OTTAWA COPY

WELL SEISMIC REPORT

Using the following logs

Company	PETRO CANADA INC.
Well	PO ISLAND LAKE N-45
Field	WILDCAT
Province	NORTHWEST TERRITORIES, CANADA
Location	
Latitude	Longitude
Date Last Logged	
Date Processed	
Seismic Reference Datum	
Elevations	KB DF GL
Permanent Datum	Depth Units

Log Data

Source Data

Results

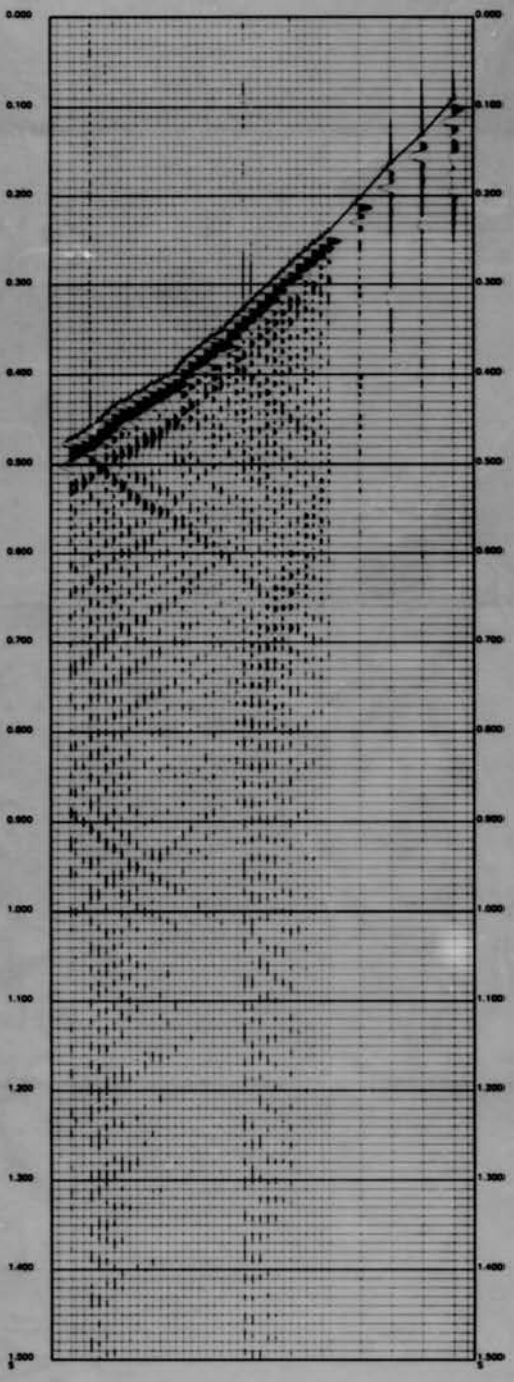
CHECK SHOT REPORT

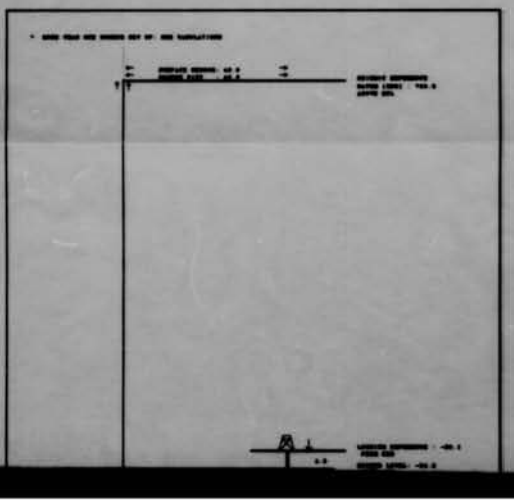
COMPUTING CENTER STACKS
VERTICAL COMPONENT

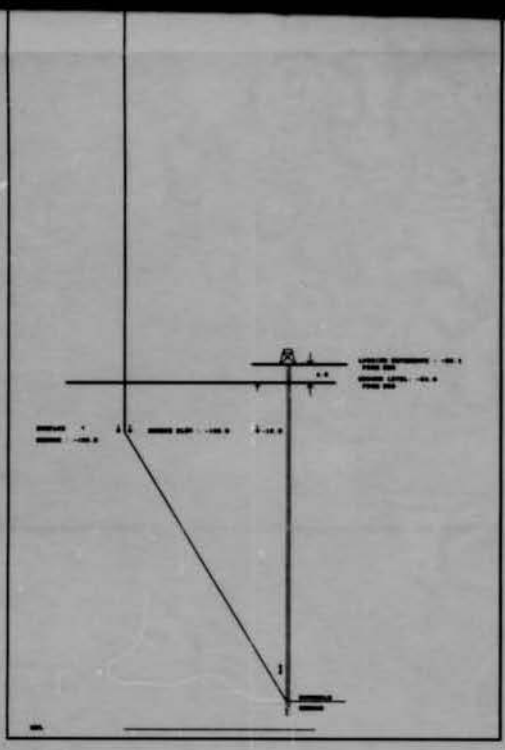
RAW DEPTH M	TRANSIT TIME MS	LEVEL NO	MIN AMPLITUDE	MAX AMPLITUDE

0.000 0.100

0.000 0.100


0.000
0.100
0.200
0.300
0.400
0.500
0.600
0.700
0.800
0.900
1.000
1.100
1.200
1.300
1.400
1.500
s



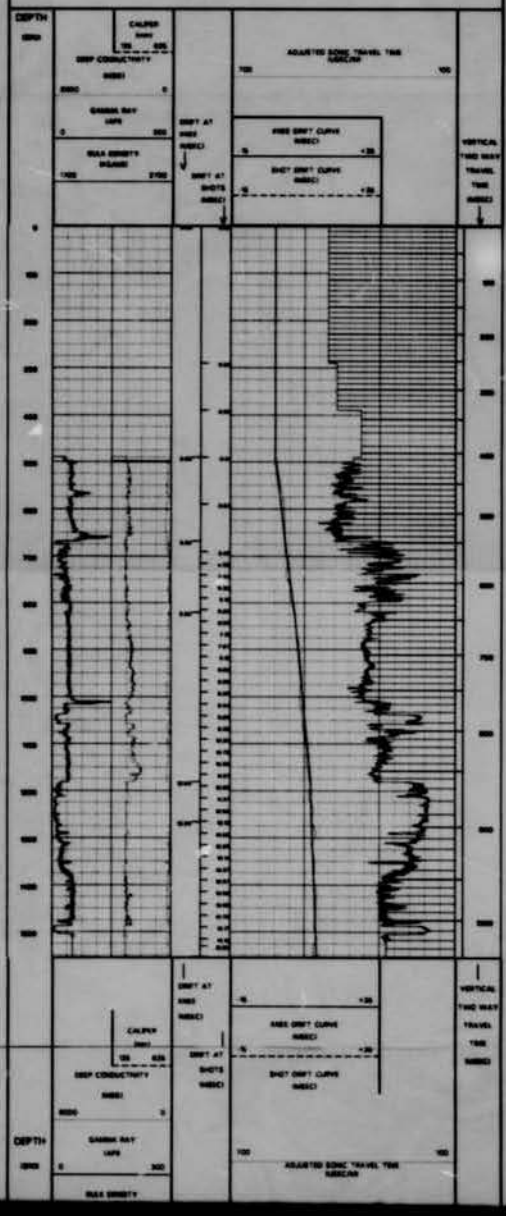


```
DEPTHS       ARE POSITIVE DOWNWARDS
MSL   MEAN SEA LEVEL
SRD   SEISMIC REFERENCE DATUM

ELEVATION OF THE MEASURED-DEPTH REFERENCE ABOVE MSL   |  [illegible] M
ELEVATION OF SRD ABOVE MSL                            |  [illegible] M
ELEVATION OF THE MEASURED-DEPTH REFERENCE ABOVE SRD   |  -90.000 M
ELEVATION OF GROUND ABOVE SRD                         |  [illegible] M

VELOCITY BETWEEN SURFACE SENSOR AND SOURCE            |  [illegible] M/S
VELOCITY BETWEEN SOURCE AND SRD                       |  [illegible] M/S


        SOURCE AND SURFACE SENSOR POSITIONS

          ELE   | ELEVATION ABOVE SRD
          E-W   | EAST (+) WEST (-) COORDINATE
          N-S   | NORTH (+) SOUTH (-) COORDINATE

        TIME CORRECTIONS

          SS-SOU  TIME FROM SURFACE SENSOR TO SOURCE
          SOU-SR  VERTICAL TIME FROM SOURCE TO SRD

          SOURCE               SURFACE SENSOR       TIME
          POSITION               POSITION        CORRECTIONS


        ELE      E-W      N-S      ELE      E-W      N-S    SS-SOU   SOU-SR
         M        M        M        M        M        M       MS       MS

     [illegible]


      OBSERVED SHOT TIME IS MEASURED
        FROM THE SURFACE SENSOR BREAK
        TO THE DOWNHOLE SENSOR BREAK

      THIS TIME IS THEN CORRECTED IN THE FOLLOWING SEQUENCE

        TIME FROM THE SOURCE TO DOWNHOLE                   | SS-SOU)
        VERTICAL TIME FROM THE SOURCE TO DOWNHOLE          | COS I)
        VERTICAL TIME FROM SRD TO DOWNHOLE                 | SOU-SR)

      THE COSINE CORRECTION, COS I, IS DEFINED BY
      THE HORIZONTAL DISTANCE FROM SOURCE TO DOWNHOLE SENSOR
      THE VERTICAL DISTANCE FROM SOURCE TO DOWNHOLE SENSOR

 SHOT  MEASURED VERTICAL OBSERVED VERTICAL  AVERAGE  VERTICAL     COS I    INTERVAL
 LEVEL   DEPTH    DEPTH    SHOT     SHOT   VELOCITY  DISTANCE              VELOCITY
NUMBER   FROM     FROM     TIME     TIME   FROM SRD   SOURCE-                FROM
          KB      SRD              FROM SRD          DOWNHOLE               SHOTS
          M        M        MS       MS       M/S        M                   M/S

   1     200.0    290.0     91.1    129.3    2295    187.80   [illegible]
                                                                            2413
   2     300.0    390.0    130.8    168.4    2316    283.25   [illegible]
                                                                            2604
   3     400.0    490.0    183.1    192.3    2419    377.10   [illegible]
                                                                            2567
   4     500.0    590.0    232.6    243.2    2426    477.15   [illegible]
                                                                            2604
   5     600.0    690.0    240.2    282.7    2450    577.10   [illegible]
                                                                            3308
   6     625.0    715.0    247.7    288.2    2481    602.10   [illegible]
                                                                            4288
   7     650.0    740.0    253.8    294.3    2514    627.10   [illegible]
                                                                            3048
   8     675.0    765.0    262.0    302.5    2529    652.10   [illegible]
                                                                            3656
   9     700.0    790.0    268.8    308.4    2554    677.10   [illegible]
                                                                            2887
  10     725.0    815.0    277.4    318.0    2562    702.10   [illegible]
                                                                            3100
  11     750.0    840.0    283.5    326.1    2576    727.11   [illegible]
                                                                            3058
  12     775.0    865.0    293.5    334.2    2588    752.10   [illegible]
                                                                            2877
  13     800.0    890.0    302.3    342.9    2595    777.09   [illegible]
                                                                            2900
  14     825.0    915.0    310.8    351.2    2605    802.10   [illegible]
                                                                            3025
  15     850.0    940.0    318.6    356.5    2615    827.10   [illegible]
                                                                            2890
  16     875.0    965.0    327.2    367.8    2624    852.10   [illegible]
                                                                            2303
  17     900.0    990.0    334.8    375.3    2636    877.10   [illegible]
                                                                            2918
  18     925.0   1015.0    342.6    383.6    2646    902.14   [illegible]
                                                                            3212
  19     950.0   1040.0    352.9    391.4    2657    933.29   [illegible]
                                                                            4460
  20     975.0   1065.0    358.3    397.6    2683    952.11   [illegible]
                                                                            2541
  21    1000.0   1090.0    363.7    404.4    2695    977.10   [illegible]
                                                                            3218
  22    1025.0   1115.0    371.3    415.0    2700   1002.10   [illegible]
                                                                            2700
  23    1050.0   1140.0    377.8    418.6    2723   1027.08   [illegible]
```

3 OF

1	200.0	200.0	01.1	120.0	2680	187.00	00044			2410
2	300.0	300.0	130.0	166.4	2316	201.00	00010			2006
3	400.0	400.0	163.1	203.3	2410	277.10	00042			2007
4	500.0	500.0	202.0	243.2	2420	477.10	00050			2004
5	600.0	600.0	240.0	283.7	2450	577.10	00701			3300
6	625.0	715.0	247.7	288.3	2481	600.10	00700			4000
7	650.0	740.0	253.0	294.3	2514	627.10	00707			3040
8	675.0	765.0	262.0	302.5	2520	650.10	00010			3050
9	700.0	790.0	269.0	306.4	2554	677.10	00000			3007
10	725.0	815.0	277.4	310.0	2560	702.10	00000			3100
11	750.0	840.0	285.1	316.1	2570	727.11	00040			3000
12	775.0	865.0	293.3	324.0	2590	752.10	00000			3077
13	800.0	890.0	302.3	332.0	2600	777.00	00000			3000
14	850.0	915.0	310.0	341.3	2600	802.10	00001			3020
15	900.0	940.0	318.0	350.5	2610	827.10	00071			3300
16	975.0	965.0	327.3	357.0	2624	852.10	00070			3350
17	900.0	990.0	334.0	375.3	2630	877.10	00000			3010
18	925.0	1015.0	342.0	382.4	2640	902.14	00002			3013
19	950.0	1040.0	350.0	391.4	2657	933.01	00000			4400
20	975.0	1065.0	358.3	397.0	2665	952.11	00001			3341
21	1000.0	1090.0	365.7	404.4	2690	977.10	00000			3310
22	1025.0	1115.0	371.3	410.0	2700	1002.10	00010			3700
23	1050.0	1140.0	377.0	416.0	2723	1027.00	00010			3401
24	1075.0	1165.0	384.0	424.0	2730	1052.10	00001			3404
25	1100.0	1190.0	387.4	434.0	2742	1080.01	00002			0047
26	1125.0	1215.0	401.0	438.1	2772	1114.00	00001			4294
27	1150.0	1240.0	408.0	444.0	2790	1136.30	00004			7000
28	1175.0	1265.0	410.0	447.5	2827	1161.30	00003			3002
29	1200.0	1290.0	416.4	453.3	2842	1186.30	00002			0700
30	1225.0	1315.0	420.1	457.0	2874	1211.70	00001			3000
31	1250.0	1340.0	428.4	463.0	2886	1236.30	00000			4410
32	1275.0	1365.0	430.0	468.0	2907	1255.21	00040			4001
33	1300.0	1390.0	435.7	475.4	2924	1280.20	00040			3100
34	1325.0	1415.0	443.7	483.4	2937	1305.20	00040			3000
35	1350.0	1440.0	451.0	493.4	2957	1330.20	00047			3040
36	1375.0	1465.0	457.7	497.4	2968	1355.20	00040			4000
37	1400.0	1490.0	463.0	503.3	2981	1380.20	00040			3037
38	1425.0	1515.0	468.0	500.4	2973	1402.10	00040			4000
39	1450.0	1540.0	471.0	510.7	2984	1417.10	00043			

DRIFT AND SONIC ADJUSTMENT LOG



DRIFT AND SONIC ADJUSTMENT REPORT

RAW DRIFT IS COMPUTED AT EACH SHOT LEVEL AS
SHOT TIME - SONIC TIME

FROM THE RAW DRIFT CURVE, MARKS ARE SELECTED
WHICH DEFINE WHERE THE DRIFT ADJUSTMENT
SHOULD DRIFT VALUES AT SHOT DEPTH THE AMOUNT
OF TIME ADJUSTMENT TO THE SONIC LOG IN EACH ZONE

WHEN THE GRADIENT (SONIC DEPTH) OF THE SELECTED DRIFT IS
POSITIVE, SONIC VELOCITIES ARE DEFINED TWO CASES
WHEN GRADIENT IS ZERO, ONE INTERVAL OF A CONSTANT DRIFT.
THE VALUE OF THE SELECTED DRIFT GRADIENT

ADJUSTED DELTA_T = DELTA_T - DRIFT

WHEN THE GRADIENT IS NEGATIVE, SONIC VELOCITIES ARE TOO LOW
TO REDUCE BY A CONSTANT REDUCTION FACTOR "C"

WHEN DELTA_T < DELTA_T MINIMUM
ADJUSTED DELTA_T = DELTA_T
WHEN DELTA_T > DELTA_T MINIMUM
ADJUSTED DELTA_T = C * (-(DELTA_T - (DELTA_T MINIMUM))
* (DELTA_T MINIMUM)

SHOT NUMBER	VERTICAL DEPTH (M)	VERTICAL SHOT DEPTH (M)	VERTICAL SELECTED SHOT DEPTH (M)	DRIFT (MS/M)	DELTA_T (MS/M)	REDUCTION FACTOR "C"	SELECTED DRIFT GRADIENT (MS/M)
1	-60.0	1	0	0			0
2	400.0	400.1	0	18.5			18.5
3	678.3	688.4	2.0	21.0			21.0
4	791.0	821.1	8.0	19.3			19.3
5	1091.4	1101.0	12.0	3.5			3.5
6	1178.0	1204.1	13.0	5.0			5.0
7	1483.0	1500.1	14.0				

AFTER THE ADJUSTMENT OF THE SONIC LOG

RESIDUAL IS COMPUTED AT EACH SHOT LEVEL AS
SHOT TIME - ADJUSTED SONIC TIME
IT INDICATED HOW CLOSELY THE ADJUSTMENT
WAS FOLLOWED THE SHOT TIMES

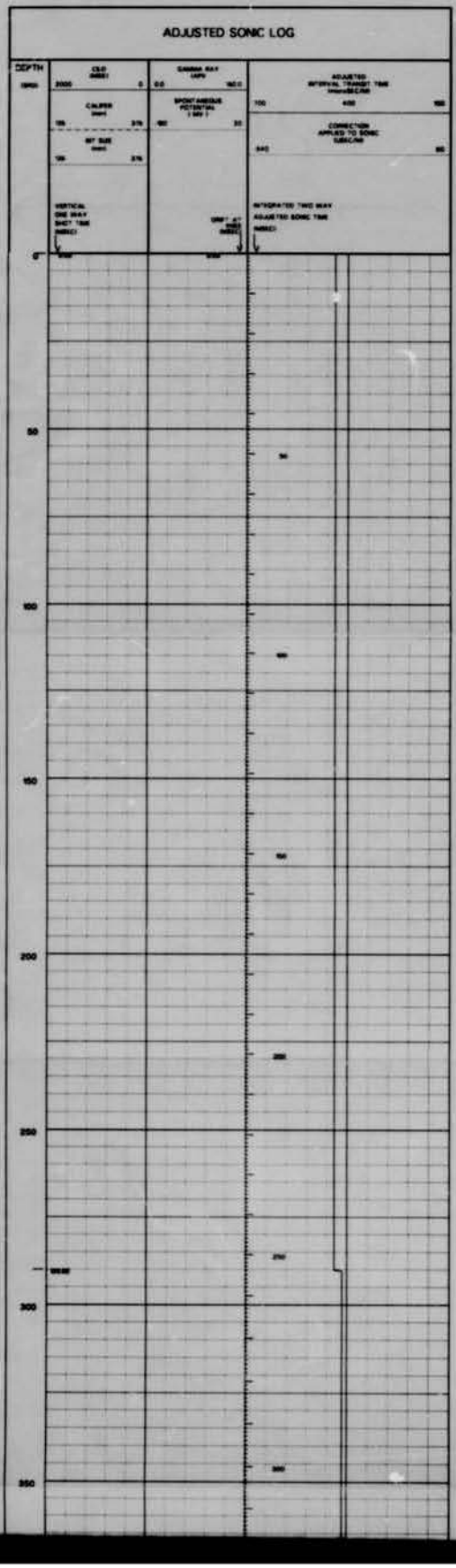
INTERVAL AVERAGE AND RMS VELOCITIES
COMPUTED FROM THE ADJUSTED SONIC LOG
AND FITTED TO THE SHOT TIMES

MEASURED DEPTH (M)	VERTICAL DEPTH (M)	VERTICAL SHOT TIME (MS)	VERTICAL ADJUSTED SONIC TIME (MS)	DRIFT (MS/M)	DRIFT TIME ADJUSTED SONIC (MS)	RESIDUAL ADJUSTED SONIC (MS)	ADJUSTED INTERVAL VELOCITY (M/S)	ADJUSTED RMS VELOCITY (M/S)	ADJUSTED AVERAGE VELOCITY (M/S)
-60.1	0	0	0	0	0	0	0		0
200.1	200.0	108.0	108.0	0	0	0	2280	2280	2280
300.1	300.0	158.4	158.4	0	0	0	2412	2317	2314
400.1	400.0	203.3	203.3	0	0	0	2992	2419	2410
500.0	500.1	243.3	242.3	0.4	-1.0	0	2575	2444	2437
600.0	600.1	280.7	281.0	0.5	-.3	0	2575	2487	2458
625.0	715.1	288.3	289.7	4.8	3	0	2595	2501	2483
650.0	740.1	294.1	295.5	5.4	-1.2	0	2614	2524	2504
675.0	765.0	302.5	302.5	5.4	1	0	2574	2538	2525
700.0	790.0	309.4	310.0	5.3	-.7	0	2608	2578	2548
725.0	815.0	318.0	318.2	6.2	-.1	0	2618	2593	2562
750.1	840.0	326.1	326.7	6.9	1	0	2180	2609	2577
775.1	865.0	334.3	334.2	7.1	0	0	2054	2620	2588
800.1	885.0	342.8	342.5	7.0	3	0	2980	2630	2598
825.1	915.0	351.2	351.0	6.2	2	0	2981	2638	2607
850.1	940.0	359.5	359.2	6.6	3	0	2947	2646	2617
875.1	965.0	367.8	367.3	6.0	3	0	2990	2657	2628
900.1	990.0	375.3	374.1	6.3	-.8	0	2819	2663	2637
925.1	1015.1	383.8	384.0	6.4	-1.2	0	2958	2670	2639
950.1	1040.0	391.4	391.0	6.7	-.4	0	2398	2686	2674
975.1	1065.1	397.5	397.0	6.4	-.6	0	4274	2718	2679
1000.0	1090.0	404.4	404.0	10.2	-.4	0	2524	2725	2685
1025.0	1115.1	412.0	412.3	10.9	-.3	0	2428	2749	2725
1050.0	1140.0	419.0	419.4	10.8	-.8	0	2428	2762	2718
1075.0	1165.1	426.0	427.3	11.4	-.4	0	2235	2773	2727
1100.0	1190.1	434.0	434.0	10.1	0	0	2668	2790	2742
1125.0	1215.1	438.1	438.0	11.4	-.8	0	5084	2808	2750
1150.0	1240.1	444.5	443.2	10.0	7	0	5740	2809	2758
1175.0	1265.1	447.5	447.7	10.1	-.2	0	5424	2809	2828
1200.0	1290.1	453.0	452.0	10.0	1.4	0	5132	2842	2851
1225.0	1315.1	457.0	456.0	10.2	-.1	0	4816	2869	2872
1250.0	1340.1	461.0	461.0	10.1	1	0	4484	2893	2881
1275.0	1365.0	466.0	465.1	10.4	5	0	4410	2914	2910
1300.0	1390.0	470.4	470.0	10.0	-.1	0	3862	2928	2923
1325.0	1415.0	483.4	482.7	10.0	7	0	3515	2935	2932
1350.1	1440.0	486.4	486.0	10.7	4	0	3414	2942	2938
1375.1	1465.0	487.4	487.1	10.8	3	0	3508	2948	2947
1400.1	1490.0	503.3	503.7	10.3	-.3	0	3777	2961	2958
1425.1	1515.0	508.8	508.3	14.1	3	0	4488	2969	2979
1440.0	1530.1	512.7	513.5	13.0	-.8	0	3535	3004	2979
1463.0	1553.1	518.3	520.0	13.0	-1.0	0	3538		2988

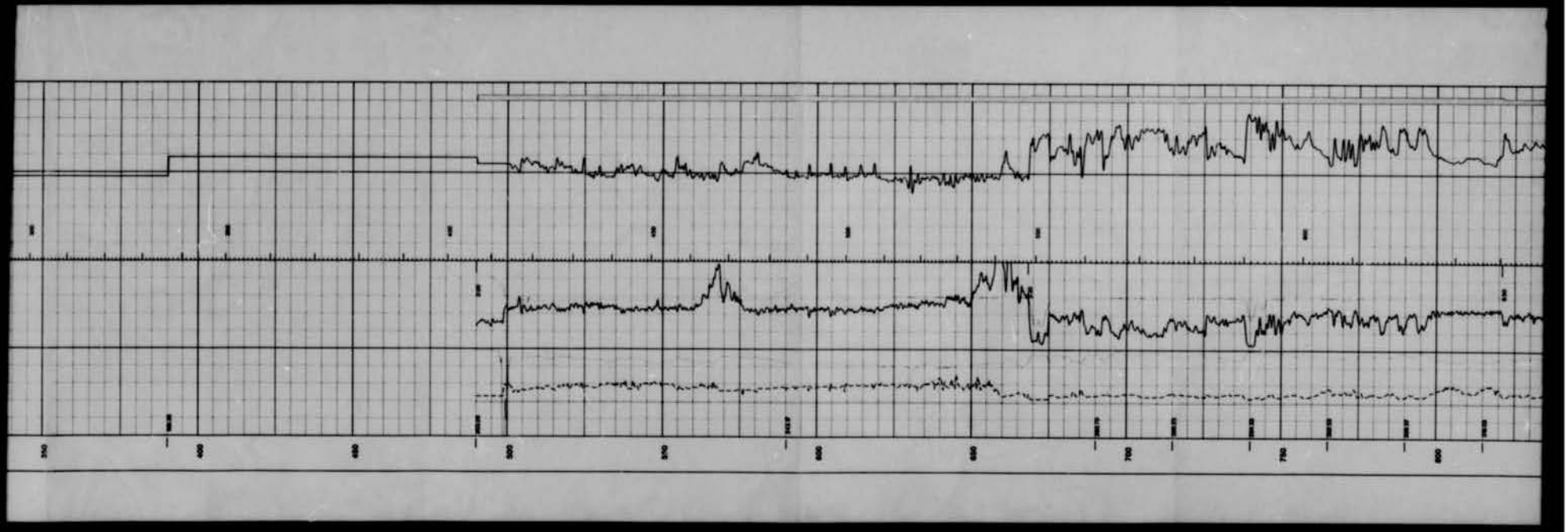
ADJUSTED SONIC LOG

DEPTH	OLD (MSEC)	GAMMA RAY (API)	ADJUSTED

1380.6	1380.0	475.4	475.8	12.6	-.2	3518	3338	3373
1385.6	1415.6	483.4	482.7	13.6	.7	3515	3535	3532
1390.1	1440.0	490.4	490.5	13.7	.4	3514	3542	3539
1395.1	1465.0	497.4	497.1	13.6	.3	3526	3549	3547
1400.1	1490.0	503.3	503.1	13.3	-.5	3777	3561	3558
1405.1	1515.0	509.8	509.3	14.1	.3	4460	3565	3575
1410.0	1530.1	512.7	513.5	15.0	-.8	3526	3566	3576
1403.4	1553.1	516.3	520.6	15.3	-1.0	3536		3586



7 of



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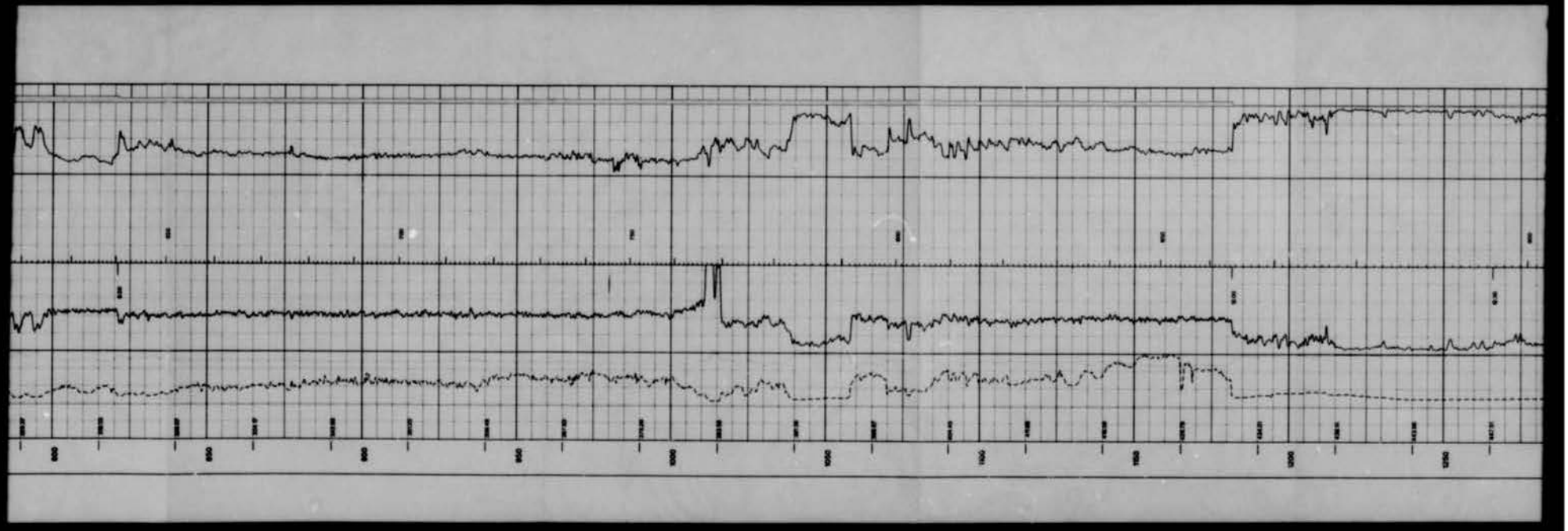
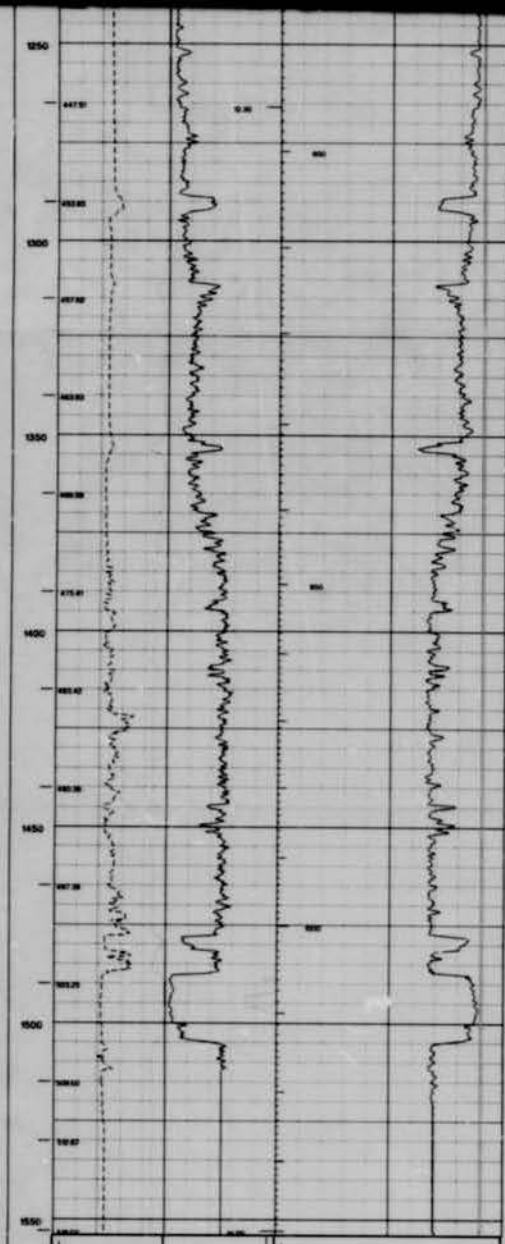
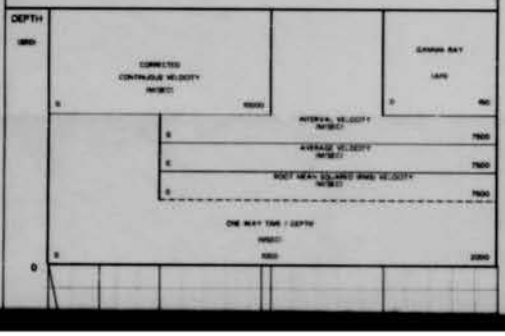


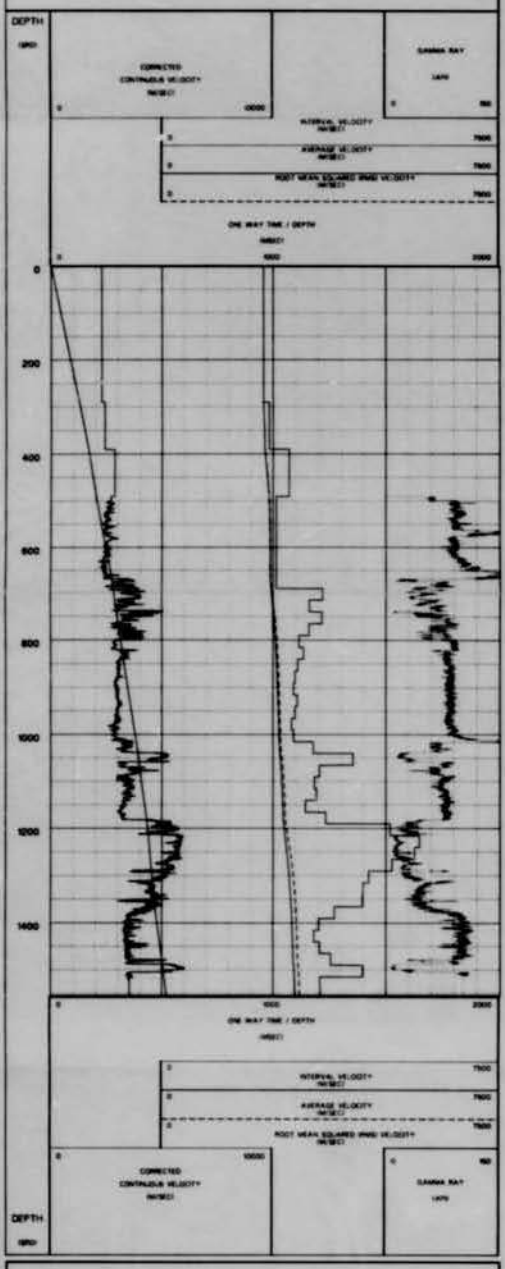


TIME AND VELOCITIES LOG



906

TIME AND VELOCITIES LOG



TIME/DEPTH REPORT

ONE WAY TIME FROM SRD MS	DEPTH M	DEPTH M	DEPTH M	DEPTH M	DEPTH M

Schlumberger

SYNTHETIC SEISMOGRAM

CLIENT = PETRO CANADA INC
FIELD = WILDCAT
WELL = PCI ISLAND LAKE N-15

LOCATION : 60 4 58.62/120 53 34.34
PROVINCE : NORTHWEST TERRITORIES
COUNTRY : CANADA

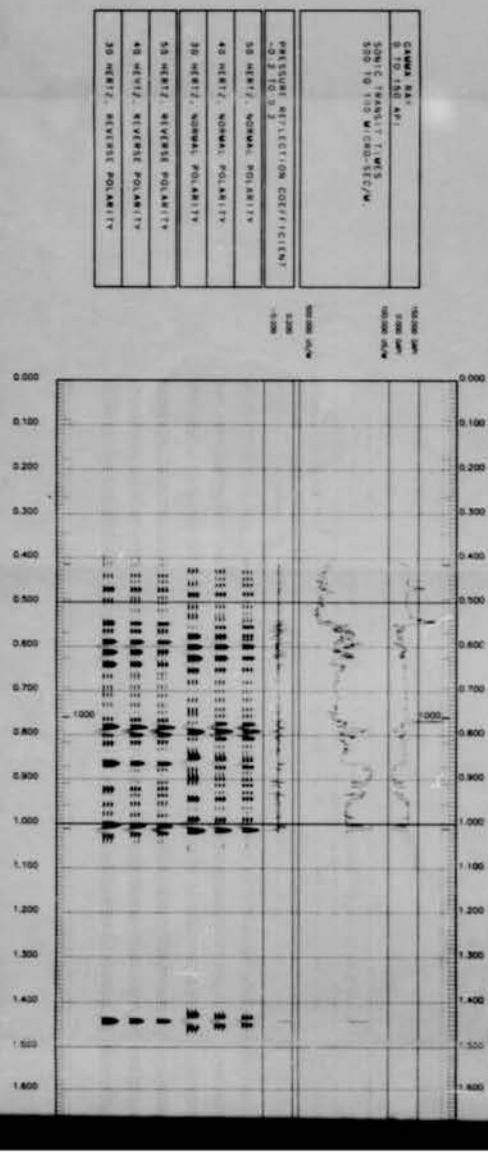
DATE COMPUTED : MAR-1990
JOB NUMBER : 51226

REFERENCE DATUM : 700 METRES A.S.L.
ACOUSTIC IMPEDANCE : FROM SONIC AND DENSITY

SAMPLING RATE : 1 MSEC
WAVELET : RICKER ZERO PHASE
30, 40, 50 HERTZ

POLARITY CONVENTION:
NORMAL POLARITY: AN INCREASE OF ACOUSTIC IMPEDANCE APPEARS AS A WHITE TROUGH

THE WAVELET IS DISPLAYED FOR A PRESSURE REFLECTION COEFFICIENT OF 0.2 (INCREASE OF IMPEDANCE)



11 of 11

CLIENT - PETRO CANADA INC

FIELD - WILDCAT

WELL - PCI ISLAND LAKE N-45

LOCATION : 60 4 58.62/120 53 34.34

PROVINCE : NORTHWEST TERRITORIES
COUNTRY : CANADA

DATE COMPUTED : MAR-1990
JOB NUMBER : 51226

REFERENCE DATUM : 700 METRES A.S.L.
ACOUSTIC IMPEDANCE : FROM SONIC AND DENSITY

SAMPLING RATE : 1 MSEC
WAVELET : RICKER ZERO PHASE
30, 40, 50 HERTZ

POLARITY CONVENTION
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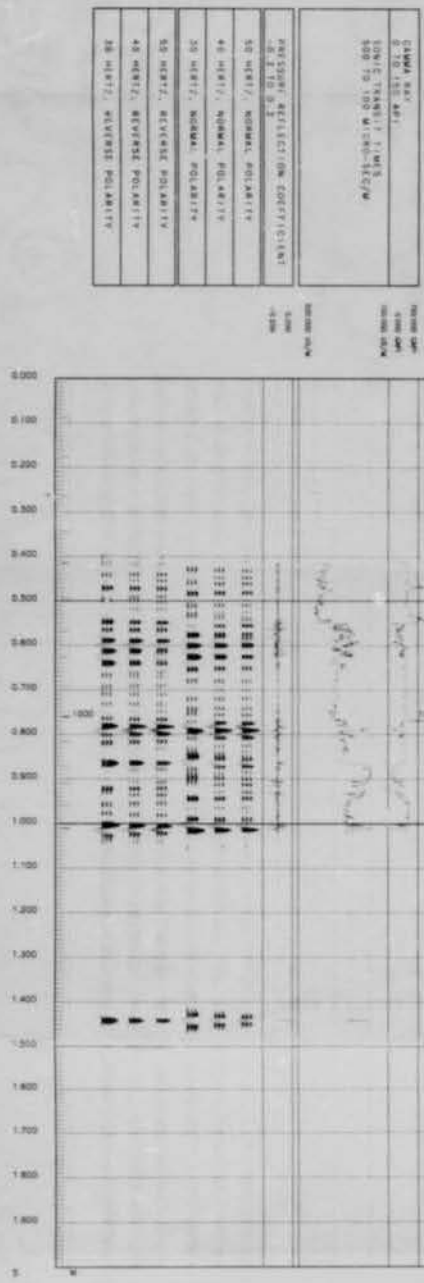


OTTAWA COPY

Schlumberger

SCHLUMBERGER OF CANADA
CALGARY LOG INTERPRETATION CENTER
24TH FLOOR, MENEMCO PLACE
801 6th Avenue SW
Calgary, Alberta T2P 3W2
(403) 231-9600

VERTICAL SEISMIC PROFILE

SAT - INCIDENT VSP
OFFSET 40 METRES - NW/SW

Company: PETRO CANADA INC.

Well Name: PCI ISLAND LAKE N-45

Field: WILDCAT

Location:
Latitude: [illegible] **Longitude:** [illegible]

Province: NORTHWEST TERRITORIES, CANADA

ELEVATIONS DATA

[illegible]

ACQUISITION DATA

[illegible]

PROCESSING DATA

[illegible]

PROCESSING SEQUE

RAW STACKS

Median stacking of the shots from the ve
after manual selection

PREPROCESSED Z STACKS

INPUT : RAW Z STACKS
BAND PASS FILTER : 10-90 hertz, zero ph
18-36 db/octave
NORMALIZATION : Amplitudes at each lev
RMS value in a window o
40 milliseconds before P
GAIN FUNCTION : T**1.7

VELOCITY FILTER : WAVEFIEL

MEDIAN P DOWNGOING
INPUT : PREPROCESSED Z STACKS
MEDIAN FILTER :
11 levels median filter to enhance downgoing, after
alignment of downgoing waves steered by first P ar
BAND PASS FILTER : 10-90 hertz, zero pha
18-36 db/octave

PREPROCESSED STACKS MINUS DOWNG
The median P downgoing waves are subtracted from
to create a difference file

MEDIAN UPGOING
INPUT : PREPROCESSED Z STACKS
MEDIAN FILTER :
11 levels median filter to enhance upgoing after fre
of upgoing waves along a slope of -1.0 the first P a
BAND PASS FILTER : 10-90 hertz, zero pha
18-36 db/octave

WAVESHAPING

INPUT : MEDIAN P DOWNGOING an
WIENER FILTER : A Wiener filter designed
LEVEL is applied to t ch
MEDIAN UPGOING
Input : 2000 msec of downgoing, starti
Desired output : Impulse response of a sixth o
Butterworth filter 10-90 hertz
Lags of desired output : 1000 msec
Filter duration : 1000 msec
White noise : 0.01
BAND PASS FILTER : 10-90 hertz, zero pha
18-36 db/octave
OUTPUTS : WAVESHAPED DOWNGOIN
Mute of waveshaped upgoing to the first arrival

CORRIDOR STACKS

INPUT : WAVESHAPED UPGOING
WINDOW : A 100 msec window was
OUTPUTS : Summed corridor stack

PROCESSING SEQUENCE

RAW STACKS

Median stacking of the shots from the vertical component after manual selection

PREPROCESSED Z STACKS

INPUT : RAW Z STACKS
BAND PASS FILTER: 10-90 hertz, zero phase, sixth order Butterworth, 18-36 db/octave
NORMALIZATION : Amplitudes at each level are normalized to the same RMS value in a window of 160 milliseconds, starting 40 milliseconds before P arrival time
GAIN FUNCTION : T**1.7

VELOCITY FILTER : WAVEFIELD SEPARATION

MEDIAN P DOWNGOING

INPUT : PREPROCESSED Z STACKS
MEDIAN FILTER :
11 levels median filter to enhance downgoing, after frequency domain alignment of downgoing waves steered by first P arrival times
BAND PASS FILTER: 10-90 hertz, zero phase, sixth order Butterworth 18-36 db/octave

PREPROCESSED STACKS MINUS DOWNGOING

The median P downgoing waves are subtracted from the preprocessed Z stacks to create a difference file

MEDIAN UPGOING

INPUT : PREPROCESSED Z STACKS minus MEDIAN DOWNGOING
MEDIAN FILTER
11 levels median filter to enhance upgoing after frequency domain alignment of upgoing waves along a slope of -1.0 the first P arrival slope
BAND PASS FILTER: 10-90 hertz, zero phase, sixth order Butterworth, 18-36 db/octave

WAVESHAPING

INPUT : MEDIAN P DOWNGOING and MEDIAN UPGOING
WIENER FILTER : A Wiener filter designed on the median downgoing at EACH LEVEL is applied to both the MEDIAN DOWNGOING and MEDIAN UPGOING
Input : 3000 msec of downgoing, starting 40 msec before first break
Desired output : Impulse response of a sixth order zero phase, Butterworth filter 18-90 hertz
Lags of desired output : 1000 msec
Filter duration : 1000 msec
White noise : 0.01
BAND PASS FILTER: 10-90 hertz, zero phase, sixth order Butterworth, 18-36 db/octave
OUTPUTS : WAVESHAPED DOWNGOING and WAVESHAPED UPGOING
Shift of waveshaped upgoing to the first arrival transit time

CORRIDOR STACKS

INPUT : WAVESHAPED UPGOING
WINDOW : A 100 msec window was used
OUTPUTS : Summed corridor stack

EXPLANATION OF PANELS

PANELS :

1. RAW STACKS
2. PREPROCESSED Z STACKS
3. MEDIAN P DOWNGOING
4. PREPROCESSED STACKS MINUS DOWN P
5. MEDIAN UPGOING
   Normal polarity
6. MEDIAN UPGOING
   Reverse polarity
7. WAVE SHAPED DOWNGOING
8. WAVE SHAPED UPGOING
   Normal polarity
   File normalized
9. SUMMED CORRIDOR STACK
   Normal polarity
10. WAVE SHAPED UPGOING
    Reverse polarity
    File normalized
11. SUMMED CORRIDOR STACK
    Reverse polarity

POLARITY CONVENTION

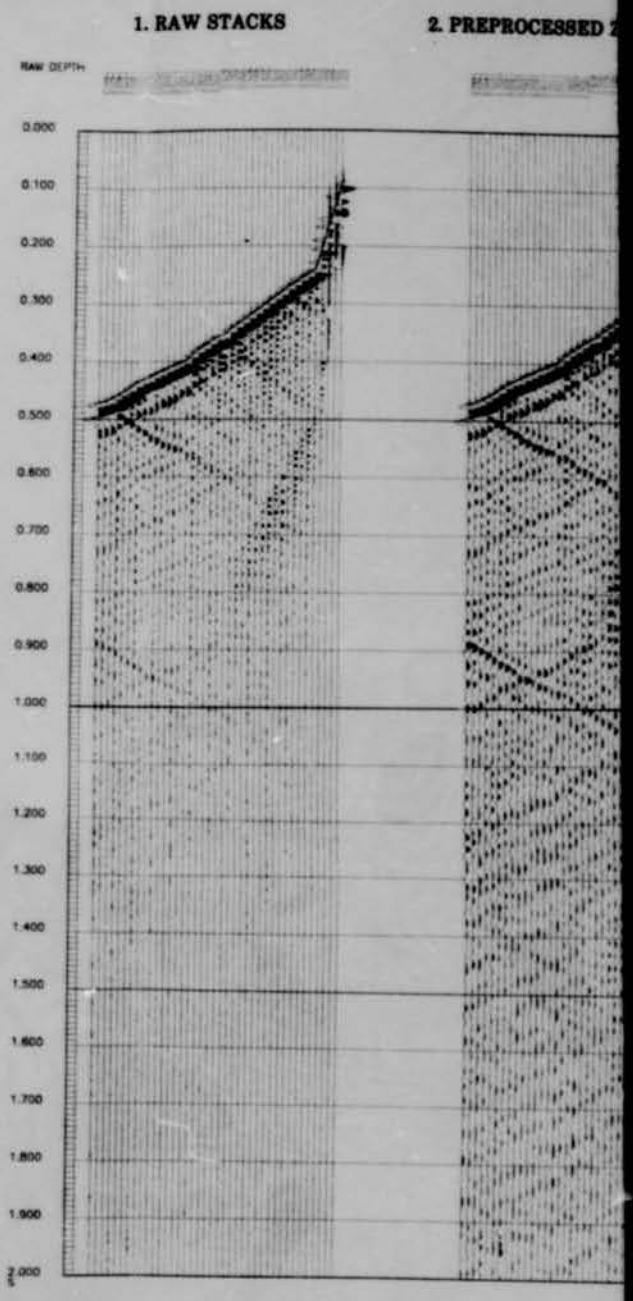
NORMAL POLARITY :
An increase of acoustic impedance appears as a white trough.
(S.E.G. convention when a compressional source is used)

3 of 3

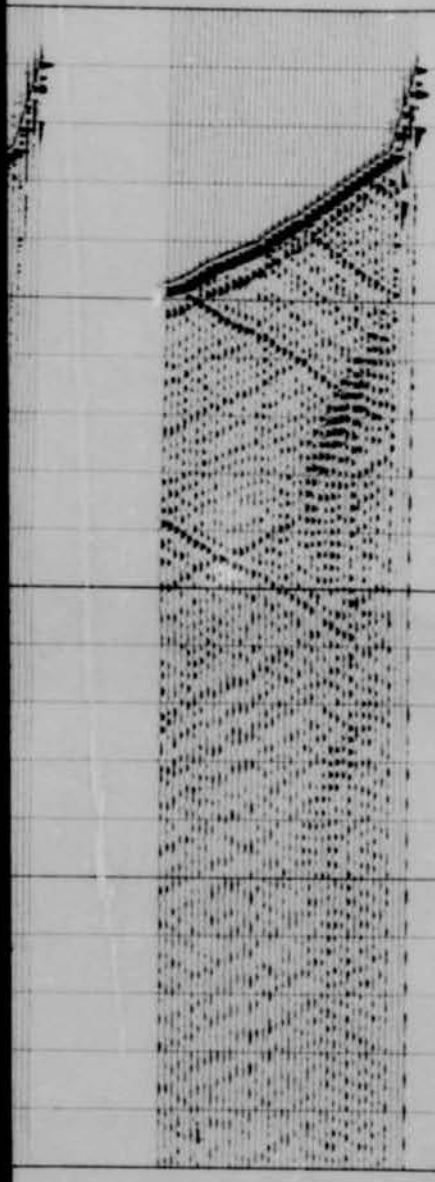
NELS

NUS DOWN P

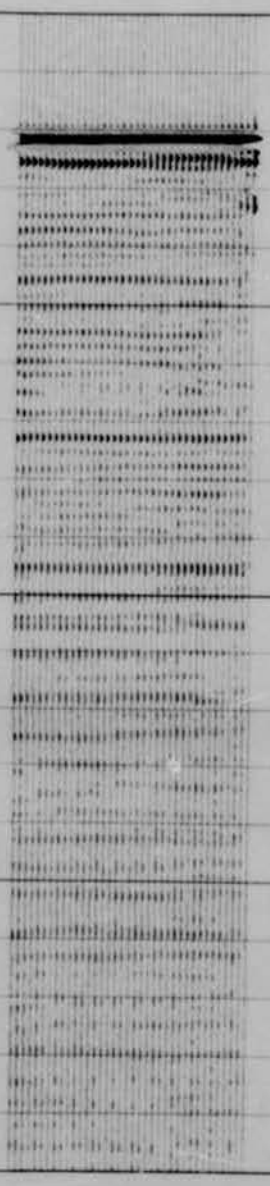
a white trough.
rce is used)



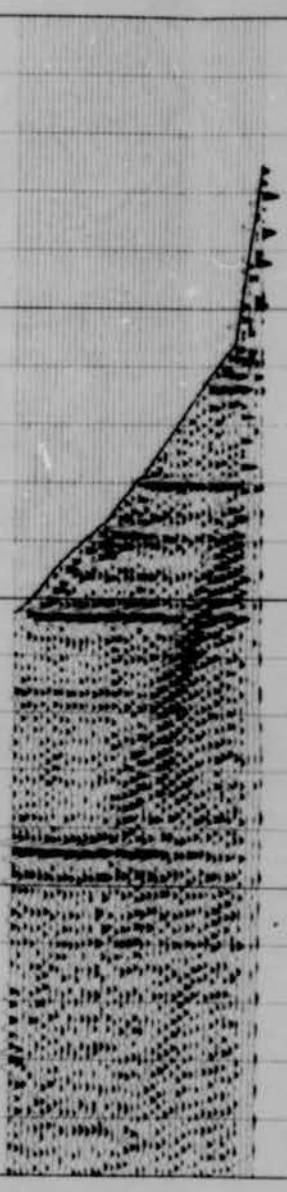
2. PREPROCESSED Z STACKS



3. MEDIAN P DOWN



4. PREPROCESSED STACKS MINUS DOWN P

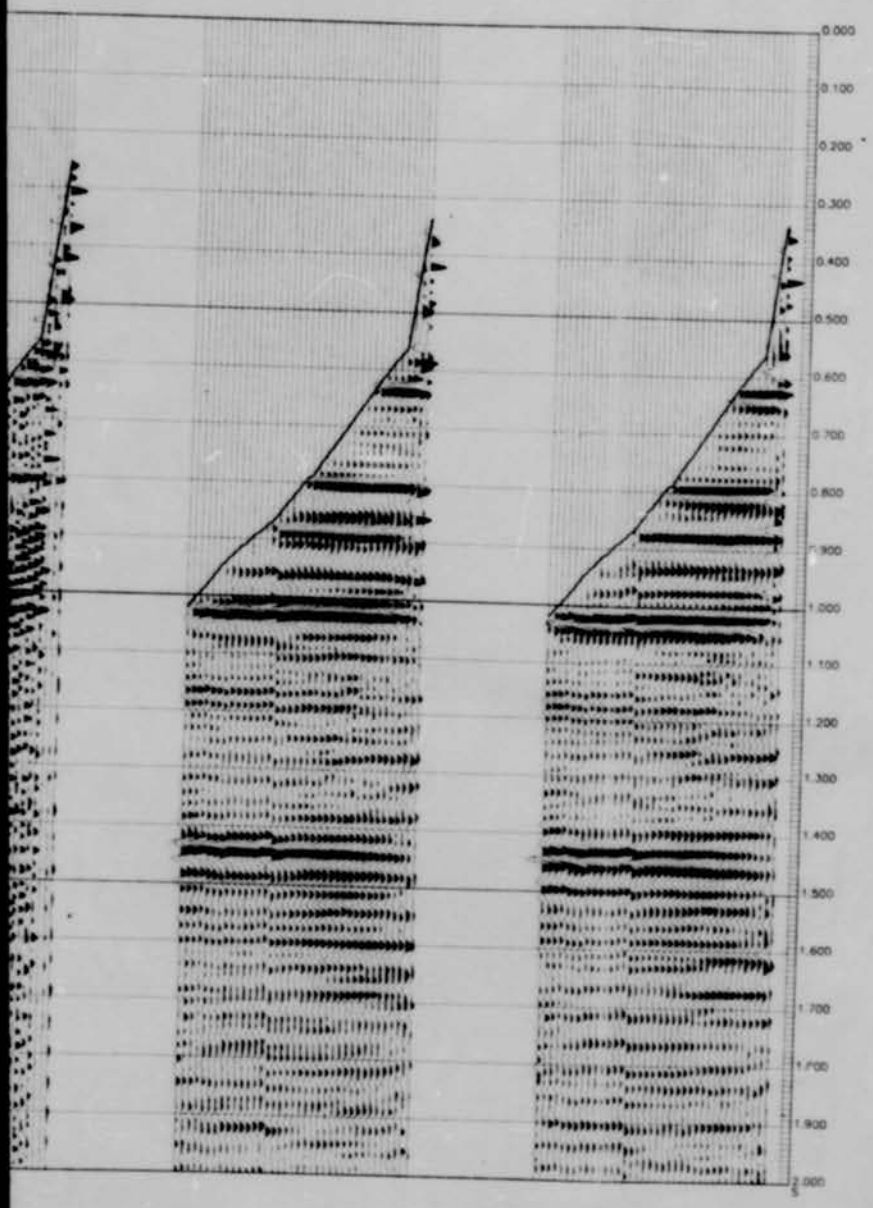


5 of

STACKS
P

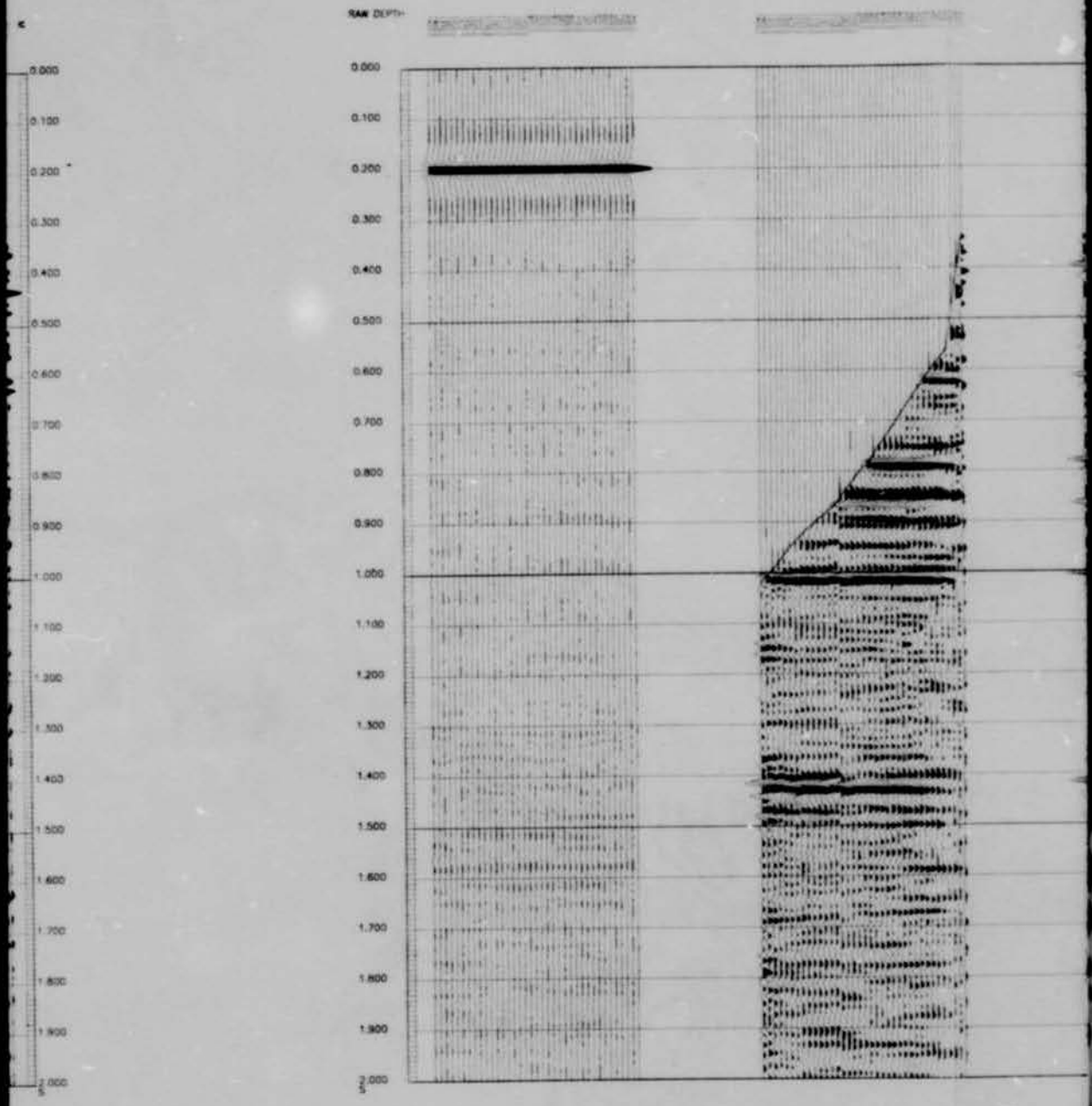
5. MEDIAN UP NP

6. MEDIAN UP RP

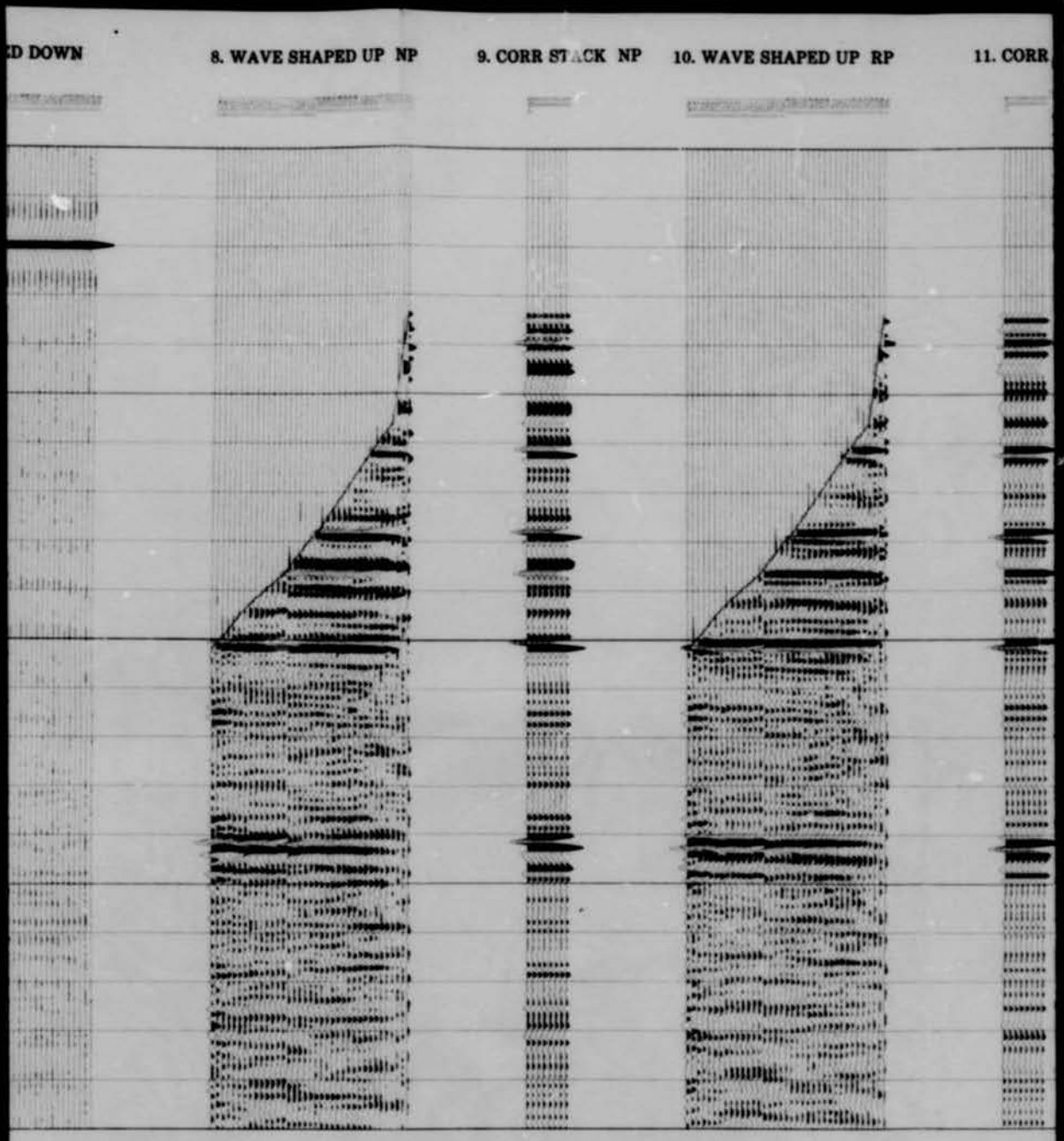


6 of

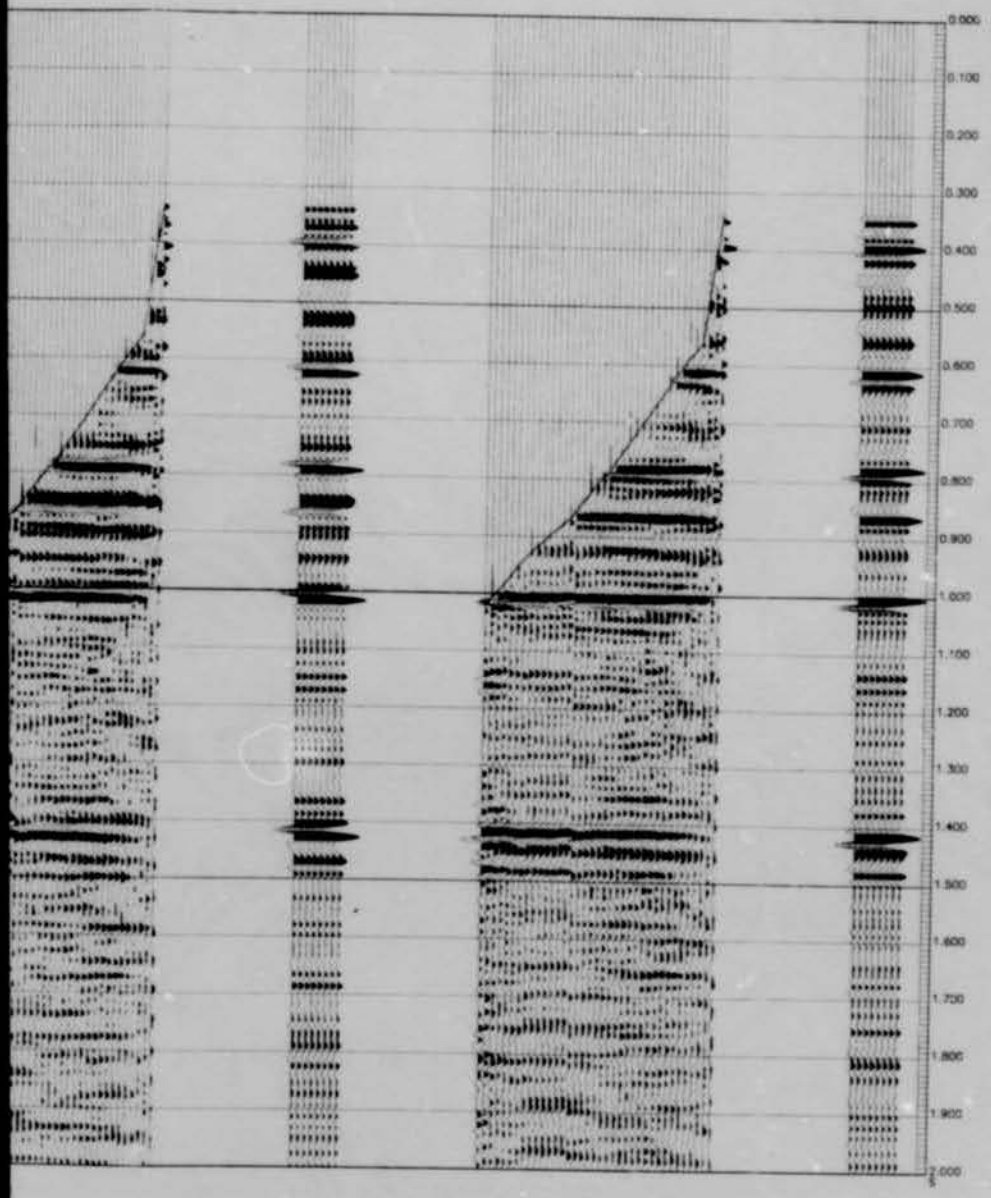
7. WAVE SHAPED DOWN **8. WAVE SHAPED UP NP** **9. COR**



7 of


D DOWN
8. WAVE SHAPED UP NP
9. CORR STACK NP
10. WAVE SHAPED UP RP
11. CORR

E SHAPED UP NP | 9 CORR STACK NP | 10. WAVE SHAPED UP RP | 11. CORR STACK RP



OTTAWA COPY

Schlumberger

SCHLUMBERGER OF CANADA
CALGARY LOG INTERPRETATION CENTER
24TH FLOOR, MORENCO PLACE
521 6th Avenue SW
Calgary, Alberta T2P 3W2
(403) 231-9600

VERTICAL SEISMIC PROFILE

COMPOSITE LOGS
OFFSET 40 METRES - NW/SW

Company: PETRO CANADA BIC.

Well Name: PCI ISLAND LAKE N-45

Field: WILDCAT

Location :
Latitude : [illegible] Longitude : [illegible]

Province : NORTHWEST TERRITORIES, CANADA

ELEVATIONS DATA

ACQUISITION DATA

PROCESSING DATA

VSP, SYNTHETIC SEISMOGRAMS AND LOGS

REVERSE POLARITY

REFERENCE DATUM : 700.0 METRES A.S.L.
ACOUSTIC IMPEDANCE : FROM SONIC ONLY
SYNTHETIC SAMPLING RATE : 1.0 MSEC

POLARITY CONVENTION:

NORMAL POLARITY: AN INCREASE OF ACOUSTIC IMPEDANCE APPEARS AS A WHITE TROUGH.

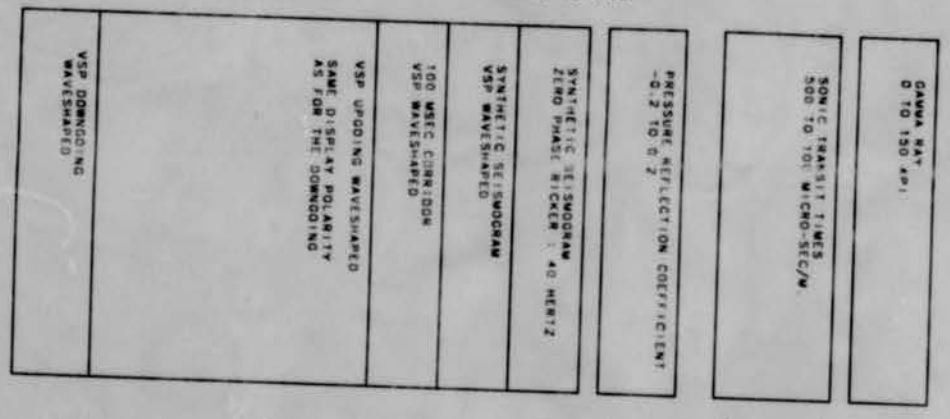
THIS IS SEG NORMAL POLARITY WHEN A COMPRESSIONAL SOURCE IS USED

VSP, SYNTHETIC SEISMOGRAMS AND LOGS
REVERSE POLARITY

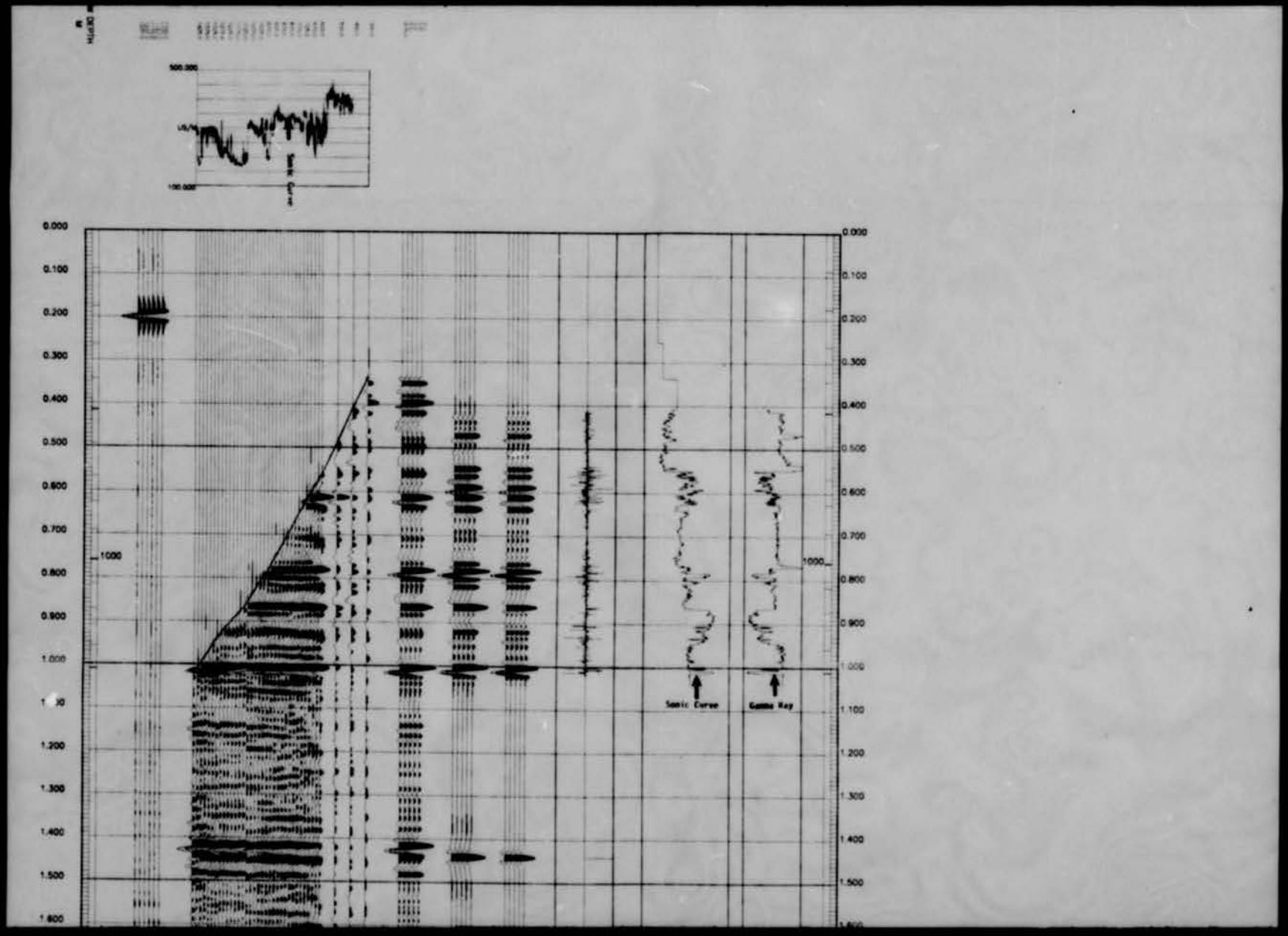
REFERENCE DATUM : 700.0 METRES A.S.L.
ACOUSTIC IMPEDANCE : FROM SONIC ONLY
SYNTHETIC SAMPLING RATE : 1.0 MSEC

POLARITY CONVENTION:

NORMAL POLARITY: AN INCREASE OF ACOUSTIC IMPEDANCE APPEARS AS A WHITE TROUGH.
THIS IS SEG NORMAL POLARITY, WHEN A COMPRESSIONAL SOURCE IS USED



2 of


Sonic Curve
Gamma Ray
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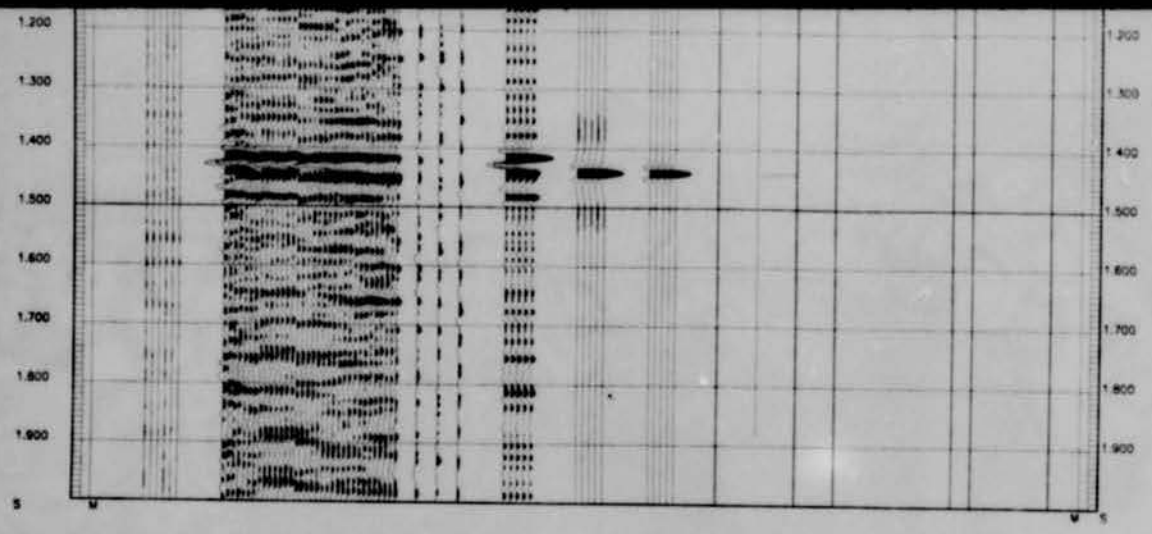
3 of F



VSP, SYNTHETIC SEISMOGRAMS AND LOGS
NORMAL POLARITY

REFERENCE DATUM : 700.0 METRES A.S.L.
ACOUSTIC IMPEDANCE : FROM SONIC ONLY
SYNTHETIC SAMPLING RATE : 1.0 MSEC

POLARITY CONVENTION:

NORMAL POLARITY: AN INCREASE OF ACOUSTIC IMPEDANCE APPEARS AS A WHITE TROUGH.
THIS IS SEG NORMAL POLARITY, WHEN A COMPRESSIONAL SOURCE IS USED

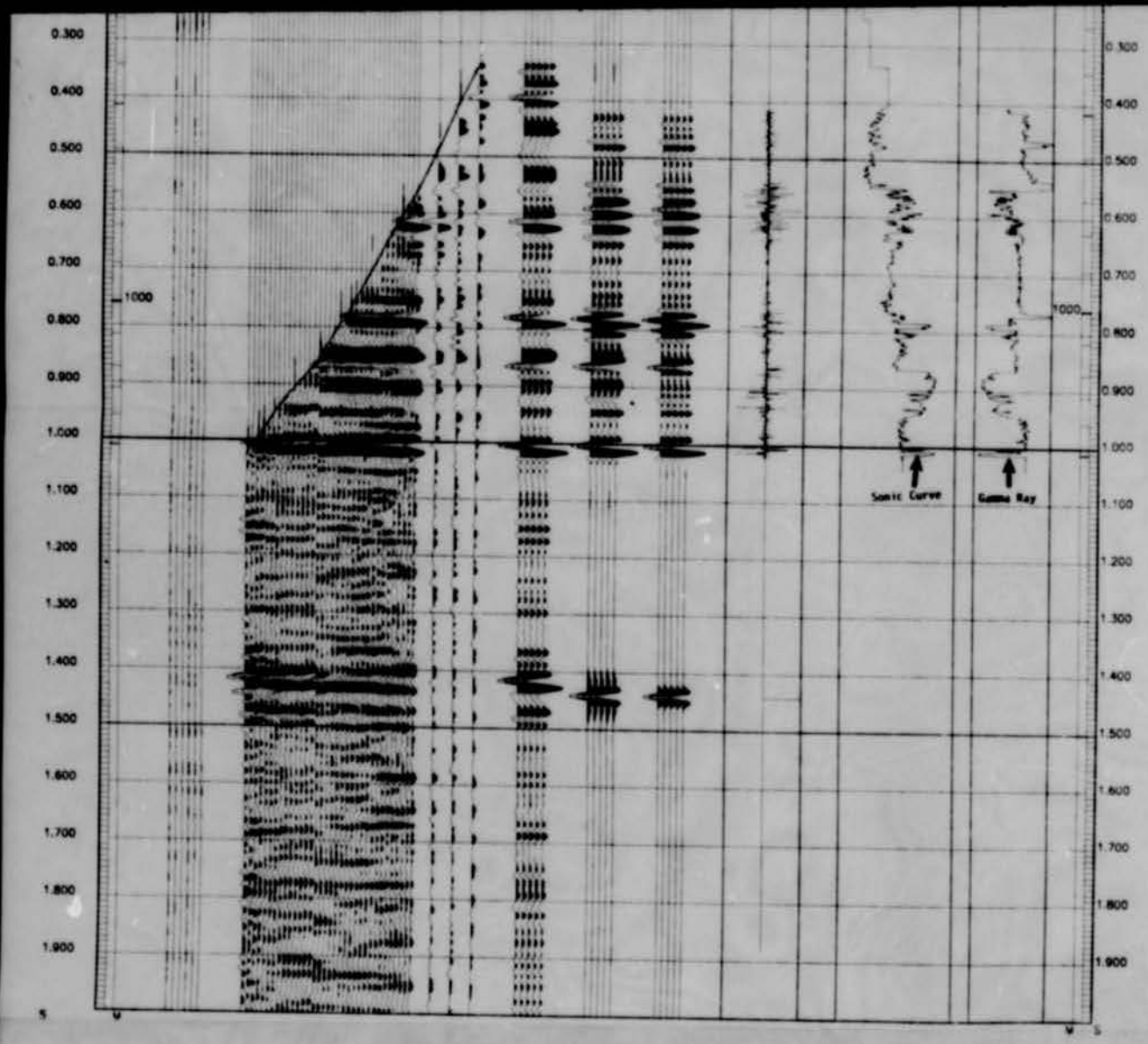
VSP DOWNGOING WAVESHAPED	
	VSP UPGOING WAVE SAME DISPLAY POL AS FOR THE DOWNG
	100 MSEC CORRIDO VSP WAVESHAPED
	SYNTHETIC SEISMO VSP WAVESHAPED
	SYNTHETIC SEISMO ZERO PHASE WICKE
	PRESSURE REFLEC -0.2 TO 0.2
	SONIC TRANSIT T 500 TO 100 MICR
	GAMMA RAY 0 TO 100 API

4 of

NORMAL POLARITY: AN INCREASE OF ACOUSTIC IMPEDANCE
APPEARS AS A WHITE TROUGH.
THIS IS SEG NORMAL POLARITY,
WHEN A COMPRESSIONAL SOURCE IS USED

VSP DOWGOING WAVESHAPED	
	VSP UPGOING WAVESHAPED SAME DISPLAY POLARITY AS FOR THE DOWGOING
	100 MSEC CORRIDOR VSP WAVESHAPED
	SYNTHETIC SEISMOGRAM VSP WAVESHAPED
	SYNTHETIC SEISMOGRAM ZERO PHASE RICKER : 40 HERTZ
	PRESSURE REFLECTION COEFFICIENT -0.2 TO 0.2
	SONIC TRANSIT TIMES 500 TO 100 MICRO-SEC/M
	GAMMA RAY 0 TO 150 API

5 of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Sonic Curve
Gamma Ray

Canada Oil and Gas Lands Administration | Administration du pétrole et du gaz des terres du Canada

D.A. 1412

Nova Scotia	☐	West Coast	☐	Exploratory	☒
Newfoundland	☐	Northern	●	Development	☐
Gulf of St. Lawrence	☐	Hudson Bay	☐	Delineation	☐
				Service	☐

AUTHORITY TO DRILL A WELL

APPLICATION

This application is submitted with Section 82 of the Canada Oil and Gas Drilling Regulations. When approved under Section 83 of the Regulations, it is the requisite authority for the commencement of drilling operations.

Well Name in Full: DOI ISLAND LAKE N-45

Operator: Petro-Canada Inc. | Drilling Program No: N/A

Contractor: Nabors Drilling | Permit or Lease No: E.L. 328 A

Drilling Rig or Unit: # 7 | Estimated Well Cost: $ 874,000.

Location Unit: N | Section: 45 | Grid Area: 60° 10', 120° 45'

Coordinates Lat: N 60° 4' 56.369" | Long: W 120° 53' 33.675"

Area: Northwest Territories | Field/Pool: N/A

Elevation-RTKB: Approx. 609.9 m (ASL) | Ground: 605.4 m (ASL)

Approx. Spud Date: February 16, 1990 | Estimated Days on Location: 21 days

Anticipated Total Depth: 1495 m | Target Horizon(s): Jean Marie (Gas), Rundle (Oil)

UWI: 300N456010120450

EVALUATION PROGRAM

Ten metre sample intervals: NIL

Five metre sample intervals: 500 m to total depth

Canned sample intervals: 500 m to total depth

Conventional cores at: one 18 metre core once the Jean Marie formation is established

Logs and tests: penetration test after coring of the Jean Marie.
PI-SFL, CNL-LDT, BHCS, ML, Velocity Survey

CASING AND CEMENTING PROGRAM

OD	Weight	Grade	Setting Depth Below Seafloor	Cementing Program (Volumes)
339.7mm	81.1 kg/m	K-55, ST&C	45 m	class "G" + 3% $CaCl_2$
244.5mm	48.07 kg/m	H-40, ST&C	400 m	class "G" + 1% $CaCl_2$
177.8mm	34.23 kg/m	K-55, ST&C	1495 m	T.D. - 1300 m 0:1:0 "G"

1300 - 750 0:1:4 "G" 750 - 500 m 0:1:0 "G" 500 m 0:1:0 "G" 500 - 0 0:1:4 "G"

B.O.P. Equipment: 1 - 229mm, 21 Mpa Annular preventer
1 - 229mm, 21 Mpa Blind Ram 1 - 229mm, 21 Mpa Pipe Ram

Other Information: (Mud System)
0 - 400m gel-Lime mud
400 - 1495 m Gel/Chemical

Signed: J.L. Cotterill | J.L. Cotterill | Title: Manager, Exploration Operations

Date: 1990-02-12 | Company: Petro-Canada Inc.

APPROVAL

An approved copy of this notice is to be posted at each wellsite

Signed: [illegible] S.
Engineering Branch

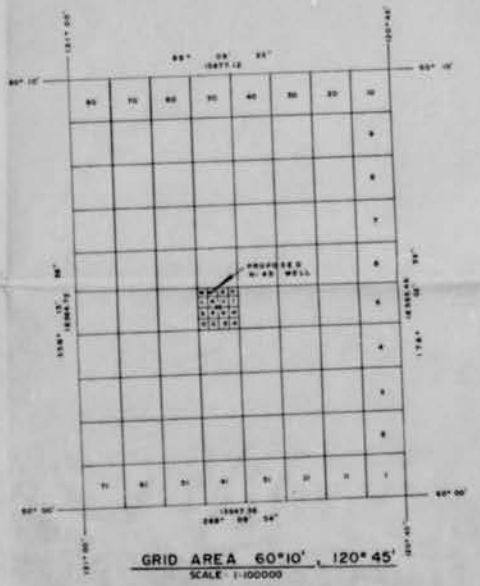
Date: 90-02-14

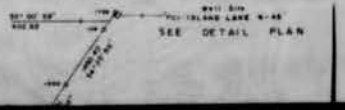
File: 9211-P28-6-1

Department of Energy, Mines and Resources | Ministère de l'Énergie, des Mines et des Ressources

Department of Indian Affairs and Northern Development | Ministère des Affaires indiennes et du Nord canadien

Canada





SKETCH PLAN SHOWING SURVEY OF:

PROPOSED EXPLORATORY WELL "PCI ISLAND LAKE N-45" IN UNIT N, SECTION 45 GRID AREA 60° 10', 120° 45' NORTHWEST TERRITORIES

SURVEYED FOR:

PETRO-CANADA INC.

LEGEND:

ELEVATION: 605.40 GROUND

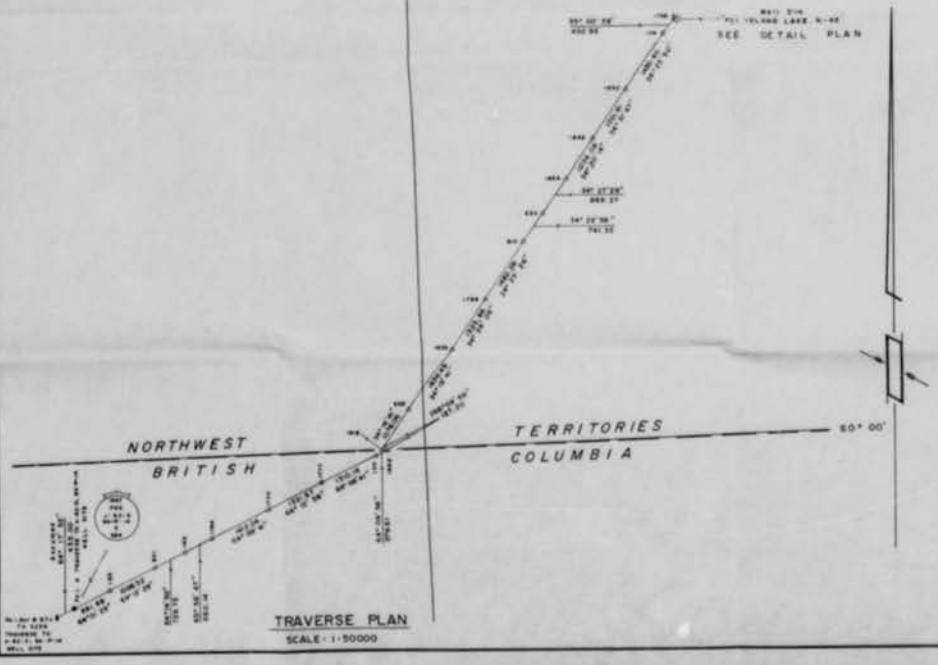
CO-ORDINATES: U.T.M. REFERENCE MERIDIAN: 123°

NORTH: 6662242.22
EAST: 617240.15

LAT. 60°04' 56.565"

DETAIL PLAN
SCALE: 1:2500

GRID AREA 60°10', 120°45'
SCALE: 1:100000



TRAVERSE PLAN
SCALE: 1:50000

REFERENCE TREES

STATION	DISTANCE FROM STATION	DIRECTION FROM STATION	SIZE AND TYPE OF TREE
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

SURVEYED FOR
PETRO-CANADA INC.

LEGEND:
UTM co-ordinates are computed for Zone 10, central meridian 123° W.
Elevations are expressed in metres and decimal thereof.
Monuments found are shown thus: ● (iron post), ■ (iron bar).
Monuments planted are shown thus: ⊙ (iron post), ○ (iron bar).
Distances shown in brackets are horizontal distances reduced to the horizontal or geodetic ground level.
For the computation of our originally measured distances that have been reduced to the UTM zone by multiplying them by an average combined scale factor of [illegible].
Elevations shown in grid calculations are UTM plane.

ELEVATION: 605.40 GROUND

CO-ORDINATES: UTM REFERENCE MERIDIAN: 123°
NORTH: 6662242.22
EAST: 617240.15
LAT.: 60° 04' 06.383"
LONG.: 120° 53' 55.675"

AREAS: WELL SITE = 1.20 ha
CAMP SITE = 0.28 ha

I certify that the survey represented by this plan is correct and true to the best of my knowledge and was completed on the 29th day of January, 1990

Alberta Land Surveyor

Witness

OPERATOR
PETRO-CANADA INC.

McElhanney Land Surveys (Alta.) Ltd.
[illegible] - 5th Street SW Calgary, Alberta
Ph. (403) 245-4711

JOB No. 50901381

PETRO-CANADA

PETRO-CANADA
ISLAND LAKE N-45
WELL HISTORY REPORT

MAY, 1990

FINAL WELL REPORT
PETRO-CANADA ISLAND LAKE N-45

COMPILED BY:
PETRO-CANADA INC.
EXPLORATION OPERATIONS GROUP
CALGARY, ALBERTA
JUNE, 1990

J.L. COTTERILL, MANAGER
EXPLORATION OPERATIONS

WELL HISTORY REPORT
PETRO-CANADA ISLAND LAKE N-45

FINAL WELL REPORT

PCI ISLAND LAKE N-45

Prepared by: Brian Hebert
1990-05-23

PCI ISLAND LAKE N-45

FINAL WELL REPORT

A) INTRODUCTION

1. Summary
2. Location Map

B) GENERAL DATA

1. Well Name and Number
2. Exploration Agreement Number
3. Well Location
4. Unique Well Identifier
5. Operator and Drilling Contractor
6. Drilling Unit
7. Position Keeping
8. Support Craft
9. Drilling Unit Performance
10. Difficulties and Delays

C) SUMMARY OF DRILLING OPERATIONS

1. Elevations
2. Total Depth
3. Date Spudded
4. Date Drilling Completed
5. Date of Rig Release
6. Well Status
7. Hole Sizes and Depth
8. Casing and Cementing Record
9. Sidetracked Hole
10. Drilling Fluids
11. Fishing Operations
12. Well Kicks
13. Formation Leak-Off Tests
14. Time Breakdown
15. Deviation Survey
16. Abandonment Plugs
17. Composite Well Record

APPENDIX

Drilling Data

1. Deviation Log
2. Wellbore Schematic
3. Well Termination Record

FINAL WELL REPORT

A. INTRODUCTION

1. Summary

PCI Island Lake H-45 was the second of two wells drilled by Petro-Canada during 1990 in the N.W.T. The primary objective was the Jean Marie formation and the Rundle formation was a secondary objective.

The location co-ordinates for this well are 60°04' 56.369" North Latitude, 120° 53' 33.675" West Longitude.

Petro-Canada Incorporated of Calgary operated the well. Nabors Drilling, the Contractor, used Nabors Rig #7 (diesel mechanical) to drill this well.

The well was drilled to a total depth of 1450 m. Drilling operations, including evaluation and abandonment, were completed in 21.4 days.

Conductor casing - 339.7 mm, 81.1 kg/m, K-55, ST&C - was set at 24 m with a rat hole rig and cemented.

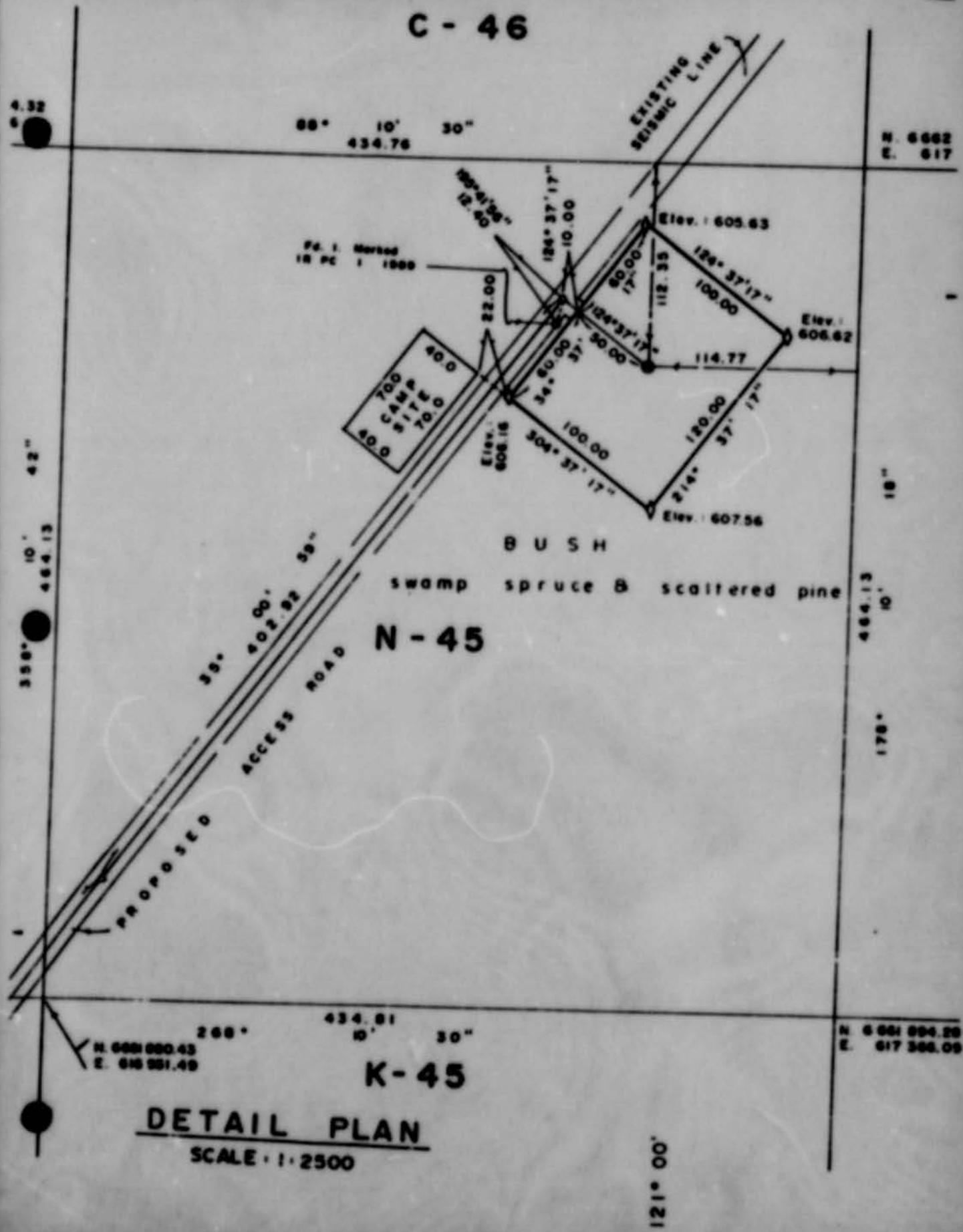
PCI Island Lake H-45 was spudded on 1990-02-21 at 0015 hours with Nabors Rig #7. A 311.2 mm hole was drilled to 409 m. Surface casing - 244.5 mm, 48.07 kg/m, H-40, ST&C - was set at 409 m and cemented with 32.2 tonnes of Class "G" + 1.5% $CaCl_2$.

A 222.2 mm hole was drilled using a gel-chemical drilling fluid system. At 1405 m, an 18 m (222 mm) core was cut in the Jean Marie.

A DST (misrun) was then performed in the Jean Marie formation.

The well was then drilled to 1450 m. The well was open-hole logged and two DSTs (one misrun) were performed in the Jean Marie formation. An additional DST was then run in the Rundle formation.

The well was plugged and abandoned and rig released on 1990-03-14 at 1200 hours.



DETAIL PLAN

SCALE : 1 : 2500

B. GENERAL DATA

1.	Well Name and Number:	PCI Island Lake N-45 Grid Area: 60°10', 120°45'
2.	Exploration Agreement Number:	E.L. 328A
3.	Well Location:	North Latitude: 60°04' 56.369" West Longitude: 120°53' 33.675"
4.	Unique Well Identifier:	300N456010120450
5.	Operator:	Petro-Canada Incorporated P.O. Box 2844 Calgary, Alberta T2P 3E3
	Contractor:	Nabors Drilling P.O. Box 55 Nisku, Alberta TOC 2G0
6.	Drilling Unit:	Nabors Rig #7 Diesel Mechanical
7.	Position Keeping:	Not applicable to this well.
8.	Support Craft:	Not applicable to this well.
9.	Drilling Unit Performance:	Not applicable to this well.
10.	Difficulties and Delays:	No difficulties or delays were encountered that were not directly associated with downhole operations.

C. SUMMARY OF DRILLING OPERATIONS

1. Elevations: Ground: 605.40 m
   Kelly Bushing: 610.60 m

2. Total Depth: Drilled: 1450 m
   Logged: 1445.5 m

3. Date and Hour Spudded: 1990-02-21 - 0115 hours

4. Date Drilling Completed: 1990-03-07 - 0700 hours

5. Date of Rig Release: 1990-03-14 - 1200 hours

6. Well Status: Abandoned

7. Hole Sizes and Depths:

Class	Bit Numbers	Size (mm)	Depth (m) In	Depth (m) Out	Meters Drilled	Remarks
Surface	1A	311.2	0	115	115	
	2A	311.2	115	266	151	
	3A	311.2	266	409	143	
Main	1	222.2	409	1170	761	
	2	222.2	1170	1405	235	
	3	222.2	1405	1423	18	Core
	4RR	222.2	1423	1450	27	

8. Casing and Cementing Details

Hole Classification	Conductor	Surface	Main
Hole Size :(mm)	444.5	311.2	222.2
Casing Size: (mm)	339.7	244.5	Abandoned
Weight: (kg/m)	81.1	48.07	
Grade:	K-55	H-40	
Coupling:	ST&C	ST&C	
Number of Joints:	2	40	
Number of Centralizers		9	
Date of Run:	90-02-17	90-02-24	
Shoe Depth: (m)	24	409	
Tonnes of Cement:		32	
Type of Cement:	Class "G"	Class "G"	
Additives:	3% $CaCl_2$	1.5% $CaCl_2$	
Height of Cement:	Surface	Surface	
Based on:	Returns	Returns	

9. Sidetracked Hole - None

10. Drilling Fluids

The surface hole to 409 m was drilled using a gel/lime slurry. The main hole to T.D. at 1450 m was drilled using a gel/chemical system.

Summary of Mud Properties

Section	Interval (m)	Weight (kg/m^3)	Funnel Vis (s/l)	Water Loss (Avg. cm^3)	pH (Avg)	Cl- ($10^3 mg/l$)
Conductor	0-24	-	-	-	-	-
Surface	24-409	1170	50	-	9.5	-
Main	409-1450	1120	70	7.0	10	0.4

11. Fishing Operations - None

12. Well Kicks - None

13. **Formation Leak-Off Tests**

A formation integrity test was run on 1990-02-25 after drilling out the surface casing shoe at 409 m and drilling to 414 m. Water was used for this test (4012 kPa hydrostatic at shoe) and a surface pressure of 4986 kPa was held with no formation breakdown. The total pressure at the shoe (8998 kPa) is equivalent to a leak-off gradient of 22.0 kPa/m (2243 kg/m³) EMD).

14. **Time Breakdown**

	Surface	Main	Total
Drill	51.00	126.25	177.25
Trip	14.75	96.00	110.75
Ream/Clean	0.00	1.25	1.25
Conditioning	3.25	17.00	20.25
Rig Service	2.50	11.25	13.75
Mech. Downtime	0.25	6.75	7.00
Survey	7.00	5.75	12.75
CSG-CMT-WOC	0.00	0.00	0.00
Head up/P Test	18.75	23.75	42.50
Coring		30.75	30.75
Logging		17.00	17.00
DST		33.50	33.50
W.O.O.		12.25	12.25
Abandonment		24.00	24.00
TOTAL	97.50	405.50	503.00

15. **Deviation Survey**

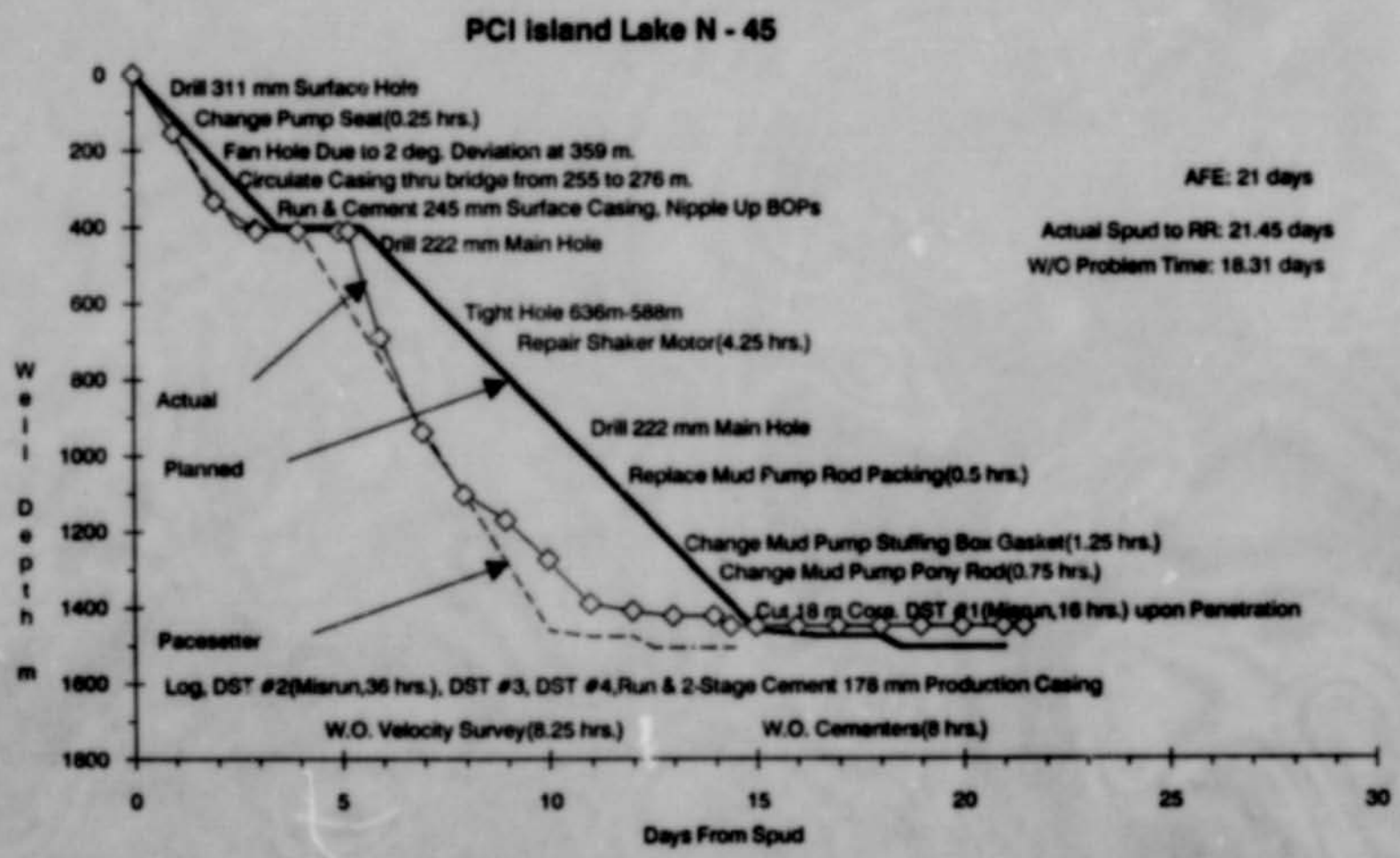
No directional survey was made of this well. Maximum deviation was 2½° at 1402 m. The maximum possible displacement of the bottom hole location with respect to the surface location is only 26.4 m.

16. **Abandonment Plugs**

Type of Plug	Interval (m)	Felt at (m)	Cement + Additives	Fluid Between Plugs
Cement	1450-1382	No Feel	5.5 t Class "G" + 0.75% CFR-3 + 0.1% HR4	Gel/Chemical Mud
Cement	1107-911	871	21.2 t Class "G" + 0.75% CFR-3 + 0.1% HR4	Gel/Chemical Mud
Cement	664-563	548	7.4 t Class "G" + 0.5% CFR-3 +	Gel/Chemical Mud

PCI ISLAND LAKE N-45

Type of Plug	Interval (m)	Felt at (m)	Cement + Additives	Fluid Between Plugs
Cement	424-394	350	2.7 t Class "G" + 0.5% CFR-3	Gel/Chemical Mud
Cement	10-0	Visual to Surface	5 sx Class "G"	


PCI Island Lake N - 45
Drill 311 mm Surface Hole
Change Pump Seat(0.25 hrs.)
Fan Hole Due to 2 deg. Deviation at 359 m.
Circulate Casing thru bridge from 255 to 276 m.
Run & Cement 245 mm Surface Casing, Nipple Up BOPs
Drill 222 mm Main Hole
Tight Hole 636m-588m
Repair Shaker Motor(4.25 hrs.)
Drill 222 mm Main Hole
Replace Mud Pump Rod Packing(0.5 hrs.)
Change Mud Pump Stuffing Box Gasket(1.25 hrs.)
Change Mud Pump Pony Rod(0.75 hrs.)
Cut 18 m Core, DST #1(Misrun,16 hrs.) upon Penetration
Log, DST #2(Misrun,36 hrs.), DST #3, DST #4,Run & 2-Stage Cement 178 mm Production Casing
W.O. Velocity Survey(8.25 hrs.)
W.O. Cementers(8 hrs.)
AFE: 21 days
Actual Spud to RR: 21.45 days
W/O Problem Time: 18.31 days
Actual
Planned
Pacesetter
Well Depth m
0
200
400
600
800
1000
1200
1400
1600
1800
0
5
10
15
20
25
30
Days From Spud

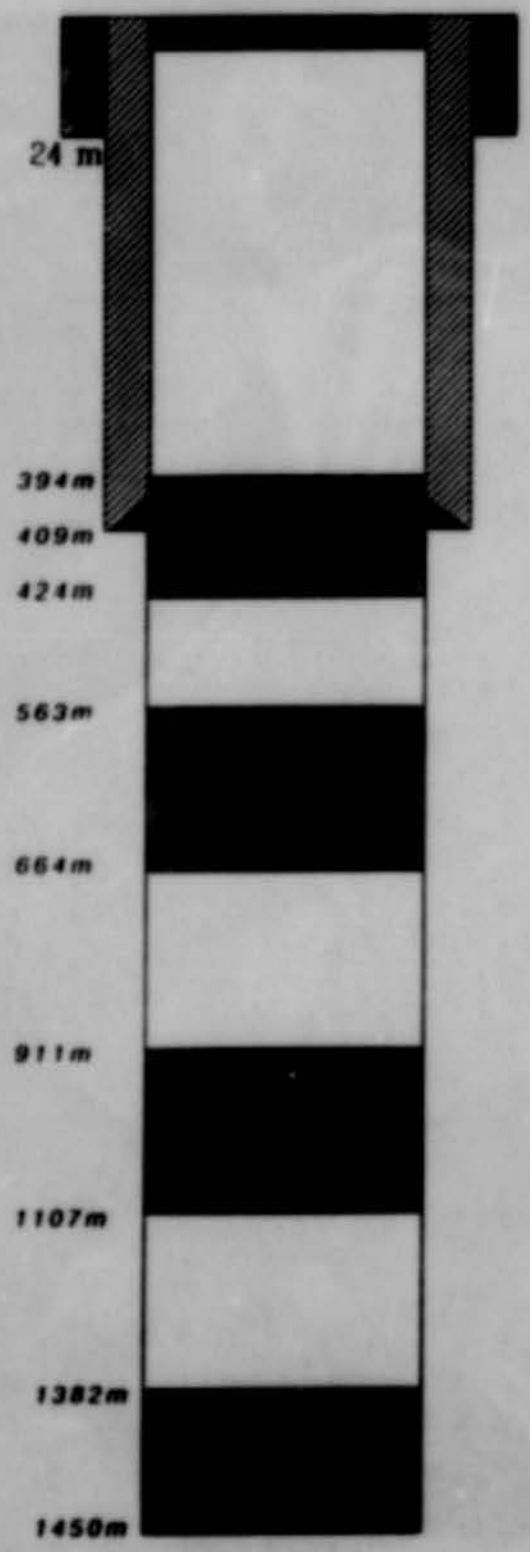
FINAL WELL REPORT

PCI ISLAND LAKE N-45

APPENDIX


PCI ISLAND LAKE N-45
Deviation Log
Well Depth m
0
200
400
600
800
1000
1200
1400
1600
0
0.5
1
1.5
2
2.5
3
Deviation (Degrees)

PCI ISLAND LAKE N-45



Conductor Hole Size: 445 mm
Conductor Casing: 340 mm, 81.1 kg/m, K-55, ST&C
Cement: Class "G" + 3% $CaCl_2$

Surface Hole Size: 311mm

Surface Casing: 245 mm, 48.07 kg/m, H-40, ST&C
Cement: Class "G" + 1.5% $CaCl_2$

Hole Size: 222 mm

WELL TERMINATION RECORD

This record is a checklist in triplicate in compliance with Section 184 of the Canada Oil and Gas Drilling Regulations.

WELL DATA

Well Name: PCI Island Lake N-45 Area: North West Territories

Grid Area: 60.40 - 120.45 Field/Pool: N/A

Permit or Lease No.: N.L.3380A Final Coordinates: Lat. N60°4'56.369" Long. N120°53'33.675"

Drilling Unit: Nabors 87 Elevations-RTKB: 610.00 m GROUND: 608.40 m

Spud Date: 90-02-21 - 01:15hrs Released: 90-03-14 - 12:00 Total Depth: 1650 m

CASING AND CEMENTING

O.D.	Weight kg/m	Grade	Depth Set	Cement and Additives
244.5 mm	68.07	H-40	409 m	32.2 t. 8:1:0 "G" + 18 CaCl.

PLUGGING PROGRAM

Approval of the following program was obtained by person Brian Hubert from person Dave Scratch of the Canada Oil and Gas Lands Administration by means of telephone on March 9th 1990.

Type of Plug	Interval	Fill	Cement and Additives
Class "G"	1650-1382 m	Not Required	5.9t. Class "G" + 0.75% CFR-3 + 0.1% HR-4
Class "G"	1107-911 m	871 m	21.2 t. Class "G" + 0.75% CFR-3 + 0.1% HR-4
Class "G"	664-563 m	548 m	7.4 t. Class "G" + 0.5% CFR-3
Class "G"	424-294 m	350 m	2.7 t. Class "G" + 0.5% CFR-3
cement	10 m to surface	visual	

Lost Circulation Overpressure Zones: None

Equipment left on Seafloor (Describe): None

Provision for Re-entry (Describe and attach sketch): N/A

Core Type: Conventional Interval: 1405-1423 m

Other Downhole Completion/Suspension Equipment: None

CERTIFICATION

I certify on that date of personal knowledge of operations undertaken at the above named well that the above information is accurate.

Signature: [signature] P. Eng. Title: Drilling Manager

Name: L.D. Heikkinen Date: 90-03-18

Acknowledged by: [signature]

Date: 90-07-02

File: 0211-P20-6-1

Canada

GEOLOGICAL SUMMARY, PCI ISLAND LAKE N-45

Play Summary

PCI Island Lake N-45 was drilled to investigate a stratigraphic gas trap in the Late Devonian Jean Marie Formation. The Jean Marie is a gas-saturated carbonate unit which extends regionally across N.E. B.C. and into the southern N.W.T.

Results

1. The well was plugged and abandoned. A drillstem test and core analysis from the Jean Marie Formation indicated a low quality reservoir with negligible permeability. The well was unable to produce a sustainable flow of hydrocarbons and did not discover a significant hydrocarbon reserve.

2. Mud logging detected poor gas shows across several thin zones in the Jean Marie Formation.

3. A core was cut from 1404.5 to 1422.5m with the top of the core located 7 metres below the top of the Jean Marie Formation. The upper 2 metres of core was stained with both dead and live oil. Thin intervals of the core have low (3-6%) dominantly, intercrystalline porosity created by incipient dolomitization. Fractures propped open by calcite and dolomite crystals were a secondary reservoir development.

4. Formation evaluation from wireline logs estimated 2.0 metres of net gas pay with an average 3.5% porosity and 50% water saturation. The microlog qualitatively indicated 1.9 meters of reservoir permeability occurring as three separate zones. These zones are:

Interval	Thickness
1398.3 - 99.0	(.7m)
1403.6 - 04.3	(.7m)
1405.0 - 05.3	(1.5m)
Total Net Permeable Carbonate	1.9m

5. A drillstem test of the Jean Marie Formation was successfully performed six (6) days after the reservoir had first been penetrated and exposed to drilling mud. The test included all potential hydrocarbon zones within the Jean Marie Formation and had an extended main flow for 3 hours and a final shut-in of 6 hours. The test failed to flow gas to surface and recovered 10 metres of very lightly gas cut mud.

6. A basal Cretaceous sandstone directly above the Paleozoic Unconformity, had a fair oil show and a poor gas show in sample cuttings. Formation evaluation of wireline logs interpreted 4 metres of net sandstone with an average porosity of 21% and an average water saturation of 70%. COGLA requested a drillstem test be performed across the sandstone to evaluate the hydrocarbon potential of the zone. The test flowed gas at a rate of TSTM and recovered 357 metres of heavily gas cut formation water. The water produced had a salinity of 20,000 ppm (Na Cl).

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ISLAND LAKE N-45
FORMATION TOPS: COMPARISON WITH PROGNOSIS

Formation/Unit	Prognosed (m) Subsea	Prognosed (m) Thk	Actual (m) KB	Actual (m) Subsea	Actual (m) Thk	Depth Variation	Thickness Variation	Objective/Result
Basal Cretaceous Sandstone			578.5	+31.5	6.5			Secondary - poor oil and gas show - tested wet
Rundle Group (Flett Fm)	+66	99	585	+25	75.8	41m L	-23.2m	Secondary - fair oil shows - poor gas show - not tested - dense reservoir
Banff	- 33	277	660.8	-50.8	259.9	17.8m L	-17.1m	
Exshaw	-310	9	920.7	-310.7	5.3	.7m L	- 2.7m	
Kotcho	-319	205	926	-316	197.5	.3m H	- 7.5m	
Tetcho	-524	77	1123.5	-513.5	74.8	10.5m H	- 2.2m	
Trout River	-601	70	1198.3	-588.3	68.2	12.7m H	- 1.8m	
Redknife	-671	130	1266.5	-656.5	130.8	14.5m H	+ .8m	
Jean Marie	-801	18	1397.3	-787.3	17.7	13.7m H	- .3m	Primary - poor gas show - dense reservoir
Fort Simspson	-819	30	1415	-805	30.5	14m H	+ .5m	
TOTAL DEPTH	-849		1445.5	-835.5				

TESTS AND SIGNIFICANT SHOWS

DST 1: Jean Marie Fm (1395-1423 m)
(penetration test)

- Misrun - lost packer seat

DST 2: Jean Marie Fm (1389-1409 m)
(straddle test)

- Misrun - equipment failure; packers would not inflate

DST 3: Jean Marie Fm (1390-1409.12 m)

- NGTS, Rec 10 m very lightly gas cut mud

DST 4: Basal Cretaceous Sandstone (579-583.6 m)

- GTS TSTM
  Recovered 20 m gas cut mud and 337 m of heavily gas cut water

The gas and fluorescence shows recorded during drilling are summarized below;

FORMATION/UNIT	SHOW DESCRIPTION
Basal Cretaceous Sandstone	- fair oil show, poor formation gas show with C1-C5 peaks between 588 and 589 metres.
Flett Fm Rundle Group	- poor to fair oil shows - very poor gas shows
Exshaw Fm	- poor oil show - poor gas show with C1-C5 peaks between 921 and 925 metres.
Redknife Shale	- very poor gas shows near the top of the unit.
Jean Marie Fm	- fair to good oil show in core from 1404.5 to 1406.5 m. - poor gas shows with C1-C2 peaks between 1399 and 1400 metres and C1-C3 peaks between 1405 and 1406 metres.

GEOLOGICAL WELL SUMMARY

PCI ISLAND LAKE N-45

Hal H. Christie, M.Sc., P. Geol.
Consulting Geologist
March 1990

Hal H. Christie, P. Geol.

GENERAL WELL INFORMATION

WELL NAME:	PCI ISLAND LAKE N-45
LOCATION:	Latitude N. 60 4' 56.369" Longitude W. 120 53' 33.675"
ELEVATIONS:	Ground: 605.4; K.B.: 610.0
CLASSIFICATION:	Exploratory
PARTNERS:	None
CASING:	Surface: 409 m. x 244.5 mm.
CONTRACTOR:	Nabors Drilling Rig No. 7
DRILLING SUPERVISOR:	Roger Monette - Consultant
GEOLOGIST:	Hal H. Christie, P. Geol. - Consultant
SPUDDED:	90/02/21 01:15
FINISHED DRILLING:	90/03/07 08:00
HOLE SIZE:	Surface: 311 mm. Main: 222 mm.
SAMPLES:	One set 5 m. vialed samples - PetroCanada One set 5 m. bagged samples - Institute of Sedimentary and Petroleum Geology - Calgary One set 10 m. geochemical samples - PetroCanada One set 10 m. geochemical samples - Institute of Sedimentary and Petroleum Geology - Calgary One sample file 410 m. - T.D. - PetroCanada
MUD LOGGING:	Two Manned Unit - 410 m. - T.D.
CORES	Core No. 1, 1405 - 1423
DRILLING FLUID:	Gel/Chemical
FORMATION TESTS:	DST No. 1, 1395.2 - 1423 DST No. 2, 1390 - 1409.12 DST No. 3, 1390 - 1409.12 DST No. 4, 579 - 583.6
WIRELINE LOGS:	Schlumberger: Phasor Induction - MSFL - SFL, S.P. - G.R. CNL - Litho-Density - G.R. - XY-Caliper - AMS BHC Sonic Log - G.R. - Caliper Microlog Velocity Survey
TOTAL DEPTH:	Drilled: 1450 Logged: 1445.5
RIG RELEASED:	90/03/14 12:00
STATUS:	Dry and Abandoned

GEOLOGICAL MARKERS
(Log Tops)

MARKER	Depth	Subsea
RUNDLE (Field)	578.5	+ 31.5
BANFF	648.1	- 38.1
EXSHAW	921.0	- 311.0
KOTCHO	926.0	- 319.0
TETCHO	1122.4	- 512.4
TROUT RIVER	1198.5	- 588.5
RED KNIFE	1280.0	- 670.0
JEAN MARIE	1397.5	- 787.5
FORT SIMPSON	1414.9	- 804.9
Total Depth	1450.0	

PCI ISLAND LAKE N-45

SAMPLE DESCRIPTIONS

410 - 420 SHALE, dark gray, some with brown hue, blocky, firm to some soft, micro- to some very fine carbonaceous material particularly on partings and bedding planes, some fragments slightly calcareous in part, some slightly to moderately silty in part, finely disseminated pyrite not uncommon in part.
Trace Siltstone, medium to dark gray and brown gray, intergranular argillaceous material generally common and some difficult to distinguish from silty Shale, well cemented, very slightly calcareous in part, trace finely disseminated pyrite in part.

420 - 440 SHALE (85), dark gray as above, some with brown hue, some becoming more silty, grading into and interbedded with,
SILSTONE (15), light to commonly medium brown gray and gray brown as above, some fragments trace glauconite in part.

440 - 465 SHALE (75), dark to some very dark gray as above, commonly carbonaceous, soft, some fissile, interbedded with,
SILTSTONE (25), light to commonly medium gray brown and brown gray as above, generally a poorly developed clastic, poor sorting and intergranular argillaceous material generally common.

465 - 475 SHALE (85), dark to very dark gray as above, trace with brown hue, micro- to very fine carbonaceous material becoming more common particularly on partings & bedding planes, soft and some fissile.
SILTSTONE (15), light to commonly medium gray brown and brown gray as above, commonly poorly sorted, and poorly developed with intergranular argillaceous material common and argillaceous material as irregular inclusions and partings.

475 - 505 SHALE (30), dark to commonly very dark gray, some with brown hue generally common, blocky and platey, soft, some firm, commonly moderately to very carbonaceous and very fine carbonaceous material on partings & bedding planes, some approaching bituminous, some slightly to occasionally moderately silty in part, finely disseminated pyrite not uncommon in some fragments.
SILTSTONE (10), light to commonly medium gray brown and medium gray as above.

505 - 520 SHALE (90), dark to very dark gray, platey and some blocky, soft to some firm, commonly carbonaceous, micromicaceous, some fragments approaching bituminous, trace slightly silty in part, trace finely disseminated pyrite in part.
SILTSTONE (10), light to medium gray brown and brown gray as above.

520 - 540 SHALE (90), commonly very dark gray as above, generally moderately to very carbonaceous and some becoming bituminous.
SILTSTONE (10), light to commonly medium gray brown and brown gray as above, argillaceous material generally more common and a poorly developed clastic.

540 - 575 SHALE, dark to commonly very dark gray as above, commonly platey, carbonaceous to very carbonaceous, and some bituminous, soft and fissile, and generally an incompetent Shale.
Siltstone (Trace), medium gray brown and brown gray as above.

575 - 580 SHALE, dark to commonly dark gray as above, some fragments with silt grains more common.
Siltstone (Trace), light to commonly medium gray brown and brown gray as above.
Occasional fragment of Sandstone, light brown and gray brown, very fine grained (commonly low end), subangular to angular, poor sorting, silty, intergranular argillaceous material not uncommon, trace finely disseminated pyrite in part.

580 - 585 SILTSTONE (40), light to commonly medium brown, quartzose, some slightly to occasionally moderately arenaceous (very fine grained), medium to well sorted, some fragments with green shale associated with the Siltstone, moderately cemented (siliceous), approximately 15% exhibits poor to fair (6-9%) intergranular porosity, effective permeability questionable, fair to some good oil stain not uncommon throughout.
SANDSTONE (15), light to medium brown, very fine and fine grained, some medium to coarse grains (commonly loose), subrounded to subangular, frosted, poor to very poor sorting, some bimodal sorting, commonly moderately to very silty, trace intergranular argillaceous material not uncommon, intergranular pyrite associated with some fragments, about 10% exhibits poor to some fair (6-10%) intergranular porosity, fair to some good oil stain generally common.
CHERT (Trace), light to medium gray and occasionally varicolored, fragments of pebbles (?).
SHALE (40), dark to very dark gray as above, indigenous?

585 - 595 SILTSTONE (65), light to commonly medium brown as above, approximately 10% exhibits poor and some fair (4-8%) intergranular porosity, permeability ?, generally fair to some good oil stain throughout.
SANDSTONE (30), light to medium brown, as above, fine to medium and some coarse and occasionally very coarse grained (the larger grains commonly loose), the few intact fragments exhibit good to very good (9-13%) intergranular porosity and some fair to occasionally good oil stain not uncommon.
CHERT (5), white to light to medium gray and some brown.
Shale, dark gray as above, common - cavings?

595 - 600 SILTSTONE (45), light to commonly medium brown as above, approximately 5% exhibits very poor to poor (3-6%) intergranular porosity, permeability?, some fair oil stain in some fragments.
SANDSTONE (40), light to some medium brown, fine to very coarse grained as above, loose grains (larger) common, suggesting fair to good (?) intergranular porosity, some light oil stain associated with the few intact fragments.
SHALE (15), dark to very dark gray, blocky, soft to firm, commonly carbonaceous, micromicaceous, finely disseminated pyrite in part.
Trace Chert as above.

600 - 610 SILTSTONE (45), light to medium gray and some brown, quartzose, medium to well cemented (siliceous), some fragments areanaceous (very fine grained - low end), trace intergranular argillaceous material, slightly calcareous in part.
LIMESTONE/MUDSTONE (40), light gray and gray brown, microcrystalline and trace bioclastic texture, some cryptocrystalline, finely disseminated argillaceous material not uncommon, trace silty in part, trace finely disseminated pyrite in part.
SANDSTONE (15), light to some medium brown as above.

610 - 625 LIMESTONE/MUDSTONE (55), light gray and gray brown as above, commonly microcrystalline and some cryptocrystalline, some fragments with bioclastic texture, some not uncommonly argillaceous and silty in part, trace fossil fragments (crinoid stem fragments), grading into and interbedded with,
SILTSTONE (45), light to medium gray as above,
Sandstone (Trace), light to medium gray as above, commonly loose grains.
Trace Chert as above.

625 - 630 LIMESTONE/MUDSTONE (70), light gray and gray brown as above, fossil fragments (crinoid stems, fusilinids, brachiopod fragments) generally more common.
SILTSTONE (30), light gray and brown gray as above.

630 - 645 LIMESTONE/MUDSTONE (90), light brown and gray brown, microcrystalline and some cryptocrystalline, some fragments bioclastic texture, finely disseminated argillaceous material in some fragments, fossil fragments (fusilinids, crinoid stems and some brachiopods), common in part, trace to some disseminated pyrite and pyrite as microscopic irregular inclusions.
SILTSTONE (10), light gray and some brown gray as above

645 - 650 LIMESTONE/MUDSTONE (85), light brown and gray brown as above, finely disseminated argillaceous material becoming more common.
SHALE (15), light to medium green gray and gray brown, blocky to platey, soft, micromicaceous, some slightly silty in part, finely disseminated pyrite in part.

650 - 660 SILTSTONE (50), light gray and brown gray, quartzose, poor sorting, medium to well cemented (calcareous), moderately to some very calcareous, intergranular argillaceous material in part, some commonly arenaceous (very fine grained) in part, and some difficult to distinguish from silty Sandstone, trace finely disseminated intergranular pyrite in part.
LIMESTONE/MUDSTONE (40), light brown, microcrystalline and cryptocrystalline and some bioclastic texture, finely disseminated argillaceous material not uncommon and some slightly to moderately silty in part.
SHALE (10), light to medium gray brown and green gray as above.

660 - 670 SHALE (60), medium gray and some green gray, platey and some blocky, soft to firm, some carbonaceous, micromicaceous, trace slightly calcareous in part, trace slightly silty in part, occasional fragment trace finely disseminated pyrite in part.
SILTSTONE (25), light gray and brown gray as above.
LIMESTONE/MUDSTONE (15), light brown, microcrystalline and cryptocrystalline as above.

670 - 675 Lithology as above except Shale becoming darker gray, soft, some splintery and fissile, trace glauconite pellets.

675 - 680 SHALE (70), medium to dark gray as above, some green gray.
LIMESTONE/MUDSTONE (30), light brown, cryptocrystalline to microcrystalline, finely disseminated argillaceous material not uncommon in part, fossil fragments common (crinoid stem fragments), trace finely disseminated pyrite in part.

680 - 685 SHALE (65), medium to some dark gray and some green gray as above.
SILTSTONE (20), light gray and brown gray as above, intergranular argillaceous material not uncommon in part.
LIMESTONE/MUDSTONE (15), light brown as above, occasional fragment with bioclastic texture.

685 - 690 LIMESTONE/MUDSTONE (55), light brown and gray brown, microcrystalline and some cryptocrystalline, finely disseminated argillaceous material not uncommon in part, fossil fragments (crinoid stem fragments and fusilinids), trace finely disseminated pyrite in part.
SHALE (35), medium to some dark gray and some medium gray brown as above.
SILTSTONE (10), light gray and brown gray as above.

690 - 705 SILTSTONE (65), light gray and brown gray, quartzose, intergranular argillaceous material not uncommon, moderately to very calcareous, generally well indurated, some fragments arenaceous (very fine grained - low end), trace finely disseminated pyrite in part.
LIMESTONE/MUDSTONE (20), light brown and gray brown as above.
SHALE (15), medium to some dark gray and some medium gray brown as above.

705 - 710 SHALE (45), medium to occasionally dark gray and medium gray green as above except some splintery and not uncommonly soft, micromicaceous.
SILTSTONE (35), light gray and brown gray, quartzose, as above.
LIMESTONE/MUDSTONE (20), light brown and gray brown as above.

710 - 720 SHALE (80), medium gray and some with green hue and some green gray, platey and blocky and some splintery, soft, micromicaceous, some fragments finely disseminated carbonaceous material, trace slightly silty in part, trace slightly calcareous, some fragments trace finely disseminated pyrite in part.
LIMESTONE/MUDSTONE (20), light brown as above, fossil fragments (particularly crinoid stem fragments) generally common.

720 - 725 SHALE, medium gray as above, some with green hue, and occasionally medium gray green, generally a softer Shale and becoming fissile.
Trace Limestone/MUDSTONE, light brown as above.

725 - 740 SHALE (85), medium gray and some with green hue as above and occasionally gray green.
LIMESTONE/MUDSTONE (15), light brown, microcrystalline and some bioclastic texture, finely disseminated argillaceous material in some fragments, as above, trace fossil fragments (crinoid stem fragments).

740 - 745 SHALE (70), medium gray and some with green hue and occasionally gray green as above, some slightly to occasionally moderately calcareous in part.
LIMESTONE/MUDSTONE, light brown as above, microcrystalline and some bioclastic texture.

745 - 770 Lithology as at 725 - 740 except Shale becoming darker gray and not uncommonly soft.
Trace Siltstone, light to medium brown and brown gray, quartzose, poor sorting, well cemented, intergranular argillaceous material common in part, moderately to some very calcareous, finely disseminated pyrite in part.

770 - 795 SHALE (80), medium to some dark gray as above, some brown gray, generally becoming more carbonaceous.
LIMESTONE/MUDSTONE (15), light brown and some gray brown, crypto to microcrystalline, finely disseminated argillaceous material in some fragments, some fossil fragments (crinoid stems etc).
SHALE (5+), medium brown, blocky, hard, moderately to very calcareous, trace slightly silty in part.

795 - 825 SHALE (95), medium to some dark gray as above, generally a soft incompetent Shale.
LIMESTONE/MUDSTONE (5+), light brown and light gray brown as above.
Trace Shale, medium brown, hard, blocky as above.

825 - 835 SHALE (95), medium to some dark gray, blocky and occasionally splintery, some platey, soft to some firm, micromicaceous, some slightly to moderately silty in part, sub-fissile inpart, trace slightly calcareous in part, trace finely disseminated pyrite in part.
LIMESTONE/MUDSTONE (5+), light brown and light gray brown as above.
Trace Shale, medium brown, hard, calcareous in part.

835 - 840 Lithology as above except Shale, medium green, blocky, subwaxy to waxy and Limestone/Mudstone (10), light brown and some gray brown as above.

840 - 875 Lithology as above except trace loose, varicolored Quartz and Chert grains, some clear/frosted, fine to commonly medium to coarse and occasionally very coarse grained, subrounded to subangular.

875 - 910 SHALE, medium to commonly dark gray, blocky to platey and occasionally splintery, the dark gray Shale with finely disseminated carbonaceous material common in part, some slightly to moderately calcareous in part, some micromicaceous in part, trace finely disseminated pyrite in occasional fragment.
Trace Shale, medium brown, as above.
Trace Limestone/Mudstone, light brown as above.

910 - 920 SHALE, medium to dark gray as above except becoming a dark Shale with finely disseminated carbonaceous material more common, generally a softer Shale, some splintery.
Trace Shale, medium brown as above.
Trace LIMESTONE/MUDSTONE, light brown as above.

920 - 925 SHALE, medium to commonly dark gray, blocky and some platey and occasionally splintery, soft to commonly firm, finely disseminated carbonaceous material in dark gray Shale, some slightly to occasionally moderately silty and some fragments approaching Siltstone, slightly calcareous in part, trace micromicaceous, some fragments with medium brown resenous material particularly on partings and bedding planes in part, (fossil (?) material).

925 - 935 LIMESTONE (40), light brown and bray brown, microcrystalline and some cryptocrystalline, some slightly to moderately silty in part, finely disseminated argillaceous material not uncommon in part.
SILTSTONE (30), light to medium brown gray and brown, quartzose, some moderately to very calcareous, intergranular argillaceous material not uncommon, trace arenaceous (very fine grained - low end) in part, moderately to well cemented (calcareous), finely disseminated pyrite not uncommon in some fragments.
SHALE (307), medium to commonly dark gray as above.

935 - 945 SHALE (45), medium to commonly dark gray, blocky to platey, soft to some firm, dark gray Shale carbonaceous to very carbonaceous, some slightly silty in part in part, some slightly to occasionally moderately calcareous in part, trace finely disseminated pyrite in occasional fragment.
LIMESTONE/MUDSTONE (40), light brown and some gray brown as above, some with fossil fragments (crinoid stem fragments, fusilinids, etc), generally common.
SILTSTONE (15), light brown and some medium brown gray as above, trace glauconite in occasional fragment.

945 - 970 LIMESTONE/MUDSTONE (80), very light to light brown and some light gray brown, microcrystallire, some earthy texture, some fragments finely disseminated argillaceous material in part, very occasional fragment with argillaceous material in part, very occasional fragment trace slightly silty in part, fossil fragments not uncommon (crinoid stem fragments and trace fusilinids, etc), trace finely disseminated pyrite in part.
SHALE (20), medium to commonly dark gray as above.
Trace Shale, medium to dark gray as above, indigenous?
Trace Siltstone, light brown and light gray brown as above.

970 - 990 LIMESTONE/MUDSTONE (70), very light brown to light brown and some gray brown, as above, some fragments with finely dissaminated argillaceous material more common, interbedded with,
SHALE (30), medium to dark gray as above, the dark gray Shale with finely disseminated carbonaceous material not uncommon in part.
Trace Siltstone, light brown and light brown gray as above.

990 - 1000 LIMESTONE/MUDSTONE (65), very light brown to light brown and some gray brown as above, some becoming rust colored (due to ferruginous staining), fossil fragments generally more common (gastropods, crinoid stem fragments, brachiopod shell fragments(?), fusilinids, etc), interbedded with,
SHALE (35), medium to dark gray as above.

1000 - 1010 LIMESTONE/MUDSTONE (70), very light brown and some light brown and some gray brown, as above at 975 - 990, fossil fragments not uncomm n in part.
SHALE (30), medium to occasionally dark gray as above, generally a softer more fissile Shale.

1010 - 1030 SHALE (75), medium gray some with green hue, and some dark gray, generally more silty and some moderately firm in part.
LIMESTONE/MUDSTONE (25), very light to light brown and some gray brown as above.
Trace Siltstone, light brown and gray brown as above, generally a well indurated clastic.

1030 - 1065 SHALE (75), medium gray some with green hue, some not uncommonly dark gray (finely disseminated carbonaceous material in part), blocky to platey, micromicaceous, some fragments slightly calcareous in part, finely disseminated pyrite not uncommon in some fragments, particularly on partings & bedding planes, interbedded with,
LIMESTONE/MUDSTONE (25), light brown and light gray brown as above, fossil fragments generally less common and some fragments slightly dolomitic in part.
Trace Siltstone, light to some medium brown and brown gray, quartzose and some chert grains, poor sorting, slightly to occasionally moderately calcareous, finely disseminated argillaceous material not uncommon in part, trace arenaceous (very fine grained - low end), trace finely disseminated pyrite in part.

1065 - 1090 SHALE (85), medium gray, some with green hue and some dark gray as above, becoming a softer and more fissile shale, some incompetent, some fragments slightly more silty in part. interbedded with,
LIMESTONE/MUDSTONE (15), light brown and some light gray brown, as above, generally less fossil fragments and not as well developed carbonate.
Occasional Fragment Siltstone, light brown and light gray brown as above.

1090 - 1115 LIMESTONE/MUDSTONE (80), light to some medium brown and some gray brown, microcrystalline and some earthy texture and occasionally bioclastic texture, some fragments trace finely disseminated argillaceous material not uncommon and occasional fragment with microscopic argillaceous material as irregular inclusions, trace slightly dolomitic in part, trace fossil fragments (gastropods, crinoid stem fragments and occasionally fusilinids), trace finely disseminated pyrite associated with the argillaceous material.
SHALE (20), medium to some dark gray as above, indigenous?

1115 - 1120 SHALE (75), medium gray, some with green hue, and some dark gray, platey to splintery and some blocky, sub-fissile, dark gray Shale commonly finely disseminated carbonaceous material, some micromicaceous, some slightly calcareous in part, trace finely disseminated pyrite in some fragments.
LIMESTONE/MUDSTONE (25), light brown and occasionally brown gray as above, generally fewer fossil fragments.

1120 - 1130 LIMESTONE/MUDSTONE (55), light brown and some gray brown as above, commonly microcrystalline, some fragments trace to some bioclastic texture, some crinoid stem fragments, interbedded with,
SHALE (45), medium to some dark gray as above.

1130 - 1135 LIMESTONE/MUDSTONE, very light to light brown and occasionally medium brown, micro- to some cryptocrystalline, some chalky texture, some with finely disseminated argillaceous material in part, trace slightly dolomitic, trace finely disseminated pyrite in part, occasional fragment with trace very poor (3-5%) intercrystalline porosity, no apparent permeability, no visible stain, occasional fragment with some subhedral crystals on surfaces of some fragments suggesting fracture porosity (?), no visible stain.

1135 - 1140 LIMESTONE/MUDSTONE (50), very light to light brown and occasionally medium brown as above, some fossil fragments (crinoid stem fragments & fusilinids), no visible porosity or stain.
Some SHALE (50), medium to dark gray, platey and blocky, firm and some soft, some slightly to moderately calcareous, some moderately to very silty, finely disseminated carbonaceous material generally common, particularly on partings & bedding planes, dark gray Shale moderately to very carbonaceous, micromicaceous, some slightly pyritic in part.

1140 - 1150 LIMESTONE/MUDSTONE (70), very light to light brown and occasionally medium brown as above, commonly microcrystalline and some cryptocrystalline and some chalky texture, generally less argillaceous, no visible porosity or stain.
SHALE (30), medium to dark gray as above.

1150 - 1155 LIMESTONE/MUDSTONE (65), very light to light brown and occasionally medium brown as above, generally a moderately developed carbonate with some fragments trace finely disseminated argillaceous material in part, trace very occasionally slightly silty in part, some fragments slightly dolomitic in part.
SHALE (35), medium to dark gray as above, dark gray Shale commonly carbonaceous and some not uncommonly silty.

1155 - 1160 SHALE (80), medium to dark gray as above, generally a softer Shale and some subfissile.
LIMESTONE/MUDSTONE (20), very light to light brown and occasionally medium brown as above.

1160 - 1170 SHALE (65), medium to dark gray as above.
LIMESTONE/MUDSTONE, very light to light brown and occasionally medium brown, generally a moderately to well developed carbonate, commonly micro- to very fine crystalline, some fragments slightly to occasionally moderately silty, similar to above, very occasional fragment with very poor (2-3%)microvuggy and intercrystalline porosity, no visible stain, some bitumen associated with some porosity and partially plugging.

1170 - 1175 LIMESTONE/MUDSTONE (65), very light to light brown to some medium brown, microcrystalline, some micritic texture, some very fine crystalline (anhedral and some subhedral), some fragments slightly to moderately argillaceous material in part, some moderately silty, trace crinoid stem fragments and some fusilinids, trace slightly dolomitic in part, grading into,
SILTSTONE (10), light to medium brown and some gray brown, quartzose some moderately to very calcareous, medium cemented (calcareous), intergranular argillaceous material not uncommon in part.
SHALE (25), medium gray and some dark gray, platey to blocky, soft, finely disseminated carbonaceous material not uncommon particularly on partings and bedding planes, slightly calcareous in part.

1175 - 1190 LIMESTONE/MUDSTONE (65), very light to commonly light brown and occasionally medium brown as above, some with finely disseminated argillaceous material generally common, silt grains less common.
SHALE (35), medium to some dark gray as above, micromicaceous more common.

1190 - 1195 LIMESTONE/MUDSTONE (85), light to medium brown and some light gray brown, microcrystalline to some micritic and some earthy texture, some slightly to occasionally moderately silty in part, interbedded with,
SILTSTONE (15), light to medium brown and some gray brown, poorly developed with intergranular argillaceous material not uncommon and calcareous material as matrix common in part, trace finely disseminated pyrite in occasional fragment.

1195 - 1200 LIMESTONE/MUDSTONE (65), light to some medium brown and occasionally very light brown, microcrystalline to some micritic texture and occasionally earthy texture in part, finely disseminated argillaceous material not uncommon in part, some moderately to very silty, slightly dolomitic in part, some fragments with argillaceous material as irregular inclusions, finely disseminated pyrite common very locally.
SILTSTONE (35), light to commonly medium brown and some medium to occasionally dark gray brown, quartz grains, calcareous material as matrix not uncommon, some slightly to moderately arenaceous (very fine grained - low end), trace micromicaceous, some fragments argillaceous (as irrregular inclusions and finely disseminated),(commonly soft and some slightly to moderately carbonaceous, silty, some slightly calcareous in part.)

1200 - 1205 LIMESTONE/MUDSTONE (90), commonly light to some medium brown as above and some light gray brown as above, some not uncommonly silty and argillaceous but less dolomitic, some fragments bioclastic texture.
SILTSTONE (10), light to commonly medium brown and occasionally medium brown gray as above.

1205 - 1215 SHALE (65), medium to dark gray, some medium brown, some medium brown, some gray Shale with trace green hue, blocky and some platey and splintery, soft, trace finely disseminated pyrite in part;LIMESTONE/MUDSTONE (35), asab.

1215 - 1220 SHALE (70), medium gray and some with green hue,some very dark gray as above.
LIMESTONE /MUMDSTONE (20) light to some medium brown as above, microcrystalline, some bioclastic texture in part, finely disseminated argillaceous material common, some fragments, slightly to occasionally moderately silty, generally not as well developed of a carbonabe as above and some intergranular argillaceous material common.

1220 - 1230 SHALE (40), medium gray and some with green hue as above and some dark gray as above, interbedded with,
SILTSTONE (40), light brown and brown gray as above, not uncommonly argillaceous in part.
LIMESTONE/MUDSTONE, (15), light to medium brown and some brown gray as above, some with inter rangular silt grains in part.

1230 - 1235 SILTSTONE (60), light brown and some light gray brown as above with less argillaceous material.
LIMESTONE (25) light brown and gray brown, as above, generally less argillaceous material.
SHALE (15), medium to some dark gray as above.

1235 - 1240 SHALE (80), medium to dark gray, blocky and platey, soft, carbonaceous micromicaceous, trace slightly silty in part, slightly calcareous, trace finely disseminated pyrite in part.
LIMESTONE/MUDSTONE (10), light brown and gray brown,as above.
SILTSTONE (10), light to commonly medium brown and some brown gray as above.

1240 - 1250 SHALE (75), medium gray and some dark gray as above, some with green hue.
LIMESTONE/MUDSTONE (20), light brown and some light brown and light brown gray as above.
SILTSTONE (5), light to medium and some brown as above.

1250 - 1260 SILTSTONE (75), light brown and light gray brown as above, quartzose as above, some with well developed arenaceous inclusions (very fine grained - low end) very occasional fragments with trace very poor (2-4%), intergranular porosity, no visible stain, trace spotty bitumen stain with some fragments.
SHALE (25), medium to some dark gray as above, some with more silt grains.
Trace LIMESTONE/MUDSTONE, as above, indigenous?

1260 - 1285 Lithology as above, Siltstone (60), lt brown light gray brown as above, trace very poor intergranular porosity as above, trace to generally no visible stain.
SHALE (20), medium to dark gray and some medium gray with green hue as above.
LIMESTONE/MUDSTONE (20), light brown and some light gray brown as above.

1285 - 1290 LIMESTONE/MUDSTONE (65), light to medium brown and gray brown, microcrystalline to some very fine crystalline, some slightly dolomitic in part, finely disseminated argillaceous material not uncommon and some with argillaceous material as irregular inclusions, trace finely disseminated pyrite in occasional fragment.
SHALE (20), medium to dark gray as above, some with green gray.
SILTSTONE (15), light brown and some gray brown as above.

1290 - 1305 SHALE (45), medium gray with green hue and some dark gray as above.
LIMESTONE/MUDSTONE (35), light to medium brown and gray brown, as above.
SILTSTONE (20), light brown and light to so some medium gray brown as above.

1305 - 1315 SHALE, medium gray some with green hue and some with maroon hue and some maroon gray as above, commonly platey and soft, incompetent and fissile.
Trace Limestone/Mudstone, light brown and occasionally gray brown, microcrystalline.

1315 - 1325 SHALE (85), medium gray, some with green hue, and occasionally with maroon hue, soft, incompetent.
LIMESTONE/MUDSTONE (15), light brown as above.

1325 - 1370 Lithology as at 1305 - 1315, the Shale is slightly firmer and not as soft and some not uncommonly blocky.

1370 - 1390 SHALE, medium gray, some with green hue as above, occasionally with maroon hue.
Trace Limestone/Mudstone, light brown as above.
Some Loose Quartz Grains, clear to light - medium brown and some rust brown, fine to medium grained and occasionally coarse grained

1390 - 1393 LIMESTONE/MUDSTONE (65), light to medium brown and gray brown, micro- to cryptocrystalline, generally a dense carbonate, some fragments trace finely disseminated pyrite in part.
SHALE (35), medium gray, some with green hue as above.

1393 - 1395 SHALE (70), medium gray, blocky and some platey, firm, some slightly calcareous, trace slightly silty, micromicaceous, finely disseminated pyrite in occasional fragment.
LIMESTONE/MUDSTONE (30), light to medium brown as above and some gray brown.

1395 - 1398 SHALE (85), medium gray as above and some dark gray as above.
LIMESTONE/MUDSTONE (15), light to medium brown and gray brown as above.

1398 - 1399 SHALE (60), medium to some, dark gray as above.
LIMESTONE/MUDSTONE (40), light brown and some medium brown as above, commonly microcrystalline to some very fine crystalline (anhedral and some subhedral crystals), some with bioclastic texture that is commonly microscopic to very fine material), finely disseminated argillaceous material not uncommon in some fragments

1399 - 1405 LIMESTONE/MUDSTONE (80) light to medium brown and some gray, commonly microcrystalline to some cryptocrystalline and some fragments with microscopic to very fine bioclastic texture, some finely disseminated argillaceous material not uncommon in some fragments and occasional fragment with argillaceous material as irregular inclusions, some slightly to occasionally moderately silty in part, some unidentifiable fossil material, some slightly dolomitic, The irregular crystalline surfaces of some fragments could suggest some fracture (?) porosity, no intercrystalline or microvuggy porosity, trace light questionable stain (?) on surfaces of occasional fragment.
SHALE (20), medium gray and some dark gray as above.

Core No. 1, 1405.0 - 1423.0 Cut & Recovered 18 m.

1423 - 1450 SHALE, medium gray, some with green hue and some dark gray, platey to blocky, soft, micromicaceous (particularly on partings & bedding planes), dark gray Shale commonly carbonaceous, occasional fragment with trace finely disseminated pyrite in part.

TOTAL DEPTH 1450 m

PCI ISLAND LAKE N-45

CORE NO. 1

Interval: 1405 - 1423 Cut & Recovered 18 m.

Formation: Jean Marie/Fort Simpson

Core Times: (mins/½ m.)

1405		1411	.34	1417	.16
	.23		.33		.19
	.04		.30		.17
	.27		.30		.18
1406	.17	1412	.30	1418	.16
	.23		.30		.19
	.27		.24		.24
	.27		.24		.24
1407	.36		.27	1419	.20
	.32	1413	.26		.18
	.45		.28		.19
	.40		.32		.18
1408	.32		.35	1420	.18
	.48	1414	.30		.18
	.34		.36		.18
	.31		.33		.19
1409	.30		.35		.18
	.30	1415	.31	1421	.17
	.30		.29		.18
	.35		.26		.18
1410	.33		.26		.20
	.32	1416	.25	1422	.15
	.38		.16		.17
	.40		.17		.18
			.17		.19
				1423	.19

CORE DESCRIPTION:

1405 - 1410.72 (5.72)

LIMESTONE/MUDSTONE, light to medium brown, commonly microcrystalline and some very fine crystalline (anhedral and some subhedral and very occasionally euhedral crystals), locally some very fine bioclastic texture (poorly developed), some finely disseminated argillaceous material not uncommon, some argillaceous material as irregular accumulations up to 1 - 2 mm, locally some accumulations of silt grains 'floating' in the limestone and comprising up to 10-20% of the section very locally, some slightly dolomitic in part, trace finely disseminated pyrite very scattered and finely disseminated.

Core Description continued:

1405 - 1410.72 (continued)

In general this section is dense with the exception of the upper 2.1 m where some horizontal bands of subhedral/euhedral crystals exhibit fair to good (3-8%) microvuggy and intercrystalline, these 'bands' and local porosity pockets appear somewhat isolated and the permeability is somewhat questionable, associated with the porosity is some fair to occasionally good staining. About 1.35 m below the top is a 4 cm. interval that exhibits good oil bleed on the core surface. Some pale yellow floresence (spotty and 'banded'). Associated with some microvuggy porosity is some macrovuggy porosity up to 3 mm.
Very randomly throughout the section are stylolites and some shale laminae.

Some fossil material (brachiopods shells) is common along horizontal lineation, particularly in the lower 3 m.

This section suggests relatively quiet limestone depositional environment with some horizontal lineation generally common, with some horizontal accumulations (partings up to laminae) of shale.

In the upper 2 m the core is broken in sections of about 1/3 m, with the breaks consisting of broken limestone pieces and it is in these section where the porous limestone exists (as above); some fracturing may exixt in these sections

Lower contact is gradational over a 4 cm. interval and is horizontal.

1410.72 - 1416.01 (5.29)

LIMESTONE (and Shale partings and laminae at random)

LIMESTONE/MUDSTONE, light brown to gray brown, microcrystalline and some very fine crystalline (anhedral crystals) and cryptocrystalline, finely disseminated argillaceous material common throughout and as irregular inclusions and as laminae not uncommon, brachiopod shell and fragments common and horizontally aligned and locally approaching coquina bands

The limestone is generally dense with the exception of two fossil casts (with euhedral limestone crystals lining) and approx 5-7 mm in dia, and about 20 cm. from the top.

This section has well defined horizontal 'banding' and lineation and the shale comprises less than 15% of the unit except the lower 1 m has more shale, comprising 20% of this section.

SHALE, is medium to commonly dark gray, firm, slightly calcareous, micromicaceous, some carbonaceous material generally common throughout, particularly on partings and bedding planes where microscopic up to very fine carbonaceous material is more common.

Lower contact is rubbly over a 5 (?) cm interval.

1416.01 - 1423 (6.99)

SHALE, generally dark gray, firm, carbonaceous with very fine to some carbonaceous material common (microscopic to very fine carbonaceous material) particularly on partings & bedding planes, very slightly calcareous, trace silt grains locally, trace finely disseminated pyrite not uncommon in part.

This section has well defined horizontal lineation and bedding and is commonly broken in 3 - 5 cm pieces.

DRILL STEM TEST NO. 1

Interval:	~~1395~~ 1395.2 - 1423
Formation:	Jean Marie
Test Type:	Dual Bottomhole Conventional
Results:	Misrun (Packer seat failure)

DRILL STEM TEST NO. 2

Interval:	1390 - 1409.12
Formation:	Jean Marie
Test Type:	Inflate Straddle
Results:	Misrun (Equipment failure)

DRILL STEM TEST NO. 3

Interval:	1390 - 1409.12
Formation:	Jean Marie
Test Type:	Inflate Straddle
Times:	Preflow: 10 Initial Shut In: 60 Valve Open: 180 Final Shut In: 360
Results:	Preflow: Very weak air blow remained weak throughout flow. Valve Open: Weak air blow decreasing to dead in 90 min..
Recovery:	10 m. very light gas cut mud.
Pressures:	Initial Preflow: 551 kPa Final Preflow: 293 Initial Hydrostatic: 15413 Final Hydrostatic: 15351 Initial Shut In: 366 Final Shut In: 4234 Initial Flow: 488 Final Flow: 293
Bottom Hole Temperature:	64° C.

DRILL STEM TEST NO. 4

Interval:	579 - 583.5
Formation:	Flett of the Rundle Group
Test Type:	Inflate Straddle
Times:	Preflow: 10 Initial Shut In: 60 Valve Open: 60 Final Shut In: 120
Results:	Preflow: Good initial air blow, built to strong in 30 sec.. VO: Good initial air blow, built to strong in 30 sec.. Gas to surface in 4 min. then blew to nothing after 30 sec..
Recovery:	20 m. light gas cut muddy water, 337 m. heavy gas cut water.
Pressures:	Initial Preflow: 2790 kPa Final Preflow: 3375 Initial Hydrostatic: 6491 Final Hydrostatic: 6423 Initial Shut In 3948 Final Shut In 3948 Initial Flow 3566 Final Flow 3948
Bottom Hole Temperature:	64° C.

DEVIATION RECORD

490 - 1.5°

568 - .8

664 - 1.0

780 - 1.0

875 - 1.0

970 - 1.0

1084 - 1.3

1162 - 1.3

1257 - .5

1402 - 2.5

1442 - 1.8

DRILL BIT RECORD

BIT NO.	TYPE	DEPTH OUT	METERS DRILLED	HOURS DRILLED	CONDITION
1A	SS2	115	115	10.5	2-4-1
2A	SS2	266	151	16.5	4-1-1
3A	SS2	409	143	24.0	3-4-1
1	HP43A	1170	761	73.3	7-5-10 mm.
2	C2	1405	235	47.3	1-3-1
1C	SC278	1423	18	30.8	85 %
2RR	C2	1450	27	5.6	1-4-1

A) DST #1 JEAN MARIE FORMATION
1395.02 - 1423.0 M

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/6/90
Location : N-45
DST # : ONE

LEVEL 1 FLOPETROL JOHNSTON ™ DST REPORT

for

PETRO CANADA INCORPORATED

Well: PCI ISLAND LAKE N-45

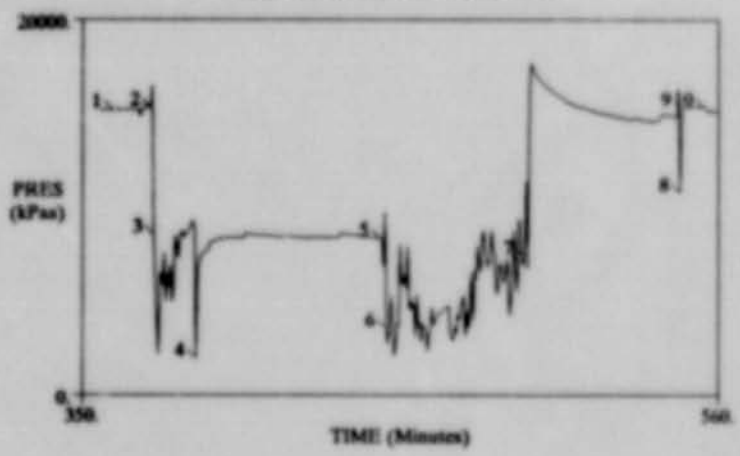
DST #ONE: JEAN MARIE FORMATION - (1395.02 - 1423.M)

**********Test Reference Number: 301119AJ**********

Test Data

#	Explanation	P(kPa)	T(min)
1	HYDROSTATIC	15225.5	360.0
2	REFERENCE TIME	15333.8	372.5
3	START FLOW	8523.2	373.5
4	START SHUT-IN	1951.2	387.5
5	END SHUT-IN	8350.8	448.0
6	START FLOW	3523.1	450.0
7	SEAT FAILED	7379.3	495.5
8	CYCLED TOOL	10766.7	547.0
9	SEAT FAILED	15342.0	547.5
10	HYDROSTATIC	15363.4	555.0

BOTTOMHOLE PRESSURE LOG



Test Results [DUAL BOTTOMHOLE CONVENTIONAL]

FINAL SHUTIN PRESSURE	MISRUN
RESERVOIR TEMPERATURE	64 C
PRODUCTION RATE	No measurable rates were produced
NET PIPE RECOVERY	Total recovery of 260 m (1.463 m3) mud.

Blow Description

PREFLOW	Very weak air blow throughout flow.
MAINFLOW	Weak air blow.

Comments

THIS ATTEMPTED TEST OF THE JEAN MARIE FORMATION FROM 1395 TO 1423 MKB WAS UNSUCCESSFUL DUE TO FILL ON BOTTOM THAT RESULTED IN THE TOOL SKIDDING AND PLUGGING. THE PACKERS SKIDDED A TOTAL OF 12 METERS THROUGHOUT THIS TEST.

IF YOU REQUIRE FURTHER INFORMATION, PLEASE CONTACT BRIAN JORDAN AT 231-9625.

