⁰	8¹⁵	¼	
DRLG	8¹⁵	9³⁰	1¼	
HOIST CLOSE BLIND RAMS	9³⁰	11¹⁵	1¾	
RUN IN	11¹⁵	1¹⁵	2	
BREAK CIRC & CLEAN 30' TO BOTTOM	1¹⁵			
15' FILL		2⁰⁰	¾	
DRLG 8¾" HOLE	2⁰⁰	4⁰⁰	2	RELEASE
			8	
HELD 5 MIN SAFETY MEETING				

With Pipe Without Pipe Standby

Tour — 8 a.m. to 4 p.m. Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
H. MACKOW	12

Accidents NIL
Outside Temp. -10°
Weather Conditions OVERCAST
Road Conditions —

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
4475	101	4576	7¾	91	5 / 16	6¼ / 6⅛	2⅞				

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	11	8¾	RRG1XJ	3-12	RT487	40-45	40	4445	4576	131	9¾			DRLG.

Stands 3876.22 | Singles 31.60 | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 44.03 | TOTAL

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: SAWDUST 15 SKS | At Surveys Degree | MOTOR HOURS 1: 8, 2: , 3: | Light Plant 8 8 | BOILER HRS. 8 | Oil Added

PUMPS		4 p.m.	6 p.m.	8 p.m.	10 p.m.
No. 1	Pressure	1100	-	1100	✓
Model C 250	S.P.M.	54	-	54	✓
	Liner Size	5½	X		15
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5½	X		14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1⅛	2½	6		206	—		—	4150	700

Water Truck Hours: 206
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

REMARKS	Time Start	Stop	Interval	
RIG SERV - HYD PIPE RAMS	4⁰⁰	4¹⁵	¼	
DRLG	4¹⁵	12⁰⁰	7¾	
FLUID LOSS OF 30 BBLS HR,				
RAN SAWDUST, FLUID LOSS OF			8	
10 BBLS HR. NOW.				
HELD 5 MIN SAFETY MEETING				

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight Specify actual hours worked.	Hrs.
Driller B. RIDLE	12
Derrick K. CORBRANE	12
Motor B. STACHNIK	12
Floor J. COULSON	12
Floor G. BARSNESS	12

Accidents NIL
Outside Temp. +15°
Weather Conditions LIGHT SNOW
Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 12 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 18 LOCATION CANDEL MOBIL IROQUIS 11-1

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
3944	146	4090	7 3/4	80M	5 / 16	6 1/4 / 6 1/2	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
10	8 3/4	RG1BXJ	3-11	NB121	45	45	3815	4090	275	13			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4 →			
VISCOSITY	28 →			
GEL				

Additives: RAPIDRILL 2 SKS

PUMPS		12 a.m.	2 a.m.	4 a.m.	6 a.m.
No. 1	Pressure	1000	1000	1000	1000
Model C 250	S.P.M.	50	50	50	50
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5 1/2 X 14			

W.L. F.C. pH. Solids

Cement

At Surveys Degree		MOTOR HOURS		Oil Added
		1	8	✓
		2	8	✓
		3		✓
		Light Plant	8	✓
		BOILER HRS.		8

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/3	1 1/2	6	111	111	—		—	4150	7000

Casing Record: Surface / Prod.

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down On Kelly	TOTAL
3904.01		626.01	12.37	6.30	9.48	32	4090

REMARKS	Time Start	Stop	Interval
RIG SERV + KELLY COCK	12 00	12 15	1/4
DRLG	12 15	8 00	7 3/4
			8
HELD 5 MIN SAFETY MEETING			

With Pipe Without Pipe Standby

DATE MAY 12 1972

Rig No. 8 Report No. 18

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick D. BELL	12
Motor C. COLLINS	12
Floor C. HENNIG	12
Floor D. HRDLICKA	12

Accidents NIL

Outside Temp. 0°

Weather Conditions CLEAR

Road Conditions —

WORK RECORD

NOTE: Do Not Record Payroll Information Here

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
4090	118	4208	7 3/4	80M	5 / 16	6 1/4 / 6 1/2	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
10	8 3/4	RG1BXJ	3-11	NB121	45	45	3815	4208	393	20 3/4			RUN

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives:

PUMPS		8 a.m.	10 a.m.	12 p.m.	2 p.m.
No. 1	Pressure	1000	1000	1000	1000
Model C 250	S.P.M.	50	50	50	50
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5 1/2 X 14			

F.C. pH. Solids

Cement

At Surveys Degree		MOTOR HOURS		Oil Added
		1	8	
		2	8	
		3		
		Light Plant	8	
		BOILER HRS.		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/3	1 1/2	6	111	111	—		—	4150	7000

Casing Record: Surface / Prod.

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
3530.95		626.01	12.37	6.30	9.48	23	4208

REMARKS	Time Start	Stop	Interval
RIG SERV + MOTOR KILLS	8 00	8 15	1/4
DRLG	8 15	4 00	7 3/4

With Pipe Without Pipe Standby

DATE MAY 12 1972

Rig No. 8 Report No. 18

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	6
~~Derrick~~ ~~Driller~~ Larry Pederson	12
~~Motor~~ ~~Floor~~ K. SUMMER	8
Floor C. HENNIG	6
Floor Gordon Kesler	12
STAYED OVER	
F/CREW CHANGE	

Accidents NIL

Outside Temp. -25°

Weather Conditions CLEAR

Road Conditions —

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
4208	104	4312	7 3/4	84M	5 / 16	6 1/4 / 6 1/2	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
10	8 3/4	RG1BXJ	3-11	NB121	45	45	3815	4312	497	28			RUN

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: 4 SKS RAPIDRILL

PUMPS		4 p.m.	6 p.m.	8 p.m.	10 p.m.
No. 1	Pressure	1000	1000	✓	1000
Model C 250	S.P.M.	50	50	✓	50
	Liner Size	5 1/2	X		15
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5 1/2	X		14

W.L. F.C. pH. Solids.

At Surveys Degree		MOTOR HOURS		Oil Added
		1	8	
		2	8	
		3		
		Light Plant	8 8	
		BOILER HRS.		8

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/3	1 1/2	6	111	111	—		—	4150	700

Casing Record: Surface / Prod.

Water Truck Hours:

Desilter Hours:

Desander Hours:

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
3593.87	21.70	626.01	12.37	6.30	9.48	31.86	4312.00

REMARKS	Time Start	Stop	Interval
Dayo	4 00	9 00	5
Rig Serv + Pipe Rams	9 00	9 15	1/4
Drlg.	9 15	12 00	2 3/4
			8
HELD 5 MIN SAFETY MEETING			

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller Brian Riddle	12
Derrick K. Cochrane	12
Motor B. Stachnik	12
Floor J. Coulson	12
Floor G. Barsness	12
LEASE H. Machow	12
WELD B. Simpson	8
MECH F. Deneve	12

Accidents NIL

Outside Temp. -25°

Weather Conditions CLEAR

Road Conditions NIL

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 11 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 11 1972

Rig No. 8 Page No. 17 LOCATION CANDEL MOBIL IROQUOIS 11-1

Rig No. 8 Report No. 17

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
3602	161	3763	7¾	78M	5 / 16	6¼ / 6⅛	2⅞				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
9	8¾	RRG2BX	3-11	WF001	45	45	3403	3763	360	21			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: RAPIDRILL

PUMPS	No. 1	No. 2
Pressure	1000	1000	1000	1000
Model	C-250	9/4 P
S.P.M.	50	50	50	50	58
Liner Size	5½ X 15	5½ X 14

W.L. F.C. pH. Solids

Cement

Stands 3099.27 | Singles | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down On Kelly 20 | TOTAL 3763

At Surveys Degree

MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8; BOILER HRS. 8

Oil Added: ✓ ✓ ✓ ✓

INSTALLED NEW HEAD RUBBER ON FW SIDE C 250

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1⅛	1/2	6	30	30		4150	1000

Casing Record: Surface; Prod.

REMARKS	Time Start	Stop	Interval
RIG SERV ✓ HYDRIL	12⁰⁰	12¹⁵	¼
DRLG	12¹⁵	8⁰⁰	7¾
HELD 5 MIN SAFETY MEETING			
✓ DRILLING LINE			
✓ DRWKS BRAKES			
✓ ESCAPE BUGGY			
✓ ALL BREATING APPARATUS			
ALL OK			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick D. BELL	12
Motor C. COLLINS	12
Floor C. HENNIG	12
Floor D. HRDLICKA	12

Accidents NIL

Outside Temp. 0°

Weather Conditions CLEAR

Road Conditions —

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
3763	52	3815	3¼	80M	5 / 16	6¼ / 6⅛	2⅞				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
9	8¾	RRG2BX	3-11	WF001	45	45	3403	3815	412	24¾			4-4-1

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	8.4			
VISCOSITY	28			
GEL				

Additives

PUMPS	No. 1	No. 2
Pressure	1000	
Model	C-250	
S.P.M.	50	
Liner Size	5½ X 15	

W.L. F.C. pH. Solids

Cement

Stands 3120.39 | Singles 31.19 | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 11 | TOTAL 3815

At Surveys Degree: 3815 1¼

MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8; BOILER HRS.

Oil Added

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1⅛	1/2	6	30	30	—	4150	1000

Casing Record: Surface; Prod.

REMARKS	Time Start	Stop	Interval	
RIG SERV + ✓ MOTOR KILLS	8⁰⁰	8¹⁵	¼	
DRLG	8¹⁵	11³⁰	3¼	
TRIP OUT FOR PLUGGED	11.30			
JETS + CLOSE BLIND RAMS		1.30	2	
DUMP + CLEAN TANKS	1.30	3.15	1¾	
TRIP IN WITH BIT # 10	3.15	4⁰⁰	¾	
				LEASE
				INFRD
				MECH

With Pipe Without Pipe Standby

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
K. SOMMER	12
B. SIMPSON	12
F. DENEVE	12

Accidents

Outside Temp. -20°

Weather Conditions CLEAR

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
3815	129	3944	6¾	80M	5 / 16	6¼ / 6⅛	2⅞	48			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
10	8¾	RG1	3-11	NB121	45	45	3815	3944	129	5¾			DRILL

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT		8.4	8.4	8.4
VISCOSITY		28	28	28
GEL				

Additives: RAPIDRIL - 4 SKS

PUMPS	No. 1	No. 2
Pressure	1000	1000	1000
Model	C-250	
S.P.M.	56	56	56
Liner Size	5½ X 15	

W.L. F.C. pH. Solids.

Cement

Stands 3215.14 | Singles 62.96 | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 12 | TOTAL 3944

At Surveys Degree

MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8; BOILER HRS. 6

Oil Added: 2 gts; 1 gt; 3 gts

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip
1⅛	1½	6	44	111	—	4150	@1000#

Water Truck Hours:

Desilter Hours:

Desander Hours:

REMARKS	Time Start	Stop	Interval
TRIP IN WITH BIT # 10	4⁰⁰	4.45	¾
CLEAN TO BOTTOM	4.45	5.00	¼
DRILL 8¾" HOLE.	5.00	6.30	1½
CON @ RIG SERVICE	6.30	6.45	¼
DRILL 8¾" HOLE	6.45	12⁰⁰	5¼
			8
HELD 5 MIN SAFETY MEET			
✓ CROWN SAVER ON TRIP OK.			

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick K. COCHRANE	12
Motor B. STACHNIK	12
Floor G. KESLER	12
Floor J. COULSON	12

Accidents NIL

Outside Temp. +30

Weather Conditions CLEAR

Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Toolpusher John Miller

Approved by .....

DATE MAY 10 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 10 1972

Rig No. 8 Page No. 16 LOCATION CANDEL MOBIL IROQUOIS 11-1

Rig No. 8 Report No. 16

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
3403	0			76M	5/16	6 1/4 / 6 1/8	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
9	8 3/4	RRG2BX	3-11	WF001	45	40	3403						

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	8	✓
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	
Model C 250	S.P.M.	
	Liner Size	5 1/2 X 15
No. 2	Pressure	
Model	S.P.M.	
	Liner Size	5 1/2 X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip
1 1/8	1/2	6	30	30	—		—	4150	1000

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands; Singles; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down On Kelly; TOTAL

REMARKS	Time Start	Stop	Interval
SLIP LINE FOR NEW SPOOL	12 00	3 00	3
RIG SERV + PIPE RAMS	3 00	3 15	1/4
INSTALL NEW BRAKE PADS	3 15		
+ NEW LINKAGE ARMS + PINS		7 00	3 3/4
RUN IN BLOCKS WINDING	7 00		
UP		8 00	1
~~TRY TO GET CIRC NO RETURNS~~	~~8 30~~	~~9 30~~	~~1~~
~~MIX LOSS CIRC MAT~~	~~9 30~~	~~10 30~~	~~1~~
~~DRLG~~			

With Pipe Without Pipe Standby

Accidents NIL

Outside Temp. —10°

Weather Conditions OVERCAST

Road Conditions ——

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J WEST	12
Derrick D BELL	12
Motor C COLLINS	12
Floor D HRDLICKA	12
Floor C HENNIG	12

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
3403	89	3492	5 1/2	76M	5/16	6 1/4 / 6 1/8	2 7/8	48			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
9	8 3/4	RRG2BX	3-11	WF001	45	40	3403	3492	89	5 1/2			DRILL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT			84	84
VISCOSITY			28	28
GEL				

Additives: RAPIDRILL - 4 SKS; FIBER SEAL 6 SKS. At Surveys Degree: 3400 1°

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	8	✓
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	1000 / 1000 / 1000
Model C 250	S.P.M.	52 / 56 / 56
	Liner Size	5 1/2 X 15
No. 2	Pressure	
Model 214 P	S.P.M.	MIX MUD
	Liner Size	5 1/2 X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands 27 5816; Singles 63.27; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down on Kelly 29; TOTAL 3492

REMARKS	Time Start	Stop	Interval	
NO RETURNS ON BTM	8 00			
CIRC + MIX LOSS CIRC MAT		10 30	2 1/2	
DRLG	10 30	4 00	5 1/2	
			8	
				LEASE
				WELD
				MECH

With Pipe Without Pipe Standby

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
K SOMMER	12
B SIMPSON	12
F DENEVE	12

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
3492	110	3602	7 3/4	76M	5/16	6 1/4 / 6 1/8	2 7/8	48			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
9	8 3/4	RRG2BX	3-11	WF001	45	40	3403	3602	199	13 1/4			DRILL

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	84	84	84	84
VISCOSITY	28	28	28	28
GEL				

Additives: RAPIDRILL - 16 SKS. At Surveys Degree

MOTOR HOURS		Oil Added
1	8	3 qts
2	8	2 qts
3		
Light Plant	8	3 qts
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	1000 / 1000 / 1000 / 1000
Model C 250	S.P.M.	56 / 56 / 56 / 56
	Liner Size	5 1/2 X 15
No. 2	Pressure	
Model 14 P	S.P.M.	
	Liner Size	5 1/2 X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or	Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands 294 272; Singles ~~[illegible]~~; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 6.30; Subs. Ft. 9.48; Ft. Down on Kelly 17; TOTAL 3602

REMARKS	Time Start	Stop	Interval
RIG SERVICE & ✓ KELLY COCK	4 00	4 15	1/4
DRILL 8 3/4" HOLE	4 15	12 00	7 3/4
			8
HELD 5 MIN SAFETY MEET			
CHECKED ALL FIRE EXTINGUISHERS			

With Pipe Without Pipe Standby

Accidents NIL

Outside Temp. 0°

Weather Conditions CLOUDY & LIGHT SNOW

Road Conditions ——

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L PEDERSEN	12
Derrick K COCHRANE	12
Motor B STACHNIK	12
Floor G KESLER	12
Floor J COULSON	12

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 9TH 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 9 1972

Rig No. 8 Page No. 15 LOCATION CANDEL MOBIL IROQUOIS 11-1

Rig No. 8 Report No. 15

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
3089	116	3205	7¼	74M	5 / 16	6¼ / 6⅛	2⅞				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
8	8¾	RRG2BX	3-11	ZL-998	45	40	2671	3205	534	39			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree		MOTOR HOURS		Oil Added
WEIGHT	8.4	8.4	8.4	8.4	[illegible]	3100	1½	1	8	✓
VISCOSITY	28	28	28	28	RAPIDRILL 4#			2	8	✓
GEL								3		✓
								Light Plant	8	✓
								BOILER HRS.		8

PUMPS	No.	Pressure	S.P.M.	Liner Size
	1 Model C 250	1000 →	58 →	5½ X 15
	2 Model 214 P			5½ X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands 2520.84 | Singles | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 28 | TOTAL 3205

REMARKS	Time Start	Stop	Interval	
RIG SERV ✓ MOTOR KILLS	12⁰⁰	12¹⁵	¼	
DRLG	12¹⁵	1⁴⁵	1½	
SURVEY @ 3100 1½°	1⁴⁵	2¹⁵	½	
DRLG	2¹⁵	8⁰⁰	5¾	
			8	
HELD 5 MIN SAFETY MEET				

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
3205	111	3316	6¾	75M	5 / 16	6¼ / 6⅛	2⅞		2'		

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
8	8¾	RRG2BX	3-11	ZL-998	45	40	2671	3316	645	45¾			DRILL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree		MOTOR HOURS		Oil Added
WEIGHT	8.4	8.4	8.4	8.4				1	8	
VISCOSITY	28	28	28	28				2	8	
GEL								3	—	
								Light Plant	8	
								BOILER HRS.		8

PUMPS	No.	Pressure	S.P.M.	Liner Size
	1 Model C 250	1000	58	5½ X 15
		1000	58	
		1000	58	
	2 Model 214 P			5½ X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands 2650.76 | Singles | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 12 | TOTAL 3316

REMARKS	Time Start	Stop	Interval	
RIG SERV + KELLY COCK	8⁰⁰	8¹⁵	¼	
DRLG	8¹⁵	10³⁰	2¼	
CLEAN UP SLOUGHING HOLE	10³⁰			
@ 3230		11⁰⁰	½	
DRLG	11⁰⁰	1⁰⁰	2	
SURVEY AT 3270 1°	1⁰⁰	1³⁰	½	
DRILL 8¾" HOLE	1³⁰	4⁰⁰	2½	LEASE
			8	WILD
				MEPH

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
3316	87	3403	5	76M	5 / 16	6¼ / 6⅛	2⅞	48	5½		

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
8	8¾	RRG2BX	3-11	ZL 998	45	40	2671	3403	732	50¾			761

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree		MOTOR HOURS		Oil Added
WEIGHT	8.4	8.4	8.4		RAPIDRILL - 6 SKS			1	8	2 gals
VISCOSITY	28	28	28					2	8	2 gals
GEL								3		
								Light Plant	8	3 gals
								BOILER HRS.		8

PUMPS	No.	Pressure	S.P.M.	Liner Size
	1 Model C 250	1000	56	5½ X 15
		1000	56	
		1000	56	
	2 Model 214 P			5½ X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours: Desilter Hours: Desander Hours:

W.L. F.C. pH. Solids.

Stands 2650.76 | Singles 6388 | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 10 | TOTAL 3403

REMARKS	Time Start	Stop	Interval	
RIG SERVICE + ✓ PIPE RAMS	4⁰⁰	4¹⁵	¼	
DRILL 8¾" HOLE	4¹⁵	9¹⁵	5	
DROP SURVEY AT 3400	9¹⁵	9⁴⁵	½	
TRIP OUT OF HOLE +	9⁴⁵	11⁰⁰	1¼	
Closed Blind Rams.				
Ran Collars + 1 std of P.P. IN Hole.	11:00	11:15	¾	
PREPARE TO SLIP DRILL LINE			¼	
			8	
HELD 5' MIN SAFETY MEET				
CHECKED BRAKE BLOCKS NEED REPLACED ON DRILLERS SIDE				

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick D. BELL	12
Motor C. COLLINS	12
Floor C. HENNIG	12
Floor D. HRDLICKA	12

Accidents NIL
Outside Temp. +10°
Weather Conditions OVERCAST
Road Conditions —

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
K. SOMMER	12
B. SIMPSON	12
F. DENEVE	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick K. COCHRANE	16
Motor B. STACHNIK	12
Floor G. KESLER	12
Floor J. COOLSON	12
(NOTE) K COCHRANE HELP DIG OUT ICE BRIDGES ON MAY 8/72	

Accidents NIL
Outside Temp. +10°
Weather Conditions OVERCAST
Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE MAY 8 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 14 LOCATION CANDEL MOBIL IROQUOIS 11-1

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 8 1972

Rig No. 8 Report No. 14

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
2772	100	2872	7 3/4	70M	5 / 16	6 1/4 / 6 1/8	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
8	8 3/4	RRG2BX	3-11	ZL-998	40	48	2671	2872	192	16 1/4			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: RAPIDRILL 4 SKS

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	8	✓
BOILER HRS.	8	

PUMPS		12 a.m.	2 a.m.	4 a.m.	6 a.m.
No. 1	Pressure	1000	→		
Model C 250	S.P.M.	55	→		
	Liner Size	5 1/2 X 14			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5 1/2 X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

Cement

W.L. F.C. pH. Solids

Stands 2204.89 | Singles | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down On Kelly 13 | TOTAL 2872

REMARKS	Time Start	Stop	Interval
RIG SERV ✓ KELLY COCK	12 00	12 15	1/4
DRLG	12 15	8 00	7 3/4
			8
HELD 5 MIN SAFETY MEETING			

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
2872	96	2968	7 1/4	70M	5 / 16	6 1/4 / 6 1/8	2 7/8	48			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
8	8 3/4	RRG2BX	3-11	ZL-998	40	48	2671	2968	297	24			DRILL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: At Surveys Degree 2920 1 1/2

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	NIL	

PUMPS		8 a.m.	10 a.m.	12 p.m.	2 p.m.
No. 1	Pressure	1000	1	1000	1000
Model C 250	S.P.M.	55		58	58
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5 1/2 X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

Cement

W.L. F.C. pH. Solids

Stands 2267.56 | Singles 3.76 | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 15 | TOTAL 2968

REMARKS	Time Start	Stop	Interval
RIG SERV + HYDRIL	8 00	8 15	1/4
DRLG	8 15	12 45	4 1/2
SURVEY AT 2920 1 1/2°	12 45	1 15	1/2
DRILL 8 3/4" HOLE	1 15	4 00	2 3/4
			8 HRS
			LEASE
			WELD
			MECH

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
2968	121	3089	7 3/4	74M	5 / 16	6 1/4 / 6 1/8	2 7/8	48			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
8	8 3/4	RRG2BX	3-11	ZL-998	45	40	2671	3089	418	31 3/4			DRILL

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: RAPIDRILL - 4 SKS

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	3 qts
2	8	2 qts
3		
Light Plant	8	3 qts
BOILER HRS.	3	

PUMPS		4 p.m.	6 p.m.	8 p.m.	10 p.m.
No. 1	Pressure	1000	1000	1000	1000
Model C 250	S.P.M.	58	58	58	58
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5 1/2 X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands 2362.72 | Singles 6.308 | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 10 | TOTAL 3089

REMARKS	Time Start	Stop	Interval
RIG SERVICE & PIPE RAMS	4 00	4 15	1/4
DRILL 8 3/4" HOLE	4 15	12 00	7 3/4
			8
HELD 5 MIN SAFETY MEET			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick D. BELL	12
Motor C. COLLINS	12
Floor D. HRDLICKA	12
Floor C. HENNIG	12

Accidents NIL

Outside Temp. + 10°

Weather Conditions CLEAR

Road Conditions —

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
K. SOMMER	12
B. SIMPSON	12
F. DENEVE	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick K. COCHRANE	12
Motor B. STACHNIK	12
Floor G. KESSLER	12
Floor J. COULSON	12

Accidents NIL

Outside Temp. +20°

Weather Conditions CLOUDY

Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE MAY 7 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 13 LOCATION CANDEL MOBIL IROQUOIS 11-1

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.	Stands	Singles
2542	88	2630	7¾	68M	5 16	6½ 6⅛	2⅞					1951.21	

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
7	8¾	RRG2BX	3-11	WF-216	40	48	2261	2630	369	29¾			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: 4# RADIO BILL

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2		✓
3	8	✓
Light Plant	8	✓
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	1000 →
Model C 350	S.P.M.	56 →
	Liner Size	5½ X 15
No. 2	Pressure	
Model 214 P	S.P.M.	
	Liner Size	5½ x 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

Stands 1951.21; Singles; D. Collars 126.01; Other Ft. 12.37; C.B. Ft. 1.30; Subs. Ft. 9.48; Ft. Down On Kelly 25; TOTAL 2630

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.	Stands	Singles
2630	54	2684	4	69M	5 16	6½ 6⅛	2¾					1982.97	31.65

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
7	8¾	RRG2BX	3-11	WF-216	40	48	2261	2671	410	22½			2.31
8	8¾	RRG2B	3-11	ZL-998	40	48	2671	2684	13	1¾			DRILL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	8.4	8.4		
VISCOSITY	28	28		
GEL				

Additives: At Surveys Degree 2650 1¾

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	8	✓
BOILER HRS.	Nil	

PUMPS		
No. 1	Pressure	1000
Model C 350	S.P.M.	58
	Liner Size	5½ X 15
No. 2	Pressure	
Model 214 P	S.P.M.	
	Liner Size	

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

Stands 1982.97; Singles 31.65; D. Collars 126.01; Other Ft. 12.37; C.B. Ft. 1.30; Subs. Ft. 9.48; Ft. Down on Kelly 17; TOTAL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.	Stands	Singles
2684	88	2772	7¾	70M	5 16	6½ 6⅛	2⅞	48				2078.21	63.59

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
8	8¾	RRG2B	3-11	ZL-998	40	48	2671	2772	101	9			DRILL

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	84	84	84	84
VISCOSITY	28	28	28	28
GEL				