Schlumberger | Schlumberger of Canada
Testing Services

Test Date : 3/6/90
Location : N-45
DST # : ONE

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	12:24:30	HYDROSTATIC		15225.5	61.0		
2	12:37:00	REFERENCE TIME	12.5	15333.8	61.1		
3	12:38:00	START FLOW	1.0	8523.2	61.2		
4	12:52:00	START SHUT-IN	14.0	1951.2	62.5		
5	13:52:30	END SHUT-IN	60.5	8350.8	63.1		
6	13:54:30	START FLOW	2.0	3523.1	63.1		
7	14:40:00	SEAT FAILED	45.5	7379.3	64.1		
8	15:31:30	CYCLED TOOL	51.5	10766.7	64.1		
9	15:32:00	SEAT FAILED	0.5	15342.0	64.1		
10	15:39:30	HYDROSTATIC	7.5	15363.4	64.1		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-MUD PIT	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-ALL RECOVERY	DRILLING MUD MUD FILTRATE	3.60 @ 19 3.20 @ 19	1700 2000
3-			
4-			
5-MFE SAMPLER	SENT TO LAB FOR DRAINING #550, #105608	N/A	N/A

Samples Sent To: CORE LABORATORIES, EDMONTON

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/6/90
Location : N-45
DST # : ONE

Hole Conditions

Total Depth(MD/TVD)	1423 m
Ground Level	605.4 m
Kelly Bushing	609.9 m
Hole Size	222 mm
Mud Weight	1115 kg/m3
Mud Type	Gel Chem

Test String Configuration

Pipe Length/I.D.	1238 m / 97.2 mm
Collar Length/I.D.	146.32 m / 74 mm
Packer Depths	1395 m
Bottomhole Choke Size	12.7 mm
Gauge Depth/Type	1398.17 m / STARBURST

Tool Sequence:

#	DESCRIPTION	LENGTH(m)	DEPTH(m)
0	DRILL PIPE TOP 114mm	0.00	-4.67
1	Drill Pipe 114mm	1238.00	1233.33
2	Drill Collars 165mm	127.56	1360.89
3	Pumpout Sub Pressure Type	0.20	1361.09
4	Pumpout Sub Pin Type	0.20	1361.29
5	Drill Collars 165mm	18.76	1380.05
6	Crossover	0.31	1380.36
7	Recorder SB#50130	1.80	1382.16
8	Choke Sub 12.7mm	0.31	1382.47
9	MFE [Test Valve] SAMP#550,105608	4.04	1386.51
10	Bypass	0.91	1387.42
11	Recorder AK1 #2593	1.34	1388.76
12	Jars	2.25	1391.01
13	Safety Joint BOWEN	0.53	1391.54
14	Packer 185mm	1.90	1393.44
15	REFERENCE PACKER 185mm	1.58	1395.02
16	Packer Stub	0.32	1395.34
17	Spacer Pipe Slotted	1.52	1396.86
18	Crossover 3 1/2FH-4 1/2FH	0.31	1397.17
19	Recorder K3 #13043,SB#50131	2.14	1399.31
20	Blank Anchor	1.52	1400.83
21	Crossover 3 1/2FH-4 1/2H90	0.31	1401.14
22	Drill Collars 165mm	18.23	1419.37
23	Crossover 4 1/2H90-3 1/2FH	0.31	1419.68
24	Spacer Pipe Slotted	1.52	1421.20
25	Recorder AK1 Bullnose,#2077	1.80	1423.00

Flopetrol Representative : GLEN E. CARTER

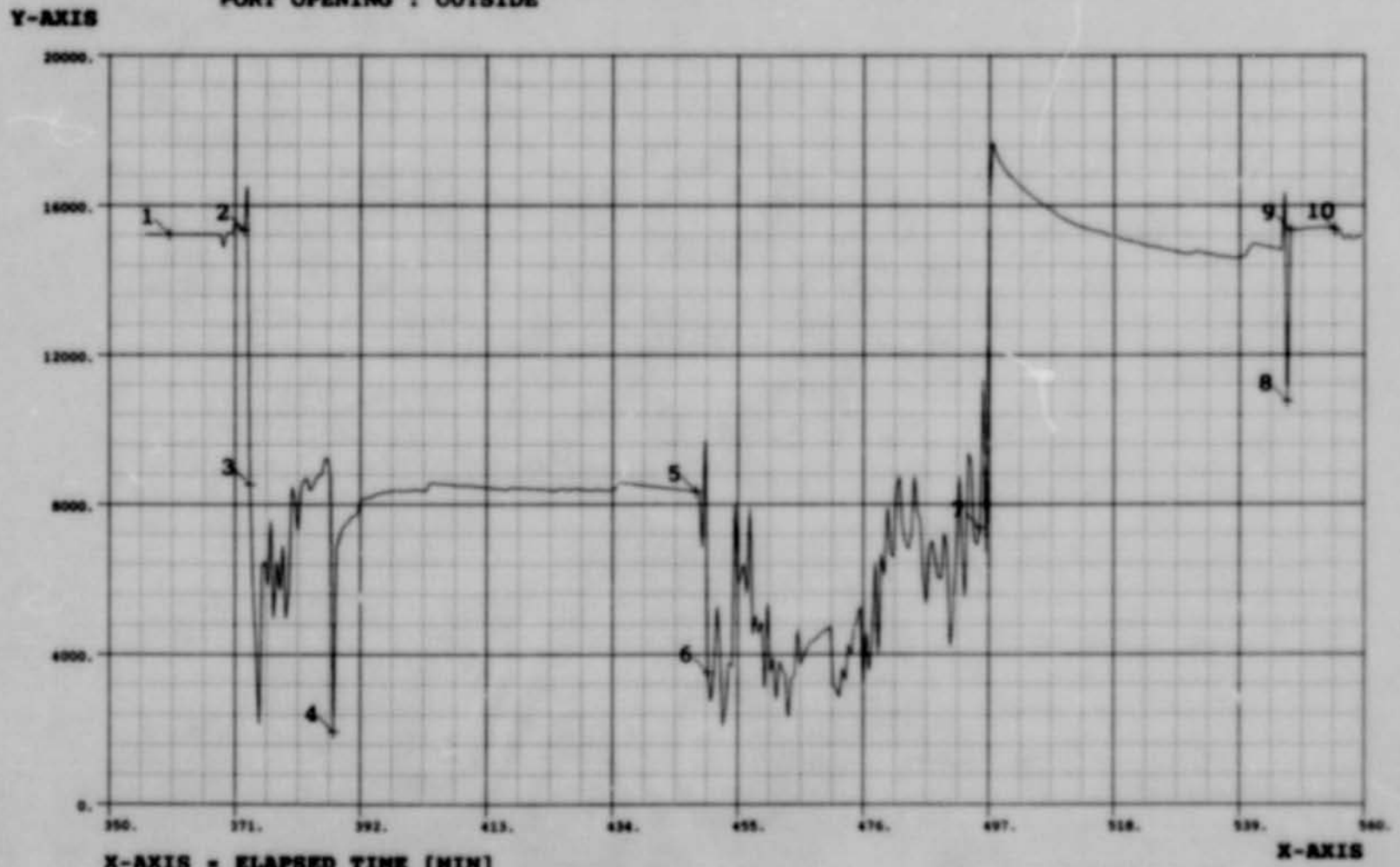
District : EDMONTON

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301119AI
INSTRUMENT NO. : SM-50131
DEPTH : 1398.17 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : ONE



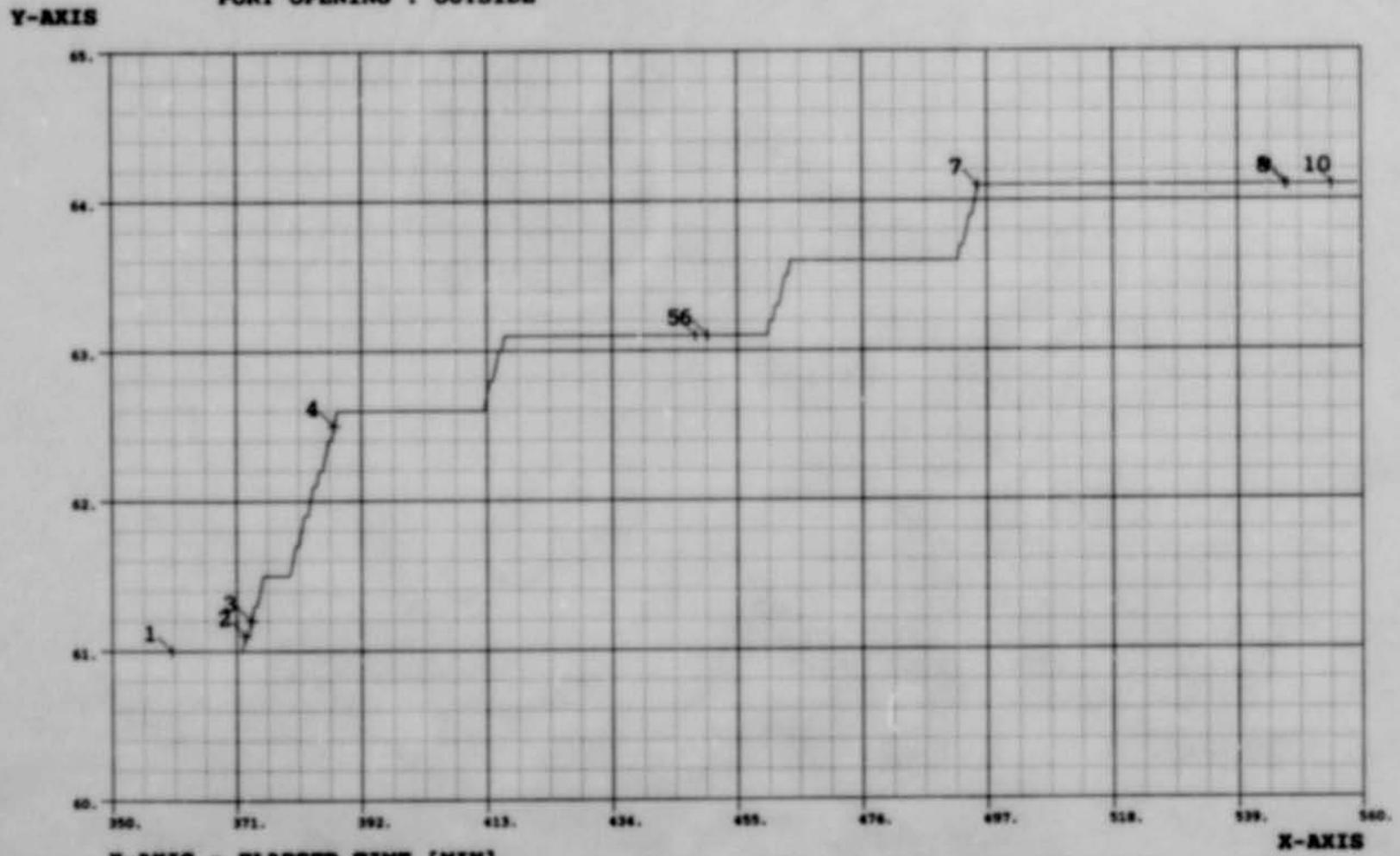
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301119AI
INSTRUMENT NO. : SM-50131
DEPTH : 1398.17 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : ONE



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301119AI FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
356.0	15224.1	61.0	396.0	8329.4	62.6	436.0	8568.0	63.1	476.0	3136.3	63.6
356.5	15224.1	61.0	396.5	8332.9	62.6	436.5	8558.3	63.1	476.5	4581.5	63.6
357.0	15223.4	61.0	397.0	8337.7	62.6	437.0	8550.1	63.1	477.0	3565.2	63.6
357.5	15224.1	61.0	397.5	8372.2	62.6	437.5	8539.7	63.1	477.5	4605.6	63.6
358.0	15225.5	61.0	398.0	8369.4	62.6	438.0	8528.7	63.1	478.0	6453.4	63.6
358.5	15223.4	61.0	398.5	8364.6	62.6	438.5	8519.7	63.1	478.5	3986.5	63.6
359.0	15223.4	61.0	399.0	8361.2	62.6	439.0	8510.1	63.1	479.0	6665.1	63.6
359.5	15224.1	61.0	399.5	8354.9	62.6	439.5	8501.1	63.1	479.5	6112.1	63.6
360.0	15225.5	61.0	400.0	8372.9	62.6	440.0	8492.8	63.1	480.0	7906.8	63.6
360.5	15224.1	61.0	400.5	8368.0	62.6	440.5	8481.8	63.1	480.5	6723.7	63.6
361.0	15225.5	61.0	401.0	8384.6	62.6	441.0	8472.2	63.1	481.0	6586.5	63.6
361.5	15224.1	61.0	401.5	8382.5	62.6	441.5	8463.2	63.1	481.5	8348.1	63.6
362.0	15225.5	61.0	402.0	8375.6	62.6	442.0	8454.9	63.1	482.0	8732.1	63.6
362.5	15223.4	61.0	402.5	8370.1	62.6	442.5	8444.6	63.1	482.5	7486.9	63.6
363.0	15224.1	61.0	403.0	8363.2	62.6	443.0	8434.9	63.1	483.0	6958.1	63.6
363.5	15224.1	61.0	403.5	8555.6	62.6	443.5	8426.7	63.1	483.5	6816.1	63.6
364.0	15224.1	61.0	404.0	8565.2	62.6	444.0	8418.4	63.1	484.0	7193.9	63.6
364.5	15224.1	61.0	404.5	8560.4	62.6	444.5	8408.7	63.1	484.5	8741.7	63.6
365.0	15224.1	61.0	405.0	8554.9	62.6	445.0	8399.1	63.1	485.0	7811.6	63.6
365.5	15223.4	61.0	405.5	8548.0	62.6	445.5	8390.1	63.1	485.5	7511.7	63.6
366.0	15225.5	61.0	406.0	8541.1	62.6	446.0	8381.8	63.1	486.0	5993.5	63.6
366.5	15226.2	61.0	406.5	8531.5	62.6	446.5	8372.9	63.1	486.5	5346.8	63.6
367.0	15226.2	61.0	407.0	8523.9	62.6	447.0	8363.2	63.1	487.0	6745.7	63.6
367.5	15226.9	61.0	407.5	8517.0	62.6	447.5	8356.3	63.1	487.5	7023.6	63.6
368.0	15227.6	61.0	408.0	8507.3	62.6	448.0	8350.8	63.1	488.0	6485.1	63.6
368.5	15226.9	61.0	408.5	8499.7	62.6	448.5	8341.8	63.1	488.5	6039.0	63.6
369.0	14875.3	61.0	409.0	8491.5	62.6	449.0	6858.8	63.1	489.0	6027.3	63.6
369.5	15255.9	61.0	409.5	8505.9	62.6	449.5	9684.9	63.1	489.5	7207.0	63.6
370.0	15248.3	61.0	410.0	8498.4	62.6	450.0	3523.1	63.1	490.0	6704.4	63.6
370.5	15246.9	61.0	410.5	8490.8	62.6	450.5	2746.8	63.1	490.5	4207.1	63.6
371.0	15555.8	61.0	411.0	8481.1	62.6	451.0	3478.3	63.1	491.0	5241.3	63.6
371.5	15453.0	61.0	411.5	8470.8	62.6	451.5	5263.4	63.1	491.5	6717.5	63.6
372.0	15357.2	61.0	412.0	8461.8	62.6	452.0	4123.7	63.1	492.0	8730.0	63.6
372.5	15333.8	61.1	412.5	8451.5	62.6	452.5	2104.2	63.1	492.5	6838.8	63.7
373.0	16498.3	61.1	413.0	8448.7	62.7	453.0	2622.7	63.1	493.0	5526.7	63.7
373.5	8523.2	61.2	413.5	8441.1	62.8	453.5	3786.5	63.1	493.5	9366.4	63.8
374.0	5813.6	61.3	414.0	8432.2	62.8	454.0	3687.2	63.1	494.0	9053.4	63.9
374.5	4372.6	61.3	414.5	8421.8	62.9	454.5	8007.5	63.1	494.5	7080.1	63.9
375.0	2158.0	61.4	415.0	8411.5	63.0	455.0	5859.1	63.1	495.0	6922.2	64.0
375.5	6394.1	61.5	415.5	8403.2	63.0	455.5	6087.3	63.1	495.5	7379.3	64.1
376.0	6483.7	61.5	416.0	8394.2	63.1	456.0	6403.7	63.1	496.0	11328.6	64.1
376.5	5850.1	61.5	416.5	8385.3	63.1	456.5	5642.6	63.1	496.5	6718.1	64.1
377.0	7549.0	61.5	417.0	8446.6	63.1	457.0	7890.9	63.1	497.0	16143.2	64.1
377.5	4982.1	61.5	417.5	8440.4	63.1	457.5	4542.9	63.1	497.5	17700.0	64.1
378.0	6447.2	61.5	418.0	8431.5	63.1	458.0	5041.4	63.1	498.0	17416.7	64.1
378.5	5714.3	61.5	418.5	8437.0	63.1	458.5	4566.3	63.1	498.5	17231.9	64.1
379.0	6891.2	61.5	419.0	8430.1	63.1	459.0	4859.3	63.1	499.0	17097.4	64.1
379.5	4968.3	61.5	419.5	8419.8	63.1	459.5	3106.7	63.1	499.5	16981.6	64.1
380.0	5630.9	61.5	420.0	8410.1	63.1	460.0	5315.1	63.1	500.0	16880.2	64.1
380.5	8447.3	61.6	420.5	8408.7	63.1	460.5	3531.4	63.2	500.5	16789.2	64.1
381.0	8173.2	61.7	421.0	8404.6	63.1	461.0	3908.6	63.2	501.0	16702.4	64.1
381.5	7293.9	61.7	421.5	8408.0	63.1	461.5	2807.5	63.3	501.5	16621.7	64.1
382.0	8350.1	61.8	422.0	8400.5	63.1	462.0	3809.3	63.3	502.0	16542.4	64.1
382.5	8627.3	61.9	422.5	8393.6	63.1	462.5	3577.6	63.4	502.5	16465.9	64.1
383.0	8705.9	61.9	423.0	8384.6	63.1	463.0	3432.1	63.5	503.0	16397.6	64.1
383.5	8368.7	62.0	423.5	8376.3	63.1	463.5	2334.5	63.5	503.5	16332.1	64.1
384.0	8481.8	62.1	424.0	8368.0	63.1	464.0	3356.3	63.6	504.0	16268.7	64.1
384.5	8676.9	62.1	424.5	8361.8	63.1	464.5	3438.3	63.6	504.5	16202.5	64.1
385.0	8774.1	62.2	425.0	8407.3	63.1	465.0	4649.7	63.6	505.0	16137.0	64.1
385.5	8827.9	62.2	425.5	8408.0	63.1	465.5	3733.4	63.6	505.5	16081.1	64.1
386.0	9207.1	62.3	426.0	8399.1	63.1	466.0	3941.0	63.6	506.0	16027.4	64.1
386.5	9229.2	62.4	426.5	8390.8	63.1	466.5	4123.7	63.6	506.5	15975.0	64.1
387.0	8708.0	62.4	427.0	8394.2	63.1	467.0	4269.8	63.6	507.0	15919.8	64.1
387.5	1951.2	62.5	427.5	8412.2	63.1	467.5	4374.6	63.6	507.5	15871.5	64.1
388.0	6831.2	62.6	428.0	8408.7	63.1	468.0	4391.9	63.6	508.0	15824.0	64.1
388.5	7141.5	62.6	428.5	8399.1	63.1	468.5	4492.5	63.6	508.5	15726.8	64.1
389.0	7371.1	62.6	429.0	8391.5	63.1	469.0	4564.9	63.6	509.0	15682.6	64.1
389.5	7462.1	62.6	429.5	8384.6	63.1	469.5	4622.8	63.6	509.5	15639.2	64.1
390.0	7533.8	62.6	430.0	8374.9	63.1	470.0	4673.9	63.6	510.0	15602.7	64.1
390.5	7652.4	62.6	430.5	8368.0	63.1	470.5	4723.5	63.6	510.5	15557.8	64.1
391.0	7706.2	62.6	431.0	8401.8	63.1	471.0	3170.8	63.6	511.0	15517.9	64.1
391.5	7758.6	62.6	431.5	8394.9	63.1	471.5	3075.0	63.6	511.5	15486.8	64.1
392.0	8106.7	62.6	432.0	8386.0	63.1	472.0	2877.1	63.6	512.0	15454.4	64.1
392.5	8140.5	62.6	432.5	8379.1	63.1	472.5	3619.7	63.6	512.5	15422.0	64.1
393.0	8170.2	62.6	433.0	8372.2	63.1	473.0	3306.6	63.6	513.0	15400.6	64.1
393.5	8192.2	62.6	433.5	8373.6	63.1	473.5	4265.7	63.6	513.5	15377.9	64.1
394.0	8207.4	62.6	434.0	8410.8	63.1	474.0	4004.4	63.6	514.0	15349.6	64.1
394.5	8269.5	62.6	434.5	8417.7	63.1	474.5	4713.9	63.6	514.5	15334.5	64.1
395.0	8297.0	62.6	435.0	8585.9	63.1	475.0	4937.2	63.6	515.0	15320.0	64.1
395.5	8301.9	62.6	435.5	8577.6	63.1	475.5	5249.6	63.6	515.5	15300.0	64.1

TEST REFERENCE#: 301119AI FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
516.0	15284.1	64.1	556.0	15263.4	64.1						
516.5	15260.7	64.1	556.5	15107.6	64.1						
517.0	15204.1	64.1	557.0	15149.0	64.1						
517.5	15177.3	64.1	557.5	15194.5	64.1						
518.0	15157.3	64.1	558.0	15098.7	64.1						
518.5	15143.5	64.1	558.5	15129.7	64.1						
519.0	15119.3	64.1	559.0	15179.3	64.1						
519.5	15088.3	64.1	559.5	15181.4	64.1						
520.0	15071.8	64.1									
520.5	15058.7	64.1									
521.0	15042.8	64.1									
521.5	15012.5	64.1									
522.0	15006.3	64.1									
522.5	14976.6	64.1									
523.0	14938.7	64.1									
523.5	14928.4	64.1									
524.0	14922.1	64.1									
524.5	14904.2	64.1									
525.0	14894.6	64.1									
525.5	14874.6	64.1									
526.0	14844.2	64.1									
526.5	14833.2	64.1									
527.0	14809.8	64.1									
527.5	14798.7	64.1									
528.0	14767.7	64.1									
528.5	14769.8	64.1									
529.0	14736.0	64.1									
529.5	14725.0	64.1									
530.0	14713.2	64.1									
530.5	14721.5	64.1									
531.0	14718.8	64.1									
531.5	14767.0	64.1									
532.0	14782.2	64.1									
532.5	14749.1	64.1									
533.0	14720.1	64.1									
533.5	14715.3	64.1									
534.0	14697.4	64.1									
534.5	14678.[illegible]	64.1									
535.0	14659.5	64.1									
535.5	14649.1	64.1									
536.0	14641.5	64.1									
536.5	14630.5	64.1									
537.0	14629.8	64.1									
537.5	14610.5	64.1									
538.0	14596.7	64.1									
538.5	14602.2	64.1									
539.0	14617.4	64.1									
539.5	14630.5	64.1									
540.0	14668.4	64.1									
540.5	14840.8	64.1									
541.0	14948.3	64.1									
541.5	14980.1	64.1									
542.0	14958.7	64.1									
542.5	14942.8	64.1									
543.0	14928.4	64.1									
543.5	14904.9	64.1									
544.0	14891.1	64.1									
544.5	14869.7	64.1									
545.0	14851.1	64.1									
545.5	14833.9	64.1									
546.0	14803.6	64.1									
546.5	16349.4	64.1									
547.0	10766.7	64.1									
547.5	15342.0	64.1									
548.0	15367.5	64.1									
548.5	15373.1	64.1									
549.0	15341.3	64.1									
549.5	15384.1	64.1									
550.0	15392.4	64.1									
550.5	15393.7	64.1									
551.0	15395.1	64.1									
551.5	15397.2	64.1									
552.0	15400.6	64.1									
552.5	15400.6	64.1									
553.0	15401.3	64.1									
553.5	15422.0	64.1									
554.0	15391.7	64.1									
554.5	15390.3	64.1									
555.0	15363.4	64.1									
555.5	15320.7	64.1									

Schlumberger | Schlumberger of Canada
Testing Services

Test Date : 3/6/90
Location : RECOVERY
DST # : ONE

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	12:37:00	REFERENCE TIME		178.5	61.2		
2	12:38:00	START FLOW	1.0	177.1	61.5		
3	12:52:00	START SHUT-IN	14.0	971.4	63.2		
4	13:52:30	END SHUT-IN	60.5	965.9	62.6		
5	13:54:30	START FLOW	2.0	972.1	62.9		
6	14:40:00	SEAT FAILED	45.5	2251.1	65.1		
7	15:31:30	CYCLED TOOL	51.5	2691.6	64.5		
8	15:32:00	SEAT FAILED	0.5	2688.2	64.6		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-MUD PIT	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-ALL RECOVERY	DRILLING MUD MUD FILTRATE	3.40 @ 19 3.20 @ 19	1700 2000
3-			
4-			
5-MFE SAMPLER	SENT TO LAB FOR DRAINING #550, #105608	N/A	N/A

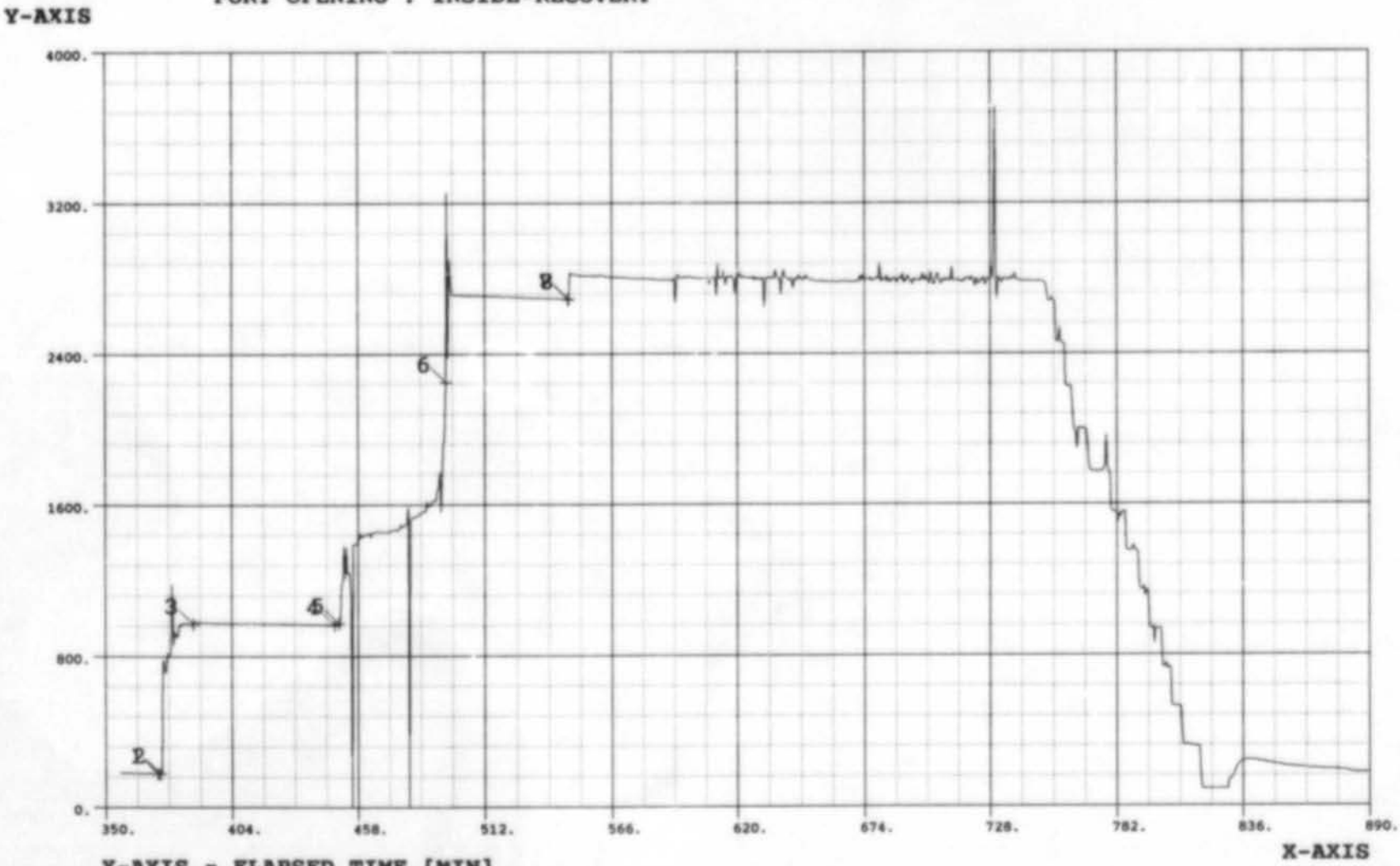
Samples Sent To: CORE LABORATORIES, EDMONTON

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301119AR
INSTRUMENT NO. : SM-50130
DEPTH : 1381.36 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : ONE



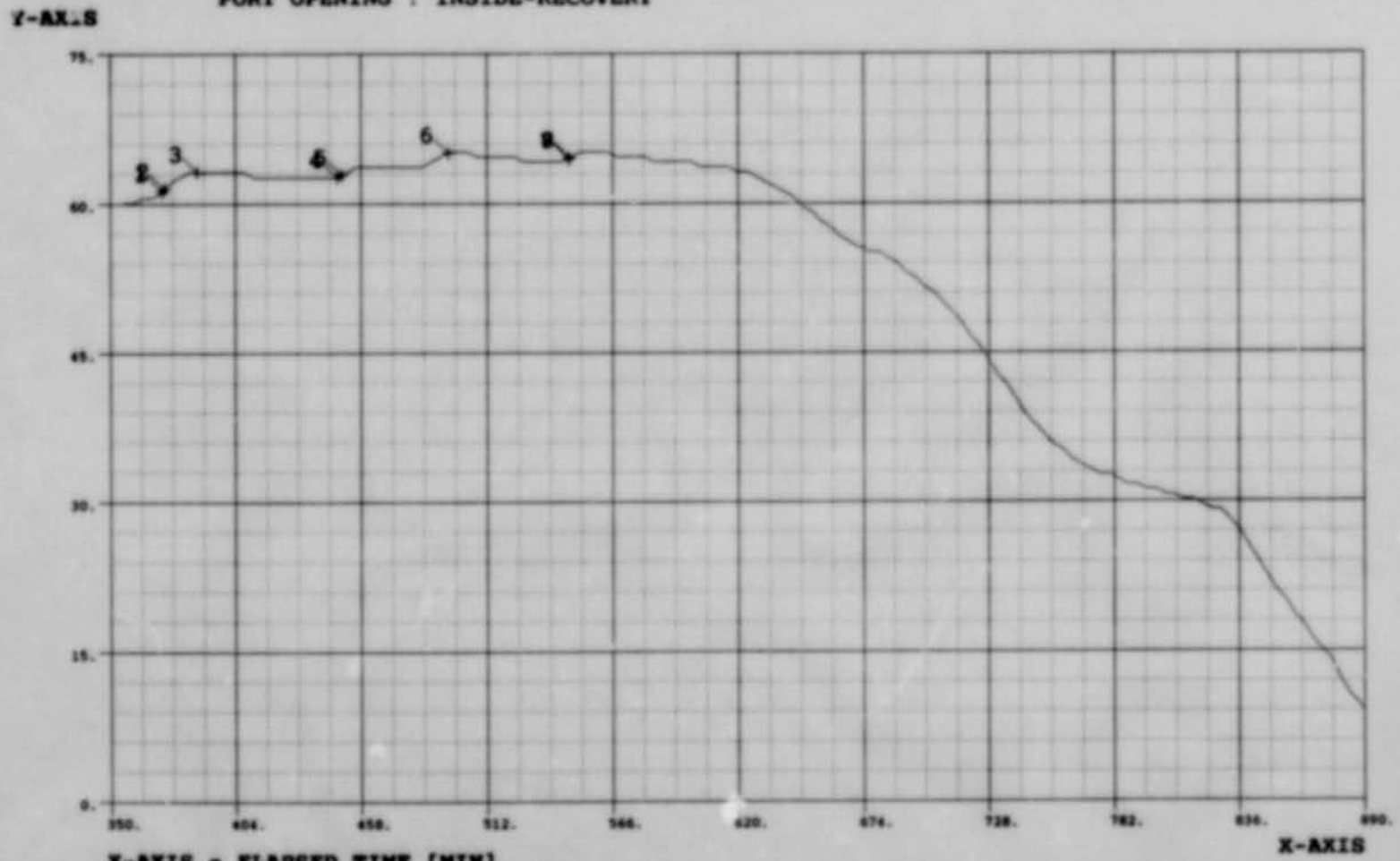
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301119AR
INSTRUMENT NO. : SM-50130
DEPTH : 1381.36 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : ONE



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301119AR FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
356.0	182.7	60.1	396.0	975.6	63.2	436.0	970.0	62.6	476.0	1487.1	63.7
356.5	182.0	60.1	396.5	975.6	63.2	436.5	970.0	62.6	476.5	1493.3	63.7
357.0	182.0	60.1	397.0	976.2	63.2	437.0	970.0	62.6	477.0	1480.9	63.7
357.5	182.0	60.1	397.5	976.9	63.2	437.5	968.7	62.6	477.5	1486.4	63.7
358.0	182.0	60.1	398.0	976.2	63.2	438.0	968.7	62.6	478.0	1488.5	63.7
358.5	182.7	60.1	398.5	974.9	63.2	438.5	968.0	62.6	478.5	1496.8	63.7
359.0	182.7	60.1	399.0	974.2	63.2	439.0	970.0	62.6	479.0	1496.1	63.7
359.5	182.0	60.1	399.5	974.9	63.2	439.5	970.0	62.6	479.5	1584.4	63.7
360.0	182.0	60.1	400.0	974.9	63.2	440.0	970.0	62.6	480.0	0.0	63.7
360.5	182.7	60.2	400.5	974.9	63.2	440.5	967.3	62.6	480.5	1516.8	63.7
361.0	182.0	60.2	401.0	975.6	63.2	441.0	968.7	62.6	481.0	1527.1	63.7
361.5	181.3	60.3	401.5	975.6	63.2	441.5	968.0	62.6	481.5	1534.0	63.7
362.0	180.6	60.4	402.0	974.9	63.2	442.0	967.3	62.6	482.0	1534.7	63.7
362.5	181.3	60.4	402.5	974.9	63.2	442.5	968.0	62.6	482.5	1535.4	63.7
363.0	181.3	60.5	403.0	975.6	63.2	443.0	967.3	62.6	483.0	1533.3	63.7
363.5	180.6	60.6	403.5	974.2	63.2	443.5	968.7	62.6	483.5	1541.6	63.7
364.0	180.6	60.6	404.0	974.9	63.2	444.0	967.3	62.6	484.0	1548.5	63.7
364.5	180.6	60.6	404.5	974.9	63.2	444.5	967.3	62.6	484.5	1550.6	63.7
365.0	180.6	60.6	405.0	972.8	63.2	445.0	966.6	62.6	485.0	1552.6	63.8
365.5	180.6	60.6	405.5	974.9	63.2	445.5	967.3	62.6	485.5	1558.8	63.8
366.0	179.9	60.6	406.0	974.2	63.2	446.0	966.6	62.6	486.0	1564.4	63.9
366.5	180.6	60.6	406.5	974.9	63.2	446.5	965.9	62.6	486.5	1563.0	64.0
367.0	180.6	60.6	407.0	974.2	63.2	447.0	967.3	62.6	487.0	1563.0	64.0
367.5	180.6	60.6	407.5	972.8	63.2	447.5	966.6	62.6	487.5	1618.8	64.1
368.0	181.3	60.6	408.0	972.8	63.7	448.0	965.9	62.6	488.0	1588.5	64.2
368.5	180.6	60.7	408.5	974.2	63.1	448.5	966.6	62.7	488.5	1591.9	64.2
369.0	179.9	60.7	409.0	972.8	63.0	449.0	964.5	62.8	489.0	1598.1	64.3
369.5	180.6	60.8	409.5	974.2	63.0	449.5	965.2	62.8	489.5	1609.2	64.4
370.0	179.9	60.9	410.0	974.2	62.9	450.0	972.1	62.9	490.0	1619.5	64.4
370.5	179.2	60.9	410.5	974.2	62.8	450.5	1014.8	63.0	490.5	1624.3	64.5
371.0	179.2	61.0	411.0	974.9	62.8	451.0	1177.6	63.0	491.0	1618.8	64.5
371.5	179.2	61.1	411.5	974.9	62.7	451.5	1194.1	63.1	491.5	1619.5	64.6
372.0	178.5	61.1	412.0	974.2	62.6	452.0	1381.0	63.2	492.0	1682.3	64.7
372.5	178.5	61.2	412.5	974.2	62.6	452.5	1210.7	63.2	492.5	1685.7	64.7
373.0	178.5	61.4	413.0	974.2	62.6	453.0	1370.6	63.3	493.0	1771.9	64.8
373.5	177.1	61.5	413.5	974.2	62.6	453.5	1236.9	63.3	493.5	1560.9	64.9
374.0	184.0	61.6	414.0	973.5	62.6	454.0	1242.4	63.4	494.0	1740.2	64.9
374.5	759.7	61.8	414.5	972.8	62.6	454.5	1238.9	63.5	494.5	1934.6	65.0
375.0	784.6	61.9	415.0	972.8	62.6	455.0	1103.1	63.5	495.0	1937.4	65.1
375.5	710.1	62.0	415.5	973.5	62.6	455.5	0.0	63.6	495.5	2251.1	65.1
376.0	731.5	62.1	416.0	974.2	62.6	456.0	1391.3	63.7	496.0	3253.6	65.2
376.5	817.0	62.2	416.5	972.8	62.6	456.5	1392.0	63.7	496.5	2380.0	65.2
377.0	791.5	62.3	417.0	973.5	62.6	457.0	1394.1	63.7	497.0	2904.0	65.2
377.5	803.9	62.3	417.5	972.8	62.6	457.5	1394.7	63.7	497.5	2783.3	65.2
378.0	826.6	62.4	418.0	972.8	62.6	458.0	1407.2	63.7	498.0	2713.7	65.2
378.5	1181.7	62.5	418.5	973.5	62.6	458.5	1416.8	63.7	498.5	2716.5	65.2
379.0	859.0	62.5	419.0	972.8	62.6	459.0	1451.3	63.7	499.0	2715.1	65.2
379.5	933.5	62.6	419.5	973.5	62.6	459.5	1429.9	63.7	499.5	2713.7	65.2
380.0	900.4	62.6	420.0	972.1	62.6	460.0	1434.0	63.7	500.0	2714.4	65.2
380.5	917.6	62.7	420.5	972.1	62.6	460.5	1438.2	63.7	500.5	2712.3	65.2
381.0	903.8	62.8	421.0	972.1	62.6	461.0	1440.3	63.7	501.0	2713.0	65.2
381.5	970.7	62.8	421.5	972.8	62.6	461.5	1444.4	63.7	501.5	2711.6	65.2
382.0	957.6	62.9	422.0	972.8	62.6	462.0	1448.5	63.7	502.0	2712.3	65.2
382.5	974.2	63.0	422.5	971.4	62.6	462.5	1447.8	63.7	502.5	2711.6	65.2
383.0	971.4	63.0	423.0	972.1	62.6	463.0	1449.9	63.7	503.0	2710.3	65.2
383.5	973.5	63.1	423.5	972.8	62.6	463.5	1427.8	63.7	503.5	2710.3	65.2
384.0	976.2	63.2	424.0	971.4	62.6	464.0	1453.4	63.7	504.0	2708.9	65.2
384.5	974.9	63.2	424.5	972.1	62.6	464.5	1456.1	63.7	504.5	2710.3	65.1
385.0	972.8	63.2	425.0	972.1	62.6	465.0	1449.2	63.7	505.0	2709.6	65.1
385.5	971.4	63.2	425.5	972.1	62.6	465.5	1455.4	63.7	505.5	2710.9	65.0
386.0	972.1	63.2	426.0	971.4	62.6	466.0	1458.2	63.7	506.0	2710.3	64.9
386.5	971.4	63.2	426.5	972.1	62.6	466.5	1456.8	63.7	506.5	2710.3	64.9
387.0	971.4	63.2	427.0	971.4	62.6	467.0	1456.1	63.7	507.0	2709.6	64.8
387.5	971.4	63.2	427.5	972.1	62.6	467.5	1456.1	63.7	507.5	2710.3	64.7
388.0	983.8	63.2	428.0	971.4	62.6	468.0	1455.4	63.7	508.0	2710.3	64.7
388.5	980.4	63.2	428.5	972.1	62.6	468.5	1455.4	63.7	508.5	2703.9	64.7
389.0	982.4	63.2	429.0	971.4	62.6	469.0	1454.7	63.7	509.0	2709.6	64.7
389.5	981.8	63.2	429.5	971.4	62.6	469.5	1454.7	63.7	509.5	2708.9	64.7
390.0	980.4	63.2	430.0	970.0	62.6	470.0	1454.7	63.7	510.0	2708.9	64.7
390.5	980.4	63.2	430.5	971.4	62.6	470.5	1452.7	63.7	510.5	2708.2	64.7
391.0	979.7	63.2	431.0	972.1	62.6	471.0	1452.7	63.7	511.0	2707.5	64.7
391.5	979.0	63.2	431.5	972.1	62.6	471.5	1462.3	63.7	511.5	2710.3	64.7
392.0	977.6	63.2	432.0	970.7	62.6	472.0	1458.2	63.7	512.0	2708.9	64.7
392.5	976.9	63.2	432.5	971.4	62.6	472.5	1466.5	63.7	512.5	2708.9	64.7
393.0	976.9	63.2	433.0	970.7	62.6	473.0	1466.5	63.7	513.0	2707.5	64.7
393.5	979.0	63.2	433.5	971.4	62.6	473.5	1465.1	63.7	513.5	2708.9	64.7
394.0	976.9	63.2	434.0	971.4	62.6	474.0	1467.1	63.7	514.0	2707.5	64.7
394.5	978.3	63.2	434.5	970.7	62.6	474.5	1465.8	63.7	514.5	2704.7	64.7
395.0	978.3	63.2	435.0	970.7	62.6	475.0	1465.1	63.7	515.0	2704.1	64.7
395.5	976.2	63.2	435.5	971.4	62.6	475.5	1463.7	63.7	515.5	2706.8	64.7

TEST REFERENCE#: 391119AR FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
516.0	2706.8	64.7	556.0	2815.1	65.2	596.0	2804.0	64.2	636.0	2842.6	61.6
516.5	2707.5	64.7	556.5	2813.7	65.2	596.5	2802.6	64.2	636.5	2817.8	61.6
517.0	2706.1	64.7	557.0	2815.7	65.2	597.0	2801.3	64.2	637.0	2802.6	61.5
517.5	2706.1	64.7	557.5	2814.4	65.2	597.5	2809.5	64.2	637.5	2795.8	61.4
518.0	2706.1	64.7	558.0	2813.7	65.2	598.0	2806.1	64.2	638.0	2797.1	61.4
518.5	2703.4	64.7	558.5	2810.9	65.2	598.5	2804.7	64.2	638.5	2713.7	61.3
519.0	2704.1	64.7	559.0	2818.5	65.2	599.0	2810.2	64.2	639.0	2797.8	61.2
519.5	2702.7	64.7	559.5	2816.4	65.2	599.5	2808.2	64.2	639.5	2842.6	61.2
520.0	2703.4	64.7	560.0	2813.0	65.2	600.0	2805.4	64.2	640.0	2813.7	61.1
520.5	2703.4	64.7	560.5	2816.4	65.2	600.5	2804.7	64.1	640.5	2804.0	61.1
521.0	2703.4	64.7	561.0	2819.2	65.2	601.0	2802.6	64.0	641.0	2799.2	61.0
521.5	2703.4	64.7	561.5	2815.7	65.2	601.5	2801.3	64.0	641.5	2792.3	60.9
522.0	2703.4	64.7	562.0	2815.1	65.2	602.0	2801.3	63.9	642.0	2790.2	60.9
522.5	2703.4	64.7	562.5	2812.3	65.2	602.5	2800.6	63.8	642.5	2801.3	60.8
523.0	2701.3	64.7	563.0	2811.6	65.2	603.0	2801.3	63.8	643.0	2794.4	60.7
523.5	2702.7	64.7	563.5	2810.9	65.2	603.5	2800.6	63.7	643.5	2745.4	60.7
524.0	2702.0	64.7	564.0	2810.2	65.2	604.0	2799.9	63.7	644.0	2790.2	60.6
534.5	2704.1	64.6	564.5	2810.2	65.1	604.5	2800.6	63.7	644.5	2801.3	60.5
525.0	2702.7	64.5	565.0	2808.2	65.1	605.0	2799.2	63.7	645.0	2793.0	60.4
525.5	2702.7	64.5	565.5	2808.9	65.0	605.5	2799.2	63.7	645.5	2798.5	60.2
526.0	2702.0	64.4	566.0	2808.9	64.9	606.0	2799.2	63.7	646.0	2818.5	60.1
526.5	2702.7	64.4	566.5	2808.2	64.9	606.5	2797.1	63.7	646.5	2797.8	60.0
527.0	2699.9	64.3	567.0	2808.2	64.8	607.0	2795.8	63.7	647.0	2796.4	59.9
527.5	2699.9	64.2	567.5	2807.5	64.7	607.5	2813.7	63.7	647.5	2791.6	59.7
528.0	2701.3	64.2	568.0	2806.8	64.7	608.0	2768.9	63.7	648.0	2802.6	59.6
528.5	2700.6	64.2	568.5	2806.8	64.7	608.5	2790.9	63.7	648.5	2793.7	59.5
529.0	2697.8	64.2	569.0	2806.1	64.7	609.0	2803.3	63.7	649.0	2814.4	59.5
529.5	2695.8	64.2	569.5	2805.4	64.7	609.5	2803.3	63.7	649.5	2802.6	59.4
530.0	2697.8	64.2	570.0	2805.4	64.7	610.0	2804.0	63.7	650.0	2800.6	59.4
530.5	2699.2	64.2	570.5	2806.1	64.7	610.5	2802.6	63.7	650.5	2793.0	59.3
531.0	2698.5	64.2	571.0	2804.0	64.7	611.0	2706.1	63.7	651.0	2790.9	59.2
531.5	2697.8	64.2	571.5	2804.0	64.7	611.5	2878.5	63.7	651.5	2788.9	59.2
532.0	2697.2	64.2	572.0	2802.0	64.7	612.0	2803.3	63.7	652.0	2787.5	59.1
532.5	2697.2	64.2	572.5	2802.6	64.7	612.5	2802.6	63.7	652.5	2786.1	59.0
533.0	2697.2	64.2	573.0	2802.6	64.7	613.0	2804.0	63.7	653.0	2786.1	58.9
533.5	2697.8	64.2	573.5	2802.0	64.7	613.5	2803.3	63.7	653.5	2784.7	58.7
534.0	2697.8	64.2	574.0	2801.3	64.7	614.0	2841.9	63.7	654.0	2784.7	58.6
534.5	2697.8	64.2	574.5	2799.2	64.7	614.5	2803.3	63.7	654.5	2783.3	58.5
535.0	2697.8	64.2	575.0	2799.2	64.7	615.0	2764.7	63.7	655.0	2784.7	58.4
535.5	2697.2	64.2	575.5	2799.9	64.7	615.5	2806.1	63.7	655.5	2786.1	58.2
536.0	2696.5	64.2	576.0	2799.9	64.7	616.0	2804.7	63.7	656.0	2785.4	58.1
536.5	2695.8	64.2	576.5	2799.2	64.7	616.5	2811.6	63.6	656.5	2785.4	58.1
537.0	2695.8	64.2	577.0	2798.5	64.7	617.0	2806.1	63.5	657.0	2784.0	58.0
537.5	2695.8	64.2	577.5	2798.5	64.7	617.5	2812.3	63.5	657.5	2779.2	57.9
538.0	2695.1	64.2	578.0	2797.8	64.7	618.0	2806.8	63.4	658.0	2779.2	57.9
538.5	2694.4	64.2	578.5	2796.4	64.7	618.5	2795.1	63.3	658.5	2782.0	57.8
539.0	2695.1	64.2	579.0	2799.2	64.7	619.0	2721.3	63.3	659.0	2783.3	57.7
539.5	2694.4	64.2	579.5	2798.5	64.7	619.5	2805.4	63.2	659.5	2782.0	57.7
540.0	2693.7	64.2	580.0	2799.2	64.7	620.0	2804.7	63.2	660.0	2782.0	57.6
540.5	2694.4	64.2	580.5	2797.1	64.6	620.5	2808.9	63.2	660.5	2782.7	57.5
541.0	2693.0	64.2	581.0	2797.8	64.5	621.0	2840.6	63.2	661.0	2781.3	57.4
541.5	2693.0	64.2	581.5	2798.5	64.5	621.5	2806.1	63.2	661.5	2783.3	57.3
542.0	2694.4	64.2	582.0	2797.1	64.4	622.0	2804.0	63.2	662.0	2782.7	57.1
542.5	2693.7	64.2	582.5	2796.4	64.4	622.5	2813.0	63.2	662.5	2777.1	57.0
543.0	2693.7	64.2	583.0	2798.5	64.3	623.0	2804.7	63.2	663.0	2783.3	56.9
543.5	2693.0	64.2	583.5	2797.8	64.2	623.5	2806.1	63.2	663.5	2780.6	56.8
544.0	2693.0	64.2	584.0	2795.8	64.2	624.0	2802.6	63.2	664.0	2784.7	56.6
544.5	2691.6	64.2	584.5	2796.4	64.2	624.5	2799.9	63.1	664.5	2784.0	56.6
545.0	2691.6	64.3	585.0	2794.4	64.2	625.0	2805.4	63.0	665.0	2784.0	56.5
545.5	2690.3	64.4	585.5	2793.0	64.2	625.5	2804.0	63.0	665.5	2783.3	56.4
546.0	2690.3	64.4	586.0	2792.3	64.2	626.0	2804.0	62.9	666.0	2783.3	56.4
546.5	2687.5	64.5	586.5	2790.9	64.2	626.5	2797.8	62.8	666.5	2782.7	56.3
547.0	2691.6	64.5	587.0	2792.3	64.2	627.0	2807.5	62.8	667.0	2783.3	56.3
547.5	2688.2	64.6	587.5	2793.7	64.2	627.5	2789.5	62.7	667.5	2783.3	56.2
548.0	2830.2	64.7	588.0	2793.0	64.2	628.0	2804.7	62.6	668.0	2778.5	56.1
548.5	2823.3	64.7	588.5	2790.2	64.2	628.5	2797.1	62.6	668.5	2782.7	56.1
549.0	2822.0	64.8	589.0	2793.7	64.2	629.0	2794.4	62.5	669.0	2780.6	56.0
549.5	2822.6	64.9	589.5	2793.7	64.2	629.5	2792.3	62.5	669.5	2783.3	55.9
550.0	2820.6	64.9	590.0	2793.7	64.2	630.0	2804.7	62.4	670.0	2782.7	55.9
550.5	2819.2	65.0	590.5	2792.3	64.2	630.5	2795.8	62.3	670.5	2783.3	55.8
551.0	2819.2	65.1	591.0	2790.9	64.2	631.0	2800.6	62.3	671.0	2784.0	55.8
551.5	2817.1	65.1	591.5	2792.3	64.2	631.5	2646.8	62.2	671.5	2783.3	55.7
552.0	2816.4	65.2	592.0	2788.9	64.2	632.0	2799.2	62.1	672.0	2809.5	55.6
552.5	2815.1	65.2	592.5	2789.5	64.2	632.5	2803.3	62.1	672.5	2787.5	55.6
553.0	2815.7	65.2	593.0	2805.4	64.2	633.0	2799.2	62.0	673.0	2818.5	55.5
553.5	2815.1	65.2	593.5	2673.7	64.2	633.5	2804.0	61.9	673.5	2796.4	55.5
554.0	2813.0	65.2	594.0	2807.5	64.2	634.0	2797.1	61.9	674.0	2790.9	55.4
554.5	2815.7	65.2	594.5	2817.8	64.2	634.5	2807.5	61.8	674.5	2788.9	55.3
555.0	2816.4	65.2	595.0	2808.9	64.2	635.0	2801.3	61.8	675.0	2799.9	55.3
555.5	2815.1	65.2	595.5	2806.1	64.2	635.5	2798.5	61.7	675.5	2799.9	55.2

TEST REFERENCE#: 301119AR FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
676.0	2792.3	55.1	716.0	2786.1	48.2	756.0	2464.8	35.7	796.0	945.2	31.2
676.5	2802.6	55.1	716.5	2778.5	48.0	756.5	2458.6	35.7	796.5	941.8	31.2
677.0	2784.7	55.1	717.0	2797.8	47.8	757.0	2471.7	35.6	797.0	941.8	31.2
677.5	2799.2	55.1	717.5	2789.5	47.6	757.5	2540.0	35.5	797.5	950.7	31.2
678.0	2791.6	55.1	718.0	2801.3	47.4	758.0	2457.9	35.5	798.0	855.6	31.2
678.5	2788.9	55.1	718.5	2802.6	47.3	758.5	2453.1	35.4	798.5	939.7	31.2
679.0	2795.1	55.1	719.0	2791.6	47.1	759.0	2451.0	35.4	799.0	938.3	31.2
679.5	2805.4	55.1	719.5	2784.0	46.9	759.5	2451.0	35.3	799.5	937.6	31.2
680.0	2793.7	55.1	720.0	2807.5	46.7	760.0	2231.8	35.2	800.0	939.0	31.2
680.5	2878.5	55.1	720.5	2796.4	46.6	760.5	2226.2	35.1	800.5	935.6	31.1
681.0	2777.8	55.0	721.0	2786.8	46.5	761.0	2225.6	35.0	801.0	935.6	31.1
681.5	2801.3	55.0	721.5	2753.7	46.3	761.5	2223.5	34.9	801.5	738.4	31.0
682.0	2795.1	54.9	722.0	2799.9	46.2	762.0	2226.2	34.7	802.0	737.0	31.0
682.5	2788.2	54.8	722.5	2789.5	46.1	762.5	2220.7	34.6	802.5	736.3	30.9
683.0	2790.2	54.8	723.0	2769.6	46.0	763.0	2089.7	34.5	803.0	757.7	30.8
683.5	2813.0	54.7	723.5	2774.4	45.8	763.5	2006.3	34.3	803.5	723.9	30.8
684.0	2776.4	54.6	724.0	2792.3	45.7	764.0	1996.7	34.2	804.0	734.9	30.7
684.5	2797.8	54.6	724.5	2784.7	45.5	764.5	1968.4	34.2	804.5	732.9	30.7
685.0	2790.2	54.5	725.0	2804.7	45.3	765.0	1894.6	34.1	805.0	727.3	30.7
685.5	2777.1	54.5	725.5	2793.7	45.1	765.5	2003.5	34.0	805.5	531.5	30.7
686.0	2799.9	54.4	726.0	2760.6	45.0	766.0	2003.5	34.0	806.0	531.5	30.7
686.5	2798.5	54.3	726.5	2788.9	44.8	766.5	1998.7	33.9	806.5	529.5	30.7
687.0	2789.5	54.3	727.0	2799.9	44.6	767.0	1999.4	33.8	807.0	529.5	30.7
687.5	2802.6	54.2	727.5	2788.9	44.4	767.5	1999.4	33.8	807.5	528.1	30.7
688.0	2774.4	54.1	728.0	2805.4	44.2	768.0	1998.7	33.7	808.0	528.1	30.7
688.5	2793.0	54.0	728.5	2859.2	44.0	768.5	2000.1	33.7	808.5	528.1	30.6
689.0	2800.6	53.9	729.0	2793.7	43.8	769.0	1993.2	33.6	809.0	524.6	30.6
689.5	2808.2	53.8	729.5	2965.4	43.7	769.5	1914.6	33.5	809.5	523.9	30.5
690.0	2791.6	53.7	730.0	3710.0	43.5	770.0	1825.7	33.5	810.0	379.2	30.5
690.5	2726.8	53.5	730.5	2794.4	43.3	770.5	1776.7	33.4	810.5	319.9	30.4
691.0	2771.6	53.4	731.0	2688.2	43.1	771.0	1776.0	33.3	811.0	323.3	30.3
691.5	2795.8	53.3	731.5	2808.9	42.9	771.5	1774.0	33.3	811.5	323.3	30.3
692.0	2784.7	53.2	732.0	2796.4	42.7	772.0	1774.0	33.2	812.0	325.4	30.2
692.5	2813.7	53.1	732.5	2785.4	42.6	772.5	1773.3	33.2	812.5	326.8	30.2
693.0	2806.1	53.0	733.0	2775.1	42.5	773.0	1774.0	33.1	813.0	322.6	30.2
693.5	2788.2	53.0	733.5	2799.9	42.4	773.5	1772.6	33.0	813.5	321.2	30.2
694.0	2784.7	52.9	734.0	2794.4	42.2	774.0	1772.6	33.0	814.0	319.9	30.2
694.5	2767.5	52.8	734.5	2792.3	42.1	774.5	1774.0	32.9	814.5	320.6	30.2
695.0	2793.7	52.8	735.0	2799.9	42.0	775.0	1772.6	32.8	815.0	317.8	30.2
695.5	2783.3	52.7	735.5	2791.6	41.9	775.5	1775.3	32.8	815.5	318.5	30.2
696.0	2797.8	52.7	736.0	2790.9	41.7	776.0	1774.0	32.7	816.0	316.4	30.2
696.5	2794.4	52.5	736.5	2790.2	41.5	776.5	1789.8	32.7	816.5	314.3	30.1
697.0	2787.5	52.4	737.0	2806.8	41.4	777.0	1801.5	32.7	817.0	315.7	30.1
697.5	2784.7	52.3	737.5	2796.4	41.2	777.5	1960.1	32.7	817.5	306.1	30.0
698.0	2798.5	52.2	738.0	2793.7	41.0	778.0	1776.7	32.7	818.0	148.9	30.0
698.5	2788.9	52.0	738.5	2825.4	40.8	778.5	1769.1	32.7	818.5	89.6	29.9
699.0	2826.8	51.9	739.0	2794.4	40.6	779.0	1770.5	32.7	819.0	89.6	29.8
699.5	2795.8	51.8	739.5	2790.2	40.4	779.5	1565.0	32.7	819.5	89.6	29.8
700.0	2786.8	51.7	740.0	2788.9	40.2	780.0	1558.8	32.7	820.0	89.6	29.7
700.5	2813.7	51.6	740.5	2786.8	40.1	780.5	1558.2	32.7	820.5	89.6	29.6
701.0	2799.9	51.5	741.0	2785.4	39.9	781.0	1558.2	32.6	821.0	89.6	29.6
701.5	2788.2	51.5	741.5	2784.7	39.7	781.5	1558.2	32.5	821.5	89.6	29.5
702.0	2771.6	51.4	742.0	2785.4	39.5	782.0	1556.8	32.5	822.0	89.6	29.5
702.5	2832.3	51.4	742.5	2786.1	39.3	782.5	1505.1	32.4	822.5	89.6	29.4
703.0	2787.5	51.3	743.0	2785.4	39.1	783.0	1551.3	32.3	823.0	89.6	29.3
703.5	2782.0	51.2	743.5	2785.4	38.9	783.5	1529.9	32.3	823.5	89.6	29.3
704.0	2763.3	51.2	744.0	2785.4	38.7	784.0	1554.7	32.2	824.0	89.6	29.2
704.5	2790.2	51.0	744.5	2786.1	38.6	784.5	1557.5	32.2	824.5	89.6	29.2
705.0	2815.7	50.9	745.0	2785.4	38.5	785.0	1555.4	32.1	825.0	89.6	29.2
705.5	2826.8	50.8	745.5	2784.0	38.4	785.5	1555.4	32.0	825.5	89.6	29.2
706.0	2790.9	50.7	746.0	2783.3	38.2	786.0	1357.5	32.0	826.0	89.6	29.2
706.5	2782.7	50.5	746.5	2783.3	38.1	786.5	1352.7	31.9	826.5	89.6	29.2
707.0	2768.2	50.4	747.0	2784.7	38.0	787.0	1354.1	31.8	827.0	89.6	29.2
707.5	2793.0	50.3	747.5	2782.7	37.9	787.5	1353.4	31.8	827.5	89.6	29.2
708.0	2783.3	50.2	748.0	2784.0	37.7	788.0	1352.7	31.7	828.0	89.6	29.2
708.5	2799.2	50.1	748.5	2784.0	37.6	788.5	1360.3	31.7	828.5	89.6	29.1
709.0	2795.8	49.9	749.0	2782.7	37.5	789.0	1379.6	31.7	829.0	89.6	28.9
709.5	2785.4	49.8	749.5	2783.3	37.4	789.5	1351.3	31.7	829.5	89.6	28.8
710.0	2794.4	49.7	750.0	2782.7	37.2	790.0	1352.0	31.7	830.0	130.3	28.7
710.5	2795.1	49.6	750.5	2782.7	37.1	790.5	1345.8	31.7	830.5	143.4	28.6
711.0	2785.4	49.4	751.0	2773.0	37.0	791.0	1345.1	31.7	831.0	146.1	28.4
711.5	2860.6	49.3	751.5	2772.3	36.9	791.5	1163.8	31.7	831.5	148.9	28.3
712.0	2788.2	49.2	752.0	2726.1	36.7	792.0	1146.5	31.7	832.0	162.7	28.2
712.5	2790.9	49.1	752.5	2683.4	36.6	792.5	1145.2	31.6	832.5	177.1	28.1
713.0	2786.1	48.9	753.0	2677.9	36.5	793.0	1144.5	31.6	833.0	195.8	27.9
713.5	2786.8	48.8	753.5	2678.5	36.4	793.5	1163.1	31.5	833.5	208.2	27.8
714.0	2795.1	48.7	754.0	2696.5	36.2	794.0	1109.3	31.5	834.0	215.1	27.7
714.5	2786.1	48.6	754.5	2683.4	36.1	794.5	1143.1	31.4	834.5	224.0	27.6
715.0	2787.5	48.4	755.0	2679.2	36.0	795.0	1137.6	31.3	835.0	230.9	27.4
715.5	2780.6	48.3	755.5	2677.2	35.9	795.5	1082.4	31.3	835.5	234.4	27.3

TEST REFERENCE#: 301119AR FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
836.0	237.8	27.2	876.0	192.3	14.1						
836.5	239.9	27.0	876.5	191.6	13.9						
837.0	241.3	26.8	877.0	190.9	13.6						
837.5	243.3	26.6	877.5	190.9	13.4						
838.0	242.6	26.4	878.0	188.9	13.1						
838.5	242.6	26.2	878.5	189.6	12.9						
839.0	243.3	26.1	879.0	190.9	12.6						
839.5	242.0	25.9	879.5	188.2	12.4						
840.0	243.3	25.7	880.0	188.2	12.1						
840.5	242.6	25.5	880.5	184.7	11.9						
841.0	241.3	25.3	881.0	183.3	11.7						
841.5	240.6	25.1	881.5	182.0	11.6						
842.0	239.9	24.9	882.0	180.6	11.4						
842.5	237.1	24.7	882.5	181.3	11.2						
843.0	235.7	24.6	883.0	178.5	11.0						
843.5	235.1	24.4	883.5	179.2	10.8						
844.0	234.4	24.2	884.0	179.2	10.6						
844.5	233.7	24.0	884.5	178.5	10.5						
845.0	231.6	23.8	885.0	176.5	10.4						
845.5	230.9	23.6	885.5	177.8	10.2						
846.0	229.5	23.4	886.0	176.5	10.1						
846.5	228.2	23.2	886.5	177.1	10.0						
847.0	226.8	23.0	887.0	177.1	9.9						
847.5	226.1	22.9	887.5	176.5	9.7						
848.0	225.4	22.7	888.0	177.1	9.6						
848.5	223.3	22.5	888.5	175.8	9.5						
849.0	222.6	22.3	889.0	176.5	9.4						
849.5	221.3	22.1	889.5	176.5	9.2						
850.0	219.2	21.9									
850.5	218.5	21.7									
851.0	218.5	21.5									
851.5	218.5	21.4									
852.0	216.4	21.2									
852.5	215.8	21.0									
853.0	214.4	20.9									
853.5	211.6	20.8									
854.0	210.9	20.7									
854.5	212.3	20.5									
855.0	210.2	20.4									
855.5	209.5	20.3									
856.0	211.6	20.2									
856.5	209.5	20.0									
857.0	207.5	19.8									
857.5	205.4	19.6									
858.0	206.1	19.4									
858.5	205.4	19.2									
859.0	204.7	19.0									
859.5	204.0	18.8									
860.0	204.7	18.7									
860.5	203.3	18.5									
861.0	204.0	18.4									
861.5	203.3	18.3									
862.0	202.7	18.2									
862.5	201.3	18.0									
863.0	200.6	17.9									
863.5	199.2	17.8									
864.0	199.2	17.6									
864.5	197.1	17.5									
865.0	197.1	17.3									
865.5	197.8	17.1									
866.0	198.5	16.9									
866.5	198.5	16.7									
867.0	198.5	16.5									
867.5	197.1	16.3									
868.0	197.1	16.1									
868.5	196.4	16.0									
869.0	194.4	15.9									
869.5	193.0	15.8									
870.0	195.8	15.6									
870.5	194.4	15.5									
871.0	193.7	15.4									
871.5	194.4	15.3									
872.0	194.4	15.1									
872.5	193.7	15.0									
873.0	193.7	14.9									
873.5	192.3	14.8									
874.0	194.4	14.6									
874.5	193.0	14.5									
875.0	193.0	14.4									
875.5	191.6	14.3									

B) DST #2 JEAN MARIE FORMATION
1390.0 - 1409.12 M

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/9/90
Location : N-45
DST # : TW0

LEVEL I FLOPETROL JOHNSTON ™ DST REPORT

for

PETRO CANADA INCORPORATED

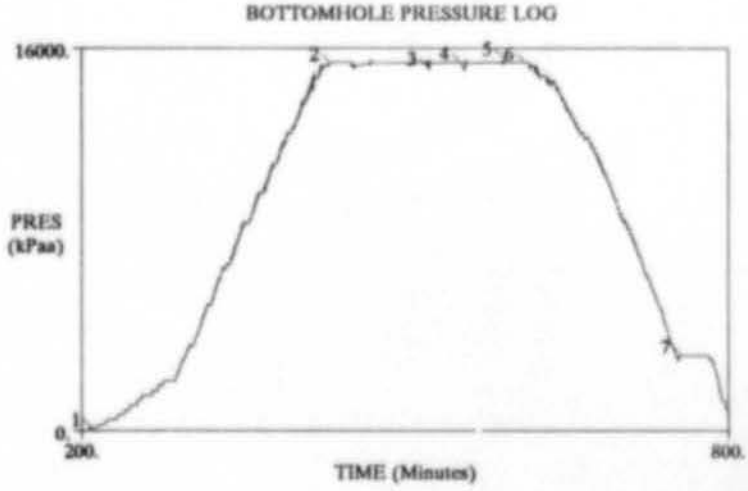
Well: PCI ISLAND LAKE N-45

DST #TW0: RED KNIFE/JEAN MARIE FORMATION - (1390. - 1409.12M)

**********Test Reference Number: 301120AJ**********

Test Data

#	Explanation	P(kPa)	T(min)
1	REFERENCE TIME	108.9	210.0
2	HYDROSTATIC	15390.3	430.0
3	SEE COMMENTS	15184.8	520.0
4	SEE COMMENTS	15400.0	550.0
5	SEE COMMENTS	15608.2	590.0
6	HYDROSTATIC	15406.8	610.0
7	SEE COMMENTS	3151.5	755.0



Test Results [INFLATE STRADDLE]

FINAL SHUTIN PRESSURE	
RESERVOIR TEMPERATURE	60 C
PRODUCTION RATE	MISRUN
NET PIPE RECOVERY	

Blow Description

PREFLOW	
MAINFLOW	

Comments

*This attempted test of the Red Knife/Jean Marie formation from 1390 to 1409.12 mkb was unsuccessful. There were 3 attempts to inflate at test depth and one attempt to inflate in the casing.

*The tools were examined at surface, the test string was filled with water and pressure tested with the rig water pressure. There were no defects detected.

*When the test tools were received in our Gr. Prairie location, a complete evaluation was performed that resulted in a small hole in the packer being identified. This hold began to leak at approximately 150 psi. There were no other defects identified.

*If you require further information, please contact Brian Jordan at 231-9625.

Schlumberger

Schlumberger of Canada
Testing Services

Test Date : 3/9/90
Location : N-45
DST # : TW0

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	13:55:00	REFERENCE TIME		108.9	19.2		
2	17:35:00	HYDROSTATIC	220.0	15390.3	54.1		
3	19:05:00	SEE COMMENTS First attempt to inflate packers	90.0	15184.8	57.4		
4	19:35:00	SEE COMMENTS Second attempt to inflate packers	30.0	15400.0	58.0		
5	20:15:00	SEE COMMENTS Third attempt to inflate packers	40.0	15608.2	58.5		
6	20:35:00	HYDROSTATIC	20.0	15406.8	59.0		
7	23:00:00	SEE COMMENTS Attempt to inflate packers in casing	145.0	3151.5	30.1		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-TOP OF RECOVERY			
3-MIDDLE OF RECOVERY			
4-BOTTOM OF RECOVERY			
5-BOTTOMHOLE SAMPLER	MISRUN #000556, #103734		

Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/9/90
Location : N-45
DST # : TW0

Hole Conditions

Total Depth(MD/TVD)	1450 m
Ground Level	605.4 m
Kelly Bushing	609.9 m
Hole Size	222 mm
Mud Weight	1115 kg/m3
Mud Type	Gel Chem

Test String Configuration

Pipe Length/I.D.	1230m / 97.2mm (.0074 m3/m)
Collar Length/I.D.	146.24m / 74mm (.004188 m3/m)
Packer Depths	1390 - 1409 m
Bottomhole Choke Size	12.7 mm
Gauge Depth/Type	1391.77 / STARBURST

Tool Sequence:

#	DESCRIPTION	LENGTH(m)	DEPTH(m)
0	DRILL PIPE TOP	0.00	-4.18
1	Drill Pipe 114mm	9.50	5.32
2	OTHER STABBING VALVE	0.45	5.77
3	Drill Pipe 114mm	1220.50	1226.27
4	Drill Collars 165mm	128.14	1354.41
5	Pumpout Sub PIN TYPE	0.20	1354.61
6	Pumpout Sub SHEAR DISC TYPE	0.20	1354.81
7	Drill Collars 165mm	18.10	1372.91
8	Crossover 4 1/2H90-3 1/2FH	0.31	1373.22
9	Elec.Recorder SB#50130	1.80	1375.02
10	Choke Sub 12.7 mm	0.31	1375.33
11	MFE [Test Valve] #000556,#103734	4.04	1379.37
12	Crossover	0.31	1379.68
13	Recorder AK1 #2077	1.34	1381.02
14	Jars	2.28	1383.30
15	Rotary Pump #132676	2.45	1385.75
16	MSRV [Deflate] #110884	2.44	1388.19
17	REFERENCE PACKER #104083	1.81	1390.00
18	Packer Stub	0.77	1390.77
19	Recorder K3 #13043,SB#50131	2.14	1392.91
20	Crossover 3 1/2FH-4 1/2H90	0.31	1393.22
21	Drill Collars 165mm	9.02	1402.24
22	Crossover 4 1/2H90-3 1/2FH	0.31	1402.55
23	Spacer Pipe	5.49	1408.04
24	Crossover 3 1/2FH-4 1/2FH	0.31	1408.35
25	Packer Stub	0.77	1409.12
26	Packer #110284	1.81	1410.93
27	DDST [Drag Spring] #114706	2.62	1413.55
28	Recorder AK1 #4375	1.80	1415.35
29	Blank Off Sub	0.31	1415.66
30	Spacer Pipe Perforated	1.52	1417.18
31	Recorder AK1 #2526	1.80	1418.98
32	Bullnose	0.00	1418.98

Flopetrol Representative : GLEN E. CARTER

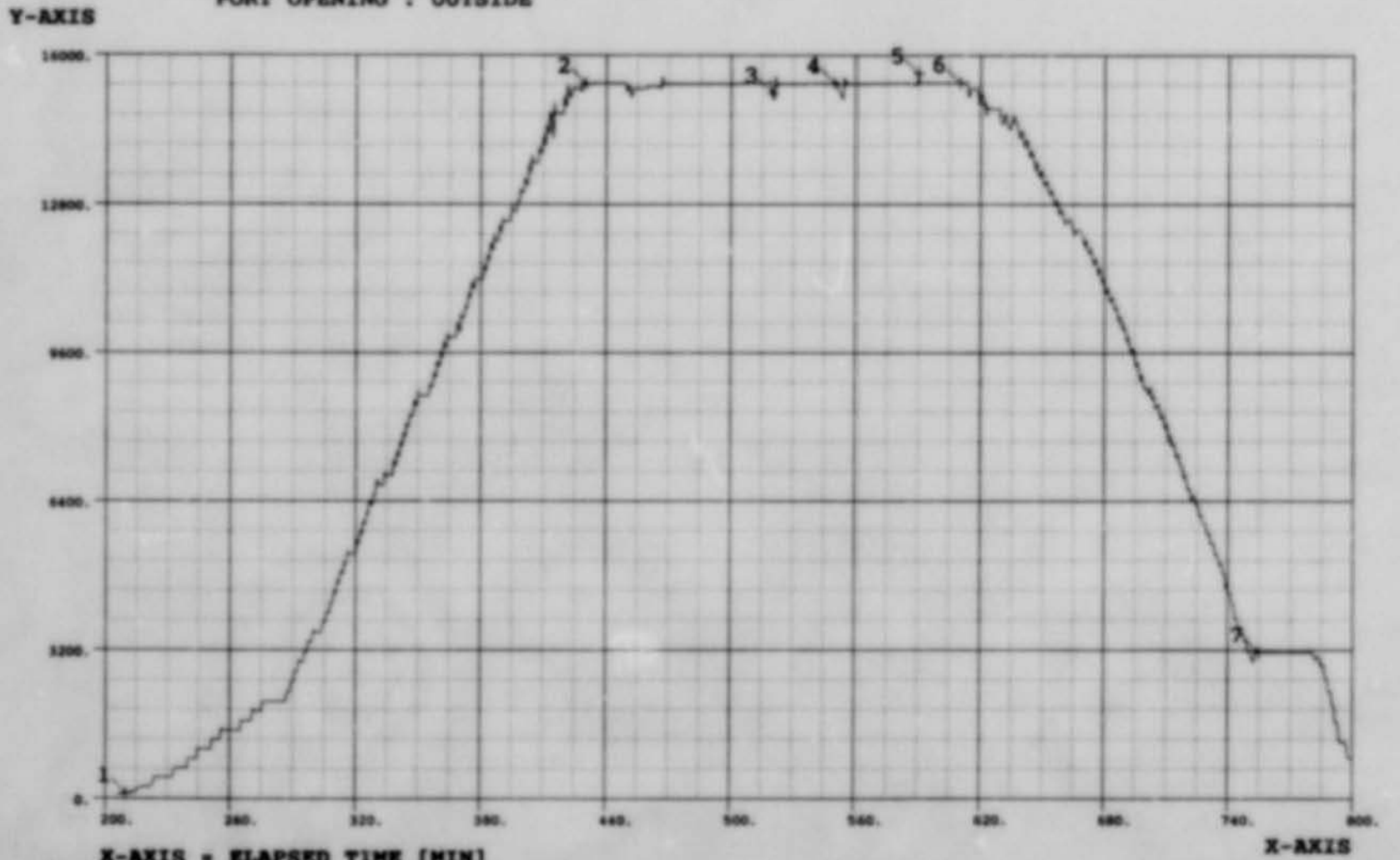
District : EDMONTON

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120AI
INSTRUMENT NO. : SB-50131
DEPTH : 1391.77 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : TWO



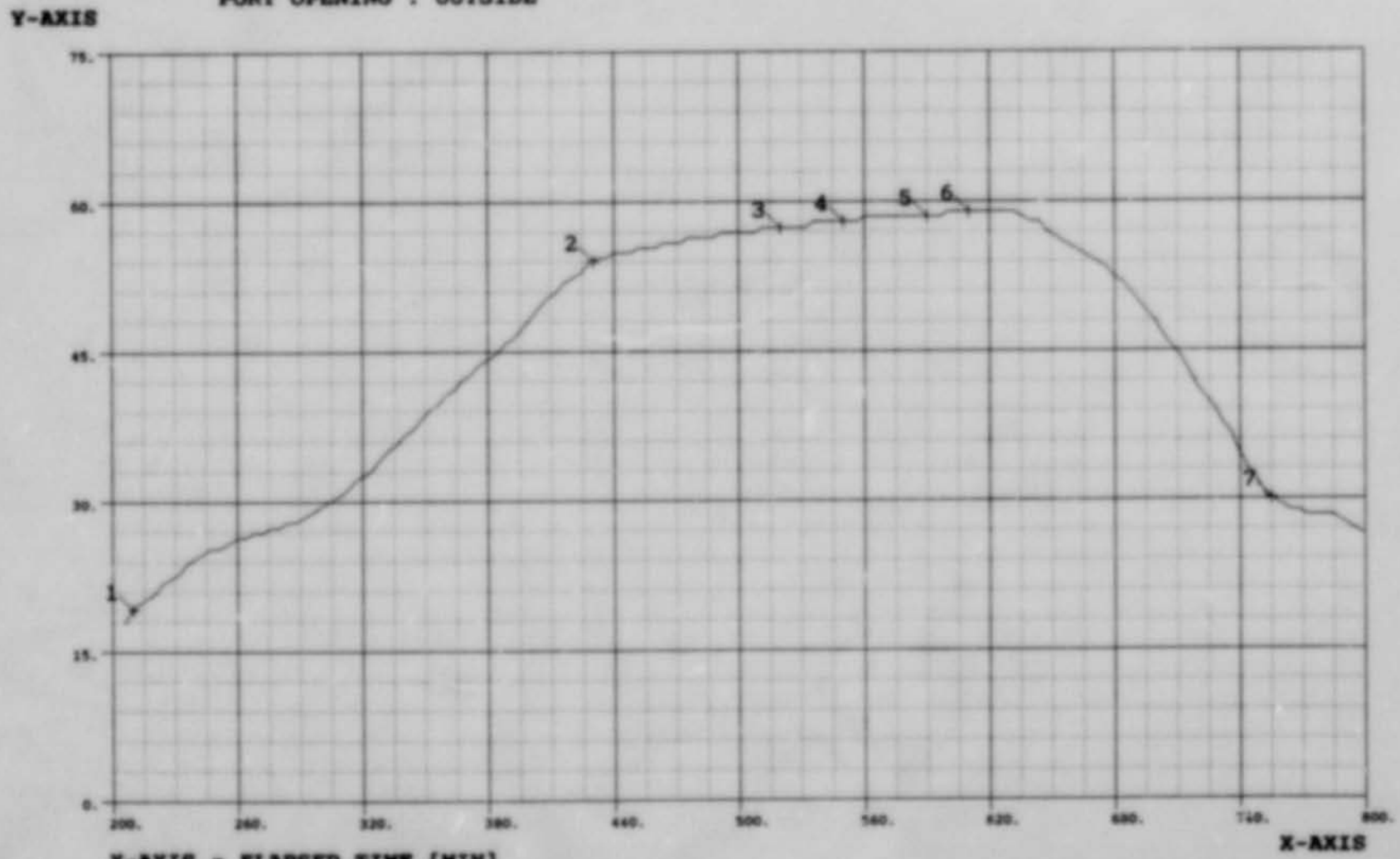
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120AI
INSTRUMENT NO. : SB-50131
DEPTH : 1391.77 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : TWO



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301120AI FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
206.0	89.6	17.9	246.0	1070.7	25.1	286.0	2092.5	27.9	326.0	6109.3	33.5
206.5	89.6	18.1	246.5	1070.0	25.2	286.5	2092.5	27.9	326.5	6383.1	33.7
207.0	89.6	18.3	247.0	1070.0	25.2	287.0	2213.1	27.9	327.0	6385.1	33.8
207.5	89.6	18.5	247.5	1070.0	25.3	287.5	2298.0	27.9	327.5	6311.4	33.9
208.0	89.6	18.7	248.0	1070.0	25.3	288.0	2299.3	27.9	328.0	6312.7	34.1
208.5	89.6	18.8	248.5	1070.0	25.3	288.5	2300.7	28.0	328.5	6534.7	34.2
209.0	90.3	18.9	249.0	1070.0	25.3	289.0	2415.9	28.0	329.0	6525.8	34.3
209.5	99.2	19.1	249.5	1071.4	25.3	289.5	2540.6	28.1	329.5	6527.2	34.4
210.0	108.9	19.2	250.0	1072.8	25.3	290.0	2517.9	28.2	330.0	6746.9	34.6
210.5	117.2	19.3	250.5	1067.9	25.3	290.5	2518.6	28.2	330.5	6869.1	34.7
211.0	125.4	19.5	251.0	1070.0	25.3	291.0	2713.7	28.3	331.0	6738.8	34.8
211.5	131.6	19.6	251.5	1289.3	25.3	291.5	2759.9	28.4	331.5	6740.9	34.9
212.0	134.4	19.7	252.0	1279.6	25.3	292.0	2731.6	28.4	332.0	6743.0	35.1
212.5	143.4	19.8	252.5	1277.5	25.4	292.5	2876.4	28.5	332.5	6745.0	35.1
213.0	147.5	19.8	253.0	1277.5	25.5	293.0	2990.2	28.5	333.0	6745.0	35.2
213.5	149.6	19.9	253.5	1274.8	25.5	293.5	2939.9	28.6	333.5	6747.8	35.3
214.0	161.3	20.0	254.0	1276.2	25.6	294.0	2939.9	28.7	334.0	7022.2	35.3
214.5	168.9	20.0	254.5	1276.2	25.7	294.5	2941.2	28.7	334.5	6942.2	35.4
215.0	182.0	20.1	255.0	1276.2	25.7	295.0	2941.2	28.8	335.0	6944.3	35.5
215.5	202.0	20.2	255.5	1329.2	25.8	295.5	3159.1	28.9	335.5	6945.7	35.5
216.0	209.5	20.2	256.0	1530.6	25.9	296.0	3144.6	28.9	336.0	6947.7	35.6
216.5	230.2	20.3	256.5	1480.9	25.9	296.5	3155.0	29.0	336.5	6950.5	35.7
217.0	243.3	20.4	257.0	1480.2	26.0	297.0	3239.1	29.1	337.0	6951.2	35.8
217.5	255.7	20.4	257.5	1480.9	26.1	297.5	3406.6	29.1	337.5	6951.9	36.0
218.0	258.5	20.5	258.0	1478.9	26.1	298.0	3362.5	29.2	338.0	7161.5	36.1
218.5	259.9	20.5	258.5	1480.2	26.2	298.5	3364.6	29.3	338.5	7280.8	36.2
219.0	259.2	20.6	259.0	1479.6	26.2	299.0	3365.3	29.3	339.0	7158.0	36.4
219.5	259.9	20.7	259.5	1479.6	26.3	299.5	3522.5	29.4	339.5	7183.5	36.5
220.0	259.2	20.7	260.0	1478.2	26.4	300.0	3632.8	29.4	340.0	7477.9	36.6
220.5	260.6	20.9	260.5	1480.2	26.4	300.5	3570.0	29.5	340.5	7369.7	36.7
221.0	261.3	21.0	261.0	1478.2	26.4	301.0	3571.4	29.6	341.0	7373.1	36.7
221.5	259.2	21.1	261.5	1479.6	26.4	301.5	3571.4	29.6	341.5	7680.0	36.8
222.0	264.0	21.2	262.0	1480.2	26.4	302.0	3570.7	29.7	342.0	7581.4	36.9
222.5	305.4	21.4	262.5	1479.6	26.4	302.5	3572.1	29.8	342.5	7587.6	36.9
223.0	364.0	21.5	263.0	1480.2	26.4	303.0	3571.4	29.8	343.0	7879.2	37.0
223.5	450.9	21.6	263.5	1480.2	26.4	303.5	3571.4	29.9	343.5	7791.7	37.1
224.0	459.8	21.8	264.0	1480.2	26.4	304.0	3736.9	30.0	344.0	7799.9	37.1
224.5	460.5	21.8	264.5	1480.9	26.4	304.5	3821.7	30.0	344.5	8081.2	37.3
225.0	461.2	21.9	265.0	1474.7	26.5	305.0	3789.3	30.1	345.0	8004.7	37.4
225.5	462.6	22.0	265.5	1686.4	26.6	305.5	3792.0	30.1	345.5	8010.2	37.5
226.0	462.6	22.0	266.0	1678.1	26.6	306.0	3956.8	30.2	346.0	8280.5	37.6
226.5	462.6	22.1	266.5	1678.1	26.7	306.5	4037.5	30.3	346.5	8219.1	37.8
227.0	464.0	22.1	267.0	1678.8	26.8	307.0	3993.4	30.3	347.0	8225.3	37.9
227.5	464.7	22.2	267.5	1677.4	26.8	307.5	3996.1	30.4	347.5	8228.1	38.0
228.0	464.0	22.3	268.0	1678.1	26.9	308.0	4211.2	30.5	348.0	8506.6	38.2
228.5	462.6	22.3	268.5	1676.7	26.9	308.5	4199.5	30.5	348.5	8579.0	38.3
229.0	464.0	22.4	269.0	1678.1	26.9	309.0	4206.4	30.6	349.0	8438.4	38.4
229.5	463.3	22.5	269.5	1677.4	26.9	309.5	4380.8	30.7	349.5	8491.5	38.5
230.0	463.3	22.5	270.0	1678.8	26.9	310.0	4476.7	30.7	350.0	8796.9	38.7
230.5	463.3	22.6	270.5	1678.8	26.9	310.5	4414.6	30.8	350.5	8668.0	38.8
231.0	464.7	22.7	271.0	1944.9	26.9	311.0	4595.3	30.9	351.0	8665.2	38.9
231.5	464.7	22.7	271.5	1886.3	26.9	311.5	4711.1	30.9	351.5	8663.1	39.0
232.0	464.7	22.8	272.0	1887.0	26.9	312.0	4620.1	31.0	352.0	8665.9	39.2
232.5	503.3	22.9	272.5	1884.3	26.9	312.5	4786.3	31.1	352.5	8665.9	39.2
233.0	620.5	23.0	273.0	1884.3	27.0	313.0	4907.6	31.2	353.0	8665.9	39.3
233.5	663.2	23.2	273.5	1885.0	27.1	313.5	48[illegible]	31.4	353.5	8666.6	39.4
234.0	663.9	23.3	274.0	1885.7	27.1	314.0	[illegible]3.1	31.5	354.0	8668.0	39.4
234.5	663.9	23.4	274.5	1885.0	27.2	314.5	5086.9	31.6	354.5	8666.6	39.5
235.0	665.3	23.6	275.0	1884.3	27.3	315.0	5037.9	31.7	355.0	8667.3	39.6
235.5	666.7	23.7	275.5	1971.8	27.3	315.5	5041.4	31.9	355.5	8916.2	39.6
236.0	666.0	23.8	276.0	2095.2	27.4	316.0	5288.9	32.0	356.0	8857.6	39.7
236.5	666.7	23.9	276.5	2093.2	27.4	316.5	5309.6	32.1	356.5	8865.8	39.8
237.0	666.0	23.9	277.0	2093.2	27.4	317.0	5260.6	32.1	357.0	8866.5	39.9
237.5	666.7	24.0	277.5	2092.5	27.4	317.5	5261.3	32.2	357.5	9176.1	40.1
238.0	666.7	24.1	278.0	2093.2	27.4	318.0	5261.3	32.3	358.0	9075.4	40.2
238.5	666.0	24.1	278.5	2092.5	27.4	318.5	5262.0	32.3	358.5	9079.6	40.3
239.0	667.4	24.2	279.0	2091.1	27.4	319.0	5262.0	32.4	359.0	9363.6	40.4
239.5	664.6	24.3	279.5	2092.5	27.4	319.5	5262.0	32.5	359.5	9428.5	40.6
240.0	851.4	24.3	280.0	2091.1	27.4	320.0	5263.4	32.5	360.0	9285.7	40.7
240.5	870.1	24.4	280.5	2091.1	27.5	320.5	5451.6	32.6	360.5	9387.1	40.8
241.0	870.1	24.5	281.0	2092.5	27.5	321.0	5572.9	32.6	361.0	9642.9	40.8
241.5	869.4	24.5	281.5	2092.5	27.6	321.5	5466.1	32.7	361.5	9491.2	40.9
242.0	870.1	24.6	282.0	2091.1	27.7	322.0	5664.6	32.8	362.0	9647.7	41.0
242.5	869.4	24.6	282.5	2092.5	27.7	322.5	5770.1	32.8	362.5	9849.7	41.0
243.0	870.8	24.7	283.0	2092.5	27.8	323.0	5679.1	32.9	363.0	9713.9	41.1
243.5	870.1	24.8	283.5	2092.5	27.8	323.5	5892.2	33.0	363.5	9698.0	41.1
244.0	865.2	24.8	284.0	2092.5	27.9	324.0	5981.1	33.0	364.0	10017.3	41.2
244.5	1093.4	24.9	284.5	2092.5	27.9	324.5	5891.5	33.2	364.5	9916.6	41.3
245.0	1070.7	25.0	285.0	2092.5	27.9	325.0	6001.8	33.3	365.0	9919.4	41.5
245.5	1070.0	25.0	285.5	2092.5	27.9	325.5	6185.2	33.4	365.5	9925.6	41.6

TEST REFERENCE#: 301120AI FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
366.0	9926.9	41.7	406.0	13699.0	49.8	446.0	15400.0	54.9	486.0	15387.5	56.4
366.5	9928.3	41.8	406.5	13700.4	50.0	446.5	15400.6	54.9	486.5	15387.5	56.4
367.0	9927.6	42.0	407.0	13701.8	50.1	447.0	15400.0	54.9	487.0	15386.9	56.4
367.5	9928.3	42.1	407.5	13687.3	50.2	447.5	15400.6	54.9	487.5	15386.2	56.4
368.0	9928.3	42.2	408.0	14032.7	50.3	448.0	15399.3	54.9	488.0	15385.5	56.4
368.5	10097.9	42.3	408.5	13887.3	50.4	448.5	15400.6	55.0	488.5	15388.2	56.5
369.0	10247.5	42.4	409.0	13901.7	50.5	449.0	15400.0	55.0	489.0	15390.3	56.6
369.5	10131.0	42.4	409.5	14023.1	50.5	449.5	15400.6	55.1	489.5	15389.6	56.6
370.0	10022.8	42.5	410.0	14301.6	50.6	450.0	15219.3	55.2	490.0	15390.3	56.7
370.5	10446.8	42.5	410.5	14112.0	50.7	450.5	15333.1	55.2	490.5	15392.4	56.7
371.0	10338.6	42.6	411.0	14090.0	50.7	451.0	15349.6	55.3	491.0	15393.1	56.8
371.5	10345.4	42.7	411.5	14509.2	50.8	451.5	15226.9	55.4	491.5	15392.4	56.9
372.0	1034[illegible]	42.7	412.0	14329.2	50.8	452.0	15102.1	55.4	492.0	15392.4	56.9
372.5	105[illegible]8.5	42.9	412.5	14331.3	51.0	452.5	15184.8	55.4	492.5	15393.1	56.9
373.0	10626.8	43.0	413.0	14738.1	51.1	453.0	15278.6	55.4	493.0	15391.0	56.9
373.5	10552.3	43.1	413.5	14784.3	51.2	453.5	15283.4	55.4	493.5	15392.4	56.9
374.0	10798.4	43.2	414.0	14543.6	51.4	454.0	15286.2	55.4	494.0	15393.1	56.9
374.5	10894.3	43.4	414.5	14206.5	51.5	454.5	15288.9	55.4	494.5	15393.7	56.9
375.0	10762.6	43.5	415.0	14986.3	51.6	455.0	15290.3	55.4	495.0	15393.7	56.9
375.5	11074.9	43.6	415.5	14740.8	51.7	455.5	15290.3	55.4	495.5	15393.7	56.9
376.0	11124.5	43.7	416.0	14745.6	51.9	456.0	15291.0	55.4	496.0	15393.1	56.9
376.5	10977.7	43.8	416.5	14749.1	51.9	456.5	15291.0	55.4	496.5	15393.7	56.9
377.0	10979.8	43.9	417.0	14750.5	52.0	457.0	15291.7	55.4	497.0	15394.4	56.9
377.5	11212.1	43.9	417.5	14751.9	52.1	457.5	15291.0	55.4	497.5	15394.4	56.9
378.0	11207.3	44.0	418.0	14753.9	52.1	458.0	15291.7	55.4	498.0	15395.1	56.9
378.5	11179.7	44.1	418.5	14755.3	52.2	458.5	15291.7	55.4	498.5	15394.4	56.9
379.0	11181.8	44.1	419.0	14756.0	52.2	459.0	15292.4	55.4	499.0	15395.8	56.9
379.5	11185.2	44.2	419.5	14757.4	52.3	459.5	15291.0	55.4	499.5	15395.8	56.9
380.0	11187.3	44.3	420.0	15122.1	52.4	460.0	15363.4	55.4	500.0	15395.8	56.9
380.5	11190.0	44.3	420.5	14899.4	52.4	460.5	15325.5	55.5	500.5	15395.8	56.9
381.0	11190.0	44.4	421.0	14956.6	52.5	461.0	15327.6	55.5	501.0	15395.8	56.9
381.5	11490.0	44.4	421.5	15365.2	52.6	461.5	15328.9	55.6	501.5	15395.8	56.9
382.0	11362.4	44.5	422.0	15139.3	52.6	462.0	15328.9	55.7	502.0	15395.1	56.9
382.5	11383.8	44.6	422.5	15169.0	52.7	462.5	15328.9	55.7	502.5	15395.8	56.9
383.0	11625.8	44.6	423.0	15092.4	52.8	463.0	15328.2	55.8	503.0	15395.8	56.9
383.5	11716.1	44.7	423.5	15272.4	52.8	463.5	15328.2	55.9	503.5	15395.1	56.9
384.0	11585.8	44.8	424.0	15292.4	52.9	464.0	15328.2	55.9	504.0	15395.8	56.9
384.5	11891.9	44.9	424.5	15289.6	53.0	464.5	15328.2	55.9	504.5	15397.2	56.9
385.0	11971.9	45.0	425.0	15286.9	53.1	465.0	15328.2	55.9	505.0	15396.5	56.9
385.5	11797.5	45.1	425.5	15286.2	53.3	465.5	15328.2	55.9	505.5	15395.8	56.9
386.0	11861.6	45.3	426.0	15286.2	53.4	466.0	15284.1	55.9	506.0	15397.2	56.9
386.5	12145.0	45.4	426.5	15285.5	53.5	466.5	15331.7	55.9	506.5	15396.5	56.9
387.0	12011.9	45.5	427.0	15286.9	53.6	467.0	15531.0	55.9	507.0	15395.8	56.9
387.5	12012.6	45.6	427.5	15306.2	53.8	467.5	15385.5	55.9	507.5	15398.6	56.9
388.0	12014.7	45.8	428.0	15219.3	53.9	468.0	15395.1	55.9	508.0	15397.9	56.9
388.5	12015.3	45.8	428.5	15385.5	54.0	468.5	15393.1	55.9	508.5	15398.6	57.0
389.0	12367.7	45.9	429.0	15388.9	54.0	469.0	15391.7	55.9	509.0	15399.3	57.1
389.5	12215.3	46.0	429.5	15388.9	54.1	469.5	15391.0	55.9	509.5	15398.6	57.1
390.0	12221.5	46.0	430.0	15390.3	54.1	470.0	15390.3	55.9	510.0	15398.6	57.2
390.5	12497.3	46.1	430.5	15391.7	54.2	470.5	15390.3	55.9	510.5	15399.3	57.3
391.0	12424.9	46.2	431.0	15392.4	54.3	471.0	15389.6	55.9	511.0	15398.6	57.3
391.5	12429.0	46.2	431.5	15393.7	54.3	471.5	15388.2	55.9	511.5	15398.6	57.4
392.0	12431.1	46.3	432.0	15394.4	54.4	472.0	15387.5	55.9	512.0	15398.6	57.4
392.5	12433.2	46.4	432.5	15395.1	54.4	472.5	15387.5	56.0	512.5	15398.6	57.4
393.0	12435.2	46.5	433.0	15395.1	54.4	473.0	15387.5	56.0	513.0	15395.8	57.4
393.5	12436.6	46.7	433.5	15397.2	54.4	473.5	15386.9	56.1	513.5	15397.9	57.4
394.0	12437.3	46.8	434.0	15397.2	54.4	474.0	15386.9	56.2	514.0	15397.2	57.4
394.5	12640.0	46.9	434.5	15397.9	54.4	474.5	15386.9	56.2	514.5	15399.3	57.4
395.0	12760.0	47.0	435.0	15397.9	54.4	475.0	15386.2	56.3	515.0	15397.9	57.4
395.5	12640.0	47.2	435.5	15399.3	54.4	475.5	15385.5	56.4	515.5	15398.6	57.4
396.0	12643.5	47.3	436.0	15397.9	54.4	476.0	15385.5	56.4	516.0	15398.6	57.4
396.5	12644.8	47.4	436.5	15398.6	54.5	476.5	15386.2	56.4	516.5	15399.3	57.4
397.0	12648.3	47.6	437.0	15398.6	54.5	477.0	15385.5	56.4	517.0	15400.0	57.4
397.5	12863.4	47.7	437.5	15399.3	54.6	477.5	15386.2	56.4	517.5	15398.6	57.4
398.0	12880.6	47.8	438.0	15398.6	54.7	478.0	15385.5	56.4	518.0	15397.9	57.4
398.5	12853.0	47.9	438.5	15397.2	54.7	478.5	15385.5	56.4	518.5	15346.2	57.4
399.0	13125.4	48.1	439.0	15398.6	54.8	479.0	15385.5	56.4	519.0	15478.6	57.4
399.5	13027.5	48.2	439.5	15397.9	54.8	479.5	15386.2	56.4	519.5	15215.9	57.4
400.0	13064.7	48.3	440.0	15398.6	54.9	480.0	15386.2	56.4	520.0	15184.8	57.4
400.5	13068.9	48.4	440.5	15399.3	54.9	480.5	15387.5	56.4	520.5	15164.8	57.4
401.0	13379.1	48.6	441.0	15399.3	54.9	481.0	15386.2	56.4	521.0	15060.0	57.4
401.5	13261.2	48.7	441.5	15400.0	54.9	481.5	15386.9	56.4	521.5	15552.3	57.4
402.0	13275.7	48.8	442.0	15400.0	54.9	482.0	15386.2	56.4	522.0	15313.8	57.4
402.5	13193.0	48.9	442.5	15400.0	54.9	482.5	15385.5	56.4	522.5	15391.7	57.4
403.0	13679.0	49.1	443.0	15400.0	54.9	483.0	15386.2	56.4	523.0	15394.4	57.4
403.5	13497.0	49.2	443.5	15399.3	54.9	483.5	15386.2	56.4	523.5	15388.9	57.4
404.0	13497.0	49.3	444.0	15400.0	54.9	484.0	15385.5	56.4	524.0	15388.9	57.4
404.5	13855.5	49.5	444.5	15400.6	54.9	484.5	15386.9	56.4	524.5	15391.0	57.4
405.0	13690.1	49.6	445.0	15400.6	54.9	485.0	15386.2	56.4	525.0	15392.4	57.4
405.5	13695.6	49.7	445.5	15400.6	54.9	485.5	15386.9	56.4	525.5	15392.4	57.4

TEST REFERENCE#: 301120AI FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPas), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
526.0	15393.7	57.4	566.0	15396.5	58.5	606.0	15408.7	59.0	646.0	13639.0	57.4
526.5	15394.4	57.4	566.5	15395.8	58.5	606.5	15407.5	59.0	646.5	13535.6	57.3
527.0	15395.1	57.4	567.0	15397.9	58.5	607.0	15407.5	59.0	647.0	13725.9	57.2
527.5	15394.4	57.4	567.5	15396.5	58.5	607.5	15406.8	59.0	647.5	13552.9	57.1
528.0	15395.1	57.4	568.0	15396.5	58.5	608.0	15406.8	59.0	648.0	13455.0	56.9
528.5	15395.1	57.4	568.5	15397.2	58.5	608.5	15406.8	59.0	648.5	13375.0	56.9
529.0	15394.4	57.4	569.0	15397.2	58.5	609.0	15406.8	59.0	649.0	13518.4	56.8
529.5	15394.4	57.4	569.5	15396.5	58.5	609.5	15406.2	59.0	649.5	13521.8	56.7
530.0	15394.4	57.4	570.0	15396.5	58.5	610.0	15406.8	59.0	650.0	13328.8	56.7
530.5	15395.1	57.4	570.5	15397.2	58.5	610.5	15406.8	59.0	650.5	13261.9	56.6
531.0	15394.4	57.4	571.0	15397.2	58.5	611.0	15406.2	59.0	651.0	13191.6	56.6
531.5	15395.1	57.4	571.5	15397.2	58.5	611.5	15406.2	59.0	651.5	13303.3	56.5
532.0	15395.1	57.4	572.0	15397.9	58.5	612.0	15406.8	59.0	652.0	13309.5	56.4
532.5	15395.8	57.5	572.5	15397.9	58.5	612.5	15406.2	59.0	652.5	13129.5	56.4
533.0	15395.8	57.6	573.0	15397.9	58.5	613.0	15406.2	59.0	653.0	13055.1	56.3
533.5	15395.1	57.6	573.5	15398.6	58.5	613.5	15407.5	59.0	653.5	13002.7	56.2
534.0	15395.8	57.7	574.0	15397.9	58.5	614.0	15174.5	59.0	654.0	13097.8	56.2
534.5	15395.1	57.8	574.5	15399.3	58.5	614.5	15101.4	59.0	654.5	13100.6	56.1
535.0	15395.8	57.8	575.0	15400.6	58.5	615.0	15272.4	59.0	655.0	12910.3	56.0
535.5	15395.1	57.9	575.5	15399.3	58.5	615.5	15274.5	59.0	655.5	12841.3	56.0
536.0	15395.1	58.0	576.0	15397.9	58.5	616.0	15275.2	59.0	656.0	12772.4	55.9
536.5	15395.8	58.0	576.5	15399.3	58.5	616.5	15276.5	59.0	656.5	12889.6	55.9
537.0	15395.8	58.0	577.0	15398.6	58.5	617.0	15276.5	59.0	657.0	12889.6	55.8
537.5	15395.1	58.0	577.5	15398.6	58.5	617.5	15274.5	59.0	657.5	12664.8	55.7
538.0	15396.5	58.0	578.0	15400.0	58.5	618.0	15273.8	59.0	658.0	12583.5	55.7
538.5	15396.5	58.0	578.5	15399.3	58.5	618.5	15275.2	59.0	658.5	12678.6	55.6
539.0	15395.8	58.0	579.0	15399.3	58.5	619.0	15024.2	59.0	659.0	12675.9	55.5
539.5	15396.5	58.0	579.5	15400.0	58.5	619.5	14939.4	59.0	659.5	12640.7	55.5
540.0	15397.9	58.0	580.0	15400.0	58.5	620.0	15251.7	59.0	660.0	12485.6	55.4
540.5	15397.9	58.0	580.5	15399.3	58.5	620.5	15129.0	59.0	660.5	12425.6	55.4
541.0	15397.2	58.0	581.0	15400.0	58.5	621.0	15131.1	59.0	661.0	12362.8	55.3
541.5	15396.5	58.0	581.5	15399.3	58.5	621.5	14880.1	59.0	661.5	12462.1	55.2
542.0	15397.9	58.0	582.0	15400.0	58.5	622.0	14998.7	59.0	662.0	12463.5	55.2
542.5	15397.2	58.0	582.5	15400.0	58.5	622.5	14709.8	59.0	662.5	12466.9	55.1
543.0	15397.2	58.0	583.0	15399.3	58.5	623.0	14901.5	59.0	663.0	12470.4	55.0
543.5	15397.9	58.0	583.5	15400.0	58.5	623.5	14844.2	59.0	663.5	12474.5	55.0
544.0	15397.9	58.0	584.0	15399.3	58.5	624.0	14849.1	59.0	664.0	12329.7	54.9
544.5	15397.2	58.0	584.5	15400.0	58.5	624.5	14850.4	59.0	664.5	12269.1	54.8
545.0	15399.3	58.0	585.0	15400.0	58.5	625.0	14853.2	59.0	665.0	12190.5	54.8
545.5	15398.6	58.0	585.5	15400.6	58.5	625.5	14853.9	59.0	665.5	12127.0	54.7
546.0	15399.3	58.0	586.0	15400.0	58.5	626.0	14854.6	59.0	666.0	12249.8	54.7
546.5	15398.6	58.0	586.5	15400.0	58.5	626.5	14854.6	59.0	666.5	12255.3	54.6
547.0	15400.0	58.0	587.0	15400.0	58.5	627.0	14854.6	59.0	667.0	12236.7	54.5
547.5	15399.3	58.0	587.5	15401.3	58.5	627.5	14856.6	59.0	667.5	12242.2	54.5
548.0	15399.3	58.0	588.0	15357.9	58.5	628.0	14854.6	59.0	668.0	12246.3	54.4
548.5	15399.3	58.0	588.5	15405.5	58.5	628.5	14853.9	59.0	668.5	12249.1	54.3
549.0	15399.3	58.0	589.0	15419.9	58.5	629.0	14856.6	59.0	669.0	12218.7	54.3
549.5	15399.3	58.0	589.5	15362.0	58.5	629.5	14667.7	59.0	669.5	12047.1	54.2
550.0	15400.0	58.0	590.0	15608.2	58.5	630.0	14561.6	59.0	670.0	11976.7	54.1
550.5	15400.0	58.0	590.5	15410.3	58.5	630.5	14523.6	59.0	670.5	11906.4	54.1
551.0	15433.0	58.0	591.0	15411.0	58.5	631.0	14532.6	59.0	671.0	12044.3	54.0
551.5	15415.8	58.0	591.5	15411.0	58.5	631.5	14739.4	59.0	671.5	11879.5	54.0
552.0	15249.0	58.0	592.0	15411.7	58.5	632.0	14753.2	59.0	672.0	11809.2	53.9
552.5	15193.1	58.0	592.5	15412.4	58.5	632.5	14556.0	58.9	672.5	11736.8	53.8
553.0	15170.4	58.0	593.0	15414.4	58.5	633.0	14496.7	58.8	673.0	11837.5	53.8
553.5	15093.1	58.0	593.5	15414.4	58.5	633.5	14451.2	58.8	673.5	11836.8	53.7
554.0	15059.4	58.0	594.0	15414.4	58.5	634.0	14395.4	58.7	674.0	11651.3	53.6
554.5	15537.8	58.0	594.5	15412.4	58.5	634.5	14547.1	58.6	674.5	11573.4	53.6
555.0	15325.5	58.0	595.0	15412.4	58.5	635.0	14554.7	58.6	675.0	11510.7	53.5
555.5	15448.9	58.0	595.5	15413.7	58.5	635.5	14557.4	58.5	675.5	11621.0	53.4
556.0	15402.0	58.0	596.0	15411.7	58.5	636.0	14703.6	58.5	676.0	11627.2	53.4
556.5	15391.0	58.0	596.5	15411.7	58.5	636.5	14565.0	58.4	676.5	11405.2	53.3
557.0	15392.4	58.1	597.0	15411.0	58.6	637.0	14556.0	58.3	677.0	11281.1	53.1
557.5	15392.4	58.1	597.5	15411.0	58.6	637.5	14559.5	58.3	677.5	11414.8	53.0
558.0	15393.1	58.2	598.0	15410.3	58.7	638.0	14329.9	58.2	678.0	11420.3	52.9
558.5	15393.7	58.3	598.5	15409.6	58.8	638.5	14292.0	58.1	678.5	11190.0	52.8
559.0	15393.7	58.3	599.0	15409.6	58.8	639.0	14212.7	58.1	679.0	11095.6	52.6
559.5	15394.4	58.4	599.5	15408.9	58.9	639.5	14403.0	58.0	679.5	11212.8	52.5
560.0	15393.1	58.5	600.0	15408.9	59.0	640.0	14360.2	58.0	680.0	11215.6	52.4
560.5	15393.7	58.5	600.5	15408.9	59.0	640.5	14153.4	58.0	680.5	10970.8	52.3
561.0	15393.7	58.5	601.0	15408.2	59.0	641.0	14103.1	58.0	681.0	10866.0	52.2
561.5	15393.7	58.5	601.5	15407.5	59.0	641.5	14018.9	58.0	681.5	11008.7	52.2
562.0	15394.4	58.5	602.0	15408.2	59.0	642.0	14201.7	58.0	682.0	10870.1	52.1
562.5	15394.4	58.5	602.5	15409.6	59.0	642.5	14147.2	58.0	682.5	10783.3	52.1
563.0	15394.4	58.5	603.0	15408.2	59.0	643.0	13943.1	58.0	683.0	10679.8	52.0
563.5	15396.5	58.5	603.5	15406.8	59.0	643.5	13868.6	58.0	683.5	10797.1	51.9
564.0	15396.5	58.5	604.0	15406.8	59.0	644.0	13805.9	58.0	684.0	10800.5	51.9
564.5	15395.8	58.5	604.5	15407.5	59.0	644.5	13966.5	57.8	684.5	10610.9	51.7
565.0	15394.4	58.5	605.0	15407.5	59.0	645.0	13940.3	57.7	685.0	10524.7	51.6
565.5	15395.8	58.5	605.5	15407.5	59.0	645.5	13701.8	57.6	685.5	10586.8	51.5

TEST REFERENCE#: 301120AJ FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
686.0	10588.1	51.4	726.0	6167.3	39.7	766.0	3150.8	28.9	806.0	148.9	26.4
686.5	10406.8	51.2	726.5	6057.6	39.6	766.5	3150.8	28.9	806.5	146.1	26.4
687.0	10278.6	51.1	727.0	6123.8	39.4	767.0	3150.8	28.9	807.0	136.5	26.4
687.5	10373.7	51.0	727.5	5974.2	39.3	767.5	3151.5	28.9	807.5	135.1	26.4
688.0	10378.5	50.8	728.0	5913.5	39.2	768.0	3150.8	28.9	808.0	135.8	26.4
688.5	10182.7	50.7	728.5	5910.8	39.0	768.5	3151.5	28.9	808.5	135.8	26.3
689.0	10096.5	50.6	729.0	5912.8	38.8	769.0	3151.5	28.8	809.0	135.1	26.2
689.5	10162.7	50.5	729.5	5785.3	38.6	769.5	3150.8	28.7	809.5	135.8	26.2
690.0	10167.6	50.3	730.0	5672.9	38.4	770.0	3152.2	28.7			
690.5	9956.6	50.2	730.5	5702.6	38.2	770.5	3151.5	28.6			
691.0	9833.2	50.1	731.0	5703.9	38.0	771.0	3151.5	28.5			
691.5	9951.1	50.0	731.5	5565.4	37.8	771.5	3151.5	28.5			
692.0	9815.9	49.8	732.0	5467.4	37.6	772.0	3152.2	28.4			
692.5	9724.2	49.7	732.5	5486.8	37.5	772.5	3151.5	28.4			
693.0	9607.0	49.6	733.0	5489.5	37.4	773.0	3152.2	28.4			
693.5	9690.5	49.5	733.5	5342.7	37.3	773.5	3151.5	28.4			
694.0	9693.2	49.3	734.0	5235.8	37.1	774.0	3152.2	28.4			
694.5	9507.1	49.2	734.5	5276.5	37.0	774.5	3151.5	28.4			
695.0	9393.3	49.1	735.0	5224.1	36.9	775.0	3151.5	28.4			
695.5	9300.2	48.9	735.5	5138.6	36.7	775.5	3152.9	28.4			
696.0	9405.7	48.8	736.0	5020.0	36.6	776.0	3152.2	28.4			
696.5	9263.7	48.7	736.5	5062.0	36.4	776.5	3151.5	28.4			
697.0	9136.1	48.6	737.0	5063.4	36.1	777.0	3152.9	28.4			
697.5	8993.4	48.4	737.5	4851.8	35.8	777.5	3151.5	28.4			
698.0	9118.9	48.3	738.0	4844.9	35.6	778.0	3152.2	28.4			
698.5	9123.0	48.2	738.5	4848.3	35.3	778.5	3151.5	28.4			
699.0	8856.2	48.1	739.0	4520.1	35.1	779.0	3152.2	28.4			
699.5	8839.6	47.9	739.5	4631.1	34.8	779.5	3152.2	28.4			
700.0	8876.9	47.8	740.0	4450.5	34.6	780.0	3153.6	28.4			
700.5	8819.0	47.6	740.5	4396.7	34.4	780.5	3151.5	28.4			
701.0	8752.8	47.4	741.0	4427.7	34.2	781.0	3141.2	28.4			
701.5	8693.5	47.2	741.5	4259.5	34.0	781.5	3077.1	28.4			
702.0	8823.0	47.0	742.0	4167.8	33.8	782.0	2984.7	28.4			
702.5	8857.6	46.9	742.5	4170.6	33.6	782.5	3024.7	28.4			
703.0	8653.5	46.7	743.0	4061.6	33.4	783.0	3052.9	28.4			
703.5	8590.7	46.5	743.5	3852.0	33.2	783.5	3055.7	28.4			
704.0	8683.1	46.3	744.0	3881.7	33.0	784.0	2996.4	28.4			
704.5	8506.6	46.2	744.5	3883.0	32.9	784.5	2847.5	28.4			
705.0	8395.6	46.0	745.0	3602.4	32.8	785.0	2890.9	28.3			
705.5	8473.5	45.9	745.5	3646.6	32.6	785.5	2893.0	28.2			
706.0	8474.2	45.8	746.0	3696.2	32.5	786.0	2893.0	28.2			
706.5	8477.7	45.6	746.5	3523.1	32.4	786.5	2667.5	28.1			
707.0	8286.0	45.5	747.0	3523.1	32.3	787.0	2600.6	28.0			
707.5	8160.5	45.4	747.5	3559.7	32.1	787.5	2604.1	28.0			
708.0	8254.3	45.3	748.0	3437.6	32.0	788.0	2435.2	27.9			
708.5	8259.1	45.1	748.5	3361.8	31.8	788.5	2306.9	27.8			
709.0	8054.3	45.0	749.0	3372.1	31.6	789.0	2313.8	27.8			
709.5	7960.6	44.9	749.5	3208.1	31.4	789.5	2314.5	27.7			
710.0	8044.0	44.8	750.0	3163.2	31.2	790.0	2019.4	27.7			
710.5	8046.8	44.6	750.5	3163.9	31.0	790.5	2022.2	27.6			
711.0	7836.5	44.5	751.0	3090.8	30.9	791.0	2022.9	27.5			
711.5	7693.7	44.4	751.5	3026.7	30.7	791.5	1660.2	27.5			
712.0	7831.0	44.3	752.0	2940.5	30.5	792.0	1640.2	27.4			
712.5	7620.0	44.1	752.5	2957.8	30.4	792.5	1649.2	27.3			
713.0	7588.9	43.9	753.0	3068.1	30.3	793.0	1536.1	27.3			
713.5	7653.8	43.7	753.5	3178.4	30.3	793.5	1316.8	27.2			
714.0	7618.6	43.5	754.0	3147.4	30.2	794.0	1226.5	27.1			
714.5	7442.8	43.3	754.5	3151.5	30.1	794.5	1229.3	27.1			
715.0	7328.3	43.1	755.0	3151.5	30.1	795.0	1231.3	27.0			
715.5	7398.7	42.9	755.5	3151.5	30.0	795.5	1234.8	26.9			
716.0	7403.5	42.7	756.0	3151.5	30.0	796.0	1234.1	26.9			
716.5	7180.1	42.5	756.5	3150.8	29.9	796.5	1174.1	26.8			
717.0	7189.7	42.4	757.0	3152.2	29.8	797.0	1198.2	26.8			
717.5	7187.7	42.2	757.5	3152.2	29.8	797.5	958.3	26.7			
718.0	7038.1	42.0	758.0	3152.2	29.7	798.0	894.2	26.6			
718.5	6883.6	41.8	758.5	3152.2	29.6	798.5	876.3	26.6			
719.0	6952.6	41.6	759.0	3152.2	29.6	799.0	866.6	26.5			
719.5	6955.3	41.4	759.5	3152.2	29.5	799.5	860.4	26.4			
720.0	6783.6	41.2	760.0	3153.6	29.4	800.0	855.6	26.4			
720.5	6629.9	41.1	760.5	3152.9	29.4	800.5	854.7	26.4			
721.0	6677.5	41.0	761.0	3152.9	29.3	801.0	852.1	26.4			
721.5	6680.9	40.8	761.5	3151.5	29.3	801.5	830.8	26.4			
722.0	6490.6	40.7	762.0	3152.9	29.2	802.0	677.7	26.4			
722.5	6419.6	40.6	762.5	3151.5	29.1	802.5	599.8	26.4			
723.0	6501.7	40.4	763.0	3152.2	29.1	803.0	564.6	26.4			
723.5	6529.9	40.3	763.5	3152.2	29.0	803.5	542.6	26.4			
724.0	6404.4	40.2	764.0	3152.2	28.9	804.0	529.5	26.4			
724.5	6314.1	40.1	764.5	3152.9	28.9	804.5	512.2	26.4			
725.0	6337.6	39.9	765.0	3151.5	28.9	805.0	402.6	26.4			
725.5	6342.4	39.8	765.5	3151.5	28.9	805.5	155.1	26.4			

Schlumberger | Schlumberger of Canada
Testing Services

Test Date : 3/9/90
Location : RECOVERY RECORDER
DST # : TW0

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	13:55:00	REFERENCE TIME		89.6	3.6		
2	17:35:00	SEE COMMENTS On bottom	220.0	190.9	52.9		
3	19:05:00	SEE COMMENTS First attempt to inflate packers	90.0	198.5	57.1		
4	19:35:00	SEE COMMENTS Second attempt to inflate packers	30.0	199.2	58.1		
5	20:15:00	SEE COMMENTS Third attempt to inflate packers	40.0	199.2	58.6		
6	20:35:00	SEE COMMENTS Start out of hole	20.0	199.9	59.1		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-TOP OF RECOVERY			
3-MIDDLE OF RECOVERY			
4-BOTTOM OF RECOVERY			
5-BOTTOMHOLE SAMPLER	MISRUN #000556, #103734		

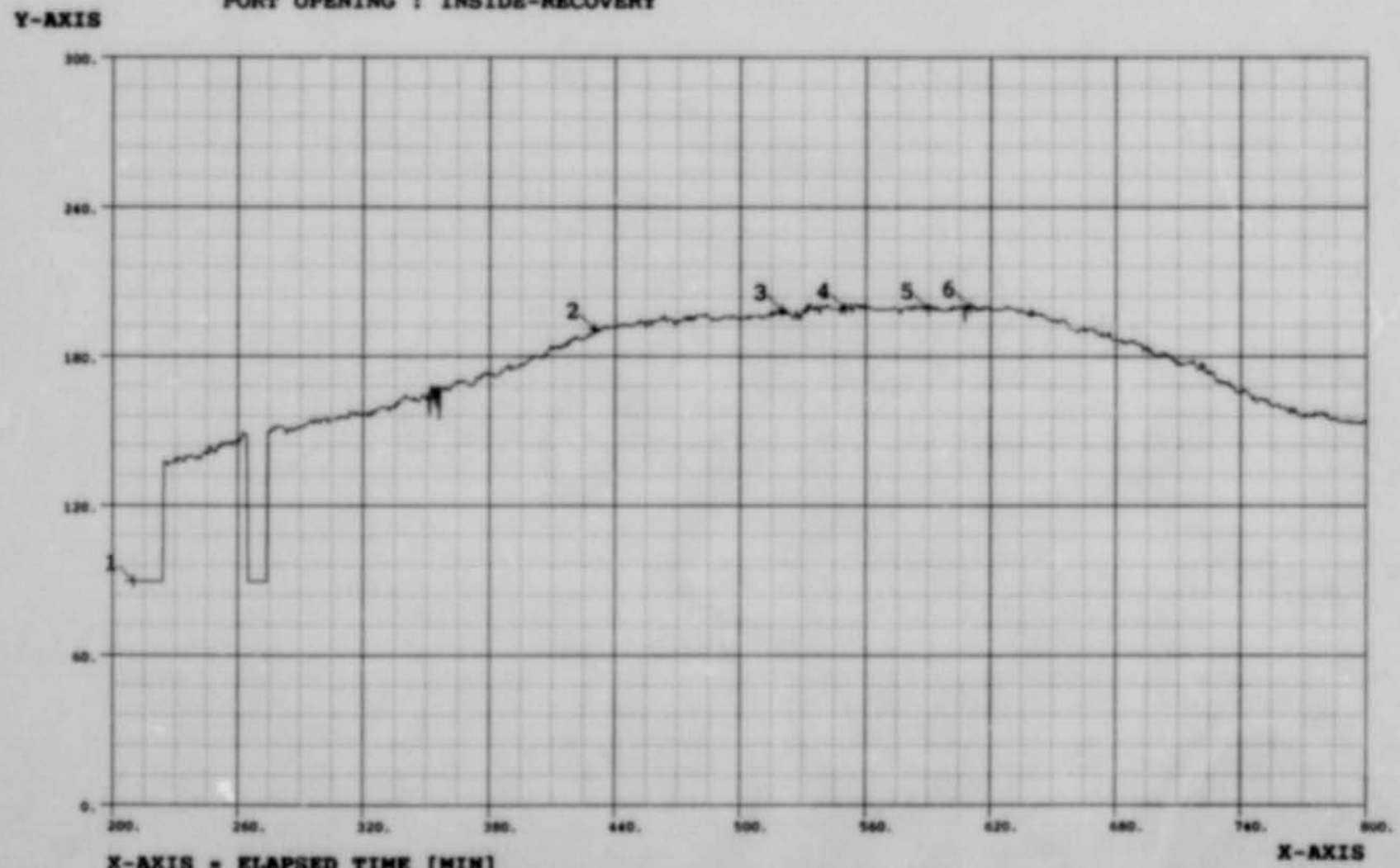
Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger of Canada
Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120AR
INSTRUMENT NO. : SB-50130
DEPTH : 1374.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : TWO



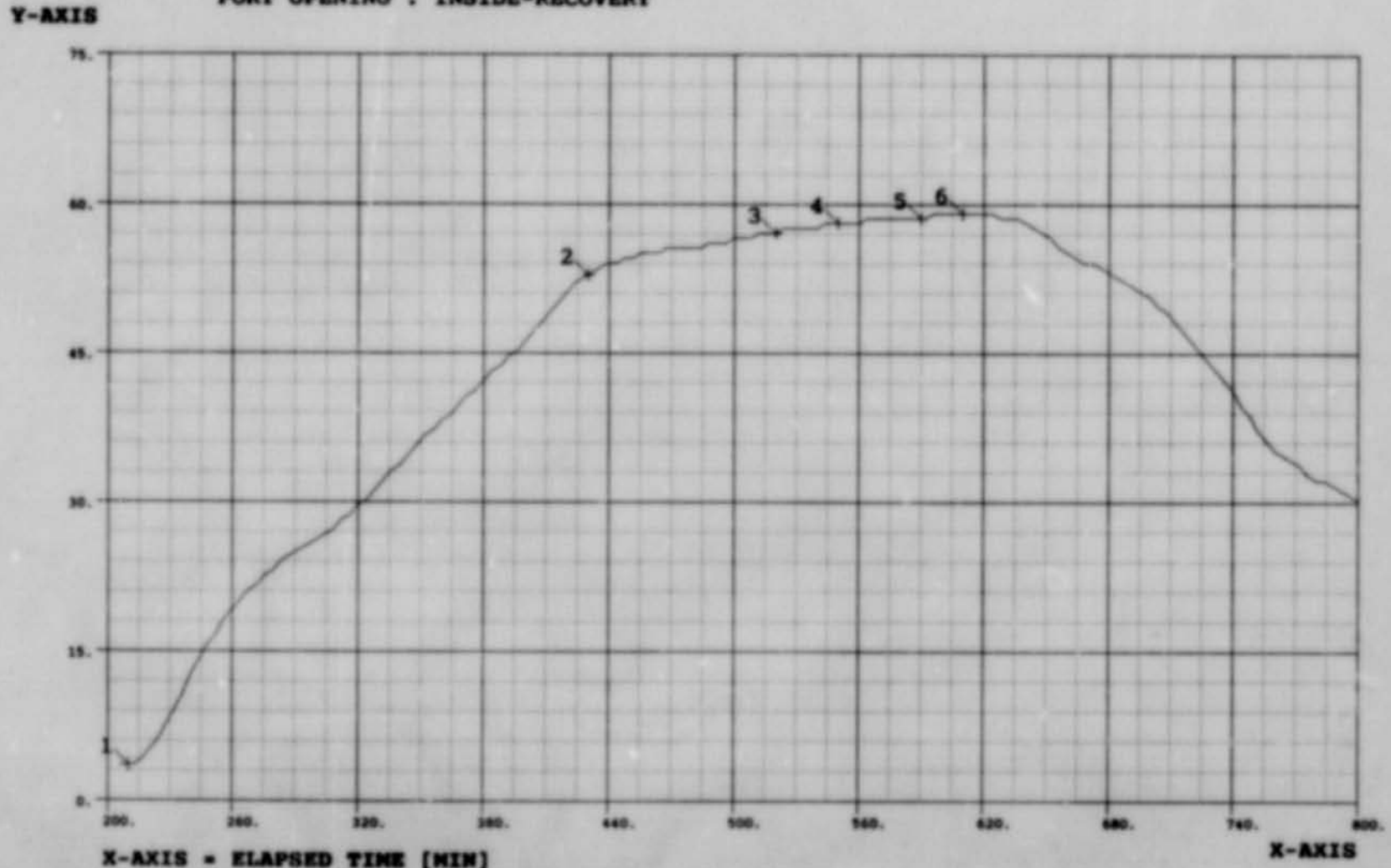
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Test g Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120AR
INSTRUMENT NO. : SB-50130
DEPTH : 1374.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : TWO



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301120AR FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
206.0	89.6	3.6	246.0	140.6	14.9	286.0	149.6	24.4	326.0	158.5	30.7
206.5	89.6	3.6	246.5	144.0	15.1	286.5	150.3	24.5	326.5	157.8	30.8
207.0	89.6	3.6	247.0	143.4	15.3	287.0	150.9	24.6	327.0	158.5	31.0
207.5	89.6	3.6	247.5	142.0	15.5	287.5	150.9	24.6	327.5	158.5	31.1
208.0	89.6	3.6	248.0	141.3	15.6	288.0	150.3	24.7	328.0	159.2	31.2
208.5	89.6	3.6	248.5	142.0	15.8	288.5	150.9	24.7	328.5	159.2	31.3
209.0	89.6	3.6	249.0	142.0	15.9	289.0	151.6	24.8	329.0	159.9	31.5
209.5	89.6	3.6	249.5	141.3	16.0	289.5	151.6	24.9	329.5	159.2	31.6
210.0	89.6	3.6	250.0	143.4	16.1	290.0	150.9	24.9	330.0	159.2	31.7
210.5	89.6	3.6	250.5	144.0	16.3	290.5	151.6	25.0	330.5	159.2	31.8
211.0	89.6	3.6	251.0	143.4	16.4	291.0	151.6	25.1	331.0	159.9	32.0
211.5	89.6	3.6	251.5	143.4	16.5	291.5	152.3	25.1	331.5	158.5	32.1
212.0	89.6	3.6	252.0	145.4	16.6	292.0	151.6	25.2	332.0	159.2	32.2
212.5	89.6	3.6	252.5	144.7	16.8	292.5	151.6	25.2	332.5	157.8	32.3
213.0	89.6	3.7	253.0	144.0	17.0	293.0	153.0	25.3	333.0	159.9	32.5
213.5	89.6	3.8	253.5	144.7	17.2	293.5	153.0	25.4	333.5	159.2	32.6
214.0	89.6	3.8	254.0	145.4	17.4	294.0	153.0	25.4	334.0	159.9	32.7
214.5	89.6	3.9	254.5	144.7	17.6	294.5	153.0	25.5	334.5	159.2	32.8
215.0	89.6	4.0	255.0	144.7	17.8	295.0	154.4	25.6	335.0	159.9	33.0
215.5	89.6	4.0	255.5	145.4	18.0	295.5	153.7	25.6	335.5	159.2	33.1
216.0	89.6	4.1	256.0	144.7	18.2	296.0	153.0	25.7	336.0	162.0	33.2
216.5	89.6	4.2	256.5	144.7	18.3	296.5	154.4	25.7	336.5	160.6	33.3
217.0	89.6	4.3	257.0	145.4	18.4	297.0	153.0	25.8	337.0	160.6	33.3
217.5	89.6	4.5	257.5	144.0	18.5	297.5	154.4	25.9	337.5	162.0	33.4
218.0	89.6	4.6	258.0	145.4	18.7	298.0	154.4	25.9	338.0	162.7	33.5
218.5	89.6	4.7	258.5	145.4	18.8	298.5	154.4	26.0	338.5	162.7	33.5
219.0	89.6	4.8	259.0	146.1	18.9	299.0	153.7	26.1	339.0	162.7	33.6
219.5	89.6	5.0	259.5	145.4	19.0	299.5	153.0	26.1	339.5	163.4	33.7
220.0	89.6	5.1	260.0	144.7	19.2	300.0	154.4	26.2	340.0	164.7	33.7
220.5	89.6	5.2	260.5	145.4	19.3	300.5	154.4	26.2	340.5	162.7	33.8
221.0	89.6	5.3	261.0	146.8	19.4	301.0	154.4	26.3	341.0	163.4	34.0
221.5	89.6	5.5	261.5	146.1	19.5	301.5	154.4	26.4	341.5	163.4	34.1
222.0	89.6	5.6	262.0	148.2	19.7	302.0	154.4	26.4	342.0	162.7	34.2
222.5	89.6	5.7	262.5	149.6	19.8	302.5	155.1	26.5	342.5	162.7	34.3
223.0	89.6	5.8	263.0	148.9	19.9	303.0	155.1	26.6	343.0	162.7	34.5
223.5	89.6	6.0	263.5	148.2	20.0	303.5	153.0	26.6	343.5	163.4	34.6
224.0	89.6	6.1	264.0	148.2	20.2	304.0	154.4	26.7	344.0	162.0	34.7
224.5	137.8	6.3	264.5	148.2	20.3	304.5	153.7	26.8	344.5	163.4	34.9
225.0	137.2	6.5	265.0	89.6	20.4	305.0	154.4	26.8	345.0	162.0	35.0
225.5	137.8	6.7	265.5	89.6	20.5	305.5	154.4	26.9	345.5	162.7	35.1
226.0	136.5	6.8	266.0	89.6	20.7	306.0	155.1	26.9	346.0	162.0	35.2
226.5	135.8	7.0	266.5	89.6	20.8	306.5	154.4	27.0	346.5	162.0	35.4
227.0	137.2	7.2	267.0	89.6	20.9	307.0	154.4	27.1	347.0	162.7	35.5
227.5	137.2	7.4	267.5	89.6	21.0	307.5	154.4	27.1	347.5	162.7	35.6
228.0	137.2	7.6	268.0	89.6	21.2	308.0	155.8	27.2	348.0	164.7	35.7
228.5	137.2	7.8	268.5	89.6	21.2	308.5	155.1	27.3	348.5	164.0	35.9
229.0	137.2	8.0	269.0	89.6	21.3	309.0	155.8	27.4	349.0	164.0	36.0
229.5	138.5	8.2	269.5	89.6	21.4	309.5	155.1	27.6	349.5	162.7	36.1
230.0	138.5	8.4	270.0	89.6	21.4	310.0	155.8	27.7	350.0	162.7	36.2
230.5	139.2	8.5	270.5	89.6	21.5	310.5	155.8	27.8	350.5	162.7	36.4
231.0	137.2	8.7	271.0	89.6	21.5	311.0	155.8	27.9	351.0	165.4	36.5
231.5	139.2	8.9	271.5	89.6	21.6	311.5	155.1	28.1	351.5	155.8	36.6
232.0	139.2	9.1	272.0	89.6	21.7	312.0	155.1	28.2	352.0	167.5	36.7
232.5	139.2	9.3	272.5	89.6	21.8	312.5	155.8	28.3	352.5	168.2	36.8
233.0	138.5	9.5	273.0	89.6	21.9	313.0	155.1	28.3	353.0	162.0	36.9
233.5	138.5	9.7	273.5	89.6	22.0	313.5	157.1	28.4	353.5	166.8	36.9
234.0	137.2	9.9	274.0	89.6	22.2	314.0	157.8	28.4	354.0	167.5	37.0
234.5	138.5	10.1	274.5	149.6	22.3	314.5	157.1	28.5	354.5	159.2	37.0
235.0	139.9	10.2	275.0	148.9	22.4	315.0	157.1	28.6	355.0	167.5	37.1
235.5	139.2	10.4	275.5	150.3	22.5	315.5	156.5	28.6	355.5	168.2	37.2
236.0	139.9	10.6	276.0	150.3	22.7	316.0	156.5	28.7	356.0	154.4	37.2
236.5	139.2	10.9	276.5	149.6	22.7	316.5	157.8	28.8	356.5	167.5	37.4
237.0	139.9	11.1	277.0	151.6	22.8	317.0	156.5	28.9	357.0	166.8	37.5
237.5	139.9	11.4	277.5	150.9	22.9	317.5	157.1	29.1	357.5	166.8	37.6
238.0	139.9	11.6	278.0	150.3	22.9	318.0	156.5	29.2	358.0	166.1	37.7
238.5	139.2	11.9	278.5	150.9	23.0	318.5	157.1	29.3	358.5	167.5	37.9
239.0	139.2	12.1	279.0	152.3	23.0	319.0	156.5	29.5	359.0	166.8	38.0
239.5	138.5	12.4	279.5	151.6	23.1	319.5	156.5	29.6	359.5	167.5	38.1
240.0	139.2	12.6	280.0	151.6	23.2	320.0	155.8	29.7	360.0	166.1	38.2
240.5	138.5	12.8	280.5	151.6	23.3	320.5	157.1	29.8	360.5	166.8	38.3
241.0	139.9	13.0	281.0	151.6	23.4	321.0	156.5	29.8	361.0	166.1	38.4
241.5	139.2	13.2	281.5	151.6	23.5	321.5	156.5	29.9	361.5	168.2	38.4
242.0	138.5	13.4	282.0	150.9	23.7	322.0	156.5	30.0	362.0	168.2	38.5
242.5	139.9	13.6	282.5	150.9	23.8	322.5	157.8	30.0	362.5	168.2	38.6
243.0	140.6	13.8	283.0	150.3	23.9	323.0	155.8	30.1	363.0	168.2	38.6
243.5	141.3	13.9	283.5	148.9	24.1	323.5	156.5	30.1	363.5	168.9	38.7
244.0	140.6	14.1	284.0	150.3	24.2	324.0	157.1	30.2	364.0	170.2	38.7
244.5	142.0	14.3	284.5	150.3	24.2	324.5	157.8	30.3	364.5	169.6	38.9
245.0	140.6	14.5	285.0	150.9	24.3	325.0	156.5	30.5	365.0	168.9	39.0
245.5	142.0	14.7	285.5	150.9	24.4	325.5	158.5	30.6	365.5	169.6	39.1

TEST REFERENCE#: 301120AR FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
366.0	170.2	39.2	406.0	180.6	47.7	446.0	193.0	54.4	486.0	194.4	55.9
365.5	169.6	39.4	406.5	180.6	47.8	446.5	192.3	54.5	486.5	194.4	55.9
367.0	170.2	39.5	407.0	181.3	47.9	447.0	192.3	54.5	487.0	195.8	56.0
367.5	169.6	39.6	407.5	180.6	48.1	447.5	192.3	54.6	487.5	195.1	56.1
368.0	170.2	39.7	408.0	182.0	48.2	448.0	192.3	54.6	488.0	194.4	56.1
368.5	169.6	39.9	408.5	182.7	48.3	448.5	192.3	54.6	488.5	194.4	56.1
369.0	169.6	40.0	409.0	184.0	48.4	449.0	193.0	54.6	489.0	195.1	56.1
369.5	169.6	40.1	409.5	182.7	48.6	449.5	193.0	54.6	489.5	195.1	56.1
370.0	168.9	40.2	410.0	184.0	48.7	450.0	193.0	54.6	490.0	194.4	56.1
370.5	168.2	40.4	410.5	184.0	48.8	450.5	193.7	54.6	490.5	195.1	56.1
371.0	168.2	40.5	411.0	182.7	48.9	451.0	193.7	54.6	491.0	195.8	56.1
371.5	168.2	40.6	411.5	184.0	49.1	451.5	193.0	54.6	491.5	195.8	56.1
372.0	168.9	40.7	412.0	183.3	49.2	452.0	194.4	54.6	492.0	195.1	56.1
372.5	169.6	40.8	412.5	184.0	49.3	452.5	194.4	54.7	492.5	195.8	56.1
373.0	168.9	40.9	413.0	184.0	49.4	453.0	193.7	54.8	493.0	196.4	56.1
373.5	170.9	40.9	413.5	182.7	49.6	453.5	193.7	54.8	493.5	195.8	56.1
374.0	171.6	41.0	414.0	184.0	49.7	454.0	193.7	54.9	494.0	195.8	56.1
374.5	171.6	41.1	414.5	183.3	49.8	454.5	191.6	55.0	494.5	195.8	56.1
375.0	170.9	41.1	415.0	184.7	49.9	455.0	193.7	55.0	495.0	195.8	56.1
375.5	170.9	41.2	415.5	184.0	50.1	455.5	193.7	55.1	495.5	195.1	56.1
376.0	172.3	41.2	416.0	184.0	50.2	456.0	193.7	55.1	496.0	196.4	56.1
376.5	171.6	41.4	416.5	185.4	50.3	456.5	194.4	55.1	496.5	196.4	56.2
377.0	173.0	41.5	417.0	184.0	50.4	457.0	192.3	55.1	497.0	196.4	56.3
377.5	172.3	41.6	417.5	186.1	50.5	457.5	193.7	55.1	497.5	195.8	56.3
378.0	173.7	41.7	418.0	184.7	50.7	458.0	193.7	55.1	498.0	195.1	56.4
378.5	173.0	41.9	418.5	186.8	50.8	458.5	194.4	55.1	498.5	195.8	56.4
379.0	172.3	42.0	419.0	186.1	50.9	459.0	194.4	55.1	499.0	195.1	56.5
379.5	173.0	42.1	419.5	187.5	51.0	459.5	193.7	55.1	499.5	195.1	56.6
380.0	173.0	42.2	420.0	186.8	51.2	460.0	194.4	55.1	500.0	195.1	56.6
380.5	172.3	42.4	420.5	187.5	51.3	460.5	194.4	55.1	500.5	195.1	56.6
381.0	173.0	42.5	421.0	186.8	51.4	461.0	195.1	55.1	501.0	195.1	56.6
381.5	173.0	42.6	421.5	188.2	51.5	461.5	195.1	55.1	501.5	195.8	56.6
382.0	172.3	42.7	422.0	187.5	51.7	462.0	194.4	55.1	502.0	195.1	56.6
382.5	171.6	42.9	422.5	186.8	51.8	462.5	195.8	55.1	502.5	195.8	56.6
383.0	172.3	43.0	423.0	186.8	51.9	463.0	195.1	55.1	503.0	195.8	56.6
383.5	172.3	43.1	423.5	186.8	52.0	463.5	196.4	55.1	503.5	195.1	56.6
384.0	172.3	43.2	424.0	187.5	52.2	464.0	195.8	55.1	504.0	196.4	56.6
384.5	173.0	43.3	424.5	186.8	52.2	464.5	193.7	55.2	504.5	195.1	56.6
385.0	172.3	43.3	425.0	186.8	52.3	465.0	194.4	55.3	505.0	195.8	56.6
385.5	174.4	43.4	425.5	186.8	52.3	465.5	195.1	55.3	505.5	196.4	56.6
386.0	174.4	43.5	426.0	187.5	52.4	466.0	195.1	55.4	506.0	196.4	56.6
386.5	174.4	43.5	426.5	187.5	52.5	466.5	194.4	55.5	506.5	195.8	56.6
387.0	174.4	43.6	427.0	188.9	52.5	467.0	195.1	55.5	507.0	195.8	56.6
387.5	175.1	43.7	427.5	188.2	52.6	467.5	194.4	55.6	507.5	195.8	56.6
388.0	175.8	43.7	428.0	188.9	52.7	468.0	194.4	55.6	508.0	196.4	56.6
388.5	175.1	43.8	428.5	188.2	52.7	468.5	192.3	55.6	508.5	196.4	56.7
389.0	176.5	44.0	429.0	189.6	52.8	469.0	193.7	55.6	509.0	195.8	56.8
389.5	176.5	44.1	429.5	190.2	52.8	469.5	194.4	55.6	509.5	195.8	56.8
390.0	174.4	44.2	430.0	190.9	52.9	470.0	194.4	55.6	510.0	196.4	56.9
390.5	175.8	44.3	430.5	189.6	53.0	470.5	193.7	55.6	510.5	195.1	56.9
391.0	175.1	44.5	431.0	190.2	53.0	471.0	194.4	55.6	511.0	195.8	57.0
391.5	175.8	44.6	431.5	190.9	53.1	471.5	194.4	55.6	511.5	195.8	57.1
392.0	175.1	44.7	432.0	189.6	53.2	472.0	194.4	55.6	512.0	195.8	57.1
392.5	175.1	44.8	432.5	190.2	53.2	472.5	194.4	55.6	512.5	195.8	57.1
393.0	175.1	44.8	433.0	190.9	53.3	473.0	195.8	55.6	513.0	195.8	57.1
393.5	175.8	44.9	433.5	190.9	53.3	473.5	195.8	55.6	513.5	197.1	57.1
394.0	176.5	45.0	434.0	190.9	53.4	474.0	194.4	55.6	514.0	196.4	57.1
394.5	176.5	45.0	434.5	191.6	53.5	474.5	195.8	55.6	514.5	197.1	57.1
395.0	175.8	45.1	435.0	192.3	53.5	475.0	194.4	55.6	515.0	196.4	57.1
395.5	176.5	45.1	435.5	191.6	53.6	475.5	196.4	55.6	515.5	198.5	57.1
396.0	177.1	45.2	436.0	190.9	53.7	476.0	194.4	55.6	516.0	196.4	57.1
396.5	176.5	45.3	436.5	191.6	53.7	476.5	195.8	55.6	516.5	197.1	57.1
397.0	177.1	45.5	437.0	192.3	53.8	477.0	194.4	55.6	517.0	197.8	57.1
397.5	177.1	45.6	437.5	191.6	53.8	477.5	195.8	55.6	517.5	197.1	57.1
398.0	177.8	45.7	438.0	191.6	53.9	478.0	194.4	55.6	518.0	197.1	57.1
398.5	177.8	45.8	438.5	191.6	54.0	478.5	196.4	55.6	518.5	197.8	57.1
399.0	178.5	46.0	439.0	191.6	54.0	479.0	195.8	55.6	519.0	197.8	57.1
399.5	178.5	46.1	439.5	191.6	54.1	479.5	196.4	55.6	519.5	197.1	57.1
400.0	179.9	46.2	440.0	191.6	54.1	480.0	196.4	55.6	520.0	198.5	57.1
400.5	179.2	46.3	440.5	192.3	54.1	480.5	196.4	55.6	520.5	197.8	57.2
401.0	179.2	46.5	441.0	191.6	54.1	481.0	196.4	55.6	521.0	197.1	57.3
401.5	179.9	46.6	441.5	192.3	54.1	481.5	196.4	55.6	521.5	198.5	57.3
402.0	180.6	46.7	442.0	192.3	54.1	482.0	196.4	55.6	522.0	197.1	57.4
402.5	179.9	46.8	442.5	193.0	54.1	482.5	195.8	55.6	522.5	197.1	57.4
403.0	179.9	46.9	443.0	192.3	54.1	483.0	196.4	55.6	523.0	197.8	57.5
403.5	179.9	47.1	443.5	192.3	54.1	483.5	197.1	55.6	523.5	197.8	57.6
404.0	179.2	47.2	444.0	193.0	54.1	484.0	195.8	55.6	524.0	196.4	57.6
404.5	179.9	47.3	444.5	193.0	54.2	484.5	195.8	55.7	524.5	196.4	57.6
405.0	179.9	47.4	445.0	193.0	54.3	485.0	195.8	55.8	525.0	195.8	57.6
405.5	179.2	47.6	445.5	192.3	54.3	485.5	195.1	55.8	525.5	195.1	57.6

TEST REFERENCE#: 301120AR FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
526.0	197.1	57.6	566.0	199.2	58.6	606.0	200.6	59.1	646.0	195.8	57.4
526.5	197.1	57.6	566.5	199.2	58.6	606.5	199.2	59.1	646.5	195.8	57.3
527.0	198.5	57.6	567.0	198.5	58.6	607.0	199.9	59.1	647.0	195.8	57.3
527.5	194.4	57.6	567.5	199.2	58.6	607.5	193.7	59.1	647.5	195.1	57.2
528.0	197.1	57.6	568.0	199.2	58.6	608.0	200.6	59.1	648.0	194.4	57.1
528.5	196.4	57.6	568.5	198.5	58.6	608.5	199.9	59.1	648.5	195.1	57.1
529.0	195.1	57.6	569.0	199.2	58.6	609.0	199.2	59.1	649.0	194.4	57.0
529.5	198.5	57.6	569.5	199.2	58.6	609.5	199.2	59.1	649.5	194.4	56.9
530.0	198.5	57.6	570.0	199.2	58.6	610.0	199.9	59.1	650.0	195.1	56.9
530.5	197.1	57.6	570.5	199.2	58.6	610.5	199.9	59.1	650.5	193.7	56.8
531.0	199.2	57.6	571.0	199.2	58.6	611.0	199.9	59.1	651.0	194.4	56.8
531.5	197.1	57.6	571.5	198.5	58.6	611.5	200.6	59.1	651.5	194.4	56.7
532.0	201.3	57.6	572.0	199.2	58.6	612.0	199.2	59.1	652.0	194.4	56.6
532.5	198.5	57.6	572.5	199.2	58.6	612.5	198.5	59.1	652.5	193.7	56.5
533.0	199.9	57.6	573.0	199.2	58.6	613.0	199.2	59.1	653.0	194.4	56.4
533.5	201.3	57.6	573.5	199.9	58.6	613.5	198.5	59.1	653.5	193.7	56.3
534.0	199.2	57.6	574.0	199.2	58.6	614.0	199.9	59.1	654.0	194.4	56.1
534.5	199.2	57.6	574.5	199.2	58.6	614.5	198.5	59.1	654.5	194.4	56.0
535.0	198.5	57.6	575.0	199.2	58.6	615.0	199.2	59.1	655.0	195.1	55.9
535.5	199.9	57.6	575.5	198.5	58.6	615.5	199.2	59.1	655.5	194.4	55.8
536.0	198.5	57.6	576.0	199.2	58.6	616.0	199.9	59.1	656.0	193.7	55.6
536.5	200.6	57.6	576.5	197.1	58.6	616.5	198.5	59.1	656.5	193.7	55.6
537.0	199.9	57.6	577.0	199.2	58.6	617.0	199.9	59.1	657.0	193.0	55.5
537.5	198.5	57.6	577.5	199.2	58.6	617.5	199.9	59.1	657.5	192.3	55.5
538.0	197.1	57.6	578.0	199.2	58.6	618.0	199.9	59.1	658.0	192.3	55.4
538.5	200.6	57.6	578.5	199.2	58.6	618.5	199.2	59.1	658.5	190.9	55.3
539.0	199.9	57.6	579.0	199.9	58.6	619.0	199.9	59.1	659.0	191.6	55.3
539.5	199.9	57.6	579.5	199.9	58.6	619.5	199.2	59.1	659.5	191.6	55.2
540.0	199.9	57.6	580.0	199.9	58.6	620.0	198.5	59.1	660.0	190.9	55.1
540.5	199.2	57.7	580.5	199.9	58.6	620.5	199.2	59.1	660.5	190.2	55.1
541.0	200.6	57.7	581.0	198.5	58.6	621.0	199.2	59.1	661.0	190.2	55.0
541.5	199.9	57.8	581.5	199.9	58.6	621.5	198.5	59.1	661.5	190.9	55.0
542.0	200.6	57.9	582.0	199.2	58.6	622.0	198.5	59.1	662.0	189.6	54.9
542.5	199.9	57.9	582.5	199.9	58.6	622.5	199.2	59.1	662.5	190.2	54.8
543.0	199.9	58.0	583.0	200.6	58.6	623.0	199.2	59.1	663.0	190.2	54.8
543.5	199.2	58.1	583.5	199.2	58.6	623.5	198.5	59.1	663.5	190.9	54.7
544.0	199.2	58.1	584.0	199.2	58.6	624.0	199.2	59.1	664.0	191.6	54.6
544.5	199.2	58.1	584.5	199.2	58.6	624.5	198.5	59.1	664.5	190.9	54.6
545.0	199.2	58.1	585.0	199.9	58.6	625.0	198.5	59.0	665.0	190.2	54.5
545.5	199.2	58.1	585.5	200.6	58.6	625.5	199.2	58.9	665.5	190.9	54.5
546.0	199.2	58.1	586.0	199.9	58.6	626.0	199.2	58.9	666.0	190.2	54.4
546.5	199.2	58.1	586.5	199.9	58.6	626.5	199.2	58.8	666.5	190.2	54.3
547.0	199.2	58.1	587.0	199.2	58.6	627.0	199.9	58.7	667.0	190.9	54.3
547.5	199.2	58.1	587.5	199.9	58.6	627.5	199.9	58.7	667.5	190.9	54.2
548.0	197.1	58.1	588.0	199.9	58.6	628.0	199.2	58.6	668.0	190.9	54.1
548.5	200.6	58.1	588.5	200.6	58.6	628.5	199.9	58.6	668.5	190.9	54.1
549.0	198.5	58.1	589.0	200.6	58.6	629.0	199.9	58.6	669.0	190.9	54.1
549.5	201.3	58.1	589.5	199.2	58.6	629.5	199.2	58.6	669.5	190.9	54.1
550.0	199.2	58.1	590.0	199.2	58.6	630.0	199.2	58.6	670.0	189.6	54.1
550.5	199.2	58.1	590.5	200.6	58.6	630.5	199.2	58.6	670.5	190.2	54.1
551.0	199.2	58.1	591.0	199.9	58.6	631.0	199.2	58.6	671.0	189.6	54.1
551.5	199.2	58.1	591.5	199.9	58.6	631.5	199.2	58.6	671.5	188.9	54.1
552.0	201.3	58.1	592.0	199.9	58.6	632.0	199.2	58.6	672.0	188.9	54.1
552.5	200.6	58.1	592.5	199.9	58.7	632.5	198.5	58.6	672.5	188.9	54.1
553.0	200.6	58.1	593.0	199.9	58.7	633.0	197.8	58.6	673.0	188.2	54.0
553.5	197.8	58.1	593.5	198.5	58.8	633.5	198.5	58.6	673.5	189.6	54.0
554.0	199.2	58.1	594.0	199.9	58.9	634.0	198.5	58.6	674.0	188.9	53.9
554.5	200.6	58.1	594.5	199.2	58.9	634.5	197.8	58.6	674.5	188.2	53.8
555.0	201.3	58.1	595.0	198.5	59.0	635.0	198.5	58.6	675.0	188.2	53.8
555.5	200.6	58.1	595.5	199.2	59.1	635.5	198.5	58.6	675.5	188.9	53.7
556.0	200.6	58.1	596.0	199.2	59.1	636.0	198.5	58.6	676.0	188.9	53.7
556.5	199.2	58.1	596.5	198.5	59.1	636.5	197.1	58.6	676.5	188.2	53.6
557.0	200.6	58.1	597.0	198.5	59.1	637.0	197.1	58.5	677.0	189.6	53.5
557.5	200.6	58.1	597.5	198.5	59.1	637.5	197.1	58.4	677.5	187.5	53.5
558.0	199.2	58.1	598.0	198.5	59.1	638.0	197.8	58.4	678.0	186.8	53.4
558.5	200.6	58.1	598.5	198.5	59.1	638.5	197.1	58.3	678.5	186.1	53.3
559.0	200.6	58.1	599.0	199.2	59.1	639.0	195.8	58.2	679.0	186.8	53.3
559.5	199.2	58.1	599.5	199.2	59.1	639.5	199.2	58.2	679.5	186.8	53.2
560.0	200.6	58.1	600.0	198.5	59.1	640.0	197.1	58.1	680.0	186.8	53.2
560.5	199.2	58.2	600.5	198.5	59.1	640.5	196.4	58.1	680.5	186.8	53.1
561.0	199.9	58.2	601.0	199.9	59.1	641.0	197.8	58.0	681.0	186.8	53.0
561.5	199.9	58.3	601.5	199.9	59.1	641.5	196.4	57.9	681.5	186.1	53.0
562.0	199.9	58.4	602.0	198.5	59.1	642.0	197.1	57.9	682.0	186.1	52.9
562.5	199.2	58.4	602.5	199.9	59.1	642.5	197.1	57.8	682.5	186.8	52.8
563.0	199.2	58.5	603.0	199.9	59.1	643.0	197.1	57.7	683.0	185.4	52.8
563.5	199.2	58.6	603.5	199.9	59.1	643.5	196.4	57.7	683.5	186.1	52.7
564.0	199.2	58.6	604.0	199.2	59.1	644.0	196.4	57.6	684.0	186.1	52.7
564.5	198.5	58.6	604.5	199.2	59.1	644.5	197.1	57.6	684.5	184.7	52.6
565.0	198.5	58.6	605.0	199.9	59.1	645.0	196.4	57.5	685.0	186.1	52.5
565.5	199.2	58.6	605.5	199.9	59.1	645.5	196.4	57.4	685.5	185.4	52.5

TEST REFERENCE#: 301120AR FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
686.0	186.1	52.4	726.0	173.0	44.7	766.0	159.2	34.5	806.0	151.6	29.7
686.5	186.1	52.3	726.5	173.7	44.6	766.5	157.1	34.4	806.5	152.3	29.7
687.0	186.1	52.3	727.0	172.3	44.5	767.0	157.8	34.3	807.0	151.6	29.7
687.5	185.4	52.2	727.5	170.9	44.3	767.5	156.5	34.3	807.5	152.3	29.7
688.0	186.8	52.2	728.0	170.9	44.2	768.0	157.1	34.2	808.0	152.3	29.7
688.5	186.1	52.1	728.5	169.6	44.1	768.5	156.5	34.2	808.5	151.6	29.6
689.0	185.4	52.0	729.0	170.2	44.0	769.0	155.8	34.1	809.0	151.6	29.6
689.5	184.7	52.0	729.5	169.6	43.8	769.5	155.8	34.0	809.5	152.3	29.5
690.0	185.4	51.9	730.0	169.6	43.7	770.0	155.1	34.0			
690.5	184.7	51.9	730.5	170.2	43.6	770.5	157.1	33.9			
691.0	185.4	51.8	731.0	168.9	43.5	771.0	156.5	33.8			
691.5	184.7	51.7	731.5	169.6	43.3	771.5	155.8	33.8			
692.	184.0	51.7	732.0	169.6	43.2	772.0	156.5	33.7			
692.5	184.7	51.6	732.5	169.6	43.1	772.5	156.5	33.6			
693.0	182.0	51.5	733.0	168.9	43.0	773.0	156.5	33.5			
693.5	183.3	51.5	733.5	169.6	42.9	773.5	155.8	33.3			
694.0	183.3	51.4	734.0	169.6	42.7	774.0	156.5	33.2			
694.5	184.0	51.4	734.5	168.2	42.6	774.5	157.1	33.1			
695.0	182.7	51.3	735.0	168.9	42.5	775.0	155.8	33.0			
695.5	182.0	51.2	735.5	167.5	42.4	775.5	156.5	32.8			
696.0	183.3	51.2	736.0	168.2	42.2	776.0	157.8	32.7			
696.5	181.3	51.1	736.5	167.5	42.1	776.5	157.1	32.7			
697.0	182.0	51.0	737.0	166.8	42.0	777.0	156.5	32.6			
697.5	181.3	51.0	737.5	166.8	41.9	777.5	156.5	32.5			
698.0	181.3	50.9	738.0	165.4	41.7	778.0	156.5	32.5			
698.5	181.3	50.9	738.5	165.4	41.6	778.5	156.5	32.4			
699.0	180.6	50.8	739.0	165.4	41.5	779.0	157.8	32.3			
699.5	179.9	50.7	739.5	165.4	41.4	779.5	157.1	32.3			
700.0	179.9	50.7	740.0	165.4	41.2	780.0	157.1	32.2			
700.5	180.6	50.5	740.5	166.1	41.1	780.5	155.8	32.2			
701.0	180.6	50.4	741.0	165.4	40.9	781.0	157.1	32.2			
701.5	181.3	50.3	741.5	166.8	40.7	781.5	155.1	32.2			
702.0	181.3	50.2	742.0	166.8	40.5	782.0	155.1	32.2			
702.5	181.3	50.1	742.5	166.1	40.3	782.5	155.1	32.2			
703.0	180.6	49.9	743.0	165.4	40.1	783.0	154.4	32.2			
703.5	181.3	49.8	743.5	165.4	39.9	783.5	154.4	32.2			
704.0	181.3	49.7	744.0	164.7	39.7	784.0	155.1	32.2			
704.5	180.6	49.6	744.5	164.7	39.6	784.5	155.1	32.2			
705.0	179.9	49.6	745.0	163.4	39.5	785.0	155.1	32.1			
705.5	180.6	49.5	745.5	163.4	39.4	785.5	154.4	32.0			
706.0	179.2	49.4	746.0	162.7	39.2	786.0	154.4	32.0			
706.5	179.9	49.4	746.5	164.0	39.1	786.5	154.4	31.9			
707.0	178.5	49.3	747.0	162.0	39.0	787.0	154.4	31.8			
707.5	179.2	49.2	747.5	161.3	38.9	787.5	153.7	31.8			
708.0	177.8	49.2	748.0	162.0	38.7	788.0	153.7	31.7			
708.5	178.5	49.1	748.5	162.7	38.6	788.5	153.7	31.6			
709.0	176.5	48.9	749.0	163.4	38.4	789.0	153.7	31.6			
709.5	177.8	48.8	749.5	162.7	38.2	789.5	153.7	31.5			
710.0	177.8	48.7	750.0	163.4	38.0	790.0	154.4	31.5			
710.5	176.5	48.6	750.5	162.7	37.8	790.5	154.4	31.4			
711.0	177.1	48.4	751.0	162.0	37.6	791.0	153.7	31.3			
711.5	176.5	48.3	751.5	162.7	37.4	791.5	153.0	31.3			
712.0	176.5	48.2	752.0	162.7	37.2	792.0	153.7	31.2			
712.5	177.1	48.1	752.5	162.0	37.1	792.5	154.4	31.1			
713.0	177.1	47.9	753.0	167.7	37.0	793.0	153.7	31.1			
713.5	177.1	47.8	753.5	160.6	36.9	793.5	153.0	31.0			
714.0	177.1	47.7	754.0	161.3	36.7	794.0	153.0	31.0			
714.5	177.1	47.6	754.5	160.6	36.6	794.5	153.7	30.9			
715.0	177.8	47.4	755.0	159.9	36.5	795.0	153.0	30.8			
715.5	177.8	47.3	755.5	159.9	36.4	795.5	153.7	30.8			
716.0	177.1	47.2	756.0	159.9	36.2	796.0	153.7	30.7			
716.5	177.8	47.1	756.5	160.6	36.1	796.5	153.7	30.6			
717.0	178.5	46.9	757.0	160.6	36.0	797.0	153.0	30.6			
717.5	176.5	46.8	757.5	160.6	35.9	797.5	153.7	30.5			
718.0	176.5	46.7	758.0	159.9	35.7	798.0	153.0	30.5			
718.5	175.8	46.6	758.5	160.6	35.6	798.5	153.0	30.4			
719.0	175.1	46.5	759.0	159.2	35.5	799.0	154.4	30.3			
719.5	175.1	46.3	759.5	159.2	35.4	799.5	153.7	30.3			
720.0	174.4	46.2	760.0	159.2	35.2	800.0	153.0	30.2			
720.5	177.8	46.1	760.5	159.2	35.2	800.5	152.3	30.1			
721.0	175.8	46.0	761.0	159.2	35.1	801.0	153.7	30.1			
721.5	174.4	45.8	761.5	159.9	35.0	801.5	153.7	30.0			
722.0	177.1	45.7	762.0	158.5	35.0	802.0	153.7	30.0			
722.5	175.1	45.6	762.5	158.5	34.9	802.5	153.7	29.9			
723.0	173.7	45.5	763.0	158.5	34.9	803.0	153.7	29.8			
723.5	173.0	45.3	763.5	157.1	34.8	803.5	153.0	29.8			
724.0	174.4	45.2	764.0	159.2	34.7	804.0	153.0	29.7			
724.5	173.0	45.1	764.5	159.2	34.7	804.5	153.0	29.7			
725.0	173.7	45.0	765.0	157.1	34.6	805.0	153.0	29.7			
725.5	173.0	44.8	765.5	157.8	34.5	805.5	153.0	29.7			

C) DST #3 JEAN MARIE FORMATION
1390.0 - 1409.12 M

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/11/90
Location : N-45
DST # : THREE

LEVEL I FLOPETROL JOHNSTON ™ DST REPORT

for

PETRO CANADA INCORPORATED

Well: PCI ISLAND LAKE N-45

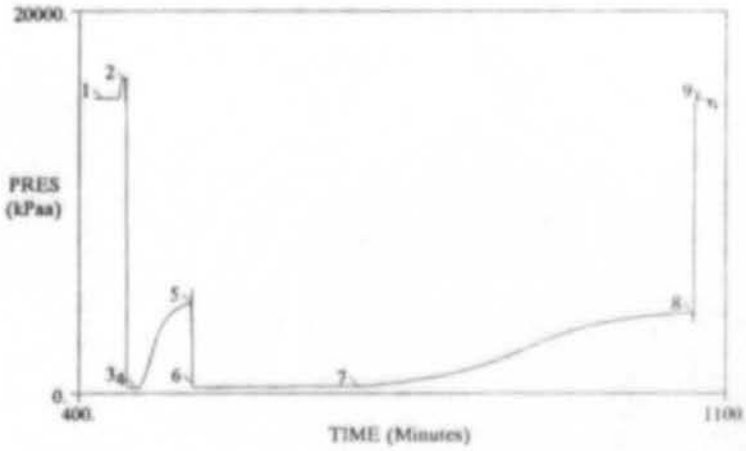
DST #THREE: RED KNIFE/JEAN MARIE FORMATION - (1390. - 1409.12M)

**********Test Reference Number: 301120BI**********

Test Data

#	Explanation	P(kPa)	T(min)
1	HYDROSTATIC	15413.7	425.0
2	REFERENCE TIME	16334.2	451.0
3	START FLOW	551.5	452.0
4	START SHUT-IN	295.7	463.0
5	END SHUT-IN	4743.5	522.0
6	START FLOW	488.1	524.0
7	START SHUT-IN	366.7	704.0
8	END SHUT-IN	4234.7	1064.0
9	HYDROSTATIC	15351.0	1075.0

BOTTOMHOLE PRESSURE LOG



Test Results [INFLATE STRADDLE]

FINAL SHUTIN PRESSURE	423[illegible] kPa
RESERVOIR TEMPERATURE	62 C
PRODUCTION RATE	Surface response was too small to measure
NET PIPE RECOVERY	Total recovery of 10 m (.042 m3) very light gas cut mud.

Blow Description

PREFLOW	Very weak air blow, remained very weak throughout flow.
MAINFLOW	Weak air blow decreasing, dead in 90 minutes.

Comments

THIS WAS A MECHANICALLY SUCCESSFUL TEST OF THE RED KNIFE/JEAN MARIE FORMATION FROM 1390 TO 1409.12 MKB.

THE BOTTOMHOLE CHARTS INDICATE A FORMATION WITH VERY LOW PERMEABILITY.

IF YOU REQUIRE FURTHER INFORMATION, PLEASE CONTACT BRIAN JORDAN AT 231-9625.

Schlumberger | Schlumberger of Canada
Testing Services

Test Date : 3/11/90
Location : N-45
DST # : THREE

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	8:18:00	HYDROSTATIC		15413.7	56.4		
2	8:44:00	REFERENCE TIME	26.0	16334.2	56.9		
3	8:45:00	START FLOW	1.0	551.5	56.9		
4	8:56:00	START SHUT-IN	11.0	295.7	56.9		
5	9:55:00	END SHUT-IN	59.0	4743.5	58.0		
6	9:57:00	START FLOW	2.0	488.1	58.0		
7	12:57:00	START SHUT-IN	180.0	366.7	60.0		
8	18:57:00	END SHUT-IN	360.0	4234.7	62.1		
9	19:08:00	HYDROSTATIC	11.0	15351.0	62.1		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-RECOVERY	MUD MUD FILTRATE	3.70 @ 15 3.40 @ 15	1900 2100
3-			
4-			
5-BOTTOMHOLE SAMPLER	SENT TO LAB FOR DRAINING #000556, #103734		

Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/11/90
Location : N-45
DST # : THREE

Hole Conditions

Total Depth(MD/TVD)	1450 m
Ground Level	605.4 m
Kelly Bushing	609.9 m
Hole Size	222 mm
Mud Weight	1115 kg/m3
Mud Type	Gel Chem

Test String Configuration

Pipe Length/I.D.	1227.47m / 97.2mm (.0074 m3/m)
Collar Length/I.D.	146.35m / 74mm (.004188 m3/m)
Packer Depths	1390 - 1409m
Bottomhole Choke Size	12.7 mm
Gauge Depth/Type	1391.77 / STARBURST

Tool Sequence:

#	DESCRIPTION	LENGTH(m)	DEPTH(m)
0	DRILL PIPE TOP	0.00	-1.76
1	Drill Pipe 114mm	9.50	7.74
2	OTHER STABBING VALVE	0.45	8.19
3	Drill Pipe 114mm	1217.97	1226.16
4	Drill Collars 165mm	128.24	1354.40
5	Pumpout Sub PIN TYPE	0.20	1354.60
6	Pumpout Sub SHEAR DISC TYPE	0.20	1354.80
7	Drill Collars 165mm	18.11	1372.91
8	Crossover 4 1/2H90-3 1/2FH	0.31	1373.22
9	Elec.Recorder SB#50130	1.80	1375.02
10	Choke Sub 12.7 mm	0.31	1375.33
11	MFE [Test Valve] #000556,#103734	4.04	1379.37
12	Crossover	0.31	1379.68
13	Recorder AK1 #2077	1.34	1381.02
14	Jars	2.28	1383.30
15	Rotary Pump #132248	2.45	1385.75
16	MSRV [Deflate] #113754	2.44	1388.19
17	REFERENCE PACKER #110540	1.81	1390.00
18	Packer Stub	0.77	1390.77
19	Recorder K3 #13043,SB#50131	2.14	1392.91
20	Crossover 3 1/2FH-4 1/2H90	0.31	1393.22
21	Drill Collars 165mm	9.02	1402.24
22	Crossover 4 1/2H90-3 1/2FH	0.31	1402.55
23	Spacer Pipe	5.49	1408.04
24	Crossover 3 1/2FH-4 1/2FH	0.31	1408.35
25	Packer Stub	0.77	1409.12
26	Packer #104645	1.81	1410.93
27	DDST [Drag Spring] #132928	2.62	1413.55
28	Recorder AK1 #2526	1.80	1415.35
29	Blank Off Sub	0.31	1415.66
30	Spacer Pipe Perforated	1.52	1417.18
31	Recorder AK1 #4375	1.80	1418.98
32	Bullnose	0.00	1418.98

Flopetrol Representative : GLEN E. CARTER

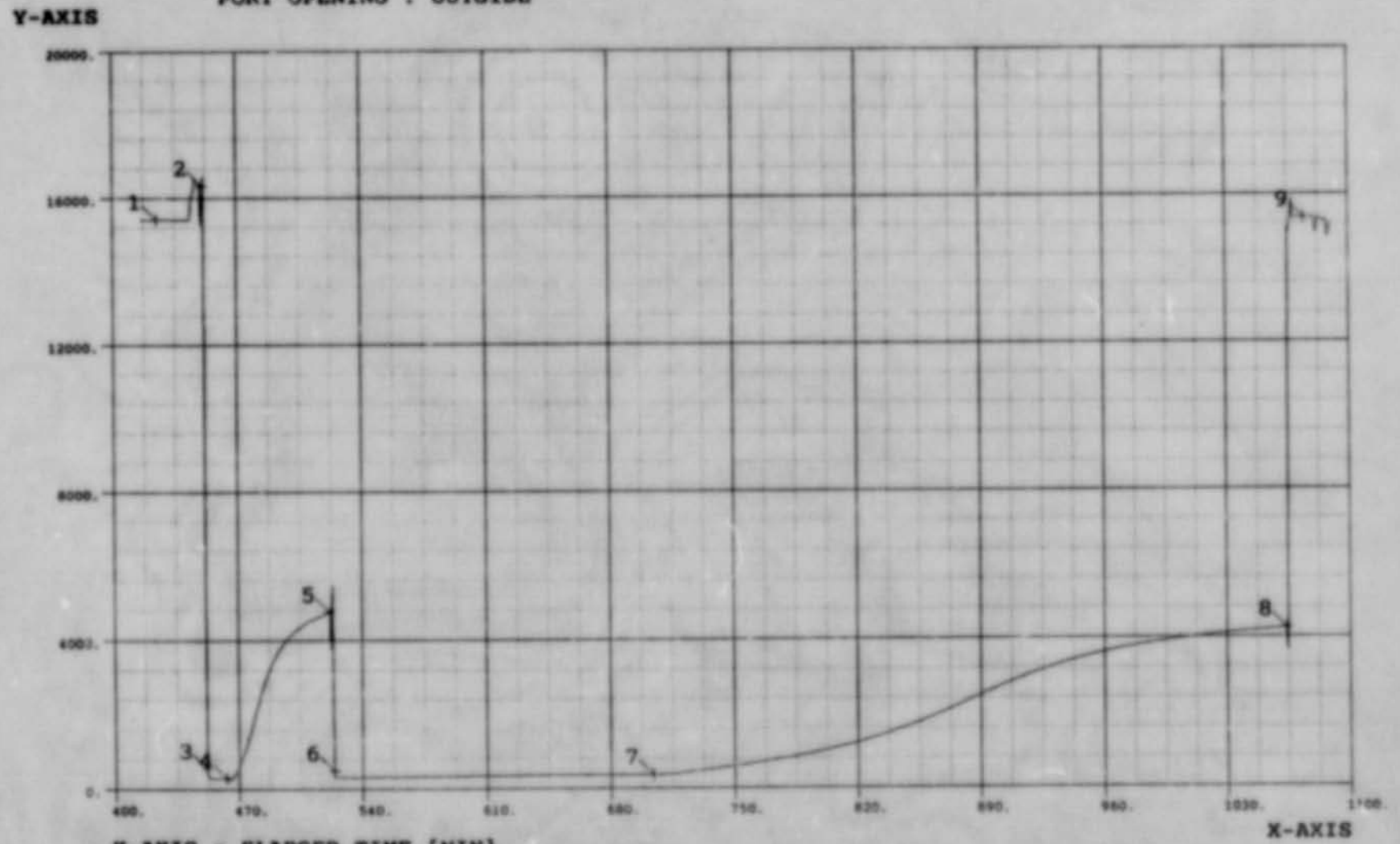
District : EDMONTON

Schlumberger of Canada
Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120BI
INSTRUMENT NO. : SB-50131
DEPTH : 1391.77 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : THREE



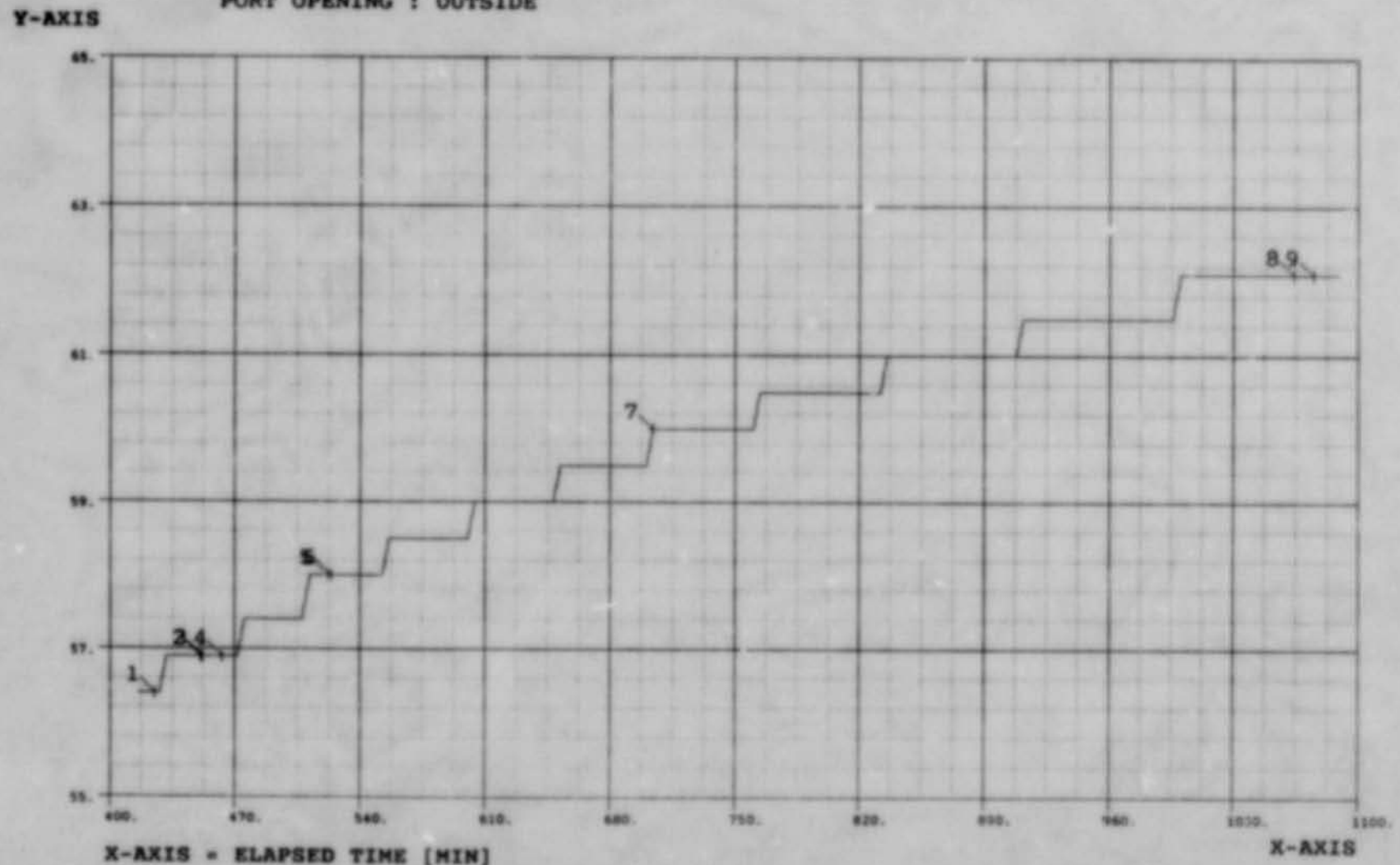
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120BI
INSTRUMENT NO. : SB-50131
DEPTH : 1391.77 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : THREE



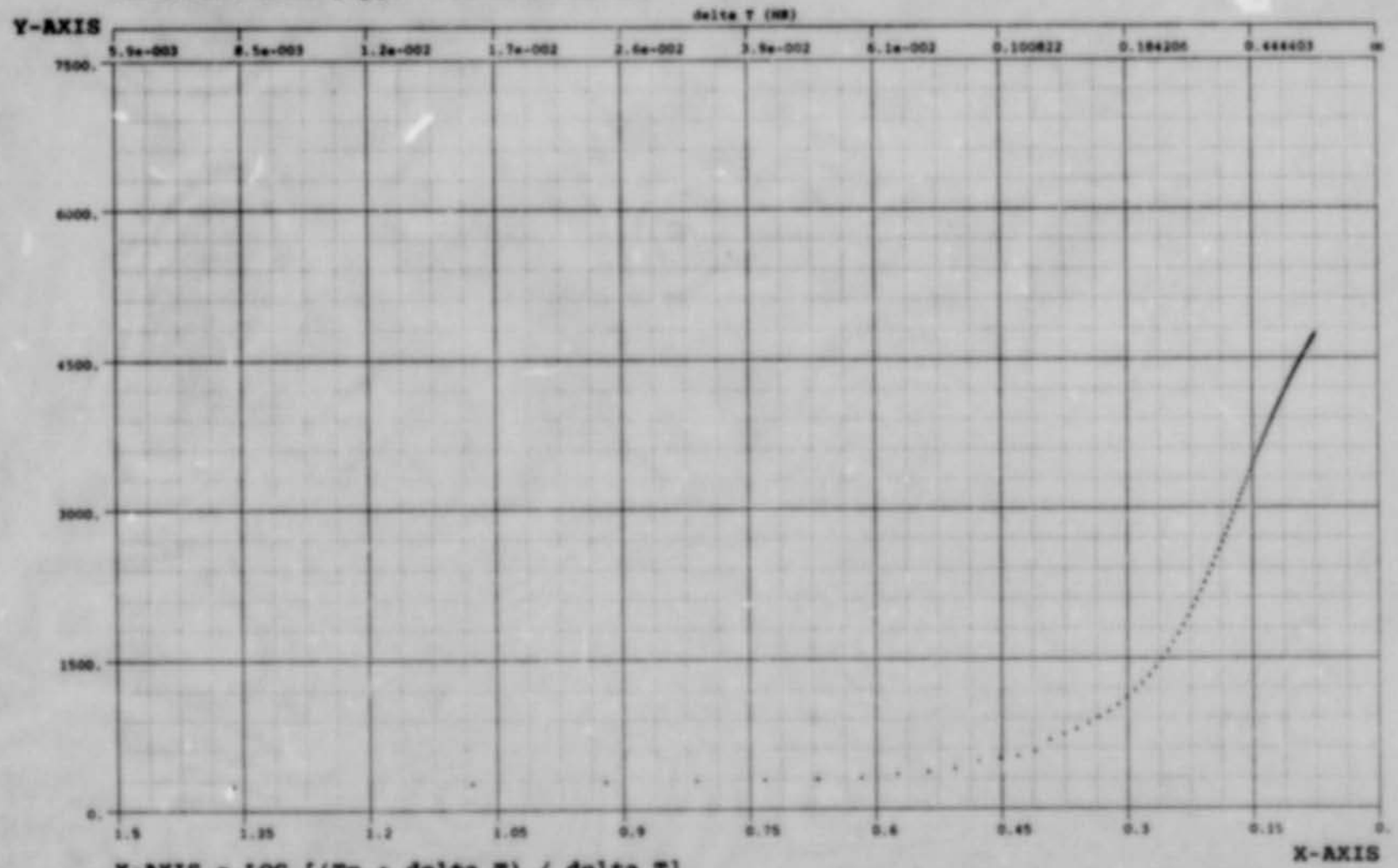
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

Schlumberger of Canada
Testing Services

HORNER PLOT

FIELD REPORT#: 301120BI
INSTRUMENT#: SB-50131
ELAPSED TIME RANGE: 463. - 522. MIN.
Delta T TIME RANGE: 8.3e-003 - 0.983333 HR.
PRODUCING TIME [Tp]: 0.1833333333 HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: ONE
DST#: THREE



X-AXIS = LOG [(Tp + delta T) / delta T]
Y-AXIS = SHUTIN PRESSURE [KPA (ABS)]

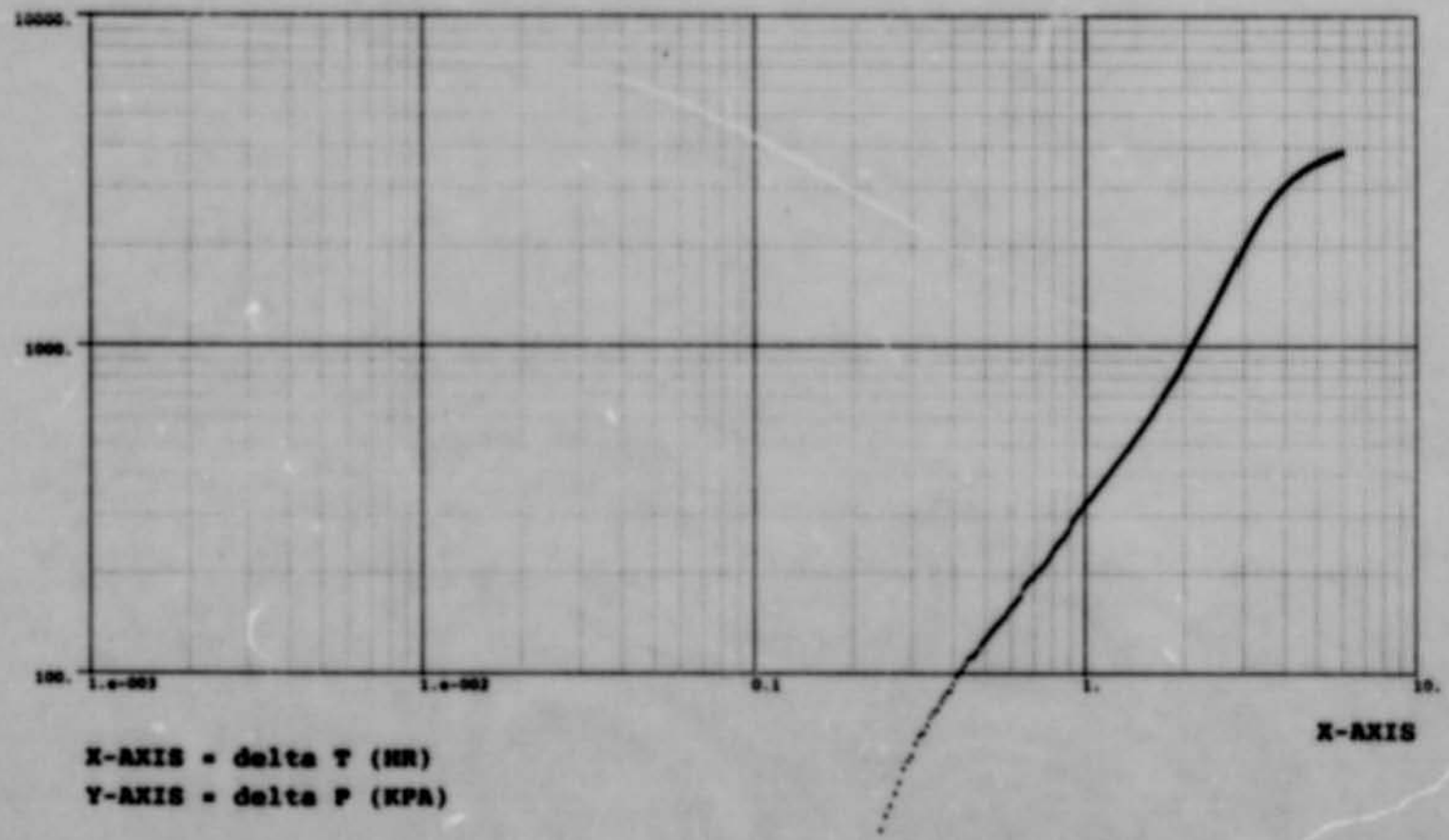
Schlumberger of Canada
Schlumberger Testing Services

L O G - L O G P L O T

FIELD REPORT#: 301120BI
INSTRUMENT#: SB-50131
ELAPSED TIME RANGE: 704. - 1064. MIN.
Delta_T TIME RANGE: 8.3e-003 - 6. HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: TWO
DST#: THREE

Y-AXIS



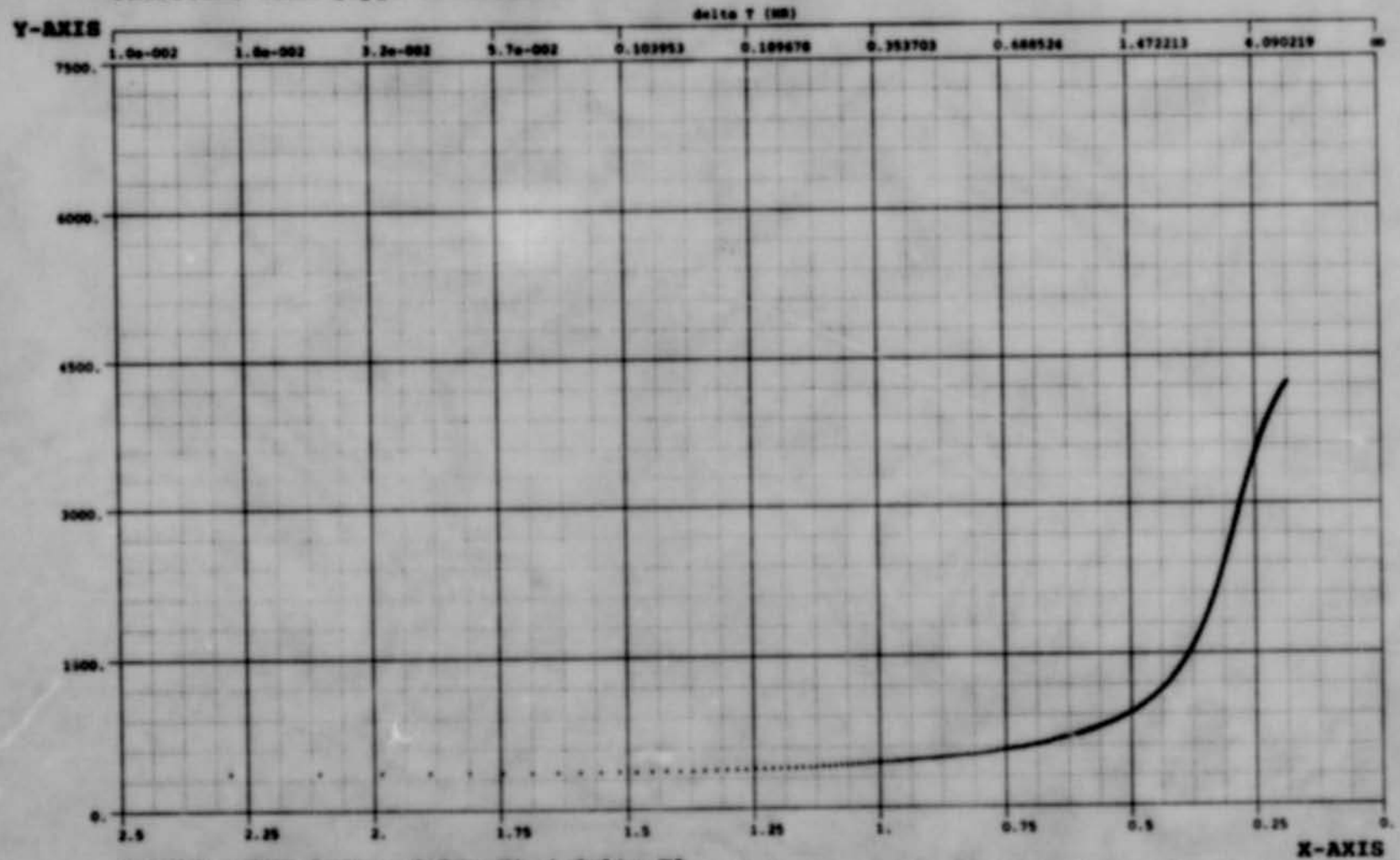
X-AXIS = delta T (HR)
Y-AXIS = delta P (KPA)

Schlumberger of Canada
Schlumberger Testing Services

HORNER PLOT

FIELD REPORT#: 301120BI
INSTRUMENT#: SB-50131
ELAPSED TIME RANGE: 704. - 1064. MIN.
Delta_T TIME RANGE: 8.3e-003 - 6. HR.
PRODUCING TIME [Tp]: 3.183333333 HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: TWO
DST#: THREE



X-AXIS = LOG [(Tp + delta T) / delta T]
Y-AXIS = SHUTIN PRESSURE [KPA (ABS)]

TEST REFERENCE#: 301120B1 FILE STARTS: 8:08:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
736.0	504.0	60.0	776.0	779.1	60.5	816.0	1168.6	60.5	856.0	1786.4	61.0
736.5	506.7	60.0	776.5	785.3	60.5	816.5	1175.5	60.5	856.5	1796.7	61.0
737.0	508.8	60.0	777.0	788.0	60.5	817.0	1179.6	60.5	857.0	1806.4	61.0
737.5	511.5	60.0	777.5	791.5	60.5	817.5	1184.5	60.5	857.5	1815.3	61.0
738.0	513.6	60.0	778.0	796.3	60.5	818.0	1190.0	60.5	858.0	1821.5	61.0
738.5	515.0	60.0	778.5	799.0	60.5	818.5	1194.8	60.5	858.5	1832.6	61.0
739.0	519.1	60.0	779.0	802.5	60.5	819.0	1202.4	60.5	859.0	1842.2	61.0
739.5	523.3	60.0	779.5	808.0	60.5	819.5	1207.9	60.5	859.5	1851.9	61.0
740.0	524.6	60.0	780.0	810.8	60.5	820.0	1214.8	60.5	860.0	1861.5	61.0
740.5	527.4	60.0	780.5	814.9	60.5	820.5	1223.1	60.5	860.5	1870.5	61.0
741.0	529.5	60.0	781.0	819.0	60.5	821.0	1230.0	60.5	861.0	1879.4	61.0
741.5	533.6	60.0	781.5	823.2	60.5	821.5	1238.2	60.5	861.5	1890.5	61.0
742.0	536.4	60.0	782.0	825.2	60.5	822.0	1247.2	60.5	862.0	1900.1	61.0
742.5	538.4	60.0	782.5	830.8	60.5	822.5	1253.4	60.5	862.5	1908.4	61.0
743.0	546.0	60.0	783.0	835.6	60.5	823.0	1262.4	60.5	863.0	1918.1	61.0
743.5	550.8	60.0	783.5	837.0	60.5	823.5	1267.2	60.5	863.5	1927.7	61.0
744.0	553.6	60.0	784.0	841.8	60.5	824.0	1274.1	60.5	864.0	1938.1	61.0
744.5	557.0	60.0	784.5	845.9	60.5	824.5	1283.1	60.5	864.5	1949.1	61.0
745.0	560.5	60.0	785.0	848.7	60.5	825.0	1288.6	60.5	865.0	1958.0	61.0
745.5	560.5	60.0	785.5	854.2	60.5	825.5	1296.2	60.5	865.5	1967.7	61.0
746.0	562.6	60.0	786.0	858.3	60.5	826.0	1305.1	60.5	866.0	1976.7	61.0
746.5	565.3	60.0	786.5	864.5	60.5	826.5	1309.9	60.5	866.5	1987.0	61.0
747.0	569.5	60.0	787.0	868.7	60.5	827.0	1316.1	60.5	867.0	1998.0	61.0
747.5	570.8	60.0	787.5	873.5	60.5	827.5	1321.7	60.5	867.5	2008.4	61.0
748.0	573.6	60.0	788.0	877.6	60.5	828.0	1329.9	60.5	868.0	2018.7	61.0
748.5	576.3	60.0	788.5	882.5	60.5	828.5	1335.5	60.5	868.5	2027.0	61.0
749.0	579.1	60.0	789.0	886.6	60.5	829.0	1343.7	60.5	869.0	2036.6	61.0
749.5	582.6	60.0	789.5	891.4	60.5	829.5	1351.3	60.5	869.5	2047.0	61.0
750.0	586.0	60.0	790.0	894.9	60.5	830.0	1358.9	60.5	870.0	2057.3	61.0
750.5	588.8	60.0	790.5	898.3	60.5	830.5	1368.5	60.5	870.5	2069.0	61.0
751.0	592.9	60.0	791.0	904.5	60.5	831.0	1374.1	60.5	871.0	2078.7	61.0
751.5	597.7	60.0	791.5	907.3	60.5	831.5	1381.0	60.5	871.5	2088.4	61.0
752.0	601.2	60.0	792.0	913.5	60.5	832.0	1389.9	60.5	872.0	2099.4	61.0
752.5	606.7	60.0	792.5	917.6	60.5	832.5	1396.8	60.6	872.5	2107.7	61.0
753.0	608.8	60.0	793.0	921.1	60.5	833.0	1404.4	60.6	873.0	2118.7	61.0
753.5	610.8	60.0	793.5	925.9	60.5	833.5	1412.0	60.7	873.5	2130.4	61.0
754.0	615.0	60.0	794.0	930.0	60.5	834.0	1418.9	60.8	874.0	2140.8	61.0
754.5	618.4	60.0	794.5	934.2	60.5	834.5	1427.8	60.8	874.5	2152.5	61.0
755.0	621.2	60.0	795.0	942.5	60.5	835.0	1434.0	60.9	875.0	2162.8	61.0
755.5	623.2	60.0	795.5	945.9	60.5	835.5	1440.9	61.0	875.5	2172.5	61.0
756.0	628.1	60.0	796.0	950.7	60.5	836.0	1449.2	61.0	876.0	2184.2	61.0
756.5	631.5	60.0	796.5	953.5	60.5	836.5	1455.4	61.0	876.5	2193.8	61.0
757.0	634.3	60.0	797.0	956.9	60.5	837.0	1464.4	61.0	877.0	2204.2	61.0
757.5	637.0	60.0	797.5	963.1	60.5	837.5	1472.7	61.0	877.5	2214.5	61.0
758.0	643.9	60.0	798.0	965.9	60.5	338.0	1478.9	61.0	878.0	2224.9	61.0
758.5	652.2	60.0	798.5	974.9	60.5	838.5	1487.1	61.0	878.5	2235.9	61.0
759.0	657.7	60.0	799.0	978.3	60.5	839.0	1495.4	61.0	879.0	2248.3	61.0
759.5	659.8	60.0	799.5	983.8	60.5	839.5	1502.3	61.0	879.5	2258.7	61.0
760.0	664.6	60.0	800.0	990.7	60.5	840.0	1511.3	61.0	880.0	2267.6	61.0
760.5	668.0	60.0	800.5	994.9	60.5	840.5	1519.5	61.0	880.5	2279.3	61.0
761.0	670.8	60.1	801.0	1001.1	60.5	841.0	1527.1	61.0	881.0	2289.0	61.0
761.5	674.9	60.2	801.5	1006.6	60.5	841.5	1534.0	61.0	881.5	2300.0	61.0
762.0	679.1	60.2	802.0	1012.1	60.5	842.0	1542.3	61.0	882.0	2309.0	61.0
762.5	681.1	60.3	802.5	1019.7	60.5	842.5	1549.9	61.0	882.5	2320.7	61.0
763.0	684.6	60.4	803.0	1023.8	60.5	843.0	1559.5	61.0	883.0	2331.7	61.0
763.5	690.1	60.4	803.5	1027.9	60.5	843.5	1567.8	61.0	883.5	2342.8	61.0
764.0	691.5	60.5	804.0	1034.8	60.5	844.0	1574.7	61.0	884.0	2354.5	61.0
764.5	695.6	60.5	804.5	1039.0	60.5	844.5	1582.3	61.0	884.5	2365.5	61.0
765.0	699.1	60.5	805.0	1043.8	60.5	845.0	1592.6	61.0	885.0	2375.9	61.0
765.5	702.5	60.5	805.5	1049.3	60.5	845.5	1600.2	61.0	885.5	2385.5	61.0
766.0	703.9	60.5	806.0	1055.5	60.5	846.0	1607.8	61.0	886.0	2396.5	61.0
766.5	707.3	60.5	806.5	1060.4	60.5	846.5	1618.1	61.0	886.5	2406.9	61.0
767.0	712.9	60.5	807.0	1065.2	60.5	847.0	1627.8	61.0	887.0	2417.9	61.0
767.5	716.3	60.5	807.5	1071.4	60.5	847.5	1636.1	61.0	887.5	2429.0	61.0
768.0	718.4	60.5	808.0	1076.2	60.5	848.0	1644.3	61.0	888.0	2438.6	61.0
768.5	721.8	60.5	808.5	1083.1	60.5	848.5	1654.0	61.0	888.5	2448.9	61.0
769.0	728.0	60.5	809.0	1087.2	60.5	849.0	1663.0	61.0	889.0	2460.7	61.0
769.5	729.4	60.5	809.5	1094.8	60.5	849.5	1669.8	61.0	889.5	2472.4	61.0
770.0	733.5	60.5	810.0	1099.7	60.5	850.0	1679.5	61.0	890.0	2482.7	61.0
770.5	738.4	60.5	810.5	1105.9	60.5	850.5	1689.2	61.0	890.5	2493.1	61.0
771.0	740.4	60.5	811.0	1110.7	60.5	851.0	1697.4	61.0	891.0	2504.1	61.0
771.5	744.6	60.5	811.5	1116.9	60.5	851.5	1706.4	61.0	891.5	2513.1	61.0
772.0	748.7	60.5	812.0	1121.0	60.5	852.0	1714.7	61.0	892.0	2524.1	61.0
772.5	752.2	60.5	812.5	1129.3	60.5	852.5	1724.3	61.0	892.5	2534.4	61.0
773.0	756.3	60.5	813.0	1134.1	60.5	853.0	1733.3	61.0	893.0	2545.5	61.0
773.5	760.4	60.5	813.5	1140.3	60.5	853.5	1741.6	61.0	893.5	2556.5	61.0
774.0	762.5	60.5	814.0	1145.2	60.5	854.0	1749.8	61.0	894.0	2567.5	61.0
774.5	768.0	60.5	814.5	1151.4	60.5	854.5	1760.2	61.0	894.5	2577.2	61.0
775.0	772.2	60.5	815.0	1156.9	60.5	855.0	1769.8	61.0	895.0	2588.2	61.0
775.5	775.6	60.5	815.5	1165.2	60.5	855.5	1778.8	61.0	895.5	2597.2	61.0