Additives: RAPIDRIL - 4 SKS

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	—	

PUMPS		
No. 1	Pressure	1000 1000 1000 1000
Model C 350	S.P.M.	58 58 58 58
	Liner Size	5½ x 15
No. 2	Pressure	
Model 214 P	S.P.M.	
	Liner Size	5½ x 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands 2078.21; Singles 63.59; D. Collars 626.01; Other Ft. 12.37; C.B. Ft. 1.30; Subs. Ft. 9.48; Ft. Down on Kelly 41; TOTAL 2772

WORK RECORD

NOTE: Do Not Record Payroll Information Here

REMARKS	Time Start	Stop	Interval
RIG SERV ✓ MOTOR KILLS	12:00	12:15	¼
DRLG	12:15	8:00	7¾
HELD 5 MIN SAFETY MEETING			

With Pipe Without Pipe Standby

RIG SERV + ✓ PIPE RAMS	8:00	8:15	¼
DRLG	8:15	10:00	1¾
PUMP SURVEY	10:00	10:15	¼
HOIST	11:15	11:45	½
FIX BREAK OUT TONG LINE	11:45	12:30	¾
TRIP OUT BIT # 7	12:30	1:15	¾
TRIP IN BIT # 8	1:15	2:45	1½ LINE
DRILL 8¾" HOLE	2:45	4:00	1¼ WELD
			8 MECH

With Pipe Without Pipe Standby

RIG SERV & ✓ HYDRIL	4:00	4:15	¼
DRILL 8¾" HOLE	4:15	12:00	7¾
			8

HELD 5 MIN SAFETY MEET

With Pipe Without Pipe Standby

DATE MAY 7 1972

Rig No. 8 Report No. 13

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick D. BEAL	12
Motor C. COLLINS	12
Floor D. HROLICA	13
Floor C. HENNIG	12

Accidents NIL
Outside Temp. +15°
Weather Conditions CLEAR
Road Conditions

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
K. SOMMER	12
B. SIMPSON	12
F. DENEVE	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller A. PEDERSEN	12
Derrick K. COCHRANE	12
Motor B. STACHNIK	12
Floor G. KESSLER	16
Floor J. COULSON	16

Accidents NIL
Outside Temp. -40°
Weather Conditions CLEAR
Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE MAY 6 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 6 1972

Rig No. 8 Page No. 12 LOCATION CANOL MOBIL BRAVOIS 1-1

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
2261	112	2373	7½	67M	5 / 16	6¼ / 6½	2⅞				

Stands 169.63 | Singles | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down On Kelly 21 | TOTAL 2373

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	7	8¾	RRG2BX	3-11	WF216	40	45	2261	2373	112	7½			RUN
			RERUN											

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: 4# RAPIDRILL

At Surveys Degree: @2300 2°

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	8	✓
BOILER HRS.	8	

PUMPS					
No. 1	Pressure	1000	1000	1000	1000
Model C 250	S.P.M.	56	56	56	56
	Liner Size	5½ x 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5½ x 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

Cement

W.L. F.C. pH. Solids

REMARKS	Time Start	Stop	Interval
RIG SERV + ✓ KELLY COCK	12⁰⁰	12¹⁵	¼
DRLG	12¹⁵	4⁰⁰	3¾
SURVEY @ 2300 2°	4⁰⁰	4¹⁵	¼
DRLG	4¹⁵		
HELD 5 MIN SAFETY MEETING			

Rig No 8 Report No. 12

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick DALE BELL	12
Motor C. COLLINS	12
Floor D. HRDLICA	12
Floor CHAS HENNIG	12

Accidents NIL

Outside Temp. + 10°

Weather Conditions CLEAR

Road Conditions —

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
2373	83	2456	7¼	68M	5 / 16	6¼ / 6½	2⅞				

Stands 179.41 | Singles | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 9 | TOTAL 2456

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	7	8¾	RRG2BX	3-11	WF216	40	48	2261	2456	195	14¾			DRILL
			RERUN											

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives

At Surveys Degree: 2450 2°

MOTOR HOURS		Oil Added
1	8	
2		
3	8	
Light Plant	8	
BOILER HRS.	8	

PUMPS					
No. 1	Pressure	1000		1000	1000
Model C 250	S.P.M.	56		56	56
	Liner Size	5½ x 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5½ x 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

Cement

W.L. F.C. pH. Solids

REMARKS	With Pipe Start	Without Pipe Stop	Standby Interval
RIG SERV + ✓ PIPE RAMS	8⁰⁰	8¹⁵	¼
DRLG	8¹⁵	3¹⁵	7
SURVEY AT 2450 2°	3¹⁵	3⁴⁵	½
DRILL 8¾" HOLE	3⁴⁵	4⁰⁰	¼
			8

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
LEASE K. SOMMER	12
WELD B. SIMPSON	12
MECH F. DENEVE	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
2456	86	2542	7¾	68	5 / 16	6¼ / 6½	2⅞	48			

Stands 179.341 | Singles 63.49 | D. Collars 626.01 | Other Ft. 12.37 | C.B. Ft. 6.30 | Subs. Ft. 9.48 | Ft. Down on Kelly 31 | TOTAL 2542

BITS	No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
	7	8¾	RRG2BX	3-11	WF216	40	48	2261	2542	281	22½			DRILL

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: 4# RAPIDRILL

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	1 Gal
2	8	2 Gal
3		
Light Plant	8	3 Gal
BOILER HRS.	8	

PUMPS					
No. 1	Pressure	1000	1000	1000	1000
Model C 250	S.P.M.	56	56	56	56
	Liner Size	5½ x 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5½ x 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours.

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

REMARKS	With Pipe Start	Without Pipe Stop	Standby Interval
RIG SERVICE + ✓ HYDRIL	4⁰⁰	4¹⁵	¼
DRILL 8¾ HOLE	4¹⁵	12⁰⁰	7¾
			8
HELD 5 MIN SAFETY MEET			

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick K. COCHRANE	12
Motor B. STACHNIK	12
Floor G. KESLER	12
Floor J. COULSON	12

Accidents NIL

Outside Temp. 30°

Weather Conditions CLEAR

Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 5 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 11 LOCATION CANDEL MOBIL IRQUOIS 11-1

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 5 1972

Rig No. 8 Report No. 11

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
2141	81	2222	7¾	66M	5 / 16	6⅛ / 6⅛	2⅞ / 2⅞				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
6	8¾	RR62B	3-11	WF216	40	48	2141	2222	81	7¾			

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4	→		
VISCOSITY	28	→		
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3	7	✓
Light Plant	8	8
BOILER HRS.		8

PUMPS			
No. 1	Pressure	1000	→
Model C 250	S.P.M.	56	→
	Liner Size	5½ X 15	
No. 2	Pressure		
Model 214 P	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down On Kelly	TOTAL
1539.76		626.01	12.37	6.30	11.83	26	2222

REMARKS	Start	Stop	Interval
DRLG	12⁰⁰	3³⁰	3½
RIG SERV ✓ CROWN SAVER, MOTOR	3³⁰	3⁴⁵	¼
KILLS + BOP'S OK ✓ KELLY COCK			
DRLG	3⁴⁵	8⁰⁰	4¼
			8
CHANGED FUEL FILTERS IN			
#2 RIG ENGINE			
HELD 5 MIN SAFETY MEETING			

Time

With Pipe / Without Pipe / Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.		Hrs.
Driller	J. WEST	12
Derrick	J. TOKAR	12
Motor	G. FLATO	12
Floor	D HRDLIKA	12
Floor	K. LEGUERRIER	12

Accidents NIL

Outside Temp. +5°

Weather Conditions CLEAR

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
2222	39	2261	2¼	67M	5 / 16	6⅛ / 6⅛	2⅞ / 2⅞				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
6	8¾	RR62BX	3-11	WF216	40	48	2141	2261	120	16			

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	8.4	8.4		
VISCOSITY	28	28		
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	8	✓
BOILER HRS.		31.1

PUMPS			
No. 1	Pressure	1000	1000
Model C 250	S.P.M.	58	58
	Liner Size	5½ X 15	
No. 2	Pressure		
Model 214 P	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.; Cement

Pipe Strap - 2263.23
Tally 2262.08
1.12 Diff No Corr.

W.L. F.C. pH. Solids

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
1571.57		626.01	12.37	6.30	11.83	34	2261

REMARKS	Start	Stop	Interval	
✓ DRWKS BRAKES + DRILLING				
LINE + ESCAPE BUGGY + LINE	John	Mike		
ALL SATISFACTORY				
✓ ALL BREATING APPARATUS				
DRLG	8⁰⁰	8³⁰	½	
RIG SERV + ✓ PIPE RAM'S	8³⁰	8⁴⁵	¼	
DRLG	8⁴⁵	10³⁰	1¾	LUBE
CIRC + COND HOLE TO TEST	10³⁰	11³⁰	1	WELD
HOIST (SLM)	11³⁰	1⁰⁰	1½	MECH
MAKE UP TESTING TOOLS	1⁰⁰	2¹⁵	1¼	
TRIP IN WITH TEST #2	2¹⁵	4⁰⁰	1¾	
			8	

With Pipe / Without Pipe / Standby

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.		Hrs.
Driller		
Derrick		
Motor		
Floor		
Floor		
	K SOMMER	12
	B SIMPSON	12
	E DIENEVE	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	2 gts
2	8	
3		
Light Plant	8	2 gts
BOILER HRS.		8

PUMPS			
No. 1	Pressure		
Model	S.P.M.		
	Liner Size		
No. 2	Pressure		
Model	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

REMARKS	Start	Stop	Interval
TESTING	4⁰⁰	6⁴⁵	2¾
TRIP OUT TEST	6⁴⁵	8:30	1¾
BREAK DOWN TESTING TOOLS	8:30		
& LAY DOWN TAIL PIPE		9:45	1¼
TRIP IN WITH BIT # 7 (RR)	9.45	11:30	1¾
BREAK CIRCULATION & CONNECTION	11:30	12:00	½
			8
DST #2 2121 - 2261			
Preflow 5 min ISI 30 V.O 60 m FSI 60 min			
Recovered. 1300' fluid.			
BHT 84° F			

With Pipe / Without Pipe / Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.		Hrs.
Driller	L PEDERSEN	12
Derrick	K COCHRONE	16
Motor	B STACHNIK	16
Floor	G KESLER	12
Floor	J COULSON	12

Accidents NIL

Outside Temp. +25°

Weather Conditions CLEAR

Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 4 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 10 LOCATION CANDEL MOBIL FRANCIS 11-1

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
1737	193	1930	7½	58M	5 / 16	6¼ / 6⅛	2⅞				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	8¾	XSSR	3-11	38833	40	48	1010	1930	920	39			RUN

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives

At Surveys Degree	
@ 1800	1¾°

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	X	✓
BOILER HRS.		8

PUMPS		12 a.m.	2 a.m.	4 a.m.	6 a.m.
No. 1 Model C 250	Pressure	1000	✓	✓	✓
	S.P.M.	58	✓	✓	✓
	Liner Size	5½ X 15			
No. 2 Model 212 P	Pressure				
	S.P.M.				
	Liner Size	5½ X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down On Kelly	TOTAL
1256.37		626.01	12.37	4.35	9.48	29	1930

WORK RECORD

NOTE: Do Not Record Payroll Information Here

REMARKS	Time Start	Stop	Interval
RIG SERV + HYDRIL	12⁰⁰	12¹⁵	¼
DRLG	12¹⁵	3³⁰	3¼
SURVEY @ 1800 1¾°	3³⁰	3⁴⁵	¼
DRLG	3⁴⁵	8⁰⁰	4¼
			8
HELD BLOWOUT DRILL			

With Pipe Without Pipe Standby

DATE MAY 4 1972

Rig No. 8 Report No. 10

Tour — Midnight - 8 a.m. Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor D. HRDLICA	12
Floor K. LEGUERRIER	12

Accidents NIL

Outside Temp. +10°

Weather Conditions CLEAR

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
1930	163	2093	7¾	65M	5 / 16	6¼ / 6⅛	2⅞	50			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	8¾	XSSR	3-11	38833	40	48	1010	2093	1083	46¾			DRILL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	8.4	8.4	8.4	8.4
VISCOSITY	28	28	28	28
GEL				

Additives: 6 SKS RAPIDRILL

At Surveys Degree	

MOTOR HOURS		Oil Added
1	8	✓
2		✓
3	8	✓
Light Plant		8
BOILER HRS.		8

PUMPS		8 a.m.	10 a.m.	12 p.m.	2 p.m.
No. 1 Model C 250	Pressure	1000	1000	1000	1000
	S.P.M.	58	58	58	58
	Liner Size	5½ X 15			
No. 2 Model 212 P	Pressure				
	S.P.M.				
	Liner Size	5½ X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
1414.85		626.01	12.37	4.35	9.48	27	2093

With Pipe	Without Pipe	Standby
RIG SERV + ✓ KELLY COCK	8⁰⁰ 8¹⁵	¼
DRLG	8¹⁵ 4⁰⁰	7¾
		8
Pick up Roller Reamer on May 4		

Tour — 8 a.m. to 4 p.m. Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor B STACHANK (RELEASE)	12
Floor K SOMMIER (RELEASE)	12
B SIMPSON (WELD)	12
F DENEVE (MACH)	12.

Accidents

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
2093	48	2141	4	66M	5 / 16	6¼ / 6⅛	2⅞	50			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	8¾	XSSR	3-11	38833	40	48	1010	2141	1131	50¾			8 1
6	8¾	RRG 2 B	3-11	WF-216									

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	8.4	8.4	8.4	0
VISCOSITY	28	28	28	
GEL				

Additives: RAPIDRILL - 8 LBS

At Surveys Degree	
2130	2¾

MOTOR HOURS		Oil Added
1	8	1 GAL
2	8	
3		
Light Plant	8	2 gal
BOILER HRS.		8

PUMPS		4 p.m.	6 p.m.	8 p.m.	10 p.m.
No. 1 Model C 250	Pressure	1000	1000	1000	
	S.P.M.	58	58	58	
	Liner Size	5½ X 15			
No. 2 Model 212 P	Pressure				
	S.P.M.				
	Liner Size	5½ X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
1414.85		627	12.37	4.35	9.48	14	2141

With Pipe	Without Pipe	Standby
RIG SERV & CLOSE HYDRIL	4.00	
BY REMOTE. WORKING O.K.	4¹⁵	¼
DRILL 8¾" HOLE	4¹⁵ 8¹⁵	4
DROP SURVEY & TRIP OUT.	8¹⁵ 10⁰⁰	1¾
MAKE UP BIT #6 & CHANGE	10⁰⁰	
STABILIZERS AROUND. @ 60' FROM		
BOTTOM & STABILIZER 30'.	10.30	½
TRIP IN WITH BIT #6	10 30 11 30	1
WORKING JUNK SUB.	11 30 12:00	½
HELD 5' MIN SAFETY MEET		8
CHECKED ALL FIRE EXTINGUISHERS O.K.		

Tour — 4 p.m. to Midnight Specify actual hours worked.	Hrs.
Driller L PEDERSEN	12
Derrick H MACKAY	12
Motor K COCHRANE	12
Floor V TOKAR	12
Floor G. KESLER	12

Accidents NIL

Outside Temp. 20°

Weather Conditions CLOUDY

Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 3 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 9 LOCATION CANDEL MOBIL IRQUOIS 1-11

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
1184	172	1356	7 3/4	55M	5	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	8 3/4	XSSR	3-11	38833	40	48	1010	1356	346	7 1/4			

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down On Kelly	TOTAL
68994		626.01	12.37	4.35	9.48	14	1356

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.4	—	—	—
VISCOSITY	28	—	—	—
GEL				

Additives: 8 LBS RAPIDRILL

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	8	✓
BOILER HRS.	8	

PUMPS		12 a.m.	2 a.m.	4 a.m.	6 a.m.
No. 1	Pressure	1000	✓	✓	✓
Model C 250	S.P.M.	58	✓	✓	✓
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 214	S.P.M.				
	Liner Size	5 1/2 X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod. / Cement

W.L. F.C. pH. Solids

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
1356	178	1534	7 1/2	58M	5	6 1/4	2 7/8	50			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	8 3/4	XSSR	3-11	38833	40	48	1010	1534	524	23 3/4			DRILL

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
84739		626.01	12.37	4.35	9.48	35'	1534

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT	8.4	8.4	8.4	84
VISCOSITY	28	28	28	28
GEL				

Additives: At Surveys Degree 1° 1385

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS		8 a.m.	10 a.m.	12 p.m.	2 p.m.
No. 1	Pressure	1000	1000	1000	1000
Model C 250	S.P.M.	58	58	58	58
	Liner Size	5 1/2 X 18			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size				

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod. / Cement

W.L. F.C. pH. Solids

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
1534	203	1737	7 3/4	58	5	6 1/4	2 7/8	50			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	8 3/4	XSSR	3-11	38833	40	48	1010	1737	727	31 1/2			DRILL

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
103645	3070	626.01	12.37	4.35	9.48	18	1737

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	84	84	84	84
VISCOSITY	28	28	28	28
GEL				

Additives: 12 LBS - RAPIDRILL

DESILTER - SECTION - 8.5

RETURN - 8.4

DISCHARGE - 8.6

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	1 GAL
3		
Light Plant	8	2 QTS.
BOILER HRS.	8	

PUMPS		4 p.m.	6 p.m.	8 p.m.	10 p.m.
No. 1	Pressure	1000	1000	1000	1000
Model C 250	S.P.M.	58	58	58	58
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5 1/2 X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

WORK RECORD

NOTE: Do Not Record Payroll Information Here

REMARKS	Time Start	Stop	Interval
RIG SERV + ✓ BOP	12 00	12 15	1/4
DRLG	12 15	8 00	7 3/4
			8

With Pipe Without Pipe Standby

REMARKS	Start	Stop	Interval	
RIG SERV + ✓ MOTOR KILLS	8 00	8 15	1/4	
DRLG	8 15	10 30	2 1/4	
SURVEY @ 1385 1°	10 30	10 45	1/4	
DRLG	10 45			
DRILL 8 3/4" HOLE		4 00	5 1/4	LUBE
			8	REPAIR
				WELD
				MECH

With Pipe Without Pipe Standby

REMARKS	Start	Stop	Interval
RIG SERVICE + CLOSE PIPE RAMS			
WORKING OK.	4 00	4 15	1/4
DRILL 8 3/4" HOLE	4 15	12:00	7 3/4
			8
HELD 5' MIN SAFETY MEETING.			
CHECKED ESCAPE LINE + BUGGY. O.K.			

With Pipe Without Pipe Standby

DATE MAY 3 1972

Rig No. 8 Report No. 9

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor K. LEGUERREIR	12
Floor D. HERDLICA	12

Accidents NIL

Outside Temp. +15

Weather Conditions CLEAR

Road Conditions —

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor B. STACHAUK	12
Floor K. SOMMER	12
B. SIMPSON	12
E. DENIEVE	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller I. PEDERSEN	12
Derrick H. MACKOW	12
Motor K. COCHRONE	12
Floor V. TOKAR	12
Floor G. KESLER	12

Accidents NIL

Outside Temp. 30°

Weather Conditions CLEAR

Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE MAY 2ND 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 2ND 1972

Rig No. 8 Page No. 8 LOCATION CANDEL MOBIL IROQUOIS 11-1

Rig No. 8 Report No. 8

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
1010				55M	5 / 16	6 1/4 / 6 1/2	2 7/8				

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down On Kelly	TOTAL
281.96	63.72	626.01	12.37	4.35	9.48	13	1010

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
4	8 1/4	ODV	3-11	16694	40	80	819	1010	191	10			6-5-1

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	✓
2	8	✓
3		✓
Light Plant	8	✓
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	1100
Model C 250	S.P.M.	54
	Liner Size	5 1/2 X 15
No. 2	Pressure	
Model 214 P	S.P.M.	
	Liner Size	5 1/2 X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

REMARKS	Time Start	Stop	Interval
RIG SERV + ✓BOP EQUIP	12 00	12 15	1/4
CIRC + CONDITOIN HOLE F/TEST	12 15	1 00	3/4
DUMMY TRIP (HOLE GOOD)	1 00	1 30	1/2
CIRC	1 30	2 00	1/2
TRIP OUT TO TEST (SLM)	2 00	3 30	1 1/2
PICK UP 4 3/4" DC'S F/TAIL PIPE +	3 30		
MAKE UP PACKER + RIG UP			
TO RUN DST		5 45	2 1/4
RUN IN HOLE	5 45	6 45	1
HEAD UP + RUN DST #1	6 45	8 00	1 1/4

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller J. WEST	12
Derrick J TOKAR	12
Motor G. FLATO	12
Floor K. LEGUERRIER	12
Floor D. HRDLICA	12

Accidents NIL
Outside Temp. +15°
Weather Conditions CLEAR
Road Conditions ——

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
1010	20	1030	3/4	55	5 / 16	6 1/4 / 6 1/2	2 7/8	50			

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
281.96	63.72	626.01	12.37 A COLLAR	STAB 4.35	9.48	33	1030

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	8 3/4	X55R	3-11	38833	40	70	1010	1030	20	3/4			

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT		TRIP		8.4
VISCOSITY				27
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS		
No. 1	Pressure	1000
Model C 250	S.P.M.	58
	Liner Size	5 1/2 X 15
No. 2	Pressure	
Model 214 P	S.P.M.	
	Liner Size	5 1/2 X 14

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

REMARKS	Time Start	Stop	Interval	
DRILL STEM TEST #1	8 00	11 45	3 3/4	
PULL OUT	11 45	1 00	1 1/4	
BREAK DOWN TEST TOOL.	1.00	2.15	1 1/4	
TRIP IN WITH BIT #5	2.15	3 15	1	
DRILL 8 3/4" HOLE	3 15	4 00	3/4	LEASE
			8	LEASE
DST #1 900'-1010'				WELD
Times Preflow 5min ISI 1hr FLOW 90min FSI 90 min				MECH.
Recovered 890' fluid				
Temp. 80°F				

With Pipe Without Pipe Standby

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor B STACHNIK	12
Floor K SOMMER	12
R. SIMPSON	12
NEVE	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
1030	134	1184	7 3/4	55	5 / 16	6 1/4 / 6 1/2	2 7/8	50			

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
471.75	30.76	626.01	12.37 A COLLAR	STAB 4.35	9.48	30	1184

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	8 3/4	X55R	3-11	38833	40	48	1010	1184	174	8 1/4			DRILL

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	84	84	84	84
VISCOSITY	27	27	27	27
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	1 GAL
BOILER HRS.	8	

PUMPS					
No. 1	Pressure	1000	1000	1000	1000
Model C 250	S.P.M.	58	58	58	58
	Liner Size	5 1/2 X 15			
No. 2	Pressure				
Model 214 P	S.P.M.				
	Liner Size	5 1/2 X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

REMARKS	Time Start	Stop	Interval
DRILL 8 3/4" HOLE	4 00	4 15	1/4
RIG SERVICE & CONNECTION	4 15	4 30	1/4
DRILL 8 3/4" HOLE	4 30	12 00	7 1/2
			8
HELD 5' MIN SAFETY MEET.			

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L PEDERSEN	12
Derrick H MACKOW	12
Motor K COCHRANE	12
Floor H TOKAR	12
Floor G KIESLER	12

Accidents NIL.
Outside Temp. -35°
Weather Conditions CLEAR
Road Conditions ——

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE MAY 1ST 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. ~~8~~ 7 LOCATION CANOEL MOBIL OIL 1-11

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE MAY 1ST 1972

Rig No. 8 Report No. ~~8~~ 7

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
					19	6 1/4	2 7/8				

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
4	8 3/4	ODV	3-11	16694									

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree:

MOTOR HOURS		Oil Added
1	8	
2		
3		
Light Plant	8	
BOILER HRS.	8-8	

PUMPS					
No. 1	Pressure				
	Model	S.P.M.			
		Liner Size			
No. 2	Pressure				
	Model	S.P.M.			
		Liner Size			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod. / Cement

W.L. F.C. pH. Solids

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down On Kelly	TOTAL

REMARKS	Time Start	Stop	Interval
TRIP IN TO drill CEMENT	12:00	1:00	1
PRESS. TEST Hydril & 3 1/2 PIPE RAMS	1:00		
1400# P.S.I FOR 15 MIN BACK held O.K		2:00	1
drill CEMENT Plug FLOAT & Shoe	2:00		
Plug @ 654 ft. B FLOAT @ 660 Shoe @ 704 ft. B Clean To 819 ft.		7:00	5
TRIP OUT FOR Stabilizers.	7:00	8:00	1
Checked Motor Shut offs O.K.			
Checked Crown Savers. OK.			

With Pipe / Without Pipe / Standby

Tour — Midnight - 8 a.m. Specify actual hours worked.	Hrs.
Driller JERRY WEST	12
Derrick JOHN TOKAR	12
Motor GENE FLATO	12
Floor KEN [illegible]	12
Floor DAVE [illegible]	12

Accidents NIL
Outside Temp. 0°
Weather Conditions OVERCAST
Road Conditions GOOD

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
819	29	848	3	52	5 16	6 1/4	2 7/8	50			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
4	8 3/4	ODV	3-11	16694	45	80	819	848	29	3			DRILL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY		0	WATER	
GEL		2#		

Additives: At Surveys Degree:

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS					
No. 1	Pressure	1		1100	1100
	Model C 250	S.P.M.		54	54
		Liner Size	5 1/2 X 15		
No. 2	Pressure				
	Model 2 HP	S.P.M.			
		Liner Size	5 1/2 X 14		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod. / Cement

W.L. F.C. pH. Solids

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL
9353	6255	626.01	12.37 D COLLAR	STAB 4.35	9.48	41	848

REMARKS	Time Start	Stop	Interval	
TRIP OUT TO PICK UP	8:00			
STABILIZERS. (COLLARS TIGHT)		9:00	1	
TRIP IN & BREAK DOWN ALL	9:00			
COLLARS TO GIVE DROPPER				
TOURQUE - Service Collars		1:00	4	LEASE
DRILL 8 3/4" HOLE	1:00	4:00	3	LEASE
			8	WELD
				MECH

With Pipe / Without Pipe / Standby

Tour — 8 a.m. to 4 p.m. Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor B STACHNIK	12
Floor K SOMMER	12
B SIMPSON	13
F DENIEVE	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
848	162	1010	7	55	5 16	6 1/4	2 7/8	50			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
4	8 3/4	ODV	3-11	16694	40	80	819	1010	191	10			DRG

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT	8.5	8.5	8.5	8.4
VISCOSITY	27	27	27	27
GEL				

Additives: At Surveys Degree: 990 1/2

MOTOR HOURS		Oil Added
1	8	
2	8	1.45
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS						
No. 1	Pressure	1100	1100	1100	1100	
	Model C 250	S.P.M.	54	54	54	54
		Liner Size	5 1/2 X 15			
No. 2	Pressure					
	Model 2 HP	S.P.M.				
		Liner Size	5 5 X 14			

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down Kelly	TOTAL
28196	6372	626.01	12.37 D COLLAR	STAB 4.35	9.48	13	1010

REMARKS	Time Start	Stop	Interval
DRILL 8 3/4" HOLE	4:00	4:45	3/4
CONNECTION & RIG SERVICE. 3 1/2 Pipe	4:45	5:00	1/4
DRILL 8 3/4" HOLE	5:00	11:00	6
SURVEY AT 990 FT 1/2°	11:00	11:30	1/2
DRILL 8 3/4" HOLE	11:30	11:45	1/4
CIRC SAMPLE FROM BOTTOM	11:45	12:00	1/4
			8
HELD 5 MIN SAFETY MEET.			

With Pipe / Without Pipe / Standby

Tour — 4 p.m. to Midnight Specify actual hours worked.	Hrs.
Driller L PEDERSEN	12
Derrick H MACKAY	12
Motor K COCHRANE	12
Floor V TOKAR	12
Floor G KESLER	12

Accidents NIL
Outside Temp. 25°+
Weather Conditions CLEAR
Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Miller

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Miller

Approved by .....

DATE April 30 19 72

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE April 30 19 72

Rig No. 8 Page No. 12 LOCATION Cardal

Rig No. 8 Report No. 12

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2		
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS			
No. 1	Pressure		
Model	S.P.M.		
	Liner Size		
No. 2	Pressure		
Model	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
SLACK OFF & NIPPLE UP.	12 00	8 00	8

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS			
No. 1	Pressure		
Model	S.P.M.		
	Liner Size		
No. 2	Pressure		
Model	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval	
NIPPLE UP	8:00	4:00	8	
				WELD
				MECH

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL 2 Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives

At Surveys Degree

MOTOR HOURS		Oil Added
1		
2		
3		
Light Plant		
BOILER HRS.		

PUMPS			
No. 1	Pressure		
Model	S.P.M.		
	Liner Size		
No. 2	Pressure		
Model	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval	
RIG UP TO DRILL MOUSE	4:00			
HOLE WITH 8 3/4" BIT.		6.00	2	
DRILL MOUSE HOLE SLOUGHING	6.00			
IN.		6.30	1/2	
RIG UP BUCKET & DRILL	6.30			
MOUSE HOLE WITH 20" BUCKET.		9.00	2 1/2	
RIG UP FLOOR AND PRESURE	9.00			
TEST BLIND RAMS. FOR				LEAKS
15 MINUTES AT 1400 P.S.I.		12 00	3	LINE
Held O.K.			8	

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller S. CHABOT	12
Derrick T. TOKAR	12
Motor G. FIAED	12
Floor H. LEGUERRIER	12
Floor E. APRIL 29-72	
Driller TERRY WEST	8
Floor DAVE Hrdlicka	8
Hooked & GET to Rig	FROM
Accidents NORMAN WELLS due	
Outside Temp. To bad weather	H.M
Weather Conditions	2
Road Conditions	

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller TERRY WEST	12
Derrick S	
Motor	
Floor ~~DAVE~~ HRDLICKA	12
Floor TRAVEL TO Rig & Work.	H.M
B. SIMPSON	15
F. DENEVE	12
Accidents	
Outside Temp.	
Weather Conditions	
Road Conditions	

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	15
Derrick H. MACKDIN	12
Motor K. COCHRANE	12
Floor U. TOKAR	12
Floor G. KESLER	12
B. STACHNIK	12
K. SOMMER	12
Accidents NIL	
Outside Temp. 15°	
Weather Conditions CLEAR	
Road Conditions —	

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE April 29 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 10 LOCATION Canada Mobil Oil Erquhis 1-11

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
685	19	704	1¼	50	19	6½	2⅞	45			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	12¼	Reamer		845-13	70	110	78	689	606	20½			4-8-I
~~6~~	~~12¼~~	~~Reamer~~			~~70~~	~~110~~	~~689~~	~~704~~	~~7~~	~~½~~			

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY	48		48	
GEL				

Additives

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2	8	
3		
Light Plant	9	
BOILER HRS.	8	

PUMPS					
No. 1	Pressure	350		350	
Model	S.P.M.	68		68	
	Liner Size	5½x5			
No. 2	Pressure				
Model	S.P.M.				
	Liner Size				

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands	94.16
Singles	
D. Collars	565.61
Other Ft.	R. 1.60
C.B. Ft.	
Subs. Ft.	9.16
Ft. Down On Kelly	41
TOTAL	704

WORK RECORD

NOTE: Do Not Record Payroll Information Here

REMARKS	Time Start	Stop	Interval	
Ream 8¾ To 12¼	12:00	12:45	¾	
Rig Ser.	12:45	1:00	¼	
Trip For Reamer 5.L.M	1:00	4:00	3	
Ream 8¾ To 12¼	4:00	4:30	½	
Cir.	4:30	5:00	½	
Hoist	5:00	6:50	1½	
Rig To Run Casing	6:30	7:00	½	
Run 9⅝ Casing	7:00	8:00	1	

With Pipe Without Pipe Standby

Ran 9⅝ Csg	8:00	9:30	1½	
Cir. 9⅝ Csg	9:30	10:15	¾	
Work on Cement unit	10:15	11:00	¾	
Rig up To Cement	11:00	11:15	¼	
Cement 9⅝ Csg	11:15	11:45	½	LINSIS
displace Cement + Plug down Plug.	11:45	12:00	¼	LANSE
W.O.C & Clean Mud Tanks & Cut	12:00	4:00	4	WELD
Conductor Pipe.				MECH

Ran 9⅝ Csg. A Total of 724.91 ft w/ Float & Guide Shoe Landed @ 704 K.B Csg. Make Mannesmann Grade J 55 Wt. 36 lb. Rge 3 S.T.C 8rd. Thread Ran 4 Center Bizcas 1 in middle & below 1 ft. Ground Collar on to 2nd joint on

With Pipe Without Pipe Standby

Collar & 3rd joint + on Collar in 9th ft. Cemented w/ 350 Sacks of Fondu Cement. displaced Plug w/ water. Got 16 barrels Cement Returns. Plug down @ 12:04 P.M on April 29. 1972.				
W.O.C + Dumped + Cleaned	4:00			
Tanks + Filled with Water				Derrick
Primed Pumps, Rig up				
To Pick up B.O.P.S		1200		
		8		

With Pipe Without Pipe Standby

DATE April 29 1972

Rig No. 8 Report No. 11

Tour — Midnight - 8 a.m. Specify actual hours worked.	Hrs.
Driller ~~S. Chabot~~	
Derrick J. Tokar	12
Motor G. Flato	12
Floor K. Leguerrier	12
Floor S. Chabot	12

Accidents NIL

Outside Temp. 5°

Weather Conditions Snow

Road Conditions

Tour — 8 a.m. to 4 p.m. Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor B. Stachnik	12
Floor K. Sommer	12
B. Simpson	~~12~~ 14
F. Dieneve	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 4 p.m. to Midnight Specify actual hours worked.	Hrs.
Driller L. Pedersen	12
Derrick ~~S. Chabot~~	
Motor ~~R. Chabot~~	
Floor V. Tokar	12
Floor G. Kesler	12
H. Mackow	12

Accidents NIL

Outside Temp. 10°

Weather Conditions Cloudy + Snowing

Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 28 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 9 10 LOCATION CANDEL MOBIL OIL IROQUIS 1-11

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
78	207	285	5¼	30	5 / 3	6½ / 6½	2⅞ / 2⅞	30			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	12¼	REAMER	—	845-P	30	90	78	285	207	5¼			REAM

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY		62	64	64
GEL				
PUMPS No. 1 Pressure		250	350	350
Model C-250 S.P.M.	68	68	68	68
Liner Size	5½ + 15			
No. 2 Pressure				
Model 21½ S.P.M.				
Liner Size	5½ + 14			

Additives | At Surveys Degree | MOTOR HOURS 1: 8, 2: 8, 3: | Oil Added | Light Plant 8 | BOILER HRS. 8

Stands | Singles | D. Collars 244 | Other Ft. | C.B. Ft. | Subs. Ft. 9.48 | Ft. Down On Kelly 41 | TOTAL 285

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
285	240	525	6½	41	5 / 4	6½ / 6½	2⅞ / 2⅞	41			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	12¼	REAMER	—	845-P	30	180	78	525	447	11¾			REAM

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY	63	64	64	61
GEL				
PUMPS No. 1 Pressure	350	350	350	350
Model C-250 S.P.M.	68	68	68	68
Liner Size	5½ X 15			
No. 2 Pressure				
Model 21½ S.P.M.				
Liner Size	5½ X 14			

Additives | At Surveys Degree | MOTOR HOURS 1: 8, 2: 8, 3: | Oil Added | Light Plant 8 | BOILER HRS. 8

Stands | Singles | D. Collars 474.25 | Other Ft. 1.60 REAMER | C.B. Ft. | Subs. Ft. 8.16 | Ft. Down on Kelly 41 | TOTAL

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.; Cement

W.L. F.C. pH. Solids

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
525	160	685	7½	50	5 / 4	6½ / 6½	2⅞ / 2⅞	45			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
5	12¼	REAMER	—	845-P	30	110	78	685	607	17¼			REAM
													565.51

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY	63	56	57	48
GEL				
PUMPS No. 1 Pressure	350	350	350	350
Model C-250 S.P.M.	68	68	68	68
Liner Size	5½ X 15			
No. 2 Pressure				
Model 21½ S.P.M.				
Liner Size	5½ X 14			

Additives | At Surveys Degree | MOTOR HOURS 1: 8, 2: 8, 3: | Oil Added | Light Plant 8 | BOILER HRS. 8

Stands 94.16 | Singles | D. Collars 565.51 | Other Ft. 1.60 REAMER | C.B. Ft. | Subs. Ft. 8.16 | Ft. Down on Kelly 24 | TOTAL 685

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.; Cement

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

WORK RECORD

NOTE: Do Not Record Payroll Information Here

REMARKS	Time Start	Stop	Interval
FINISH PULLING OUT COLLARS	12⁰⁰	12³⁰	½
LAY DOWN COLLAR + STAB +	12³⁰		
INSTALL REAMER			
WELD STRAPS ON REAMER	1⁰⁰	1³⁰	½
~~RIG SERVICE RUN IN WITH~~	1³⁰		
~~REAMER + BREAK CIRC~~		2⁰⁰	½
~~REAM 12¼" HOLE~~	2⁰⁰	4³⁰	2½
LAY 2 SINGLES DOWN + PICK 1 STAND COLLARS	4³⁰	5⁰⁰	½
REAM 12¼" HOLE	5⁰⁰	7³⁰	2½
LAY DOWN 2 SINGLES AND RUN IN	7³⁰	7⁴⁵	¼
STAND COLLARS REAM	7⁴⁵	8⁰⁰	¼
HELD 5 MIN SAFETY MEETING			
With Pipe / Without Pipe / Standby			8
REAM 8¾" HOLE TO 12¼" HOLE	8⁰⁰	9¹⁵	1¼
LAY 2 SINGLES DOWN RUN	9.15		
IN STAND COLLARS		9.45	½
REAM 8¾" HOLE TO 12¼" HOLE	9.45	12³⁰	2¾
LAY 2 SINGLES DOWN + RUN	12.30		LEAKS
IN STAND COLLARS.		1.00	½ LEAKS
REAM 8¾" HOLE TO 12¼" HOLE	1.00	3.30	2½ WELD
LAY 2 SINGLES DOWN + RUN	3.30		MECH
IN STAND COLLARS		4.00	½
With Pipe / Without Pipe / Standby			8
REAM 8¾" HOLE TO 12¼" HOLE	4.00	8⁰⁰	4
LAY 2 SINGLES DOWN RUN	8.00		
IN STAND COLLARS		8³⁰	½
REAM 8¾" HOLE TO 12¼" HOLE	8:30	12:00	3½
With Pipe / Without Pipe / Standby			8
HELD 5 MIN SAFETY MEETING			
With Pipe / Without Pipe / Standby			

DATE APRIL 28 1972

Rig No. 8 Report No. 10

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor K. LEFAVERRIER	12
Floor	

Accidents NIL
Outside Temp. +5°
Weather Conditions CLEAR
Road Conditions —

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor B. STACHNIK	12
Floor K. SOMMER	12
B SIMPSON	12
F. DENEVE	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	16
Derrick H. MACKOW	16
Motor	
Floor V. TOKAR	12
Floor G. KESSLER	12

Accidents NIL
Outside Temp. 10°
Weather Conditions CLOUDY
Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature] Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 27 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE APRIL 27 1972

Rig No. 8 Page No. 9 LOCATION CANDEL MOBIL OIL IROQUIS 1-11

Rig No. 8 Report No. 9

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
561	101	662	7¼	48 m	5 / 14	6¾ / 6⅝	2⅞ / 2⅞	45			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
3	8¾	ODV	2-12-1-13	14702	30	90	424	662	238	18			DRLG

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY	51	52	50	53
GEL				

Additives:

At Surveys Degree: 620 ¾°

MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8; BOILER HRS. 8

Oil Added:

PUMPS					
No. 1	Pressure	1200	"	1200	"
Model C 250	S.P.M.	68	"	68	"
	Liner Size	5½	"	15	
No. 2	Pressure				
Model 21/P	S.P.M.				
	Liner Size	5½	"	14	

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands; Singles 30.84; D. Collars 566.51; Other Ft. & Collar 12.37; C.B. Ft. Stab 4.35; Subs. Ft. 9.48; Ft. Down On Kelly 41; TOTAL 662

REMARKS	Time Start	Stop	Interval
DRILL 8¾" HOLE	12 00	12 45	¾
RIG SERVICE & CONNECTION	12 45	1 00	¼
DRILL 8¾" HOLE	1 00	5 30	4½
SURVEY AT 620 FT. ¾°	5 30	6 00	½
DRILL 8¾" HOLE	6 00	8 00	2
			8
HELD 5 MIN SAFETY MEETING			

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
662	85	747	7¼	48	5 / 14	6¾ / 6½	2⅞	45			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
3	8¾	ODV	2-3 1-15	14702	30	90	424	747	323	25¼			DRILL

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY			60	60
GEL				

Additives:

At Surveys Degree: 650 ¾°; 710 ¼°

MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8; BOILER HRS. 8

Oil Added:

PUMPS					
No. 1	Pressure			1200	1200
Model C 250	S.P.M.			68	68
	Liner Size	5½	x	15	
No. 2	Pressure				
Model 21/P	S.P.M.				
	Liner Size	5½	x	14	

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands 93.53; Singles 31.75; D. Collars 566.51; Other Ft. & Collar 12.37; C.B. Ft. Stab 4.35; Subs. Ft. 9.48; Ft. Down on Kelly 31; TOTAL 747

REMARKS	Time Start	Stop	Interval	
DRILL 8¾" HOLE	8 00	8 15	¼	
SURVEY AT 650 FT. ¾°	8 15	8 30	¼	
DRILL 8¾" HOLE	8 30	1 45	5¼	
SURVEY AT 710 ¼° & RIG SERVICE	1 45	2 15	½	
DRILL 8¾" HOLE	2 15	4 00	1¾	FENCE
			8	FARE
				WELD
				MECH

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
747	72	819	5½	50	5 / 14	6¾ / 6½	2⅞	45			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
3	8¾	ODV	2-13-1-15	14702	30	90	424	750	326	25½			361
11 (AR)	8¾	DT 2	OUT	37621	30	90	750	819	69	5¼			

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				92
VISCOSITY	58	?	64	65
GEL		?		

Additives: GEL - 10 SKS

At Surveys Degree:

MOTOR HOURS: 1 8; 2 8 - 2 gals; 3; Light Plant 8 2 gals; BOILER HRS. 8

Oil Added:

PUMPS					
No. 1	Pressure	1200	?	400	400
Model C 250	S.P.M.	68		68	68
	Liner Size	5½	x	15	
No. 2	Pressure				
Model 21/P	S.P.M.				
	Liner Size	5½	x	14	

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands 186.96; Singles; D. Collars 566.51; Other Ft. & Collar 12.37; C.B. Ft. Stab 4.35; Subs. Ft. 9.48; Ft. Down on Kelly 41; TOTAL 819

REMARKS	Time Start	Stop	Interval
DRILL 8¾" HOLE	4 00	4 15	¼
TRIP OUT BIT #3 ODV.	4 15	5 00	¾
RIG SERVICE	5 00	5 15	¼
TRIP IN BIT #4 DT2.	5 15	6 15	1
DRILL 8¾" HOLE	6 15	11 30	5¼
SURVEY AT 800. ½°	11 30	11 45	¼
LAY DOWN 5 SINGLES	11 45	12 00	¼
			8
HELD 5 MIN SAFETY MEET			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor H. MACKOW	12
Floor K. LEGUERRIER	12

Accidents NIL

Outside Temp. +5°

Weather Conditions Clear

Road Conditions —

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor K. STACHOWIK	12
Floor M. SOKOLOWSKI	12
B. SIMPSON	12
F. DENEVIE	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick S. CHABOT	12
Motor P. GAUDANO	12
Floor V. TOKAR	12
Floor G. KESLER	12

Accidents NIL

Outside Temp. 20°

Weather Conditions CLEAR

Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature] Toolpusher [signature]

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 26 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 8 LOCATION CANADEL MOBIL OIL TRAVOLS 1-11

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE APRIL 26 1972

Rig No. 8 Report No. 8

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.	Stands	Singles
272	119	391	6 1/4	32	5 / 6	6 1/4 / 6 1/8	2 1/4 / 2 3/8	30					

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
2	8 3/4	DT-2	—	37621	20	110	127	391	264	14 1/2			

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY	65	68	66	67
GEL				

Additives:

At Surveys Degree		MOTOR HOURS		Oil Added
300	1/2°	1	8	
350	1/4°	2	8	
		3		
		Light Plant	8	
		BOILER HRS.	8	

PUMPS					
No. 1	Pressure	50	50	50	100
Model 5-250	S.P.M.	56	56	56	56
	Liner Size	5 1/2	+ 15		
No. 2	Pressure				
Model 2 1/2 P	S.P.M.				
	Liner Size				

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands; Singles; D. Collars 324.78; Other Ft. Collars 12.37; C.B. Ft. STAB 4.35; Subs. Ft. 9.48; Ft. Down On Kelly 41; TOTAL 391.36

REMARKS	Time Start	Stop	Interval	
DRILL 8 3/4" HOLE	12 00	1 15	1 1/4	
RIG SERVICE + SURVEY 390-1/2°	1 15	1 45	1/2	
DRILL 8 3/4" HOLE	1 45	2 45	1	
PUT ON + TIGHTEN BELTS ON	2 45			
AIR COMPRESSOR + WATER PUMP		3 00	1/4	
DRILL 8 3/4" HOLE	3 00	5 15	2 1/4	
CONNECTION + SURVEY 350-1/4°	5 15	5 45	1/2	
CIRC + REAM BACK TO BOTTOM	5 45	6 15	1/2	
DRILL 8 3/4" HOLE	6 15	7 00	1 3/4	
			8	
HELD 5 MIN SAFETY MEETING				

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor H. MACKOW	12
Floor K. LEGUERRIER	12

Accidents NIL

Outside Temp. +10°

Weather Conditions SNOW

Road Conditions —

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.	Stands	Singles
391	76	467	5	38	5 / 6	6 1/4 / 6 1/8	2 3/8 / 2 3/8	38					

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
2	8 3/4	DT-2	—	37621	20	110	127	424	307	16 1/2			2-2-1/16
3	8 3/4	ODV	3-12-1-13	14702	25	90	424	467	43	3 3/4			DRLG

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY			54	55
GEL				

Additives:

At Surveys Degree		MOTOR HOURS		Oil Added
440	1/2°	1	8	
		2	8	
		3		
		Light Plant	8	
		BOILER HRS.	8	

PUMPS					
No. 1	Pressure			750	750
Model C-250	S.P.M.			64	64
	Liner Size	5 1/2	X 15		
No. 2	Pressure				
Model 2 1/2 P	S.P.M.				
	Liner Size	5 1/2	X 14		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands; Singles; D. Collars 415.50; Other Ft. Collar 12.37; C.B. Ft. STAB - 4.35; Subs. Ft. 9.48; Ft. Down on Kelly 26; TOTAL 467

REMARKS	Time Start	Stop	Interval	
DRILL 8 3/4" HOLE	8 00	9 45	1 3/4	
WORK TIGHT HOLE	9 45	10 15	1/2	
PULL OUT DRILL COLLARS + BIT	10 15	11		
RUN IN WITH BIT #3		11 45	1 1/2	
REAM TO BOTTOM	11 45	12 15	1/2	VERNE
DRILL 8 3/4" HOLE	12 15	2 00	1 3/4	FORM
SURVEY AT 440 ¼ 1/2°	2 00			WELD
+ RIG SERVICE		2 30	1/2	MECH
DRILL 8 3/4" HOLE	2 30	4 00	1 1/2	
			8	

With Pipe Without Pipe Standby

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor B. STACHAN	12
Floor K. SCHNEIDER	12
B. SIMPSON	12
F. DENEVE	

Accidents NIL

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.	Stands	Singles
467	94	561	7 1/2	42	5 / 12	6 1/4 / 6 1/8	2 3/8 / 2 3/8	42					

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
3	8 3/4	ODV	3-12-1-13	14702	25	90	424	561	137	10 3/4			DRLG

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY	55	54	53	50
GEL				

Additives: GEL - 5 SKS

At Surveys Degree		MOTOR HOURS		Oil Added
530	1/8	1	8	2 gal
		2	8	2 gal
		3		
		Light Plant	8	1 gal
		BOILER HRS.	8	

PUMPS					
No. 1	Pressure	1200	1200	1200	1200
Model C-250	S.P.M.	68	68	68	68
	Liner Size	5 1/2	X 15		
No. 2	Pressure				
Model 2 1/2 P	S.P.M.				
	Liner Size	5 1/2	X 14		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands; Singles; D. Collars 505.15; Other Ft. Collar 12.37; C.B. Ft. STAB 4.35; Subs. Ft. 9.48; Ft. Down on Kelly 31; TOTAL 561

REMARKS	Time Start	Stop	Interval	
DRILL 8 3/4" HOLE	4 00	9:30	5 1/2	
CONNECTION + RIG SERVICE	9:30			
SURVEY AT 5-30, 1/8°		10 00	1/2	
DRILL 8 3/4" HOLE	10 00	12 00	2	
			8	
				WELDING
HELD 5 MIN SAFETY MEET				
CHECKED ALL FIRE EXTINGUISHERS				

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick S. CHABOT	12
Motor P. GAUMOND	12
Floor V. TOKAR	12
Floor G. KESLER	12
For HPP. 1/19/72	
B. SIMPSON	12

Accidents NIL

Outside Temp. 20°

Weather Conditions CLOUDY

Road Conditions —

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE April 25 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 7 LOCATION Candel Mobil Oil Iroquois 1-11

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE April 25 1972

Rig No. 8 Report No. 7

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
60	60	120	4 3/4	20	3	6 1/2	2 3/4	20			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
1	8 3/4	OSC3J	3-12	23593	20	75	60	120	60	4 3/4			

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT	8.3	8.3	8.4	8.4
VISCOSITY	40	45	47	52
GEL				

Additives: GEL - 60 SKS

At Surveys Degree

MOTOR HOURS: 1 8; 2 8; 3 8; Light Plant 8; BOILER HRS. 8

Oil Added

PUMPS: No. 1 Pressure / Model / S.P.M. / Liner Size; No. 2 Pressure / Model / S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface SPUD IN w/ 8 3/4 @ 236 AM April 25/72; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars 60.65 / Other Ft. Collar 12.37 / Sub. Ft. 4.35 / Subs. Ft. 7.42 / Ft. Down On Kelly 50 / TOTAL 120

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
120	40	160	5	20	4	6 1/2	2 3/8	20			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
1	8 3/4	OSC3J	3-12	23593	10000	~~150~~ 100	120	127	7	7 1/2			3 2 1
2	8 3/4	DT 2	OUT	37621	10	110	127	160	33	2 3/4			

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY			60	60
GEL				

Additives:

At Surveys Degree: 120 3/4; 150 1/2

MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8; BOILER HRS. 8

Oil Added

PUMPS: No. 1 Pressure 1000 50; Model / S.P.M. 56; Liner Size 5 1/2 X 15 (C 25 0)

No. 2 Pressure; Model / S.P.M.; Liner Size 5 1/2 X 14 (2 1/4 P)

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars 118.62 / Other Ft. Collar 12.37 / Sub. Ft. 4.35 / Subs. Ft. 9.48 / Ft. Down on Kelly 22.18 / TOTAL 160

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
160	112	272	6	28	5 2	6 1/4 6 1/2	2 3/8 2 3/4	28			