TEST REFERENCE#: 301120B1 FILE STARTS: 8:08:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
896.0	2607.5	61.0	936.0	3323.9	61.5	976.0	3772.7	61.5	1016.0	4035.4	62.1
896.5	2617.9	61.0	936.5	3330.1	61.5	976.5	3777.6	61.5	1016.5	4038.2	62.1
897.0	2628.2	61.0	937.0	3339.1	61.5	977.0	3781.0	61.5	1017.0	4039.6	62.1
897.5	2639.9	61.0	937.5	3344.6	61.5	977.5	3783.8	61.5	1017.5	4041.6	62.1
898.0	2650.3	61.0	938.0	3352.8	61.5	978.0	3788.6	61.5	1018.0	4045.1	62.1
898.5	2660.6	61.0	938.5	3358.4	61.5	978.5	3791.3	61.5	1018.5	4047.8	62.1
899.0	2671.6	61.0	939.0	3365.9	61.5	979.0	3794.8	61.5	1019.0	4051.3	62.1
899.5	2679.9	61.0	939.5	3374.2	61.5	979.5	3801.0	61.5	1019.5	4053.3	62.1
900.0	2689.6	61.0	940.0	3378.4	61.5	980.0	3804.4	61.5	1020.0	4055.4	62.1
900.5	2700.6	61.0	940.5	3387.3	61.5	980.5	3807.2	61.5	1020.5	4057.5	62.1
901.0	2711.6	61.0	941.0	3392.8	61.5	981.0	3813.4	61.5	1021.0	4060.9	62.1
901.5	2722.0	61.0	941.5	3400.4	61.5	981.5	3816.9	61.5	1021.5	4065.1	62.1
902.0	2732.3	61.0	942.0	3408.0	61.5	982.0	3819.6	61.5	1022.0	4065.8	62.1
902.5	2742.0	61.0	942.5	3413.5	61.5	982.5	3824.4	61.5	1022.5	4067.1	62.1
903.0	2750.9	61.0	943.0	3421.1	61.5	983.0	3828.6	61.5	1023.0	4068.5	62.1
903.5	2761.3	61.0	943.5	3426.6	61.5	983.5	3831.3	61.5	1023.5	4073.3	62.1
904.0	2770.9	61.0	944.0	3434.9	61.5	984.0	3836.2	61.5	1024.0	4076.1	62.1
904.5	2780.6	61.0	944.5	3439.0	61.5	984.5	3840.3	61.5	1024.5	4077.5	62.1
905.0	2789.5	61.0	945.0	3446.6	61.5	985.0	3841.7	61.5	1025.0	4078.9	62.1
905.5	2797.8	61.0	945.5	3452.1	61.5	985.5	3845.8	61.5	1025.5	4081.6	62.1
906.0	2808.2	61.0	946.0	3460.4	61.5	986.0	3851.3	61.5	1026.0	4083.7	62.1
906.5	2817.8	61.0	946.5	3464.5	61.5	986.5	3853.4	61.5	1026.5	4086.4	62.1
907.0	2826.1	61.0	947.0	3471.4	61.5	987.0	3858.9	61.5	1027.0	4089.2	62.1
907.5	2835.7	61.0	947.5	3478.3	61.5	987.5	3861.7	61.5	1027.5	4091.3	62.1
908.0	2845.4	61.0	948.0	3483.8	61.5	988.0	3864.4	61.5	1028.0	4092.6	62.1
908.5	2855.7	61.1	948.5	3490.0	61.5	988.5	3867.2	61.5	1028.5	4096.1	62.1
909.0	2866.1	61.1	949.0	3496.3	61.5	989.0	3872.7	61.5	1029.0	4098.2	62.1
909.5	2875.0	61.2	949.5	3503.1	61.5	989.5	3876.2	61.5	1029.5	4100.9	62.1
910.0	2884.7	61.3	950.0	3508.7	61.5	990.0	3878.9	61.5	1030.0	4103.0	62.1
910.5	2893.7	61.3	950.5	3513.5	61.5	990.5	3882.4	61.5	1030.5	4103.7	62.1
911.0	2904.0	61.4	951.0	3519.7	61.5	991.0	3887.9	61.5	1031.0	4107.1	62.1
911.5	2914.3	61.5	951.5	3527.3	61.5	991.5	3889.3	61.5	1031.5	4109.2	62.1
912.0	2924.0	61.5	952.0	3531.4	61.5	992.0	3893.4	61.5	1032.0	4111.3	62.1
912.5	2933.0	61.5	952.5	3539.0	61.5	992.5	3896.8	61.5	1032.5	4114.0	62.1
913.0	2942.6	61.5	953.0	3542.4	61.5	993.0	3900.3	61.5	1033.0	4115.4	62.1
913.5	2952.3	61.5	953.5	3551.4	61.5	993.5	3903.0	61.5	1033.5	4116.8	62.1
914.0	2961.2	61.5	954.0	3554.9	61.5	994.0	3906.5	61.5	1034.0	4120.2	62.1
914.5	2972.9	61.5	954.5	3560.4	61.5	994.5	3910.6	61.5	1034.5	4123.7	62.1
915.0	2980.5	61.5	955.0	3566.6	61.5	995.0	3912.0	61.5	1035.0	4125.0	62.1
915.5	2989.5	61.5	955.5	3572.8	61.5	995.5	3915.5	61.5	1035.5	4125.0	62.1
916.0	2999.8	61.5	956.0	3577.6	61.5	996.0	3920.3	61.5	1036.0	4129.9	62.1
916.5	3009.5	61.5	956.5	3583.1	61.5	996.5	3923.0	61.6	1036.5	4130.6	62.1
917.0	3019.8	61.5	957.0	3588.0	61.5	997.0	3925.8	61.7	1037.0	4133.3	62.1
917.5	3027.4	61.5	957.5	3594.8	61.5	997.5	3928.6	61.7	1037.5	4134.7	62.1
918.0	3035.7	61.5	958.0	3601.1	61.5	998.0	3932.7	61.8	1038.0	4136.8	62.1
918.5	3045.3	61.5	958.5	3604.5	61.5	998.5	3935.4	61.9	1038.5	4138.8	62.1
919.0	3054.3	61.5	959.0	3611.4	61.5	999.0	3938.2	61.9	1039.0	4140.9	62.1
919.5	3059.8	61.5	959.5	3615.5	61.5	999.5	3940.3	62.0	1039.5	4144.4	62.1
920.0	3068.8	61.5	960.0	3622.4	61.5	1000.0	3944.4	62.1	1040.0	4146.4	62.1
920.5	3078.4	61.5	960.5	3625.9	61.5	1000.5	3946.5	62.1	1040.5	4148.5	62.1
921.0	3086.7	61.5	961.0	3632.1	61.5	1001.0	3949.9	62.1	1041.0	4149.9	62.1
921.5	3095.0	61.5	961.5	3637.6	61.5	1001.5	3954.7	62.1	1041.5	4151.2	62.1
922.0	3103.9	61.5	962.0	3641.0	61.5	1002.0	3956.8	62.1	1042.0	4154.0	62.1
922.5	3112.9	61.5	962.5	3648.6	61.5	1002.5	3959.6	62.1	1042.5	4154.7	62.1
923.0	3120.5	61.5	963.0	3651.4	61.5	1003.0	3962.3	62.1	1043.0	4160.2	62.1
923.5	3128.8	61.5	963.5	3657.6	61.5	1003.5	3965.1	62.1	1043.5	4160.2	62.1
924.0	3137.7	61.5	964.0	3662.4	61.5	1004.0	3969.2	62.1	1044.0	4162.3	62.1
924.5	3146.7	61.5	964.5	3667.2	61.5	1004.5	3971.3	62.1	1044.5	4163.0	62.1
925.0	3154.3	61.5	965.0	3673.4	61.5	1005.0	3974.1	62.1	1045.0	4165.0	62.1
925.5	3163.2	61.5	965.5	3676.9	61.5	1005.5	3978.9	62.1	1045.5	4168.5	62.1
926.0	3170.8	61.5	966.0	3683.1	61.5	1006.0	3981.6	62.1	1046.0	4171.2	62.1
926.5	3178.4	61.5	966.5	3686.5	61.5	1006.5	3983.0	62.1	1046.5	4172.6	62.1
927.0	3186.0	61.5	967.0	3691.4	61.5	1007.0	3985.8	62.1	1047.0	4173.3	62.1
927.5	3195.0	61.5	967.5	3696.9	61.5	1007.5	3988.5	62.1	1047.5	4174.7	62.1
928.0	3203.2	61.5	968.0	3699.6	61.5	1008.0	3991.3	62.1	1048.0	4176.8	62.1
928.5	3210.8	61.5	968.5	3705.2	61.5	1008.5	3994.0	62.1	1048.5	4180.2	62.1
929.0	3219.8	61.5	969.0	3710.0	61.5	1009.0	3998.2	62.1	1049.0	4181.6	62.1
929.5	3224.6	61.5	969.5	3713.4	61.5	1009.5	4000.3	62.1	1049.5	4183.7	62.1
930.0	3234.9	61.5	970.0	3720.3	61.5	1010.0	4004.4	62.1	1050.0	4183.7	62.1
930.5	3242.5	61.5	970.5	3723.1	61.5	1010.5	4006.5	62.1	1050.5	4187.8	62.1
931.0	3248.7	61.5	971.0	3729.3	61.5	1011.0	4008.5	62.1	1051.0	4187.8	62.1
931.5	3257.0	61.5	971.5	3732.7	61.5	1011.5	4010.6	62.1	1051.5	4191.2	62.1
932.0	3263.2	61.5	972.0	3736.9	61.5	1012.0	4015.4	62.1	1052.0	4191.9	62.1
932.5	3270.8	61.5	972.5	3741.7	61.5	1012.5	4018.2	62.1	1052.5	4194.0	62.1
933.0	3279.8	61.5	973.0	3746.5	61.5	1013.0	4019.6	62.1	1053.0	4196.8	62.1
933.5	3286.7	61.5	973.5	3750.7	61.5	1013.5	4020.9	62.1	1053.5	4198.1	62.1
934.0	3294.2	61.5	974.0	3754.8	61.5	1014.0	4025.1	62.1	1054.0	4199.5	62.1
934.5	3303.2	61.5	974.5	3758.3	61.5	1014.5	4027.8	62.1	1054.5	4201.6	62.1
935.0	3308.0	61.5	975.0	3763.8	61.5	1015.0	4029.9	62.1	1055.0	4202.3	62.1
935.5	3317.0	61.5	975.5	3767.9	61.5	1015.5	4030.6	62.1	1055.5	4206.4	62.1

TEST REFERENCE#: 301120BI FILE STARTS: 8:08:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
1056.0	4207.1	62.1									
1056.5	4209.2	62.1									
1057.0	4209.9	62.1									
1057.5	4210.5	62.1									
1058.0	4216.7	62.1									
1058.5	4216.1	62.1									
1059.0	4218.8	62.1									
1059.5	4220.2	62.1									
1060.0	4220.2	62.1									
1060.5	4221.6	62.1									
1061.0	4225.0	62.1									
1061.5	4224.3	62.1									
1062.0	4227.8	62.1									
1062.5	4229.2	62.1									
1063.0	4231.2	62.1									
1063.5	4234.0	62.1									
1064.0	4234.7	62.1									
1064.5	3657.6	62.1									
1065.0	4445.0	62.1									
1065.5	15099.3	62.1									
1066.0	14953.9	62.1									
1066.5	15255.9	62.1									
1067.0	15278.6	62.1									
1067.5	15284.8	62.1									
1068.0	15861.2	62.1									
1068.5	15357.2	62.1									
1069.0	15352.4	62.1									
1069.5	15351.7	62.1									
1070.0	15351.0	62.1									
1070.5	15350.3	62.1									
1071.0	15349.6	62.1									
1071.5	15351.0	62.1									
1072.0	15351.0	62.1									
1072.5	15350.3	62.1									
1073.0	15350.3	62.1									
1073.5	15351.7	62.1									
1074.0	15351.0	62.1									
1074.5	15351.0	62.1									
1075.0	15351.0	62.1									
1075.5	15350.3	62.1									
1076.0	15351.0	62.1									
1076.5	15350.3	62.1									
1077.0	15351.0	62.1									
1077.5	15351.0	62.1									
1078.0	15351.0	62.1									
1078.5	15351.0	62.1									
1079.0	15350.3	62.1									
1079.5	15350.3	62.1									
1080.0	15351.0	62.1									
1080.5	15351.7	62.1									
1081.0	15351.0	62.1									
1081.5	14956.6	62.1									
1082.0	14959.4	62.1									
1082.5	15110.4	62.1									
1083.0	15350.3	62.1									
1083.5	15334.5	62.1									
1084.0	15302.0	62.1									
1084.5	15295.2	62.1									
1085.0	15291.0	62.1									
1085.5	15290.3	62.1									
1086.0	15287.6	62.1									
1086.5	15284.8	62.1									
1087.0	15282.1	62.1									
1087.5	15280.7	62.1									
1088.0	14947.0	62.1									
1088.5	14852.5	62.1									
1089.0	14838.7	62.1									
1089.5	15190.4	62.1									

Schlumberger

Schlumberger of Canada
Testing Services

Test Date : 3/11/90
Location : RECOVERY RECORDER
DST # : THREE

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	8:44:00	REFERENCE TIME		188.2	57.6		
2	8:45:00	START FLOW	1.0	188.9	57.6		
3	8:56:00	START SHUT-IN	11.0	187.5	57.6		
4	9:55:00	END SHUT-IN	59.0	187.5	58.1		
5	9:57:00	START FLOW	2.0	187.5	58.1		
6	12:57:00	START SHUT-IN	180.0	189.6	59.1		
7	18:57:00	END SHUT-IN	360.0	193.7	61.6		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-RECOVERY	MUD MUD FILTRATE	3.70 @ 15 3.40 @ 15	1900 2100
3-			
4-			
5-BOTTOMHOLE SAMPLER	SENT TO LAB FOR DRAINING #000556, #103734		

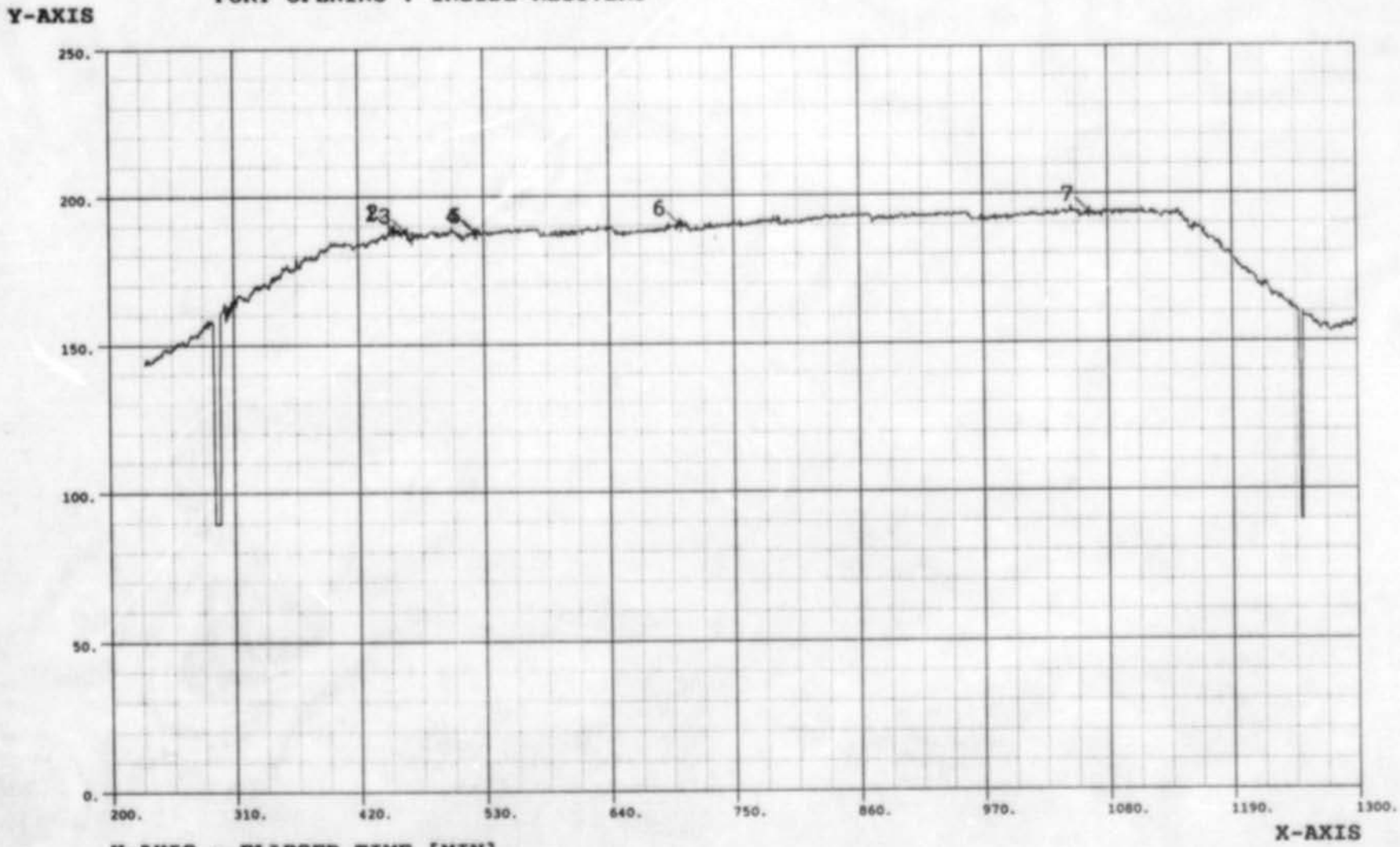
Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120BR
INSTRUMENT NO. : SB-50130
DEPTH : 1374.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : THREE



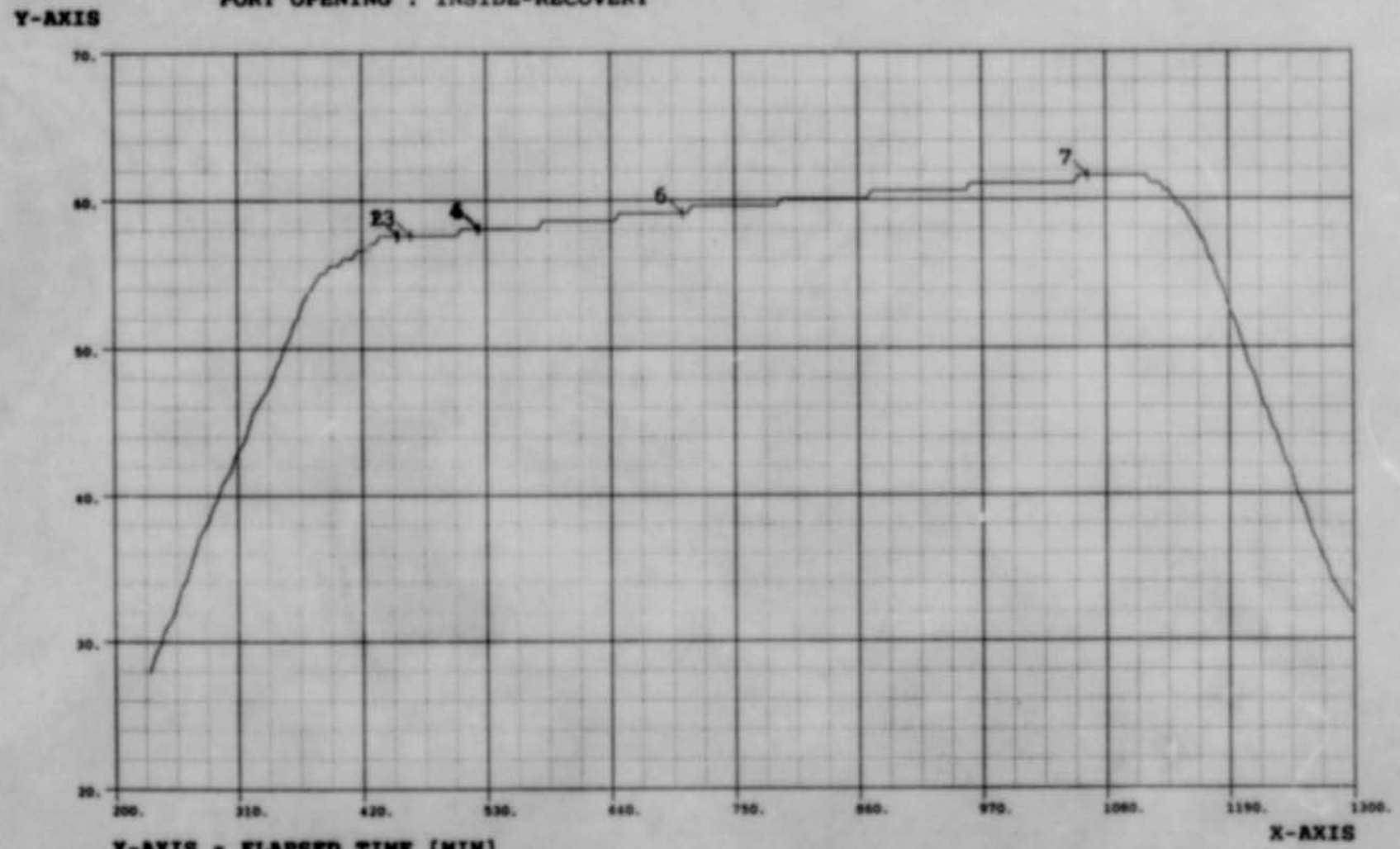
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120BR
INSTRUMENT NO. : SB-50130
DEPTH : 1374.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : THREE



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
231.0	144.0	27.9	271.0	152.3	36.0	311.0	164.7	43.1	351.0	173.7	49.9
231.5	143.4	28.1	271.5	153.0	36.1	311.5	165.4	43.2	351.5	172.3	50.1
232.0	145.4	28.2	272.0	152.3	36.2	312.0	162.7	43.2	352.0	173.7	50.2
232.5	143.4	28.3	272.5	153.7	36.4	312.5	165.4	43.3	352.5	173.7	50.2
233.0	144.7	28.4	273.0	153.0	36.5	313.0	164.7	43.3	353.0	175.1	50.3
233.5	144.0	28.6	273.5	152.3	36.6	313.5	166.8	43.4	353.5	176.5	50.4
234.0	145.4	28.7	274.0	153.0	36.7	314.0	166.1	43.5	354.0	175.1	50.4
234.5	144.0	28.8	274.5	153.0	36.9	314.5	166.8	43.5	354.5	175.8	50.5
235.0	144.0	28.9	275.0	153.0	37.0	315.0	166.8	43.6	355.0	175.1	50.5
235.5	144.0	29.1	275.5	153.0	37.1	315.5	166.1	43.7	355.5	175.8	50.6
236.0	143.4	29.2	276.0	153.7	37.2	316.0	166.1	43.7	356.0	175.8	50.7
236.5	144.7	29.3	276.5	153.7	37.3	316.5	166.8	43.8	356.5	175.8	50.8
237.0	144.7	29.3	277.0	153.0	37.4	317.0	166.1	44.0	357.0	175.8	50.9
237.5	144.7	29.4	277.5	153.7	37.4	317.5	166.1	44.1	357.5	177.1	51.0
238.0	144.7	29.5	278.0	152.3	37.5	318.0	166.1	44.2	358.0	175.8	51.2
238.5	144.0	29.5	278.5	153.7	37.6	318.5	165.4	44.3	358.5	175.1	51.3
239.0	144.7	29.6	279.0	153.0	37.6	319.0	164.7	44.5	[illegible]9.0	175.8	51.4
239.5	146.1	29.6	279.5	154.4	37.7	319.5	165.4	44.6	359.5	175.1	51.5
240.0	144.7	29.7	280.0	155.1	37.7	320.0	166.1	44.7	360.0	174.4	51.7
240.5	145.4	29.8	280.5	154.4	37.8	320.5	165.4	44.8	360.5	175.1	51.7
241.0	145.4	30.0	281.0	154.4	37.9	321.0	166.1	45.0	361.0	175.8	51.8
241.5	146.1	30.1	281.5	155.1	37.9	321.5	165.4	45.1	361.5	174.4	51.9
242.0	145.4	30.2	282.0	154.4	38.0	322.0	164.7	45.2	362.0	175.1	51.9
242.5	146.8	30.3	282.5	156.5	38.1	322.5	164.7	45.3	362.5	175.1	52.0
243.0	145.4	30.5	283.0	155.1	38.1	323.0	164.7	45.5	363.0	175.8	52.0
243.5	146.1	30.6	283.5	156.5	38.2	323.5	165.4	45.6	363.5	175.1	52.1
244.0	146.1	30.7	284.0	157.1	38.2	324.0	165.4	45.7	364.0	175.1	52.2
244.5	146.1	30.8	284.5	156.5	38.4	324.5	166.8	45.8	364.5	175.8	52.3
245.0	146.8	30.8	285.0	155.8	38.5	325.0	167.5	45.8	365.0	177.8	52.4
245.5	146.8	30.9	285.5	157.1	38.6	325.5	166.8	45.9	365.5	179.2	52.5
246.0	147.5	31.0	286.0	155.8	38.7	326.0	167.5	46.0	366.0	177.8	52.7
246.5	146.1	31.0	286.5	157.1	38.9	326.5	168.2	46.0	366.5	175.8	52.8
247.0	147.5	31.1	287.0	158.5	39.0	327.0	167.5	46.1	367.0	176.5	52.9
247.5	148.2	31.1	287.5	157.8	39.1	327.5	167.5	46.1	367.5	175.8	53.0
248.0	148.2	31.2	288.0	155.8	39.2	328.0	168.9	46.2	368.0	176.5	53.2
248.5	148.9	31.3	288.5	157.8	39.3	328.5	169.6	46.3	368.5	177.1	53.2
249.0	148.2	31.3	289.0	157.8	39.4	329.0	168.9	46.3	369.0	175.8	53.3
249.5	148.9	31.4	289.5	157.1	39.4	329.5	168.9	46.4	369.5	177.8	53.3
250.0	142.9	31.5	290.0	157.8	39.5	330.0	168.9	46.5	370.0	178.5	53.4
250.5	147.5	31.5	290.5	158.5	39.6	330.5	168.9	46.5	370.5	178.5	53.5
251.0	148.2	31.6	291.0	157.1	39.6	331.0	170.2	46.6	371.0	177.8	53.5
251.5	148.9	31.6	291.5	157.8	39.7	331.5	169.6	46.6	371.5	178.5	53.6
252.0	148.9	31.7	292.0	157.1	39.7	332.0	168.2	46.7	372.0	179.2	53.7
252.5	148.9	31.8	292.5	89.6	39.9	332.5	169.6	46.8	372.5	179.2	53.7
253.0	147.5	32.0	293.0	89.6	40.0	333.0	168.9	46.8	373.0	178.5	53.8
253.5	148.2	32.1	293.5	89.6	40.1	333.5	169.6	46.9	373.5	178.5	53.8
254.0	147.5	32.2	294.0	89.6	40.2	334.0	168.9	46.9	374.0	179.9	53.9
254.5	148.2	32.3	294.5	89.6	40.4	334.5	168.9	47.0	374.5	179.2	54.0
255.0	148.9	32.5	295.0	89.6	40.5	335.0	169.6	47.1	375.0	179.2	54.0
255.5	148.9	32.6	295.5	89.6	40.6	335.5	170.2	47.1	375.5	179.2	54.1
256.0	148.2	32.7	296.0	89.6	40.7	336.0	170.2	47.2	376.0	179.2	54.1
256.5	148.9	32.8	296.5	89.6	40.8	336.5	169.6	47.3	376.5	179.2	54.2
257.0	149.6	33.0	297.0	89.6	40.9	337.0	170.2	47.3	377.0	178.5	54.3
257.5	149.6	33.1	297.5	89.6	40.9	337.5	170.9	47.4	377.5	179.9	54.3
258.0	149.6	33.2	298.0	159.9	41.0	338.0	169.6	47.4	378.0	179.2	54.4
258.5	148.9	33.3	298.5	160.6	41.1	338.5	169.6	47.5	378.5	179.2	54.5
259.0	149.6	33.5	299.0	161.3	41.1	339.0	169.6	47.6	379.0	179.9	54.5
259.5	150.9	33.6	299.5	161.3	41.2	339.5	170.2	47.6	379.5	178.5	54.6
260.0	150.9	33.7	300.0	161.3	41.2	340.0	169.6	47.7	380.0	178.5	54.6
260.5	150.3	33.8	300.5	161.3	41.3	340.5	170.2	47.8	380.5	179.2	54.7
261.0	150.3	33.8	301.0	162.0	41.4	341.0	168.9	47.9	381.0	178.5	54.8
261.5	150.9	33.9	301.5	163.4	41.4	341.5	168.9	48.1	381.5	179.2	54.8
262.0	150.3	34.0	302.0	164.0	41.5	342.0	169.6	48.2	382.0	179.2	54.9
262.5	150.9	34.0	302.5	163.4	41.5	342.5	170.9	48.3	382.5	179.9	55.0
263.0	150.9	34.1	303.0	157.8	41.6	343.0	171.6	48.4	383.0	178.5	55.0
263.5	150.9	34.2	303.5	161.3	41.7	343.5	170.9	48.6	383.5	179.9	55.1
264.0	150.9	34.2	304.0	158.5	41.7	344.0	172.3	48.7	384.0	179.2	55.1
264.5	150.9	34.3	304.5	163.4	41.9	344.5	173.0	48.7	384.5	179.9	55.1
265.0	151.6	34.5	305.0	161.3	42.0	345.0	170.9	48.8	385.0	180.6	55.1
265.5	150.9	34.6	305.5	161.3	42.1	345.5	171.6	48.9	385.5	180.6	55.1
266.0	149.6	34.7	306.0	159.9	42.2	346.0	173.0	48.9	386.0	181.3	55.1
266.5	150.9	34.9	306.5	162.7	42.4	346.5	173.0	49.0	386.5	182.0	55.1
267.0	150.3	35.0	307.0	163.4	42.5	347.0	171.6	49.1	387.0	181.3	55.1
267.5	150.3	35.1	307.5	161.3	42.6	347.5	172.3	49.1	387.5	182.0	55.1
268.0	149.6	35.2	308.0	164.7	42.7	348.0	173.0	49.2	388.0	182.0	55.1
268.5	150.9	35.4	308.5	164.7	42.8	348.5	172.3	49.3	388.5	182.0	55.2
269.0	150.9	35.5	309.0	162.0	42.9	349.0	173.7	49.4	389.0	181.3	55.3
269.5	150.9	35.6	309.5	164.7	42.9	349.5	172.3	49.6	389.5	181.3	55.3
270.0	150.9	35.7	310.0	164.0	43.0	350.0	172.3	49.7	390.0	182.0	55.4
270.5	152.3	35.9	310.5	164.0	43.0	350.5	173.0	49.8	390.5	182.0	55.5

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
391.0	181.3	55.5	431.0	184.7	57.1	471.0	187.5	57.6	511.0	186.8	58.1
391.5	182.0	55.6	431.5	184.7	57.1	471.5	186.1	57.6	511.5	186.8	58.1
392.0	182.7	55.6	432.0	185.4	57.1	472.0	187.5	57.6	512.0	186.1	58.1
392.5	182.7	55.6	432.5	184.7	57.2	472.5	186.8	57.6	512.5	184.7	58.1
393.0	182.0	55.6	433.0	185.4	57.3	473.0	185.4	57.6	513.0	186.1	58.1
393.5	182.0	55.6	433.5	185.4	57.3	473.5	186.8	57.6	513.5	186.8	58.1
394.0	183.3	55.6	434.0	184.7	57.4	474.0	187.5	57.6	514.0	186.8	58.1
394.5	183.3	55.6	434.5	185.4	57.4	474.5	186.8	57.6	514.5	186.1	58.1
395.0	183.3	55.6	435.0	184.7	57.5	475.0	186.8	57.6	515.0	187.5	58.1
395.5	183.3	55.6	435.5	185.4	57.6	475.5	186.1	57.6	515.5	187.5	58.1
396.0	184.7	55.6	436.0	185.4	57.6	476.0	187.5	57.6	516.0	187.5	58.1
396.5	183.3	55.6	436.5	184.0	57.6	476.5	186.8	57.6	516.5	186.1	58.1
397.0	184.0	55.6	437.0	185.4	57.6	477.0	186.1	57.6	517.0	187.5	58.1
397.5	183.3	55.6	437.5	184.7	57.6	477.5	186.8	57.6	517.5	186.8	58.1
398.0	184.0	55.6	438.0	186.1	57.6	478.0	186.1	57.6	518.0	187.5	58.1
398.5	184.0	55.6	438.5	185.4	57.6	478.5	186.8	57.6	518.5	187.5	58.1
399.0	183.3	55.6	439.0	186.1	57.6	479.0	186.8	57.6	519.0	187.5	58.1
399.5	184.7	55.6	439.5	186.1	57.6	479.5	186.8	57.6	519.5	186.8	58.1
400.0	184.0	55.6	440.0	186.1	57.6	480.0	186.1	57.6	520.0	187.5	58.1
400.5	183.3	55.7	440.5	186.8	57.6	480.5	187.5	57.6	520.5	188.2	58.1
401.0	184.0	55.8	441.0	186.1	57.6	481.0	186.8	57.6	521.0	187.5	58.1
401.5	184.0	55.8	441.5	186.1	57.6	481.5	186.1	57.6	521.5	186.8	58.1
402.0	184.0	55.9	442.0	186.8	57.6	482.0	187.5	57.6	522.0	187.5	58.1
402.5	183.3	55.9	442.5	187.5	57.6	482.5	187.5	57.6	522.5	187.5	58.1
403.0	184.0	56.0	443.0	186.1	57.6	483.0	187.5	57.6	523.0	187.5	58.1
403.5	184.0	56.1	443.5	185.4	57.6	483.5	187.5	57.6	523.5	186.8	58.1
404.0	184.0	56.1	444.0	186.8	57.6	484.0	188.2	57.6	524.0	187.5	58.1
404.5	183.3	56.1	444.5	186.1	57.6	484.5	188.2	57.6	524.5	188.2	58.1
405.0	184.0	56.1	445.0	185.4	57.6	485.0	187.5	57.6	525.0	188.2	58.1
405.5	183.3	56.1	445.5	186.8	57.6	485.5	187.5	57.6	525.5	188.2	58.1
406.0	183.3	56.1	446.0	186.8	57.6	486.0	188.2	57.6	526.0	188.9	58.1
406.5	184.0	56.1	446.5	187.5	57.6	486.5	188.2	57.6	526.5	187.5	58.1
407.0	183.3	56.1	447.0	187.5	57.6	487.0	186.8	57.6	527.0	186.8	58.1
407.5	183.3	56.1	447.5	186.8	57.6	487.5	188.2	57.6	527.5	187.5	58.1
408.0	184.7	56.1	448.0	188.2	57.6	488.0	187.5	57.6	528.0	186.8	58.1
408.5	183.3	56.1	448.5	186.8	57.6	488.5	186.1	57.6	528.5	187.5	58.1
409.0	183.3	56.1	449.0	187.5	57.6	489.0	187.5	57.6	529.0	187.5	58.1
409.5	184.0	56.1	449.5	187.5	57.6	489.5	187.5	57.6	529.5	187.5	58.1
410.0	184.0	56.1	450.0	188.2	57.6	490.0	186.1	57.6	530.0	187.5	58.1
410.5	184.0	56.1	450.5	188.2	57.6	490.5	188.2	57.6	530.5	188.2	58.1
411.0	184.0	56.1	451.0	188.2	57.6	491.0	187.5	57.6	531.0	188.2	58.1
411.5	184.0	56.1	451.5	187.5	57.6	491.5	186.1	57.6	531.5	188.2	58.1
412.0	184.0	56.1	452.0	188.9	57.6	492.0	186.8	57.6	532.0	187.5	58.1
412.5	184.0	56.2	452.5	186.8	57.6	492.5	186.8	57.6	532.5	187.5	58.1
413.0	184.0	56.3	453.0	188.2	57.6	493.0	186.8	57.6	533.0	187.5	58.1
413.5	184.0	56.3	453.5	187.5	57.6	493.5	186.8	57.6	533.5	186.8	58.1
414.0	183.3	56.4	454.0	187.5	57.6	494.0	188.2	57.6	534.0	188.2	58.1
414.5	183.3	56.4	454.5	188.9	57.6	494.5	186.8	57.6	534.5	187.5	58.1
415.0	182.7	56.5	455.0	187.5	57.6	495.0	187.5	57.6	535.0	186.8	58.1
415.5	182.7	56.6	455.5	186.8	57.6	495.5	188.2	57.6	535.5	187.5	58.1
416.0	182.0	56.6	456.0	188.9	57.6	496.0	186.8	57.6	536.0	187.5	58.1
416.5	182.7	56.6	456.5	188.9	57.6	496.5	187.5	57.6	536.5	187.5	58.1
417.0	183.3	56.6	457.0	186.8	57.6	497.0	186.8	57.6	537.0	188.2	58.1
417.5	183.3	56.6	457.5	188.2	57.6	497.5	186.8	57.6	537.5	186.8	58.1
418.0	183.3	56.6	458.0	187.5	57.6	498.0	188.2	57.6	538.0	187.5	58.1
418.5	183.3	56.6	458.5	186.1	57.6	498.5	186.8	57.6	538.5	187.5	58.1
419.0	183.3	56.6	459.0	188.2	57.6	499.0	186.8	57.6	539.0	187.5	58.1
419.5	184.0	56.6	459.5	188.2	57.6	499.5	188.2	57.6	539.5	187.5	58.1
420.0	184.7	56.6	460.0	188.2	57.6	500.0	187.5	57.6	540.0	188.2	58.1
420.5	184.0	56.6	460.5	188.9	57.6	500.5	188.2	57.6	540.5	187.5	58.1
421.0	183.3	56.6	461.0	188.9	57.6	501.0	187.5	57.6	541.0	187.5	58.1
421.5	184.0	56.6	461.5	188.9	57.6	501.5	188.2	57.6	541.5	187.5	58.1
422.0	183.3	56.6	462.0	186.8	57.6	502.0	189.6	57.6	542.0	187.5	58.1
422.5	184.0	56.6	462.5	188.9	57.6	502.5	188.9	57.6	542.5	188.2	58.1
423.0	184.0	56.6	463.0	187.5	57.6	503.0	188.2	57.6	543.0	187.5	58.1
423.5	184.0	56.6	463.5	187.5	57.6	503.5	187.5	57.6	543.5	188.2	58.1
424.0	184.0	56.6	464.0	185.4	57.6	504.0	188.2	57.6	544.0	187.5	58.1
424.5	184.0	56.7	464.5	184.7	57.6	504.5	188.2	57.7	544.5	187.5	58.1
425.0	184.7	56.8	465.0	186.8	57.6	505.0	188.2	57.7	545.0	188.2	58.1
425.5	183.3	56.8	465.5	185.4	57.6	505.5	188.2	57.8	545.5	188.2	58.1
426.0	183.3	56.9	466.0	184.7	57.6	506.0	186.8	57.9	546.0	187.5	58.1
426.5	184.0	56.9	466.5	185.1	57.6	506.5	187.5	57.9	546.5	188.9	58.1
427.0	182.7	57.0	467.0	184.7	57.6	507.0	187.5	58.0	547.0	188.2	58.1
427.5	183.3	57.1	467.5	183.3	57.6	507.5	186.1	58.1	547.5	188.2	58.1
428.0	184.0	57.1	468.0	188.2	57.6	508.0	186.8	58.1	548.0	188.2	58.1
428.5	184.0	57.1	468.5	186.1	57.6	508.5	186.1	58.1	548.5	188.2	58.1
429.0	183.3	57.1	469.0	185.4	57.6	509.0	186.8	58.1	549.0	188.9	58.1
429.5	184.7	57.1	469.5	186.8	57.6	509.5	187.5	58.1	549.5	187.5	58.1
430.0	184.0	57.1	470.0	186.1	57.6	510.0	184.7	58.1	550.0	188.2	58.1
430.5	184.7	57.1	470.5	187.5	57.6	510.5	186.1	58.1	550.5	188.2	58.1

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
551.0	188.9	58.1	591.0	186.8	58.6	631.0	188.9	58.6	671.0	188.2	59.1
551.5	188.2	58.1	591.5	186.8	58.6	631.5	188.9	58.6	671.5	188.2	59.1
552.0	188.2	58.1	592.0	186.8	58.6	632.0	188.9	58.6	672.0	187.5	59.1
552.5	188.2	58.1	592.5	188.2	58.6	632.5	188.9	58.6	672.5	188.2	59.1
553.0	188.9	58.1	593.0	188.2	58.6	633.0	188.9	58.6	673.0	188.2	59.1
553.5	188.2	58.1	593.5	186.8	58.6	633.5	188.9	58.6	673.5	188.2	59.1
554.0	187.5	58.1	594.0	188.2	58.6	634.0	188.9	58.6	674.0	188.9	59.1
554.5	187.5	58.1	594.5	186.8	58.6	634.5	188.9	58.6	674.5	187.5	59.1
555.0	188.2	58.1	595.0	186.8	58.6	635.0	188.9	58.6	675.0	188.2	59.1
555.5	188.2	58.1	595.5	186.8	58.6	635.5	188.9	58.6	675.5	187.5	59.1
556.0	188.2	58.1	596.0	186.1	58.6	636.0	188.9	58.6	676.0	188.2	59.1
556.5	188.2	58.1	596.5	188.2	58.6	636.5	188.9	58.6	676.5	188.2	59.1
557.0	188.2	58.1	597.0	188.2	58.6	637.0	189.6	58.6	677.0	188.2	59.1
557.5	188.9	58.1	597.5	188.2	58.6	637.5	188.9	58.6	677.5	188.9	59.1
558.0	188.9	58.1	598.0	186.8	58.6	638.0	188.2	58.6	678.0	187.5	59.1
558.5	188.9	58.1	598.5	186.1	58.6	638.5	188.2	58.6	678.5	188.2	59.1
559.0	188.2	58.1	599.0	188.2	58.6	639.0	189.6	58.6	679.0	188.2	59.1
559.5	187.5	58.1	599.5	186.8	58.6	639.5	188.9	58.6	679.5	188.2	59.1
560.0	188.9	58.1	600.0	188.2	58.6	640.0	188.9	58.6	680.0	187.5	59.1
560.5	188.9	58.1	600.5	188.2	58.6	640.5	188.9	58.6	680.5	188.9	59.1
561.0	187.5	58.1	601.0	188.2	58.6	641.0	188.9	58.6	681.0	188.2	59.1
561.5	188.2	58.1	601.5	186.8	58.6	641.5	189.6	58.6	681.5	187.5	59.1
562.0	188.9	58.1	602.0	188.2	58.6	642.0	188.9	58.6	682.0	188.9	59.1
562.5	188.9	58.1	602.5	188.2	58.6	642.5	189.6	58.6	682.5	188.9	59.1
563.0	188.9	58.1	603.0	186.8	58.6	643.0	188.9	58.6	683.0	188.2	59.1
563.5	188.2	58.1	603.5	186.8	58.6	643.5	188.9	58.6	683.5	188.2	59.1
564.0	188.2	58.1	604.0	186.8	58.6	644.0	188.9	58.6	684.0	187.5	59.1
564.5	188.2	58.1	604.5	188.2	58.6	644.5	188.2	58.7	684.5	188.9	59.1
565.0	188.2	58.1	605.0	186.8	58.6	645.0	187.5	58.7	685.0	188.9	59.1
565.5	188.2	58.1	605.5	188.2	58.6	645.5	188.2	58.8	685.5	188.9	59.1
566.0	188.2	58.1	606.0	186.8	58.6	646.0	186.8	58.9	686.0	188.2	59.1
566.5	188.2	58.1	606.5	186.8	58.6	646.5	188.2	58.9	686.5	188.2	59.1
567.0	188.2	58.1	607.0	188.9	58.6	647.0	188.2	59.0	687.0	188.2	59.1
567.5	188.9	58.1	607.5	188.2	58.6	647.5	186.8	59.1	687.5	188.9	59.1
568.0	188.9	58.1	608.0	188.2	58.6	648.0	186.8	59.1	688.0	188.9	59.1
568.5	188.2	58.1	608.5	186.8	58.6	648.5	187.5	59.1	688.5	188.2	59.1
569.0	188.9	58.1	609.0	188.2	58.6	649.0	187.5	59.1	689.0	188.2	59.1
569.5	188.9	58.1	609.5	186.8	58.6	649.5	187.5	59.1	689.5	187.5	59.1
570.0	188.2	58.1	610.0	188.2	58.6	650.0	187.5	59.1	690.0	188.2	59.1
570.5	188.9	58.1	610.5	188.2	58.6	650.5	186.8	59.1	690.5	189.6	59.1
571.0	188.9	58.1	611.0	188.2	58.6	651.0	187.5	59.1	691.0	188.9	59.1
571.5	188.9	58.1	611.5	186.8	58.6	651.5	187.5	59.1	691.5	188.2	59.1
572.0	188.9	58.1	612.0	188.2	58.6	652.0	187.5	59.1	692.0	188.9	59.1
572.5	188.9	58.1	612.5	188.2	58.6	652.5	186.1	59.1	692.5	190.9	59.1
573.0	188.2	58.1	613.0	188.2	58.6	653.0	187.5	59.1	693.0	188.9	59.1
573.5	188.9	58.1	613.5	188.2	58.6	653.5	188.2	59.1	693.5	189.6	59.1
574.0	188.2	58.1	614.0	188.2	58.6	654.0	187.5	59.1	694.0	188.9	59.1
574.5	188.9	58.1	614.5	188.2	58.6	654.5	186.8	59.1	694.5	188.9	59.1
575.0	188.9	58.1	615.0	188.9	58.6	655.0	186.8	59.1	695.0	189.6	59.1
575.5	188.9	58.1	615.5	188.2	58.6	655.5	187.5	59.1	695.5	189.6	59.1
576.0	188.9	58.1	616.0	188.9	58.6	656.0	187.5	59.1	696.0	189.6	59.1
576.5	188.9	58.2	616.5	186.8	58.6	656.5	187.5	59.1	696.5	189.6	59.1
577.0	188.2	58.2	617.0	188.2	58.6	657.0	187.5	59.1	697.0	189.6	59.1
577.5	188.2	58.3	617.5	188.2	58.6	657.5	187.5	59.1	697.5	189.6	59.1
578.0	188.9	58.4	618.0	188.2	58.6	658.0	186.8	59.1	698.0	189.6	59.1
578.5	187.5	58.4	618.5	188.9	58.6	658.5	187.5	59.1	698.5	189.6	59.1
579.0	187.5	58.5	619.0	188.2	58.6	659.0	187.5	59.1	699.0	188.9	59.1
579.5	186.8	58.6	619.5	188.9	58.6	659.5	187.5	59.1	699.5	188.2	59.1
580.0	186.1	58.6	620.0	188.9	58.6	660.0	188.2	59.1	700.0	190.9	59.1
580.5	186.8	58.6	620.5	188.2	58.6	660.5	187.5	59.1	700.5	189.6	59.1
581.0	186.8	58.6	621.0	188.9	58.6	661.0	187.5	59.1	701.0	188.9	59.1
581.5	186.8	58.6	621.5	188.9	58.6	661.5	187.5	59.1	701.5	189.6	59.1
582.0	186.8	58.6	622.0	189.6	58.6	662.0	187.5	59.1	702.0	189.6	59.1
582.5	188.2	58.6	622.5	188.2	58.6	662.5	187.5	59.1	702.5	192.3	59.1
583.0	186.8	58.6	623.0	188.2	58.6	663.0	187.5	59.1	703.0	189.6	59.1
583.5	186.8	58.6	623.5	188.2	58.6	663.5	187.5	59.1	703.5	189.6	59.1
584.0	186.8	58.6	624.0	188.2	58.6	664.0	187.5	59.1	704.0	189.6	59.1
584.5	186.8	58.6	624.5	188.9	58.6	664.5	188.2	59.1	704.5	189.6	59.1
585.0	186.8	58.6	625.0	188.2	58.6	665.0	188.2	59.1	705.0	191.6	59.1
585.5	186.8	58.6	625.5	188.2	58.6	665.5	187.5	59.1	705.5	189.6	59.1
586.0	186.8	58.6	626.0	188.9	58.6	666.0	188.2	59.1	706.0	189.6	59.1
586.5	186.8	58.6	626.5	188.2	58.6	666.5	187.5	59.1	706.5	188.9	59.1
587.0	186.8	58.6	627.0	188.2	58.6	667.0	188.2	59.1	707.0	189.6	59.1
587.5	186.8	58.6	627.5	188.2	58.6	667.5	188.2	59.1	707.5	190.9	59.1
588.0	186.8	58.6	628.0	188.2	58.6	668.0	187.5	59.1	708.0	189.6	59.1
588.5	186.8	58.6	628.5	188.9	58.6	668.5	188.2	59.1	708.5	190.2	59.2
589.0	186.8	58.6	629.0	188.2	58.6	669.0	187.5	59.1	709.0	190.9	59.2
589.5	188.2	58.6	629.5	188.9	58.6	669.5	188.2	59.1	709.5	188.2	59.3
590.0	186.8	58.6	630.0	188.2	58.6	670.0	187.5	59.1	710.0	189.6	59.4
590.5	186.8	58.6	630.5	189.6	58.6	670.5	187.5	59.1	710.5	189.6	59.4

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
711.0	188.9	59.5	751.0	191.6	59.6	791.0	189.6	60.0	831.0	192.3	60.1
711.5	188.2	59.5	751.5	190.2	59.6	791.5	190.2	60.0	831.5	192.3	60.1
712.0	187.5	59.6	752.0	190.2	59.6	792.0	190.2	60.1	832.0	193.0	60.1
712.5	188.2	59.6	752.5	189.6	59.6	792.5	190.2	60.1	832.5	193.0	60.1
713.0	188.2	59.6	753.0	189.6	59.6	793.0	190.2	60.1	833.0	192.3	60.1
713.5	188.2	59.6	753.5	189.6	59.6	793.5	190.9	60.1	833.5	193.0	60.1
714.0	188.9	59.6	754.0	190.2	59.6	794.0	190.2	60.1	834.0	192.3	60.1
714.5	188.2	59.6	754.5	190.2	59.6	794.5	190.2	60.1	834.5	191.6	60.1
715.0	188.9	59.6	755.0	190.2	59.6	795.0	190.2	60.1	835.0	191.6	60.1
715.5	188.9	59.6	755.5	191.6	59.6	795.5	191.6	60.1	835.5	192.3	60.1
716.0	188.2	59.6	756.0	190.2	59.6	796.0	189.6	60.1	836.0	192.3	60.1
716.5	188.9	59.6	756.5	188.9	59.6	796.5	190.2	60.1	836.5	193.0	60.1
717.0	188.2	59.6	757.0	189.6	59.6	797.0	190.2	60.1	837.0	192.3	60.1
717.5	189.6	59.6	757.5	190.9	59.6	797.5	191.6	60.1	837.5	192.3	60.1
718.0	188.2	59.6	758.0	190.2	59.6	798.0	190.9	60.1	838.0	192.3	60.1
718.5	188.2	59.6	758.5	189.6	59.6	798.5	190.9	60.1	838.5	192.3	60.1
719.0	188.9	59.6	759.0	190.2	59.6	799.0	191.6	60.1	839.0	193.0	60.1
719.5	188.2	59.6	759.5	190.2	59.6	799.5	190.9	60.1	839.5	192.3	60.1
720.0	188.9	59.6	760.0	189.6	59.6	800.0	190.2	60.1	840.0	193.0	60.1
720.5	188.2	59.6	760.5	190.2	59.6	800.5	190.9	60.1	840.5	191.6	60.1
721.0	188.9	59.6	761.0	189.6	59.6	801.0	190.2	60.1	841.0	192.3	60.1
721.5	188.9	59.6	761.5	190.2	59.6	801.5	190.2	60.1	841.5	192.3	60.1
722.0	188.2	59.6	762.0	189.6	59.6	802.0	190.9	60.1	842.0	192.3	60.1
722.5	188.2	59.6	762.5	190.9	59.6	802.5	190.2	60.1	842.5	192.3	60.1
723.0	188.2	59.6	763.0	190.9	59.6	803.0	190.9	60.1	843.0	192.3	60.1
723.5	188.9	59.6	763.5	190.2	59.6	803.5	190.9	60.1	843.5	192.3	60.1
724.0	188.2	59.6	764.0	189.6	59.6	804.0	191.6	60.1	844.0	192.3	60.1
724.5	190.2	59.6	764.5	190.2	59.6	804.5	191.6	60.1	844.5	193.0	60.1
725.0	189.6	59.6	765.0	190.2	59.6	805.0	191.6	60.1	845.0	192.3	60.1
725.5	190.2	59.6	765.5	190.2	59.6	805.5	190.9	60.1	845.5	192.3	60.1
726.0	188.9	59.6	766.0	190.9	59.6	806.0	190.9	60.1	846.0	192.3	60.1
726.5	188.9	59.6	766.5	190.9	59.6	806.5	190.2	60.1	846.5	193.7	60.1
727.0	189.6	59.6	767.0	190.2	59.6	807.0	190.9	60.1	847.0	192.3	60.1
727.5	188.9	59.6	767.5	190.2	59.6	807.5	190.9	60.1	847.5	192.3	60.1
728.0	190.2	59.6	768.0	190.9	59.6	808.0	190.9	60.1	848.0	193.0	60.1
728.5	188.9	59.6	768.5	190.9	59.6	808.5	190.2	60.1	848.5	192.3	60.1
729.0	188.9	59.6	769.0	190.9	59.6	809.0	191.6	60.1	849.0	193.0	60.1
729.5	190.9	59.6	769.5	190.2	59.6	809.5	191.6	60.1	849.5	193.0	60.1
730.0	188.9	59.6	770.0	190.2	59.6	810.0	190.9	60.1	850.0	193.0	60.1
730.5	188.9	59.6	770.5	190.9	59.6	810.5	190.2	60.1	850.5	192.3	60.1
731.0	188.9	59.6	771.0	190.9	59.6	811.0	191.6	60.1	851.0	192.3	60.1
731.5	189.6	59.6	771.5	190.2	59.6	811.5	191.6	60.1	851.5	192.3	60.1
732.0	188.9	59.6	772.0	191.6	59.6	812.0	191.6	60.1	852.0	192.3	60.1
732.5	189.6	59.6	772.5	190.9	59.6	812.5	190.9	60.1	852.5	193.0	60.1
733.0	189.6	59.6	773.0	191.6	59.6	813.0	190.9	60.1	853.0	193.0	60.1
733.5	189.6	59.6	773.5	190.9	59.6	813.5	191.6	60.1	853.5	193.0	60.1
734.0	188.9	59.6	774.0	190.2	59.6	814.0	190.9	60.1	854.0	193.0	60.1
734.5	188.9	59.6	774.5	191.6	59.6	814.5	191.6	60.1	854.5	192.3	60.1
735.0	189.6	59.6	775.0	191.6	59.6	815.0	192.3	60.1	855.0	193.0	60.1
735.5	190.2	59.6	775.5	191.6	59.6	815.5	191.6	60.1	855.5	193.7	60.1
736.0	190.2	59.6	776.0	191.6	59.6	816.0	191.6	60.1	856.0	193.0	60.1
736.5	190.2	59.6	776.5	190.9	59.6	816.5	191.6	60.1	856.5	193.0	60.1
737.0	189.6	59.6	777.0	190.9	59.6	817.0	190.9	60.1	857.0	193.0	60.1
737.5	189.6	59.6	777.5	190.9	59.6	817.5	192.3	60.1	857.5	193.0	60.1
738.0	188.9	59.6	778.0	190.9	59.6	818.0	190.9	60.1	858.0	193.0	60.1
738.5	189.6	59.6	778.5	191.6	59.6	818.5	191.6	60.1	858.5	192.3	60.1
739.0	189.6	59.6	779.0	190.9	59.6	819.0	190.9	60.1	859.0	193.0	60.1
739.5	189.6	59.6	779.5	190.9	59.6	819.5	191.6	60.1	859.5	193.0	60.1
740.0	190.2	59.6	780.0	191.6	59.6	820.0	192.3	60.1	860.0	193.0	60.1
740.5	189.6	59.6	780.5	191.6	59.6	820.5	192.3	60.1	860.5	193.0	60.1
741.0	190.2	59.6	781.0	190.9	59.6	821.0	191.6	60.1	861.0	193.7	60.1
741.5	189.6	59.6	781.5	191.6	59.6	821.5	191.6	60.1	861.5	193.0	60.1
742.0	189.6	59.6	782.0	190.9	59.6	822.0	192.3	60.1	862.0	193.0	60.1
742.5	189.6	59.6	782.5	191.6	59.6	822.5	191.6	60.1	862.5	193.0	60.1
743.0	189.6	59.6	783.0	190.2	59.6	823.0	192.3	60.1	863.0	193.0	60.1
743.5	190.2	59.6	783.5	191.6	59.6	823.5	192.3	60.1	863.5	193.0	60.1
744.0	190.2	59.6	784.0	190.9	59.6	824.0	191.6	60.1	864.0	192.3	60.1
744.5	190.2	59.6	784.5	191.6	59.6	824.5	191.6	60.1	864.5	193.0	60.1
745.0	189.6	59.6	785.0	193.0	59.6	825.0	191.6	60.1	865.0	193.0	60.1
745.5	188.9	59.6	785.5	190.9	59.6	825.5	191.6	60.1	865.5	193.7	60.1
746.0	190.2	59.6	786.0	191.6	59.6	826.0	192.3	60.1	866.0	193.0	60.1
746.5	190.2	59.6	786.5	191.6	59.6	826.5	192.3	60.1	866.5	193.0	60.1
747.0	189.6	59.6	787.0	190.9	59.6	827.0	191.6	60.1	867.0	193.0	60.1
747.5	189.6	59.6	787.5	190.9	59.6	827.5	192.3	60.1	867.5	193.0	60.1
748.0	190.9	59.6	788.0	191.6	59.6	828.0	191.6	60.1	868.0	193.7	60.1
748.5	189.6	59.6	788.5	193.0	59.7	828.5	192.3	60.1	868.5	193.0	60.2
749.0	190.2	59.6	789.0	192.3	59.7	829.0	192.3	60.1	869.0	193.0	60.2
749.5	190.2	59.6	789.5	190.2	59.8	829.5	192.3	60.1	869.5	192.3	60.3
750.0	190.2	59.6	790.0	192.3	59.9	830.0	193.0	60.1	870.0	193.0	60.4
750.5	190.2	59.6	790.5	191.6	59.9	830.5	193.0	60.1	870.5	192.3	60.4

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
871.0	192.3	60.5	911.0	193.0	60.6	951.0	193.7	60.6	991.0	193.0	61.1
871.5	191.6	60.6	911.5	193.0	60.6	951.5	193.7	60.6	991.5	190.9	61.1
872.0	190.2	60.6	912.0	192.3	60.6	952.0	193.0	60.6	992.0	192.3	61.1
872.5	191.6	60.6	912.5	193.0	60.6	952.5	193.0	60.6	992.5	191.6	61.1
873.0	191.6	60.6	913.0	192.3	60.6	953.0	193.7	60.6	993.0	192.3	61.1
873.5	191.6	60.6	913.5	193.0	60.6	953.5	193.7	60.6	993.5	191.6	61.1
874.0	191.6	60.6	914.0	193.0	60.6	954.0	193.7	60.6	994.0	192.3	61.1
874.5	192.3	60.6	914.5	193.0	60.6	954.5	193.7	60.6	994.5	192.3	61.1
875.0	191.6	60.6	915.0	192.3	60.6	955.0	193.7	60.6	995.0	191.6	61.1
875.5	191.6	60.6	915.5	192.3	60.6	955.5	193.7	60.6	995.5	192.3	61.1
876.0	192.3	60.6	916.0	193.0	60.6	956.0	193.0	60.6	996.0	191.6	61.1
876.5	192.3	60.6	916.5	193.0	60.6	956.5	192.3	60.7	996.5	192.3	61.1
877.0	192.3	60.6	917.0	192.3	60.6	957.0	193.7	60.7	997.0	192.3	61.1
877.5	191.6	60.6	917.5	193.0	60.6	957.5	192.3	60.8	997.5	192.3	61.1
878.0	192.3	60.6	918.0	193.0	60.6	958.0	192.3	60.9	998.0	192.3	61.1
878.5	192.3	60.6	918.5	193.0	60.6	958.5	193.0	60.9	998.5	192.3	61.1
879.0	193.0	60.6	919.0	192.3	60.6	959.0	191.6	61.0	999.0	192.3	61.1
879.5	192.3	60.6	919.5	193.0	60.6	959.5	191.6	61.1	999.5	193.0	61.1
880.0	191.6	60.6	920.0	192.3	60.6	960.0	191.6	61.1	1000.0	192.3	61.1
880.5	191.6	60.6	920.5	192.3	60.6	960.5	191.6	61.1	1000.5	192.3	61.1
881.0	192.3	60.6	921.0	192.3	60.6	961.0	190.9	61.1	1001.0	193.0	61.1
881.5	191.6	60.6	921.5	193.0	60.6	961.5	191.6	61.1	1001.5	192.3	61.1
882.0	193.0	60.6	922.0	193.0	60.6	962.0	191.6	61.1	1002.0	192.3	61.1
882.5	191.6	60.6	922.5	193.0	60.6	962.5	191.6	61.1	1002.5	192.3	61.1
883.0	192.3	60.6	923.0	193.0	60.6	963.0	191.6	61.1	1003.0	192.3	61.1
883.5	191.6	60.6	923.5	192.3	60.6	963.5	191.6	61.1	1003.5	193.0	61.1
884.0	191.6	60.6	924.0	192.3	60.6	964.0	191.6	61.1	1004.0	193.0	61.1
884.5	192.3	60.6	924.5	193.0	60.6	964.5	191.6	61.1	1004.5	193.0	61.1
885.0	191.6	60.6	925.0	193.0	60.6	965.0	191.6	61.1	1005.0	193.0	61.1
885.5	192.3	60.6	925.5	193.0	60.6	965.5	191.6	61.1	1005.5	193.0	61.1
886.0	191.6	60.6	926.0	193.0	60.6	966.0	191.6	61.1	1006.0	193.0	61.1
886.5	191.6	60.6	926.5	193.0	60.6	966.5	190.9	61.1	1006.5	192.3	61.1
887.0	192.3	60.6	927.0	192.3	60.6	967.0	190.9	61.1	1007.0	192.3	61.1
887.5	191.6	60.6	927.5	193.0	60.6	967.5	191.6	61.1	1007.5	193.0	61.1
888.0	191.6	60.6	928.0	193.0	60.6	968.0	191.6	61.1	1008.0	193.0	61.1
888.5	193.0	60.6	928.5	193.7	60.6	968.5	193.0	61.1	1008.5	193.0	61.1
889.0	192.3	60.6	929.0	192.3	60.6	969.0	191.6	61.1	1009.0	192.3	61.1
889.5	191.6	60.6	929.5	193.0	60.6	969.5	190.9	61.1	1009.5	192.3	61.1
890.0	191.6	60.6	930.0	192.3	60.6	970.0	192.3	61.1	1010.0	193.0	61.1
890.5	191.6	60.6	930.5	193.7	60.6	970.5	191.6	61.1	1010.5	192.3	61.1
891.0	192.3	60.6	931.0	193.0	60.6	971.0	190.9	61.1	1011.0	193.0	61.1
891.5	191.6	60.6	931.5	193.0	60.6	971.5	190.9	61.1	1011.5	193.0	61.1
892.0	192.3	60.6	932.0	193.0	60.6	972.0	192.3	61.1	1012.0	193.7	61.1
892.5	192.3	60.6	932.5	193.0	60.6	972.5	191.6	61.1	1012.5	193.0	61.1
893.0	193.0	60.6	933.0	193.7	60.6	973.0	190.9	61.1	1013.0	193.0	61.1
893.5	192.3	60.6	933.5	193.0	60.6	973.5	191.6	61.1	1013.5	193.7	61.1
894.0	192.3	60.6	934.0	193.7	60.6	974.0	190.9	61.1	1014.0	192.3	61.1
894.5	192.3	60.6	934.5	193.0	60.6	974.5	190.9	61.1	1014.5	193.7	61.1
895.0	191.6	60.6	935.0	193.0	60.6	975.0	191.6	61.1	1015.0	193.0	61.1
895.5	192.3	60.6	935.5	193.0	60.6	975.5	191.6	61.1	1015.5	193.0	61.1
896.0	192.3	60.6	936.0	193.0	60.6	976.0	192.3	61.1	1016.0	193.7	61.1
896.5	192.3	60.6	936.5	193.0	60.6	976.5	191.6	61.1	1016.5	193.0	61.1
897.0	192.3	60.6	937.0	192.3	60.6	977.0	191.6	61.1	1017.0	193.0	61.1
897.5	193.7	60.6	937.5	193.7	60.6	977.5	191.6	61.1	1017.5	193.0	61.1
898.0	193.0	60.6	938.0	193.0	60.6	978.0	192.3	61.1	1018.0	192.3	61.1
898.5	193.0	60.6	938.5	193.0	60.6	978.5	191.6	61.1	1018.5	193.0	61.1
899.0	193.0	60.6	939.0	193.0	60.6	979.0	191.6	61.1	1019.0	193.0	61.1
899.5	193.0	60.6	939.5	193.7	60.6	979.5	192.3	61.1	1019.5	193.0	61.1
900.0	192.3	60.6	940.0	193.0	60.6	980.0	191.6	61.1	1020.0	192.3	61.1
900.5	193.0	60.6	940.5	193.0	60.6	980.5	193.0	61.1	1020.5	192.3	61.1
901.0	191.6	60.6	941.0	193.0	60.6	981.0	190.9	61.1	1021.0	193.0	61.1
901.5	192.3	60.6	941.5	193.0	60.6	981.5	191.6	61.1	1021.5	193.0	61.1
902.0	192.3	60.6	942.0	193.0	60.6	982.0	192.3	61.1	1022.0	192.3	61.1
902.5	192.3	60.6	942.5	192.3	60.6	982.5	191.6	61.1	1022.5	193.0	61.1
903.0	193.0	60.6	943.0	193.0	60.6	983.0	191.6	61.1	1023.0	193.0	61.1
903.5	193.0	60.6	943.5	193.0	60.6	983.5	191.6	61.1	1023.5	192.3	61.1
904.0	192.3	60.6	944.0	193.7	60.6	984.0	192.3	61.1	1024.0	192.3	61.1
904.5	192.3	60.6	944.5	193.0	60.6	984.5	191.6	61.1	1024.5	193.0	61.1
905.0	192.3	60.6	945.0	193.0	60.6	985.0	192.3	61.1	1025.0	193.7	61.1
905.5	192.3	60.6	945.5	193.7	60.6	985.5	191.6	61.1	1025.5	193.7	61.1
906.0	192.3	60.6	946.0	193.7	60.6	986.0	191.6	61.1	1026.0	193.7	61.1
906.5	192.3	60.6	946.5	193.0	60.6	986.5	192.3	61.1	1026.5	193.7	61.1
907.0	193.0	60.6	947.0	193.0	60.6	987.0	191.6	61.1	1027.0	192.3	61.1
907.5	193.0	60.6	947.5	193.0	60.6	987.5	192.3	61.1	1027.5	193.7	61.1
908.0	193.0	60.6	948.0	193.0	60.6	988.0	192.3	61.1	1028.0	193.0	61.1
908.5	193.7	60.6	948.5	193.0	60.6	988.5	192.3	61.1	1028.5	193.7	61.1
909.0	192.3	60.6	949.0	193.7	60.6	989.0	192.3	61.1	1029.0	193.0	61.1
909.5	193.0	60.6	949.5	193.0	60.6	989.5	191.6	61.1	1029.5	193.7	61.1
910.0	193.0	60.6	950.0	193.0	60.6	990.0	192.3	61.1	1030.0	193.0	61.1
910.5	192.3	60.6	950.5	193.7	60.6	990.5	192.3	61.1	1030.5	193.0	61.1

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
1031.0	193.7	61.1	1071.0	193.0	61.6	1111.0	193.0	61.6	1151.0	190.9	59.2
1031.5	192.3	61.1	1071.5	193.7	61.6	1111.5	194.4	61.6	1151.5	188.9	59.2
1032.0	193.0	61.1	1072.0	193.7	61.6	1112.0	193.7	61.6	1152.0	188.2	59.1
1032.5	193.0	61.1	1072.5	193.0	61.6	1112.5	193.0	61.6	1152.5	187.5	59.1
1033.0	192.3	61.1	1073.0	193.7	61.6	1113.0	193.7	61.6	1153.0	188.2	59.0
1033.5	193.0	61.1	1073.5	192.3	61.6	1113.5	193.7	61.6	1153.5	188.2	58.9
1034.0	193.0	61.1	1074.0	193.7	61.6	1114.0	193.7	61.6	1154.0	188.2	58.9
1034.5	194.4	61.1	1074.5	193.0	61.6	1114.5	193.0	61.6	1154.5	188.9	58.8
1035.0	194.4	61.1	1075.0	191.6	61.6	1115.0	193.0	61.6	1155.0	188.2	58.7
1035.5	193.0	61.1	1075.5	193.0	61.6	1115.5	193.0	61.6	1155.5	186.8	58.7
1036.0	192.3	61.1	1076.0	194.4	61.6	1116.0	193.0	61.6	1156.0	189.6	58.6
1036.5	193.0	61.1	1076.5	193.7	61.6	1116.5	193.0	61.6	1156.5	188.9	58.6
1037.0	193.0	61.1	1077.0	193.7	61.6	1117.0	193.0	61.5	1157.0	188.2	58.5
1037.5	193.7	61.1	1077.5	194.4	61.6	1117.5	194.4	61.4	1157.5	189.6	58.4
1038.0	193.7	61.1	1078.0	193.0	61.6	1118.0	193.7	61.4	1158.0	188.9	58.4
1038.5	193.7	61.1	1078.5	193.7	61.6	1118.5	193.0	61.3	1158.5	188.2	58.3
1039.0	193.7	61.1	1079.0	194.4	61.6	1119.0	194.4	61.2	1159.0	188.9	58.2
1039.5	193.7	61.1	1079.5	193.7	61.6	1119.5	193.0	61.2	1159.5	188.9	58.2
1040.0	193.7	61.1	1080.0	194.4	61.6	1120.0	193.7	61.1	1160.0	188.2	58.1
1040.5	194.4	61.1	1080.5	193.7	61.6	1120.5	194.4	61.1	1160.5	188.2	58.1
1041.0	193.7	61.1	1081.0	193.7	61.6	1121.0	193.0	61.1	1161.0	188.9	58.0
1041.5	193.7	61.1	1081.5	193.7	61.6	1121.5	192.3	61.1	1161.5	188.9	57.9
1042.0	194.4	61.1	1082.0	193.7	61.6	1122.0	193.0	61.1	1162.0	188.2	57.9
1042.5	193.7	61.1	1082.5	194.4	61.6	1122.5	193.7	61.1	1162.5	188.2	57.8
1043.0	194.4	61.1	1083.0	193.7	61.6	1123.0	193.7	61.1	1163.0	188.2	57.7
1043.5	193.0	61.1	1083.5	193.7	61.6	1123.5	193.0	61.1	1163.5	187.5	57.7
1044.0	193.0	61.1	1084.0	193.7	61.6	1124.0	193.0	61.1	1164.0	186.8	57.6
1044.5	193.7	61.1	1084.5	192.3	61.6	1124.5	193.0	61.1	1164.5	186.1	57.6
1045.0	193.7	61.1	1085.0	193.7	61.6	1125.0	193.0	61.1	1165.0	188.2	57.5
1045.5	193.7	61.1	1085.5	194.4	61.6	1125.5	192.3	61.1	1165.5	186.1	57.4
1046.0	193.7	61.1	1086.0	193.0	61.6	1126.0	192.3	61.1	1166.0	185.4	57.4
1046.5	193.7	61.1	1086.5	193.0	61.6	1126.5	192.3	61.1	1166.5	185.4	57.3
1047.0	195.8	61.1	1087.0	193.7	61.6	1127.0	192.3	61.1	1167.0	185.4	57.3
1047.5	193.7	61.1	1087.5	194.4	61.6	1127.5	192.3	61.1	1167.5	184.7	57.2
1048.0	195.8	61.1	1088.0	194.4	61.6	1128.0	191.6	61.1	1168.0	186.1	57.1
1048.5	193.7	61.1	1088.5	194.4	61.6	1128.5	193.0	61.1	1168.5	185.4	57.0
1049.0	193.7	61.1	1089.0	193.7	61.6	1129.0	193.0	61.0	1169.0	184.0	56.9
1049.5	194.4	61.1	1089.5	193.7	61.6	1129.5	193.0	60.9	1169.5	184.7	56.8
1050.0	193.7	61.1	1090.0	193.0	61.6	1130.0	193.7	60.9	1170.0	184.7	56.6
1050.5	194.4	61.1	1090.5	194.4	61.6	1130.5	193.7	60.8	1170.5	184.7	56.5
1051.0	194.4	61.1	1091.0	194.4	61.6	1131.0	193.0	60.7	1171.0	184.7	56.4
1051.5	193.7	61.1	1091.5	192.3	61.6	1131.5	193.0	60.7	1171.5	184.7	56.3
1052.0	194.4	61.1	1092.0	194.4	61.6	1132.0	193.7	60.6	1172.0	184.7	56.1
1052.5	194.4	61.2	1092.5	193.7	61.6	1132.5	193.7	60.6	1172.5	184.7	56.1
1053.0	194.4	61.2	1093.0	193.0	61.6	1133.0	193.0	60.6	1173.0	184.7	56.0
1053.5	193.0	61.3	1093.5	193.0	61.6	1133.5	193.0	60.6	1173.5	184.7	55.9
1054.0	193.0	61.4	1094.0	193.7	61.6	1134.0	193.0	60.6	1174.0	184.7	55.9
1054.5	193.7	61.4	1094.5	193.7	61.6	1134.5	192.3	60.6	1174.5	184.0	55.8
1055.0	194.4	61.5	1095.0	194.4	61.6	1135.0	193.0	60.6	1175.0	183.3	55.8
1055.5	191.6	61.6	1095.5	193.0	61.6	1135.5	193.7	60.6	1175.5	184.0	55.7
1056.0	193.0	61.6	1096.0	193.7	61.6	1136.0	192.3	60.6	1176.0	183.3	55.6
1056.5	193.0	61.6	1096.5	193.7	61.6	1136.5	192.3	60.6	1176.5	182.7	55.5
1057.0	192.3	61.6	1097.0	194.4	61.6	1137.0	193.0	60.5	1177.0	182.7	55.4
1057.5	193.0	61.6	1097.5	193.7	61.6	1137.5	193.7	60.4	1177.5	183.3	55.3
1058.0	193.0	61.6	1098.0	193.7	61.6	1138.0	193.0	60.4	1178.0	184.0	55.1
1058.5	192.3	61.6	1098.5	194.4	61.6	1138.5	193.0	60.3	1178.5	184.0	55.0
1059.0	192.3	61.6	1099.0	193.7	61.6	1139.0	193.0	60.2	1179.0	182.0	54.9
1059.5	193.0	61.6	1099.5	193.0	61.6	1139.5	193.7	60.2	1179.5	183.3	54.8
1060.0	193.0	61.6	1100.0	193.0	61.6	1140.0	193.0	60.1	1180.0	180.6	54.6
1060.5	193.7	61.6	1100.5	193.7	61.6	1140.5	192.3	60.0	1180.5	182.7	54.6
1061.0	192.3	61.6	1101.0	193.7	61.6	1141.0	194.4	60.0	1181.0	182.0	54.5
1061.5	193.0	61.6	1101.5	194.4	61.6	1141.5	193.0	59.9	1181.5	181.3	54.5
1062.0	193.0	61.6	1102.0	194.4	61.6	1142.0	194.4	59.9	1182.0	179.9	54.4
1062.5	193.7	61.6	1102.5	193.0	61.6	1142.5	194.4	59.8	1182.5	180.6	54.3
1063.0	193.0	61.6	1103.0	193.0	61.6	1143.0	193.7	59.7	1183.0	179.9	54.3
1063.5	192.3	61.6	1103.5	193.7	61.6	1143.5	192.3	59.7	1183.5	179.9	54.2
1064.0	193.7	61.6	1104.0	193.7	61.6	1144.0	193.0	59.6	1184.0	179.9	54.1
1064.5	193.7	61.6	1104.5	193.7	61.6	1144.5	191.6	59.6	1184.5	179.2	54.0
1065.0	193.0	61.6	1105.0	194.4	61.6	1145.0	193.0	59.6	1185.0	180.6	53.9
1065.5	193.7	61.6	1105.5	193.0	61.6	1145.5	193.0	59.6	1185.5	180.6	53.8
1066.0	193.0	61.6	1106.0	193.7	61.6	1146.0	193.0	59.6	1186.0	179.9	53.7
1066.5	193.7	61.6	1106.5	194.4	61.6	1146.5	190.9	59.6	1186.5	179.9	53.5
1067.0	192.3	61.6	1107.0	193.0	61.6	1147.0	191.6	59.6	1187.0	180.6	53.4
1067.5	192.3	61.6	1107.5	193.0	61.6	1147.5	191.6	59.6	1187.5	180.6	53.3
1068.0	193.7	61.6	1108.0	193.7	61.6	1148.0	190.2	59.6	1188.0	179.2	53.2
1068.5	193.0	61.6	1108.5	193.7	61.6	1148.5	190.9	59.5	1188.5	179.2	53.0
1069.0	193.0	61.6	1109.0	193.7	61.6	1149.0	190.2	59.5	1189.0	178.5	52.9
1069.5	192.3	61.6	1109.5	193.7	61.6	1149.5	190.9	59.4	1189.5	179.9	52.8
1070.0	193.0	61.6	1110.0	195.1	61.6	1150.0	189.6	59.4	1190.0	179.2	52.7
1070.5	192.3	61.6	1110.5	193.7	61.6	1150.5	190.2	59.3	1190.5	177.8	52.5

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (k pa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
1191.0	177.8	52.4	1231.0	164.0	44.3	1271.0	155.1	36.0			
1191.5	177.8	52.3	1231.5	165.4	44.3	1271.5	155.8	35.9			
1192.0	177.8	52.2	1232.0	164.0	44.2	1272.0	155.8	35.7			
1192.5	177.1	52.1	1232.5	165.4	44.1	1272.5	155.1	35.7			
1193.0	177.1	52.0	1233.0	164.7	44.0	1273.0	155.1	35.6			
1193.5	177.1	52.0	1233.5	165.4	43.8	1273.5	154.4	35.5			
1194.0	175.8	51.9	1234.0	164.0	43.7	1274.0	155.8	35.5			
1194.5	177.1	51.9	1234.5	164.0	43.6	1274.5	153.7	35.4			
1195.0	176.5	51.8	1235.0	164.7	43.5	1275.0	153.7	35.4			
1195.5	175.8	51.7	1235.5	163.4	43.3	1275.5	153.7	35.3			
1196.0	175.1	51.7	1236.0	163.4	43.2	1276.0	153.7	35.2			
1196.5	175.1	51.5	1236.5	163.4	43.1	1276.5	153.7	35.1			
1197.0	175.8	51.4	1237.0	163.4	43.0	1277.0	153.0	35.0			
1197.5	175.1	51.3	1237.5	163.4	42.9	1277.5	153.0	34.9			
1198.0	174.4	51.2	1238.0	162.7	42.7	1278.0	153.7	34.7			
1198.5	174.4	51.0	1238.5	163.4	42.6	1278.5	153.7	34.6			
1199.0	173.7	50.9	1239.0	162.7	42.5	1279.0	154.4	34.5			
1199.5	174.4	50.8	1239.5	162.7	42.4	1279.5	154.4	34.3			
1200.0	174.4	50.7	1240.0	162.7	42.2	1280.0	154.4	34.2			
1200.5	174.4	50.5	1240.5	162.0	42.2	1280.5	153.7	34.2			
1201.0	173.7	50.4	1241.0	161.3	42.1	1281.0	154.4	34.1			
1201.5	174.4	50.3	1241.5	163.4	42.0	1281.5	153.7	34.0			
1202.0	173.7	50.2	1242.0	162.0	42.0	1282.0	154.4	34.0			
1202.5	174.4	50.1	1242.5	162.0	41.9	1282.5	155.1	33.9			
1203.0	173.7	49.9	1243.0	160.6	41.9	1283.0	154.4	33.8			
1203.5	173.7	49.8	1243.5	162.0	41.8	1283.5	155.1	33.8			
1204.0	172.3	49.7	1244.0	160.6	41.7	1284.0	153.7	33.7			
1204.5	172.3	49.6	1244.5	161.3	41.6	1284.5	154.4	33.7			
1205.0	173.7	49.4	1245.0	161.3	41.5	1285.0	154.4	33.6			
1205.5	172.3	49.3	1245.5	161.3	41.4	1285.5	153.7	33.5			
1206.0	173.0	49.2	1246.0	161.3	41.2	1286.0	155.1	33.5			
1206.5	172.3	49.1	1246.5	161.3	41.1	1286.5	153.7	33.4			
1207.0	173.0	48.9	1247.0	159.9	41.0	1287.0	154.4	33.3			
1207.5	172.3	48.8	1247.5	160.6	40.9	1287.5	155.8	33.3			
1208.0	172.3	48.7	1248.0	159.9	40.7	1288.0	155.8	33.2			
1208.5	172.3	48.6	1248.5	159.9	40.6	1288.5	155.8	33.2			
1209.0	172.3	48.6	1249.0	159.9	40.5	1289.0	154.4	33.1			
1209.5	172.3	48.5	1249.5	89.6	40.4	1289.5	154.4	33.0			
1210.0	171.6	48.4	1250.0	89.6	40.2	1290.0	155.1	33.0			
1210.5	170.9	48.4	1250.5	89.6	40.1	1290.5	155.1	32.9			
1211.0	171.6	48.3	1251.0	89.6	40.0	1291.0	156.5	32.8			
1211.5	169.6	48.3	1251.5	89.6	39.9	1291.5	154.4	32.8			
1212.0	169.6	48.2	1252.0	159.9	39.7	1292.0	155.1	32.7			
1212.5	168.9	48.1	1252.5	159.2	39.7	1292.5	155.1	32.7			
1213.0	169.6	47.9	1253.0	159.2	39.6	1293.0	155.8	32.6			
1213.5	169.6	47.8	1253.5	158.5	39.6	1293.5	155.1	32.5			
1214.0	168.9	47.7	1254.0	158.5	39.5	1294.0	155.1	32.5			
1214.5	169.6	47.6	1254.5	157.8	39.4	1294.5	154.4	32.4			
1215.0	168.2	47.4	1255.0	158.5	39.4	1295.0	155.8	32.3			
1215.5	168.9	47.3	1255.5	157.8	39.3	1295.5	154.4	32.3			
1216.0	168.2	47.2	1256.0	158.5	39.2	1296.0	155.1	32.2			
1216.5	168.9	47.1	1256.5	158.5	39.1	1296.5	157.1	32.2			
1217.0	169.6	46.9	1257.0	157.8	39.0	1297.0	155.8	32.1			
1217.5	167.5	46.8	1257.5	157.8	38.9	1297.5	155.8	32.0			
1218.0	169.6	46.7	1258.0	157.8	38.7	1298.0	156.5	32.0			
1218.5	168.9	46.6	1258.5	158.5	38.6	1298.5	156.5	31.9			
1219.0	168.9	46.5	1259.0	157.8	38.5	1299.0	155.8	31.8			
1219.5	170.2	46.3	1259.5	157.8	38.4	1299.5	157.1	31.8			
1220.0	168.9	46.2	1260.0	157.1	38.2	1300.0	155.1	31.7			
1220.5	169.6	46.1	1260.5	157.8	38.1	1300.5	154.4	31.6			
1221.0	169.6	46.1	1261.0	157.1	38.0	1301.0	153.7	31.6			
1221.5	168.9	46.0	1261.5	155.8	37.9	1301.5	153.7	31.5			
1222.0	168.2	46.0	1262.0	155.8	37.7	1302.0	154.4	31.5			
1222.5	167.5	45.9	1262.5	156.5	37.6	1302.5	154.4	31.4			
1223.0	167.5	45.8	1263.0	155.8	37.5	1303.0	154.4	31.3			
1223.5	166.8	45.8	1263.5	156.5	37.4	1303.5	152.3	31.3			
1224.0	166.1	45.7	1264.0	156.5	37.2	1304.0	152.2	31.2			
1224.5	166.8	45.6	1264.5	155.1	37.2	1304.5	157.1	30.8			
1225.0	164.7	45.5	1265.0	156.5	37.1	1305.0	155.8	30.5			
1225.5	166.1	45.3	1265.5	155.8	37.0	1305.5	155.8	30.1			
1226.0	164.7	45.2	1266.0	155.1	37.0	1306.0	155.8	29.7			
1226.5	166.1	45.1	1266.5	155.8	36.9	1306.5	157.1	29.3			
1227.0	166.1	45.0	1267.0	154.4	36.9	1307.0	156.5	28.9			
1227.5	165.4	44.8	1267.5	154.4	36.8	1307.5	154.4	28.6			
1228.0	165.4	44.7	1268.0	154.4	36.7	1308.0	151.6	28.2			
1228.5	166.1	44.7	1268.5	153.7	36.6	1308.5	150.3	28.1			
1229.0	165.4	44.6	1269.0	155.1	36.5	1309.0	147.5	27.9			
1229.5	166.1	44.5	1269.5	155.1	36.4	1309.5	148.9	27.8			
1230.0	165.4	44.5	1270.0	155.1	36.2						
1230.5	165.4	44.4	1270.5	155.8	36.1						

D) DST #4 PEKISKO FORMATION
579.0 - 583.5 M

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/12/90
Location : N-45
DST # : FOUR

LEVEL I FLOPETROL JOHNSTON ™ DST REPORT

for

PETRO CANADA INCORPORATED

Well: PCI ISLAND LAKE N-45

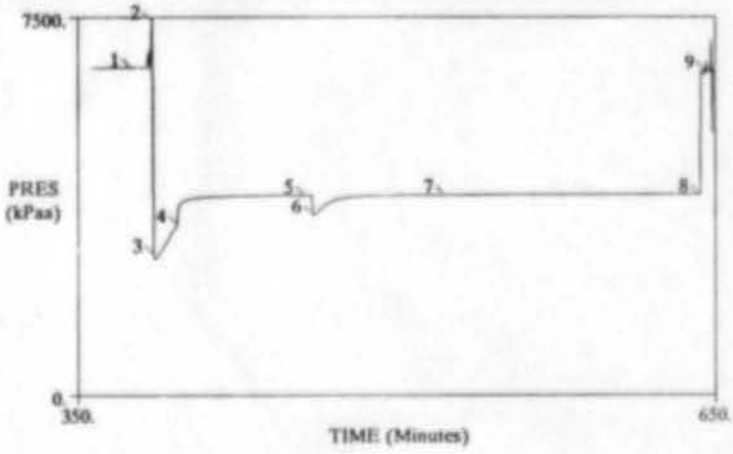
DST #FOUR: RUNDLE (PEKISKO) FORMATION - (579. - 583.5M)

**********Test Reference Number: 301120CJ**********

Test Data

#	Explanation	P(kPa)	T(min)
1	HYDROSTATIC	6491.3	375.0
2	REFERENCE TIME	7431.1	384.5
3	START FLOW	2790.2	385.5
4	START SHUT-IN	3375.6	396.5
5	END SHUT-IN	3947.2	456.0
6	START FLOW	3566.6	459.5
7	START SHUT-IN	3948.5	521.0
8	END SHUT-IN	3956.8	642.0
9	HYDROSTATIC	6423.1	645.0

BOTTOMHOLE PRESSURE LOG



Test Results [INFLATE STRADDLE]

FINAL SHUTIN PRESSURE	3956 kPa
RESERVOIR TEMPERATURE	34 C
PRODUCTION RATE	Surface response was too small to measure
NET PIPE RECOVERY	Total pipe recovery of 357 m (2.171m3). Top 20 m of light gas cut muddy water with the remaining 337 m being heavy gas cut water.

Blow Description

PREFLOW	Good initial air blow, built to strong in 30 seconds. Open to flare.
MAINFLOW	Good initial air blow, built to strong in 30 seconds. Open to flare.

Comments

THIS WAS A MECHANICALLY SUCCESSFUL TEST OF THE RUNDLE FORMATION FROM 579 TO 583.5 MKB. THE BOTTOMHOLE PRESSURE CHARTS INDICATE A FORMATION WITH EXCELLENT PERMEABILITY. THIS INTERVAL PRODUCED WATER WITH A SALINITY OF 20,000 PPM [NaCl] UNTIL THE WELL EQUALIZED DURING THE FINAL FLOW PERIOD.

IF YOU REQUIRE FURTHER INFORMATION, PLEASE CONTACT BRIAN JORDAN AT 231-9625.

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/12/90
Location : N-45
DST # : FOUR

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	6:43:30	HYDROSTATIC		6491.3	34.1		
2	6:53:00	REFERENCE TIME	9.5	7431.1	34.1		
3	6:54:00	START FLOW	1.0	2790.2	34.2		
4	7:05:00	START SHUT-IN	11.0	3375.6	35.1		
5	8:04:30	END SHUT-IN	59.5	3947.2	35.6		
6	8:08:00	START FLOW	3.5	3566.6	35.6		
7	9:09:30	START SHUT-IN	61.5	3948.5	35.6		
8	11:10:30	END SHUT-IN	121.0	3956.8	35.6		
9	11:13:30	HYDROSTATIC	3.0	6423.1	35.6		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-TOP OF RECOVERY	MUDDY WATER	1.08 @ 18	6000
3-MIDDLE OF RECOVERY	WATER	.371 @ 18	19000
4-BOTTOM OF RECOVERY	WATER	.333 @ 20	20000
5-BOTTOMHOLE SAMPLER	SENT TO LAB FOR DRAINING #1001, #140		

Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/12/90
Location : N-45
DST # : FOUR

Hole Conditions

Total Depth(MD/TVD)	1450 m
Ground Level	605.4 m
Kelly Bushing	609.9 m
Hole Size	222 mm
Mud Weight	1115 kg/m3
Mud Type	Gel Chem

Test String Configuration

Pipe Length/I.D.	421.90m / 97.2mm (.0074 m3/m)
Collar Length/I.D.	146.35m / 74mm (.004188 m3/m)
Packer Depths	579 - 583.5 m
Bottomhole Choke Size	12.7 mm
Gauge Depth/Type	580.77 m / STARBURST

Tool Sequence:

#	DESCRIPTION	LENGTH(m)	DEPTH(m)
0	DRILL PIPE TOP	0.00	-7.19
1	Drill Pipe 114mm	9.50	2.31
2	OTHER STABBING VALVE	0.45	2.76
3	Drill Pipe 114mm	412.40	415.16
4	Drill Collars 165mm	128.24	543.40
5	Pumpout Sub PIN TYPE	0.20	543.60
6	Pumpout Sub SHEAR DISC TYPE	0.20	543.80
7	Drill Collars 165mm	18.11	561.91
8	Crossover 4 1/2H90-3 1/2FH	0.31	562.22
9	Elec.Recorder SB#50130	1.80	564.02
10	Choke Sub 12.7 mm	0.31	564.33
11	MFE [Test Valve] #1001,#140	4.04	568.37
12	Crossover	0.31	568.68
13	Recorder AK1 #2077	1.34	570.02
14	Jars	2.28	572.30
15	Rotary Pump #132248	2.45	574.75
16	MSRV [Deflate] #113754	2.44	577.19
17	REFERENCE PACKER #110541	1.81	579.00
18	Packer Stub	0.77	579.77
19	Recorder K3 #13043,SB#50131	2.14	581.91
20	Spacer Pipe	0.93	582.84
21	Crossover 3 1/2FH-4 1/2FH	0.31	583.15
22	Packer Stub	0.77	583.92
23	Packer #104086	1.81	585.73
24	DDST [Drag Spring] #132928	2.62	588.35
25	Recorder AK1 #2526	1.80	590.15
26	Blank Off Sub	0.31	590.46
27	Spacer Pipe Perforated	1.52	591.98
28	Recorder AK1 #4375	1.80	593.78
29	Bullnose	0.00	593.78

Flopetrol Representative : GLEN E. CARTER

District : EDMONTON

Schlumberger of Canada
Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120CI
INSTRUMENT NO. : SB#50131
DEPTH : 580.77m
CAPACITY : 41369kPa/110 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : FOUR

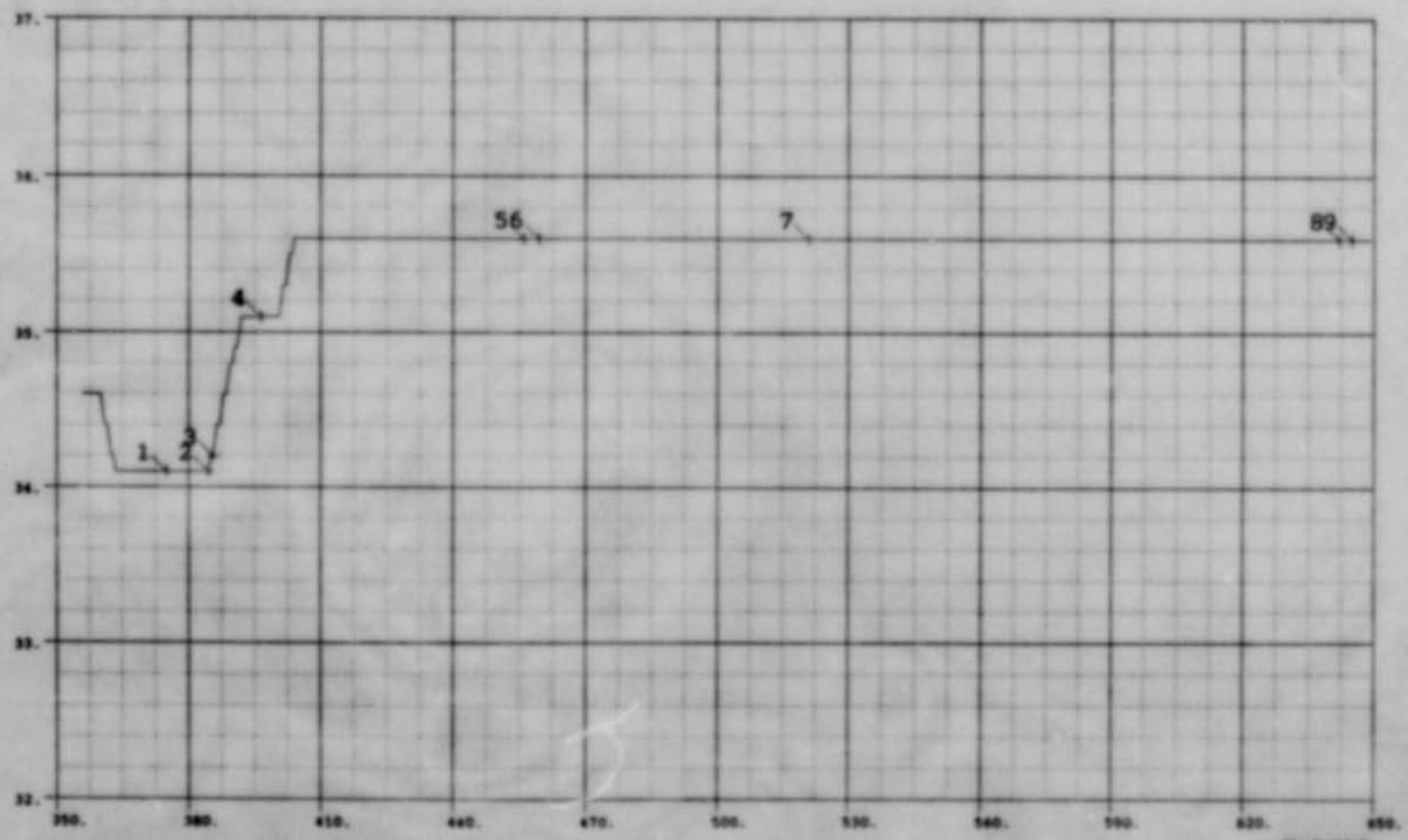
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120CI
INSTRUMENT NO. : SB#50131
DEPTH : 580.77m
CAPACITY : 41369kPa/110 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : FOUR



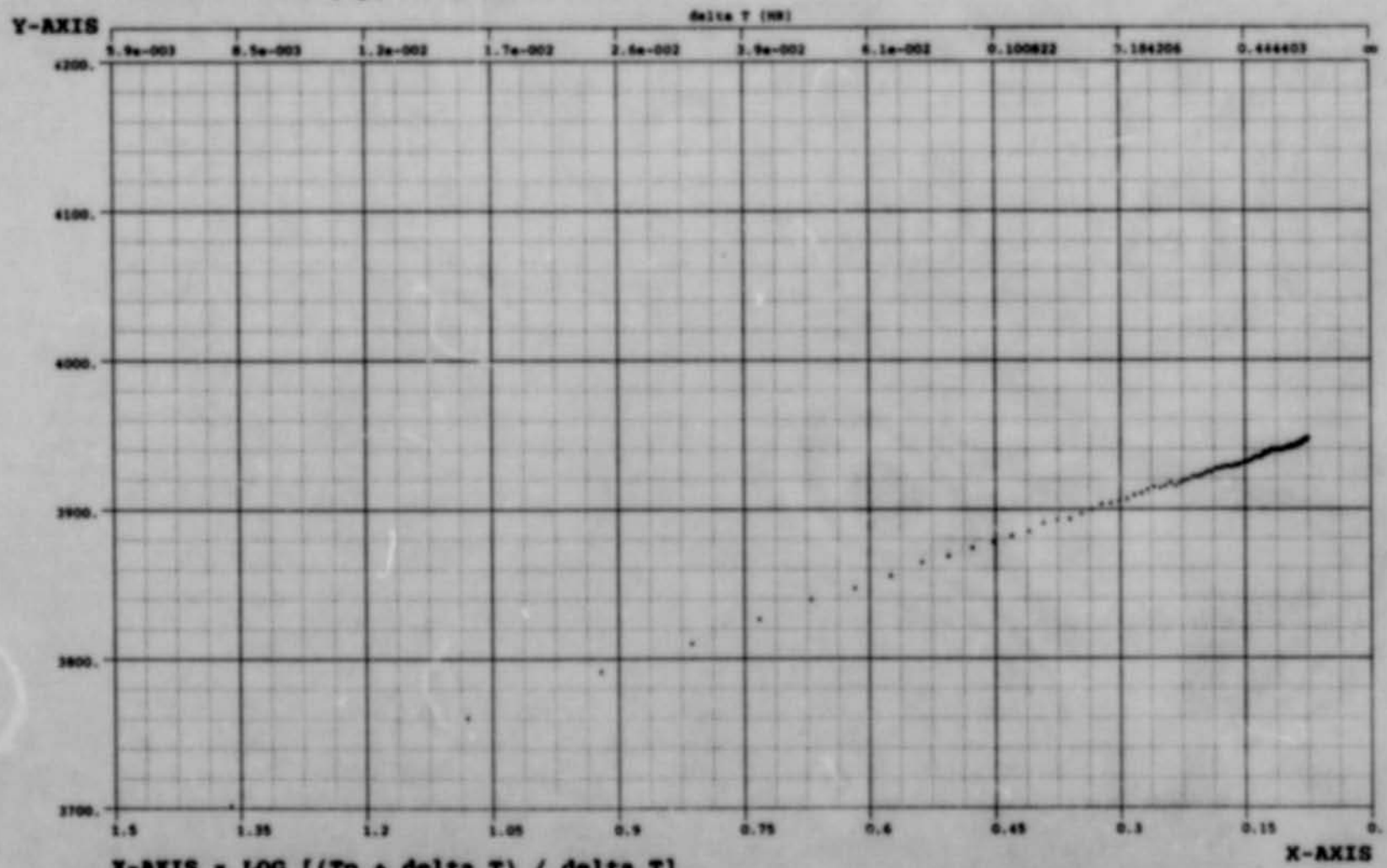
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

Schlumberger of Canada
Schlumberger Testing Services

HORNER PLOT

FIELD REPORT#: 301120CI
INSTRUMENT#: SB#50131
ELAPSED TIME RANGE: 396.5 - 456. MIN.
Delta T TIME RANGE: 8.3e-003 - 0.991666 HR.
PRODUCING TIME [Tp]: 0.1833333333 HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: ONE
DST#: FOUR



X-AXIS = LOG [(Tp + delta T) / delta T]
Y-AXIS = SHUTIN PRESSURE [KPA (ABS)]

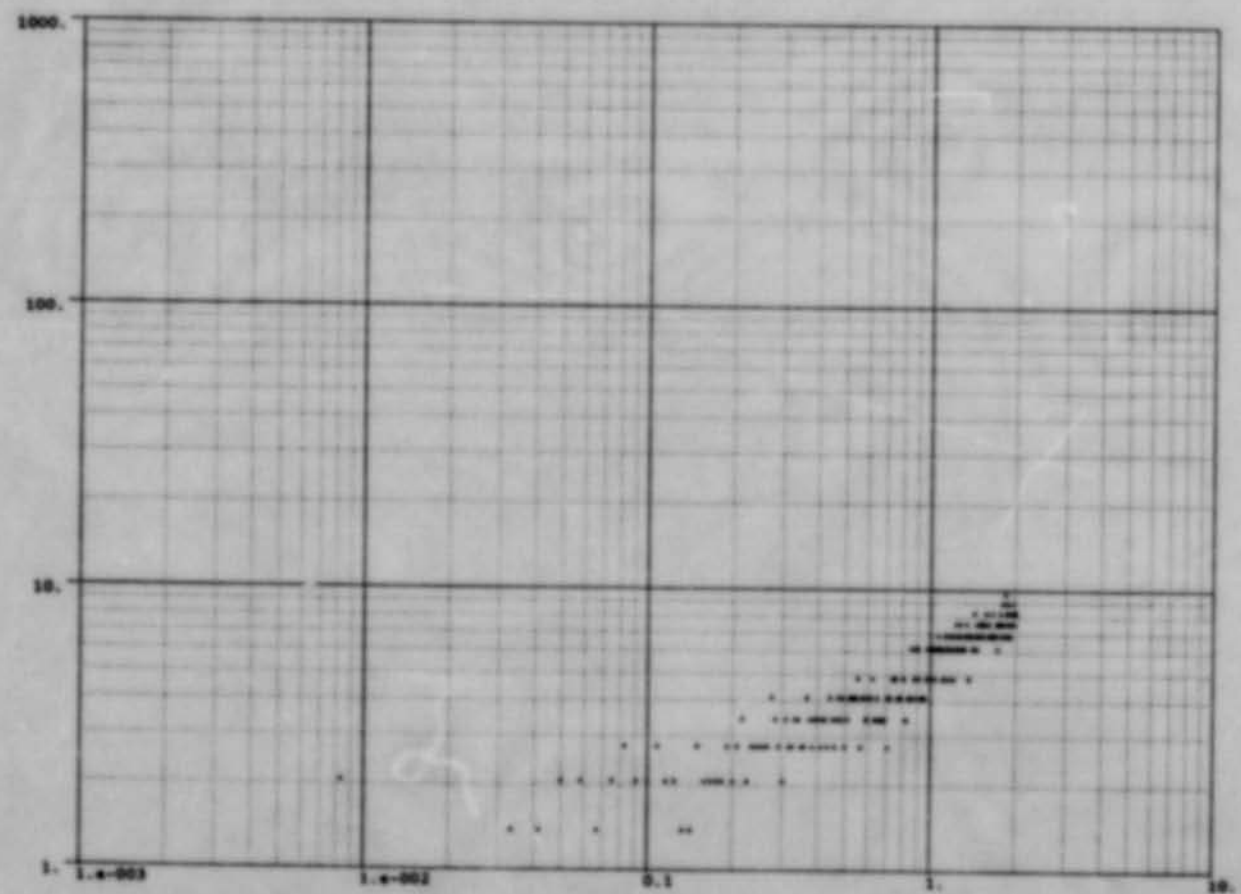
Schlumberger of Canada
Testing Services

LOG-LOG PLOT

FIELD REPORT#: 301120CI
INSTRUMENT#: SB#50131
ELAPSED TIME RANGE: 521. - 642. MIN.
Delta_T TIME RANGE: 8.3e-003 - 2.016666 HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: TWO
DST#: FOUR

Y-AXIS



X-AXIS

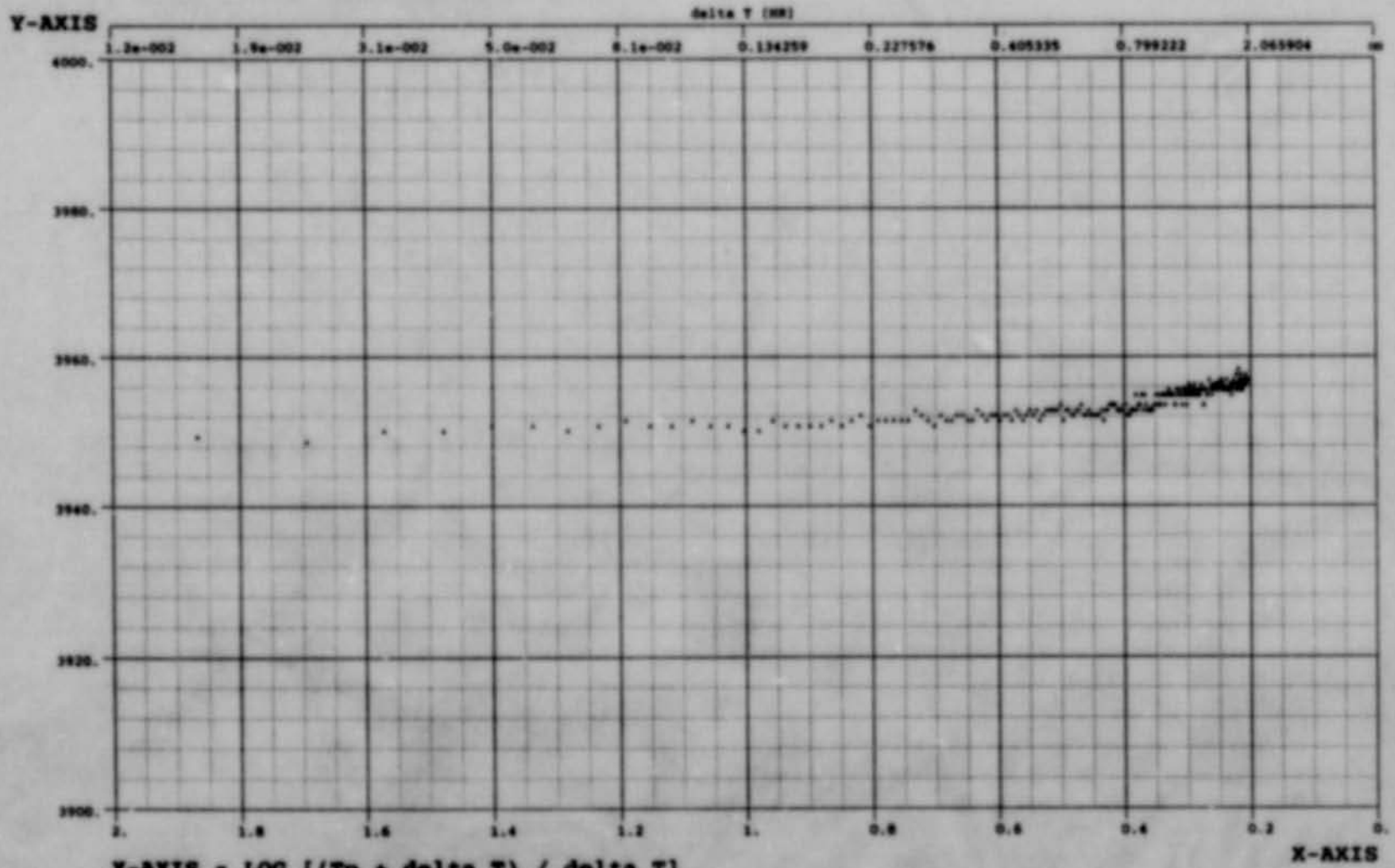
X-AXIS = delta T (HR)
Y-AXIS = delta P (KPA)

Schlumberger of Canada
Schlumberger Testing Services

HORNER PLOT

FIELD REPORT#: 301120CI
INSTRUMENT#: SB#50131
ELAPSED TIME RANGE: 521. - 642. MIN.
Delta T TIME RANGE: 8.3e-003 - 2.016666 HR.
PRODUCING TIME [Tp]: 1.208333333 HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: TWO
DST#: FOUR



X-AXIS = LOG [(Tp + delta T) / delta T]
Y-AXIS = SHUTIN PRESSURE [KPA (ABS)]

TEST REFERENCE#: 301120C1 FILE STARTS: 6:23:30 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
356.0	6489.9	34.6	396.0	3343.2	35.1	436.0	3939.6	35.6	476.0	3906.5	35.6
356.5	6490.6	34.6	396.5	3375.6	35.1	436.5	3939.6	35.6	476.5	3909.9	35.6
357.0	6490.6	34.6	397.0	3701.7	35.1	437.0	3940.3	35.6	477.0	3913.4	35.6
357.5	6489.9	34.6	397.5	3760.3	35.1	437.5	3939.6	35.6	477.5	3915.5	35.6
358.0	6489.2	34.6	398.0	3791.3	35.1	438.0	3941.0	35.6	478.0	3915.5	35.6
358.5	6489.2	34.6	398.5	3810.0	35.1	438.5	3940.3	35.6	478.5	3917.5	35.6
359.0	6489.2	34.6	399.0	3826.5	35.1	439.0	3940.3	35.6	479.0	3918.9	35.6
359.5	6483.7	34.6	399.5	3839.6	35.1	439.5	3941.0	35.6	479.5	3920.3	35.6
360.0	6480.3	34.6	400.0	3847.2	35.1	440.0	3941.6	35.6	480.0	3922.3	35.6
360.5	6472.0	34.5	400.5	3855.5	35.1	440.5	3941.6	35.6	480.5	3923.0	35.6
361.0	6488.6	34.4	401.0	3864.4	35.3	441.0	3942.3	35.6	481.0	3925.1	35.6
361.5	6489.2	34.4	401.5	3868.6	35.3	441.5	3941.0	35.6	481.5	3926.5	35.6
362.0	6491.3	34.3	402.0	3874.1	35.3	442.0	3941.6	35.6	482.0	3927.9	35.6
362.5	6491.3	34.2	402.5	3878.2	35.4	442.5	3942.3	35.6	482.5	3927.9	35.6
363.0	6491.3	34.2	403.0	3882.4	35.5	443.0	3942.3	35.6	483.0	3928.6	35.6
363.5	6490.6	34.1	403.5	3885.1	35.5	443.5	3942.3	35.6	483.5	3928.6	35.6
364.0	6493.4	34.1	404.0	3890.6	35.6	444.0	3941.6	35.6	484.0	3929.9	35.6
364.5	6494.8	34.1	404.5	3892.7	35.6	444.5	3943.0	35.6	484.5	3930.6	35.6
365.0	6490.6	34.1	405.0	3893.4	35.6	445.0	3942.3	35.6	485.0	3929.9	35.6
365.5	6486.5	34.1	405.5	3896.8	35.6	445.5	3943.7	35.6	485.5	3931.3	35.6
366.0	6501.0	34.1	406.0	3899.6	35.6	446.0	3943.7	35.6	486.0	3932.0	35.6
366.5	6492.7	34.1	406.5	3903.0	35.6	446.5	3943.7	35.6	486.5	3933.4	35.6
367.0	6493.4	34.1	407.0	3903.7	35.6	447.0	3943.0	35.6	487.0	3933.4	35.6
367.5	6491.3	34.1	407.5	3905.1	35.6	447.5	3943.7	35.6	487.5	3934.8	35.6
368.0	6493.4	34.1	408.0	3906.5	35.6	448.0	3943.0	35.6	488.0	3934.8	35.6
368.5	6492.7	34.1	408.5	3909.2	35.6	448.5	3945.1	35.6	488.5	3936.1	35.6
369.0	6493.4	34.1	409.0	3910.6	35.6	449.0	3943.0	35.6	489.0	3937.5	35.6
369.5	6492.0	34.1	409.5	3912.7	35.6	449.5	3943.7	35.6	489.5	3937.5	35.6
370.0	6492.0	34.1	410.0	3914.8	35.6	450.0	3945.1	35.6	490.0	3938.2	35.6
370.5	6491.3	34.1	410.5	3914.1	35.6	450.5	3945.8	35.6	490.5	3938.9	35.6
371.0	6491.3	34.1	411.0	3915.5	35.6	451.0	3946.5	35.6	491.0	3938.9	35.6
371.5	6492.0	34.1	411.5	3917.5	35.6	451.5	3945.1	35.6	491.5	3938.9	35.6
372.0	6492.0	34.1	412.0	3915.5	35.6	452.0	3946.5	35.6	492.0	3938.9	35.6
372.5	6492.0	34.1	412.5	3917.5	35.6	452.5	3946.5	35.6	492.5	3938.9	35.6
373.0	6492.7	34.1	413.0	3918.9	35.6	453.0	3947.2	35.6	493.0	3939.6	35.6
373.5	6492.7	34.1	413.5	3919.6	35.6	453.5	3945.8	35.6	493.5	3939.6	35.6
374.0	6491.3	34.1	414.0	3921.7	35.6	454.0	3945.8	35.6	494.0	3941.0	35.6
374.5	6491.3	34.1	414.5	3921.7	35.6	454.5	3947.2	35.6	494.5	3940.3	35.6
375.0	6491.3	34.1	415.0	3922.3	35.6	455.0	3947.2	35.6	495.0	3940.3	35.6
375.5	6495.4	34.1	415.5	3923.0	35.6	455.5	3947.2	35.6	495.5	3940.3	35.6
376.0	6492.0	34.1	416.0	3925.1	35.6	456.0	3947.2	35.6	496.0	3940.3	35.6
376.5	6491.3	34.1	416.5	3924.4	35.6	456.5	3946.5	35.6	496.5	3940.3	35.6
377.0	6492.7	34.1	417.0	3926.5	35.6	457.0	3947.2	35.6	497.0	3941.0	35.6
377.5	6491.3	34.1	417.5	3927.2	35.6	457.5	3945.8	35.6	497.5	3941.6	35.6
378.0	6492.0	34.1	418.0	3927.2	35.6	458.0	3947.9	35.6	498.0	3942.3	35.6
378.5	6492.7	34.1	418.5	3927.9	35.6	458.5	3949.2	35.6	498.5	3941.6	35.6
379.0	6492.0	34.1	419.0	3927.9	35.6	459.0	3949.9	35.6	499.0	3941.0	35.6
379.5	6491.3	34.1	419.5	3928.6	35.6	459.5	3566.6	35.6	499.5	3942.3	35.6
380.0	6492.7	34.1	420.0	3927.9	35.6	460.0	3556.9	35.6	500.0	3942.3	35.6
380.5	6492.0	34.1	420.5	3927.9	35.6	460.5	3570.7	35.6	500.5	3942.3	35.6
381.0	6492.0	34.1	421.0	3929.9	35.6	461.0	3591.4	35.6	501.0	3943.0	35.6
381.5	6491.3	34.1	421.5	3928.6	35.6	461.5	3612.8	35.6	501.5	3942.3	35.6
382.0	6492.0	34.1	422.0	3929.9	35.6	462.0	3634.1	35.6	502.0	3943.0	35.6
382.5	6492.7	34.1	422.5	3930.6	35.6	462.5	3655.5	35.6	502.5	3942.3	35.6
383.0	6814.7	34.1	423.0	3931.3	35.6	463.0	3677.6	35.6	503.0	3943.0	35.6
383.5	6464.4	34.1	423.5	3931.3	35.6	463.5	3697.6	35.6	503.5	3943.0	35.6
384.0	6689.9	34.1	424.0	3932.0	35.6	464.0	3717.6	35.6	504.0	3945.1	35.6
384.5	7431.1	34.1	424.5	3932.0	35.6	464.5	3735.5	35.6	504.5	3943.0	35.6
385.0	7739.3	34.2	425.0	3932.7	35.6	465.0	3751.4	35.6	505.0	3943.0	35.6
385.5	2790.2	34.2	425.5	3934.1	35.6	465.5	3765.8	35.6	505.5	3943.0	35.6
386.0	2704.1	34.3	426.0	3934.1	35.6	466.0	3783.1	35.6	506.0	3943.7	35.6
386.5	2694.4	34.4	426.5	3934.8	35.6	466.5	3787.9	35.6	506.5	3945.1	35.6
387.0	2724.0	34.4	427.0	3934.1	35.6	467.0	3798.9	35.6	507.0	3945.8	35.6
387.5	2767.5	34.5	427.5	3934.8	35.6	467.5	3810.0	35.6	507.5	3945.1	35.6
388.0	2797.1	34.6	428.0	3934.8	35.6	468.0	3821.7	35.6	508.0	3945.1	35.6
388.5	2819.9	34.6	428.5	3937.5	35.6	468.5	3831.3	35.6	508.5	3946.5	35.6
389.0	2855.7	34.7	429.0	3936.8	35.6	469.0	3840.3	35.6	509.0	3947.2	35.6
389.5	2889.5	34.8	429.5	3937.5	35.6	469.5	3849.3	35.6	509.5	3945.8	35.6
390.0	2922.6	34.8	430.0	3937.5	35.6	470.0	3856.8	35.6	510.0	3946.5	35.6
390.5	2959.2	34.9	430.5	3937.5	35.6	470.5	3863.7	35.6	510.5	3946.5	35.6
391.0	2993.6	34.9	431.0	3938.9	35.6	471.0	3868.6	35.6	511.0	3946.5	35.6
391.5	3028.8	35.0	431.5	3939.6	35.6	471.5	3874.8	35.6	511.5	3947.9	35.6
392.0	3061.2	35.1	432.0	3938.9	35.6	472.0	3880.3	35.6	512.0	3946.5	35.6
392.5	3097.0	35.1	432.5	3939.6	35.6	472.5	3883.7	35.6	512.5	3946.5	35.6
393.0	3133.6	35.1	433.0	3938.9	35.6	473.0	3887.9	35.6	513.0	3947.9	35.6
393.5	3168.8	35.1	433.5	3939.6	35.6	473.5	3892.0	35.6	513.5	3947.2	35.6
394.0	3204.6	35.1	434.0	3939.6	35.6	474.0	3893.4	35.6	514.0	3947.2	35.6
394.5	3238.4	35.1	434.5	3939.6	35.6	474.5	3898.9	35.6	514.5	3947.9	35.6
395.0	3272.2	35.1	435.0	3938.9	35.6	475.0	3903.7	35.6	515.0	3947.2	35.6
395.5	3308.0	35.1	435.5	3939.6	35.6	475.5	3904.4	35.6	515.5	3947.2	35.6

TEST REFERENCE#: 301120CI FILE STARTS: 6:23:30 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T
516.0	3947.9	35.6
516.5	3947.9	35.6
517.0	3948.5	35.6
517.5	3947.2	35.6
518.0	3947.9	35.6
518.5	3948.5	35.6
519.0	3948.5	35.6
519.5	3949.2	35.6
520.0	3949.2	35.6
520.5	3949.2	35.6
521.0	3948.5	35.6
521.5	3950.6	35.6
522.0	3949.2	35.6
522.5	3948.5	35.6
523.0	3949.9	35.6
523.5	3949.9	35.6
524.0	3950.6	35.6
524.5	3950.6	35.6
525.0	3949.9	35.6
525.5	3950.6	35.6
526.0	3951.3	35.6
526.5	3950.6	35.6
527.0	3950.6	35.6
527.5	3951.3	35.6
528.0	3950.6	35.6
528.5	3950.6	35.6
529.0	3949.9	35.6
529.5	3949.9	35.6
530.0	3951.3	35.6
530.5	3950.6	35.6
531.0	3950.6	35.6
531.5	3950.6	35.6
532.0	3950.6	35.6
532.5	3951.3	35.6
533.0	3950.6	35.6
533.5	3951.3	35.6
534.0	3952.0	35.6
534.5	3950.6	35.6
535.0	3951.3	35.6
535.5	3951.3	35.6
536.0	3951.3	35.6
536.5	3951.3	35.6
537.0	3951.3	35.6
537.5	3952.7	35.6
538.0	3952.0	35.6
538.5	3951.3	35.6
539.0	3950.6	35.6
539.5	3952.0	35.6
540.0	3951.3	35.6
540.5	3951.3	35.6
541.0	3952.0	35.6
541.5	3952.0	35.6
542.0	3951.3	35.6
542.5	3951.3	35.6
543.0	3952.7	35.6
543.5	3952.0	35.6
544.0	3951.3	35.6
544.5	3952.0	35.6
545.0	3952.0	35.6
545.5	3951.3	35.6
546.0	3952.0	35.6
546.5	3952.0	35.6
547.0	3951.3	35.6
547.5	3952.7	35.6
548.0	3952.0	35.6
548.5	3951.3	35.6
549.0	3952.0	35.6
549.5	3952.7	35.6
550.0	3952.0	35.6
550.5	3952.7	35.6
551.0	3951.3	35.6
551.5	3952.0	35.6
552.0	3952.7	35.6
552.5	3952.7	35.6
553.0	3952.7	35.6
553.5	3952.7	35.6
554.0	3952.7	35.6
554.5	3953.4	35.6
555.0	3951.3	35.6
555.5	3952.7	35.6
556.0	3952.7	35.6
556.5	3952.0	35.6
557.0	3952.0	35.6
557.5	3952.7	35.6
558.0	3952.7	35.6
558.5	3953.4	35.6
559.0	3952.0	35.6
559.5	3952.0	35.6
560.0	3952.7	35.6
560.5	3952.0	35.6
561.0	3952.0	35.6
561.5	3952.0	35.6
562.0	3952.0	35.6
562.5	3952.0	35.6
563.0	3952.7	35.6
563.5	3951.3	35.6
564.0	3952.7	35.6
564.5	3952.7	35.6
565.0	3953.4	35.6
565.5	3953.4	35.6
566.0	3953.4	35.6
566.5	3953.4	35.6
567.0	3952.7	35.6
567.5	3952.7	35.6
568.0	3952.7	35.6
568.5	3952.7	35.6
569.0	3953.4	35.6
569.5	3953.4	35.6
570.0	3952.0	35.6
570.5	3952.0	35.6
571.0	3952.7	35.6
571.5	3952.7	35.6
572.0	3952.7	35.6
572.5	3954.7	35.6
573.0	3952.7	35.6
573.5	3953.4	35.6
574.0	3953.4	35.6
574.5	3954.7	35.6
575.0	3952.7	35.6
575.5	3954.7	35.6
576.0	3953.4	35.6
576.5	3952.7	35.6
577.0	3952.7	35.6
577.5	3952.7	35.6
578.0	3952.7	35.6
578.5	3952.7	35.6
579.0	3953.4	35.6
579.5	3954.7	35.6
580.0	3953.4	35.6
580.5	3954.7	35.6
581.0	3953.4	35.6
581.5	3953.4	35.6
582.0	3954.7	35.6
582.5	3954.7	35.6
583.0	3954.7	35.6
583.5	3953.4	35.6
584.0	3954.7	35.6
584.5	3954.7	35.6
585.0	3955.4	35.6
585.5	3954.7	35.6
586.0	3954.7	35.6
586.5	3954.7	35.6
587.0	3954.7	35.6
587.5	3953.4	35.6
588.0	3953.4	35.6
588.5	3955.4	35.6
589.0	3954.7	35.6
589.5	3955.4	35.6
590.0	3954.7	35.6
590.5	3954.7	35.6
591.0	3953.4	35.6
591.5	3955.4	35.6
592.0	3954.7	35.6
592.5	3955.4	35.6
593.0	3954.7	35.6
593.5	3953.4	35.6
594.0	3954.7	35.6
594.5	3955.4	35.6
595.0	3956.1	35.6
595.5	3954.7	35.6
596.0	3955.4	35.6
596.5	3954.7	35.6
597.0	3955.4	35.6
597.5	3954.7	35.6
598.0	3956.1	35.6
598.5	3955.4	35.6
599.0	3954.7	35.6
599.5	3954.7	35.6
600.0	3954.7	35.6
600.5	3955.4	35.6
601.0	3954.7	35.6
601.5	3955.4	35.6
602.0	3956.1	35.6
602.5	3955.4	35.6
603.0	3953.4	35.6
603.5	3953.4	35.6
604.0	3955.4	35.6
604.5	3955.4	35.6
605.0	3955.4	35.6
605.5	3954.7	35.6
606.0	3954.7	35.6
606.5	3954.7	35.6
607.0	3956.8	35.6
607.5	3955.4	35.6
608.0	3955.4	35.6
608.5	3956.1	35.6
609.0	3954.7	35.6
609.5	3955.4	35.6
610.0	3955.4	35.6
610.5	3956.1	35.6
611.0	3955.4	35.6
611.5	3956.1	35.6
612.0	3956.1	35.6
612.5	3956.1	35.6
613.0	3955.4	35.6
613.5	3955.4	35.6
614.0	3956.1	35.6
614.5	3956.1	35.6
615.0	3956.1	35.6
615.5	3956.8	35.6
616.0	3956.8	35.6
616.5	3955.4	35.6
617.0	3955.4	35.6
617.5	3956.1	35.6
618.0	3956.1	35.6
618.5	3955.4	35.6
619.0	3955.4	35.6
619.5	3955.4	35.6
620.0	3955.4	35.6
620.5	3956.8	35.6
621.0	3955.4	35.6
621.5	3955.4	35.6
622.0	3955.4	35.6
622.5	3955.4	35.6
623.0	3955.4	35.6
623.5	3956.1	35.6
624.0	3956.1	35.6
624.5	3955.4	35.6
625.0	3954.7	35.6
625.5	3956.1	35.6
626.0	3956.1	35.6
626.5	3956.1	35.6
627.0	3956.8	35.6
627.5	3955.4	35.6
628.0	3956.1	35.6
628.5	3956.1	35.6
629.0	3957.5	35.6
629.5	3957.5	35.6
630.0	3955.4	35.6
630.5	3955.4	35.6
631.0	3956.1	35.6
631.5	3958.2	35.6
632.0	3956.8	35.6
632.5	3955.4	35.6
633.0	3956.8	35.6
633.5	3956.1	35.6
634.0	3957.5	35.6
634.5	3955.4	35.6
635.0	3956.8	35.6
635.5	3958.4	35.6
636.0	3956.1	35.6
636.5	3955.4	35.6
637.0	3956.1	35.6
637.5	3956.8	35.6
638.0	3956.1	35.6
638.5	3956.8	35.6
639.0	3957.5	35.6
639.5	3956.8	35.6
640.0	3956.8	35.6
640.5	3956.1	35.6
641.0	3956.8	35.6
641.5	3956.8	35.6
642.0	3956.8	35.6
642.5	3958.2	35.6
643.0	6415.5	35.6
643.5	6429.3	35.6
644.0	6423.1	35.6
644.5	6334.1	35.6
645.0	6423.1	35.6
645.5	6612.0	35.6
646.0	6405.1	35.6
646.5	6413.4	35.6
647.0	6401.0	35.6
647.5	6405.8	35.6
648.0	7049.8	35.6
648.5	5171.0	35.6
649.0	6394.8	35.6
649.5	6445.8	35.6

Schlumberger

Schlumberger of Canada
Testing Services

Test Date : 3/12/90
Location : RECOVERY RECORDER
DST # : FOUR

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	6:53:00	REFERENCE TIME		150.3	34.2		
2	6:54:00	START FLOW	1.0	149.6	34.3		
3	7:05:00	START SHUT-IN	11.0	3055.0	35.7		
4	8:04:30	END SHUT-IN	59.5	3090.2	35.2		
5	8:08:00	START FLOW	3.5	3148.8	35.6		
6	9:09:30	START SHUT-IN	61.5	3767.2	35.7		
7	11:12:30	END SHUT-IN	123.0	3773.4	35.7		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-TOP OF RECOVERY	MUDDY WATER	1.08 @ 18	6000
3-MIDDLE OF RECOVERY	WATER	.371 @ 18	19000
4-BOTTOM OF RECOVERY	WATER	.333 @ 20	20000
5-BOTTOMHOLE SAMPLER	SENT TO LAB FOR DRAINING #1001, #140		

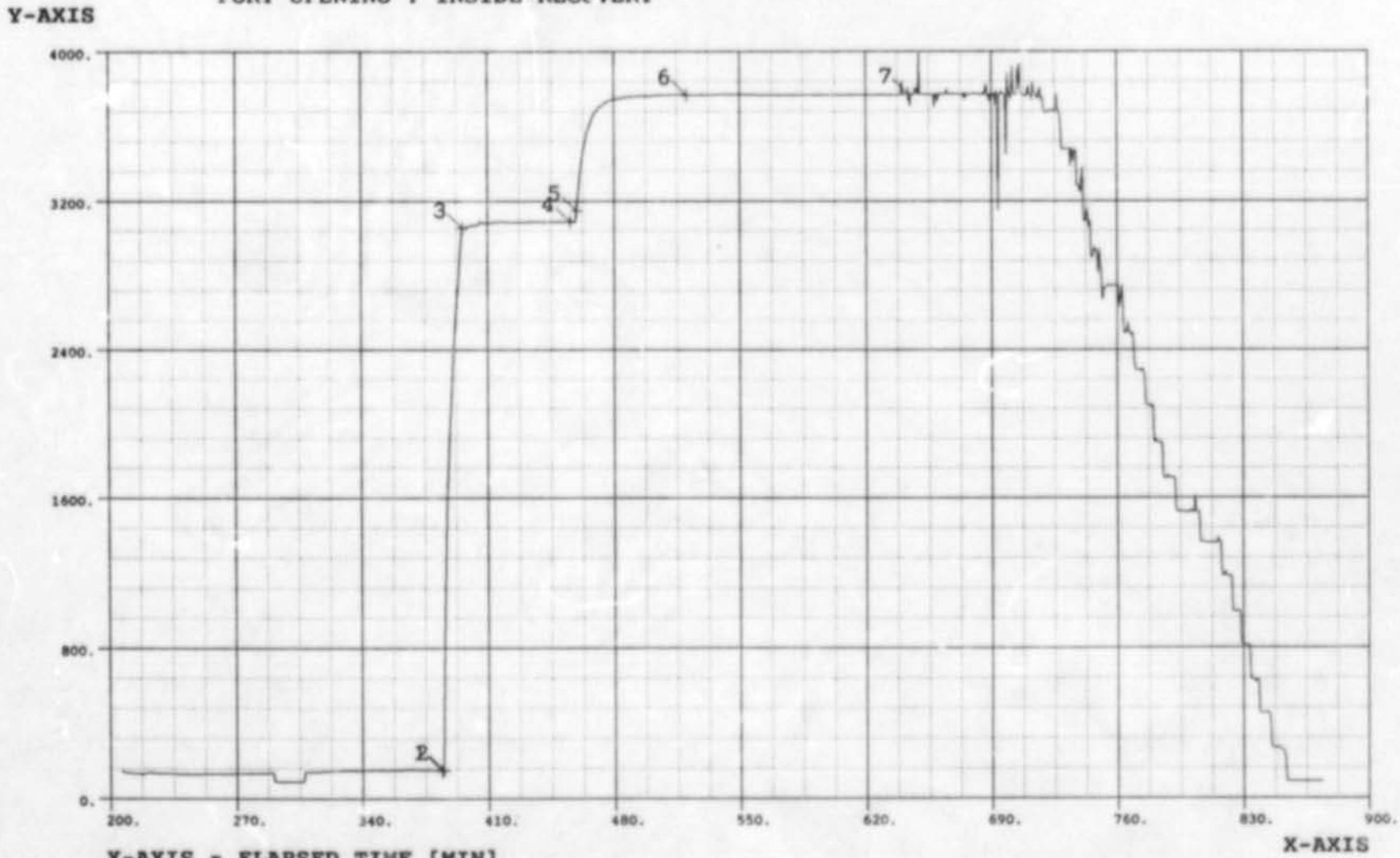
Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120CR
INSTRUMENT NO. : SB-50130
DEPTH : 563.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : FOUR



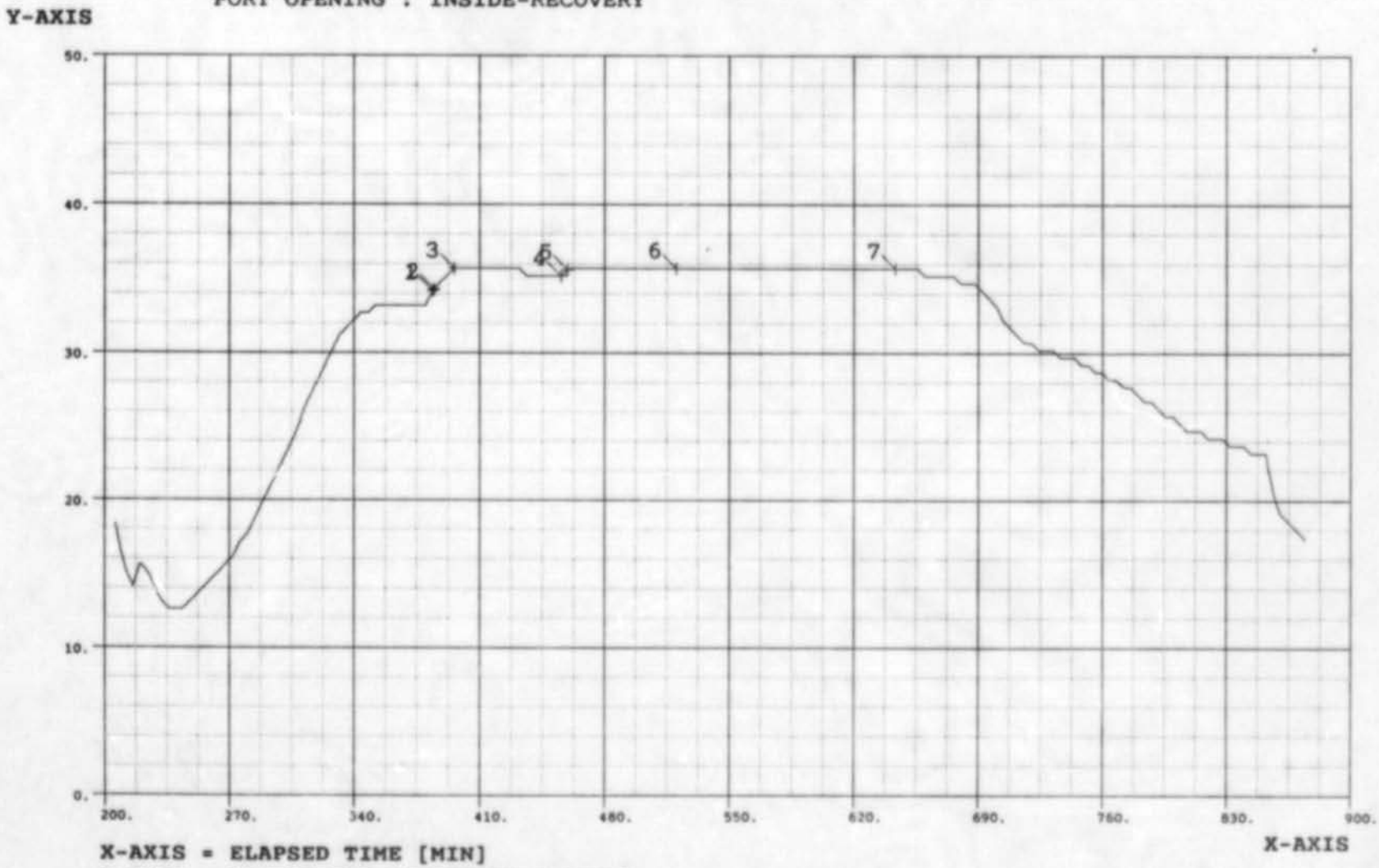
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120CR
INSTRUMENT NO. : SB-50130
DEPTH : 563.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : FOUR



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301120CR FILE STARTS: 3:54:00 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
206.0	146.1	18.4	246.0	131.6	12.9	286.0	134.4	19.2	326.0	146.8	29.7
206.5	146.1	18.1	246.5	130.3	12.9	286.5	135.8	19.3	326.5	146.8	29.8
207.0	145.4	17.8	247.0	129.6	13.0	287.0	135.8	19.4	327.0	146.8	30.0
207.5	139.2	17.5	247.5	130.9	13.1	287.5	135.8	19.5	327.5	147.5	30.1
208.0	139.9	17.1	248.0	129.6	13.1	288.0	136.5	19.7	328.0	149.6	30.2
208.5	139.2	16.9	248.5	130.3	13.2	288.5	135.8	19.8	328.5	147.5	30.3
209.0	139.2	16.6	249.0	130.3	13.3	289.0	136.5	19.9	329.0	146.8	30.5
209.5	139.2	16.4	249.5	129.6	13.3	289.5	136.5	20.0	329.5	148.9	30.6
210.0	139.9	16.1	250.0	129.6	13.4	290.0	137.2	20.2	330.0	148.9	30.7
210.5	138.5	15.9	250.5	130.3	13.4	290.5	136.5	20.3	330.5	149.6	30.8
211.0	137.8	15.6	251.0	130.9	13.5	291.0	89.6	20.4	331.0	148.9	31.0
211.5	135.8	15.4	251.5	131.6	13.6	291.5	89.6	20.5	331.5	147.5	31.1
212.0	135.8	15.1	252.0	130.9	13.6	292.0	89.6	20.7	332.0	149.6	31.2
212.5	135.1	15.0	252.5	130.9	13.7	292.5	89.6	20.8	332.5	149.6	31.3
213.0	135.1	14.9	253.0	132.3	13.8	293.0	89.6	20.9	333.0	148.9	31.3
213.5	135.1	14.8	253.5	130.9	13.8	293.5	89.6	21.0	333.5	148.9	31.4
214.0	133.0	14.6	254.0	130.9	13.9	294.0	89.6	21.2	334.0	148.9	31.5
214.5	133.7	14.5	254.5	130.9	13.9	294.5	89.6	21.3	334.5	148.9	31.5
215.0	133.0	14.4	255.0	129.6	14.0	295.0	89.6	21.4	335.0	148.2	31.6
215.5	133.0	14.3	255.5	131.6	14.1	295.5	89.6	21.5	335.5	148.9	31.6
216.0	133.0	14.1	256.0	132.3	14.1	296.0	89.6	21.7	336.0	148.9	31.7
216.5	130.9	14.3	256.5	133.0	14.2	296.5	89.6	21.8	336.5	148.2	31.8
217.0	131.6	14.5	257.0	132.3	14.3	297.0	89.6	21.9	337.0	148.2	31.8
217.5	129.6	14.7	257.5	131.6	14.3	297.5	89.6	22.0	337.5	148.2	31.9
218.0	130.9	14.9	258.0	132.3	14.4	298.0	89.6	22.2	338.0	148.9	32.0
218.5	132.3	15.1	258.5	131.6	14.4	298.5	89.6	22.3	338.5	148.9	32.0
219.0	133.0	15.3	259.0	130.9	14.5	299.0	89.6	22.4	339.0	148.9	32.1
219.5	133.7	15.5	259.5	131.6	14.6	299.5	89.6	22.5	339.5	149.6	32.2
220.0	139.2	15.6	260.0	133.0	14.6	300.0	89.6	22.7	340.0	150.3	32.2
220.5	136.5	15.6	260.5	130.9	14.7	300.5	89.6	22.8	340.5	148.9	32.3
221.0	139.9	15.5	261.0	132.3	14.8	301.0	89.6	22.9	341.0	149.6	32.3
221.5	139.2	15.5	261.5	132.3	14.8	301.5	89.6	23.0	341.5	150.3	32.4
222.0	138.5	15.4	262.0	132.3	14.9	302.0	89.6	23.2	342.0	149.6	32.5
222.5	137.8	15.3	262.5	131.6	14.9	302.5	89.6	23.3	342.5	149.6	32.5
223.0	139.2	15.3	263.0	132.3	15.0	303.0	89.6	23.4	343.0	149.6	32.6
223.5	139.9	15.2	263.5	131.6	15.1	303.5	89.6	23.5	343.5	149.6	32.7
224.0	137.8	15.1	264.0	132.3	15.1	304.0	89.6	23.7	344.0	149.6	32.7
224.5	137.8	15.0	264.5	131.6	15.2	304.5	89.6	23.8	344.5	149.6	32.7
225.0	136.5	14.9	265.0	131.6	15.3	305.0	89.6	23.9	345.0	151.6	32.7
225.5	136.5	14.8	265.5	132.3	15.3	305.5	89.6	24.1	345.5	151.6	32.7
226.0	135.8	14.6	266.0	130.9	15.4	306.0	89.6	24.2	346.0	149.6	32.7
226.5	135.1	14.5	266.5	133.0	15.5	306.5	89.6	24.3	346.5	151.6	32.7
227.0	135.1	14.4	267.0	132.3	15.5	307.0	89.6	24.4	347.0	151.6	32.7
227.5	135.1	14.3	267.5	132.3	15.6	307.5	89.6	24.6	347.5	150.3	32.7
228.0	134.4	14.1	268.0	132.3	15.6	308.0	141.3	24.7	348.0	150.3	32.7
228.5	134.4	14.0	268.5	133.0	15.7	308.5	141.3	24.9	348.5	149.6	32.8
229.0	135.8	13.9	269.0	132.3	15.8	309.0	140.6	25.1	349.0	150.9	32.8
229.5	134.4	13.8	269.5	133.0	15.8	309.5	141.3	25.2	349.5	151.6	32.9
230.0	135.8	13.6	270.0	132.3	15.9	310.0	141.3	25.4	350.0	150.9	33.0
230.5	135.1	13.5	270.5	133.0	16.0	310.5	142.7	25.6	350.5	150.9	33.0
231.0	135.1	13.4	271.0	133.7	16.0	311.0	142.0	25.8	351.0	150.3	33.1
231.5	134.4	13.3	271.5	132.3	16.1	311.5	142.0	26.0	351.5	149.6	33.2
232.0	135.1	13.1	272.0	133.0	16.1	312.0	141.3	26.2	352.0	149.6	33.2
232.5	135.1	13.1	272.5	133.7	16.3	312.5	142.0	26.3	352.5	150.3	33.2
233.0	133.7	13.0	273.0	133.7	16.4	313.0	141.3	26.4	353.0	150.3	33.2
233.5	133.7	12.9	273.5	133.7	16.5	313.5	142.7	26.6	353.5	150.3	33.2
234.0	133.7	12.9	274.0	133.0	16.6	314.0	139.9	26.7	354.0	148.9	33.2
234.5	133.7	12.8	274.5	133.0	16.8	314.5	142.7	26.8	354.5	150.3	33.2
235.0	132.3	12.8	275.0	133.7	16.9	315.0	141.3	26.9	355.0	150.9	33.2
235.5	133.0	12.7	275.5	132.3	17.0	315.5	144.0	27.1	355.5	149.6	33.2
236.0	132.3	12.6	276.0	133.7	17.1	316.0	142.7	27.2	356.0	149.6	33.2
236.5	131.6	12.6	276.5	133.7	17.2	316.5	144.0	27.3	356.5	149.6	33.2
237.0	131.6	12.6	277.0	133.7	17.3	317.0	144.0	27.4	357.0	150.9	33.2
237.5	130.3	12.6	277.5	133.7	17.3	317.5	145.4	27.6	357.5	150.3	33.2
238.0	131.6	12.6	278.0	135.1	17.4	318.0	146.1	27.7	358.0	149.6	33.2
238.5	130.3	12.6	278.5	133.7	17.5	318.5	145.4	27.8	358.5	150.9	33.2
239.0	130.9	12.6	279.0	133.7	17.5	319.0	145.4	27.9	359.0	150.3	33.2
239.5	130.9	12.6	279.5	133.7	17.6	319.5	145.4	28.1	359.5	150.9	33.2
240.0	128.9	12.6	280.0	133.7	17.6	320.0	146.8	28.2	360.0	150.9	33.2
240.5	131.6	12.6	280.5	134.4	17.8	320.5	145.4	28.3	360.5	150.9	33.2
241.0	130.3	12.6	281.0	135.1	17.9	321.0	146.1	28.4	361.0	150.3	33.2
241.5	130.3	12.6	281.5	134.4	18.0	321.5	145.4	28.6	361.5	150.3	33.2
242.0	130.9	12.6	282.0	133.7	18.2	322.0	146.1	28.7	362.0	151.6	33.2
242.5	130.9	12.6	282.5	133.7	18.3	322.5	146.1	28.8	362.5	151.6	33.2
243.0	130.3	12.6	283.0	133.7	18.4	323.0	146.1	28.9	363.0	150.9	33.2
243.5	130.9	12.6	283.5	134.4	18.5	323.5	146.1	29.1	363.5	154.4	33.2
244.0	130.3	12.6	284.0	133.7	18.7	324.0	146.8	29.2	364.0	154.4	33.2
244.5	128.9	12.7	284.5	133.0	18.8	324.5	146.8	29.3	364.5	152.3	33.2
245.0	130.3	12.8	285.0	133.7	18.9	325.0	147.5	29.5	365.0	152.3	33.2
245.5	129.6	12.8	285.5	133.0	19.0	325.5	146.8	29.6	365.5	154.4	33.2

TEST REFERENCE#: 301120CR FILE STARTS: 3:54:00 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
366.0	154.4	33.2	406.0	3090.8	35.7	446.0	3089.5	35.2	486.0	3756.2	35.7
366.5	153.7	33.2	406.5	3082.6	35.7	446.5	3089.5	35.2	486.5	3756.9	35.7
367.0	152.3	33.2	407.0	3085.3	35.7	447.0	3089.5	35.2	487.0	3756.2	35.7
367.5	153.7	33.2	407.5	3081.9	35.7	447.5	3090.2	35.2	487.5	3756.9	35.7
368.0	153.7	33.2	408.0	3083.3	35.7	448.0	3088.8	35.2	488.0	3759.6	35.7
368.5	152.3	33.2	408.5	3077.7	35.7	448.5	3089.5	35.2	488.5	3758.9	35.7
369.0	150.9	33.2	409.0	3080.5	35.7	449.0	3090.2	35.2	489.0	3759.6	35.7
369.5	152.3	33.2	409.5	3086.7	35.7	449.5	3090.8	35.2	489.5	3760.3	35.7
370.0	150.9	33.2	410.0	3090.2	35.7	450.0	3089.5	35.2	490.0	3759.6	35.7
370.5	153.7	33.2	410.5	3079.1	35.7	450.5	3090.2	35.2	490.5	3761.0	35.7
371.0	150.9	33.2	411.0	3083.9	35.7	451.0	3090.2	35.2	491.0	3760.3	35.7
371.5	151.6	33.2	411.5	3090.2	35.7	451.5	3090.2	35.2	491.5	3761.0	35.7
372.0	152.3	33.2	412.0	3086.0	35.7	452.0	3089.5	35.2	492.0	3761.7	35.7
372.5	151.6	33.2	412.5	3084.6	35.7	452.5	3090.2	35.2	492.5	3761.0	35.7
373.0	151.6	33.2	413.0	3087.4	35.7	453.0	3089.5	35.2	493.0	3761.7	35.7
373.5	151.6	33.2	413.5	3087.4	35.7	453.5	3090.2	35.2	493.5	3761.7	35.7
374.0	151.6	33.2	414.0	3087.4	35.7	454.0	3090.2	35.2	494.0	3763.1	35.7
374.5	151.6	33.2	414.5	3090.2	35.7	454.5	3088.8	35.2	494.5	3761.7	35.7
375.0	150.9	33.2	415.0	3089.5	35.7	455.0	3090.2	35.2	495.0	3762.4	35.7
375.5	151.6	33.2	415.5	3089.5	35.7	455.5	3090.2	35.2	495.5	3762.4	35.7
376.0	151.6	33.2	416.0	3087.4	35.7	456.0	3089.5	35.2	496.0	3763.1	35.7
376.5	152.3	33.2	416.5	3089.5	35.7	456.5	3095.7	35.3	496.5	3763.1	35.7
377.0	152.3	33.2	417.0	3090.2	35.7	457.0	3090.8	35.4	497.0	3763.1	35.7
377.5	151.6	33.2	417.5	3091.5	35.7	457.5	3089.5	35.4	497.5	3763.1	35.7
378.0	152.3	33.2	418.0	3090.2	35.7	458.0	3089.5	35.5	498.0	3763.1	35.7
378.5	151.6	33.2	418.5	3090.2	35.7	458.5	3089.5	35.5	498.5	3763.1	35.7
379.0	152.3	33.2	419.0	3086.7	35.7	459.0	3148.8	35.6	499.0	3763.8	35.7
379.5	152.3	33.2	419.5	3089.5	35.7	459.5	3207.4	35.7	499.5	3763.8	35.7
380.0	152.3	33.2	420.0	3088.1	35.7	460.0	3257.0	35.7	500.0	3763.8	35.7
380.5	151.6	33.3	420.5	3087.4	35.7	460.5	3306.0	35.7	500.5	3765.1	35.7
381.0	151.6	33.5	421.0	3085.3	35.7	461.0	3348.0	35.7	501.0	3765.1	35.7
381.5	152.3	33.6	421.5	3086.7	35.7	461.5	3386.6	35.7	501.5	3765.8	35.7
382.0	150.9	33.7	422.0	3086.0	35.7	462.0	3421.8	35.7	502.0	3765.8	35.7
382.5	150.3	33.8	422.5	3086.0	35.7	462.5	3453.5	35.7	502.5	3765.1	35.7
383.0	150.3	34.0	423.0	3087.4	35.7	463.0	3481.8	35.7	503.0	3765.1	35.7
383.5	148.9	34.1	423.5	3085.3	35.7	463.5	3507.3	35.7	503.5	3765.1	35.7
384.0	150.3	34.2	424.0	3087.4	35.7	464.0	3531.4	35.7	504.0	3765.1	35.7
384.5	148.9	34.3	424.5	3087.4	35.7	464.5	3552.8	35.7	504.5	3766.5	35.7
385.0	149.6	34.3	425.0	3086.7	35.7	465.0	3570.7	35.7	505.0	3765.8	35.7
385.5	663.9	34.4	425.5	3086.7	35.7	465.5	3583.8	35.7	505.5	3766.5	35.7
386.0	962.5	34.5	426.0	3087.4	35.7	466.0	3596.9	35.7	506.0	3767.9	35.7
386.5	1234.1	34.5	426.5	3086.7	35.7	466.5	3612.1	35.7	506.5	3767.9	35.7
387.0	1477.5	34.6	427.0	3086.0	35.7	467.0	3625.9	35.7	507.0	3767.2	35.7
387.5	1598.8	34.7	427.5	3086.7	35.7	467.5	3636.2	35.7	507.5	3766.5	35.7
388.0	1721.6	34.7	428.0	3087.4	35.7	468.0	3645.9	35.7	508.0	3767.9	35.7
388.5	1842.2	34.8	428.5	3086.7	35.7	468.5	3656.2	35.7	508.5	3767.9	35.7
389.0	1960.8	34.9	429.0	3088.1	35.7	469.0	3665.9	35.7	509.0	3767.2	35.7
389.5	2070.4	34.9	429.5	3086.7	35.7	469.5	3674.8	35.7	509.5	3767.2	35.7
390.0	2173.8	35.0	430.0	3087.4	35.7	470.0	3681.7	35.7	510.0	3768.6	35.7
390.5	2276.6	35.0	430.5	3086.7	35.7	470.5	3688.6	35.7	510.5	3768.6	35.7
391.0	2364.1	35.1	431.0	3086.7	35.7	471.0	3694.8	35.7	511.0	3768.6	35.7
391.5	2451.0	35.2	431.5	3087.4	35.7	471.5	3700.3	35.7	511.5	3767.9	35.7
392.0	2532.4	35.2	432.0	3087.4	35.7	472.0	3703.1	35.7	512.0	3770.0	35.7
392.5	2607.5	35.3	432.5	3088.1	35.7	472.5	3709.3	35.7	512.5	3768.6	35.7
393.0	2686.1	35.4	433.0	3088.8	35.6	473.0	3712.1	35.7	513.0	3769.3	35.7
393.5	2757.1	35.4	433.5	3088.1	35.5	473.5	3714.8	35.7	513.5	3769.3	35.7
394.0	2821.3	35.5	434.0	3088.8	35.5	474.0	3721.0	35.7	514.0	3768.6	35.7
394.5	2886.1	35.5	434.5	3088.8	35.4	474.5	3723.8	35.7	514.5	3769.3	35.7
395.0	2946.7	35.6	435.0	3088.8	35.4	475.0	3725.2	35.7	515.0	3770.0	35.7
395.5	3003.3	35.7	435.5	3089.5	35.3	475.5	3727.2	35.7	515.5	3769.3	35.7
396.0	3055.0	35.7	436.0	3090.2	35.2	476.0	3731.4	35.7	516.0	3770.0	35.7
396.5	3056.4	35.7	436.5	3090.2	35.2	476.5	3734.1	35.7	516.5	3769.3	35.7
397.0	3057.7	35.7	437.0	3090.2	35.2	477.0	3736.2	35.7	517.0	3770.0	35.7
397.5	3061.2	35.7	437.5	3090.2	35.2	477.5	3738.3	35.7	517.5	3770.0	35.7
398.0	3057.7	35.7	438.0	3089.5	35.2	478.0	3738.3	35.7	518.0	3770.7	35.7
398.5	3061.9	35.7	438.5	3090.2	35.2	478.5	3740.3	35.7	518.5	3770.0	35.7
399.0	3063.3	35.7	439.0	3089.5	35.2	479.0	3741.7	35.7	519.0	3771.4	35.7
399.5	3066.0	35.7	439.5	3089.5	35.2	479.5	3743.8	35.7	519.5	3771.4	35.7
400.0	3064.6	35.7	440.0	3090.2	35.2	480.0	3745.2	35.7	520.0	3771.4	35.7
400.5	3071.5	35.7	440.5	3088.8	35.2	480.5	3746.5	35.7	520.5	3767.2	35.7
401.0	3066.0	35.7	441.0	3089.5	35.2	481.0	3747.2	35.7	521.0	3765.8	35.7
401.5	3072.2	35.7	441.5	3090.2	35.2	481.5	3747.9	35.7	521.5	3763.1	35.7
402.0	3067.4	35.7	442.0	3090.2	35.2	482.0	3748.6	35.7	522.0	3769.3	35.7
402.5	3071.5	35.7	442.5	3089.5	35.2	482.5	3749.3	35.7	522.5	3767.9	35.7
403.0	3071.5	35.7	443.0	3089.5	35.2	483.0	3750.7	35.7	523.0	3767.9	35.7
403.5	3074.3	35.7	443.5	3089.5	35.2	483.5	3751.4	35.7	523.5	3766.5	35.7
404.0	3068.1	35.7	444.0	3088.1	35.2	484.0	3752.0	35.7	524.0	3767.2	35.7
404.5	3078.4	35.7	444.5	3088.8	35.2	484.5	3753.4	35.7	524.5	3767.2	35.7
405.0	3074.3	35.7	445.0	3088.8	35.2	485.0	3754.1	35.7	525.0	3767.9	35.7
405.5	3077.7	35.7	445.5	3090.2	35.2	485.5	3754.8	35.7	525.5	3767.9	35.7

TEST REFERENCE#: 301120CR FILE STARTS: 3:54:00 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
526.0	3767.2	35.7	566.0	3767.2	35.7	606.0	3767.9	35.7	646.0	3771.4	35.7
526.5	3767.2	35.7	566.5	3768.6	35.7	606.5	3768.6	35.7	646.5	3772.7	35.7
527.0	3767.2	35.7	567.0	3767.9	35.7	607.0	3767.9	35.7	647.0	3771.4	35.7
527.5	3767.9	35.7	567.5	3767.2	35.7	607.5	3768.6	35.7	647.5	3806.5	35.7
528.0	3768.6	35.7	568.0	3767.9	35.7	608.0	3767.9	35.7	648.0	3801.7	35.7
528.5	3769.3	35.7	568.5	3767.2	35.7	608.5	3767.9	35.7	648.5	3773.4	35.7
529.0	3768.6	35.7	569.0	3767.2	35.7	609.0	3768.6	35.7	649.0	3772.7	35.7
529.5	3767.2	35.7	569.5	3767.2	35.7	609.5	3768.6	35.7	649.5	3989.2	35.7
530.0	3767.2	35.7	570.0	3768.6	35.7	610.0	3768.6	35.7	650.0	3773.4	35.7
530.5	3767.2	35.7	570.5	3767.9	35.7	610.5	3767.2	35.7	650.5	3772.7	35.7
531.0	3767.9	35.7	571.0	3767.2	35.7	611.0	3767.2	35.7	651.0	3772.7	35.7
531.5	3767.2	35.7	571.5	3768.6	35.7	611.5	3768.6	35.7	651.5	3772.7	35.7
532.0	3767.2	35.7	572.0	3767.2	35.7	612.0	3769.3	35.7	652.0	3771.4	35.7
532.5	3767.9	35.7	572.5	3768.6	35.7	612.5	3768.6	35.7	652.5	3770.7	35.7
533.0	3767.2	35.7	573.0	3767.9	35.7	613.0	3767.9	35.7	653.0	3770.7	35.7
533.5	3768.6	35.7	573.5	3767.2	35.7	613.5	3768.6	35.7	653.5	3770.7	35.7
534.0	3768.6	35.7	574.0	3767.2	35.7	614.0	3767.9	35.7	654.0	3770.7	35.7
534.5	3767.9	35.7	574.5	3767.9	35.7	614.5	3769.3	35.7	654.5	3770.7	35.7
535.0	3768.6	35.7	575.0	3768.6	35.7	615.0	3768.6	35.7	655.0	3770.0	35.7
535.5	3770.7	35.7	575.5	3767.2	35.7	615.5	3767.9	35.7	655.5	3770.7	35.7
536.0	3770.0	35.7	576.0	3768.6	35.7	616.0	3768.6	35.7	656.0	3770.7	35.7
536.5	3770.0	35.7	576.5	3767.9	35.7	616.5	3767.9	35.7	656.5	3770.7	35.7
537.0	3769.3	35.7	577.0	3767.2	35.7	617.0	3769.3	35.7	657.0	3771.4	35.6
537.5	3769.3	35.7	577.5	3767.2	35.7	617.5	3768.6	35.7	657.5	3770.0	35.5
538.0	3771.4	35.7	578.0	3767.2	35.7	618.0	3767.9	35.7	658.0	3709.3	35.5
538.5	3770.7	35.7	578.5	3767.9	35.7	618.5	3768.6	35.7	658.5	3773.4	35.4
539.0	3770.0	35.7	579.0	3766.5	35.7	619.0	3767.9	35.7	659.0	3776.9	35.4
539.5	3770.7	35.7	579.5	3767.9	35.7	619.5	3769.3	35.7	659.5	3732.7	35.3
540.0	3771.4	35.7	580.0	3767.2	35.7	620.0	3768.6	35.7	660.0	3752.7	35.2
540.5	3771.4	35.7	580.5	3767.2	35.7	620.5	3769.3	35.7	660.5	3774.1	35.2
541.0	3770.7	35.7	581.0	3767.9	35.7	621.0	3767.9	35.7	661.0	3774.1	35.2
541.5	3772.7	35.7	581.5	3768.6	35.7	621.5	3768.6	35.7	661.5	3774.1	35.2
542.0	3770.7	35.7	582.0	3767.2	35.7	622.0	3768.6	35.7	662.0	3773.4	35.2
542.5	3771.4	35.7	582.5	3767.9	35.7	622.5	3768.6	35.7	662.5	3772.0	35.2
543.0	3771.4	35.7	583.0	3767.9	35.7	623.0	3767.9	35.7	663.0	3773.4	35.2
543.5	3771.4	35.7	583.5	3768.6	35.7	623.5	3767.9	35.7	663.5	3772.7	35.2
544.0	3771.4	35.7	584.0	3767.9	35.7	624.0	3768.6	35.7	664.0	3772.7	35.2
544.5	3771.4	35.7	584.5	3767.2	35.7	624.5	3768.6	35.7	664.5	3772.7	35.2
545.0	3770.0	35.7	585.0	3767.9	35.7	625.0	3767.2	35.7	665.0	3796.2	35.2
545.5	3770.7	35.7	585.5	3768.6	35.7	625.5	3767.9	35.7	665.5	3772.7	35.2
546.0	3771.4	35.7	586.0	3767.9	35.7	626.0	3767.2	35.7	666.0	3773.4	35.2
546.5	3770.7	35.7	586.5	3768.6	35.7	626.5	3767.9	35.7	666.5	3773.4	35.2
547.0	3770.7	35.7	587.0	3767.2	35.7	627.0	3769.3	35.7	667.0	3772.7	35.2
547.5	3771.4	35.7	587.5	3767.9	35.7	627.5	3767.9	35.7	667.5	3772.0	35.2
548.0	3771.4	35.7	588.0	3767.9	35.7	628.0	3768.6	35.7	668.0	3772.7	35.2
548.5	3769.3	35.7	588.5	3767.9	35.7	628.5	3769.3	35.7	668.5	3772.7	35.2
549.0	3769.3	35.7	589.0	3767.2	35.7	629.0	3767.9	35.7	669.0	3773.4	35.2
549.5	3770.7	35.7	589.5	3767.9	35.7	629.5	3768.6	35.7	669.5	3772.0	35.2
550.0	3770.7	35.7	590.0	3767.9	35.7	630.0	3768.6	35.7	670.0	3772.7	35.2
550.5	3770.7	35.7	590.5	3767.9	35.7	630.5	3767.9	35.7	670.5	3772.0	35.2
551.0	3770.7	35.7	591.0	3767.9	35.7	631.0	3768.6	35.7	671.0	3772.0	35.2
551.5	3770.0	35.7	591.5	3768.6	35.7	631.5	3767.9	35.7	671.5	3772.0	35.2
552.0	3769.3	35.7	592.0	3768.6	35.7	632.0	3767.9	35.7	672.0	3772.0	35.2
552.5	3770.0	35.7	592.5	3767.9	35.7	632.5	3767.9	35.7	672.5	3772.0	35.2
553.0	3770.0	35.7	593.0	3768.6	35.7	633.0	3767.9	35.7	673.0	3770.7	35.2
553.5	3769.3	35.7	593.5	3768.6	35.7	633.5	3768.6	35.7	673.5	3772.0	35.2
554.0	3770.7	35.7	594.0	3768.6	35.7	634.0	3768.6	35.7	674.0	3771.4	35.2
554.5	3768.6	35.7	594.5	3768.6	35.7	634.5	3767.9	35.7	674.5	3750.7	35.2
555.0	3770.0	35.7	595.0	3768.6	35.7	635.0	3768.6	35.7	675.0	3780.3	35.2
555.5	3770.0	35.7	595.5	3767.9	35.7	635.5	3768.6	35.7	675.5	3746.5	35.2
556.0	3770.0	35.7	596.0	3768.6	35.7	636.0	3767.9	35.7	676.0	3771.4	35.2
556.5	3770.0	35.7	596.5	3768.6	35.7	636.5	3767.2	35.7	676.5	3771.4	35.2
557.0	3768.6	35.7	597.0	3768.6	35.7	637.0	3767.9	35.7	677.0	3772.7	35.1
557.5	3769.3	35.7	597.5	3768.6	35.7	637.5	3768.6	35.7	677.5	3772.7	35.0
558.0	3770.0	35.7	598.0	3767.9	35.7	638.0	3768.6	35.7	678.0	3773.4	35.0
558.5	3769.3	35.7	598.5	3769.3	35.7	638.5	3768.6	35.7	678.5	3773.4	34.9
559.0	3770.0	35.7	599.0	3767.9	35.7	639.0	3767.9	35.7	679.0	3773.4	34.9
559.5	3768.6	35.7	599.5	3767.9	35.7	639.5	3768.6	35.7	679.5	3774.8	34.8
560.0	3768.6	35.7	600.0	3768.6	35.7	640.0	3840.3	35.7	680.0	3774.1	34.7
560.5	3767.9	35.7	600.5	3768.6	35.7	640.5	3771.4	35.7	680.5	3773.4	34.7
561.0	3767.2	35.7	601.0	3767.9	35.7	641.0	3772.7	35.7	681.0	3774.8	34.7
561.5	3767.9	35.7	601.5	3768.6	35.7	641.5	3773.4	35.7	681.5	3774.8	34.7
562.0	3767.9	35.7	602.0	3768.6	35.7	642.0	3773.4	35.7	682.0	3773.4	34.7
562.5	3767.2	35.7	602.5	3768.6	35.7	642.5	3774.1	35.7	682.5	3772.7	34.7
563.0	3768.6	35.7	603.0	3768.6	35.7	643.0	3774.8	35.7	683.0	3770.0	34.7
563.5	3767.9	35.7	603.5	3768.6	35.7	643.5	3773.4	35.7	683.5	3771.4	34.7
564.0	3767.2	35.7	604.0	3768.6	35.7	644.0	3761.7	35.7	684.0	3771.4	34.7
564.5	3767.9	35.7	604.5	3767.9	35.7	644.5	3709.3	35.7	684.5	3769.3	34.7
565.0	3767.2	35.7	605.0	3767.9	35.7	645.0	3772.7	35.7	685.0	3769.3	34.7
565.5	3767.2	35.7	605.5	3767.9	35.7	645.5	3772.7	35.7	685.5	3783.8	34.7

TEST REFERENCE#: 301120CR FILE STARTS: 3:54:00 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
686.0	3769.3	34.7	726.0	3772.0	30.2	766.0	2547.5	28.2	806.0	1364.4	24.9
686.5	3783.8	34.7	726.5	3708.6	30.2	766.5	2486.9	28.2	806.5	1365.1	24.9
687.0	3825.1	34.7	727.0	3685.9	30.2	767.0	2500.0	28.2	807.0	1365.1	24.8
687.5	3760.3	34.7	727.5	3685.2	30.2	767.5	2491.7	28.2	807.5	1365.1	24.7
688.0	3772.7	34.7	728.0	3661.0	30.2	768.0	2474.5	28.2	808.0	1365.1	24.7
688.5	3770.0	34.7	728.5	3608.6	30.2	768.5	2491.0	28.1	808.5	1363.7	24.7
689.0	3732.7	34.6	729.0	3479.0	30.2	769.0	2483.4	28.1	809.0	1363.7	24.7
689.5	3766.5	34.5	729.5	3481.1	30.2	769.5	2353.8	28.0	809.5	1363.0	24.7
690.0	3779.6	34.5	730.0	3479.7	30.2	770.0	2303.5	27.9	810.0	1361.0	24.7
690.5	3763.8	34.4	730.5	3481.1	30.2	770.5	2291.1	27.9	810.5	1361.0	24.7
691.0	3774.1	34.3	731.0	3481.1	30.2	771.0	2290.4	27.8	811.0	1361.7	24.7
691.5	3772.0	34.3	731.5	3480.4	30.2	771.5	2291.7	27.8	811.5	1359.6	24.7
692.0	3713.4	34.2	732.0	3480.4	30.2	772.0	2290.4	27.7	812.0	1360.3	24.7
692.5	3787.2	34.2	732.5	3478.3	30.1	772.5	2287.6	27.7	812.5	1358.9	24.7
693.0	3780.3	34.1	733.0	3479.7	30.1	773.0	2292.4	27.7	813.0	1363.7	24.7
693.5	3151.5	34.0	733.5	3479.0	30.0	773.5	2284.2	27.7	813.5	1361.7	24.7
694.0	3774.8	34.0	734.0	3388.7	30.0	774.0	2298.0	27.7	814.0	1365.1	24.7
694.5	3771.4	33.9	734.5	3485.2	29.9	774.5	2284.2	27.7	814.5	1359.6	24.7
695.0	3772.0	33.8	735.0	3458.3	29.8	775.0	2272.4	27.7	815.0	1358.2	24.7
695.5	3790.0	33.8	735.5	3412.8	29.8	775.5	2179.4	27.7	815.5	1361.0	24.7
696.0	3773.4	33.7	736.0	3479.0	29.7	776.0	2102.1	27.7	816.0	1388.5	24.7
696.5	3773.4	33.7	736.5	3469.4	29.7	776.5	2100.1	27.6	816.5	1362.3	24.6
697.0	3770.7	33.6	737.0	3466.6	29.7	777.0	2096.6	27.6	817.0	1361.7	24.6
697.5	3772.0	33.5	737.5	3285.3	29.7	777.5	2098.0	27.5	817.5	1360.3	24.5
698.0	3450.1	33.5	738.0	3284.6	29.7	778.0	2104.9	27.4	818.0	1256.2	24.4
698.5	3807.2	33.4	738.5	3284.6	29.7	778.5	2095.9	27.4	818.5	1185.1	24.4
699.0	3882.4	33.3	739.0	3272.9	29.7	779.0	2088.4	27.3	819.0	1185.8	24.3
699.5	3772.0	33.3	739.5	3250.1	29.7	779.5	2100.1	27.3	819.5	1185.1	24.2
700.0	3770.0	33.2	740.0	3306.6	29.7	780.0	2091.1	27.2	820.0	1207.2	24.2
700.5	3750.7	33.1	740.5	3381.1	29.7	780.5	1902.9	27.1	820.5	1190.7	24.2
701.0	3796.9	33.0	741.0	3277.0	29.7	781.0	1903.6	27.1	821.0	1184.5	24.2
701.5	3921.0	32.8	741.5	3093.6	29.7	781.5	1914.6	27.0	821.5	1181.0	24.2
702.0	3772.7	32.7	742.0	3092.2	29.7	782.0	1902.9	26.9	822.0	1179.6	24.2
702.5	3771.[illegible]	32.6	742.5	3092.9	29.7	782.5	1898.8	26.9	822.5	1183.1	24.2
703.0	3770.0	32.5	743.0	3163.9	29.7	783.0	1901.5	26.8	823.0	1183.1	24.2
703.5	3770.7	32.3	743.5	3115.0	29.7	783.5	1898.8	26.8	823.5	1179.6	24.2
704.0	3770.0	32.2	744.0	3060.5	29.7	784.0	1898.1	26.7	824.0	996.2	24.2
704.5	3909.9	32.2	744.5	3091.5	29.6	784.5	1896.7	26.7	824.5	993.5	24.2
705.0	3793.4	32.1	745.0	3082.6	29.6	785.0	1876.0	26.7	825.0	993.5	24.2
705.5	3932.7	32.0	745.5	2903.3	29.5	785.5	1710.5	26.7	825.5	993.5	24.2
706.0	3843.7	32.0	746.0	2899.9	29.5	786.0	1704.3	26.7	826.0	997.6	24.2
706.5	3771.4	31.9	746.5	2901.9	29.4	786.5	1708.5	26.7	826.5	994.2	24.2
707.0	3769.3	31.8	747.0	2951.6	29.3	787.0	1709.1	26.7	827.0	993.5	24.2
707.5	3768.6	31.8	747.5	2948.1	29.3	787.5	1705.0	26.7	827.5	994.2	24.2
708.0	3768.6	31.7	748.0	2933.6	29.2	788.0	1722.9	26.7	828.0	993.5	24.2
708.5	3767.2	31.6	748.5	2940.5	29.2	788.5	1706.4	26.6	828.5	992.1	24.1
709.0	3767.2	31.6	749.0	2906.8	29.2	789.0	1707.8	26.6	829.0	817.0	24.1
709.5	3761.0	31.5	749.5	2814.4	29.2	789.5	1707.1	26.5	829.5	816.3	24.0
710.0	3772.7	31.5	750.0	2945.4	29.2	790.0	1705.7	26.4	830.0	818.4	23.9
710.5	3810.7	31.4	750.5	2837.8	29.2	790.5	1707.8	26.4	830.5	814.9	23.9
711.0	3772.0	31.3	751.0	2840.6	29.2	791.0	1709.8	26.3	831.0	815.6	23.8
711.5	3771.4	31.3	751.5	2724.7	29.2	791.5	1705.0	26.2	831.5	812.8	23.7
712.0	3769.3	31.2	752.0	2668.9	29.2	792.0	1689.2	26.2	832.0	811.5	23.7
712.5	3742.4	31.1	752.5	2737.1	29.1	792.5	1529.9	26.1	832.5	811.5	23.7
713.0	3833.4	31.1	753.0	2734.4	29.1	793.0	1527.8	26.1	833.0	810.8	23.7
713.5	3793.4	31.0	753.5	2739.2	29.0	793.5	1527.1	26.0	833.5	812.1	23.7
714.0	3780.3	31.0	754.0	2745.4	28.9	794.0	1525.7	25.9	834.0	637.0	23.7
714.5	3769.3	30.9	754.5	2748.2	28.9	794.5	1528.5	25.9	834.5	637.0	23.7
715.0	3768.6	30.8	755.0	2745.4	28.8	795.0	1527.8	25.8	835.0	634.3	23.7
715.5	3749.3	30.8	755.5	2754.4	28.8	795.5	1527.1	25.7	835.5	630.8	23.7
716.0	3764.5	30.7	756.0	2742.0	28.7	796.0	1527.8	25.7	836.0	630.8	23.7
716.5	3774.1	30.7	756.5	2745.4	28.7	796.5	1527.8	25.7	836.5	630.1	23.7
717.0	3807.2	30.7	757.0	2748.2	28.7	797.0	1525.1	25.7	837.0	612.9	23.7
717.5	3747.9	30.7	757.5	2751.6	28.7	797.5	1521.6	25.7	837.5	628.7	23.7
718.0	3756.9	30.7	758.0	2753.0	28.7	798.0	1525.7	25.7	838.0	630.1	23.7
718.5	3752.7	30.7	758.5	2753.0	28.7	798.5	1522.3	25.7	838.5	626.0	23.7
719.0	3685.9	30.7	759.0	2742.0	28.7	799.0	1524.4	25.7	839.0	457.1	23.7
719.5	3676.9	30.7	759.5	2748.2	28.7	799.5	1523.0	25.7	839.5	455.0	23.7
720.0	3674.1	30.7	760.0	2750.9	28.7	800.0	1522.3	25.7	840.0	455.0	23.7
720.5	3674.8	30.6	760.5	2751.6	28.6	800.5	1524.4	25.6	840.5	453.6	23.6
721.0	3674.8	30.6	761.0	2628.2	28.6	801.0	1534.7	25.6	841.0	452.9	23.5
721.5	3676.9	30.5	761.5	2693.7	28.5	801.5	1527.1	25.5	841.5	453.6	23.5
722.0	3685.9	30.5	762.0	2662.7	28.4	802.0	1527.8	25.4	842.0	452.9	23.4
722.5	3685.2	30.4	762.5	2748.9	28.4	802.5	1518.9	25.4	842.5	452.9	23.4
723.0	3685.2	30.3	763.0	2696.5	28.3	803.0	1611.2	25.3	843.0	452.9	23.3
723.5	3685.9	30.3	763.5	2513.1	28.3	803.5	1523.0	25.2	843.5	453.6	23.2
724.0	3684.5	30.2	764.0	2489.6	28.2	804.0	1574.4	25.2	844.0	452.9	23.2
724.5	3684.5	30.2	764.5	2488.2	28.2	804.5	1525.1	25.1	844.5	449.5	23.2
725.0	3684.5	30.2	765.0	2510.3	28.2	805.0	1525.7	25.1	845.0	395.0	23.2
725.5	3676.2	30.2	765.5	2502.7	28.2	805.5	1523.0	25.0	845.5	271.6	23.2

TEST REFERENCE#: 301120CR FILE STARTS: 3:54:00 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
846.0	268.8	23.2									
846.5	269.5	23.2									
847.0	269.5	23.2									
847.5	270.2	23.2									
848.0	270.2	23.2									
848.5	270.2	23.2									
849.0	266.8	23.2									
849.5	270.2	23.2									
850.0	269.5	23.2									
850.5	268.2	23.2									
851.0	263.3	23.2									
851.5	255.1	23.2									
852.0	250.2	23.2									
852.5	247.5	22.9									
853.0	236.4	22.5									
853.5	204.7	22.2									
854.0	89.6	21.9									
854.5	89.6	21.6									
855.0	89.6	21.3									
855.5	89.6	21.0									
856.0	89.6	20.7									
856.5	89.6	20.5									
857.0	89.6	20.3									
857.5	89.6	20.1									
858.0	89.6	19.9									
858.5	89.6	19.7									
859.0	89.6	19.5									
859.5	89.6	19.3									
860.0	89.6	19.2									
860.5	89.6	19.1									
861.0	89.6	19.0									
861.5	89.6	19.0									
862.0	89.6	18.9									
862.5	89.6	18.8									
863.0	89.6	18.8									
863.5	89.6	18.7									
864.0	89.6	18.7									
864.5	89.6	18.6									
865.0	89.6	18.5									
865.5	89.6	18.5									
866.0	89.6	18.4									
866.5	89.6	18.3									
867.0	89.6	18.3									
867.5	89.6	18.2									
868.0	89.6	18.2									
868.5	89.6	18.1									
869.0	89.6	18.0									
869.5	89.6	18.0									
870.0	89.6	17.9									
870.5	89.6	17.8									
871.0	89.6	17.8									
871.5	89.6	17.7									
872.0	89.6	17.6									
872.5	89.6	17.6									
873.0	89.6	17.5									
873.5	89.6	17.5									
874.0	89.6	17.4									
874.5	89.6	17.3									

A) CORE ANALYSIS

CORE ANALYSIS REPORT

FOR

PETRO-CANADA INC.