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.
2	8 3/4	DT-2	1	37621	10	110	127	272	145	8 1/4			DRILL

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY	61	63	63	64
GEL				

Additives: 10 SKS - GEL

At Surveys Degree: 240 1/2°

MOTOR HOURS: 1 8; 2 8; 3; Light Plant 8 0; BOILER HRS. 8

Oil Added

PUMPS: No. 1 Pressure 50 50 50 50; Model / S.P.M. 56 56 56 56 (C 25 0); Liner Size 5 1/2 X 15

No. 2 Pressure; Model / S.P.M.; Liner Size 5 1/2 X 14 (2 1/4 P)

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars 205.65 / Other Ft. Collar 12.37 / Sub. Ft. 4.35 / Subs. Ft. 9.48 / Ft. Down on Kelly 41 / TOTAL 272

REMARKS

Time Start	Stop	Interval	
Pick up bottom hole collar 12 00			
+ Δ collar + install kelly	1 00	1	
Circ + mix mud to raise vis 1 00	2 30	1 1/2	
Drill 8 3/4" surface hole 2 30	3 00	1/2	
Rig service + make connection 3 00	3 15	1/4	
Drill 8 3/4" hole 3 15	6 45	3 1/2	
Pull collar + unplug bit 6 45			
Pick up 1 drill collar + Δ reamer	7 15	1/2	
Drill 8 3/4" hole 7 15	8 00	3/4	
Held 5 min safety meeting		8	

With Pipe Without Pipe Standby 1/2

Time Start	Stop	Interval	
Drill 8 3/4" hole 8 00	8 45	3/4	
Run survey 120' 3/4° 8 45	9 00	1/4	
Drill 9 00	10 00	1	
Pull out collars + 10 00			
Check bit bucket tooth stuck			
In bit cones run in with			
Same bit	11 15	11 15	wait
Drill 8 3/4" hole 11 15	12 15	1	mech
Trip for plugged jets 12 15	1 15	1	
Drill 8 3/4" hole 1 15	3 15	2	
Survey at 150' 1/2° 3 15	3 45	1/2	
Drill 8 3/4" hole 3 45	4 00	1/4	

With Pipe Without Pipe Standby 8

Time Start	Stop	Interval	
Drill 8 3/4" hole 4 00	6 15	2 1/4	
Trip out bit #2 6 15	6 30	1/4	
Trip in with bit #2. piece	6 30		
of bucket tooth stuck in			
cones	7 00	1/2	
Drill 8 3/4" hole 7 00	7 15	1/4	
Connection + rig service 7 15	7 45	1/2	
Drill 8 3/4" hole 7 45	10 15	2 1/2	
Survey at 240' - 1/2° 10 15	11 00	3/4	
Drill 8 3/4" hole 11 00	12 00	1	
Held 5 min safety meet		8	

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. Staroba	12
Derrick J. Tokar	12
Motor G. Flato	12
Floor H. Mackow	12
Floor K. Leguerrier	12

Accidents NIL

Outside Temp. -10

Weather Conditions Snow

Road Conditions Closed

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
B. Simpson	14
F. Denève	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. Pedersen	12
Derrick S. Charot	12
Motor P. Gaumond	12
Floor V. Tokar	12
Floor G. Kesler	12
~~B. Strachan~~	~~12~~
~~H. Schmidt~~	~~12~~

Accidents NIL

Outside Temp. 10+

Weather Conditions Cloudy

Road Conditions Closed

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 24 19 72

NABORS DRILLING LIMITED

Rig No. 8 Page No. 6 LOCATION CANDEL MOBIL OIL IROQUOIS I-11

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE APRIL 24 19 72

Rig No. 8 Report No. 6

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | Oil Added

MOTOR HOURS: 1 8; 2; 3; Light Plant 8; BOILER HRS. 8

PUMPS: No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
DRILL RAT HOLE WITH 20" BUCKET	12.00	8.00	8

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | Oil Added

MOTOR HOURS: 1 8; 2; 3; Light Plant 8; BOILER HRS. 8

PUMPS: No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
DRILL RAT HOLE WITH 20" BUCKET	8.00	4.00	8
WELD			
MECH			

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | Oil Added

MOTOR HOURS: 1 8; 2; 3; Light Plant 8 2 45; BOILER HRS. 8

PUMPS: No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
BREAK DOWN RAT HOLE EQUIPMENT & RIG UP TO DRILL 8 3/4" HOLE	4.00	12.00	8
CEMENT HOLE ABOVE PILOT HOLE w/ 50 SKS FLOW CEMENT.			
HELD 5 MIN SAFETY MEET			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor H. MACKOW	12
Floor K. LEGUERRIER	12

Accidents NIL
Outside Temp. 5°
Weather Conditions MILD
Road Conditions Rough

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
WELD B. SIMPSON	
MECH F. DENEVE	

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick S. CHABOT	12
Motor P. GAUMOND	12
Floor V. TOKAR	12
Floor G. KESLER	12

Accidents NIL
Outside Temp. 15°
Weather Conditions CLOUDY
Road Conditions FAIR

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature] Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 23 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 5 LOCATION CANDEL MOBIL OIL IROQUOIS 1-11

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: GEL - 42 SKS.

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2		
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS			
No. 1	Pressure		
Model	S.P.M.		
	Liner Size		
No. 2	Pressure		
Model	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2		
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS			
No. 1	Pressure		
Model	S.P.M.		
	Liner Size		
No. 2	Pressure		
Model	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives

At Surveys Degree

MOTOR HOURS		Oil Added
1	8	
2		
3		
Light Plant	8	
BOILER HRS.	8	

PUMPS			
No. 1	Pressure		
Model	S.P.M.		
	Liner Size		
No. 2	Pressure		
Model	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

WORK RECORD

NOTE: Do Not Record Payroll Information Here

REMARKS	Time Start	Stop	Interval	
W.O.C. & DRILL RAT HOLE	12 00	4 00	4	
RIG SERVICE	4 00	4 15	1/4	
DRILL RAT HOLE	4 15	8 00	3 3/4	
			8	
HELD 5 MIN SAFETY MEETING				

With Pipe / Without Pipe / Standby

DRILL RAT HOLE WITH 12 1/4" BIT	8 00			
		12 00	4	
DRILL RAT HOLE WITH 12 1/4" BIT HOLE SLUFFING IN.	12 00			
		2 30	2 1/2	LEASE
RIG UP TO DRILL RAT HOLE WITH BUCKET	2 30			LEASE
		3 00	1/2	WELD
DRILL RAT HOLE WITH 20" BUCKET	3 00			MECH
		4 00	1	
			8	

With Pipe / Without Pipe / Standby

DRILL RAT HOLE WITH 20" BUCKET. HOLE SLUFFING IN.	4 00			
		12 00	8	
HELD 5" MIN SAFETY MEET				

With Pipe / Without Pipe / Standby

DATE APRIL 23 1972

Rig No. 8 Report No. 5

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor H. MACKOW	12
Floor K. LEGUERRIER	12

Accidents N.L.

Outside Temp. 0

Weather Conditions Good

Road Conditions ROUGH

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
~~Floor~~ K. SOMMER	12
B. STACHNIK	12
B. SAMPSON	12
F. DENEVE	

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick S. CIMBOT	12
Motor P. GAUMOND	12
Floor W. TOKAR	12
Floor G. KESLER	12

Accidents NIL

Outside Temp. 30°

Weather Conditions CLEAR

Road Conditions ROUGH

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 22 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE APRIL 22 1972

Rig No. 8 Page No. 4 LOCATION CANDEL MOBIL OIL IROQUOIS 1-11

Rig No. 8 Report No. 4

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
24	33	57	24" hole								

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree:

MOTOR HOURS: 1 8; 2; 3; Light Plant 8; BOILER HRS. 8; Oil Added

PUMPS: No. 1 Pressure; Model; S.P.M.; Liner Size; No. 2 Pressure; Model; S.P.M.; Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
57	3	60	24" hole								

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree:

MOTOR HOURS: 1 8; 2; 3; Light Plant 8; BOILER HRS. 8; Oil Added

PUMPS: No. 1 Pressure; Model; S.P.M.; Liner Size; No. 2 Pressure; Model; S.P.M.; Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree:

MOTOR HOURS: 1 8; 2; 3; Light Plant 8 2 915; BOILER HRS. 8; Oil Added

PUMPS: No. 1 Pressure; Model; S.P.M.; Liner Size; No. 2 Pressure; Model; S.P.M.; Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval	
LAY 20" BUCKET DOWN +	12:00			
PICK 24" BUCKET UP		12:30	½	
REAM WITH 24" BUCKET	12:30	1:30	1	
RIG SERVICE + CONNECTION	1:30	1:45	¼	
REAM WITH 24" BUCKET	1:45	8:00	6¼	
			8	
HELD 5 MIN SAFETY MEETING				
With Pipe / Without Pipe / Standby				
REAM WITH 24" BUCKET	8:00	9:15	1¼	
LAY DOWN 1 SINGLE + 24" BUCKET	9:15	9:45	½	
PICK UP 20" LINER WELD ON STRAPS + RUN IN HOLE	9:45	10:30	¾	
CEMENT 20" LINER	10:30	12:00	1½	LEASE
W.O.C + Rig up To drill Rat hole. Rig To Circulate water Prime Mud Pump + Fill Tanks w/ water.	12:00	4:00	4	LEASE WELD MECH
Ran 89 FT of 20 inch Conductor Pipe welded + Strap welded 2 Joints Ran 100 Sacks of Fondu Cement Finish Cement @ 12:00 P.M. on April 22 1972				
With Pipe / Without Pipe / Standby				
60 FT of 20" Conductor Left in Ground				
W.O.C + DRILL RAT HOLE	4:00	12:00	8	
HELD 5 MIN SAFETY MEETING				
With Pipe / Without Pipe / Standby				

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C STAROBA	12
Derrick J. TOKAR	12
Motor G. ELATO	12
Floor H. MACKOW	12
Floor K. LEGUERRIER	12

Accidents NIL
Outside Temp. -10
Weather Conditions CLEAR
Road Conditions FAIR

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
~~Floor~~ K. SOMMER	12
B. STACHNIK	12
B. SIMPSON	16
F. DENEVIE	

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick S. CHABOT	12
Motor P. GAUMOND	12
Floor V. TOKAR	12
Floor G. KESLER	12

Accidents NIL
Outside Temp. 20+
Weather Conditions CLEAR
Road Conditions ROUGH

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 21 19 72

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE APRIL 21 19 72

Rig No. 8 Page No. 3 LOCATION CANDEL MOBIL OIL IROQUIS 1-11

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
10	11	21									

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 8 | 2 | 3 | Oil Added

Light Plant 8 | BOILER HRS. 8

PUMPS: No. 1 Pressure, Model, S.P.M., Liner Size; No. 2 Pressure, Model, S.P.M., Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands | Singles | D. Collars | Other Ft. | C.B. Ft. | Subs. Ft. | Ft. Down On Kelly | TOTAL

REMARKS	Time Start	Stop	Interval
DRLG CONDUCTOR HOLE	12 00	8 00	8
HELD 5 MIN SAFETY MEETING			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor H. MACKOW	12
Floor K. LEGUERRIER	12

Accidents NIL

Outside Temp. -5

Weather Conditions Good

Road Conditions FAIR

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
21	13	34	20" hole								

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 8 | 2 | 3 | Oil Added

Light Plant 8 | BOILER HRS. 8

PUMPS: No. 1 Pressure, Model, S.P.M., Liner Size; No. 2 Pressure, Model, S.P.M., Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands | Singles | D. Collars | Other Ft. | C.B. Ft. | Subs. Ft. | Ft. Down on Kelly | TOTAL

REMARKS	Start	Stop	Interval	
DRILL CONDUCTOR HOLE	8 00	1 15	5 1/4	
RIG SERVICE & CONNECTION	1 15	1 45	1/2	
DRILL 20" CONDUCTOR HOLE	1 45	4 00	2 1/4	
			8	
				LEASE
				WELD
				MECH
				LEASE

With Pipe Without Pipe Standby

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor K. SOMMER	12
B. SIMPSON	16
F. DENEVE	12
B. STACHNIK	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
34	26	60	20" hole								

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 8 | 2 | 3 | Oil Added

Light Plant 8 2 gts | BOILER HRS. 8

PUMPS: No. 1 Pressure, Model, S.P.M., Liner Size; No. 2 Pressure, Model, S.P.M., Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip	Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands | Singles | D. Collars | Other Ft. | C.B. Ft. | Subs. Ft. | Ft. Down on Kelly | TOTAL

REMARKS	Start	Stop	Interval
DRILL 20" CONDUCTOR HOLE	4 00	4 30	1/2
RIG SERVICE	4 30	4 45	1/4
DRILL 20" CONDUCTOR HOLE	4 45		
WITH BUCKET		12 00	7 1/4
			8
HELD 5 MIN SAFETY MEETING			

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick S. CHABOT	12
Motor P. GAUMOND	12
Floor Y. TOKAR	12
Floor G. KESLER	12

Accidents NIL

Outside Temp. 20°

Weather Conditions CLEAR

Road Conditions FAIR

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE April 20 1972.

NABORS DRILLING LIMITED

Rig No. 8 Page No. 3 LOCATION CANDEL Merland Mequon 1-11

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE APRIL 20 1972

Rig No. 8 Report No. 3

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
PUMPS No. 1 Pressure							Light Plant	
Model S.P.M.							BOILER HRS.	
Liner Size								
No. 2 Pressure								
Model S.P.M.								
Liner Size								

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
RIGING UP			

With Pipe Without Pipe Standby

Rig up To spud

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
PUMPS No. 1 Pressure							Light Plant	
Model S.P.M.							BOILER HRS.	
Liner Size								
No. 2 Pressure								
Model S.P.M.								
Liner Size								

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface K.B TO GROUND - 18'; Prod.

Cement

W.L. F.C. pH. Solids

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.
0	10	10									

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1 8	
VISCOSITY							2	
GEL							3	
PUMPS No. 1 Pressure							Light Plant 8	2 gm
Model S.P.M.							BOILER HRS.	
Liner Size								
No. 2 Pressure								
Model S.P.M.								
Liner Size								

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
RIGING UP + DRIG CONDUCTOR HOLE WITH 20" BUCKET	6:00	12:00	6
Spud Conductor hole @ 6:00 P.M April 20-1972			
K.B To Ground Level 18 FT.			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor H. MACKOW	12
Floor K. LEGUERRIER	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor ~~[illegible]~~	~~[illegible]~~
Floor ~~[illegible]~~	~~[illegible]~~
WELD B. SIMPSON	13
[illegible]	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	16
Derrick S. CHABOT	16
Motor P. GAUMOND	16
Floor ~~[illegible]~~ J. COULSON	16
Floor V. TOKAR	16

Accidents NIL

Outside Temp. 20+

Weather Conditions CLEAR

Road Conditions GOOD

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 19 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. ..... LOCATION .....

WORK RECORD

NOTE: Do Not Record Payroll Information Here

APR 24 1972

DATE APRIL 19 1972

Rig No. 8 Report No. .....

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 2 3 | Oil Added | Light Plant | BOILER HRS.

PUMPS: No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
RIGING UP			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	14
Derrick J. TOKAR	14
Motor G. FLATO	14
Floor J. COULSON	14
Floor H. MACKOW	14

Accidents NIL

Outside Temp. 0

Weather Conditions Cold

Road Conditions Good

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 2 3 | Oil Added | Light Plant | BOILER HRS.

PUMPS: No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

With Pipe Without Pipe Standby

WELD

PITCH

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor B. SIMPSON	12
E. DENEUF	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 2 3 | Oil Added | Light Plant | BOILER HRS.

PUMPS: No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
RIGING UP			

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	14
Derrick S. CHABOT	14
Motor P. GAUMOND	14
Floor K. LEGUERRIER	14
Floor V. TOKAR	14

Accidents NIL

Outside Temp.

Weather Conditions

Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 18 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. ..... LOCATION .....

WORK RECORD

NOTE: Do Not Record Payroll Information Here

DATE APRIL 18 1972

Rig No. 8 Report No. .....

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1		
2		
3		
Light Plant	8	
BOILER HRS.		

PUMPS			
No. 1	Pressure		
Model	S.P.M.		
	Liner Size		
No. 2	Pressure		
Model	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

Cement

W.L. F.C. pH. Solids

Stands	
Singles	
D. Collars	
Other Ft.	
C.B. Ft.	
Subs. Ft.	
Ft. Down On Kelly	
TOTAL	

REMARKS	Time Start	Stop	Interval
FINISH RIGING UP			
CAMP ASSEMBLE			
CAMP PREFABS +			
HOOK UP FUEL LINES			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	14
Derrick J. TOKAR	14
Motor G. FLATO	14
Floor J. COULSON	14
Floor H. MACKOW	14

Accidents

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1		
2		
3		
Light Plant	8	
BOILER HRS.		

PUMPS			
No. 1	Pressure		
Model	S.P.M.		
	Liner Size		
No. 2	Pressure		
Model	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

Cement

W.L. F.C. pH. Solids

Stands	
Singles	
D. Collars	
Other Ft.	
C.B. Ft.	
Subs. Ft.	
Ft. Down on Kelly	
TOTAL	

With Pipe Without Pipe Standby

WELD
AREA

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
B. SIMPSON	12
F. DENEVE	12.

Accidents

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives: At Surveys Degree

MOTOR HOURS		Oil Added
1		
2		
3		
Light Plant	8	
BOILER HRS.		

PUMPS			
No. 1	Pressure		
Model	S.P.M.		
	Liner Size		
No. 2	Pressure		
Model	S.P.M.		
	Liner Size		

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands	
Singles	
D. Collars	
Other Ft.	
C.B. Ft.	
Subs. Ft.	
Ft. Down on Kelly	
TOTAL	

REMARKS	Time Start	Stop	Interval
RIGING UP			

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	14
Derrick S. CHABOT	14
Motor P. GAUMOND	14
Floor K. LEGUERRIER	14
Floor V. TOKAR	14

Accidents NIL

Outside Temp.

Weather Conditions

Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher [signature] Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 17 19 72

NABORS DRILLING LIMITED

Rig No. 8 Page No. ..... LOCATION .....

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 / 2 / 3 | Oil Added

PUMPS No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Light Plant 9 | BOILER HRS.

Size | TRIPS | No. Lines | TON MILES | TOTAL MILES | Slip Feet or Cut | Feet Left on Spool | Next Slip

Casing Record: Surface / Prod.

W.L. F.C. pH. Solids | Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 / 2 / 3 | Oil Added

PUMPS No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Light Plant 8 | BOILER HRS.

Size | TRIPS | No. Lines | TON MILES | TOTAL MILES | Slip Feet or Cut | Feet Left on Spool | Next Slip

Casing Record: Surface / Prod.

W.L. F.C. pH. Solids | Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 / 2 / 3 | Oil Added

PUMPS No. 1 Pressure / Model S.P.M. / Liner Size; No. 2 Pressure / Model S.P.M. / Liner Size

Light Plant 7 | BOILER HRS.

Size | TRIPS | No. Lines | TON MILES | TOTAL MILES | Slip Feet or Cut | Feet Left on Spool | Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

WORK RECORD

NOTE: Do Not Record Payroll Information Here

APR 24 1972

REMARKS	Time Start	Stop	Interval
RIG UP CAMP			

With Pipe Without Pipe Standby

REMARKS	Time Start	Stop	Interval

With Pipe Without Pipe Standby

REMARKS	Time Start	Stop	Interval
RIG UP CAMP.			

With Pipe Without Pipe Standby

DATE APRIL 17 19 72

Rig No. 8 Report No. .....

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	13
Derrick J. TOKAR	13
Motor G. FLATO	13
Floor J. COULSON	13
Floor H. MACKOW	13

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
~~B. SIMPSON~~ WELD	~~13~~
E. DENIELE MECH	

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	13
Derrick S. CHABOT	13
Motor P. GAUMOND	13
Floor K. LEGUERRIER	13
Floor V. TOKAR	13

Accidents NIL
Outside Temp.
Weather Conditions
Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Jones Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 16 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

APR 24 1972

DATE APRIL 16 1972

Rig No. 8 Page No. 1 LOCATION

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
							Light Plant 8	
							BOILER HRS.	

PUMPS							
No. 1	Pressure						
Model	S.P.M.						
	Liner Size						
No. 2	Pressure						
Model	S.P.M.						
	Liner Size						

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

W.L. F.C. pH. Solids Cement

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
							Light Plant 8	
							BOILER HRS.	

PUMPS							
No. 1	Pressure						
Model	S.P.M.						
	Liner Size						
No. 2	Pressure						
Model	S.P.M.						
	Liner Size						

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

W.L. F.C. pH. Solids Cement

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
							Light Plant 8	
							BOILER HRS.	

PUMPS							
No. 1	Pressure						
Model	S.P.M.						
	Liner Size						
No. 2	Pressure						
Model	S.P.M.						
	Liner Size						

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

REMARKS	Time Start	Stop	Interval
LAY MATTING + HELP UNLOAD TRUCKS			
With Pipe / Without Pipe / Standby			
With Pipe / Without Pipe / Standby			
LOAD OUT CAMP			
With Pipe / Without Pipe / Standby			

Rig No. 8 Report No. 1

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROSA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor J. COULSON	12
Floor H. MACKOW	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
WELD B. SIMPSON	12
MECH F. DENEUE	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick S. CHABOT	12
Motor P.G. AUMOND	12
Floor K. LEGUERRIER	12
Floor V. TOKAR	12

Accidents NILL
Outside Temp.
Weather Conditions
Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher John Pearson Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 15 19 72

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

APR 24 1972

DATE APRIL 15 19 72

Rig No. 8 Page No. 76 LOCATION MOBIL OIL BELOT HILLS M-63

Rig No. 8 Report No. 76

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 2 3 | Oil Added

Light Plant 8 | BOILER HRS.

PUMPS: No. 1 Pressure / Model / S.P.M. / Liner Size; No. 2 Pressure / Model / S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

REMARKS

DISMANTLE CAMP
PREFABS + TRAVEL
TO NEW LOCATION

Time: Start / Stop / Interval

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STARODA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor J. COULSON	12
Floor H. MACKOW	12

Accidents NIL
Outside Temp. +32
Weather Conditions WARM
Road Conditions MUDDY

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	3 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 2 3 | Oil Added

Light Plant 8 | BOILER HRS.

PUMPS: No. 1 Pressure / Model / S.P.M. / Liner Size; No. 2 Pressure / Model / S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

With Pipe Without Pipe Standby

WELD
MECH

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
B. SIMPSON	12
F. DENEVE	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives | At Surveys Degree | MOTOR HOURS 1 2 3 | Oil Added

Light Plant 8 | BOILER HRS.

PUMPS: No. 1 Pressure / Model / S.P.M. / Liner Size; No. 2 Pressure / Model / S.P.M. / Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

LOADING OUT RIG

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick S. CHABOT	12
Motor P. GALMOND	12
Floor K. LEGUERRIER	12
Floor V. TOKAR	12

Accidents NIL
Outside Temp.
Weather Conditions
Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 14 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

Rig No. 8 Page No. 75 LOCATION MOBIL OIL BELOT HILLS M#63

DATE APRIL 14 1972

Rig No. 8 Report No. 75

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives / At Surveys Degree / MOTOR HOURS 1 2 3 / Oil Added / Light Plant / BOILER HRS.

PUMPS: No. 1 Pressure, Model, S.P.M., Liner Size; No. 2 Pressure, Model, S.P.M., Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod. / Cement

W.L. F.C. pH. Solids

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives / At Surveys Degree / MOTOR HOURS 1 2 3 / Oil Added / Light Plant / BOILER HRS.

PUMPS: No. 1 Pressure, Model, S.P.M., Liner Size; No. 2 Pressure, Model, S.P.M., Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod. / Cement

W.L. F.C. pH. Solids

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives / At Surveys Degree / MOTOR HOURS 1 2 3 / Oil Added / Light Plant / BOILER HRS.

PUMPS: No. 1 Pressure, Model, S.P.M., Liner Size; No. 2 Pressure, Model, S.P.M., Liner Size

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

REMARKS	Time Start	Stop	Interval
LOADING OUT RIG			
With Pipe / Without Pipe / Standby			
With Pipe / Without Pipe / Standby			
LOADING OUT RIG			
STAYED OVER TO LOAD OUT TRUCKS			
With Pipe / Without Pipe / Standby			

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor J. COULSON	12
Floor H. MACKOW	12

Accidents N.L.
Outside Temp. +25°
Weather Conditions SNOW
Road Conditions SLIPPERY

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
WELD B. SIMPSON	12
MECH F. DENEVE	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick S. CHABOT	15
Motor F. GAUMOND	12
Floor K. LEGUERRIER	15
Floor V. TOKAR	12

Accidents N/L
Outside Temp.
Weather Conditions
Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE APRIL 13 1972

NABORS DRILLING LIMITED

Rig No. 8 Page No. 74 LOCATION MOBIL OIL BELOT HILLS M#63

WORK RECORD

NOTE: Do Not Record Payroll Information Here

APR 24 1972

DATE APRIL 13 1972

Rig No. 8 Report No. 74

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.
WEIGHT				
VISCOSITY				
GEL				

Additives

At Surveys Degree

MOTOR HOURS: 1 / 2 / 3 / Light Plant

Oil Added

BOILER HRS.

PUMPS					
No. 1	Pressure				
Model	S.P.M.				
	Liner Size				
No. 2	Pressure				
Model	S.P.M.				
	Liner Size				

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
LOADING OUT RIG			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m. Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor J. COULSON	12
Floor H. MACKOW	12

Accidents NIL.

Outside Temp. -20

Weather Conditions MILD

Road Conditions FAIR

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives

At Surveys Degree

MOTOR HOURS: 1 / 2 / 3 / Light Plant

Oil Added

BOILER HRS.