PCI ISLAND LAKE N-45
60°4'56.36" N LAT 122°53'33.67" W LONG
ISLAND LAKE, NORTHERN CANADA, ONSHORE

CORE LABORATORIES

Company : PETRO-CANADA INC.
Well : PCI ISLAND LAKE N-45
Location : 60°4'56.36" N LAT 122°53'33.67" W LONG
Province : NORTHERN CANADA, ONSHORE

Field : ISLAND LAKE
Formation : JEAN MARIE
Coring Equip.: DIAMOND
Coring Fluid : WATER BASE MUD

File No.: 52131-90-0166
Date : 90-03-06
Analysts: JC
Core Dia: 100 mm

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH m	INTVL REP m	SAMPLE LENGTH m	PERMEABILITY (MAXIMUM) Kair mD	PERMEABILITY (90 DEG) Kair mD	PERMEABILITY (VERTICAL) Kair mD	CAPACITY (MAXIMUM) Kair mD-m	POROSITY (HELIUM) fraction	CAPACITY (HELIUM) φ-m	BULK DENSITY kg/m3	GRAIN DENSITY kg/m3	SATURATION (PORE VOLUME) OIL frac	SATURATION (PORE VOLUME) WATER frac	DESCRIPTION
CORE NO. 1 1405.00 - 1423.00 m (CORE RECEIVED 18.00 m) (16 BOXES)														
1	1405.00- 05.15	0.15	0.08	0.58	0.57	0.30	0.087	0.036	0.006	2630.	2720.	0.000	0.210	ls i ppv sty frac
SP 2	1405.15- 05.21	0.06	-	0.01	-	-	0.001	0.006	0.001	-	2700.	TRACE	0.349	ls i
3	1405.21- 05.42	0.21	0.07	0.50	0.49	0.23	0.105	0.005	0.000	2680.	2690.	0.000	0.260	ls i vfrac
4	1405.42- 05.53	0.11	0.08	0.61	0.22	0.12	0.067	0.016	0.002	2650.	2690.	0.432	0.173	ls i sty frac
SP 5	1405.53- 05.60	0.07	-	0.11	-	-	0.008	0.060	0.004	-	2720.	0.373	0.149	ls i ppv
6	1405.60- 05.81	0.21	0.11	0.37	0.24	0.35	0.078	0.050	0.010	2570.	2700.	0.221	0.161	ls i ppv sty frac
SP 7	1405.81- 05.96	0.15	-	0.17	-	-	0.025	0.035	0.006	-	2710.	0.219	0.122	ls i ppv
8	1405.96- 06.14	0.18	0.10	1.20	0.77	0.38	0.216	0.054	0.009	2580.	2720.	0.371	0.179	ls i ppv sty frac
9	1406.14- 06.40	0.26	0.16	3.13	1.83	0.14	0.814	0.042	0.010	2630.	2740.	TRACE	0.154	ls i ppv foss sty frac
10	1406.40- 06.61	0.21	0.16	0.08	0.06	0.05	0.017	0.031	0.006	2620.	2710.	0.252	0.172	ls i ppv foss sty vfrac
SP 11	1406.61- 06.69	0.08	-	<.01	-	-	0.000	0.017	0.002	-	2700.	TRACE	0.206	ls i ppv
SP 12	1406.69- 06.79	0.10	-	<.01	-	-	0.000	0.008	0.001	-	2700.	TRACE	0.145	ls i
13	1406.79- 07.14	0.35	0.20	0.02	0.02	<.01	0.007	0.005	0.000	2690.	2690.	TRACE	0.347	ls i sty
14	1407.14- 07.27	0.13	0.08	0.06	0.04	0.07	0.008	0.007	0.001	2670.	2690.	0.465	0.186	ls i vfrac
15	1407.27- 07.51	0.24	0.04	0.10	0.02	0.02	0.024	0.005	0.000	2660.	2660.	0.000	0.291	ls i vfrac
16	1407.51- 07.79	0.28	0.12	0.27	0.12	0.02	0.076	0.005	0.000	2680.	2690.	0.000	0.331	ls i frac
17	1407.79- 08.00	0.21	0.04	0.04	0.02	0.04	0.008	0.006	0.002	2670.	2680.	0.000	0.278	ls i sty vfrac
SP 18	1408.00- 08.07	0.07	-	<.01	-	-	0.000	0.011	0.001	-	2710.	TRACE	0.283	ls i ppv
19	1408.07- 08.27	0.20	0.15	0.08	0.05	0.08	0.016	0.005	0.000	2690.	2700.	0.000	0.267	ls i foss vfrac
20	1408.27- 08.37	0.10	0.05	0.03	0.03	0.01	0.003	0.013	0.001	2670.	2710.	0.000	0.216	ls i ppv foss sty frac
21	1408.37- 08.50	0.13	0.09	0.03	0.02	0.01	0.004	0.011	0.001	2680.	2700.	TRACE	0.280	ls i foss sty frac
22	1408.50- 08.75	0.25	0.18	0.02	0.01	0.03	0.005	0.011	0.002	2680.	2710.	TRACE	0.278	ls i sty frac
23	1408.75- 08.89	0.14	0.09	0.05	0.05	0.02	0.007	0.019	0.003	2660.	2720.	TRACE	0.379	ls i ppv frac
SP 24	1408.89- 08.98	0.09	-	<.01	-	-	0.000	0.006	0.001	-	2710.	TRACE	0.216	ls i
25	1408.98- 09.13	0.15	0.09	0.75	0.17	0.14	0.112	0.096	0.015	2680.	2700.	0.000	0.279	ls i sty vfrac

CORE LABORATORIES

Company : PETRO-CANADA INC.
Well : PCI ISLAND LAKE N-45

Field : ISLAND LAKE
Formation : JEAN MARIE

File No.: 52131-90-0166
Date : 90-03-06

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH m	INTVL REP m	SAMPLE LENGTH m	PERMEABILITY (MAXIMUM) Kair mD	PERMEABILITY (90 DEG) Kair mD	PERMEABILITY (VERTICAL) Kair mD	CAPACITY (MAXIMUM) Kair mD-m	POROSITY (HELIUM) fraction	CAPACITY (HELIUM) ϕ-m	BULK DENSITY kg/m3	GRAIN DENSITY kg/m3	SATURATION (PORE VOLUME) OIL frac	SATURATION (PORE VOLUME) WATER frac	DESCRIPTION
26	1409.13- 09.29	0.16	0.12	0.05	0.04	0.02	0.008	0.079	0.013	2680.	2710.	TRACE	0.280	ls i sty frac
27	1409.29- 09.43	0.14	0.09	0.03	0.03	<.01	0.004	0.044	0.006	2680.	2700.	TRACE	0.313	ls i sty
28	1409.43- 09.82	0.39	0.12	0.02	0.02	0.01	0.008	0.052	0.020	2680.	2710.	TRACE	0.242	ls i sty
SP 29	1409.82- 09.87	0.05	-	0.02	-	-	0.001	0.029	0.002	-	2740.	TRACE	0.426	ls i ppv
30	1409.87- 09.98	0.11	0.09	0.02	<.01	0.01	0.002	0.023	0.002	2680.	2690.	TRACE	0.276	ls i sty
31	1409.98- 10.36	0.38	0.12	0.02	0.02	0.01	0.008	0.051	0.019	2670.	2700.	TRACE	0.318	ls i sty vfrac
32	1410.36- 10.81	0.45	0.16	41.2	0.02	0.19	18.540	0.055	0.023	2660.	2700.	TRACE	0.334	ls i foss sty vfrac
33	1410.81- 11.12	0.31	0.14	0.01	0.01	0.01	0.003	0.039	0.012	2660.	2690.	TRACE	0.302	ls i sty frac
34	1411.12- 11.32	0.20	0.12	0.08	0.05	<.01	0.016	0.087	0.018	2660.	2720.	TRACE	0.272	ls i ppv sty frac
35	1411.32- 11.70	0.38	0.11	0.02	0.02	<.01	0.008	0.072	0.027	2670.	2720.	TRACE	0.313	ls i ppv sty frac
-	1411.70- 15.61	3.91												ls sh
-	1415.61- 23.00	7.39												sh

CORE LABORATORIES

CODE KEY - DESCRIPTIONS

a	= Plug from full diameter sample
anhy	= Anhydrite
ADT	= Appears similar to
bk	= Break
bldr	= Boulder
c	= Coarse
calc	= Calcite (areous)
carb	= Carbonaceous
cbl	= Cobble
CEC	= Cation exchange capacity
cem	= Cemented
cgl	= Conglomerate
cht	= Chert
coal	= Coal/Coal Inclusion
dol	= Dolomite
f	= Fine
fest	= Ironstone
foss	= Fossil (iferous)
frac	= Fracture
fri	= Friable
glauc	= Glauconite (ic)
grnl	= Granule
gyp	= Gypsum
hfrac	= Horizontal fracture
hal	= Halite (Salt)
i	= Intergranular
incl	= Inclusions
lam	= Laminae (Laminated)
lmy	= Limy
ls	= Limestone
lv	= Large vug
m	= Medium
mi	= Mud invaded
mic	= Micaceous
mshy	= Moderately shaly (20-40%)
mv	= Medium vug
NA	= Not analysed by request
NP	= No permeability measurement
NR	= Not received
ool	= Oolitic
OB	= Overburden
P	= Preserved for future studies
pbl	= Pebble
PET	= Removed for petrographic analysis
POA	= Portion removed for oil analysis
ppv	= Pinpoint Vug
PSA	= Particle size analysis
pyr	= Pyrite (ic)
pyrbit	= Pyrobitumen
SA	= Sieve Analysis
SCAL	= Removed for special core analysis
sdy	= Sandy
SEM	= Scanning electron microscope analysis
sh	= Shale
shy	= Moderately shaly (20-40%)
sltst	= Siltstone
slty	= Silty
SP	= Small plug
ss	= Sandstone
sshy	= Slightly Shaly (<20%)
sty	= Stylolite (ic)
sulf	= Sulphur
sv	= Small vug
tr	= Trace
TS	= Thin section
uncons	= Unconsolidated
vfrac	= Vertical fracture
vf	= Very fine
VOB	= Vertical overburden sample
vshy	= Very shaly (>40%)
VSP	= Vertical small plug
vug	= Vuggy (ular)
ws	= Water sand
XRD	= X-ray diffraction

CORE LABORATORIES

Company : PETRO-CANADA INC.
Well : PCI ISLAND LAKE N-45

Field : ISLAND LAKE
Formation : JEAN MARIE

File No.: 52131-90-0166
Date : 90-03-06

ANALYTICAL PROCEDURES AND QUALITY ASSURANCE

HANDLING & CLEANING

Core Transportation :
Solvent : TOLUENE
Extraction Equipment : VAPOUR PHASE/CO2 EXTRACTOR
Extraction Time : 8 DAYS
Drying Equipment : GRAVITY OVEN
Drying Time : 48 HOURS
Drying Temperature : 115 DEGREES C.

ANALYSIS

Grain volume measured by Boyle's Law in a modified U.S.B.M. porosimeter using He
Grain volume measured by Boyle's Law in a matrix cup using He
Bulk volume measured by calipering
Bulk volume by Archimedes Principle
Fluid saturations by retort
Core Gamma Spectral

REMARKS

Higher measured permeability on sample number 32 is due to fracturing in the core.

CORE LABORATORIES

Company : PETRO-CANADA INC.
Well : PCI ISLAND LAKE N-45

Field : ISLAND LAKE
Formation : JEAN MARIE

File No.: 52131-90-0166
Date : 90-03-06

TABLE I

SUMMARY OF CORE DATA

ZONE AND CUTOFF DATA

ZONE:

Identification --------	JEAN MARIE
Top Depth ----------	1405.00 m
Bottom Depth ----------	1423.00 m
Number of Samples --------	35

DATA TYPE:

Porosity ----------	(HELIUM)
Permeability ----------	(MAXIMUM) Kair

CUTOFFS:

Porosity (Minimum) -------	0.000 frac
Porosity (Maximum) -------	1.000 frac
Permeability (Minimum) ---	0.0000 mD
Permeability (Maximum) ---	100000. mD
Water Saturation (Maximum)	1.000 frac
Oil Saturation (Minimum) -	0.000 frac
Grain Density (Minimum) --	2000. kg/m3
Grain Density (Maximum) --	3000. kg/m3
Lithology Excluded -------	NONE

CHARACTERISTICS REMAINING AFTER CUTOFFS

ZONE:

Number of Samples -----	35
Thickness Represented -	6.70 m

POROSITY:

Storage Capacity ------	0.233 ϕ-m
Arithmetic Average ----	0.035 frac
Minimum ----------	0.005 frac
Maximum ----------	0.096 frac
Median ----------	0.023 frac
Standard Deviation ----	±0.026 frac

GRAIN DENSITY:

Arithmetic Average ----	2703. kg/m3
Minimum ----------	2660. kg/m3
Maximum ----------	2740. kg/m3
Median ----------	2700. kg/m3
Standard Deviation ----	±16. kg/m3

PERMEABILITY:

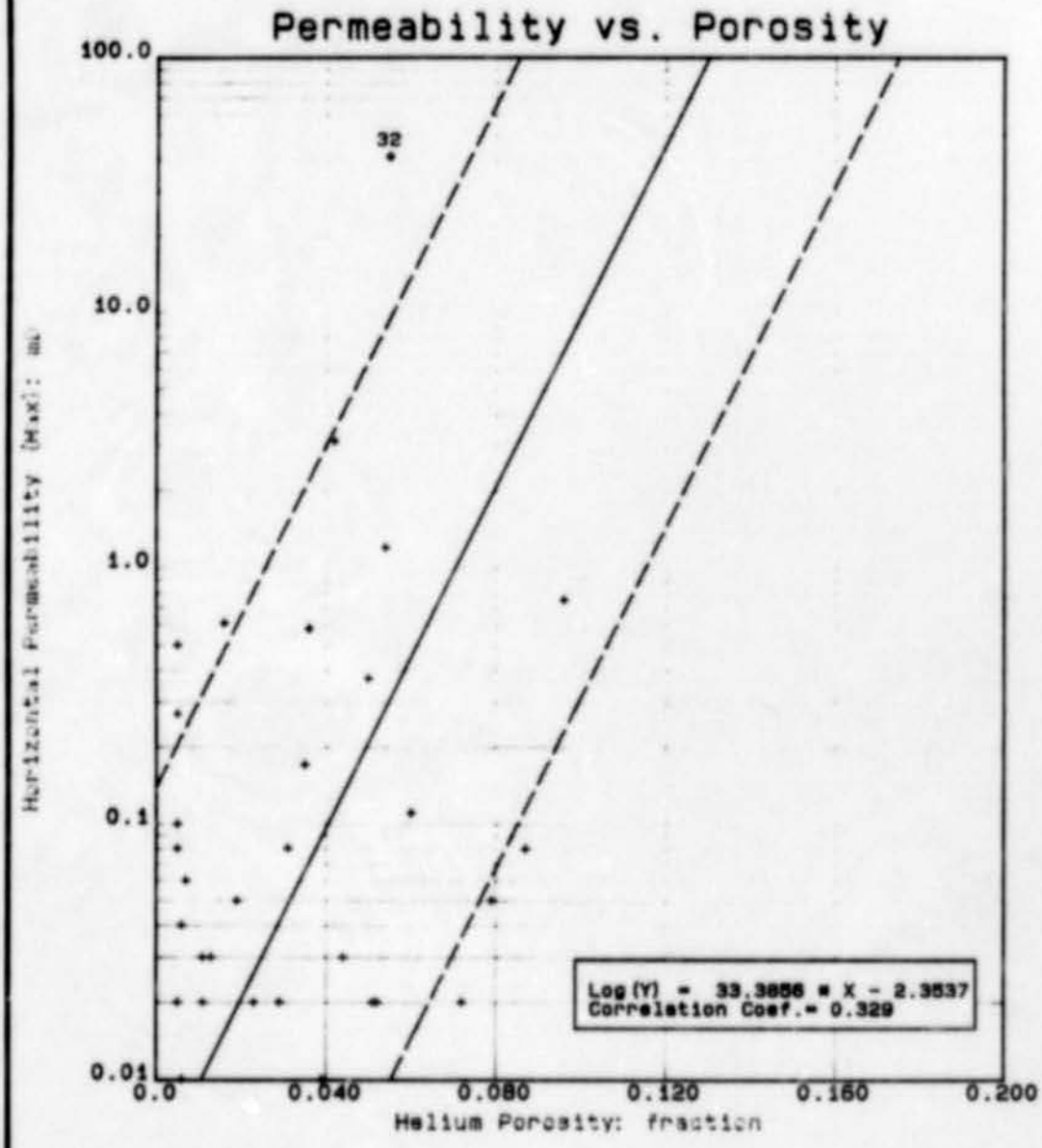
Flow Capacity ---------	20.29 mD-m
Arithmetic Average ----	3.03 mD
Geometric Average -----	0.09 mD
Harmonic Average ------	0.01 mD
Minimum ----------	0.00 mD
Maximum ----------	41.2 mD
Median ----------	0.05 mD
Standard Dev. (Geom) --	$K \cdot 10^{\pm 1.017}$ mD

HETEROGENEITY (Permeability):

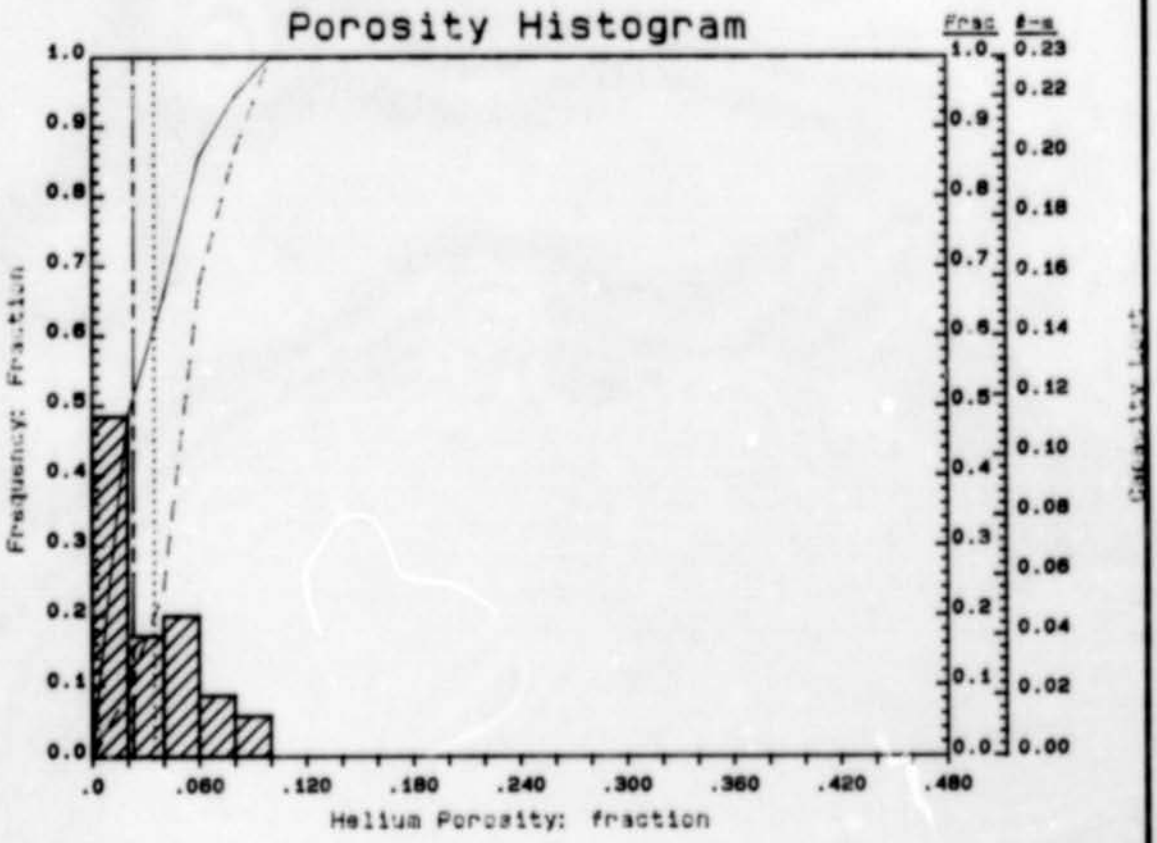
Dykstra-Parsons Var. --	0.776
Lorenz Coefficient ----	0.896

AVERAGE SATURATIONS (Pore Volume):

Oil ----------	0.050 frac
Water ----------	0.265 frac



PETRO-CANADA INC. PCI ISLAND LAKE N-45 ISLAND LAKE JEAN MARIE (1405.00 - 1423.00 m) Core Laboratories	- LEGEND - JEAN MARIE *Deleted



PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

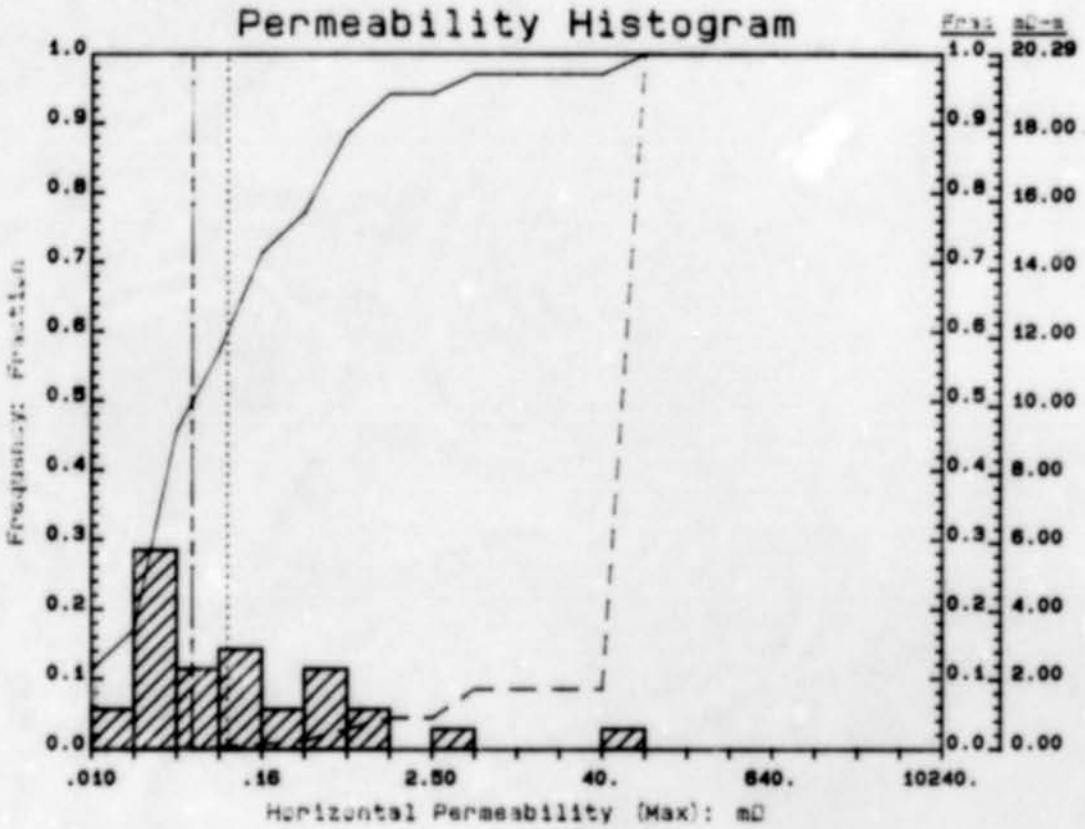
JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

- LEGEND -

——— Median Value (0.023)
..... Arith. Average (0.035)
——— Cumulative Frequency
— — — Cumulative Capacity Lost

35 Samples



PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

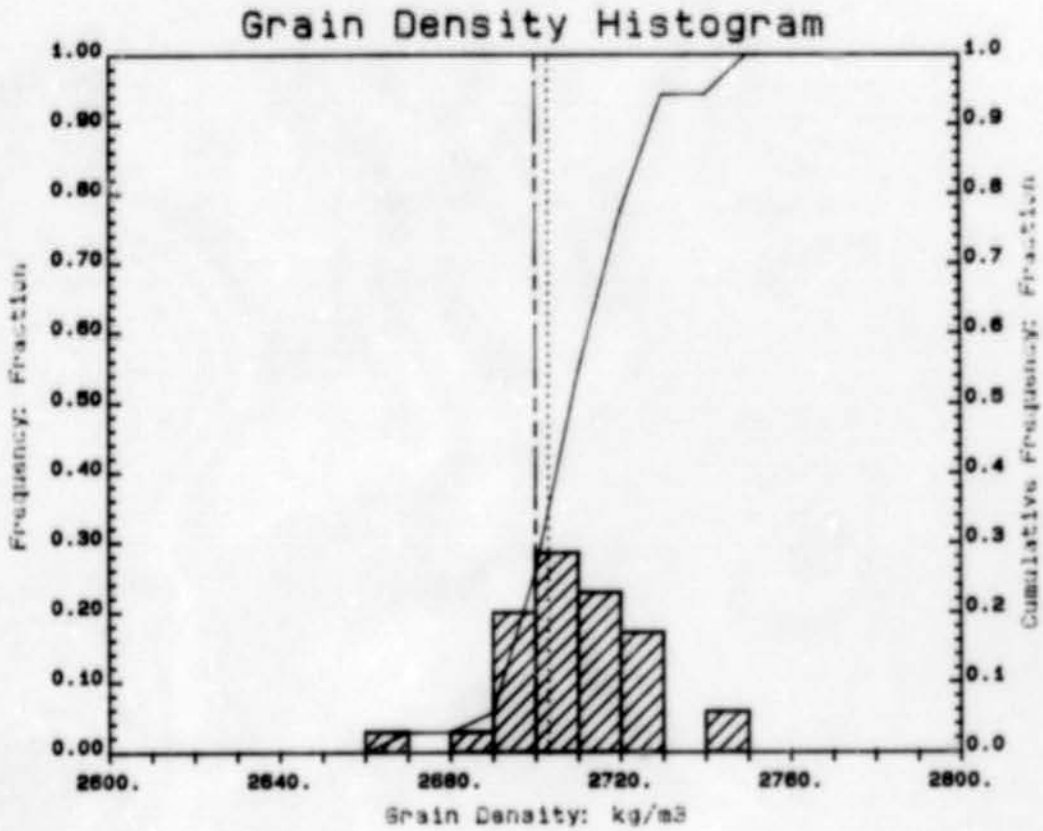
JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

- LEGEND -

——— Median Value (0.050)
..... Geom. Average (0.089)
——— Cumulative Frequency
— — — Cumulative Capacity Lost

35 Samples



PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

- LEGEND -

Median Value (2700)
Arith. Average (2703)
Cumulative Frequency

35 Samples

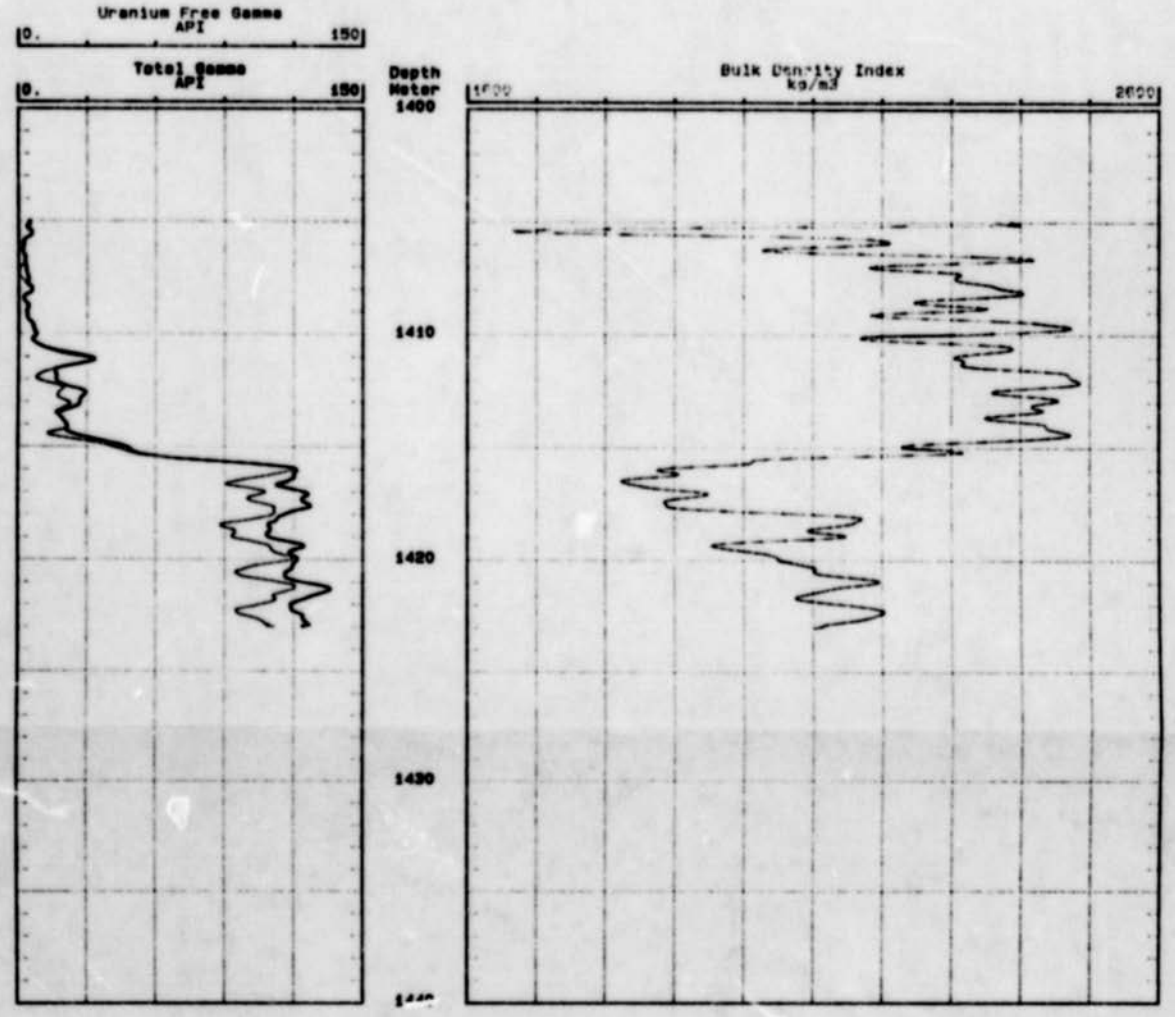
BULK DENSITY INDEX

PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

Vertical Scale
10.00 cm = 24.0 meter



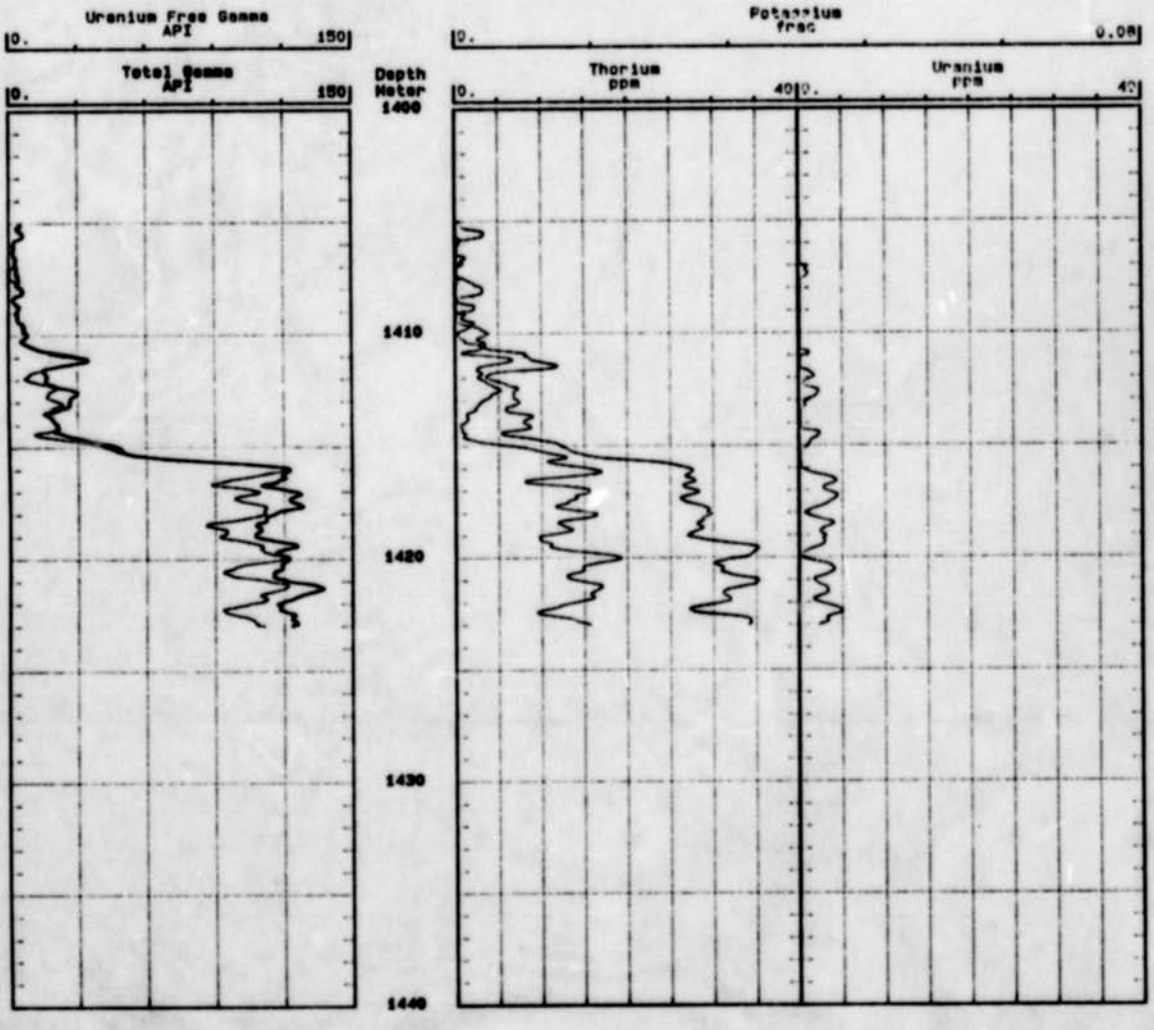
CORE SPECTRAL GAMMA

PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

Vertical Scale
10.00 cm = 24.0 meter



CORRELATION COREGRAPH

PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

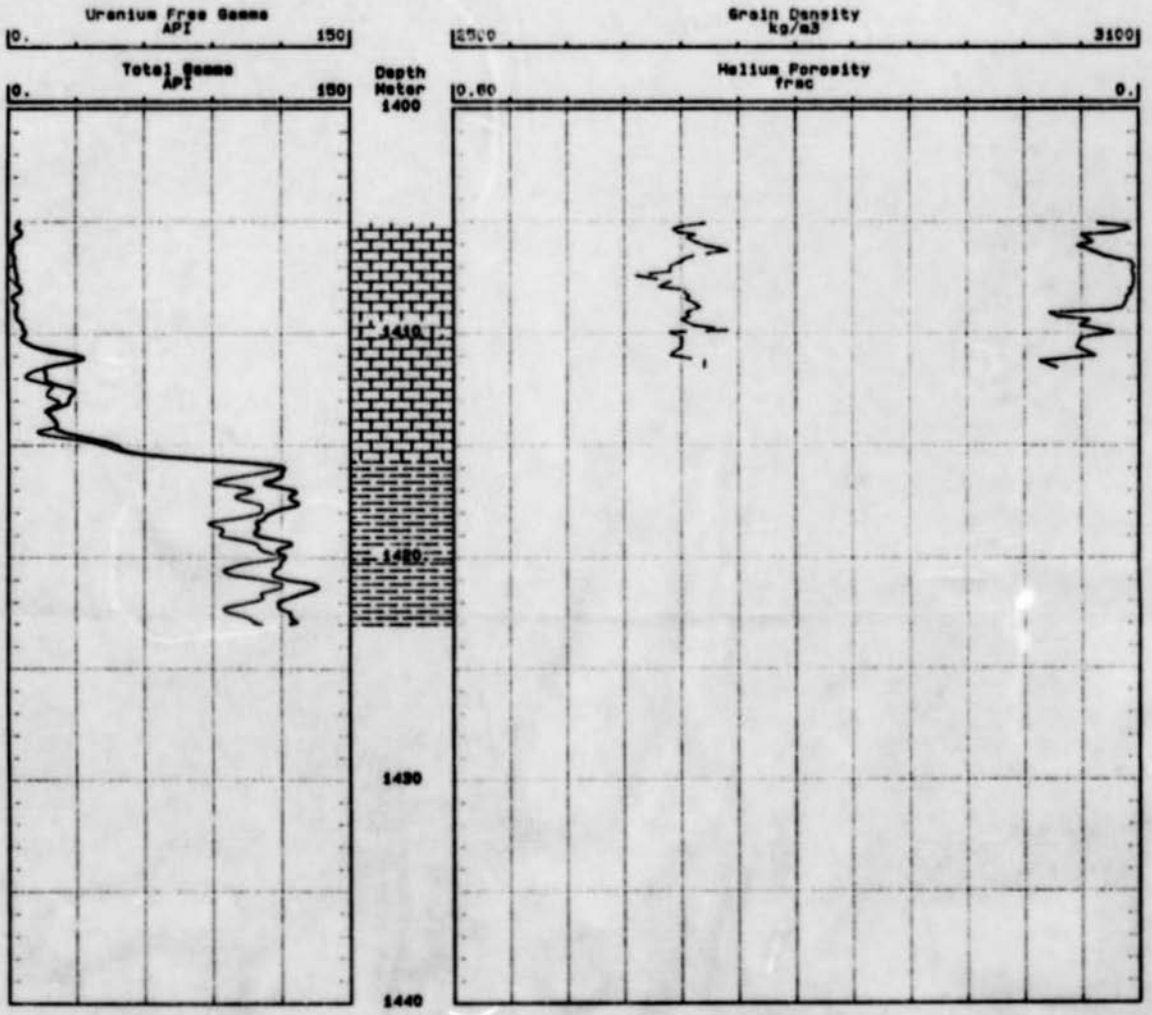
JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

Vertical Scale
10.00 cm = 24.0 meter

- Lithology Legend -

Limestone Shale



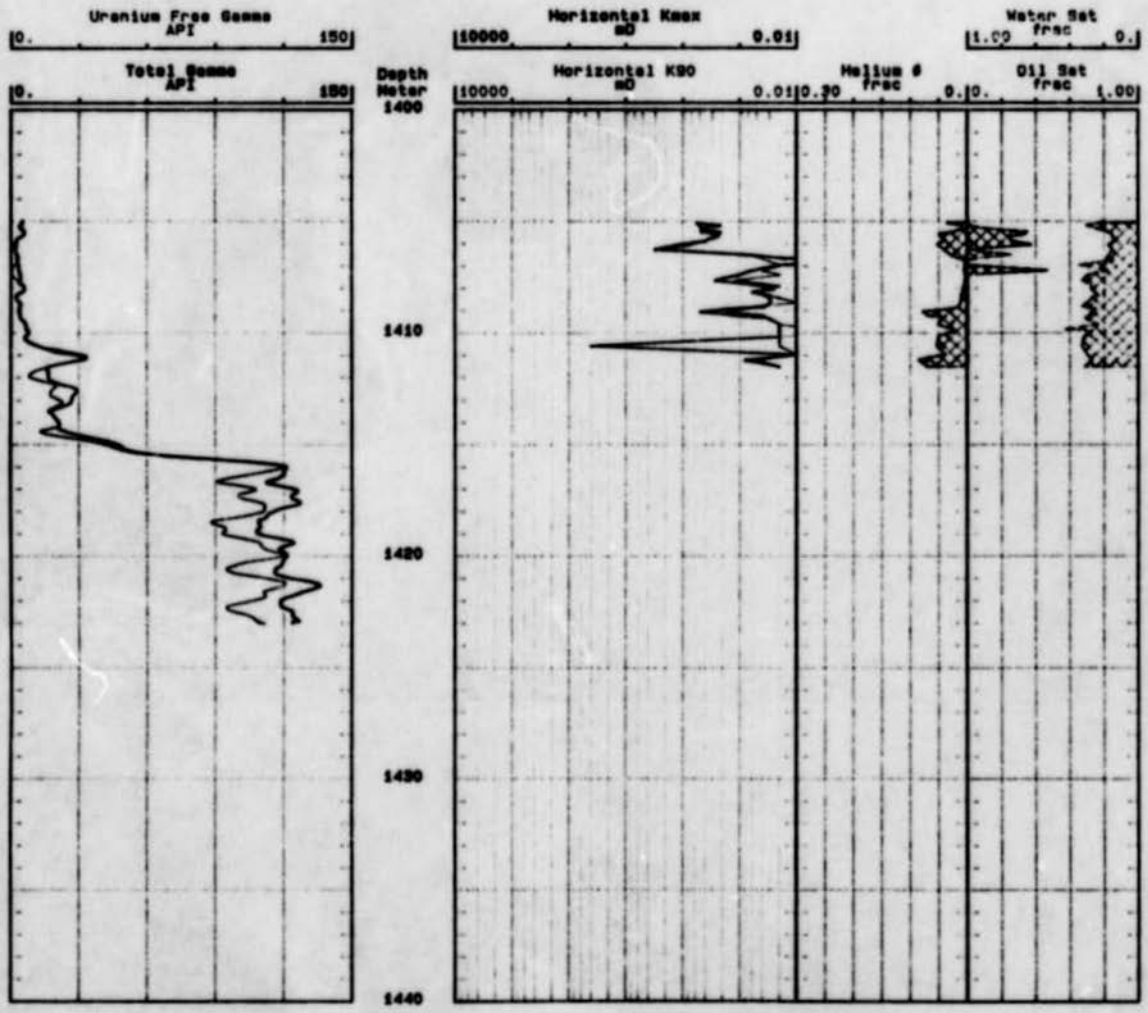
CORRELATION COREGRAPH

PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

Vertical Scale
10.00 cm = 24.0 meter



B) FLUID ANALYSIS

WATER, GAS AND
DST SAMPLER DEPLETION ANALYSES

FOR

PETRO-CANADA INC.

ISLAND LAKE

N.W.T.

File: 52136-90-544

Date: 90-03-30

CORE LABORATORIES

CORE LABORATORIES

WATER ANALYSIS

CONTAINER IDENTITY: Plastic	LABORATORY NUMBER: 52136-90-544
OPERATOR: Petro-Canada Inc.	PAGE: 1 of 12
LOCATION:	WELL OR SAMPLE LOCATION NAME: PCI Island Lake N-45
KB ELEV. (m): 609.9	GR ELEV. (m): 605.4
FIELD OR AREA: Island Lake, N.W.T.	POOL OR ZONE: Red Knife/Jean Marie
SAMPLER: SOC Testing	
TEST TYPE & NO.: DST # 3	TEST RECOVERY: 10 metres of gas cut mud
POINT OF SAMPLE: Recovery 1	AMT. & TYPE CUSHION:
MUD RESISTIVITY: @ °C	
TEST INTERVALS (metres): 1390.00-1409.00 mkB	PUMPING / FLOWING / GAS LIFT / SWAB
WATER m³/d	OIL m³/d
GAS m³/d	
SEPARATOR	RESERVOIR
CONTAINER WHEN SAMPLED: @ °C	CONTAINER WHEN RECEIVED: @ °C
PRESSURES, kPa (gauge)	SEPARATOR
TEMPERATURES, °C	
DATE SAMPLED (Y/M/D): 90 03 09	DATE RECEIVED (Y/M/D): 90 03 14
DATE ANALYZED (Y/M/D): 90 03 29	ANALYST: AM
REMARKS:	

Resistivity @ 25 degrees C (Ohm-metres): 1.68

Chloride Content (mg/litre): 593

CORE LABORATORIES

DST SAMPLER DEPLETION

BHS (CONTAINER IDENTITY)	52136-90-544 (LABORATORY NUMBER)
Petro-Canada Inc. (OPERATOR)	2 of 12 (PAGE)
(LOCATION)	PCI Island Lake N-45 (WELL OR SAMPLE LOCATION NAME)
609.9 (KB ELEV.(m))	605.4 (GR ELEV.(m))
Island Lake, N.W.T. (FIELD OR AREA)	Red Knife/Jean Marie (POOL OR ZONE)
SOC Testing (SAMPLER)	
DST # 3 (TEST TYPE & NO.)	10 metres of light gas cut mud (TEST RECOVERY)
Bottomhole (POINT OF SAMPLE)	(AMT. & TYPE CUSHION)
@ °C (MUD RESISTIVITY)	
1390.00-1409.00 mkB (TEST INTERVALS (metres))	PUMPING / FLOWING / GAS LIFT / SWAB
WATER m³/d	OIL m³/d
GAS m³/d	
SEPARATOR / RESERVOIR	@ °C (CONTAINER WHEN SAMPLED)
@ °C (CONTAINER WHEN RECEIVED)	SEPARATOR
PRESSURES, kPa (gauge)	TEMPERATURES, °C
90 03 09 (DATE SAMPLED (Y/M/D))	90 03 14 (DATE RECEIVED (Y/M/D))
90 03 14 (DATE ANALYZED (Y/M/D))	HE (ANALYST)
(REMARKS)	

DST SAMPLER DEPLETION

The following data was compiled from the Drill Stem Test

Sampler chamber identification number 103734

The opening pressure of this tool was 0 kPa @ 22 Degrees C.

The recovery was determined as being:

0 cc of Hydrocarbon Liquid

1500 cc of Water

0 cc of Drilling Mud

0 Gas Sample(s)

CORE LABORATORIES

WATER ANALYSIS

Plastic — CONTAINER IDENTITY

52136-90-544 — LABORATORY NUMBER

Petro-Canada Inc — OPERATOR

3 of 12 — PAGE

PCI Island Lake N-45 — WELL OR SAMPLE LOCATION NAME

609.9 — KB ELEV. (m)

605.4 — GR ELEV. (m)

LOCATION

Island Lake, N.W.T. — FIELD OR AREA

Red Knife/Jean Marie — POOL OR ZONE

SOC Testing — SAMPLER

DST # 3 — TEST TYPE & NO.

10 metres of light gas cut mud — TEST RECOVERY

Bottomhole — POINT OF SAMPLE

ANT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

1390.00-1409.00 mkB — TEST INTERVALS (metres)

PUMPING | FLOWING | GAS LIFT | SWAB

WATER m³/d | OIL m³/d | GAS m³/d

SEPARATOR | RESERVOIR | CONTAINER WHEN SAMPLED @ °C | CONTAINER WHEN RECEIVED @ °C | SEPARATOR

PRESSURES, kPa (gauge) | TEMPERATURES, °C

90 03 09 — DATE SAMPLED (Y/M/D)

90 03 14 — DATE RECEIVED (Y/M/D)

90 03 29 — DATE ANALYZED (Y/M/D)

AM — ANALYST

REMARKS

CATIONS

ION	mg/L	mg fraction	MEQ/L
Na	7200	.3119	313.2
K	40	.0017	1.0
Ca	94	.0041	4.7
Mg	166	.0072	13.7
Ba			
Sr			
Fe	Not Detected		

ANIONS

ION	mg/L	mg fraction	MEQ/L
Cl	13066	.5660	368.5
Br			
I			
HCO_3	2465	.1068	40.4
SO_4	55	.0024	1.1
CO_3	0	.0000	0.0
OH	0	.0000	0.0
H_2S	Not Detected		

TOTAL SOLIDS (mg/L)

BY EVAPORATION @ 110°C

BY EVAPORATION @ 180°C

AT IGNITION

23086 — CALCULATED

1.0180 @15.6°C — SPECIFIC GRAVITY

1.3368 @25 °C — REFRACTIVE INDEX

7.9 — pH

0.290 @25°C — RESISTIVITY (OHM-METRES)

LOGARITHMIC PATTERN OF DISSOLVED IONS (meq/L)

REMARKS: NaCl equiv. 21420

CORE LABORATORIES

DST SAMPLER DEPLETION

BHS (CONTAINER IDENTITY)	52136-90-544 (LABORATORY NUMBER)
Petro-Canada Inc. (OPERATOR)	4 of 12 (PAGE)
PCI Island Lake N-45 (WELL OR SAMPLE LOCATION NAME)	609.9 (KB ELEV.(m)) 605.4 (GR ELEV.(m))
Island Lake, N.W.T. (FIELD OR AREA)	Red Knife/Jean Marie (POOL OR ZONE)
SOC Testing (SAMPLER)	
DST # 3 (TEST TYPE & NO.)	10 metres of very light gas cut mud (TEST RECOVERY)
Bottomhole (POINT OF SAMPLE)	AMT. & TYPE CUSHION
@ °C MUD RESISTIVITY	
1390.00-1409.00 mkB (TEST INTERVALS (metres))	PUMPING / FLOWING / GAS LIFT / SWAB
WATER m³/d	OIL m³
GAS m³/d	
SEPARATOR / RESERVOIR	@ °C CONTAINER WHEN SAMPLED
@ °C CONTAINER WHEN RECEIVED	SEPARATOR
PRESSURES, kPa (gauge)	TEMPERATURE, °C
90 03 09 (DATE SAMPLED (Y/M/D))	90 03 14 (DATE RECEIVED (Y/M/D))
90 03 14 (DATE ANALYZED (Y/M/D))	HE (ANALYST)
REMARKS	

DST SAMPLER DEPLETION

The following data was compiled from the Drill Stem Test

Sampler chamber identification number 000556

The opening pressure of this tool was 1103.2 kPa @ 22 Degrees C

The recovery was determined as being:

0 cc of Hydrocarbon Liquid

1700 cc of Water

0 cc of Drilling Mud

1 Gas Sample(s)

CORE LABORATORIES

GAS ANALYSIS

V2786 — CONTAINER IDENTITY

52136-90-544 — LABORATORY NUMBER

Petro-Canada Inc. — OPERATOR

5 of 12 — PAGE

LOCATION

FCI Island Lake N-45 — WELL OR SAMPLE LOCATION NAME

609.9 — KB ELEV. (m)

605.4 — GR ELEV. (m)

Island Lake, N.W.T. — FIELD OR AREA

Red Knife/Jean Marie — POOL OR ZONE

SOC Testing — SAMPLER

DST # 3 — TEST TYPE & NO.

10 metres of light gas cut mud — TEST RECOVERY

Bottomhole — POINT OF SAMPLE

ANT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

1390.00-1409.00 mkB — TEST INTERVALS (metres)

PUMPING | FLOWING | GAS LIFT | SWAB

WATER m³/d | OIL m³/d | GAS m³/d

SEPARATOR | RESERVOIR | CONTAINER WHEN SAMPLED @ °C | CONTAINER WHEN RECEIVED @ °C

PRESSURES, kPa (gauge)

SEPARATOR

TEMPERATURES, °C

90 03 09	90 03 14	90 03 26	GS	
DATE SAMPLED (Y/M/D)	DATE RECEIVED (Y/M/D)	DATE ANALYZED (Y/M/D)	ANALYST	REMARKS

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	mL/m³ AIR FREE AS RECEIVED
H_2S	0.0015		
He	0.0007		
N_2	0.0275		
CO_2	0.0059		
H_2S	0.0000		
C_1	0.9638		
C_2	0.0005		
C_3	0.0001		0.4
iC_4	Trace		0.0
C_4	0.0000		0.0
iC_5	0.0000		0.0
C_5	0.0000		0.0
C_6	0.0000		0.0
C_7+	0.0000		0.0
TOTAL	1.0000		0.4
		C_5+	0.0

CALCULATED GROSS HEATING VALUE MJ/m³ @15°C & 101.325 kPa (abs.)

MOISTURE FREE	MOISTURE & ACID GAS FREE
36.47	36.69

CALCULATED VAPOUR PRESSURE kPa (abs.) @40.0°C

PENTANES PLUS
0.0

CALCULATED TOTAL SAMPLE PROPERTIES (ASL-1) @ 15° C & 101.325 kPa
MOISTURE FREE AS SAMPLED

DENSITY	RELATIVE DENSITY	RELATIVE MOLECULAR MASS
0.699 kg/m³	0.570	16.5

CALCULATED PSEUDOCRITICAL PROPERTIES

AS SAMPLED		ACID GAS FREE	
4574.5 kPa (abs)	189.2 K	kPa (abs)	K
pPc	pTc	pPc	pTc

REMARKS

Note: The Gross Heating Value has been calculated in accordance to ASA Report 60 and all Properties have been calculated utilizing GPA 2145-88 physical constants.

CORE LABORATORIES

WATER ANALYSIS

Plastic — CONTAINER IDENTITY

52136-90-544 — LABORATORY NUMBER

Petro-Canada Inc. — OPERATOR

6 of 12 — PAGE

LOCATION

PCI Island Lake N-45 — WELL OR SAMPLE LOCATION NAME

609.9 — KB ELEV. (m)

605.4 — GR ELEV. (m)

Island Lake, N.W.T. — FIELD OR AREA

Red Knife/Jean Marie — POOL OR ZONE

SOC Testing — SAMPLER

DST # 3 — TEST TYPE & NO.

10 metres of light gas cut mud — TEST RECOVERY

Bottomhole — POINT OF SAMPLE

ANT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

1390.00-1409.00 mkB — TEST INTERVALS (metres)

PUMPING | FLOWING | GAS LIFT | SWAB

WATER m³/d | OIL m³/d | GAS m³/d

SEPARATOR | RESERVOIR | CONTAINER WHEN SAMPLED @ °C | CONTAINER WHEN RECEIVED @ °C

PRESSURES, kPa (gauge)

SEPARATOR

TEMPERATURES, °C

DATE SAMPLED (Y/M/D)	DATE RECEIVED (Y/M/D)	DATE ANALYZED (Y/M/D)	ANALYST	REMARKS
90 03 09	90 03 14	90 03 29	AM	

CATIONS

ION	mg/L	mg Fraction	MEQ/L
Na	7400	.2806	321.9
K	38	.0014	1.0
Ca	1588	.0602	79.2
Mg	1737	.0659	142.9
Ba			
Sr			
Fe	Not Detected		

ANIONS

ION	mg/L	mg Fraction	MEQ/L
Cl	12903	.4892	363.9
Br			
I			
HCO_3	2682	.1017	44.0
SO_4	25	.0010	0.5
CO_3	0	.0000	0.0
OH	0	.0000	0.0
H_2S	Not Detected		

TOTAL SOLIDS (mg/L)

BY EVAPORATION @ 110°C

BY EVAPORATION @ 180°C

AT IGNITION

26374 CALCULATED

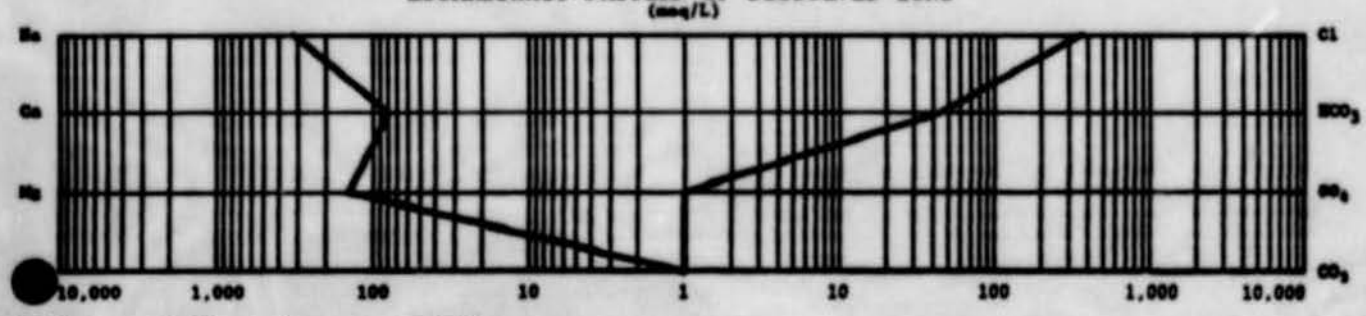
1.0140 @15.6°C — SPECIFIC GRAVITY

1.3366 @25 °C — REFRACTIVE INDEX

7.6 — pH

0.300 @25°C — RESISTIVITY (OHM-METRES)

LOGARITHMIC PATTERN OF DISSOLVED IONS (meq/L)



REMARKS: NaCl equiv. 26061

CORE LABORATORIES

WATER ANALYSIS

Plastic — CONTAINER IDENTITY

52136-90-544 — LABORATORY NUMBER

Petro-Canada Inc. — OPERATOR

7 of 12 — PAGE

LOCATION

PCI Island Lake N-45 — WELL OR SAMPLE LOCATION NAME

609.9 — KB ELEV. (m)

605.4 — GR ELEV. (m)

Island Lake, N.W.T. — FIELD OR AREA

Mississippian — POOL OR ZONE

SOC Testing — SAMPLER

DST # 4 — TEST TYPE & NO.

357 metres of water gas cut — TEST RECOVERY

Sample 2 — POINT OF SAMPLE

AMT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

579.00-583.50 mkB — TEST INTERVALS (metres)

PUMPING

FLOWING

GAS LIFT

SWAB

WATER m³/d

OIL m³/d

GAS m³/d

SEPARATOR

RESERVOIR

@ °C — CONTAINER WHEN SAMPLED

@ °C — CONTAINER WHEN RECEIVED

PRESSURES, kPa (gauge)

SEPARATOR

TEMPERATURES, °C

90 03 12 — DATE SAMPLED (Y/M/D)

90 03 14 — DATE RECEIVED (Y/M/D)

90 03 29 — DATE ANALYZED (Y/M/D)

AM — ANALYST

REMARKS

CATIONS

ION	mg/L	mg Fraction	MEQ/L
Na	6700	.2573	291.4
K	37	.0014	0.9
Ca	2208	.0848	110.2
Mg	1615	.0620	132.9
Ba			
Sr			
Fe	Not Detected		

ANIONS

ION	mg/L	mg Fraction	MEQ/L
Cl	12449	.4781	351.1
Br			
I			
HCO_3	2973	.1142	48.7
SO_4	57	.0022	1.2
CO_3	0	.0000	0.0
OH	0	.0000	0.0
H_2S	Not Detected		

TOTAL SOLIDS (mg/L)

BY EVAPORATION @ 110°C

BY EVAPORATION @ 180°C

AT IGNITION

26039 — CALCULATED

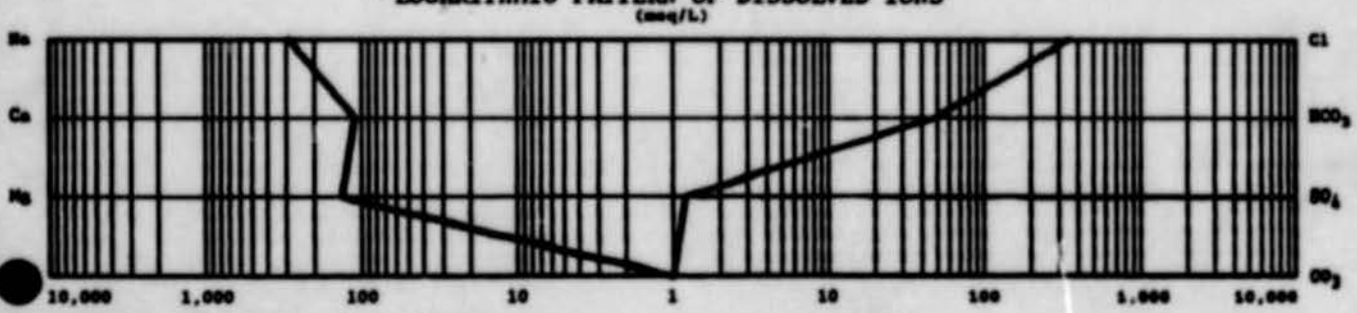
1.0150 @11.6°C — SPECIFIC GRAVITY

1.3366 @25 °C — REFRACTIVE INDEX

7.5 — pH

0.300 @25°C — RESISTIVITY (OHM-METRES)

LOGARITHMIC PATTERN OF DISSOLVED IONS (meq/L)



REMARKS: NaCl equiv. 25344

CORE LABORATORIES

WATER ANALYSIS

Plastic — CONTAINER IDENTITY

52136-90-544 — LABORATORY NUMBER

Petro-Canada Inc. — OPERATOR

8 of 12 — PAGE

LOCATION

PCI Island Lake N-45 — WELL OR SAMPLE LOCATION NAME

609.9 — KB ELEV. (m)

605.4 — GR ELEV. (m)

Island Lake, N.W.T. — FIELD OR AREA

Mississippian — POOL OR ZONE

SOC Testing — SAMPLER

DST # 4 — TEST TYPE & NO.

357 metres of water gas cut — TEST RECOVERY

Sample 3 — POINT OF SAMPLE

ANT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

579.00-583.50 mkB — TEST INTERVALS (metres)

PUMPING

FLOWING

GAS LIFT

SWAB

WATER m³/d

OIL m³/d

GAS m³/d

SEPARATOR

RESERVOIR

@ °C — CONTAINER WHEN SAMPLED

@ °C — CONTAINER WHEN RECEIVED

SEPARATOR

PRESSURES, kPa (gauge)

TEMPERATURES, °C

90 03 12 — DATE SAMPLED (Y/M/D)

90 03 14 — DATE RECEIVED (Y/M/D)

90 03 29 — DATE ANALYZED (Y/M/D)

AM — ANALYST

REMARKS

CATIONS

ION	mg/L	mg Fraction	MEQ/L
Na	7300	.2705	317.5
K	39	.0014	1.0
Ca	2158	.0800	107.7
Mg	1683	.0623	138.4
Ba			
Sr			
Fe	Not Detected		

ANIONS

ION	mg/L	mg Fraction	MEQ/L
Cl	12773	.4733	360.3
Br			
I			
HCO_3	2998	.1111	49.1
SO_4	39	.0014	0.8
CO_3	0	.0000	0.0
OH	0	.0000	0.0
H_2S	Not Detected		

TOTAL SOLIDS (mg/L)

BY EVAPORATION @ 110°C

BY EVAPORATION @ 180°C

AT IGNITION

26989 — CALCULATED

1.0170 @15.6°C — SPECIFIC GRAVITY

1.3365 @25 °C — REFRACTIVE INDEX

7.5 — pH

0.290 @25°C — RESISTIVITY (OHM-METRES)

LOGARITHMIC PATTERN OF DISSOLVED ISONS (meq/L)

REMARKS: NaCl equiv. 26356

CORE LABORATORIES

DST SAMPLER DEPLETION

CONTAINER IDENTITY: BHS	LABORATORY NUMBER: 52136-90-544
OPERATOR: Petro-Canada Inc.	PAGE: 9 of 12
LOCATION:	WELL OR SAMPLE LOCATION RANGE: PCI Island Lake N-45
RB ELEV. (m): 609.9	GR ELEV. (m): 605.4
FIELD OR AREA: Island Lake, N.W.T.	POOL OR ZONE: Rundle
SAMPLER: SOC Testing	
TEST TYPE & NO.: DST # 4	TEST RECOVERY: 357 metres of water gas cut
POINT OF SAMPLE: Bottomhole	ANT. & TYPE CUSHION:
MUD RESISTIVITY: @ °C	
TEST INTERVALS (metres): 579.00-583.50 mkB	PUMPING / FLOWING / GAS LIFT / SWAB
WATER m³/d	OIL m³/d
GAS m³/d	
SEPARATOR / RESERVOIR	CONTAINER WHEN SAMPLED @ °C
CONTAINER WHEN RECEIVED @ °C	SEPARATOR
PRESSURES, kPa (gauge)	TEMPERATURES, °C
DATE SAMPLED (Y/M/D): 90 03 12	DATE RECEIVED (Y/M/D): 90 03 14
DATE ANALYZED (Y/M/D): 90 03 14	ANALYST: HE
REMARKS:	

DST SAMPLER DEPLETION

The following data was compiled from the Drill Stem Test

Sampler chamber identification number 579-584

The opening pressure of this tool was 0 kPa @ 22 Degrees C.

The recovery was determined as being:

0 cc of Hydrocarbon Liquid

0 cc of Water

1600 cc of Drilling Mud

0 Gas Sample(s)

CORE LABORATORIES

WATER ANALYSIS

Plastic (CONTAINER IDENTITY)	52176-90-544 (LABORATORY NUMBER)
Petro-Canada Inc. (OPERATOR)	10 of 12 (PAGE)
PCI Island Lake N-45 (WELL OR SAMPLE LOCATION NAME)	609.9 (KB ELEV.(m)) 605.4 (GR ELEV.(m))
LOCATION	
Island Lake, N.W.T. (FIELD OR AREA)	Rundle (POOL OR ZONE)
SOC Testing (SAMPLER)	
DST # 4 (TEST TYPE & NO.)	357 metres of water gas cut (TEST RECOVERY)
Bottomhole (POINT OF SAMPLE)	ANT. & TYPE CUSHION	@ °C MUD RESISTIVITY
579.00-583.50 mkB (TEST INTERVALS (metres))	PUMPING	FLOWING	GAS LIFT	SWAB
	WATER m³/d	OIL m³/d	GAS m³/d
SEPARATOR	RESERVOIR	@ °C CONTAINER WHEN SAMPLED	@ °C CONTAINER WHEN RECEIVED	SEPARATOR
PRESSURES, kPa (gauge)				TEMPERATURES, °C
90 03 12 (DATE SAMPLED (Y/M/D))	90 03 14 (DATE RECEIVED (Y/M/D))	90 03 29 (DATE ANALYZED (Y/M/D))	AM (ANALYST)	REMARKS

Resistivity @ 25 degrees C (Ohm-metres): 1.45

Chloride Content (mg/litre): 695

CORE LABORATORIES

DST SAMPLER DEPLETION

BHS (CONTAINER IDENTITY)	52136-90-544 (LABORATORY NUMBER)
Petro-Canada Inc. (OPERATOR)	11 of 12 (PAGE)
PCI Island Lake N-45 (WELL OR SAMPLE LOCATION NAME)	609.9 (KB ELEV. (m)) 605.4 (GR ELEV. (m))
Island Lake, N.W.T. (LOCATION)	Rundle (POOL OR ZONE)
(FIELD OR AREA)	SOC Testing (SAMPLER)
DST # 4 (TEST TYPE & NO.)	357 metres of water gas cut (TEST RECOVERY)
Bottomhole (POINT OF SAMPLE)	(AMT. & TYPE CUSHION)
	@ °C (MUD RESISTIVITY)
579.00-583.50 mkB (TEST INTERVALS (metres))	PUMPING / FLOWING / GAS LIFT / SWAB
	WATER m³/d / OIL m³/d / GAS m³/d
SEPARATOR / RESERVOIR /	@ °C (CONTAINER WHEN SAMPLED) / @ °C (CONTAINER WHEN RECEIVED)
PRESSURES, kPa (gauge)	SEPARATOR / TEMPERATURES, °C
90 03 12 (DATE SAMPLED (Y/M/D))	90 03 14 (DATE RECEIVED (Y/M/D))
90 03 14 (DATE ANALYZED (Y/M/D))	HE (ANALYST)
	(REMARKS)

DST SAMPLER DEPLETION

The following data was compiled from the Drill Stem Test Sampler chamber.

The opening pressure of this tool was 0 kPa @ 22 Degrees C.

The recovery was determined as being:

0 cc of Hydrocarbon Liquid

1200 cc of Water

0 cc of Drilling Mud

0 Gas Sample(s)

CORE LABORATORIES

WATER ANALYSIS

Plastic (CONTAINER IDENTITY)	52136-90-544 (LABORATORY NUMBER)
Petro-Canada Inc. (OPERATOR)	12 of 12 (PAGE)
(LOCATION)	PCI Island Lake N-45 (WELL OR SAMPLE LOCATION NAME)
609.9 (KB ELEV. (m))	605.4 (GR ELEV. (m))
Island Lake, N.W.T. (FIELD OR AREA)	Rundle (POOL OR ZONE)
SOC Testing (SAMPLER)	DST # 4 (TEST TYPE & NO.)
357 metres of water gas cut (TEST RECOVERY)	Bottomhole (POINT OF SAMPLE)
(AMT. & TYPE CUSHION)	@ °C (MUD RESISTIVITY)
579.00-583.50 mkB (TEST INTERVALS (metres))	PUMPING / FLOWING / GAS LIFT / SWAB
WATER m^3/d	OIL m^3/d
GAS m^3/d	SEPARATOR / RESERVOIR
@ °C (CONTAINER WHEN SAMPLED)	@ °C (CONTAINER WHEN RECEIVED)
SEPARATOR	PRESSURES, kPa (gauge)
TEMPERATURES, °C	90 03 12 (DATE SAMPLED (Y/M/D))
90 03 14 (DATE RECEIVED (Y/M/D))	90 03 29 (DATE ANALYZED (Y/M/D))
AM (ANALYST)	(REMARKS)

Resistivity @ 25 degrees C (Ohm-metres): 2.01

Chloride Content (mg/litre): 653

C) LOG ANALYSIS

Petro-Canada
Note de service
Internal memorandum

F

To / À: J. Bever

CC: S. Benko
D.A. McDonald

From / De: R. VanAppelen

Date / Date: March 8, 1990

Ref. / Réf.:

Subject / Objet: **PCI Island Lake N-45 Formation Evaluation**

The openhole logs were evaluated. Zones of interest are identified.

1. Jeanne Marie 1400-1410
   - Limestone matrix

   2m averaging .035 Ø nd, .0.50 Sw

   The preliminary core (plug) permeabilities were very low, but may be pessimistic due to contamination.

   Had 1-1.5m microlog development, indicating some permeability.

2. Tetcho 1128-31 2m @ .03 Ø wet limestone
   1147-67 6m @ .035 Ø wet limestone

3. Porcus Sand (Mississippian) 579-584m

   Porosity ranged from 0.15-0.27 on the density log, adjusted to sandstone matrix.

   Rws from SP 0.3 ± 0.1

   Sws calculated in the 0.27 Ø interval at the top of the sand were 0.50-0.75 depending on the Rw used. The sand gets wetter as the porosity drops off. The high Sws are consistent with a zone of residual hydrocarbons.

   The sand was described as loose...frosted. A high-porosity, loose sand should have lower Sws than 0.5^0 plus.

R. VanAppelen

RVA/mln

PETROLOG HYDROCARBON SUMMARY

WELL :300N456010120450
LOCATION:60 4'58.62"N 120 53'34.34"
POOL :ISLAND LAKE
FORMATION :JEAN MARIE

DATE :Mon Jun 4 1990
USER :RVA

TOP DEPTH: 1385.0000 BOTTOM DEPTH: 1420.0000

CUTOFFS USED:					AVERAGE:				CUMULATIVE :	
POROS (frc)	WATER SAT f	SHALE VOL f	NET METRES		POROSITY fraction	WATER SAT fraction	SHALE VOL fraction		POROSITY X METRES	HYDROCARB X METRES
0.100	1.000	0.300	0.00		0.000	0.000	0.000		0.000	0.000
0.020	0.600	0.200	0.88		0.037	0.467	0.002		0.033	0.017
0.020	1.000	0.200	3.63		0.031	0.736	0.014		0.112	0.030
0.030	0.500	0.200	0.88		0.037	0.467	0.002		0.033	0.017

DATABASE = /best/database/DICK.db
Node record = 300N456010120450
Username = RVA time dumped = Mon Jun 4 13:30:23 1990

type = CONSTANTS name = JEAN MARIE

CONSTANTS	VALUES
A	1
CALIM	225
CLIP_PHI	0.2
GASCOR	1
GR0	10
GR100	120
M	2
MWT	1100
N	2
PESH	3.5
PHIMAX	0.3
PHINO	0
PHINMA	0
PHINSH	0.33
PHIXSW	0.06
RHOF	1000
RHOHY	800
RHOLIM	100
RHOMA	2710
RHOSH	2607
RHOW	1000
RW	0.03
RWT	59
VSHMAX	0.2

DATABASE = /best/database/DICK.db
Mode record = 300N456010120450
[illegible]rname = RVA time dumped = Mon Jun 4 13:30:55 1990

type = ROUTINES name = PHI DENSITY

ALGORITHM NAME	SWITCH VALUE OR VARI	PUT RESULT IN	C
/START	ON		ALWAYS ON DOES HOUSEKEEPING
/VSH GR	ON		GR SHALE
/VSH SP	OFF		SP SHALE
/VSH XSD	OFF		SONIC-DENSITY VSH
/VSH XND	OFF		NEUTRON-DENSITY VSH
/VSHBAL	ON		MATERIALS BALANCE EQUATION
/VSH CLAVIER CORR	OFF		CLAVIER CORRECTION
/DENSC	ON		SHALE CORRECTED DENS
/PHINC	ON		CORRECTED PHIN
/PHIXND	ON		NEUTRON DENSITY POROSITY
/CLIP PHI	ON		VSH cutoff for porosity
/FIND BADHOLE FROM CAL	ON		FIND WASHOUTS, HIGH DRHO
/IF BADHOLE ZERO PHI	ON		SET PHI=0 IN BAD HOLE
/PHIBAL	ON		MATERIALS BALANCE FOR PHI
/RW@FT	ON		RW AT FORMATION TEMPERATURE
/SW ARCHIE	ON		ARCHIE WATER SATURATION
/SW SIM	OFF		SIMANDOUX WATER SATURATION
/SW DW	OFF		DUAL WATER SW
/SW WAX-SMITH	OFF		WAXMAN SMITS WATER SATURATI
[illegible]SMTH	ON		SW BALANCE AND SMOOTHING
/PHIxSW	ON		
/RMF@FT	OFF		RMF AT FORMATION TEMPERATUR
/SXO ARCHIE	OFF		SXO FROM ARCHIE
/SXO SIM	OFF		SXO FROM SIMANDOUX
/SXO WAX-SMITH	OFF		SXO FROM WAXMAN SMITS
/SXOSMTH	OFF		SXO BALANCE AND SMOOTHING
/PHIxSXO	OFF		
/PERM CORE	OFF		PERMEABILITY FROM POROSITY

OTTAWA COPY

COMPUTATIONS HOUSTON LIMITED-CORVITY

COMPANY	PETRO CANADA INC.
WELL	PCI ISLAND LAKE N-45
FIELD	WILDCAT
TERRITORY	N.W.T.

Permanent Datum	G.L.T.
Elevation	0.0 M
Log Measured From	KB
Drilling Measured From	KELLY BUSHING
Date	08-MAR-90
Run Number	ONE
Depth Driller	1470.0 M
Depth Logger	1464.0 M
Bottom Log Interval	1464.0 M
Top Log Interval	400.0 M
Casing Driller	406.0 M @ 0.0 M
Casing Logger	400.0 M
Bit Size	311 MM
Type Fluid in Hole	PHL LIME
Density	1.12
Viscosity	47.0
Fluid Loss	6.4 ml
Source of Sample	PLOWLINE
Rm @ Meas. Temp.	1.200 OHMM @ 15.0 DEGC
Rmf @ Meas. Temp.	1.200 OHMM @ 15.0 DEGC
Rmc @ Meas. Temp.	1.200 OHMM @ 15.0 DEGC
Source: Rmf / Rmc	MEASURED / MEASURED
Rm @ BHT	1.101 OHMM @ 85.0 DEGC
Maximum Recorded Temperature	85.0 DEGC
Equipment Number	1121
Location	SCOUT
Recorded By	SEL, TUNG
Witnessed By	MR. LUNDEN / MR. CHRISTIE

Bit Size	311 MM
Casing Driller	406.0 M @ 0.0 M
Casing Logger	400.0 M
Bit Depth	1470.0 M
Depth Driller	1470.0 M
Depth Logger	1464.0 M
Bottom Log Interval	1464.0 M
Top Log Interval	400.0 M
Open Hole Size	311 MM
Type Fluid in Hole	PHL LIME
Density	1.12
Viscosity	47.0
Fluid Loss	6.4 ml
Source of Sample	PLOWLINE
Rm @ Meas. Temp.	1.200 OHMM @ 15.0 DEGC
Rmf @ Meas. Temp.	1.200 OHMM @ 15.0 DEGC
Rmc @ Meas. Temp.	1.200 OHMM @ 15.0 DEGC
Source: Rmf / Rmc	MEASURED / MEASURED
Rm @ BHT	1.101 OHMM @ 85.0 DEGC
Maximum Recorded Temperature	85.0 DEGC
Equipment Number	1121
Location	SCOUT
Recorded By	SEL, TUNG
Witnessed By	MR. LUNDEN / MR. CHRISTIE

Run Number	ONE
Service Order No.	107530
Depth Point Level	0.0 M
Logging	
Max. T @ BHT	3.076 OHMM @ 85.0 DEGC
Max. T @ BHT	1.101 OHMM @ 85.0 DEGC
Logging Speed	1800.0 F/HR
TOOL STRING DATA	
Tool Number 1	EPS C 4867
Tool Number 2	MEC E 1668
Tool Number 3	PCM L 3888
Tool Number 4	CNC HB 3008
Tool Number 5	MLT A 108
Tool Number 6	GAC CA 1049
Tool Number 7	SGC SA 410
Tool Number 8	TCC S 807
Tool Number 9	TCM AB 886
Tool Number 10	NBR TA 3007
Tool Number 11	PBR A 1001

The well name, location and borehole reference data were furnished by the customer.

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our Standard Terms and Conditions as set out in our current Price Schedule.

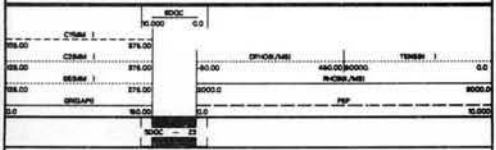
REMARKS:

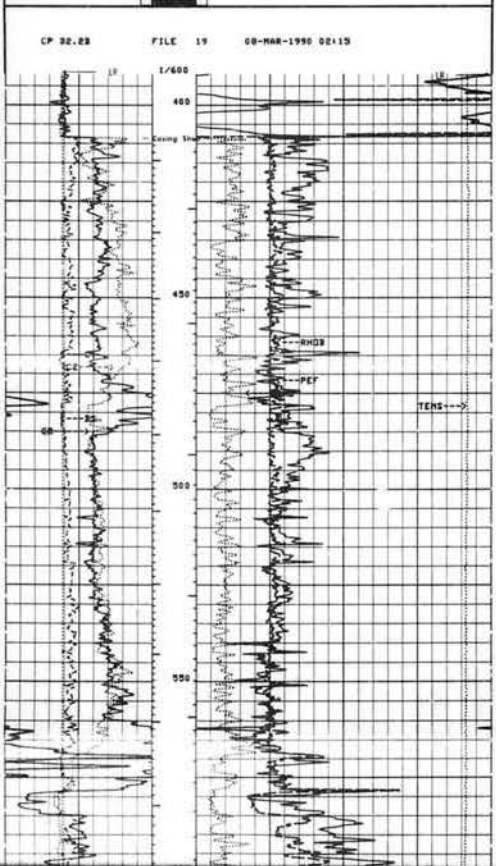
LAT : NORTH 68 DEGREES - 4 MINUTES - 50.62 SECONDS
LONG : WEST 128 DEGREES - 53 MINUTES -0 34.34 SECONDS
SCALES AND PRESENTATIONS AS PER CLIENT REQUEST
CNL ECCENTRALIZED WITH BOWSPRING
LDT ECCENTRALIZED WITH 90 DEGREE HARDWARE
C R14 6 METERS OF FILL BETWEEN TDL AND TDD
REORIENTATION ATTEMPTED AT 1282 AND 983 METERS

EVENT MARK SUMMARY:

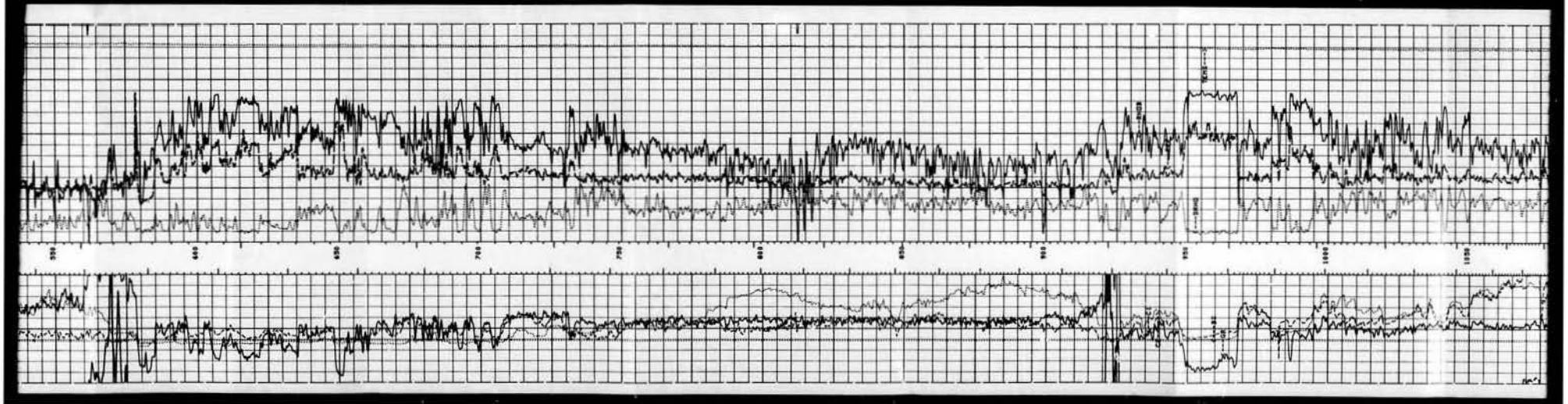
OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
ICV	.100000 M3	RIGHT EDGE
IHV	.100000 M3	LEFT EDGE

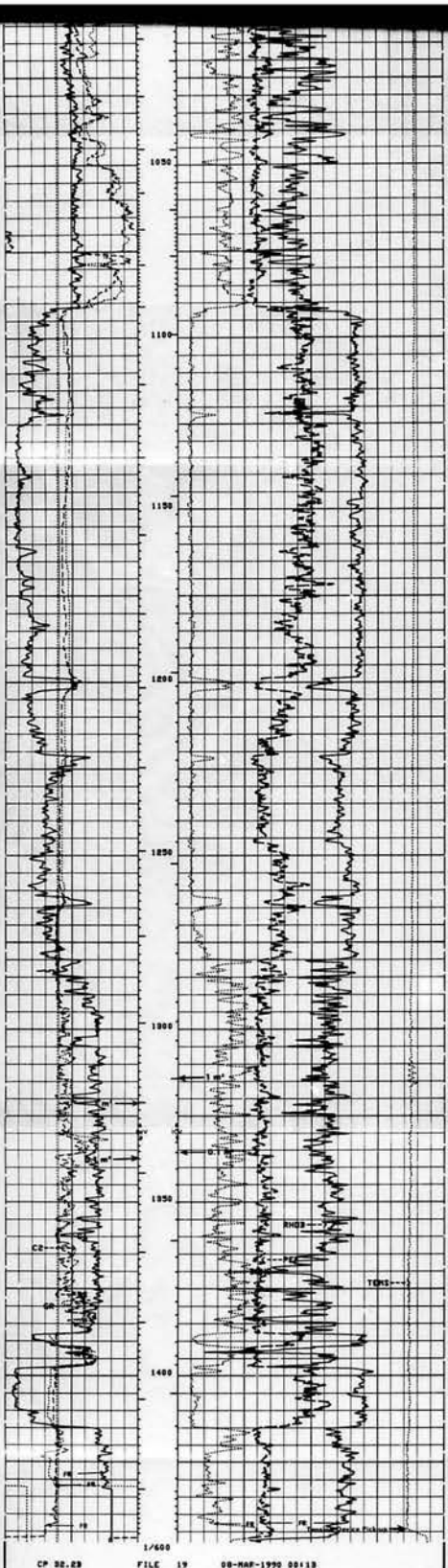
CEMENT VOLUME = 28.5151 M3 (ASSUMING 177.800 MM O.D. CASING)
HOLE VOLUME = 54.3114 M3
FROM 1447.95 TO 498.09 METE



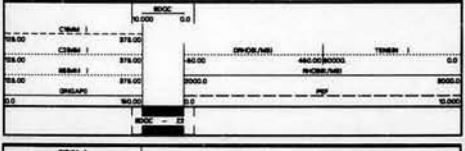


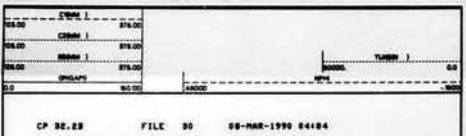
2 of





CP 32.23 FILE 19 08-MAR-1990 03:13





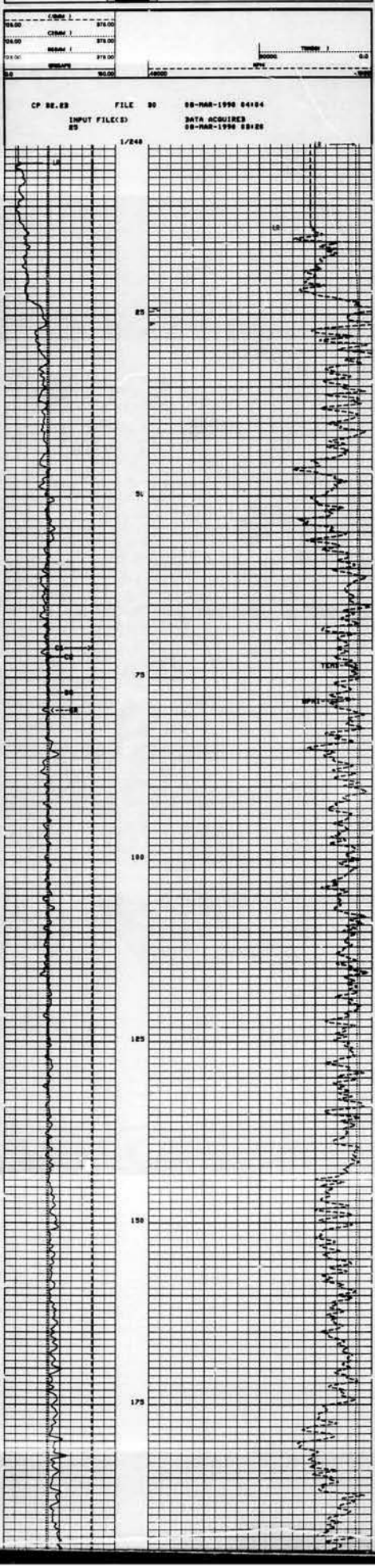
CP 32.23 FILE 30 08-MAR-1990 04:04

INPUT FILE(S)
25

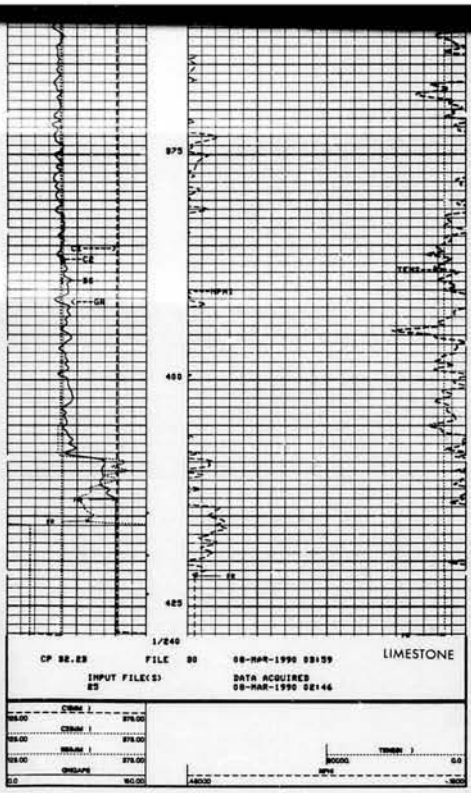
DATA ACQUIRED
08-MAR-1990 03:20

1/240

(W) of


CP 32.23
FILE 30
08-MAR-1990 04:04
INPUT FILE(S)
23
DATA ACQUIRED
08-MAR-1990 03:28
1/240
25
50
75
100
125
150
175
TENS
SPHI

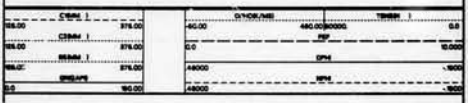
5 of



EVENT MARK SUMMARY:

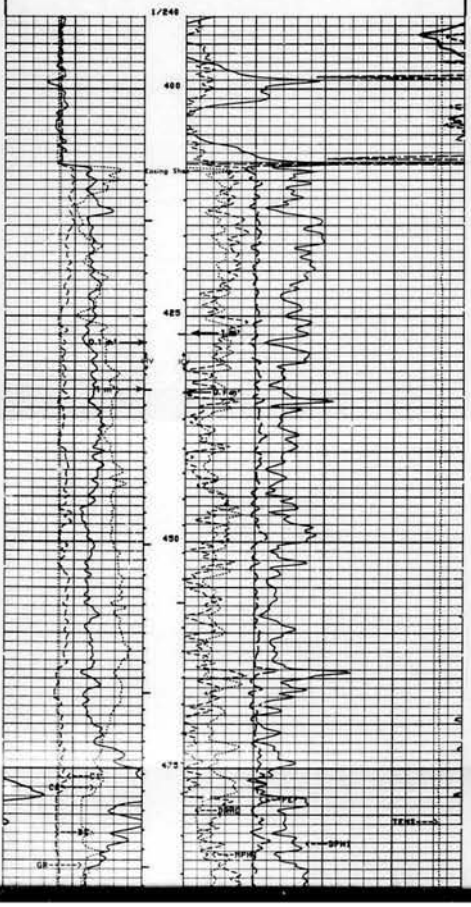
OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
ICV	.100000 M3	RIGHT EDGE
IHV	.100000 M3	LEFT EDGE

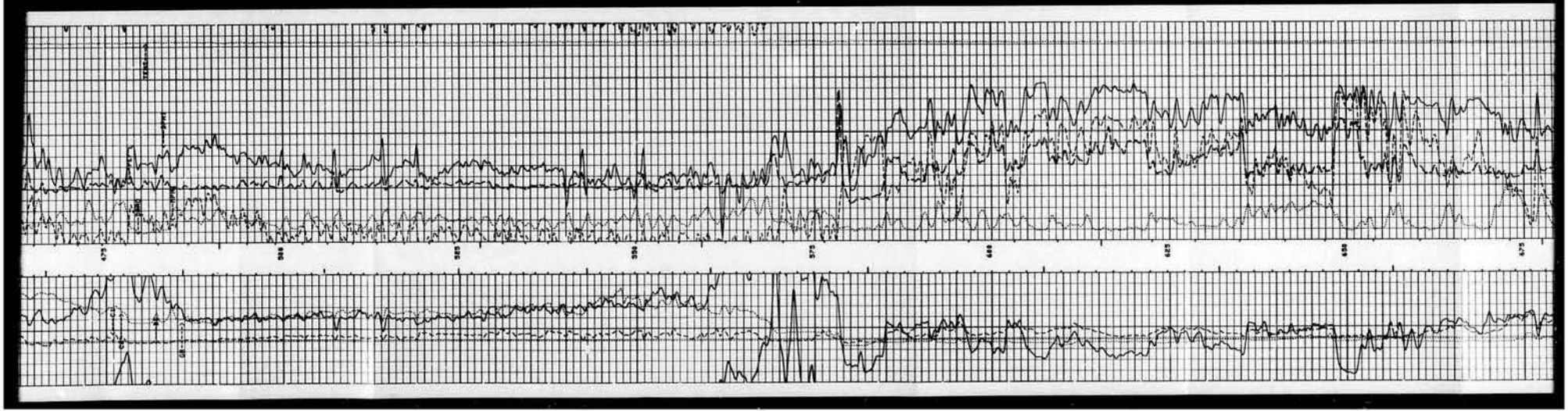
CEMENT VOLUME = 28.5151 M3 (ASSUMING 177.863 MM O.D. CASING)
HOLE VOLUME = 54.3114 M3
FROM 1447.95 TO 408.09 METE



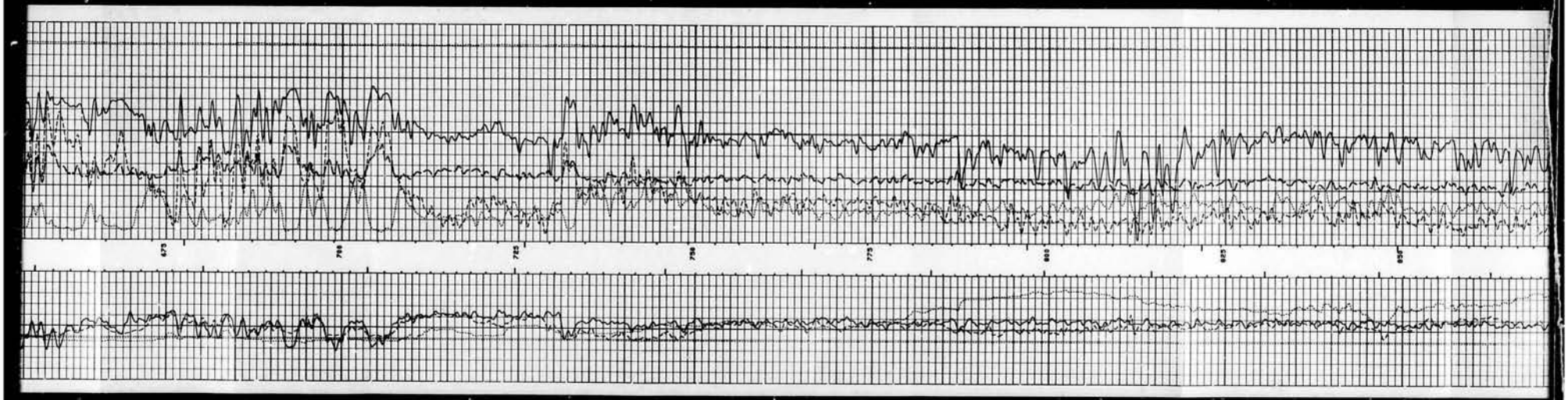
LIMESTONE

CP 82.E8 FILE 19 08-MAR-1990 02:15

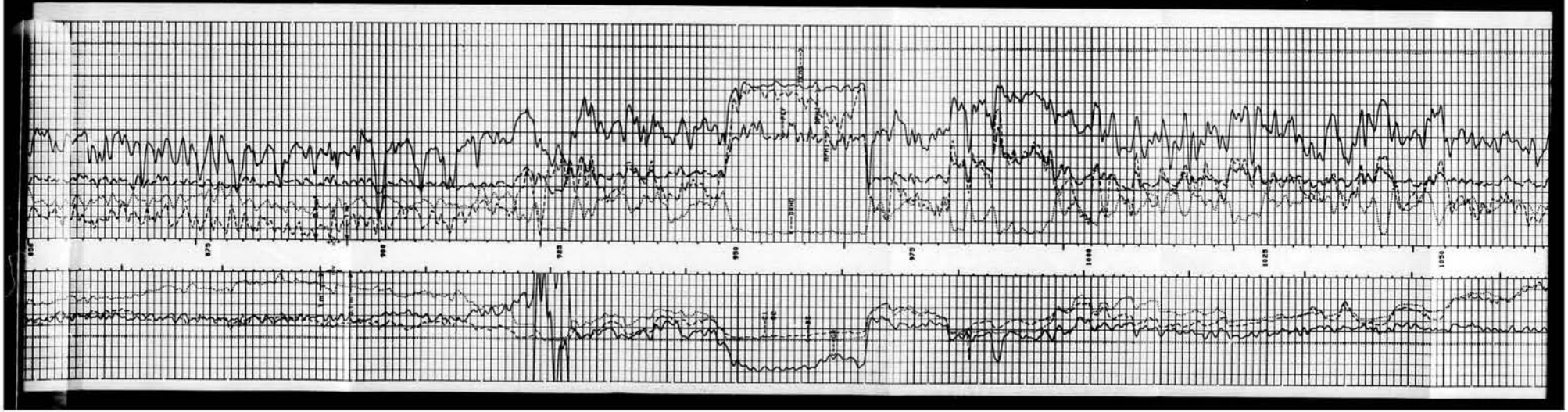


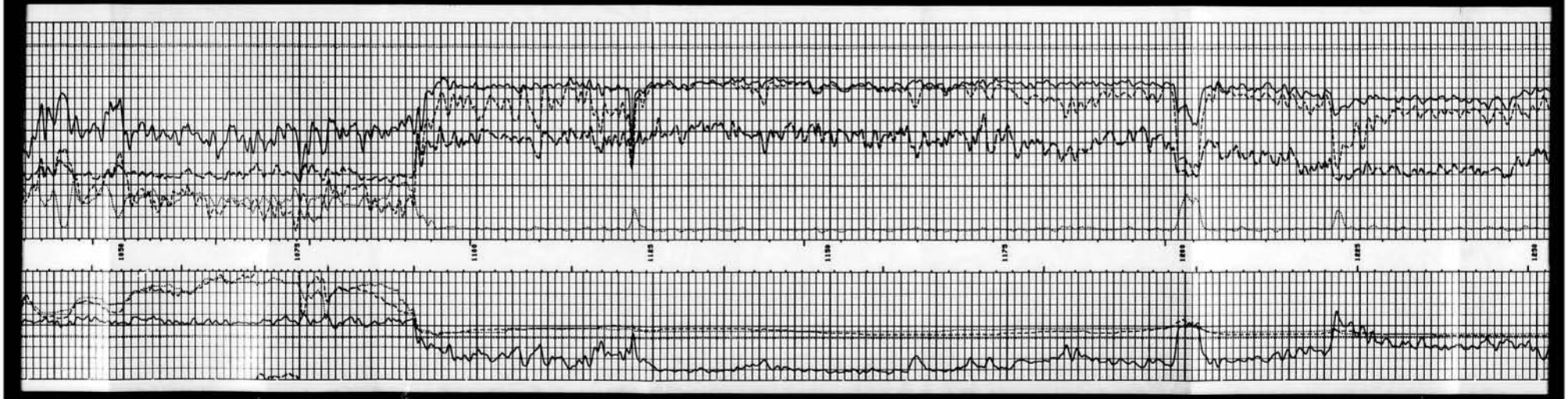


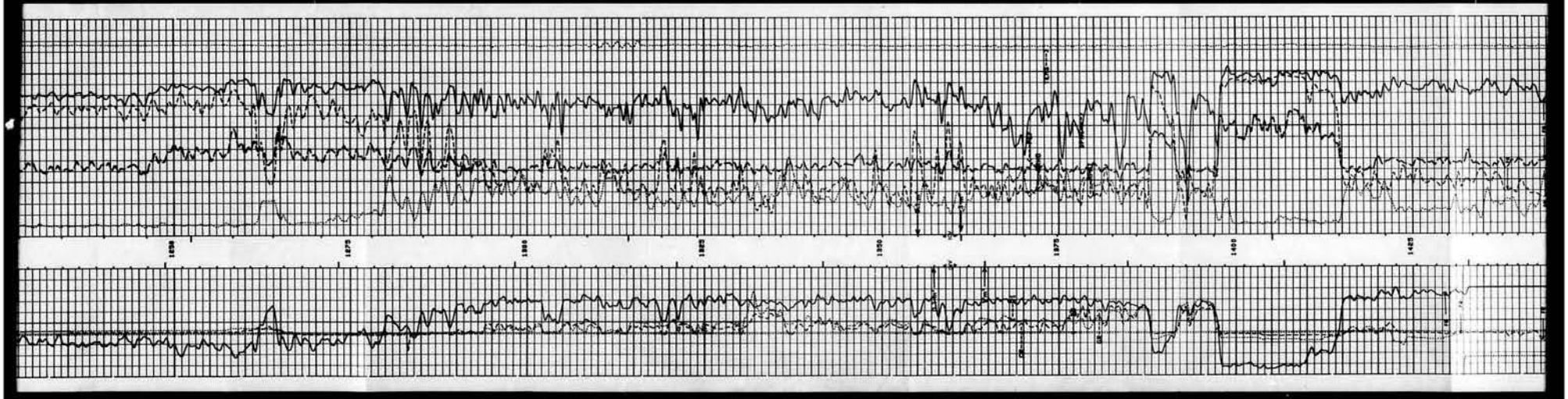
8 of



9 of




1050
1075
1100
1125
1150
1175
1200
1225
1250


1000
1050
1100
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1200
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1300
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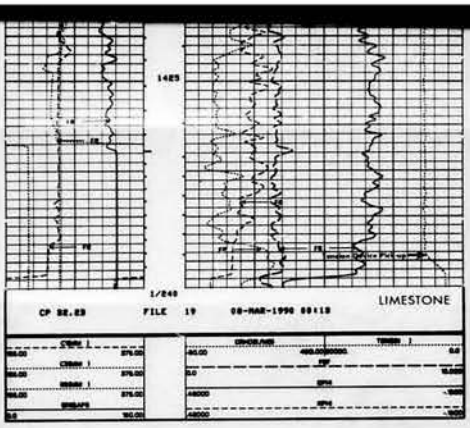
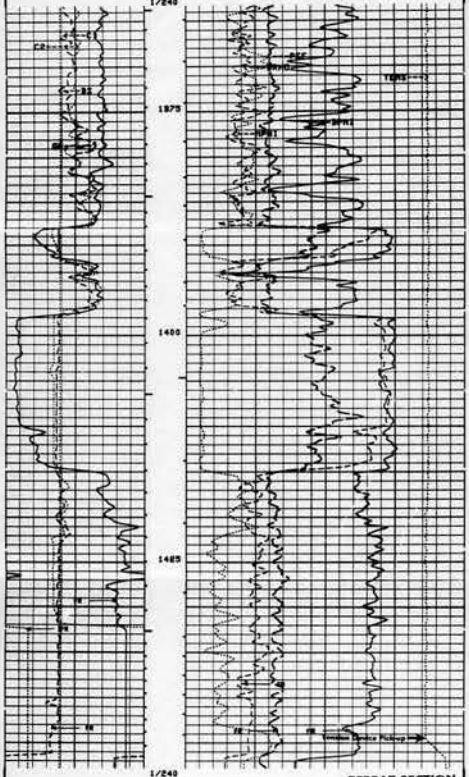
1400
1450





12 of

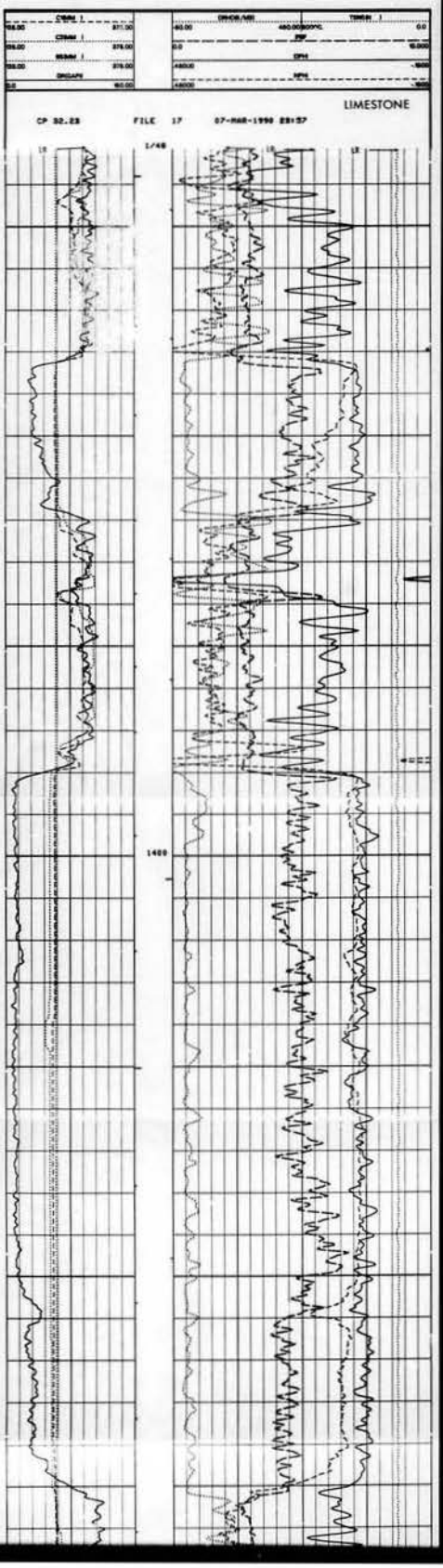
SENSOR MEASURE POINT TO TOOL ZERO

MTEM	17.88 METER	HTEM	-.28 METER
GR	15.01 METER	MRES	17.99 METER
SMLT	8.76 METER	MCAL	8.76 METER
CZ	11.94 METER	SA	15.47 METER
CFTC	6.15 METER	SPCD	15.47 METER
LITH	.79 METER	CNTC	5.99 METER
LS	.79 METER	LL	.79 METER
PARI	.64 METER	LU	.79 METER
SSZ	.64 METER	SSI	.64 METER
DTCS	.64 METER	DTCL	.79 METER
DTPS	.64 METER	DTPL	.79 METER
LLUC	.79 METER	LLLC	.79 METER
LUUC	.79 METER	LULC	.79 METER
SLUC	.64 METER	SLLC	.64 METER
SUUC	.64 METER	SULC	.64 METER
TENS	-.28 METER	CI	.01 METER
SMIN	8.76 METER	SMNO	8.76 METER
MINV	15.47 METER	MNOR	15.47 METER
TNRA	6.30 METER		

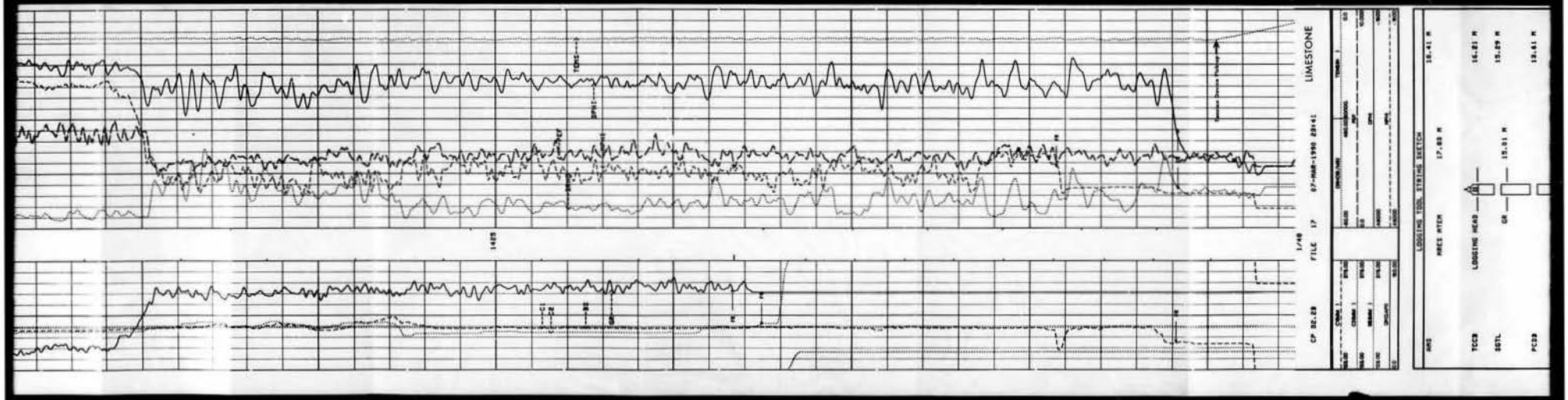
PARAMETERS

PARAMETER	VALUE	UNIT
MWUB - Weight of Mud	1125.00	K/M3
TD - Total Depth	1450.00	M
FCD - FUTURE CASING DIAMETER	177.800	MM
DNC - Density Hole Correction$	NONE	
BFM - BOREHOLE FILL MEDIUM	LIQU	
MDCN - MATRIX DENSITY	2710.00	K/M3
FD - FLUID DENSITY	1000.00	K/M3
MATR - Matrix	LIME	
HC - Hole Correction Origin	CI	
NPDC - NEUTRON ALPHA PROCESS DEPTH CONSTANT	0	
HSCO - Hole Size Correction Option	YES	
SDCO - Stand Off Correction Option	NO	
MCCO - Mud Cake Correction Option	NO	
BSCO - Borehole Salinity Correction Option	NO	
FSCO - Formation Salinity Correction Option	NO	
MWCO - Mud Weight Correction Option	NO	
PTCO - Pressure Temperature Correction Option	NO	
SDAT - Standoff Data Source	SDCN	
MCOR - Mud Correction	MATU	
SDCN - Stand Off for CNL	18.7988	MM
FSAL - Formation salinity	-50000.0	PPM
ANGL - Angle of Hell	0.0	DEG
GDR3 - Geothermal Gradient	.0100000	DF/F
BWFL - Borehole Fluid Type	WATE	
GTSE - GENERALIZED TEMPERATURE SELECTION	IGAM	
[illegible]	0.0	DEGC

WMUD	- Weight of Mud	[illegible]	[illegible]
TD	- Total Depth	1450.00	M
FCB	- FUTURE CASING DIAMETER	177.800	MM
BHC	- Benestu Hole CorrectionS	MODMC	
BFM	- BOREHOLE FILL MEDIUM	LIQU	
MDEN	- MATRIX DENSITY	2710.00	K/M3
FD	- FLUID DENSITY	1000.00	K/M3
MATR	- Matrix	LIME	
HL	- Hole Correction Origin	C1	
NPBC	- NEUTRON ALPHA PROCESS DEPTH CONSTANT	0	
HSCO	- Hole Size Correction Option	YES	
SOCO	- Stand Off Correction Option	NO	
MCCO	- Mud Cake Correction Option	NO	
BSCO	- Borehole Salinity Correction Option	NO	
FSCO	- Formation Salinity Correction Option	NO	
MWCO	- Mud Weight Correction Option	NO	
PTCO	- Pressure Temperature Correction Option	NO	
SDAT	- Standoff Data Source	SDCM	
MCOR	- Mud Correction	MATU	
SOCM	- Stand Off for CML	18.7888	MM
FSAL	- Formation salinity	-58000.0	PPM
ANGL	- Angle of Well	0.0	DEG
GGRD	- Geothermal Gradient	.0100000	DF/T
BWFL	- Borehole Fluid Type	WATE	
GTSE	- GENERALIZED TEMPERATURE SELECTION	TEMP	
SHT	- Surface Hole Temperature	0.0	DEGC
BHT	- Bottom Hole Temperature	57.0000	DEGC
DTCI	- DIFFERENTIAL TEMPERATURE COMPUTATION INTERVALS.0		M
BS	- Bit Size	222.000	MM
BHS	- Bore Hole Status (Open or Cased)	OPEN	

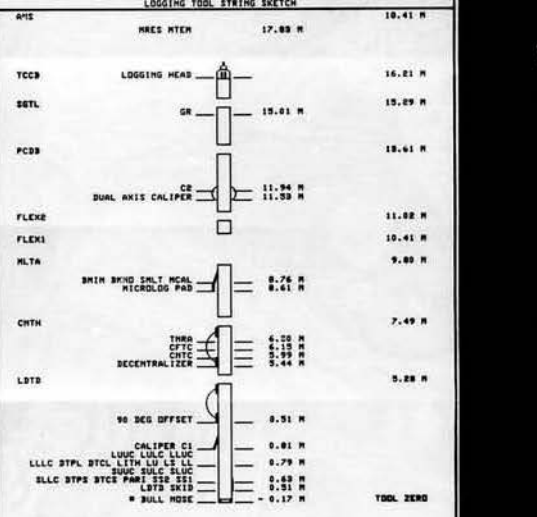


14 of


LIMESTONE
07-MAR-1990 20:41
FILE 17
1/48
CP 32.03
LOGGING TOOL STRING SKETCH
MRES
MRES STICK
LOGGING HEAD
GR
TCCB
SGTL
PCDB
18.41 M
17.89 M
16.21 M
15.69 M
15.01 M
13.61 M

105.00	875.00	48000	
	GAGAPI		MPH
0.0	90.00	48000	-500

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 19.35 M.
TOTAL TOOL STRING WEIGHT IS 658.17 KG IN AIR.

SHOP SUMMARY

PERFORMED: 04-MAR-1990 18:13
PROGRAM FILE: CCSHOP (VERSION 92.2 88/12/01 88/11/30)

CNTH DETECTOR CALIBRATION SUMMARY

NEUTRON COMPENSATED CARTRIDGE NUMBER: 2086
NEUTRON SOURCE SERIAL NUMBER : 2207
THERMAL HOUSING NUMBER : 2166
THERMAL CALIBRATED NEUTRON BOX : 3331

INPUT	PLUS REFERENCE COUNTS	SHOP TANK COUNTS	SHOP JIG COUNTS	GAIN
CNTC	6031.00	5938.40	3143.50	1.016
CFTC	2793.00	2545.14	1333.63	1.097
RATIO	2.159	2.333	2.357	

SHOP COUNTS TEMPERATURE AND HOUSING SIZE CORRECTED

BKGD: 04-MAR-1990 16:07 TANK: 04-MAR-1990 16:17 COMP: 04-MAR-1990 16:32

LDTB DETECTOR CALIBRATION SUMMARY

DENSITY RESISTIVITY SONDE NUMBER : 4967
NUCLEAR SERVICE CARTRIDGE NUMBER : 1999
POWERED DETECTOR HOUSING NUMBER : 3839
POWERED GAMMA-GAMMA DETECTOR NUMBER : 3859
LDT LOGGING SOURCE NUMBER : 7192
LDT CALIBRATION MODE : WATE

MASTER CALIBRATED

	BKGD	AL+FE	AL	UNITS
LL	18.1	82.0	86.0	CPS
LU	69.0	125.3	129.4	CPS
LS	52.6	144.6	150.7	CPS
LITH	5.2	36.7	52.4	CPS
SS1	15.9	179.1	194.1	CPS
SS2	10.5	245.6	259.4	CPS

HV SETTINGS
HV LS: 1302.0 V
HV SS: 1174.0 V

DETECTOR RESOLUTIONS
LS: 8.4 %
SS: 8.4 %

SPECTRUM QUALITY RATIOS

	COMPUTED VALUE	NOMINAL VALUE	TOLERANCE
GRLS	.664	0.65	+/- 0.03
GRSS	.726	0.72	+/- 0.10
GRLI	.348	0.35	+/- 0.06
GLIR	1.370	1.35	+/- 0.06
GR	1.014	1.00	+/- 0.02

BKGD: 04-MAR-1990 17:13 AL: 04-MAR-1990 17:43 AL+FE: 04-MAR-1990 17:58

CP 92.2 FILE 1 04-MAR-1990 18:13

15 of

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 07-MAR-1990 15:15
PROGRAM FILE: GTSAP (VERSION 92.23 90/01/18 88/11/30)

SGTL DETECTOR CALIBRATION SUMMARY

	MEASURED BKGD	JIG	CALIBRATED	UNITS
GR	28	197	165	GAPI

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 14:59 COMP: 07-MAR-1990 15:06

CNTH DETECTOR CALIBRATION SUMMARY

NEUTRON COMPENSATED CARTRIDGE NUMBER: 2086
NEUTRON SOURCE SERIAL NUMBER : 2207
THERMAL HOUSING NUMBER : 2166
THERMAL CALIBRATED NEUTRON BOX : 3331

INPUT	PLUS REFERENCE COUNTS	SHOP TANK COUNTS	SHOP JIG COUNTS	BEFORE JIG COUNTS	GAIN
CNTC	6031.00	5938.40	3143.50	3074.83	1.016
CFTC	2793.00	2545.14	1333.63	1338.95	1.097
RATIO	2.159	2.333	2.357	2.296	

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 15:06 COMP: 04-MAR-1990 18:41

LDTB DETECTOR CALIBRATION SUMMARY

DENSITY RESISTIVITY SONDE NUMBER : 4967
NUCLEAR SERVICE CARTRIDGE NUMBER : 1999
POWERED DETECTOR HOUSING NUMBER : 3839
POWERED GAMMA-GAMMA DETECTOR NUMBER : 3859
LDT LOGGING SOURCE NUMBER : 7192
LDT CALIBRATION MODE : WATE

	MEASURED BKGD	SHOP VALUES AL+FE	AL	UNITS
LL	18.0	82.0	86.0	CPS
LU	69.0	125.3	129.4	CPS
LS	52.4	144.6	150.7	CPS
LITH	5.2	36.7	52.4	CPS
SS1	15.8	179.1	194.1	CPS
SS2	10.5	245.6	259.4	CPS

HV SETTINGS
HV LS: 1300.6 V
HV SS: 1187.1 V

DETECTOR RESOLUTIONS
LS: 8.4 %
SS: 8.4 %

BKGD: 07-MAR-1990 14:55

MLTA ELECTRONICS CALIBRATION SUMMARY

	MEASURED ZERO	PLUS	CALIBRATED ZERO	PLUS	UNITS
BMIN	.0	4.7	0.0	5.0	OHMM
BMNO	.0	6.5	0.0	6.7	OHMM

```
POWERED DETECTOR HOUSING NUMBER      :  3838
POWERED GAMMA-GAMMA DETECTOR NUMBER  :  3859
LDT LOGGING SOURCE NUMBER            :  7192
LDT CALIBRATION MODE                 :  WATE

                    MASTER CALIBRATED
                  BKGD   AL+FE    AL   UNITS
          LL      10.1    82.0   86.0   CPS
          LU      69.0   125.3  129.4   CPS
          LS      52.6   144.6  150.7   CPS
        LITH       5.2    36.7   52.4   CPS
         SS1      15.9   179.1  184.1   CPS
         SS2      10.5   245.6  259.4   CPS

   HV SETTINGS                DETECTOR RESOLUTIONS
 HV LS:  1302.0 V                LS:  8.4 X
 HV SS:  1174.0 V                SS:  8.4 X

                 SPECTRUM QUALITY RATIOS
          COMPUTED VALUE        NOMINAL VALUE    TOLERANCE
 QRLS        .664                  0.65          +/- 0.05
 QRSS        .726                  0.72          +/- 0.10
 QRLI        .948                  0.95          +/- 0.06
 QLIR       1.370                  1.35          +/- 0.06
 QR         1.014                  1.00          +/- 0.02

BKGD: 04-MAR-1990 17:18   AL: 04-MAR-1990 17:48   AL+FE: 04-MAR-1990 17:58

  CP 32.2          FILE   1      04-MAR-1990 18:18


              BEFORE SURVEY CALIBRATION SUMMARY

  PERFORMED:    07-MAR-1990 15:15
  PROGRAM FILE: GTSAP  (VERSION    32.2B   90/01/18  88/11/30)

SGTL              DETECTOR CALIBRATION SUMMARY

            MEASURED
          BKGD   JIG          CALIBRATED          UNITS
   GR      28   197              165              GAPI

BACK: 07-MAR-1990 14:55   JIG: 07-MAR-1990 14:59   COMP: 07-MAR-1990 15:06

CNTH              DETECTOR CALIBRATION SUMMARY

     NEUTRON COMPENSATED CARTRIDGE NUMBER: 2086
     NEUTRON SOURCE SERIAL NUMBER        : 2207
     THERMAL HOUSING NUMBER              : 2166
     THERMAL CALIBRATED NEUTRON BOX      : 3331

         INPUT     PLUS      SHOP      SHOP      BEFORE     GAIN
                 REFERENCE   TANK      JIG       JIG
                   COUNTS    COUNTS    COUNTS    COUNTS

         CNTC     6031.00   5938.40   3143.50   3074.83   1.016
         CFTC     2793.00   2545.14   1339.63   1338.95   1.097

         RATIO      2.159     2.335     2.357     2.296

BACK: 07-MAR-1990 14:55   JIG: 07-MAR-1990 15:06   COMP: 04-MAR-1990 18:41

LDTD              DETECTOR CALIBRATION SUMMARY

     DENSITY RESISTIVITY SONDE NUMBER    :  4967
     NUCLEAR SERVICE CARTRIDGE NUMBER    :  1993
     POWERED DETECTOR HOUSING NUMBER     :  3838
     POWERED GAMMA-GAMMA DETECTOR NUMBER :  3859
     LDT LOGGING SOURCE NUMBER           :  7192
     LDT CALIBRATION MODE                :  WATE

                 MEASURED      SHOP  VALUES
                  BKGD        AL+FE     AL      UNITS
          LL      10.0         82.0    86.0     CPS
          LU      69.0        125.3   129.4     CPS
          LS      52.4        144.6   150.7     CPS
        LITH       5.2         36.7    52.4     CPS
         SS1      15.8        179.1   184.1     CPS
         SS2      10.5        245.6   259.4     CPS

   HV SETTINGS                DETECTOR RESOLUTIONS
 HV LS:  1309.6 V                LS:  8.4 X
 HV SS:  1187.1 V                SS:  8.4 X

BKGD: 07-MAR-1990 14:55

MLTA              ELECTRONICS CALIBRATION SUMMARY

            MEASURED                    CALIBRATED
           ZERO    PLUS                ZERO    PLUS        UNITS
  RMIN      .0      4.7                 0.0     5.0        OHMM
  RMNO      .0      6.5                 0.0     6.7        OHMM

MLTA              CALIPER CALIBRATION SUMMARY

            MEASURED                    CALIBRATED
           SMALL   LARGE               SMALL   LARGE        UNITS
  MCAL    218.94  298.0               203.20  304.8         MM

PCBB              ELECTRONICS CALIBRATION SUMMARY

            MEASURED                    CALIBRATED
           ZERO    PLUS                ZERO    PLUS        UNITS
  MINV      0.0     0.0                 0.0     0.0        OHMM
  MNOR      0.0     0.0                 0.0     0.0        OHMM

ZERO: 07-MAR-1990 15:02   PLUS: 07-MAR-1990 14:51   COMP: 07-MAR-1990 15:02

PCBB              CALIPER CALIBRATION SUMMARY

            MEASURED                    CALIBRATED
           SMALL   LARGE               SMALL   LARGE        UNITS
   CE     257.77  357.0               203.20  304.8         MM
   SA       0.0     0.0                 0.0     0.0         MM

SMALL: 07-MAR-1990 15:02   LARGE: 07-MAR-1990 14:51   COMP: 07-MAR-1990 15:02

LDTD              CALIPER CALIBRATION SUMMARY

            MEASURED                    CALIBRATED
           SMALL   LARGE               SMALL   LARGE        UNITS
   C1     178.64  295.2               203.20  304.8         MM

SMALL: 07-MAR-1990 14:51   LARGE: 07-MAR-1990 15:00   COMP: 07-MAR-1990 15:01

  CP 32.2B         FILE   1      07-MAR-1990 15:14


              AFTER SURVEY TOOL CHECK SUMMARY

  PERFORMED:    08-MAR-1990 02:28
  PROGRAM FILE: GTSAP  (VERSION    32.2B   90/01/18  88/11/30)

CNTH                TOOL  CHECK

         INPUT    BEFORE JIG   AFTER JIG

         CNTC      3071.03      3072.43

         CFTC      1338.95      1342.45

CHANGE IN THERMAL POROSITY AT 28 PU IS   -.115  PU

BEFORE SURVEY:          BACK: 07-MAR-1990 14:55   JIG: 07-MAR-1990 15:06
AFTER SURVEY CHECK:     BACK:                     JIG: 08-MAR-1990 02:26

LDTD                TOOL  CHECK

     DENSITY RESISTIVITY SONDE NUMBER    :  4967
     NUCLEAR SERVICE CARTRIDGE NUMBER    :  1993
     POWERED DETECTOR HOUSING NUMBER     :  3838
     POWERED GAMMA-GAMMA DETECTOR NUMBER :  3859
     LDT LOGGING SOURCE NUMBER           :  7192
     LDT CALIBRATION MODE                :  WATE

          MEASURED BACKGROUND                TOLERANCE ON
          BEFORE      AFTER      UNITS       BEFORE-AFTER
   LL      10.0       17.9       CPS          +/- 1.0
   LU      69.0       68.9       CPS          +/- 1.0
   LS      52.4       52.4       CPS          +/- 1.0
 LITH       5.2        5.2       CPS          +/- 0.3
  SS1      15.8       15.8       CPS          +/- 0.5
  SS2      10.5       10.5       CPS          +/- 0.5

   HV SETTINGS                DETECTOR RESOLUTIONS
 HV LS:  1304.0 V                LS:  8.4 X
 HV SS:  1182.5 V                SS:  8.4 X

BKGD                          BKGD
  BEFORE SURVEY: 07-MAR-1990 14:55   AFTER SURVEY: 08-MAR-1990 02:22

  CP 32.2B         FILE   21     08-MAR-1990 02:28
```

COMPANY	PETRO CANADA INC.	SCHL. FR. [illegible] M
		SCHL. TO [illegible] M
WELL	PCI ISLAND LAKE N-45	DRLR. TO [illegible] M
		Elev. KB [illegible] M
FIELD	WILDCAT	DF [illegible] M
TERRITORY	N.W.T.	GL [illegible] M

Schlumberger

COMPENSATED NEUTRON LITHO-DENSITY

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COMPANY PETRO CANADA INC.
WELL PO ISLAND LAKE N-45
FIELD WILDCAT
TERRITORY N.W.T.

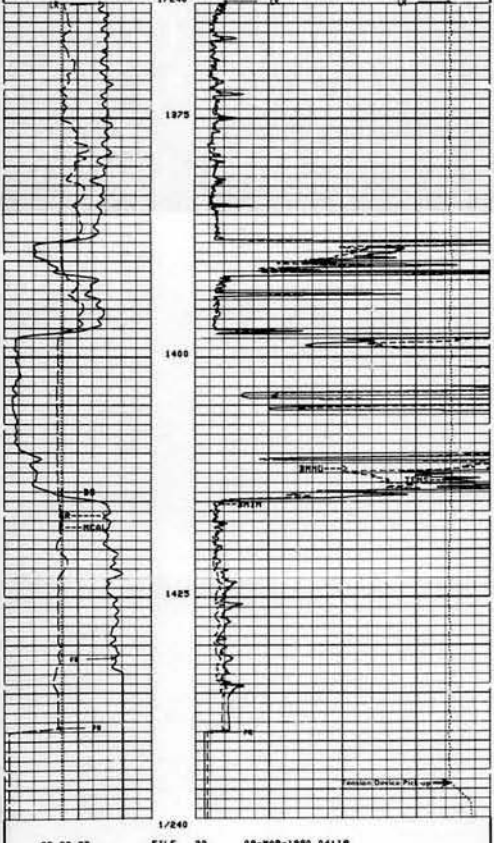
The well name, location and borehole reference data were furnished by the customer.

All interpretations or opinions based on inferences from electrical or other measurements, we can not, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

Well No.		ONE	
Service Order No.		67730	
Casing Fluid Level		0.0 M	
Mud Type			
Mud ρ BHT		2.076 OHMM @ 88.0 DEGC	@
Mud ρ BHT		1.181 OHMM @ 88.0 DEGC	@
Logging Speed		10000.0 F/HR	
EQUIPMENT DATA			
Tool Number 1		DRS C 4067	
Tool Number 2		NEC E 1663	
Tool Number 3		PGH L 3888	
Tool Number 4		CNC HB 3088	
Tool Number 5		MLT A 108	
Tool Number 6		DAC CA 1048	
Tool Number 7		SGC SA 440	
Tool Number 8		TCC E 207	
Tool Number 9		TCM AB 888	
Tool Number 10			
Tool Number 11		NBA FA 3307	
Tool Number 12		DRE JD 7982	

REMARKS:

LAT : NORTH 60 DEGREES - 4 MINUTES - 58.62 SECONDS
LONG : WEST 120 DEGREES - 53 MINUTES -0 34.34 SECONDS
SCALES AND PRESENTATIONS AS PER CLIENT REQUEST
CNL ECCENTRALIZED WITH 30MSPRING
LBT ECCENTRALIZED WITH 90 DEGREE HARDWARE
6 METERS OF FILL BETWEEN TDL AND TDD
REORIENTATION ATTEMPTED AT 1202 AND 903 METERS

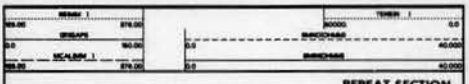


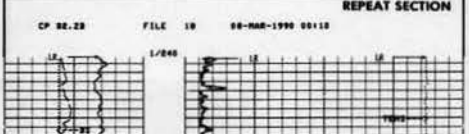
REPEAT SECTION

CP 32.23 FILE 32 08-MAR-1990 04:10

INPUT FILE(S) 19

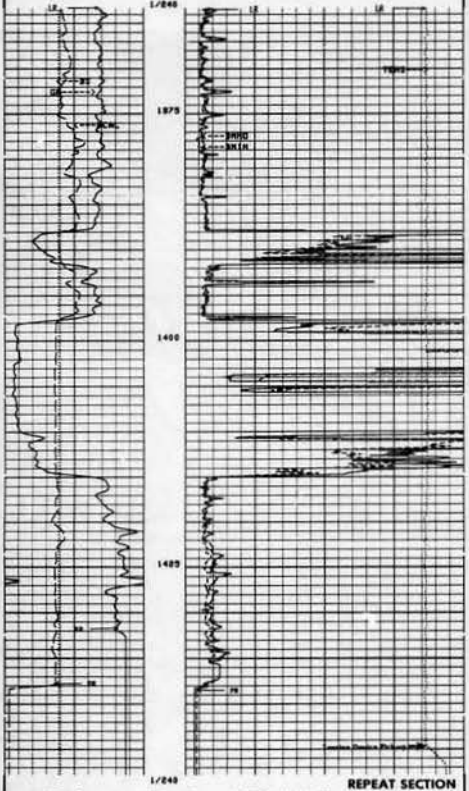
DATA ACQUIRED 08-MAR-1990 00:14





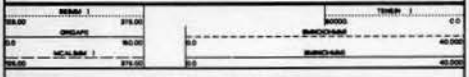
REPEAT SECTION

CP 32.23 FILE 18 08-MAR-1990 00:10



REPEAT SECTION

CP 32.23 FILE 18 08-MAR-1990 00:10

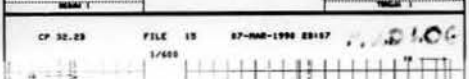


SENSOR MEASURE POINT TO TOOL ZERO

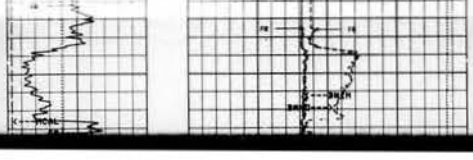
MTEM	17.88 METER	MTEM	-.88 METER
GR	15.51 METER	MRES	17.88 METER
SMLT	8.76 METER	MCAL	8.76 METER
CZ	11.94 METER	SA	15.47 METER
CFTC	6.15 METER	SPCS	15.47 METER
LITH	.79 METER	CNTC	5.99 METER
LS	.79 METER	LL	.79 METER
PARI	.64 METER	LU	.79 METER
SSZ	.64 METER	SSI	.64 METER
STCI	.64 METER	STCL	.79 METER
STPI	.64 METER	STPL	.79 METER
LLUC	.79 METER	LLLC	.79 METER
LUUC	.79 METER	LULC	.79 METER
SLUC	.64 METER	SLLC	.64 METER
SUUC	.64 METER	SULC	.64 METER
TEMI	-.28 METER	CI	.91 METER
BMIN	8.76 METER	BMND	8.76 METER
MINV	15.47 METER	MNOR	15.47 METER
TNRA	6.00 METER		

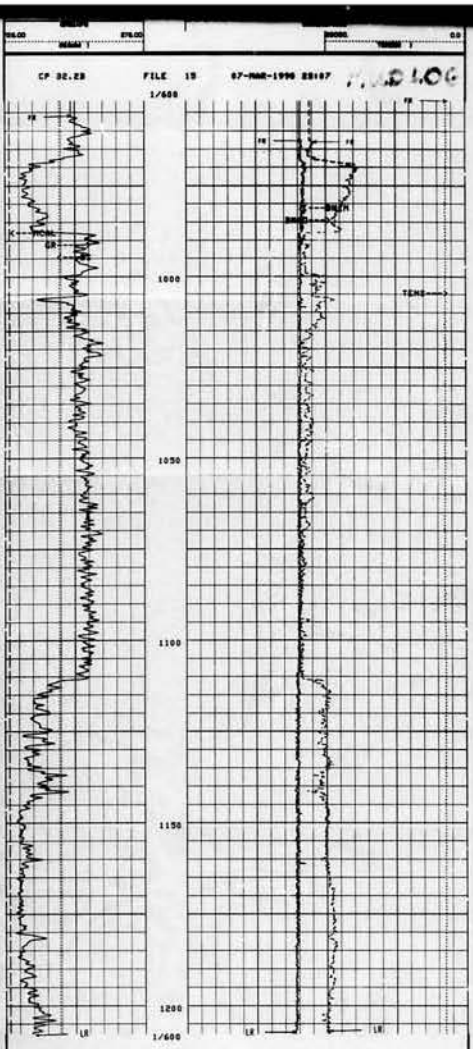
PARAMETERS

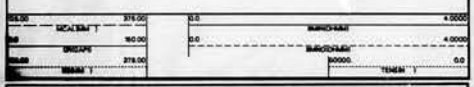
PARAMETER	VALUE	UNIT
MWUD - Weight of Mud	1125.00	K/M3
TD - Total Depth	1450.00	M
FCB - FUTURE CASING DIAMETER	177.800	MM
BHC - Density Hole CorrectionS	NONE	
BFM - BOREHOLE FILL MEDIUM	LIQU	
MDEN - MATRIX DENSITY	2710.00	K/M3
FD - FLUID DENSITY	1000.00	K/M3
MATR - Matrix	LIME	
HC - Hole Correction Origin	CI	
NPBC - NEUTRON ALPHA PROCESS DEPTH CONSTANT	0	
HSCO - Hole Size Correction Option	YES	
SDCO - Stand Off Correction Option	NO	
MCCO - Mud Cake Correction Option	NO	
BSCO - Borehole Salinity Correction Option	NO	
FSCO - Formation Salinity Correction Option	NO	
MWCO - Mud Weight Correction Option	NO	
PTCO - Pressure Temperature Correction Option	NO	
SDAT - Standoff Data Source	SDCN	
MCOR - Mud Correction	MATU	
SDCN - Stand Off for CNL	18.7000	MM
FSAL - Formation salinity	-50000.0	PPM
ANGL - Angle of Well	0.0	DEG
GGRD - Geothermal Gradient	.0100000	DF/F
BWFL - Borehole Fluid Type	WATE	
GTSE - GENERALIZED TEMPERATURE SELECTION	TEMP	
SHT - Surface Hole Temperature	0.0	DEGC
BHT - Bottom Hole Temperature	57.0000	DEGC
DTCI - DIFFERENTIAL TEMPERATURE COMPUTATION INTERVAL	0.0	M
BS - Bit Size	222.000	MM
BHS - Bore Hole Status (Open or Cased)	OPEN	

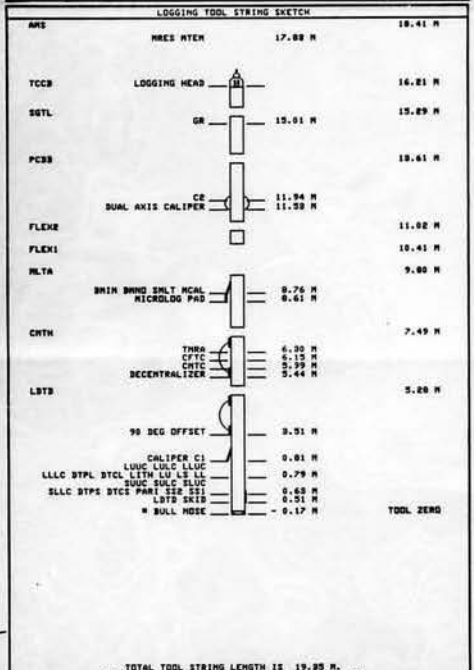


CP 32.23 FILE 15 07-MAR-1990 23:57







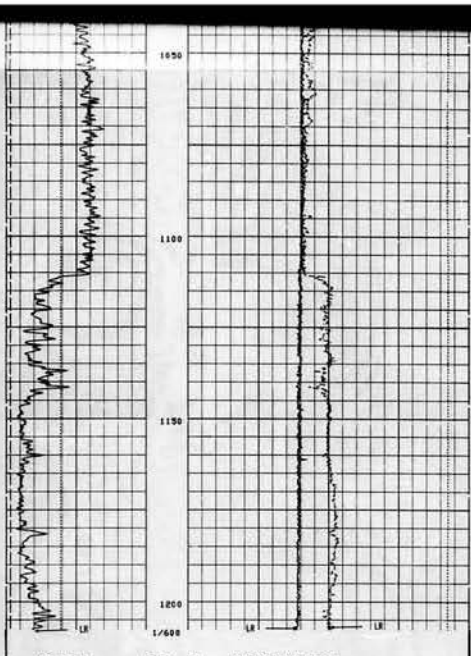


BEFORE SURVEY CALIBRATION SUMMARY

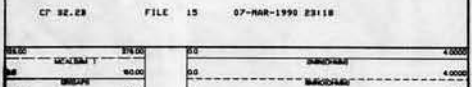
PERFORMED: 07-MAR-1990 15:15
PROGRAM FILE: GTSAP (VERSION 32.2B 90/01/10 88/11/30)

SGTL DETECTOR CALIBRATION SUMMARY

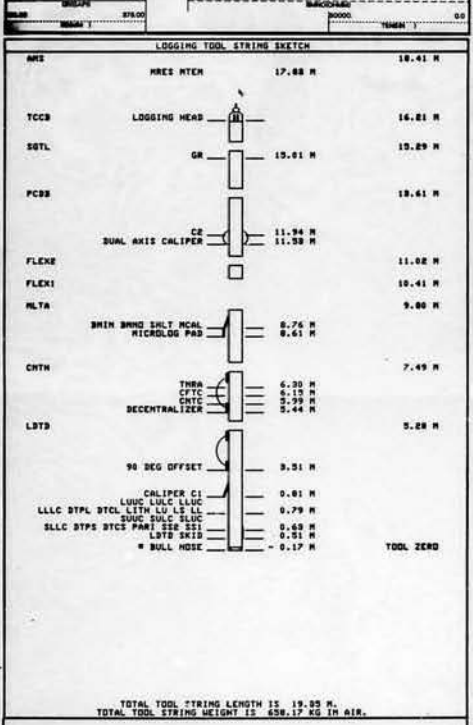
	MEASURED BKGD	JIG	CALIBRATED	UNITS
GR	28	197	165	GAPI



CP 32.2B FILE 15 07-MAR-1990 23:18



LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 19.85 M.
TOTAL TOOL STRING WEIGHT IS 658.17 KG IN AIR.

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 07-MAR-1990 15:15
PROGRAM FILE: GTSAP (VERSION 32.2B 90/01/10 08/11/90)

SGTL DETECTOR CALIBRATION SUMMARY

	MEASURED BKGD	JIG	CALIBRATED	UNITS
GR	28	197	165	GAPI

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 14:59 COMP: 07-MAR-1990 15:06

MLTA ELECTRONICS CALIBRATION SUMMARY

	MEASURED ZERO	PLUS	CALIBRATED ZERO	PLUS	UNITS
BMIN	.0	4.7	0.0	5.0	OHMM
BMNO	.0	6.5	0.0	6.7	OHMM

MLTA CALIPER CALIBRATION SUMMARY

	MEASURED SMALL	LARGE	CALIBRATED SMALL	LARGE	UNITS
MCAL	212.54	298.0	203.20	304.8	MM

CP 32.2B FILE 1 07-MAR-1990 15:14

COMPANY	PETRO CANADA INC.	SCHL. PD	1445.0 M
		SCHL. TD	1445.0 M
WELL	POI ISLAND LAKE N-45	UNLA. TD	1450.0 M
		Elev. KB	496.0 M
FIELD	WILDCAT	DF	488.7 M
		GL	486.4 M
TERRITORY	N.W.T.		

MICROLOG

1 of

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931-P2E-6-1

BOREHOLE COMPENSATED SONIC

TERRITORY	N.W.T.
FIELD	WILDCAT
LOCATION	60° 4'58.62"/120° 53'34.3
WELL	PCI ISLAND LAKE N-45
COMPANY	PETRO CANADA INC.

COMPANY PETRO CANADA INC.

WELL PCI ISLAND LAKE N-45

FIELD WILDCAT

TERRITORY N.W.T.

LOCATION	60° 4'58.62"/120° 53'34.3			Other Services: PHASOR MSFL BHC SONIC CNL-LDL-GR MICROLOG LOGNET
API SERIAL NO.	SECT.	TWP.	RANGE	

Permanent Datum	GROUND LEVEL	Elev.	806.4 M	Elev.: K.B. 811.0 M
Log Measured From	KELLY BUSHING	4.6 M	above Perm. Datum	D.F. 809.7 M
Drilling Measured From	KELLY BUSHING			G.L. 806.4 M

Date	7-MAR-90			
Run No.	ONE			
Depth Driller	1450.0 M			
Depth Logger (Schl.)	1446.6 M			
Btm. Log Interval	1435.0 M			
Top Log Interval	408.0 M			
Casing-Driller	244.5 MM @408.0 M		@	@
Casing-Logger	408.0 M			
Bit Size	222 MM			
Type Fluid in Hole	GEL CHEM			
Dens. / Visc.	1155. K/M3	70.0 S		
pH / Fluid Loss	10.0	6.0 M3		
Source of Sample	FLOWLINE			
Rm @ Meas. Temp.	3.600 OHMM @ 16.0 DEGC		@	
Rmf @ Meas. Temp.	4.220 OHMM @ 16.0 DEGC		@	
Rmc @ Meas. Temp.	2.880 OHMM @ 16.0 DEGC		@	
Source: Rmf / Rmc	MEASURED	MEASURED		
Rm @ BHT	1.721 OHMM @ 66.0 DEGC		@	
Time Circulation Ended	10:00/07			
Time Logger on Bottom	19:00/07			
Max. Rec. Temp.	66.0 DEGC			
Equip. / Location	8150	GRANDE PRAIRIE		
Recorded By	EARL HAYDEN			
Witnessed By	MR. HAL CHRISTIE			

The well name, location and borehole reference data were furnished by the customer.

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

Run No.	ONE	
Service Order No.	187230	
Drilling Fluid Level	0.0 M	
Salinity		
Rmf @ BHT	2.076 OHMM @ 66.0 DEGC	@
Rmc @ BHT	1.181 OHMM @ 66.0 DEGC	@
Logging Speed	2600.0 F/HR	
EQUIPMENT DATA		
Tool Number 1	SI EC 543	
Tool Number 2	SDC HB 343	
Tool Number 3	MCD 0 74	
Tool Number 4	SLS WA 878	
Tool Number 5	SLC UA 375	
Tool Number 6	BRT C	
Tool Number 7	SGC SA 410	
Tool Number 8	TCC B 607	
Tool Number 9	TCM AB 388	
Tool Number 10	SLM DL 460	
Tool Number 11		
Tool Number 12		

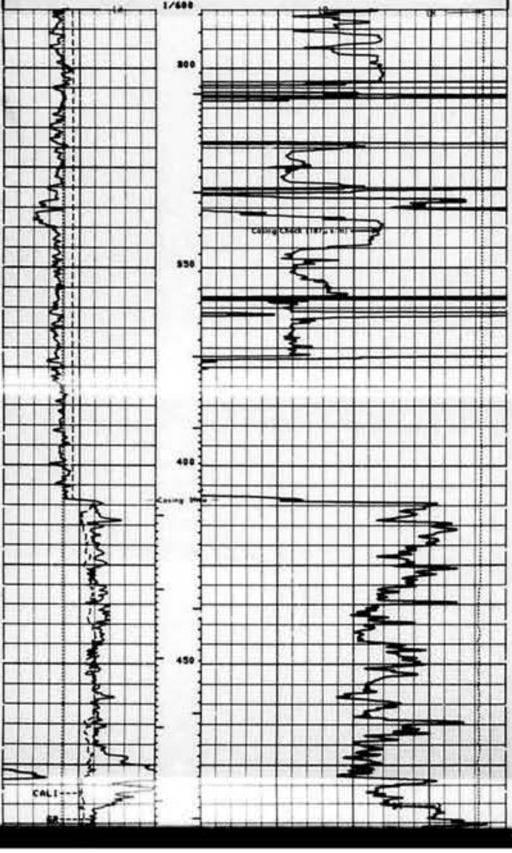
```
REMARKS:

LAT : NORTH 60 DEGREES - 4 MINUTES - 58.62 SECONDS
LONG : WEST 120 DEGREES - 53 MINUTES -0 34.34 SECONDS
SCALES AND PRESENTATIONS AS PER CLIENT REQUEST
PHASOR CENTRALIZED WITH 3 38 MM STANDOFFS AND CAULIFLOWER BU
SONIC CENTRALIZED WITH 2 CME-Z'S AND MCD CALIPER ARMS
2 METERS OF FILL BETWEEN INITIAL REPEAT AND MAIN PASS
SP ZERO SHIFTS MADE AT 890, 1040, AND 1044 METERS
```

```
EVENT MARK SUMMARY:

OUTPUT  INTERVAL        DEPTH TRACK
        BETWEEN PIPS    EDGE

INV     .100000 MS      LEFT EDGE
ITT     .00100000 S     RIGHT EDGE
```

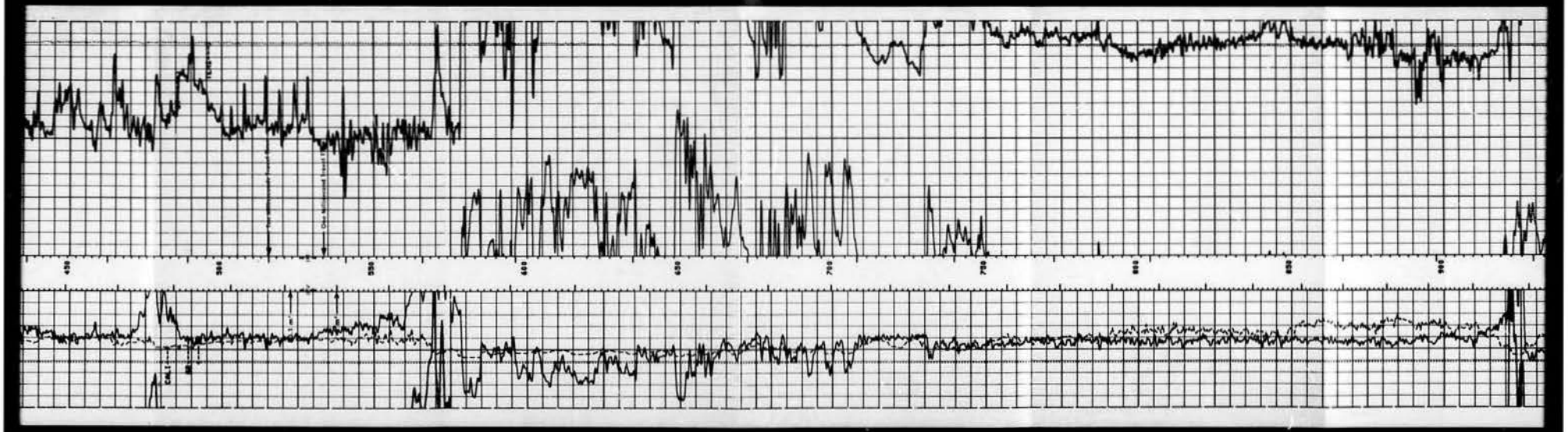
```
CEMENT VOLUME = 82.8678 M3   (ASSUMING 177.800 MM   O.D. CASING)
HOLE VOLUME =   58.2149 M3
FROM  1449.98 TO   408.09 METE
```

CALI (MM)		TENS (DAN)	
125.00	375.00	50000	0.0
SP (MV)		DT (US/M)	
0.0	100.00	500.00	100.00
BS (MM)			
125.00	375.00		

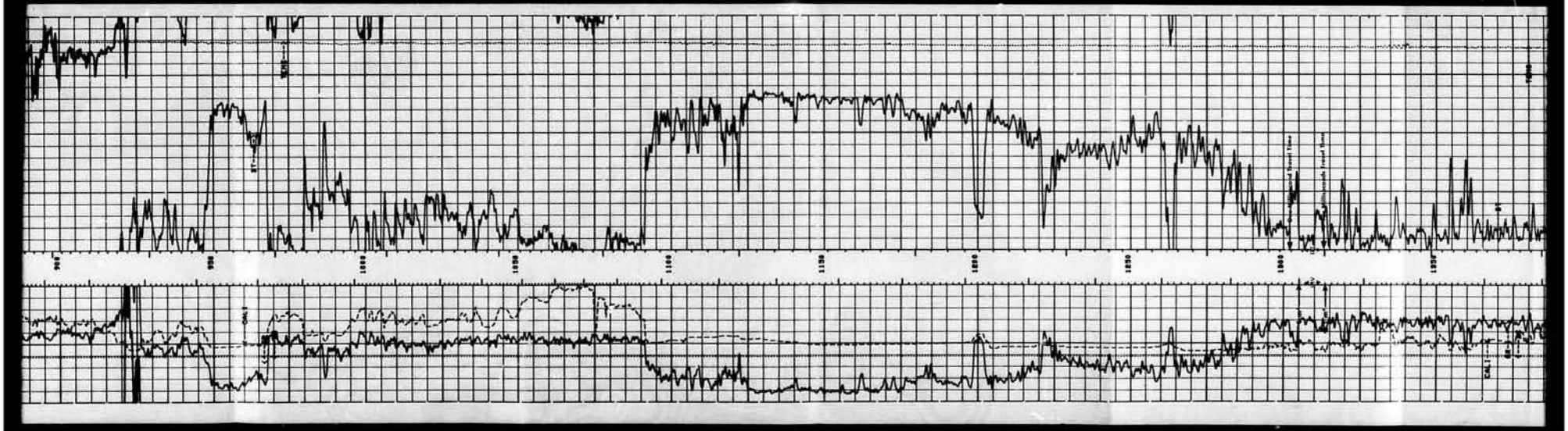
```
CP 32.2D          FILE    9     07-MAR-1990 20:46
```

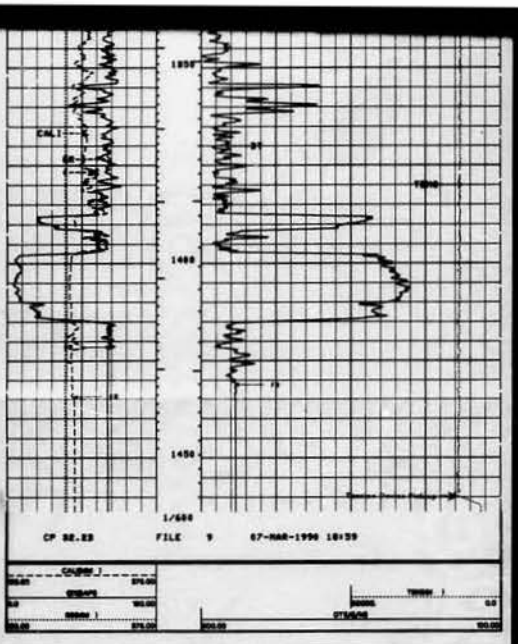


2 of



3 of

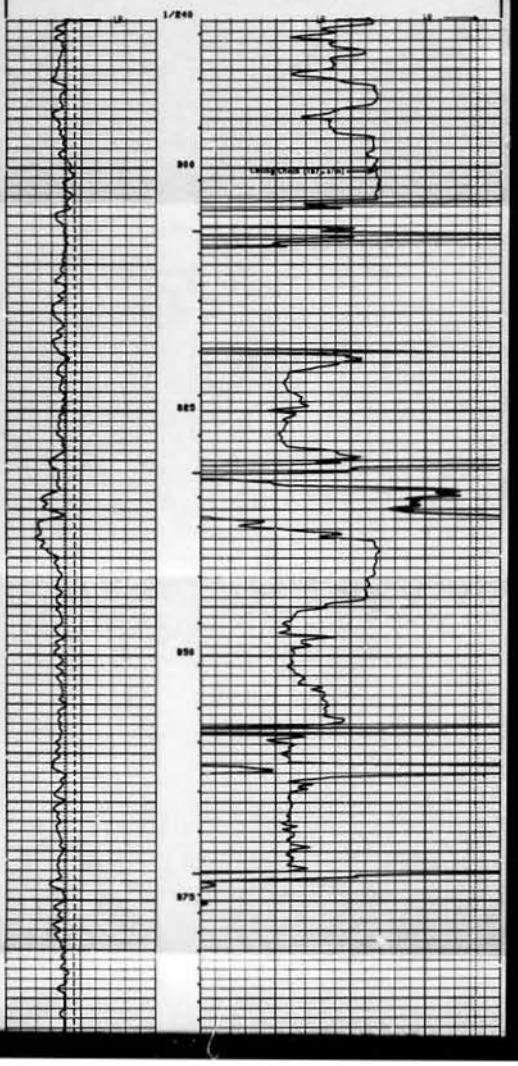




EVENT MARK SUMMARY:

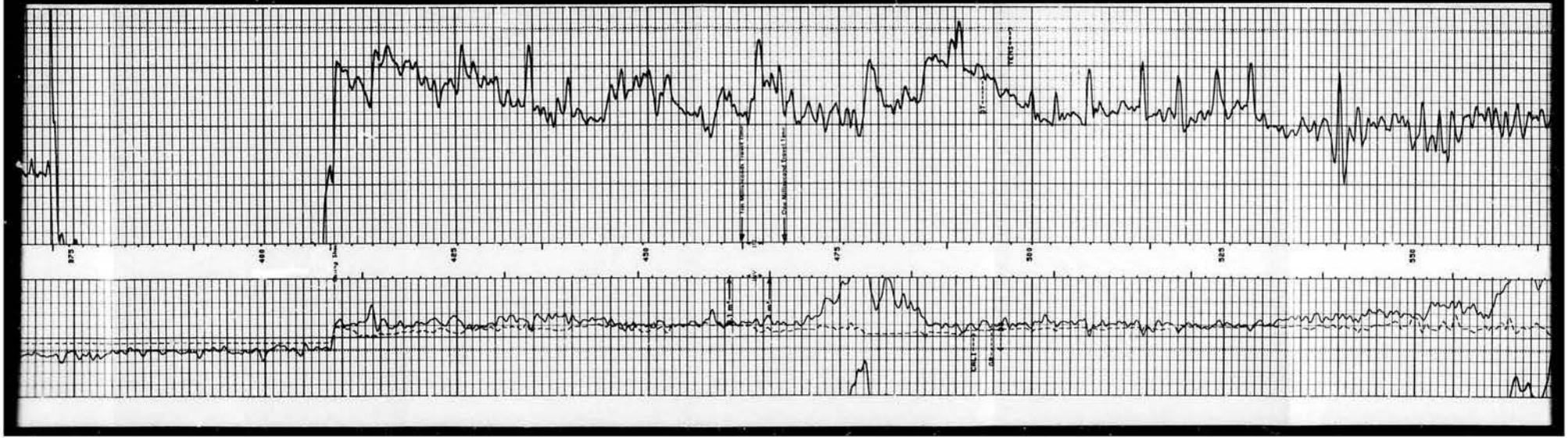
OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
INV	.100000 MB	LEFT EDGE
ITT	.00100000 S	RIGHT EDGE

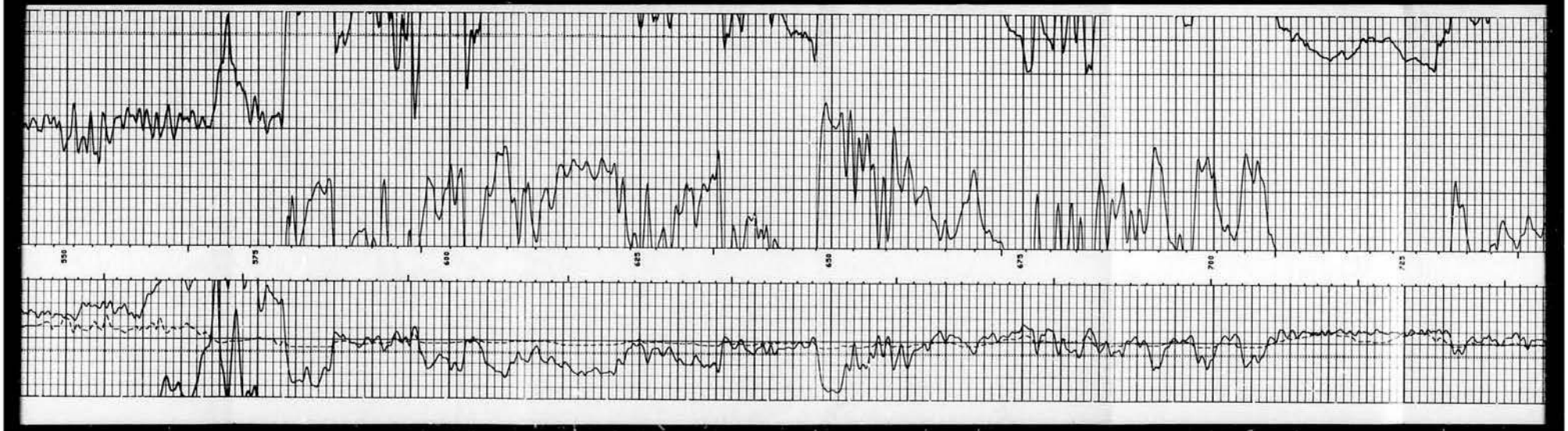
CEMENT VOLUME = 82.8678 MB (ASSUMING 177.800 MM O.D. CASING)
HOLE VOLUME = 50.2149 MB
FROM 1449.98 TO 408.09 METE



4 of

5 of

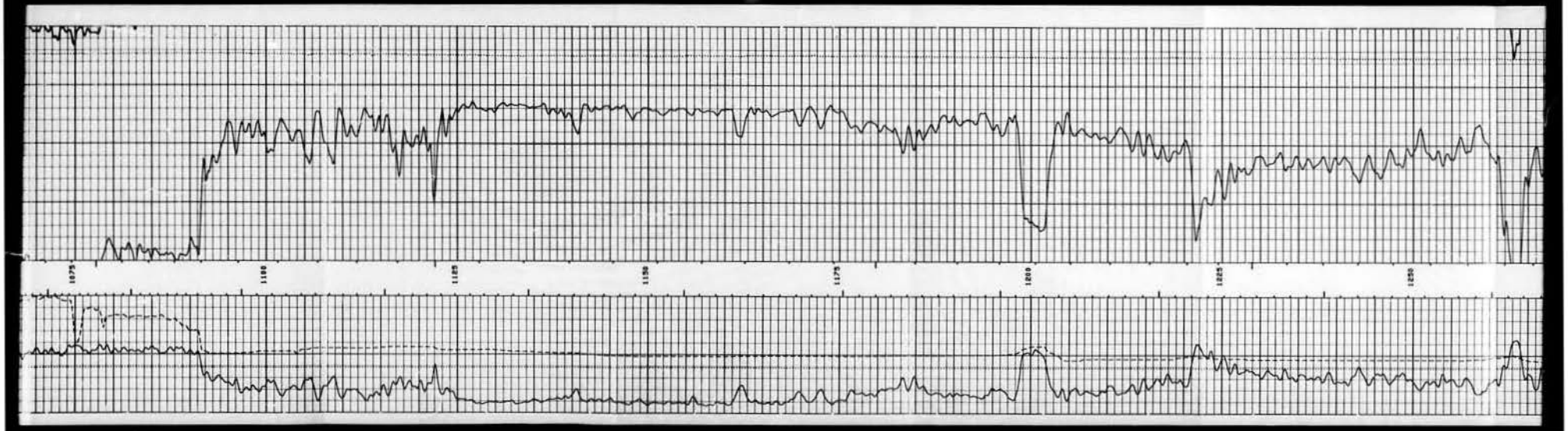



550
575
600
625
650
675
700
725

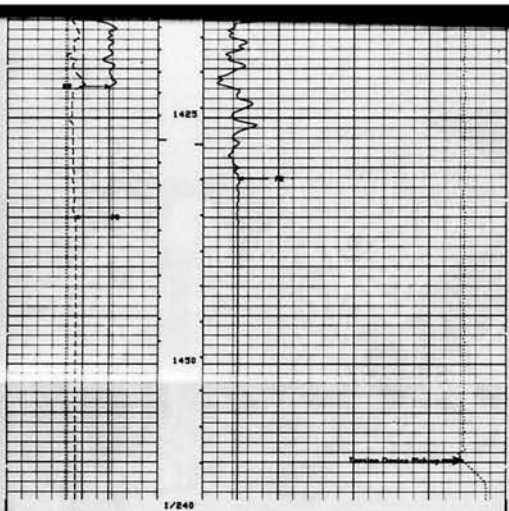
7 of

8 of

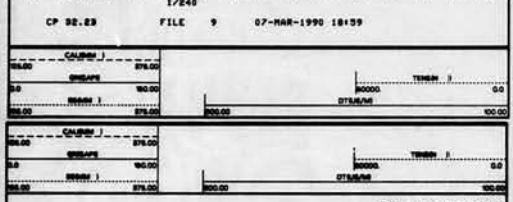
9 of

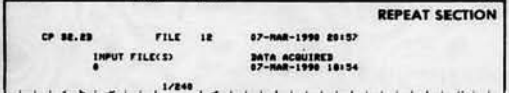



1250
1275
1300
1325
1350
1375
1400
1425
TOPS
DRILL



CP 32.29 FILE 9 07-MAR-1990 18:59

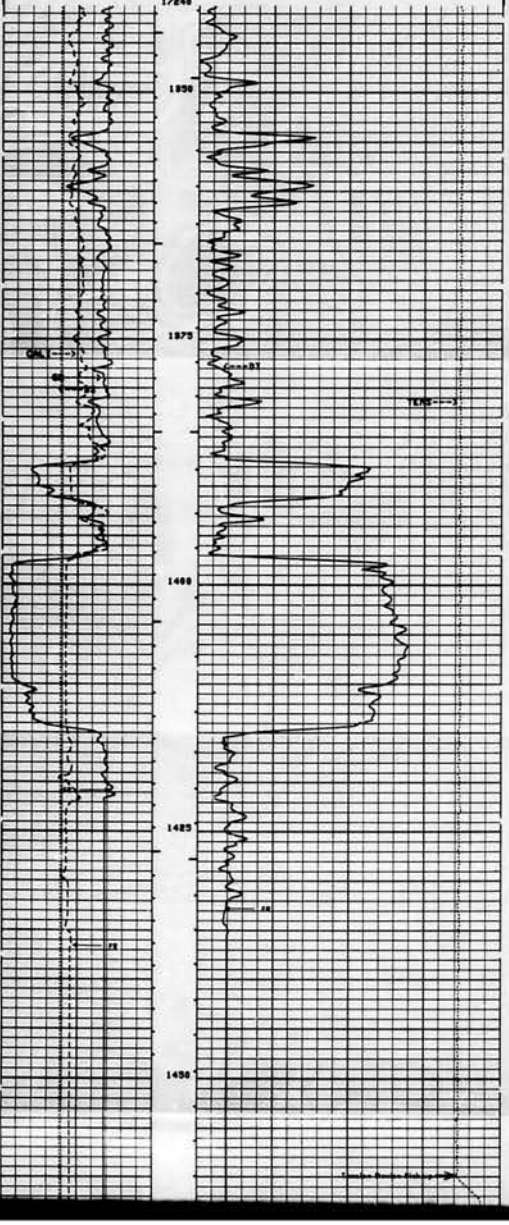


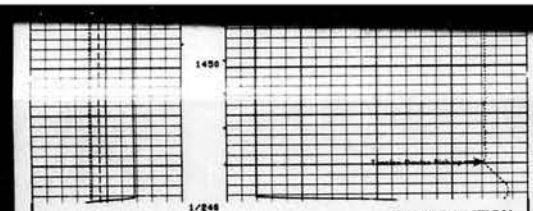


REPEAT SECTION

CP 32.29 FILE 12 07-MAR-1990 20:57

INPUT FILE(S) DATA ACQUIRED
0 07-MAR-1990 18:54





CP 88.2B FILE 12 07-MAR-1990 20:54 **REPEAT SECTION**

INPUT FILE(S) DATA ACQUIRED
B 00- -1900 00:00

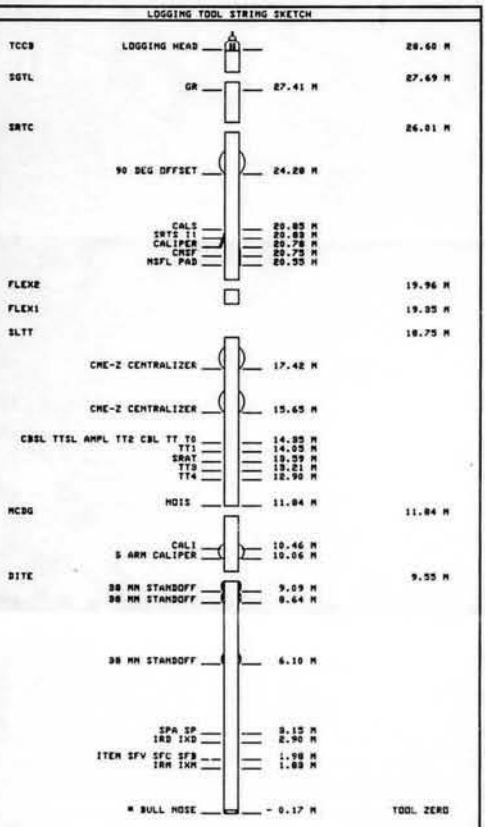
SENSOR MEASURE POINT TO TOOL ZERO

SRTS	20.88 METER	SP	8.15 METER
CALI	10.46 METER	CALS	20.85 METER
AMPL	14.95 METER	GR	27.41 METER
CBL	14.95 METER	SRAT	18.59 METER
TT2	14.95 METER	TT1	14.05 METER
TT4	12.90 METER	TT3	13.21 METER
TT	14.95 METER	T0	14.95 METER
CBSL	14.95 METER	TTSL	14.95 METER
IRM	1.88 METER	IXM	1.88 METER
ITEM	1.98 METER	IXD	2.90 METER
SFB	1.98 METER	SPA	9.15 METER
SFV	1.98 METER	SFC	1.98 METER
TEMS	-14.9 METER	IRD	2.90 METER
CMSF	20.75 METER	II	20.88 METER
MDIS	-14.9 METER		

PARAMETERS

PARAMETER	VALUE	UNIT
PP - PAD PRESSURE	NORM	
DO - DEPTH OFFSET	-.500000	M
WMUD - Weight of Mud	1125.00	K/M3
TD - Total Depth	1450.00	M
FCB - FUTURE CASING DIAMETER	177.800	MM
IFRS - BIT-E Induction Frequency Selector	20	KHZ
ISR - Side Bed Correction Factor	1.00000	OHMM
MXEE - Medium Quad 20 kHz Sonde Error Correction	64.2128	MM/M
DXEE - Deep Quad 20 kHz Sonde Error Correction	100.458	MM/M
MREE - Medium Real 20 kHz Sonde Error Correction	12.4846	MM/M
DREE - Deep Real 20 kHz Sonde Error Correction	18.4399	MM/M
MPHE - Medium 20 KHZ Phase Shift	-.956900	DEG
DPHE - Deep 20 KHZ Phase Shift	.0253778	DEG
MGFE - Medium 20 kHz Gain Factor	1.03966	
DGFE - Deep 20 kHz Gain Factor	1.09550	
DESP - BIT Despike Algorithm Enable	DISA	
SFLE - SFL Enable	ALLO	
BCAS - BIT-E Depth of Casing	489.000	M
ITEM - BIT-E Temperature Enable	ALLO	
DEVI - BIT-E HOLE DEVIATION	0.0	DEG
IPRO - BIT-E Induction Processing Selector	PHAS	
BWCO - DIGITIZER WORD COUNT	512	
BSIM - DIGITIZER SAMPLE INTERVAL	5	US
BDEL - DIGITIZING DELAY	200	US
SLC - Sonic Logging Cartridge	UA	
DTF - Delta-T Fluid	620.079	US/M
DTM - Delta-T Matrix	183.727	US/M
CDTS - C-Delta-T Shale (Empirical Correction)	100.000	
SPFS - Sonic Porosity Formula Select	W-H	
GTSE - GENERALIZED TEMPERATURE SELECTION	TEMP	
SHT - Surface Hole Temperature	26.6666	DEGC
BHT - Bottom Hole Temperature	82.2221	DEGC
RMUB - RESISTIVITY OF MUD SAMPLE	1.00000	OHMM
SPT - Value of SP which would have been read if Results were good		STAM
CREF - Current Reference	AUTO	
OMR - Origin of Mud Resistivity	COMS	
SPAE - SPARC ENABLE	DISA	
BS - Bit Size	222.000	MM
BHS - Bore Hole Status (Open or Cased)	OPEN	

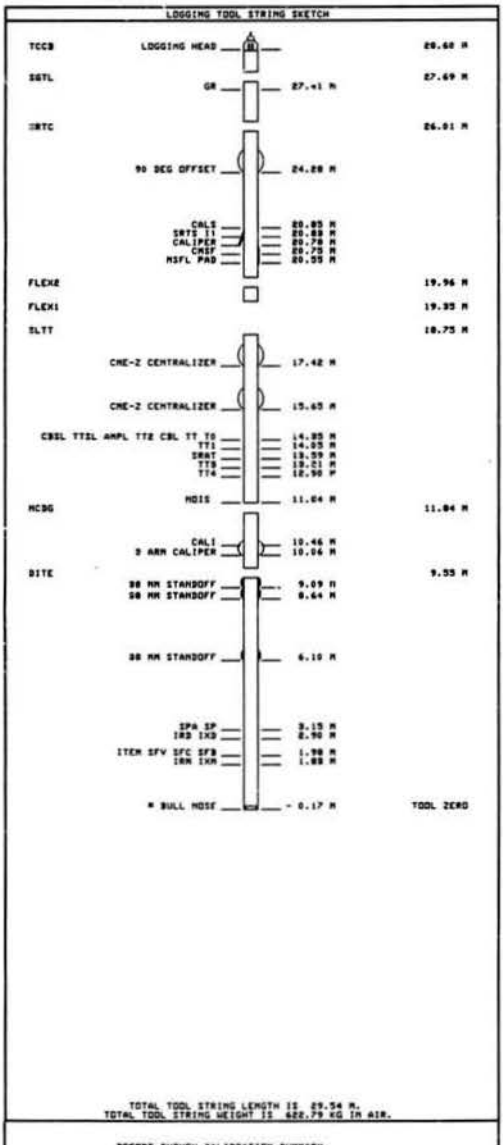
LOGGING TOOL STRING SKETCH



1 of 2

[illegible]	- DITE Induction Processing Selector	[illegible]	
ISR	- Side Bed Correction Factor	1.00000	OHMM
MXEE	- Medium Quad 20 kHz Sonde Error Correction	66.2128	MM/M
DXEE	- Deep Quad 20 kHz Sonde Error Correction	100.458	MM/M
MREE	- Medium Real 20 kHz Sonde Error Correction	12.4846	MM/M
DREE	- Deep Real 20 kHz Sonde Error Correction	13.4899	MM/M
MPHE	- Medium 20 KHZ Phase Shift	-.956900	DEG
DPHE	- Deep 20 KHZ Phase Shift	.0838278	DEG
MGFE	- Medium 20 khz Gain Factor	1.00966	
DGFE	- Deep 20 kHz Gain Factor	1.00550	
DEEP	- DIT Despike Algorithm Enable	DISA	
SFLE	- SFL Enable	ALLO	
DCAS	- DIT-E Depth of Casing	429.000	M
ITEM	- DIT-E Temperature Enable	ALLO	
DEVI	- DIT-E HOLE DEVIATION	0.0	DEG
IPRO	- DIT-E Induction Processing Selector	PHAZ	
DWCO	- DIGITIZER WORD COUNT	512	
DSIM	- DIGITIZER SAMPLE INTERVAL	5	US
DDEL	- DIGITIZING DELAY	200	US
SLC	- Sonic Logging Cartridge	UA	
DTF	- Delta-T Fluid	620.079	US/M
DTM	- Delta-T Matrix	183.727	US/M
LBIS	- L-Delta-T Shale (Empirical Correction)	100.000	
SPFS	- Sonic Porosity Formula Select	K-H	
GTSE	- GENERALIZED TEMPERATURE SELECTION	TEMP	
SHT	- Surface Hole Temperature	26.6666	DEGC
BHT	- Bottom Hole Temperature	88.2221	DEGC
RWUS	- RESISTIVITY OF MUD SAMPLE	1.00000	OHMM
SPT	- Value of SP which would have been read if Results were good	STAN	
CREF	- Current Reference	AUTO	
ORR	- Origin of Mud Resistivity	COMI	
SPAE	- SPARC ENABLE	DISA	
BS	- Bit Size	222.000	MM
BHS	- Bore Hole Status (Open or Cased)	OPEN	

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 29.54 M.
TOTAL TOOL STRING WEIGHT IS 622.79 KG IN AIR.