PUMPS					
No. 1	Pressure				
Model	S.P.M.				
	Liner Size				
No. 2	Pressure				
Model	S.P.M.				
	Liner Size				

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface / Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval	
				NEW
				MECH

With Pipe Without Pipe Standby

Tour — 8 a.m. to 4 p.m. Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
B. SIMPSON	12
F. DENEIE	12

Accidents

Outside Temp.

Weather Conditions

Road Conditions

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.
WEIGHT				
VISCOSITY				
GEL				

Additives

At Surveys Degree

MOTOR HOURS: 1 / 2 / 3 / Light Plant

Oil Added

BOILER HRS.

PUMPS					
No. 1	Pressure				
Model	S.P.M.				
	Liner Size				
No. 2	Pressure				
Model	S.P.M.				
	Liner Size				

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:

Desilter Hours:

Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
LOADING OUT RIG			

With Pipe Without Pipe Standby

Tour — 4 p.m. to Midnight Specify actual hours worked.	Hrs.
Driller L. PEDERSEN	12
Derrick S. CHABOT	12
Motor P. GAUMOND	12
Floor K. LEGUERRIER	12
Floor V. TOKAR	12

Accidents NIL

Outside Temp.

Weather Conditions

Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

DATE April 12 19 72

NABORS DRILLING LIMITED

Rig No. 8 Page No. 73 LOCATION Mobil Oil M63

WORK RECORD

NOTE: Do Not Record Payroll Information Here

APR 17 1972

DATE April 12 1972

Rig No. 8 Report No. 73

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
PUMPS No. 1 Pressure							Light Plant 8	
Model S.P.M.							BOILER HRS.	
Liner Size								
No. 2 Pressure								
Model S.P.M.								
Liner Size								

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down On Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
TEARING OUT + LOADING OUT RIG			
*STAYED OVER TO LOAD TRUCKS			

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
PUMPS No. 1 Pressure							Light Plant 8	
Model S.P.M.							BOILER HRS.	
Liner Size								
No. 2 Pressure								
Model S.P.M.								
Liner Size								

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
PUMPS No. 1 Pressure							Light Plant 8	
Model S.P.M.							BOILER HRS.	
Liner Size								
No. 2 Pressure								
Model S.P.M.								
Liner Size								

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands / Singles / D. Collars / Other Ft. / C.B. Ft. / Subs. Ft. / Ft. Down on Kelly / TOTAL

REMARKS	Time Start	Stop	Interval
TEARING OUT			
LOADING OUT			
*HELP LOAD OUT TRUCKS			

With Pipe Without Pipe Standby

Tour — Midnight - 8 a.m.

Specify actual hours worked.	Hrs.
Driller C. STAROBA	15
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor J. COULSON	12
Floor H. MACKOW	12

Accidents W.L.
Outside Temp. -25
Weather Conditions WINDY
Road Conditions

Tour — 8 a.m. to 4 p.m.

Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight

Specify actual hours worked.	Hrs.
Driller M. Callaghan	12
Derrick K. Cochrane	12
Motor P. Gammard	15
Floor K. Leguinnier	15
Floor V. TOKAR	12
welder B. Simpson	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by .....

Toolpusher John Fraser

Approved by

DATE APRIL 11 1972

NABORS DRILLING LIMITED

WORK RECORD

NOTE: Do Not Record Payroll Information Here

APR 17 1972

Rig No. 8 Page No. 72 LOCATION MOBIL OIL BELOT HILLS M#63

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	12 a.m.	2 a.m.	4 a.m.	6 a.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
							Light Plant 8	
							BOILER HRS.	

PUMPS							
No. 1	Pressure						
Model	S.P.M.						
	Liner Size						
No. 2	Pressure						
Model	S.P.M.						
	Liner Size						

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down On Kelly	TOTAL

REMARKS	Time Start	Stop	Interval
TEARING OUT + LOADING OUT RIG			

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	8 a.m.	10 a.m.	12 p.m.	2 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
							Light Plant 8	
							BOILER HRS.	

PUMPS							
No. 1	Pressure						
Model	S.P.M.						
	Liner Size						
No. 2	Pressure						
Model	S.P.M.						
	Liner Size						

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Casing Record: Surface; Prod.

W.L. F.C. pH. Solids Cement

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL

With Pipe Without Pipe Standby

From	Footage	To	Hrs. on Bottom	Wt. Drill String (1000 lbs.)	DRILL COLLARS No.	O.D.	I.D.	Wgt.	FUEL Gals.	WATER Bbls.	CRUDE Gal. / Bbls.

BITS No.	Size	Type	Size Jets	Serial No.	Wt.	R.P.M.	From	To	Ftg.	Hrs.	Ft.Reamed	Hrs.	COND.

MUD	4 p.m.	6 p.m.	8 p.m.	10 p.m.	Additives	At Surveys Degree	MOTOR HOURS	Oil Added
WEIGHT							1	
VISCOSITY							2	
GEL							3	
							Light Plant 8	
							BOILER HRS.	

PUMPS							
No. 1	Pressure						
Model	S.P.M.						
	Liner Size						
No. 2	Pressure						
Model	S.P.M.						
	Liner Size						

Size	TRIPS	No. Lines	TON MILES	TOTAL MILES	Slip Feet or Cut	Feet Left on Spool	Next Slip

Water Truck Hours:
Desilter Hours:
Desander Hours:

W.L. F.C. pH. Solids.

Stands	Singles	D. Collars	Other Ft.	C.B. Ft.	Subs. Ft.	Ft. Down on Kelly	TOTAL

REMARKS	Time Start	Stop	Interval
TEARING OUT + LOADING OUT RIG			

With Pipe Without Pipe Standby

DATE APRIL 11 1972

Rig No. 8 Report No. 72

Tour — Midnight - 8 a.m. Specify actual hours worked.	Hrs.
Driller C. STAROBA	12
Derrick J. TOKAR	12
Motor G. FLATO	12
Floor J. COULSON	12
Floor H. MACKOW	12

Accidents NIL
Outside Temp. + 27°
Weather Conditions MILD
Road Conditions FAIR

Tour — 8 a.m. to 4 p.m. Specify actual hours worked.	Hrs.
Driller	
Derrick	
Motor	
Floor	
Floor	
WELD B. SIMPSON	12

Accidents
Outside Temp.
Weather Conditions
Road Conditions

Tour — 4 p.m. to Midnight Specify actual hours worked.	Hrs.
Driller N. CALLAGHAN	12
Derrick K. COCHRANE	12
Motor P. GAUMOND	12
Floor K. LEGUERRIER	12
Floor V. TOKAR	12

Accidents NIL
Outside Temp. + 27°
Weather Conditions MILD
Road Conditions FAIR

Totco Ring on Bit No. ..... D.P. Calipered Date ..... Results ..... From Pipe Rack ..... Total Contractor Time ..... Hrs. Toolpusher ..... Toolpusher .....

B.O.P. Test-Operated ..... Time ..... Results ..... Total Company Time ..... Hrs. Approved by ..... Approved by .....

THIS IS A CONCISE REPORT OF THE
OPERATIONS CONDUCTED AT THE WELL

'CANDEL MOBIL ET AL IROQUOIS I-11'

Data in this report was compiled for
CanDel Oil Ltd. by T. A. D. Haddow, P. Geol.,
Geological Consultant at the well

K. E. Basaraba,
CANDEL OIL LTD.

July 28, 1972

WELL HISTORY REPORT

ON

CANDEL MOBIL et al IROQUOIS I-11

Unit I Section 11, Grid 67-50-129-30

Latitude 67° 40' 40" Longitude 129° 32' 05"

NORTHWEST TERRITORIES, CANADA

FOR

CANDEL OIL LTD.

June, 1972

Submitted by:

T.A.D. Haddow, P.Geol.

INDEX

SECTION I - SUMMARY OF WELL DATA

Well Name and Number:	CanDel Mobil et al Iroquois I-11
Permittee:	Mobil Oil Canada Ltd. License No. 1432 Sun Oil Company License No. 1941 Inexco Oil Company License No. 1929 North Canadian Oils Ltd. " No. 1973
Operator:	CanDel Oil Ltd. License No. 1938 28th Floor - Calgary Place One 330-5th Avenue S.W. Calgary, Alberta
Location:	Unit I, Section 11, Grid 67-50-129-30 Latitude 67° 40' 40" Longitude 129° 32' 05" Unique Well Identifier: 3001116750129300 Universal Well Location Reference: 67.67778° 129.53472°
Permit No.:	4119
Contractor:	Nabors Drilling Limited Rig #8 Emsco JA 500
Drilling Authority:	584 - Issued March 1, 1972
Classification:	Wildcat
Elevations:	Ground 400' K.B. 418'
Spudded:	2:30 a.m. - April 25, 1972
Completed Drilling:	May 28, 1972
Total Depth:	Driller 6961' Logger 6944'
Well Status:	Dry & Abandoned
Rig Released:	12:00 - noon - June 2, 1972
Hole Sizes:	Surface - 704' 12 1/4" 704' - 6961' 8 3/4"

Summary of Well Data (Cont'd)

Conductor Pipe: Ran new 20" conductor pipe, landed at 78' K.B.
Cemented with 100 sacks Fondu cement.
Finished cementing at 12:00 p.m. April 22, 1972

Surface Casing: Ran 9 5/8" (724.91') Grade J-55, 36#, Rge. 3, ST & C, 8rd,
New Mannesmann Casing. Landed at 704' K.B.
Cemented with 350 sacks of Fondu Cement.
Displaced plug with water.
Plug down at 12:04 p.m. April 29, 1972

Representative for Operator: T.A.D. Haddow, P.Geol.

Representative for Contractor: H. Martinoff

SECTION II - GEOLOGICAL SUMMARY

FORMATION TOPS

K.B. 418'

Formation	Sample Depth	E-Log Depth	E-Log Sub-sea Depth
Devonian			
Hare Indian	30'	17'	+ 401'
Hume	125'	98'	+ 320'
Gossage (Bear Rock)	350'	347'	+ 71'
Sil - Ord Ronning	2120'	2106'	-1688'
Cambrian	5675'	5665'	-5247'
Salt	5850'	5842'	-5424'
Base Salt	6084'	6087'	-5669'
Proterozoic	6420'	6428'	-6010'
Total Depth	6961'	6944'	-6526'

Candel Mobil et al Iroquois I-11

Sample Descriptions

K.B. 418'

Interval	Lithology
Surface - 30'	Glacial drift - unconsolidated sand, granules, pebbles and cobbles
	Hare Indian 30' (E-Log 17')
30 - 40'	Shale - grey, fissile, micromicaceous, scattered black plant spores.
40 - 80'	Shale - medium grey, hard, fissile, micromicaceous, slightly bituminous in part, scattered, flecks of carbonaceous material (plant spores).
80 - 90'	Shale - dark grey to black, fissile, micromicaceous, bituminous, rare laminae of calcareous siltstone.
90 - 110'	Shale - as above, scattered plant remains and plant spores, trace of scattered pyrite.
110 - 120'	Shale - dark grey to black, brittle, micromicaceous, bituminous for the most part,scattered plant remains and spores, scattered fossils, calcareous in part - limy streaks.
	Hume 125' (E-Log 98')
120 - 130'	Shale - as above Limestone - grey - greenish to brownish in part, microcrystalline, very fine to fine crystalline in part, dense, silty, argillaceous, thin interbedded grey-calcareous shale, some dolomitic streaks - brownish grey, microcrystalline dense, abundant fossils - ostracods, brachiopods, bryozoa.
130 - 140'	Shale - medium grey, hard, micromicaceous, calcareous. Limestone - grey - greenish to brownish in part, microcrystalline to very fine crystalline, dense, bioclastic - micritic in part, fossiliferous, scattered fractures filled with coarse calcite crystals.
140 - 150'	Limestone - medium browish to greenish grey, microcrystalline, some very fine to fine crystalline, bioclastic, peletoid in part, micritic in part, dense, argillaceous, some thin interbeds of grey calcareous shale, some cherty streaks, scattered fractures filled with crystalline calcite, fossiliferous, scattered pyrite.

150 - 160' Limestone - as above
Shale - medium grey, hard, micromicaceous, calcareous, pyritic in part.

160 - 170' Limestone - medium brownish to greenish grey, microcrystalline to very fine crystalline, bioclastic, dense, abundant fossils - brachiopods, ostracods, crinoids, some interbedded shale - medium grey, hard, micromicaceous, calcareous.

170 - 210' Limestone - medium brownish to greenish grey, microcrystalline to very fine crystalline, dense, argillaceous,fossiliferous.
Shale - medium grey, micromicaceous, calcareous.

210 - 220' Limestone - medium brownish to greenish grey, microcrystalline to very fine crystalline, bioclastic,micritic in part, dense, argillaceous,streaks, some interbedded grey calcareous shale, fossiliferous.

220 - 250' Limestone - medium brownish to greenish grey, microcrystalline to fine crystalline, bioclastic, micritic in part, dense, argillaceous, shaly, fossiliferous, scattered fractures filled with dog tooth spar.

250 - 270' Limestone - as above.
Shale - medium grey, fissile to blocky, micromicaceous,calcareous.

270 - 300' Limestone - greyish brown - some greenish to brownish grey, microcrystalline to fine crystalline, fragmental, micritic in part, dense, argillaceous, fossiliferous, some partings of dark grey calcareous shale and thin interbeds of medium grey calcareous shale, some scattered fractures filled with crystalline calcite.

300 - 350' Limestone - brownish grey, microcrystalline to very fine crystalli micritic, dense, argillaceous, some partings of dark grey calcareous shale, some scattered pyrite, scattered fossils - brachiopods, crinoids, bryozoa.

Gossage 350' (E-Log 347')

350 - 370' Limestone - light brownish grey, microcrystalline to fine crystalline, oolitic, dense, slightly argillaceous, some scattered fractures filled with crystalline calcite, rare scattered small vugs filled with crystalline calcite.

370 - 390' Limestone - as above and limestone - brownish to greenish grey, cryptocrystalline, micritic, dense, some scattered hairline fractures, some dolomitization along the fractures.

390 - 420' Limestone - brownish grey, microcrystalline, micritic, dense, argillaceous, some scattered ostracods, some scattered small patches and streaks of black carbonaceous material.

420 - 430' Limestone - medium dark brownish grey, cryptocrystalline to microcrystalline, micritic, dense, argillaceous, some partings of dark grey shale.

430 - 440'	Limestone - greyish brown, microcrystalline to fine crystalline, fragmental - micritic in part, dense, argillaceous, scattered ostracods.
440 - 470'	Limestone - light greyish brown, microcrystalline to fine crystalline - some bands of cryptocrystalline, fragmental, - organic in part, micritic in part, dense, argillaceous, some algal material, scattered ostracods, some partings of black bituminous shale.
470 - 480'	Limestone - medium to dark greyish brown, microcrystalline to fine crystalline, micritic in part - fragmental, pelletoid and oolitic in part, dense, argillaceous, scattered stylolites some scattered partings of black bituminous shale, ostracods.
480 - 490'	Limestone - light greyish brown, microcrystalline to fine crystalline, bioclastic, dense, fossiliferous - ostracods, brachiopods, rare corals.
490 - 510'	Limestone - grey brown, cryptocrystalline to very fine crystalline, micritic, dense, scattered brachiopods, some scattered fine fractures filled with calcite.
510 - 520'	Limestone - as above - some scattered hairline fractures, some streaks of shale - bluish grey, blocky, micromicaceous, bentonitic, scattered pyrite.
520 - 530'	Limestone - light brownish grey, microcrystalline to fine crystalline, fragmental, dense, dolomitic, argillaceous, fossiliferous - brachiopods, ostracods.
530 - 540'	Limestone - medium dark grey, microcrystalline to very fine crystalline, algal, dense, argillaceous, scattered ostracods, partings of black bituminous shale.
540 - 550'	Limestone - light brownish grey, microcrystalline to fine crystalline, fragmental, dense, argillaceous, scattered ostracods, some scattered corals.
550 - 590'	Limestone - brownish grey - some greenish streaks, cryptocrystalline to microcrystalline, micritic, dense, argillaceous.
590 - 600'	Limestone - medium greyish brown, microcrystalline to fine crystalline, fragmental, dense, argillaceous, some partings of black bituminous shale. Trace of light greenish grey waxy shale, some scattered gastrapods and brachiopods.
600 - 630'	Limestone - as above - light to medium greyish brown, micritic in part.
630 - 640'	Limestone - as above and limestone - brownish grey, cryptocrystalline, micritic, dense.

640 - 650' Limestone - greyish brown, cryptocrystalline to very fine crystalline, micritic, dense, argillaceous, scattered hairline and fine fractures - filled with calcite, a few scattered fossils.

650 - 680' Limestone - as above - few fragmental streaks - slightly dolomitic, a few streaks of dark grey shale and bluish grey bentonitic shale.

680 - 690' Limestone - as above - few fragmental streaks - dolomitic in part with dead oil stain.

690 - 700' Limestone - brownish grey, microcrystalline to very fine crystalline, fragmental - micritic in part, dense, argillaceous, some scattered ostracods.

700 - 720' Limestone - medium greyish brown - dark streaks, microcrystalline to very fine crystalline, fragmental in part, micritic in part, dense, argillaceous, partings of dark grey shale and thin interbeds of grey calcareous shale, scattered ostracods.

720 - 740' Limestone - brownish grey, microcrystalline to very fine crystalline, micritic, fragmental in part, dense, slightly argillaceous, some thin streaks of grey calcareous shale.

740 - 750' Limestone - as above and limestone - brownish grey, cryptocrystalline to microcrystalline, micritic, dense, argillaceous, some laminae of shale - bluish grey, blocky, finely disseminated pyrite.

750 - 770' Limestone - greyish brown, microcrystalline to very fine crystalline, fragmental in part, micritic in part, dense, argillaceous, few scattered fractures filled with crystalline calcite, some scattered ostracods.

770 - 790' Limestone - greyish brown, microcrystalline to very fine crystalline, fragmental, dense, argillaceous, some partings of black bituminous shale and bluish grey shale with finely disseminated pyrite.

790 - 800' Limestone - as above, partings of grey calcareous shale.

800 - 810' Limestone - greyish brown, cryptocrystalline to micro - crystalline, micritic, argillaceous, calcite crystals infilling some fine scattered fractures and rare small vugs.

810 - 830' Limestone - greyish brown, microcrystalline to very fine crystalline, micritic, dense, argillaceous, some interbedded grey calcareous shale, some scattered brachiopods.

830 - 840'	Limestone - greyish brown, microcrystalline to fine crystalline, micritic, organic in part, fragmental in part, dense, argillaceous, pyritic in part, some thin interbedded grey calcareous shale and partings of bluish grey shale - fossiliferous - coral, algae, brachiopods, ostracods.
840 - 850'	Limestone - greyish brown, microcrystalline to very fine crystalline, micritic, algal in part, dense, argillaceous, some interbedded grey calcareous shale, pyritic in part, some scattered crinoids and brachiopods.
850 - 860'	Shale - greenish grey, hard, micromicaceous, very calcareous, finely disseminated pyrite, some scattered limestone pellets. Limestone - greyish brown, cryptocrystalline to microcrystalline, micritic, dense, argillaceous.
860 - 870'	Limestone - greyish brown, very fine crystalline, micritic - fragmental in part, dense, argillaceous, some interbedded shale as above.
870 - 910'	Limestone - greyish brown, microcrystalline to very fine crystalline, micritic, dense, argillaceous (trace of stromatoporoids at 890').
910 - 920'	Limestone - as above, some streaks of very light grey chalky limestone, some thin interbedded dolomite (5%) - greyish brown very fine crystalline, chalky in part, slight intercrystalline porosity - non effective, slightly calcitic.
920 - 940'	Limestone - 75% and dolomite 25% as above.
940 - 950'	Limestone - greyish brown, microcrystalline to very fine crystalline, micritic - fragmental in part, some cream chalky streaks, some interbedded dolomite with slight intercrystalline porosity - noneffective, some scattered coarse crystals of secondary dolomite.
950 - 960'	Limestone - greyish brown microcrystalline to very fine crystalline with streaks of very light grey to cream - chalky, micritic; fragmental in part, some interbedded dolomite - greyish brown, very fine crystalline, earthy in part, slight intercrystalline porosity - noneffective.
960 - 980'	Dolomite - greyish brown, very fine crystalline, slightly calcitic in part, slight intercrystalline porosity.
980 - 990'	Limestone - cream to greyish brown, microcrystalline to very fine crystalline - chalky in part, micritic in part, fragmental in part, dense, slightly argillaceous in part, some streaks and thin interbedded dolomite as above - slight intercrystalline porosity - noneffective.

990 - 1010'	Limestone - cream to greyish brown, microcrystalline to very fine crystalline - chalky in part, fragmental, tight, argillaceous streaks, slightly dolomitic - earthy in part.
1010 - 1030'	Limestone - as above - micritic and fragmental.
1030 - 1050'	Limestone - as above - micritic and fragmental, trace of milky chert.
1050 - 1060'	Limestone - very light greyish brown - cream in part, microcrystalline, fragmental, micritic in part, some oolites, dense.
1060 - 1080'	Limestone - very light to light greyish brown, microcrystalline to very fine crystalline - as above.
1080 - 1130'	Limestone - very light greyish brown - cream in part, microcrystalline to very fine crystalline, fragmental and micritic, dense.
1130 - 1150'	Limestone - light greyish brown, microcrystalline to very fine crystalline, fragmental and micritic, dolomitic streaks, tight.
1150 - 1160'	Limestone - light greyish brown, microcrystalline to very fine crystalline, fragmental, micritic in part, dense. Dolomite - greyish brown, very fine crystalline, slight intercrystalline porosity - noneffective.
1160 - 1170'	Dolomite - greyish brown, microcrystalline to very fine crystalline, slight intercrystalline porosity, argillaceous.
1170 - 1180'	Dolomite - as above. Limestone - brownish grey, microcrystalline to very fine crystalline, fragmental, micritic in part, dense, argillaceous.
1180 - 1200'	Limestone - greyish brown, microcrystalline to very fine crystalline, fragmental, micritic in part, pelletoidal in part, dolomitic streaks, tight, argillaceous.
1200 - 1230'	Dolomite - greyish brown, microcrystalline to very fine crystalline, slight intercrystalline porosity, argillaceous, a few scattered fine fractures filled with calcite.
1230 - 1240'	Dolomite - very light greyish brown - some darker streaks, microcrystalline to very fine crystalline, slight intercrystalline porosity, some argillaceous streaks, some streaks of limestone as above.
1240 - 1250'	Dolomite - brown - greyish, microcrystalline to very fine crystalline, slight intercrystalline porosity, argillaceous, trace of quartz crystals.

1250 - 1260'	Dolomite - greyish brown, microcrystalline to very fine crystalline, slight to poor intercrystalline, pinpoint and scattered small vuggy porosity, some scattered white coarse secondary dolomite crystals, argillaceous.
1260 - 1280'	Dolomite - light greyish brown, microcrystalline to very fine crystalline, slight to poor intercrystalline, pinpoint and scattered small vuggy porosity, some scattered white coarse secondary dolomite crystals, slightly argillaceous in part.
1280 - 1360'	Dolomite - greyish brown - some light streaks, microcrystalline to very fine crystalline, slight intercrystalline porosity, argillaceous.
1360 - 1380'	Dolomite - very light greyish brown - some dark streaks - very fine to fine crystalline, slight to poor intercrystalline porosity.
1380 - 1400'	Dolomite - greyish brown, microcrystalline to fine crystalline, slight intercrystalline porosity, argillaceous, some scattered fractures filled with crystalline calcite.
1400 - 1410'	Dolomite - greyish brown to medium dark greyish brown, very fine to fine crystalline, slight intercrystalline porosity, argillaceous, some scattered partings of black bituminous shale, trace of quartz crystals.
1410 - 1420'	Dolomite - greyish brown, very fine to fine crystalline, slight intercrystalline porosity, argillaceous, scattered fractures filled with crystalline calcite.
1420 - 1450'	Dolomite - medium greyish brown, very fine to fine crystalline, slight to poor intercrystalline, pinpoint and small vuggy porosity, argillaceous, scattered fractures filled with crystalline calcite.
1450 - 1480'	Dolomite - light greyish brown - some dark streaks, very fine to fine crystalline, poor intercrystalline & scattered small vuggy porosity, slightly argillaceous in part.
1480 - 1510'	Dolomite - greyish brown, very fine to fine crystalline, slight to poor intercrystalline porosity, argillaceous.
1510 - 1540'	Dolomite - light brownish grey - as above.
1540 - 1560'	Dolomite - brownish grey - some dark streaks, very fine to fine crystalline, slight to poor intercrystalline porosity argillaceous.
1560 - 1580'	Dolomite - as above, trace of quartz crystals, some calcite crystals (infilling fractures).
1580 - 1590'	Dolomite - as above - marked increase in quartz crystals & calcite crystals.