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 07-MAR-1990 18:06
PROGRAM FILE: GTSAP (VERSION 32.28 90/01/18 88/11/30)

SGTL DETECTOR CALIBRATION SUMMARY

	MEASURED BKGD	JIG	CALIBRATED	UNITS
GR	28	197	165	GAPI

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 14:59 COMP: 07-MAR-1990 15:06

CP 32.28 FILE 5 07-MAR-1990 18:06

COMPANY	PETRO CANADA INC.
WELL	PCI ISLAND LAKE N-45
FIELD	WILDCAT
TERRITORY	N.W.T.

BOREHOLE COMPENSATED SONIC

1 of

OTTAWA COPY

PHASOR INDUCTION - MSFL

COMPANY	PETRO CANADA INC.
WELL	PCI ISLAND LAKE N-45
FIELD	WILDCAT
TERRITORY	N.W.T.

LOCATION	60° 41'44.63"/100° 52'34.3			Other Services: PHASOR MSFL SNC SONIC CNL-CDL-GR MICROLOG LOGNET
API SERIAL NO.	SECT.	TWP.	RANGE	

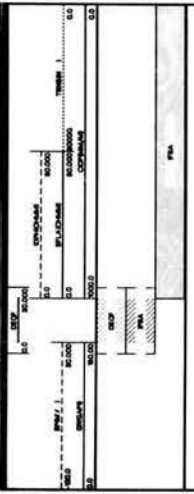
Permanent Datum	GROUND LEVEL	Elev.	505.4 M
Log Measured From	KELLY BUSHING	4.6 M	above Perm. Datum
Drilling Measured From	KELLY BUSHING		

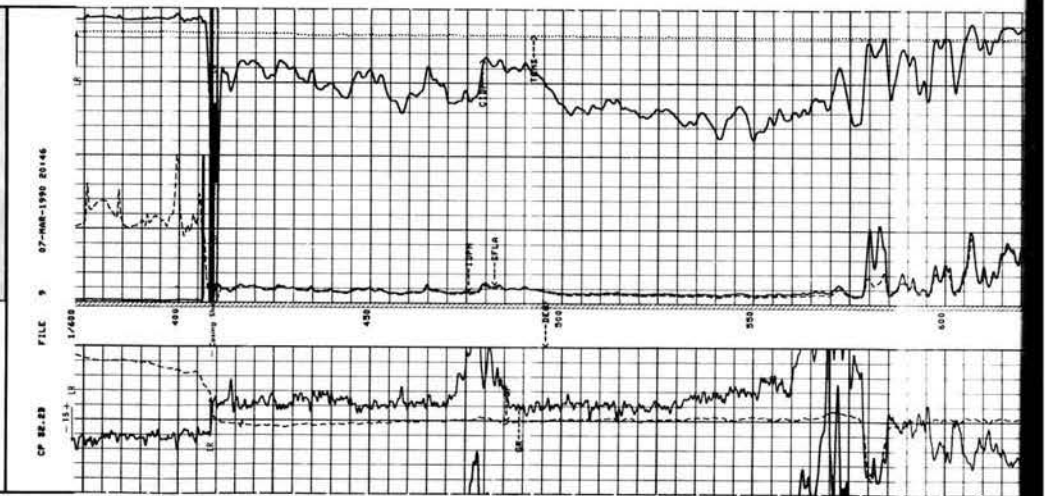
Date	7-MAR-90		
Run No.	ONE		
Depth Driller	1450.0 M		
Depth Logger (Schl.)	1448.8 M		
Btm. Log Interval	1444.0 M		
Top Log Interval	408.0 M		
Casing-Driller	244.5 MM @408.0 M	●	●
Casing-Logger	408.0 M		
Bit Size	223 MM		
Type Fluid in Hole	DEL CHEM		
Density	Visc.	1105 K/M3	70.0 S
pH	Fluid Loss	10.0	6.0 MM
Source of Sample	FLOWLINE		
Rm @ Meas. Temp.	2.500 OHMM	@ 16.0 DEGC	●
Rmf @ Meas. Temp.	4.220 OHMM	@ 16.0 DEGC	●
Rmc @ Meas. Temp.	3.340 OHMM	@ 16.0 DEGC	●
Source: Rmf / Rmc	MEASURED		
Rm @ BHT	1.235 OHMM	@ 38.0 DEGC	●
Circulation Stopped	12:00/07		
Logger on Bottom	19:00/07		
Max. Rec. Temp.	38.0 DEGC		
Equip. Location	0100	GRANDE PRAIRIE	
Recorded By	EARL HAYDEN		
Witnessed By	MR. HAL CHISETE		

CDL	
Serial No.	97550
Hole Size	10.0 IN
Density	
Neut T Mat	LIME DOLOM
Neut T Unit	2.71 G/C3
Fluid Density	1000 K/M3
Tool Status	NORMAL
Tool Station 1	0.0 F 543
Tool Station 2	DC 10 543
Tool Station 3	MUD 0 T4
Tool Station 4	BLC 0 T4
Tool Station 5	BLC UN 373
Tool Station 6	BPT C 430
Tool Station 7	TCC 0 507
Tool Station 8	MAN 20 555
Tool Station 9	MAN 100
Tool Station 10	

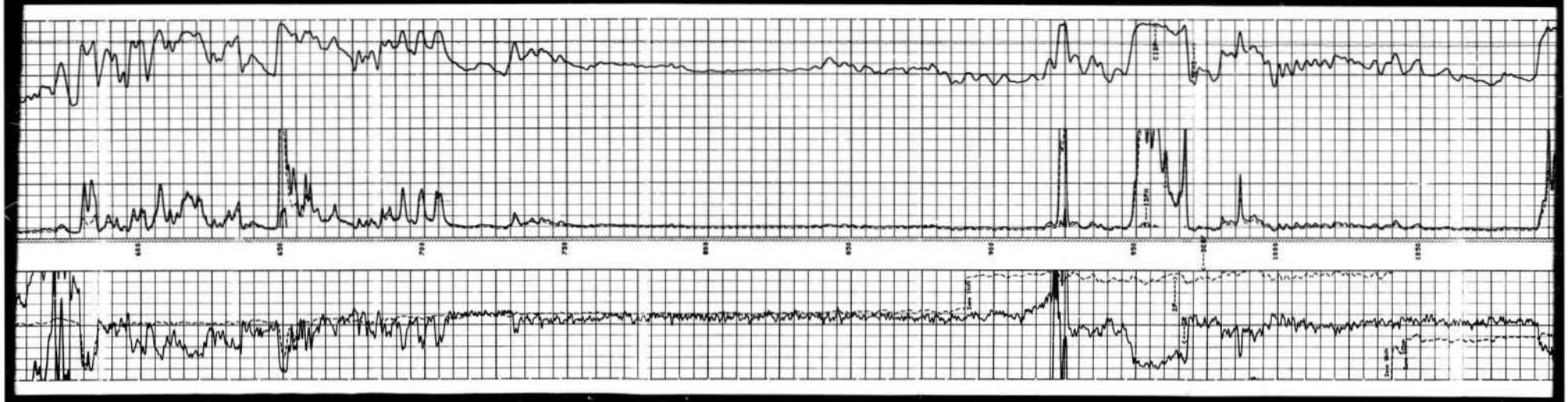
REMARKS:

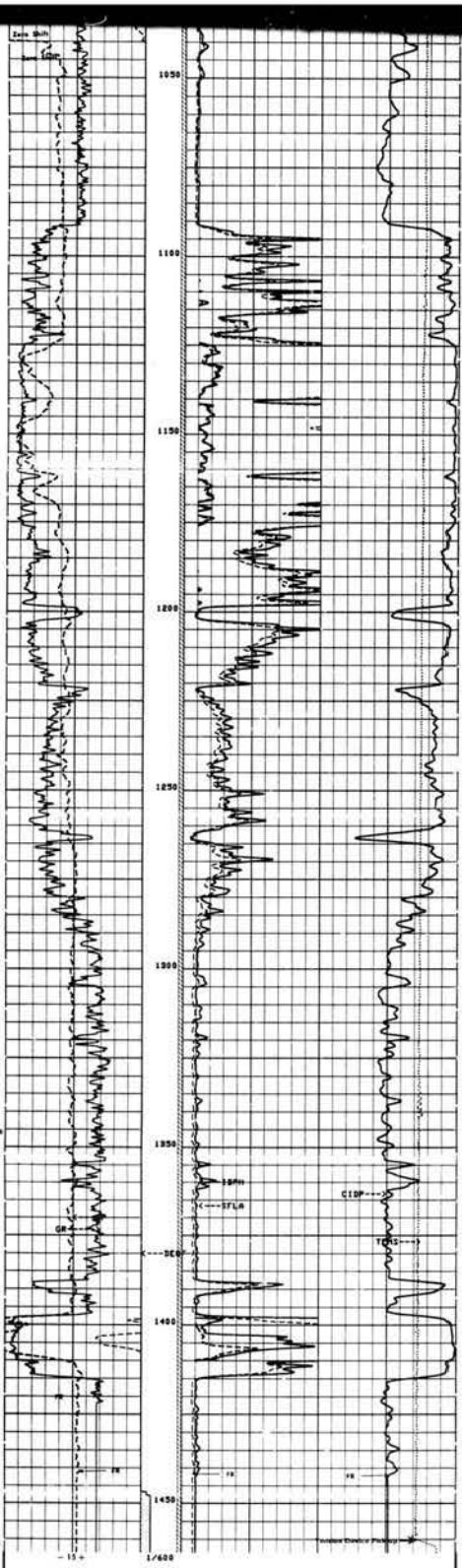
LAT 1 NORTH 40 DEGREES - 4 MINUTES - 39.62 SECONDS
LONG 1 WEST 100 DEGREES - 53 MINUTES - 0 34.34 SECONDS
LOG 1 SET 408.0 M FOR SURFACE CASING. CAULIFLOWER BU
PHASOR CENTRALIZED WITH A 38 CM STABILIZER.
SONIC CENTRALIZED WITH 2 CNC-Z'S AND MCD CALIPER ARMS
MSFL SET FILE BETWEEN INITIAL REPEAT AND MAIN PASS
SP ZERO SHIFTS MADE AT 8951, 1846, AND 1944 METERS

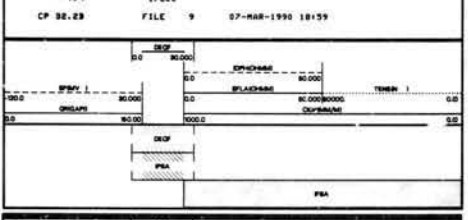


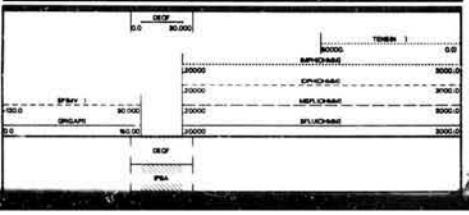


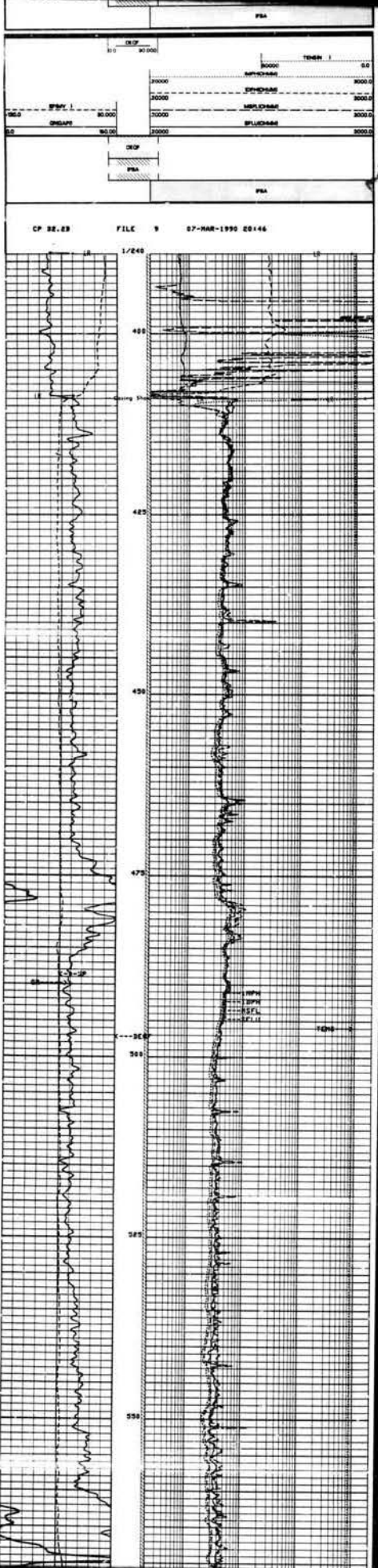
2 of



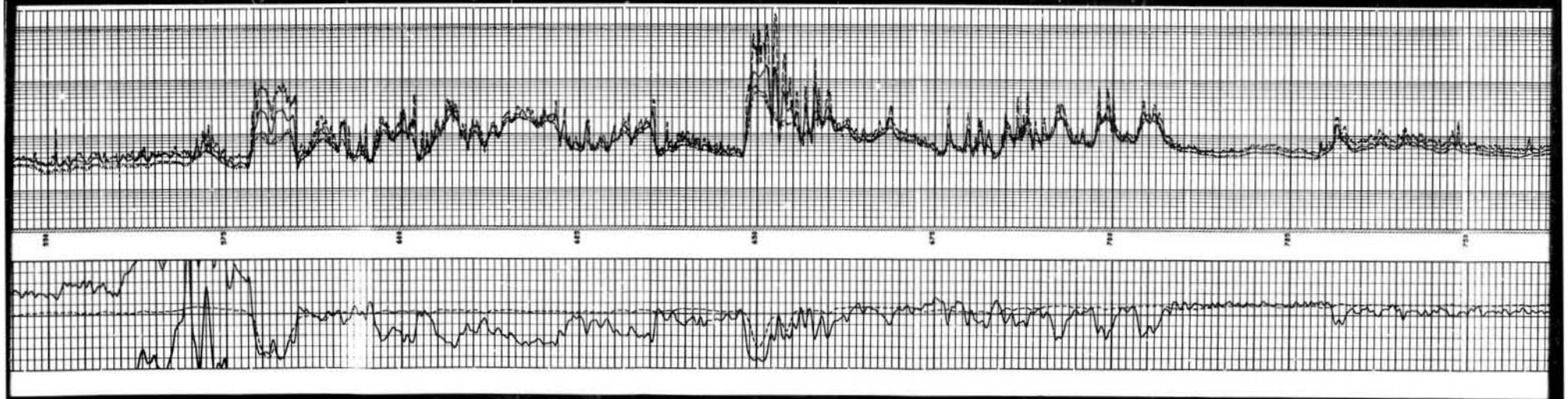

Zero Shift
CGR
1050
1100
1150
1200
1250
1300
1350
1400
1450
1/600
GR
DEOF
SFLA
CIDP
TCMS
CP 32.23
FILE 9
07-MAR-1990 18:59


DEOF
DPHOHMM
SFLAOHMM
TENSN 1
SFSFV 1
GRGAPI
CIDPMMHO
PSA

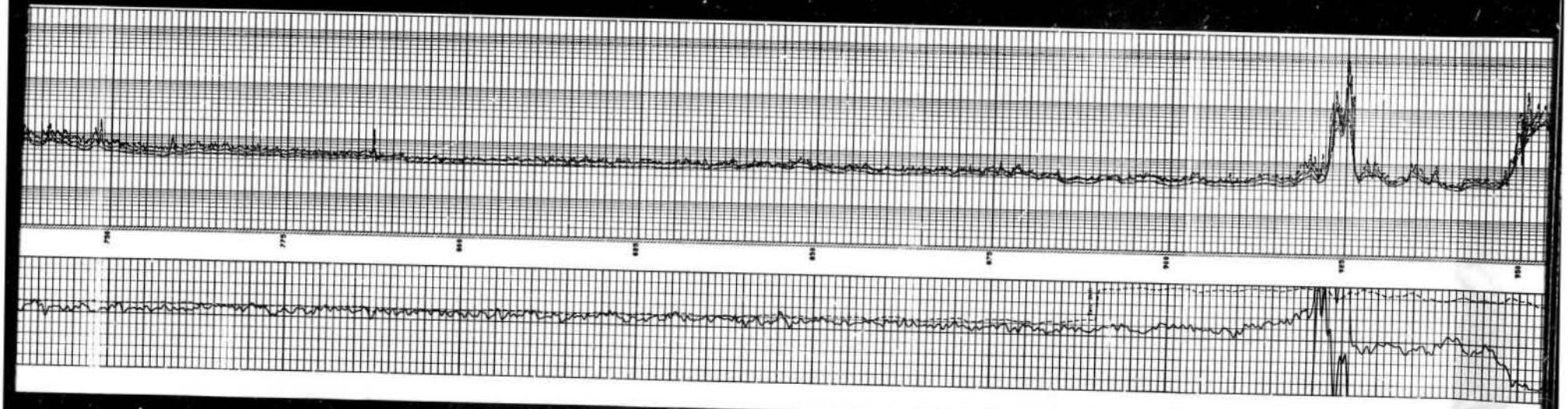

DEOF
TENSN 1
SFLUOHMM
DPHOHMM
MSFLOHMM
SFSFV 1
GRGAPI
PSA

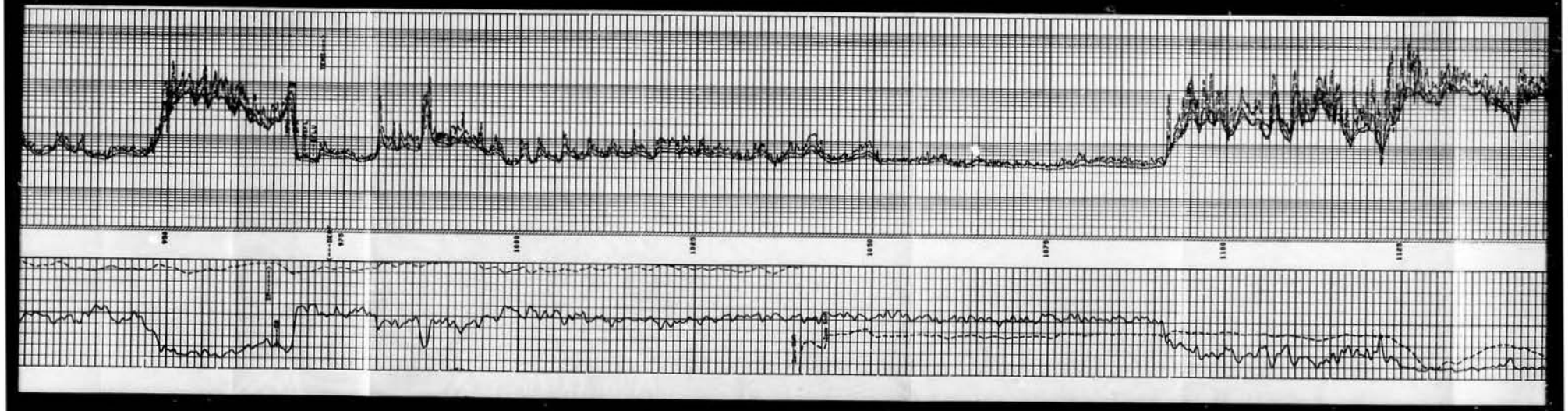

CP 32.23
FILE 9
07-MAR-1990 20:46
1/240
400
425
450
475
500
525
550
Casing Shoe
TENS

5 of



6 of





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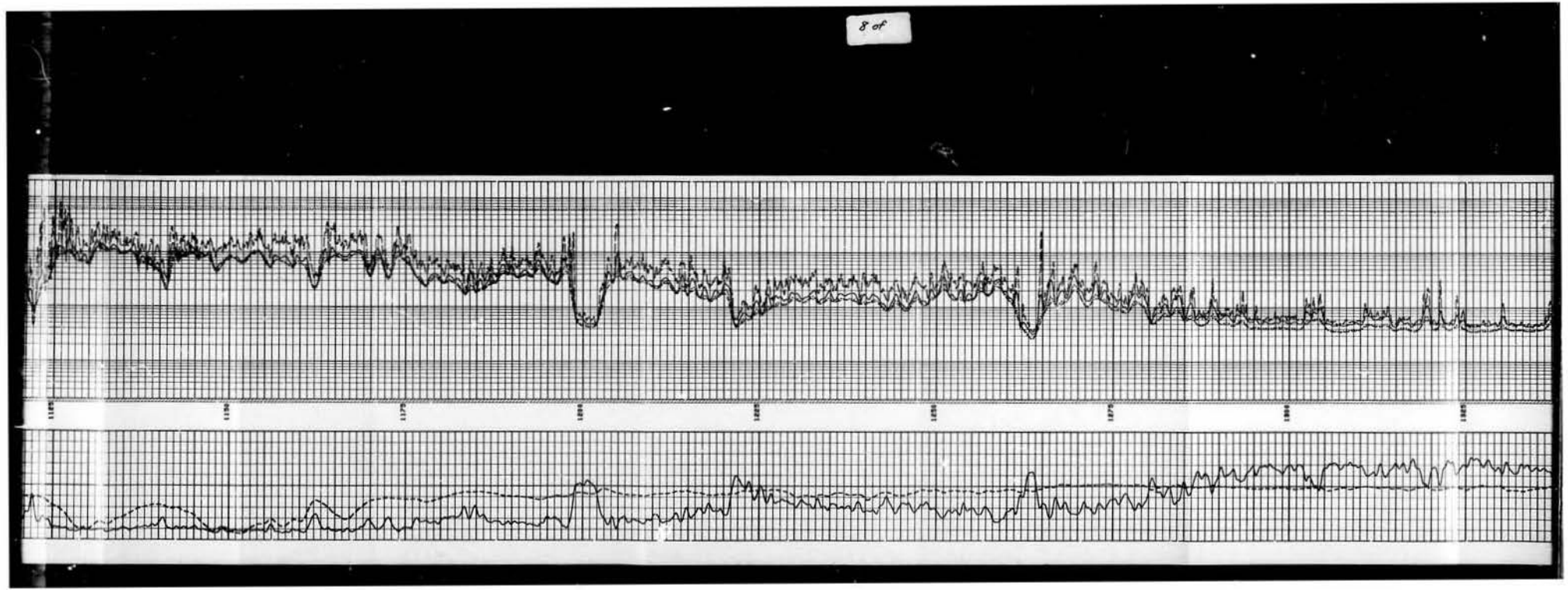
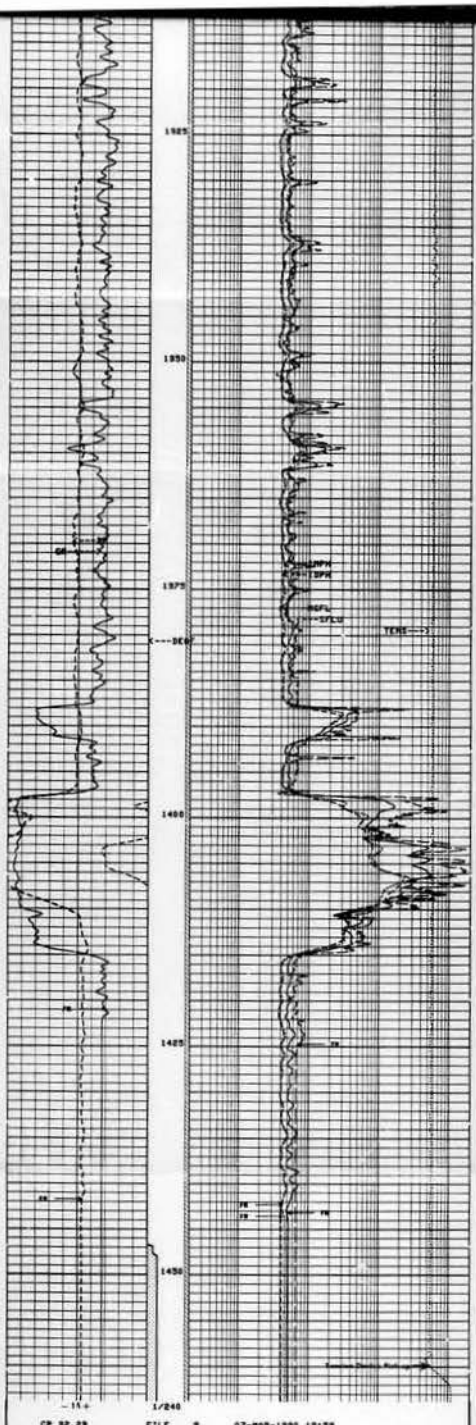
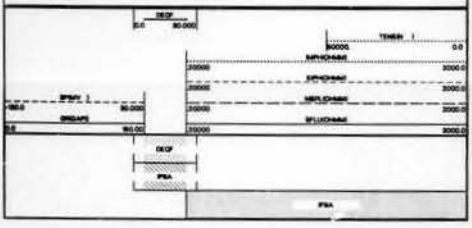
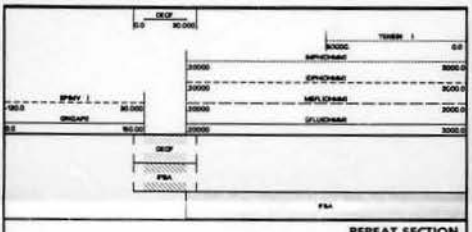
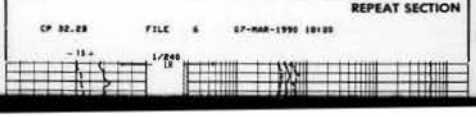


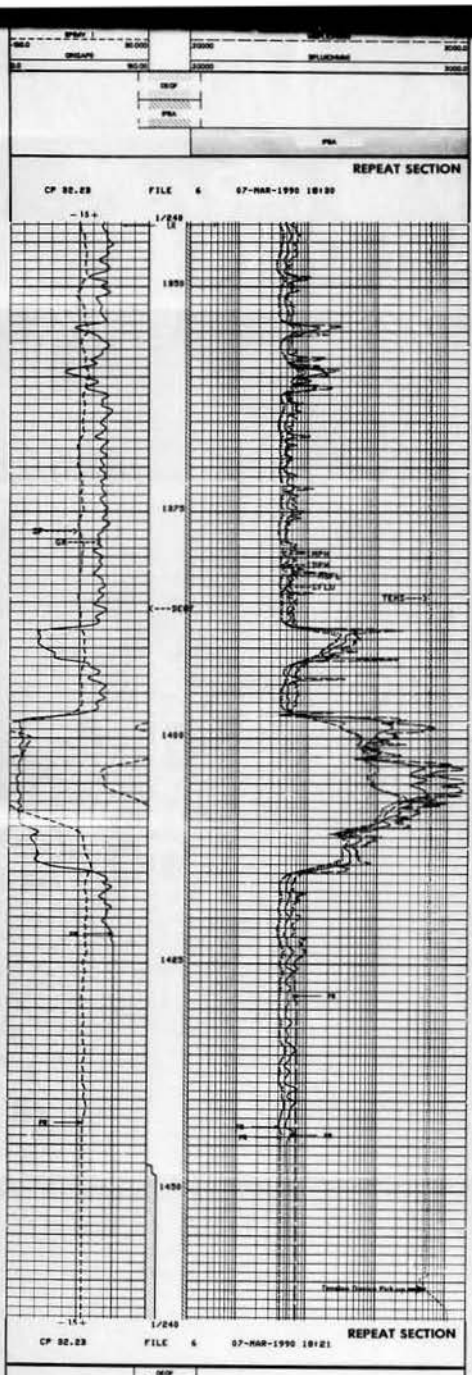


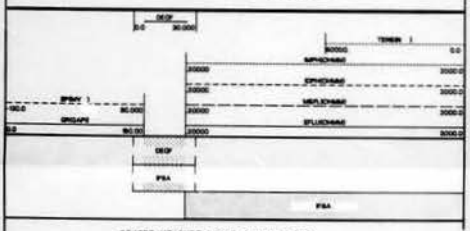




REPEAT SECTION







SENSOR MEASURE POINT TO TOOL ZERO

SRTS	20.83 METER	SP	3.15 METER
CALI	18.46 METER	CALI	20.83 METER
AMPL	14.35 METER	GR	27.41 METER
CBL	14.35 METER	SRAT	13.59 METER
TT2	14.35 METER	TT1	14.35 METER
TT4	12.96 METER	TT3	13.21 METER
TT	14.35 METER	T0	14.35 METER
CBSL	14.35 METER	TTSL	14.35 METER
IRM	1.83 METER	IXM	1.83 METER
ITEM	1.98 METER	IXD	2.96 METER
SFB	1.98 METER	SPA	3.15 METER
SFV	1.98 METER	SFC	1.98 METER
TENS	-14.9 METER	IRD	2.96 METER
CMDF	20.75 METER	I1	20.83 METER
MDIS	-14.9 METER		

PARAMETERS

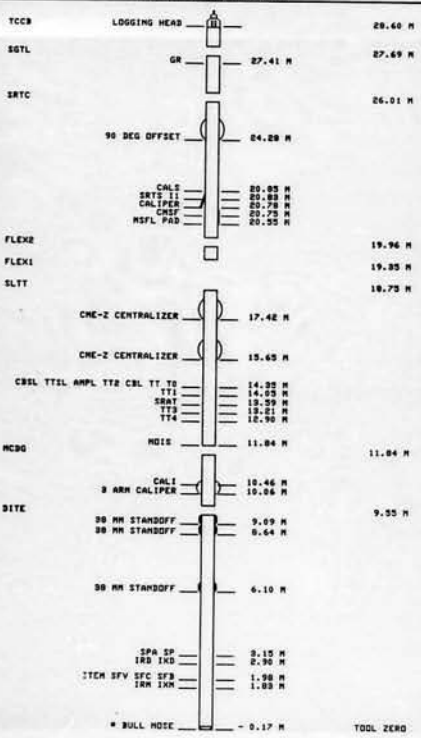
PARAMETER	VALUE	UNIT
WMUD - Weight of Mud	1125.00	K/M3
TD - Total Depth	1450.00	M
FCD - FUTURE CASING DIAMETER	177.800	MM
IFRS - DIT-E Induction Frequency Selector	20	KHZ
SBR - Side Bed Correction Factor	1.00000	DIMM
MXE2 - Medium Quad 20 kHz Sonde Error Correction	64.2128	MM/M
DXE2 - Deep Quad 20 kHz Sonde Error Correction	100.459	MM/M
MRE2 - Medium Real 20 kHz Sonde Error Correction	12.4846	MM/M
DRE2 - Deep Real 20 kHz Sonde Error Correction	13.4299	MM/M
MPHZ - Medium 20 KHZ Phase Shift	-.954990	DEG
DPHZ - Deep 20 KHZ Phase Shift	.8259778	DEG
MGFZ - Medium 20 kHz Gain Factor	1.03966	
DGFZ - Deep 20 kHz Gain Factor	1.03550	
DESP - DIT Despike Algorithm Enable	DISA	
SFLE - SFL Enable	ALLO	
DCAS - DIT-E Depth of Casing	489.000	M
ITEM - DIT-E Temperature Enable	ALLO	
DEVI - DIT-E HOLE DEVIATION	0.0	DEG
IPRO - DIT-E Induction Processing Selector	PHAS	
SWCO - DIGITIZER WORD COUNT	512	
DSIN - DIGITIZER SAMPLE INTERVAL	5	US

10 of

PARAMETERS

PARAMETER	VALUE	UNIT
WMUD - Weight of Mud	1125.00	K/M3
TD - Total Depth	1450.08	M
FCD - FUTURE CASING DIAMETER	177.800	MM
IFRS - DIT-E Induction Frequency Selector	20	KHZ
SBR - Side Bed Correction Factor	1.00000	OHMM
MXE2 - Medium Quad 20 kHz Sonde Error Correction	66.2128	MM/M
DXE2 - Deep Quad 20 kHz Sonde Error Correction	188.458	MM/M
MRE2 - Medium Real 20 kHz Sonde Error Correction	12.4846	MM/M
DRE2 - Deep Real 20 kHz Sonde Error Correction	13.4399	MM/M
MPH2 - Medium 20 KHZ Phase Shift	-.956900	DEG
DPH2 - Deep 20 KHZ Phase Shift	.8259770	DEG
MGF2 - Medium 20 kHz Gain Factor	1.03966	
DGF2 - Deep 20 kHz Gain Factor	1.03550	
DESP - DIT Despike Algorithm Enable	DISA	
SFLE - SFL Enable	ALLO	
BCAS - DIT-E Depth of Casing	409.000	M
ITEM - DIT-E Temperature Enable	ALLO	
DEVI - DIT-E HOLE DEVIATION	0.0	DEG
IPRO - DIT-E Induction Processing Selector	PHAS	
BWCO - DIGITIZER WORD COUNT	512	
DSIN - DIGITIZER SAMPLE INTERVAL	5	US
DDEL - DIGITIZING DELAY	200	US
SLC - Sonic Logging Cartridge	UA	
DTF - Delta-T Fluid	620.079	US/M
DTM - Delta-T Matrix	183.727	US/M
CBTS - C-Delta-T Shale (Empirical Correction)	100.000	
SPFS - Sonic Porosity Formula Select	R-H	
GTSE - GENERALIZED TEMPERATURE SELECTION	TEMP	
SHT - Surface Hole Temperature	26.6666	DEGC
BHT - Bottom Hole Temperature	82.2221	DEGC
RMUS - RESISTIVITY OF MUD SAMPLE	1.00000	OHMM
SPT - Value of SP which would have been read if Results were good	STAN	
CREF - Current Reference	AUTO	
ORR - Origin of Mud Resistivity	CONS	
SPRE - SPARC ENABLE	DISA	
BS - Bit Size	222.000	MM
BHS - Bore Hole Status (Open or Cased)	OPEN	

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 29.54 M.
TOTAL TOOL STRING WEIGHT IS 622.79 KG IN AIR.

SHOP SUMMARY

PERFORMED: 22-FEB-1990 00:35
PROGRAM FILE: CCSHOP (VERSION 31.318 89/01/16 89/01/16)

DITE CALIBRATION SUMMARY

SONDE SERIAL NUMBER: 342
CARTRIDGE SERIAL NUMBER: 342

SHOP CONSTANTS

TEST LOOP CALIBRATION: CALIBRATION OF INTERNAL REFERENCE TO TEST LOOP STANDARD

	CONS.	GAIN (---)	VALID RANGE (---)	CONS.	PHASE (DEG)	VALID RANGE (DEG)
10KHZ:						
ILD:	DGF1	1.026	.900 => 1.100	DPH1	.13	-1.50 => 1.50
ILM:	MGF1	1.039	.900 => 1.100	MPH1	-.34	-1.50 => 1.50
20KHZ:						
ILD:	DGF2	1.026	.900 => 1.100	DPH2	.03	-2.00 => 2.00
ILM:	MGF2	1.040	.900 => 1.100	MPH2	-.96	-3.00 => 1.00
40KHZ:						
ILD:	DGF4	1.041	.900 => 1.100	DPH4	-.40	-4.00 => 2.50
ILM:	MGF4	1.051	.900 => 1.100	MPH4	-1.76	-5.00 => 1.00

SONDE ERROR CORRECTIONS: CORRECTION FOR SONDE RESPONSE IN ZERO CONDUCTIVITY ENVIRONMENT

	CONS.	SONDE ERROR CORRECTION (MM/M)	VALID RANGE (MM/M)
10KHZ:			
IRD SEC:	DRE1	52.15	0.0 => 100.0
IXD SEC:	DXE1	185.67	-250.0 => 250.0
IRM SEC:	MRE1	41.03	-15.0 => 140.0
IXM SEC:	MXE1	90.48	-300.0 => 300.0
20KHZ:			
IRD SEC:	DRE2	13.44	0.0 => 35.0
IXD SEC:	DXE2	188.46	-125.0 => 125.0
IRM SEC:	MRE2	12.48	-10.0 => 50.0
IXM SEC:	MXE2	66.21	-150.0 => 150.0
40KHZ:			

11 of

ILD:	MGF4	1.041	.900 => 1.100	MPH4	-1.48	-5.00 =>	1.00
ILM:	MGF4	1.051	.900 => 1.100	MPH4	-1.76	-5.00 =>	1.00

SONDE ERROR CORRECTIONS: CORRECTION FOR SONDE RESPONSE IN ZERO CONDUCTIVITY ENVIRONMENT

	COMS.	SONDE ERROR CORRECTION (MM/M)	VALID RANGE (MM/M)
10KHZ:			
IRD SEC:	DRE1	52.15	0.0 => 100.0
IXD SEC:	DXE1	185.67	-250.0 => 250.0
IRM SEC:	MRE1	41.03	-15.0 => 140.0
IXM SEC:	MXE1	90.45	-300.0 => 300.0
20KHZ:			
IRD SEC:	DRE2	13.44	0.0 => 30.0
IXD SEC:	DXE2	100.46	-125.0 => 125.0
IRM SEC:	MRE2	12.48	-10.0 => 50.0
IXM SEC:	MXE2	66.21	-150.0 => 150.0
40KHZ:			
IRD SEC:	DRE4	3.50	0.0 => 15.0
IXD SEC:	DXE4	63.20	-75.0 => 75.0
IRM SEC:	MRE4	1.00	-10.0 => 25.0
IXM SEC:	MXE4	69.63	-85.0 => 85.0

NOTE: ALL SONDE ERROR CORRECTIONS HAVE BEEN NORMALIZED TO 25 DEGC.

SHOP ELECTRONIC CALIBRATION SUMMARY

ELECTRONIC CALIBRATION: CALIBRATION OF SYSTEM ELECTRONICS USING THE INTERNAL REFERENCE

INDUCTION ELECTRONICS:

	OFFSET (MM/M)	VALID RANGE (MM/M)	GAIN (--)	VALID RANGE (---)	PHASE (DEG.)	VALID RANGE (DEG.)
10 KHZ:						
IRD	48.6	-375. => 375.	.984	.75 => 1.25		
IXD	42.8	-375. => 375.	.973	.75 => 1.25	7.11	-5.00 => 20.00
IRM	93.1	-900. => 900.	.969	.75 => 1.25		
IXM	62.5	-900. => 900.	.981	.75 => 1.25	7.74	-5.00 => 20.00
20 KHZ:						
IRD	18.4	-150. => 50.	.953	.75 => 1.25		
IXD	16.3	-150. => 150.	.942	.75 => 1.25	5.28	-5.00 => 20.00
IRM	12.7	-350. => 350.	.950	.75 => 1.25		
IXM	24.2	-350. => 350.	.962	.75 => 1.25	6.53	-5.00 => 20.00
40 KHZ:						
IRD	11.6	-100. => 100.	.980	.75 => 1.25		
IXD	10.4	-100. => 100.	.889	.75 => 1.25	14.55	-10.00 => 35.00
IRM	7.8	-200. => 200.	.919	.75 => 1.25		
IXM	15.8	-200. => 200.	.924	.75 => 1.25	16.66	-10.00 => 35.00

SFL ELECTRONICS:

	OFFSET	VALID RANGE	UNITS	GAIN	VALID RANGE
SFV	.5	-16.0 => 16.0	MV	1.002	.75 => 1.25
SFC	.0	-.7 => .7	MA	1.004	.75 => 1.25

CP 31.318 FILE 1 22-FEB-1990 00:34

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 07-MAR-1990 18:06
PROGRAM FILE: GTSAP (VERSION 32.28 90/01/18 88/11/30)

SRTC — ELECTRONICS CALIBRATION SUMMARY

	MEASURED ZERO	MEASURED PLUS	CALIBRATED ZERO	CALIBRATED PLUS	UNITS
CMSF	1.0	500.0	1.0	500.0	MM/M
II	.1	93.2	.2	100.0	MM/M

ZERO: 07-MAR-1990 16:00 PLUS: 07-MAR-1990 16:01 COMP: 07-MAR-1990 16:01

SRTC — ELECTRONICS CALIBRATION SUMMARY

CALIPER COEFF.	MEAS	REF
	.00366	.00366

SRTC — CALIPER CALIBRATION SUMMARY

	MEASURED SMALL	MEASURED LARGE	CALIBRATED SMALL	CALIBRATED LARGE	UNITS
CALS	300.87	458.4	283.20	304.0	MM

SMALL: 07-MAR-1990 15:59 LARGE: 07-MAR-1990 16:00 COMP: 07-MAR-1990 16:00

SGTL — DETECTOR CALIBRATION SUMMARY

	MEASURED BKGD	MEASURED JIG	CALIBRATED	UNITS
GR	28	197	165	GAPI

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 14:59 COMP: 07-MAR-1990 15:06

DITE — ELECTRONICS CALIBRATION SUMMARY

SONDE SERIAL NUMBER: 342
CARTRIDGE SERIAL NUMBER: 342
INDUCTION FREQUENCY: 20 KHZ

INDUCTION ELECTRONICS:

	OFFSET (MM/M)	VALID RANGE (MM/M)	GAIN (--)	VALID RANGE (---)	PHASE (DEG.)	VALID RANGE (DEG.)
IRD	18.0	-107. => 143.	.949	.81 => 1.14		
IXD	16.8	-109. => 141.	.999	.88 => 1.13	6.39	-9.78 => 20.28
IRM	14.6	-212. => 238.	.954	.81 => 1.14		
IXM	26.3	-201. => 249.	.966	.82 => 1.15	7.53	-8.47 => 21.53

SFL ELECTRONICS:

	OFFSET	VALID RANGE	UNITS	GAIN	VALID RANGE
SFV	.7	-14.5 => 15.5	MV	1.01	.85 => 1.20
SFC	.0	-.6 => .6	MA	1.01	.85 => 1.21

CP 32.28 FILE 5 07-MAR-1990 18:06

AFTER SURVEY TOOL CHECK SUMMARY

PERFORMED: 07-MAR-1990 20:49
PROGRAM FILE: GTSAP (VERSION 32.28 90/01/18 88/11/30)

SRTC — TOOL CHECK

	ZERO BEFORE	ZERO AFTER	PLUS BEFORE	PLUS AFTER	UNITS
CMSF	1.0	1.0	500.0	499.0	MM/M
II	.2	.2	100.0	101.5	MM/M

BEFORE SURVEY: ZERO: 07-MAR-1990 16:00 PLUS: 07-MAR-1990 16:01
AFTER SURVEY CHECK: ZERO: 07-MAR-1990 20:48 PLUS: 07-MAR-1990 20:48

DITE — TOOL CHECK

SONDE SERIAL NUMBER: 342
CARTRIDGE SERIAL NUMBER: 342

FILE:	DEPTH INTERVAL:		
6	1431.0 -	1414.0	M
6	1430.1 -	1412.0	M
6	1464.3 -	1342.6	M
7	1463.7 -	1417.6	M
8	1464.1 -	1341.7	M
9	1423.3 -	1405.1	M
9	1469.0 -	284.7	M

MEAN CALIBRATION CHANGE

	ABSOLUTE CHANGE FOR RESISTIVITY > 27 OHM-M: CHANGE (MM/M)	TOLERANCE (MM/M)	PERCENT CHANGE FOR RESISTIVITY < 27 OHM-M: CHANGE (%)	TOLERANCE (%)	SFL ABS. CHANGE FOR RESISTIVITY < 1 OHM-M: CHANGE (OHMM)	TOLERANCE (OHMM)
DEEP	.05	< 0.75	.06	< 2.0	N/A	
MEDIUM	.06	< 0.75	.05	< 2.0	N/A	
SFL	.00	< 0.75	.04	< 2.0	0.0	< 0.02

NOTE: LOG QUALITY FLAGS IN DEPTH TRACK INDICATE WHEN ELECTRONIC CALIBRATION IS OUT OF TOLERANCE. FLAGGED VALUES ARE NOT INCLUDED IN THIS TABLE.

CP 32.28 FILE 11 07-MAR-1990 20:49

COMPANY	PETRO CANADA INC.
WELL	PCI ISLAND LAKE N-45
FIELD	WILDCAT
TERRITORY	N.W.T.

Schlumberger

PHASOR INDUCTION - MSFL

WELL HISTORY LOG

DATE MARCH 1990

WELL NAME PCI ISLAND LAKE N-45 LOCATION (SURFACE) N-45

STATUS D&A PREPARED BY HAL H. CHRISTIE, P.Geol.

SPUDDED 90/02/21 01:15 RIG REL 90/03/14 1200 ELEVATIONS (GROUND) 605.4 (K.B.) 610.0

CONTRACTOR NABORS Rig 7 TOTAL DEPTHS (DRILLED) 1450 (LOGGED) 1447.5

OPERATOR PETROCANADA INC. PARTNERS None

CASING

SIZE	SET AT	CEMENT
244.5	408 m	

PERFORATIONS

INTERVAL	FORM	SHOTS

SURVEY LOGS

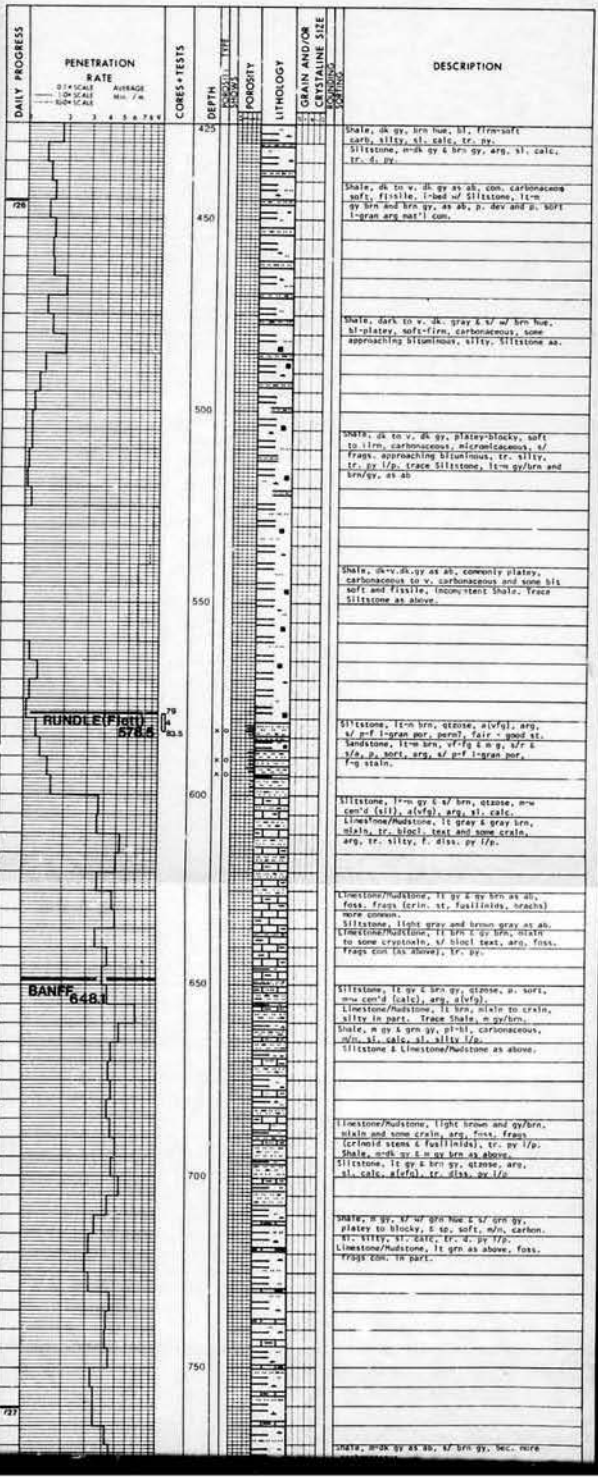
RUN	DATE	TYPE	INTERVAL
1	90/03/07	Phasor Ind. MSFL	T depth - S csg.
1	"	BHC Sonic	"
1	"	CNL-LDT-GR	"
1	"	MicroLog	1440-1365
1	90/03/08	SAT	---

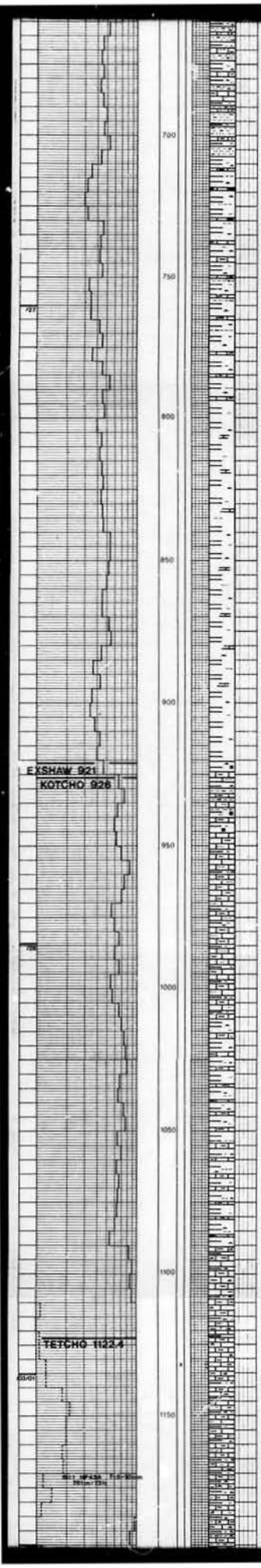
CORES

NO.	INTERVAL	FORMATION	CUT/REC.
1	1405 - 1423	Jean Marie/F1.Sunp.	18/18

FORMATION TESTS

TYPE	NO.	INTERVAL	FORMATION	PF/SI/VO/TSI	RESULTS	RECOVERY & RHT	I/FHP	I/FFP	I/FSI
DST	1	1395.2-1423	Jean Marie		Misrun				
"	2	1390-1409	"		Misrun				
"	3	1380-1409	"	30/60/180/360	VO WAB decr to dead in 90 min	30 m v.l.gas cut m & 64°C	1541/	448/	368/
							1535/	368/	423/
"	4	579 - 583.5	Flett	10/60/60/120	VO GIAB, built to Strong in 30 sec.	20 m light gc muddy water.	648/	356/	354/
						33.7 m heavy g c water 34°C	643/	394/	395/





Shale, m gy & brn gy, pl-sp, carbonaceous, m/m, sl. calc, sl. silty l/p.
Siltstone & Limestone/Mudstone as above.

Limestone/Mudstone, light brown and gy/brn, micrite and some crnlte, occ. foss. frags (crinoid stem & fusilinids), tr. py l/p.
Shale, m-dk gy & m gy brn as above.
Siltstone, lt gy & brn gy, stringe, arg, sl. calc, slvfgl, tr. diss. py l/p

Shale, m gy, lt m grn hue & lt grn gy, platey to blocky, c sp, soft, m/m, carbon, tr. silty, sl. calc, tr. d. py l/p.
Limestone/Mudstone, lt grn as above, foss. frags com. in part.

Shale, m-dk gy as ab, lt brn gy, occ. more carbonaceous.
Limestone/Mudstone, light brown and gray brown, crypto to micrite, arg, c/ foss. frags. Shale (Tetcho): m brn, hard, blocky, sl. calc, tr. silty l/p.

Shale, m-dk gy, blocky - splintery, & platey, soft-firm, m/m, silty, sl. calc, tr. d. py. Tr. Limestone/Mudstone, lt brn & gy brn as.

Shale, m-dk gy, blocky to platey, mc. splintery, dk gy shale com. carbonaceous, nd stringe calc, tr. d. py l/p. Trace Lst/Mdst lt brn as above.

Shale, m-dk gy, blt-gy & mc. sp, soft-firm, carbonaceous mat'l in dk gy Sh, silty l/p, tr m/m.

Siltstone, lt m grnish & brn, stringe, calc, ccs, slvfg), tr. diss. py l/p.

Limestone/Mudstone, v.lt-lt brn & lt gy/brn, micrite, c/ earthy texture, arg, silty, foss. frags(crin. st, tr. fusilinids).

Limestone/Mudstone, v.lt brn & lt brn & lt gy brn, as ab, arg more com, l-bed w/ shale, m-dk gy as ab, not uncom. carbon.
Limestone/Mudstone, v.lt brn & lt brn & gy/brn, some rust colored due to ferruginous micrite, foss. frags. more common (brach, fusilinids). Shale, m-dk gy as above.

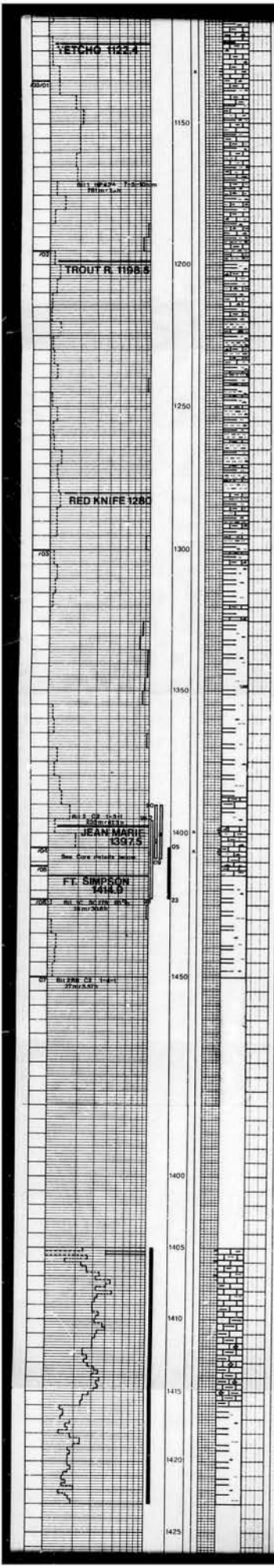
Shale, m gy w/ grn hue, some dk ty, blk to platey, m/m, sl. calc, f. diss. py l/p, l-bed w/ Limestone/Mudstone, light brown and brn gy, as ab, foss. frags. less common, sl. dolic.
Tr. Siltst. lt m brn & brnish gy, stringe & c/ dk gy, p. sort, sl. calc, arg, tr. slvfg), tr. d. py l/p.

Limestone/Mudstone, lt m brn & lt gy brn, micrite to c/ earthy text, w/ bioclt, arg, tr. micro l/p. Mdst: (gastropods, crinoid st. frags, arf. fusilinids). Some Shale m-dk gy as above (indigenous?)

Shale, m gy w/ m grn hue, w/ dk gy, pl-sp, some blocky, soft/silty dk gy sh - Carbonac, m/m, sl. calc, tr. py l/p, some Limestone/Mudstone, lt brn & brn gy as ab, fewer foss.

Limestone/Mudstone, v.lt to lt brn, mc. m. brn, mi- to crnlte, c/ chalky text, sl. dolic sc. frag, tr. vp l-ath por, no pers or st.
Limestone/Mudstone as above, no vis. por or f
some Shale, m-dk gy, pl-bl, firm, soft, sl. calc, silty, carbonaceous, m/m, tr. py.

Limestone/Mudstone, v.lt to lt brn, mc. m. brn, arg l/p, silty, sl. dolic l/p



Shale, m gy to dk gy, m-dk gy, sl. fissile, some blocky, sub-fissile, dk gy sh - Carbonac. m/m, sl. calc, tr. py l/p, some Limestone/ Mudstone, lt brn & brn gy as ab, fewer foss.

LIMESTONE/MUDSTONE, v.lt to lt brn, oc. m. brn, mi- to crain, s/ chalky text, sl. dolic oc. frag, tr. vg-fair por, no odor or st. Limestone/Mudstone as above, no vis. por or st
Some Shale, m-dk gy, pl-bl, firm, soft, sl. calc, silty, carbonaceous, m/m, tr. py.

Limestone/Mudstone, v.lt to lt brn, oc. m. brn, arg l/p, silty, sl. dolic l/p

Shale, m gy s/ w/ grn hue, some dark gray as above. Limestone/Mudstone, lt-m brown as above, mixin and some blocl. text. arg, silty. Siltst, lt brn & brn/gy as ab.

Siltstone, lt brn & lt gy brn, as ab. less arg mat'l. Limestone, lt brn & gy brn as above, generally less argillaceous material. Some Shale, m-s/ dk gy as above.
Shale, m-dk gy, blocky-platey, soft, carbon. m/m, sl. silty l/p, sl. calc, tr. py.
Some Ls/Mudstone, lt brn & gy brn as above.
Some Siltstone, lt-m brn & brn gy as above.
Siltstone, lt brn & gy brn as above, glauc, aren(vfg), tr. vp l-gran por, no st. tr. Slt.

Limestone/MUDSTONE, lt-m brn & gy brn mixin to s/ vf xln, sl. dolic, arg, tr. py.
Shale, m-dk gy as ab, s/ w/ g-n hue.
Tr. Siltst, lt brn to gy brn as ab.

Shale, m gy s/ w/ grn hue, some maroon hue, platey & soft as above, incompetent & fis.
Trace Limestone/Mudstone, lt brn, & gy brn, mixin.

Shale, m gy, s/ w/ green hue, as ab. oc. w/ maroon hue.
Trace Limestone/Mudstone, lt brn as ab.
Some loose Qtz Grains, cl to lt-m brn & rust brown, f-m grained, oc. c. grained.

Limestone/Mudstone, lt-m brn & gy brn, mi- to crypto xln, gen. dense, tr. py.
Shale, m gy, bl-pl, firm, sl. calc, sl. silty, m/m, tr. py. Tr to some Ls/Mudst as
Limestone/Mudstone, lt-m brn & s/ gy, mixin, some crain, s/ blocl text, arg & silty, foss. material.
Limestone/Mudstone, lt-m brn, mixin to vf xln s/ blocl. text, arg, silty, s/ p-ff l-xln & mivg por, no st to s/ f-g st. locally

Shale, m gy, s/ w/ grn hue, s/ dk gy, pl-bl, soft, micronlaceous, as gy Shale carbonaceous, sl. silty l/p, tr. d. py l/p.

T.D. 1450

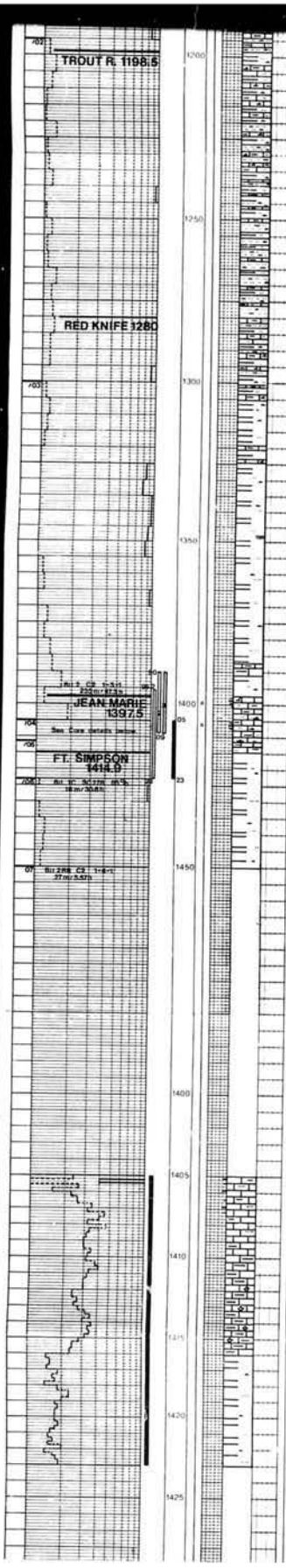
CORE DETAILS

CORE No.1 1405-1423

LIMESTONE/MUDSTONE, light to medium brown, microcrystalline & some very fine crystal. line(anhed & some subted & oc. euhed), finely diss. arg. mat'l not uncommon s/irregular accumulations of arg. mat'l not uncommon in part. sl. dolic
The upper 2.1 m has some prf and oc. g. l-xln & v. oc. mivug por, some stain.
Brach, shell frags not uncommon in lower 3 m.

LIMESTONE/MUDSTONE, lt brown to gray brown, mixin to some very fine xln & cryptocrystalline, com. argillaceous (finely diss. and as argillaceous partings and laminae
The limestone is well defined horizontally with the shale partings. Brachiopod shells aligned horizontally not uncommon throughout.
Shale is medium-dk gray, firm, calcareous, micronlaceous & carbonaceous.

SHALE, dark gray, firm, carbonaceous with very fine to some carbonaceous material common particularly on partings & bedding planes, slightly calcareous in part, trace silt grains locally
This section has well defined horizontal lineatio. and bedding and is commonly broken into 3 - 5 cm. pieces.



Shale, m gy sf w/ grn hue, some dark gray as above. Limestone/Mudstone, lt-m brown as above, mtalc and some Sltst. Text. arg, silty. Siltst, lt brn & brn/gy as ab.

Sltstone, lt brn & lt gy brn, as ab. Text arg not L. Limestone, lt brn & gy brn as above, sandy/lt. Foss orgl/amorph material. Some Shale, m-sf.dk gy as above.
Shale, m-dk gy, thicky-flakes, soft, carbon m/m, sl. silty v/p, sl. calc, tr. py. Some Ls/Mudstone, lt brn & gy brn as above. Some Siltstone, lt-m brn, & brn gy as above. Siltstone, lt brn & gy brn as above, sltyvf, arg(sfg), tr. sp l-gran por, no st, tr. ltl.

Limestone/MUDSTONE, lt-m brn & gy brn, mtalc to sf w/ aln, sl. dolic, arg, tr. py.
Shale, m-dk gy as ab, sf w/ grn hue. Tr. Siltst, lt brn to gy brn as ab.

Shale, m gy sf w/ grn hue, some maroon hue, platey & soft as above, incompetent & fiss. Trace Limestone/Mudstone, lt brn, & gy brn, mtalc.

Shale, m gy, sf w/ green hue, as ab. sc. w/ maroon hue.
Trace Limestone/Mudstone, lt brn as ab.
Some loose Qtz Grains, cl to lt-m brn & rust brown, fine grained, sc. c. grained.

Limestone/Mudstone, lt-m brn & gy brn, mtalc to crypto aln, gen. dense, tr. py.
Shale, m gy, sl-pl, firm, sl. calc, sl. silty, m/m, tr. py. Tr to some ls/Mudst as Limestone/Mudstone, lt-m brn & sf gy, mtalc, some crsln, sf blocl text, arg & silty, foss. material?
Limestone/Mudstone, lt-m brn, mtalc to sf alg w/ blocl. text, arg, silty, sf poff l-aln & mivug por, no st to sf f-g st. locally

Shale, m gy, sf w/ grn hue, sf dk gy, pl-bl, soft, micromicaceous, dk gy Shale carbonaceous, sl. silty f/p, tr. d. py f/p.

T.D. 1450

CORE DETAILS

CORE No.1 1405-1423

LIMESTONE/MUDSTONE, light to medium brown, microcrystalline & some very fine crystal. lineations & some subhed & (c. cubed), finely diss. arg. mat'l not uncommon irregular accumulations of arg. mat'l not uncommon in part. sl. dolic. The upper 2.1 m has some p-f and cc. fr. locally & ex. sp. olive por. some stain. Brach. shell frags not uncommon in lower 1.

LIMESTONE/MUDSTONE, lt brown to gray brown, mtalc to some very fine aln & cryptocrystalline, com. argillaceous (finely diss. and as argillaceous partings or laminae. The limestone is well defined horizontally with the shale partings. Brachiopod shells aligned horizontally not uncommon throughout.
Shale is medium-dk gray, firm, calcareous, micromicaceous & carbonaceous.

SHALE, dark gray, firm, carbonaceous with very fine to some carbonaceous material common particularly on partings & bedding planes, slightly calcareous in part, trace silt grains locally.
This section has well defined horizontal lineation and bedding and is commonly broken into 1 - 5 cm. pieces.

DAYMAR WELL LOGGING LTD.
CALGARY

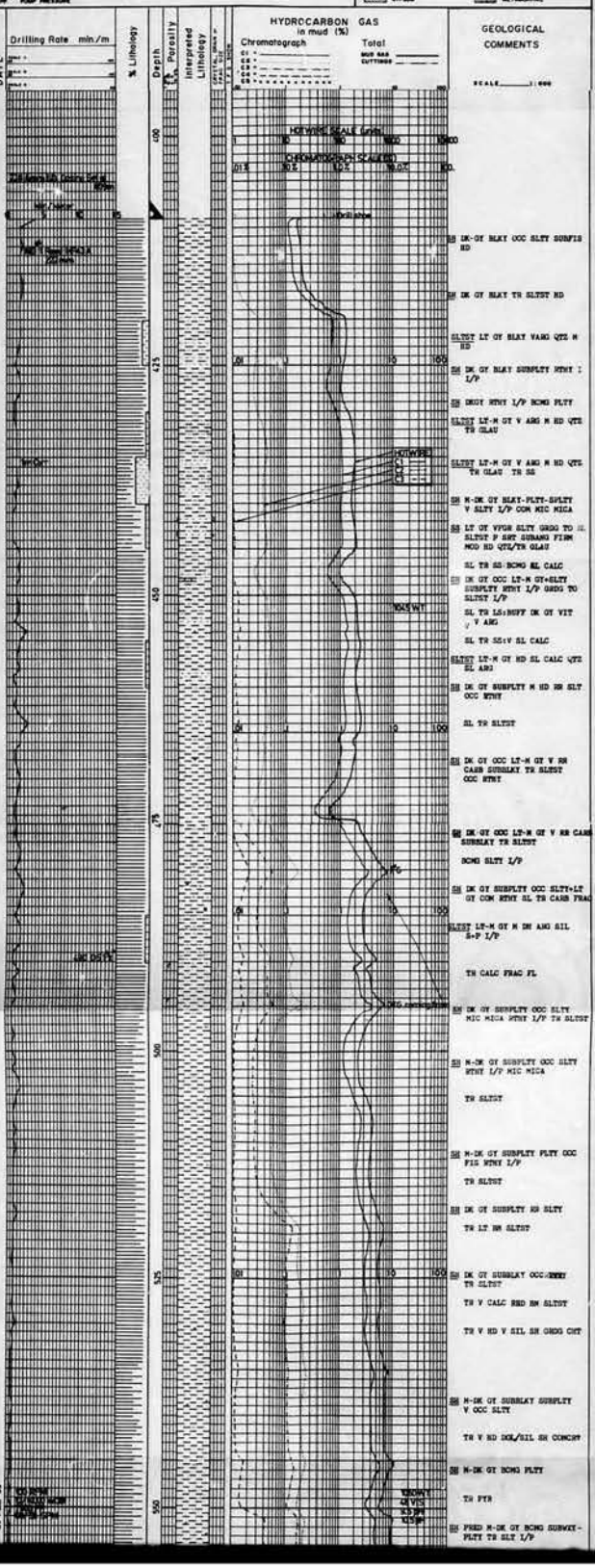
COMPANY Petro Canada Inc.
WELL P.C.I. ISLAND LAKE N45
Location N 60° 4' 56.365" W 120° 53' 33.675"
Prov. or Territory N.W.T.
Depth Logged From 405m To 1450m
Date Logged From 26 FEB 90 To 7 MARCH 1990
Logging Technicians Ray Sanoff Kevin Young
Drilling Fluid
Ground Elevation 605.4m
K.B. 610 m

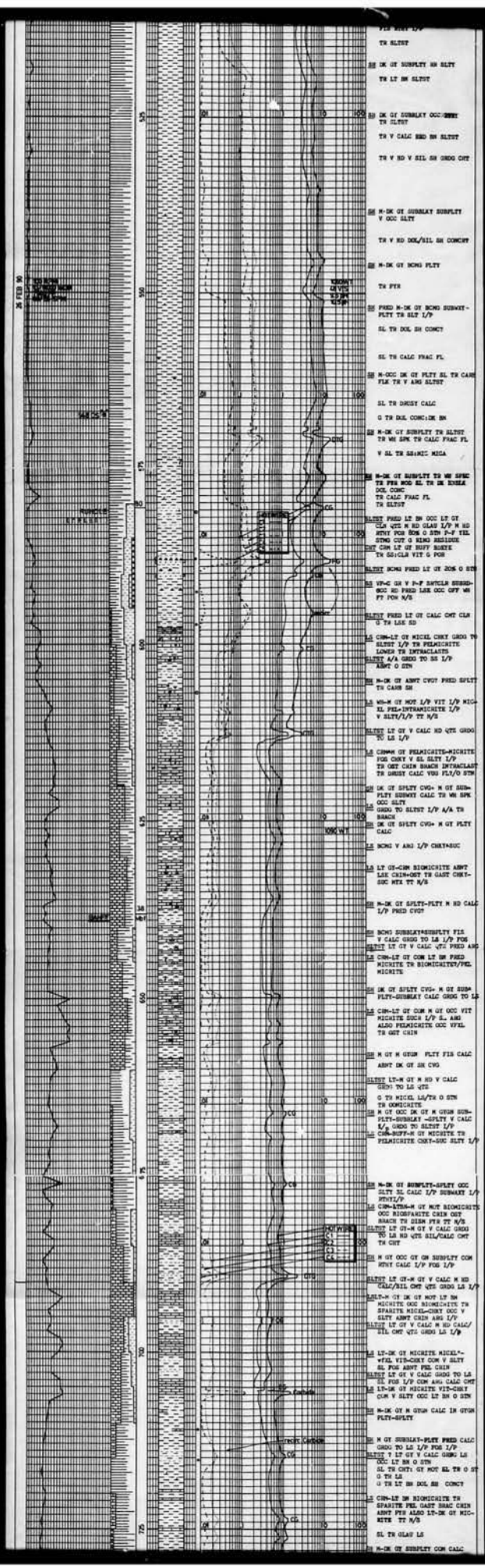
DRILLING LEGEND
NB NEW BIT
RNB RERUN BIT
DB DIAMOND BIT
TB TUNGS DRILL
CB CORE BIT
DCB DIAMOND CORE BIT
DS DEVIATION SURVEY
WOB WEIGHT ON BIT (klb)
RPM ROTATION (RVM./MIN.)
LC LOST CIRCULATION
NR NO RETURNS
TG TRIP GAS
PP PUMP PRESSURE

ENGINEERING LEGEND
CORE No.
RECOVERY MTR
DRILL STEM TEST No.
DRY
WATER
OIL
GAS
MUD LOSS
TRIP

MUD DATA
V VISCOSITY
W WEIGHT IN lb/gal
WL FILTRATE IN C.C.
FC FILTER CAKE
CL CHLORIDE CONT. IN ppm
Rm MUD RESISTIVITY IN Ω
Rmf MUD FILTRATE RESISTIVITY IN Ω

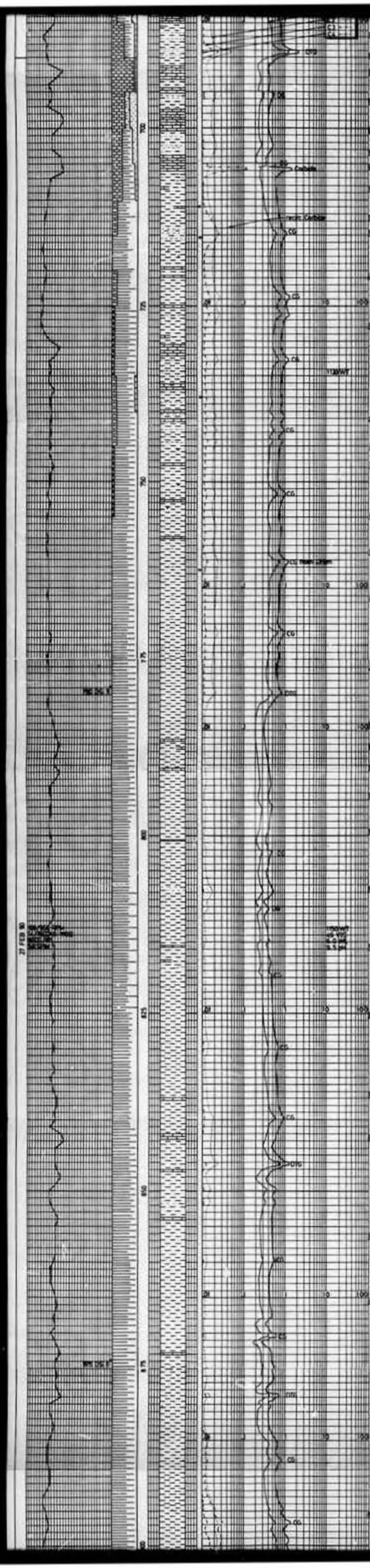
LEGEND
CONGLOMERATE
SAND
SILTSTONE
SHALE
LIMESTONE
DOLOMITE
ANHYDRITE
GYPSUM
COAL
CHERT
SALT
BENTONITE
DIATOMITE
SANDSTONE
VOLCANIC
METAMORPHIC




25 FEB 90
525
550
575
600
625
650
675
700
725
TR SLTST
SS DK GY SUBPLTY SH SLTY
TR LT BN SLTST
SS DK GY SUBPLTY OCC/SHRT
TR SLTST
TR V CALC RED BN SLTST
TR V RD V SIL SH GRDG CMT
SS M-DK GY SUBPLTY
V OCC SLTY
TR V RD DOL/SIL SH CONCRT
SS M-DK GY BCMG PLTY
TR PYR
SS PRED M-DK GY BCMG SUBWXY-
PLTY TR SLT I/P
SL TR DOL SH CONCT
SL TR CALC FRAC FL
SS M-OCC DK GY PLTY SL TR CARB
FLK TR V ARG SLTST
SL TR DRUSY CALC
G TR DUL CONC:DK BN
SS M-DK GY SUBPLTY TR SLTST
TR WH SPK TR CALC FRAC FL
V SL TR SS:MIC MICA
SS M-DK GY SUBPLTY TR WH SPEC
TR PYR MOD SL TR DK BNSLA
DOL CONC
TR CALC FRAC FL
TR SLTST
SLTST PRED LT BN OCC LT GY
CLN QTZ N RD GLAV I/P N RD
ANHT POR SOM G STN P-F VIL
STMG CUT G RIMO RESIDUE
CMT CHM LT GY BUFF BURTE
TR SS/CLA VIT G POR
SLTST BCMG PRED LT GY 20% O STN
SS VF-C GR V P-F SATCLR SUBRD-
OCC RD PRED LSE OCC OFT WH
FT POR N/S
SLTST PRED LT GY CALC CMT CLN
G TR LSE SD
LS CHM-LT GY MICKL CHKY GRDG TO
SLTST I/P TR PELMICRITE
LOWER TR INTRACLASTS
SLTST A/A GRDG TO SS I/P
ANHT O STN
SS M-DK GY ANHT CVG? PRED SPLTY
TR CARB SH
LS WH-M GY MOT I/P VIT I/P MIC-
EL PEL-INTRAMICRITE I/P
V SLTY/I/P TT N/S
SLTST LT GY V CALC RD QTZ GRDG
TO LS I/P
LS CHWH GY PELMICRITE-MICRITE
FOS CHKY V SL SLTY I/P
TR OST CHIN BRACH INTRACLAST
TR DRUSY CALC VUG FLT/O STN
SS DK GY SPLTY CVG+ M GY SUB-
PLTY SUBWXY CALC TR WH SPK
LS OCC SLTY
GRDG TO SLTST I/P A/A TR
BRACH
SS DK GY SPLTY CVG+ M GY PLTY
CALC
LS BCMG V ARG I/P CHKY-SUC
LS LT GY-CHN BIOMICRITE ANHT
LSE CHIN-OST TR GAST CHKY-
SUC MTX TT N/S
SS M-DK GY SPLTY-PLTY N RD CALC
I/P PRED CVG?
SS BCMG SUBSLKY-SUBPLTY FIS
V CALC GRDG TO LS I/P FOS
SLTST LT GY V CALC QTZ PRED ARG
LS CHN-LT GY COM LT BN PRED
MICRITE TR BIOMICRITE?/PEL
MICRITE
SS DK GY SPLTY CVG+ M GY SUBA
PLTY-SUBSLKY CALC GRDG TO LS
LS CHN-LT GY COM M GY OCC VIT
MICRITE SUCR I/P SL ARG
ALSO PELMICRITE OCC VFXL
TR OST CHIN
SS M GY M GYGN PLTY FIS CALC
ANHT DK GY SH CVG
SLTST LT-W GY M RD V CALC
GRDG TO LS QTZ
G TR MICKL LS/TR O STN
TR CONGLOMERATE
SS M GY OCC DK GY M GYGN SUB-
PLTY-SUBSLKY -SPLTY V CALC
I/P GRDG TO SLTST I/P
LS CHN-BUFF-M GY MICRITE TR
PELMICRITE CHKY-SUC SLTY I/P
SS M-DK GY SUBPLTY-SPLTY OCC
SLTY SL CALC I/P SUBWXY I/P
PRVXL/P
LS CHN-LTBN-M GY MOT BIOMICRITE
OCC BIOSPARITE CHIN OST
BRACH TR DIEN FYS TT N/S
SLTST LT GY-M GY V CALC GRDG
TO LS RD QTZ SIL/CALC CMT
TR CHT
SS M GY OCC GY GN SUBPLTY COM
HYXY CALC I/P FOS I/P
SLTST LT GY-M GY V CALC M RD
CALC/SIL CMT QTZ GRDG LS I/P
LSLT-M GY DK GY MOT LT BN
MICRITE OCC BIOMICRITE TR
SPARITE MICKL-CHKY OCC V
SLTY ANHT CHIN ARG I/P
SLTST LT GY V CALC M RD CALC/
SIL CMT QTZ GRDG LS I/P
LS LT-DK GY MICRITE MICKL-
vFXL VIT-CHKY COM V SLTY
SL FOS ANHT PEL CHIN
SLTST LT GY V CALC GRDG TO LS
SL FOS I/P COM ARG CALC CMT
LS LT-DK GY MICRITE VIT-CHKY
COM V SLTY OCC LT BN O STN
SS M-DK GY M GYGN CALC IN GYGN
PLTY-SPLTY
SS M GY SUBSLAT-PLTY PRED CALC
GRDG TO LS I/P FOS I/P
SLTST ? LT GY V CALC GRDG LS
OCC LT BN O STN
SL TR CHT: GY MOT SL TR O ST
G TR LS
G TR LT BN DOL SH CONCT
LS CHN-LT BN BIOMICRITE TR
SPARITE PEL GAST BRAC CHIN
ANHT PYR ALSO LT-DK GY MIC-
RITE TT N/S
SL TR GLAU LS
SS M-DK GY SUBPLTY COM CALC
HOT WIRE
CG
CVG
CHERT
CHERT CONGLOM
10
100

20

3 OF



TR CHT

SH M GY OCC GY GN SUBPLTY COM WTHY CALC I/P FOS I/P

SLTST LT GY-M GY V CALC M HD CALC/SIL CMT QTZ GRDG LS I/P

SLST-M GY DK GY MOT LT BN MICRITE OCC BIOMICRITE TR SPARITE MICXL-CHKY OCC V SLTY ABNT CRIN ARG I/P

SLTST LT GY V CALC M HD CALC/SIL CMT QTZ GRDG LS I/P

LS LT-DK GY MICRITE MICXL-VFXL VIT-CHKY COM V SLTY SL FOS ABNT PEL CRIN

SLTST LT GY V CALC GRDG TO LS SL FOS I/P COM ARG CALC CMT

LS LT-DK GY MICRITE VIT-CHKY COM V SLTY OCC LT BN O STN

SH M-DK GY M GYGN CALC IN GYGN PLTY-SBPLTY

SH M GY SUBBLKY-PLTY FRED CALC GRDG TO LS I/P FOS I/P

SLTST V LT GY V CALC GRDG LS OCC LT BN O STN

SL TR CHT: GY MOT SL TR O ST

O TR LS

O TR LT BN DOL SH CONCT

LS CRM-LT BN BIOMICRITE TR SPARITE PEL GAST BRAC CRIN ABNT PYR ALSO LT-DK GY MICRITE TT N/S

SL TR GLAU LS

SH M-DK GY SUBPLTY COM CALC COM WTHY TR FOS

LS CRM-LT BN BIOMICRITE -MICRITE PEL GAST CRIN OST CHKY I/P ARG I/P

SLTST LT GY OCC GRDG LS V CALC ARG SL TR BN O STN

LS CRM-LT BN LT-DK GY MICRITE OCC BIOMICRITE MICXL CHKY FREQ ARG SLTY I/P ABNT CRIN GRDG SH I/P

SLTST LT-M GY V CALC M HD CALC/SIL CMT M ARG TR O STN TR LT BN VFGR SS

SH M-DK GY SUBPLTY-SPLTY COM V CARB GRDG LS I/P

LS FREQ M GY MICRITE OCC BIOMICRITE

TR PYR NOD

SH M-DK GY SUBPLTY-SUBSPLTY COM V CARB CALC-V CALC

O TR M GY MICRITIC LS

SH M-DK GY SUBPLTY V CALC I/P GRDG TO LS FOS I/P WTHY I/P

O TR LS A/A

SL TR CHT : O ST/ YEL CUT

SH M-DK GY SUBPLTY V CALC I/P WTHY I/P O TR SLTST

SL TR O ST LS

O TR V ARG LS

SH M-DK GY FRED CARB SUBPLTY COM WTHY-MIC MICA BN LSSN

O TR LS-SLTST

O TR LT BN DOL SH

OCC THIN STKG LS:MICRITE-BIOMICRITE,CRM-LT GY

SH M-DK GY CALC SUBPLTY WTHY I/P GRDG LS I/P

LS CRM-LT GY MICRITE TR CRIN TR SLTST

SH M-DK GY CALC-SL CALC SUBPLTY WTHY SL MIC MICA GRDG LS I/P

SH COM GRDG LS-SLTST

ABNT CRIN

SH M GYOCC DK GY SUBPLTY WTHY SL CALC I/P SL TR GLAU OCC V CALC-GRDG TO LS

SH M-OCC BLK GY OCC SL CALC SH GRDG TO LS MIC MICA

O TR V ARG LS:MICRITE

SL TR LT BN DOL SH

TR MICRITIC LS:DK GY ARG

SH M GY OCC DK GY-BLK PLTY MIC MICA SL CALC I/P

O TR PELMICRITE-MICRITE

TR BLK CHT:NODS MOT

SH M GY SUBPLTY SR DK SL CALC MIC MICA

SL TR LT BN DOL SH:CONCT

SL TR ARG LS:CRIN

TR DISM PYR

O TR CGMPLT GY LS

SH M GY SUBPLTY SR DK GY SL CALC MIC MICA

SH M-DK GY SUBPLTY WTHY I/P SL MIC MICA SL CALC I/P

SL TR GLAU NOD

O TR LS SLTST

TR DISM PYR OST CRIN

SH M-DK GY FRED NON CALC SR WTHY

TR LS

TR LT BN DOL SH

TR M GY LS

SH M-DK GY SPLTY FRED NON CAL WTHY-CALC I/P

TR LS:MICRITE M GY

SH M-DK GY PLTY SR WTHY-CALC

O TR LS:M GY MICRITE

SH M-DK GY PLTY TR SLT I/P HOMG MIC MICA I/P

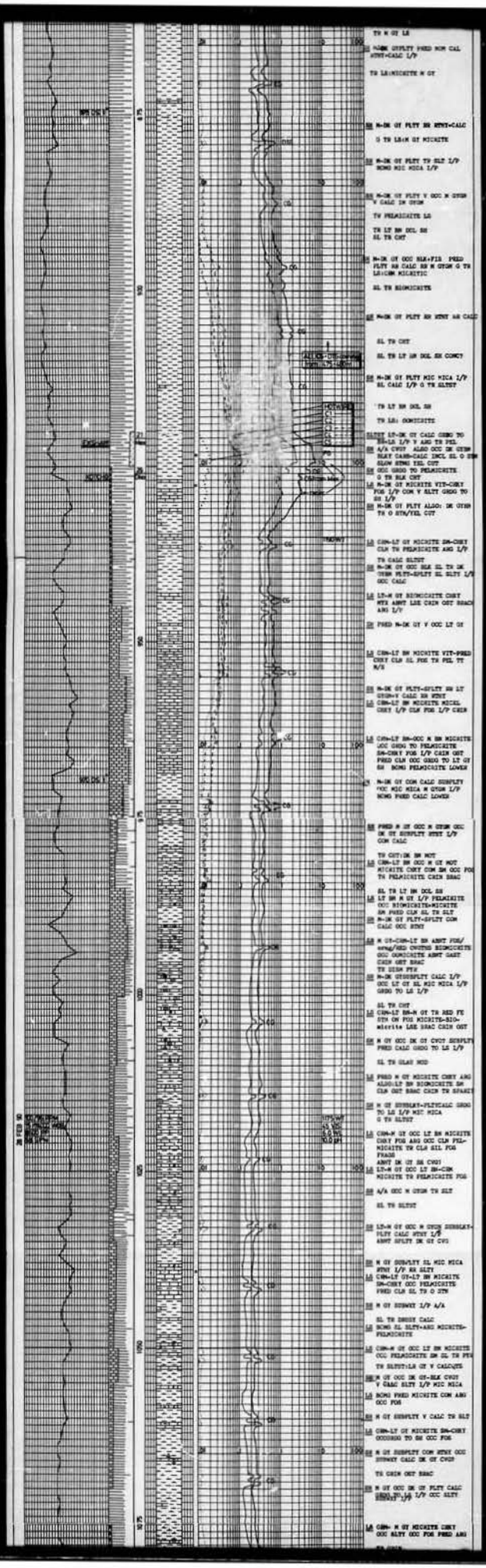
SH M-DK GY PLTY V OCC M GYGN V CALC IN GYGN

TR PELMICRITE LS

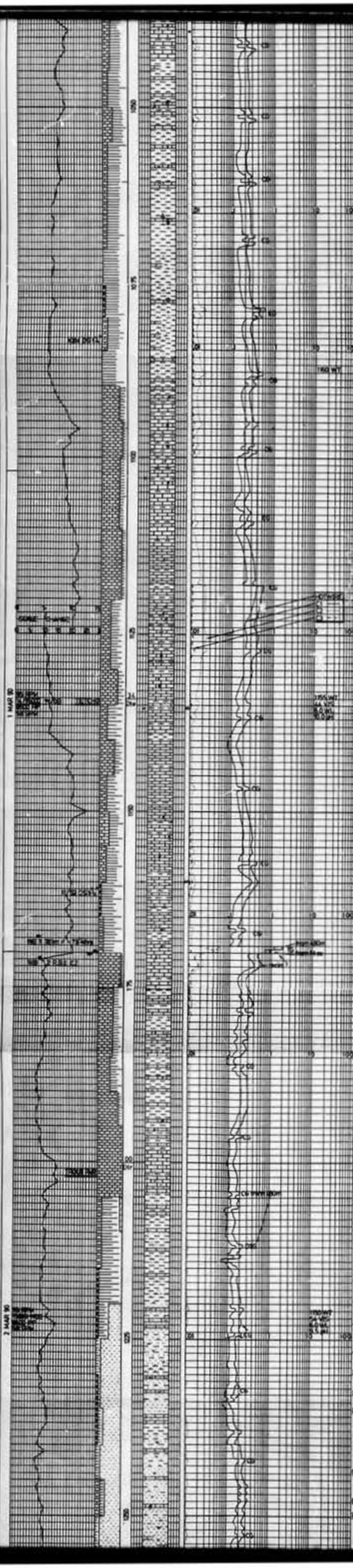
TR LT BN DOL SH
SL TR CHT

SH M-DK GY OCC BLK-FIS FRED PLTY SR CALC BR M GYGN O TR LS:COM MICRITIC

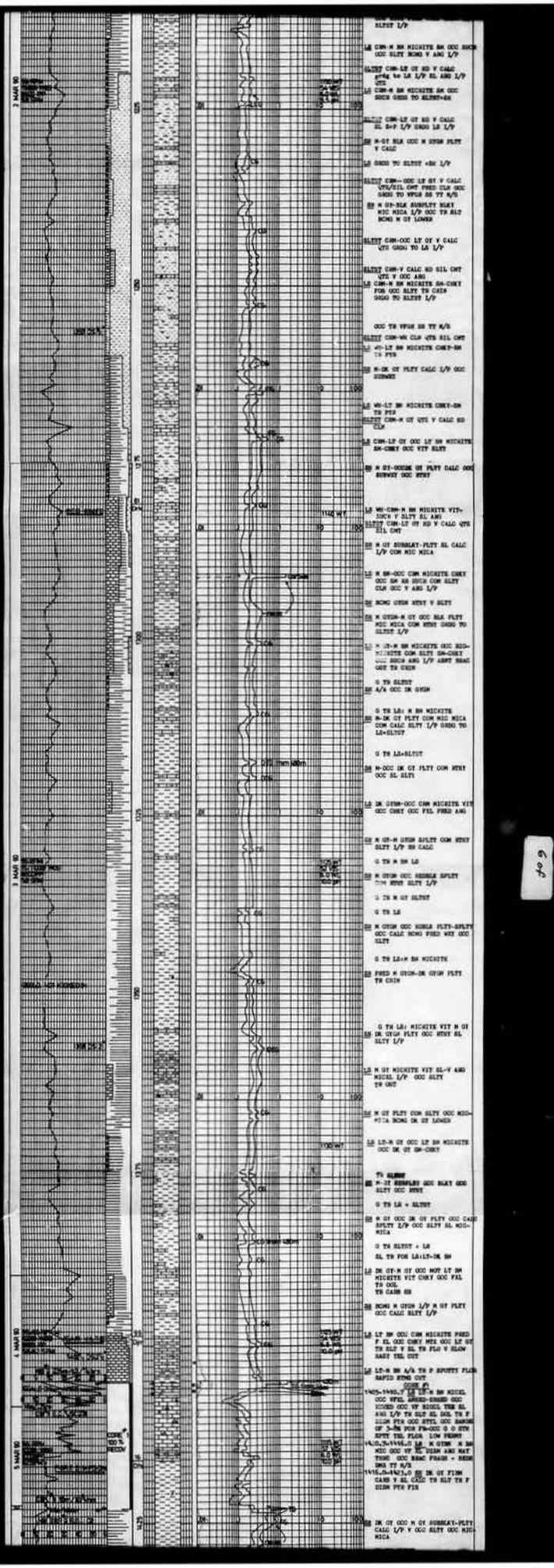
SL TR BIOMICRITE


TR W GY LS
M-DK SUPLFT PRED NON CAL
SDNT-CALC L/P
TR LS:MICRITE W GY
M-DK GY PLTY BR SDNT-CALC
G TR LS:W GY MICRITE
M-DK GY PLTY TR SLT L/P
NOND MIC MICA L/P
M-DK GY PLTY V OCC W GYSM
V CALC IN GYSM
TV PELMICRITE LS
TR LT BR DOL SH
SL TR CHT
M-DK GY OCC BLK-FIS PRED
PLTY AR CALC BR W GYSM G TR
LS:CHM MICRITIC
SL TR BIOMICRITE
M-DK GY PLTY AR SDNT AR CALC
SL TR CHT
SL TR LT BR DOL SH CONCT
M-DK GY PLTY MIC MICA L/P
SL CALC L/P G TR SLTST
TR LT BR DOL SH
TR LS: CONCRITE
LT-DK GY CALC GRDG TO
SS-LS L/P V ARG TR PEL
A/A CVGT ALSO OCC DK GYSM
BLKY CARB-CALC INCL SL O SDN
SLOW STNG YEL CUT
OCC GRDG TO PELMICRITE
O TR BLK CHT
M-DK GY MICRITE VIT-CHRT
FOS L/P CON V SLTT GRDG TO
SS L/P
M-DK GY PLTY ALSO: DK GYSH
TR O STN/YEL CUT
CHM-LT GY MICRITE SM-CHRT
CLN TR PELMICRITE ANG L/P
TR CALC SLTST
M-DK GY OCC BLK SL TR DK
GRSH PLTY-SPLFT SL SLTY L/P
OCC CALC
LS-W GY BIOMICRITE CHRT
MTX ABNT LSE CRIN OST BRAC
ANG L/P
PRED M-DK GY V OCC LT GY
CHM-LT BR MICRITE VIT-PRED
CHRT CLN SL FOS TR PEL TT
R/S
M-DK GY PLTY-SPLFT BR LT
GRSH-V CALC BR SDNT
CHM-LT BR MICRITE MICRL
CHRT L/P CLN FOS L/P CRIN
CHM-LT BR-OCC M BR MICRITE
OCC GRDG TO PELMICRITE
SM-CHRT FOS L/P CRIN OST
PRED CLN OCC GRDG TO LS GY
SM NOND PELMICRITE LOWER
M-DK GY COM CALC SUPLFT
OCC MIC MICA W GYSM L/P
NOND PRED CALC LOWER
PRED M GY OCC W GYSM OCC
DK GY SUPLFT SDNT L/P
COM CALC
TR CHT:DK BR NOT
CHM-LT BR OCC M GY NOT
MICRITE CHRT COM BR OCC FOS
TR PELMICRITE CRIN BRAC
SL TR LT BR DOL SH
LT BR M GY L/P PELMICRITE
OCC BIOMICRITE-MICRITE
SM PRED CLN SL TR SLT
M-DK GY PLTY-SPLFT COM
CALC OCC SDNT
M GY-CHM-LT BR ABNT FOS/
ostrg/RED CVGTED BIOMICRITE
OCC GOMICRITE ABNT CAST
CRIN OST BRAC
TR DSDM PYR
M-DK GYSUSPLFT CALC L/P
OCC LT GY SL MIC MICA L/P
GRDG TO LS L/P
SL TR CHT
CHM-LT BR-M GY TR RED TE
STN ON FOS MICRITE-BIO-
micrite LSE BRAC CRIN OST
M GY OCC DK GY CVGT SUPLFT
PRED CALC GRDG TO LS L/P
SL TR GLAU NOD
PRED M GY MICRITE CHRT ARG
ALSO:LT BR BIOMICRITE SM
CLN OST BRAC CRIN TR SPARY
M GY SUPLFT-PLTYCALC GRDG
TO LS L/P MIC MICA
G TR SLTST
CHM-M GY OCC LT BR MICRITE
CHRT FOS ARG OCC CLN PEL-
MICRITE TR CLN SIL FOS
FRAGS
ABNT DK GY SH CVGT
LS-M GY OCC LT BR-CHM
MICRITE TR PELMICRITE FOS
A/A OCC M GYSH TR SLT
SL TR SLTST
LS-M GY OCC M GYSH SUPLFT-
PLTY CALC SDNT L/P
ABNT SPLTY DK GY CVGT
M GY SUPLFT SL MIC MICA
SDNT L/P AR SLTY
CHM-LT GY-LT BR MICRITE
SM-CHRT OCC PELMICRITE
PRED CLN SL TR O STN
M GY SUPRAY L/P A/A
SL TR DRSSY CALC
NOND SL SLTY-ARG MICRITE-
PELMICRITE
CHM-M GY OCC LT BR MICRITE
OCC PELMICRITE SM SL TR PY
TR SLTST:LS GY V CALCAPE
M GY OCC DK GY-BLK CVGT
V CALC SLTY L/P MIC MICA
NOND PRED MICRITE COM ABU
OCC FOS
M GY SUPLFT V CALC TR SLT
CHM-LT GY MICRITE SM-CHRT
OCCASIO TO SH OCC FOS
M GY SUPLFT COM SDNT OCC
SUPRAY CALC DK GY CVGT
TR CRIN OST BRAC
M GY OCC DK GY PLTY CALC
GRDG TO LS L/P OCC SLTY
SDNT L/P
CHM- M GY MICRITE CHRT
OCC SLTY OCC FOS PRED ABU
SL CALC
BR DOLT
BR DOLT
26 FEB 90

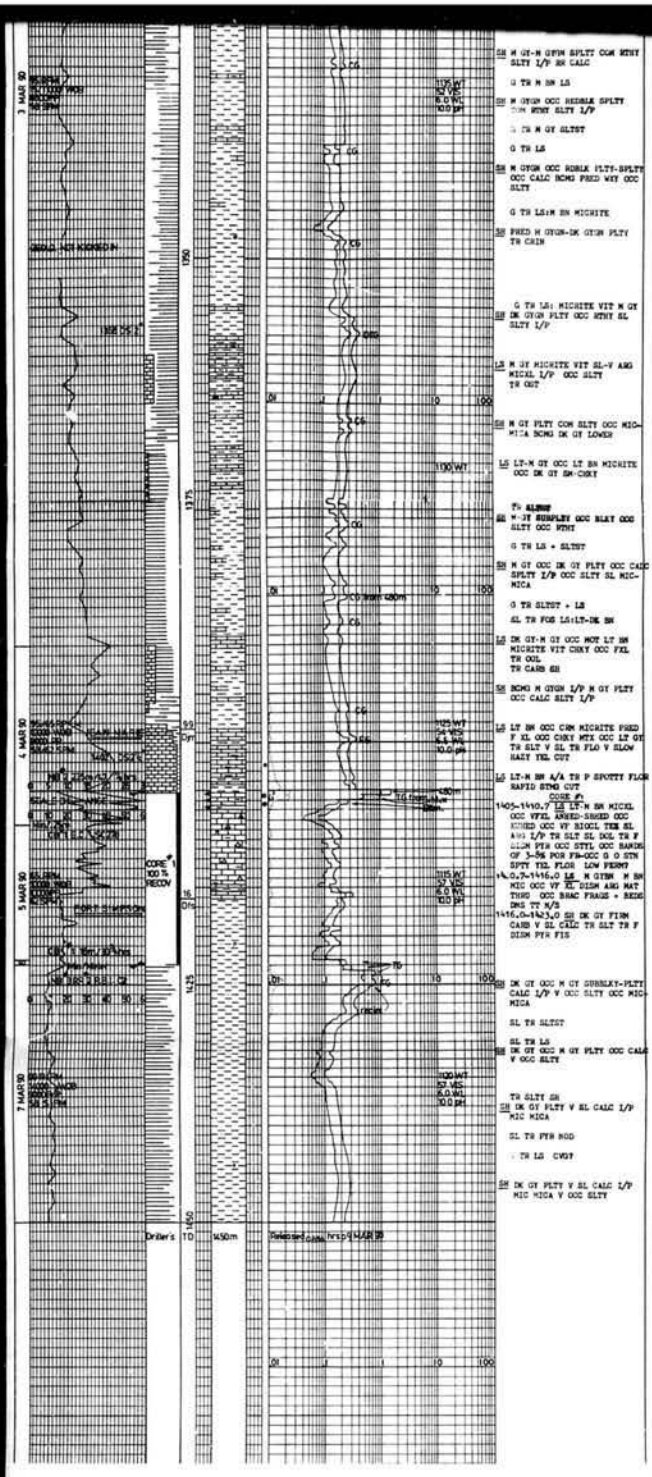
5 of



WTHY I/P SH SLTY
LS CRM-LT GY-LT BN MICRITE SM-CHKY OCC PELMICRITE PRED CLN SL TR O STN
SH M GY SUBWXY I/P A/A
SL TR DNSE CALC
LS BCMG SL SLTY+ARG MICRITE-PELMICRITE
LS CRM-M GY OCC LT BN MICRITE OCC PELMICRITE SM SL TR PYR
TR SLTST+LS GY V CALC QTZ
SH M GY OCC DK GY-BLK CVGY V CALC SLTY I/P MIC MICA
LS BCMG PRED MICRITE COM ARG OCC FOS
SH M GY SUBPLTY V CALC TR SLT
LS CRM-LT GY MICRITE SM-CHKY OCCGRDG TO SH OCC FOS
SH M GY SUBPLTY COM WTHY OCC SUBWXY CALC DK GY CVGY
TR CHIN CHT BRAC
SH M GY OCC DK GY PLTY CALC GRDG TO LS I/P OCC SLTY SUBWXY I/P
LS CRM- M GY MICRITE CHKY OCC SLTY OCC FOS PRED ARG
TR CHIN
SH M GY OCC DK GY CVGY PLTY CALC SUBWXY I/P OBS MIC-MICA
SH M GY OCCDK GY PLTY CALC OCC SLTY GRDG LS I/P
G TR LS
LS CRM&LT GY PRED MICRITE TR PEL + INTRACLASTS SM-CHKY CLN
TR CHIN
LS CRM-LT GY PRED MICRITE BCMG LT BN I/P SM-CHKY TR PEL + INTRACLASTS
SL TR DISM PYR
SH MGY OCCDK GY TR LT GY SUBPLTY-PLTY OCC MIC MICA V CALC
SL TR CALC FL VUG
LS CRM-LT BN MICRITE SM-CHKY PRED CLN V SL TR VUG
ABNT DK GY-BLK SH CVGY
LS CRM-LT BN MICRITE SM-CHKY PRED CLN OCC [illegible] SL TR PYR FOS
SH M-OCC DK GY PLTY OCC MIC mica TR DK GY CVGY
LS CRM-LT BNMICRITE SM SL FOS TR PELMICRITE OCC ARG
SL TR PYR,GLAU MOD
LS CRM-LT BN MICRITE TR FOS CHKY -SM OCC SUCR CLN TR CHIN SL TR PYR
SL TR DD O STN ON VUG POR
LS PRED CRM OCC LT BN MICRITE CHKY CLN TR CHIN SL TR PYR
SH M-DK GY PLTY-SPLTY CALC IN M GY OCC WTHY IN DK GY OCC BLK
LS CRM-LT BN MICRITE OCC FOS SM-CHKYCLN SL TR OOL+INTCL SL TR SLT I/P
SH M-DK GY PLTY-SPLTY CALC IN M GY OCC GRDG TO LS TR SLT
LS CRM-LT BN OCC M BN MICRITE SM-CHKY CLN COM PELMICRITE
TR GYGN V CALC SH
SL TR DD O ON VUG POR
LS CRM-LT BN OCC M BN MICRITE SM-CHKY CLN V OCC SLTY
SH M GY OCC DK GY PLTY CALC-V CALC SUBWXY I/P GRDG LS I/P
LS CRM-LT BN OCC M GY+ARG MICRITE CHKY PRED CLN
TR FOS CHIN
TR XTAL CALC FILLING VUGS
SH M-OCC DK GY PLTY CALC COM SUBWXY SL WTHY
LS CRM-BUFF-LT BN MICRITE CLN CHKY V OCC SUCR COM SM+LT BN
TR SUCR VUG FL
LS CRM-BUFF OCC LT GY MICRITE CHKY-OCC SUCR PRED CLN SL ARG I/P TR SLT I/P
SL TR PYR
SH M-OCC DK GY PLTY COM SUBWXY MIC MICA I/P PRED CALC SL SLTY I/P
SH BCMG LT M GYGN I/P
LS LT BN OCC CRM MICRITE SM-CHKY OCC VIT CLN V SL TR PELMICRITE SL TR FOS
TR SUCR LS TR SLTY LS
LS LT GYBN OCC CRM-LT GY MICRITE SM OCC CHKY SL ARG OCC V SLTY GRDG TO SLTST
SH M-DK GY PLTY SL MIC MICA OCC WTHY PRED CALC GRDG TO SLTST I/P
SLTST LT GY-OCC M GY V CALC QTZ CALC CMT
SH M-DK GY PLTY SL MIC MICA OCC WTHY PRED CALC GRDG TO SLTST I/P
LS CRM-M BN MICRITE SM OCC SUCR OCC SLTY BCMG V ARG I/P
SLTST CRM-LT GY HD V CALC grdg to LS I/P SL ARG I/P QTZ
LS CRM-M BN MICRITE SM OCC SUCR GRDG TO SLTST+SS
SLTST CRM-LT GY HD V CALC SL S+P I/P GRDG LS I/P
SH M-GY BLK OCC M GYGN PLTY V CALC
LS GRDG TO SLTST +SH I/P
SLTST CRM--OCC LT GY V CALC QTZ/SIL CMT PRED CLN OCC GRDG TO VFGR SS TT N/S
SH M GY-BLK SUBPLTY BLKY MIC MICA I/P OCC TR SLT BCMG M GY LOWER
SLTST CRM-OCC LT GY V CALC QTZ GRDG TO LS I/P
SLTST CRM-V CALC HD SIL CMT QTZ V OCC ARG
LS CRM-M BN MICRITE SM-CHKY FOS OCC SLTY TR CHIN GRDG TO SLTST I/P


2 MAR 90
3 MAR 90
4 MAR 90
5 MAR 90
SLTST L/P
LS CHM-M BN MICRITE BN OCC SUCR OCC SLTY BCMG V ANG L/P
SLTST CHM-LT GY RD V CALC grdg to LS L/P SL ANG L/P QTZ
LS CHM-M BN MICRITE BN OCC SUCR GRDG TO SLTST-BN
SLTST CHM-LT GY RD V CALC SL BN-P L/P GRDG LS L/P
BN M-GY BLK OCC M GYSM PLTY V CALC
LS GRDG TO SLTST +BN L/P
SLTST CHM--OCC LT GY V CALC QTZ/SIL CMT PRED CLR OCC GRDG TO VFGR SS TT A/R
BN M GY-BLK SUBPLTY BLKY MIC MICA L/P OCC TR SLT BCMG M GY LOWER
SLTST CHM-OCC LT GY V CALC QTZ GRDG TO LS L/P
SLTST CHM-V CALC RD SIL CMT QTZ V OCC ANG
LS CHM-M BN MICRITE BN-CHKY FOR OCC SLTY TR CHIN GRDG TO SLTST L/P
OCC TR VFGR SS TT A/R
SLTST CHM-MX CLM QTZ SIL CMT
LS WH-LT BN MICRITE CHKY-BN TR PYR
BN M-DK GY PLTY CALC L/P OCC SUBWAX
LS WH-LT BN MICRITE CHKY-BN TR PYR
SLTST CHM-M GY QTZ V CALC RD CLM
LS CHM-LT GY OCC LT BN MICRITE BN-CHKY OCC VFT SLTY
BN M GY-OCCBK GY PLTY CALC OCC SUBWAX OCC MTWT
LS WH-CHM-M BN MICRITE VIT-SUCR V SLTY SL ANG
SLTST CHM-LT GY RD V CALC QTZ SIL CMT
BN M GY SUBBLKY-PLTY SL CALC L/P CHM MIC MICA
LS M BN-OCC CHM MICRITE CHKY OCC BN BR SUCR CHM SLTY CLM OCC V ANG L/P
BN BCMG GYSM MTWT V SLTY
BN M GYSM-M GY OCC BLK PLTY MIC MICA CHM MTWT GRDG TO SLTST L/P
LS M CR-M BN MICRITE OCC BIO-MICRITE CHM SLTY BN-CHKY OCC SUCR ANG L/P ABNT BRAC CMT TR CHIN
G TR SLTST
BN A/A OCC DK GYSM
G TR LS: M BN MICRITE
BN M-DK GY PLTY CHM MIC MICA CHM CALC SLTY L/P GRDG TO LS+SLTST
G TR LS+SLTST
BN N-OCC DK GY PLTY CHM MTWT OCC SL SLTY
LS DK GYSM-OCC CHM MICRITE VIT OCC CHKY OCC FXL FRED ANG
BN M GY-M GYSM SPLTY CHM MTWT SLTY L/P BN CALC
G TR M BN LS
BN M GYSM OCC NEEDLE SPLTY CHM MTWT SLTY L/P
G TR M GY SLTST
G TR LS
BN M GYSM OCC NEEDLE PLTY-SPLTY OCC CALC BCMG FRED MTT OCC SLTY
G TR LS:M BN MICRITE
BN FRED M GYSM-DK GYSM PLTY TR CHIN
G TR LS: MICRITE VIT M GY
BN DK GYSM PLTY OCC MTWT SL SLTY L/P
LS M GY MICRITE VIT SL-V ANG NUCAL L/P OCC SLTY TR CMT
BN M GY PLTY CHM SLTY OCC MIC-MICA BCMG DK GY LOWER
LS LS-M GY OCC LT BN MICRITE OCC DK GY BN-CHKY
TR SLMST
BN M-DT SUBPLBY OCC BLKY OCC SLTY OCC MTWT
G TR LS + SLTST
BN M GY OCC DK GY PLTY OCC CALC SPLTY L/P OCC SLTY SL MIC-MICA
G TR SLTST + LS
SL TR FOR LS:LT-DK BN
LS DK GY-M GY OCC MOT LT BN MICRITE VIT CHKY OCC FXL TR CMT
TR CARB BN
BN BCMG M GYSM L/P M GY PLTY OCC CALC SLTY L/P
LS LT BN OCC CHM MICRITE FRED F SL OCC CHKY MTX OCC LT GY TR SLT V SL TR PLG V SLOW BASY TRL CUT
LS LT-M BN A/A TR F SPOTT FLOR RAPID STNG CUT
CORE #1
1405-1440.7 LS LT-M BN MICRL OCC VFXL ARGRD-SRARD OCC SUBRD OCC VF NUCL TRR SL ANG L/P TR SLT SL CLM TR F DISM PYR OCC STYL OCC BANDS OF 3-8m FOR FR-OCC G O STN SPTT TRL FLOR LOW PRONT
1440.0,3-1446.0 LS M GYBM M BN MIC OCC VF NUCL DISM AND MAT TRONC OCC BRAC FRAGS + BRAC INS TT A/R
1446.0-1452.0 SS DK GY FINM CARB V SL CALC TR SLT TR F DISM PYR PIR
BN DK GY OCC M GY SUBBLKY-PLTY CALC L/P V OCC SLTY OCC MIC-MICA

6 of



Canada Oil and Gas Lands Administration | Administration du pétrole et du gaz des terres du Canada

D.A. 1412

				Well Status	
Nova Scotia	☐	West Coast	☐	Suspended	☐
Newfoundland	☐	Northern	☒	Completed	☐
Gulf of St. Lawrence	☐	Hudson Bay	☐	Abandoned	☒

WELL TERMINATION RECORD

This record is submitted in triplicate in compliance with Section 184 of the Canada Oil and Gas Drilling Regulations.

WELL DATA

Well Name: PCI Island Lake N-45 Area: North West Territories

Grid Area: 60°10' - 120°45' Field/Pool: N/A

Permit or Lease No.: E.L. 328A Final Coordinates: Lat. N60°4'56.369" Long. W120°53'33.675"

Drilling Unit: Nabors #7 Elevations-RT/KB: 610.00 m SF/GL: 605.40 m

Spud Date: 90-02-21 - 01:15 Rig Released: 90-03-14 - 12:00 Total Depth: 1450 m

CASING AND CEMENTING

O.D.:	Weight: kg/m	Grade:	Depth Set:	Cement and Additives:
244.5 mm	48.07	H-40	409 m	32.2 t. 0:1:0 "G" + 1% $CaCl_2$

PLUGGING PROGRAM

Approval of the following program was obtained by (person) Brian Hebert from (person) Dave Scratch of the Canada Oil and Gas Lands Administration by means of telephone on March 9th 1990.

Type of Plug:	Interval:	Felt:	Cement and Additives:
Class "G"	1450-1382 m	Not Required	5.5t. Class "G" + 0.75% CFR-3 + 0.1% HR-4
Class "G"	1107-911 m	871 m	21.2 t. Class "G" + 0.75% CFR-3 + 0.1% HR-4
Class "G"	664-563 m	548 m	7.4 t. Class "G" + 0.5% CFR-3
Class "G" cement	424-394 m 10 m to surface	350 m Visual	2.7 t. Class "G" + 0.5% CFR-3

Lost Circulation/Overpressure Zones: None

Equipment left on Seafloor (Describe): None

Provision for Re-entry (Describe and attach sketch): N/A

Cores: Type: Conventional Intervals: 1405-1423 m

Other Downhole Completion/Suspension Equipment: None

CERTIFICATION

I certify on the basis of personal knowledge of operations undertaken at the above named well that the above information is accurate.

Signed: R.D. Heikkinen P. Eng. Title: Drilling Manager

Name: R.D. Heikkinen Date: 90-03-15

Acknowledged by: Engineering Branch

Date: 90-04-02

File: 9211-P28-6-1

Department of Energy, Mines and Resources | Ministère de l'Énergie, des Mines et des Ressources

Department of Indian Affairs and Northern Development | Ministère des Affaires indiennes et du Nord canadien

Canada

Canada Oil and Gas Lands Administration | Administration du pétrole et du gaz des terres du Canada

D.A. 1412

Nova Scotia	☐	West Coast	☐	Exploratory	☒
Newfoundland	☐	Northern	■	Development	☐
Gulf of St. Lawrence	☐	Hudson Bay	☐	Delineation	☐
				Service	☐

AUTHORITY TO DRILL A WELL

APPLICATION

This application is submitted with Section 82 of the Canada Oil and Gas Drilling Regulations. When approved under Section 83 of the Regulations, it is the requisite authority for the commencement of drilling operations.

Well Name in Full: PCI ISLAND LAKE N-45

Operator: Petro-Canada Inc.

Drilling Program No: N/A

Contractor: Nabors Drilling

Permit or Lease No: E.L. 328 A

Drilling Rig or Unit: # 7

Estimated Well Cost: $ 874,000.

Location Unit: N Section: 45 Grid Area: 60° 10', 120° 45'

Coordinates Lat: N 60° 4' 56.369" Long: W 120° 53' 33.675"

Area: Northwest Territories

Field/Pool: N/A

Elevation-RT/KB: Approx. 609.9 m (ASL) Ground: 605.4 m (ASL)

Approx. Spud Date: February 16, 1990

Estimated Days on Location: 21 days

Anticipated Total Depth: 1495 m

Target Horizon(s): Jean Marie (Gas)
Rundle (Oil)

UWI: 300N456010120450

EVALUATION PROGRAM

Ten metre sample intervals: NIL

Five metre sample intervals: 500 m to total depth

Canned sample intervals: 500 m to total depth

Conventional cores at: one 18 metre core once the Jean Marie formation is established

Logs and Tests: penetration test after coring of the Jean Marie.
PI-SFL, CNL-LDT, BHCS, ML, Velocity Survey

CASING AND CEMENTING PROGRAM

OD	Weight	Grade	Setting Depth Below Seafloor	Cementing Program (Volumes)
339.7mm	81.1 kg/m	K-55, ST&C	45 m	class "G" + 3% $CaCl_2$
244.5mm	48.07 kg/m	H-40, ST&C	400 m	class "G" + 1% $CaCl_2$
177.8mm	34.23 kg/m	K-55, ST&C	1495 m	T.D. - 1300 m 0:1:0 "G"

1300 - 750 0:1:4 "G" 750 - 500 m 0:1:0 "G" 500 m 0:1:0 "G" 500 - 0 0:1:4 "G"

B.O.P. Equipment: 1 - 229mm, 21 Mpa Annular preventer
1 - 229mm, 21 Mpa Blind Ram 1 - 229mm, 21 Mpa Pipe Ram

Other Information: (Mud System)
0 - 400m gel-Lime mud
400 - 1495 m Gel/Chemical

Signed: J.L. Cotterill /J.L. Cotterill Title: Manager, Exploration Operations

Date: 1990-02-12 Company: Petro-Canada Inc.

APPROVAL

An approved copy of this notice is to be posted at each wellsite

Signed: Engineering Branch

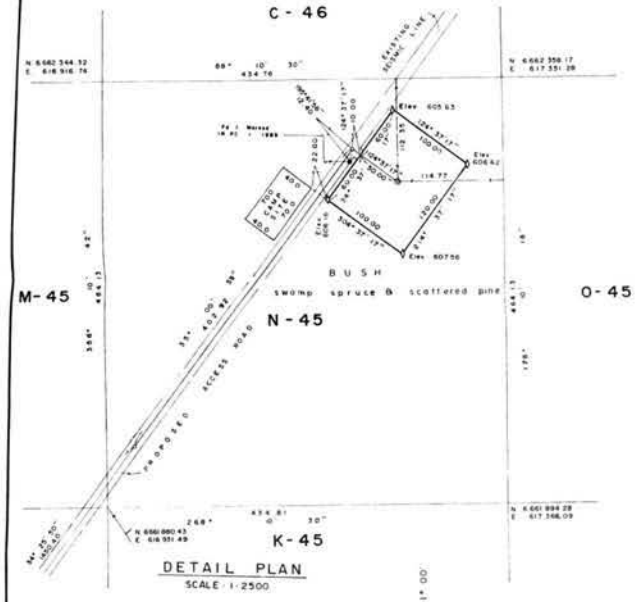
Date: 90-02-14

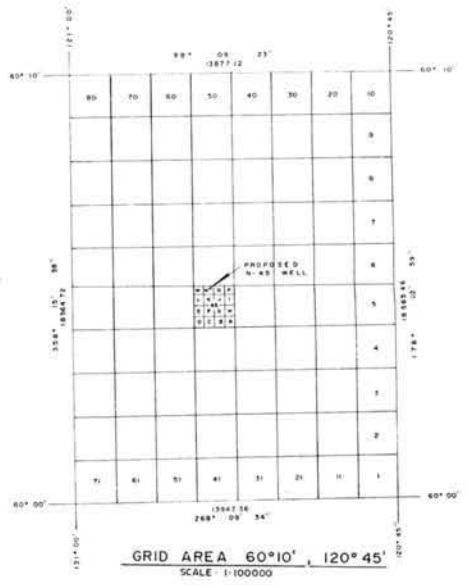
File: 9211-P28-6-1

Department of Energy, Mines and Resources | Department of Indian Affairs and Northern Development

Ministère de l'Énergie des Mines et des Ressources | Ministère des Affaires indiennes et du Nord canadien

Canada





SKETCH PLAN SHOWING SURVEY OF:

PROPOSED EXPLORATORY WELL "PCI ISLAND LAKE N-45"

IN UNIT N, SECTION 45
GRID AREA 60° 10', 120° 45'
NORTHWEST TERRITORIES

SURVEYED FOR:

PETRO-CANADA INC.

LEGEND:
UTM Co-ordinates are computed for Zone 10, central meridian 123° W.
Distances are expressed in metres and de-mi thereof.
Monuments found are shown thus: ● 1 iron post, ● 1 iron bar.
Monuments planted are shown thus: △ 1 iron post, ◇ 1 iron bar.
Distances shown in traverse are measured distances reduced to the horizontal or general ground level.
For the computation of co-ordinates measured distances have been reduced to the UTM plane by multiplying them by an average combined scale factor of 0.99966.
Distances shown on grid subdivisions are UTM plane.

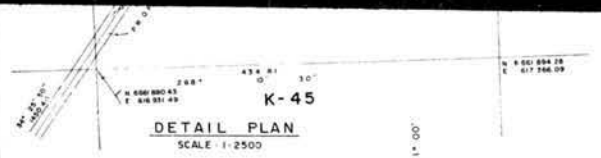
ELEVATION: 605.40 GROUND

CO-ORDINATES: UTM REFERENCE MERIDIAN: 123°

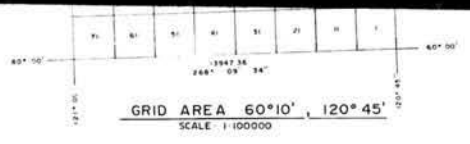
NORTH: 6662242.22
EAST: 617240.15

LAT.: 60° 04' 56.369"

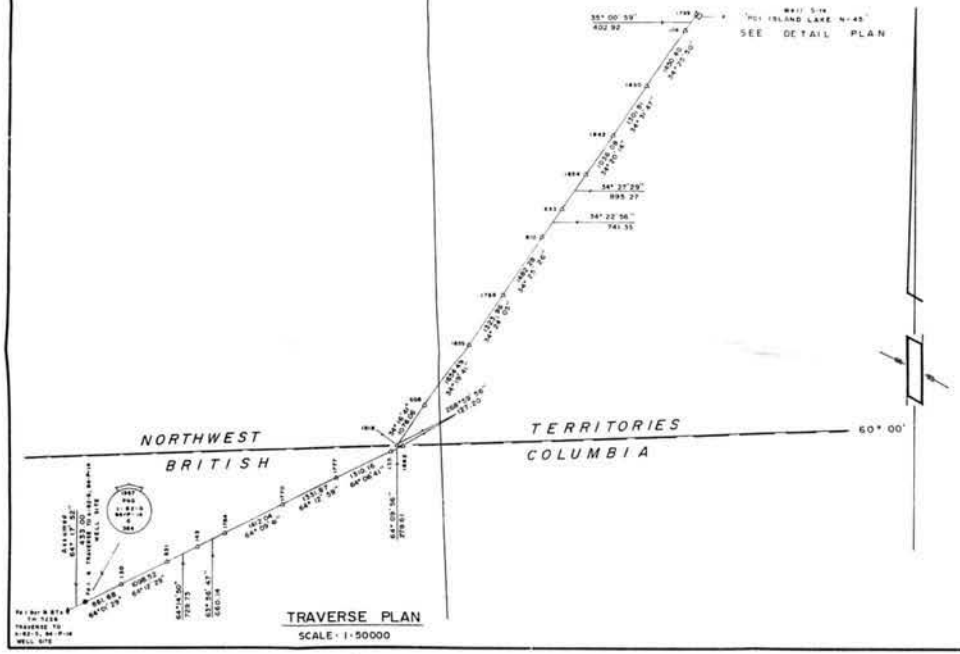
1 of



DETAIL PLAN
SCALE 1:2500



GRID AREA 60°10', 120°45'
SCALE 1:100000



TRAVERSE PLAN
SCALE 1:50000

REFERENCE TREES			
STATION	DISTANCE FROM STATION	DIRECTION FROM STATION	SIZE AND TYPE OF TREE
130	5.64 m	Southwest	15cm Pine
931	4.65 m	Northwest	20cm Pine
143	5.88 m	Southwest	40cm Spruce
1784	9.75 m	Southeast	8cm Spruce
1770	6.76 m	Northwest	10cm Spruce
1777	8.49 m	Northwest	5cm Spruce
155	1.00 m	Southeast	16cm Pine
1862	12.55 m	South	7cm Spruce
509	4.75 m	Northwest	12cm Spruce
1855	4.98 m	Northwest	6cm Spruce
1769	8.46 m	Southeast	7cm Pine
810	10.51 m	Northwest	10cm Poplar
653	9.52 m	Southeast	15cm Poplar
1854	9.15 m	Southeast	15cm Pine
1842	11.89 m	Northwest	18cm Spruce
1830	9.58 m	Southeast	18cm Spruce
104	12.21 m	Northwest	10cm Pine

SURVEYED FOR:
PETRO-CANADA INC.

LEGEND:
UTM Co-ordinates are computed for Zone 10, central meridian 123° W
Distances are expressed in metres and decimals thereof
Monuments found are shown thus: ● 1 iron post, ◐ 1 iron bar
Monuments planted are shown thus: ○ 1 iron post, ◯ 1 iron bar
Distances shown in traverse are measured distances reduced to the horizontal or general ground level
For the computation of co-ordinates measured distances have been reduced to the UTM plane by multiplying them by an average combined scale factor of 0.99966
Distances shown on grid subdivision are UTM plane

ELEVATION: 605.40 GROUND

CO-ORDINATES: UTM REFERENCE MERIDIAN 123°
NORTH 6662242.22
EAST 617240.15
LAT. 60° 04' 56.569"
LONG. 120° 53' 33.675"

AREAS: WELL SITE = 1.20 ha
CAMP SITE = 0.28 ha

I certify that the survey represented by this plan is correct and true to the best of my knowledge and was completed on the 29th day of January, 1990

Alberta Land Surveyor

Witness

OPERATOR
PETRO-CANADA INC.

McElhanney Land Surveys (Alta.) Ltd.
450-999 - 6th Street S.W. Calgary, Alberta
Ph. (403) 245-4711

McElhanney

JOB No. 50901381

2 of 2

PETRO-CANADA

9211-P28-6-1

OTTAWA COPY

PETRO-CANADA
ISLAND LAKE N-45
WELL HISTORY REPORT

MAY, 1990

FINAL WELL REPORT
PETRO-CANADA ISLAND LAKE N-45

COMPILED BY:
PETRO-CANADA INC.
EXPLORATION OPERATIONS GROUP
CALGARY, ALBERTA
JUNE, 1990

J.L. COTTERILL, MANAGER
EXPLORATION OPERATIONS

WELL HISTORY REPORT
PETRO-CANADA ISLAND LAKE N-45

FINAL WELL REPORT

PCI ISLAND LAKE N-45

Prepared by: Brian Hebert
1990-05-23

FINAL WELL REPORT

FINAL WELL REPORT

A. INTRODUCTION

1. Summary

PCI Island Lake N-45 was the second of two wells drilled by Petro-Canada during 1990 in the N.W.T. The primary objective was the Jean Marie formation and the Rundle formation was a secondary objective.

The location co-ordinates for this well are 60°04' 56.369" North Latitude, 120° 53' 33.675" West Longitude.

Petro-Canada Incorporated of Calgary operated the well. Nabors Drilling, the Contractor, used Nabors Rig #7 (diesel mechanical) to drill this well.

The well was drilled to a total depth of 1450 m. Drilling operations, including evaluation and abandonment, were completed in 21.4 days.

Conductor casing - 339.7 mm, 81.1 kg/m, K-55, ST&C - was set at 24 m with a rat hole rig and cemented.

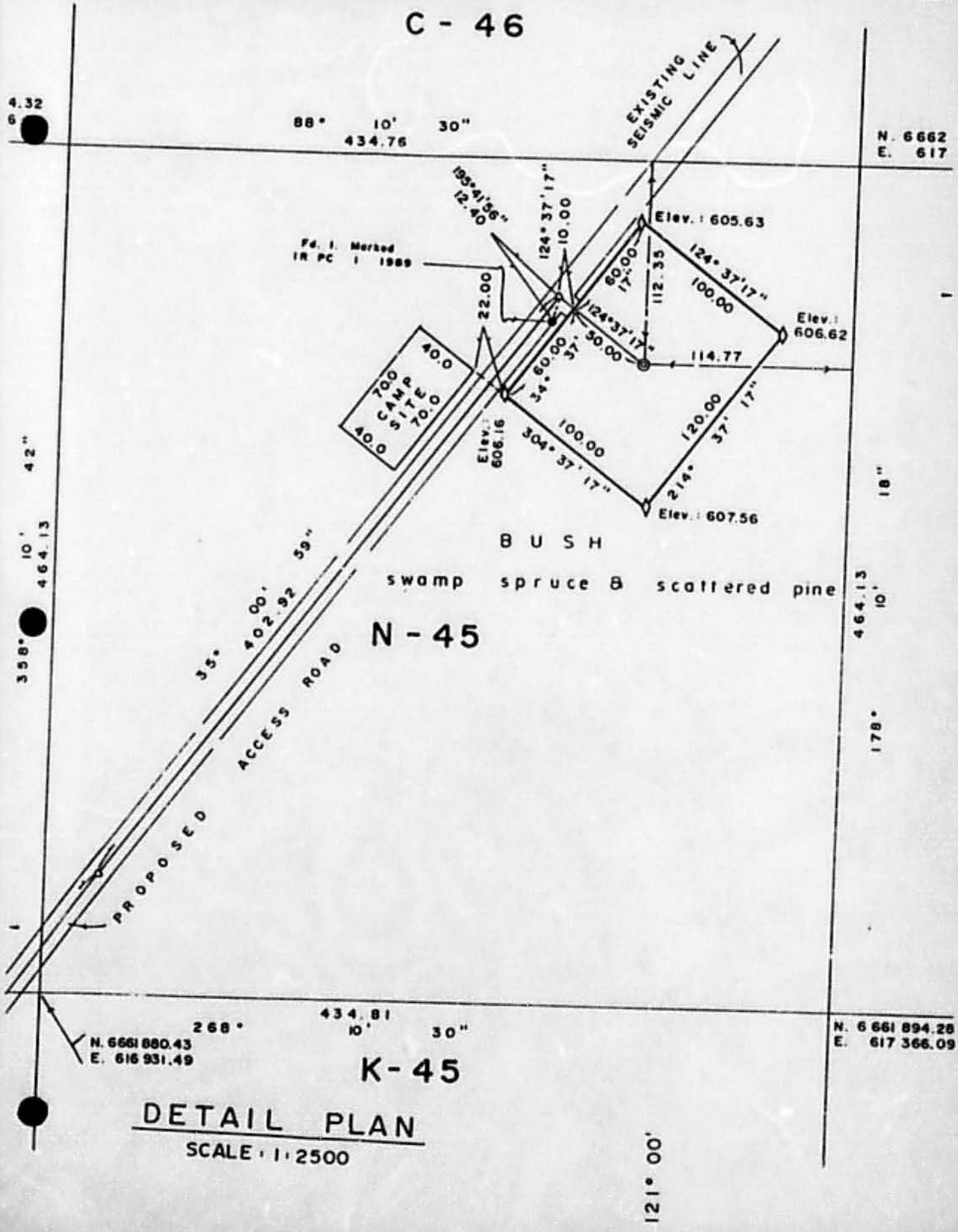
PCI Island Lake N-45 was spudded on 1990-02-21 at 0015 hours with Nabors Rig #7. A 311.2 mm hole was drilled to 409 m. Surface casing - 244.5 mm, 48.07 kg/m, H-40, ST&C - was set at 409 m and cemented with 32.2 tonnes of Class "G" + 1.5% $CaCl_2$.

A 222.2 mm hole was drilled using a gel-chemical drilling fluid system. At 1405 m, an 18 m (222 mm) core was cut in the Jean Marie.

A DST (misrun) was then performed in the Jean Marie formation.

The well was then drilled to 1450 m. The well was open-hole logged and two DSTs (one misrun) were performed in the Jean Marie formation. An additional DST was then run in the Rundle formation.

The well was plugged and abandoned and rig released on 1990-03-14 at 1200 hours.



DETAIL PLAN

SCALE : 1:2500

B. GENERAL DATA

1.	Well Name and Number:	PCI Island Lake N-45 Grid Area: 60°10', 120°45'
2.	Exploration Agreement Number:	E.L. 328A
3.	Well Location:	North Latitude: 60°04' 56.369" West Longitude: 120°53' 33.675"
4.	Unique Well Identifier:	300N456010120450
5.	Operator:	Petro-Canada Incorporated P.O. Box 2844 Calgary, Alberta T2P 3E3
	Contractor:	Nabors Drilling P.O. Box 55 Nisku, Alberta TOC 2G0
6.	Drilling Unit:	Nabors Rig #7 Diesel Mechanical
7.	Position Keeping:	Not applicable to this well.
8.	Support Craft:	Not applicable to this well.
9.	Drilling Unit Performance:	Not applicable to this well.
10.	Difficulties and Delays:	No difficulties or delays were encountered that were not directly associated with downhole operations.

C. SUMMARY OF DRILLING OPERATIONS

1. Elevations: Ground: 605.40 m; Kelly Bushing: 610.60 m

2. Total Depth: Drilled: 1450 m; Logged: 1445.5 m

3. Date and Hour Spudded: 1990-02-21 - 0115 hours

4. Date Drilling Completed: 1990-03-07 - 0700 hours

5. Date of Rig Release: 1990-03-14 - 1200 hours

6. Well Status: Abandoned

7. Hole Sizes and Depths:

Class	Bit Numbers	Size (mm)	Depth (m) In	Depth (m) Out	Meters Drilled	Remarks
Surface	1A	311.2	0	115	115	
	2A	311.2	115	266	151	
	3A	311.2	266	409	143	
Main	1	222.2	409	1170	761	
	2	222.2	1170	1405	235	
	3	222.2	1405	1423	18	Core
	4RR	222.2	1423	1450	27	

8. Casing and Cementing Details

Hole Classification	Conductor	Surface	Main
Hole Size : (mm)	444.5	311.2	222.2
Casing Size: (mm)	339.7	244.5	Abandoned
Weight: (kg/m)	81.1	48.07	
Grade:	K-55	H-40	
Coupling:	ST&C	ST&C	
Number of Joints:	2	40	
Number of Centralizers		9	
Date of Run:	90-02-17	90-02-24	
Shoe Depth: (m)	24	409	
Tonnes of Cement:		32	
Type of Cement:	Class "G"	Class "G"	
Additives:	3% $CaCl_2$	1.5% $CaCl_2$	
Height of Cement:	Surface	Surface	
Based on:	Returns	Returns	

9. Sidetracked Hole - None

10. Drilling Fluids

The surface hole to 409 m was drilled using a gel/lime slurry. The main hole to T.D. at 1450 m was drilled using a gel/chemical system.

Summary of Mud Properties

Section	Interval (m)	Weight (kg/m^3)	Funnel Vis (s/l)	Water Loss (Avg. cm^3)	pH (Avg)	Cl- ($10^3 mg/l$)
Conductor	0-24	-	-	-	-	-
Surface	24-409	1170	50	-	9.5	-
Main	409-1450	1120	70	7.0	10	0.4

11. Fishing Operations - None

12. Well Kicks - None

13. **Formation Leak-Off Tests**

A formation integrity test was run on 1990-02-26 after drilling out the surface casing shoe at 409 m and drilling to 414 m. Water was used for this test (4012 kPa hydrostatic at shoe) and a surface pressure of 4986 kPa was held with no formation breakdown. The total pressure at the shoe (8998 kPa) is equivalent to a leak-off gradient of 22.0 kPa/m (2243 kg/m³) EMD).

14. **Time Breakdown**

	Surface	Main	Total
Drill	51.00	126.25	177.25
Trip	14.75	96.00	110.75
Ream/Clean	0.00	1.25	1.25
Conditioning	3.25	17.00	20.25
Rig Service	2.50	11.25	13.75
Mech. Downtime	0.25	6.75	7.00
Survey	7.00	5.75	12.75
CSG-CMT-WOC	0.00	0.00	0.00
Head up/P Test	18.75	23.75	42.50
Coring		30.75	30.75
Logging		17.00	17.00
DST		33.50	33.50
W.O.O.		12.25	12.25
Abandonment		24.00	24.00
TOTAL	97.50	405.50	503.00

15. **Deviation Survey**

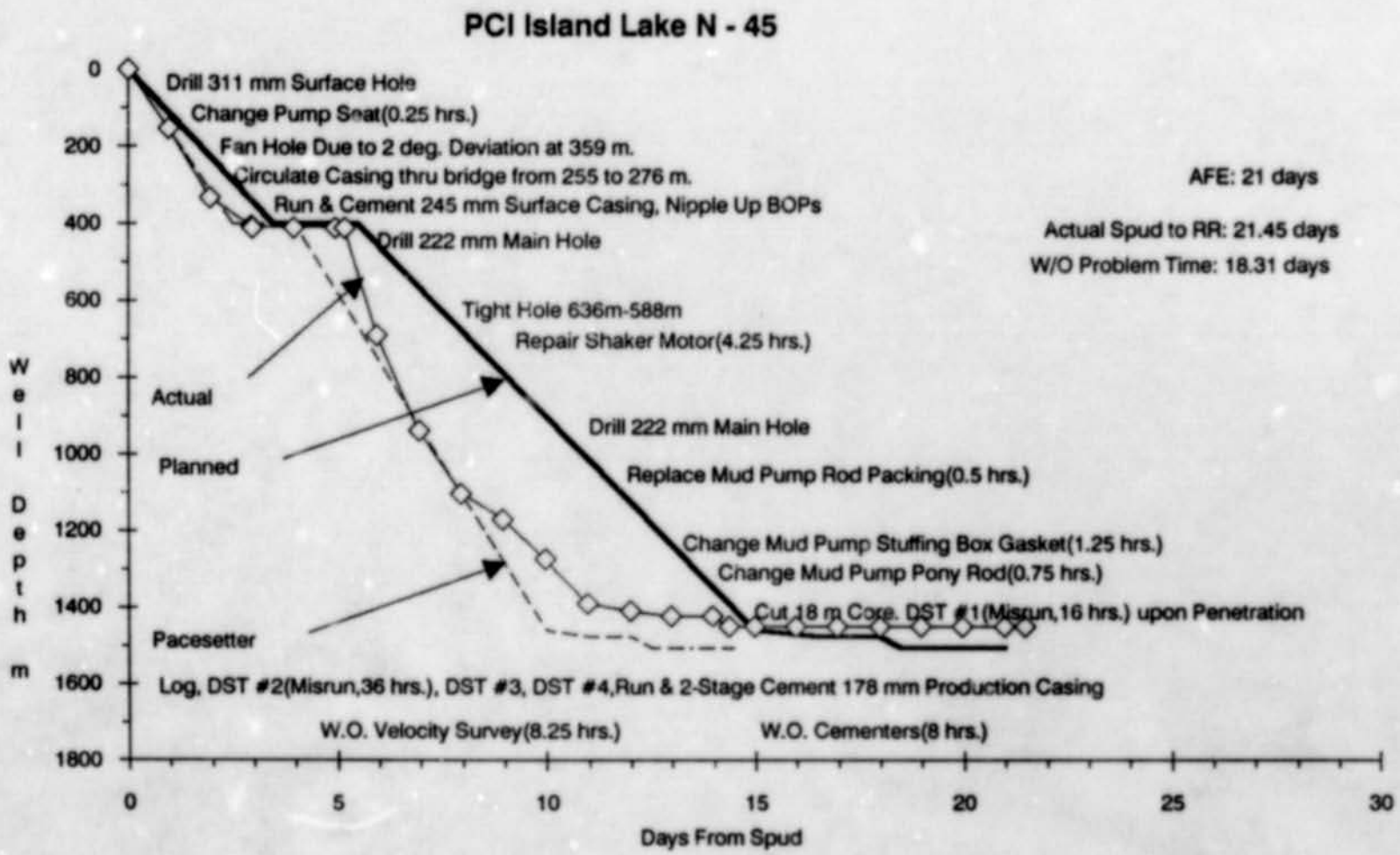
No directional survey was made of this well. Maximum deviation was 2½° at 1402 m. The maximum possible displacement of the bottom hole location with respect to the surface location is only 26.4 m.

16. **Abandonment Plugs**

Type of Plug	Interval (m)	Felt at (m)	Cement + Additives	Fluid Between Plugs
Cement	1450-1382	No Feel	5.5 t Class "G" + 0.75% CFR-3 + 0.1% HR4	Gel/Chemical Mud
Cement	1107-911	871	21.2 t Class "G" + 0.75% CFR-3 + 0.1% HR4	Gel/Chemical Mud
Cement	664-563	548	7.4 t Class "G" + 0.5% CFR-3 +	Gel/Chemical Mud

PCI ISLAND LAKE N-45

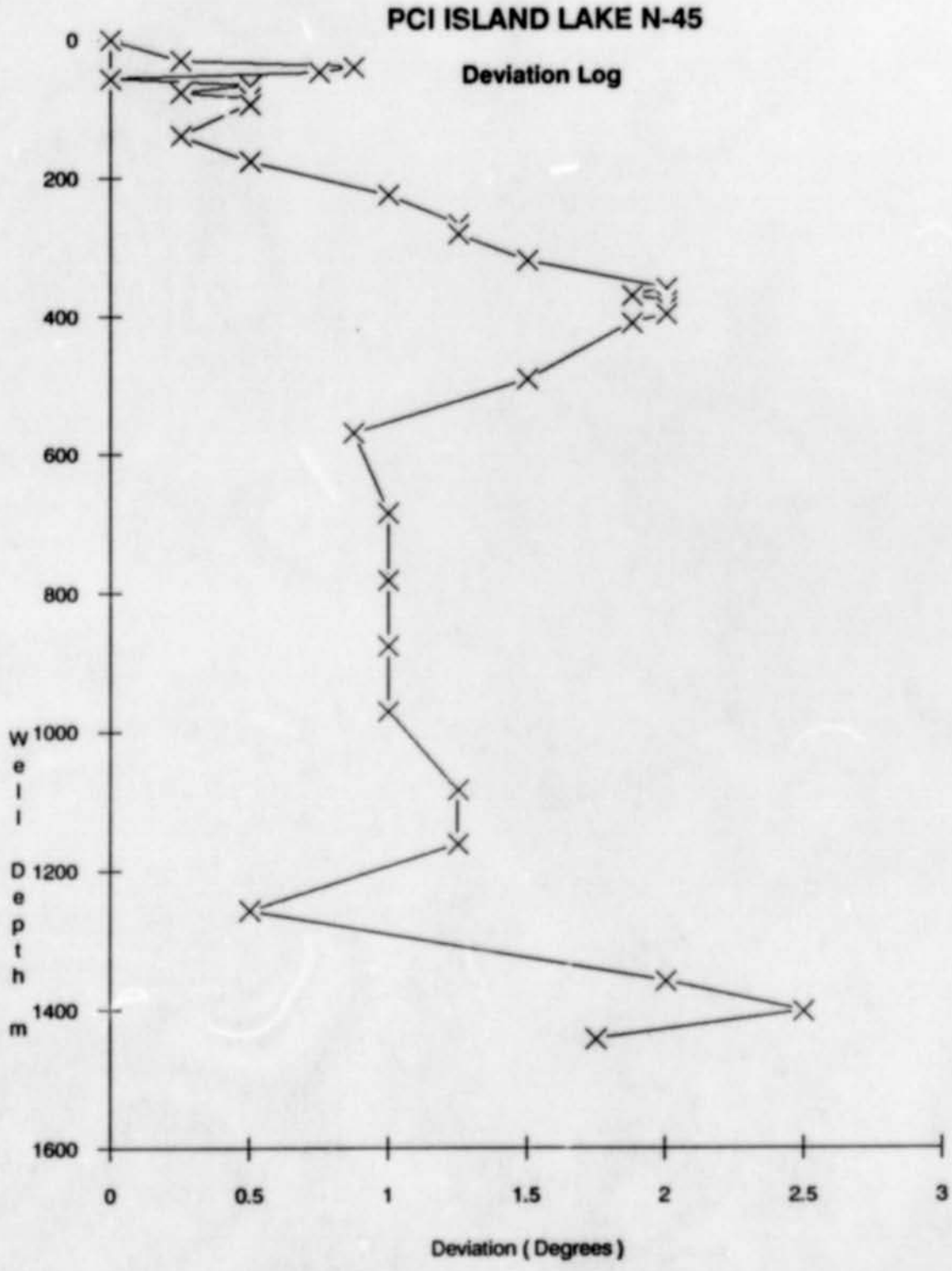
Type of Plug	Interval (m)	Felt at (m)	Cement + Additives	Fluid Between Plugs
Cement	424-394	350	2.7 t Class "G" + 0.5% CFR-3	Gel/Chemical Mud
Cement	10-0	Visual to Surface	5 sx Class "G"	


PCI Island Lake N - 45
Drill 311 mm Surface Hole
Change Pump Seat(0.25 hrs.)
Fan Hole Due to 2 deg. Deviation at 359 m.
Circulate Casing thru bridge from 255 to 276 m.
Run & Cement 245 mm Surface Casing, Nipple Up BOPs
Drill 222 mm Main Hole
Tight Hole 636m-588m
Repair Shaker Motor(4.25 hrs.)
Drill 222 mm Main Hole
Replace Mud Pump Rod Packing(0.5 hrs.)
Change Mud Pump Stuffing Box Gasket(1.25 hrs.)
Change Mud Pump Pony Rod(0.75 hrs.)
Cut 18 m Core. DST #1(Misrun,16 hrs.) upon Penetration
Log, DST #2(Misrun,36 hrs.), DST #3, DST #4,Run & 2-Stage Cement 178 mm Production Casing
W.O. Velocity Survey(8.25 hrs.)
W.O. Cementers(8 hrs.)
AFE: 21 days
Actual Spud to RR: 21.45 days
W/O Problem Time: 18.31 days
Actual
Planned
Pacesetter
Well Depth m
0
200
400
600
800
1000
1200
1400
1600
1800
0
5
10
15
20
25
30
Days From Spud

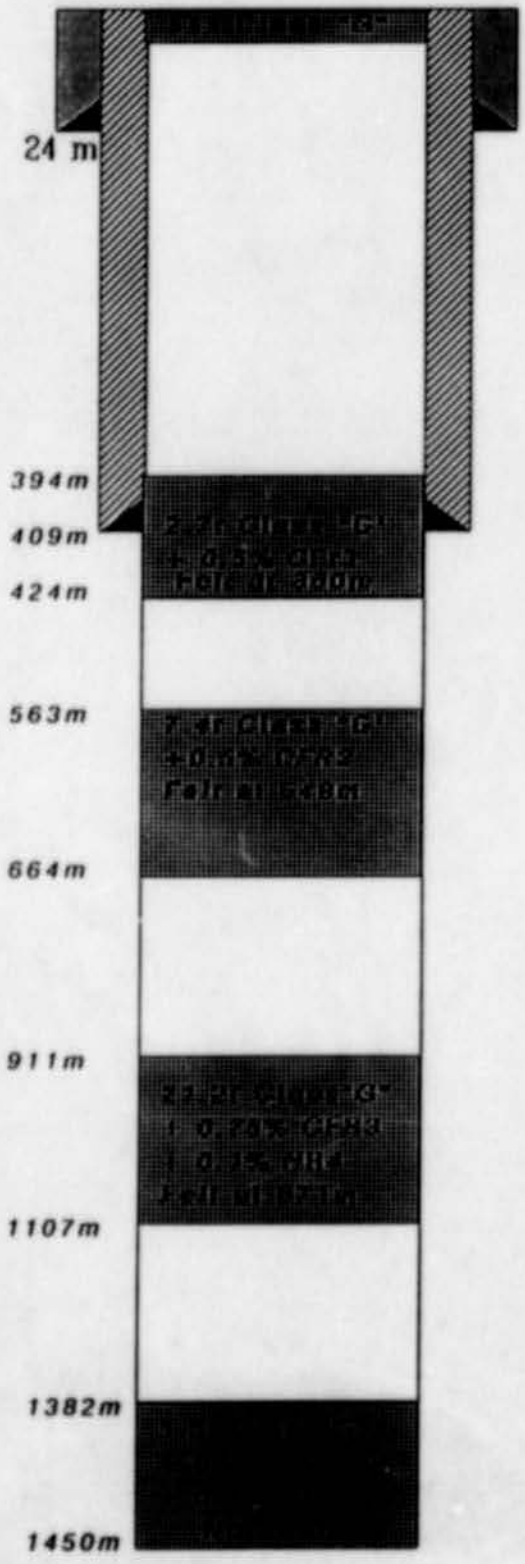
FINAL WELL REPORT

PCI ISLAND LAKE N-45

APPENDIX


PCI ISLAND LAKE N-45
Deviation Log
0
200
400
600
800
1000
1200
1400
1600
Well Depth m
0
0.5
1
1.5
2
2.5
3
Deviation (Degrees)

PCI ISLAND LAKE N-45



Conductor Hole Size: 445 mm
Conductor Casing: 340 mm, 81.1 kg/m, K-55, ST&C
Cement: Class "G" + 3% CaCl2

Surface Hole Size: 311mm

Surface Casing: 245 mm, 48.07 kg/m, H-40, ST&C
Cement: Class "G" +1.5%CaCl2

Hole Size: 222 mm

				Well Status	
Nova Scotia	☐	West Coast	☐	Suspended	☐
Newfoundland	☐	Northern	☒	Completed	☐
Gulf of St. Lawrence	☐	Hudson Bay	☐	Abandoned	☒

WELL TERMINATION RECORD

This record is submitted in triplicate in compliance with Section 154 of the Canada Oil and Gas Drilling Regulations.

WELL DATA

Well Name: PCI Island Lake N-45 Area: North West Territories

Grid Area: 60-10 - 120-45 Field/Pool: N/A

Permit or Lease No.: E.L. 328A Final Coordinates: Lat: N60°41'56.369" Long: W120°53'33.675"

Drilling Unit: Nabors #7 Elevations-RT/KB: 610.00 m GR/GL: 605.40 m

Spud Date: 90-02-21 - 01:15 Rig Released: 90-03-14 - 12:00 Total Depth: 1450 m

CASING AND CEMENTING

O.D.:	Weight: kg/m	Grade:	Depth Set:	Cement and Additives:
244.5 mm	48.07	H-40	409 m	32.2 t. 9:1:0 "G" + 1% CaCl₂

PLUGGING PROGRAM

Approval of the following program was obtained by (person) Brian Hebert from (person) Dave Scratch of the Canada Oil and Gas Lands Administration by means of telephone on March 9th 1990.

Type of Plug:	Interval:	Fill:	Cement and Additives:
Class "G"	1450-1382 m	Not Required	5.5t. Class "G" + 0.75% CFR-3 + 0.1% HR-4
Class "G"	1107-911 m	871 m	21.2 t. Class "G" + 0.75% CFR-3 + 0.1% HR-4
Class "G"	664-563 m	548 m	7.4 t. Class "G" + 0.5% CFR-3
Class "G"	424-394 m	350 m	2.7 t. Class "G" + 0.5% CFR-3
cement	10 m to surface	Visual	

Lost Circulation/Overpressure Zones: None

Equipment left on Seafloor (Describe): None

Provision for Re entry (Describe and attach sketch): N/A

Cores: Type: Conventional Intervals: 1405-1423 m

Other Downhole Completion/Suspension Equipment: None

CERTIFICATION

I certify on the basis of personal knowledge of operations undertaken at the above named well that the above information is accurate.

Signed: K. D. Heikkinen P. Eng. Title: Drilling Manager

Name: L.D. Heikkinen Date: 90-03-15

Acknowledged by: Engineering Branch

Date: 90-04-02

File: 9211-P28-6-1

Department of Energy, Mines and Resources — Ministère de l'Énergie, des Mines et des Ressources

Department of Indian Affairs and Northern Development — Ministère des Affaires indiennes et du Nord canadien

Canada

GEOLOGICAL SUMMARY, PCI ISLAND LAKE N-45

Play Summary

PCI Island Lake N-45 was drilled to investigate a stratigraphic gas trap in the Late Devonian Jean Marie Formation. The Jean Marie is a gas-saturated carbonate unit which extends regionally across N.E. B.C. and into the southern N.W.T.

Results

1. The well was plugged and abandoned. A drillstem test and core analysis from the Jean Marie Formation indicated a low quality reservoir with negligible permeability. The well was unable to produce a sustainable flow of hydrocarbons and did not discover a significant hydrocarbon reserve.

2. Mud logging detected poor gas shows across several thin zones in the Jean Marie Formation.

3. A core was cut from 1404.5 to 1422.5m with the top of the core located 7 metres below the top of the Jean Marie Formation. The upper 2 metres of core was stained with both dead and live oil. Thin intervals of the core have low (3-6%) dominantly, intercrystalline porosity created by incipient dolomitization. Fractures propped open by calcite and dolomite crystals were a secondary reservoir development.

4. Formation evaluation from wireline logs estimated 2.0 metres of net gas pay with an average 3.5% porosity and 50% water saturation. The microlog qualitatively indicated 1.9 meters of reservoir permeability occurring as three separate zones. These zones are:

Interval	Thickness
1398.3 - 99.0	(.7m)
1403.6 - 04.3	(.7m)
1405.0 - 05.3	(1.5m)
Total Net Permeable Carbonate	1.9m

5. A drillstem test of the Jean Marie Formation was successfully performed six (6) days after the reservoir had first been penetrated and exposed to drilling mud. The test included all potential hydrocarbon zones within the Jean Marie Formation and had an extended main flow for 3 hours and a final shut-in of 6 hours. The test failed to flow gas to surface and recovered 10 metres of very lightly gas cut mud.

6. A basal Cretaceous sandstone directly above the Paleozoic Unconformity, had a fair oil show and a poor gas show in sample cuttings. Formation evaluation of wireline logs interpreted 4 metres of net sandstone with an average porosity of 21% and an average water saturation of 70%. COGLA requested a drillstem test be performed across the sandstone to evaluate the hydrocarbon potential of the zone. The test flowed gas at a rate of TSTM and recovered 357 metres of heavily gas cut formation water. The water produced had a salinity of 20,000 ppm (Na Cl).

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ISLAND LAKE N-45
FORMATION TOPS: COMPARISON WITH PROGNOSIS

Formation/Unit	Prognosed (m) Subsea	Prognosed (m) Thk	Actual (m) KB	Actual (m) Subsea	Actual (m) Thk	Depth Variation	Thickness Variation	Objective/Result
Basal Cretaceous Sandstone			578.5	+31.5	6.5			Secondary - poor oil and gas show - tested wet
Rundle Group (Flett Fm)	+66	99	585	+25	75.8	41m L	-23.2m	Secondary - fair oil shows - poor gas show - not tested - dense reservoir
Banff	- 33	277	660.8	-50.8	259.9	17.8m L	-17.1m	
Exshaw	-310	9	920.7	-310.7	5.3	.7m L	- 2.7m	
Kotcho	-319	205	926	-316	197.5	.3m H	- 7.5m	
Tetcho	-524	77	1123.5	-513.5	74.8	10.5m H	- 2.2m	
Trout River	-601	70	1198.3	-588.3	68.2	12.7m H	- 1.8m	
Redknife	-671	130	1266.5	-656.5	130.8	14.5m H	+ .8m	
Jean Marie	-801	18	1397.3	-787.3	17.7	13.7m H	- .3m	Primary - poor gas show
Fort Simspson	-819	30	1415	-805	30.5	14m H	+ .5m	- dense reservoir
TOTAL DEPTH	-849		1445.5	-835.5				

TESTS AND SIGNIFICANT SHOWS

DST 1: Jean Marie Fm (1395-1423 m)
(penetration test)

- Misrun - lost packer seat

DST 2: Jean Marie Fm (1389-1409 m)
(straddle test)

- Misrun - equipment failure; packers would not inflate

DST 3: Jean Marie Fm (1390-1409.12 m)

- NGTS, Rec 10 m very lightly gas cut mud

DST 4: Basal Cretaceous Sandstone (579-583.6 m)

- GTS TSTM
  Recovered 20 m gas cut mud and 337 m of heavily gas cut water

The gas and fluorescence shows recorded during drilling are summarized below;

FORMATION/UNIT	SHOW DESCRIPTION
Basal Cretaceous Sandstone	- fair oil show, poor formation gas show with C1-C5 peaks between 588 and 589 metres.
Flett Fm Rundle Group	- poor to fair oil shows - very poor gas shows
Exshaw Fm	- poor oil show - poor gas show with C1-C5 peaks between 921 and 925 metres.
Redknife Shale	- very poor gas shows near the top of the unit.
Jean Marie Fm	- fair to good oil show in core from 1404.5 to 1406.5 m. - poor gas shows with C1-C2 peaks between 1399 and 1400 metres and C1-C3 peaks between 1405 and 1406 metres.

GEOLOGICAL WELL SUMMARY

PCI ISLAND LAKE N-45

Hal H. Christie, M.Sc., P. Geol.
Consulting Geologist
March 1990

Hal H. Christie, P. Geol.

GENERAL WELL INFORMATION

WELL NAME:	PCI ISLAND LAKE N-45
LOCATION:	Latitude N. 60 4' 56.369" Longitude W. 120 53' 33.675"
ELEVATIONS:	Ground: 605.4; K.B.: 610.0
CLASSIFICATION:	Exploratory
PARTNERS:	None
CASING:	Surface: 409 m. x 244.5 mm.
CONTRACTOR:	Nabors Drilling Rig No. 7
DRILLING SUPERVISOR:	Roger Monette - Consultant
GEOLOGIST:	Hal H. Christie, P. Geol. - Consultant
SPUDDED:	90/02/21 01:15
FINISHED DRILLING:	90/03/07 08:00
HOLE SIZE:	Surface: 311 mm. Main: 222 mm.
SAMPLES:	One set 5 m. vialed samples - PetroCanada One set 5 m. bagged samples - Institute of Sedimentary and Petroleum Geology - Calgary One set 10 m. geochemical samples - PetroCanada One set 10 m. geochemical samples - Institute of Sedimentary and Petroleum Geology - Calgary One sample file 410 m. - T.D. - PetroCanada
MUD LOGGING:	Two Manned Unit - 410 m. - T.D.
CORES	Core No. 1. 1405 - 1423
DRILLING FLUID:	Gel/Chemical
FORMATION TESTS:	DST No. 1, 1395.2 - 1423 DST No. 2, 1390 - 1409.12 DST No. 3, 1390 - 1409.12 DST No. 4, 579 - 583.6
WIRELINE LOGS:	Schlumberger: Phasor Induction - MSFL - SFL, S.P. - G.R. CNL - Litho-Density - G.R. - XY-Caliper - AMS BHC Sonic Log - G.R. - Caliper Microlog Velocity Survey
TOTAL DEPTH:	Drilled: 1450 Logged: 1445.5
RIG RELEASED:	90/03/14 12:00
STATUS:	Dry and Abandoned

GEOLOGICAL MARKERS
(Log Tops)

MARKER	Depth	Subsea
RUNDLE (Flett)	578.5	+ 31.5
BANFF	648.1	- 38.1
EXSHAW	921.0	- 311.0
KOTCHO	926.0	- 319.0
TETCHO	1122.4	- 512.4
TROUT RIVER	1198.5	- 588.5
RED KNIFE	1280.0	- 670.0
JEAN MARIE	1397.5	- 787.5
FORT SIMPSON	1414.9	- 804.9
Total Depth	1450.0	

PCI ISLAND LAKE N-45

SAMPLE DESCRIPTIONS

410 - 420 SHALE, dark gray, some with brown hue, blocky, firm to some soft, micro- to some very fine carbonaceous material particularly on partings and bedding planes, some fragments slightly calcareous in part, some slightly to moderately silty in part, finely disseminated pyrite not uncommon in part.
Trace Siltstone, medium to dark gray and brown gray, intergranular argillaceous material generally common and some difficult to distinguish from silty Shale, well cemented, very slightly calcareous in part, trace finely disseminated pyrite in part.

420 - 440 SHALE (85), dark gray as above, some with brown hue, some becoming more silty, grading into and interbedded with,
SILSTONE (15), light to commonly medium brown gray and gray brown as above, some fragments trace glauconite in part.

440 - 465 SHALE (75), dark to some very dark gray as above, commonly carbonaceous, soft, some fissile, interbedded with,
SILTSTONE (25), light to commonly medium gray brown and brown gray as above, generally a poorly developed clastic, poor sorting and intergranular argillaceous material generally common.

465 - 475 SHALE (85), dark to very dark gray as above, trace with brown hue, micro- to very fine carbonaceous material becoming more common particularly on partings & bedding planes, soft and some fissile.
SILTSTONE (15), light to commonly medium gray brown and brown gray as above, commonly poorly sorted, and poorly developed with intergranular argillaceous material common and argillaceous material as irregular inclusions and partings.

475 - 505 SHALE (90), dark to commonly very dark gray, some with brown hue generally common, blocky and platey, soft, some firm, commonly moderately to very carbonaceous and very fine carbonaceous material on partings & bedding planes, some approaching bituminous, some slightly to occasionally moderately silty in part, finely disseminated pyrite not uncommon in some fragments.
SILTSTONE (10), light to commonly medium gray brown and medium gray as above.

505 - 520 SHALE (90), dark to very dark gray, platey and some blocky, soft to some firm, commonly carbonaceous, micromicaceous, some fragments approaching bituminous, trace slightly silty in part, trace finely disseminated pyrite in part.
SILTSTONE (10), light to medium gray brown and brown gray as above.

520 - 540 SHALE (90), commonly very dark gray as above, generally moderately to very carbonaceous and some becoming bituminous.
SILTSTONE (10), light to commonly medium gray brown and brown gray as above, argillaceous material generally more common and a poorly developed clastic.

540 - 575 SHALE, dark to commonly very dark gray as above, commonly platey, carbonaceous to very carbonaceous, and some bituminous, soft and fissile, and generally an incompetent Shale.
Siltstone (Trace), medium gray brown and brown gray as above.

575 - 580 SHALE, dark to commonly dark gray as above, some fragments with silt grains more common.
Siltstone (Trace), light to commonly medium gray brown and brown gray as above.
Occasional fragment of Sandstone, light brown and gray brown, very fine grained (commonly low end), subangular to angular, poor sorting, silty, intergranular argillaceous material not uncommon, trace finely disseminated pyrite in part.

580 - 585 SILTSTONE (40), light to commonly medium brown, quartzose, some slightly to occasionally moderately arenaceous (very fine grained), medium to well sorted, some fragments with green shale associated with the Siltstone, moderately cemented (siliceous), approximately 15% exhibits poor to fair (6-9%) intergranular porosity, effective permeability questionable, fair to some good oil stain not uncommon throughout.
SANDSTONE (15), light to medium brown, very fine and fine grained, some medium to coarse grains (commonly loose), subrounded to subangular, frosted, poor to very poor sorting, some bimodal sorting, commonly moderately to very silty, trace intergranular argillaceous material not uncommon, intergranular pyrite associated with some fragments, about 10% exhibits poor to some fair (6-10%) intergranular porosity, fair to some good oil stain generally common.
CHERT (Trace), light to medium gray and occasionally varicolored, fragments of pebbles (?).
SHALE (40), dark to very dark gray as above, indigenous?

585 - 595 SILTSTONE (65), light to commonly medium brown as above, approximately 10% exhibits poor and some fair (4-8%) intergranular porosity, permeability ?, generally fair to some good oil stain throughout.
SANDSTONE (30), light to medium brown, as above, fine to medium and some coarse and occasionally very coarse grained (the larger grains commonly loose), the few intact fragments exhibit good to very good (9-13%) intergranular porosity and some fair to occasionally good oil stain not uncommon.
CHERT (5), white to light to medium gray and some brown.
Shale, dark gray as above, common - cavings?

595 - 600 SILTSTONE (45), light to commonly medium brown as above, approximately 5% exhibits very poor to poor (3-6%) intergranular porosity, permeability?, some fair oil stain in some fragments.
SANDSTONE (40), light to some medium brown, fine to very coarse grained as above, loose grains (larger) common, suggesting fair to good (?) intergranular porosity, some light oil stain associated with the few intact fragments.
SHALE (15), dark to very dark gray, blocky, soft to firm, commonly carbonaceous, micromicaceous, finely disseminated pyrite in part.
Trace Chert as above.

600 - 610 SILTSTONE (45), light to medium gray and some brown, quartzose, medium to well cemented (siliceous), some fragments areanaceous (very fine grained - low end), trace intergranular argillaceous material, slightly calcareous in part.
LIMESTONE/MUDSTONE (40), light gray and gray brown, microcrystalline and trace bioclastic texture, some cryptocrystalline, finely disseminated argillaceous material not uncommon, trace silty in part, trace finely disseminated pyrite in part.
SANDSTONE (15), light to some medium brown as above.

610 - 625 LIMESTONE/MUDSTONE (55), light gray and gray brown as above, commonly microcrystalline and some cryptocrystalline, some fragments with bioclastic texture, some not uncommonly argillaceous and silty in part, trace fossil fragments (crinoid stem fragments), grading into and interbedded with,
SILTSTONE (45), light to medium gray as above,
Sandstone (Trace), light to medium gray as above, commonly loose grains.
Trace Chert as above.

625 - 630 LIMESTONE/MUDSTONE (70), light gray and gray brown as above, fossil fragments (crinoid stems, fusilinids, brachiopod fragments) generally more common.
SILTSTONE (30), light gray and brown gray as above.

630 - 645 LIMESTONE/MUDSTONE (90), light brown and gray brown, microcrystalline and some cryptocrystalline, some fragments bioclastic texture, finely disseminated argillaceous material in some fragments, fossil fragments (fusilinids, crinoid stems and some brachiopods), common in part, trace to some disseminated pyrite and pyrite as microscopic irregular inclusions.
SILTSTONE (10), light gray and some brown gray as above.

645 - 650 LIMESTONE/MUDSTONE (85), light brown and gray brown as above, finely disseminated argillaceous material becoming more common.
SHALE (15), light to medium green gray and gray brown, blocky to platey, soft, micromicaceous, some slightly silty in part, finely disseminated pyrite in part.

650 - 660 SILTSTONE (50), light gray and brown gray, quartzose, poor sorting, medium to well cemented (calcareous), moderately to some very calcareous, intergranular argillaceous material in part, some commonly arenaceous (very fine grained) in part, and some difficult to distinguish from silty Sandstone, trace finely disseminated intergranular pyrite in part.
LIMESTONE/MUDSTONE (40), light brown, microcrystalline and cryptocrystalline and some bioclastic texture, finely disseminated argillaceous material not uncommon and some slightly to moderately silty in part.
SHALE (10), light to medium gray brown and green gray as above.

660 - 670 SHALE (60), medium gray and some green gray, platey and some blocky, soft to firm, some carbonaceous, micromicaceous, trace slightly calcareous in part, trace slightly silty in part, occasional fragment trace finely disseminated pyrite in part.
SILTSTONE (25), light gray and brown gray as above.
LIMESTONE/MUDSTONE (15), light brown, microcrystalline and cryptocrystalline as above.

670 - 675 Lithology as above except Shale becoming darker gray, soft, some splintery and fissile, trace glauconite pellets.

675 - 680 SHALE (70), medium to dark gray as above, some green gray.
LIMESTONE/MUDSTONE (30), light brown, cryptocrystalline to microcrystalline, finely disseminated argillaceous material not uncommon in part, fossil fragments common (crinoid stem fragments), trace finely disseminated pyrite in part.

680 - 685 SHALE (65), medium to some dark gray and some green gray as above.
SILTSTONE (20), light gray and brown gray as above, intergranular argillaceous material not uncommon in part.
LIMESTONE/MUDSTONE (15), light brown as above, occasional fragment with bioclastic texture.

685 - 690 LIMESTONE/MUDSTONE (55), light brown and gray brown, microcrystalline and some cryptocrystalline, finely disseminated argillaceous material not uncommon in part, fossil fragments (crinoid stem fragments and fusilinids), trace finely disseminated pyrite in part.
SHALE (35), medium to some dark gray and some medium gray brown as above.
SILTSTONE (10), light gray and brown gray as above.

690 - 705 SILTSTONE (65), light gray and brown gray, quartzose, intergranular argillaceous material not uncommon, moderately to very calcareous, generally well indurated, some fragments arenaceous (very fine grained - low end), trace finely disseminated pyrite in part.
LIMESTONE/MUDSTONE (20), light brown and gray brown as above.
SHALE (15), medium to some dark gray and some medium gray brown as above.

705 - 710 SHALE (45), medium to occasionally dark gray and medium gray green as above except some splintery and not uncommonly soft, micromicaceous.
SILTSTONE (35), light gray and brown gray, quartzose, as above.
LIMESTONE/MUDSTONE (20), light brown and gray brown as above.

710 - 720 SHALE (80), medium gray and some with green hue and some green gray, platey and blocky and some splintery, soft, micromicaceous, some fragments finely disseminated carbonaceous material, trace slightly silty in part, trace slightly calcareous, some fragments trace finely disseminated pyrite in part.
LIMESTONE/MUDSTONE (20), light brown as above, fossil fragments (particularly crinoid stem fragments) generally common.

720 - 725 SHALE, medium gray as above, some with green hue, and occasionally medium gray green, generally a softer Shale and becoming fissile.
Trace Limestone/MUDSTONE, light brown as above.

725 - 740 SHALE (85), medium gray and some with green hue as above and occasionally gray green.
LIMESTONE/MUDSTONE (15), light brown, microcrystalline and some bioclastic texture, finely disseminated argillaceous material in some fragments, as above, trace fossil fragments (crinoid stem fragments).

740 - 745 SHALE (70), medium gray and some with green hue and occasionally gray green as above, some slightly to occasionally moderately calcareous in part.
LIMESTONE/MUDSTONE, light brown as above, microcrystalline and some bioclastic texture.

745 - 770 Lithology as at 725 - 740 except Shale becoming darker gray and not uncommonly soft.
Trace Siltstone, light to medium brown and brown gray, quartzose, poor sorting, well cemented, intergranular argillaceous material common in part, moderately to some very calcareous, finely disseminated pyrite in part.

770 - 795 SHALE (80), medium to some dark gray as above, some brown gray, generally becoming more carbonaceous.
LIMESTONE/MUDSTONE (15), light brown and some gray brown, crypto to microcrystalline, finely disseminated argillaceous material in some fragments, some fossil fragments (crinoid stems etc).
SHALE (5+), medium brown, blocky, hard, moderately to very calcareous, trace slightly silty in part.

795 - 825 SHALE (95), medium to some dark gray as above, generally a soft incompetent Shale.
LIMESTONE/MUDSTONE (5+), light brown and light gray brown as above.
Trace Shale, medium brown, hard, blocky as above.

825 - 835 SHALE (95), medium to some dark gray, blocky and occasionally splintery, some platey, soft to some firm, micromicaceous, some slightly to moderately silty in part, sub-fissile inpart, trace slightly calcareous in part, trace finely disseminated pyrite in part.
LIMESTONE/MUDSTONE (5+), light brown and light gray brown as above.
Trace Shale, medium brown, hard, calcareous in part.

835 - 840 Lithology as above except Shale, medium green, blocky, subwaxy to waxy and Limestone/Mudstone (10), light brown and some gray brown as above.

840 - 875 Lithology as above except trace loose, varicolored Quartz and Chert grains, some clear/frosted, fine to commonly medium to coarse and occasionally very coarse grained, subrounded to subangular.

875 - 910 SHALE, medium to commonly dark gray, blocky to platey and occasionally splintery, the dark gray Shale with finely disseminated carbonaceous material common in part, some slightly to moderately calcareous in part, some micromicaceous in part, trace finely disseminated pyrite in occasional fragment.
Trace Shale, medium brown, as above.
Trace Limestone/Mudstone, light brown as above.

910 - 920 SHALE, medium to dark gray as above except becoming a dark Shale with finely disseminated carbonaceous material more common, generally a softer Shale, some splintery.
Trace Shale, medium brown as above.
Trace LIMESTONE/MUDSTONE, light brown as above.

920 - 925 SHALE, medium to commonly dark gray, blocky and some platey and occasionally splintery, soft to commonly firm, finely disseminated carbonaceous material in dark gray Shale, some slightly to occasionally moderately silty and some fragments approaching Siltstone, slightly calcareous in part, trace micromicaceous, some fragments with medium brown resenous material particularly on partings and bedding planes in part, (fossil (?) material).

925 - 935 LIMESTONE (40), light brown and bray brown, microcrystalline and some cryptocrystalline, some slightly to moderately silty in part, finely disseminated argillaceous material not uncommon in part.
SILTSTONE (30), light to medium brown gray and brown, quartzose, some moderately to very calcareous, intergranular argillaceous material not uncommon, trace arenaceous (very fine grained - low end) in part, moderately to well cemented (calcareous), finely disseminated pyrite not uncommon in some fragments.
SHALE (30?), medium to commonly dark gray as above.

935 - 945 SHALE (45), medium to commonly dark gray, blocky to platey, soft to some firm, dark gray Shale carbonaceous to very carbonaceous, some slightly silty in part in part, some slightly to occasionally moderately calcareous in part, trace finely disseminated pyrite in occasional fragment.
LIMESTONE/MUDSTONE (40), light brown and some gray brown as above, some with fossil fragments (crinoid stem fragments, fusilinids, etc), generally common.
SILTSTONE (15), light brown and some medium brown gray as above, trace glauconite in occasional fragment.

945 - 970 LIMESTONE/MUDSTONE (80), very light to light brown and some light gray brown, microcrystalline, some earthy texture, some fragments finely disseminated argillaceous material in part, very occasional fragment with argillaceous material in part, very occasional fragment trace slightly silty in part, fossil fragments not uncommon (crinoid stem fragments and trace fusilinids, etc), trace finely disseminated pyrite in part.
SHALE (20), medium to commonly dark gray as above.
Trace Shale, medium to dark gray as above, indigenous?
Trace Siltstone, light brown and light gray brown as above.

970 - 990 LIMESTONE/MUDSTONE (70), very light brown to light brown and some gray brown, as above, some fragments with finely disseminated argillaceous material more common, interbedded with,
SHALE (30), medium to dark gray as above, the dark gray Shale with finely disseminated carbonaceous material not uncommon in part.
Trace Siltstone, light brown and light brown gray as above.

990 - 1000 LIMESTONE/MUDSTONE (65), very light brown to light brown and some gray brown as above, some becoming rust colored (due to ferruginous staining), fossil fragments generally more common (gastropods, crinoid stem fragments, brachiopod shell fragments(?), fusilinids, etc), interbedded with,
SHALE (35), medium to dark gray as above.

1000 - 1010 LIMESTONE/MUDSTONE (70), very light brown and some light brown and some gray brown, as above at 975 - 990, fossil fragments not uncomm n in part.
SHALE (30), medium to occasionally dark gray as above, generally a softer more fissile Shale.

1010 - 1030 SHALE (75), medium gray some with green hue, and some dark gray, generally more silty and some moderately firm in part.
LIMESTONE/MUDSTONE (25), very light to light brown and some gray brown as above.
Trace Siltstone, light brown and gray brown as above, generally a well indurated clastic.

1030 - 1065 SHALE (75), medium gray some with green hue, some not uncommonly dark gray (finely disseminated carbonaceous material in part), blocky to platey, micromicaceous, some fragments slightly calcareous in part, finely disseminated pyrite not uncommon in some fragments, particularly on partings & bedding planes, interbedded with,
LIMESTONE/MUDSTONE (25), light brown and light gray brown as above, fossil fragments generally less common and some fragments slightly dolomitic in part.
Trace Siltstone, light to some medium brown and brown gray, quartzose and some chert grains, poor sorting, slightly to occasionally moderately calcareous, finely disseminated argillaceous material not uncommon in part, trace arenaceous (very fine grained - low end), trace finely disseminated pyrite in part.

1065 - 1090 SHALE (85), medium gray, some with green hue and some dark gray as above, becoming a softer and more fissile shale, some incompetent, some fragments slightly more silty in part, interbedded with,
LIMESTONE/MUDSTONE (15), light brown and some light gray brown, as above, generally less fossil fragments and not as well developed carbonate.
Occasional Fragment Siltstone, light brown and light gray brown as above.

1090 - 1115 LIMESTONE/MUDSTONE (80), light to some medium brown and some gray brown, microcrystalline and some earthy texture and occasionally bioclastic texture, some fragments trace finely disseminated argillaceous material not uncommon and occasional fragment with microscopic argillaceous material as irregular inclusions, trace slightly dolomitic in part, trace fossil fragments (gastropods, crinoid stem fragments and occasionally fusilinids), trace finely disseminated pyrite associated with the argillaceous material.
SHALE (20), medium to some dark gray as above, indigenous?

1115 - 1120 SHALE (75), medium gray, some with green hue, and some dark gray, platey to splintery and some blocky, sub-fissile, dark gray Shale commonly finely disseminated carbonaceous material, some micromicaceous, some slightly calcareous in part, trace finely disseminated pyrite in some fragments.
LIMESTONE/MUDSTONE (25), light brown and occasionally brown gray as above, generally fewer fossil fragments.

1120 - 1130 LIMESTONE/MUDSTONE (55), light brown and some gray brown as above, commonly microcrystalline, some fragments trace to some bioclastic texture, some crinoid stem fragments, interbedded with,
SHALE (45), medium to some dark gray as above.

1130 - 1135 LIMESTONE/MUDSTONE, very light to light brown and occasionally medium brown, micro- to some cryptocrystalline, some chalky texture, some with finely disseminated argillaceous material in part, trace slightly dolomitic, trace finely disseminated pyrite in part, occasional fragment with trace very poor (3-5%) intercrystalline porosity, no apparent permeability, no visible stain, occasional fragment with some subhedral crystals on surfaces of some fragments suggesting fracture porosity (?), no visible stain.

1135 - 1140 LIMESTONE/MUDSTONE (50), very light to light brown and occasionally medium brown as above, some fossil fragments (crinoid stem fragments & fusilinids), no visible porosity or stain.
Some SHALE (50), medium to dark gray, platey and blocky, firm and some soft, some slightly to moderately calcareous, some moderately to very silty, finely disseminated carbonaceous material generally common, particularly on partings & bedding planes, dark gray Shale moderately to very carbonaceous, micromicaceous, some slightly pyritic in part.

1140 - 1150 LIMESTONE/MUDSTONE (70), very light to light brown and occasionally medium brown as above, commonly microcrystalline and some cryptocrystalline and some chalky texture, generally less argillaceous, no visible porosity or stain.
SHALE (30), medium to dark gray as above.

1150 - 1155 LIMESTONE/MUDSTONE (65), very light to light brown and occasionally medium brown as above, generally a moderately developed carbonate with some fragments trace finely disseminated argillaceous material in part, trace very occasionally slightly silty in part, some fragments slightly dolomitic in part.
SHALE (35), medium to dark gray as above, dark gray Shale commonly carbonaceous and some not uncommonly silty.

1155 - 1160 SHALE (80), medium to dark gray as above, generally a softer Shale and some subfissile.
LIMESTONE/MUDSTONE (20), very light to light brown and occasionally medium brown as above.

1160 - 1170 SHALE (65), medium to dark gray as above.
LIMESTONE/MUDSTONE, very light to light brown and occasionally medium brown, generally a moderately to well developed carbonate, commonly micro- to very fine crystalline, some fragments slightly to occasionally moderately silty, similar to above, very occasional fragment with very poor (2-3%)microvuggy and intercrystalline porosity, no visible stain, some bitumen associated with some porosity and partially plugging.

1170 - 1175 LIMESTONE/MUDSTONE (65), very light to light brown to some medium brown, microcrystalline, some micritic texture, some very fine crystalline (anhedral and some subhedral), some fragments slightly to moderately argillaceous material in part, some moderately silty, trace crinoid stem fragments and some fusilinids, trace slightly dolomitic in part, grading into,
SILTSTONE (10), light to medium brown and some gray brown, quartzose some moderately to very calcareous, medium cemented (calcareous), intergranular argillaceous material not uncommon in part.
SHALE (25), medium gray and some dark gray, platey to blocky, soft, finely disseminated carbonaceous material not uncommon particularly on partings and bedding planes, slightly calcareous in part.

1175 - 1190 LIMESTONE/MUDSTONE (65), very light to commonly light brown and occasionally medium brown as above, some with finely disseminated argillaceous material generally common, silt grains less common.
SHALE (35), medium to some dark gray as above, micromicaceous more common.

1190 - 1195 LIMESTONE/MUDSTONE (85), light to medium brown and some light gray brown, microcrystalline to some micritic and some earthy texture, some slightly to occasionally moderately silty in part, interbedded with,
SILTSTONE (15), light to medium brown and some gray brown, poorly developed with intergranular argillaceous material not uncommon and calcareous material as matrix common in part, trace finely disseminated pyrite in occasional fragment.

1195 - 1200 LIMESTONE/MUDSTONE (65), light to some medium brown and occasionally very light brown, microcrystalline to some micritic texture and occasionally earthy texture in part, finely disseminated argillaceous material not uncommon in part, some moderately to very silty, slightly dolomitic in part, some fragments with argillaceous material as irregular inclusions, finely disseminated pyrite common very locally.
SILTSTONE (35), light to commonly medium brown and some medium to occasionally dark gray brown, quartz grains, calcareous material as matrix not uncommon, some slightly to moderately arenaceous (very fine grained - low end), trace micromicaceous, some fragments argillaceous (as irrregular inclusions and finely disseminated),(commonly soft and some slightly to moderately carbonaceous, silty, some slightly calcareous in part.)

1200 - 1205 LIMESTONE/MUDSTONE (90), commonly light to some medium brown as above and some light gray brown as above, some not uncommonly silty and argillaceous but less dolomitic, some fragments bioclastic texture.
SILTSTONE (10), light to commonly medium brown and occasionally medium brown gray as above.

1205 - 1215 SHALE (65), medium to dark gray, some medium brown, some medium brown, some gray Shale with trace green hue, blocky and some platey and splintery, soft, trace finely disseminated pyrite in part;LIMESTONE/MUDSTONE (35), asab.

1215 - 1220 SHALE (70), medium gray and some with green hue,some very dark gray as above.
LIMESTONE /MUMDSTONE (20) light to some medium brown as above, microcrystalline, some bioclastic texture in part, finely disseminated argillaceous material common, some fragments, slightly to occasionally moderately silty, generally not as well developed of a carbonabe as above and some intergranular argillaceous material common.

1220 - 1230 SHALE (40), medium gray and some with green hue as above and some dark gray as above, interbedded with,
SILTSTONE (40), light brown and brown gray as above, not uncommonly argillaceous in part.
LIMESTONE/MUDSTONE, (15), light to medium brown and some brown gray as above, some with inter rangular silt grains in part.

1230 - 1235 SILTSTONE (60), light brown and some light gray brown as above with less argillaceous material.
LIMESTONE (25) light brown and gray brown, as above, generally less argillaceous material.
SHALE (15), medium to some dark gray as above.

1235 - 1240 SHALE (80), medium to dark gray, blocky and platey, soft, carbonaceous micromicaceous, trace slightly silty in part, slightly calcareous, trace finely disseminated pyrite in part.
LIMESTONE/MUDSTONE (10), light brown and gray brown,as above.
SILTSTONE (10), light to commonly medium brown and some brown gray as above.

1240 - 1250 SHALE (75), medium gray and some dark gray as above, some with green hue.
LIMESTONE/MUDSTONE (20), light brown and some light brown and light brown gray as above.
SILTSTONE (5), light to medium and some brown as above.

1250 - 1260 SILTSTONE (75), light brown and light gray brown as above, quartzose as above, some with well developed arenaceous inclusions (very fine grained - low end) very occasional fragments with trace very poor (2-4%), intergranular porosity, no visible stain, trace spotty bitumen stain with some fragments.
SHALE (25), medium to some dark gray as above, some with more silt grains.
Trace LIMESTONE/MUDSTONE, as above, indigenous?

1260 - 1285 Lithology as above, Siltstone (60), lt brown light gray brown as above, trace very poor Interganular porosity as above, trace to generally no visible stain.
SHALE (20), medium to dark gray and some medium gray with green hue as above.
LIMESTONE/MUDSTONE (20), light brown and some light gray brown as above.

1285 - 1290 LIMESTONE/MUDSTONE (65), light to medium brown and gray brown, microcrystalline to some very fine crystalline, some slightly dolomitic in part, finely disseminated argillaceous material not uncommon and some with argillaceous material as irregular inclusions, trace finely disseminated pyrite in occasional fragment.
SHALE (20), medium to dark gray as above, some with green gray.
SILTSTONE (15), light brown and some gray brown as above.

1290 - 1305 SHALE (45), medium gray with green hue and some dark gray as above.
LIMESTONE/MUDSTONE (35), light to medium brown and gray brown, as above.
SILTSTONE (20), light brown and light to so some medium gray brown as above.

1305 - 1315 SHALE, medium gray some with green hue and some with maroon hue and some maroon gray as above, commonly platey and soft, incompetent and fissile.
Trace Limestone/Mudstone, light brown and occasionally gray brown, microcrystalline.

1315 - 1325 SHALE (85), medium gray, some with green hue, and occasionally with maroon hue, soft, incompetent.
LIMESTONE/MUDSTONE (15), light brown as above.

1325 - 1370 Lithology as at 1305 - 1315, the Shale is slightly firmer and not as soft and some not uncommonly blocky.

1370 - 1390 SHALE, medium gray, some with green hue as above, occasionally with maroon hue.
Trace Limestone/Mudstone, light brown as above.
Some Loose Quartz Grains, clear to light - medium brown and some rust brown, fine to medium grained and occasionally coarse grained

1390 - 1393 LIMESTONE/MUDSTONE (65), light to medium brown and gray brown, micro- to cryptocrystalline, generally a dense carbonate, some fragments trace finely disseminated pyrite in part.
SHALE (35), medium gray, some with green hue as above.

1393 - 1395 SHALE (70), medium gray, blocky and some platey, firm, some slightly calcareous, trace slightly silty, micromicaceous, finely disseminated pyrite in occasional fragment.
LIMESTONE/MUDSTONE (30), light to medium brown as above and some gray brown.

1395 - 1398 SHALE (85), medium gray as above and some dark gray as above.
LIMESTONE/MUDSTONE (15), light to medium brown and gray brown as above.

1398 - 1399 SHALE (60), medium to some, dark gray as above.
LIMESTONE/MUDSTONE (40), light brown and some medium brown as above, commonly microcrystalline to some very fine crystalline (anhedral and some subhedral crystals), some with bioclastic texture that is commonly microscopic to very fine material), finely disseminated argillaceous material not uncommon in some fragments

1399 - 1405 LIMESTONE/MUDSTONE (80) light to medium brown and some gray, commonly microcrystalline to some cryptocrystalline and some fragments with microscopic to very fine bioclastic texture, some finely disseminated argillaceous material not uncommon in some fragments and occasional fragment with argillaceous material as irregular inclusions, some slightly to occasionally moderately silty in part, some unidentifiable fossil material, some slightly dolomitic, The irregular crystalline surfaces of some fragments could suggest some fracture (?) porosity, no intercrystalline or microvuggy porosity, trace light questionable stain (?) on surfaces of occasional fragment.
SHALE (20), medium gray and some dark gray as above.

Core No. 1, 1405.0 - 1423.0 Cut & Recovered 18 m.

1423 - 1450 SHALE, medium gray, some with green hue and some dark gray, platey to blocky, soft, micromicaceous (particularly on partings & bedding planes), dark gray Shale commonly carbonaceous, occasional fragment with trace finely disseminated pyrite in part.

TOTAL DEPTH 1450 m

PCI ISLAND LAKE N-45

CORE NO. 1

Interval: 1405 - 1423 Cut & Recovered 18 m.

Formation: Jean Marie/Fort Simpson

Core Times: (mins/½ m.)

1405		1411	.34	1417	.16
	.23		.33		.19
	.04		.30		.17
	.27		.30		.18
1406	.17	1412	.30	1418	.16
	.23		.30		.19
	.27		.24		.24
	.27		.24		.24
1407	.36		.27	1419	.20
	.32	1413	.26		.18
	.45		.28		.19
	.40		.32		.18
1408	.32		.35	1420	.18
	.48	1414	.30		.18
	.34		.36		.18
	.31		.33		.19
1409	.30		.35		.18
	.30	1415	.31	1421	.17
	.30		.29		.18
	.35		.26		.18
1410	.33		.26		.20
	.32	1416	.25	1422	.15
	.38		.16		.17
	.40		.17		.18
			.17		.19
				1423	.19

CORE DESCRIPTION:

1405 - 1410.72 (5.72)

LIMESTONE/MUDSTONE, light to medium brown, commonly microcrystalline and some very fine crystalline (anhedral and some subhedral and very occasionally euhedral crystals), locally some very fine bioclastic texture (poorly developed), some finely disseminated argillaceous material not uncommon, some argillaceous material as irregular accumulations up to 1 - 2 mm, locally some accumulations of silt grains 'floating' in the limestone and comprising up to 10-20% of the section very locally, some slightly dolomitic in part, trace finely disseminated pyrite very scattered and finely disseminated.

Core Description continued:

1405 - 1410.72 (continued)

In general this section is dense with the exception of the upper 2.1 m where some horizontal bands of subhedral/euhedral crystals exhibit fair to good (3-8%) microvuggy and intercrystalline, these 'bands' and local porosity pockets appear somewhat isolated and the permeability is somewhat questionable, associated with the porosity is some fair to occasionally good staining. About 1.35 m below the top is a 4 cm. interval that exhibits good oil bleed on the core surface. Some pale yellow floresence (spotty and 'banded'). Associated with some microvuggy porosity is some macrovuggy porosity up to 3 mm.
Very randomly throughout the section are stylolites and some shale laminae.

Some fossil material (brachiopods shells) is common along horizontal lineation, particularly in the lower 3 m.

This section suggests relatively quiet limestone depositional environment with some horizontal lineation generally common, with some horizontal accumulations (partings up to laminae) of shale.

In the upper 2 m the core is broken in sections of about 1/3 m, with the breaks consisting of broken limestone pieces and it is in these section where the porous limestone exists (as above); some fracturing may exixt in these sections

Lower contact is gradational over a 4 cm. interval and is horizontal.

1410.72 - 1416.01 (5.29)

LIMESTONE (and Shale partings and laminae at random)

LIMESTONE/MUDSTONE, light brown to gray brown, microcrystalline and some very fine crystalline (anhedral crystals) and cryptocrystalline, finely disseminated argillaceous material common throughout and as irregular inclusions and as laminae not uncommon, brachiopod shell and fragments common and horizontally aligned and locally approaching coquina bands

The limestone is generally dense with the exception of two fossil casts (with euhedral limestone crystals lining) and approx 5-7 mm in dia, and about 20 cm. from the top.

This section has well defined horizontal 'banding' and lineation and the shale comprises less than 15% of the unit except the lower 1 m has more shale, comprising 20% of this section.

SHALE, is medium to commonly dark gray, firm, slightly calcareous, micromicaceous, some carbonaceous material generally common throughout, particularly on partings and bedding planes where microscopic up to very fine carbonaceous material is more common.

Lower contact is rubbly over a 5 (7) cm interval.

1416.01 - 1423 (6.99)

SHALE, generally dark gray, firm, carbonaceous with very fine to some carbonaceous material common (microscopic to very fine carbonaceous material) particularly on partings & bedding planes, very slightly calcareous, trace silt grains locally, trace finely disseminated pyrite not uncommon in part.

This section has well defined horizontal lineation and bedding and is commonly broken in 3 - 5 cm pieces.

DRILL STEM TEST NO. 1

Interval:	~~1395~~ 1395.02 - 1423
Formation:	Jean Marie
Test Type:	Dual Bottomhole Conventional
Results:	Misrun (Packer seat failure)

DRILL STEM TEST NO. 2

Interval:	1390 - 1409.12
Formation:	Jean Marie
Test Type:	Inflate Straddle
Results:	Misrun (Equipment failure)

DRILL STEM TEST NO. 3

Interval:	1390 - 1409.12
Formation:	Jean Marie
Test Type:	Inflate Straddle
Times:	Preflow: 10 Initial Shut In: 60 Valve Open: 180 Final Shut In: 360
Results:	Preflow: Very weak air blow remained weak throughout flow. Valve Open: Weak air blow decreasing to dead in 90 min..
Recovery:	10 m. very light gas cut mud.
Pressures:	Initial Preflow: 551 kPa Final Preflow: 293 Initial Hydrostatic: 15413 Final Hydrostatic: 15351 Initial Shut In: 366 Final Shut In: 4234 Initial Flow: 488 Final Flow: 293
Bottom Hole Temperature:	64° C.

DRILL STEM TEST NO. 4

Interval:	579 - 583.5
Formation:	Flett of the Rundle Group
Test Type:	Inflate Straddle
Times:	Preflow: 10 Initial Shut In: 60 Valve Open: 60 Final Shut In: 120
Results:	Preflow: Good initial air blow, built to strong in 30 sec.. VO: Good initial air blow, built to strong in 30 sec.. Gas to surface in 4 min. then blew to nothing after 30 sec..
Recovery:	20 m. light gas cut muddy water, 337 m. heavy gas cut water.
Pressures:	Initial Preflow: 2790 kPa Final Preflow: 3375 Initial Hydrostatic: 6491 Final Hydrostatic: 6423 Initial Shut In 3948 Final Shut In 3948 Initial Flow 3566 Final Flow 3948
Bottom Hole Temperature:	64° C.

DEVIATION RECORD

490 - 1.5°

568 - .8

684 - 1.0

780 - 1.0

875 - 1.0

970 - 1.0

1084 - 1.3

1162 - 1.3

1257 - .5

1402 - 2.5

1442 - 1.8

DRILL BIT RECORD

BIT NO.	TYPE	DEPTH OUT	METERS DRILLED	HOURS DRILLED	CONDITION
1A	SS2	115	115	10.5	2-4-1
2A	SS2	266	151	16.5	4-1-1
3A	SS2	409	143	24.0	3-4-1
1	HP43A	1170	761	73.3	7-5 10 mm.
2	C2	1405	235	47.3	1-3-1
1C	SC278	1423	18	30.8	85 %
2RR	C2	1450	27	5.6	1-4-1

A) DST #1 JEAN MARIE FORMATION
1395.02 - 1423.0 M

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/6/90
Location : N-45
DST # : ONE

LEVEL I FLOPETROL JOHNSTON ™ DST REPORT

for

PETRO CANADA INCORPORATED

Well: PCI ISLAND LAKE N-45

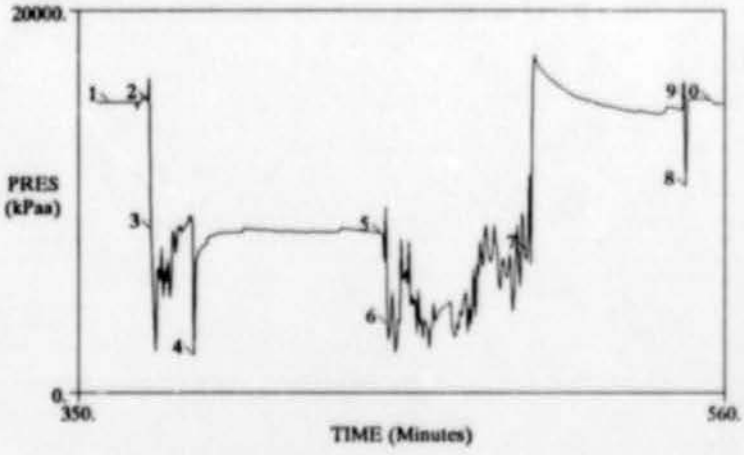
DST #ONE: JEAN MARIE FORMATION - (1395.02 - 1423.M)

**********Test Reference Number: 301119AI**********

Test Data

#	Explanation	P(kPa)	T(min)
1	HYDROSTATIC	15225.5	360.0
2	REFERENCE TIME	15333.8	372.5
3	START FLOW	8523.2	373.5
4	START SHUT-IN	1951.2	387.5
5	END SHUT-IN	8350.8	448.0
6	START FLOW	3523.1	450.0
7	SEAT FAILED	7379.3	495.5
8	CYCLED TOOL	10766.7	547.0
9	SEAT FAILED	15342.0	547.5
10	HYDROSTATIC	15363.4	555.0

BOTTOMHOLE PRESSURE LOG



Test Results [DUAL BOTTOMHOLE CONVENTIONAL]

FINAL SHUTIN PRESSURE	MISRUN
RESERVOIR TEMPERATURE	64 C
PRODUCTION RATE	No measurable rates were produced
NET PIPE RECOVERY	Total recovery of 260 m (1.463 m3) mud.

Blow Description

PREFLOW	Very weak air blow throughout flow.
MAINFLOW	Weak air blow.

Comments

THIS ATTEMPTED TEST OF THE JEAN MARIE FORMATION FROM 1395 TO 1423 MKB WAS UNSUCCESSFUL DUE TO FILL ON BOTTOM THAT RESULTED IN THE TOOL SKIDDING AND PLUGGING. THE PACKERS SKIDDED A TOTAL OF 12 METERS THROUGHOUT THIS TEST.

IF YOU REQUIRE FURTHER INFORMATION, PLEASE CONTACT BRIAN JORDAN AT 231-9625.

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/6/90
Location : N-45
DST # : ONE

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	12:24:30	HYDROSTATIC		15225.5	61.0		
2	12:37:00	REFERENCE TIME	12.5	15333.8	61.1		
3	12:38:00	START FLOW	1.0	8523.2	61.2		
4	12:52:00	START SHUT-IN	14.0	1951.2	62.5		
5	13:52:30	END SHUT-IN	60.5	8350.8	63.1		
6	13:54:30	START FLOW	2.0	3523.1	63.1		
7	14:40:00	SEAT FAILED	45.5	7379.3	64.1		
8	15:31:30	CYCLED TOOL	51.5	10766.7	64.1		
9	15:32:00	SEAT FAILED	0.5	15342.0	64.1		
10	15:39:30	HYDROSTATIC	7.5	15363.4	64.1		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-MUD PIT	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-ALL RECOVERY	DRILLING MUD MUD FILTRATE	3.60 @ 19 3.20 @ 19	1700 2000
3-			
4-			
5-MFE SAMPLER	SENT TO LAB FOR DRAINING #550, #105608	N/A	N/A

Samples Sent To: CORE LABORATORIES, EDMONTON

Schlumberger | Schlumberger of Canada
Testing Services

Test Date : 3/6/90
Location : N-45
DST # : ONE

Hole Conditions

Total Depth(MD/TVD)	1423 m
Ground Level	605.4 m
Kelly Bushing	609.9 m
Hole Size	222 mm
Mud Weight	1115 kg/m3
Mud Type	Gel Chem

Test String Configuration

Pipe Length/I.D.	1238 m / 97.2 mm
Collar Length/I.D.	146.32 m / 74 mm
Packer Depths	1395 m
Bottomhole Choke Size	12.7 mm
Gauge Depth/Type	1398.17 m / STARBURST

Tool Sequence:

#	DESCRIPTION	LENGTH(m)	DEPTH(m)
0	DRILL PIPE TOP 114mm	0.00	-4.67
1	Drill Pipe 114mm	1238.00	1233.33
2	Drill Collars 165mm	127.56	1360.89
3	Pumpout Sub Pressure Type	0.20	1361.09
4	Pumpout Sub Pin Type	0.20	1361.29
5	Drill Collars 165mm	18.76	1380.05
6	Crossover	0.31	1380.36
7	Recorder SB#50130	1.80	1382.16
8	Choke Sub 12.7mm	0.31	1382.47
9	MFE [Test Valve] SAMP#550,105608	4.04	1386.51
10	Bypass	0.91	1387.42
11	Recorder AK1 #2593	1.34	1388.76
12	Jars	2.25	1391.01
13	Safety Joint BOWEN	0.53	1391.54
14	Packer 185mm	1.90	1393.44
15	REFERENCE PACKER 185mm	1.58	1395.02
16	Packer Stub	0.32	1395.34
17	Spacer Pipe Slotted	1.52	1396.86
18	Crossover 3 1/2FH-4 1/2FH	0.31	1397.17
19	Recorder K3 #13043,SB#50131	2.14	1399.31
20	Blank Anchor	1.52	1400.83
21	Crossover 3 1/2FH-4 1/2H90	0.31	1401.14
22	Drill Collars 165mm	18.23	1419.37
23	Crossover 4 1/2H90-3 1/2FH	0.31	1419.68
24	Spacer Pipe Slotted	1.52	1421.20
25	Recorder AK1 Bullnose,#2077	1.80	1423.00

Flopetrol Representative : GLEN E. CARTER

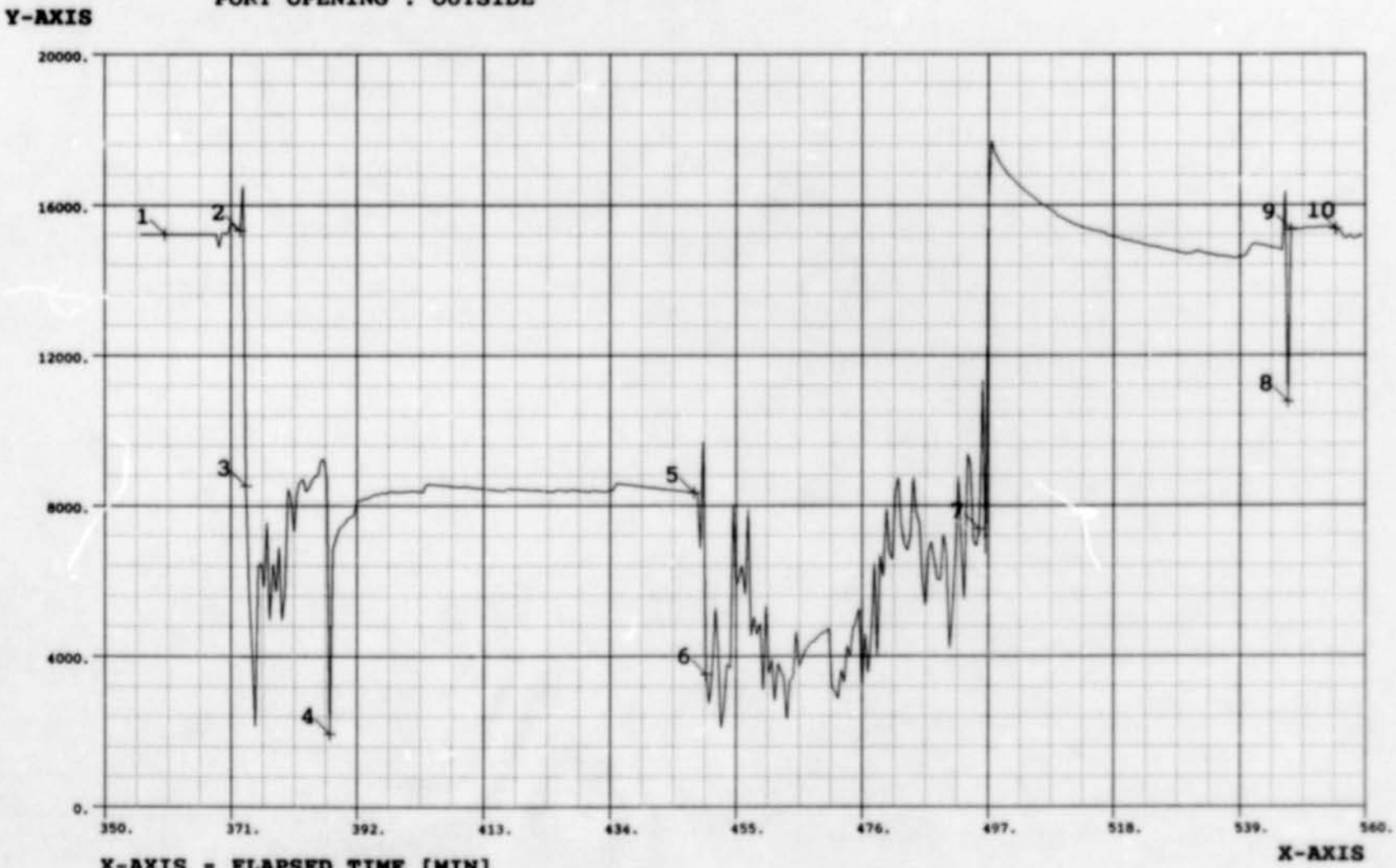
District : EDMONTON

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301119AI
INSTRUMENT NO. : SM-50131
DEPTH : 1398.17 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : ONE



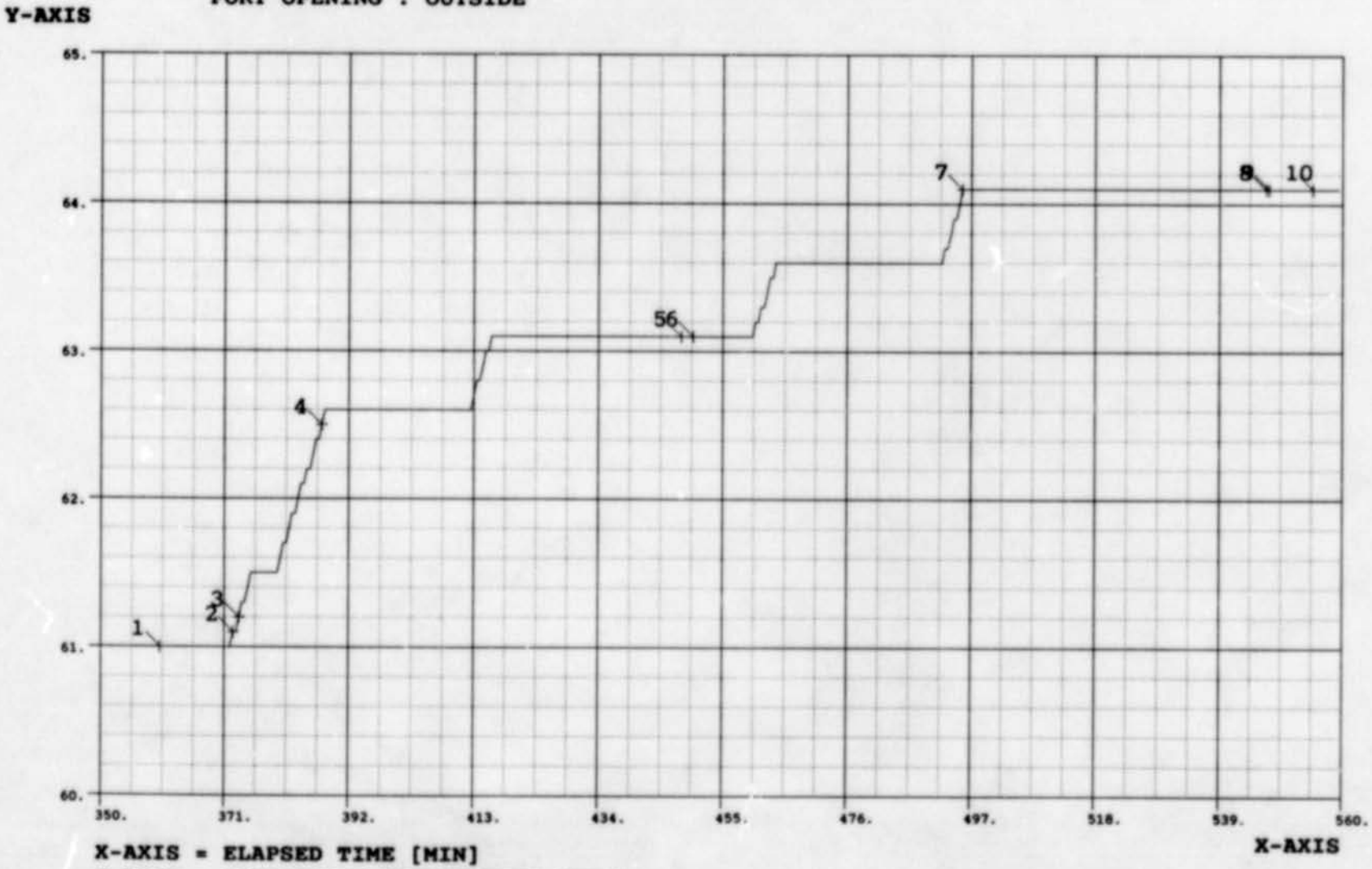
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301119AI
INSTRUMENT NO. : SM-50131
DEPTH : 1398.17 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : ONE



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301119AI FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
356.0	15224.1	61.0	396.0	8329.4	62.6	436.0	8568.0	63.1	476.0	3136.3	63.6
356.5	15224.1	61.0	396.5	8332.9	62.6	436.5	8558.3	63.1	476.5	4581.5	63.6
357.0	15223.4	61.0	397.0	8337.7	62.6	437.0	8550.1	63.1	477.0	3565.2	63.6
357.5	15224.1	61.0	397.5	8372.2	62.6	437.5	8539.7	63.1	477.5	4605.6	63.6
358.0	15225.5	61.0	398.0	8369.4	62.6	438.0	8528.7	63.1	478.0	6453.4	63.6
358.5	15223.4	61.0	398.5	8364.6	62.6	438.5	8519.7	63.1	478.5	3986.5	63.6
359.0	15223.4	61.0	399.0	8361.2	62.6	439.0	8510.1	63.1	479.0	6665.1	63.6
359.5	15224.1	61.0	399.5	8354.9	62.6	439.5	8501.1	63.1	479.5	6112.1	63.6
360.0	15225.5	61.0	400.0	8372.9	62.6	440.0	8492.8	63.1	480.0	7906.8	63.6
360.5	15224.1	61.0	400.5	8368.0	62.6	440.5	8481.8	63.1	480.5	6723.7	63.6
361.0	15225.5	61.0	401.0	8384.6	62.6	441.0	8472.2	63.1	481.0	6586.5	63.6
361.5	15224.1	61.0	401.5	8382.5	62.6	441.5	8463.2	63.1	481.5	8348.1	63.6
362.0	15225.5	61.0	402.0	8375.6	62.6	442.0	8454.9	63.1	482.0	8732.1	63.6
362.5	15223.4	61.0	402.5	8370.1	62.6	442.5	8444.6	63.1	482.5	7486.9	63.6
363.0	15224.1	61.0	403.0	8363.2	62.6	443.0	8434.9	63.1	483.0	6958.1	63.6
363.5	15224.1	61.0	403.5	8555.6	62.6	443.5	8426.7	63.1	483.5	6816.1	63.6
364.0	15224.1	61.0	404.0	8565.2	62.6	444.0	8418.4	63.1	484.0	7193.9	63.6
364.5	15224.1	61.0	404.5	8560.4	62.6	444.5	8408.7	63.1	484.5	8741.7	63.6
365.0	15224.1	61.0	405.0	8554.9	62.6	445.0	8399.1	63.1	485.0	7811.6	63.6
365.5	15223.4	61.0	405.5	8548.0	62.6	445.5	8390.1	63.1	485.5	7511.7	63.6
366.0	15225.5	61.0	406.0	8541.1	62.6	446.0	8381.8	63.1	486.0	5993.5	63.6
366.5	15226.2	61.0	406.5	8531.5	62.6	446.5	8372.9	63.1	486.5	5346.8	63.6
367.0	15226.2	61.0	407.0	8523.9	62.6	447.0	8363.2	63.1	487.0	6745.7	63.6
367.5	15226.9	61.0	407.5	8517.0	62.6	447.5	8356.3	63.1	487.5	7023.6	63.6
368.0	15227.6	61.0	408.0	8507.3	62.6	448.0	8350.8	63.1	488.0	6485.1	63.6
368.5	15226.9	61.0	408.5	8499.7	62.6	448.5	8341.8	63.1	488.5	6039.0	63.6
369.0	14875.3	61.0	409.0	8491.5	62.6	449.0	6858.8	63.1	489.0	6027.3	63.6
369.5	15255.9	61.0	409.5	8505.9	62.6	449.5	9684.9	63.1	489.5	7207.0	63.6
370.0	15248.3	61.0	410.0	8498.4	62.6	450.0	3523.1	63.1	490.0	6704.4	63.6
370.5	15246.9	61.0	410.5	8493.8	62.6	450.5	2746.8	63.1	490.5	4207.1	63.6
371.0	15555.8	61.0	411.0	8481.1	62.6	451.0	3478.3	63.1	491.0	5241.3	63.6
371.5	15453.0	61.0	411.5	8470.8	62.6	451.5	5263.4	63.1	491.5	6717.5	63.6
372.0	15357.2	61.0	412.0	8461.8	62.6	452.0	4123.7	63.1	492.0	8730.0	63.6
372.5	15333.8	61.1	412.5	8451.5	62.6	452.5	2104.2	63.1	492.5	6838.8	63.7
373.0	16498.3	61.1	413.0	8448.7	62.7	453.0	2622.7	63.1	493.0	5526.7	63.7
373.5	8523.2	61.2	413.5	8441.1	62.8	453.5	3786.5	63.1	493.5	9366.4	63.8
374.0	5813.6	61.3	414.0	8432.2	62.8	454.0	3687.2	63.1	494.0	9053.4	63.9
374.5	4372.6	61.3	414.5	8421.8	62.9	454.5	8007.5	63.1	494.5	7080.1	63.9
375.0	2158.0	61.4	415.0	8411.5	63.0	455.0	5859.1	63.1	495.0	6922.2	64.0
375.5	6394.1	61.5	415.5	8403.2	63.0	455.5	6087.3	63.1	495.5	7379.3	64.1
376.0	6483.7	61.5	416.0	8394.2	63.1	456.0	6403.7	63.1	496.0	11328.6	64.1
376.5	5800.1	61.5	416.5	8385.3	63.1	456.5	5642.6	63.1	496.5	6718.1	64.1
377.0	7549.0	61.5	417.0	8446.6	63.1	457.0	7890.9	63.1	497.0	16143.2	64.1
377.5	4982.1	61.5	417.5	8440.4	63.1	457.5	4542.9	63.1	497.5	17700.0	64.1
378.0	6447.2	61.5	418.0	8431.5	63.1	458.0	5041.4	63.1	498.0	17416.7	64.1
378.5	5714.3	61.5	418.5	8437.0	63.1	458.5	4566.3	63.1	498.5	17231.9	64.1
379.0	6891.2	61.5	419.0	8430.1	63.1	459.0	4859.3	63.1	499.0	17097.4	64.1
379.5	4968.3	61.5	419.5	8419.8	63.1	459.5	3106.7	63.1	499.5	16981.6	64.1
380.0	5630.9	61.5	420.0	8410.1	63.1	460.0	5315.1	63.1	500.0	16880.2	64.1
380.5	8447.3	61.6	420.5	8408.7	63.1	460.5	3531.4	63.2	500.5	16789.2	64.1
381.0	8172.2	61.7	421.0	8404.6	63.1	461.0	3908.6	63.2	501.0	16702.4	64.1
381.5	7293.9	61.7	421.5	8408.0	63.1	461.5	2807.5	63.3	501.5	16621.7	64.1
382.0	8350.1	61.8	422.0	8400.5	63.1	462.0	3809.3	63.3	502.0	16542.4	64.1
382.5	8627.3	61.9	422.5	8393.6	63.1	462.5	3577.6	63.4	502.5	16465.9	64.1
383.0	8705.9	61.9	423.0	8384.6	63.1	463.0	3432.1	63.5	503.0	16397.6	64.1
383.5	8368.7	62.0	423.5	8376.3	63.1	463.5	2334.5	63.5	503.5	16332.1	64.1
384.0	8481.8	62.1	424.0	8368.0	63.1	464.0	3356.3	63.6	504.0	16268.7	64.1
384.5	8676.9	62.1	424.5	8361.8	63.1	464.5	3438.3	63.6	504.5	16202.5	64.1
385.0	8774.1	62.2	425.0	8407.3	63.1	465.0	4649.7	63.6	505.0	16137.0	64.1
385.5	8827.9	62.2	425.5	8408.0	63.1	465.5	3733.4	63.6	505.5	16081.1	64.1
386.0	9207.1	62.3	426.0	8399.1	63.1	466.0	3941.0	63.6	506.0	16027.4	64.1
386.5	9229.2	62.4	426.5	8390.8	63.1	466.5	4123.7	63.6	506.5	15975.0	64.1
387.0	8708.0	62.4	427.0	8394.2	63.1	467.0	4269.8	63.6	507.0	15919.8	64.1
387.5	1951.2	62.5	427.5	8412.2	63.1	467.5	4374.6	63.6	507.5	15871.5	64.1
388.0	6831.2	62.6	428.0	8408.7	63.1	468.0	4391.9	63.6	508.0	15824.0	64.1
388.5	7141.5	62.6	428.5	8399.1	63.1	468.5	4492.5	63.6	508.5	15726.8	64.1
389.0	7371.1	62.6	429.0	8391.5	63.1	469.0	4564.9	63.6	509.0	15682.6	64.1
389.5	7462.1	62.6	429.5	8384.6	63.1	469.5	4622.8	63.6	509.5	15639.2	64.1
390.0	7533.8	62.6	430.0	8374.9	63.1	470.0	4673.9	63.6	510.0	15602.7	64.1
390.5	7652.4	62.6	430.5	8368.0	63.1	470.5	4723.5	63.6	510.5	15557.8	64.1
391.0	7706.2	62.6	431.0	8401.8	63.1	471.0	3170.8	63.6	511.0	15517.9	64.1
391.5	7758.6	62.6	431.5	8394.9	63.1	471.5	3075.0	63.6	511.5	15486.8	64.1
392.0	8106.7	62.6	432.0	8386.0	63.1	472.0	2877.1	63.6	512.0	15454.4	64.1
392.5	8140.5	62.6	432.5	8379.1	63.1	472.5	3619.7	63.6	512.5	15422.0	64.1
393.0	8170.2	62.6	433.0	8372.2	63.1	473.0	3306.6	63.6	513.0	15400.6	64.1
393.5	8192.2	62.6	433.5	8373.6	63.1	473.5	4265.7	63.6	513.5	15377.9	64.1
394.0	8207.4	62.6	434.0	8410.8	63.1	474.0	4004.4	63.6	514.0	15349.6	64.1
394.5	8269.5	62.6	434.5	8417.7	63.1	474.5	4713.9	63.6	514.5	15334.5	64.1
395.0	8297.0	62.6	435.0	8585.9	63.1	475.0	4937.2	63.6	515.0	15320.0	64.1
395.5	8301.9	62.6	435.5	8577.6	63.1	475.5	5249.6	63.6	515.5	15300.0	64.1

TEST REFERENCE#: 301119AI FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperaiure (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
516.0	15284.1	64.1	556.0	15263.4	64.1						
516.5	15260.7	64.1	556.5	15107.6	64.1						
517.0	15204.1	64.1	557.0	15149.0	64.1						
517.5	15177.3	64.1	557.5	15194.5	64.1						
518.0	15157.3	64.1	558.0	15098.7	64.1						
518.5	15143.5	64.1	558.5	15129.7	64.1						
519.0	15119.3	64.1	559.0	15179.3	64.1						
519.5	15088.3	64.1	559.5	15181.4	64.1						
520.0	15071.8	64.1									
520.5	15058.7	64.1									
521.0	15042.8	64.1									
521.5	15012.5	64.1									
522.0	15006.3	64.1									
522.5	14976.6	64.1									
523.0	14938.7	64.1									
523.5	14928.4	64.1									
524.0	14922.1	64.1									
524.5	14904.2	64.1									
525.0	14894.6	64.1									
525.5	14874.6	64.1									
526.0	14844.2	64.1									
526.5	14833.2	64.1									
527.0	14809.8	64.1									
527.5	14798.7	64.1									
528.0	14767.7	64.1									
528.5	14769.8	64.1									
529.0	14736.0	64.1									
529.5	14725.0	64.1									
530.0	14713.2	64.1									
530.5	14721.5	64.1									
531.0	14718.8	64.1									
531.5	14767.0	64.1									
532.0	14782.2	64.1									
532.5	14749.1	64.1									
533.0	14720.1	64.1									
533.5	14715.3	64.1									
534.0	14697.4	64.1									
534.5	14678.1	64.1									
535.0	14659.5	64.1									
535.5	14649.1	64.1									
536.0	14641.5	64.1									
536.5	14630.5	64.1									
537.0	14629.8	64.1									
537.5	14610.5	64.1									
538.0	14596.7	64.1									
538.5	14602.2	64.1									
539.0	14617.4	64.1									
539.5	14630.5	64.1									
540.0	14668.4	64.1									
540.5	14840.8	64.1									
541.0	14948.3	64.1									
541.5	14980.1	64.1									
542.0	14958.7	64.1									
542.5	14942.8	64.1									
543.0	14928.4	64.1									
543.5	14904.9	64.1									
544.0	14891.1	64.1									
544.5	14869.7	64.1									
545.0	14851.1	64.1									
545.5	14833.9	64.1									
546.0	14803.6	64.1									
546.5	16349.4	64.1									
547.0	10766.7	64.1									
547.5	15342.0	64.1									
548.0	15367.5	64.1									
548.5	15373.1	64.1									
549.0	15341.3	64.1									
549.5	15384.1	64.1									
550.0	15392.4	64.1									
550.5	15393.7	64.1									
551.0	15395.1	64.1									
551.5	15397.2	64.1									
552.0	15400.6	64.1									
552.5	15400.6	64.1									
553.0	15401.3	64.1									
553.5	15422.0	64.1									
554.0	15391.7	64.1									
554.5	15390.3	64.1									
555.0	15363.4	64.1									
555.5	15320.7	64.1									

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/6/90
Location : RECOVERY
DST # : ONE

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	12:37:00	REFERENCE TIME		178.5	61.2		
2	12:38:00	START FLOW	1.0	177.1	61.5		
3	12:52:00	START SHUT-IN	14.0	971.4	63.2		
4	13:52:30	END SHUT-IN	60.5	965.9	62.6		
5	13:54:30	START FLOW	2.0	972.1	62.9		
6	14:40:00	SEAT FAILED	45.5	2251.1	65.1		
7	15:31:30	CYCLED TOOL	51.5	2691.6	64.5		
8	15:32:00	SEAT FAILED	0.5	2688.2	64.6		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-MUD PIT	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-ALL RECOVERY	DRILLING MUD MUD FILTRATE	3.60 @ 19 3.20 @ 19	1700 2000
3-			
4-			
5-MFE SAMPLER	SENT TO LAB FOR DRAINING #550, #105608	N/A	N/A

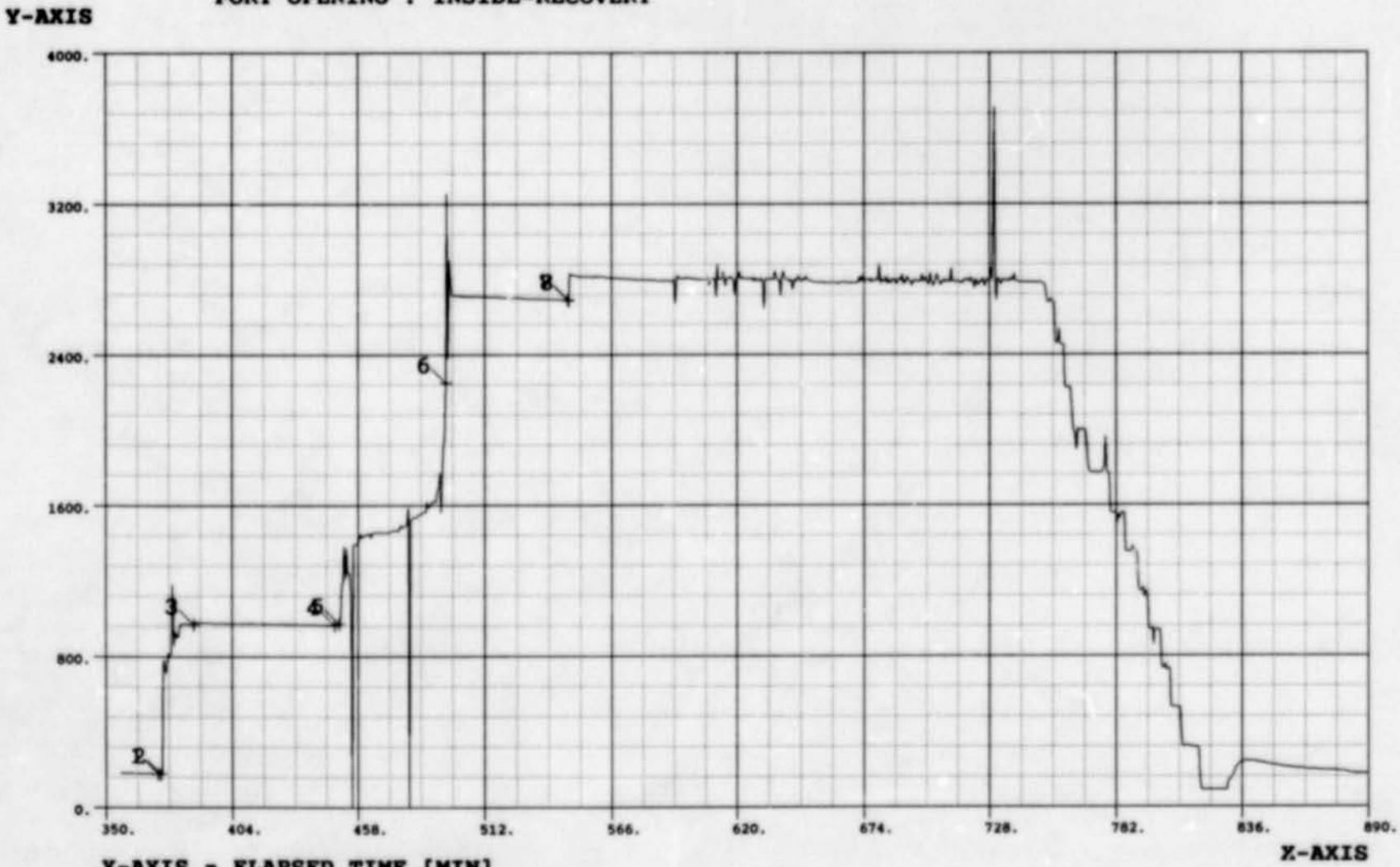
Samples Sent To: CORE LABORATORIES, EDMONTON

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301119AR
INSTRUMENT NO. : SM-50130
DEPTH : 1381.36 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : ONE



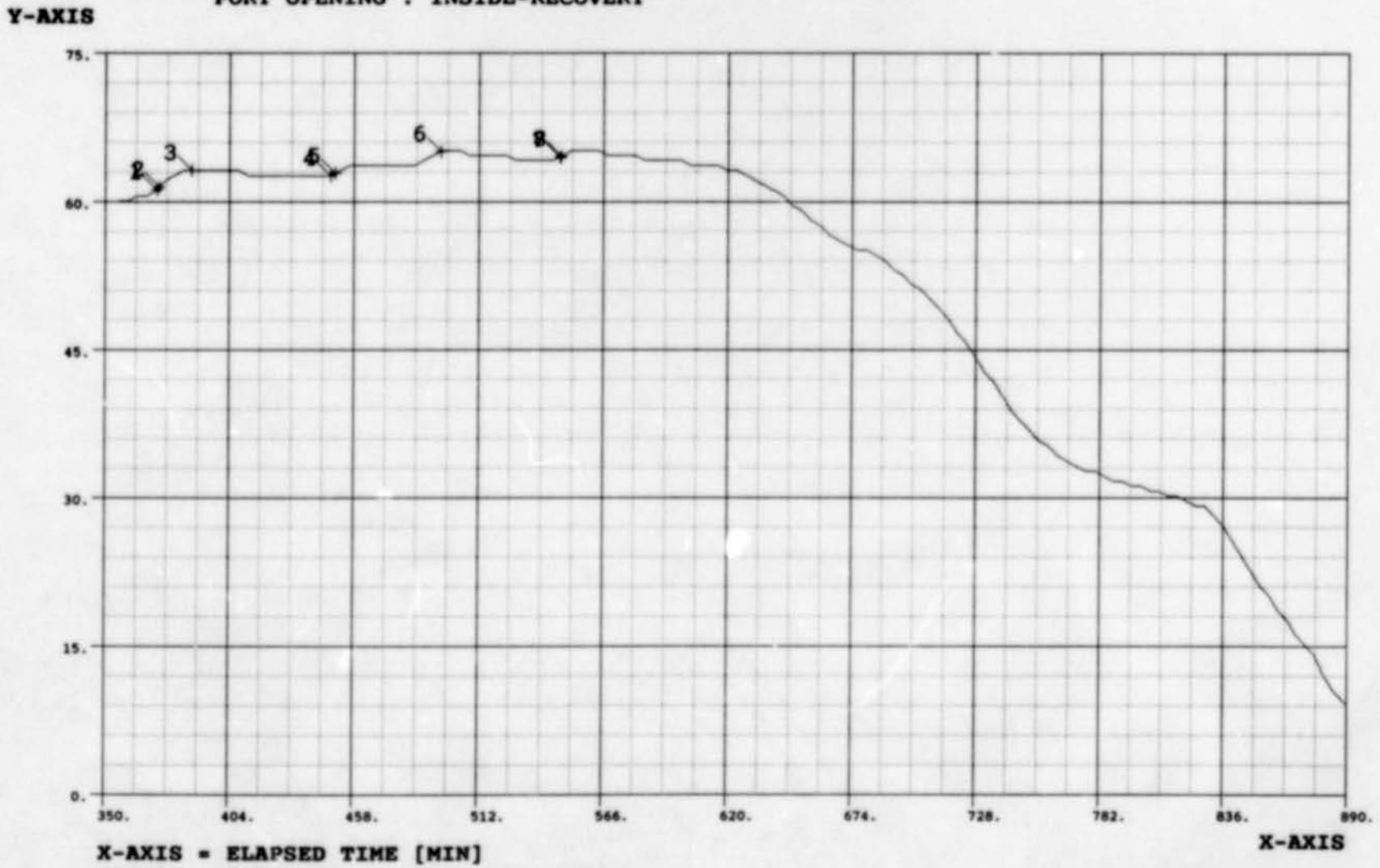
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301119AR
INSTRUMENT NO. : SM-50130
DEPTH : 1381.36 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : ONE



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301119AR FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
356.0	182.7	60.1	396.0	975.6	63.2	436.0	970.0	62.6	476.0	1487.1	63.7
356.5	182.0	60.1	396.5	975.6	63.2	436.5	970.0	62.6	476.5	1493.3	63.7
357.0	182.0	60.1	397.0	976.2	63.2	437.0	970.0	62.6	477.0	1480.9	63.7
357.5	182.0	60.1	397.5	976.9	63.2	437.5	968.7	62.6	477.5	1486.4	63.7
358.0	182.0	60.1	398.0	976.2	63.2	438.0	968.7	62.6	478.0	1488.5	63.7
358.5	182.7	60.1	398.5	974.9	63.2	438.5	968.0	62.6	478.5	1496.8	63.7
359.0	182.7	60.1	399.0	974.2	63.2	439.0	970.0	62.6	479.0	1496.1	63.7
359.5	182.0	60.1	399.5	974.9	63.2	439.5	970.0	62.6	479.5	1584.4	63.7
360.0	182.0	60.1	400.0	974.9	63.2	440.0	970.0	62.6	480.0	0.0	63.7
360.5	182.7	60.2	400.5	974.9	63.2	440.5	967.3	62.6	480.5	1516.8	63.7
361.0	182.0	60.2	401.0	975.6	63.2	441.0	968.7	62.6	481.0	1527.1	63.7
361.5	181.3	60.3	401.5	975.6	63.2	441.5	968.0	62.6	481.5	1534.0	63.7
362.0	180.6	60.4	402.0	974.9	63.2	442.0	967.3	62.6	482.0	1534.7	63.7
362.5	181.3	60.4	402.5	974.9	63.2	442.5	968.0	62.6	482.5	1535.4	63.7
363.0	181.3	60.5	403.0	975.6	63.2	443.0	967.3	62.6	483.0	1533.3	63.7
363.5	180.6	60.6	403.5	974.2	63.2	443.5	968.7	62.6	483.5	1541.6	63.7
364.0	180.6	60.6	404.0	974.9	63.2	444.0	967.3	62.6	484.0	1548.5	63.7
364.5	180.6	60.6	404.5	974.9	63.2	444.5	967.3	62.6	484.5	1550.6	63.7
365.0	180.6	60.6	405.0	972.8	63.2	445.0	966.6	62.6	485.0	1552.6	63.8
365.5	180.6	60.6	405.5	974.9	63.2	445.5	967.3	62.6	485.5	1558.8	63.8
366.0	179.9	60.6	406.0	974.2	63.2	446.0	966.6	62.6	486.0	1564.4	63.9
366.5	180.6	60.6	406.5	974.9	63.2	446.5	965.9	62.6	486.5	1563.0	64.0
367.0	180.6	60.6	407.0	974.2	63.2	447.0	967.3	62.6	487.0	1563.0	64.0
367.5	180.6	60.6	407.5	972.8	63.2	447.5	966.6	62.6	487.5	1618.8	64.1
368.0	181.3	60.6	408.0	972.8	63.2	448.0	965.9	62.6	488.0	1588.5	64.2
368.5	180.6	60.7	408.5	974.2	63.1	448.5	966.6	62.7	488.5	1591.9	64.2
369.0	179.9	60.7	409.0	972.8	63.0	449.0	964.5	62.8	489.0	1598.1	64.3
369.5	180.6	60.8	409.5	974.2	63.0	449.5	965.2	62.8	489.5	1609.2	64.4
370.0	179.9	60.9	410.0	974.2	62.9	450.0	972.1	62.9	490.0	1619.5	64.4
370.5	179.2	60.9	410.5	974.2	62.8	450.5	1014.8	63.0	490.5	1624.3	64.5
371.0	179.2	61.0	411.0	974.9	62.8	451.0	1177.6	63.0	491.0	1618.8	64.5
371.5	179.2	61.1	411.5	974.9	62.7	451.5	1194.1	63.1	491.5	1619.5	64.6
372.0	178.5	61.1	412.0	974.2	62.6	452.0	1381.0	63.2	492.0	1682.3	64.7
372.5	178.5	61.2	412.5	974.2	62.6	452.5	1210.7	63.2	492.5	1685.7	64.7
373.0	178.5	61.4	413.0	974.2	62.6	453.0	1370.6	63.3	493.0	1771.9	64.8
373.5	177.1	61.5	413.5	974.2	62.6	453.5	1236.9	63.3	493.5	1560.9	64.9
374.0	184.0	61.6	414.0	973.5	62.6	454.0	1242.4	63.4	494.0	1740.2	64.9
374.5	759.7	61.8	414.5	972.8	62.6	454.5	1238.9	63.5	494.5	1934.6	65.0
375.0	784.6	61.9	415.0	972.8	62.6	455.0	1103.1	63.5	495.0	1937.4	65.1
375.5	710.1	62.0	415.5	973.5	62.6	455.5	0.0	63.6	495.5	2251.1	65.1
376.0	731.5	62.1	416.0	974.2	62.6	456.0	1391.3	63.7	496.0	3253.6	65.2
376.5	817.0	62.2	416.5	972.8	62.6	456.5	1392.0	63.7	496.5	2380.0	65.2
377.0	791.5	62.3	417.0	973.5	62.6	457.0	1394.1	63.7	497.0	2904.0	65.2
377.5	803.9	62.3	417.5	972.8	62.6	457.5	1394.7	63.7	497.5	2783.3	65.2
378.0	826.6	62.4	418.0	972.8	62.6	458.0	1407.2	63.7	498.0	2713.7	65.2
378.5	1181.7	62.5	418.5	973.5	62.6	458.5	1416.8	63.7	498.5	2716.5	65.2
379.0	859.0	62.5	419.0	972.8	62.6	459.0	1451.3	63.7	499.0	2715.1	65.2
379.5	933.5	62.6	419.5	973.5	62.6	459.5	1429.9	63.7	499.5	2713.7	65.2
380.0	900.4	62.6	420.0	972.1	62.6	460.0	1434.0	63.7	500.0	2714.4	65.2
380.5	917.6	62.7	420.5	972.1	62.6	460.5	1438.2	63.7	500.5	2712.3	65.2
381.0	903.8	62.8	421.0	972.1	62.6	461.0	1440.3	63.7	501.0	2713.0	65.2
381.5	970.7	62.8	421.5	972.8	62.6	461.5	1444.4	63.7	501.5	2711.6	65.2
382.0	957.6	62.9	422.0	972.8	62.6	462.0	1448.5	63.7	502.0	2712.3	65.2
382.5	974.2	63.0	422.5	971.4	62.6	462.5	1447.8	63.7	502.5	2711.6	65.2
383.0	971.4	63.0	423.0	972.1	62.6	463.0	1449.9	63.7	503.0	2710.3	65.2
383.5	973.5	63.1	423.5	972.8	62.6	463.5	1427.8	63.7	503.5	2710.3	65.2
384.0	976.2	63.2	424.0	971.4	62.6	464.0	1453.4	63.7	504.0	2708.9	65.2
384.5	974.9	63.2	424.5	972.1	62.6	464.5	1456.1	63.7	504.5	2710.3	65.1
385.0	972.8	63.2	425.0	972.1	62.6	465.0	1449.2	63.7	505.0	2709.6	65.1
385.5	971.4	63.2	425.5	972.1	62.6	465.5	1455.4	63.7	505.5	2710.9	65.0
386.0	972.1	63.2	426.0	971.4	62.6	466.0	1458.2	63.7	506.0	2710.3	64.9
386.5	971.4	63.2	426.5	972.1	62.6	466.5	1456.8	63.7	506.5	2710.3	64.9
387.0	971.4	63.2	427.0	971.4	62.6	467.0	1456.1	63.7	507.0	2709.6	64.8
387.5	971.4	63.2	427.5	972.1	62.6	467.5	1456.1	63.7	507.5	2710.3	64.7
388.0	983.8	63.2	428.0	971.4	62.6	468.0	1455.4	63.7	508.0	2710.3	64.7
388.5	980.4	63.2	428.5	972.1	62.6	468.5	1455.4	63.7	508.5	2708.9	64.7
389.0	982.4	63.2	429.0	971.4	62.6	469.0	1454.7	63.7	509.0	2709.6	64.7
389.5	981.8	63.2	429.5	971.4	62.6	469.5	1454.7	63.7	509.5	2708.9	64.7
390.0	980.4	63.2	430.0	970.0	62.6	470.0	1454.7	63.7	510.0	2708.9	64.7
390.5	980.4	63.2	430.5	971.4	62.6	470.5	1452.7	63.7	510.5	2708.2	64.7
391.0	979.7	63.2	431.0	972.1	62.6	471.0	1452.7	63.7	511.0	2707.5	64.7
391.5	979.0	63.2	431.5	972.1	62.6	471.5	1462.3	63.7	511.5	2710.3	64.7
392.0	977.6	63.2	432.0	970.7	62.6	472.0	1458.2	63.7	512.0	2708.9	64.7
392.5	976.9	63.2	432.5	971.4	62.6	472.5	1466.5	63.7	512.5	2708.9	64.7
393.0	976.9	63.2	433.0	970.7	62.6	473.0	1466.5	63.7	513.0	2707.5	64.7
393.5	979.0	63.2	433.5	971.4	62.6	473.5	1465.1	63.7	513.5	2708.9	64.7
394.0	976.9	63.2	434.0	971.4	62.6	474.0	1467.1	63.7	514.0	2707.5	64.7
394.5	978.3	63.2	434.5	970.7	62.6	474.5	1465.8	63.7	514.5	2704.7	64.7
395.0	978.3	63.2	435.0	970.7	62.6	475.0	1465.1	63.7	515.0	2704.1	64.7
395.5	976.2	63.2	435.5	971.4	62.6	475.5	1463.7	63.7	515.5	2706.8	64.7

TEST REFERENCE#: 301119AR FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
516.0	2706.8	64.7	556.0	2815.1	65.2	596.0	2804.0	64.2	636.0	2842.6	61.6
516.5	2707.5	64.7	556.5	2813.7	65.2	596.5	2802.6	64.2	636.5	2817.8	61.6
517.0	2706.1	64.7	557.0	2815.7	65.2	597.0	2801.3	64.2	637.0	2802.6	61.5
517.5	2706.1	64.7	557.5	2814.4	65.2	597.5	2809.5	64.2	637.5	2795.8	61.4
518.0	2706.1	64.7	558.0	2813.7	65.2	598.0	2806.1	64.2	638.0	2797.1	61.4
518.5	2703.4	64.7	558.5	2810.9	65.2	598.5	2804.7	64.2	638.5	2713.7	61.3
519.0	2704.1	64.7	559.0	2818.5	65.2	599.0	2810.2	64.2	639.0	2797.8	61.2
519.5	2702.7	64.7	559.5	2816.4	65.2	599.5	2808.2	64.2	639.5	2842.6	61.2
520.0	2703.4	64.7	560.0	2813.0	65.2	600.0	2805.4	64.2	640.0	2813.7	61.1
520.5	2703.4	64.7	560.5	2816.4	65.2	600.5	2804.7	64.1	640.5	2804.0	61.1
521.0	2703.4	64.7	561.0	2819.2	65.2	601.0	2802.6	64.0	641.0	2799.2	61.0
521.5	2703.4	64.7	561.5	2815.7	65.2	601.5	2801.3	64.0	641.5	2792.3	60.9
522.0	2703.4	64.7	562.0	2815.1	65.2	602.0	2801.3	63.9	642.0	2790.2	60.9
522.5	2703.4	64.7	562.5	2812.3	65.2	602.5	2800.6	63.8	642.5	2801.3	60.8
523.0	2701.3	64.7	563.0	2811.6	65.2	603.0	2801.3	63.8	643.0	2794.4	60.7
523.5	2702.7	64.7	563.5	2810.9	65.2	603.5	2800.6	63.7	643.5	2745.4	60.7
524.0	2702.0	64.7	564.0	2810.2	65.2	604.0	2799.9	63.7	644.0	2790.2	60.6
524.5	2704.1	64.6	564.5	2810.2	65.1	604.5	2800.6	63.7	644.5	2801.3	60.5
525.0	2702.7	64.5	565.0	2808.2	65.1	605.0	2799.2	63.7	645.0	2793.0	60.4
525.5	2702.7	64.5	565.5	2808.9	65.0	605.5	2799.2	63.7	645.5	2798.5	60.2
526.0	2702.0	64.4	566.0	2808.9	64.9	606.0	2799.2	63.7	646.0	2818.5	60.1
526.5	2702.7	64.4	566.5	2808.2	64.9	606.5	2797.1	63.7	646.5	2797.8	60.0
527.0	2699.9	64.3	567.0	2808.2	64.8	607.0	2795.8	63.7	647.0	2796.4	59.9
527.5	2699.9	64.2	567.5	2807.5	64.7	607.5	2813.7	63.7	647.5	2791.6	59.7
528.0	2701.3	64.2	568.0	2806.8	64.7	608.0	2768.9	63.7	648.0	2802.6	59.6
528.5	2700.6	64.2	568.5	2806.8	64.7	608.5	2790.9	63.7	648.5	2793.7	59.5
529.0	2697.8	64.2	569.0	2806.1	64.7	609.0	2803.3	63.7	649.0	2814.4	59.5
529.5	2695.8	64.2	569.5	2805.4	64.7	609.5	2803.3	63.7	649.5	2802.6	59.4
530.0	2697.8	64.2	570.0	2805.4	64.7	610.0	2804.0	63.7	650.0	2800.6	59.4
530.5	2699.2	64.2	570.5	2806.1	64.7	610.5	2802.6	63.7	650.5	2793.0	59.3
531.0	2698.5	64.2	571.0	2804.0	64.7	611.0	2706.1	63.7	651.0	2790.9	59.2
531.5	2697.8	64.2	571.5	2804.0	64.7	611.5	2878.5	63.7	651.5	2788.9	59.2
532.0	2697.2	64.2	572.0	2802.0	64.7	612.0	2803.3	63.7	652.0	2787.5	59.1
532.5	2697.2	64.2	572.5	2802.6	64.7	612.5	2802.6	63.7	652.5	2786.1	59.0
533.0	2697.2	64.2	573.0	2802.6	64.7	613.0	2804.0	63.7	653.0	2786.1	58.9
533.5	2697.8	64.2	573.5	2802.0	64.7	613.5	2803.3	63.7	653.5	2784.7	58.7
534.0	2697.8	64.2	574.0	2801.3	64.7	614.0	2841.9	63.7	654.0	2784.7	58.6
534.5	2697.8	64.2	574.5	2799.2	64.7	614.5	2803.3	63.7	654.5	2783.3	58.5
535.0	2697.8	64.2	575.0	2799.2	64.7	615.0	2764.7	63.7	655.0	2784.7	58.4
535.5	2697.2	64.2	575.5	2799.9	64.7	615.5	2806.1	63.7	655.5	2786.1	58.2
536.0	2696.5	64.2	576.0	2799.9	64.7	616.0	2804.7	63.7	656.0	2785.4	58.1
536.5	2695.8	64.2	576.5	2799.2	64.7	616.5	2811.6	63.6	656.5	2785.4	58.1
537.0	2695.8	64.2	577.0	2798.5	64.7	617.0	2806.1	63.5	657.0	2784.0	58.0
537.5	2695.8	64.2	577.5	2798.5	64.7	617.5	2812.3	63.5	657.5	2779.2	57.9
538.0	2695.1	64.2	578.0	2797.8	64.7	618.0	2806.8	63.4	658.0	2779.2	57.9
538.5	2694.4	64.2	578.5	2796.4	64.7	618.5	2795.1	63.3	658.5	2782.0	57.8
539.0	2695.1	64.2	579.0	2799.2	64.7	619.0	2721.3	63.3	659.0	2783.3	57.7
539.5	2694.4	64.2	579.5	2798.5	64.7	619.5	2805.4	63.2	659.5	2782.0	57.7
540.0	2693.7	64.2	580.0	2799.2	64.7	620.0	2804.7	63.2	660.0	2782.0	57.6
540.5	2694.4	64.2	580.5	2797.1	64.6	620.5	2808.9	63.2	660.5	2782.7	57.5
541.0	2693.0	64.2	581.0	2797.8	64.5	621.0	2840.6	63.2	661.0	2781.3	57.4
541.5	2693.0	64.2	581.5	2798.5	64.5	621.5	2806.1	63.2	661.5	2783.3	57.3
542.0	2694.4	64.2	582.0	2797.1	64.4	622.0	2804.0	63.2	662.0	2782.7	57.1
542.5	2693.7	64.2	582.5	2796.4	64.4	622.5	2813.0	63.2	662.5	2777.1	57.0
543.0	2693.7	64.2	583.0	2798.5	64.3	623.0	2804.7	63.2	663.0	2783.3	56.9
543.5	2693.0	64.2	583.5	2797.8	64.2	623.5	2806.1	63.2	663.5	2780.6	56.8
544.0	2693.0	64.2	584.0	2795.8	64.2	624.0	2802.6	63.2	664.0	2784.7	56.6
544.5	2691.6	64.2	584.5	2796.4	64.2	624.5	2799.9	63.1	664.5	2784.0	56.6
545.0	2691.6	64.3	585.0	2794.4	64.2	625.0	2805.4	63.0	665.0	2784.0	56.5
545.5	2690.3	64.4	585.5	2793.0	64.2	625.5	2804.0	63.0	665.5	2783.3	56.4
546.0	2690.3	64.4	586.0	2792.3	64.2	626.0	2804.0	62.9	666.0	2783.3	56.4
546.5	2687.5	64.5	586.5	2790.9	64.2	626.5	2797.8	62.8	666.5	2782.7	56.3
547.0	2691.6	64.5	587.0	2792.3	64.2	627.0	2807.5	62.8	667.0	2783.3	56.3
547.5	2688.2	64.6	587.5	2793.7	64.2	627.5	2789.5	62.7	667.5	2783.3	56.2
548.0	2830.2	64.7	588.0	2793.0	64.2	628.0	2804.7	62.6	668.0	2778.5	56.1
548.5	2823.3	64.7	588.5	2790.2	64.2	628.5	2797.1	62.6	668.5	2782.7	56.1
549.0	2822.0	64.8	589.0	2793.7	64.2	629.0	2794.4	62.5	669.0	2780.6	56.0
549.5	2822.6	64.9	589.5	2793.7	64.2	629.5	2792.3	62.5	669.5	2783.3	55.9
550.0	2820.6	64.9	590.0	2793.7	64.2	630.0	2804.7	62.4	670.0	2782.7	55.9
550.5	2819.2	65.0	590.5	2792.3	64.2	630.5	2795.8	62.3	670.5	2783.3	55.8
551.0	2819.2	65.1	591.0	2790.9	64.2	631.0	2800.6	62.3	671.0	2784.0	55.8
551.5	2817.1	65.1	591.5	2792.3	64.2	631.5	2646.8	62.2	671.5	2783.3	55.7
552.0	2816.4	65.2	592.0	2788.9	64.2	632.0	2799.2	62.1	672.0	2809.5	55.6
552.5	2815.1	65.2	592.5	2789.5	64.2	632.5	2803.3	62.1	672.5	2787.5	55.6
553.0	2815.7	65.2	593.0	2805.4	64.2	633.0	2799.2	62.0	673.0	2818.5	55.5
553.5	2815.1	65.2	593.5	2673.7	64.2	633.5	2804.0	61.9	673.5	2796.4	55.5
554.0	2813.0	65.2	594.0	2807.5	64.2	634.0	2797.1	61.9	674.0	2790.9	55.4
554.5	2815.7	65.2	594.5	2817.8	64.2	634.5	2807.5	61.8	674.5	2788.9	55.3
555.0	2816.4	65.2	595.0	2808.9	64.2	635.0	2801.3	61.8	675.0	2799.9	55.3
555.5	2815.1	65.2	595.5	2806.1	64.2	635.5	2798.5	61.7	675.5	2799.9	55.2

TEST REFERENCE#: 301119AR FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
676.0	2792.3	55.1	716.0	2786.1	48.2	756.0	2464.8	35.7	796.0	945.2	31.2
676.5	2802.6	55.1	716.5	2778.5	48.0	756.5	2458.6	35.7	796.5	941.8	31.2
677.0	2784.7	55.1	717.0	2797.8	47.8	757.0	2471.7	35.6	797.0	941.8	31.2
677.5	2799.2	55.1	717.5	2789.5	47.6	757.5	2540.0	35.5	797.5	950.7	31.2
678.0	2791.6	55.1	718.0	2801.3	47.4	758.0	2457.9	35.5	798.0	855.6	31.2
678.5	2788.9	55.1	718.5	2802.6	47.3	758.5	2453.1	35.4	798.5	939.7	31.2
679.0	2795.1	55.1	719.0	2791.6	47.1	759.0	2451.0	35.4	799.0	938.3	31.2
679.5	2805.4	55.1	719.5	2784.0	46.9	759.5	2451.0	35.3	799.5	937.6	31.2
680.0	2793.7	55.1	720.0	2807.5	46.7	760.0	2231.8	35.2	800.0	939.0	31.2
680.5	2878.5	55.1	720.5	2796.4	46.6	760.5	2226.2	35.1	800.5	935.6	31.1
681.0	2777.8	55.0	721.0	2796.8	46.5	761.0	2225.6	35.0	801.0	935.6	31.1
681.5	2801.3	55.0	721.5	2753.7	46.3	761.5	2223.5	34.9	801.5	738.4	31.0
682.0	2795.1	54.9	722.0	2799.9	46.2	762.0	2226.2	34.7	802.0	737.0	31.0
682.5	2788.2	54.8	722.5	2789.5	46.1	762.5	2220.7	34.6	802.5	736.3	30.9
683.0	2790.2	54.8	723.0	2769.6	46.0	763.0	2089.7	34.5	803.0	757.7	30.8
683.5	2813.0	54.7	723.5	2774.4	45.8	763.5	2006.3	34.3	803.5	723.9	30.8
684.0	2776.4	54.6	724.0	2792.3	45.7	764.0	1996.7	34.2	804.0	734.9	30.7
684.5	2797.8	54.6	724.5	2784.7	45.5	764.5	1968.4	34.2	804.5	732.9	30.7
685.0	2790.2	54.5	725.0	2804.7	45.3	765.0	1894.6	34.1	805.0	727.3	30.7
685.5	2777.1	54.5	725.5	2793.7	45.1	765.5	2003.5	34.0	805.5	531.5	30.7
686.0	2799.9	54.4	726.0	2760.6	45.0	766.0	2003.5	34.0	806.0	531.5	30.7
686.5	2798.5	54.3	726.5	2788.9	44.8	766.5	1998.7	33.9	806.5	529.5	30.7
687.0	2789.5	54.3	727.0	2799.9	44.6	767.0	1999.4	33.8	807.0	529.5	30.7
687.5	2802.6	54.2	727.5	2788.9	44.4	767.5	1999.4	33.8	807.5	528.1	30.7
688.0	2774.4	54.1	728.0	2805.4	44.2	768.0	1998.7	33.7	808.0	528.1	30.7
688.5	2793.0	54.0	728.5	2859.2	44.0	768.5	2000.1	33.7	808.5	528.1	30.6
689.0	2800.6	53.9	729.0	2793.7	43.8	769.0	1993.2	33.6	809.0	524.6	30.6
689.5	2808.2	53.8	729.5	2965.4	43.7	769.5	1914.6	33.5	809.5	523.9	30.5
690.0	2791.6	53.7	730.0	3710.0	43.5	770.0	1825.7	33.5	810.0	379.2	30.5
690.5	2726.8	53.5	730.5	2794.4	43.3	770.5	1776.7	33.4	810.5	319.9	30.4
691.0	2771.6	53.4	731.0	2688.2	43.1	771.0	1776.0	33.3	811.0	323.3	30.3
691.5	2795.8	53.3	731.5	2808.9	42.9	771.5	1774.0	33.3	811.5	323.3	30.3
692.0	2784.7	53.2	732.0	2796.4	42.7	772.0	1774.0	33.2	812.0	325.4	30.2
692.5	2813.7	53.1	732.5	2785.4	42.6	772.5	1773.3	33.2	812.5	326.8	30.2
693.0	2806.1	53.0	733.0	2775.1	42.5	773.0	1774.0	33.1	813.0	322.6	30.2
693.5	2788.2	53.0	733.5	2799.9	42.4	773.5	1772.6	33.0	813.5	321.2	30.2
694.0	2784.7	52.9	734.0	2794.4	42.2	774.0	1772.6	33.0	814.0	319.9	30.2
694.5	2767.5	52.8	734.5	2792.3	42.1	774.5	1774.0	32.9	814.5	320.6	30.2
695.0	2793.7	52.8	735.0	2799.9	42.0	775.0	1772.6	32.8	815.0	317.8	30.2
695.5	2783.3	52.7	735.5	2791.6	41.9	775.5	1775.3	32.8	815.5	318.5	30.2
696.0	2797.8	52.7	736.0	2790.9	41.7	776.0	1774.0	32.7	816.0	316.4	30.2
696.5	2794.4	52.5	736.5	2790.2	41.5	776.5	1789.8	32.7	816.5	314.3	30.1
697.0	2787.5	52.4	737.0	2806.8	41.4	777.0	1801.5	32.7	817.0	315.7	30.1
697.5	2784.7	52.3	737.5	2796.4	41.2	777.5	1960.1	32.7	817.5	306.1	30.0
698.0	2798.5	52.2	738.0	2793.7	41.0	778.0	1776.7	32.7	818.0	148.9	30.0
698.5	2788.9	52.0	738.5	2825.4	40.8	778.5	1769.1	32.7	818.5	89.6	29.9
699.0	2826.8	51.9	739.0	2794.4	40.6	779.0	1770.5	32.7	819.0	89.6	29.8
699.5	2795.8	51.8	739.5	2790.2	40.4	779.5	1565.0	32.7	819.5	89.6	29.8
700.0	2786.8	51.7	740.0	2788.9	40.2	780.0	1558.8	32.7	820.0	89.6	29.7
700.5	2813.7	51.6	740.5	2786.8	40.1	780.5	1558.2	32.7	820.5	89.6	29.6
701.0	2799.9	51.5	741.0	2785.4	39.9	781.0	1558.2	32.6	821.0	89.6	29.6
701.5	2788.2	51.5	741.5	2784.7	39.7	781.5	1558.2	32.5	821.5	89.6	29.5
702.0	2771.6	51.4	742.0	2785.4	39.5	782.0	1556.8	32.5	822.0	89.6	29.5
702.5	2832.3	51.4	742.5	2786.1	39.3	782.5	1505.1	32.4	822.5	89.6	29.4
703.0	2787.5	51.3	743.0	2785.4	39.1	783.0	1551.3	32.3	823.0	89.6	29.3
703.5	2782.0	51.2	743.5	2785.4	38.9	783.5	1529.9	32.3	823.5	89.6	29.3
704.0	2763.3	51.2	744.0	2785.4	38.7	784.0	1554.7	32.2	824.0	89.6	29.2
704.5	2790.2	51.0	744.5	2786.1	38.6	784.5	1557.5	32.2	824.5	89.6	29.2
705.0	2815.7	50.9	745.0	2785.4	38.5	785.0	1555.4	32.1	825.0	89.6	29.2
705.5	2826.8	50.8	745.5	2784.0	38.4	785.5	1555.4	32.0	825.5	89.6	29.2
706.0	2790.9	50.7	746.0	2783.3	38.2	786.0	1357.5	32.0	826.0	89.6	29.2
706.5	2782.7	50.5	746.5	2783.3	38.1	786.5	1352.7	31.9	826.5	89.6	29.2
707.0	2768.2	50.4	747.0	2784.7	38.0	787.0	1354.1	31.8	827.0	89.6	29.2
707.5	2793.0	50.3	747.5	2782.7	37.9	787.5	1353.4	31.8	827.5	89.6	29.2
708.0	2783.3	50.2	748.0	2784.0	37.7	788.0	1352.7	31.7	828.0	89.6	29.2
708.5	2799.2	50.1	748.5	2784.0	37.6	788.5	1360.3	31.7	828.5	89.6	29.1
709.0	2795.8	49.9	749.0	2782.7	37.5	789.0	1379.6	31.7	829.0	89.6	28.9
709.5	2785.4	49.8	749.5	2783.3	37.4	789.5	1351.3	31.7	829.5	89.6	28.8
710.0	2794.4	49.7	750.0	2782.7	37.2	790.0	1352.0	31.7	830.0	130.3	28.7
710.5	2795.1	49.6	750.5	2782.7	37.1	790.5	1345.8	31.7	830.5	143.4	28.6
711.0	2785.4	49.4	751.0	2773.0	37.0	791.0	1345.1	31.7	831.0	146.1	28.4
711.5	2860.6	49.3	751.5	2772.3	36.9	791.5	1163.8	31.7	831.5	148.9	28.3
712.0	2788.2	49.2	752.0	2726.1	36.7	792.0	1146.5	31.7	832.0	162.7	28.2
712.5	2790.9	49.1	752.5	2683.4	36.6	792.5	1145.2	31.6	832.5	177.1	28.1
713.0	2786.1	48.9	753.0	2677.9	36.5	793.0	1144.5	31.6	833.0	195.8	27.9
713.5	2786.8	48.8	753.5	2678.5	36.4	793.5	1163.1	31.5	833.5	208.2	27.8
714.0	2795.1	48.7	754.0	2696.5	36.2	794.0	1109.3	31.5	834.0	215.1	27.7
714.5	2786.1	48.6	754.5	2683.4	36.1	794.5	1143.1	31.4	834.5	224.0	27.6
715.0	2787.5	48.4	755.0	2679.2	36.0	795.0	1137.6	31.3	835.0	230.9	27.4
715.5	2780.6	48.3	755.5	2677.2	35.9	795.5	1082.4	31.3	835.5	234.4	27.3

TEST REFERENCE#: 301119AR FILE STARTS: 12:19:30 on March 6, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
836.0	237.8	27.2	876.0	192.3	14.1						
836.5	239.9	27.0	876.5	191.6	13.9						
837.0	241.3	26.8	877.0	190.9	13.6						
837.5	243.3	26.6	877.5	190.9	13.4						
838.0	242.6	26.4	878.0	188.9	13.1						
838.5	242.6	26.2	878.5	189.6	12.9						
839.0	243.3	26.1	879.0	190.9	12.6						
839.5	242.0	25.9	879.5	188.2	12.4						
840.0	243.3	25.7	880.0	188.2	12.1						
840.5	242.6	25.5	880.5	184.7	11.9						
841.0	241.3	25.3	881.0	183.3	11.7						
841.5	240.6	25.1	881.5	182.0	11.6						
842.0	239.9	24.9	882.0	180.6	11.4						
842.5	237.1	24.7	882.5	181.3	11.2						
843.0	235.7	24.6	883.0	178.5	11.0						
843.5	235.1	24.4	883.5	179.2	10.8						
844.0	234.4	24.2	884.0	179.2	10.6						
844.5	233.7	24.0	884.5	178.5	10.5						
845.0	231.6	23.8	885.0	176.5	10.4						
845.5	230.9	23.6	885.5	177.8	10.2						
846.0	229.5	23.4	886.0	176.5	10.1						
846.5	228.2	23.2	886.5	177.1	10.0						
847.0	226.8	23.0	887.0	177.1	9.9						
847.5	226.1	22.9	887.5	176.5	9.7						
848.0	225.4	22.7	888.0	177.1	9.6						
848.5	223.3	22.5	888.5	175.8	9.5						
849.0	222.6	22.3	889.0	176.5	9.4						
849.5	221.3	22.1	889.5	176.5	9.2						
850.0	219.2	21.9									
850.5	218.5	21.7									
851.0	218.5	21.5									
851.5	218.5	21.4									
852.0	216.4	21.2									
852.5	215.8	21.0									
853.0	214.4	20.9									
853.5	211.6	20.8									
854.0	210.9	20.7									
854.5	212.3	20.5									
855.0	210.2	20.4									
855.5	209.5	20.3									
856.0	211.6	20.2									
856.5	209.5	20.0									
857.0	207.5	19.8									
857.5	205.4	19.6									
858.0	206.1	19.4									
858.5	205.4	19.2									
859.0	204.7	19.0									
859.5	204.0	18.8									
860.0	204.7	18.7									
860.5	203.3	18.5									
861.0	204.0	18.4									
861.5	203.3	18.3									
862.0	202.7	18.2									
862.5	201.3	18.0									
863.0	200.6	17.9									
863.5	199.2	17.8									
864.0	199.2	17.6									
864.5	197.1	17.5									
865.0	197.1	17.3									
865.5	197.8	17.1									
866.0	198.5	16.9									
866.5	198.5	16.7									
867.0	198.5	16.5									
867.5	197.1	16.3									
868.0	197.1	16.1									
868.5	196.4	16.0									
869.0	194.4	15.9									
869.5	193.0	15.8									
870.0	195.8	15.6									
870.5	194.4	15.5									
871.0	193.7	15.4									
871.5	194.4	15.3									
872.0	194.4	15.1									
872.5	193.7	15.0									
873.0	193.7	14.9									
873.5	192.3	14.8									
874.0	194.4	14.6									
874.5	193.0	14.5									
875.0	193.0	14.4									
875.5	191.6	14.3									

B) DST #2 JEAN MARIE FORMATION
1390.0 - 1409.12 M

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/9/90
Location : N-45
DST # : TW0

LEVEL I FLOPETROL JOHNSTON ™ DST REPORT

for

PETRO CANADA INCORPORATED

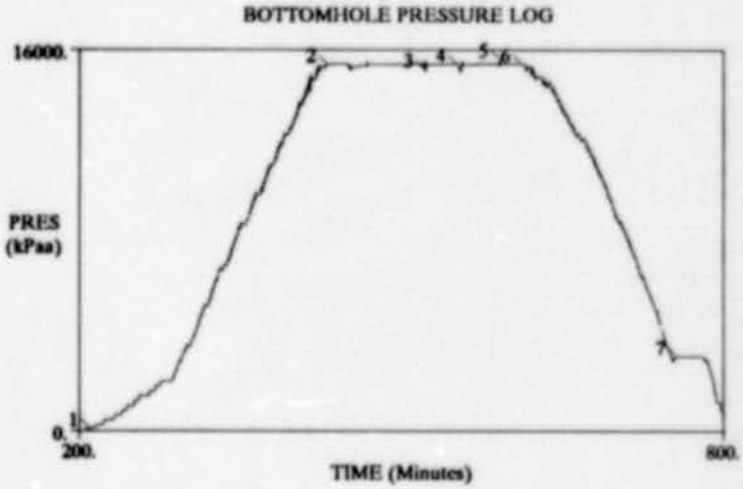
Well: PCI ISLAND LAKE N-45

DST #TW0: RED KNIFE/JEAN MARIE FORMATION - (1390. - 1409.12M)

**********Test Reference Number: 301120AI**********

Test Data

#	Explanation	P(kPa)	T(min)
1	REFERENCE TIME	108.9	210.0
2	HYDROSTATIC	15390.3	430.0
3	SEE COMMENTS	15184.8	520.0
4	SEE COMMENTS	15400.0	550.0
5	SEE COMMENTS	15608.2	590.0
6	HYDROSTATIC	15406.8	610.0
7	SEE COMMENTS	3151.5	755.0



Test Results [INFLATE STRADDLE]

FINAL SHUTIN PRESSURE	
RESERVOIR TEMPERATURE	60 C
PRODUCTION RATE	MISRUN
NET PIPE RECOVERY	

Blow Description

PREFLOW	
MAINFLOW	

Comments

*This attempted test of the Red Knife/Jean Marie formation from 1390 to 1409.12 mkb was unsuccessful. There were 3 attempts to inflate at test depth and one attempt to inflate in the casing.

*The tools were examined at surface, the test string was filled with water and pressure tested with the rig water pressure. There were no defects detected.

*When the test tools were received in our Gr. Prairie location, a complete evaluation was performed that resulted in a small hole in the packer being identified. This hold began to leak at approximately 150 psi. There were no other defects identified.

*If you require further information, please contact Brian Jordan at 231-9625.

Schlumberger

Schlumberger of Canada
Testing Services

Test Date : 3/9/90
Location : N-45
DST # : TW0

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	13:55:00	REFERENCE TIME		108.9	19.2		
2	17:35:00	HYDROSTATIC	220.0	15390.3	54.1		
3	19:05:00	SEE COMMENTS First attempt to inflate packers	90.0	15184.8	57.4		
4	19:35:00	SEE COMMENTS Second attempt to inflate packers	30.0	15400.0	58.0		
5	20:15:00	SEE COMMENTS Third attempt to inflate packers	40.0	15608.2	58.5		
6	20:35:00	HYDROSTATIC	20.0	15406.8	59.0		
7	23:00:00	SEE COMMENTS Attempt to inflate packers in casing	145.0	3151.5	30.1		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-TOP OF RECOVERY			
3-MIDDLE OF RECOVERY			
4-BOTTOM OF RECOVERY			
5-BOTTOMHOLE SAMPLER	MISRUN #000556, #103734		

Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger

Schlumberger of Canada
Testing Services

Test Date : 3/9/90
Location : N-45
DST # : TW0

Hole Conditions

Total Depth(MD/TVD)	1450 m
Ground Level	605.4 m
Kelly Bushing	609.9 m
Hole Size	222 mm
Mud Weight	1115 kg/m3
Mud Type	Gel Chem

Test String Configuration

Pipe Length/I.D.	1230m / 97.2mm (.0074 m3/m)
Collar Length/I.D.	146.24m / 74mm (.004188 m3/m)
Packer Depths	1390 - 1409 m
Bottomhole Choke Size	12.7 mm
Gauge Depth/Type	1391.77 / STARBURST

Tool Sequence:

#	DESCRIPTION	LENGTH(m)	DEPTH(m)
0	DRILL PIPE TOP	0.00	-4.18
1	Drill Pipe 114mm	9.50	5.32
2	OTHER STABBING VALVE	0.45	5.77
3	Drill Pipe 114mm	1220.50	1226.27
4	Drill Collars 165mm	128.14	1354.41
5	Pumpout Sub PIN TYPE	0.20	1354.61
6	Pumpout Sub SHEAR DISC TYPE	0.20	1354.81
7	Drill Collars 165mm	18.10	1372.91
8	Crossover 4 1/2H90-3 1/2FH	0.31	1373.22
9	Elec.Recorder SB#50130	1.80	1375.02
10	Choke Sub 12.7 mm	0.31	1375.33
11	MFE [Test Valve] #000556,#103734	4.04	1379.37
12	Crossover	0.31	1379.68
13	Recorder AK1 #2077	1.34	1381.02
14	Jars	2.28	1383.30
15	Rotary Pump #132676	2.45	1385.75
16	MSRV [Deflate] #110884	2.44	1388.19
17	REFERENCE PACKER #104083	1.81	1390.00
18	Packer Stub	0.77	1390.77
19	Recorder K3 #13043,SB#50131	2.14	1392.91
20	Crossover 3 1/2FH-4 1/2H90	0.31	1393.22
21	Drill Collars 165mm	9.02	1402.24
22	Crossover 4 1/2H90-3 1/2FH	0.31	1402.55
23	Spacer Pipe	5.49	1408.04
24	Crossover 3 1/2FH-4 1/2FH	0.31	1408.35
25	Packer Stub	0.77	1409.12
26	Packer #110284	1.81	1410.93
27	DDST [Drag Spring] #114706	2.62	1413.55
28	Recorder AK1 #4375	1.80	1415.35
29	Blank Off Sub	0.31	1415.66
30	Spacer Pipe Perforated	1.52	1417.18
31	Recorder AK1 #2526	1.80	1418.98
32	Bullnose	0.00	1418.98

Flopetrol Representative : GLEN E. CARTER

District : EDMONTON

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120AI
INSTRUMENT NO. : SB-50131
DEPTH : 1391.77 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : TWO

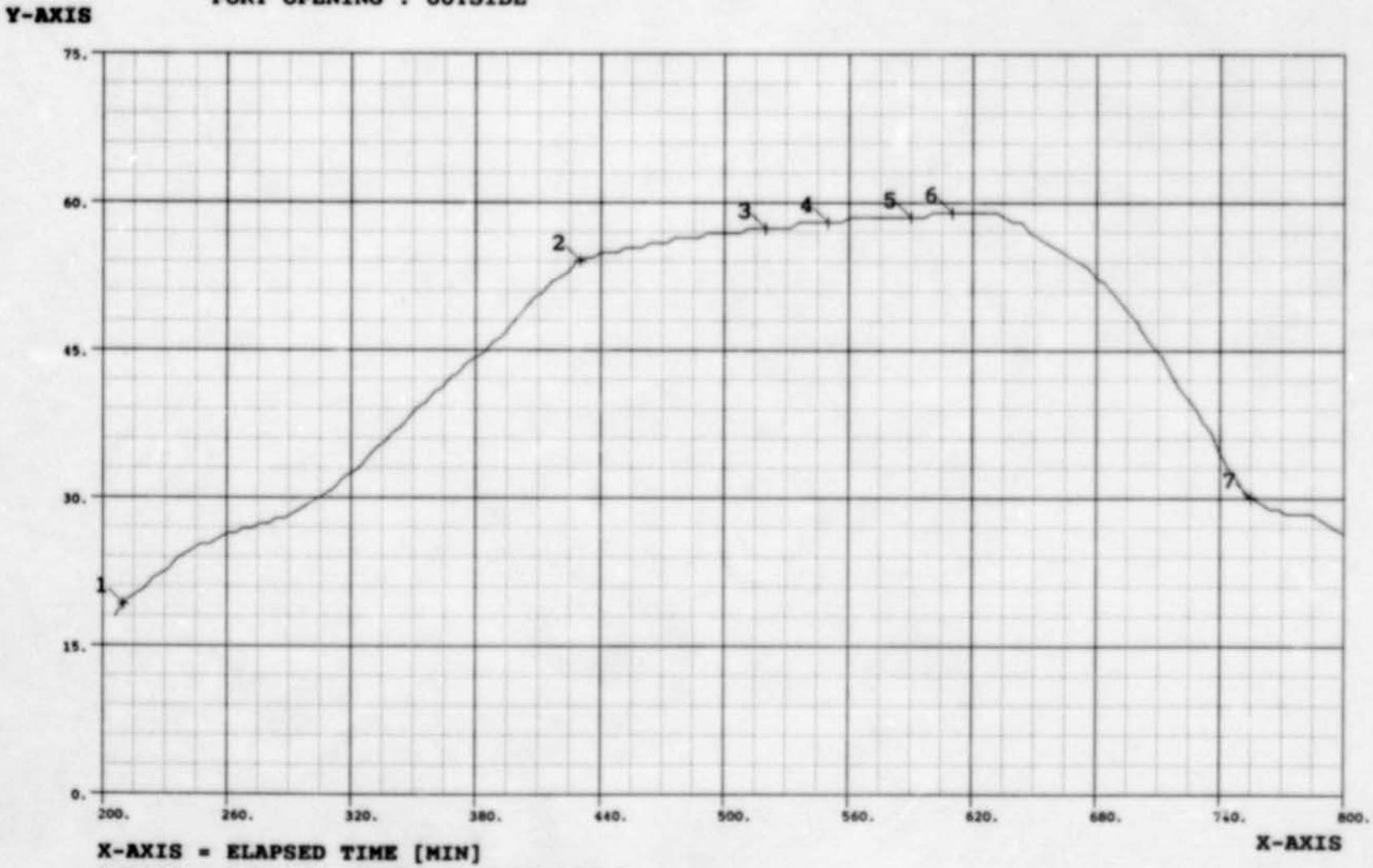
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120AI
INSTRUMENT NO. : SB-50131
DEPTH : 1391.77 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : TWO



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301120AI FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
206.0	89.[illegible]	17.9	246.0	1070.7	25.1	286.0	2092.5	27.9	326.0	6109.3	33.5
206.5	89.6	18.1	246.5	1070.0	25.2	286.5	2092.5	27.9	326.5	6383.1	33.7
207.0	89.6	18.3	247.0	1070.0	25.2	287.0	2213.1	27.9	327.0	6385.1	33.8
207.5	89.6	18.5	247.5	1070.0	25.3	287.5	2298.0	27.9	327.5	6311.4	33.9
208.0	89.6	18.7	248.0	1070.0	25.3	288.0	2299.3	27.9	328.0	6312.7	34.1
208.5	89.6	18.8	248.5	1070.0	25.3	288.5	2300.7	28.0	328.5	6534.7	34.2
209.0	90.3	18.9	249.0	1070.0	25.3	289.0	2415.9	28.0	329.0	6525.8	34.3
209.5	99.2	19.1	249.5	1071.4	25.3	289.5	2540.6	28.1	329.5	6527.2	34.4
210.0	108.9	19.2	250.0	1072.8	25.3	290.0	2517.9	28.2	330.0	6740.9	34.6
210.5	117.2	19.3	250.5	1067.9	25.3	290.5	2518.6	28.2	330.5	6869.1	34.7
211.0	125.4	19.5	251.0	1070.0	25.3	291.0	2713.7	28.3	331.0	6738.8	34.8
211.5	131.6	19.6	251.5	1289.3	25.3	291.5	2759.9	28.4	331.5	6740.9	34.9
212.0	134.4	19.7	252.0	1279.6	25.3	292.0	2731.6	28.4	332.0	6743.0	35.1
212.5	143.4	19.8	252.5	1277.5	25.4	292.5	2876.4	28.5	332.5	6745.0	35.1
213.0	147.5	19.8	253.0	1277.5	25.5	293.0	2990.2	28.5	333.0	6745.0	35.2
213.5	149.6	19.9	253.5	1274.8	25.5	293.5	2939.9	28.6	333.5	6747.8	35.3
214.0	161.3	20.0	254.0	1276.2	25.6	294.0	2939.9	28.7	334.0	7022.2	35.3
214.5	168.9	20.0	254.5	1276.2	25.7	294.5	2941.2	28.7	334.5	6942.2	35.4
215.0	182.0	20.1	255.0	1276.2	25.7	295.0	2941.2	28.8	335.0	6944.3	35.5
215.5	202.0	20.2	255.5	1329.2	25.8	295.5	3159.1	28.9	335.5	6945.7	35.5
216.0	209.5	20.2	256.0	1530.6	25.9	296.0	3144.6	28.9	336.0	6947.7	35.6
216.5	230.2	20.3	256.5	1480.9	25.9	296.5	3155.0	29.0	336.5	6950.5	35.7
217.0	243.3	20.4	257.0	1480.2	26.0	297.0	3239.1	29.1	337.0	6951.2	35.8
217.5	255.7	20.4	257.5	1480.9	26.1	297.5	3406.6	29.1	337.5	6951.9	36.0
218.0	258.5	20.5	258.0	1478.9	26.1	298.0	3362.5	29.2	338.0	7161.5	36.1
218.5	259.9	20.5	258.5	1480.2	26.2	298.5	3364.6	29.3	338.5	7280.8	36.2
219.0	259.2	20.6	259.0	1479.6	26.2	299.0	3365.3	29.3	339.0	7158.0	36.4
219.5	259.9	20.7	259.5	1479.6	26.3	299.5	3522.5	29.4	339.5	7183.5	36.5
220.0	259.2	20.7	260.0	1478.2	26.4	300.0	3632.8	29.4	340.0	7477.9	36.6
220.5	260.6	20.9	260.5	1480.2	26.4	300.5	3570.0	29.5	340.5	7369.7	36.7
221.0	261.3	21.0	261.0	1478.2	26.4	301.0	3571.4	29.6	341.0	7373.1	36.7
221.5	259.2	21.1	261.5	1479.6	26.4	301.5	3571.4	29.6	341.5	7680.0	36.8
222.0	264.0	21.2	262.0	1480.2	26.4	302.0	3570.7	29.7	342.0	7581.4	36.9
222.5	305.4	21.4	262.5	1479.6	26.4	302.5	3572.1	29.8	342.5	7587.6	36.9
223.0	364.0	21.5	263.0	1480.2	26.4	303.0	3571.4	29.8	343.0	7879.2	37.0
223.5	450.9	21.6	263.5	1480.2	26.4	303.5	3571.4	29.9	343.5	7791.7	37.1
224.0	459.8	21.8	264.0	1480.2	26.4	304.0	3736.9	30.0	344.0	7799.9	37.1
224.5	460.5	21.8	264.5	1480.9	26.4	304.5	3821.7	30.0	344.5	8081.2	37.3
225.0	461.2	21.9	265.0	1474.7	26.5	305.0	3789.3	30.1	345.0	8004.7	37.4
225.5	462.6	22.0	265.5	1686.4	26.6	305.5	3792.0	30.1	345.5	8010.2	37.5
226.0	462.6	22.0	266.0	1678.1	26.6	306.0	3956.8	30.2	346.0	8280.5	37.6
226.5	462.6	22.1	266.5	1678.1	26.7	306.5	4037.5	30.3	346.5	8219.1	37.8
227.0	464.0	22.1	267.0	1678.8	26.8	307.0	3993.4	30.3	347.0	8225.3	37.9
227.5	464.7	22.2	267.5	1677.4	26.8	307.5	3996.1	30.4	347.5	8228.1	38.0
228.0	464.0	22.3	268.0	1678.1	26.9	308.0	4211.2	30.5	348.0	8506.6	38.2
228.5	462.6	22.3	268.5	1676.7	26.9	308.5	4199.5	30.5	348.5	8579.0	38.3
229.0	464.0	22.4	269.0	1678.1	26.9	309.0	4206.4	30.6	349.0	8438.4	38.4
229.5	463.3	22.5	269.5	1677.4	26.9	309.5	4380.8	30.7	349.5	8491.5	38.5
230.0	463.3	22.5	270.0	1678.8	26.9	310.0	4476.7	30.7	350.0	8796.9	38.7
230.5	463.3	22.6	270.5	1678.8	26.9	310.5	4414.6	30.8	350.5	8668.0	38.8
231.0	464.7	22.7	271.0	1944.9	26.9	311.0	4595.3	30.9	351.0	8665.2	38.9
231.5	464.7	22.7	271.5	1886.3	26.9	311.5	4711.1	30.9	351.5	8663.1	39.0
232.0	464.7	22.8	272.0	1887.0	26.9	312.0	4620.1	31.0	352.0	8665.9	39.2
232.5	505.3	22.9	272.5	1884.3	26.9	312.5	4786.3	31.1	352.5	8665.9	39.2
233.0	620.5	23.0	273.0	1884.3	27.0	313.0	4907.6	31.2	353.0	8665.9	39.3
233.5	663.2	23.2	273.5	1885.0	27.1	313.5	4831.8	31.4	353.5	8666.6	39.4
234.0	663.9	23.3	274.0	1885.7	27.1	314.0	4833.1	31.5	354.0	8668.0	39.4
234.5	663.9	23.4	274.5	1885.0	27.2	314.5	5086.9	31.6	354.5	8666.6	39.5
235.0	665.3	23.6	275.0	1884.3	27.3	315.0	5037.9	31.7	355.0	8667.3	39.6
235.5	666.7	23.7	275.5	1971.8	27.3	315.5	5041.4	31.9	355.5	8916.2	39.6
236.0	666.0	23.8	276.0	2095.2	27.4	316.0	5288.9	32.0	356.0	8857.6	39.7
236.5	666.7	23.9	276.5	2093.2	27.4	316.5	5309.6	32.1	356.5	8865.8	39.8
237.0	666.0	23.9	277.0	2093.2	27.4	317.0	5260.6	32.1	357.0	8866.5	39.9
237.5	666.7	24.0	277.5	2092.5	27.4	317.5	5261.3	32.2	357.5	9176.1	40.1
238.0	666.7	24.1	278.0	2093.2	27.4	318.0	5261.3	32.3	358.0	9075.4	40.2
238.5	666.0	24.1	278.5	2092.5	27.4	318.5	5262.0	32.3	358.5	9079.6	40.3
239.0	667.4	24.2	279.0	2091.1	27.4	319.0	5262.0	32.4	359.0	9363.6	40.4
239.5	664.6	24.3	279.5	2092.5	27.4	319.5	5262.0	32.5	359.5	9428.5	40.6
240.0	851.4	24.3	280.0	2091.1	27.4	320.0	5263.4	32.5	360.0	9285.7	40.7
240.5	870.1	24.4	280.5	2091.1	27.5	320.5	5451.6	32.6	360.5	9387.1	40.8
241.0	870.1	24.5	281.0	2092.5	27.5	321.0	5572.9	32.6	361.0	9642.9	40.8
241.5	869.4	24.5	281.5	2092.5	27.6	321.5	5466.1	32.7	361.5	9491.2	40.9
242.0	870.1	24.6	282.0	2091.1	27.7	322.0	5664.6	32.8	362.0	9647.7	41.0
242.5	869.4	24.6	282.5	2092.5	27.7	322.5	5770.1	32.8	362.5	9849.7	41.0
243.0	870.8	24.7	283.0	2092.5	27.8	323.0	5679.1	32.9	363.0	9713.9	41.1
243.5	870.1	24.8	283.5	2092.5	27.8	323.5	5892.2	33.0	363.5	9698.0	41.1
244.0	865.2	24.8	284.0	2092.5	27.9	324.0	5981.1	33.0	364.0	10017.3	41.2
244.5	1093.4	24.9	284.5	2092.5	27.9	324.5	5891.5	33.2	364.5	9916.6	41.3
245.0	1070.7	25.0	285.0	2092.5	27.9	325.0	6001.8	33.3	365.0	9919.4	41.5
245.5	1070.0	25.0	285.5	2092.5	27.9	325.5	6185.2	33.4	365.5	9925.6	41.6

TEST REFERENCE#: 301120AI FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
366.0	9926.9	41.7	406.0	13699.0	49.8	446.0	15400.0	54.9	486.0	15387.5	56.4
366.5	9928.3	41.8	406.5	13700.4	50.0	446.5	15400.6	54.9	486.5	15387.5	56.4
367.0	9927.6	42.0	407.0	13701.8	50.1	447.0	15400.0	54.9	487.0	15386.9	56.4
367.5	9928.3	42.1	407.5	13687.3	50.2	447.5	15400.6	54.9	487.5	15386.2	56.4
368.0	9928.3	42.2	408.0	14032.7	50.3	448.0	15399.3	54.9	488.0	15385.5	56.4
368.5	10097.9	42.3	408.5	13887.3	50.4	448.5	15400.6	55.0	488.5	15388.2	56.5
369.0	10247.5	42.4	409.0	13901.7	50.5	449.0	15400.0	55.0	489.0	15390.3	56.6
369.5	10131.0	42.4	409.5	14023.1	50.5	449.5	15400.6	55.1	489.5	15389.6	56.6
370.0	10022.8	42.5	410.0	14301.6	50.6	450.0	15219.3	55.2	490.0	15390.3	56.7
370.5	10446.8	42.5	410.5	14112.0	50.7	450.5	15333.1	55.2	490.5	15392.4	56.7
371.0	10338.6	42.6	411.0	14090.0	50.7	451.0	15349.6	55.3	491.0	15393.1	56.8
371.5	10345.4	42.7	411.5	14509.1	50.8	451.5	15226.9	55.4	491.5	15392.4	56.9
372.0	10345.4	42.7	412.0	14329.2	50.8	452.0	15102.1	55.4	492.0	15392.4	56.9
372.5	10578.5	42.9	412.5	14331.3	51.0	452.5	15184.8	55.4	492.5	15393.1	56.9
373.0	10626.8	43.0	413.0	14738.1	51.1	453.0	15278.6	55.4	493.0	15391.0	56.9
373.5	10552.3	43.1	413.5	14784.3	51.2	453.5	15283.4	55.4	493.5	15392.4	56.9
374.0	10798.4	43.2	414.0	14543.6	51.4	454.0	15286.2	55.4	494.0	15393.1	56.9
374.5	10894.3	43.4	414.5	14206.5	51.5	454.5	15288.9	55.4	494.5	15393.7	56.9
375.0	10762.6	43.5	415.0	14986.3	51.6	455.0	15290.3	55.4	495.0	15393.7	56.9
375.5	11074.9	43.6	415.5	14740.8	51.7	455.5	15290.3	55.4	495.5	15393.7	56.9
376.0	11124.5	43.7	416.0	14745.6	51.9	456.0	15291.0	55.4	496.0	15393.1	56.9
376.5	10977.7	43.8	416.5	14749.1	51.9	456.5	15291.0	55.4	496.5	15393.7	56.9
377.0	10979.8	43.9	417.0	14750.5	52.0	457.0	15291.7	55.4	497.0	15394.4	56.9
377.5	11212.1	43.9	417.5	14751.9	52.1	457.5	15291.0	55.4	497.5	15394.4	56.9
378.0	11207.3	44.0	418.0	14753.9	52.1	458.0	15291.7	55.4	498.0	15395.1	56.9
378.5	11179.7	44.1	418.5	14755.3	52.2	458.5	15291.7	55.4	498.5	15394.4	56.9
379.0	11181.8	44.1	419.0	14756.0	52.2	459.0	15292.4	55.4	499.0	15395.8	56.9
379.5	11185.2	44.2	419.5	14757.4	52.3	459.5	15291.0	55.4	499.5	15395.8	56.9
380.0	11187.3	44.3	420.0	15122.1	52.4	460.0	15363.4	55.4	500.0	15395.8	56.9
380.5	11190.0	44.3	420.5	14899.4	52.4	460.5	15325.5	55.5	500.5	15395.8	56.9
381.0	11190.0	44.4	421.0	14956.6	52.5	461.0	15327.6	55.5	501.0	15395.8	56.9
381.5	11490.0	44.4	421.5	15360.2	52.6	461.5	15328.9	55.6	501.5	15395.8	56.9
382.0	11362.4	44.5	422.0	15139.3	52.6	462.0	15328.9	55.7	502.0	15395.1	56.9
382.5	11383.8	44.6	422.5	15169.0	52.7	462.5	15328.9	55.7	502.5	15395.8	56.9
383.0	11625.8	44.6	423.0	15092.4	52.8	463.0	15328.2	55.8	503.0	15395.8	56.9
383.5	11716.1	44.7	423.5	15272.4	52.8	463.5	15328.2	55.9	503.5	15395.1	56.9
384.0	11585.8	44.8	424.0	15292.4	52.9	464.0	15328.2	55.9	504.0	15395.8	56.9
384.5	11891.9	44.9	424.5	15289.6	53.0	464.5	15328.2	55.9	504.5	15397.2	56.9
385.0	11971.9	45.0	425.0	15286.9	53.1	465.0	15328.2	55.9	505.0	15396.5	56.9
385.5	11797.5	45.1	425.5	15286.2	53.3	465.5	15328.2	55.9	505.5	15395.8	56.9
386.0	11861.6	45.3	426.0	15286.2	53.4	466.0	15284.1	55.9	506.0	15397.2	56.9
386.5	12145.0	45.4	426.5	15285.5	53.5	466.5	15331.7	55.9	506.5	15396.5	56.9
387.0	12011.9	45.5	427.0	15286.9	53.6	467.0	15531.0	55.9	507.0	15395.8	56.9
387.5	12012.6	45.6	427.5	15306.2	53.8	467.5	15385.5	55.9	507.5	15398.6	56.9
388.0	12014.7	45.8	428.0	15219.3	53.9	468.0	15395.1	55.9	508.0	15397.9	56.9
388.5	12015.3	45.8	428.5	15385.5	54.0	468.5	15393.1	55.9	508.5	15398.6	57.0
389.0	12367.7	45.9	429.0	15388.9	54.0	469.0	15391.7	55.9	509.0	15399.3	57.1
389.5	12215.3	46.0	429.5	15388.9	54.1	469.5	15391.0	55.9	509.5	15398.6	57.1
390.0	12221.5	46.0	430.0	15390.3	54.1	470.0	15390.3	55.9	510.0	15398.6	57.2
390.5	12497.3	46.1	430.5	15391.7	54.2	470.5	15390.3	55.9	510.5	15399.3	57.3
391.0	12424.9	46.2	431.0	15392.4	54.3	471.0	15389.6	55.9	511.0	15398.6	57.3
391.5	12429.0	46.2	431.5	15393.7	54.3	471.5	15388.2	55.9	511.5	15398.6	57.4
392.0	12431.1	46.3	432.0	15394.4	54.4	472.0	15387.5	55.9	512.0	15398.6	57.4
392.5	12433.2	46.4	432.5	15395.1	54.4	472.5	15387.5	56.0	512.5	15398.6	57.4
393.0	12435.2	46.5	433.0	15395.1	54.4	473.0	15387.5	56.0	513.0	15395.8	57.4
393.5	12436.6	46.7	433.5	15397.2	54.4	473.5	15386.9	56.1	513.5	15397.9	57.4
394.0	12437.3	46.8	434.0	15397.2	54.4	474.0	15386.9	56.2	514.0	15397.2	57.4
394.5	12640.0	46.9	434.5	15397.9	54.4	474.5	15386.9	56.2	514.5	15399.3	57.4
395.0	12760.0	47.0	435.0	15397.9	54.4	475.0	15386.2	56.3	515.0	15397.9	57.4
395.5	12640.0	47.2	435.5	15399.3	54.4	475.5	15385.5	56.4	515.5	15398.6	57.4
396.0	12643.5	47.3	436.0	15397.9	54.4	476.0	15385.5	56.4	516.0	15398.6	57.4
396.5	12644.8	47.4	436.5	15398.6	54.5	476.5	15386.2	56.4	516.5	15399.3	57.4
397.0	12648.3	47.6	437.0	15398.6	54.5	477.0	15385.5	56.4	517.0	15400.0	57.4
397.5	12863.4	47.7	437.5	15399.3	54.6	477.5	15386.2	56.4	517.5	15398.6	57.4
398.0	12880.6	47.8	438.0	15398.6	54.7	478.0	15385.5	56.4	518.0	15397.9	57.4
398.5	12853.0	47.9	438.5	15397.2	54.7	478.5	15385.5	56.4	518.5	15346.2	57.4
399.0	13125.4	48.1	439.0	15398.6	54.8	479.0	15385.5	56.4	519.0	15478.6	57.4
399.5	13027.5	48.2	439.5	15397.9	54.8	479.5	15386.2	56.4	519.5	15215.9	57.4
400.0	13064.7	48.3	440.0	15398.6	54.9	480.0	15386.2	56.4	520.0	15184.8	57.4
400.5	13068.9	48.4	440.5	15399.3	54.9	480.5	15387.5	56.4	520.5	15164.8	57.4
401.0	13379.1	48.6	441.0	15399.3	54.9	481.0	15386.2	56.4	521.0	15060.0	57.4
401.5	13261.2	48.7	441.5	15400.0	54.9	481.5	15386.9	56.4	521.5	15552.3	57.4
402.0	13275.7	48.8	442.0	15400.0	54.9	482.0	15386.2	56.4	522.0	15313.8	57.4
402.5	13193.0	48.9	442.5	15400.0	54.9	482.5	15385.5	56.4	522.5	15391.7	57.4
403.0	13679.0	49.1	443.0	15400.0	54.9	483.0	15386.2	56.4	523.0	15394.4	57.4
403.5	13497.0	49.2	443.5	15399.3	54.9	483.5	15386.2	56.4	523.5	15388.9	57.4
404.0	13497.0	49.3	444.0	15400.0	54.9	484.0	15385.5	56.4	524.0	15388.9	57.4
404.5	13855.5	49.5	444.5	15400.6	54.9	484.5	15386.9	56.4	524.5	15391.0	57.4
405.0	13690.1	49.6	445.0	15400.6	54.9	485.0	15386.2	56.4	525.0	15392.4	57.4
405.5	13695.6	49.7	445.5	15400.6	54.9	485.5	15386.9	56.4	525.5	15392.4	57.4

TEST REFERENCE#: 301120AJ FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
526.0	15393.7	57.4	566.0	15396.5	58.5	606.0	15408.2	59.0	646.0	13639.0	57.4
526.5	15394.4	57.4	566.5	15395.8	58.5	606.5	15407.5	59.0	646.5	13535.6	57.3
527.0	15395.1	57.4	567.0	15397.9	58.5	607.0	15407.5	59.0	647.0	13725.9	57.2
527.5	15394.4	57.4	567.5	15396.5	58.5	607.5	15406.8	59.0	647.5	13552.9	57.1
528.0	15395.1	57.4	568.0	15396.5	58.5	608.0	15406.8	59.0	648.0	13455.0	56.9
528.5	15395.1	57.4	568.5	15397.2	58.5	608.5	15406.8	59.0	648.5	13375.0	56.9
529.0	15394.4	57.4	569.0	15397.2	58.5	609.0	15406.8	59.0	649.0	13518.4	56.8
529.5	15394.4	57.4	569.5	15396.5	58.5	609.5	15406.2	59.0	649.5	13521.8	56.7
530.0	15394.4	57.4	570.0	15396.5	58.5	610.0	15406.8	59.0	650.0	13328.8	56.7
530.5	15395.1	57.4	570.5	15397.2	58.5	610.5	15406.8	59.0	650.5	13261.9	56.6
531.0	15394.4	57.4	571.0	15397.2	58.5	611.0	15406.2	59.0	651.0	13191.6	56.6
531.5	15395.1	57.4	571.5	15397.2	58.5	611.5	15406.2	59.0	651.5	13303.3	56.5
532.0	15395.1	57.4	572.0	15397.9	58.5	612.0	15406.8	59.0	652.0	13309.5	56.4
532.5	15395.8	57.5	572.5	15397.9	58.5	612.5	15406.2	59.0	652.5	13129.5	56.4
533.0	15395.8	57.6	573.0	15397.9	58.5	613.0	15406.2	59.0	653.0	13055.1	56.3
533.5	15395.1	57.6	573.5	15398.6	58.5	613.5	15407.5	59.0	653.5	13002.7	56.2
534.0	15395.8	57.7	574.0	15397.9	58.5	614.0	15174.5	59.0	654.0	13097.8	56.2
534.5	15395.1	57.8	574.5	15399.3	58.5	614.5	15101.4	59.0	654.5	13100.6	56.1
535.0	15395.8	57.8	575.0	15400.6	58.5	615.0	15272.4	59.0	655.0	12910.3	56.0
535.5	15395.1	57.9	575.5	15399.3	58.5	615.5	15274.5	59.0	655.5	12841.3	56.0
536.0	15395.1	58.0	576.0	15397.9	58.5	616.0	15275.2	59.0	656.0	12772.4	55.9
536.5	15395.8	58.0	576.5	15399.3	58.5	616.5	15276.5	59.0	656.5	12889.6	55.9
537.0	15395.8	58.0	577.0	15398.6	58.5	617.0	15276.5	59.0	657.0	12889.6	55.8
537.5	15395.1	58.0	577.5	15398.6	58.5	617.5	15274.5	59.0	657.5	12664.8	55.7
538.0	15396.5	58.0	578.0	15400.0	58.5	618.0	15273.8	59.0	658.0	12583.5	55.7
538.5	15396.5	58.0	578.5	15399.3	58.5	618.5	15275.2	59.0	658.5	12678.6	55.6
539.0	15395.8	58.0	579.0	15399.3	58.5	619.0	15024.2	59.0	659.0	12675.9	55.5
539.5	15396.5	58.0	579.5	15400.0	58.5	619.5	14939.4	59.0	659.5	12640.7	55.5
540.0	15397.9	58.0	580.0	15400.0	58.5	620.0	15251.7	59.0	660.0	12485.6	55.4
540.5	15397.9	58.0	580.5	15399.3	58.5	620.5	15129.0	59.0	660.5	12425.6	55.4
541.0	15397.2	58.0	581.0	15400.0	58.5	621.0	15131.1	59.0	661.0	12362.8	55.3
541.5	15396.5	58.0	581.5	15399.3	58.5	621.5	14880.1	59.0	661.5	12462.1	55.2
542.0	15397.9	58.0	582.0	15400.0	58.5	622.0	14998.7	59.0	662.0	12463.5	55.2
542.5	15397.2	58.0	582.5	15400.0	58.5	622.5	14709.8	59.0	662.5	12466.9	55.1
543.0	15397.2	58.0	583.0	15399.3	58.5	623.0	14901.5	59.0	663.0	12470.4	55.0
543.5	15397.9	58.0	583.5	15400.0	58.5	623.5	14844.2	59.0	663.5	12474.5	55.0
544.0	15397.9	58.0	584.0	15399.3	58.5	624.0	14849.1	59.0	664.0	12329.7	54.9
544.5	15397.2	58.0	584.5	15400.0	58.5	624.5	14850.4	59.0	664.5	12269.1	54.8
545.0	15399.3	58.0	585.0	15400.0	58.5	625.0	14853.2	59.0	665.0	12190.5	54.8
545.5	15398.6	58.0	585.5	15400.6	58.5	625.5	14853.9	59.0	665.5	12127.0	54.7
546.0	15399.3	58.0	586.0	15400.0	58.5	626.0	14854.6	59.0	666.0	12249.8	54.7
546.5	15398.6	58.0	586.5	15400.0	58.5	626.5	14854.6	59.0	666.5	12255.3	54.6
547.0	15400.0	58.0	587.0	15400.0	58.5	627.0	14854.6	59.0	667.0	12236.7	54.5
547.5	15399.3	58.0	587.5	15401.3	58.5	627.5	14856.6	59.0	667.5	12242.2	54.5
548.0	15399.3	58.0	588.0	15357.9	58.5	628.0	14854.6	59.0	668.0	12246.3	54.4
548.5	15399.3	58.0	588.5	15405.5	58.5	628.5	14853.9	59.0	668.5	12249.1	54.3
549.0	15399.3	58.0	589.0	15419.9	58.5	629.0	14856.6	59.0	669.0	12218.7	54.3
549.5	15399.3	58.0	589.5	15362.0	58.5	629.5	14667.7	59.0	669.5	12047.1	54.2
550.0	15400.0	58.0	590.0	15608.2	58.5	630.0	14561.6	59.0	670.0	11976.7	54.1
550.5	15400.0	58.0	590.5	15410.3	58.5	630.5	14523.6	59.0	670.5	11906.4	54.1
551.0	15433.0	58.0	591.0	15411.0	58.5	631.0	14532.6	59.0	671.0	12044.3	54.0
551.5	15415.8	58.0	591.5	15411.0	58.5	631.5	14739.4	59.0	671.5	11879.5	54.0
552.0	15249.0	58.0	592.0	15411.7	58.5	632.0	14753.2	59.0	672.0	11809.2	53.9
552.5	15193.1	58.0	592.5	15412.4	58.5	632.5	14556.0	58.9	672.5	11736.8	53.8
553.0	15170.4	58.0	593.0	15414.4	58.5	633.0	14496.7	58.8	673.0	11837.5	53.8
553.5	15093.1	58.0	593.5	15414.4	58.5	633.5	14451.2	58.8	673.5	11836.8	53.7
554.0	15059.4	58.0	594.0	15414.4	58.5	634.0	14395.4	58.7	674.0	11651.3	53.6
554.5	15537.8	58.0	594.5	15412.4	58.5	634.5	14547.1	58.6	674.5	11573.4	53.6
555.0	15325.5	58.0	595.0	15412.4	58.5	635.0	14554.7	58.6	675.0	11510.7	53.5
555.5	15448.9	58.0	595.5	15413.7	58.5	635.5	14557.4	58.5	675.5	11621.0	53.4
556.0	15402.0	58.0	596.0	15411.7	58.5	636.0	14703.6	58.5	676.0	11627.2	53.4
556.5	15391.0	58.0	596.5	15411.7	58.5	636.5	14565.0	58.4	676.5	11405.2	53.3
557.0	15392.4	58.1	597.0	15411.0	58.6	637.0	14556.0	58.3	677.0	11281.1	53.1
557.5	15392.4	58.1	597.5	15411.0	58.6	637.5	14559.5	58.3	677.5	11414.8	53.0
558.0	15393.1	58.2	598.0	15410.3	58.7	638.0	14329.9	58.2	678.0	11420.3	52.9
558.5	15393.7	58.3	598.5	15409.6	58.8	638.5	14292.0	58.1	678.5	11190.0	52.8
559.0	15393.7	58.3	599.0	15409.6	58.8	639.0	14212.7	58.1	679.0	11095.6	52.6
559.5	15394.4	58.4	599.5	15408.9	58.9	639.5	14403.0	58.0	679.5	11212.8	52.5
560.0	15393.1	58.5	600.0	15408.9	59.0	640.0	14360.2	58.0	680.0	11215.6	52.4
560.5	15393.7	58.5	600.5	15408.9	59.0	640.5	14153.4	58.0	680.5	10970.8	52.3
561.0	15393.7	58.5	601.0	15408.2	59.0	641.0	14103.1	58.0	681.0	10866.0	52.2
561.5	15393.7	58.5	601.5	15407.5	59.0	641.5	14018.9	58.0	681.5	11008.7	52.2
562.0	15394.4	58.5	602.0	15408.2	59.0	642.0	14201.7	58.0	682.0	10870.1	52.1
562.5	15394.4	58.5	602.5	15409.6	59.0	642.5	14147.2	58.0	682.5	10783.3	52.1
563.0	15394.4	58.5	603.0	15408.2	59.0	643.0	13943.1	58.0	683.0	10679.8	52.0
563.5	15396.5	58.5	603.5	15406.8	59.0	643.5	13868.6	58.0	683.5	10797.1	51.9
564.0	15396.5	58.5	604.0	15406.8	59.0	644.0	13805.9	58.0	684.0	10800.5	51.9
564.5	15395.8	58.5	604.5	15407.5	59.0	644.5	13966.5	57.8	684.5	10610.9	51.7
565.0	15394.4	58.5	605.0	15407.5	59.0	645.0	13940.3	57.7	685.0	10524.7	51.6
565.5	15395.8	58.5	605.5	15407.5	59.0	645.5	13701.8	57.6	685.5	10586.8	51.5

TEST REFERENCE#: 301120AI FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T
686.0	10588.1	51.4
686.5	10406.8	51.2
687.0	10278.6	51.1
687.5	10373.7	51.0
688.0	10378.5	50.8
688.5	10182.7	50.7
689.0	10096.5	50.6
689.5	10162.7	50.5
690.0	10167.6	50.3
690.5	9956.6	50.2
691.0	9833.2	50.1
691.5	9951.1	50.0
692.0	9815.9	49.8
692.5	9724.2	49.7
693.0	9607.0	49.6
693.5	9690.5	49.5
694.0	9693.2	49.3
694.5	9507.1	49.2
695.0	9393.3	49.1
695.5	9300.2	48.9
696.0	9405.7	48.8
696.5	9263.7	48.7
697.0	9136.1	48.6
697.5	8993.4	48.4
698.0	9118.9	48.3
698.5	9123.0	48.2
699.0	8856.2	48.1
699.5	8839.6	47.9
700.0	8876.9	47.8
700.5	8819.0	47.6
701.0	8752.8	47.4
701.5	8693.5	47.2
702.0	8823.8	47.0
702.5	8857.6	46.9
703.0	8653.5	46.7
703.5	8590.7	46.5
704.0	8683.1	46.3
704.5	8506.6	46.2
705.0	8395.6	46.0
705.5	8473.5	45.9
706.0	8474.2	45.8
706.5	8477.7	45.6
707.0	8286.0	45.5
707.5	8160.5	45.4
708.0	8254.3	45.3
708.5	8259.1	45.1
709.0	8054.3	45.0
709.5	7960.6	44.9
710.0	8044.0	44.8
710.5	8046.8	44.6
711.0	7836.5	44.5
711.5	7693.7	44.4
712.0	7831.0	44.[illegible]
712.5	7620.0	44.1
713.0	7588.9	43.9
713.5	7653.8	43.7
714.0	7618.6	43.5
714.5	7442.8	43.3
715.0	7328.3	43.1
715.5	7398.7	42.9
716.0	7403.5	42.7
716.5	7180.1	42.5
717.0	7189.7	42.4
717.5	7187.7	42.2
718.0	7030.1	42.0
718.5	6883.6	41.8
719.0	6952.6	41.6
719.5	6955.3	41.4
720.0	6783.6	41.2
720.5	6629.9	41.1
721.0	6677.5	41.0
721.5	6680.9	40.8
722.0	6490.6	40.7
722.5	6419.6	40.6
723.0	6501.7	40.4
723.5	6529.9	40.3
724.0	6404.4	40.2
724.5	6314.1	40.1
725.0	6337.6	39.9
725.5	6342.4	39.8
726.0	6167.3	39.7
726.5	6057.6	39.6
727.0	6123.8	39.4
727.5	5974.2	39.3
728.0	5913.5	39.2
728.5	5910.8	39.0
729.0	5912.8	38.8
729.5	5785.3	38.6
730.0	5672.9	38.4
730.5	5702.6	38.2
731.0	5703.9	38.0
731.5	5565.4	37.8
732.0	5467.4	37.6
732.5	5486.8	37.5
733.0	5489.5	37.4
733.5	5342.7	37.3
734.0	5235.8	37.1
734.5	5276.5	37.0
735.0	5224.1	36.9
735.5	5138.6	36.7
736.0	5020.0	36.6
736.5	5062.0	36.4
737.0	5063.4	36.1
737.5	4851.8	35.8
738.0	4844.9	35.6
738.5	4848.3	35.3
739.0	4520.1	35.1
739.5	4631.1	34.8
740.0	4450.5	34.6
740.5	4396.7	34.4
741.0	4427.7	34.2
741.5	4259.5	34.0
742.0	4167.8	33.8
742.5	4170.6	33.6
743.0	4061.6	33.4
743.5	3852.0	33.2
744.0	3881.7	33.0
744.5	3883.0	32.9
745.0	3602.4	32.8
745.5	3646.6	32.6
746.0	3696.2	32.5
746.5	3523.1	32.4
747.0	3523.1	32.3
747.5	3559.7	32.1
748.0	3437.6	32.0
748.5	3361.8	31.8
749.0	3372.1	31.6
749.5	3208.1	31.4
750.0	3163.2	31.2
750.5	3163.9	31.0
751.0	3090.8	30.9
751.5	3026.7	30.7
752.0	2940.5	30.5
752.5	2957.8	30.4
753.0	3068.1	30.3
753.5	3178.4	30.3
754.0	3147.4	30.2
754.5	3151.5	30.1
755.0	3151.5	30.1
755.5	3151.5	30.0
756.0	3151.5	30.0
756.5	3150.8	29.9
757.0	3152.2	29.8
757.5	3152.2	29.8
758.0	3152.2	29.7
758.5	3152.2	29.6
759.0	3152.2	29.6
759.5	3152.2	29.5
760.0	3153.6	29.4
760.5	3152.9	29.4
761.0	3152.9	29.3
761.5	3151.5	29.3
762.0	3152.9	29.2
762.5	3151.5	29.1
763.0	3152.2	29.1
763.5	3152.2	29.0
764.0	3152.2	28.9
764.5	3152.9	28.9
765.0	3151.5	28.9
765.5	3151.5	28.9
766.0	3150.8	28.9
766.5	3150.8	28.9
767.0	3150.8	28.9
767.5	3151.5	28.9
768.0	3150.8	28.9
768.5	3151.5	28.9
769.0	3151.5	28.8
769.5	3150.8	28.7
770.0	3152.2	28.7
770.5	3151.5	28.6
771.0	3151.5	28.5
771.5	3151.5	28.5
772.0	3152.2	28.4
772.5	3151.5	28.4
773.0	3152.2	28.4
773.5	3151.5	28.4
774.0	3152.2	28.4
774.5	3151.5	28.4
775.0	3151.5	28.4
775.5	3152.9	28.4
776.0	3152.2	28.4
776.5	3151.5	28.4
777.0	3152.9	28.4
777.5	3151.5	28.4
778.0	3152.2	28.4
778.5	3151.5	28.4
779.0	3152.2	28.4
779.5	3152.2	28.4
780.0	3153.6	28.4
780.5	3151.5	28.4
781.0	3141.2	28.4
781.5	3077.1	28.4
782.0	2984.7	28.4
782.5	3024.7	28.4
783.0	3052.9	28.4
783.5	3055.7	28.4
784.0	2996.4	28.4
784.5	2847.5	28.4
785.0	2890.9	28.3
785.5	2893.0	28.2
786.0	2893.0	28.2
786.5	2667.5	28.1
787.0	2600.6	28.0
787.5	2604.1	28.0
788.0	2435.2	27.9
788.5	2306.9	27.8
789.0	2313.8	27.8
789.5	2314.5	27.7
790.0	2019.4	27.7
790.5	2022.2	27.6
791.0	2022.9	27.5
791.5	1660.2	27.5
792.0	1640.2	27.4
792.5	1649.2	27.3
793.0	1536.1	27.3
793.5	1316.8	27.2
794.0	1236.5	27.1
794.5	1229.3	27.1
795.0	1231.3	27.0
795.5	1234.8	26.9
796.0	1234.1	26.9
796.5	1174.1	26.8
797.0	1198.2	26.8
797.5	958.3	26.7
798.0	894.2	26.6
798.5	876.3	26.6
799.0	866.6	26.5
799.5	860.4	26.4
800.0	855.6	26.4
800.5	854.2	26.4
801.0	852.1	26.4
801.5	830.8	26.4
802.0	677.7	26.4
802.5	599.8	26.4
803.0	564.6	26.4
803.5	542.6	26.4
804.0	529.5	26.4
804.5	512.2	26.4
805.0	402.6	26.4
805.5	155.1	26.4
806.0	148.9	26.4
806.5	146.1	26.4
807.0	136.5	26.4
807.5	135.1	26.4
808.0	135.8	26.4
808.5	135.8	26.3
809.0	135.1	26.2
809.5	135.8	26.2

Schlumberger of Canada
Schlumberger Testing Services

Test Date : 3/9/90
Location : RECOVERY RECORDER
DST # : TW0

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	13:55:00	REFERENCE TIME		89.6	3.6		
2	17:35:00	SEE COMMENTS On bottom	220.0	190.9	52.9		
3	19:05:00	SEE COMMENTS First attempt to inflate packers	90.0	198.5	57.1		
4	19:35:00	SEE COMMENTS Second attempt to inflate packers	30.0	199.2	58.1		
5	20:15:00	SEE COMMENTS Third attempt to inflate packers	40.0	199.2	58.6		
6	20:35:00	SEE COMMENTS Start out of hole	20.0	199.9	59.1		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-TOP OF RECOVERY			
3-MIDDLE OF RECOVERY			
4-BOTTOM OF RECOVERY			
5-BOTTOMHOLE SAMPLER	MISRUN #000556, #103734		

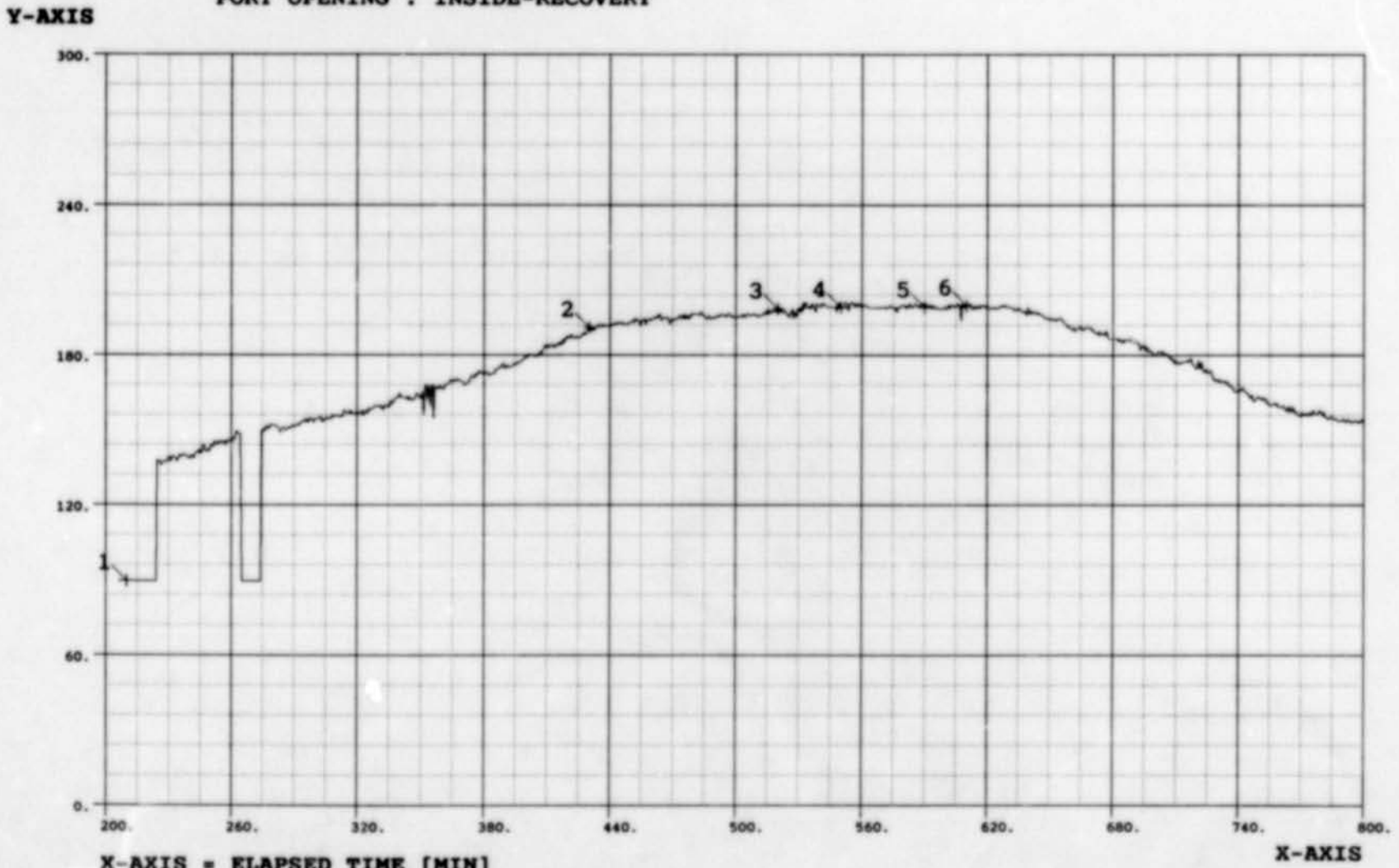
Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120AR
INSTRUMENT NO. : SB-50130
DEPTH : 1374.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : TWO



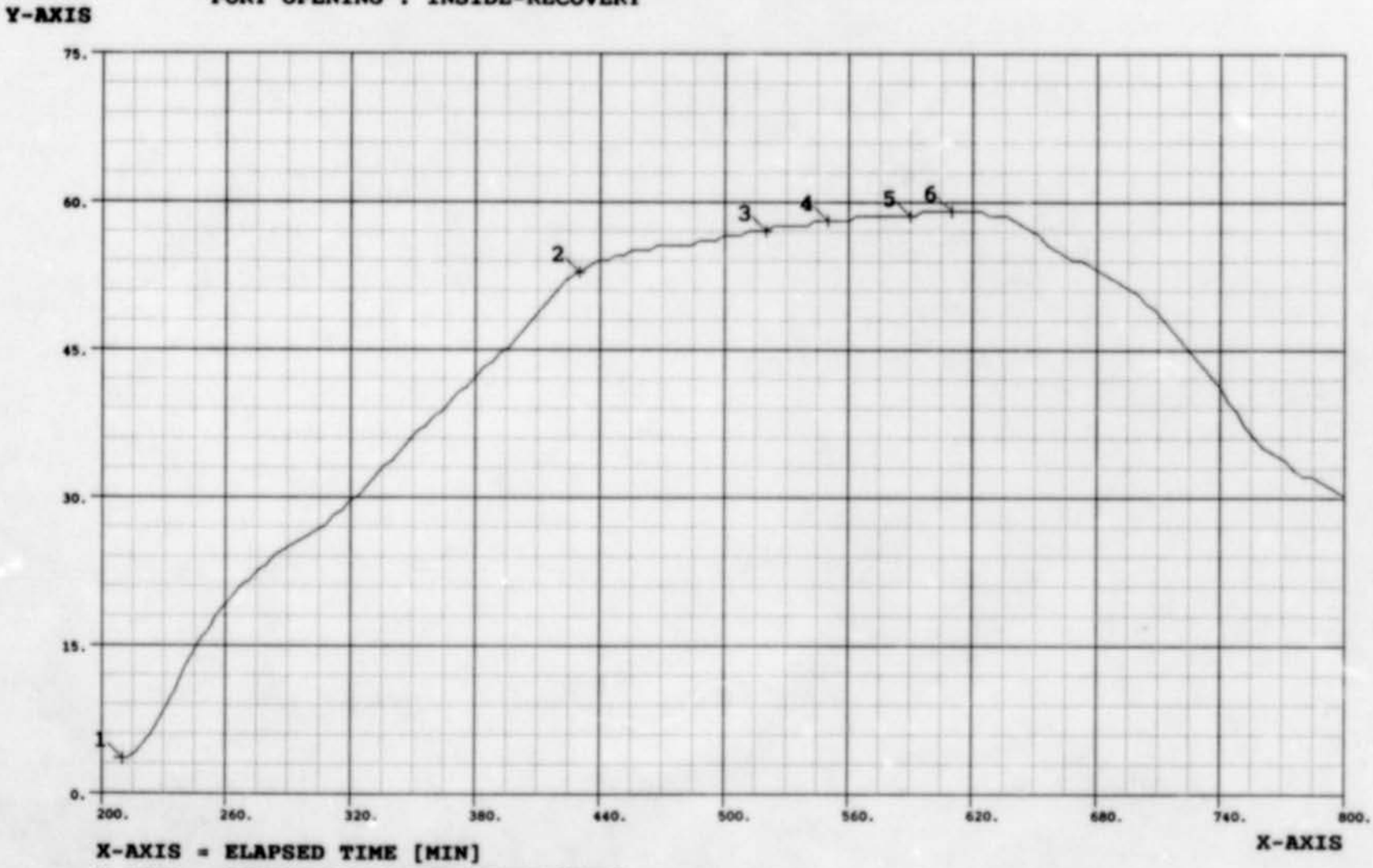
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120AR
INSTRUMENT NO. : SB-50130
DEPTH : 1374.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : TWO



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301120AR FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
206.0	89.6	3.6	246.0	140.6	14.9	286.0	149.6	24.4	326.0	158.5	30.7
206.5	89.6	3.6	246.5	144.0	15.1	286.5	150.3	24.5	326.5	157.8	30.8
207.0	89.6	3.6	247.0	143.4	15.3	287.0	150.9	24.6	327.0	158.5	31.0
207.5	89.6	3.6	247.5	142.0	15.5	287.5	150.9	24.6	327.5	158.5	31.1
208.0	89.6	3.6	248.0	141.3	15.6	288.0	150.3	24.7	328.0	159.2	31.2
208.5	89.6	3.6	248.5	142.0	15.8	288.5	150.9	24.7	328.5	159.2	31.3
209.0	89.6	3.6	249.0	142.0	15.9	289.0	151.6	24.8	329.0	159.9	31.5
209.5	89.6	3.6	249.5	141.3	16.0	289.5	151.6	24.9	329.5	159.2	31.6
210.0	89.6	3.6	250.0	143.4	16.1	290.0	150.9	24.9	330.0	159.2	31.7
210.5	89.6	3.6	250.5	144.0	16.3	290.5	151.6	25.0	330.5	159.2	31.8
211.0	89.6	3.6	251.0	143.4	16.4	291.0	151.6	25.1	331.0	159.9	32.0
211.5	89.6	3.6	251.5	143.4	16.5	291.5	152.3	25.1	331.5	158.5	32.1
212.0	89.6	3.6	252.0	145.4	16.6	292.0	151.6	25.2	332.0	159.2	32.2
212.5	89.6	3.6	252.5	144.7	16.8	292.5	151.6	25.2	332.5	157.8	32.3
213.0	89.6	3.7	253.0	144.0	17.0	293.0	153.0	25.3	333.0	159.9	32.5
213.5	89.6	3.8	253.5	144.7	17.2	293.5	153.0	25.4	333.5	159.2	32.6
214.0	89.6	3.8	254.0	145.4	17.4	294.0	153.0	25.4	334.0	159.9	32.7
214.5	89.6	3.9	254.5	144.7	17.6	294.5	153.0	25.5	334.5	159.2	32.8
215.0	89.6	4.0	255.0	144.7	17.8	295.0	154.4	25.6	335.0	159.9	33.0
215.5	89.6	4.0	255.5	145.4	18.0	295.5	153.7	25.6	335.5	159.2	33.1
216.0	89.6	4.1	256.0	144.7	18.2	296.0	153.0	25.7	336.0	162.0	33.2
216.5	89.6	4.2	256.5	144.7	18.3	296.5	154.4	25.7	336.5	160.6	33.3
217.0	89.6	4.3	257.0	145.4	18.4	297.0	153.0	25.8	337.0	160.6	33.3
217.5	89.6	4.5	257.5	144.0	18.5	297.5	154.4	25.9	337.5	162.0	33.4
218.0	89.6	4.6	258.0	145.4	18.7	298.0	154.4	25.9	338.0	162.7	33.5
218.5	89.6	4.7	258.5	145.4	18.8	298.5	154.4	26.0	338.5	162.7	33.5
219.0	89.6	4.8	259.0	146.1	18.9	299.0	153.7	26.1	339.0	162.7	33.6
219.5	89.6	5.0	259.5	145.4	19.0	299.5	153.0	26.1	339.5	163.4	33.7
220.0	89.6	5.1	260.0	144.7	19.2	300.0	154.4	26.2	340.0	164.7	33.7
220.5	89.6	5.2	260.5	145.4	19.3	300.5	154.4	26.2	340.5	162.7	33.8
221.0	89.6	5.3	261.0	146.8	19.4	301.0	154.4	26.3	341.0	163.4	34.0
221.5	89.6	5.5	261.5	146.1	19.5	301.5	154.4	26.4	341.5	163.4	34.1
222.0	89.6	5.6	262.0	148.2	19.7	302.0	154.4	26.4	342.0	162.7	34.2
222.5	89.6	5.7	262.5	149.6	19.8	302.5	155.1	26.5	342.5	162.7	34.3
223.0	89.6	5.8	263.0	148.9	19.9	303.0	155.1	26.6	343.0	162.7	34.5
223.5	89.6	6.0	263.5	148.2	20.0	303.5	153.0	26.6	343.5	163.4	34.6
224.0	89.6	6.1	264.0	148.2	20.2	304.0	154.4	26.7	344.0	162.0	34.7
224.5	137.8	6.3	264.5	148.2	20.3	304.5	153.7	26.8	344.5	163.4	34.9
225.0	137.2	6.5	265.0	89.6	20.4	305.0	154.4	26.8	345.0	162.0	35.0
225.5	137.8	6.7	265.5	89.6	20.5	305.5	154.4	26.9	345.5	162.7	35.1
226.0	136.5	6.8	266.0	89.6	20.7	306.0	155.1	26.9	346.0	162.0	35.2
226.5	135.8	7.0	266.5	89.6	20.8	306.5	154.4	27.0	346.5	162.0	35.4
227.0	137.2	7.2	267.0	89.6	20.9	307.0	154.4	27.1	347.0	162.7	35.5
227.5	137.2	7.4	267.5	89.6	21.0	307.5	154.4	27.1	347.5	162.7	35.6
228.0	137.2	7.6	268.0	89.6	21.2	308.0	155.8	27.2	348.0	164.7	35.7
228.5	137.2	7.8	268.5	89.6	21.2	308.5	155.1	27.3	348.5	164.0	35.9
229.0	137.2	8.0	269.0	89.6	21.3	309.0	155.8	27.4	349.0	164.0	36.0
229.5	138.5	8.2	269.5	89.6	21.4	309.5	155.1	27.6	349.5	162.7	36.1
230.0	138.5	8.4	270.0	89.6	21.4	310.0	155.8	27.7	350.0	162.7	36.2
230.5	139.2	8.5	270.5	89.6	21.5	310.5	155.8	27.8	350.5	162.7	36.4
231.0	137.2	8.7	271.0	89.6	21.5	311.0	155.8	27.9	351.0	165.4	36.5
231.5	139.2	8.9	271.5	89.6	21.6	311.5	155.1	28.1	351.5	155.8	36.6
232.0	139.2	9.1	272.0	89.6	21.7	312.0	155.1	28.2	352.0	167.5	36.7
232.5	139.2	9.3	272.5	89.6	21.8	312.5	155.8	28.3	352.5	168.2	36.8
233.0	138.5	9.5	273.0	89.6	21.9	313.0	155.1	28.3	353.0	162.0	36.9
233.5	138.5	9.7	273.5	89.6	22.0	313.5	157.1	28.4	353.5	166.8	36.9
234.0	137.2	9.9	274.0	89.6	22.2	314.0	157.8	28.4	354.0	167.5	37.0
234.5	138.5	10.1	274.5	149.6	22.3	314.5	157.1	28.5	354.5	159.2	37.0
235.0	139.9	10.2	275.0	148.9	22.4	315.0	157.1	28.6	355.0	167.5	37.1
235.5	139.2	10.4	275.5	150.3	22.5	315.5	156.5	28.6	355.5	168.2	37.2
236.0	139.9	10.6	276.0	150.3	22.7	316.0	156.5	28.7	356.0	154.4	37.2
236.5	139.2	10.9	276.5	149.6	22.7	316.5	157.8	28.8	356.5	167.5	37.4
237.0	139.9	11.1	277.0	151.6	22.8	317.0	156.5	28.9	357.0	166.8	37.5
237.5	139.9	11.4	277.5	150.9	22.9	317.5	157.1	29.1	357.5	166.8	37.6
238.0	139.9	11.6	278.0	150.3	22.9	318.0	156.5	29.2	358.0	166.1	37.7
238.5	139.2	11.9	278.5	150.9	23.0	318.5	157.1	29.3	358.5	167.5	37.9
239.0	139.2	12.1	279.0	152.3	23.0	319.0	156.5	29.5	359.0	166.8	38.0
239.5	138.5	12.4	279.5	151.6	23.1	319.5	156.5	29.6	359.5	167.5	38.1
[illegible]	139.2	12.6	280.0	151.6	23.2	320.0	155.8	29.7	360.0	166.1	38.2
240.5	138.5	12.8	280.5	151.6	23.3	320.5	157.1	29.8	360.5	166.8	38.3
241.0	139.9	13.0	281.0	151.6	23.4	321.0	156.5	29.8	361.0	166.1	38.4
241.5	139.2	13.2	281.5	151.6	23.5	321.5	156.5	29.9	361.5	168.2	38.4
242.0	138.5	13.4	282.0	150.9	23.7	322.0	156.5	30.0	362.0	168.2	38.5
242.5	139.9	13.6	282.5	150.9	23.8	322.5	157.8	30.0	362.5	168.2	38.6
243.0	140.6	13.8	283.0	150.3	23.9	323.0	155.8	30.1	363.0	168.2	38.6
243.5	141.3	13.9	283.5	148.9	24.1	323.5	156.5	30.1	363.5	168.9	38.7
244.0	140.6	14.1	284.0	150.3	24.2	324.0	157.1	30.2	364.0	170.2	38.7
244.5	142.0	14.3	284.5	150.3	24.2	324.5	157.8	30.3	364.5	169.6	38.9
245.0	140.6	14.5	285.0	150.9	24.3	325.0	156.5	30.5	365.0	168.9	39.0
245.5	142.0	14.7	285.5	150.9	24.4	325.5	158.5	30.6	365.5	169.6	39.1

TEST REFERENCE#: 301120AR FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
366.0	170.2	39.2	406.0	180.6	47.7	446.0	193.0	54.4	486.0	194.4	55.9
366.5	169.6	39.4	406.5	180.6	47.8	446.5	192.3	54.5	486.5	194.4	55.9
367.0	170.2	39.5	407.0	181.3	47.9	447.0	192.3	54.5	487.0	195.8	56.0
367.5	169.6	39.6	407.5	180.6	48.1	447.5	192.3	54.6	487.5	195.1	56.1
368.0	170.2	39.7	408.0	182.0	48.2	448.0	192.3	54.6	488.0	194.4	56.1
368.5	169.6	39.9	408.5	182.7	48.3	448.5	192.3	54.6	488.5	194.4	56.1
369.0	169.6	40.0	409.0	184.0	48.4	449.0	193.0	54.6	489.0	195.1	56.1
369.5	169.6	40.1	409.5	182.7	48.6	449.5	193.0	54.6	489.5	195.1	56.1
370.0	168.9	40.2	410.0	184.0	48.7	450.0	193.0	54.6	490.0	194.4	56.1
370.5	168.2	40.4	410.5	184.0	48.8	450.5	193.7	54.6	490.5	195.1	56.1
371.0	168.2	40.5	411.0	182.7	48.9	451.0	193.7	54.6	491.0	195.8	56.1
371.5	168.2	40.6	411.5	184.0	49.1	451.5	193.0	54.6	491.5	195.8	56.1
372.0	168.9	40.7	412.0	183.3	49.2	452.0	194.4	54.6	492.0	195.1	56.1
372.5	168.9	40.8	412.5	184.0	49.3	452.5	194.4	54.7	492.5	195.8	56.1
373.0	168.9	40.9	413.0	184.0	49.4	453.0	193.7	54.8	493.0	196.4	56.1
373.5	170.9	40.9	413.5	182.7	49.6	453.5	193.7	54.8	493.5	195.1	56.1
374.0	171.6	41.0	414.0	184.0	49.7	454.0	193.7	54.9	494.0	195.8	56.1
374.5	171.6	41.1	414.5	183.3	49.8	454.5	191.6	55.0	494.5	195.8	56.1
375.0	170.9	41.1	415.0	184.7	49.9	455.0	193.7	55.0	495.0	195.8	56.1
375.5	170.9	41.2	415.5	184.0	50.1	455.5	193.7	55.1	495.5	195.1	56.1
376.0	172.3	41.2	416.0	184.0	50.2	456.0	193.7	55.1	496.0	196.4	56.1
376.5	171.6	41.4	416.5	185.4	50.3	456.5	194.4	55.1	496.5	196.4	56.2
377.0	173.0	41.5	417.0	184.0	50.4	457.0	192.3	55.1	497.0	196.4	56.3
377.5	172.3	41.6	417.5	186.1	50.5	457.5	193.7	55.1	497.5	195.8	56.3
378.0	173.7	41.7	418.0	184.7	50.7	458.0	193.7	55.1	498.0	195.1	56.4
378.5	173.0	41.9	418.5	186.8	50.8	458.5	194.4	55.1	498.5	195.8	56.4
379.0	172.3	42.0	419.0	186.1	50.9	459.0	194.4	55.1	499.0	195.1	56.5
379.5	173.0	42.1	419.5	187.5	51.0	459.5	193.7	55.1	499.5	195.1	56.6
380.0	173.0	42.2	420.0	186.8	51.2	460.0	194.4	55.1	500.0	195.1	56.6
380.5	172.3	42.4	420.5	187.5	51.3	460.5	194.4	55.1	500.5	195.1	56.6
381.0	173.0	42.5	421.0	186.8	51.4	461.0	195.1	55.1	501.0	195.1	56.6
381.5	173.0	42.6	421.5	188.2	51.5	461.5	195.1	55.1	501.5	195.8	56.6
382.0	172.3	42.7	422.0	187.5	51.7	462.0	194.4	55.1	502.0	195.1	56.6
382.5	171.6	42.9	422.5	186.8	51.8	462.5	195.8	55.1	502.5	195.8	56.6
383.0	172.3	43.0	423.0	186.8	51.9	463.0	195.1	55.1	503.0	195.8	56.6
383.5	172.3	43.1	423.5	186.8	52.0	463.5	196.4	55.1	503.5	195.1	56.6
384.0	172.3	43.2	424.0	187.5	52.2	464.0	195.8	55.1	504.0	196.4	56.6
384.5	173.0	43.3	424.5	186.8	52.2	464.5	193.7	55.2	504.5	195.1	56.6
385.0	172.3	43.3	425.0	186.8	52.3	465.0	194.4	55.3	505.0	195.8	56.6
385.5	174.4	43.4	425.5	186.8	52.3	465.5	195.1	55.3	505.5	196.4	56.6
386.0	174.4	43.5	426.0	187.5	52.4	466.0	195.1	55.4	506.0	196.4	56.6
386.5	174.4	43.5	426.5	187.5	52.5	466.5	194.4	55.5	506.5	195.8	56.6
387.0	174.4	43.6	427.0	188.9	52.5	467.0	195.1	55.5	507.0	195.8	56.6
387.5	175.1	43.7	427.5	188.2	52.6	467.5	194.4	55.6	507.5	195.8	56.6
388.0	175.8	43.7	428.0	188.9	52.7	468.0	194.4	55.6	508.0	196.4	56.6
388.5	175.1	43.8	428.5	188.2	52.7	468.5	192.3	55.6	508.5	196.4	56.7
389.0	176.5	44.0	429.0	189.6	52.8	469.0	193.7	55.6	509.0	195.8	56.8
389.5	176.5	44.1	429.5	190.2	52.8	469.5	194.4	55.6	509.5	195.8	56.8
390.0	174.4	44.2	430.0	190.9	52.9	470.0	194.4	55.6	510.0	196.4	56.9
390.5	175.8	44.3	430.5	189.6	53.0	470.5	193.7	55.6	510.5	195.1	56.9
391.0	175.1	44.5	431.0	190.2	53.0	471.0	194.4	55.6	511.0	195.8	57.0
391.5	175.8	44.6	431.5	190.9	53.1	471.5	194.4	55.6	511.5	195.8	57.1
392.0	175.1	44.7	432.0	189.6	53.2	472.0	194.4	55.6	512.0	195.8	57.1
392.5	175.1	44.8	432.5	190.2	53.2	472.5	194.4	55.6	512.5	195.8	57.1
393.0	175.1	44.8	433.0	190.9	53.3	473.0	195.8	55.6	513.0	195.8	57.1
393.5	175.8	44.9	433.5	190.9	53.3	473.5	195.8	55.6	513.5	197.1	57.1
394.0	176.5	45.0	434.0	190.9	53.4	474.0	194.4	55.6	514.0	196.4	57.1
394.5	176.5	45.0	434.5	191.6	53.5	474.5	195.8	55.6	514.5	197.1	57.1
395.0	175.8	45.1	435.0	192.3	53.5	475.0	194.4	55.6	515.0	196.4	57.1
395.5	176.5	45.1	435.5	191.6	53.6	475.5	196.4	55.6	515.5	198.5	57.1
396.0	177.1	45.2	436.0	190.9	53.7	476.0	194.4	55.6	516.0	196.4	57.1
396.5	176.5	45.3	436.5	191.6	53.7	476.5	195.8	55.6	516.5	197.1	57.1
397.0	177.1	45.5	437.0	192.3	53.8	477.0	194.4	55.6	517.0	197.8	57.1
397.5	177.1	45.6	437.5	191.6	53.8	477.5	195.8	55.6	517.5	197.1	57.1
398.0	177.8	45.7	438.0	191.6	53.9	478.0	194.4	55.6	518.0	197.1	57.1
398.5	177.8	45.8	438.5	191.6	54.0	478.5	196.4	55.6	518.5	197.8	57.1
399.0	178.5	46.0	439.0	191.6	54.0	479.0	195.8	55.6	519.0	197.8	57.1
399.5	178.5	46.1	439.5	191.6	54.1	479.5	196.4	55.6	519.5	197.1	57.1
400.0	179.9	46.2	440.0	191.6	54.1	480.0	196.4	55.6	520.0	198.5	57.1
400.5	179.2	46.3	440.5	192.3	54.1	480.5	196.4	55.6	520.5	197.8	57.2
401.0	179.2	46.5	441.0	191.6	54.1	481.0	196.4	55.6	521.0	197.1	57.3
401.5	179.9	46.6	441.5	192.3	54.1	481.5	196.4	55.6	521.5	198.5	57.3
402.0	180.6	46.7	442.0	192.3	54.1	482.0	196.4	55.6	522.0	197.1	57.4
402.5	179.9	46.8	442.5	193.0	54.1	482.5	195.8	55.6	522.5	197.1	57.4
403.0	179.9	46.9	443.0	192.3	54.1	483.0	196.4	55.6	523.0	197.8	57.5
403.5	179.9	47.1	443.5	192.3	54.1	483.5	197.1	55.6	523.5	197.8	57.6
404.0	179.2	47.2	444.0	193.0	54.1	484.0	195.8	55.6	524.0	196.4	57.6
404.5	179.9	47.3	444.5	193.0	54.2	484.5	195.8	55.7	524.5	196.4	57.6
405.0	179.9	47.4	445.0	193.0	54.3	485.0	195.8	55.8	525.0	195.8	57.6
405.5	179.2	47.6	445.5	192.3	54.3	485.5	195.1	55.8	525.5	195.1	57.6

TEST REFERENCE#: 301120AR FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
526.0	197.1	57.6	566.0	199.2	58.6	606.0	200.6	59.1	646.0	195.8	57.4
526.5	197.1	57.6	566.5	199.2	58.6	606.5	199.2	59.1	646.5	195.8	57.3
527.0	198.5	57.6	567.0	198.5	58.6	607.0	199.9	59.1	647.0	195.8	57.3
527.5	194.4	57.6	567.5	[illegible]	58.6	607.5	193.7	59.1	647.5	195.1	57.2
528.0	197.1	57.6	568.0	199.[illegible]	58.6	608.0	200.6	59.1	648.0	194.4	57.1
528.5	196.4	57.6	568.5	198.5	58.6	608.5	199.9	59.1	648.5	195.1	57.1
529.0	195.1	57.6	569.0	199.2	58.6	609.0	199.2	59.1	649.0	194.4	57.0
529.5	198.5	57.6	569.5	199.2	58.6	609.5	199.2	59.1	649.5	194.4	56.9
530.0	198.5	57.6	570.0	199.2	58.6	610.0	199.9	59.1	650.0	195.1	56.9
530.5	197.1	57.6	570.5	199.2	58.6	610.5	199.9	59.1	650.5	193.7	56.8
531.0	199.2	57.6	571.0	199.2	58.6	611.0	199.9	59.1	651.0	194.4	56.8
531.5	197.1	57.6	571.5	198.5	58.6	611.5	200.6	59.1	651.5	194.4	56.7
532.0	201.3	57.6	572.0	199.2	58.6	612.0	199.2	59.1	652.0	194.4	56.6
532.5	198.5	57.6	572.5	199.2	58.6	612.5	198.5	59.1	652.5	193.7	56.5
533.0	199.9	57.6	573.0	199.2	58.6	613.0	199.2	59.1	653.0	194.4	56.4
533.5	201.3	57.6	573.5	199.9	58.6	613.5	198.5	59.1	653.5	193.7	56.3
534.0	199.2	57.6	574.0	199.2	58.6	614.0	199.9	59.1	654.0	194.4	56.1
534.5	199.2	57.6	574.5	199.2	58.6	614.5	198.5	59.1	654.5	194.4	56.0
535.0	198.5	57.6	575.0	199.2	58.6	615.0	199.2	59.1	655.0	195.1	55.9
535.5	199.9	57.6	575.5	198.5	58.6	615.5	199.2	59.1	655.5	194.4	55.8
536.0	198.5	57.6	576.0	199.2	58.6	616.0	199.9	59.1	656.0	193.7	55.6
536.5	200.6	57.6	576.5	197.1	58.6	616.5	198.5	59.1	656.5	193.7	55.6
537.0	199.9	57.6	577.0	199.2	58.6	617.0	199.9	59.1	657.0	193.0	55.5
537.5	198.5	57.6	577.5	199.2	58.6	617.5	199.9	59.1	657.5	192.3	55.5
538.0	197.1	57.6	578.0	199.2	58.6	618.0	199.9	59.1	658.0	192.3	55.4
538.5	200.6	57.6	578.5	199.2	58.6	618.5	199.2	59.1	658.5	190.9	55.3
539.0	199.9	57.6	579.0	199.9	58.6	619.0	199.9	59.1	659.0	191.6	55.3
539.5	199.9	57.6	579.5	199.9	58.6	619.5	199.2	59.1	659.5	191.6	55.2
540.0	199.9	57.6	580.0	199.9	58.6	620.0	198.5	59.1	660.0	190.9	55.1
540.5	199.2	57.7	580.5	199.9	58.6	620.5	199.2	59.1	660.5	190.2	55.1
541.0	200.6	57.7	581.0	198.5	58.6	621.0	199.2	59.1	661.0	190.2	55.0
541.5	199.9	57.8	581.5	199.9	58.6	621.5	198.5	59.1	661.5	190.9	55.0
542.0	200.6	57.9	582.0	199.2	58.6	622.0	198.5	59.1	662.0	189.6	54.9
542.5	199.9	57.9	582.5	199.9	58.6	622.5	199.2	59.1	662.5	190.2	54.8
543.0	199.9	58.0	583.0	200.6	58.6	623.0	199.2	59.1	663.0	190.2	54.8
543.5	199.2	58.1	583.5	199.2	58.6	623.5	198.5	59.1	663.5	190.9	54.7
544.0	199.2	58.1	584.0	199.2	58.6	624.0	199.2	59.1	664.0	191.6	54.6
544.5	199.2	58.1	584.5	199.2	58.6	624.5	198.5	59.1	664.5	190.9	54.6
545.0	199.2	58.1	585.0	199.9	58.6	625.0	198.5	59.0	665.0	190.2	54.5
545.5	199.2	58.1	585.5	200.6	58.6	625.5	199.2	58.9	665.5	190.9	54.5
546.0	199.2	58.1	586.0	199.9	58.6	626.0	199.2	58.9	666.0	190.2	54.4
546.5	199.2	58.1	586.5	199.9	58.6	626.5	199.2	58.8	666.5	190.2	54.3
547.0	199.2	58.1	587.0	199.2	58.6	627.0	199.9	58.7	667.0	190.9	54.3
547.5	199.2	58.1	587.5	199.9	58.6	627.5	199.9	58.7	667.5	190.9	54.2
548.0	197.1	58.1	588.0	199.9	58.6	628.0	199.2	58.6	668.0	190.9	54.1
548.5	200.6	58.1	588.5	200.6	58.6	628.5	199.9	58.6	668.5	190.9	54.1
549.0	198.5	58.1	589.0	200.6	58.6	629.0	199.9	58.6	669.0	190.9	54.1
549.5	201.3	58.1	589.5	199.2	58.6	629.5	199.2	58.6	669.5	190.9	54.1
550.0	199.2	58.1	590.0	199.2	58.6	630.0	199.2	58.6	670.0	189.6	54.1
550.5	199.2	58.1	590.5	200.6	58.6	630.5	199.2	58.6	670.5	190.2	54.1
551.0	199.2	58.1	591.0	199.9	58.6	631.0	199.2	58.6	671.0	189.6	54.1
551.5	199.2	58.1	591.5	199.9	58.6	631.5	199.2	58.6	671.5	188.9	54.1
552.0	201.3	58.1	592.0	199.9	58.6	632.0	199.2	58.6	672.0	188.9	54.1
552.5	200.6	58.1	592.5	199.9	58.7	632.5	198.5	58.6	672.5	188.9	54.1
553.0	200.6	58.1	593.0	199.9	58.7	633.0	197.8	58.6	673.0	188.2	54.0
553.5	197.8	58.1	593.5	198.5	58.8	633.5	198.5	58.6	673.5	189.6	54.0
554.0	199.2	58.1	594.0	199.9	58.9	634.0	198.5	58.6	674.0	188.9	53.9
554.5	200.6	58.1	594.5	199.2	58.9	634.5	197.8	58.6	674.5	188.2	53.8
555.0	201.3	58.1	595.0	198.5	59.0	635.0	198.5	58.6	675.0	188.2	53.8
555.5	200.6	58.1	595.5	199.2	59.1	635.5	198.5	58.6	675.5	188.9	53.7
556.0	200.6	58.1	596.0	199.2	59.1	636.0	198.5	58.6	676.0	188.9	53.7
556.5	199.2	58.1	596.5	198.5	59.1	636.5	197.1	58.6	676.5	188.2	53.6
557.0	200.6	58.1	597.0	198.5	59.1	637.0	197.1	58.5	677.0	189.6	53.5
557.5	200.6	58.1	597.5	198.5	59.1	637.5	197.1	58.4	677.5	187.5	53.5
558.0	199.2	58.1	598.0	198.5	59.1	638.0	197.8	58.4	678.0	186.8	53.4
558.5	200.6	58.1	598.5	198.5	59.1	638.5	197.1	58.3	678.5	186.1	53.3
559.0	200.6	58.1	599.0	199.2	59.1	639.0	195.8	58.2	679.0	186.8	53.3
559.5	199.2	58.1	599.5	199.2	59.1	639.5	199.2	58.2	679.5	186.8	53.2
560.0	200.6	58.1	600.0	198.5	59.1	640.0	197.1	58.1	680.0	186.8	53.2
560.5	199.2	58.2	600.5	198.5	59.1	640.5	196.4	58.1	680.5	186.8	53.1
561.0	199.9	58.2	601.0	199.9	59.1	641.0	197.8	58.0	681.0	186.8	53.0
561.5	199.9	58.3	601.5	199.9	59.1	641.5	196.4	57.9	681.5	186.1	53.0
562.0	199.9	58.4	602.0	198.5	59.1	642.0	197.1	57.9	682.0	186.1	52.9
562.5	199.2	58.4	602.5	199.9	59.1	642.5	197.1	57.8	682.5	186.8	52.8
563.0	199.2	58.5	603.0	199.9	59.1	643.0	197.1	57.7	683.0	185.4	52.8
563.5	199.2	58.6	603.5	199.9	59.1	643.5	196.4	57.7	683.5	186.1	52.7
564.0	199.2	58.6	604.0	199.2	59.1	644.0	196.4	57.6	684.0	186.1	52.7
564.5	198.5	58.6	604.5	199.2	59.1	644.5	197.1	57.6	684.5	184.7	52.6
565.0	198.5	58.6	605.0	199.9	59.1	645.0	196.4	57.5	685.0	186.1	52.5
565.5	199.2	58.6	605.5	199.9	59.1	645.5	196.4	57.4	685.5	185.4	52.5

TEST REFERENCE#: 301120AR FILE STARTS: 13:50:00 on March 9, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
686.0	186.1	52.4	726.0	173.0	44.7	766.0	159.2	34.5	806.0	151.6	29.7
686.5	186.1	52.3	726.5	173.7	44.6	766.5	157.1	34.4	806.5	152.3	29.7
687.0	186.1	52.3	727.0	172.3	44.5	767.0	157.8	34.3	807.0	151.6	29.7
687.5	185.4	52.2	727.5	170.9	44.3	767.5	156.5	34.3	807.5	152.3	29.7
688.0	186.8	52.2	728.0	170.9	44.2	768.0	157.1	34.2	808.0	152.3	29.7
688.5	186.1	52.1	728.5	169.6	44.1	768.5	156.5	34.2	808.5	151.6	29.6
689.0	185.4	52.0	729.0	170.2	44.0	769.0	155.8	34.1	809.0	151.6	29.6
689.5	184.7	52.0	729.5	169.6	43.8	769.5	155.8	34.0	809.5	152.3	29.5
690.0	185.4	51.9	730.0	169.6	43.7	770.0	155.1	34.0			
690.5	184.7	51.9	730.5	170.2	43.6	770.5	157.1	33.9			
691.0	185.4	51.8	731.0	168.9	43.5	771.0	156.5	33.8			
691.5	184.7	51.7	731.5	169.6	43.3	771.5	155.8	33.8			
692.0	184.0	51.7	732.0	169.6	43.2	772.0	156.5	33.7			
692.5	184.7	51.6	732.5	169.6	43.1	772.5	156.5	33.6			
693.0	182.0	51.5	733.0	168.9	43.0	773.0	156.5	33.5			
693.5	183.3	51.5	733.5	169.6	42.9	773.5	155.8	33.3			
694.0	183.3	51.4	734.0	169.6	42.7	774.0	156.5	33.2			
694.5	184.0	51.4	734.5	168.2	42.6	774.5	157.1	33.1			
695.0	182.7	51.3	735.0	168.9	42.5	775.0	155.8	33.0			
695.5	182.0	51.2	735.5	167.5	42.4	775.5	156.5	32.8			
696.0	183.3	51.2	736.0	168.2	42.2	776.0	157.8	32.7			
696.5	181.3	51.1	736.5	167.5	42.1	776.5	157.1	32.7			
697.0	182.0	51.0	737.0	166.8	42.0	777.0	156.5	32.6			
697.5	181.3	51.0	737.5	166.8	41.9	777.5	156.5	32.5			
698.0	181.3	50.9	738.0	165.4	41.7	778.0	156.5	32.5			
698.5	181.3	50.9	738.5	165.4	41.6	778.5	156.5	32.4			
699.0	180.6	50.8	739.0	165.4	41.5	779.0	157.8	32.3			
699.5	179.9	50.7	739.5	165.4	41.4	779.5	157.1	32.3			
700.0	179.9	50.7	740.0	165.4	41.2	780.0	157.1	32.2			
700.5	180.6	50.5	740.5	166.1	41.1	780.5	155.8	32.2			
701.0	180.6	50.4	741.0	165.4	40.9	781.0	157.1	32.2			
701.5	181.3	50.3	741.5	166.8	40.7	781.5	155.1	32.2			
702.0	181.3	50.2	742.0	166.8	40.5	782.0	155.1	32.2			
702.5	181.3	50.1	742.5	166.1	40.3	782.5	155.1	32.2			
703.0	180.6	49.9	743.0	165.4	40.1	783.0	154.4	32.2			
703.5	181.3	49.8	743.5	165.4	39.9	783.5	154.4	32.2			
704.0	181.3	49.7	744.0	164.7	39.7	784.0	155.1	32.2			
704.5	180.6	49.6	744.5	164.7	39.6	784.5	155.1	32.2			
705.0	179.9	49.6	745.0	163.4	39.5	785.0	155.1	32.1			
705.5	180.6	49.5	745.5	163.4	39.4	785.5	154.4	32.0			
706.0	179.2	49.4	746.0	162.7	39.2	786.0	154.4	32.0			
706.5	179.9	49.4	746.5	164.0	39.1	786.5	154.4	31.9			
707.0	178.5	49.3	747.0	162.0	39.0	787.0	154.4	31.8			
707.5	179.2	49.2	747.5	161.3	38.9	787.5	153.7	31.8			
708.0	177.8	49.2	748.0	162.0	38.7	788.0	153.7	31.7			
708.5	178.5	49.1	748.5	162.7	38.6	788.5	153.7	31.6			
709.0	176.5	48.9	749.0	163.4	38.4	789.0	153.7	31.6			
709.5	177.8	48.8	749.5	162.7	38.2	789.5	153.7	31.5			
710.0	177.8	48.7	750.0	163.4	38.0	790.0	154.4	31.5			
710.5	176.5	48.6	750.5	162.7	37.8	790.5	154.4	31.4			
711.0	177.1	48.4	751.0	162.0	37.6	791.0	153.7	31.3			
711.5	176.5	48.3	751.5	162.7	37.4	791.5	153.0	31.3			
712.0	176.5	48.2	752.0	162.7	37.2	792.0	153.7	31.2			
712.5	177.1	48.1	752.5	162.0	37.1	792.5	154.4	31.1			
713.0	177.1	47.9	753.0	161.7	37.0	793.0	153.7	31.1			
713.5	177.1	47.8	753.5	160.6	36.9	793.5	153.0	31.0			
714.0	177.1	47.7	754.0	161.3	36.7	794.0	153.0	31.0			
714.5	177.1	47.6	754.5	160.6	36.6	794.5	153.7	30.9			
715.0	177.8	47.4	755.0	159.9	36.5	795.0	153.0	30.8			
715.5	177.8	47.3	755.5	159.9	36.4	795.5	153.7	30.8			
716.0	177.1	47.2	756.0	159.9	36.2	796.0	153.7	30.7			
716.5	177.8	47.1	756.5	160.6	36.1	796.5	153.7	30.6			
717.0	178.5	46.9	757.0	160.6	36.0	797.0	153.0	30.6			
717.5	176.5	46.8	757.5	160.6	35.9	797.5	153.7	30.5			
718.0	176.5	46.7	758.0	159.9	35.7	798.0	153.0	30.5			
718.5	175.8	46.6	758.5	160.6	35.6	798.5	153.0	30.4			
719.0	175.1	46.5	759.0	159.2	35.5	799.0	154.4	30.3			
719.5	175.1	46.3	759.5	159.2	35.4	799.5	153.7	30.3			
720.0	174.4	46.2	760.0	159.2	35.2	800.0	153.0	30.2			
720.5	177.8	46.1	760.5	159.2	35.2	800.5	152.3	30.1			
721.0	175.8	46.0	761.0	159.2	35.1	801.0	153.7	30.1			
721.5	174.4	45.8	761.5	159.9	35.0	801.5	153.7	30.0			
722.0	177.1	45.7	762.0	158.5	35.0	802.0	153.7	30.0			
722.5	175.1	45.6	762.5	158.5	34.9	802.5	153.7	29.9			
723.0	173.7	45.5	763.0	158.5	34.9	803.0	153.7	29.8			
723.5	173.0	45.3	763.5	157.1	34.8	803.5	153.0	29.8			
724.0	174.4	45.2	764.0	159.2	34.7	804.0	153.0	29.7			
724.5	173.0	45.1	764.5	159.2	34.7	804.5	153.0	29.7			
725.0	173.7	45.0	765.0	157.1	34.6	805.0	153.0	29.7			
725.5	173.0	44.8	765.5	157.8	34.5	805.5	153.0	29.7			

C) DST #3 JEAN MARIE FORMATION
1390.0 - 1409.12 M

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/11/90
Location : N-45
DST # : THREE

LEVEL 1 FLOPETROL JOHNSTON ™ DST REPORT

for

PETRO CANADA INCORPORATED

Well: PCI ISLAND LAKE N-45

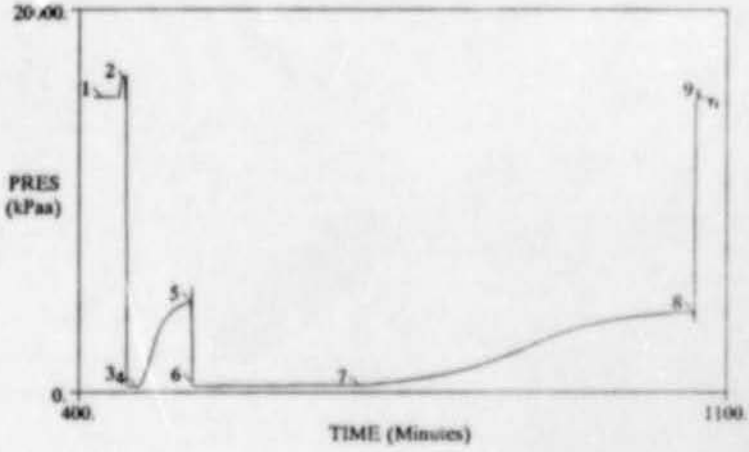
DST #THREE: RED KNIFE/JEAN MARIE FORMATION - (1390. - 1409.12M)

**********Test Reference Number: 3011208I**********

Test Data

#	Explanation	P(kPa)	T(min)
1	HYDROSTATIC	15413.7	425.0
2	REFERENCE TIME	16334.2	451.0
3	START FLOW	551.5	452.0
4	START SHUT-IN	295.7	463.0
5	END SHUT-IN	4743.5	522.0
6	START FLOW	488.1	524.0
7	START SHUT-IN	366.7	704.0
8	END SHUT-IN	4234.7	1064.0
9	HYDROSTATIC	15351.0	1075.0

BOTTOMHOLE PRESSURE LOG



Test Results [INFLATE STRADDLE]

FINAL SHUTIN PRESSURE	4234 kPa
RESERVOIR TEMPERATURE	62 C
PRODUCTION RATE	Surface response was too small to measure
NET PIPE RECOVERY	Total recovery of 10 m (.042 m3) very light gas cut mud.