1590 - 1600'	Dolomite - brownish grey - some dark streaks, very fine to fine crystalline, slight to poor intercrystalline porosity, argillaceous.
1600 - 1610'	Dolomite - light to medium dark greyish brown, microcrystalline to very fine crystalline, slight streaky intercrystalline porosity, streaky argillaceous content, few scattered quartz crystals.
1610 - 1620'	Dolomite - light greyish brown, microcrystalline to very fine crystalline, streaky slight intercrystalline porosity, slightly argillaceous.
1620 - 1690'	Dolomite - greyish brown, microcrystalline to very fine crystalline, streaky, slight intercrystalline porosity, argillaceous, few scattered quartz crystals, some scattered calcite crystals.
1690 - 1700'	Dolomite - greyish brown - light streaks, microcrystalline to very fine crystalline, streaky slight intercrystalline porosity - noneffective, few quartz crystals and calcite crystals.
1700 - 1730'	Dolomite - light greyish brown, microcrystalline to very fine crystalline, tight, silty, few quartz crystals and calcite crystals.
1730 - 1790'	Dolomite - buff, some dark streaks in part, fine to medium crystalline, dense, silty, abundant, quartz crystals.
1790 - 1820'	Dolomite - buff, microcrystalline to very fine crystalline, dense, silty (samples powdered - difficult to interpret).
1820 - 1910'	Dolomite - medium grey, microcrystalline to very fine crystalline, dense, argillaceous, trace of quartz crystals, trace of greenish grey shale partings - silty.
1910 - 1940'	Dolomite - light grey, microcrystalline, dense, silty.
1940 - 1960'	Dolomite - light grey, microcrystalline to very fine crystalline, tight, silty - very fine, rare greenish grey shaly streaks.
1960 - 1990'	Dolomite - grey, microcrystalline, tight, some argillaceous streaks, silty, some partings of dark grey shale.
1990 - 2010'	Dolomite - brownish grey - some dark streaks, microcrystalline to very fine crystalline, dense, argillaceous, silty, rare partings of black bituminous shale, some scattered fractures filled with crystalline calcite.
2010 - 2020'	Dolomite - dark brownish grey - some light streaks, microcrystalline, tight very argillaceous, silty, some partings of black bituminous shale.

2020 - 2030' Dolomite - grey, microcrystalline, tight, argillaceous, silty, some partings of greenish grey shale.

2030 - 2040' Dolomite - medium to dark brownish grey, microcrystalline to very fine crystalline - some fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty, some partings of dark grey shale and black bituminous shale.

2040 - 2050' Dolomite - light grey - slightly greenish to brownish cast, microcrystalline to very fine crystalline, tight, silty.

2050 - 2070' Dolomite - medium to dark brownish grey, microcrystalline to very fine crystalline, tight, very argillaceous, slightly silty, scattered fractures filled with crystalline calcite, partings of dark grey shale.

2070 - 2090' Dolomite - medium grey - slightly brownish, microcrystalline, dense, argillaceous, silty, scattered fractures with calcite.

2090 - 2100' Dolomite - brownish grey - some darker streaks, microcrystalline to fine crystalline, dense, argillaceous in part, silty, scattered fractures with calcite.

2100 - 2120' Dolomite - grey - slightly brownish - some light streaks, microcrystalline to very fine crystalline, dense, hard, argillaceous, silty, some scattered fractures filled with crystalline calcite.

Ronning 2120' (E-Log 2106')

2120 - 2140' Dolomite - greyish brown - some light streaks, microcrystalline to fine crystalline - some light colored streaks are fine to medium crystalline, tight for the most part, some streaky slight intercrystalline porosity, argillaceous, silty, some streaks of greyish green shale, scattered fractures filled with crystalline calcite - trace of quartz crystals.

2140 - 2150' Dolomite - buff, microcrystalline to very fine crystalline slight intercrystalline porosity, silty, some streaks of greyish green shale, scattered fractures filled with calcite.

2150 - 2160' Dolomite - light greyish brown, microcrystalline to very fine crystalline, streaky, slight intercrystalline porosity, argillaceous, silty, trace of quartz crystals.

2160 - 2190' Dolomite - as above - some light colored streaks - very fine to fine crystalline, streaky intercrystalline porosity, scattered fractures filled with crystalline calcite.

2190 - 2220'	Dolomite - very light buff, fine to medium crystalline, poor intercrystalline and vuggy porosity - abundant loose coarse dolomite rhombs - scattered quartz crystals, slightly silty and argillaceous.
2220 - 2230'	Dolomite - greyish brown, fine to medium crystalline, slight to poor intercrystalline porosity, argillaceous, scattered quartz crystals.
2230 - 2240'	Dolomite - light greyish brown - some dark streaks, fine to medium crystalline, poor intercrystalline and vuggy porosity - scattered dolomite rhombs, scattered quartz crystals, slightly argillaceous, silty.
2240 - 2250'	Dolomite - very light buff - fine to medium crystalline, poor intercrystalline and vuggy porosity, scattered dolomite rhombs and quartz crystals.
2250 - 2280'	Dolomite - very light greyish brown - fine to medium crystalline, poor intercrystalline & vuggy porosity, scattered dolomitic rhombs and quartz crystals, slightly silty, scattered fractures filled with crystalline calcite.
2280 - 2300'	Dolomite - medium dark to dark greyish brown,very fine to medium crystalline, slight intercrystalline and vuggy porosity, scattered dolomite rhombs and quartz crystals, argillaceous and silty.
2300 - 2310'	Dolomite - medium greyish brown, fine to medium crystalline - euhedral, slight scattered vuggy porosity, argillaceous, silty, scattered dolomite rhombs, trace of quartz crystals.
2310 - 2320'	Dolomite - light to medium greyish brown - as above.
2320 - 2380'	Dolomite - greyish brown, very fine to fine crystalline, streaky, slight intercrystalline porosity, argillaceous, silty, scattered quartz crystals.
2380 - 2390'	Dolomite - very light buff, fine to medium crystalline, slight intercrystalline porosity, scattered vugs - some coarse dolomite rhombs.
2390 - 2410'	Dolomite - very light buff to very light brown, very fine to medium crystalline - euhedral, slight vuggy porosity - scattered coarse dolomite rhombs, streaky slight intercrystalline porosity.
2410 - 2440'	Dolomite - medium brownish grey - some light streaks, very fine to fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty, scattered fractures filled with white coarse crystalline secondary dolomite. Some fractures filled with crystalline calcite.

2440 - 2460'	Dolomite - medium to dark brownish grey, very fine to fine crystalline, dense, argillaceous, silty, some scattered loose dolomite rhombs (infilling fractures?)
2460 - 2480'	Dolomite - brownish grey - some dark streaks, as above.
2480 - 2490'	Dolomite - brownish grey, very fine to fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty.
2490 - 2500'	Dolomite - greyish brown, very fine to fine crystalline, dense, argillaceous, silty.
2500 - 2510'	Dolomite - light greyish brown, very fine to fine crystalline, slight intercrystalline porosity, slightly argillaceous, silty, some secondary dolomite
2510 - 2540'	Dolomite - greyish brown, very fine to fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty.
2540 - 2580'	Dolomite - light greyish brown - as above, slight intercrystalline and scattered vuggy porosity, argillaceous, silty, scattered white coarse crystals of dolomite (druses).
2580 - 2590'	Dolomite - very light buff, very fine to medium crystalline, slight intercrystalline porosity, slightly silty.
2590 - 2610'	Dolomite - greyish brown, very fine to fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty.
2610 - 2620'	Dolomite - greyish brown - some dark streaks, very fine crystalline, dense, argillaceous, silty.
2620 - 2700'	Dolomite - greyish brown, very fine to fine crystalline, streaky slight intercrystalline and vuggy porosity - scattered dolomite rhombs, silty, slightly argillaceous, some scattered fractures filled with secondary dolomite.
2700 - 2720'	Dolomite - greyish brown, microcrystalline to very fine crystalline - streaks of microsucrose with streaky slight intercrystalline porosity, argillaceous, silty.
2720 - 2740'	Dolomite - brownish grey, microcrystalline to very fine crystalline, dense - some light buff microsucrosic streaks with slight intercrystalline porosity - noneffective, silty and sandy, abundant calcite crystals and some dolomite rhombs infilling fractures, trace of quartz crystals.
2740 - 2780'	Dolomite - light buff - microsucrose and light greyish brown - microcrystalline to very fine crystalline; streaky slight intercrystalline porosity - noneffective, silty, argillaceous, some scattered calcite crystals, trace of quartz crystals and dolomite rhombs.

2780 - 2790'	Dolomite - buff, microcrystalline to very fine crystalline, dense, silty.
2790 - 2800'	Dolomite - light greyish brown, microcrystalline to very fine crystalline, tight, silty, some scattered inclusions of calcite crystals, rare quartz crystals.
2800 - 2850'	Dolomite - greyish brown - light streaks, microcrystalline to fine crystalline, tight, silty, some scattered inclusions of calcite crystals.
2850 - 2880'	Dolomite - brownish grey, microcrystalline to fine crystalline, dense for the most part - scattered blind vugs with coarse dolomite druses, silty, slightly argillaceous, some scattered fractures filled with secondary dolomite.
2880 - 2890'	Dolomite - brownish grey, microcrystalline to fine crystalline, dense - scattered vugs partially to completely infilled with secondary dolomite, silty, argillaceous.
2890 - 2910'	Dolomite - buff, microcrystalline to fine crystalline, slight intercrystalline porosity, rare drusy vugs, rare quartz crystals, some loose calcite and secondary dolomite crystals, argillaceous, silty (very fine).
2910 - 2920'	Dolomite - greyish brown, microcrystalline to fine crystalline, dense, rare scattered vugs, argillaceous, silty, loose calcite crystals (fractures?).
2920 - 2940'	Dolomite - as above slight scattered vuggy porosity - secondary dolomite druses.
2940 - 2950'	Dolomite - as above, some light colored streaks and patches, slight vuggy porosity
2950 - 2970'	Dolomite - greyish brown, microcrystalline to fine crystalline - sucrosic in part, streaky slight intercrystalline and scattered vuggy porosity, argillaceous, silty, scattered fractures filled with crystalline calcite, secondary dolomite druses.
2970 - 2990'	Dolomite - as above, numerous fractures indicated by abundant loose white coarse calcite crystals, streaky slight intercrystalline and vuggy porosity, dolomite druses.
2990 - 3000'	Dolomite - greyish brown, microcrystalline to fine crystalline, slight intercrystalline and vuggy porosity, coarse secondary dolomite rhombs partially to completely infilling scattered vugs, trace of quartz crystals, trace of milky chert, argillaceous, silty, some scattered fractures infilled with calcite.
3000 - 3010'	Dolomite - light greyish brown, microcrystalline to fine crystalline, dense, some scattered fractures filled with calcite.
3010 - 3020'	Dolomite - light buff, microcrystalline to fine crystalline, dense, silty, some scattered fractures filled with calcite.

3020 - 3050' Dolomite - light brownish and greenish grey, microcrystalline to fine crystalline, dense, fractures filled with calcite, a few vugs with druses of secondary dolomite, some finely disseminated pyrite.

3050 - 3060' Dolomite - very light greyish brown to buff, microcrystalline to fine & some medium crystalline, slight scattered vuggy porosity - druses of secondary dolomite, some fractures filled with calcite, trace of pyrobitumen.

3060 - 3100' Dolomite - light greyish brown, very fine to coarse crystalline, slight to poor intercrystalline and vuggy porosity, scattered slightly argillaceous streaks, some scattered pyrite.

3100 - 3120' Dolomite - very light to light grey - brownish in part, microcrystalline to medium crystalline, dense, a few fractures filled with calcite.

3120 - 3140' Dolomite - light greyish brown, microcrystalline to coarse crystalline, slight intercrystalline and vuggy porosity, loose dolomite rhombs.

3140 - 3160' Dolomite - as above, very light buff in part, microcrystalline to coarse crystalline, a few streaks of medium dark brownish grey, very fine crystalline dolomite; a few slightly argillaceous streaks - some pyrite.

3160 - 3190' Dolomite - very light to light grey - brownish in part, microcrystalline to coarse crystalline, slight intercrystalline and vuggy porosity, trace of green waxy shale, rare scattered glauconite.

3190 - 3210' Dolomite - very light grey, microcrystalline to coarse crystalline, slight intercrystalline and vuggy porosity, milky & avery light bluish grey chert, trace of quartz crystals, some scattered pyrite.

3210 - 3230' Dolomite - very light to light brownish grey, microcrystalline to coarse crystalline, slight to poor intercrystalline and vuggy porosity, rare scattered glauconite, silty.

3230 - 3240' Dolomite - light grey, very fine to coarse crystalline, slight intercrystalline and small vuggy porosity - very good cavernous porosity (kelly dropped five feet) trace of glauconite.

3240 - 3250' Dolomite - light grey - brownish in part, very fine to coarse crystalline, slight to poor intercrystalline and vuggy porosity, scattered pyrite.

3250 - 3260' Dolomite - as above, some dark streaks of microcrystalline to very fine crystalline dolomite - silty and argillaceous, some quartz crystals.

3260 - 3280'	Dolomite - light grey - brownish in part, very fine to coarse crystalline, slight intercrystalline and vuggy porosity, siliceous in part, very light grey chert, some quartz crystals, trace of bright green shale, scattered pyrite.
3280 - 3290'	Dolomite - as above, abundant very light grey to milky chert, quartz crystals.
3290 - 3400'	Dolomite - light greyish brown, microcrystalline to coarse crystalline, slight intercrystalline and vuggy porosity - some cavernous porosity at 3380', light grey chert, siliceous in part, quartz crystals, some scattered pyrite.
3400 - 3410'	Dolomite - as above (trip sample)
3410 - 3440'	Dolomite - light greyish brown, very fine to coarse crystalline, scattered slight intercrystalline and vuggy porosity, cherty - light grey.
3440 - 3520'	Dolomite - buff to light greyish brown, as above, a few quartz crystals, cherty.
3520 - 3560'	Dolomite - buff, very fine crystalline to coarse crystalline, scattered slight intercrystalline and vuggy porosity, cherty.
3560 - 3570'	Dolomite - as above and dolomite - medium to dark grey - slightly brownish, microcrystalline to very fine crystalline, dense, argillaceous, streaks of dark grey to black chert, some streaks of sandy dolomite - light grey, very fine crystalline, dense, very silty to sandy (very fine grained) - grading to a dolomitic sandstone, finely disseminated pyrite.
3570 - 3580'	Dolomite - medium to dark grey with light grey silty to sandy streaks as above.
3580 - 3630'	Dolomite - light buff to light greyish brown, very fine to medium crystalline, streaky, slight intercrystalline and vuggy porosity, silty, very light grey chert, some quartz crystals.
3630 - 3650'	Dolomite - light buff, very fine to coarse crystalline, streaky slight intercrystalline and vuggy porosity, silty, some light grey chert, some quartz crystals.
3650 - 3670'	Dolomite - light buff, very fine to coarse crystalline, streaky slight intercrystalline and vuggy porosity, silty.
3670 - 3690'	Dolomite - as above, trace of light grey chert & quartz crystals.
3690 - 3700'	Dolomite - as above, quartz crystals and very light grey chert - faint outline of oolites.
3700 - 3710'	Dolomite - light buff to light greyish brown, very fine to coarse crystalline, streaky slight intercrystalline and vuggy porosity, quartz crystals, trace of very light grey chert.

3710 - 3750'	Dolomite - very light buff, as above.
3750 - 3790'	Dolomite - very light buff - brownish in part, very fine to coarse crystalline, streaky slight intercrystalline and vuggy porosity, quartz crystals.
3790 - 3800'	Dolomite - very light buff, trace of reddish streaks, microcrystalline to medium crystalline, slight to poor intercrystalline porosity, silty, siliceous in part, very light grey to milky chert, quartz crystals.
3800 - 3820'	Dolomite - very light grey and buff, very fine to medium crystalline, streaky slight intercrystalline porosity, silty, some quartz crystals, trace of very light grey chert.
3820 - 3850'	Dolomite - very light buff - brownish in part, microcrystalline to coarse crystalline, streaky, slight intercrystalline and vuggy porosity, silty, siliceous in part, some very light grey chert & rare streaks of medium to dark grey chert, some quartz crystals.
3850 - 3860'	Dolomite - very light grey - brownish in part, very fine to medium crystalline dense, some streaks - greyish brown - microcrystalline to very fine crystalline, argillaceous, silty, tight; trace of milky and medium to dark grey chert - banded in part.
3860 - 3880'	Dolomite - as above, some very light grey chert, some quartz crystals.
3880 - 3890'	Dolomite - very light grey - slightly brownish in part, microcrystalline to medium crystalline, dense, silty, siliceous in part, some chert - light to very light grey, quartz crystals.
3890 - 3920'	Dolomite - very light grey - slightly brownish in part, microcrystalline to medium crystalline, dense, silty, very cherty - very light grey (faint outline of oolites) siliceous in part, quartz crystals, trace of gypsum crystals.
3920 - 3950'	Dolomite - as above - chert becoming slightly darker in color.
3950 - 3970'	Dolomite - light greyish brown, microcrystalline to medium crystalline, dense, silty, abundant very light grey to very light greyish brown oolitic chert, some loose calcite crystals.
3970 - 3990'	Dolomite - very light greyish brown, microcrystalline to medium crystalline, dense, silty, very light grey chert, some quartz crystals.
3990 - 4020'	Dolomite - very light buff, microcrystalline to fine crystalline, streaky slight intercrystalline porosity, silty, some light colored chert - oolitic in part, quartz crystals.

4020 - 4040'	Dolomite - very light buff, microcrystalline to fine crystalline, streaky slight intercrystalline porosity, silty, some light colored chert, some quartz crystals.
4040 - 4090'	Dolomite - very light buff, microcrystalline to medium crystalline, slight intercrystalline porosity - dense streaks, some very light grey chert, some quartz crystals.
4090 - 4120'	Dolomite - very light buff to very light greyish brown, microcrystalline to medium crystalline, some medium greyish brownish streaks - microcrystalline to very fine crystalline, slightly argillaceous, silty; streaky - slight intercrystalline porosity, slightly cherty - oolitic in part, some quartz crystals.
4120 - 4180'	Dolomite - very light to medium greyish brown, microcrystalline to fine crystalline, dense, silty, argillaceous streaks, some very light grey chert, some quartz crystals, some loose calcite crystals.
4180 - 4210'	Dolomite - very light to medium greyish brown, microcrystalline to fine crystalline, dense, silty, argillaceous streaks, cherty - very light grey to dark grey, some loose calcite crystals, some quartz crystals.
4210 - 4230'	Dolomite - as above - abundant quartz crystals, slight vuggy porosity.
4230 - 4280'	Dolomite - very light to medium greyish brown, microcrystalline to fine crystalline, streaky slight intercrystalline porosity, silty, argillaceous streaks, quartz crystals, some cherty streaks - very light brownish grey to dark grey.
4280 - 4290'	Dolomite - very light grey - slightly brownish - some dark streaks, microcrystalline to fine crystalline, dense ,for the most part, some scattered small vugs, silty, quartz crystals.
4290 - 4300'	Dolomite - brownish grey - light streaks, microcrystalline to fine crystalline, streaky slight intercrystalline porosity, silty, argillaceous streaks, quartz crystals, some very light to dark grey chert.
4300 - 4370'	Dolomite - grey - very light in part - slightly brownish, microcrystalline to fine crystalline, slight streaky intercrystalline porosity, silty, argillaceous in part, slightly cherty,few quartz crystals.
4370 - 4390'	Dolomite - as above, few partings of dark grey shale.
4390 - 4430'	Dolomite - very light buff, microcrystalline to medium crystalline, slight intercrystalline porosity, trace of scattered vugs, silty, pyritic in part, trace of light colored chert and quartz crystals.

4430 - 4490'	Dolomite - very light to light grey, slightly brownish, some dark streaks, microcrystalline to coarse crystalline, streaky slight intercrystalline porosity, silty, slightly cherty, some scattered pyrite, some scattered partings of greyish green shale and dark grey shale - bituminous in part.
4490 - 4500'	Dolomite - medium brownish grey - some light streaks microcrystalline to medium crystalline, tight, silty, argillaceous, rare light colored chert & quartz crystals, scattered pyrite.
4500 - 4510'	Dolomite - very light grey - brownish - some dark streaks microcrystalline to medium crystalline, slight intercrystalline porosity, silty, argillaceous streaks, some quartz crystals, scattered pyrite, trace of shale partings.
4510 - 4540'	Dolomite - very light greyish brown, very fine to coarse crystalline, streaky slight intercrystalline and vuggy porosity, slightly cherty - oolitic in part, some quartz crystals.
4540 - 4550'	Dolomite - as above - some darker colored streaks.
4550 - 4570'	Dolomite - greyish brown - microcrystalline to fine crystalline, tight, argillaceous, silty, some partings of dark grey shale, some scattered pyrite.
4570 - 4580'	Dolomite - brownish grey, microcrystalline to fine crystalline, tight, silty.
4580 - 4650'	Dolomite - greyish brown, microcrystalline to fine crystalline, tight, silty, argillaceous, some partings of dark grey and black bituminous shale.
4650 - 4670'	Dolomite - light brownish grey, microcrystalline to fine crystalline, tight, silty, slightly argillaceous.
4670 - 4720'	Dolomite - light to medium greyish brown, microcrystalline to fine crystalline, tight, silty, argillaceous, some scattered fractures filled with crystalline calcite, scattered shale partings.

4720 - 4740'	Dolomite - very light grey to greyish brown - rare reddish streaks, microcrystalline to coarse crystalline, slight vuggy and intercrystalline porosity, silty, argillaceous streaks, some dark grey shale partings - some dark reddish coloration, trace of light grey chert and quartz crystals.
4740 - 4770'	Dolomite - greyish brown, microcrystalline to fine crystalline, tight, silty, argillaceous, some partings of black bituminous shale and dark grey shale.
4770 - 4780'	Dolomite - light to medium greyish brown - some streaks of very light grey, microcrystalline to fine crystalline, streaky - slight intercrystalline porosity, shale partings - dark grey - some rare purple streaks.
4780 - 4800'	Dolomite - greyish brown, microcrystalline to fine crystalline tight, silty, argillaceous.
4800 - 4810	Dolomite - as above - some dolomite - very light grey to brownish grey, microcrystalline to coarse crystalline, slight intercrystalline and vuggy porosity - dense streaks, silty, argillaceous in part, rare quartz crystals.
4810 - 4830'	Dolomite - very light grey, microcrystalline to very fine crystalline, streaky slight intercrystalline porosity silty (very fine).
4830 - 4840'	Dolomite - very light to medium greyish brown, microcrystalline to medium crystalline, streaky slight intercrystalline porosity, silty, argillaceous in part.
4840 - 4850'	Dolomite - very light grey - slightly brownish - some dark streaks, microcrystalline to medium crystalline, slight intercrystalline porosity, slightly argillaceous in part.
4850 - 4860'	Dolomite - as above - increase in darker streaks, streaky,slight intercrystalline porosity, argillaceous in part.
4860 - 4880'	Dolomite - medium to dark brownish grey, microcrystalline to very fine crystalline, tight, argillaceous, silty, some partings of dark grey shale.
4880 - 4920'	Dolomite - light to medium greyish brown, microcrystalline to medium crystalline, streaky - slight intercrystalline porosity, silty, argillaceous in part, partings of dark grey shale.
4920 - 4930'	Dolomite - greyish brown - some dark streaks, microcrystalline to fine crystalline, tight, silty, argillaceous.
4930 - 4980'	Dolomite - light to medium greyish brown, microcrystalline to medium crystalline, streaky - slight intercrystalline porosity, silty, argillaceous in part, scattered partings of dark grey shale.

4980 - 5010'	Dolomite - as above, microcrystalline to fine crystalline.
5010 - 5030'	Dolomite - very light buff, microcrystalline to fine crystalline, slight intercrystalline porosity, some scattered argillaceous streaks.
5030 - 5050'	Dolomite - as above - some greyish brown streaks, a band of slightly greenish grey dolomite - microcrystalline to very fine crystalline, silty, dense.
5050 - 5060'	Dolomite - very light grey - brownish in part to greyish brown, microcrystalline to fine crystalline, streaky slight intercrystalline porosity, some silty and argillaceous streaks.
5060 - 5070'	Dolomite - as above - partings of black bituminous shale.
5070 - 5110'	Dolomite - very light grey to greyish brown, microcrystalline to fine crystalline, trace of slight intercrystalline porosity, silty and argillaceous streaks, trace of dark grey chert at 5090'
5110 - 5140'	Dolomite - very light grey - brownish in part to light greyish brown, microcrystalline to very fine and some fine crystalline, tight, trace of very light grey to light brown chert at the top.
5140 - 5150'	Dolomite - light to medium grey - some dark streaks - brownish in part, microcrystalline to fine crystalline, tight, silty and argillaceous, trace of very thin streaks of very light grey chert.
5150 - 5180'	Dolomite - very light brownish grey to greyish brown, microcrystalline to very fine crystalline, tight, silty.
5180 - 5220'	Dolomite - very light grey - slightly brownish in part, microcrystalline to very fine crystalline, dense, silty.
5220 - 5230'	Dolomite - as above - greyish brown in part, some partings of dark grey shale.
5230 - 5240'	Dolomite - greyish brown - very light in part - dark in part, microcrystalline to very fine crystalline, tight, silty, slightly argillaceous in part.
5240 - 5280'	Dolomite - greyish brown, microcrystalline to fine crystalline, trace of slight intercrystalline porosity, silty, argillaceous.
5280 - 5300'	Dolomite - very light buff - some greyish brown, microcrystalline to fine crystalline, trace of slight intercrystalline porosity, silty, some partings of black bituminous shale.
5300 - 5310'	Dolomite - very light grey to greyish brown, microcrystalline to very fine crystalline, tight, silty, argillaceous streaks.