Blow Description

PREFLOW	Very weak air blow, remained very weak throughout flow.
MAINFLOW	Weak air blow decreasing, dead in 90 minutes.

Comments

THIS WAS A MECHANICALLY SUCCESSFUL TEST OF THE RED KNIFE/JEAN MARIE FORMATION FROM 1390 TO 1409.12 MKB.

THE BOTTOMHOLE CHARTS INDICATE A FORMATION WITH VERY LOW PERMEABILITY.

IF YOU REQUIRE FURTHER INFORMATION, PLEASE CONTACT BRIAN JORDAN AT 231-9625.

Schlumberger | Schlumberger of Canada
Testing Services

Test Date : 3/11/90
Location : N-45
DST # : THREE

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	8:18:00	HYDROSTATIC		15413.7	56.4		
2	8:44:00	REFERENCE TIME	26.0	16334.2	56.9		
3	8:45:00	START FLOW	1.0	551.5	56.9		
4	8:56:00	START SHUT-IN	11.0	295.7	56.9		
5	9:55:00	END SHUT-IN	59.0	4743.5	58.0		
6	9:57:00	START FLOW	2.0	488.1	58.0		
7	12:57:00	START SHUT-IN	180.0	366.7	60.0		
8	18:57:00	END SHUT-IN	360.0	4234.7	62.1		
9	19:08:00	HYDROSTATIC	11.0	15351.0	62.1		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-RECOVERY	MUD MUD FILTRATE	3.70 @ 15 3.40 @ 15	1900 2100
3-			
4-			
5-BOTTOMHOLE SAMPLER	SENT TO LAB FOR DRAINING #000556, #103734		

Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger | Schlumberger of Canada
Testing Services

Test Date : 3/11/90
Location : N-45
DST # : THREE

Hole Conditions

Total Depth(MD/TVD)	**1450 m**
Ground Level	**605.4 m**
Kelly Bushing	**609.9 m**
Hole Size	**222 mm**
Mud Weight	**1115 kg/m3**
Mud Type	**Gel Chem**

Test String Configuration

Pipe Length/I.D.	**1227.47m / 97.2mm (.0074 m3/m)**
Collar Length/I.D.	**146.35m / 74mm (004188 m3/m)**
Packer Depths	**1390 - 1409m**
Bottomhole Choke Size	**12.7 mm**
Gauge Depth/Type	**1391.77 / STARBURST**

Tool Sequence:

#	DESCRIPTION	LENGTH(m)	DEPTH(m)
0	DRILL PIPE TOP	0.00	-1.76
1	Drill Pipe 114mm	9.50	7.74
2	OTHER STABBING VALVE	0.45	8.19
3	Drill Pipe 114mm	1217.97	1226.16
4	Drill Collars 165mm	128.24	1354.40
5	Pumpout Sub PIN TYPE	0.20	1354.60
6	Pumpout Sub SHEAR DISC TYPE	0.20	1354.80
7	Drill Collars 165mm	18.11	1372.91
8	Crossover 4 1/2H90-3 1/2FH	0.31	1373.22
9	Elec.Recorder SB#50130	1.80	1375.02
10	Choke Sub 12.7 mm	0.31	1375.33
11	MFE [Test Valve] #000556,#103734	4.04	1379.37
12	Crossover	0.31	1379.68
13	Recorder AK1 #2077	1.34	1381.02
14	Jars	2.28	1383.30
15	Rotary Pump #132248	2.45	1385.75
16	MSRV [Deflate] #113754	2.44	1388.19
17	REFERENCE PACKER #110540	1.81	1390.00
18	Packer Stub	0.77	1390.77
19	Recorder K3 #13043,SB#50131	2.14	1392.91
20	Crossover 3 1/2FH-4 1/2H90	0.31	1393.22
21	Drill Collars 165mm	9.02	1402.24
22	Crossover 4 1/2H90-3 1/2FH	0.31	1402.55
23	Spacer Pipe	5.49	1408.04
24	Crossover 3 1/2FH-4 1/2FH	0.31	1408.35
25	Packer Stub	0.77	1409.12
26	Packer #104645	1.81	1410.93
27	DDST [Drag Spring] #132928	2.62	1413.55
28	Recorder AK1 #2526	1.80	1415.35
29	Blank Off Sub	0.31	1415.66
30	Spacer Pipe Perforated	1.52	1417.18
31	Recorder AK1 #4375	1.80	1418.98
32	Bullnose	0.00	1418.98

Flopetrol Representative : GLEN E. CARTER

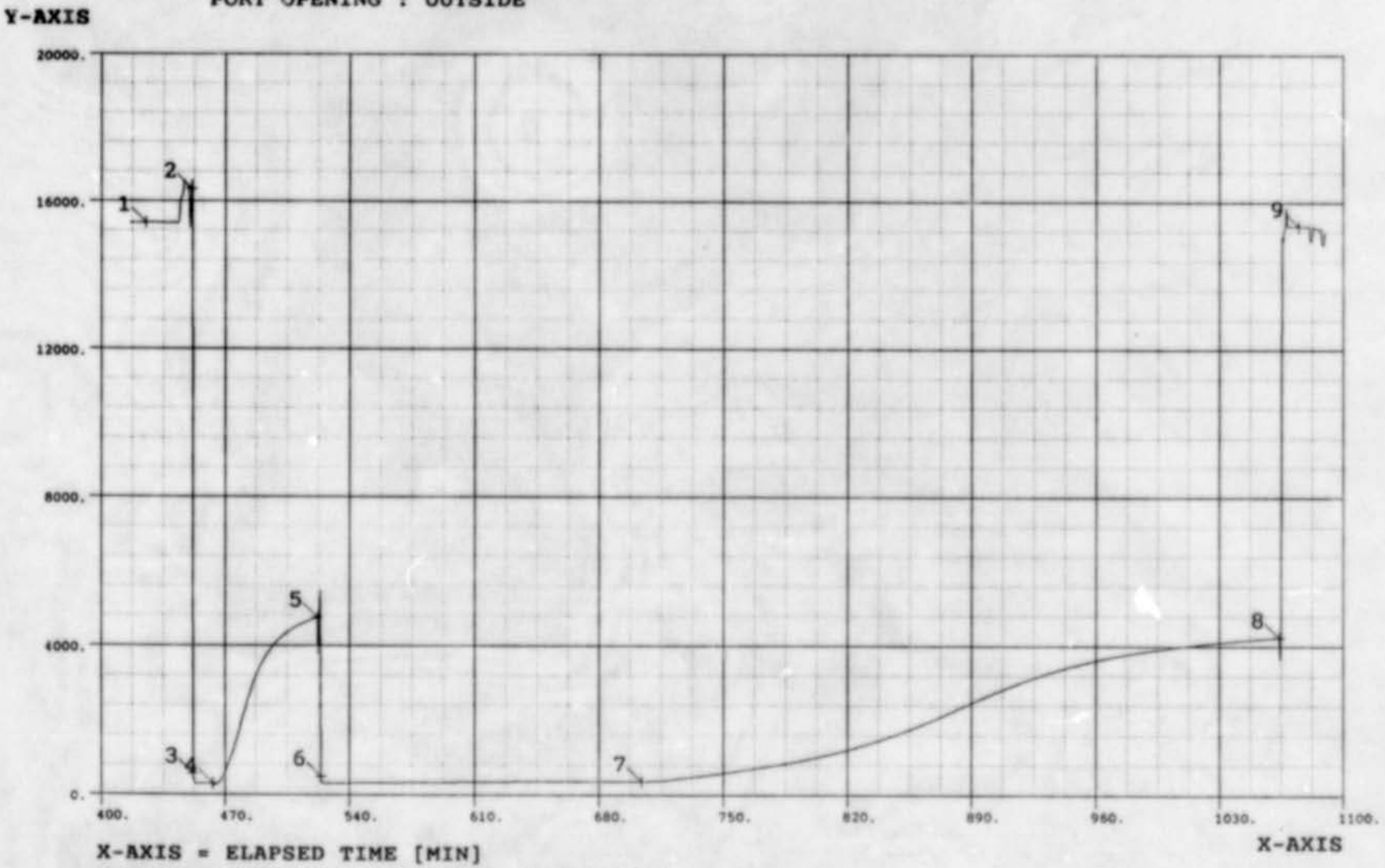
District : EDMONTON

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120BI
INSTRUMENT NO. : SB-50131
DEPTH : 1391.77 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : THREE



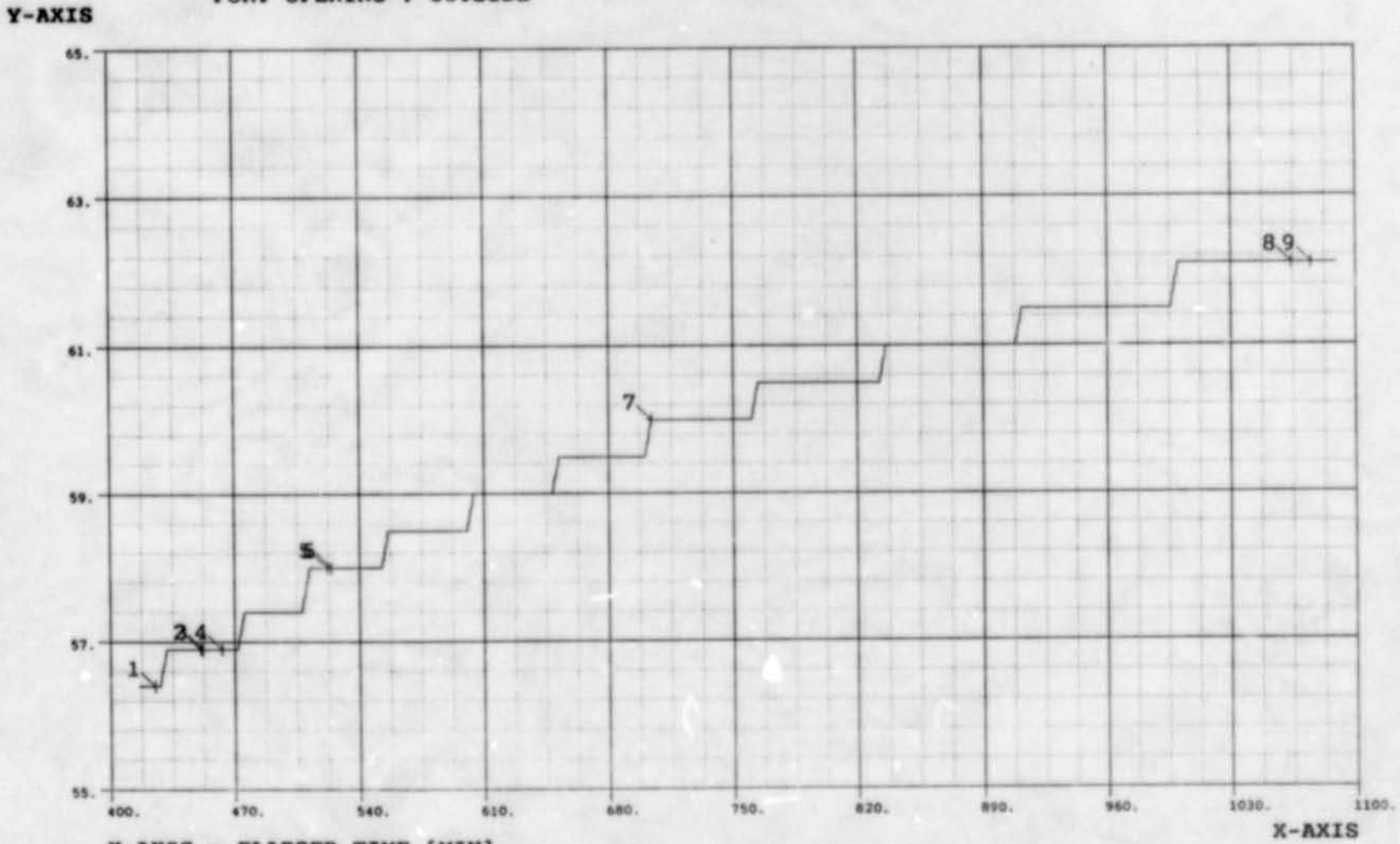
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120BI
INSTRUMENT NO. : SB-50131
DEPTH : 1391.77 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : THREE



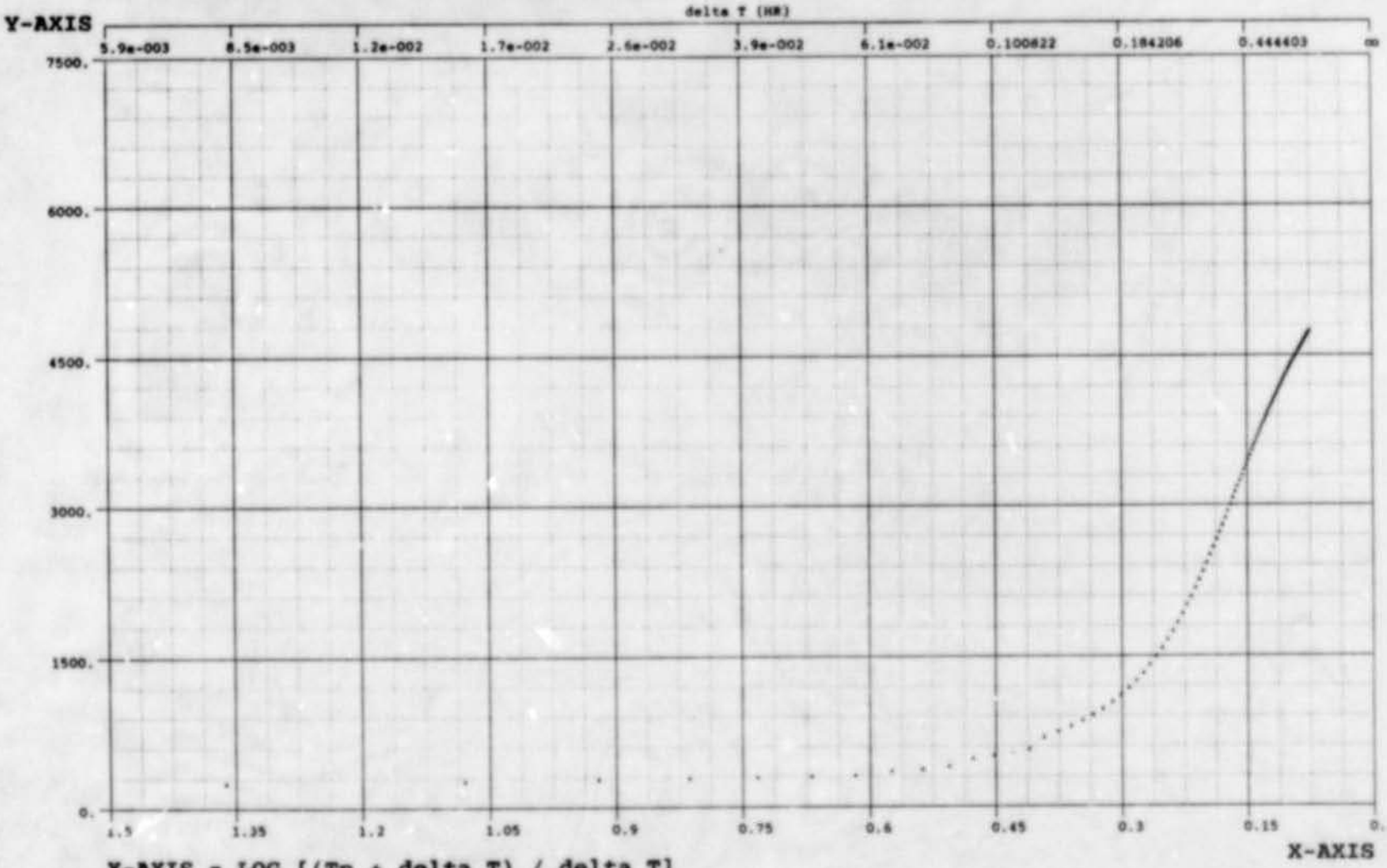
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

Schlumberger of Canada
Schlumberger Testing Services

HORNER PLOT

FIELD REPORT#: 301120BI
INSTRUMENT#: SB-50131
ELAPSED TIME RANGE: 463. - 522. MIN.
Delta T TIME RANGE: 8.3e-003 - 0.983333 HR.
PRODUCING TIME [Tp]: 0.1833333333 HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: ONE
DST#: THREE



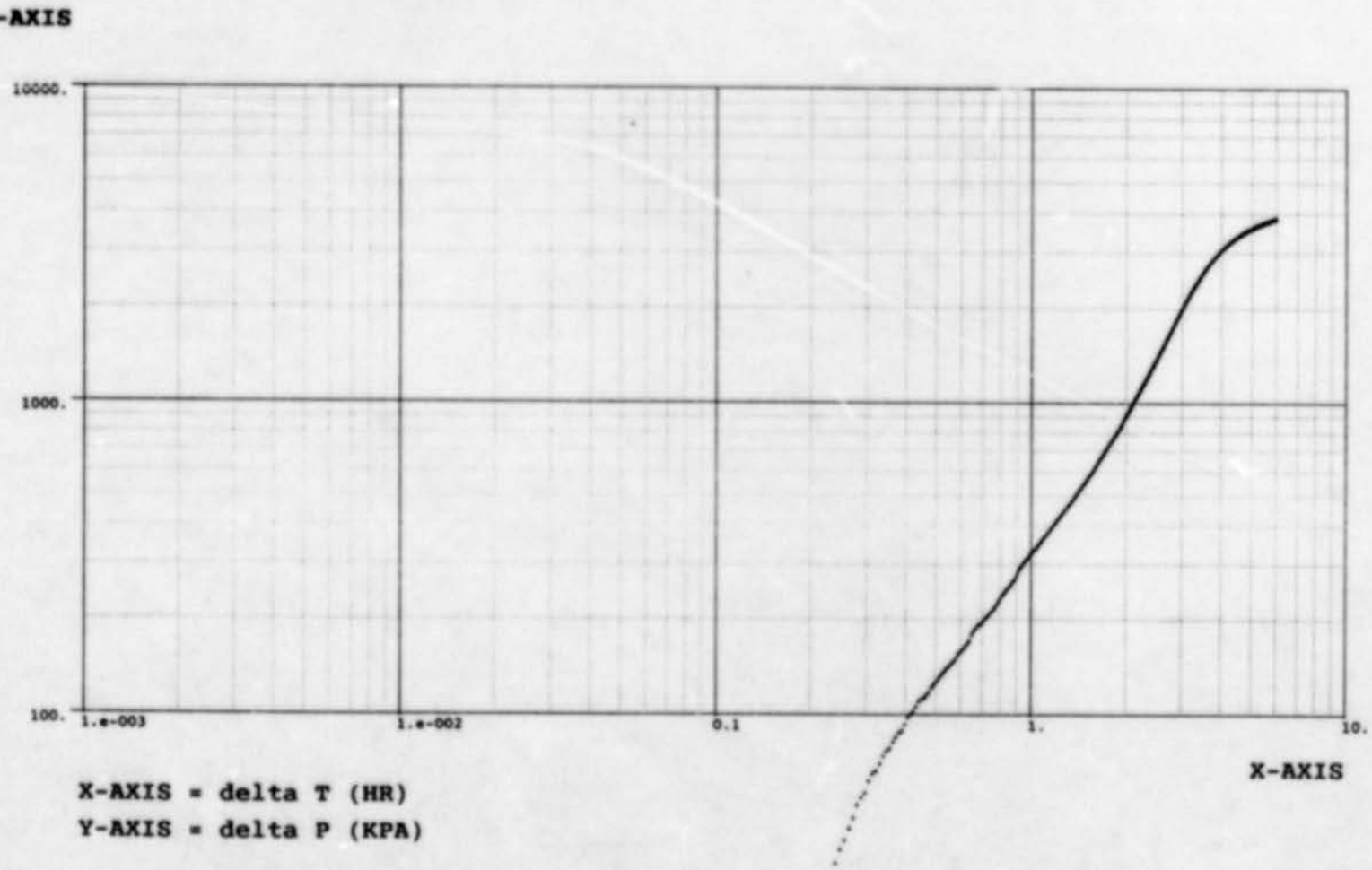
X-AXIS = LOG [(Tp + delta T) / delta T]
Y-AXIS = SHUTIN PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

L O G - L O G P L O T

FIELD REPORT#: 301120BI
INSTRUMENT#: SB-50131
ELAPSED TIME RANGE: 704. - 1064. MIN.
Delta_T TIME RANGE: 8.3e-003 - 6. HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: TWO
DST#: THREE



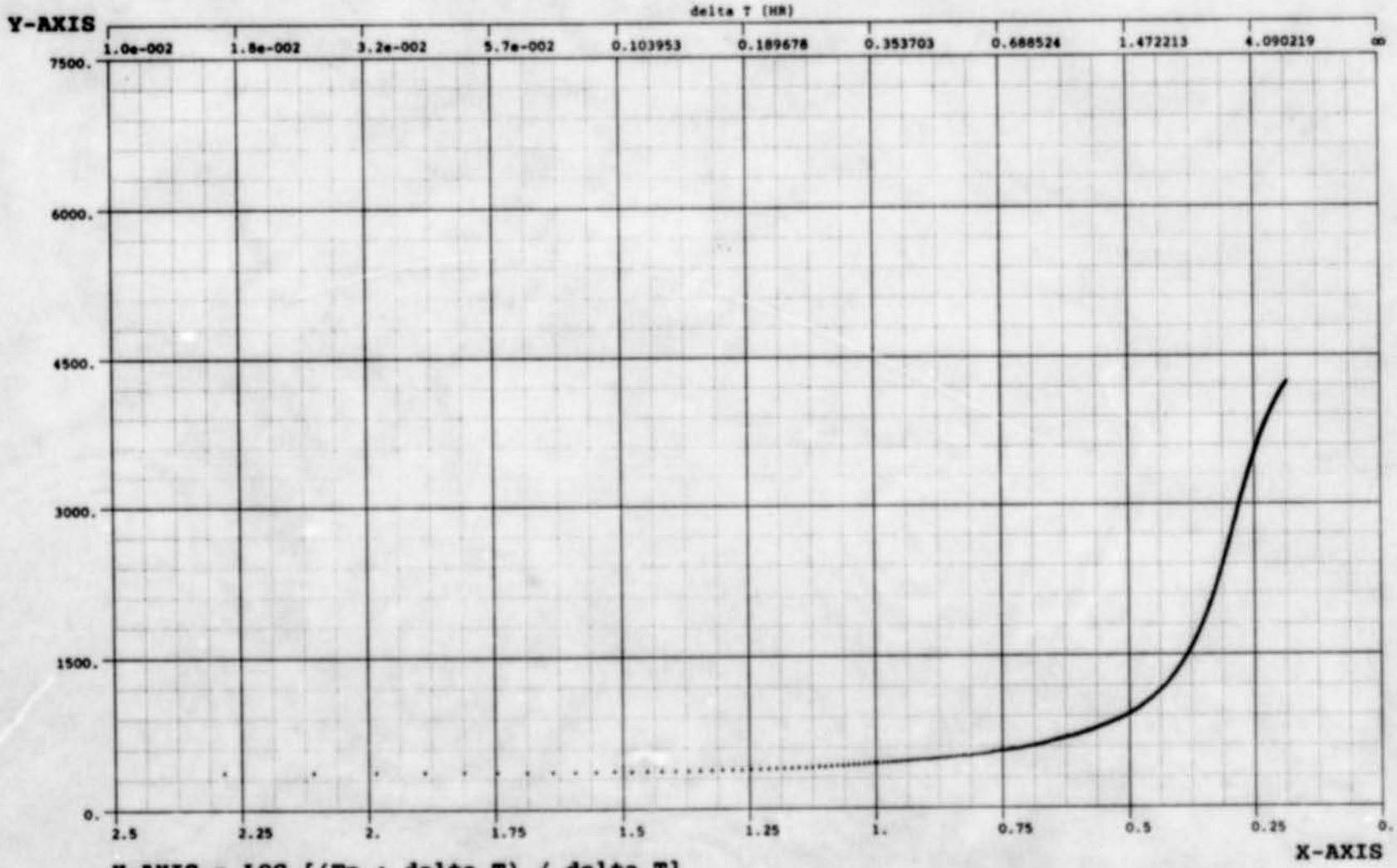
X-AXIS = delta T (HR)
Y-AXIS = delta P (KPA)

Schlumberger of Canada
Schlumberger Testing Services

HORNER PLOT

FIELD REPORT#: 301120BI
INSTRUMENT#: SB-50131
ELAPSED TIME RANGE: 704. - 1064. MIN.
Delta_T TIME RANGE: 8.3e-003 - 6. HR.
PRODUCING TIME [Tp]: 3.183333333 HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: TWO
DST#: THREE



X-AXIS = LOG [(Tp + delta T) / delta T]
Y-AXIS = SHUTIN PRESSURE [KPA (ABS)]

TEST REFERENCE#: 301120BI FILE STARTS: 8:08:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
736.0	504.0	60.0	776.0	779.1	60.5	816.0	1168.6	60.5	856.0	1786.4	61.0
736.5	506.7	60.0	776.5	785.3	60.5	816.5	1175.5	60.5	856.5	1796.7	61.0
737.0	508.8	60.0	777.0	788.0	60.5	817.0	1179.6	60.5	857.0	1806.4	61.0
737.5	511.5	60.0	777.5	791.5	60.5	817.5	1184.5	60.5	857.5	1815.3	61.0
738.0	513.6	60.0	778.0	796.3	60.5	818.0	1190.0	60.5	858.0	1821.5	61.0
738.5	515.0	60.0	778.5	799.0	60.5	818.5	1194.8	60.5	858.5	1832.6	61.0
739.0	519.1	60.0	779.0	802.5	60.5	819.0	1202.4	60.5	859.0	1842.2	61.0
739.5	523.3	60.0	779.5	808.0	60.5	819.5	1207.9	60.5	859.5	1851.9	61.0
740.0	524.6	60.0	780.0	810.8	60.5	820.0	1214.8	60.5	860.0	1861.5	61.0
740.5	527.4	60.0	780.5	814.9	60.5	820.5	1223.1	60.5	860.5	1870.5	61.0
741.0	529.5	60.0	781.0	819.0	60.5	821.0	1230.0	60.5	861.0	1879.4	61.0
741.5	533.6	60.0	781.5	823.2	60.5	821.5	1238.2	60.5	861.5	1890.5	61.0
742.0	536.4	60.0	782.0	825.2	60.5	822.0	1247.2	60.5	862.0	1900.[illegible]	61.0
742.5	538.4	60.0	782.5	830.8	60.5	822.5	1253.4	60.5	862.5	1908.4	61.0
743.0	546.0	60.0	783.0	835.6	60.5	823.0	1262.4	60.5	863.0	1918.1	61.0
743.5	550.8	60.0	783.5	837.0	60.5	823.5	1267.2	60.5	863.5	1927.7	61.0
744.0	553.6	60.0	784.0	841.8	60.5	824.0	1274.1	60.5	864.0	1938.1	61.0
744.5	557.0	60.0	784.5	845.9	60.5	824.5	1283.1	60.5	864.5	1949.1	61.0
745.0	560.5	60.0	785.0	848.7	60.5	825.0	1288.6	60.5	865.0	1958.0	61.0
745.5	560.5	60.0	785.5	854.2	60.5	825.5	1296.2	60.5	865.5	1967.7	61.0
746.0	562.6	60.0	786.0	858.3	60.5	826.0	1305.1	60.5	866.0	1976.7	61.0
746.5	565.3	60.0	786.5	864.5	60.5	826.5	1309.9	60.5	866.5	1987.0	61.0
747.0	569.5	60.0	787.0	868.7	60.5	827.0	1316.1	60.5	867.0	1998.0	61.0
747.5	570.8	60.0	787.5	873.5	60.5	827.5	1321.7	60.5	867.5	2008.4	61.0
748.0	573.6	60.0	788.0	877.6	60.5	828.0	1329.9	60.5	868.0	2018.7	61.0
748.5	576.3	60.0	788.5	882.5	60.5	828.5	1335.5	60.5	868.5	2027.0	61.0
749.0	579.1	60.0	789.0	886.6	60.5	829.0	1343.7	60.5	869.0	2036.6	61.0
749.5	582.6	60.0	789.5	891.4	60.5	829.5	1351.3	60.5	869.5	2047.0	61.0
750.0	586.0	60.0	790.0	894.9	60.5	830.0	1358.9	60.5	870.0	2057.3	61.0
750.5	588.8	60.0	790.5	898.3	60.5	830.5	1368.5	60.5	870.5	2069.0	61.0
751.0	592.9	60.0	791.0	904.5	60.5	831.0	1374.1	60.5	871.0	2078.7	61.0
751.5	597.7	60.0	791.5	907.3	60.5	831.5	1381.0	60.5	871.5	2088.4	61.0
752.0	601.2	60.0	792.0	913.5	60.5	832.0	1389.9	60.5	872.0	2099.4	61.0
752.5	606.7	60.0	792.5	917.6	60.5	832.5	1396.8	60.6	872.5	2107.7	61.0
753.0	608.8	60.0	793.0	921.1	60.5	833.0	1404.4	60.6	873.0	2118.7	61.0
753.5	610.8	60.0	793.5	925.9	60.5	833.5	1412.0	60.7	873.5	2130.4	61.0
754.0	615.0	60.0	794.0	930.0	60.5	834.0	1418.9	60.8	874.0	2140.8	61.0
754.5	618.4	60.0	794.5	934.2	60.5	834.5	1427.8	60.8	874.5	2152.5	61.0
755.0	621.2	60.0	795.0	942.5	60.5	835.0	1434.0	60.9	875.0	2162.8	61.0
755.5	623.2	60.0	795.5	945.9	60.[illegible]	835.5	1440.9	61.0	875.5	2172.5	61.0
756.0	628.1	60.0	796.0	950.7	60.5	836.0	1449.2	61.0	876.0	2184.2	61.0
756.5	631.5	60.0	796.5	953.5	60.5	836.5	1455.4	61.0	876.5	2193.8	61.0
757.0	634.3	60.0	797.0	956.9	60.5	837.0	1464.4	61.0	877.0	2204.2	61.0
757.5	637.0	60.0	797.5	963.1	60.5	837.5	1472.7	61.0	877.5	2214.5	61.0
758.0	643.9	60.0	798.0	965.9	60.5	838.0	1478.9	61.0	878.0	2224.9	61.0
758.5	652.2	60.0	798.5	974.9	60.5	838.5	1487.1	61.0	878.5	2235.9	61.0
759.0	657.7	60.0	799.0	978.3	60.5	839.0	1495.4	61.0	879.0	2248.3	61.0
759.5	659.8	60.0	799.5	983.8	60.5	839.5	1502.3	61.0	879.5	2258.7	61.0
760.0	664.6	60.0	800.0	990.7	60.5	840.0	1511.3	61.0	880.0	2267.6	61.0
760.5	668.0	60.0	800.5	994.9	60.5	840.5	1519.5	61.0	880.5	2279.3	61.0
761.0	670.8	60.1	801.0	1001.1	60.5	841.0	1527.1	61.0	881.0	2289.0	61.0
761.5	674.9	60.2	801.5	1006.6	60.5	841.5	1534.0	61.0	881.5	2300.0	61.0
762.0	679.1	60.2	802.0	1012.1	60.5	842.0	1542.3	61.0	882.0	2309.0	61.0
762.5	681.1	60.3	802.5	1019.7	60.5	842.5	1549.9	61.0	882.5	2320.7	61.0
763.0	684.6	60.4	803.0	1023.8	60.5	843.0	1559.5	61.0	883.0	2331.7	61.0
763.5	690.1	60.4	803.5	1027.9	60.5	843.5	1567.8	61.0	883.5	2342.8	61.0
764.0	691.5	60.5	804.0	1034.8	60.5	844.0	1574.7	61.0	884.0	2354.5	61.0
764.5	695.6	60.5	804.5	1039.0	60.5	844.5	1582.3	61.0	884.5	2365.5	61.0
765.0	699.1	60.5	805.0	1043.8	60.5	845.0	1592.6	61.0	885.0	2375.9	61.0
765.5	702.5	60.5	805.5	1049.3	60.5	845.5	1600.2	61.0	885.5	2385.5	61.0
766.0	703.9	60.5	806.0	1055.5	60.5	846.0	1607.8	61.0	886.0	2396.5	61.0
766.5	707.3	60.5	806.5	1060.4	60.5	846.5	1618.1	61.0	886.5	2406.9	61.0
767.0	712.9	60.5	807.0	1065.2	60.5	847.0	1627.8	61.0	887.0	2417.9	61.0
767.5	716.3	60.5	807.5	1071.4	60.5	847.5	1636.1	61.0	887.5	2429.0	61.0
768.0	718.4	60.5	808.0	1076.2	60.5	848.0	1644.3	61.0	888.0	2438.6	61.0
768.5	721.8	60.5	808.5	1083.1	60.5	848.5	1654.0	61.0	888.5	2448.9	61.0
769.0	728.0	60.5	809.0	1087.2	60.5	849.0	1663.0	61.0	889.0	2460.7	61.0
769.5	729.4	60.5	809.5	1094.8	60.5	849.5	1669.8	61.0	889.5	2472.4	61.0
770.0	733.5	60.5	810.0	1099.7	60.5	850.0	1679.5	61.0	890.0	2482.7	61.0
770.5	738.4	60.5	810.5	1105.9	60.5	850.5	1689.2	61.0	890.5	2493.1	61.0
771.0	740.4	60.5	811.0	1110.7	60.5	851.0	1697.4	61.0	891.0	2504.1	61.0
771.5	744.6	60.5	811.5	1116.9	60.5	851.5	1706.4	61.0	891.5	2513.1	61.0
772.0	748.7	60.5	812.0	1121.0	60.5	852.0	1714.7	61.0	892.0	2524.1	61.0
772.5	752.2	60.5	812.5	1129.3	60.5	852.5	1724.3	61.0	892.5	2534.4	61.0
773.0	756.3	60.5	813.0	1134.1	60.5	853.0	1733.3	61.0	893.0	2545.5	61.0
773.5	760.4	60.5	813.5	1140.3	60.5	853.5	1741.6	61.0	893.5	2556.5	61.0
774.0	762.5	60.5	814.0	1145.2	60.5	854.0	1749.8	61.0	894.0	2567.5	61.0
774.5	768.0	60.5	814.5	1151.4	60.5	854.5	1760.2	61.0	894.5	2577.2	61.0
775.0	772.2	60.5	815.0	1156.9	60.5	855.0	1769.8	61.0	895.0	2588.2	61.0
775.5	775.6	60.5	815.5	1165.2	60.5	855.5	1778.0	61.0	895.5	2597.2	61.0

TEST REFERENCE#: 301120BI FILE STARTS: 8:08:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
896.0	2607.5	61.0	936.0	3323.9	61.5	976.0	3772.7	61.5	1016.0	4035.4	62.1
896.5	2617.9	61.0	936.5	3330.1	61.5	976.5	3777.6	61.5	1016.5	4038.2	62.1
897.0	2628.2	61.0	937.0	3339.1	61.5	977.0	3781.0	61.5	1017.0	4039.6	62.1
897.5	2639.9	61.0	937.5	3344.6	61.5	977.5	3783.8	61.5	1017.5	4041.6	62.1
898.0	2650.3	61.0	938.0	3352.8	61.5	978.0	3788.6	61.5	1018.0	4045.1	62.1
898.5	2660.6	61.0	938.5	3358.4	61.5	978.5	3791.3	61.5	1018.5	4047.8	62.1
899.0	2671.6	61.0	939.0	3365.9	61.5	979.0	3794.8	61.5	1019.0	4051.3	62.1
899.5	2679.9	61.0	939.5	3374.2	61.5	979.5	3801.0	61.5	1019.5	4053.3	62.1
900.0	2689.6	61.0	940.0	3378.4	61.5	980.0	3804.4	61.5	1020.0	4055.4	62.1
900.5	2700.6	61.0	940.5	3387.3	61.5	980.5	3807.2	61.5	1020.5	4057.5	62.1
901.0	2711.6	61.0	941.0	3392.8	61.5	981.0	3813.4	61.5	1021.0	4060.9	62.1
901.5	2722.0	61.0	941.5	3400.4	61.5	981.5	3816.9	61.5	1021.5	4065.1	62.1
902.0	2732.3	61.0	942.0	3408.0	61.5	982.0	3819.6	61.5	1022.0	4065.8	62.1
902.5	2742.0	61.0	942.5	3413.5	61.5	982.5	3824.4	61.5	1022.5	4067.1	62.1
903.0	2750.9	61.0	943.0	3421.1	61.5	983.0	3828.6	61.5	1023.0	4068.5	62.1
903.5	2761.3	61.0	943.5	3426.6	61.5	983.5	3831.3	61.5	1023.5	4073.3	62.1
904.0	2770.9	61.0	944.0	3434.9	61.5	984.0	3836.2	61.5	1024.0	4076.1	62.1
904.5	2780.6	61.0	944.5	3439.0	61.5	984.5	3840.3	61.5	1024.5	4077.5	62.1
905.0	2789.5	61.0	945.0	3446.6	61.5	985.0	3841.7	61.5	1025.0	4078.9	62.1
905.5	2797.8	61.0	945.5	3452.1	61.5	985.5	3845.8	61.5	1025.5	4081.6	62.1
906.0	2808.2	61.0	946.0	3460.4	61.5	986.0	3851.3	61.5	1026.0	4083.7	62.1
906.5	2817.8	61.0	946.5	3464.5	61.5	986.5	3853.4	61.5	1026.5	4086.4	62.1
907.0	2826.1	61.0	947.0	3471.4	61.5	987.0	3858.9	61.5	1027.0	4089.2	62.1
907.5	2835.7	61.0	947.5	3478.3	61.5	987.5	3861.7	61.5	1027.5	4091.3	62.1
908.0	2845.4	61.0	948.0	3483.8	61.5	988.0	3864.4	61.5	1028.0	4092.6	62.1
908.5	2855.7	61.1	948.5	3490.0	61.5	988.5	3867.2	61.5	1028.5	4096.1	62.1
909.0	2866.1	61.1	949.0	3496.3	61.5	989.0	3872.7	61.5	1029.0	4098.2	62.1
909.5	2875.0	61.2	949.5	3503.1	61.5	989.5	3876.2	61.5	1029.5	4100.9	62.1
910.0	2884.7	61.3	950.0	3508.7	61.5	990.0	3878.9	61.5	1030.0	4103.0	62.1
910.5	2893.7	61.3	950.5	3513.5	61.5	990.5	3882.4	61.5	1030.5	4103.7	62.1
911.0	2904.0	61.4	951.0	3519.7	61.5	991.0	3887.9	61.5	1031.0	4107.1	62.1
911.5	2914.3	61.5	951.5	3527.3	61.5	991.5	3889.3	61.5	1031.5	4109.2	62.1
912.0	2924.0	61.5	952.0	3531.4	61.5	992.0	3893.4	61.5	1032.0	4111.3	62.1
912.5	2933.0	61.5	952.5	3539.0	61.5	992.5	3896.8	61.5	1032.5	4114.0	62.1
913.0	2942.6	61.5	953.0	3542.4	61.5	993.0	3900.3	61.5	1033.0	4115.4	62.1
913.5	2952.3	61.5	953.5	3551.4	61.5	993.5	3903.0	61.5	1033.5	4116.8	62.1
914.0	2961.2	61.5	954.0	3554.9	61.5	994.0	3906.5	61.5	1034.0	4120.2	62.1
914.5	2972.9	61.5	954.5	3560.4	61.5	994.5	3910.6	61.5	1034.5	4123.7	62.1
915.0	2980.5	61.5	955.0	3566.6	61.5	995.0	3912.0	61.5	1035.0	4125.0	62.1
915.5	2989.5	61.5	955.5	3572.8	61.5	995.5	3915.5	61.5	1035.5	4125.0	62.1
916.0	2999.8	61.5	956.0	3577.6	61.5	996.0	3920.3	61.5	1036.0	4129.9	62.1
916.5	3009.5	61.5	956.5	3583.1	61.5	996.5	3923.0	61.6	1036.5	4130.6	62.1
917.0	3019.8	61.5	957.0	3588.0	61.5	997.0	3925.8	61.7	1037.0	4133.3	62.1
917.5	3027.4	61.5	957.5	3594.8	61.5	997.5	3928.6	61.7	1037.5	4134.7	62.1
918.0	3035.7	61.5	958.0	3601.1	61.5	998.0	3932.7	61.8	1038.0	4136.8	62.1
918.5	3045.3	61.5	958.5	3604.5	61.5	998.5	3935.4	61.9	1038.5	4138.8	62.1
919.0	3054.3	61.5	959.0	3611.4	61.5	999.0	3938.2	61.9	1039.0	4140.9	62.1
919.5	3059.8	61.5	959.5	3615.5	61.5	999.5	3940.3	62.0	1039.5	4144.4	62.1
920.0	3068.8	61.5	960.0	3622.4	61.5	1000.0	3944.4	62.1	1040.0	4146.4	62.1
920.5	3078.4	61.5	960.5	3625.9	61.5	1000.5	3946.5	62.1	1040.5	4148.5	62.1
921.0	3086.7	61.5	961.0	3632.1	61.5	1001.0	3949.9	62.1	1041.0	4149.9	62.1
921.5	3095.0	61.5	961.5	3637.6	61.5	1001.5	3954.7	62.1	1041.5	4151.2	62.1
922.0	3103.9	61.5	962.0	3641.0	61.5	1002.0	3956.8	62.1	1042.0	4154.0	62.1
922.5	3112.9	61.5	962.5	3648.6	61.5	1002.5	3959.6	62.1	1042.5	4154.7	62.1
923.0	3120.5	61.5	963.0	3651.4	61.5	1003.0	3962.3	62.1	1043.0	4160.2	62.1
923.5	3128.8	61.5	963.5	3657.6	61.5	1003.5	3965.1	62.1	1043.5	4160.2	62.1
924.0	3137.7	61.5	964.0	3662.4	61.5	1004.0	3969.2	62.1	1044.0	4162.3	62.1
924.5	3146.7	61.5	964.5	3667.2	61.5	1004.5	3971.3	62.1	1044.5	4163.0	62.1
925.0	3154.3	61.5	965.0	3673.4	61.5	1005.0	3974.1	62.1	1045.0	4165.0	62.1
925.5	3163.2	61.5	965.5	3676.9	61.5	1005.5	3978.9	62.1	1045.5	4168.5	62.1
926.0	3170.8	61.5	966.0	3683.1	61.5	1006.0	3981.6	62.1	1046.0	4171.2	62.1
926.5	3178.4	61.5	966.5	3686.5	61.5	1006.5	3983.0	62.1	1046.5	4172.6	62.1
927.0	3186.0	61.5	967.0	3691.4	61.5	1007.0	3985.8	62.1	1047.0	4173.3	62.1
927.5	3195.0	61.5	967.5	3696.9	61.5	1007.5	3988.5	62.1	1047.5	4174.7	62.1
928.0	3203.2	61.5	968.0	3699.6	61.5	1008.0	3991.3	62.1	1048.0	4176.8	62.1
928.5	3210.8	61.5	968.5	3705.2	61.5	1008.5	3994.0	62.1	1048.5	4180.2	62.1
929.0	3219.8	61.5	969.0	3710.0	61.5	1009.0	3998.2	62.1	1049.0	4181.6	62.1
929.5	3224.6	61.5	969.5	3713.4	61.5	1009.5	4000.3	62.1	1049.5	4183.7	62.1
930.0	3234.9	61.5	970.0	3720.3	61.5	1010.0	4004.4	62.1	1050.0	4183.7	62.1
930.5	3242.5	61.5	970.5	3723.1	61.5	1010.5	4006.5	62.1	1050.5	4187.8	62.1
931.0	3248.7	61.5	971.0	3729.3	61.5	1011.0	4008.5	62.1	1051.0	4187.8	62.1
931.5	3257.0	61.5	971.5	3732.7	61.5	1011.5	4010.6	62.1	1051.5	4191.2	62.1
932.0	3263.2	61.5	972.0	3736.9	61.5	1012.0	4015.4	62.1	1052.0	4191.9	62.1
932.5	3270.8	61.5	972.5	3741.[illegible]	61.5	1012.5	4018.2	62.1	1052.5	4194.0	62.1
933.0	3279.8	61.5	973.0	3746.5	61.5	1013.0	4019.6	62.1	1053.0	4196.8	62.1
933.5	3286.7	61.5	973.5	3750.7	61.5	1013.5	4020.9	62.1	1053.5	4198.1	62.1
934.0	3294.2	61.5	974.0	3754.8	61.5	1014.0	4025.1	62.1	1054.0	4199.5	62.1
934.5	3303.2	61.5	974.5	3758.3	61.5	1014.5	4027.8	62.1	1054.5	4201.6	62.1
935.0	3308.0	61.5	975.0	3763.8	61.5	1015.0	4029.9	62.1	1055.0	4202.3	62.1
935.5	3317.0	61.5	975.5	3767.9	61.5	1015.5	4030.6	62.1	1055.5	4206.4	62.1

TEST REFERENCE#: 301120BI FILE STARTS: 8:08:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPas), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
1056.0	4207.1	62.1									
1056.5	4209.2	62.1									
1057.0	4209.9	62.1									
1057.5	4210.5	62.1									
1058.0	4216.7	62.1									
1058.5	4216.1	62.1									
1059.0	4218.8	62.1									
1059.5	4220.2	62.1									
1060.0	4220.2	62.1									
1060.5	4221.6	62.1									
1061.0	4225.0	62.1									
1061.5	4224.3	62.1									
1062.0	4227.8	62.1									
1062.5	4229.2	62.1									
1063.0	4231.2	62.1									
1063.5	4234.0	62.1									
1064.0	4234.7	62.1									
1064.5	3657.6	62.1									
1065.0	4445.0	62.1									
1065.5	15099.3	62.1									
1066.0	14953.9	62.1									
1066.5	15255.9	62.1									
1067.0	15278.6	62.1									
1067.5	15284.8	62.1									
1068.0	15861.2	62.1									
1068.5	15357.2	62.1									
1069.0	15352.4	62.1									
1069.5	15351.7	62.1									
1070.0	15351.0	62.1									
1070.5	15350.3	62.1									
1071.0	15349.6	62.1									
1071.5	15351.0	62.1									
1072.0	1535[illegible] 0	62.1									
1072.5	153[illegible]	62.1									
1073.0	15350.3	62.1									
1073.5	15351.7	62.1									
1074.0	1535[illegible] 0	62.1									
1074.5	1535[illegible]	62.1									
1075.0	15351.0	62.1									
1075.5	15350.3	62.1									
1076.0	15351.0	62.1									
1076.5	15350.3	62.1									
1077.0	15351.0	62.1									
1077.5	15351.0	62.1									
1078.0	15351.0	62.1									
1078.5	15351.0	62.1									
1079.0	15350.3	62.1									
1079.5	15350.3	62.1									
1080.0	15351.0	62.1									
1080.5	15351.7	62.1									
1081.0	15351.0	62.1									
1081.5	14956.6	62.1									
1082.0	14959.4	62.1									
1082.5	15110.4	62.1									
1083.0	15350.3	62.1									
1083.5	15334.5	62.1									
1084.0	15302.0	62.1									
1084.5	15295.2	62.1									
1085.0	15291.0	62.1									
1085.5	15290.3	62.1									
1086.0	15287.6	62.1									
1086.5	15284.8	62.1									
1087.0	15282.1	62.1									
1087.5	15280.7	62.1									
1088.0	14947.0	62.1									
1088.5	14852.5	62.1									
1089.0	14838.7	62.1									
1089.5	15190.4	62.1									

Schlumberger | Schlumberger of Canada
Testing Services

Test Date : 3/11/90
Location : RECOVERY RECORDER
DST # : THREE

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	8:44:00	REFERENCE TIME		188.2	57.6		
2	8:45:00	START FLOW	1.0	188.9	57.6		
3	8:56:00	START SHUT-IN	11.0	187.5	57.6		
4	9:55:00	END SHUT-IN	59.0	187.5	58.1		
5	9:57:00	START FLOW	2.0	187.5	58.1		
6	12:57:00	START SHUT-IN	180.0	189.6	59.1		
7	18:57:00	END SHUT-IN	360.0	193.7	61.6		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-RECOVERY	MUD MUD FILTRATE	3.70 @ 15 3.40 @ 15	1900 2100
3-			
4-			
5-BOTTOMHOLE SAMPLER	SENT TO LAB FOR DRAINING #000556, #103734		

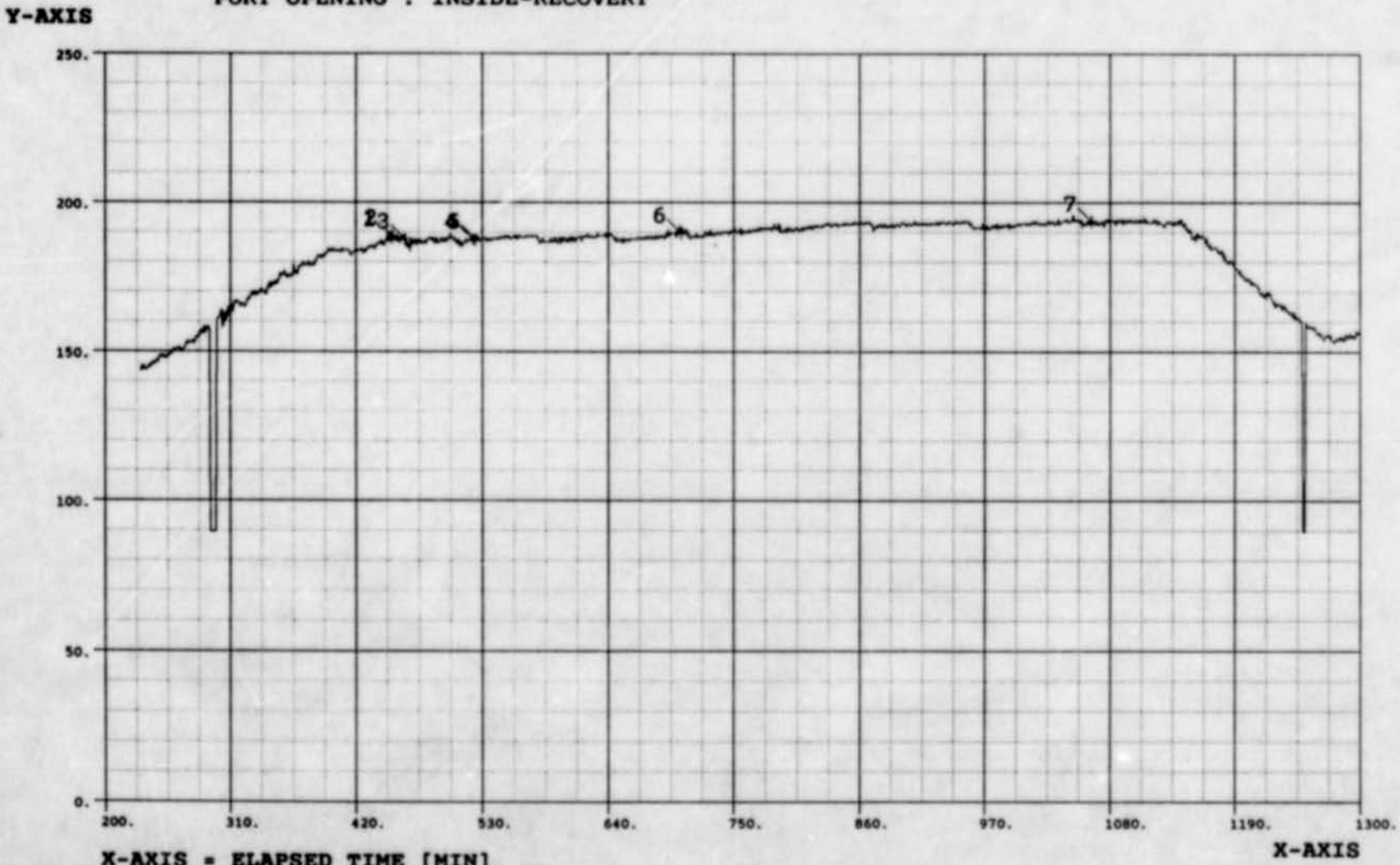
Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120BR
INSTRUMENT NO. : SB-50130
DEPTH : 1374.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : THREE



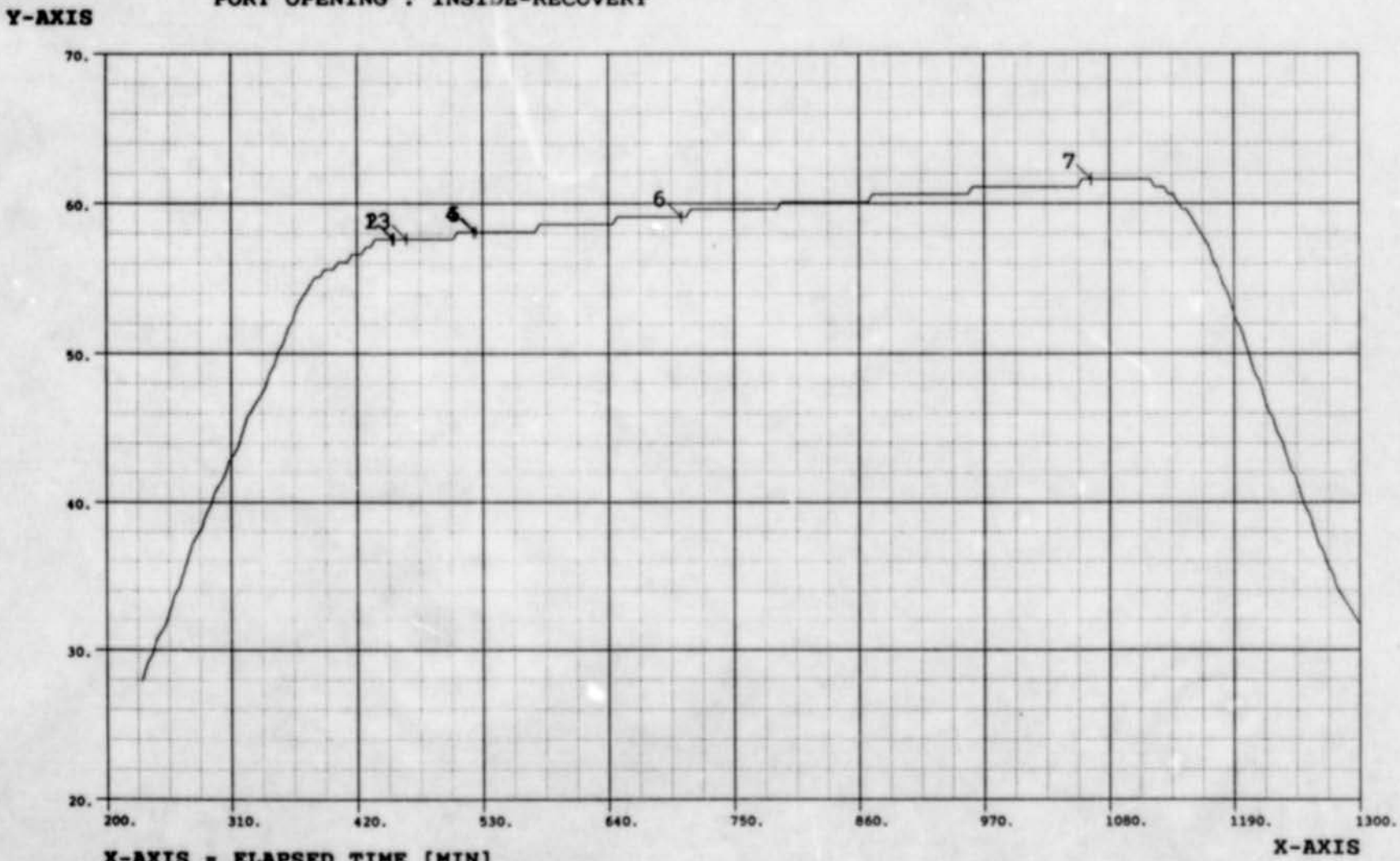
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120BR
INSTRUMENT NO. : SB-50130
DEPTH : 1374.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : THREE



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
231.0	144.0	27.9	271.0	152.3	36.0	311.0	164.7	43.1	351.0	173.7	49.9
231.5	143.4	28.1	271.5	153.0	36.1	311.5	165.4	43.2	351.5	172.3	50.1
232.0	145.4	28.2	272.0	152.3	36.2	312.0	162.7	43.2	352.0	173.7	50.2
232.5	143.4	28.3	272.5	153.7	36.4	312.5	165.4	43.3	352.5	173.7	50.2
233.0	144.7	28.4	273.0	153.0	36.5	313.0	164.7	43.3	353.0	175.1	50.3
233.5	144.0	28.6	273.5	152.3	36.6	313.5	166.8	43.4	353.5	176.5	50.4
234.0	145.4	28.7	274.0	153.0	36.7	314.0	166.1	43.5	354.0	175.1	50.4
234.5	144.0	28.8	274.5	153.0	36.9	314.5	166.8	43.5	354.5	175.8	50.5
235.0	144.0	28.9	275.0	153.0	37.0	315.0	166.8	43.6	355.0	175.1	50.5
235.5	144.0	29.1	275.5	153.0	37.1	315.5	166.1	43.7	355.5	175.8	50.6
236.0	143.4	29.2	276.0	153.7	37.2	316.0	166.1	43.7	356.0	175.8	50.7
236.5	144.7	29.3	276.5	153.7	37.3	316.5	166.8	43.8	356.5	175.8	50.8
237.0	144.7	29.3	277.0	153.0	37.4	317.0	166.1	44.0	357.0	175.8	50.9
237.5	144.7	29.4	277.5	153.7	37.4	317.5	166.1	44.1	357.5	177.1	51.0
238.0	144.7	29.5	278.0	152.3	37.5	318.0	166.1	44.2	358.0	175.8	51.2
238.5	144.0	29.5	278.5	153.7	37.6	318.5	165.4	44.3	358.5	175.1	51.3
239.0	144.7	29.6	279.0	153.0	37.6	319.0	164.7	44.5	359.0	175.8	51.4
239.5	146.1	29.6	279.5	154.4	37.7	319.5	165.4	44.6	359.5	175.1	51.5
240.0	144.7	29.7	280.0	155.1	37.7	320.0	166.1	44.7	360.0	174.4	51.7
240.5	145.4	29.8	280.5	154.4	37.8	320.5	165.4	44.8	360.5	175.1	51.7
241.0	145.4	30.0	281.0	154.4	37.9	321.0	166.1	45.0	361.0	175.8	51.8
241.5	146.1	30.1	281.5	155.1	37.9	321.5	165.4	45.1	361.5	174.4	51.9
242.0	145.4	30.2	282.0	154.4	38.0	322.0	164.7	45.2	362.0	175.1	51.9
242.5	146.8	30.3	282.5	156.5	38.1	322.5	164.7	45.3	362.5	175.1	52.0
243.0	145.4	30.5	283.0	155.1	38.1	323.0	164.7	45.5	363.0	175.8	52.0
243.5	146.1	30.6	283.5	156.5	38.2	323.5	165.4	45.6	363.5	175.1	52.1
244.0	146.1	30.7	284.0	157.1	38.2	324.0	165.4	45.7	364.0	175.1	52.2
244.5	146.1	30.8	284.5	156.5	38.4	324.5	166.8	45.8	364.5	175.8	52.3
245.0	146.8	30.8	285.0	155.8	38.5	325.0	167.5	45.8	365.0	177.8	52.4
245.5	146.8	30.9	285.5	157.1	38.6	325.5	166.8	45.9	365.5	179.2	52.5
246.0	147.5	31.0	286.0	155.8	38.7	326.0	167.5	46.0	366.0	177.8	52.7
246.5	146.1	31.0	286.5	157.1	38.9	326.5	168.2	46.0	366.5	175.8	52.8
247.0	147.5	31.1	287.0	158.5	39.0	327.0	167.5	46.1	367.0	176.5	52.9
247.5	148.2	31.1	287.5	157.8	39.1	327.5	167.5	46.1	367.5	175.8	53.0
248.0	148.2	31.2	288.0	155.8	39.2	328.0	168.9	46.2	368.0	176.5	53.2
248.5	148.9	31.3	288.5	157.8	39.3	328.5	169.6	46.3	368.5	177.1	53.2
249.0	148.2	31.3	289.0	157.8	39.4	329.0	168.9	46.3	369.0	175.8	53.3
249.5	148.9	31.4	289.5	157.1	39.4	329.5	168.9	46.4	369.5	177.8	53.3
250.0	143.9	31.5	290.0	157.8	39.5	330.0	168.9	46.5	370.0	178.5	53.4
250.5	147.5	31.5	290.5	158.5	39.6	330.5	168.9	46.5	370.5	178.5	53.5
251.0	148.2	31.6	291.0	157.1	39.6	331.0	170.2	46.6	371.0	177.8	53.5
251.5	148.9	31.6	291.5	157.8	39.7	331.5	169.6	46.6	371.5	178.5	53.6
252.0	148.9	31.7	292.0	157.1	39.7	332.0	168.2	46.7	372.0	179.2	53.7
252.5	148.9	31.8	292.5	89.6	39.9	332.5	169.6	46.8	372.5	179.2	53.7
253.0	147.5	32.0	293.0	89.6	40.0	333.0	168.9	46.8	373.0	178.5	53.8
253.5	148.2	32.1	293.5	89.6	40.1	333.5	169.6	46.9	373.5	178.5	53.8
254.0	147.5	32.2	294.0	89.6	40.2	334.0	168.9	46.9	374.0	179.9	53.9
254.5	148.2	32.3	294.5	89.6	40.4	334.5	168.9	47.0	374.5	179.2	54.0
255.0	148.9	32.5	295.0	89.6	40.5	335.0	169.6	47.1	375.0	179.2	54.0
255.5	148.9	32.6	295.5	89.6	40.6	335.5	170.2	47.1	375.5	179.2	54.1
256.0	148.2	32.7	296.0	89.6	40.7	336.0	170.2	47.2	376.0	179.2	54.1
256.5	148.9	32.8	296.5	89.6	40.8	336.5	169.6	47.3	376.5	179.2	54.2
257.0	149.6	33.0	297.0	89.6	40.9	337.0	170.2	47.3	377.0	178.5	54.3
257.5	149.6	33.1	297.5	89.6	40.9	337.5	170.9	47.4	377.5	179.9	54.3
258.0	149.6	33.2	298.0	159.9	41.0	338.0	169.6	47.4	378.0	179.2	54.4
258.5	148.9	33.3	298.5	160.6	41.1	338.5	169.6	47.5	378.5	179.2	54.5
259.0	149.6	33.5	299.0	161.3	41.1	339.0	169.6	47.6	379.0	179.9	54.5
259.5	150.9	33.6	299.5	161.3	41.2	339.5	170.2	47.6	379.5	178.5	54.6
260.0	150.9	33.7	300.0	161.3	41.2	340.0	169.6	47.7	380.0	178.5	54.6
260.5	150.3	33.8	300.5	161.3	41.3	340.5	170.2	47.8	380.5	179.2	54.7
261.0	150.3	33.8	301.0	162.0	41.4	341.0	168.9	47.9	381.0	178.5	54.8
261.5	150.9	33.9	301.5	163.4	41.4	341.5	168.9	48.1	381.5	179.2	54.8
262.0	150.3	34.0	302.0	164.0	41.5	342.0	169.6	48.2	382.0	179.2	54.9
262.5	150.9	34.0	302.5	163.4	41.5	342.5	170.9	48.3	382.5	179.9	55.0
263.0	150.9	34.1	303.0	157.8	41.6	343.0	171.6	48.4	383.0	178.5	55.0
263.5	150.9	34.2	303.5	161.3	41.7	343.5	170.9	48.6	383.5	179.9	55.1
264.0	150.9	34.2	304.0	158.5	41.7	344.0	172.3	48.7	384.0	179.2	55.1
264.5	150.9	34.3	304.5	163.4	41.9	344.5	173.0	48.7	384.5	179.9	55.1
265.0	151.6	34.5	305.0	161.3	42.0	345.0	170.9	48.8	385.0	180.6	55.1
265.5	150.9	34.6	305.5	161.3	42.1	345.5	171.6	48.9	385.5	180.6	55.1
266.0	149.6	34.7	306.0	159.9	42.2	346.0	173.0	48.9	386.0	181.3	55.1
266.5	150.9	34.9	306.5	162.7	42.4	346.5	173.0	49.0	386.5	182.0	55.1
267.0	150.3	35.0	307.0	163.4	42.5	347.0	171.6	49.1	387.0	181.3	55.1
267.5	150.3	35.1	307.5	161.3	42.6	347.5	172.3	49.1	387.5	182.0	55.1
268.0	149.6	35.2	308.0	164.7	42.7	348.0	173.0	49.2	388.0	182.0	55.1
268.5	150.9	35.4	308.5	164.7	42.8	348.5	172.3	49.3	388.5	182.0	55.2
269.0	150.9	35.5	309.0	162.0	42.9	349.0	173.7	49.4	389.0	181.3	55.3
269.5	150.9	35.6	309.5	164.7	42.9	349.5	172.3	49.6	389.5	181.3	55.3
270.0	150.9	35.7	310.0	164.0	43.0	350.0	172.3	49.7	390.0	182.0	55.4
270.5	152.3	35.9	310.5	164.0	43.0	350.5	173.0	49.8	390.5	182.0	55.5

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
391.0	181.3	55.5	431.0	184.7	57.1	471.0	187.5	57.6	511.0	186.8	58.1
391.5	182.0	55.6	431.5	184.7	57.1	471.5	186.1	57.6	511.5	186.8	58.1
392.0	182.7	55.6	432.0	185.4	57.1	472.0	187.5	57.6	512.0	186.1	58.1
392.5	182.7	55.6	432.5	184.7	57.2	472.5	186.8	57.6	512.5	184.7	58.1
393.0	182.0	55.6	433.0	185.4	57.3	473.0	185.4	57.6	513.0	186.1	58.1
393.5	182.0	55.6	433.5	185.4	57.3	473.5	186.8	57.6	513.5	186.8	58.1
394.0	183.3	55.6	434.0	184.7	57.4	474.0	187.5	57.6	514.0	186.8	58.1
394.5	183.3	55.6	434.5	185.4	57.4	474.5	186.8	57.6	514.5	186.1	58.1
395.0	183.3	55.6	435.0	184.7	57.5	475.0	186.8	57.6	515.0	187.5	58.1
395.5	183.3	55.6	435.5	185.4	57.6	475.5	186.1	57.6	515.5	187.5	58.1
396.0	184.7	55.6	436.0	185.4	57.6	476.0	187.5	57.6	516.0	187.5	58.1
396.5	183.3	55.6	436.5	184.0	57.6	476.5	186.8	57.6	516.5	186.1	58.1
397.0	184.0	55.6	437.0	185.4	57.6	477.0	186.1	57.6	517.0	187.5	58.1
397.5	183.3	55.6	437.5	184.7	57.6	477.5	186.8	57.6	517.5	186.8	58.1
398.0	184.0	55.6	438.0	186.1	57.6	478.0	186.1	57.6	518.0	187.5	58.1
398.5	184.0	55.6	438.5	185.4	57.6	478.5	186.8	57.6	518.5	187.5	58.1
399.0	183.3	55.6	439.0	186.1	57.6	479.0	186.8	57.6	519.0	187.5	58.1
399.5	184.7	55.6	439.5	186.1	57.6	479.5	186.8	57.6	519.5	186.8	58.1
400.0	184.0	55.6	440.0	186.1	57.6	480.0	186.1	57.6	520.0	187.5	58.1
400.5	183.3	55.7	440.5	186.8	57.6	480.5	187.5	57.6	520.5	188.2	58.1
401.0	184.0	55.8	441.0	186.1	57.6	481.0	186.8	57.6	521.0	187.5	58.1
401.5	184.0	55.8	441.5	186.1	57.6	481.5	186.1	57.6	521.5	186.8	58.1
402.0	184.0	55.9	442.0	186.8	57.6	482.0	187.5	57.6	522.0	187.5	58.1
402.5	183.3	55.9	442.5	187.5	57.6	482.5	187.5	57.6	522.5	187.5	58.1
403.0	184.0	56.0	443.0	186.1	57.6	483.0	187.5	57.6	523.0	187.5	58.1
403.5	184.0	56.1	443.5	185.4	57.6	483.5	187.5	57.6	523.5	186.8	58.1
404.0	184.0	56.1	444.0	186.8	57.6	484.0	188.2	57.6	524.0	187.5	58.1
404.5	183.3	56.1	444.5	186.1	57.6	484.5	188.2	57.6	524.5	188.2	58.1
405.0	184.0	56.1	445.0	185.4	57.6	485.0	187.5	57.6	525.0	188.2	58.1
405.5	183.3	56.1	445.5	186.8	57.6	485.5	187.5	57.6	525.5	188.2	58.1
406.0	183.3	56.1	446.0	186.8	57.6	486.0	188.2	57.6	526.0	188.9	58.1
406.5	184.0	56.1	446.5	187.5	57.6	486.5	188.2	57.6	526.5	187.5	58.1
407.0	183.3	56.1	447.0	187.5	57.6	487.0	186.8	57.6	527.0	186.8	58.1
407.5	183.3	56.1	447.5	186.8	57.6	487.5	188.2	57.6	527.5	187.5	58.1
408.0	184.7	56.1	448.0	188.2	57.6	488.0	187.5	57.6	528.0	186.8	58.1
408.5	183.3	56.1	448.5	186.8	57.6	488.5	186.1	57.6	528.5	187.5	58.1
409.0	183.3	56.1	449.0	187.5	57.6	489.0	187.5	57.6	529.0	187.5	58.1
409.5	184.0	56.1	449.5	187.5	57.6	489.5	187.5	57.6	529.5	187.5	58.1
410.0	184.0	56.1	450.0	188.2	57.6	490.0	186.1	57.6	530.0	187.5	58.1
410.5	184.0	56.1	450.5	188.2	57.6	490.5	188.2	57.6	530.5	188.2	58.1
411.0	184.0	56.1	451.0	188.2	57.6	491.0	187.5	57.6	531.0	188.2	58.1
411.5	184.0	56.1	451.5	187.5	57.6	491.5	186.1	57.6	531.5	188.2	58.1
412.0	184.0	56.1	452.0	188.9	57.6	492.0	186.8	57.6	532.0	187.5	58.1
412.5	184.0	56.2	452.5	186.8	57.6	492.5	186.8	57.6	532.5	187.5	58.1
413.0	184.0	56.3	453.0	188.2	57.6	493.0	186.8	57.6	533.0	187.5	58.1
413.5	184.0	56.3	453.5	187.5	57.6	493.5	186.8	57.6	533.5	186.8	58.1
414.0	183.3	56.4	454.0	187.5	57.6	494.0	188.2	57.6	534.0	188.2	58.1
414.5	183.3	56.4	454.5	188.9	57.6	494.5	186.8	57.6	534.5	187.5	58.1
415.0	182.7	56.5	455.0	187.5	57.6	495.0	187.5	57.6	535.0	186.8	58.1
415.5	182.7	56.6	455.5	186.8	57.6	495.5	188.2	57.6	535.5	187.5	58.1
416.0	182.0	56.6	456.0	188.9	57.6	496.0	186.8	57.6	536.0	187.5	58.1
416.5	182.7	56.6	456.5	188.9	57.6	496.5	187.5	57.6	536.5	187.5	58.1
417.0	183.3	56.6	457.0	186.8	57.6	497.0	186.8	57.6	537.0	188.2	58.1
417.5	183.3	56.6	457.5	188.2	57.6	497.5	186.8	57.6	537.5	186.8	58.1
418.0	183.3	56.6	458.0	187.5	57.6	498.0	188.2	57.6	538.0	187.5	58.1
418.5	183.3	56.6	458.5	186.1	57.6	498.5	186.8	57.6	538.5	187.5	58.1
419.0	183.3	56.6	459.0	188.2	57.6	499.0	186.8	57.6	539.0	187.5	58.1
419.5	184.0	56.6	459.5	188.2	57.6	499.5	188.2	57.6	539.5	187.5	58.1
420.0	184.7	56.6	460.0	188.2	57.6	500.0	187.5	57.6	540.0	188.2	58.1
420.5	184.0	56.6	460.5	188.9	57.6	500.5	188.2	57.6	540.5	187.5	58.1
421.0	183.3	56.6	461.0	188.9	57.6	501.0	187.5	57.6	541.0	187.5	58.1
421.5	184.0	56.6	461.5	188.9	57.6	501.5	188.2	57.6	541.5	187.5	58.1
422.0	183.3	56.6	462.0	186.8	57.6	502.0	189.6	57.6	542.0	187.5	58.1
422.5	184.0	56.6	462.5	188.9	57.6	502.5	188.9	57.6	542.5	188.2	58.1
423.0	184.0	56.6	463.0	187.5	57.6	503.0	188.2	57.6	543.0	187.5	58.1
423.5	184.0	56.6	463.5	187.5	57.6	503.5	187.5	57.6	543.5	188.2	58.1
424.0	184.0	56.6	464.0	185.4	57.6	504.0	188.2	57.6	544.0	187.5	58.1
424.5	184.0	56.7	464.5	184.7	57.6	504.5	188.2	57.7	544.5	187.5	58.1
425.0	184.7	56.8	465.0	186.8	57.6	505.0	188.2	57.7	545.0	188.2	58.1
425.5	183.3	56.8	465.5	185.4	57.6	505.5	188.2	57.8	545.5	188.2	58.1
426.0	183.3	56.9	466.0	184.7	57.6	506.0	186.8	57.9	546.0	187.5	58.1
426.5	184.0	56.9	466.5	186.1	57.6	506.5	187.5	57.9	546.5	188.9	58.1
427.0	182.7	57.0	467.0	184.7	57.6	507.0	187.5	58.0	547.0	188.2	58.1
427.5	183.3	57.1	467.5	183.3	57.6	507.5	186.1	58.1	547.5	188.2	58.1
428.0	184.0	57.1	468.0	188.2	57.6	508.0	186.8	58.1	548.0	188.2	58.1
428.5	184.0	57.1	468.5	186.1	57.6	508.5	186.1	58.1	548.5	188.2	58.1
429.0	183.3	57.1	469.0	185.4	57.6	509.0	186.8	58.1	549.0	188.9	58.1
429.5	184.7	57.1	469.5	186.8	57.6	509.5	187.5	58.1	549.5	187.5	58.1
430.0	184.0	57.1	470.0	186.1	57.6	510.0	184.7	58.1	550.0	188.2	58.1
430.5	184.7	57.1	470.5	187.5	57.6	510.5	186.1	58.1	550.5	188.2	58.1

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
551.0	188.9	58.1	591.0	186.8	58.6	631.0	188.9	58.6	671.0	188.2	59.1
551.5	188.2	58.1	591.5	186.8	58.6	631.5	188.9	58.6	671.5	188.2	59.1
552.0	188.2	58.1	592.0	186.8	58.6	632.0	188.9	58.6	672.0	187.5	59.1
552.5	188.2	58.1	592.5	188.2	58.6	632.5	188.9	58.6	672.5	188.2	59.1
553.0	188.9	58.1	593.0	188.2	58.6	633.0	188.9	58.6	673.0	188.2	59.1
553.5	188.2	58.1	593.5	186.8	58.6	633.5	188.9	58.6	673.5	188.2	59.1
554.0	187.5	58.1	594.0	188.2	58.6	634.0	188.9	58.6	674.0	188.9	59.1
554.5	187.5	58.1	594.5	186.8	58.6	634.5	188.9	58.6	674.5	187.5	59.1
555.0	188.2	58.1	595.0	186.8	58.6	635.0	188.9	58.6	675.0	188.2	59.1
555.5	188.2	58.1	595.5	186.8	58.6	635.5	188.9	58.6	675.5	187.5	59.1
556.0	188.2	58.1	596.0	186.1	58.6	636.0	188.9	58.6	676.0	188.2	59.1
556.5	188.2	58.1	596.5	188.2	58.6	636.5	188.9	58.6	676.5	188.2	59.1
557.0	188.2	58.1	597.0	188.2	58.6	637.0	189.6	58.6	677.0	188.2	59.1
557.5	188.9	58.1	597.5	188.2	58.6	637.5	188.9	58.6	677.5	188.9	59.1
558.0	188.9	58.1	598.0	186.8	58.6	638.0	188.2	58.6	678.0	187.5	59.1
558.5	188.9	58.1	598.5	186.1	58.6	638.5	188.2	58.6	678.5	188.2	59.1
559.0	188.2	58.1	599.0	188.2	58.6	639.0	189.6	58.6	679.0	188.2	59.1
559.5	187.5	58.1	599.5	186.8	58.6	639.5	188.9	58.6	679.5	188.2	59.1
560.0	188.9	58.1	600.0	188.2	58.6	640.0	188.9	58.6	680.0	187.5	59.1
560.5	188.9	58.1	600.5	188.2	58.6	640.5	188.9	58.6	680.5	188.9	59.1
561.0	187.5	58.1	601.0	188.2	58.6	641.0	188.9	58.6	681.0	188.2	59.1
561.5	188.2	58.1	601.5	186.8	58.6	641.5	189.6	58.6	681.5	187.5	59.1
562.0	188.9	58.1	602.0	188.2	58.6	642.0	188.9	58.6	682.0	188.9	59.1
562.5	188.9	58.1	602.5	188.2	58.6	642.5	189.6	58.6	682.5	188.9	59.1
563.0	188.9	58.1	603.0	186.8	58.6	643.0	188.9	58.6	683.0	188.2	59.1
563.5	188.2	58.1	603.5	186.8	58.6	643.5	188.9	58.6	683.5	188.2	59.1
564.0	188.2	58.1	604.0	186.8	58.6	644.0	188.9	58.6	684.0	187.5	59.1
564.5	188.2	58.1	604.5	188.2	58.6	644.5	188.2	58.7	684.5	188.9	59.1
565.0	188.2	58.1	605.0	186.8	58.6	645.0	187.5	58.7	685.0	188.9	59.1
565.5	188.2	58.1	605.5	188.2	58.6	645.5	188.2	58.8	685.5	188.9	59.1
566.0	188.2	58.1	606.0	186.8	58.6	646.0	186.8	58.9	686.0	188.2	59.1
566.5	188.2	58.1	606.5	186.8	58.6	646.5	188.2	58.9	686.5	188.2	59.1
567.0	188.2	58.1	607.0	188.9	58.6	647.0	188.2	59.0	687.0	188.2	59.1
567.5	188.9	58.1	607.5	188.2	58.6	647.5	186.8	59.1	687.5	188.9	59.1
568.0	188.9	58.1	608.0	188.2	58.6	648.0	186.8	59.1	688.0	188.9	59.1
568.5	188.2	58.1	608.5	186.8	58.6	648.5	187.5	59.1	688.5	188.2	59.1
569.0	188.9	58.1	609.0	188.2	58.6	649.0	187.5	59.1	689.0	188.2	59.1
569.5	188.9	58.1	609.5	186.8	58.6	649.5	187.5	59.1	689.5	187.5	59.1
570.0	188.2	58.1	610.0	188.2	58.6	650.0	187.5	59.1	690.0	188.2	59.1
570.5	188.9	58.1	610.5	188.2	58.6	650.5	186.8	59.1	690.5	189.6	59.1
571.0	188.9	58.1	611.0	188.2	58.6	651.0	187.5	59.1	691.0	188.9	59.1
571.5	188.9	58.1	611.5	186.8	58.6	651.5	187.5	59.1	691.5	188.2	59.1
572.0	188.9	58.1	612.0	188.2	58.6	652.0	187.5	59.1	692.0	188.9	59.1
572.5	188.9	58.1	612.5	188.2	58.6	652.5	186.1	59.1	692.5	190.9	59.1
573.0	188.2	58.1	613.0	188.2	58.6	653.0	187.5	59.1	693.0	188.9	59.1
573.5	188.9	58.1	613.5	188.2	58.6	653.5	188.2	59.1	693.5	189.6	59.1
574.0	188.2	58.1	614.0	188.2	58.6	654.0	187.5	59.1	694.0	188.9	59.1
574.5	188.9	58.1	614.5	188.2	58.6	654.5	186.8	59.1	694.5	188.9	59.1
575.0	188.9	58.1	615.0	188.9	58.6	655.0	186.8	59.1	695.0	189.6	59.1
575.5	188.9	58.1	615.5	188.2	58.6	655.5	187.5	59.1	695.5	189.6	59.1
576.0	188.9	58.1	616.0	188.9	58.6	656.0	187.5	59.1	696.0	189.6	59.1
576.5	188.9	58.2	616.5	186.8	58.6	656.5	187.5	59.1	696.5	189.6	59.1
577.0	188.2	58.2	617.0	188.2	58.6	657.0	187.5	59.1	697.0	189.6	59.1
577.5	188.2	58.3	617.5	188.2	58.6	657.5	187.5	59.1	697.5	189.6	59.1
578.0	188.9	58.4	618.0	188.2	58.6	658.0	186.8	59.1	698.0	189.6	59.1
578.5	187.5	58.4	618.5	188.9	58.6	658.5	187.5	59.1	698.5	189.6	59.1
579.0	187.5	58.5	619.0	188.2	58.6	659.0	187.5	59.1	699.0	188.9	59.1
579.5	186.8	58.6	619.5	188.9	58.6	659.5	187.5	59.1	699.5	188.2	59.1
580.0	186.1	58.6	620.0	188.9	58.6	660.0	188.2	59.1	700.0	190.9	59.1
580.5	186.8	58.6	620.5	188.2	58.6	660.5	187.5	59.1	700.5	189.6	59.1
581.0	186.8	58.6	621.0	188.9	58.6	661.0	187.5	59.1	701.0	188.9	59.1
581.5	186.8	58.6	621.5	188.9	58.6	661.5	187.5	59.1	701.5	189.6	59.1
582.0	186.8	58.6	622.0	189.6	58.6	662.0	187.5	59.1	702.0	189.6	59.1
582.5	188.2	58.6	622.5	188.2	58.6	662.5	187.5	59.1	702.5	192.3	59.1
583.0	186.8	58.6	623.0	188.2	58.6	663.0	187.5	59.1	703.0	189.6	59.1
583.5	186.8	58.6	623.5	188.2	58.6	663.5	187.5	59.1	703.5	189.6	59.1
584.0	186.8	58.6	624.0	188.2	58.6	664.0	187.5	59.1	704.0	189.6	59.1
584.5	186.8	58.6	624.5	188.9	58.6	664.5	188.2	59.1	704.5	189.6	59.1
585.0	186.8	58.6	625.0	188.2	58.6	665.0	188.2	59.1	705.0	191.6	59.1
585.5	186.8	58.6	625.5	188.2	58.6	665.5	187.5	59.1	705.5	189.6	59.1
586.0	186.8	58.6	626.0	188.9	58.6	666.0	188.2	59.1	706.0	189.6	59.1
586.5	186.8	58.6	626.5	188.2	58.6	666.5	187.5	59.1	706.5	188.9	59.1
587.0	186.8	58.6	627.0	188.2	58.6	667.0	188.2	59.1	707.0	189.6	59.1
587.5	186.8	58.6	627.5	188.2	58.6	667.5	188.2	59.1	707.5	190.9	59.1
588.0	186.8	58.6	628.0	188.2	58.6	668.0	187.5	59.1	708.0	189.6	59.1
588.5	186.8	58.6	628.5	188.9	58.6	668.5	188.2	59.1	708.5	190.2	59.2
589.0	186.8	58.6	629.0	188.2	58.6	669.0	187.5	59.1	709.0	190.9	59.2
589.5	188.2	58.6	629.5	188.9	58.6	669.5	188.2	59.1	709.5	188.2	59.3
590.0	186.8	58.6	630.0	188.2	58.6	670.0	187.5	59.1	710.0	189.6	59.4
590.5	186.8	58.6	630.5	189.6	58.6	670.5	187.5	59.1	710.5	189.6	59.4

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
711.0	188.9	59.5	751.0	191.6	59.6	791.0	189.6	60.0	831.0	192.3	60.1
711.5	188.2	59.5	751.5	190.2	59.6	791.5	190.2	60.0	831.5	192.3	60.1
712.0	187.5	59.6	752.0	190.2	59.6	792.0	190.2	60.1	832.0	193.0	60.1
712.5	188.2	59.6	752.5	189.6	59.6	792.5	190.2	60.1	832.5	193.0	60.1
713.0	188.2	59.6	753.0	189.6	59.6	793.0	190.2	60.1	833.0	192.3	60.1
713.5	188.2	59.6	753.5	189.6	59.6	793.5	190.9	60.1	833.5	193.0	60.1
714.0	188.9	59.6	754.0	190.2	59.6	794.0	190.2	60.1	834.0	192.3	60.1
714.5	188.2	59.6	754.5	190.2	59.6	794.5	190.2	60.1	834.5	191.6	60.1
715.0	188.9	59.6	755.0	190.2	59.6	795.0	190.2	60.1	835.0	191.6	60.1
715.5	188.9	59.6	755.5	191.6	59.6	795.5	191.6	60.1	835.5	192.3	60.1
716.0	188.2	59.6	756.0	190.2	59.6	796.0	189.6	60.1	836.0	192.3	60.1
716.5	188.9	59.6	756.5	188.9	59.6	796.5	190.2	60.1	836.5	193.0	60.1
717.0	188.2	59.6	757.0	189.6	59.6	797.0	190.2	60.1	837.0	192.3	60.1
717.5	189.6	59.6	757.5	190.9	59.6	797.5	191.6	60.1	837.5	192.3	60.1
718.0	188.2	59.6	758.0	190.2	59.6	798.0	190.9	60.1	838.0	192.3	60.1
718.5	188.2	59.6	758.5	189.6	59.6	798.5	190.9	60.1	838.5	192.3	60.1
719.0	188.9	59.6	759.0	190.2	59.6	799.0	191.6	60.1	839.0	193.0	60.1
719.5	188.2	59.6	759.5	190.2	59.6	799.5	190.9	60.1	839.5	192.3	60.1
720.0	188.9	59.6	760.0	189.6	59.6	800.0	190.2	60.1	840.0	193.0	60.1
720.5	188.2	59.6	760.5	190.2	59.6	800.5	190.9	60.1	840.5	191.6	60.1
721.0	188.9	59.6	761.0	189.6	59.6	801.0	190.2	60.1	841.0	192.3	60.1
721.5	188.9	59.6	761.5	190.2	59.6	801.5	190.2	60.1	841.5	192.3	60.1
722.0	188.2	59.6	762.0	189.6	59.6	802.0	190.9	60.1	842.0	192.3	60.1
722.5	188.2	59.6	762.5	190.9	59.6	802.5	190.2	60.1	842.5	192.3	60.1
723.0	188.2	59.6	763.0	190.9	59.6	803.0	190.9	60.1	843.0	192.3	60.1
723.5	188.9	59.6	763.5	190.2	59.6	803.5	190.9	60.1	843.5	192.3	60.1
724.0	188.2	59.6	764.0	189.6	59.6	804.0	191.6	60.1	844.0	192.3	60.1
724.5	190.2	59.6	764.5	190.2	59.6	804.5	191.6	60.1	844.5	193.0	60.1
725.0	189.6	59.6	765.0	190.2	59.6	805.0	191.6	60.1	845.0	192.3	60.1
725.5	190.2	59.6	765.5	190.2	59.6	805.5	190.9	60.1	845.5	192.3	60.1
726.0	188.9	59.6	766.0	190.9	59.6	806.0	190.9	60.1	846.0	192.3	60.1
726.5	188.9	59.6	766.5	190.9	59.6	806.5	190.2	60.1	846.5	193.7	60.1
727.0	189.6	59.6	767.0	190.2	59.6	807.0	190.9	60.1	847.0	192.3	60.1
727.5	188.9	59.6	767.5	190.2	59.6	807.5	190.9	60.1	847.5	192.3	60.1
728.0	190.2	59.6	768.0	190.9	59.6	808.0	190.9	60.1	848.0	193.0	60.1
728.5	188.9	59.6	768.5	190.9	59.6	808.5	190.2	60.1	848.5	192.3	60.1
729.0	188.9	59.6	769.0	190.9	59.6	809.0	191.6	60.1	849.0	193.0	60.1
729.5	190.9	59.6	769.5	190.2	59.6	809.5	191.6	60.1	849.5	193.0	60.1
730.0	188.9	59.6	770.0	190.2	59.6	810.0	190.9	60.1	850.0	193.0	60.1
730.5	188.9	59.6	770.5	190.9	59.6	810.5	190.2	60.1	850.5	192.3	60.1
731.0	188.9	59.6	771.0	190.9	59.6	811.0	191.6	60.1	851.0	192.3	60.1
731.5	189.6	59.6	771.5	190.2	59.6	811.5	191.6	60.1	851.5	192.3	60.1
732.0	188.9	59.6	772.0	191.6	59.6	812.0	191.6	60.1	852.0	192.3	60.1
732.5	189.6	59.6	772.5	190.9	59.6	812.5	190.9	60.1	852.5	193.0	60.1
733.0	189.6	59.6	773.0	191.6	59.6	813.0	190.9	60.1	853.0	193.0	60.1
733.5	189.6	59.6	773.5	190.9	59.6	813.5	191.6	60.1	853.5	193.0	60.1
734.0	188.9	59.6	774.0	190.2	59.6	814.0	190.9	60.1	854.0	193.0	60.1
734.5	188.9	59.6	774.5	191.6	59.6	814.5	191.6	60.1	854.5	192.3	60.1
735.0	189.6	59.6	775.0	191.6	59.6	815.0	192.3	60.1	855.0	193.0	60.1
735.5	190.2	59.6	775.5	191.6	59.6	815.5	191.6	60.1	855.5	193.7	60.1
736.0	190.2	59.6	776.0	191.6	59.6	816.0	191.6	60.1	856.0	193.0	60.1
736.5	190.2	59.6	776.5	190.9	59.6	816.5	191.6	60.1	856.5	193.0	60.1
737.0	189.6	59.6	777.0	190.9	59.6	817.0	190.9	60.1	857.0	193.0	60.1
737.5	189.6	59.6	777.5	190.9	59.6	817.5	192.3	60.1	857.5	193.0	60.1
738.0	188.9	59.6	778.0	190.9	59.6	818.0	190.9	60.1	858.0	193.0	60.1
738.5	189.6	59.6	778.5	191.6	59.6	818.5	191.6	60.1	858.5	192.3	60.1
739.0	189.6	59.6	779.0	190.9	59.6	819.0	190.9	60.1	859.0	193.0	60.1
739.5	189.6	59.6	779.5	190.9	59.6	819.5	191.6	60.1	859.5	193.0	60.1
740.0	190.2	59.6	780.0	191.6	59.6	820.0	192.3	60.1	860.0	193.0	60.1
740.5	189.6	59.6	780.5	191.6	59.6	820.5	192.3	60.1	860.5	193.0	60.1
741.0	190.2	59.6	781.0	190.9	59.6	821.0	191.6	60.1	861.0	193.7	60.1
741.5	189.6	59.6	781.5	191.6	59.6	821.5	191.6	60.1	861.5	193.0	60.1
742.0	189.6	59.6	782.0	190.9	59.6	822.0	192.3	60.1	862.0	193.0	60.1
742.5	189.6	59.6	782.5	191.6	59.6	822.5	191.6	60.1	862.5	193.0	60.1
743.0	189.6	59.6	783.0	190.2	59.6	823.0	192.3	60.1	863.0	193.0	60.1
743.5	190.2	59.6	783.5	191.6	59.6	823.5	192.3	60.1	863.5	193.0	60.1
744.0	190.2	59.6	784.0	190.9	59.6	824.0	191.6	60.1	864.0	192.3	60.1
744.5	190.2	59.6	784.5	191.6	59.6	824.5	191.6	60.1	864.5	193.0	60.1
745.0	189.6	59.6	785.0	193.0	59.6	825.0	191.6	60.1	865.0	193.0	60.1
745.5	188.9	59.6	785.5	190.9	59.6	825.5	191.6	60.1	865.5	193.7	60.1
746.0	190.2	59.6	786.0	191.6	59.6	826.0	192.3	60.1	866.0	193.0	60.1
746.5	190.2	59.6	786.5	191.6	59.6	826.5	192.3	60.1	866.5	193.0	60.1
747.0	189.6	59.6	787.0	190.9	59.6	827.0	191.6	60.1	867.0	193.0	60.1
747.5	189.6	59.6	787.5	190.9	59.6	827.5	192.3	60.1	867.5	193.0	60.1
748.0	190.9	59.6	788.0	191.6	59.6	828.0	191.6	60.1	868.0	193.7	60.1
748.5	189.6	59.6	788.5	193.0	59.7	828.5	192.3	60.1	868.5	193.0	60.2
749.0	190.2	59.6	789.0	192.3	59.7	829.0	192.3	60.1	869.0	193.0	60.2
749.5	190.2	59.6	789.5	190.2	59.8	829.5	192.3	60.1	869.5	192.3	60.3
750.0	190.2	59.6	790.0	192.3	59.9	830.0	193.0	60.1	870.0	193.0	60.4
750.5	190.2	59.6	790.5	191.6	59.9	830.5	193.0	60.1	870.5	192.3	60.4

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
871.0	192.3	60.5	911.0	193.0	60.6	951.0	193.7	60.6	991.0	193.0	61.1
871.5	191.6	60.6	911.5	193.0	60.6	951.5	193.7	60.6	991.5	190.9	61.1
872.0	190.2	60.6	912.0	192.3	60.6	952.0	193.0	60.6	992.0	192.3	61.1
872.5	191.6	60.6	912.5	193.0	60.6	952.5	193.0	60.6	992.5	191.6	61.1
873.0	191.6	60.6	913.0	192.3	60.6	953.0	193.7	60.6	993.0	192.3	61.1
873.5	191.6	60.6	913.5	193.0	60.6	953.5	193.7	60.6	993.5	191.6	61.1
874.0	191.6	60.6	914.0	193.0	60.6	954.0	193.7	60.6	994.0	192.3	61.1
874.5	192.3	60.6	914.5	193.0	60.6	954.5	193.7	60.6	994.5	192.3	61.1
875.0	191.6	60.6	915.0	192.3	60.6	955.0	193.7	60.6	995.0	191.6	61.1
875.5	191.6	60.6	915.5	192.3	60.6	955.5	193.7	60.6	995.5	192.3	61.1
876.0	192.3	60.6	916.0	193.0	60.6	956.0	193.0	60.6	996.0	191.6	61.1
876.5	192.3	60.6	916.5	193.0	60.6	956.5	192.3	60.7	996.5	192.3	61.1
877.0	192.3	60.6	917.0	192.3	60.6	957.0	193.7	60.7	997.0	192.3	61.1
877.5	191.6	60.6	917.5	193.0	60.6	957.5	192.3	60.8	997.5	192.3	61.1
878.0	192.3	60.6	918.0	193.0	60.6	958.0	192.3	60.9	998.0	192.3	61.1
878.5	192.3	60.6	918.5	193.0	60.6	958.5	193.0	60.9	998.5	192.3	61.1
879.0	193.0	60.6	919.0	192.3	60.6	959.0	191.6	61.0	999.0	192.3	61.1
879.5	192.3	60.6	919.5	193.0	60.6	959.5	191.6	61.1	999.5	193.0	61.1
880.0	191.6	60.6	920.0	192.3	60.6	960.0	191.6	61.1	1000.0	192.3	61.1
880.5	191.6	60.6	920.5	192.3	60.6	960.5	191.6	61.1	1000.5	192.3	61.1
881.0	192.3	60.6	921.0	192.3	60.6	961.0	190.9	61.1	1001.0	193.0	61.1
881.5	191.6	60.6	921.5	193.0	60.6	961.5	191.6	61.1	1001.5	192.3	61.1
882.0	193.0	60.6	922.0	193.0	60.6	962.0	191.6	61.1	1002.0	192.3	61.1
882.5	191.6	60.6	922.5	193.0	60.6	962.5	191.6	61.1	1002.5	192.3	61.1
883.0	192.3	60.6	923.0	193.0	60.6	963.0	191.6	61.1	1003.0	192.3	61.1
883.5	191.6	60.6	923.5	192.3	60.6	963.5	191.6	61.1	1003.5	193.0	61.1
884.0	191.6	60.6	924.0	192.3	60.6	964.0	191.6	61.1	1004.0	193.0	61.1
884.5	192.3	60.6	924.5	193.0	60.6	964.5	191.6	61.1	1004.5	193.0	61.1
885.0	191.6	60.6	925.0	193.0	60.6	965.0	191.6	61.1	1005.0	193.0	61.1
885.5	192.3	60.6	925.5	193.0	60.6	965.5	191.6	61.1	1005.5	193.0	61.1
886.0	191.6	60.6	926.0	193.0	60.6	966.0	191.6	61.1	1006.0	193.0	61.1
886.5	191.6	60.6	926.5	193.0	60.6	966.5	190.9	61.1	1006.5	192.3	61.1
887.0	192.3	60.6	927.0	192.3	60.6	967.0	190.9	61.1	1007.0	192.3	61.1
887.5	191.6	60.6	927.5	193.0	60.6	967.5	191.6	61.1	1007.5	193.0	61.1
888.0	191.6	60.6	928.0	193.0	60.6	968.0	191.6	61.1	1008.0	193.0	61.1
888.5	193.0	60.6	928.5	193.7	60.6	968.5	193.0	61.1	1008.5	193.0	61.1
889.0	192.3	60.6	929.0	192.3	60.6	969.0	191.6	61.1	1009.0	192.3	61.1
889.5	191.6	60.6	929.5	193.0	60.6	969.5	190.9	61.1	1009.5	192.3	61.1
890.0	191.6	60.6	930.0	192.3	60.6	970.0	192.3	61.1	1010.0	193.0	61.1
890.5	191.6	60.6	930.5	193.7	60.6	970.5	191.6	61.1	1010.5	192.3	61.1
891.0	192.3	60.6	931.0	193.0	60.6	971.0	190.9	61.1	1011.0	193.0	61.1
891.5	191.6	60.6	931.5	193.0	60.6	971.5	190.9	61.1	1011.5	193.0	61.1
892.0	192.3	60.6	932.0	193.0	60.6	972.0	192.3	61.1	1012.0	193.7	61.1
892.5	192.3	60.6	932.5	193.0	60.6	972.5	191.6	61.1	1012.5	193.0	61.1
893.0	193.0	60.6	933.0	193.7	60.6	973.0	190.9	61.1	1013.0	193.0	61.1
893.5	192.3	60.6	933.5	193.0	60.6	973.5	191.6	61.1	1013.5	193.7	61.1
894.0	192.3	60.6	934.0	193.7	60.6	974.0	190.9	61.1	1014.0	192.3	61.1
894.5	192.3	60.6	934.5	193.0	60.6	974.5	190.9	61.1	1014.5	193.7	61.1
895.0	191.6	60.6	935.0	193.0	60.6	975.0	191.6	61.1	1015.0	193.0	61.1
895.5	192.3	60.6	935.5	193.0	60.6	975.5	191.6	61.1	1015.5	193.0	61.1
896.0	192.3	60.6	936.0	193.0	60.6	976.0	192.3	61.1	1016.0	193.7	61.1
896.5	192.3	60.6	936.5	193.0	60.6	976.5	191.6	61.1	1016.5	193.0	61.1
897.0	192.3	60.6	937.0	192.3	60.6	977.0	191.6	61.1	1017.0	193.0	61.1
897.5	193.7	60.6	937.5	193.7	60.6	977.5	191.6	61.1	1017.5	193.0	61.1
898.0	193.0	60.6	938.0	193.0	60.6	978.0	192.3	61.1	1018.0	192.3	61.1
898.5	193.0	60.6	938.5	193.0	60.6	978.5	191.6	61.1	1018.5	193.0	61.1
899.0	193.0	60.6	939.0	193.0	60.6	979.0	191.6	61.1	1019.0	193.0	61.1
899.5	193.0	60.6	939.5	193.7	60.6	979.5	192.3	61.1	1019.5	193.0	61.1
900.0	192.3	60.6	940.0	193.0	60.6	980.0	191.6	61.1	1020.0	192.3	61.1
900.5	193.0	60.6	940.5	193.0	60.6	980.5	193.0	61.1	1020.5	192.3	61.1
901.0	191.6	60.6	941.0	193.0	60.6	981.0	190.9	61.1	1021.0	193.0	61.1
901.5	192.3	60.6	941.5	193.0	60.6	981.5	191.6	61.1	1021.5	193.0	61.1
902.0	192.3	60.6	942.0	193.0	60.6	982.0	192.3	61.1	1022.0	192.3	61.1
902.5	192.3	60.6	942.5	192.3	60.6	982.5	191.6	61.1	1022.5	193.0	61.1
903.0	193.0	60.6	943.0	193.0	60.6	983.0	191.6	61.1	1023.0	193.0	61.1
903.5	193.0	60.6	943.5	193.0	60.6	983.5	191.6	61.1	1023.5	192.3	61.1
904.0	192.3	60.6	944.0	193.7	60.6	984.0	192.3	61.1	1024.0	192.3	61.1
904.5	192.3	60.6	944.5	193.0	60.6	984.5	191.6	61.1	1024.5	193.0	61.1
905.0	192.3	60.6	945.0	193.0	60.6	985.0	192.3	61.1	1025.0	193.7	61.1
905.5	192.3	60.6	945.5	193.7	60.6	985.5	191.6	61.1	1025.5	193.7	61.1
906.0	192.3	60.6	946.0	193.7	60.6	986.0	191.6	61.1	1026.0	193.7	61.1
906.5	192.3	60.6	946.5	193.0	60.6	986.5	192.3	61.1	1026.5	193.7	61.1
907.0	193.0	60.6	947.0	193.0	60.6	987.0	191.6	61.1	1027.0	192.3	61.1
907.5	193.0	60.6	947.5	193.0	60.6	987.5	192.3	61.1	1027.5	193.7	61.1
908.0	193.0	60.6	948.0	193.0	60.6	988.0	192.3	61.1	1028.0	193.0	61.1
908.5	193.7	60.6	948.5	193.0	60.6	988.5	192.3	61.1	1028.5	193.7	61.1
909.0	192.3	60.6	949.0	193.7	60.6	989.0	192.3	61.1	1029.0	193.0	61.1
909.5	193.0	60.6	949.5	193.0	60.6	989.5	191.6	61.1	1029.5	193.7	61.1
910.0	193.0	60.6	950.0	193.0	60.6	990.0	192.3	61.1	1030.0	193.0	61.1
910.5	192.3	60.6	950.5	193.7	60.6	990.5	192.3	61.1	1030.5	193.0	61.1

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
1031.0	193.7	61.1	1071.0	193.0	61.6	1111.0	193.0	61.6	1151.0	190.9	59.2
1031.5	192.3	61.1	1071.5	193.7	61.6	1111.5	194.4	61.6	1151.5	188.9	59.2
1032.0	193.0	61.1	1072.0	193.7	61.6	1112.0	193.7	61.6	1152.0	188.2	59.1
1032.5	193.0	61.1	1072.5	193.0	61.6	1112.5	193.0	61.6	1152.5	187.5	59.1
1033.0	192.3	61.1	1073.0	193.7	61.6	1113.0	193.7	61.6	1153.0	188.2	59.0
1033.5	193.0	61.1	1073.5	192.3	61.6	1113.5	193.7	61.6	1153.5	188.2	58.9
1034.0	193.0	61.1	1074.0	193.7	61.6	1114.0	193.7	61.6	1154.0	188.2	58.9
1034.5	194.4	61.1	1074.5	193.0	61.6	1114.5	193.0	61.6	1154.5	188.9	58.8
1035.0	194.4	61.1	1075.0	191.6	61.6	1115.0	193.0	61.6	1155.0	188.2	58.7
1035.5	193.0	61.1	1075.5	193.0	61.6	1115.5	193.0	61.6	1155.5	186.8	58.7
1036.0	192.3	61.1	1076.0	194.4	61.6	1116.0	193.0	61.6	1156.0	189.6	58.6
1036.5	193.0	61.1	1076.5	193.7	61.6	1116.5	193.0	61.6	1156.5	188.9	58.6
1037.0	193.0	61.1	1077.0	193.7	61.6	1117.0	193.0	61.5	1157.0	188.2	58.5
1037.5	193.7	61.1	1077.5	194.4	61.6	1117.5	194.4	61.4	1157.5	189.6	58.4
1038.0	193.7	61.1	1078.0	193.0	61.6	1118.0	193.7	61.4	1158.0	188.9	58.4
1038.5	193.7	61.1	1078.5	193.7	61.6	1118.5	193.0	61.3	1158.5	188.2	58.3
1039.0	193.7	61.1	1079.0	194.4	61.6	1119.0	194.4	61.2	1159.0	188.9	58.2
1039.5	193.7	61.1	1079.5	193.7	61.6	1119.5	193.0	61.2	1159.5	188.9	58.2
1040.0	193.7	61.1	1080.0	194.4	61.6	1120.0	193.7	61.1	1160.0	188.2	58.1
1040.5	194.4	61.1	1080.5	193.7	61.6	1120.5	194.4	61.1	1160.5	188.2	58.1
1041.0	193.7	61.1	1081.0	193.7	61.6	1121.0	193.0	61.1	1161.0	188.9	58.0
1041.5	193.7	61.1	1081.5	193.7	61.6	1121.5	192.3	61.1	1161.5	188.9	57.9
1042.0	194.4	61.1	1082.0	193.7	61.6	1122.0	193.0	61.1	1162.0	188.2	57.9
1042.5	193.7	61.1	1082.5	194.4	61.6	1122.5	193.7	61.1	1162.5	188.2	57.8
1043.0	194.4	61.1	1083.0	193.7	61.6	1123.0	193.7	61.1	1163.0	188.2	57.7
1043.5	193.0	61.1	1083.5	193.7	61.6	1123.5	193.0	61.1	1163.5	187.5	57.7
1044.0	193.0	61.1	1084.0	193.7	61.6	1124.0	193.0	61.1	1164.0	186.8	57.6
1044.5	193.7	61.1	1084.5	192.3	61.6	1124.5	193.0	61.1	1164.5	186.1	57.6
1045.0	193.7	61.1	1085.0	193.7	61.6	1125.0	193.0	61.1	1165.0	188.2	57.5
1045.5	193.7	61.1	1085.5	194.4	61.6	1125.5	192.3	61.1	1165.5	186.1	57.4
1046.0	193.7	61.1	1086.0	193.0	61.6	1126.0	192.3	61.1	1166.0	185.4	57.4
1046.5	193.7	61.1	1086.5	193.0	61.6	1126.5	192.3	61.1	1166.5	185.4	57.3
1047.0	195.8	61.1	1087.0	193.7	61.6	1127.0	192.3	61.1	1167.0	185.4	57.3
1047.5	193.7	61.1	1087.5	194.4	61.6	1127.5	192.3	61.1	1167.5	184.7	57.2
1048.0	195.8	61.1	1088.0	194.4	61.6	1128.0	191.6	61.1	1168.0	186.1	57.1
1048.5	193.7	61.1	1088.5	194.4	61.6	1128.5	193.0	61.1	1168.5	185.4	57.0
1049.0	193.7	61.1	1089.0	193.7	61.6	1129.0	193.0	61.0	1169.0	184.0	56.9
1049.5	194.4	61.1	1089.5	193.7	61.6	1129.5	193.0	60.9	1169.5	184.7	56.8
1050.0	193.7	61.1	1090.0	193.0	61.6	1130.0	193.7	60.9	1170.0	184.7	56.6
1050.5	194.4	61.1	1090.5	194.4	61.6	1130.5	193.7	60.8	1170.5	184.7	56.5
1051.0	194.4	61.1	1091.0	194.4	61.6	1131.0	193.0	60.7	1171.0	184.7	56.4
1051.5	193.7	61.1	1091.5	192.3	61.6	1131.5	193.0	60.7	1171.5	184.7	56.3
1052.0	194.4	61.1	1092.0	194.4	61.6	1132.0	193.7	60.6	1172.0	184.7	56.1
1052.5	194.4	61.2	1092.5	193.7	61.6	1132.5	193.7	60.6	1172.5	184.7	56.1
1053.0	194.4	61.2	1093.0	193.0	61.6	1133.0	193.0	60.6	1173.0	184.7	56.0
1053.5	193.0	61.3	1093.5	193.0	61.6	1133.5	193.0	60.6	1173.5	184.7	55.9
1054.0	193.0	61.4	1094.0	193.7	61.6	1134.0	193.0	60.6	1174.0	184.7	55.9
1054.5	193.7	61.4	1094.5	193.7	61.6	1134.5	192.3	60.6	1174.5	184.0	55.8
1055.0	194.4	61.5	1095.0	194.4	61.6	1135.0	193.0	60.6	1175.0	183.3	55.8
1055.5	191.6	61.6	1095.5	193.0	61.6	1135.5	193.7	60.6	1175.5	184.0	55.7
1056.0	193.0	61.6	1096.0	193.7	61.6	1136.0	192.3	60.6	1176.0	183.3	55.6
1056.5	193.0	61.6	1096.5	193.7	61.6	1136.5	192.3	60.6	1176.5	182.7	55.5
1057.0	192.3	61.6	1097.0	194.4	61.6	1137.0	193.0	60.5	1177.0	182.7	55.4
1057.5	193.0	61.6	1097.5	193.7	61.6	1137.5	193.7	60.4	1177.5	183.3	55.3
1058.0	193.0	61.6	1098.0	193.7	61.6	1138.0	193.0	60.4	1178.0	184.0	55.1
1058.5	192.3	61.6	1098.5	194.4	61.6	1138.5	193.0	60.3	1178.5	184.0	55.0
1059.0	192.3	61.6	1099.0	193.7	61.6	1139.0	193.0	60.2	1179.0	182.0	54.9
1059.5	193.0	61.6	1099.5	193.0	61.6	1139.5	193.7	60.2	1179.5	183.3	54.8
1060.0	193.0	61.6	1100.0	193.0	61.6	1140.0	193.0	60.1	1180.0	180.6	54.6
1060.5	193.7	61.6	1100.5	193.7	61.6	1140.5	192.3	60.0	1180.5	182.7	54.6
1061.0	192.3	61.6	1101.0	193.7	61.6	1141.0	194.4	60.0	1181.0	182.0	54.5
1061.5	193.0	61.6	1101.5	194.4	61.6	1141.5	193.0	59.9	1181.5	181.3	54.5
1062.0	193.0	61.6	1102.0	194.4	61.6	1142.0	194.4	59.9	1182.0	179.9	54.4
1062.5	193.7	61.6	1102.5	193.0	61.6	1142.5	194.4	59.8	1182.5	180.6	54.3
1063.0	193.0	61.6	1103.0	193.0	61.6	1143.0	193.7	59.7	1183.0	179.9	54.3
1063.5	192.3	61.6	1103.5	193.7	61.6	1143.5	192.3	59.7	1183.5	179.9	54.2
1064.0	193.7	61.6	1104.0	193.7	61.6	1144.0	193.0	59.6	1184.0	179.9	54.1
1064.5	193.7	61.6	1104.5	193.7	61.6	1144.5	191.6	59.6	1184.5	179.2	54.0
1065.0	193.0	61.6	1105.0	194.4	61.6	1145.0	193.0	59.6	1185.0	180.6	53.9
1065.5	193.7	61.6	1105.5	193.0	61.6	1145.5	193.0	59.6	1185.5	180.6	53.8
1066.0	193.0	61.6	1106.0	193.7	61.6	1146.0	193.0	59.6	1186.0	179.9	53.7
1066.5	193.7	61.6	1106.5	194.4	61.6	1146.5	190.9	59.6	1186.5	179.9	53.5
1067.0	192.3	61.6	1107.0	193.0	61.6	1147.0	191.6	59.6	1187.0	180.6	53.4
1067.5	192.3	61.6	1107.5	193.0	61.6	1147.5	191.6	59.6	1187.5	180.6	53.3
1068.0	193.7	61.6	1108.0	193.7	61.6	1148.0	190.2	59.6	1188.0	179.2	53.2
1068.5	193.0	61.6	1108.5	193.7	61.6	1148.5	190.9	59.5	1188.5	179.2	53.0
1069.0	193.0	61.6	1109.0	193.7	61.6	1149.0	190.2	59.5	1189.0	178.5	52.9
1069.5	192.3	61.6	1109.5	193.7	61.6	1149.5	190.9	59.4	1189.5	179.9	52.8
1070.0	193.0	61.6	1110.0	195.1	61.6	1150.0	189.6	59.4	1190.0	179.2	52.7
1070.5	192.3	61.6	1110.5	193.7	61.6	1150.5	190.2	59.3	1190.5	177.8	52.5

TEST REFERENCE#: 301120BR FILE STARTS: 5:03:00 on March 11, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (k [illegible]), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
1191.0	177.8	52.4	1231.0	164.0	44.3	1271.0	155.1	36.0			
1191.5	177.8	52.3	1231.5	165.4	44.3	1271.5	155.8	35.9			
1192.0	177.8	52.2	1232.0	164.0	44.2	1272.0	155.8	35.7			
1192.5	177.1	52.1	1232.5	165.4	44.1	1272.5	155.1	35.7			
1193.0	177.1	52.0	1233.0	164.7	44.0	1273.0	155.1	35.6			
1193.5	177.1	52.0	1233.5	165.4	43.8	1273.5	154.4	35.5			
1194.0	175.8	51.9	1234.0	164.0	43.7	1274.0	155.8	35.5			
1194.5	177.1	51.9	1234.5	164.0	43.6	1274.5	153.7	35.4			
1195.0	176.5	51.8	1235.0	164.7	43.5	1275.0	153.7	35.4			
1195.5	175.8	51.7	1235.5	163.4	43.3	1275.5	153.7	35.3			
1196.0	175.1	51.7	1236.0	163.4	43.2	1276.0	153.7	35.2			
1196.5	175.1	51.5	1236.5	163.4	43.1	1276.5	153.7	35.1			
1197.0	175.8	51.4	1237.0	163.4	43.0	1277.0	153.0	35.0			
1197.5	175.1	51.3	1237.5	163.4	42.9	1277.5	153.0	34.9			
1198.0	174.4	51.2	1238.0	162.7	42.7	1278.0	153.7	34.7			
1198.5	174.4	51.0	1238.5	163.4	42.6	1278.5	153.7	34.6			
1199.0	173.7	50.9	1239.0	162.7	42.5	1279.0	154.4	34.5			
1199.5	174.4	50.8	1239.5	162.7	42.4	1279.5	154.4	34.3			
1200.0	174.4	50.7	1240.0	162.7	42.2	1280.0	154.4	34.2			
1200.5	174.4	50.5	1240.5	162.0	42.2	1280.5	153.7	34.2			
1201.0	173.7	50.4	1241.0	161.3	42.1	1281.0	154.4	34.1			
1201.5	174.[illegible]	50.3	1241.5	163.4	42.0	1281.5	153.7	34.0			
1202.0	173.7	50.2	1242.0	162.0	42.0	1282.0	154.4	34.0			
1202.5	174.4	50.1	1242.5	162.0	41.9	1282.5	155.1	33.9			
1203.0	173.7	49.9	1243.0	160.6	41.9	1283.0	154.4	33.8			
1203.5	173.7	49.8	1243.5	162.0	41.8	1283.5	155.1	33.8			
1204.0	172.3	49.7	1244.0	160.6	41.7	1284.0	153.7	33.7			
1204.5	172.3	49.6	1244.5	161.3	41.6	1284.5	154.4	33.7			
1205.0	173.7	49.4	1245.0	161.3	41.5	1285.0	154.4	33.6			
1205.5	172.3	49.3	1245.5	161.3	41.4	1285.5	153.7	33.5			
1206.0	173.0	49.2	1246.0	161.3	41.2	1286.0	155.1	33.5			
1206.5	172.3	49.1	1246.5	161.3	41.1	1286.5	153.7	33.4			
1207.0	173.0	48.9	1247.0	159.9	41.0	1287.0	154.4	33.3			
1207.5	172.3	48.8	1247.5	160.6	40.9	1287.5	155.8	33.3			
1208.0	172.3	48.7	1248.0	159.9	40.7	1288.0	155.8	33.2			
1208.5	172.3	48.6	1248.5	159.9	40.6	1288.5	155.8	33.2			
1209.0	172.3	48.6	1249.0	159.9	40.5	1289.0	154.4	33.1			
1209.5	172.3	48.5	1249.5	89.6	40.4	1289.5	154.4	33.0			
1210.0	171.6	48.4	1250.0	89.6	40.2	1290.0	155.1	33.0			
1210.5	170.9	48.4	1250.5	89.6	40.1	1290.5	155.1	32.9			
1211.0	171.6	48.3	1251.0	89.6	40.0	1291.0	156.5	32.8			
1211.5	169.6	48.3	1251.5	89.6	39.9	1291.5	154.4	32.8			
1212.0	169.6	48.2	1252.0	159.9	39.7	1292.0	155.1	32.7			
1212.5	168.9	48.1	1252.5	159.2	39.7	1292.5	155.1	32.7			
1213.0	169.6	47.9	1253.0	159.2	39.6	1293.0	155.8	32.6			
1213.5	169.6	47.8	1253.5	158.5	39.6	1293.5	155.1	32.5			
1214.0	168.9	47.7	1254.0	158.5	39.5	1294.0	155.1	32.5			
1214.5	169.6	47.6	1254.5	157.8	39.4	1294.5	154.4	32.4			
1215.0	168.2	47.4	1255.0	158.5	39.4	1295.0	155.8	32.3			
1215.5	168.9	47.3	1255.5	157.8	39.3	1295.5	154.4	32.3			
1216.0	168.2	47.2	1256.0	158.5	39.2	1296.0	155.1	32.2			
1216.5	168.9	47.1	1256.5	158.5	39.1	1296.5	157.1	32.2			
1217.0	1[illegible]6	46.9	1257.0	157.8	39.0	1297.0	155.8	32.1			
1217.5	167.5	46.8	1257.5	157.8	38.9	1297.5	155.8	32.0			
1218.0	169.6	46.7	1258.0	157.8	38.7	1298.0	156.5	32.0			
1218.5	168.9	46.6	1258.5	158.5	38.6	1298.5	156.5	31.9			
1219.0	168.9	46.5	1259.0	157.8	38.5	1299.0	155.8	31.8			
1219.5	170.2	46.3	1259.5	157.8	38.4	1299.5	157.1	31.8			
1220.0	168.9	46.2	1260.0	157.1	38.2	1300.0	155.1	31.7			
1220.5	169.6	46.1	1260.5	157.8	38.1	1300.5	154.4	31.6			
1221.0	169.6	46.1	1261.0	157.1	38.0	1301.0	153.7	31.6			
1221.5	168.9	46.0	1261.5	155.8	37.9	1301.5	153.7	31.5			
1222.0	168.2	46.0	1262.0	155.8	37.7	1302.0	154.4	31.5			
1222.5	167.5	45.9	1262.5	156.5	37.6	1302.5	154.4	31.4			
1223.0	167.5	45.8	1263.0	155.8	37.5	1303.0	154.4	31.3			
1223.5	166.8	45.8	1263.5	156.5	37.4	1303.5	152.3	31.3			
1224.0	166.1	45.7	1264.0	156.5	37.2	1304.0	152.3	31.2			
1224.5	166.8	45.6	1264.5	155.1	37.2	1304.5	157.1	30.8			
1225.0	164.7	45.5	1265.0	156.5	37.1	1305.0	155.8	30.5			
1225.5	166.1	45.3	1265.5	155.8	37.0	1305.5	155.8	30.1			
1226.0	164.7	45.2	1266.0	155.1	37.0	1306.0	155.8	29.7			
1226.5	166.1	45.1	1266.5	155.8	36.9	1306.5	157.1	29.3			
1227.0	166.1	45.0	1267.0	154.4	36.9	1307.0	156.5	28.9			
1227.5	165.4	44.8	1267.5	154.4	36.8	1307.5	154.4	28.6			
1228.0	165.4	44.7	1268.0	154.4	36.7	1308.0	151.6	28.2			
1228.5	166.1	44.7	1268.5	153.7	36.6	1308.5	150.3	28.1			
1229.0	165.4	44.6	1269.0	155.1	36.5	1309.0	147.5	27.9			
1229.5	166.1	44.5	1269.5	155.1	36.4	1309.5	148.9	27.8			
1230.0	165.4	44.5	1270.0	155.1	36.2						
1230.5	165.4	44.4	1270.5	155.8	36.1						

D) DST #4 PEKISKO FORMATION
579.0 - 583.5 M

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/12/90
Location : N-45
DST # : FOUR

LEVEL I FLOPETROL JOHNSTON ™ DST REPORT

for

PETRO CANADA INCORPORATED

Well: PCI ISLAND LAKE N-45

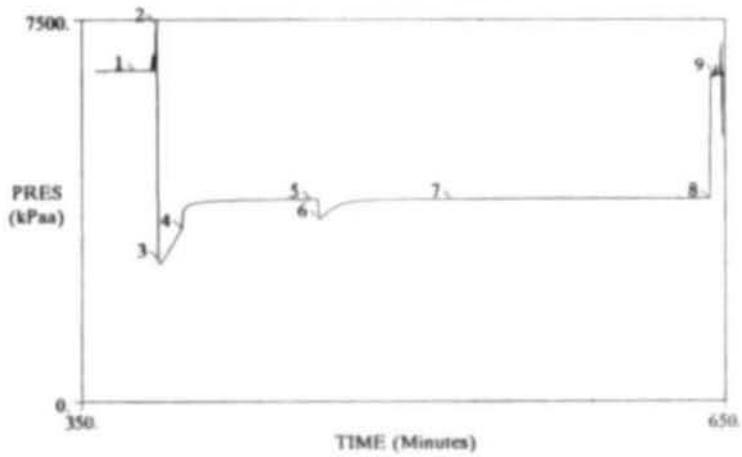
DST #FOUR: RUNDLE (PEKISKO) FORMATION - (579. - 583.5M)

**********Test Reference Number: 301120CI**********

Test Data

#	Explanation	P(kPa)	T(min)
1	HYDROSTATIC	6491.3	375.0
2	REFERENCE TIME	7431.1	384.5
3	START FLOW	2790.2	385.5
4	START SHUT-IN	3375.6	396.5
5	END SHUT-IN	3947.2	456.0
6	START FLOW	3566.6	459.5
7	START SHUT-IN	3948.5	521.0
8	END SHUT-IN	3956.8	642.0
9	HYDROSTATIC	6423.1	645.0

BOTTOMHOLE PRESSURE LOG



Test Results [INFLATE STRADDLE]

FINAL SHUTIN PRESSURE	3956 kPa
RESERVOIR TEMPERATURE	34 C
PRODUCTION RATE	Surface response was too small to measure
NET PIPE RECOVERY	Total pipe recovery of 357 m (2.171m3). Top 20 m of light gas cut muddy water with the remaining 337 m being heavy gas cut water.

Blow Description

PREFLOW	Good initial air blow, built to strong in 30 seconds. Open to flare.
MAINFLOW	Good initial air blow, built to strong in 30 seconds. Open to flare.

Comments

THIS WAS A MECHANICALLY SUCCESSFUL TEST OF THE RUNDLE FORMATION FROM 579 TO 583.5 MKB. THE BOTTOMHOLE PRESSURE CHARTS INDICATE A FORMATION WITH EXCELLENT PERMEABILITY. THIS INTERVAL PRODUCED WATER WITH A SALINITY OF 20,000 PPM [NaCl] UNTIL THE WELL EQUALIZED DURING THE FINAL FLOW PERIOD.

IF YOU REQUIRE FURTHER INFORMATION, PLEASE CONTACT BRIAN JORDAN AT 231-9625.

Schlumberger

Schlumberger of Canada
Testing Services

Test Date : 3/12/90
Location : N-45
DST # : FOUR

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	6:43:30	HYDROSTATIC		6491.3	34.1		
2	6:53:00	REFERENCE TIME	9.5	7431.1	34.1		
3	6:54:00	START FLOW	1.0	2790.2	34.2		
4	7:05:00	START SHUT-IN	11.0	3375.6	35.1		
5	8:04:30	END SHUT-IN	59.5	3947.2	35.6		
6	8:08:00	START FLOW	3.5	3566.6	35.6		
7	9:09:30	START SHUT-IN	61.5	3948.5	35.6		
8	11:10:30	END SHUT-IN	121.0	3956.8	35.6		
9	11:13:30	HYDROSTATIC	3.0	6423.1	35.6		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-TOP OF RECOVERY	MUDDY WATER	1.08 @ 18	6000
3-MIDDLE OF RECOVERY	WATER	.371 @ 18	19000
4-BOTTOM OF RECOVERY	WATER	.333 @ 20	20000
5-BOTTOMHOLE SAMPLER	SENT TO LAB FOR DRAINING #1001, #140		

Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger | Schlumberger of Canada
Testing Services

Test Date : 3/12/90
Location : N-45
DST # : FOUR

Hole Conditions

Total Depth(MD/TVD)	**1450 m**
Ground Level	**605.4 m**
Kelly Bushing	**609.9 m**
Hole Size	**222 mm**
Mud Weight	**1115 kg/m3**
Mud Type	**Gel Chem**

Test String Configuration

Pipe Length/I.D.	**421.90m / 97.2mm (.0074 m3/m)**
Collar Length/I.D.	**146.35m / 74mm (.004188 m3/m)**
Packer Depths	**579 - 583.5 m**
Bottomhole Choke Size	**12.7 mm**
Gauge Depth/Type	**580.77 m / STARBURST**

Tool Sequence:

#	DESCRIPTION	LENGTH(m)	DEPTH(m)
0	DRILL PIPE TOP	0.00	-7.19
1	Drill Pipe 114mm	9.50	2.31
2	OTHER STABBING VALVE	0.45	2.76
3	Drill Pipe 114mm	412.40	415.16
4	Drill Collars 165mm	128.24	543.40
5	Pumpout Sub PIN TYPE	0.20	543.60
6	Pumpout Sub SHEAR DISC TYPE	0.20	543.80
7	Drill Collars 165mm	18.11	561.91
8	Crossover 4 1/2H90-3 1/2FH	0.31	562.22
9	Elec.Recorder SB#50130	1.80	564.02
10	Choke Sub 12.7 mm	0.31	564.33
11	MFE [Test Valve] #1001,#140	4.04	568.37
12	Crossover	0.31	568.68
13	Recorder AK1 #2077	1.34	570.02
14	Jars	2.28	572.30
15	Rotary Pump #132248	2.45	574.75
16	MSRV [Deflate] #113754	2.44	577.19
17	REFERENCE PACKER #110541	1.81	579.00
18	Packer Stub	0.77	579.77
19	Recorder K3 #13043,SB#50131	2.14	581.91
20	Spacer Pipe	0.93	582.84
21	Crossover 3 1/2FH-4 1/2FH	0.31	583.15
22	Packer Stub	0.77	583.92
23	Packer #104086	1.81	585.73
24	DDST [Drag Spring] #132928	2.62	588.35
25	Recorder AK1 #2526	1.80	590.15
26	Blank Off Sub	0.31	590.46
27	Spacer Pipe Perforated	1.52	591.98
28	Recorder AK1 #4375	1.80	593.78
29	Bullnose	0.00	593.78

Flopetrol Representative : GLEN E. CARTER

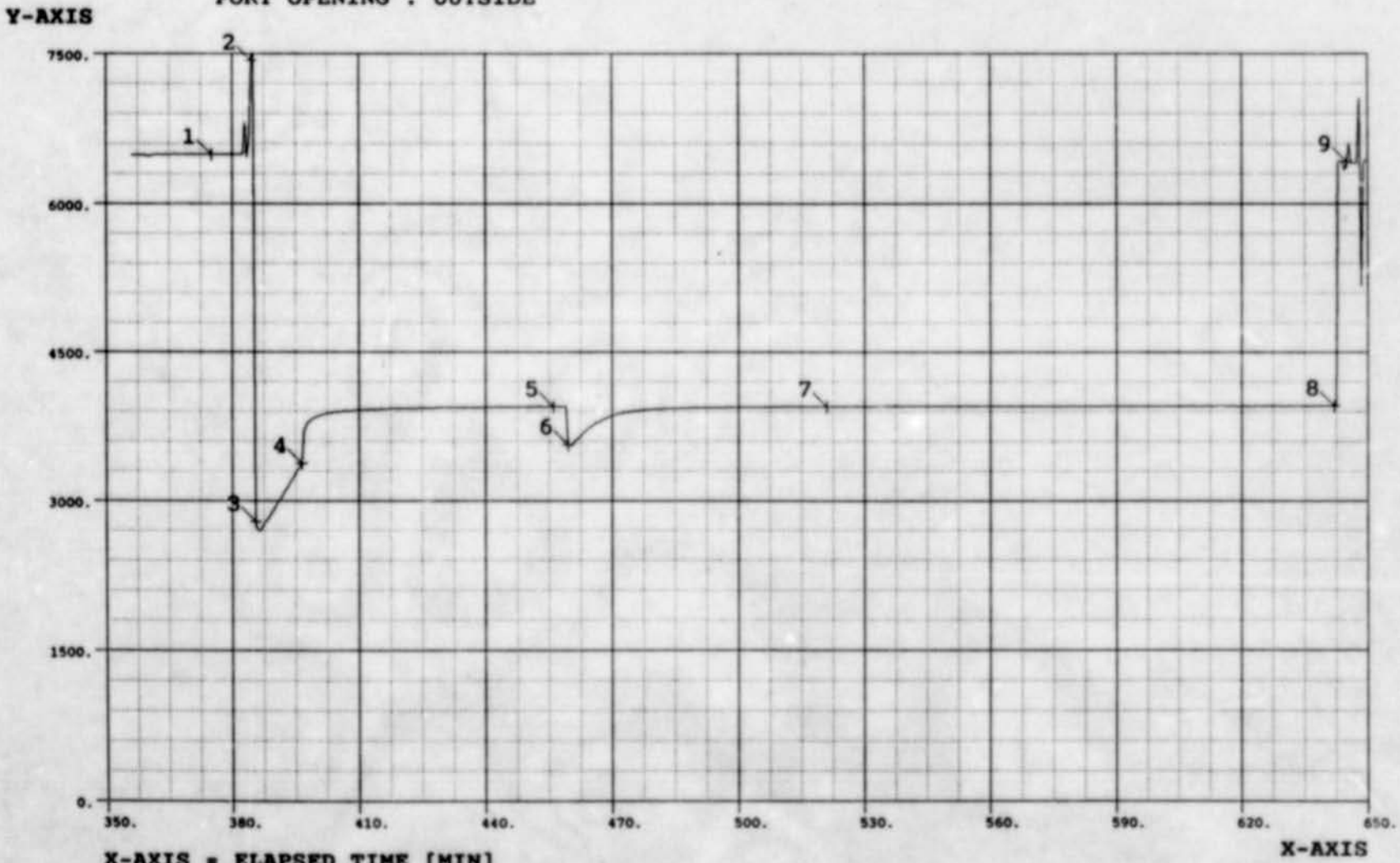
District : EDMONTON

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120CI
INSTRUMENT NO. : SB#50131
DEPTH : 580.77m
CAPACITY : 41369kPa/110 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : FOUR



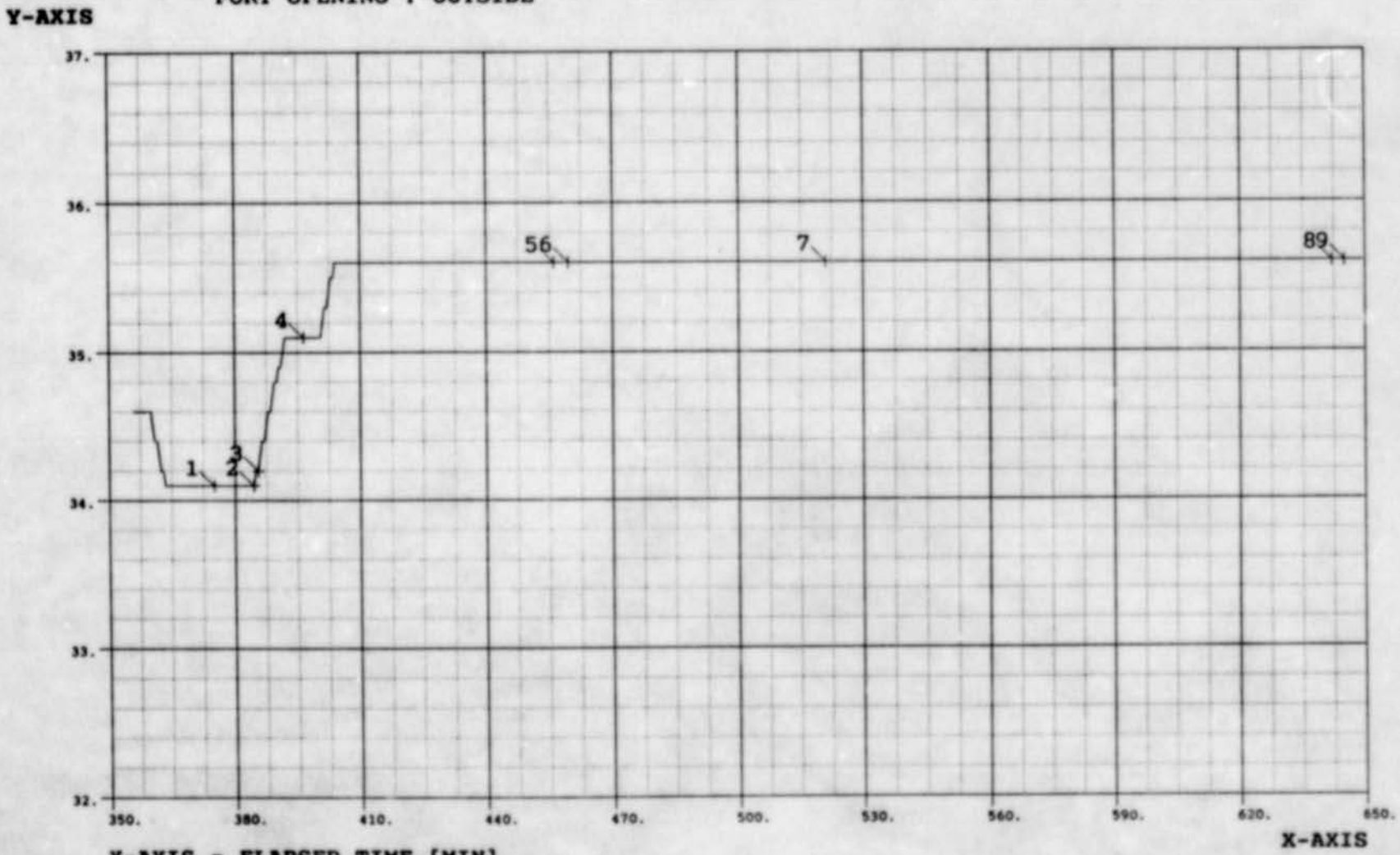
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120CI
INSTRUMENT NO. : SB#50131
DEPTH : 580.77m
CAPACITY : 41369kPa/110 C
PORT OPENING : OUTSIDE

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : FOUR



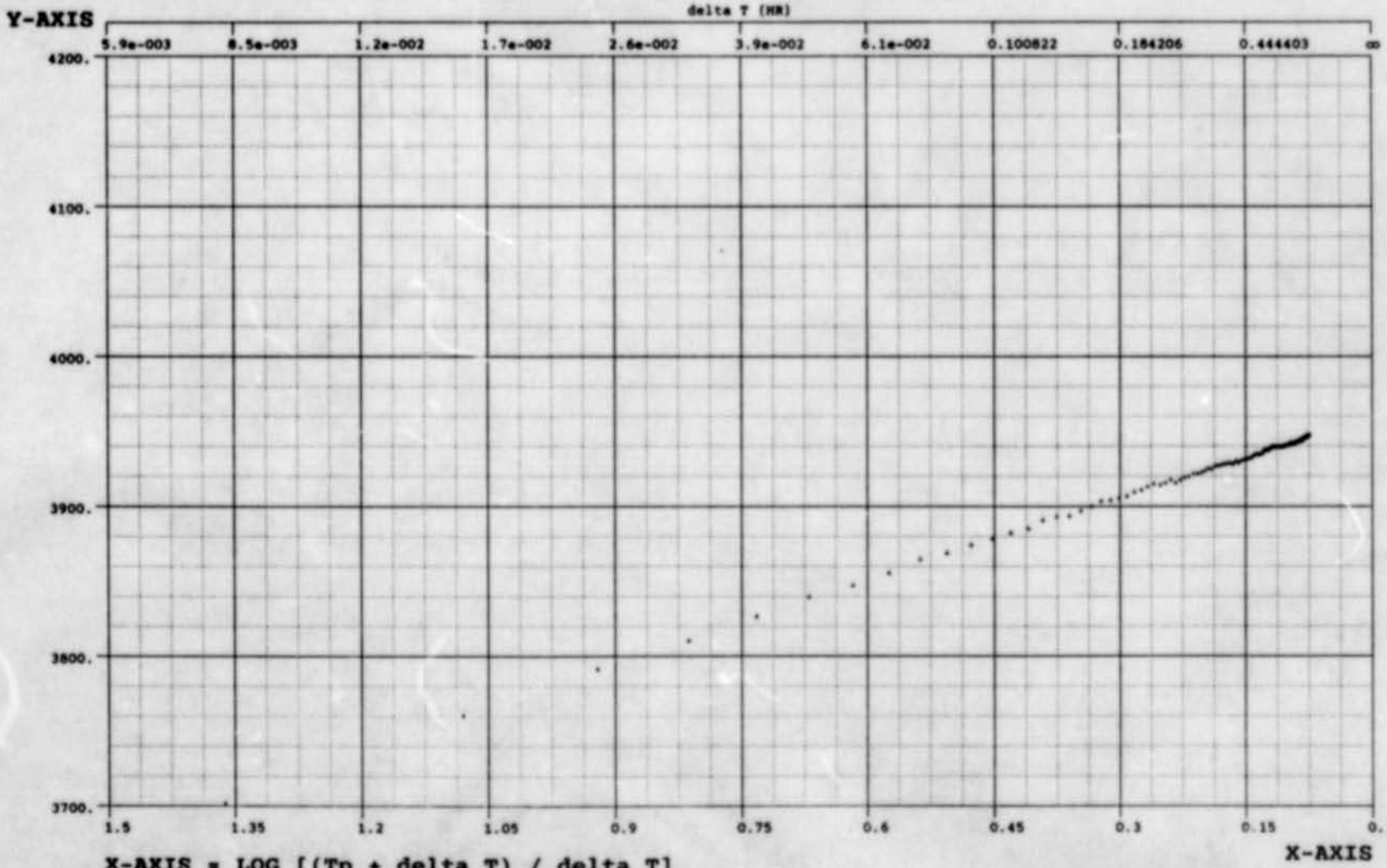
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

Schlumberger of Canada
Schlumberger Testing Services

HORNER PLOT

FIELD REPORT#: 301120CI
INSTRUMENT#: SB#50131
ELAPSED TIME RANGE: 396.5 - 456. MIN.
Delta T TIME RANGE: 8.3e-003 - 0.991666 HR.
PRODUCING TIME [Tp]: 0.1833333333 HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: ONE
DST#: FOUR



X-AXIS = LOG [(Tp + delta T) / delta T]
Y-AXIS = SHUTIN PRESSURE [KPA (ABS)]

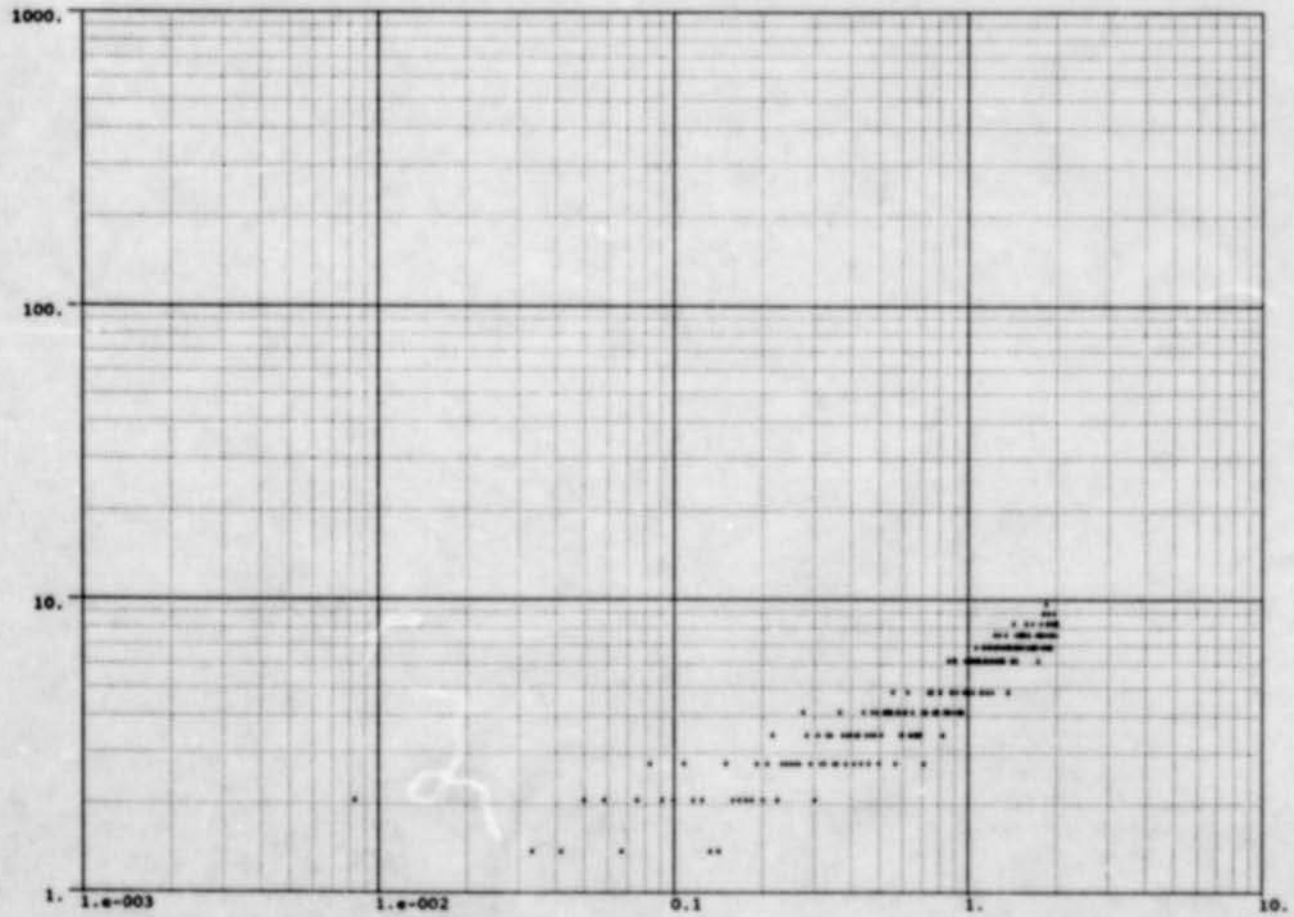
Schlumberger of Canada
Schlumberger Testing Services

L O G - L O G P L O T

FIELD REPORT#: 301120CI
INSTRUMENT#: SB#50131
ELAPSED TIME RANGE: 521. - 642. MIN.
Delta_T TIME RANGE: 8.3e-003 - 2.016666 HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: TWO
DST#: FOUR

Y-AXIS



X-AXIS

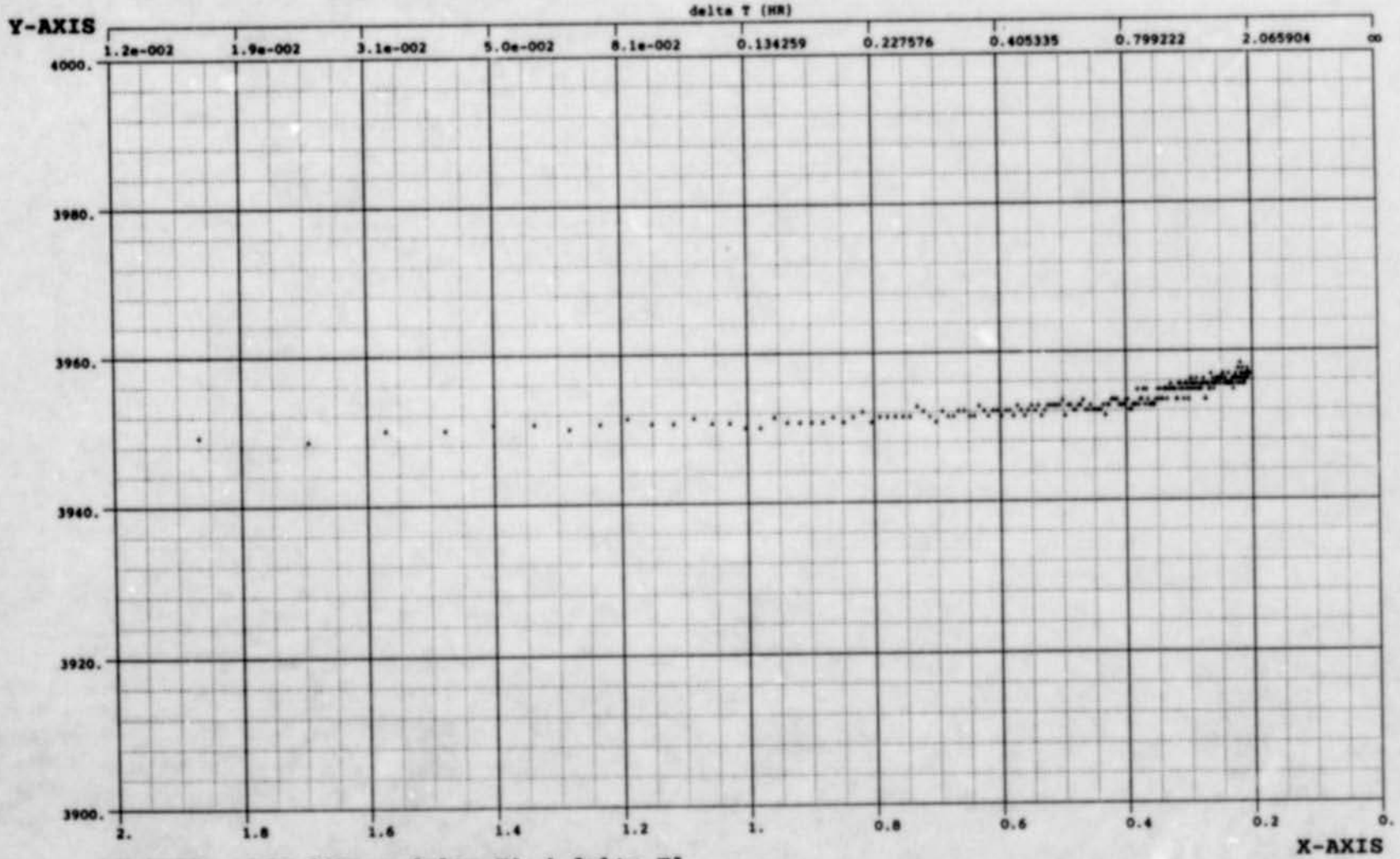
X-AXIS = delta T (HR)
Y-AXIS = delta P (KPA)

Schlumberger of Canada
Schlumberger Testing Services

HORNER PLOT

FIELD REPORT#: 301120CI
INSTRUMENT#: SB#50131
ELAPSED TIME RANGE: 521. - 642. MIN.
Delta_T TIME RANGE: 8.3e-003 - 2.016666 HR.
PRODUCING TIME [Tp]: 1.208333333 HR.