5310 - 5340'	Dolomite - very light grey, very fine crystalline, slight intercrystalline porosity, silty.
5340 - 5350'	Dolomite - medium to dark brownish grey, microcrystalline to very fine crystalline, tight, argillaceous, silty.
5350 - 5370'	Dolomite - as above - some light brownish grey.
5370 - 5450'	Dolomite - very light to medium grey - brownish in part, microcrystalline to very fine crystalline, dense, silty, some partings of black bituminous shale and dark grey shale.
5450 - 5480'	Dolomite - light grey - grey, microcrystalline, dense, silty, some partings of greenish grey and black bituminous shale.
5480 - 5500'	Dolomite - as above, some rare faint reddish streaks.
5500 - 5520'	Dolomite - light to dark grey, brownish, microcrystalline to very fine crystalline, dense, silty, argillaceous streaks, scattered shale partings, trace of quartz crystals.
5520 - 5580'	Dolomite - light to dark grey, microcrystalline to very fine crystalline, dense, few scattered blind vugs, banded in part, silty, argillaceous in part, trace of inclusions of gypsum, some partings of black bituminous shale.
5580 - 5590'	Dolomite - medium to dark grey, microcrystalline to very fine crystalline, dense, silty, argillaceous, some thin interbeds of dark grey and greenish grey shale - hard, brittle, dolomitic.
5590 - 5620'	Dolomite - light to medium grey - brownish in part, microcrystalline to very fine and some fine crystalline, dense, argillaceous, silty, some scattered pyrite, interbedded greenish grey dolomitic shale, trace of gypsum crystals.
5620 - 5630'	Dolomite - as above, streaks of very light grey dolomite - microcrystalline to very fine crystalline - chalky in part.
5630 - 5640'	Dolomite - light to medium greyish brown - rare reddish streaks, microcrystalline to very fine crystalline, dense, silty, argillaceous, some thin interbeds of greenish grey dolomitic shale.
5640 - 5650'	Dolomite - as above; dolomite - light grey - reddish streaks, dense, argillaceous, trace of floating quartz grains. Shale - greenish grey and maroon.
5650 - 5660'	Dolomite - light brownish grey, microcrystalline, dense.
5660 - 5670'	Dolomite - brownish grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, thin interbedded greenish grey shale.

Cambrian 5675' (E-Log 5665')

5670 - 5710'	Dolomite - reddish and greenish grey, microcrystalline to very fine crystalline, dense, very silty, argillaceous Shale - maroon and greyish green, hard, blocky, micromicaceous.
5710 - 5730'	Dolomite - pink to red, and greenish grey, microcrystalline to very fine crystalline - chalky in part, silty, argillaceous a trace of anhydrite. Shale - maroon and greyish green, blocky, micromicaceous.
5730 - 5740'	Shale - maroon, fissile to blocky, micromicaceous, some streaks of dolomite.
5740 - 5760'	Shale - maroon & greyish green, fissile to blocky, micromicaceous. Dolomite - very light grey - pink & brownish in part tight, microcrystalline to very fine crystalline, silty, some sandy streaks, trace of quartzite.
5760 - 5780'	Dolomite - grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, some sandy streaks. Shale - maroon and green, micromicaceous.
5780 - 5800'	Shale - greenish grey - some maroon streaks, fissile to blocky, micromicaceous, some streaks of dolomite.
5800 - 5820'	Shale - as above Dolomite - grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, trace of quartz crystals, trace of gypsum.
5820 - 5850'	Dolomite - as above. Shale - greenish grey & maroon, fissile to blocky, micromicaceous.

Salt 5850' (E-Log 5842')

5850 - 5890'	Salt - with shaly streaks, thin interbeds and streaks of dolomite, some slightly brownish grey anhydrite (salt not recovered in samples)
5890 - 5910'	Samples Missing - no recovery.
5910 - 5920'	Dolomite - grey, microcrystalline to very fine crystalline, dense, pelletoid in part, silty, some streaks of maroon and greyish green shale. Salt -(no recovery in samples)
5920 - 6080'	Salt -(no recovery - except 6080' sample) thin interbeds and streaks of dolomite, shale laminae, minor anhydrite and gypsum.

Base of Salt 6084' (E-Log 6087')

6080 - 6090'	Salt - (no recovery) Dolomite - grey, microcrystalline, dense, earthy in part, silty some scattered salt casts.

6090 - 6100' Dolomite - grey - slightly brownish, microcrystalline - earthy for the most part, tight, argillaceous, silty, some scattered salt casts.

6100 - 6110' Shale - greyish green - fine white specks, fissile to blocky, micromicaceous, slightly dolomitic, some fine veins of gypsum.

6110 - 6120' Shale - medium grey - trace of white specks, brittle, micromicaceous, slightly dolomitic, some streaks of dolomite - light grey, microcrystalline to very fine crystalline, tight.

6120 - 6150' Shale - medium grey - some greyish green and reddish streaks, brittle, micromicaceous, slightly dolomitic, some streaks of dolomite - grey to brownish grey and pink to reddish grey, microcrystalline to very fine crystalline, tight - silty and sandy streaks.

6150 - 6170' Shale - with interbedded dolomite as above - ochre cast in part.

6170 - 6190' Shale - greenish and brownish grey, brittle, micromicaceous, some interbedded dolomite - light grey to greenish and reddish grey, very fine to fine crystalline, dense, silty and sandy streaks, trace of floating quartz grains.

6190 - 6210' Dolomite - medium to dark grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, shale streaks, very cherty - milky and brownish grey - oolitic in part, trace of quartzite, trace of gypsum crystals.

6210 - 6220' Dolomite - brownish grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, some shale streaks, some inclusions of anhydrite and gypsum (also infilling fine fractures).

6220 - 6270' Dolomite - medium grey, microcrystalline to fine crystalline, dense, very argillaceous, silty, shale streaks, pyritic in part, scattered blebs of anhydrite, few gypsum crystals, trace of salt casts.

6270 - 6280' Dolomite - as above
Shale - medium grey and greenish grey, fissile to blocky, micromicaceous, slightly dolomitic.

6280 - 6320' Dolomite - medium grey, microcrystalline to very fine and some fine crystalline, dense, very argillaceous, very shaly, silty, few scattered blebs of anhydrite, trace of gypsum.

6320 - 6330' Dolomite - as above - some lighter brownish streaks.

6330 - 6380' Dolomite - medium to dark grey, microcrystalline, dense, very argillaceous and silty, shaly streaks, scattered blebs of anhydrite, trace of salt casts.

6380 - 6390' Dolomite - medium grey - slight greenish cast, microcrystalline to very fine crystalline, dense, very argillaceous

6380 - 6390' (cont'd)	and silty, shaly, some anhydrite and gypsum.
6390 - 6410'	Dolomite - grey, microcrystalline to very fine crystalline, dense, argillaceous, silty, shale streaks, scattered glauconite, pyritic in part, scattered blebs and thin interbeds of anhydrite.
6410 - 6420'	Dolomite - medium to dark brownish grey, very fine to fine crystalline, streaky slight intercrystalline porosity, argillaceous, silty, shale streaks, glauconite & pyrite. Proterozoic 6420' (E-Log 6428')
6420 - 6440'	Dolomite - very light grey - brownish - greenish - pinkish in part, microcrystalline to very fine crystalline - chalky in part, streaky slight intercrystalline porosity, some scattered quartz crystals, pyritic in part, glauconitic in part, some blebs and thin streaks of anhydrite, sandy streaks, thin cherty streaks, trace of oolitic texture, some streaks of maroon and green shale.
6440 - 6450'	Dolomite - as above; dolomite - light greyish brown, microcrystalline to very fine crystalline, dense.
6450 - 6470'	Dolomite - very light grey to light greyish brown - some reddish streaks and patches, microcrystalline to fine crystalline, streaky, slight intercrystalline porosity, trace of oolitic texture, scattered inclusions of gypsum crystals, scattered pyrite.
6470 - 6490'	Dolomite - as above; dolomite - medium dark brownish grey, microcrystalline to fine crystalline, dense, argillaceous, streaks of greenish grey shale, silty, sandy streaks, glauconitic, inclusions of gypsum.
6490 - 6520'	Dolomite - greyish brown some scattered red spots and patches, microcrystalline to very fine crystalline, dense, slightly pyritic in part, some inclusions of gypsum & dolomite rhombs, some blebs of anhydrite, silty and sandy, trace of chert.
6520 - 6530'	Dolomite - as above - increase of red patches & streaks.
6530 - 6590'	Dolomite - greyish brown with red streaks and patches, as above.
6590 - 6620'	Dolomite - light to medium greyish brown, a few reddish streaks microcrystalline to very fine crystalline, dense, silty, slightly cherty, some dolomite rhombs, siliceous streaks, trace of salt casts, trace of quartz crystals.
6620 - 6640'	Dolomite - greyish brown - pink to reddish patches - some dark streaks, microcrystalline to very fine crystalline, dense, silty, trace of quartz crystals, some dolomitic rhombs lining and infilling scattered vugs, streaks of greenish grey and some maroon shale, trace of light grey anhydrite, trace of oolitic texture.

6640 - 6650' Dolomite - as above - fewer reddish patches.

6650 - 6670' Dolomite - light brownish grey to greyish brown - some reddish patches, microcrystalline to fine crystalline, dense, slightly silty, cherty - smoky to light greyish brown, some streaks of medium brownish grey dolomite with granules of glauconite. Some dolomite rhombs, some scattered pellets of medium brownish grey dolomite.

6670 - 6710' Dolomite - light brownish grey to greyish brown - some pink and red streaks, microcrystalline to fine crystalline, dense, slightly silty, trace of quartz crystals, some dolomite rhombs, trace of light brownish grey anhydrite, some interbedded greyish green shale, some partings of black bituminous shale.

6710 - 6730' Dolomite - very light grey to greyish brown - pink and red streaks and patches, microcrystalline to fine crystalline, dense, few scattered vugs partially to completely infilled with secondary dolomite, some shale streaks, trace of salt casts.

6730 - 6740' Dolomite - very light grey to light and dark greyish brown, some pink and red streaks, microcrystalline to fine crystalline, dense, scattered blind vugs partially to completely infilled with secondary dolomite, silty, argillaceous streaks & shale streaks, trace of anhydrite, trace of salt casts, trace of green siltstone.

6740 - 6840' Dolomite - very light to medium greyish brown - pink to red streaks and patches, microcrystalline to very fine crystalline, dense, silty, some secondary dolomite infilling vugs, trace of anhydrite, trace of quartz crystals, slightly cherty - greyish brown, some streaks of greyish green shale & dull grey soft shale, some thin streaks of greyish brown anhydrite, trace of salt casts, brecciated in part (along edge of infilled fractures), trace of gypsum, trace of faint pellets.

6840 - 6860' Dolomite - as above - trace of green siltstone, slight increase in salt casts.

6860 - 6870' Dolomite - very light to medium greyish brown - pink to red streaks and patches - some dark greyish brown - argillaceous streaks, microcrystalline to fine crystalline, dense, silty, secondary dolomite, streaks of anhydrite and gypsum, trace of quartz crystals.

6870 - 6890' Dolomite - very light buff - brown, pink and red in part, microcrystalline to fine crystalline, dense, slightly silty, secondary dolomite infilling vugs, streaks of anhydrite and gypsum, streaks of dull grey, soft shale, scattered salt casts.

6890 - 6910' Dolomite - light to medium greyish brown - pink to red streaks and patches - as above.

6910 - 6920' Dolomite - as above - granular in part with streaky slight intercrystalline porosity.

6920 - 6950' Dolomite - dense, as above.

6950 - 6960' Dolomite - very light to medium greyish brown - some dark streaks pink to red streaks and patches, microcrystalline to fine crystalline, dense, trace of oölites, some argillaceous streaks, white medium crystalline secondary dolomite rhombs infilling vugs, abundant shaly streaks - dull grey to medium dark grey and some greyish green, some salt casts, trace of anhydrite & gypsum, some scattered fractures infilled with dolomite.

F.T.D. -- 6961'

DRILL STEM TEST REPORT

Company: CanDel Oil Company — Drill Stem Test No. 1

Name of Well: CanDel Mobil et al Iroquois I-11-67-50-129-30 — Date Test Run: May 2, 1972

Testing Company: B.J. Services — Operator: Mel Moscrip

Type Packer: Bob Tail — Size Packer(s): 7 1/2" — Choke: 1/2"

Interval Tested: 900' to 1010' — Formation: Gossage (Bear Rock)

Test Data: Preflow: Time Tool Opened 7:33 a.m. Time Tool Closed 7:38 a.m. (elapsed) 5 mins.

Initial shut in: Time Tool Closed ~~Packer Set~~ 7:38 a.M. Time Tool Opened 8:38 a.M. (elapsed) 60 mins.

Flow Period: Time Tool Opened 8:38 a.M. Time Tool Closed 10:08 a.M. (elapsed) 90 mins.

Final shut in: Time Tool Closed 10:08 a.M. Time Tool Pulled 11:38 a.M. (elapsed) 90 mins.

Tight Hole Test: Yes ____ No X Size of Chamber ____

Water Cushion: No — Type of Hole: (Rathole) (Fullhole) (Cased)

T.D. Driller: 1010' — T.D. Tester: 1010' — Was Test A Misrun: No

Cause of Misrun: ____

Flow Data:

Description of Initial Blow: Weak initial puff - weak air blow

Did Blow die or Decrease: died in 15 minutes

Gas Flow To Surface In ____ mins. — Initial Gas Flow ____ MCF/Day

Stabilized Gas Flow ____ MCF/Day — Measured by: (Test) (Impact) (Side Static)

Time For Gas Flow to Stabilize ____ mins. — Gas Description: (Sweet) (Sour) (Dry) (Wet)

Gas Sample Saved After ____ mins. — Fluid To Surface In ____ mins.

Fluid Description: ____

Nature of Flow: ____

Remarks: ____

Recovery:

Total fluid in (size) Collars (2-7/8" ID) 447' OD drill pipe: (3½" I.F.) 443 feet Total 890' ~~barrels~~

(describe fluid) ____ Oil: ____ feet ____ barrels

90' fresh water & 800' sulphurous fresh Water: ____ feet ____ barrels

____ Mud: ____ feet ____ barrels

Saved Samples At: Top ft. Middle ft. Top ft. of above the test tool

Weight of mud before test ____ lbs./gal.: Chloride content ____ ppm

Weight of mud recovered ____ lbs./gal.: Chloride content ____ ppm

Weight of water recovered ____ lbs./gal.: Chloride content ____ ppm

Oil Recovered: ____ °API Color ____ Smell ____

Pressure Data: Recorder No. 5773 Top @ 882'

Initial Hydrostatic: (Office) ____ (Field) 385 psi Final: (Office) ____ (Field) 385 psi

Initial Shut In Pressure ____ 355 psi Final: ____ 355 psi

Initial Flow Pressure ____ 40 psi Final: ____ 315 psi

Well Bore Temp: 80 °F — Bomb Capacity: Top 1100 Bottom 1200

Engineer: T.A.D. Haddow

DRILL STEM TEST REPORT

- 30

Company CanDel Oil Company Drill Stem Test No. 2

Name of Well CanDel Mobil et al Iroquois I-11-67-50-~~129-30~~ Date Test Run May 5, 1972

Testing Company B.J. Services Operator Mel Moscrip

Type Packer Bob Tail Size Packer(s) 7 1/2" Choke 1/2"

Interval Tested: 2121' to 2261' Formation: Ronning

Test Data: Preflow: Time Tool Opened 4:15 p.m. Time Tool Closed 4:20 p.m. (elapsed) 5 mins.

Initial shut in: Time ~~Packer set~~ Tool Closed 4:20 p.m. M. Time Tool Opened 4:50p.M. (elapsed) 30 mins.

Flow Period: Time Tool Opened 4:50 PM. Time Tool Closed 5:50p.M. (elapsed) 60 mins.

Final shut in: Time Tool Closed 5:50 PM. Time Tool Pulled 6:50p.M. (elapsed) 60 mins.

Tight Hole Test: Yes ..... No X Size of Chamber .....

Water Cushion: No Type of Hole: (Rathole) (Fullhole) (Cased)

T.D. Driller: 2261' T.D. Tester: 2261' Was Test A Misrun: No

Cause of Misrun: .....

Flow Data:

Description of Initial Blow: Weak I.P. Weak A.B.

Did Blow die or Decrease: decreased slightly throughout

Gas Flow To Surface In ..... mins. Initial Gas Flow ..... MCF/Day

Stabilized Gas Flow ..... MCF/Day Measured by: (Test) (Impact) (Side Static)

Time For Gas Flow to Stabilize ..... mins. Gas Description: (Sweet) (Sour) (Dry) (Wet)

Gas Sample Saved After ..... mins. Fluid To Surface In ..... mins.

Fluid Description: .....

Nature of Flow: .....

Remarks: .....

Recovery:

Total fluid in (size) Drill Collars (2-7/8"ID) 447' OD drill pipe: (3½"I.F.) 853 feet Total 1300' barrels

(describe fluid) ..... Oil: ..... feet ..... barrels

90' fresh water and 1210' sulphurous fresh Water: ..... feet ..... barrels

..... Mud: ..... feet ..... barrels

Saved Samples At: Top ft. Middle ft. Top ft. of above the test tool

Weight of mud before test ..... lbs./gal.: Chloride content ..... ppm

Weight of mud recovered ..... lbs./gal.: Chloride content ..... ppm

Weight of water recovered ..... lbs./gal.: Chloride content ..... ppm

Oil Recovered: ..... °API Color ..... Smell .....

Pressure Data: Recorder No. 5979 Bottom-2138'

Initial Hydrostatic: (Office) ..... (Field) 915 Final: (Office) ..... (Field) 915

Initial Shut In Pressure ..... 890 Final: 890

Initial Flow Pressure ..... 190 Final: 610

Well Bore Temp: 84 °F Bomb Capacity: Top 1100# Bottom 1200#

Engineer T.A.D. Haddow

DRILL STEM TEST REPORT

Company: CanDel Oil Company — Drill Stem Test No.: 3

Name of Well: CanDel Mobil et al Iroquois I-11-67-50-129-30 — Date Test Run: June 2, 1972

Testing Company: B.J. Services — Operator: Leo Penner

Type Packer: Bob Tail — Size Packer(s): 7 1/2" — Choke: 1/2"

Interval Tested: 3200' to 3614' — Formation: Ronning

Test Data:

Preflow: Time Packer set: 9:20 p.m. Time Tool Opened: 9:25 p.m. (elapsed) 5 mins.

Initial shut in: Time Packer set 9:30p.M. Time Tool Opened 10:00p.M. (elapsed) 30 mins.

Flow Period: Time Tool Opened 10:00p.M. Time Tool Closed 12:00p.M. (elapsed) 120 mins.

Final shut in: Time Tool Closed 12:00p.M. Time Tool Pulled 4:00a.M. (elapsed) 240 mins.

Tight Hole Test: Yes ..... No ..... Size of Chamber .....

Water Cushion: no — Type of Hole: (Rathole) (Fullhole) (Cased)

T.D. Driller: 3614' (plug back) — T.D. Tester: 3614' — Was Test A Misrun: No

Cause of Misrun: .....

Flow Data:

Description of Initial Blow: Fair air blow

Did Blow die or Decrease: died in 120 minutes

Flow To Surface In ..... mins. — Initial Gas Flow ..... MCF/Day

Stabilized Gas Flow ..... MCF/Day — Measured by: (Test) (Impact) (Side Static)

Time For Gas Flow to Stabilize ..... mins. — Gas Description: (Sweet) (Sour) (Dry) (Wet)

Gas Sample Saved After ..... mins. — Fluid To Surface In ..... mins.

Fluid Description: .....

Nature of Flow: .....

Remarks: Did not get sample of recovery as pump-through-feature sheared, however 3 quarts of sw recovered from bottom hole sampler (175,000 ppm of salt)

Recovery:

Total fluid in (size): Collars (2-7/8"ID) 450' — OD drill pipe: (3½"I.F.) 2370' — feet — Total 2820' barrels

(describe fluid) ..... Oil: ..... feet ..... barrels

..... Water: ..... feet ..... barrels

..... Mud: ..... feet ..... barrels

Saved Samples At: ..... ft. ..... ft. ..... ft. above the test tool

Weight of mud before test ..... lbs./gal.: Chloride content ..... ppm

Weight of mud recovered ..... lbs./gal.: Chloride content ..... ppm

Weight of water recovered ..... lbs./gal.: Chloride content ..... ppm

Oil Recovered: ..... °API — Color ..... — Smell .....

Pressure Data: Recorder No. 3689 Top @ 3468'

Initial Hydrostatic: (Office) ..... (Field) 1660 — Final: (Office) ..... (Field) 1650

Initial Shut In Pressure ..... 1340 — Final: 1340

Initial Flow Pressure ..... 490 — Final: 1340

Well Bore Temp: 68 °F — Bomb Capacity: Top ..... Bottom .....

Engineer: T.A.D. Haddow

CASING REPORT

Well CanDel Mobil et al Iroquois I-11 Date April 29, 1972

Type of Casing String: (surface) (intermediate) (production) (liner) (other)

Drilling Contractor Nabors Rig #8

PIPE DATA

Make of Casing Mannesmann

Type: (seamless) (welded) Size ____ No. of Joints ____

Weight 36# Grade J-55 Range 3 Threads ST & C

Couplings: (short) (long) Minimum I.D. 9-5/8" Maximum O.D. ____

Casing Shoe: make ____ type ____ depth ____ ft.

Cementing Collar: make ____ type ____ depth ____ ft.

Centralizers: No. ____ Make and Type ____

Depths ____

Scratchers: No. ____ Make and Type ____

Depths ____

Welding: (electric) (acetylene) No. of Collars? ____ Casing Shoe? ____

Total amount casing run	724.91 ft.	Kelly Bushing elevation	418 ft.
Amount pipe above K.B.	20.91 ft.	K.B. to Rotary Table	____ ft.
Depth Casing Shoe landed	704 ft.	R.T. to Derrick Floor	____ ft.
Top of casing below K.B.	____ ft.	D.F. to Ground Level	____ ft.
Amount of casing in hole	____ ft.	Ground Level elevation	400 ft.
Length of Landing Joint	____ ft.	G.L. to (casing bowl) to (casing collar)	____ ft.
Length of Cut off Joint	____ ft.	Csg. Bowl Flange Elev.	____ ft.
Length of Shoe Joint overall	____ ft.	K.B. to top of casing	____ ft.

CEMENTING DATA

Time Hole Open Before Casing Started in Hole ____ hrs.

Casing Started in Hole ____ M. Casing in ____ M. (elapsed) ____ hrs.

Circulating: Started ____ M. Finished ____ M. (elapsed) ____ hrs.

Mixing Cement: Started ____ M. Finished ____ M. (elapsed) ____ min.

Displacing: Started ____ M. Plug Down 12:04 p.M. (elapsed) ____ min.

Maximum Displacement Pressure ____ psi. Final Pressure ____ psi.

Plug Displaced to ____ ft. Displacement Fluid: (mud) (water) (other)

Method of Displacement with water

Method of Cementing ____

Amount Cement Used 350 Sacks. Average Cement Slurry Weight ____ lbs./gal.

Kind of Cement: (Canadian) (American) (bulk) (sack): Weight per sack ____ lbs.

Estimated Amount Cement Returns 16 bbls. sacks. Time Cement to Set ____ hrs.

Was Pipe Worked During Circulating? ____ Cementing? ____ How Long ____

Additives to Cement ____

Cementing Company B-J Service Operator Mel Moscrip

Casing Landed in ____ hrs. Well Head Make ____

Remarks

See summary of Well Data for information on conductor pipe.

Signed ____

BIT RECORD

Well: CanDel Mobil et al Iroquois I-11-67-50-129-30

Date Spudded: 2:30 a.m. April 25, 1972 Date Finished Drilling: May 28, 1972

Bit No.	Size	Make & Type		Serial	Depth In	Depth Out	Footage	Hours	Condition
1A	8-3/4	HW	OSC 3J	23593	60	127	67	7½	3-2-1
2A	8-3/4	Smith	DT2	37621	127	424	307	16¼	5-2-1
3A	8-3/4	HW	ODV	14702	424	750	326	25½	3-6-1
4A RR	8-3/4	Smith	DT2	37621	750	819	69	5¼	
5A	12¼		Reamer	845-P	78	704	626	20½	4-8-1
6	8-3/4	HW	ODV	16694	819	1010	191	10	6-5-1
7	8-3/4	HW	X55R	38833	1010	2141	1131	50 3/4	8-7-1
8	8-3/4	HW	RRG2BX	WF216	2141	2261	120	10	6-5-1
9 RR	8-3/4	HW	RRG2BX	WF216	2261	2671	410	32½	2-3-1
10	8-3/4	HW	RRG2BX	ZL998	2671	3403	732	50 3/4	7-6-1
11	8-3/4	HW	RRG2BX	WF001	3403	3815	412	24 3/4	4-4-1
12	8-3/4	HW	RGIX	NB121	3815	4445	630	36½	4-8-1
13	8-3/4	HW	RRGIX	RT487	4445	4946	501	36½	6-8-1
14	8-3/4	HW	J-88	HH341	4946	5484	538	44	6-4-1
15	8-3/4	HW	RRG1	DP954	5484	5628	144	26½	6-8-1
16	8-3/4	HW	X55R	37892	5628	6119	491	45	6-8-1
17	8-3/4	HW	X55R	38291	6119	6285	166	26	6-8-1
18	8-3/4	HW	WD7	40025	6285	6350	65	13	6-5-1
19	8-3/4	HW	X55R	31208	6350	6500	150	28½	6-8-1
20	8-3/4	HW	X55R	38288	6500	6923	181	22	7-8-1
21	8-3/4	HW	WD7	38284	6923	6961	38	4 3/4	2-2-1

DAILY MUD RECORD

Date 1972	Depth Feet	Weight #/ Gal.	Viscosity Seconds	Water Loss 15 min. C.C.	Filter Cake 32nds	Ph.	Remarks and Additives: Gel	Rapid drill	Lost Circulation Material	Caustic	Salt	Remarks & Misc
April 25	120	8.4	52				7000#					Spud at 2:30 a.m.
26	391		67				500#					
27	662		53				1000#					
28	819											Reaming surface hole
29	819											Running Csg.
30	819											W.O.C.
May 1	819											W.O.C.
2	1010	8.4	27					24#				
3	1356	8.4	28					20#				
4	1930	8.4	28					20#				
5	2222	8.4	28									
6	2373	8.4	28					8#				
7	2630	8.4	28					12#				
8	2872	8.4	28					16#				
9	3205	8.4	28					16#				
10	3403	8.4	28					20#	Fibre Seal 6 Sx.			Partial lost circulation at 3403'
11	3763	8.4	28					8#				
12	4090	8.4	28					12#				
13	4420	8.4	28						Sawdust 15 Sx.			Losing fluid to formation.
14	4686	8.4	28					4#	Sawdust 30 Sx.			
15	4946	8.4	28						Sawdust 12 Sx Fibre Seal 8 Sx Quick Seal 6 Sx			
16	5214	8.4	28				4000#		Fibre Seal 15 Sx Quick Seal 11 Sx Sawdust 14 Sx	300		
17	5468	8.5	32			10.5	3900#		Sawdust 50 Sx Cotton Hulls 75 Sx Quick Seal 25 Sx Cell-O-Seal 25 Sx	100	8000	Fluid loss 10 - 12 bbls. per hour.
18	5571	9.6	31			10.5			Cotton Hulls 6Sx Fibre Seal 2 Sx Cell-O-Seal 12 Sx	100	4000	Inhibitor 10 gal. DeFoamer 7 gal
19	5668	9.7	31			10.5			Cell-O-Seal 2 Sx	300	3600	Inhibitor 5 gal DeFoamer 2 gal
20	5882	9.7	30		2				Cell-O-Seal 10 Sx Fibre Seal 6 Sx	250	19,000	Losing 8 bbls. per hour.
21	6128	10.4	30								43,000	Inhibitor 4 gal.
22	6280	10.4	30			10.5				150	18,000	DeFoamer 2 gal
23	6350	10.3	30								10,000	
24	6429	10.3	30							200	12,000	Inhibitor 7 g
25	6570	10.3	31								10,000	
26	6740	10.3	30			10.5					20,000	
27	6886	9.3	30			11.5				150		Inhibitor 5 g
28	6961	10.3	30			10.5						Running Logs
29	6961	10.3	30			10.5					12,000	Losing 5 bbls/
30	6961	10.3	30			10.5			Fibre Seal 5 Sx		28,000	W.O.O.
31	6961											Running Plugs - no more additives.

DAILY PROGRESS REPORT

DATE 1972	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
April 25	60'	120'	60'	4 3/4	1			Drilling. Started conductor hole at 6:00 p.m. April 20, 1972 drill 20" hole with bucket - ream to 24" Ran 89' of 20" conductor pipe, landed at 78' K.B. Cemented with 100 sacks Fondu cement- Finished Cementing 12:00 p.m. April 22. Drill rat hole - gravel falling in - complete rat hole and cementing around same at 12:00 midnight April 24. Spud with 8 3/4" bit at 2:30 a.m. April 25, 1972.
						120	3/4	
						150	1/2	
						240	1/2	
						300	1/2	
April 26	120'	391'	271'	17 1/4	1 & 2	350	1/4	Drilling - Trip to remove bucket tooth from bit. Trip Bit #1 - Jets plugged. Run Bit #2 - trip out - iron from bucket wedged in cones - run #2 back in
						440	1/2	
						530	1/8	
April 27	391'	662'	271'	19 3/4	2 & 3	620	3/4	Drilling
						650	3/4	
						710	1/4	
April 28	662'	819'	(D)157' (R)207'	18	4&Reamer	800	1/2	Reaming - Drill 8 3/4" pilot hole to 819' - commence reaming 8 3/4" hole to 12 1/4"
April 29		819'	(R)419'	15¼	Reamer			Running Casing - Reamed to 12¼" to depth of 704'.Start running Csg.
April 30		819'						W.O.C. Ran 9 5/8" Casing (724.91") Mannesman Grade J-55,36#,Rge. 3 ST C, 8 rd. Landed at 704' K.B. Cemented with 350 sacks of Fondu cement. Displaced plug w/water. 16 bbls/cement returns Plug down at 12:04 p.m. April 29, 1972
May 1		819'						W.O.C. - Nipple up - drill mouse hole - gravel falling in. Pressure test blind rams, Hydril & 3 1/2" pipe rams to 1400# for 15 mins. - o.k. Drill Out - plug @ 659'. Clean to 819' K.B. Trip out for stabilizers.
May 2	819'	1010'	191'	10	4	990	1/8	Running DST #1. Drill to 1010' - testing porosity in Bear Rock
May 3	1010'	1356'	346'	16 1/4	5			Drilling. Completed DST #1 - good test.
May 4	1356'	1930'	574'	22 3/4	5	1385	1	Drilling
						1800	1 3/4	

DAILY PROGRESS REPORT

DATE 1972	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
May 5	1930'	2222'	292'	19 1/2	5&6	2130	2 3/4	Drilling. Tripped for new bit at 2141'
May 6	2222'	2373'	151'	9 3/4	6	2300	2	Drilling. Drilled to 2261' and ran DST #2 in Ronning porosity Good test - drilled ahead with Bit #7
May 7	2373'	2630'	257'	22 3/4	7	2450	2	Drilling
May 8	2630'	2872'	242'	19 1/2	7 & 8	2650	1 3/4	Drilling. Tripped for new bit at 2671'
May 9	2872'	3205'	333'	19	8	2920	1 1/2	Drilling
May 10	3205'	3403'	198'	11 3/4	8	3100 3400	1 1/2 1	Rig Repairs. Tripped for new bit at 3403' - slip line,repair brakes
May 11	3403'	3763'	360'	21	9			Drilling. Partially lost circulation at 3403' - drilled 10' and regained circulation.
May 12	3763'	4090'	327'	17 3/4	9 & 10	3815	1¼	Drilling. Tripped for new bit at 3815'
May 13	4090'	4420'	330'	22 3/4	10	4330	1 3/4	Drilling
May 14	4420'	4686'	266'	18 3/4	10&11			Drilling - Tripped for new bit at 4445' - Losing from 10 - 20 barrels of drilling fluid to the formation.
May 15	4686'	4946'	260'	19 1/2	11 & 12	4820	1 1/2	Rig Repairs. Tripped for new bit at 4946'
May 16	4946'	5214'	268'	20 3/4	12			Drilling
May 17	5214'	5468'	254'	22 3/4	12	5360	¼	Drilling - Fluid loss 10 - 12 bbls/hr.
May 18	5468'	5571'	103'	16 3/4	12 & 13			Drilling - Trip for new bit at 5484'
May 19	5571'	5668'	97'	18 1/2	13 & 14	5628	0	Drilling. Tripped for new bit at 5628'
May 20	5668'	5882'	214'	23 1/4	14			Drilling.
May 21	5882'	6128'	246'	17	14 & 15			Drilling - Tripped for new bit at 6119'
May 22	6128'	6280'	152'	23 1/4	15			Drilling
May 23	6280'	6350'	70'	14 1/4	15 & 16	6285	2	Tripping for new bit. Tripped for new bit at 6285' and 6350'
May 24	6350'	6429'	79'	20 1/4	17			Drilling
May 25	6429'	6570'	141'	17 3/4	17 & 18			Drilling - Tripped for new bit at 6500'
May 26	6570'	6740'	170'	23 1/4	18	6500	2	Drilling
May 27	6740'	6886'	146'	17 3/4	18 & 19	6742	2 1/8	Drilling - Tripped for new bit at 6742'
May 28	6886'	6961'	75'	10	19 & 20			Running Logs. Tripped for new bit at 6923' drilled to Final Total Depth at 6961' - started logging with Dresser Atlas.
May 29		6961'	0	0				Running Logs

DAILY PROGRESS REPORT

DATE 1972	DEPTH From	DEPTH To	Footage	Hours on Bottom	BIT NOS.	DEVIATION SURVEY Depth	DEVIATION SURVEY R.D.G.	REMARKS
May 30		6961'	0	0				Waiting on Orders. Finished running logs. Losing mud at 5 bbls/hr
May 31		6961'	0	0				W.O.C. Run Plug #1 6961 - 6861' & Plug #2 3600 - 3450'
June 1		6961'	0	0				Running DST #3. Waited 8 hrs. on Plug #2. Felt at 3614' Polished off top. Commence DST #3 3200 - 3614'
June 2		6961'	0	0				Dismantle B.O.P.'s Complete DST #3 - good test. Ran Plug #3 2150 - 2000'. Felt Plug #3 at 2010' after 8 hours. Ran Plug #4 630 - 780' Felt top of Plug #4 at 623' after 8 hours.
June 3		6961'	0	0				Clean up location. Weld plate on casing. Rig Released at 12:00 noon - June 2, 1972

ABANDONMENT PLUGS

#1 - 6961 - 6861' - 55 sacks cement, plug down at 3:00 a.m. May 31, 1972 - no feel

#2 - 3600 - 3450' - 100 sacks cement + 3% $CaCl_2$, plug down at 5:00 a.m. May 31,1972
Felt plug at 3614' after 10 hours

#3 - 2150 - 2000' - 100 sacks cement + 3% $CaCl_2$, plug down at 11:30 a.m. June 1,1972
Felt plug at 2010' after 8 hours

#4 - 780 - 630' - 100 sacks + 3% $CaCl_2$, plug down at 9:00 p.m., June 1, 1972
Felt plug at 623' after 8 hours
Five sacks of cement put in top of surface casing - plate welded on with name tag.

LOST CIRCULTAION ZONES

Intercrystalline, vuggy and some cavernous porosity is present in the Ronning formation. Below 3400 feet the drilling fluid was being lost to the formation at the rate of approximately 10 barrels per hour. Lost circulation material was added daily to the system to hold this loss to a minimum. On two occasions circulation was lost following a trip for a new bit, this occurred at 3403 feet and 4445 feet. In both instances, circulation was regained after drilling a few feet.

SECTION IV - LOGS

Electrical Logs: by Dresser Atlas

Induction Electrolog	Run 1	May 27, 1972	704 - 6940'
Sidewall Neutron Gamma Ray	Run 1	May 28, 1972	704 - 6932'
Compensated Densilog	Run 1	May 28, 1972	704 - 6932'
BHC Acoustilog	Run 1	May 29, 1972	704 - 6924'

SECTION V - ANALYSIS

Lab No.	Sample	From	To	Source	Remarks
933-2670	Water	3200	3614	DST #3 Ronning	Water Analysis
933-2581	Water	900	1010	DST #1 Bear Rock	Water Analysis
933-2581	Water	2121	2261	DST #2 Ronning	Water Analysis

WELL HISTORY LOG
of

CANDEL MOBIL et al IROQUOIS I-11

located at

UNIT I, SECTION 11, GRID 67-50-129-30

Latitude 67° 40' 40" Longitude 129° 32' 05"

NORTHWEST TERRITORIES, CANADA

Well Status: Dry & Abandoned

Date Spudded: April 25, 1972

Date Completed Drilling: May 28, 1972

Operator: CanDel Oil Ltd.

Geology By: T.A.D. Haddow

Elevation Gr 400'

K.B 418'

Total Depth: Driller 6961' Logger 6944'

Drilling Contractor: Nabor Drilling Limited

Rig No. 8

LEGEND

SIDERITE, bedded	GYPSUM	ANHYDRITE, secondary	GRANITE WASH
SANDSTONE	MARLSTONE, limy-dolomitic	SHALE	IGNEOUS, basic
SILTSTONE	LIMESTONE	CLAYSTONE	IGNEOUS, acidic
BENTONITE	DOLOMITE, primary	GLACIAL TILL	VOLCANIC
COAL	DOLOMITE, secondary	CONGLOMERATE, ie. 40% cht., 40% ls., etc.	METAMORPHIC
SALT	ANHYDRITE, primary	BRECCIA	
ARKOSIC	FLOATING SAND GRAIN	CHERT, sandy & oolitic	SIDERITE PELLETS
ARGILLACEOUS, disseminated	SILTY	NODULES, fe-st	GLAUCONITIC
DOLOMITIC	SANDY	NODULES, limy	SALT CAST or INFILL
CALCAREOUS	ARGILLITE GRAIN	NODULES, dolomitic	
ANHYDRITIC	CHERT, light & dark	NODULES, phosphatic	
GYPSIFEROUS	CHERT, tripolitic	NODULES, siderite	
LITHOGRAPHIC	CRYPTOCRYSTALLINE	EARTHY	CHALKY
KARST TOPOGRAPHY	VERY POOR SAMPLES, questionable	CAVINGS, cannot interpret	NO SAMPLES
ALGAL, nondescript	BIOCLASTIC or FRAGMENTAL	BRYOZOA	MOLLUSKS
ALGAL, encrusting	PSEUDO OOLITES or PELLETS	FORAMINIFERA	OSTRACODS
ALGAL, ootoid	CORAL	CRINOID	
ALGAL, coralline	STROMATOPOROID	OOLITES	
MARL, limy	PYRITE	SIDERITE CEMENT	PLANT REMAINS
MARL, dolomitic	BENTONITIC	PLANT SPORES	FISH REMAINS
LIMESTONE STREAKS	SILICEOUS	MINERAL CRYSTALS	FOSSILS
DOLOMITE STREAKS	SHALE, laminae	CALCITE or secondary DOLOMITE crystals	CARBONACEOUS

OIL STAIN OR RECOVERY

GAS SHOW OR RECOVERY

FLOURESCENCE

BITUMIN

FORMATION WATER RECOVERY - exponent shows ppm Cl.

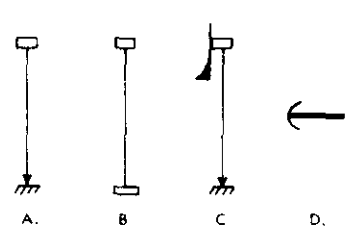
FORMATION TESTS

A BOTTOM HOLE

B. DUAL PACKERS

C. PACKER SET IN CASING

D. F T T SCHLUMBERGER



WATER ANALYSES

FOR

CANDEL OIL LTD.

CANDEL MOBIL ET AL IROQUOIS I-11
IROQUOIS RIVER AREA
NORTHWEST TERRITORIES

CORE LABORATORIES - CANADA LTD.

Petroleum Reservoir Engineering

CALGARY - EDMONTON - REGINA

CORE LABORATORIES – CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS

File 933-2670 Page 2 of 2

Company CanDel Oil Ltd.

Well CanDel Mobil et al Iroquois I-11 K.B. Grd.

Location 67° 40' 40.00 N.L. 129° 32' 05.00 W.L. Field Iroquois River Area Province N. W. T.

Formation Ronning Interval 3200 - 3614

Sampled from DST #3 (Bottomhole Sampler) by

Date sampled May 31/72 Date analysed June 6/72 Analyst ML

Recovery 2820' liquid.

Mud type Water cushion

Resistivity 0.059 Ohm-meters @ 69 °F

Specific gravity 1.1226 @ 60°F

pH 11.1 H_2S Absent

Refractive Index 1.3617

Total Solids:

Calculated 181,808 mg/liter

By evaporation @ 110°C - mg/liter

By evaporation @ 180°C - mg/liter

At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO_3	SO_4	CO_3	OH
70162	1063	25	Trace	Abs.	-	-	108193	0	2167	82	116

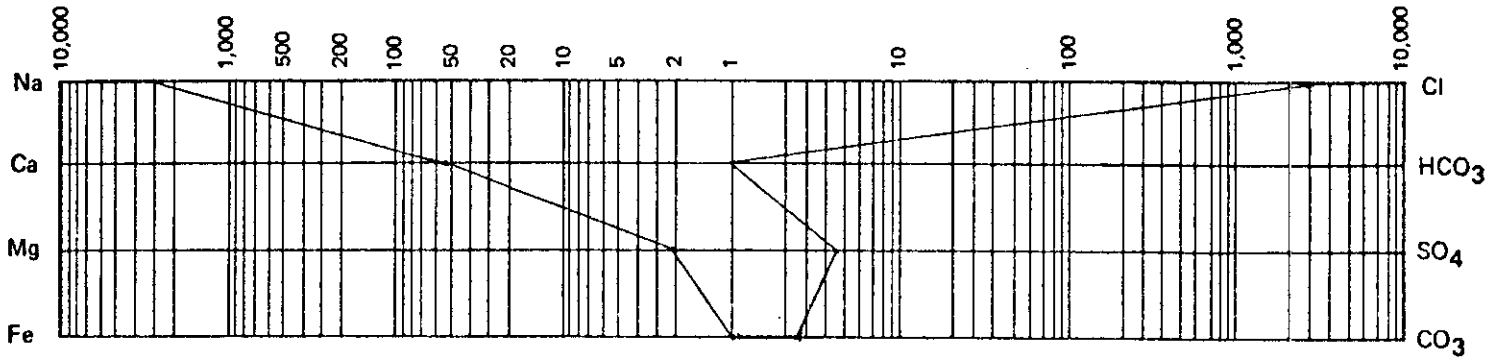
PER CENT CALCULATED SOLIDS

38.6	.6	.0	Trace	Abs.	-	-	59.5	.0	1.2	.0	.1

MEQ PER LITER

3050.5	53.0	2.1	Trace	Abs.	-	-	3051.0	.0	45.1	2.7	6.8

LOGARITHMIC PATTERN MEQ PER LITER



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CORE LABORATORIES – CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS

File 933-2670 Page 1 of 2

Company CanDel Oil Ltd.

Well CanDel Mobil et al Iroquois I-11 K.B. 418 Grd. 400'

Location 67° 40' 40.00 N.L. 129° 32' 05.00 W.L. Field Iroquois River Area Province N. W. T.

Formation Ronning Interval 3450' - 3614'

Sampled from (Top #1) DST #3 by

Date sampled May 31/72 Date analysed June 6/72 Analyst ML

Recovery 2820' liquid.

Mud type Water cushion

Resistivity 0.048 Ohm-meters @ 69 °F

Specific gravity 1.1886 @ 60°F

pH 11.4 H_2S Absent

Refractive Index 1.3772 @ 74°F

Total Solids:

Calculated 287,757 mg/liter

By evaporation @ 110°C - mg/liter

By evaporation @ 180°C - mg/liter

At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO_3	SO_4	CO_3	OH
111819	1104	25	Trace	-	-	-	171489	0	2915	58	347

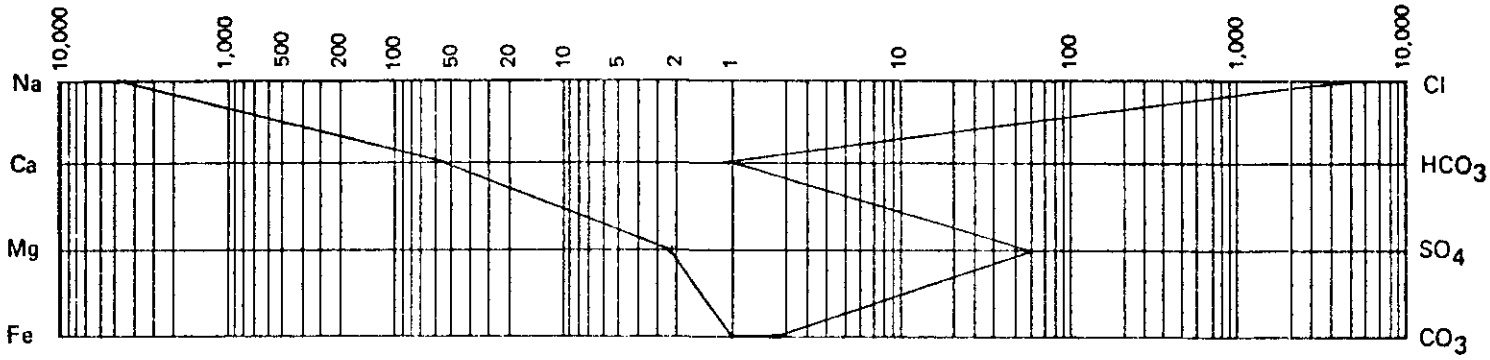
PER CENT CALCULATED SOLIDS

38.9	.4	.0	Trace	-	-	-	59.6	.0	1.0	.0	.1

MEQ PER LITER

4861.7	55.1	2.1	Trace	-	-	-	4836.0	.0	60.6	1.9	20.4

LOGARITHMIC PATTERN MEQ PER LITER



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CORE LABORATORIES – CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS

File 933-2581 Page 1 of 2

Company CanDel Oil Ltd.

Well CanDel Mobil et al Iroquois I-11 K.B. _____ Grd. 400'

Location 67° 40'20.00 N.L. 129° 32'05.00 W.L. Field Iroquois River Area Province N.W.T.

Formation _____ Interval 900' - 1010'

Sampled from DST #1 (BJ Tool #RS28) by BJ Testers

Date sampled _____ Date analysed May 17/72 Analyst LK

Recovery Tool Recovery: 3000 cc's Water.

_____ Mud type _____ Water cushion _____

Resistivity 3.09 Ohm-meters @ 74 °F

Specific gravity 1.0027 @ 60°F

pH 9.3 H_2S Present

Refractive Index 1.3326 @ 73°F

Total Solids:

Calculated 1,858 mg/liter

By evaporation @ 110°C - mg/liter

By evaporation @ 180°C - mg/liter

At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO_3	SO_4	CO_3	OH
695	3	1	Trace	-	-	-	832	210	31	86	Nil

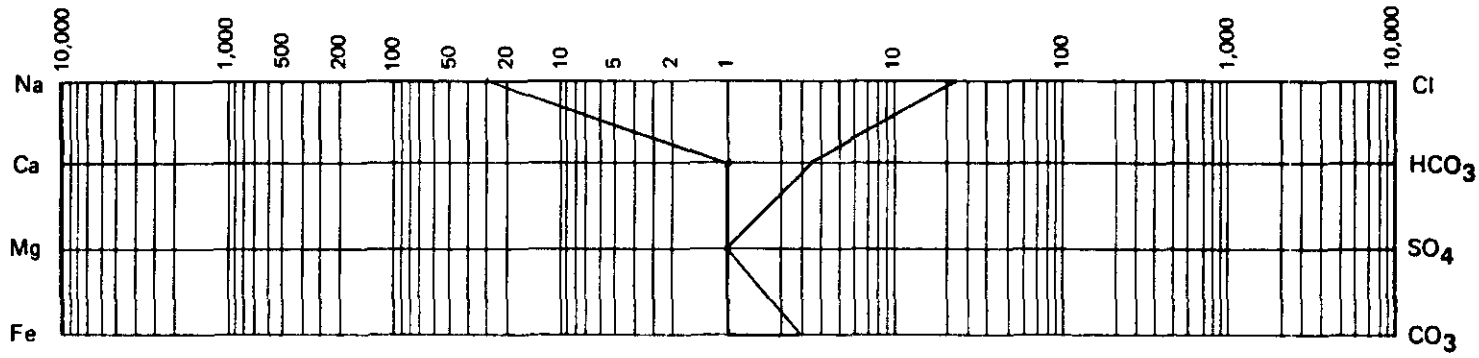
PER CENT CALCULATED SOLIDS

37.4	.2	.1	Trace	-	-	-	44.8	11.3	1.7	4.6	.0

MEQ PER LITER

30.2	.1	.1	Trace	-	-	-	23.5	3.4	.6	2.9	.0

LOGARITHMIC PATTERN MEQ PER LITER



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CORE LABORATORIES – CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS

File 933-2581 Page 2 of 2

Company CanDel Oil Ltd.

Well CanDel Mobil et al Iroquois I-11 K.B. Grd. 400'

Location 67° 40'20.00 N.L. 129° 32'05.00 W.L. Field Iroquois River Area Province N.W.T.

Formation Interval 2121' - 2261'

Sampled from DST #2 (JB Tool #124) by

Date sampled Date analysed May 17/72 Analyst LK

Recovery Tool Recovery: 3000 cc's Water.

Mud type Water cushion

Resistivity 1.21 Ohm-meters @ 75 °F

Specific gravity 1.0046 @ 60°F

pH 7.9 H_2S Present

Refractive Index 1.3334 @ 73°F

Total Solids:

Calculated 4,969 mg/liter

By evaporation @ 110°C - mg/liter

By evaporation @ 180°C - mg/liter

At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO_3	SO_4	CO_3	OH
1442	209	112	Trace	Abs.	-	-	2399	488	319	Nil	Nil

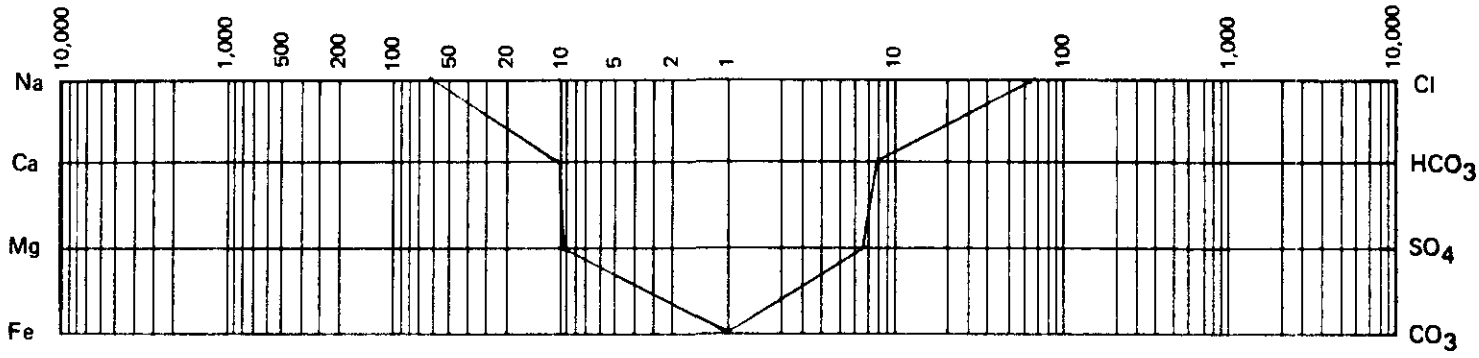
PER CENT CALCULATED SOLIDS

29.0	4.2	2.3	Trace	Abs.	-	-	48.3	9.8	6.4	.0	.0

MEQ PER LITER

62.7	10.4	9.2	Trace	Abs.	-	-	67.7	8.0	6.6	.0	.0

LOGARITHMIC PATTERN MEQ PER LITER



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