COMPANY: PETRO CANADA INCORPORATED
WELL: PCI ISLAND LAKE N-45
SHUTIN#: TWO
DST#: FOUR



X-AXIS = LOG [(Tp + delta T) / delta T]
Y-AXIS = SHUTIN PRESSURE [KPA (ABS)]

TEST REFERENCE#: 301120C1 FILE STARTS: 6:23:30 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
356.0	6489.9	34.6	396.0	3343.2	35.1	436.0	3939.6	35.6	476.0	3906.5	35.6
356.5	6490.6	34.6	396.5	3375.6	35.1	436.5	3939.6	35.6	476.5	3909.9	35.6
357.0	6490.6	34.6	397.0	3701.7	35.1	437.0	3940.3	35.6	477.0	3913.4	35.6
357.5	6489.9	34.6	397.5	3760.3	35.1	437.5	3939.6	35.6	477.5	3915.5	35.6
358.0	6489.2	34.6	398.0	3791.3	35.1	438.0	3941.0	35.6	478.0	3915.5	35.6
358.5	6489.2	34.6	398.5	3810.0	35.1	438.5	3940.3	35.6	478.5	3917.5	35.6
359.0	6489.2	34.6	399.0	3826.5	35.1	439.0	3940.3	35.6	479.0	3918.9	35.6
359.5	6483.7	34.6	399.5	3839.6	35.1	439.5	3941.0	35.6	479.5	3920.3	35.6
360.0	6480.3	34.6	400.0	3847.2	35.1	440.0	3941.6	35.6	480.0	3922.3	35.6
360.5	6472.0	34.5	400.5	3855.5	35.1	440.5	3941.6	35.6	480.5	3923.0	35.6
361.0	6488.6	34.4	401.0	3864.4	35.2	441.0	3942.3	35.6	481.0	3925.1	35.6
361.5	6489.2	34.4	401.5	3868.6	35.3	441.5	3941.0	35.6	481.5	3926.5	35.6
362.0	6491.3	34.3	402.0	3874.1	35.3	442.0	3941.6	35.6	482.0	3927.9	35.6
362.5	6491.3	34.2	402.5	3878.2	35.4	442.5	3942.3	35.6	482.5	3927.9	35.6
363.0	6491.3	34.2	403.0	3882.4	35.5	443.0	3942.3	35.6	483.0	3928.6	35.6
363.5	6490.6	34.1	403.5	3885.1	35.5	443.5	3942.3	35.6	483.5	3928.6	35.6
364.0	6493.4	34.1	404.0	3890.6	35.6	444.0	3941.6	35.6	484.0	3929.9	35.6
364.5	6494.8	34.1	404.5	3892.7	35.6	444.5	3943.0	35.6	484.5	3930.6	35.6
365.0	6490.6	34.1	405.0	3893.4	35.6	445.0	3942.3	35.6	485.0	3929.9	35.6
365.5	6486.5	34.1	405.5	3896.8	35.6	445.5	3943.7	35.6	485.5	3931.3	35.6
366.0	6501.0	34.1	406.0	3899.6	35.6	446.0	3943.7	35.6	486.0	3932.0	35.6
366.5	6492.7	34.1	406.5	3903.0	35.6	446.5	3943.7	35.6	486.5	3933.4	35.6
367.0	6493.4	34.1	407.0	3903.7	35.6	447.0	3943.0	35.6	487.0	3933.4	35.6
367.5	6491.3	34.1	407.5	3905.1	35.6	447.5	3943.7	35.6	487.5	3934.8	35.6
368.0	6493.4	34.1	408.0	3906.5	35.6	448.0	3943.0	35.6	488.0	3934.8	35.6
368.5	6492.7	34.1	408.5	3909.2	35.6	448.5	3945.1	35.6	488.5	3936.1	35.6
369.0	6493.4	34.1	409.0	3910.6	35.6	449.0	3943.0	35.6	489.0	3937.5	35.6
369.5	[illegible]	34.1	409.5	3912.7	35.6	449.5	3943.7	35.6	489.5	3937.5	35.6
370.0	[illegible]	34.1	410.0	3914.8	35.6	450.0	3945.1	35.6	490.0	3938.2	35.6
370.5	[illegible]	34.1	410.5	3914.1	35.6	450.5	3945.8	35.6	490.5	3938.9	35.6
371.0	[illegible]	34.1	411.0	3915.5	35.6	451.0	3946.5	35.6	491.0	3938.9	35.6
371.5	6492.0	34.1	411.5	3917.5	35.6	451.5	3945.1	35.6	491.5	3938.9	35.6
372.0	6492.0	34.1	412.0	3915.5	35.6	452.0	3946.5	35.6	492.0	3938.9	35.6
372.5	6492.0	34.1	412.5	3917.5	35.6	452.5	3946.5	35.6	492.5	3938.9	35.6
373.0	6492.7	34.1	413.0	3918.9	35.6	453.0	3947.2	35.6	493.0	3939.6	35.6
373.5	6492.7	34.1	413.5	3919.6	35.6	453.5	3945.8	35.6	493.5	3939.6	35.6
374.0	6491.3	34.1	414.0	3921.7	35.6	454.0	3945.8	35.6	494.0	3941.0	35.6
374.5	6491.3	34.1	414.5	3921.7	35.6	454.5	3947.2	35.6	494.5	3940.3	35.6
375.0	6491.3	34.1	415.0	3922.3	35.6	455.0	3947.2	35.6	495.0	3940.3	35.6
375.5	6495.4	34.1	415.5	3923.0	35.6	455.5	3947.2	35.6	495.5	3940.3	35.6
376.0	6492.0	34.1	416.0	3925.1	35.6	456.0	3947.2	35.6	496.0	3940.3	35.6
376.5	6491.3	34.1	416.5	3924.4	35.6	456.5	3946.5	35.6	496.5	3940.3	35.6
377.0	6492.7	34.1	417.0	3926.5	35.6	457.0	3947.2	35.6	497.0	3941.0	35.6
377.5	6491.3	34.1	417.5	3927.2	35.6	457.5	3945.8	35.6	497.5	3941.6	35.6
378.0	6492.0	34.1	418.0	3927.2	35.6	458.0	3947.9	35.6	498.0	3942.3	35.6
378.5	6492.7	34.1	418.5	3927.9	35.6	458.5	3949.2	35.6	498.5	3941.6	35.6
379.0	6492.0	34.1	419.0	3927.9	35.6	459.0	3949.9	35.6	499.0	3941.0	35.6
379.5	6491.3	34.1	419.5	3928.6	35.6	459.5	3566.6	35.6	499.5	3942.3	35.6
380.0	6492.7	34.1	420.0	3927.9	35.6	460.0	3556.9	35.6	500.0	3942.3	35.6
380.5	6492.0	34.1	420.5	3927.9	35.6	460.5	3570.7	35.6	500.5	3942.3	35.6
381.0	6492.0	34.1	421.0	3929.9	35.6	461.0	3591.4	35.6	501.0	3943.0	35.6
381.5	6491.3	34.1	421.5	3928.6	35.6	461.5	3612.8	35.6	501.5	3942.3	35.6
382.0	6492.0	34.1	422.0	3929.9	35.6	462.0	3634.1	35.6	502.0	3943.0	35.6
382.5	6492.7	34.1	422.5	3930.6	35.6	462.5	3655.5	35.6	502.5	3942.3	35.6
383.0	6814.7	34.1	423.0	3931.3	35.6	463.0	3677.6	35.6	503.0	3943.0	35.6
383.5	6464.4	34.1	423.5	3931.3	35.6	463.5	3697.6	35.6	503.5	3943.0	35.6
384.0	6689.9	34.1	424.0	3932.0	35.6	464.0	3717.6	35.6	504.0	3945.1	35.6
384.5	7431.1	34.1	424.5	3932.0	35.6	464.5	3735.5	35.6	504.5	3943.0	35.6
385.0	7739.3	34.2	425.0	3932.7	35.6	465.0	3751.4	35.6	505.0	3943.0	35.6
385.5	2790.2	34.2	425.5	3934.1	35.6	465.5	3765.8	35.6	505.5	3943.0	35.6
386.0	2704.1	34.3	426.0	3934.1	35.6	466.0	3783.1	35.6	506.0	3943.7	35.6
386.5	2694.4	34.4	426.5	3934.8	35.6	466.5	3787.9	35.6	506.5	3945.1	35.6
387.0	2724.0	34.4	427.0	3934.1	35.6	467.0	3798.9	35.6	507.0	3945.8	35.6
387.5	2767.5	34.5	427.5	3934.8	35.6	467.5	3810.0	35.6	507.5	3945.1	35.6
388.0	2797.1	34.6	428.0	3934.8	35.6	468.0	3821.7	35.6	508.0	[illegible]	35.6
388.5	2819.9	34.6	428.5	3937.5	35.6	468.5	3831.3	35.6	508.5	3946.5	35.6
389.0	2855.7	34.7	429.0	3936.8	35.6	469.0	3840.3	35.6	509.0	3947.2	35.6
389.5	2889.5	34.8	429.5	3937.5	35.6	469.5	3849.3	35.6	509.5	3945.8	35.6
390.0	2922.6	34.8	430.0	3937.5	35.6	470.0	3856.8	35.6	510.0	3946.5	35.6
390.5	2959.2	34.9	430.5	3937.5	35.6	470.5	3863.7	35.6	510.5	3946.5	35.6
391.0	2993.6	34.9	431.0	3938.9	35.6	471.0	3868.6	35.6	511.0	3946.5	35.6
391.5	3028.8	35.0	431.5	3939.6	35.6	471.5	3874.8	35.6	511.5	3947.9	35.6
392.0	3061.2	35.1	432.0	3938.9	35.6	472.0	3880.3	35.6	512.0	3946.5	35.6
392.5	3097.0	35.1	432.5	3939.6	35.6	472.5	3883.7	35.6	512.5	3946.5	35.6
393.0	3133.6	35.1	433.0	3938.9	35.6	473.0	3887.9	35.6	513.0	3947.9	35.6
393.5	3168.8	35.1	433.5	3939.6	35.6	473.5	3892.0	35.6	513.5	3947.2	35.6
394.0	3204.6	35.1	434.0	3939.6	35.6	474.0	3893.4	35.6	514.0	3947.2	35.6
394.5	3238.4	35.1	434.5	3939.6	35.6	474.5	3898.9	35.6	514.5	3947.9	35.6
395.0	3272.2	35.1	435.0	3938.9	35.6	475.0	3903.7	35.6	515.0	3947.2	35.6
395.5	3308.0	35.1	435.5	3939.6	35.6	475.5	3904.4	35.6	515.5	3947.2	35.6

TEST REFERENCE#: 301120C1 FILE STARTS: 6:23:30 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T
516.0	3947.9	35.6
516.5	3947.9	35.6
517.0	3948.5	35.6
517.5	3947.2	35.6
518.0	3947.9	35.6
518.5	3948.5	35.6
519.0	3948.5	35.6
519.5	3949.2	35.6
520.0	3949.2	35.6
520.5	3949.2	35.6
521.0	3948.5	35.6
521.5	3950.6	35.6
522.0	3949.2	35.6
522.5	3948.5	35.6
523.0	3949.9	35.6
523.5	3949.9	35.6
524.0	3950.6	35.6
524.5	3950.6	35.6
525.0	3949.9	35.6
525.5	3950.6	35.6
526.0	3951.3	35.6
526.5	3950.6	35.6
527.0	3950.6	35.6
527.5	3951.3	35.6
528.0	3950.6	35.6
528.5	3950.6	35.6
529.0	3949.9	35.6
529.5	3949.9	35.6
530.0	3951.3	35.6
530.5	3950.6	35.6
531.0	3950.6	35.6
531.5	3950.6	35.6
532.0	3950.6	35.6
532.5	3951.3	35.6
533.0	3950.6	35.6
533.5	3951.3	35.6
534.0	3952.0	35.6
534.5	3950.6	35.6
535.0	3951.3	35.6
535.5	3951.3	35.6
536.0	3951.3	35.6
536.5	3951.3	35.6
537.0	3951.3	35.6
537.5	3952.7	35.6
538.0	3952.0	35.6
538.5	3951.3	35.6
539.0	3950.6	35.6
539.5	3952.0	35.6
540.0	3951.3	35.6
540.5	3951.3	35.6
541.0	3952.0	35.6
541.5	3952.0	35.6
542.0	3951.3	35.6
542.5	3951.3	35.6
543.0	3952.7	35.6
543.5	3952.0	35.6
544.0	3951.3	35.6
544.5	3952.0	35.6
545.0	3952.0	35.6
545.5	3951.3	35.6
546.0	3952.0	35.6
546.5	3952.0	35.6
547.0	3951.3	35.6
547.5	3952.7	35.6
548.0	3952.0	35.6
548.5	3951.3	35.6
549.0	3952.0	35.6
549.5	3952.7	35.6
550.0	3952.0	35.6
550.5	3952.7	35.6
551.0	3951.3	35.6
551.5	3952.0	35.6
552.0	3952.7	35.6
552.5	3952.7	35.6
553.0	3952.7	35.6
553.5	3952.7	35.6
554.0	3952.7	35.6
554.5	3953.4	35.6
555.0	3951.3	35.6
555.5	3952.7	35.6
556.0	3952.7	35.6
556.5	3952.0	35.6
557.0	3952.0	35.6
557.5	3952.7	35.6
558.0	3952.7	35.6
558.5	3953.4	35.6
559.0	3952.0	35.6
559.5	3952.0	35.6
560.0	3952.7	35.6
560.5	3952.0	35.6
561.0	3952.0	35.6
561.5	3952.0	35.6
562.0	3952.0	35.6
562.5	3952.0	35.6
563.0	3952.7	35.6
563.5	3951.3	35.6
564.0	3952.7	35.6
564.5	3952.7	35.6
565.0	3953.4	35.6
565.5	3953.4	35.6
566.0	3953.4	35.6
566.5	3953.4	35.6
567.0	3952.7	35.6
567.5	3952.7	35.6
568.0	3952.7	35.6
568.5	3952.7	35.6
569.0	3953.4	35.6
569.5	3953.4	35.6
570.0	3952.0	35.6
570.5	3952.0	35.6
571.0	3952.7	35.6
571.5	3952.7	35.6
572.0	3952.7	35.6
572.5	3954.7	35.6
573.0	3952.7	35.6
573.5	3953.4	35.6
574.0	3953.4	35.6
574.5	3954.7	35.6
575.0	3952.7	35.6
575.5	3954.7	35.6
576.0	3953.4	35.6
576.5	3952.7	35.6
577.0	3952.7	35.6
577.5	3952.7	35.6
578.0	3952.7	35.6
578.5	3952.7	35.6
579.0	3953.4	35.6
579.5	3954.7	35.6
580.0	3953.4	35.6
580.5	3954.7	35.6
581.0	3953.4	35.6
581.5	3953.4	35.6
582.0	3954.7	35.6
582.5	3954.7	35.6
583.0	3954.7	35.6
583.5	3953.4	35.6
584.0	3954.7	35.6
584.5	3954.7	35.6
585.0	3955.4	35.6
585.5	3954.7	35.6
586.0	3954.7	35.6
586.5	3954.7	35.6
587.0	3954.7	35.6
587.5	3953.4	35.6
588.0	3953.4	35.6
588.5	3955.4	35.6
589.0	3954.7	35.6
589.5	3955.4	35.6
590.0	3954.7	35.6
590.5	3954.7	35.6
591.0	3953.4	35.6
591.5	3955.4	35.6
592.0	3954.7	35.6
592.5	3955.4	35.6
593.0	3954.7	35.6
593.5	3953.4	35.6
594.0	3954.7	35.6
594.5	3955.4	35.6
595.0	3956.1	35.6
595.5	3954.7	35.6
596.0	3955.4	35.6
596.5	3954.7	35.6
597.0	3955.4	35.6
597.5	3954.7	35.6
598.0	3956.1	35.6
598.5	3955.4	35.6
599.0	3954.7	35.6
599.5	3954.7	35.6
600.0	3954.7	35.6
600.5	3955.4	35.6
601.0	3954.7	35.6
601.5	3955.4	35.6
602.0	3956.1	35.6
602.5	3955.4	35.6
603.0	3953.4	35.6
603.5	3953.4	35.6
604.0	3955.4	35.6
604.5	3955.4	35.6
605.0	3955.4	35.6
605.5	3954.7	35.6
606.0	3954.7	35.6
606.5	3954.7	35.6
607.0	3956.8	35.6
607.5	3955.4	35.6
608.0	3955.4	35.6
608.5	3956.1	35.6
609.0	3954.7	35.6
609.5	3955.4	35.6
610.0	3955.4	35.6
610.5	3956.1	35.6
611.0	3955.4	35.6
611.5	3956.1	35.6
612.0	3956.1	35.6
612.5	3956.1	35.6
613.0	3955.4	35.6
613.5	3955.4	35.6
614.0	3956.1	35.6
614.5	3956.1	35.6
615.0	3956.1	35.6
615.5	3956.8	35.6
616.0	3956.8	35.6
616.5	3955.4	35.6
617.0	3955.4	35.6
617.5	3956.1	35.6
618.0	3956.1	35.6
618.5	3955.4	35.6
619.0	3955.4	35.6
619.5	3955.4	35.6
620.0	3955.4	35.6
620.5	3956.8	35.6
621.0	3955.4	35.6
621.5	3955.4	35.6
622.0	3955.4	35.6
622.5	3955.4	35.6
623.0	3955.4	35.6
623.5	3956.1	35.6
624.0	3956.1	35.6
624.5	3955.4	35.6
625.0	3954.7	35.6
625.5	3956.1	35.6
626.0	3956.1	35.6
626.5	3956.1	35.6
627.0	3956.8	35.6
627.5	3955.4	35.6
628.0	3956.1	35.6
628.5	3956.1	35.6
629.0	3957.5	35.6
629.5	3957.5	35.6
630.0	3955.4	35.6
630.5	3955.4	35.6
631.0	3956.1	35.6
631.5	3958.2	35.6
632.0	3956.8	35.6
632.5	3955.4	35.6
633.0	3956.8	35.6
633.5	3956.1	35.6
634.0	3957.5	35.6
634.5	3955.4	35.6
635.0	3956.8	35.6
635.5	3955.4	35.6
636.0	3956.1	35.6
636.5	3955.4	35.6
637.0	3956.1	35.6
637.5	3956.8	35.6
638.0	3956.1	35.6
638.5	3956.8	35.6
639.0	3957.5	35.6
639.5	3956.8	35.6
640.0	3956.8	35.6
640.5	3956.1	35.6
641.0	3956.8	35.6
641.5	3956.8	35.6
642.0	3956.8	35.6
642.5	3958.2	35.6
643.0	6415.5	35.6
643.5	6429.3	35.6
644.0	6423.1	35.6
644.5	6334.1	35.6
645.0	6423.1	35.6
645.5	6612.0	35.6
646.0	6405.1	35.6
646.5	6413.4	35.6
647.0	6401.0	35.6
647.5	6405.8	35.6
648.0	7049.8	35.6
648.5	5171.0	35.6
649.0	6394.8	35.6
649.5	6445.8	35.6

Schlumberger | Schlumberger of Canada Testing Services

Test Date : 3/1 2/90
Location : RECOVERY RECORDER
DST # : FOUR

Flowrate Summary and Sequence of Events

LABEL POINT #	TIME of DAY (HH:MM:SS)	EXPLANATION	DURA-TION (min)	BHP (kPa)	BHT (Deg C)	SURF PRESS (kPa)	FLOW RATE (m3/d)
1	6:53:00	REFERENCE TIME		150.3	34.2		
2	6:54:00	START FLOW	1.0	149.6	34.3		
3	7:05:00	START SHUT-IN	11.0	3055.0	35.7		
4	8:04:30	END SHUT-IN	59.5	3090.2	35.2		
5	8:08:00	START FLOW	3.5	3148.8	35.6		
6	9:09:30	START SHUT-IN	61.5	3767.2	35.7		
7	11:12:30	END SHUT-IN	123.0	3773.4	35.7		

Sample Data

Sample #/Source	Description	RESISTIVITY ohm @ C	Salinity PPM(NaCl)
1-SHALE SHAKER	DRILLING MUD MUD FILTRATE	3.82 @ 19 3.36 @ 19	1600 1900
2-TOP OF RECOVERY	MUDDY WATER	1.08 @ 18	6000
3-MIDDLE OF RECOVERY	WATER	.371 @ 18	19000
4-BOTTOM OF RECOVERY	WATER	.333 @ 20	20000
5-BOTTOMHOLE SAMPLER	SENT TO LAB FOR DRAINING #1001, #140		

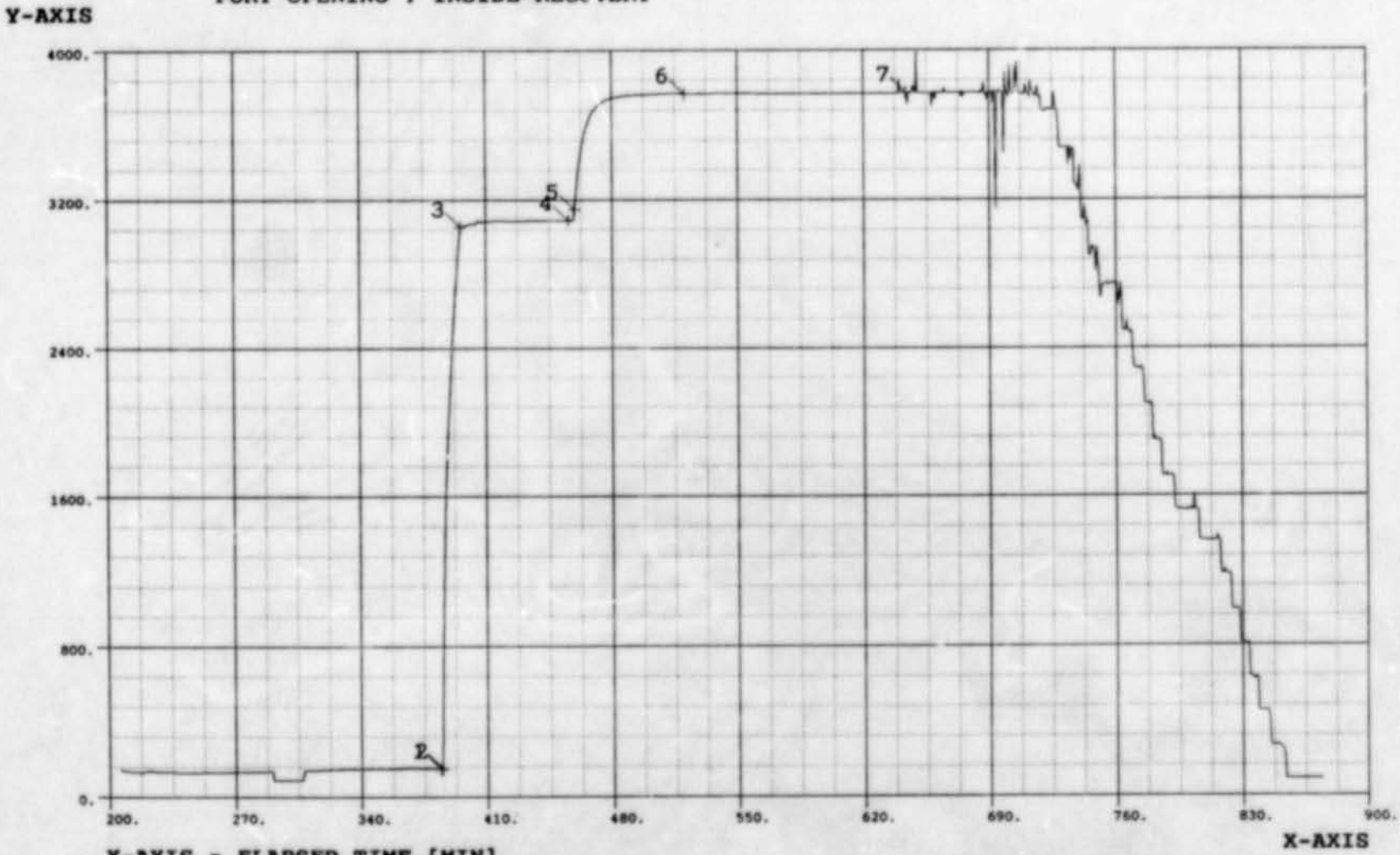
Samples Sent To: CORE LABORATORIES, GRANDE PRAIRE

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE PRESSURE PLOT

FIELD REPORT NO. : 301120CR
INSTRUMENT NO. : SB-50130
DEPTH : 563.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : FOUR



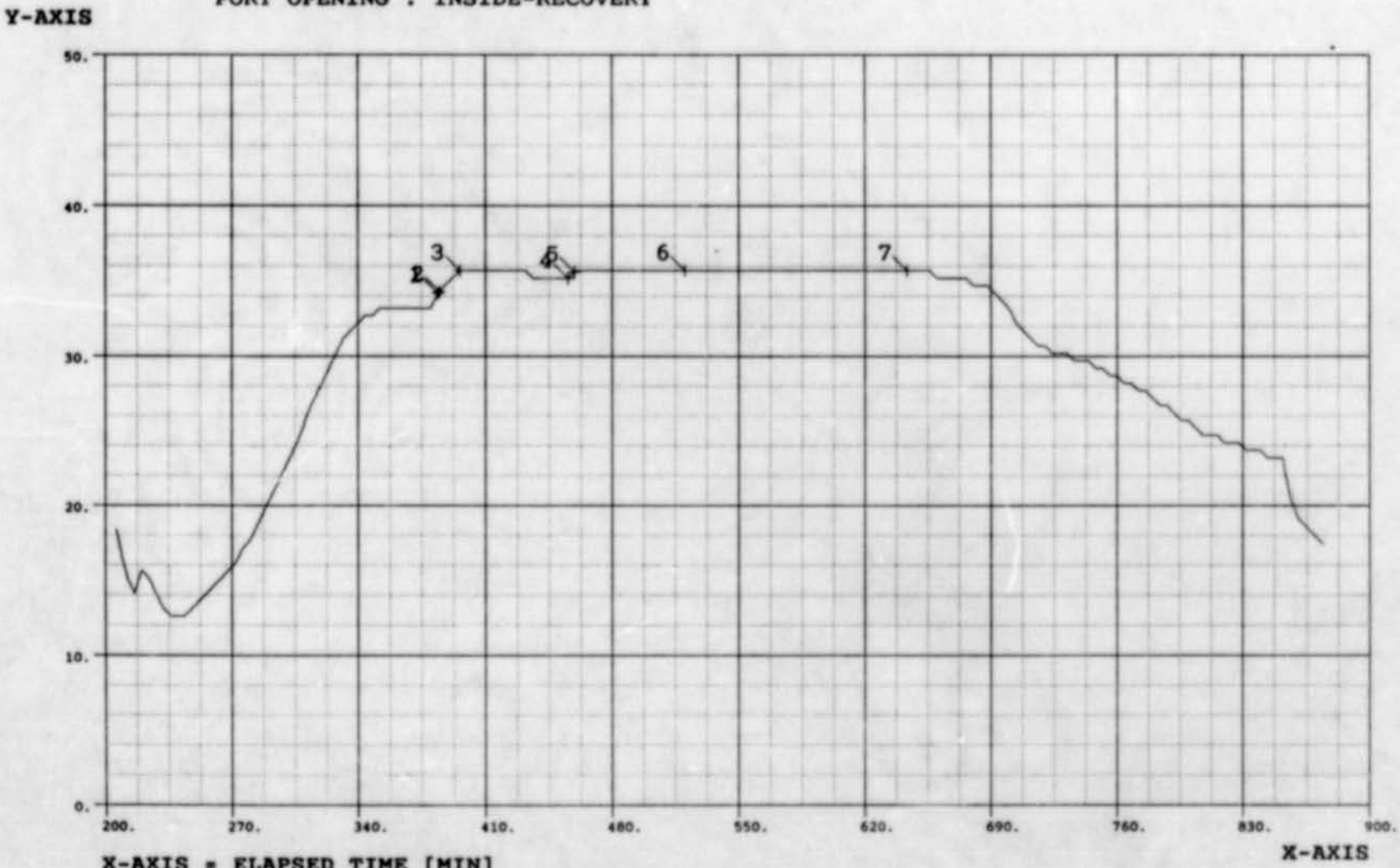
X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE PRESSURE [KPA (ABS)]

Schlumberger of Canada
Schlumberger Testing Services

BOTTOMHOLE TEMPERATURE PLOT

FIELD REPORT NO. : 301120CR
INSTRUMENT NO. : SB-50130
DEPTH : 563.22 m
CAPACITY : 41500 kPa / 125 C
PORT OPENING : INSIDE-RECOVERY

COMPANY : PETRO CANADA INCORPORATED
WELL : PCI ISLAND LAKE N-45
DST# : FOUR



X-AXIS = ELAPSED TIME [MIN]
Y-AXIS = BOTTOMHOLE TEMPERATURE [CEL]

TEST REFERENCE#: 301120CR FILE STARTS: 3:54:00 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
206.0	146.1	18.4	246.0	131.6	12.9	286.0	134.4	19.2	326.0	146.8	29.7
206.5	146.1	18.1	246.5	130.3	12.9	286.5	135.8	19.3	326.5	146.8	29.8
207.0	145.4	17.8	247.0	129.6	13.0	287.0	135.8	19.4	327.0	146.8	30.0
207.5	139.2	17.5	247.5	130.9	13.1	287.5	135.8	19.5	327.5	147.5	30.1
208.0	139.9	17.1	248.0	129.6	13.1	288.0	136.5	19.7	328.0	149.6	30.2
208.5	139.2	16.9	248.5	130.3	13.2	288.5	135.8	19.8	328.5	147.5	30.3
209.0	139.2	16.6	249.0	130.3	13.3	289.0	136.5	19.9	329.0	146.8	30.5
209.5	139.2	16.4	249.5	129.6	13.3	289.5	136.5	20.0	329.5	148.9	30.6
210.0	139.9	16.1	250.0	129.6	13.4	290.0	137.2	20.2	330.0	148.9	30.7
210.5	138.5	15.9	250.5	130.3	13.4	290.5	136.5	20.3	330.5	149.6	30.8
211.0	137.8	15.6	251.0	130.9	13.5	291.0	89.6	20.4	331.0	148.9	31.0
211.5	135.8	15.4	251.5	131.6	13.6	291.5	89.6	20.5	331.5	147.5	31.1
212.0	135.8	15.1	252.0	130.9	13.6	292.0	89.6	20.7	332.0	149.6	31.2
212.5	135.1	15.0	252.5	130.9	13.7	292.5	89.6	20.8	332.5	149.6	31.3
213.0	135.1	14.9	253.0	132.3	13.8	293.0	89.6	20.9	333.0	148.9	31.3
213.5	135.1	14.8	253.5	130.9	13.8	293.5	89.6	21.0	333.5	148.9	31.4
214.0	133.0	14.6	254.0	130.9	13.9	294.0	89.6	21.2	334.0	148.9	31.5
214.5	133.7	14.5	254.5	130.9	13.9	294.5	89.6	21.3	334.5	148.9	31.5
215.0	133.0	14.4	255.0	129.6	14.0	295.0	89.6	21.4	335.0	148.2	31.6
215.5	133.0	14.3	255.5	131.6	14.1	295.5	89.6	21.5	335.5	148.9	31.6
216.0	133.0	14.1	256.0	132.3	14.1	296.0	89.6	21.7	336.0	148.9	31.7
216.5	130.9	14.3	256.5	133.0	14.2	296.5	89.6	21.8	336.5	148.2	31.8
217.0	131.6	14.5	257.0	132.3	14.3	297.0	89.6	21.9	337.0	148.2	31.8
217.5	129.6	14.7	257.5	131.6	14.3	297.5	89.6	22.0	337.5	148.2	31.9
218.0	130.9	14.9	258.0	132.3	14.4	298.0	89.6	22.2	338.0	148.9	32.0
218.5	132.3	15.1	258.5	131.6	14.4	298.5	89.6	22.3	338.5	148.9	32.0
219.0	133.0	15.3	259.0	130.9	14.5	299.0	89.6	22.4	339.0	148.9	32.1
219.5	133.7	15.5	259.5	131.6	14.6	299.5	89.6	22.5	339.5	149.6	32.2
220.0	139.2	15.6	260.0	133.0	14.6	300.0	89.6	22.7	340.0	150.3	32.2
220.5	136.5	15.6	260.5	130.9	14.7	300.5	89.6	22.8	340.5	148.9	32.3
221.0	139.9	15.5	261.0	132.3	14.8	301.0	89.6	22.9	341.0	149.6	32.3
221.5	139.2	15.5	261.5	132.3	14.8	301.5	89.6	23.0	341.5	150.3	32.4
222.0	138.5	15.4	262.0	132.3	14.9	302.0	89.6	23.2	342.0	149.6	32.5
222.5	137.8	15.3	262.5	131.6	14.9	302.5	89.6	23.3	342.5	149.6	32.5
223.0	139.2	15.3	263.0	132.3	15.0	303.0	89.6	23.4	343.0	149.6	32.6
223.5	139.9	15.2	263.5	131.6	15.1	303.5	89.6	23.5	343.5	149.6	32.7
224.0	137.8	15.1	264.0	132.3	15.1	304.0	89.6	23.7	344.0	149.6	32.7
224.5	137.8	15.0	264.5	131.6	15.2	304.5	89.6	23.8	344.5	149.6	32.7
225.0	136.5	14.9	265.0	131.6	15.3	305.0	89.6	23.9	345.0	151.6	32.7
225.5	136.5	14.8	265.5	132.3	15.3	305.5	89.6	24.1	345.5	151.6	32.7
226.0	135.8	14.6	266.0	130.9	15.4	306.0	89.6	24.2	346.0	149.6	32.7
226.5	135.1	14.5	266.5	133.0	15.5	306.5	89.6	24.3	346.5	151.6	32.7
227.0	135.1	14.4	267.0	132.3	15.5	307.0	89.6	24.4	347.0	151.6	32.7
227.5	135.1	14.3	267.5	132.3	15.6	307.5	89.6	24.6	347.5	150.3	32.7
228.0	134.4	14.1	268.0	132.3	15.6	308.0	141.3	24.7	348.0	150.3	32.7
228.5	134.4	14.0	268.5	133.0	15.7	308.5	141.3	24.9	348.5	149.6	32.8
229.0	135.8	13.9	269.0	132.3	15.8	309.0	140.6	25.1	349.0	150.9	32.8
229.5	134.4	13.8	269.5	133.0	15.8	309.5	141.3	25.2	349.5	151.6	32.9
230.0	135.8	13.6	270.0	132.3	15.9	310.0	141.3	25.4	350.0	150.9	33.0
230.5	135.1	13.5	270.5	133.0	16.0	310.5	142.7	25.6	350.5	150.9	33.0
231.0	135.1	13.4	271.0	133.7	16.0	311.0	142.0	25.8	351.0	150.3	33.1
231.5	134.4	13.3	271.5	132.3	16.1	311.5	142.0	26.0	351.5	149.6	33.2
232.0	135.1	13.1	272.0	133.0	16.1	312.0	141.3	26.2	352.0	149.6	33.2
232.5	135.1	13.1	272.5	133.7	16.3	312.5	142.0	26.3	352.5	150.3	33.2
233.0	133.7	13.0	273.0	133.7	16.4	313.0	141.3	26.4	353.0	150.3	33.2
233.5	133.7	12.9	273.5	133.7	16.5	313.5	142.7	26.6	353.5	150.3	33.2
234.0	133.7	12.9	274.0	133.0	16.6	314.0	139.9	26.7	354.0	148.9	33.2
234.5	133.7	12.8	274.5	133.0	16.8	314.5	142.7	26.8	354.5	150.3	33.2
235.0	132.3	12.8	275.0	133.7	16.9	315.0	141.3	26.9	355.0	150.9	33.2
235.5	133.0	12.7	275.5	132.3	17.0	315.5	144.0	27.1	355.5	149.6	33.2
236.0	132.3	12.6	276.0	133.7	17.1	316.0	142.7	27.2	356.0	149.6	33.2
236.5	131.6	12.6	276.5	133.7	17.2	316.5	144.0	27.3	356.5	149.6	33.2
237.0	131.6	12.6	277.0	133.7	17.3	317.0	144.0	27.4	357.0	150.9	33.2
237.5	130.3	12.6	277.5	133.7	17.3	317.5	145.4	27.6	357.5	150.3	33.2
238.0	131.6	12.6	278.0	135.1	17.4	318.0	146.1	27.7	358.0	149.6	33.2
238.5	130.3	12.6	278.5	133.7	17.5	318.5	145.4	27.8	358.5	150.9	33.2
239.0	130.9	12.6	279.0	133.7	17.5	319.0	145.4	27.9	359.0	150.3	33.2
239.5	130.9	12.6	279.5	133.7	17.6	319.5	145.4	28.1	359.5	150.9	33.2
240.0	128.9	12.6	280.0	133.7	17.6	320.0	146.8	28.2	360.0	150.9	33.2
240.5	131.6	12.6	280.5	134.4	17.8	320.5	145.4	28.3	360.5	150.9	33.2
241.0	130.3	12.6	281.0	135.1	17.9	321.0	146.1	28.4	361.0	150.3	33.2
241.5	130.3	12.6	281.5	134.4	18.0	321.5	145.4	28.6	361.5	150.3	33.2
242.0	130.9	12.6	282.0	133.7	18.2	322.0	146.1	28.7	362.0	151.6	33.2
242.5	130.9	12.6	282.5	133.7	18.3	322.5	146.1	28.8	362.5	151.6	33.2
243.0	130.3	12.6	283.0	133.7	18.4	323.0	146.1	28.9	363.0	150.9	33.2
243.5	130.9	12.6	283.5	134.4	18.5	323.5	146.1	29.1	363.5	154.4	33.2
244.0	130.3	12.6	284.0	133.7	18.7	324.0	146.8	29.2	364.0	154.4	33.2
244.5	128.9	12.7	284.5	133.0	18.8	324.5	146.8	29.3	364.5	152.3	33.2
245.0	130.3	12.8	285.0	133.7	18.9	325.0	147.5	29.5	365.0	152.3	33.2
245.5	129.6	12.8	285.5	133.0	19.0	325.5	146.8	29.6	365.5	154.4	33.2

TEST REFERENCE#: 301120CR FILE STARTS: 3:54:00 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
366.0	154.4	33.2	406.0	3090.8	35.7	446.0	3089.5	35.2	486.0	3756.2	35.7
366.5	153.7	33.2	406.5	3082.6	35.7	446.5	3089.5	35.2	486.5	3756.9	35.7
367.0	153.3	33.2	407.0	3085.3	35.7	447.0	3089.5	35.2	487.0	3756.2	35.7
367.5	153.7	33.2	407.5	3081.9	35.7	447.5	3090.2	35.2	487.5	3756.9	35.7
368.0	153.7	33.2	408.0	3083.3	35.7	448.0	3088.8	35.2	488.0	3759.6	35.7
368.5	152.3	33.2	408.5	3077.7	35.7	448.5	3089.5	35.2	488.5	3758.9	35.7
369.0	150.9	33.2	409.0	3080.5	35.7	449.0	3090.2	35.2	489.0	3759.6	35.7
369.5	152.3	33.2	409.5	3086.7	35.7	449.5	3090.8	35.2	489.5	3760.3	35.7
370.0	150.9	33.2	410.0	3090.2	35.7	450.0	3089.5	35.2	490.0	3759.6	35.7
370.5	153.7	33.2	410.5	3079.1	35.7	450.5	3090.2	35.2	490.5	3761.0	35.7
371.0	150.9	33.2	411.0	3083.9	35.7	451.0	3090.2	35.2	491.0	3760.3	35.7
371.5	151.6	33.2	411.5	3090.2	35.7	451.5	3090.2	35.2	491.5	3761.0	35.7
372.0	152.3	33.2	412.0	3086.0	35.7	452.0	3089.5	35.2	492.0	3761.7	35.7
372.5	151.6	33.2	412.5	3084.6	35.7	452.5	3090.2	35.2	492.5	3761.0	35.7
373.0	151.6	33.2	413.0	3087.4	35.7	453.0	3089.5	35.2	493.0	3761.7	35.7
373.5	151.6	33.2	413.5	3087.4	35.7	453.5	3090.2	35.2	493.5	3761.7	35.7
374.0	151.6	33.2	414.0	3087.4	35.7	454.0	3090.2	35.2	494.0	3763.1	35.7
374.5	151.6	33.2	414.5	3090.2	35.7	454.5	3088.8	35.2	494.5	3761.7	35.7
375.0	150.9	33.2	415.0	3089.5	35.7	455.0	3090.2	35.2	495.0	3762.4	35.7
375.5	151.6	33.2	415.5	3089.5	35.7	455.5	3090.2	35.2	495.5	3762.4	35.7
376.0	151.6	33.2	416.0	3087.4	35.7	456.0	3089.5	35.2	496.0	3763.1	35.7
376.5	152.3	33.2	416.5	3089.5	35.7	456.5	3095.7	35.3	496.5	3763.1	35.7
377.0	152.3	33.2	417.0	3090.2	35.7	457.0	3090.8	35.4	497.0	3763.1	35.7
377.5	151.6	33.2	417.5	3091.5	35.7	457.5	3089.5	35.4	497.5	3763.1	35.7
378.0	152.3	33.2	418.0	3090.2	35.7	458.0	3089.5	35.5	498.0	3763.1	35.7
378.5	151.6	33.2	418.5	3090.2	35.7	458.5	3089.5	35.5	498.5	3763.1	35.7
379.0	152.3	33.2	419.0	3086.7	35.7	459.0	3148.8	35.6	499.0	3763.8	35.7
379.5	152.3	33.2	419.5	3089.5	35.7	459.5	3207.4	35.7	499.5	3763.8	35.7
380.0	152.3	33.2	420.0	3088.1	35.7	460.0	3257.0	35.7	500.0	3763.8	35.7
380.5	151.6	33.3	420.5	3087.4	35.7	460.5	3306.0	35.7	500.5	3765.1	35.7
381.0	151.6	33.5	421.0	3085.3	35.7	461.0	3348.0	35.7	501.0	3765.1	35.7
381.5	152.3	33.6	421.5	3086.7	35.7	461.5	3386.6	35.7	501.5	3765.8	35.7
382.0	150.9	33.7	422.0	3086.0	35.7	462.0	3421.8	35.7	502.0	3765.8	35.7
382.5	150.3	33.8	422.5	3086.0	35.7	462.5	3453.5	35.7	502.5	3765.1	35.7
383.0	150.3	34.0	423.0	3087.4	35.7	463.0	3481.8	35.7	503.0	3765.1	35.7
383.5	148.9	34.1	423.5	3085.3	35.7	463.5	3507.3	35.7	503.5	3765.1	35.7
384.0	150.3	34.2	424.0	3087.4	35.7	464.0	3531.4	35.7	504.0	3765.1	35.7
384.5	148.9	34.3	424.5	3087.4	35.7	464.5	3552.8	35.7	504.5	3766.5	35.7
385.0	149.6	34.3	425.0	3086.7	35.7	465.0	3570.7	35.7	505.0	3765.8	35.7
385.5	663.9	34.4	425.5	3086.7	35.7	465.5	3583.8	35.7	505.5	3766.5	35.7
386.0	962.5	34.5	426.0	3087.4	35.7	466.0	3596.9	35.7	506.0	3767.9	35.7
386.5	1234.1	34.5	426.5	3086.7	35.7	466.5	3612.1	35.7	506.5	3767.9	35.7
387.0	1477.5	34.6	427.0	3086.0	35.7	467.0	3625.9	35.7	507.0	3767.2	35.7
387.5	1598.8	34.7	427.5	3086.7	35.7	467.5	3636.2	35.7	507.5	3766.5	35.7
388.0	1721.6	34.7	428.0	3087.4	35.7	468.0	3645.9	35.7	508.0	3767.9	35.7
388.5	1842.2	34.8	428.5	3086.7	35.7	468.5	3656.2	35.7	508.5	3767.9	35.7
389.0	1960.8	34.9	429.0	3088.1	35.7	469.0	3665.9	35.7	509.0	3767.2	35.7
389.5	2070.4	34.9	429.5	3086.7	35.7	469.5	3674.8	35.7	509.5	3767.2	35.7
390.0	2173.8	35.0	430.0	3087.4	35.7	470.0	3681.7	35.7	510.0	3768.6	35.7
390.5	2276.6	35.0	430.5	3086.7	35.7	470.5	3688.6	35.7	510.5	3768.6	35.7
391.0	2364.1	35.1	431.0	3086.7	35.7	471.0	3694.8	35.7	511.0	3768.6	35.7
391.5	2451.0	35.2	431.5	3087.4	35.7	471.5	3700.3	35.7	511.5	3767.9	35.7
392.0	2532.4	35.2	432.0	3087.4	35.7	472.0	3703.1	35.7	512.0	3770.0	35.7
392.5	2607.5	35.3	432.5	3088.1	35.7	472.5	3709.3	35.7	512.5	3768.6	35.7
393.0	2686.1	35.4	433.0	3088.8	35.6	473.0	3712.1	35.7	513.0	3769.3	35.7
393.5	2757.1	35.4	433.5	3088.1	35.5	473.5	3714.8	35.7	513.5	3769.3	35.7
394.0	2821.3	35.5	434.0	3088.8	35.5	474.0	3721.0	35.7	514.0	3768.6	35.7
394.5	2886.1	35.5	434.5	3088.8	35.4	474.5	3723.8	35.7	514.5	3769.3	35.7
395.0	2946.7	35.6	435.0	3088.8	35.4	475.0	3725.2	35.7	515.0	3770.0	35.7
395.5	3003.3	35.7	435.5	3089.5	35.3	475.5	3727.2	35.7	515.5	3769.3	35.7
396.0	3055.0	35.7	436.0	3090.2	35.2	476.0	3731.4	35.7	516.0	3770.0	35.7
396.5	3056.4	35.7	436.5	3090.2	35.2	476.5	3734.1	35.7	516.5	3769.3	35.7
397.0	3057.7	35.7	437.0	3090.2	35.2	477.0	3736.2	35.7	517.0	3770.0	35.7
397.5	3061.2	35.7	437.5	3090.2	35.2	477.5	3738.3	35.7	517.5	3770.0	35.7
398.0	3057.7	35.7	438.0	3089.5	35.2	478.0	3738.3	35.7	518.0	3770.7	35.7
398.5	3061.9	35.7	438.5	3090.2	35.2	478.5	3740.3	35.7	518.5	3770.0	35.7
399.0	3063.3	35.7	439.0	3089.5	35.2	479.0	3741.7	35.7	519.0	3771.4	35.7
399.5	3066.0	35.7	439.5	3089.5	35.2	479.5	3743.8	35.7	519.5	3771.4	35.7
400.0	3064.6	35.7	440.0	3090.2	35.2	480.0	3745.2	35.7	520.0	3771.4	35.7
400.5	3071.5	35.7	440.5	3088.8	35.2	480.5	3746.5	35.7	520.5	3767.2	35.7
401.0	3066.0	35.7	441.0	3089.5	35.2	481.0	3747.2	35.7	521.0	3765.8	35.7
401.5	3072.2	35.7	441.5	3090.2	35.2	481.5	3747.9	35.7	521.5	3763.1	35.7
402.0	3067.4	35.7	442.0	3090.2	35.2	482.0	3748.6	35.7	522.0	3769.3	35.7
402.5	3071.5	35.7	442.5	3089.5	35.2	482.5	3749.3	35.7	522.5	3767.9	35.7
403.0	3071.5	35.7	443.0	3089.5	35.2	483.0	3750.7	35.7	523.0	3767.9	35.7
403.5	3074.3	35.7	443.5	3089.5	35.2	483.5	3751.4	35.7	523.5	3766.5	35.7
404.0	3068.1	35.7	444.0	3088.1	35.2	484.0	3752.0	35.7	524.0	3767.2	35.7
404.5	3078.4	35.7	444.5	3088.8	35.2	484.5	3753.4	35.7	524.5	3767.2	35.7
405.0	3074.3	35.7	445.0	3088.8	35.2	485.0	3754.1	35.7	525.0	3767.9	35.7
405.5	3077.7	35.7	445.5	3090.2	35.2	485.5	3754.8	35.7	525.5	3767.9	35.7

TEST REFERENCE#: 301120CR FILE STARTS: 3:54:00 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
526.0	3767.2	35.7	566.0	3767.2	35.7	606.0	3767.9	35.7	646.0	3771.4	35.7
526.5	3767.2	35.7	566.5	3768.6	35.7	606.5	3768.6	35.7	646.5	3772.7	35.7
527.0	3767.2	35.7	567.0	3767.9	35.7	607.0	3767.9	35.7	647.0	3771.4	35.7
527.5	3767.9	35.7	567.5	3767.2	35.7	607.5	3768.6	35.7	647.5	3806.5	35.7
528.0	3768.6	35.7	568.0	3767.9	35.7	608.0	3767.9	35.7	648.0	3801.7	35.7
528.5	3769.3	35.7	568.5	3767.2	35.7	608.5	3767.9	35.7	648.5	3773.4	35.7
529.0	3768.6	35.7	569.0	3767.2	35.7	609.0	3768.6	35.7	649.0	3772.7	35.7
529.5	3767.2	35.7	569.5	3767.2	35.7	609.5	3768.6	35.7	649.5	3989.2	35.7
530.0	3767.2	35.7	570.0	3768.6	35.7	610.0	3768.6	35.7	650.0	3773.4	35.7
530.5	3767.2	35.7	570.5	3767.9	35.7	610.5	3767.2	35.7	650.5	3772.7	35.7
531.0	3767.9	35.7	571.0	3767.2	35.7	611.0	3767.2	35.7	651.0	3772.7	35.7
531.5	3767.2	35.7	571.5	3768.6	35.7	611.5	3768.6	35.7	651.5	3772.7	35.7
532.0	3767.2	35.7	572.0	3767.2	35.7	612.0	3769.3	35.7	652.0	3771.4	35.7
532.5	3767.9	35.7	572.5	3768.6	35.7	612.5	3768.6	35.7	652.5	3770.7	35.7
533.0	3767.2	35.7	573.0	3767.9	35.7	613.0	3767.9	35.7	653.0	3770.7	35.7
533.5	3768.6	35.7	573.5	3767.2	35.7	613.5	3768.6	35.7	653.5	3770.7	35.7
534.0	3768.6	35.7	574.0	3767.2	35.7	614.0	3767.9	35.7	654.0	3770.7	35.7
534.5	3767.9	35.7	574.5	3767.9	35.7	614.5	3769.3	35.7	654.5	3770.7	35.7
535.0	3768.6	35.7	575.0	3768.6	35.7	615.0	3768.6	35.7	655.0	3770.0	35.7
535.5	3770.7	35.7	575.5	3767.2	35.7	615.5	3767.9	35.7	655.5	3770.7	35.7
536.0	3770.0	35.7	576.0	3768.6	35.7	616.0	3768.6	35.7	656.0	3770.7	35.7
536.5	3770.0	35.7	576.5	3767.9	35.7	616.5	3767.9	35.7	656.5	3770.7	35.7
537.0	3769.3	35.7	577.0	3767.2	35.7	617.0	3769.3	35.7	657.0	3771.4	35.6
537.5	3769.3	35.7	577.5	3767.2	35.7	617.5	3768.6	35.7	657.5	3770.0	35.5
538.0	3771.4	35.7	578.0	3767.2	35.7	618.0	3767.9	35.7	658.0	3700.3	35.5
538.5	3770.7	35.7	578.5	3767.9	35.7	618.5	3768.6	35.7	658.5	3773.4	35.4
539.0	3770.0	35.7	579.0	3766.5	35.7	619.0	3767.9	35.7	659.0	3776.9	35.4
539.5	3770.7	35.7	579.5	3767.9	35.7	619.5	3769.3	35.7	659.5	3732.7	35.3
540.0	3771.4	35.7	580.0	3767.2	35.7	620.0	3768.6	35.7	660.0	3752.7	35.2
540.5	3771.4	35.7	580.5	3767.2	35.7	620.5	3769.3	35.7	660.5	3774.1	35.2
541.0	3770.7	35.7	581.0	3767.9	35.7	621.0	3767.9	35.7	661.0	3774.1	35.2
541.5	3772.7	35.7	581.5	3768.6	35.7	621.5	3768.6	35.7	661.5	3774.1	35.2
542.0	3770.7	35.7	582.0	3767.2	35.7	622.0	3768.6	35.7	662.0	3773.4	35.2
542.5	3771.4	35.7	582.5	3767.9	35.7	622.5	3768.6	35.7	662.5	3772.0	35.2
543.0	3771.4	35.7	583.0	3767.9	35.7	623.0	3767.9	35.7	663.0	3773.4	35.2
543.5	3771.4	35.7	583.5	3768.6	35.7	623.5	3767.9	35.7	663.5	3772.7	35.2
544.0	3771.4	35.7	584.0	3767.9	35.7	624.0	3768.6	35.7	664.0	3772.7	35.2
544.5	3771.4	35.7	584.5	3767.2	35.7	624.5	3768.6	35.7	664.5	3772.7	35.2
545.0	3770.0	35.7	585.0	3767.9	35.7	625.0	3767.2	35.7	665.0	3796.2	35.2
545.5	3770.7	35.7	585.5	3768.6	35.7	625.5	3767.9	35.7	665.5	3772.7	35.2
546.0	3771.4	35.7	586.0	3767.9	35.7	626.0	3767.2	35.7	666.0	3773.4	35.2
546.5	3770.7	35.7	586.5	3768.6	35.7	626.5	3767.9	35.7	666.5	3773.4	35.2
547.0	3770.7	35.7	587.0	3767.2	35.7	627.0	3769.3	35.7	667.0	3772.7	35.2
547.5	3771.4	35.7	587.5	3767.9	35.7	627.5	3767.9	35.7	667.5	3772.0	35.2
548.0	3771.4	35.7	588.0	3767.9	35.7	628.0	3768.6	35.7	668.0	3772.7	35.2
548.5	3769.3	35.7	588.5	3767.9	35.7	628.5	3769.3	35.7	668.5	3772.7	35.2
549.0	3769.3	35.7	589.0	3767.2	35.7	629.0	3767.9	35.7	669.0	3773.4	35.2
549.5	3770.7	35.7	589.5	3767.9	35.7	629.5	3768.6	35.7	669.5	3772.0	35.2
550.0	3770.7	35.7	590.0	3767.9	35.7	630.0	3768.6	35.7	670.0	3772.7	35.2
550.5	3770.7	35.7	590.5	3767.9	35.7	630.5	3767.9	35.7	670.5	3772.0	35.2
551.0	3770.7	35.7	591.0	3767.9	35.7	631.0	3768.6	35.7	671.0	3772.0	35.2
551.5	3770.0	35.7	591.5	3768.6	35.7	631.5	3767.9	35.7	671.5	3772.0	35.2
552.0	3769.3	35.7	592.0	3768.6	35.7	632.0	3767.9	35.7	672.0	3772.0	35.2
552.5	3770.0	35.7	592.5	3767.9	35.7	632.5	3767.9	35.7	672.5	3772.0	35.2
553.0	3770.0	35.7	593.0	3768.6	35.7	633.0	3767.9	35.7	673.0	3770.7	35.2
553.5	3769.3	35.7	593.5	3768.6	35.7	633.5	3768.6	35.7	673.5	3772.0	35.2
554.0	3770.7	35.7	594.0	3768.6	35.7	634.0	3768.6	35.7	674.0	3771.4	35.2
554.5	3768.6	35.7	594.5	3768.6	35.7	634.5	3767.9	35.7	674.5	3750.7	35.2
555.0	3770.0	35.7	595.0	3768.6	35.7	635.0	3768.6	35.7	675.0	3780.3	35.2
555.5	3770.0	35.7	595.5	3767.9	35.7	635.5	3768.6	35.7	675.5	3746.5	35.2
556.0	3770.0	35.7	596.0	3768.6	35.7	636.0	3767.9	35.7	676.0	3771.4	35.2
556.5	3770.0	35.7	596.5	3768.6	35.7	636.5	3767.2	35.7	676.5	3771.4	35.2
557.0	3768.6	35.7	597.0	3768.6	35.7	637.0	3767.9	35.7	677.0	3772.7	35.1
557.5	3769.3	35.7	597.5	3768.6	35.7	637.5	3768.6	35.7	677.5	3772.7	35.0
558.0	3770.0	35.7	598.0	3767.9	35.7	638.0	3768.6	35.7	678.0	3773.4	35.0
558.5	3769.3	35.7	598.5	3769.3	35.7	638.5	3768.6	35.7	678.5	3773.4	34.9
559.0	3770.0	35.7	599.0	3767.9	35.7	639.0	3767.9	35.7	679.0	3773.4	34.9
559.5	3768.6	35.7	599.5	3767.9	35.7	639.5	3768.6	35.7	679.5	3774.8	34.8
560.0	3768.6	35.7	600.0	3768.6	35.7	640.0	3840.3	35.7	680.0	3774.1	34.7
560.5	3767.9	35.7	600.5	3768.6	35.7	640.5	3771.4	35.7	680.5	3773.4	34.7
561.0	3767.2	35.7	601.0	3767.9	35.7	641.0	3772.7	35.7	681.0	3774.8	34.7
561.5	3767.9	35.7	601.5	3768.6	35.7	641.5	3773.4	35.7	681.5	3774.8	34.7
562.0	3767.9	35.7	602.0	3768.6	35.7	642.0	3773.4	35.7	682.0	3773.4	34.7
562.5	3767.2	35.7	602.5	3768.6	35.7	642.5	3774.1	35.7	682.5	3772.7	34.7
563.0	3768.6	35.7	603.0	3768.6	35.7	643.0	3774.8	35.7	683.0	3770.0	34.7
563.5	3767.9	35.7	603.5	3768.6	35.7	643.5	3773.4	35.7	683.5	3771.4	34.7
564.0	3767.2	35.7	604.0	3768.6	35.7	644.0	3761.7	35.7	684.0	3771.4	34.7
564.5	3767.9	35.7	604.5	3767.9	35.7	644.5	3709.3	35.7	684.5	3769.3	34.7
565.0	3767.2	35.7	605.0	3767.9	35.7	645.0	3772.7	35.7	685.0	3769.3	34.7
565.5	3767.2	35.7	605.5	3767.9	35.7	645.5	3772.7	35.7	685.5	3783.8	34.7

TEST REFERENCE#: 301120CR FILE STARTS: 3:54:00 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
686.0	3769.3	34.7	726.0	3772.0	30.2	766.0	2547.5	28.2	806.0	1364.4	24.9
686.5	3783.8	34.7	726.5	3708.6	30.2	766.5	2486.9	28.2	806.5	1365.1	24.9
687.0	3825.1	34.7	727.0	3685.9	30.2	767.0	2500.0	28.2	807.0	1365.1	24.8
687.5	3760.3	34.7	727.5	3685.2	30.2	767.5	2491.7	28.1	807.5	1365.1	24.7
688.0	3772.7	34.7	728.0	3661.0	30.2	768.0	2474.5	28.2	808.0	1365.1	24.7
688.5	3770.0	34.7	728.5	3608.6	30.2	768.5	2491.0	28.1	808.5	1363.7	24.7
689.0	3732.7	34.6	729.0	3479.0	30.2	769.0	2483.4	28.1	809.0	1363.7	24.7
689.5	3766.5	34.5	729.5	3481.1	30.2	769.5	2353.8	28.0	809.5	1363.0	24.7
690.0	3779.6	34.5	730.0	3479.7	30.2	770.0	2303.5	27.9	810.0	1361.0	24.7
690.5	3763.8	34.4	730.5	3481.1	30.2	770.5	2291.1	27.9	810.5	1361.0	24.7
691.0	3774.1	34.3	731.0	3481.1	30.2	771.0	2290.4	27.8	811.0	1361.7	24.7
691.5	3772.0	34.3	731.5	3480.4	30.2	771.5	2291.7	27.8	811.5	1359.6	24.7
692.0	3713.4	34.2	732.0	3480.4	30.2	772.0	2290.4	27.7	812.0	1360.3	24.7
692.5	3787.2	34.2	732.5	3478.3	30.1	772.5	2287.6	27.7	812.5	1358.9	24.7
693.0	3780.3	34.1	733.0	3479.7	30.1	773.0	2292.4	27.7	813.0	1363.7	24.7
693.5	3151.5	34.0	733.5	3479.0	30.0	773.5	2284.2	27.7	813.5	1361.7	24.7
694.0	3774.8	34.0	734.0	3388.7	30.0	774.0	2298.0	27.7	814.0	1365.1	24.7
694.5	3771.4	33.9	734.5	3485.2	29.9	774.5	2284.2	27.7	814.5	1359.6	24.7
695.0	3772.0	33.8	735.0	3458.3	29.8	775.0	2272.4	27.7	815.0	1358.2	24.7
695.5	3790.0	33.8	735.5	3412.8	29.8	775.5	2179.4	27.7	815.5	1361.0	24.7
696.0	3773.4	33.7	736.0	3479.0	29.7	776.0	2102.1	27.7	816.0	1388.5	24.7
696.5	3773.4	33.7	736.5	3469.4	29.7	776.5	2100.1	27.6	816.5	1362.3	24.6
697.0	3770.7	33.6	737.0	3466.6	29.7	777.0	2096.6	27.6	817.0	1361.7	24.6
697.5	3772.0	33.5	737.5	3285.3	29.7	777.5	2098.0	27.5	817.5	1360.3	24.5
698.0	3450.1	33.5	738.0	3284.6	29.7	778.0	2104.9	27.4	818.0	1256.2	24.4
698.5	3807.2	33.4	738.5	3284.6	29.7	778.5	2095.9	27.4	818.5	1185.1	24.4
699.0	3882.4	33.3	739.0	3272.9	29.7	779.0	2088.4	27.3	819.0	1185.8	24.3
699.5	3772.0	33.3	739.5	3250.1	29.7	779.5	2100.1	27.3	819.5	1185.1	24.2
700.0	3770.0	33.2	740.0	3306.6	29.7	780.0	2091.1	27.2	820.0	1207.2	24.2
700.5	3750.7	33.1	740.5	3381.1	29.7	780.5	1902.9	27.1	820.5	1190.7	24.2
701.0	3796.9	33.0	741.0	3277.0	29.7	781.0	1903.6	27.1	821.0	1184.5	24.2
701.5	3921.0	32.8	741.5	3093.6	29.7	781.5	1914.6	27.0	821.5	1181.0	24.2
702.0	3772.7	32.7	742.0	3092.2	29.7	782.0	1902.9	26.9	822.0	1179.6	24.2
702.5	37[illegible]	32.6	742.5	3092.9	29.7	782.5	1898.8	26.9	822.5	1183.1	24.2
703.0	3770.0	32.5	743.0	3163.9	29.7	783.0	1901.5	26.8	823.0	1183.1	24.2
703.5	3770.7	32.3	743.5	3115.0	29.7	783.5	1898.8	26.8	823.5	1179.6	24.2
704.0	3770.0	32.2	744.0	3060.5	29.7	784.0	1898.1	26.7	824.0	996.2	24.2
704.5	3909.9	32.2	744.5	3091.5	29.6	784.5	1896.7	26.7	824.5	993.5	24.2
705.0	3793.4	32.1	745.0	3082.6	29.6	785.0	1876.0	26.7	825.0	993.5	24.2
705.5	3932.7	32.0	745.5	2903.3	29.5	785.5	1710.5	26.7	825.5	993.5	24.2
706.0	3843.7	32.0	746.0	2899.9	29.5	786.0	1704.3	26.7	826.0	997.6	24.2
706.5	3771.4	31.9	746.5	2901.9	29.4	786.5	1708.5	26.7	826.5	994.2	24.2
707.0	3769.3	31.8	747.0	2951.6	29.3	787.0	1709.1	26.7	827.0	993.5	24.2
707.5	3768.6	31.8	747.5	2948.1	29.3	787.5	1705.0	26.7	827.5	994.2	24.2
708.0	3768.6	31.7	748.0	2933.6	29.2	788.0	1722.9	26.7	828.0	993.5	24.2
708.5	3767.2	31.6	748.5	2940.5	29.2	788.5	1706.4	26.6	828.5	992.1	24.1
709.0	3767.2	31.6	749.0	2906.8	29.2	789.0	1707.8	26.6	829.0	817.0	24.1
709.5	3761.0	31.5	749.5	2814.4	29.2	789.5	1707.1	26.5	829.5	816.3	24.0
710.0	3772.7	31.5	750.0	2945.4	29.2	790.0	1705.7	26.4	830.0	818.4	23.9
710.5	3810.7	31.4	750.5	2837.8	29.2	790.5	1707.8	26.4	830.5	814.9	23.9
711.0	3772.0	31.3	751.0	2840.6	29.2	791.0	1709.8	26.3	831.0	815.6	23.8
711.5	3771.4	31.3	751.5	2724.7	29.2	791.5	1705.0	26.2	831.5	812.8	23.7
712.0	3769.3	31.2	752.0	2668.9	29.2	792.0	1689.2	26.2	832.0	811.5	23.7
712.5	3742.4	31.1	752.5	2737.1	29.1	792.5	1529.9	26.1	832.5	811.5	23.7
713.0	3833.4	31.1	753.0	2734.4	29.1	793.0	1527.8	26.1	833.0	810.8	23.7
713.5	3793.4	31.0	753.5	2739.2	29.0	793.5	1527.1	26.0	833.5	812.1	23.7
714.0	3780.3	31.0	754.0	2745.4	28.9	794.0	1525.7	25.9	834.0	637.0	23.7
714.5	3769.3	30.9	754.5	2748.2	28.9	794.5	1528.5	25.9	834.5	637.0	23.7
715.0	3768.6	30.8	755.0	2745.4	28.8	795.0	1527.8	25.8	835.0	634.3	23.7
715.5	3749.3	30.8	755.5	2754.4	28.8	795.5	1527.1	25.7	835.5	630.8	23.7
716.0	3764.5	30.7	756.0	2742.0	28.7	796.0	1527.8	25.7	836.0	630.8	23.7
716.5	3774.1	30.7	756.5	2745.4	28.7	796.5	1527.8	25.7	836.5	630.1	23.7
717.0	3807.2	30.7	757.0	2748.2	28.7	797.0	1525.1	25.7	837.0	612.9	23.7
717.5	3747.9	30.7	757.5	2751.6	28.7	797.5	1521.6	25.7	837.5	628.7	23.7
718.0	3756.9	30.7	758.0	2753.0	28.7	798.0	1525.7	25.7	838.0	630.1	23.7
718.5	3752.7	30.7	758.5	2753.0	28.7	798.5	1522.3	25.7	838.5	626.0	23.7
719.0	3685.9	30.7	759.0	2742.0	28.7	799.0	1524.4	25.7	839.0	457.1	23.7
719.5	3676.9	30.7	759.5	2748.2	28.7	799.5	1523.0	25.7	839.5	455.0	23.7
720.0	3674.1	30.7	760.0	2750.9	28.7	800.0	1522.3	25.7	840.0	455.0	23.7
720.5	3674.8	30.6	760.5	2751.6	28.6	800.5	1524.4	25.6	840.5	453.6	23.6
721.0	3674.8	30.6	761.0	2628.2	28.6	801.0	1534.7	25.6	841.0	452.9	23.5
721.5	3676.9	30.5	761.5	2693.7	28.5	801.5	1527.1	25.5	841.5	453.6	23.5
722.0	3685.9	30.5	762.0	2662.7	28.4	802.0	1527.8	25.4	842.0	452.9	23.4
722.5	3685.2	30.4	762.5	2748.9	28.4	802.5	1518.9	25.4	842.5	452.9	23.4
723.0	3685.2	30.3	763.0	2696.5	28.3	803.0	1611.2	25.3	843.0	452.9	23.3
723.5	3685.9	30.3	763.5	2513.1	28.3	803.5	1523.0	25.2	843.5	453.6	23.2
724.0	3684.5	30.2	764.0	2489.6	28.2	804.0	1524.4	25.2	844.0	452.9	23.2
724.5	3684.5	30.2	764.5	2488.2	28.2	804.5	1525.1	25.1	844.5	449.5	23.2
725.0	3684.5	30.2	765.0	2510.3	28.2	805.0	1525.7	25.1	845.0	395.0	23.2
725.5	3676.2	30.2	765.5	2502.7	28.2	805.5	1523.0	25.0	845.5	271.6	23.2

TEST REFERENCE#: 301120CR FILE STARTS: 3:54:00 on March 12, 1990

LEGEND: ET=Elaped time in (min.), P=Bottom hole pressure (kPaa), T=Temperature (Deg. C)

ET	P	T	ET	P	T	ET	P	T	ET	P	T
846.0	268.8	23.2									
846.5	269.5	23.2									
847.0	269.5	23.2									
847.5	270.2	23.2									
848.0	270.2	23.2									
848.5	270.2	23.2									
849.0	266.8	23.2									
849.5	270.2	23.2									
850.0	269.5	23.2									
850.5	268.2	23.2									
851.0	263.3	23.2									
851.5	255.1	23.2									
852.0	250.2	23.2									
852.5	247.5	22.9									
853.0	236.4	22.5									
853.5	204.7	22.2									
854.0	89.6	21.9									
854.5	89.6	21.6									
855.0	89.6	21.3									
855.5	89.6	21.0									
856.0	89.6	20.7									
856.5	89.6	20.5									
857.0	89.6	20.3									
857.5	89.6	20.1									
858.0	89.6	19.9									
858.5	89.6	19.7									
859.0	89.6	19.5									
859.5	89.6	19.3									
860.0	89.6	19.2									
860.5	89.6	19.1									
861.0	89.6	19.0									
861.5	89.6	19.0									
862.0	89.6	18.9									
862.5	89.6	18.8									
863.0	89.6	18.8									
863.5	89.6	18.7									
864.0	89.6	18.7									
864.5	89.6	18.6									
865.0	89.6	18.5									
865.5	89.6	18.5									
866.0	89.6	18.4									
866.5	89.6	18.3									
867.0	89.6	18.3									
867.5	89.6	18.2									
868.0	89.6	18.2									
868.5	89.6	18.1									
869.0	89.6	18.0									
869.5	89.6	18.0									
870.0	89.6	17.9									
870.5	89.6	17.8									
871.0	89.6	17.8									
871.5	89.6	17.7									
872.0	89.6	17.6									
872.5	89.6	17.6									
873.0	89.6	17.5									
873.5	89.6	17.5									
874.0	89.6	17.4									
874.5	89.6	17.3									

A) CORE ANALYSIS

CORE ANALYSIS REPORT

FOR

PETRO-CANADA INC.

PCI ISLAND LAKE N-45
60°4'56.36" N LAT 122°53'33.67" W LONG
ISLAND LAKE, NORTHERN CANADA, ONSHORE

CORE LABORATORIES

Company : PETRO-CANADA INC.
Well : PCI ISLAND LAKE N-45
Location : 60°4'56.36" N LAT 122°53'33.67" W LONG
Province : NORTHERN CANADA, ONSHORE

Field : ISLAND LAKE
Formation : JEAN MARIE
Coring Equip.: DIAMOND
Coring Fluid : WATER BASE MUD

File No.: 52131-90-0166
Date : 90-03-06
Analysts: JC
Core Dia: 100 mm

CORE ANALYSIS RESULTS

SAMPLE NUMBER		DEPTH m	INTVL REP m	SAMPLE LENGTH m	PERMEABILITY (MAXIMUM) Kair mD	PERMEABILITY (90 DEG) Kair mD	PERMEABILITY (VERTICAL) Kair mD	CAPACITY (MAXIMUM) Kair mD-m	POROSITY (HELIUM) fraction	CAPACITY (HELIUM) φ-m	BULK DENSITY kg/m3	GRAIN DENSITY kg/m3	SATURATION (PORE VOLUME) OIL frac	SATURATION (PORE VOLUME) WATER frac	DESCRIPTION
		CORE NO. 1 1405.00 - 1423.00 m (CORE RECEIVED 18.00 m) (16 BOXES)													
	1	1405.00- 05.15	0.15	0.08	0.58	0.57	0.30	0.087	0.036	0.006	2630.	2720.	0.000	0.210	ls i ppv sty frac
SP	2	1405.15- 05.21	0.06	-	0.01	-	-	0.001	0.006	0.001	-	2700.	TRACE	0.349	ls i
	3	1405.21- 05.42	0.21	0.07	0.50	0.49	0.23	0.105	0.005	0.000	2680.	2690.	0.000	0.260	ls i vfrac
	4	1405.42- 05.53	0.11	0.08	0.61	0.22	0.12	0.067	0.016	0.002	2650.	2690.	0.432	0.173	ls i sty frac
SP	5	1405.53- 05.60	0.07	-	0.11	-	-	0.008	0.060	0.004	-	2720.	0.373	0.149	ls i ppv
	6	1405.60- 05.81	0.21	0.11	0.37	0.24	0.35	0.078	0.050	0.010	2570.	2700.	0.221	0.161	ls i ppv sty frac
SP	7	1405.81- 05.96	0.15	-	0.17	-	-	0.025	0.035	0.006	-	2710.	0.219	0.122	ls i ppv
	8	1405.96- 06.14	0.18	0.10	1.20	0.77	0.38	0.716	0.054	0.009	2580.	2720.	0.371	0.179	ls i ppv sty frac
	9	1406.14- 06.40	0.26	0.16	3.13	1.83	0.14	0.814	0.042	0.010	2630.	2740.	TRACE	0.154	ls i ppv foss sty frac
	10	1406.40- 06.61	0.21	0.16	0.08	0.06	0.05	0.017	0.031	0.006	2620.	2710.	0.252	0.172	ls i ppv foss sty vfrac
SP	11	1406.61- 06.69	0.08	-	<.01	-	-	0.000	0.017	0.002	-	2700.	TRACE	0.206	ls i ppv
SP	12	1406.69- 06.79	0.10	-	<.01	-	-	0.000	0.008	0.001	-	2700.	TRACE	0.145	ls i
	13	1406.79- 07.14	0.35	0.20	0.02	0.02	<.01	0.007	0.005	0.000	2690.	2690.	TRACE	0.347	ls i sty
	14	1407.14- 07.27	0.13	0.08	0.06	0.04	0.07	0.008	0.007	0.001	2670.	2690.	0.465	0.186	ls i vfrac
	15	1407.27- 07.51	0.24	0.04	0.10	0.02	0.02	0.024	0.005	0.000	2660.	2660.	0.000	0.291	ls i vfrac
	16	1407.51- 07.79	0.28	0.12	0.27	0.12	0.02	0.076	0.005	0.000	2680.	2690.	0.000	0.331	ls i frac
	17	1407.79- 08.00	0.21	0.04	0.04	0.02	0.04	0.008	0.006	0.002	2670.	2680.	0.000	0.278	ls i sty vfrac
SP	18	1408.00- 08.07	0.07	-	<.01	-	-	0.000	0.011	0.001	-	2710.	TRACE	0.283	ls i ppv
	19	1408.07- 08.27	0.20	0.15	0.08	0.05	0.08	0.016	0.005	0.000	2690.	2700.	0.000	0.267	ls i foss vfrac
	20	1408.27- 08.37	0.10	0.05	0.03	0.03	0.01	0.003	0.013	0.001	2670.	2710.	0.000	0.216	ls i ppv foss sty frac
	21	1408.37- 08.50	0.13	0.09	0.03	0.02	0.01	0.004	0.011	0.001	2680.	2700.	TRACE	0.280	ls i foss sty frac
	22	1408.50- 08.75	0.25	0.18	0.02	0.01	0.03	0.005	0.011	0.002	2680.	2710.	TRACE	0.278	ls i sty frac
	23	1408.75- 08.89	0.14	0.09	0.05	0.05	0.02	0.007	0.019	0.003	2660.	2720.	TRACE	0.379	ls i ppv frac
SP	24	1408.89- 08.98	0.09	-	<.01	-	-	0.000	0.006	0.001	-	2710.	TRACE	0.216	ls i
	25	1408.98- 09.13	0.15	0.09	0.75	0.17	0.14	0.112	0.096	0.015	2680.	2700.	0.000	0.272	ls i sty vfrac

CORE LABORATORIES

Company : PETRO-CANADA INC.
Well : PCI ISLAND LAKE N-45

Field : ISLAND LAKE
Formation : JEAN MARIE

File No.: 52131-90-0166
Date : 90-03-06

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH m	INTVL REP m	SAMPLE LENGTH m	PERMEABILITY (MAXIMUM) Kair mD	PERMEABILITY (90 DEG) Kair mD	PERMEABILITY (VERTICAL) Kair mD	CAPACITY (MAXIMUM) Kair mD-m	POROSITY (HELIUM) fraction	CAPACITY (HELIUM) φ-m	BULK DENSITY kg/m3	GRAIN DENSITY kg/m3	SATURATION (PORE VOLUME) OIL frac	SATURATION (PORE VOLUME) WATER frac	DESCRIPTION
26	1409.13- 09.29	0.16	0.12	0.05	0.04	0.02	0.008	0.070	0.013	2680.	2710.	TRACE	0.280	ls i sty frac
27	1409.29- 09.43	0.14	0.09	0.03	0.03	<.01	0.004	0.044	0.006	2680.	2700.	TRACE	0.313	ls i sty
28	1409.43- 09.82	0.39	0.12	0.02	0.02	0.01	0.008	0.052	0.020	2680.	2710.	TRACE	0.242	ls i sty
SP 29	1409.82- 09.87	0.05	-	0.02	-	-	0.001	0.029	0.002	-	2740.	TRACE	0.426	ls i ppv
30	1409.87- 09.98	0.11	0.09	0.02	<.01	0.01	0.002	0.023	0.002	2680.	2690.	TRACE	0.276	ls i sty
31	1409.98- 10.36	0.38	0.12	0.02	0.02	0.01	0.008	0.051	0.019	2670.	2700.	TRACE	0.318	ls i sty vfrac
32	1410.36- 10.81	0.45	0.16	41.2	0.02	0.19	18.540	0.055	0.023	2660.	2700.	TRACE	0.334	ls i foss sty vfrac
33	1410.81- 11.12	0.31	0.14	0.01	0.01	0.01	0.003	0.039	0.012	2660.	2690.	TRACE	0.302	ls i sty frac
34	1411.12- 11.32	0.20	0.12	0.08	0.05	<.01	0.016	0.087	0.018	2660.	2720.	TRACE	0.272	ls i ppv sty frac
35	1411.32- 11.70	0.38	0.11	0.02	0.02	<.01	0.008	0.072	0.027	2670.	2720.	TRACE	0.313	ls i ppv sty frac
-	1411.70- 15.61	3.91												ls sh
-	1415.61- 23.00	7.39												sh

CORE LABORATORIES

CODE KEY - DESCRIPTIONS

a	= Plug from full diameter sample
anhy	= Anhydrite
ALT	= Appears similar to
bk	= Break
bldr	= Boulder
c	= Coarse
calc	= Calcite (areous)
carb	= Carbonaceous
cbl	= Cobble
CEC	= Cation exchange capacity
cem	= Cemented
cgl	= Conglomerate
cht	= Chert
coal	= Coal/Coal Inclusion
dol	= Dolomite
f	= Fine
fest	= Ironstone
foss	= Fossil (iferous)
frac	= Fracture
fri	= Friable
glauc	= Glauconite (ic)
grnl	= Granule
gyp	= Gypsum
hfrac	= Horizontal fracture
hal	= Halite (Salt)
i	= Intergranular
incl	= Inclusions
lam	= Laminae (Laminated)
lmy	= Limy
ls	= Limestone
lv	= Large vug
m	= Medium
mi	= Mud invaded
mic	= Micaceous
mshy	= Moderately shaly (20-40%)
mv	= Medium vug
NA	= Not analysed by request
NP	= No permeability measurement
NR	= Not received
ool	= Oolitic
OB	= Overburden
P	= Preserved for future studies
pbl	= Pebble
PET	= Removed for petrographic analysis
POA	= Portion removed for oil analysis
ppv	= Pinpoint Vug
PSA	= Particle size analysis
pyr	= Pyrite (ic)
pyrbit	= Pyrobitumen
SA	= Sieve Analysis
SCAL	= Removed for special core analysis
sdy	= Sandy
SEM	= Scanning electron microscope analysis
sh	= Shale
shy	= Moderately shaly (20-40%)
sltst	= Siltstone
slty	= Silty
SP	= Small plug
ss	= Sandstone
sshy	= Slightly Shaly (<20%)
sty	= Stylolite (ic)
sulf	= Sulphur
sv	= Small vug
tr	= Trace
TS	= Thin section
uncons	= Unconsolidated
vfrac	= Vertical fracture
vf	= Very fine
VOB	= Vertical overburden sample
vshy	= Very shaly (>40%)
VSP	= Vertical small plug
vug	= Vuggy (ular)
ws	= Water sand
XRD	= X-ray diffraction

CORE LABORATORIES

Company : PETRO-CANADA INC.
Well : PCI ISLAND LAKE N-45

Field : ISLAND LAKE
Formation : JEAN MARIE

File No.: 52131-90-0166
Date : 90-03-06

ANALYTICAL PROCEDURES AND QUALITY ASSURANCE

HANDLING & CLEANING

Core Transportation	:
Solvent	: TOLUENE
Extraction Equipment	: VAPOUR PHASE/CO2 EXTRACTOR
Extraction Time	: 8 DAYS
Drying Equipment	: GRAVITY OVEN
Drying Time	: 48 HOURS
Drying Temperature	: 115 DEGREES C.

ANALYSIS

Grain volume measured by Boyle's Law in a modified U.S.B.M. porosimeter using He
Grain volume measured by Boyle's Law in a matrix cup using He
Bulk volume measured by calipuring
Bulk volume by Archimedes Principle
Fluid saturations by retort
Core Gamma Spectral

REMARKS

Higher measured permeability on sample number 32 is due to fracturing in the core.

CORE LABORATORIES

Company : PETRO-CANADA INC.
Well : PCI ISLAND LAKE N-45

Field : ISLAND LAKE
Formation : JEAN MARIE

File No.: 52131-90-0166
Date : 90-03-06

TABLE I

SUMMARY OF CORE DATA

ZONE AND CUTOFF DATA

ZONE:

Identification --------	JEAN MARIE
Top Depth ----------	1405.00 m
Bottom Depth ----------	1423.00 m
Number of Samples --------	35

DATA TYPE:

Porosity ----------	(HELIUM)
Permeability ----------	(MAXIMUM) Kair

CUTOFFS:

Porosity (Minimum) -------	0.000 frac
Porosity (Maximum) -------	1.000 frac
Permeability (Minimum) ---	0.0000 mD
Permeability (Maximum) ---	100000. mD
Water Saturation (Maximum)	1.000 frac
Oil Saturation (Minimum) -	0.000 frac
Grain Density (Minimum) --	2000. kg/m3
Grain Density (Maximum) --	3000. kg/m3
Lithology Excluded -------	NONE

CHARACTERISTICS REMAINING AFTER CUTOFFS

ZONE:

Number of Samples -----	35
Thickness Represented -	6.70 m

POROSITY:

Storage Capacity ------	0.233 ϕ-m
Arithmetic Average ----	0.035 frac
Minimum ----------	0.005 frac
Maximum ----------	0.096 frac
Median ----------	0.023 frac
Standard Deviation ----	±0.026 frac

GRAIN DENSITY:

Arithmetic Average ----	2703. kg/m3
Minimum ----------	2660. kg/m3
Maximum ----------	2740. kg/m3
Median ----------	2700. kg/m3
Standard Deviation ----	±16. kg/m3

PERMEABILITY:

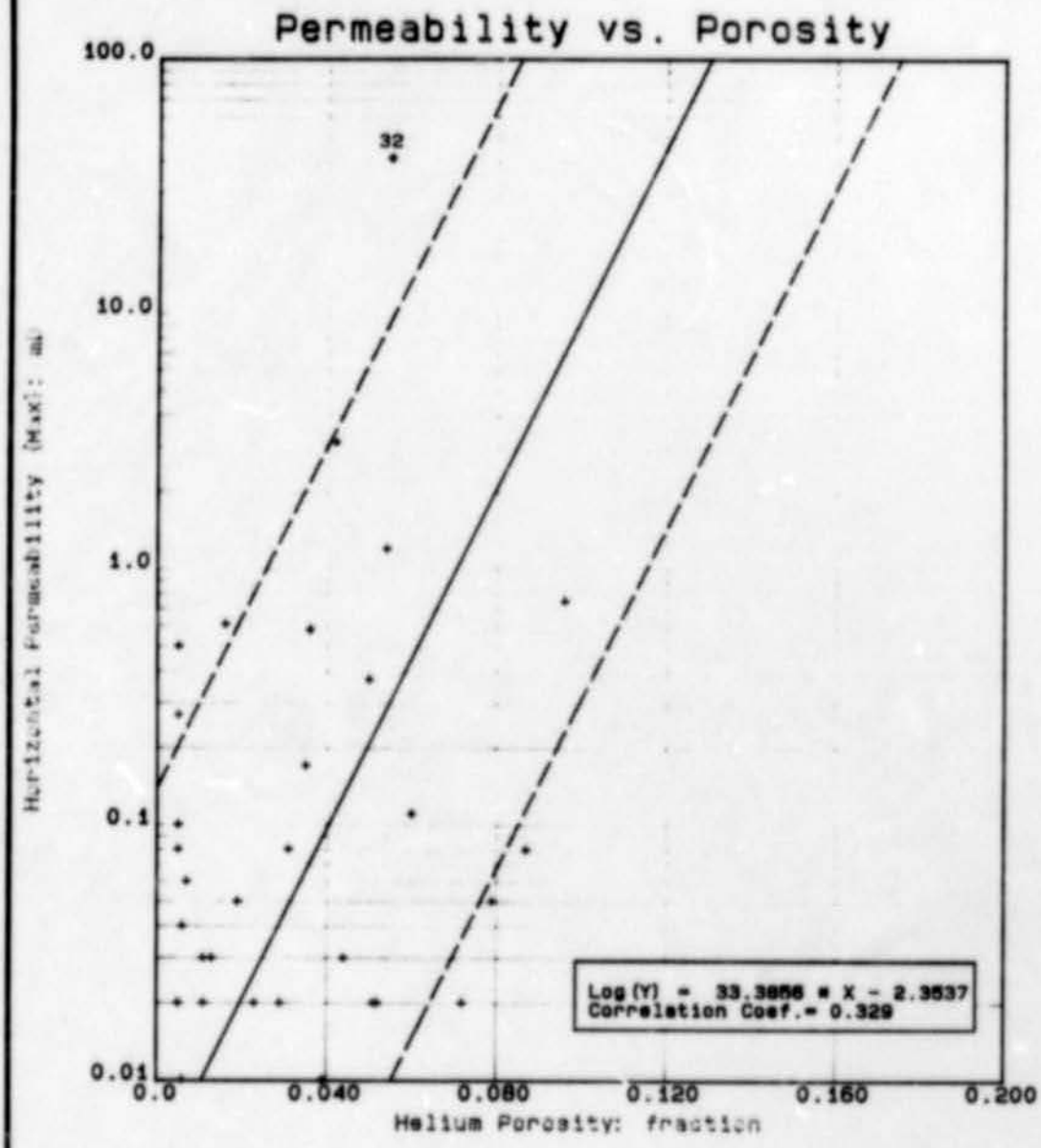
Flow Capacity ---------	20.29 mD-m
Arithmetic Average ----	3.03 mD
Geometric Average -----	0.09 mD
Harmonic Average ------	0.01 mD
Minimum ----------	0.00 mD
Maximum ----------	41.2 mD
Median ----------	0.05 mD
Standard Dev. (Geom) --	$K \cdot 10^{\pm 1.017}$ mD

HETEROGENEITY (Permeability):

Dykstra-Parsons Var. --	0.776
Lorenz Coefficient ----	0.896

AVERAGE SATURATIONS (Pore Volume):

Oil ----------	0.050 frac
Water ----------	0.265 frac



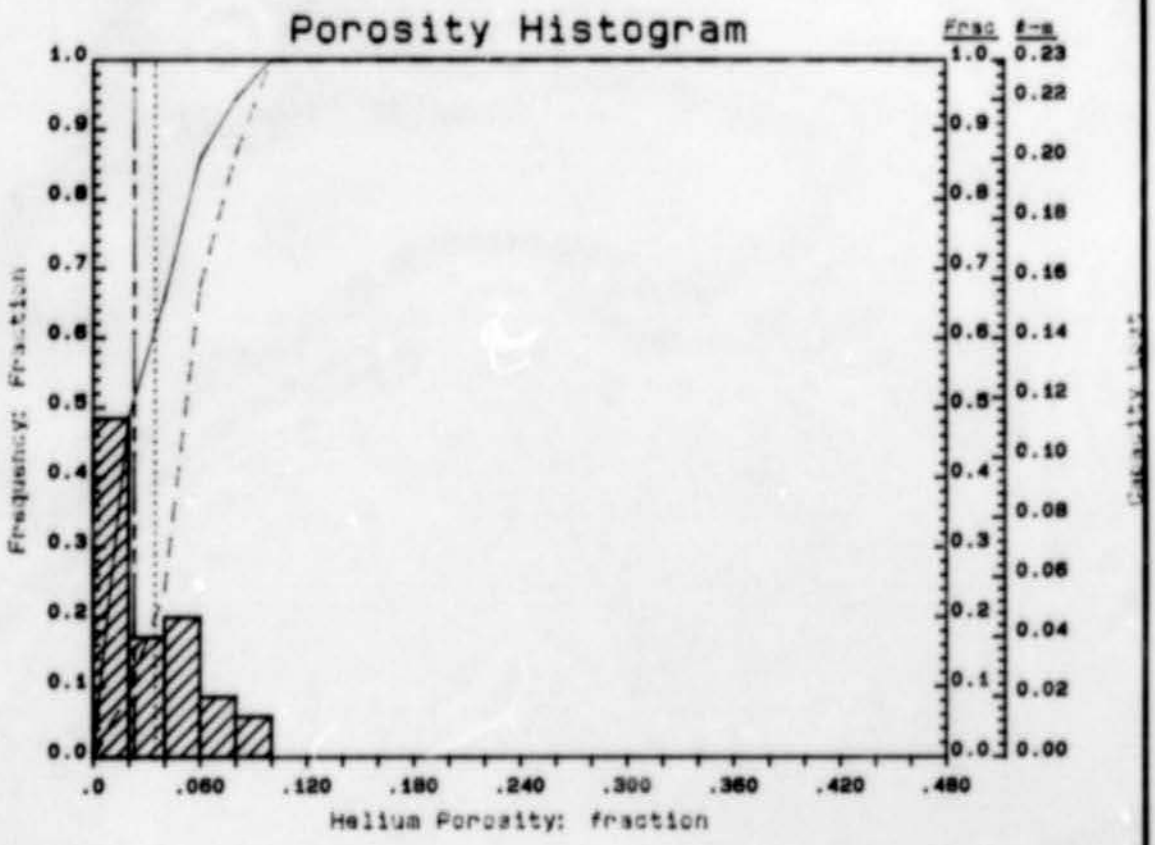
PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

- LEGEND -
JEAN MARIE

*Deleted



PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

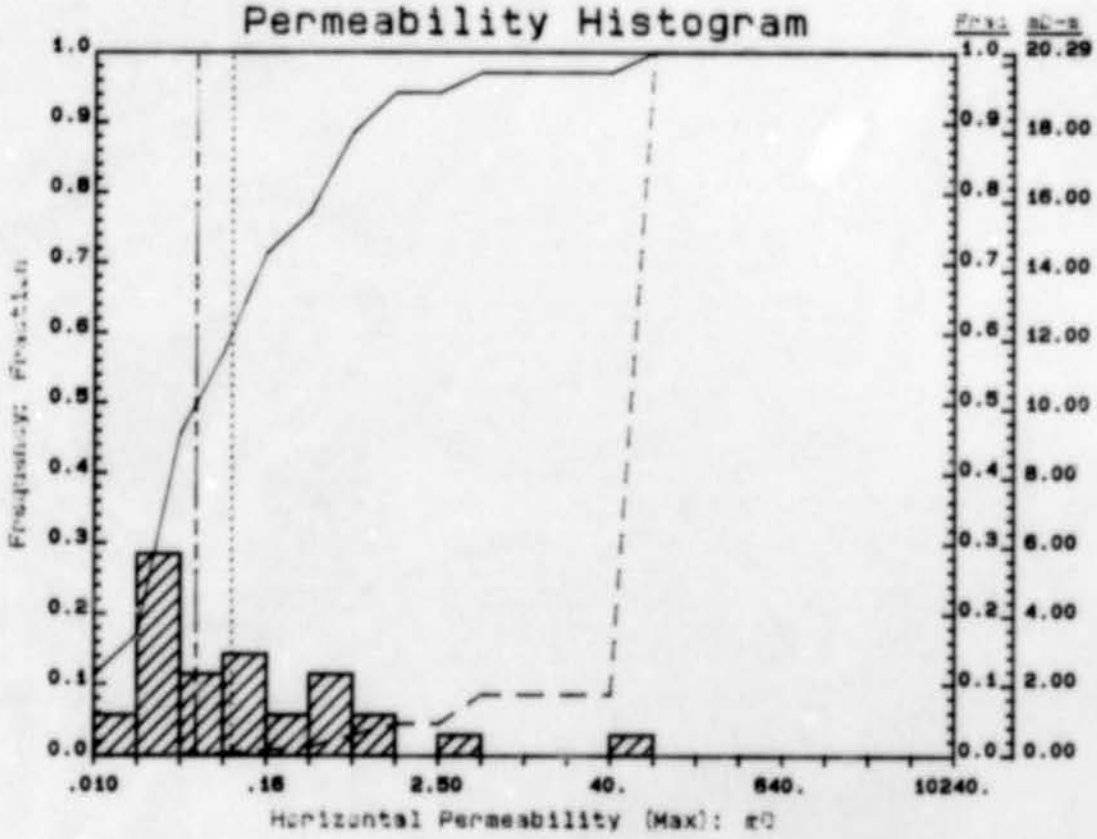
JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

- LEGEND -

——— - Median Value (0.023)
..... Arith. Average (0.035)
——— Cumulative Frequency
— — - Cumulative Capacity Lost

35 Samples



PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

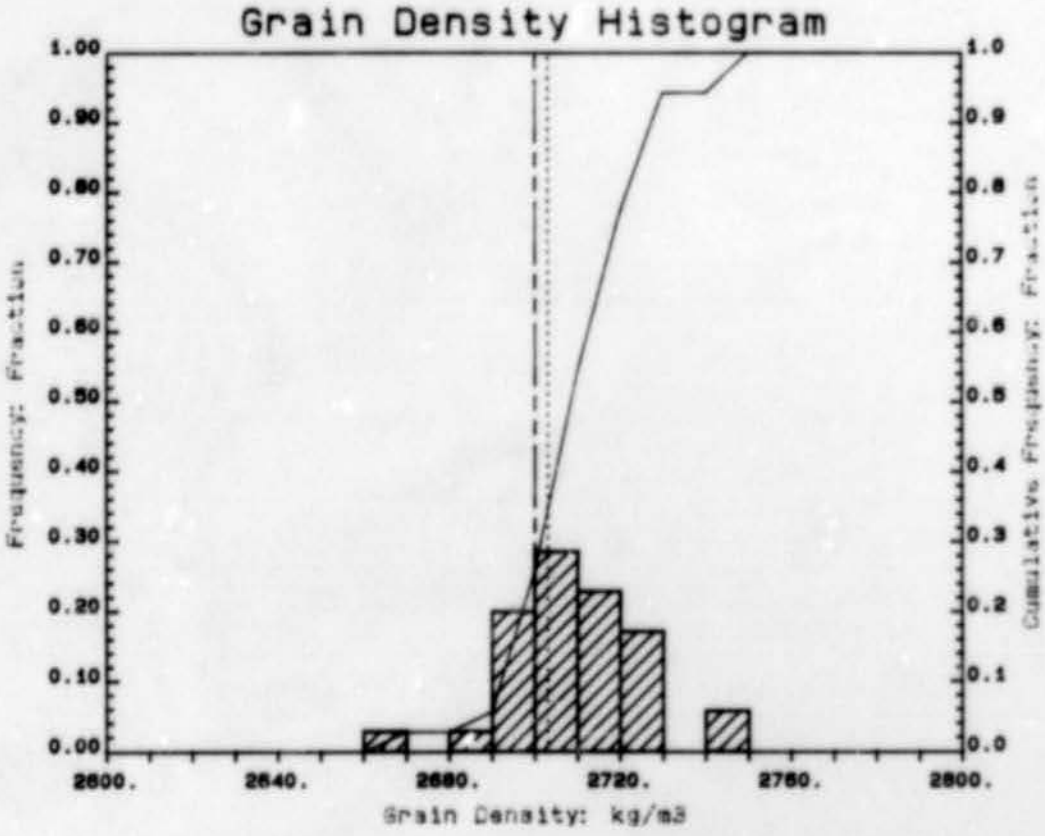
JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

- LEGEND -

——— - Median Value (0.050)
..... Geom. Average (0.089)
——— Cumulative Frequency
— — - Cumulative Capacity Lost

35 Samples



PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

- LEGEND -

——— Median Value (2700)
..... Arith. Average (2703)
——— Cumulative Frequency

35 Samples

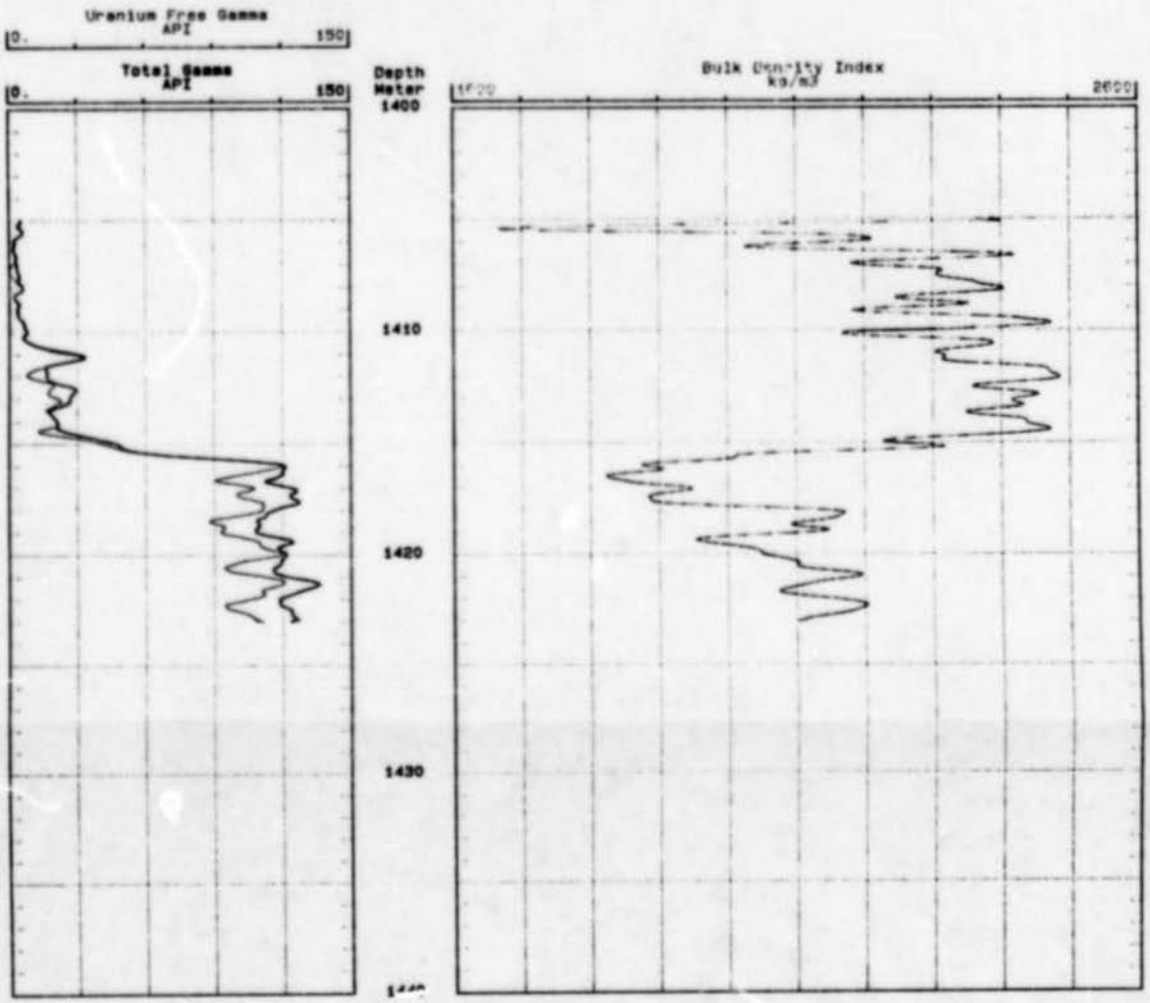
BULK DENSITY INDEX

PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

Vertical Scale
10.00 cm = 24.0 meter



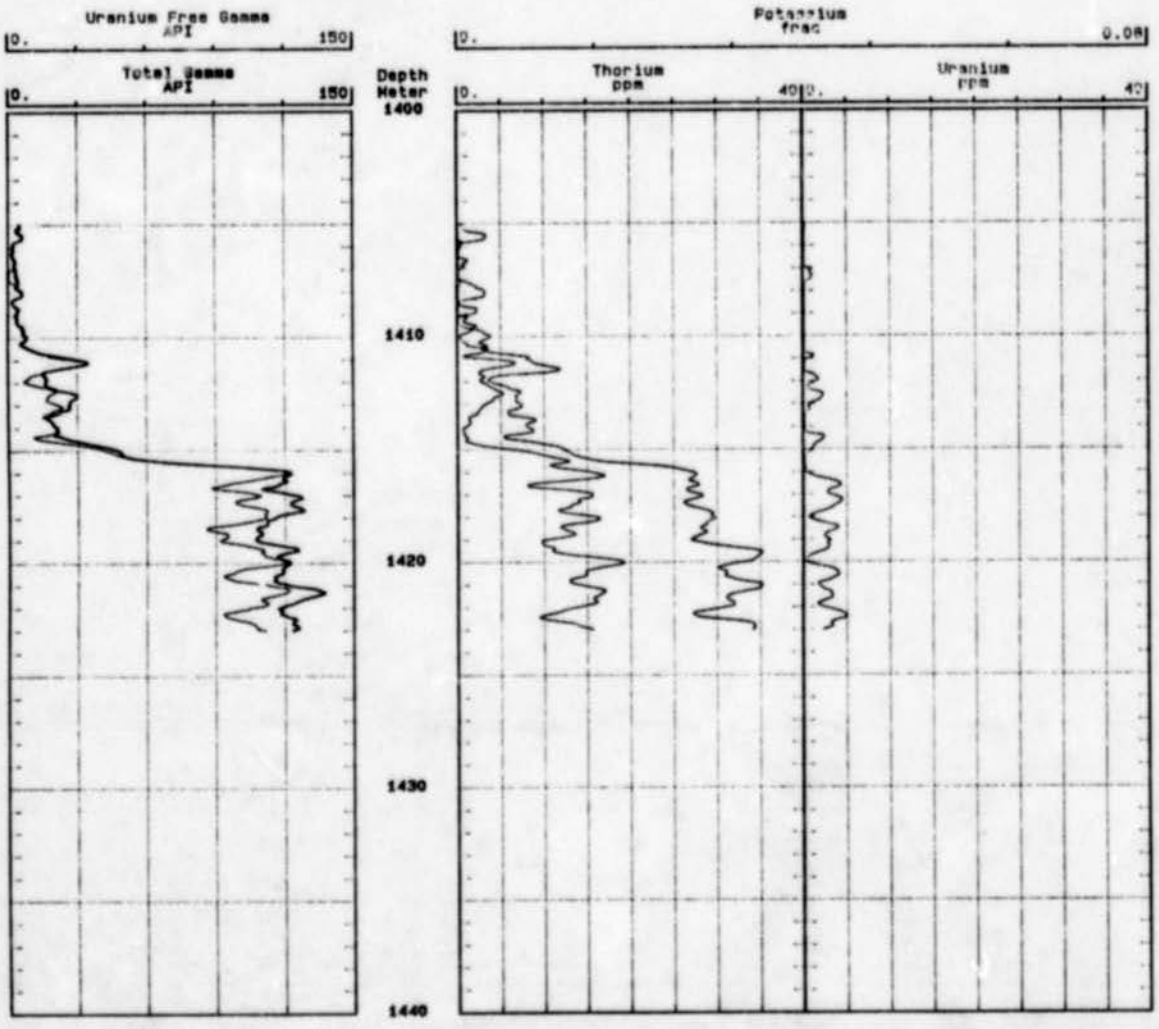
CORE SPECTRAL GAMMA

PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

Vertical Scale
10.00 cm = 24.0 meter



CORRELATION COREGRAPH

PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

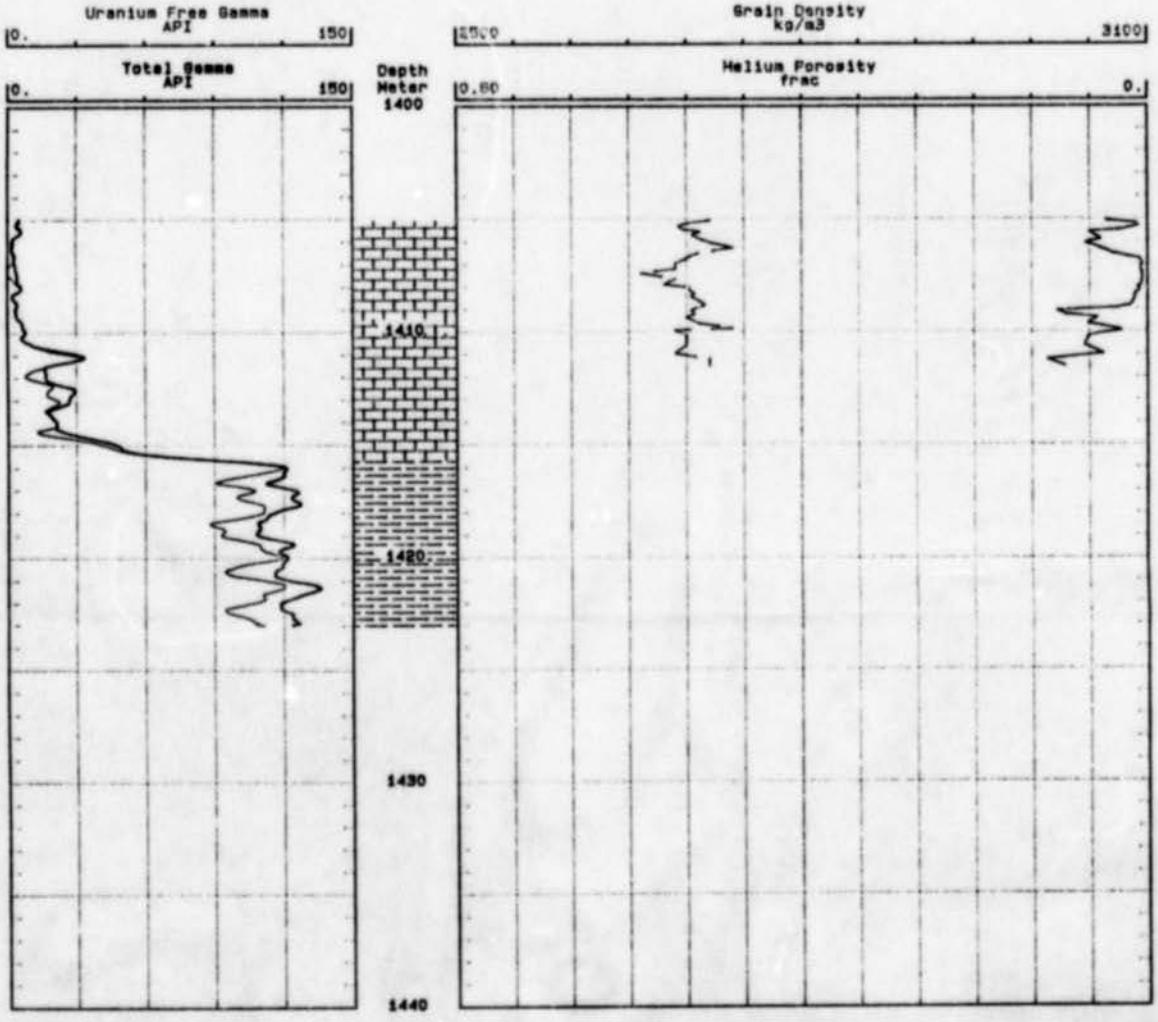
JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

Vertical Scale
10.00 cm = 24.0 meter

- Lithology Legend -

Limestone Shale



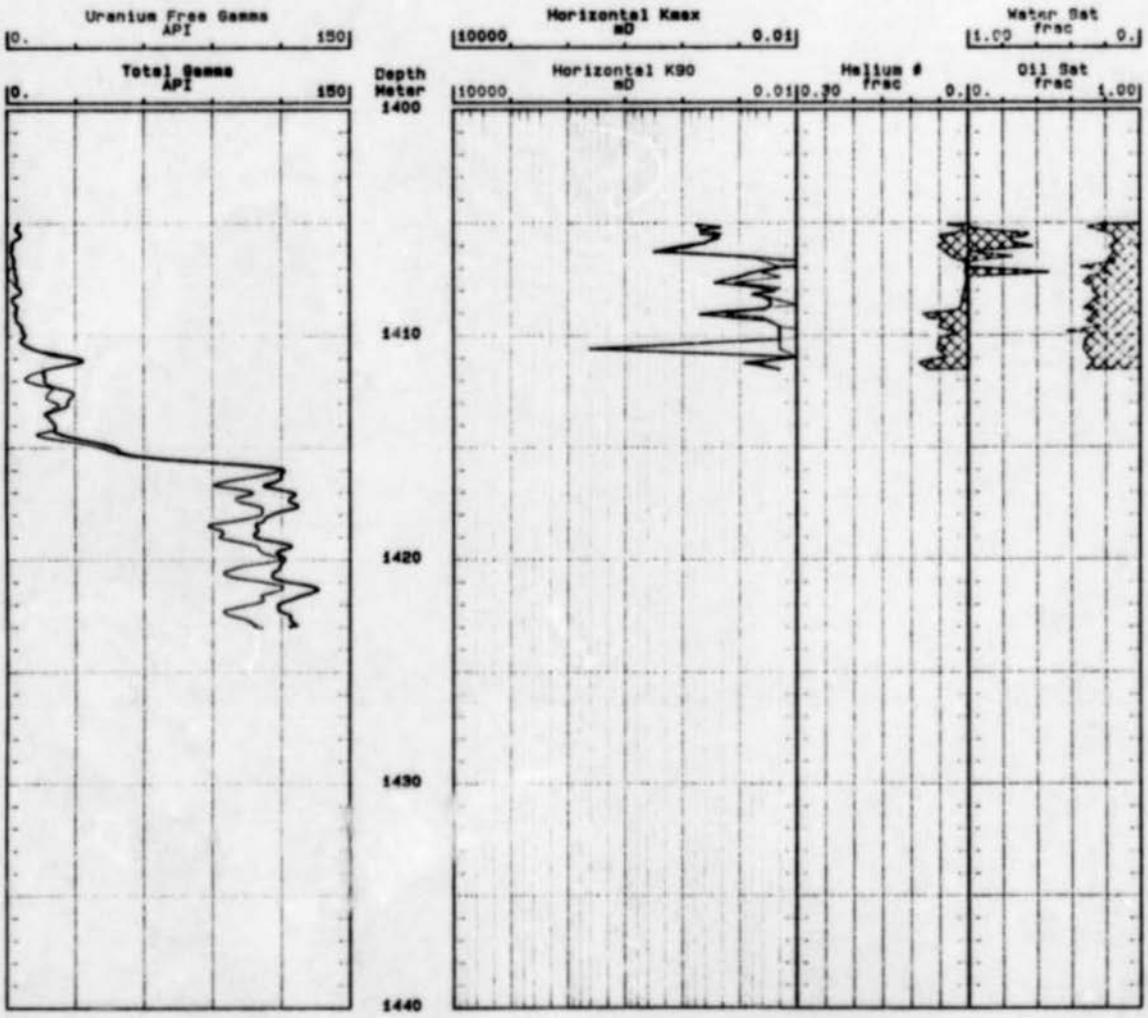
CORRELATION COREGRAPH

PETRO-CANADA INC.
PCI ISLAND LAKE N-45
ISLAND LAKE

JEAN MARIE (1405.00 - 1423.00 m)

Core Laboratories

Vertical Scale
10.00 cm = 24.0 meter



B) FLUID ANALYSIS

WATER, GAS AND
DST SAMPLER DEPLETION ANALYSES

FOR

PETRO-CANADA INC.

ISLAND LAKE

N.W.T.

File: 52136-90-544

Date: 90-03-30

CORE LABORATORIES

CORE LABORATORIES

WATER ANALYSIS

Container Identity: Plastic	Laboratory Number: 52136-90-544
Operator: Petro-Canada Inc.	Page: 1 of 12
Location:	Well or Sample Location Name: PCI Island Lake N-45
KB Elev. (m): 609.9	GR Elev. (m): 605.4
Field or Area: Island Lake, N.W.T.	Pool or Zone: Red Knife/Jean Marie
Sampler: SOC Testing	
Test Type & No.: DST # 3	Test Recovery: 10 metres of gas cut mud
Point of Sample: Recovery 1	Amt. & Type Cushion:
Mud Resistivity: @ °C	
Test Intervals (metres): 1390.00-1409.00 mkB	Pumping: Flowing: Gas Lift: Swab:
Water: m^3/d	Oil: m^3/d Gas: m^3/d
Separator: Reservoir:	Container When Sampled: @ °C Container When Received: @ °C
Separator:	
Pressures, kPa (gauge)	Temperatures, °C
Date Sampled (Y/M/D): 90 03 09	Date Received (Y/M/D): 90 03 14
Date Analyzed (Y/M/D): 90 03 29	Analyst: AM
Remarks:	

Resistivity @ 25 degrees C (Ohm-metres): 1.68

Chloride Content (mg/litre): 593

CORE LABORATORIES

DST SAMPLER DEPLETION

CONTAINER IDENTITY: BHS	LABORATORY NUMBER: 52136-90-544
OPERATOR: Petro-Canada Inc.	PAGE: 2 of 12
LOCATION:	WELL OR SAMPLE LOCATION NAME: PCI Island Lake N-45
KB ELEV. (m): 609.9	GR ELEV. (m): 605.4
FIELD OR AREA: Island Lake, N.W.T.	POOL OR ZONE: Red Knife/Jean Marie
SAMPLER: SOC Testing	
TEST TYPE & NO.: DST # 3	TEST RECOVERY: 10 metres of light gas cut mud
POINT OF SAMPLE: Bottomhole	AMT. & TYPE CUSHION:
MUD RESISTIVITY: @ °C	
TEST INTERVALS (metres): 1390.00-1409.00 mkB	PUMPING / FLOWING / GAS LIFT / SWAB
WATER m³/d	OIL m³/d
GAS m³/d	
SEPARATOR / RESERVOIR / CONTAINER WHEN SAMPLED @ °C / CONTAINER WHEN RECEIVED @ °C	SEPARATOR
PRESSURES, kPa (gauge)	TEMPERATURES, °C
DATE SAMPLED (Y/M/D): 90 03 09	DATE RECEIVED (Y/M/D): 90 03 14
DATE ANALYZED (Y/M/D): 90 03 14	ANALYST: HE
REMARKS:	

DST SAMPLER DEPLETION

The following data was compiled from the Drill Stem Test

Sampler chamber identification number 103734

The opening pressure of this tool was 0 kPa @ 22 Degrees C.

The recovery was determined as being:

0 cc of Hydrocarbon Liquid

1500 cc of Water

0 cc of Drilling Mud

0 Gas Sample(s)

CORE LABORATORIES

WATER ANALYSIS

Plastic — CONTAINER IDENTITY

52136-90-544 — LABORATORY NUMBER

Petro-Canada Inc. — OPERATOR

3 of 12 — PAGE

LOCATION

PCI Island Lake N-45 — WELL OR SAMPLE LOCATION NAME

609.9 — KB ELEV. (m)

605.4 — GR ELEV. (m)

Island Lake, N.W.T. — FIELD OR AREA

Red Knife/Jean Marie — POOL OR ZONE

SOC Testing — SAMPLER

DST # 3 — TEST TYPE & NO.

10 metres of light gas cut mud — TEST RECOVERY

Bottomhole — POINT OF SAMPLE

AMT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

1390.00-1409.00 mkB — TEST INTERVALS (metres)

FUMPING | FLOWING | GAS LIFT | SWAB

WATER m^3/d | OIL m^3/d | GAS m^3/d

SEPARATOR | RESERVOIR | @ °C CONTAINER WHEN SAMPLED | @ °C CONTAINER WHEN RECEIVED

PRESSURES, kPa (gauge)

SEPARATOR

TEMPERATURES, °C

DATE SAMPLED (Y/M/D)	DATE RECEIVED (Y/M/D)	DATE ANALYZED (Y/M/D)	ANALYST	REMARKS
90 03 09	90 03 14	90 03 29	AM	

CATIONS

ION	mg/L	mg Fraction	MEQ/L
Na	7200	.3119	313.2
K	40	.0017	1.0
Ca	94	.0041	4.7
Mg	166	.0072	13.7
Ba			
Sr			
Fe	Not Detected		

ANIONS

ION	mg/L	mg Fraction	MEQ/L
Cl	13066	.5660	368.5
Br			
I			
HCO_3	2465	.1068	40.4
SO_4	55	.0024	1.1
CO_3	0	.0000	0.0
OH	0	.0000	0.0
H_2S	Not Detected		

TOTAL SOLIDS (mg/L)

BY EVAPORATION @ 110°C

BY EVAPORATION @ 180°C

AT IGNITION

23086 CALCULATED

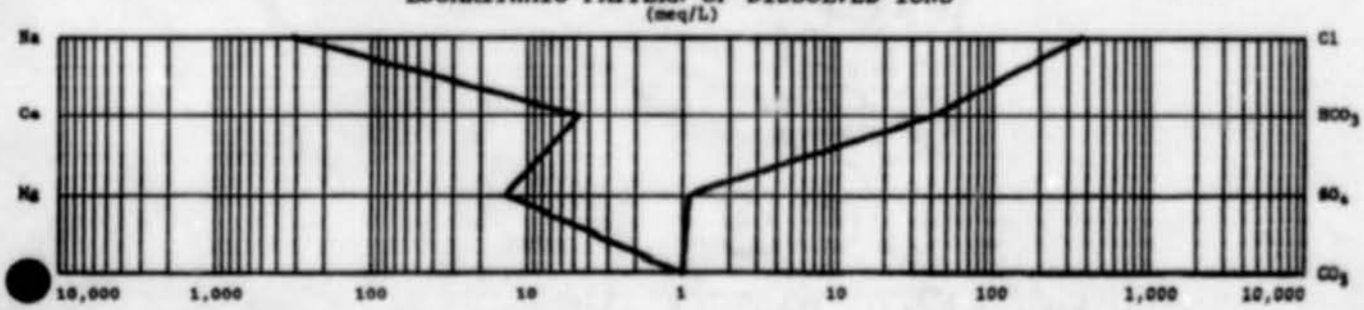
1.0180 @15.6°C SPECIFIC GRAVITY

1.3368 @25 °C REFRACTIVE INDEX

7.9 pH

0.290 @25°C RESISTIVITY (OHM-METRES)

LOGARITHMIC PATTERN OF DISSOLVED IONS (meq/L)



REMARKS: NaCl equiv. 21420

CORE LABORATORIES

DST SAMPLER DEPLETION

CONTAINER IDENTITY: BHS	LABORATORY NUMBER: 52136-90-544
OPERATOR: Petro-Canada Inc.	PAGE: 4 of 12
LOCATION:	WELL OR SAMPLE LOCATION NAME: PCI Island Lake N-45
KB ELEV. (m): 609.9	GR ELEV. (m): 605.4
FIELD OR AREA: Island Lake, N.W.T.	POOL OR ZONE: Red Knife/Jean Marie
SAMPLER: SOC Testing	
TEST TYPE & NO.: DST # 3	TEST RECOVERY: 10 metres of very light gas cut mud
POINT OF SAMPLE: Bottomhole	AMT. & TYPE CUSHION:
MUD RESISTIVITY: @ °C	
TEST INTERVALS (metres): 1390.00-1409.00 mkB	PUMPING / FLOWING / GAS LIFT / SWAB
WATER m³/d	OIL m³/d
GAS m³/d	
SEPARATOR / RESERVOIR / CONTAINER WHEN SAMPLED @ °C / CONTAINER WHEN RECEIVED @ °C	SEPARATOR
PRESSURES, kPa (gauge)	TEMPERATURES, °C
DATE SAMPLED (Y/M/D): 90 03 09	DATE RECEIVED (Y/M/D): 90 03 14
DATE ANALYZED (Y/M/D): 90 03 14	ANALYST: HE
REMARKS:	

DST SAMPLER DEPLETION

The following data was compiled from the Drill Stem Test

Sampler chamber identification number 000556

The opening pressure of this tool was 1103.2 kPa @ 22 Degrees C

The recovery was determined as being:

0 cc of Hydrocarbon Liquid

1700 cc of Water

0 cc of Drilling Mud

1 Gas Sample(s)

CORE LABORATORIES

GAS ANALYSIS

V2786 — CONTAINER IDENTITY

52136-90-544 — LABORATORY NUMBER

Petro-Canada Inc. — OPERATOR

5 of 12 — PAGE

LOCATION

PCI Island Lake N-45 — WELL OR SAMPLE LOCATION NAME

609.9 — KB ELEV. (m)

605.4 — GR ELEV. (m)

Island Lake, N.W.T. — FIELD OR AREA

Red Knife/Jean Marie — POOL OR ZONE

SOC Testing — SAMPLER

DST # 3 — TEST TYPE & NO.

10 metres of light gas cut mud — TEST RECOVERY

Bottomhole — POINT OF SAMPLE

AMT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

1390.00-1409.00 mkB — TEST INTERVALS (metres)

PUMPING | FLOWING | GAS LIFT | SWAB

WATER m^3/d | OIL m^3/d | GAS m^3/d

SEPARATOR | RESERVOIR | CONTAINER WHEN SAMPLED @ °C | CONTAINER WHEN RECEIVED @ °C

PRESSURES, kPa (gauge)

SEPARATOR

TEMPERATURES, °C

DATE SAMPLED (Y/M/D)	DATE RECEIVED (Y/M/D)	DATE ANALYZED (Y/M/D)	ANALYST	REMARKS
90 03 09	90 03 14	90 03 26	GS	

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	mL/m^3 AIR FREE AS RECEIVED
H_2	0.0015		
He	0.0007		
N_2	0.0275		
CO_2	0.0059		
H_2S	0.0000		
C_1	0.9638		
C_2	0.0005		
C_3	0.0001		0.4
iC_4	Trace		0.0
C_4	0.0000		0.0
iC_5	0.0000		0.0
C_5	0.0000		0.0
C_6	0.0000		0.0
C_7+	0.0000		0.0
TOTAL	1.0000		0.4
		C_5+	0.0

CALCULATED GROSS HEATING VALUE MJ/m^3 @15°C & 101.325 kPa (abs.)

36.47 — MOISTURE FREE

36.69 — MOISTURE & ACID GAS FREE

CALCULATED VAPOUR PRESSURE kPa (abs.) @40.0°C

0.0 — PENTANES PLUS

CALCULATED TOTAL SAMPLE PROPERTIES (AIR=1) @ 15° C & 101.325 kPa

MOISTURE FREE AS SAMPLED

0.699 kg/m^3 — DENSITY

0.570 — RELATIVE DENSITY

16.5 — RELATIVE MOLECULAR MASS

CALCULATED PSEUDOCRITICAL PROPERTIES

AS SAMPLED

4574.5 kPa (abs) — pPc

189.2 K — pTc

ACID GAS FREE

kPa (abs) — pPc

K — pTc

REMARKS

Note: The Gross Heating Value has been calculated in accordance to AGA Report #3 and all Properties have been calculated utilizing GPA 2145-88 physical constants.

CORE LABORATORIES

WATER ANALYSIS

Plastic — CONTAINER IDENTITY

52136-90-544 — LABORATORY NUMBER

Petro-Canada Inc. — OPERATOR

6 of 12 — PAGE

LOCATION

PCI Island Lake N-45 — WELL OR SAMPLE LOCATION NAME

609.9 — KB ELEV. (m)

605.4 — GR ELEV. (m)

Island Lake, N.W.T. — FIELD OR AREA

Red Knife/Jean Marie — POOL OR ZONE

SOC Testing — SAMPLER

DST # 3 — TEST TYPE & NO.

10 metres of light gas cut mud — TEST RECOVERY

Bottomhole — POINT OF SAMPLE

AMT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

1390.00-1409.00 mkB — TEST INTERVALS (metres)

PUMPING | FLOWING | GAS LIFT | SWAB

WATER m^3/d | OIL m^3/d | GAS m^3/d

SEPARATOR | RESERVOIR | CONTAINER WHEN SAMPLED @ °C | CONTAINER WHEN RECEIVED @ °C

PRESSURES, kPa (gauge)

SEPARATOR

TEMPERATURES, °C

90 03 09 — DATE SAMPLED (Y/M/D)

90 03 14 — DATE RECEIVED (Y/M/D)

90 03 29 — DATE ANALYZED (Y/M/D)

AM — ANALYST

REMARKS

CATIONS

ION	mg/L	mg Fraction	MEQ/L
[illegible]	7400	.2806	321.9
K	38	.0014	1.0
Ca	1588	.0602	79.2
Mg	1737	.0659	142.9
Ba			
Sr			
Fe	Not Detected		

ANIONS

ION	mg/L	mg Fraction	MEQ/L
Cl	12903	.4892	363.9
Br			
I			
HCO_3	2682	.1017	44.0
SO_4	25	.0010	0.5
CO_3	0	.0000	0.0
OH	0	.0000	0.0
H_2S	Not Detected		

TOTAL SOLIDS (mg/L)

BY EVAPORATION @ 110°C

BY EVAPORATION @ 180°C

AT IGNITION

26374 — CALCULATED

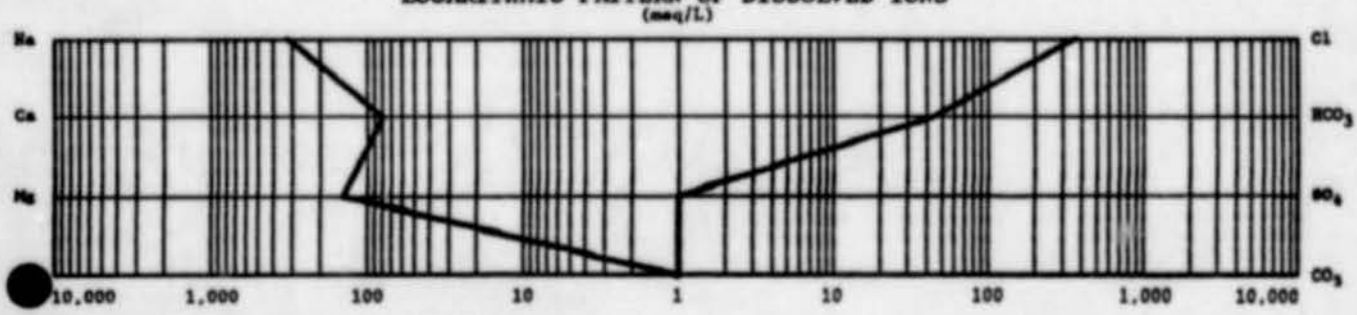
1.0140 @15.6°C — SPECIFIC GRAVITY

1.3366 @25 °C — REFRACTIVE INDEX

7.6 — pH

0.300 @25°C — RESISTIVITY (OHM-METRES)

LOGARITHMIC PATTERN OF DISSOLVED IONS (meq/L)



REMARKS: NaCl equiv. 26061

CORE LABORATORIES

WATER ANALYSIS

Plastic — CONTAINER IDENTITY

52136-90-544 — LABORATORY NUMBER

Petro-Canada Inc. — OPERATOR

7 of 12 — PAGE

PCI Island Lake N-45 — WELL OR SAMPLE LOCATION NAME

609.9 — KB ELEV. (m)

605.4 — GR ELEV. (m)

LOCATION

Island Lake, N.W.T. — FIELD OR AREA

Mississippian — POOL OR ZONE

SOC Testing — SAMPLER

DST # 4 — TEST TYPE & NO.

357 metres of water gas cut — TEST RECOVERY

Sample 2 — POINT OF SAMPLE

AMT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

579.00-583.50 mkB — TEST INTERVALS (metres)

PUMPING | FLOWING | GAS LIFT | SWAB

WATER m^3/d | OIL m^3/d | GAS m^3/d

SEPARATOR | RESERVOIR | @ °C CONTAINER WHEN SAMPLED | @ °C CONTAINER WHEN RECEIVED

PRESSURES, kPa (gauge)

SEPARATOR

TEMPERATURES, °C

DATE SAMPLED (Y/M/D)	DATE RECEIVED (Y/M/D)	DATE ANALYZED (Y/M/D)	ANALYST	REMARKS
90 03 12	90 03 14	90 03 29	AM	

CATIONS

ION	mg/L	mg Fraction	MEQ/L
[illegible]	6700	.2573	291.4
K	37	.0014	0.9
Ca	2208	.0848	110.2
Mg	1615	.0620	132.9
Ba			
Sr			
Fe	Not Detected		

ANIONS

ION	mg/L	mg Fraction	MEQ/L
Cl	12449	.4781	351.1
Br			
I			
HCO_3	2973	.1142	48.7
SO_4	57	.0022	1.2
CO_3	0	.0000	0.0
OH	0	.0000	0.0
H_2S	Not Detected		

TOTAL SOLIDS (mg/L)

BY EVAPORATION @ 110°C

BY EVAPORATION @ 180°C

AT IGNITION

26039 — CALCULATED

1.0150 @15.6°C — SPECIFIC GRAVITY

1.3366 @25 °C — REFRACTIVE INDEX

7.5 — pH

0.300 @25°C — RESISTIVITY (OHM-METRES)

LOGARITHMIC PATTERN OF DISSOLVED IONS (meq/L)

REMARKS: NaCl equiv. 25344

CORE LABORATORIES

WATER ANALYSIS

Plastic — CONTAINER IDENTITY

52136-90-544 — LABORATORY NUMBER

Petro-Canada Inc. — OPERATOR

8 of 12 — PAGE

LOCATION

PCI Island Lake N-45 — WELL OR SAMPLE LOCATION NAME

609.9 — KB ELEV. (m)

605.4 — GR ELEV. (m)

Island Lake, N.W.T. — FIELD OR AREA

Mississippian — POOL OR ZONE

SOC Testing — SAMPLER

DST # 4 — TEST TYPE & NO.

357 metres of water gas cut — TEST RECOVERY

Sample 3 — POINT OF SAMPLE

AMT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

579.00-583.50 mkB — TEST INTERVALS (metres)

PUMPING | FLOWING | GAS LIFT | SWAB

WATER m^3/d | OIL m^3/d | GAS m^3/d

SEPARATOR | RESERVOIR | @ °C CONTAINER WHEN SAMPLED | @ °C CONTAINER WHEN RECEIVED

PRESSURES, kPa (gauge)

SEPARATOR

TEMPERATURES, °C

DATE SAMPLED (Y/M/D)	DATE RECEIVED (Y/M/D)	DATE ANALYZED (Y/M/D)	ANALYST	REMARKS
90 03 12	90 03 14	90 03 29	AM	

CATIONS

ION	mg/L	mg Fraction	MEQ/L
[illegible]	7300	.2705	317.5
K	39	.0014	1.0
Ca	2158	.0800	107.7
Mg	1683	.0623	138.4
Ba			
Sr			
Fe	Not Detected		

ANIONS

ION	mg/L	mg Fraction	MEQ/L
Cl	12773	.4733	360.3
Br			
I			
HCO_3	2998	.1111	49.1
SO_4	39	.0014	0.8
CO_3	0	.0000	0.0
OH	0	.0000	0.0
H_2S	Not Detected		

TOTAL SOLIDS (mg/L)

BY EVAPORATION @ 110°C

BY EVAPORATION @ 180°C

AT IGNITION

26989 — CALCULATED

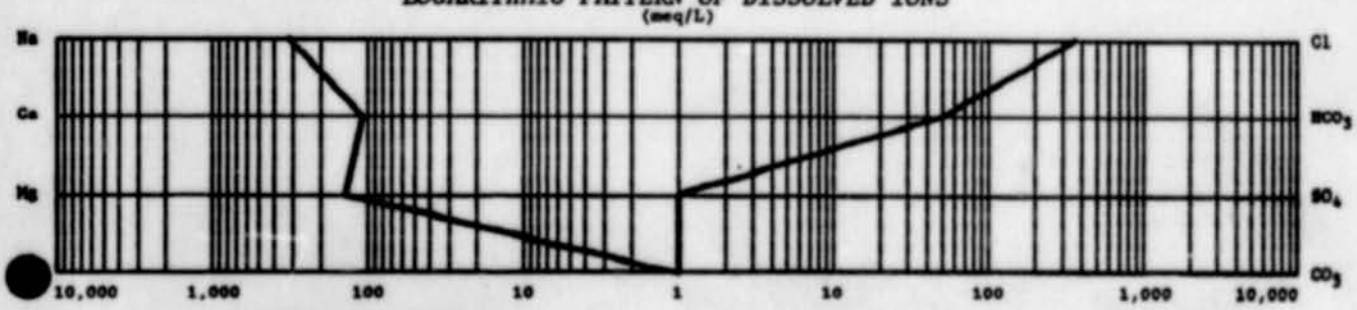
1.0170 @15.6°C — SPECIFIC GRAVITY

1.3365 @25 °C — REFRACTIVE INDEX

7.5 — pH

0.290 @25°C — RESISTIVITY (OHM-METRES)

LOGARITHMIC PATTERN OF DISSOLVED IONS (meq/L)



REMARKS: NaCl equiv. 26356

CORE LABORATORIES

DST SAMPLER DEPLETION

CONTAINER IDENTITY: BHS	LABORATORY NUMBER: 52136-90-544
OPERATOR: Petro-Canada Inc.	PAGE: 9 of 12
LOCATION:	WELL OR SAMPLE LOCATION NAME: PCI Island Lake N-45
KB ELEV. (m): 609.9	GR ELEV. (m): 605.4
FIELD OR AREA: Island Lake, N.W.T.	POOL OR ZONE: Rundle
SAMPLER: SOC Testing	
TEST TYPE & NO.: DST # 4	TEST RECOVERY: 357 metres of water gas cut
POINT OF SAMPLE: Bottomhole	AMT. & TYPE CUSHION:
MUD RESISTIVITY: @ °C	
TEST INTERVALS (metres): 579.00-583.50 mkB	PUMPING / FLOWING / GAS LIFT / SWAB
WATER m³/d	OIL m³/d
GAS m³/d	
SEPARATOR / RESERVOIR	CONTAINER WHEN SAMPLED @ °C
CONTAINER WHEN RECEIVED @ °C	SEPARATOR
PRESSURES, kPa (gauge)	TEMPERATURES, °C
DATE SAMPLED (Y/M/D): 90 03 12	DATE RECEIVED (Y/M/D): 90 03 14
DATE ANALYZED (Y/M/D): 90 03 14	ANALYST: HE
REMARKS:	

DST SAMPLER DEPLETION

The following data was compiled from the Drill Stem Test

Sampler chamber identification number 579-584

The opening pressure of this tool was 0 kPa @ 22 Degrees C.

The recovery was determined as being:

0 cc of Hydrocarbon Liquid

0 cc of Water

1600 cc of Drilling Mud

0 Gas Sample(s)

CORE LABORATORIES

WATER ANALYSIS

Plastic (CONTAINER IDENTITY)	52136-90-544 (LABORATORY NUMBER)
Petro-Canada Inc. (OPERATOR)	10 of 12 (PAGE)
(LOCATION)	PCI Island Lake N-45 (WELL OR SAMPLE LOCATION NAME)
609.9 (KB ELEV. (m))	605.4 (GR ELEV. (m))
Island Lake, N.W.T. (FIELD OR AREA)	Rundle (POOL OR ZONE)
SOC Testing (SAMPLER)	DST # 4 (TEST TYPE & NO.)
357 metres of water gas cut (TEST RECOVERY)	Bottomhole (POINT OF SAMPLE)
(AMT. & TYPE CUSHION)	@ °C (MUD RESISTIVITY)
579.00-583.50 mkB (TEST INTERVALS (metres))	PUMPING / FLOWING / GAS LIFT / SWAB
WATER m^3/d	OIL m^3/d
GAS m^3/d	

PRESSURES, kPa (gauge)					TEMPERATURES, °C
SEPARATOR	RESERVOIR		@ °C CONTAINER WHEN SAMPLED	@ °C CONTAINER WHEN RECEIVED	SEPARATOR

DATE SAMPLED (Y/M/D)	DATE RECEIVED (Y/M/D)	DATE ANALYZED (Y/M/D)	ANALYST	REMARKS
90 03 12	90 03 14	90 03 29	AM	

Resistivity @ 25 degrees C (Ohm-metres): 1.45

Chloride Content (mg/litre): 695

CORE LABORATORIES

DST SAMPLER DEPLETION

CONTAINER IDENTITY: BHS	LABORATORY NUMBER: 52136-90-544
OPERATOR: Petro-Canada Inc.	PAGE: 11 of 12
LOCATION:	WELL OR SAMPLE LOCATION NAME: PCI Island Lake N-45
KB ELEV. (m): 609.9	GR ELEV. (m): 605.4
FIELD OR AREA: Island Lake, N.W.T.	POOL OR ZONE: Rundle
SAMPLER: SOC Testing	TEST TYPE & NO.: DST # 4
TEST RECOVERY: 357 metres of water gas cut	POINT OF SAMPLE: Bottomhole
AMT. & TYPE CUSHION:	MUD RESISTIVITY: @ °C
TEST INTERVALS (metres): 579.00-583.50 mkB	PUMPING / FLOWING / GAS LIFT / SWAB
WATER m³/d	OIL m³/d
GAS m³/d	
SEPARATOR / RESERVOIR / CONTAINER WHEN SAMPLED @ °C / CONTAINER WHEN RECEIVED @ °C	SEPARATOR
PRESSURES, kPa (gauge)	TEMPERATURES, °C
DATE SAMPLED (Y/M/D): 90 03 12	DATE RECEIVED (Y/M/D): 90 03 14
DATE ANALYZED (Y/M/D): 90 03 14	ANALYST: HE
REMARKS:	

DST SAMPLER DEPLETION

The following data was compiled from the Drill Stem Test Sampler chamber.

The opening pressure of this tool was 0 kPa @ 22 Degrees C.

The recovery was determined as being:

0 cc of Hydrocarbon Liquid

1200 cc of Water

0 cc of Drilling Mud

0 Gas Sample(s)

CORE LABORATORIES

WATER ANALYSIS

Plastic (CONTAINER IDENTITY)	52136-90-544 (LABORATORY NUMBER)
Petro-Canada Inc. (OPERATOR)	12 of 12 (PAGE)
(LOCATION)	PCI Island Lake N-45 (WELL OR SAMPLE LOCATION NAME)
609.9 (KB ELEV. (m))	605.4 (GR ELEV. (m))
Island Lake, N.W.T. (FIELD OR AREA)	Rundle (POOL OR ZONE)
SOC Testing (SAMPLER)	
DST # 4 (TEST TYPE & NO.)	357 metres of water gas cut (TEST RECOVERY)
Bottomhole (POINT OF SAMPLE)	@ °C (MUD RESISTIVITY)
(AMT. & TYPE CUSHION)	
579.00-583.50 mkB (TEST INTERVALS (metres))	FUMPING / FLOWING / GAS LIFT / SWAB
WATER m³/d	OIL m³/d
GAS m³/d	
SEPARATOR / RESERVOIR	@ °C CONTAINER WHEN SAMPLED
@ °C CONTAINER WHEN RECEIVED	SEPARATOR
PRESSURES, kPa (gauge)	TEMPERATURES, °C
90 03 12 (DATE SAMPLED (Y/M/D))	90 03 14 (DATE RECEIVED (Y/M/D))
90 03 29 (DATE ANALYZED (Y/M/D))	AM (ANALYST)
(REMARKS)	

Resistivity @ 25 degrees C (Ohm-metres): 2.01

Chloride Content (mg/litre): 653

C) LOG ANALYSIS

Petro-Canada
Note de service
Internal memorandum

F

To / À: J. Bever

CC: S. Benko
D.A. McDonald

From / De: R. VanAppelen

Date / Date: March 8, 1990

Ref. / Réf.:

Subject / Objet: **PCI Island Lake N-45 Formation Evaluation**

The openhole logs were evaluated. Zones of interest are identified.

1. Jeanne Marie 1400-1410
   - Limestone matrix

   2m averaging .035 Ø nd, .0.50 Sw

   The preliminary core (plug) permeabilities were very low, but may be pessimistic due to contamination.

   Had 1-1.5m microlog development, indicating some permeability.

2. Tetcho 1128-31 2m @ .03 Ø wet limestone
   1147-67 6m @ .035 Ø wet limestone

3. Porous Sand (Mississippian) 579-584m

   Porosity ranged from 0.15-0.27 on the density log, adjusted to sandstone matrix.

   Rws from SP 0.3 ± 0.1

   Sws calculated in the 0.27 Ø interval at the top of the sand were 0.50-0.75 depending on the Rw used. The sand gets wetter as the porosity drops off. The high Sws are consistent with a zone of residual hydrocarbons.

   The sand was described as loose...frosted. A high-porosity, loose sand should have lower Sws than 0.5^0 plus.

R. VanAppelen

RVA/mln

PETROLOG HYDROCARBON SUMMARY

WELL :300N456010120450
LOCATION:60 4'58.62"N 120 53'34.34"
POOL :ISLAND LAKE
FORMATION :JEAN MARIE

DATE :Mon Jun 4 1990
USER :RVA

TOP DEPTH: 1385.0000 BOTTOM DEPTH: 1420.0000

CUTOFFS USED:				AVERAGE:				CUMULATIVE :	
POROS (frc)	WATER SAT f	SHALE VOL f	NET METRES	POROSITY fraction	WATER SAT fraction	SHALE VOL fraction		POROSITY X METRES	HYDROCARB X METRES
0.100	1.000	0.300	0.00	0.000	0.000	0.000		0.000	0.000
0.020	0.600	0.200	0.88	0.037	0.467	0.002		0.033	0.017
0.020	1.000	0.200	2.63	0.031	0.736	0.014		0.112	0.030
0.030	0.500	0.200	0.88	0.037	0.467	0.002		0.033	0.017

DATABASE = /best/database/DICK.db
Mode record = 300N456010120450
Username = RVA time dumped = Mon Jun 4 13:30:23 1990

type = CONSTANTS name = JEAN MARIE

CONSTANTS	VALUES
A	1
CALIM	225
CLIP_PHI	0.2
GASCOR	1
GR0	10
GR100	120
M	2
MWT	1100
N	2
PESH	3.5
PHIMAX	0.3
PHIN0	0
PHINMA	0
PHINSH	0.33
PHIXSW	0.06
RHOF	1000
RHOHY	800
RHOLIM	100
RHOMA	2710
RHOSH	2607
RHOW	1000
RW	0.03
RWT	59
VSHMAX	0.2

DATABASE = /best/database/DICK.db
Mode record = 300N456010120450
Username = RVA time dumped = Mon Jun 4 13:30:55 1990

type = ROUTINES name = PHI DENSITY

ALGORITHM NAME	SWITCH VALUE OR VARI	PUT RESULT IN	C
/START	ON		ALWAYS ON DOES HOUSEKEEPING
/VSH GR	ON		GR SHALE
/VSH SP	OFF		SP SHALE
/VSH XSD	OFF		SONIC-DENSITY VSH
/VSH XND	OFF		NEUTRON-DENSITY VSH
/VSHBAL	ON		MATERIALS BALANCE EQUATION
/VSH CLAVIER CORR	OFF		CLAVIER CORRECTION
/DENSC	ON		SHALE CORRECTED DENS
/PHINC	ON		CORRECTED PHIN
/PHIXND	ON		NEUTRON DENSITY POROSITY
/CLIP PHI	ON		VSH cutoff for porosity
/FIND BADHOLE FROM CAL	ON		FIND WASHOUTS, HIGH DRHO
/IF BADHOLE ZERO PHI	ON		SET PHI=0 IN BAD HOLE
/PHIBAL	ON		MATERIALS BALANCE FOR PHI
/RW@FT	ON		RW AT FORMATION TEMPERATURE
/SW ARCHIE	ON		ARCHIE WATER SATURATION
/SW SIM	OFF		SIMANDOUX WATER SATURATION
/SW DW	OFF		DUAL WATER SW
/SW WAX-SMITH	OFF		WAXMAN SMITS WATER SATURATI
/SWSMTH	ON		SW BALANCE AND SMOOTHING
/PHIxSW	ON		
/RMF@FT	OFF		RMF AT FORMATION TEMPERATUR
/SXO ARCHIE	OFF		SXO FROM ARCHIE
/SXO SIM	OFF		SXO FROM SIMANDOUX
/SXO WAX-SMITH	OFF		SXO FROM WAXMAN SMITS
/SXOSMTH	OFF		SXO BALANCE AND SMOOTHING
/PHIxSXO	OFF		
/PERM CORE	OFF		PERMEABILITY FROM POROSITY

OTTAWA COPY

COMPENSATED NEUTRON LITHO-DENSITY

COMPANY RITINO CANADA INC.
WELL PO ISLAND LAKE N-45
FIELD WILDCAT
TERRITORY N.W.T.

REMARKS:

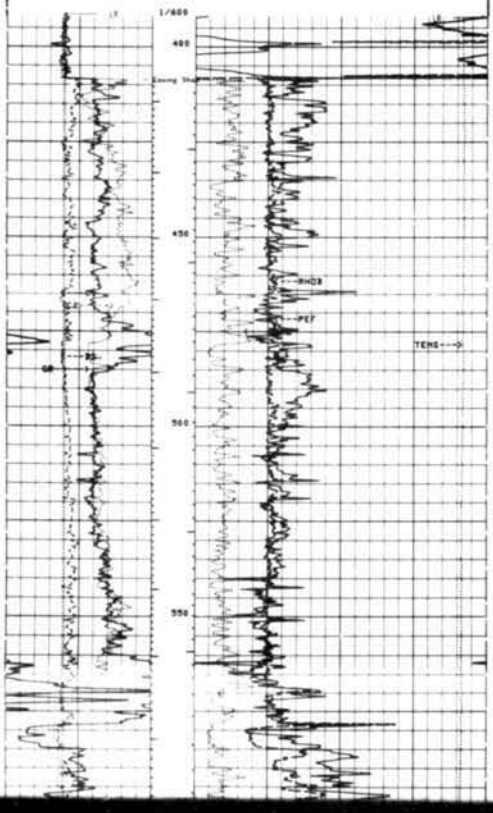
LAT : NORTH 68 DEGREES - 4 MINUTES - 38.68 SECONDS
LONG : WEST 189 DEGREES - 53 MINUTES -0 34.34 SECONDS
SCALES AND PRESENTATIONS AS PER CLIENT REQUEST
CNL ECCENTRALIZED WITH BOWSPRING
LDT ECCENTRALIZED WITH 90 DEGREE HARDWARE
C R14 6 METERS OF FILL BETWEEN TDL AND TDD
REDIENTATION ATTEMPTED AT 1200 AND 983 METERS

EVENT MARK SUMMARY:

OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
ICV	.100100 MS	RIGHT EDGE
IMV	.100000 MS	LEFT EDGE

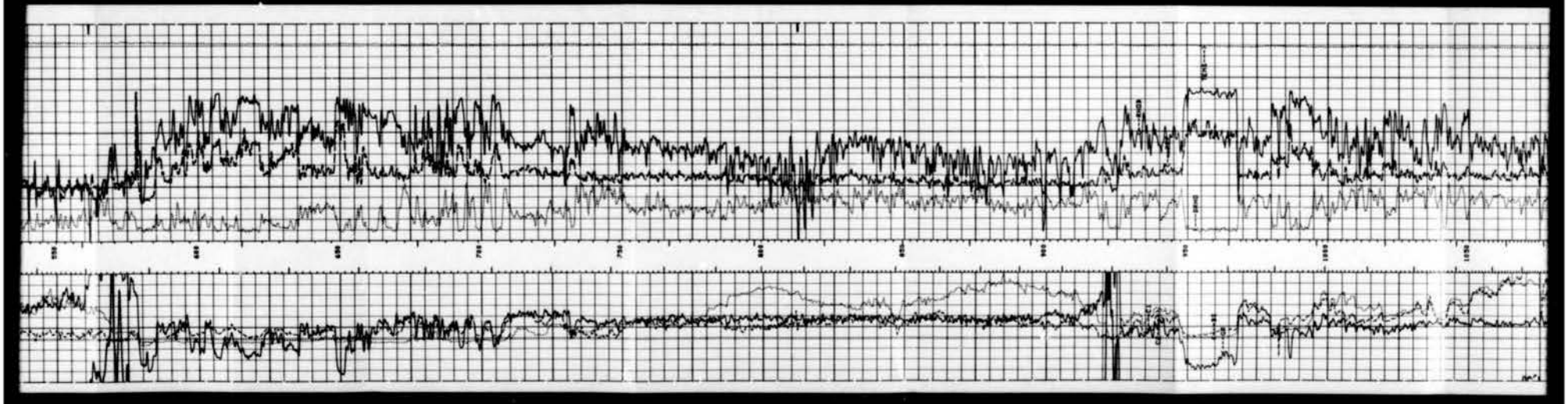
CEMENT VOLUME = 28.5151 M3 (ASSUMING 177.800 MM O.D. CASING)
HOLE VOLUME = 54.3114 M3
FROM 1447.95 TO 408.89 METE

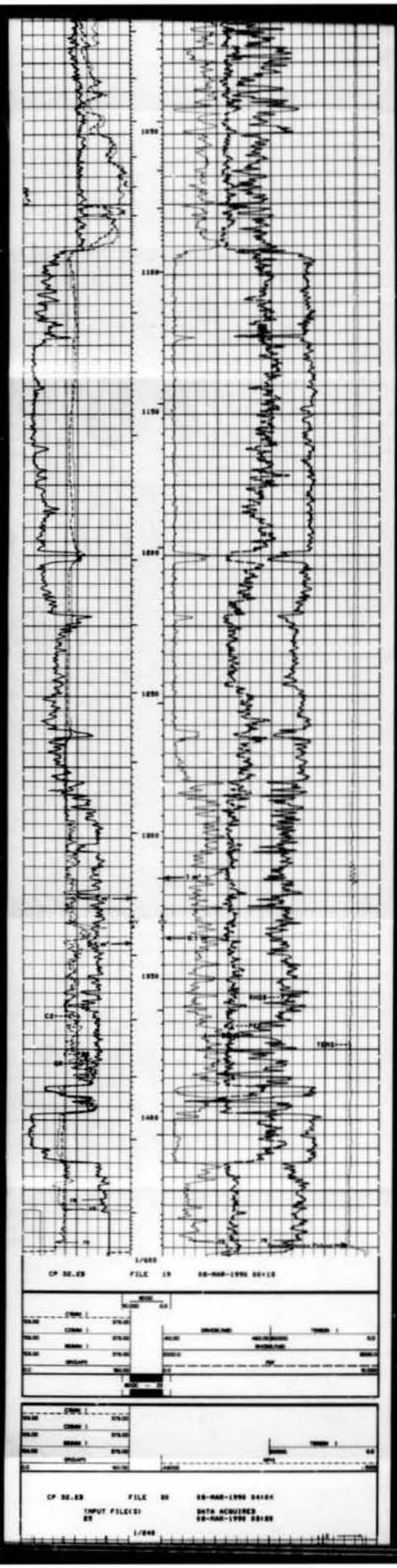
CP 32.28 FILE 19 08-MAR-1990 02:15



1 of

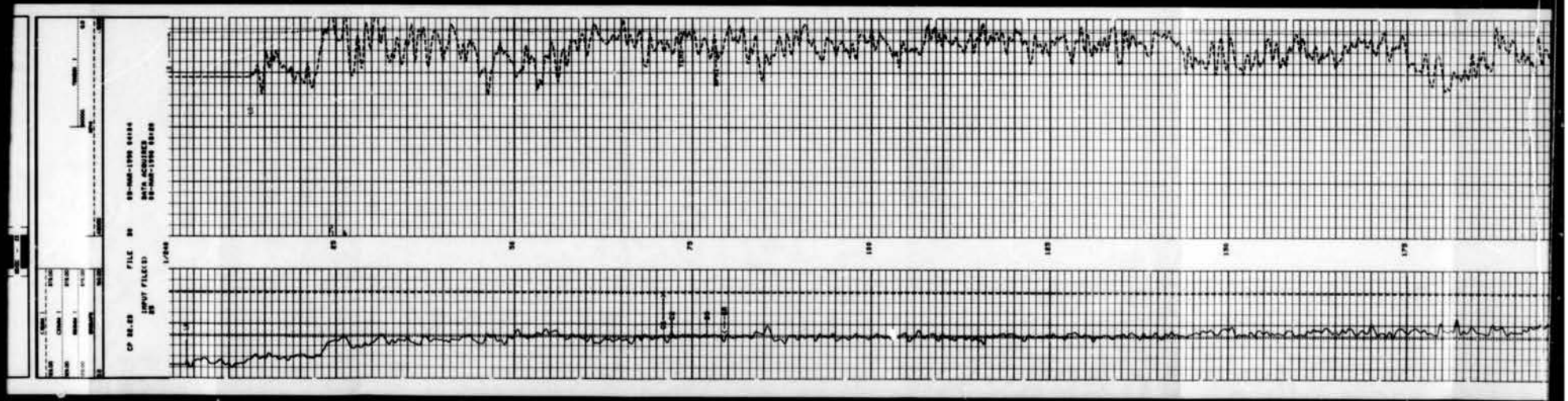
2 of




1050
1100
1150
1200
1250
1300
1350
1400
1/600
CP 32.E0
FILE 19
08-MAR-1990 00:10
CO
RHOB
TENS
CP 32.E0
FILE 00
08-MAR-1990 04:04
INPUT FILE(S)
00
DATA ACQUIRED
08-MAR-1990 02:00
1/240

3 of 7

4 of



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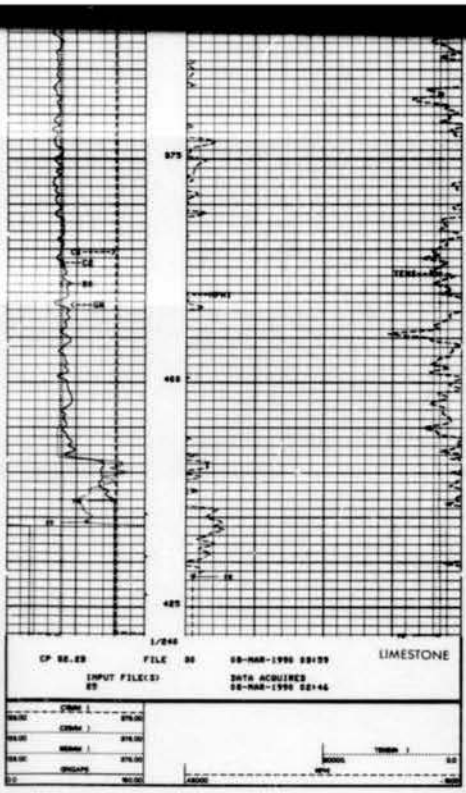
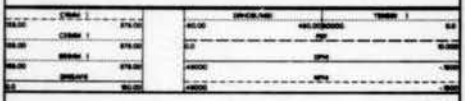
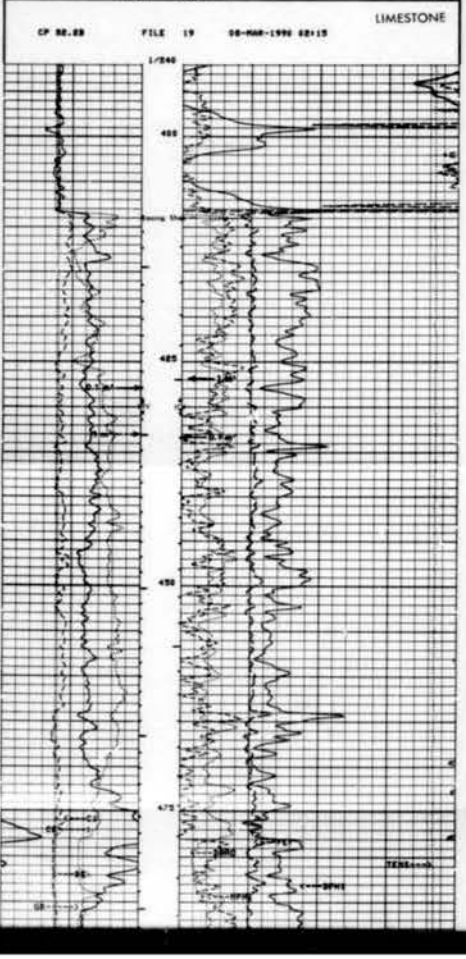


EVENT MARK SUMMARY:

OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
ICV	.100000 MB	RIGHT EDGE
INV	.100000 MB	LEFT EDGE

CEMENT VOLUME = 28.5151 MB (ASSUMING 177.800 MM O.D. CASING)
HOLE VOLUME = 54.3114 MB
FROM 1447.95 TO 400.89 METE





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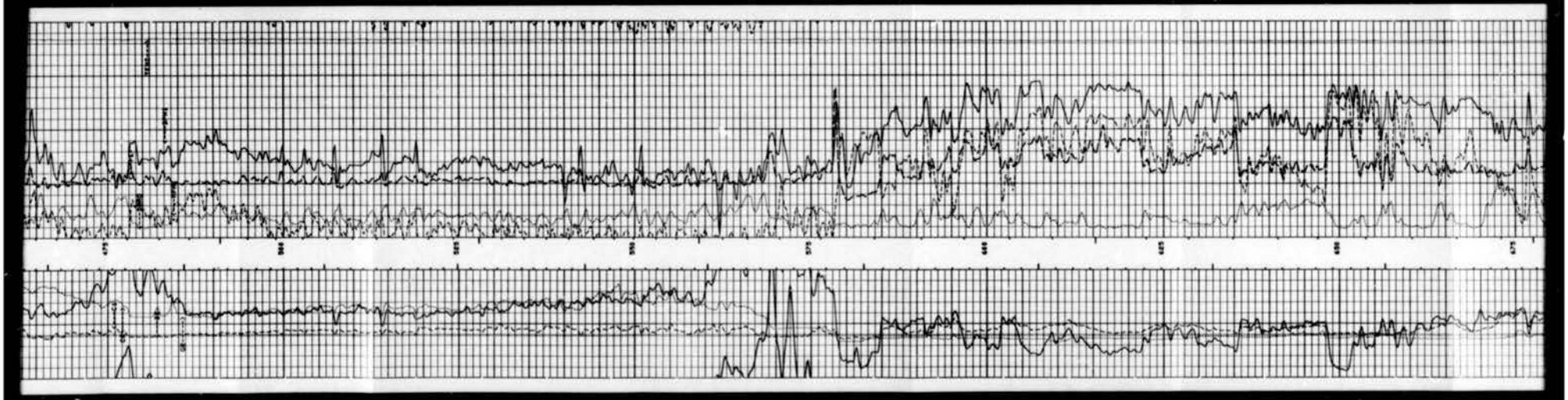

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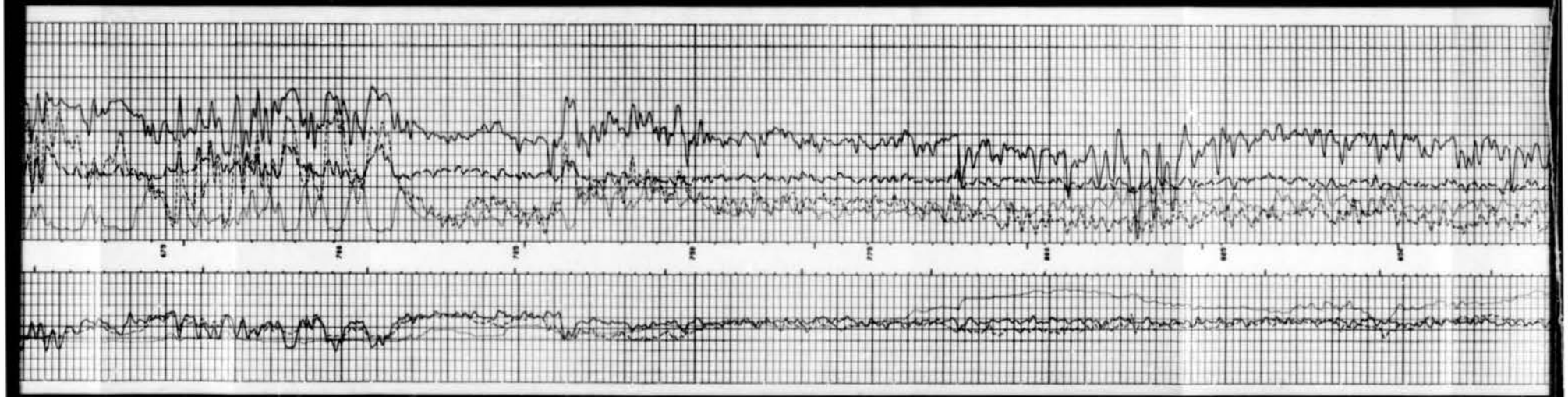

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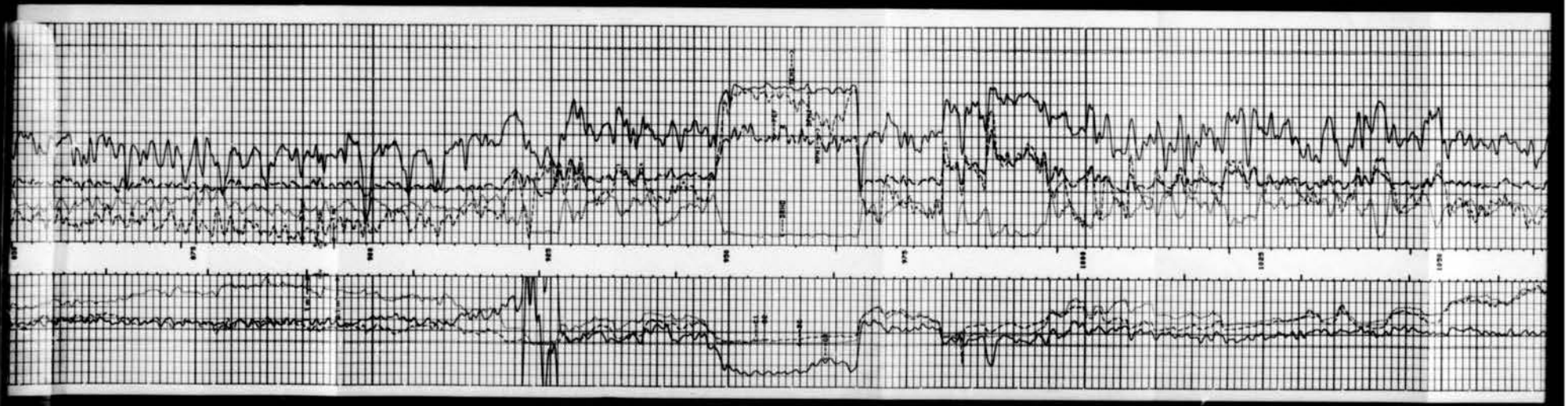
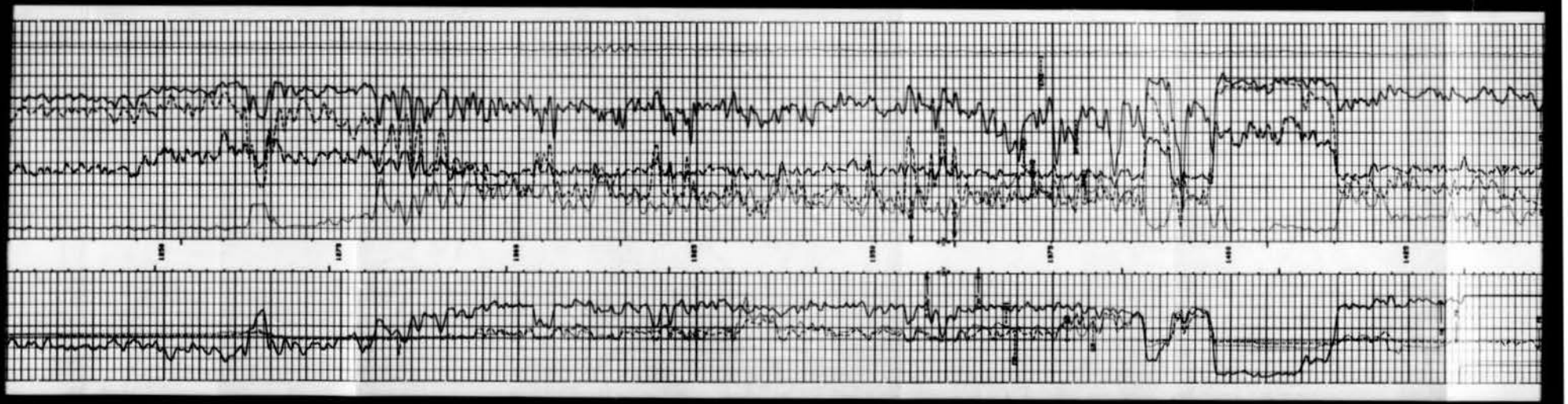
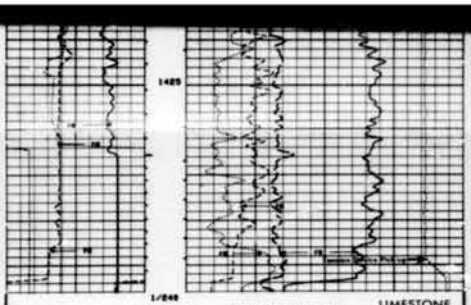
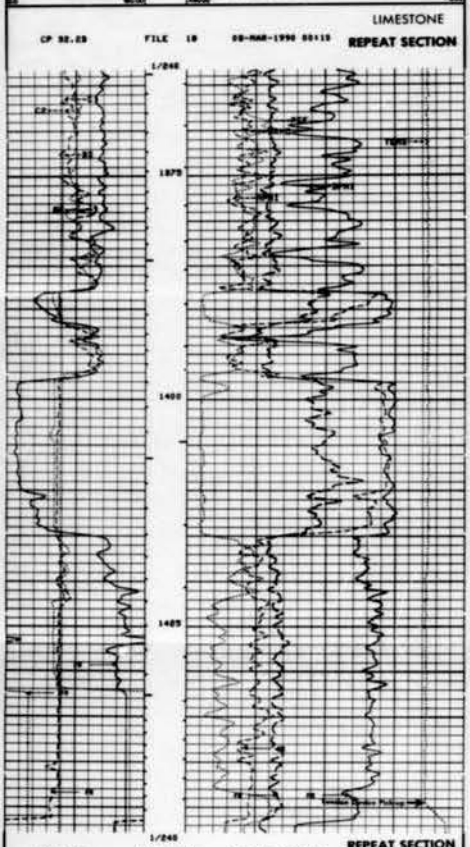
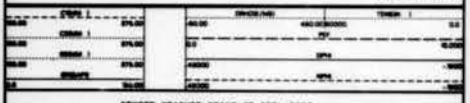


11 of









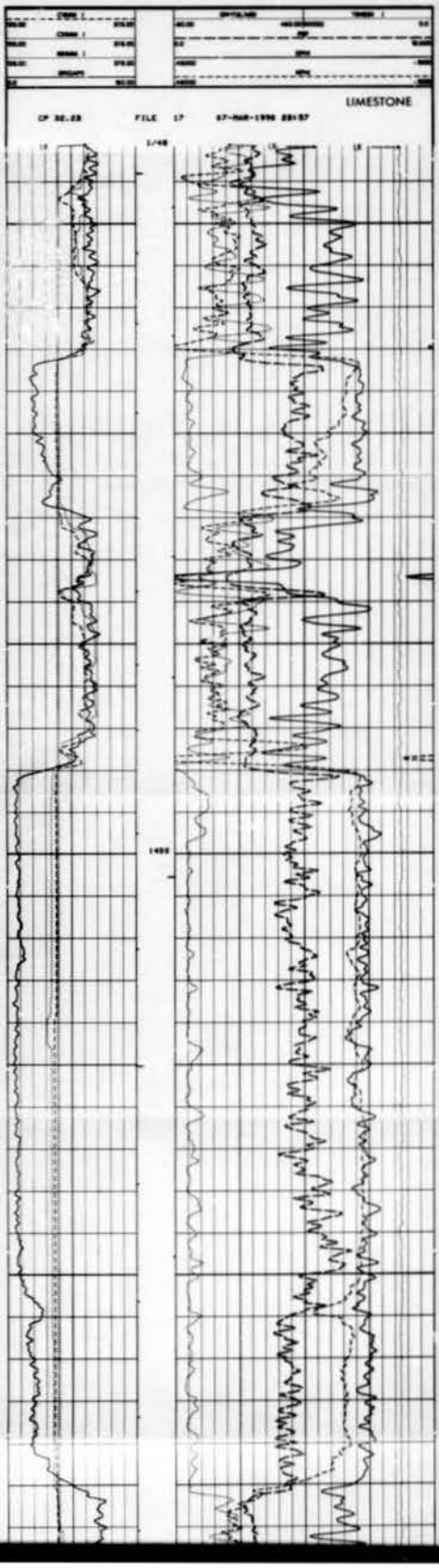
SENSOR MEASURE POINT TO TOOL ZERO

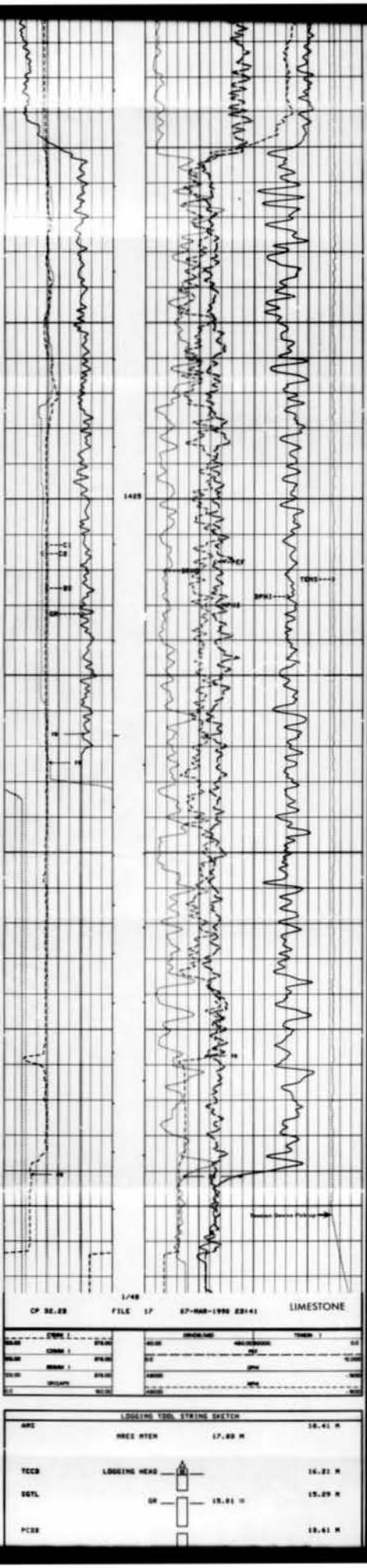
HTEN	17.89 METER	HTEN	-.28 METER
GR	15.01 METER	MRES	17.89 METER
SMLT	8.76 METER	MCAL	8.76 METER
CS	11.94 METER	SA	15.47 METER
CFTC	6.15 METER	SPCS	15.47 METER
LITH	.79 METER	CNTC	5.99 METER
LS	.79 METER	LL	.79 METER
PAMI	.64 METER	LU	.79 METER
SSS	.64 METER	SSI	.64 METER
STCS	.64 METER	STCL	.79 METER
STPS	.64 METER	STPL	.79 METER
LLUC	.79 METER	LLLC	.79 METER
LUUC	.79 METER	LULC	.79 METER
SLUC	.64 METER	SLLC	.64 METER
SUUC	.64 METER	SULC	.64 METER
TENS	-.28 METER	CI	.81 METER
BMIN	8.76 METER	BMND	8.76 METER
MINV	15.47 METER	MNOR	15.47 METER
THRA	6.30 METER		

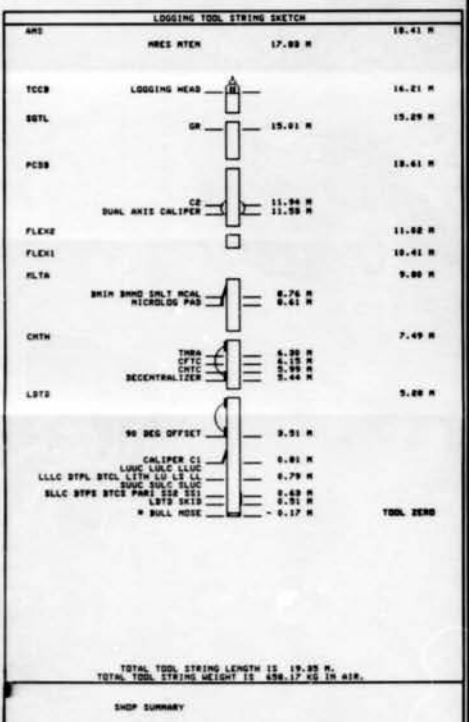
PARAMETERS

PARAMETER	VALUE	UNIT
MMUD - Weight of Mud	1125.00	K/M3
TD - Total Depth	1450.00	M
FCS - FUTURE CASING DIAMETER	177.800	MM
DNC - Density Hole CorrectionS	NONE	
BFM - BOREHOLE FILL MEDIUM	LIQU	
MDEN - MATRIX DENSITY	2710.00	K/M3
FD - FLUID DENSITY	1000.00	K/M3
MATR - Matrix	LIME	
HC - Hole Correction Origin	CI	
MPSC - NEUTRON ALPHA PROCESS DEPTH CONSTANT	0	
HSCD - Hole Size Correction Option	YES	
SDCO - Stand Off Correction Option	NO	
MCCO - Mud Cake Correction Option	NO	
BSCO - Borehole Salinity Correction Option	NO	
FSCO - Formation Salinity Correction Option	NO	
MWCO - Mud Weight Correction Option	NO	
PTCO - Pressure Temperature Correction Option	NO	
SBST - Standoff Data Source	SDCH	
MCOR - Mud Correction	MATU	
SDCH - Stand Off for CNL	18.7988	MM
FSAL - Formation salinity	-50000.0	PPM
ANGL - Angle of Well	0.0	DEG
GGRD - Geothermal Gradient	.0180000	DF/F
BWFL - Borehole Fluid Type	WATE	
GTSE - GENERALIZED TEMPERATURE SELECTION	IGNP	
[illegible]	0.0	DEGC

HHUF	- Height Of Mud	[illegible]	[illegible]
TD	- Total Depth	1456.00	M
FCS	- FUTURE CASING DIAMETER	177.800	MM
BHC	- Generic Hole Correction$	MEDI	
BFM	- BOREHOLE FILL MEDIUM	LIQU	
MDEN	- MATRIX DENSITY	2710.00	K/M3
FD	- FLUID DENSITY	1000.00	K/M3
MATR	- Matrix	LIME	
HC	- Hole Correction Origin	CI	
NPDC	- NEUTRON ALPHA PROCESS DEPTH CONSTANT	0	
HSCO	- Hole Size Correction Option	YES	
SDCO	- Stand Off Correction Option	NO	
MCCO	- Mud Cake Correction Option	NO	
BSCO	- Borehole Salinity Correction Option	NO	
FSCO	- Formation Salinity Correction Option	NO	
MHCO	- Mud Height Correction Option	NO	
PTCO	- Pressure Temperature Correction Option	NO	
SDAT	- Standoff Data Source	SDCH	
MCOR	- Mud Correction	MATU	
SDCH	- Stand Off for CNL	18.7500	MM
FSAL	- Formation salinity	-99999.0	PPM
ANGL	- Angle of Well	0.0	DEG
GGRD	- Geothermal Gradient	.0100000	DF/F
BHFL	- Borehole Fluid Type	WATE	
STEE	- GENERALIZED TEMPERATURE SELECTION	TEMP	
SHT	- Surface Hole Temperature	0.0	DEGC
BHT	- Bottom Hole Temperature	57.0000	DEGC
DTCI	- DIFFERENTIAL TEMPERATURE COMPUTATION INTERVAL	0.0	M
BS	- Bit Size	222.000	MM
BHS	- Bore Hole Status (Open or Cased)	OPEN	




1425
TENS
SPHI
LIMESTONE
LOGGING TOOL STRING SKETCH
LOGGING HEAD



SHOP SUMMARY

PERFORMED: 04-MAR-1990 18:13
PROGRAM FILE: CCSHOP (VERSION 02.2 08/12/91 08/11/90)

CNTH DETECTOR CALIBRATION SUMMARY

NEUTRON COMPENSATED CARTRIDGE NUMBER: 2006
NEUTRON SOURCE SERIAL NUMBER : 2007
THERMAL HOUSING NUMBER : 2166
THERMAL CALIBRATED NEUTRON BOX : 3001

INPUT	PLUS REFERENCE COUNTS	SHOP TANK COUNTS	SHOP JIG COUNTS	GAIN
CNTC	6031.00	5998.40	3143.50	1.016
CFTC	2799.00	2545.14	1303.63	1.097
RATIO	2.159	2.333	2.357	

SHOP COUNTS TEMPERATURE AND HOUSING SIZE CORRECTED

BKGD: 04-MAR-1990 16:07 TANK: 04-MAR-1990 16:17 COMP: 04-MAR-1990 16:32

LDTB DETECTOR CALIBRATION SUMMARY

DENSITY RESISTIVITY SONDE NUMBER : 4967
NUCLEAR SERVICE CARTRIDGE NUMBER : 1993
POWERED DETECTOR HOUSING NUMBER : 3030
POWERED GAMMA-GAMMA DETECTOR NUMBER : 3059
LDT LOGGING SOURCE NUMBER : 7192
LDT CALIBRATION MODE : WATE

MASTER CALIBRATED

	BKGD	AL+FE	AL	UNITS
LL	18.1	82.0	86.0	CPS
LU	49.0	185.9	189.4	CPS
LS	52.6	144.4	150.7	CPS
LITH	5.2	36.7	32.4	CPS
SSI	15.9	179.1	184.1	CPS
SSU	18.5	245.6	253.4	CPS

HV SETTINGS
HV LS: 1302.0 V
HV SS: 1174.0 V

DETECTOR RESOLUTIONS
LS: 8.4 %
SS: 8.4 %

SPECTRUM QUALITY RATIOS

	COMPUTED VALUE	NOMINAL VALUE	TOLERANCE
QRLS	.664	0.65	+/- 0.03
QRSS	.726	0.72	+/- 0.10
QRLI	.948	0.95	+/- 0.06
QLIR	1.379	1.35	+/- 0.06
QR	1.014	1.00	+/- 0.02

BKGD: 04-MAR-1990 17:18 AL: 04-MAR-1990 17:43 AL+FE: 04-MAR-1990 17:58

CP 88.2 FILE 1 04-MAR-1990 18:13

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 07-MAR-1990 15:15
PROGRAM FILE: GYSAP (VERSION 02.2B 90/01/18 08/11/90)

SGTL DETECTOR CALIBRATION SUMMARY

	MEASURED BKGD	JIG	CALIBRATED	UNITS
GR	20	197	165	GAPI

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 14:59 COMP: 07-MAR-1990 15:06

CNTH DETECTOR CALIBRATION SUMMARY

NEUTRON COMPENSATED CARTRIDGE NUMBER: 2006
NEUTRON SOURCE SERIAL NUMBER : 2007
THERMAL HOUSING NUMBER : 2166
THERMAL CALIBRATED NEUTRON BOX : 3001

INPUT	PLUS REFERENCE COUNTS	SHOP TANK COUNTS	SHOP JIG COUNTS	BEFORE JIG COUNTS	GAIN
CNTC	6031.00	5998.40	3143.50	3074.83	1.016
CFTC	2799.00	2545.14	1303.63	1338.95	1.097
RATIO	2.159	2.333	2.357	2.296	

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 15:06 COMP: 04-MAR-1990 18:41

LDTB DETECTOR CALIBRATION SUMMARY

DENSITY RESISTIVITY SONDE NUMBER : 4967
NUCLEAR SERVICE CARTRIDGE NUMBER : 1993
POWERED DETECTOR HOUSING NUMBER : 3030
POWERED GAMMA-GAMMA DETECTOR NUMBER : 3059
LDT LOGGING SOURCE NUMBER : 7192
LDT CALIBRATION MODE : WATE

MEASURED SHOP VALUES

	BKGD	AL+FE	AL	UNITS
LL	18.0	82.0	86.0	CPS
LU	49.0	185.9	189.4	CPS
LS	52.4	144.6	150.7	CPS
LITH	5.2	36.7	32.4	CPS
SSI	15.8	179.1	184.1	CPS
SSU	18.5	245.6	253.4	CPS

HV SETTINGS
HV LS: 1300.6 V
HV SS: 1167.1 V

DETECTOR RESOLUTIONS
LS: 8.4 %
SS: 8.4 %

BKGD: 07-MAR-1990 14:55

RLTA ELECTRONICS CALIBRATION SUMMARY

	MEASURED ZERO	PLUS	CALIBRATED ZERO	PLUS	UNITS
BMIN	.0	4.7	0.0	5.0	OHMM
BMNO	.0	6.5	0.0	6.7	OHMM

POWERED DETECTOR HOUSING NUMBER : 3030
POWERED GAMMA-GAMMA DETECTOR NUMBER : 3059
LST LOGGING SOURCE NUMBER : 7192
LST CALIBRATION MODE : WATE

MASTER CALIBRATED

	BKGD	AL+FE	AL	UNITS
LL	18.1	82.0	86.0	CPS
LU	69.0	125.3	129.4	CPS
LS	52.4	144.6	150.7	CPS
LITH	5.2	36.7	52.4	CPS
SSI	15.8	179.1	184.1	CPS
SSU	10.5	245.6	259.4	CPS

HV SETTINGS
HV LS: 1302.0 V
HV SS: 1174.0 V

DETECTOR RESOLUTIONS
LS: 8.4 %
SS: 8.4 %

SPECTRUM QUALITY RATIOS

	COMPUTED VALUE	NOMINAL VALUE	TOLERANCE
GRLS	.664	0.63	+/- 0.05
GRSS	.726	0.72	+/- 0.10
GRLI	.948	0.95	+/- 0.06
GLIR	1.070	1.05	+/- 0.06
GR	1.014	1.00	+/- 0.02

BKGD: 04-MAR-1990 17:10 AL: 04-MAR-1990 17:48 AL+FE: 04-MAR-1990 17:50

CP 52.2 FILE 1 04-MAR-1990 18:10

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 07-MAR-1990 15:15
PROGRAM FILE: GTSAP (VERSION 52.29 90/01/18 88/11/30)

SGTL DETECTOR CALIBRATION SUMMARY

	MEASURED BKGD	MEASURED JIG	CALIBRATED	UNITS
GR	28	197	165	GAPI

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 14:59 COMP: 07-MAR-1990 15:06

CNTH DETECTOR CALIBRATION SUMMARY

NEUTRON COMPENSATED CARTRIDGE NUMBER: 2006
NEUTRON SOURCE SERIAL NUMBER : 2027
THERMAL HOUSING NUMBER : 2166
THERMAL CALIBRATED NEUTRON BOX : 3031

INPUT	PLUS REFERENCE COUNTS	SHOP TANK COUNTS	SHOP JIG COUNTS	BEFORE JIG COUNTS	GAIN
CNTC	6031.00	5998.40	3143.50	3074.02	1.016
CFTC	2798.00	2543.14	1333.63	1398.95	1.097
RATIO	2.159	2.359	2.357	2.296	

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 15:06 COMP: 04-MAR-1990 18:41

LSTS DETECTOR CALIBRATION SUMMARY

DENSITY RESISTIVITY SONDE NUMBER : 4967
NUCLEAR SERVICE CARTRIDGE NUMBER : 1993
POWERED DETECTOR HOUSING NUMBER : 3030
POWERED GAMMA-GAMMA DETECTOR NUMBER : 3059
LST LOGGING SOURCE NUMBER : 7192
LST CALIBRATION MODE : WATE

	MEASURED BKGD	SHOP VALUES AL+FE	SHOP VALUES AL	UNITS
LL	18.0	82.0	86.0	CPS
LU	69.0	125.3	129.4	CPS
LS	52.4	144.6	150.7	CPS
LITH	5.2	36.7	52.4	CPS
SSI	15.8	179.1	184.1	CPS
SSU	10.5	245.6	259.4	CPS

HV SETTINGS
HV LS: 1308.6 V
HV SS: 1187.1 V

DETECTOR RESOLUTIONS
LS: 8.4 %
SS: 8.4 %

BKGD: 07-MAR-1990 14:55

MLTN ELECTRONICS CALIBRATION SUMMARY

	MEASURED ZERO	MEASURED PLUS	CALIBRATED ZERO	CALIBRATED PLUS	UNITS
BMIN	.0	4.7	0.0	5.0	OHMM
BMNO	.0	6.5	0.0	6.7	OHMM

MLTN CALIPER CALIBRATION SUMMARY

	MEASURED SMALL	MEASURED LARGE	CALIBRATED SMALL	CALIBRATED LARGE	UNITS
MCAL	212.54	298.0	203.20	304.8	MM

PCSS ELECTRONICS CALIBRATION SUMMARY

	MEASURED ZERO	MEASURED PLUS	CALIBRATED ZERO	CALIBRATED PLUS	UNITS
MINV	0.0	0.0	0.0	0.0	OHMM
MNOR	0.0	0.0	0.0	0.0	OHMM

ZERO: 07-MAR-1990 15:02 PLUS: 07-MAR-1990 14:51 COMP: 07-MAR-1990 15:02

PCSS CALIPER CALIBRATION SUMMARY

	MEASURED SMALL	MEASURED LARGE	CALIBRATED SMALL	CALIBRATED LARGE	UNITS
CS	257.77	357.0	203.20	304.8	MM
SA	0.0	0.0	0.0	0.0	MM

SMALL: 07-MAR-1990 15:02 LARGE: 07-MAR-1990 14:51 COMP: 07-MAR-1990 15:02

LSTS CALIPER CALIBRATION SUMMARY

	MEASURED SMALL	MEASURED LARGE	CALIBRATED SMALL	CALIBRATED LARGE	UNITS
CI	178.44	259.2	203.20	304.8	MM

SMALL: 07-MAR-1990 14:51 LARGE: 07-MAR-1990 15:00 COMP: 07-MAR-1990 15:01

CP 52.29 FILE 1 07-MAR-1990 15:14

AFTER SURVEY TOOL CHECK SUMMARY

PERFORMED: 08-MAR-1990 02:28
PROGRAM FILE: GTSAP (VERSION 52.29 90/01/18 88/11/30)

CNTH TOOL CHECK

INPUT	BEFORE JIG	AFTER JIG
CNTC	3074.02	3072.43
CFTC	1398.95	1342.45

CHANGE IN THERMAL POROSITY AT 20 PU IS -.115 PU

BEFORE SURVEY: BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 15:06
AFTER SURVEY CHECK: BACK: JIG: 08-MAR-1990 02:26

LSTS TOOL CHECK

DENSITY RESISTIVITY SONDE NUMBER : 4967
NUCLEAR SERVICE CARTRIDGE NUMBER : 1993
POWERED DETECTOR HOUSING NUMBER : 3030
POWERED GAMMA-GAMMA DETECTOR NUMBER : 3059
LST LOGGING SOURCE NUMBER : 7192
LST CALIBRATION MODE : WATE

	MEASURED BACKGROUND BEFORE	MEASURED BACKGROUND AFTER	UNITS	TOLERANCE ON BEFORE-AFTER
LL	18.0	17.9	CPS	+/- 1.0
LU	69.0	68.9	CPS	+/- 1.0
LS	52.4	52.4	CPS	+/- 1.0
LITH	5.2	5.2	CPS	+/- 0.5
SSI	15.8	15.8	CPS	+/- 0.5
SSU	10.5	10.5	CPS	+/- 0.5

HV SETTINGS
HV LS: 1304.6 V
HV SS: 1182.5 V

DETECTOR RESOLUTIONS
LS: 8.4 %
SS: 8.4 %

BKGD
BEFORE SURVEY: 07-MAR-1990 14:55 AFTER SURVEY: 08-MAR-1990 02:28

CP 52.29 FILE 21 08-MAR-1990 02:28

COMPANY	PETRO CANADA INC.
WELL	FOI ISLAND LAKE N-45
FIELD	WILDCAT
TERRITORY	N.W.T.

Schlumberger

COMPENSATED NEUTRON LITHO-DENSITY

Log 16

OTTAWA COPY

MICROLOG

COMPANY PETRO CANADA INC.
WELL PO ISLAND LAKE N-45
FIELD WILDCAT
TERRITORY N.W.T.

Elev. Measured From	KELLY BUSHING	4.0 M	above Perm. Datum
Log Measured From	KELLY BUSHING	4.0 M	
Drill Measured From	KELLY BUSHING	4.0 M	

GROUND LEVEL	Elev.	404.4 M	
LAT. MERIDIAN, INC.	SECT.	TWP.	RANGE
Other Services: DIPLOG, P.E. SONIC, CAL, GR, MICROLOG			
Date	08-Mar-1990		
Run No.	ONE		
Depth-Driller	1.410 M		
Depth-Logger	1.412 M		
Bottom Log Interval	1.412 M		
Top Log Interval	1.000.5 M		
Casing-Driller	244.5 M @ 0.0 M		
Casing-Logger	244.5 M		
Bit Size	311.1 MM		
Type Fluid in Hole	FRESH WATER		
Dens.	1.0 G/CC		
Visc.	0.0 S		
pH	0.0		
Fluid Loss	0.0 C3		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp.	0.0 OHMM @ 0.0 DEGC		
Rmf @ Meas. Temp.	0.0 OHMM @ 0.0 DEGC		
Rmc @ Meas. Temp.	0.0 OHMM @ 0.0 DEGC		
Source: Rmf / Rmc	MEASURED / MEASURED		
Rm @ BHT	0.0 OHMM @ 0.0 DEGC		
Time Since Circ.	0.0 HRS		
Max. Rec. Temp.	0.0 DEGC		
Equip. Location	0.0		
Recorded By	0.0		
Witnessed By	0.0		

The well name, location and location reference data were furnished by the operator.

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

Run No.	ONE
Service Order No.	47030
Rotary Table Level	0.0 M
Bit Size	311 MM
Max. Rec. Temp.	0.0 DEGC
Rmf @ BHT	0.0 OHMM @ 0.0 DEGC
Rmc @ BHT	0.0 OHMM @ 0.0 DEGC
Logging Speed	9000.0 F/HR
DIPLOG/PROXIMITY DATA	
Trial Number 1	DRE C 4887
Trial Number 2	NSC E 1883
Trial Number 3	POV L 3202
Trial Number 4	CHU HE 2288
Trial Number 5	MLY A 106
Trial Number 6	SAY CX 1048
Trial Number 7	SGC EA 410
Trial Number 8	TCC B 807
Trial Number 9	TOW AB 588
Trial Number 10	
Trial Number 11	NBR FA 2207
Trial Number 12	DRE JD 780

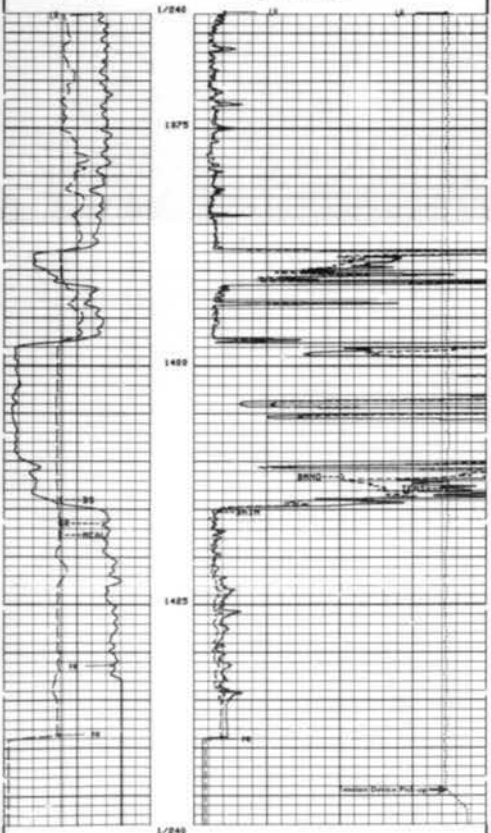
REMARKS:

LAT : NORTH 60 DEGREES - 4 MINUTES - 58.62 SECONDS
LONG : WEST 128 DEGREES - 53 MINUTES -0 34.34 SECONDS
SCALES AND PRESENTATIONS AS PER CLIENT REQUEST
CNL ECCENTRALIZED WITH BOWSPRING
LBT ECCENTRALIZED WITH 90 DEGREE HARDWARE
4 METERS OF FILL BETWEEN TDL AND TDD
REORIENTATION ATTEMPTS AT 1298 AND 983 METERS

SGAM 1 — 0.0 — 375.00
DIPGAPS — 0.0 — 90.00
MCALIBM 1 — 0.0 — 375.00
TENSN 1 — 30000. — 0.0
BARCHART — 0.0 — 40.000
BARCHART — 0.0 — 40.000

CP 32.28 FILE 32 08-MAR-1990 04:17
INPUT FILE(S) 19 DATA ACQUIRED 08-MAR-1990 00:28

1/240



1/240

CP 32.28 FILE 32 08-MAR-1990 04:18
INPUT FILE(S) 19 DATA ACQUIRED 08-MAR-1990 00:14

SGAM 1 — 0.0 — 375.00
DIPGAPS — 0.0 — 90.00
MCALIBM 1 — 0.0 — 375.00
TENSN 1 — 30000. — 0.0
BARCHART — 0.0 — 40.000
BARCHART — 0.0 — 40.000

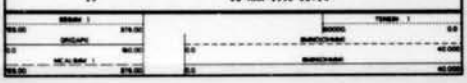
SGAM 1 — 0.0 — 375.00
DIPGAPS — 0.0 — 90.00
MCALIBM 1 — 0.0 — 375.00
TENSN 1 — 30000. — 0.0
BARCHART — 0.0 — 40.000
BARCHART — 0.0 — 40.000

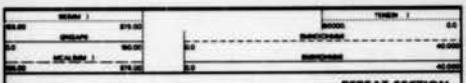
REPEAT SECTION

CP 32.23 FILE 32 08-MAR-1990 04:18

INPUT FILE(S)
19

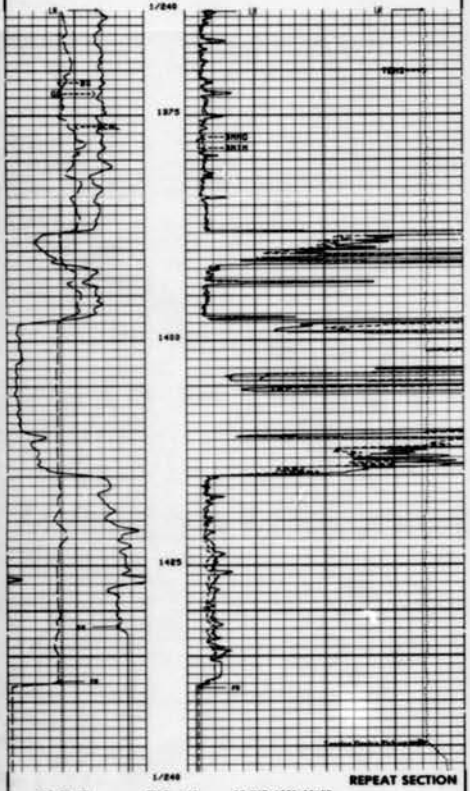
DATA ACQUIRED
08-MAR-1990 08:14





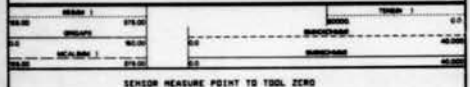
REPEAT SECTION

CP 32.23 FILE 18 08-MAR-1990 08:10



REPEAT SECTION

CP 32.23 FILE 18 08-MAR-1990 08:10

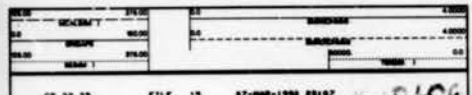


SENSOR MEASURE POINT TO TOOL ZERO

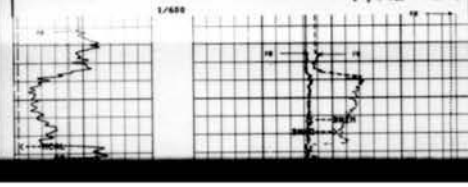
HTEN	17.83 METER	HTEN	-.28 METER
GR	15.01 METER	HMES	17.83 METER
SMLT	8.76 METER	MCAL	8.76 METER
CS	11.94 METER	SA	15.47 METER
CFTC	6.15 METER	SPCS	15.47 METER
LITH	.79 METER	CNTC	5.99 METER
LS	.79 METER	LL	.79 METER
PARI	.64 METER	LU	.79 METER
SIZ	.64 METER	SSI	.64 METER
STCS	.64 METER	STCL	.79 METER
STPS	.64 METER	STPL	.79 METER
LLUC	.79 METER	LLLC	.79 METER
LUUC	.79 METER	LULC	.79 METER
SLUC	.64 METER	SLLC	.64 METER
SUUC	.64 METER	SULC	.64 METER
TEMS	-.28 METER	CI	.81 METER
BRIN	8.76 METER	BRHO	8.76 METER
RINV	15.47 METER	RHOB	15.47 METER
TMRA	6.30 METER		

PARAMETERS

PARAMETER	VALUE	UNIT
MRUS - Weight of Mud	1125.00	K/M3
TD - Total Depth	1450.00	M
FCS - FUTURE CASING DIAMETER	177.800	MM
BHC - Benetty Hole Correction3	NONE	
BFM - BOREHOLE FILL MEDIUM	LIQU	
RDEN - MATRIX DENSITY	2710.00	K/M3
FD - FLUID DENSITY	1000.00	K/M3
MATR - Matrix	LIME	
MC - Hole Correction Origin	CS	
MPDC - NEUTRON ALPHA PROCESS DEPTH CONSTANT	0	
HSCO - Hole Size Correction Option	YES	
SDCO - Stand Off Correction Option	NO	
MCCO - Mud Cake Correction Option	NO	
BSCO - Borehole Salinity Correction Option	NO	
FSCO - Formation Salinity Correction Option	NO	
MWCO - Mud Weight Correction Option	NO	
PTCO - Pressure Temperature Correction Option	NO	
SDAT - Standoff Data Source	SDCH	
MCOR - Mud Correction	MATU	
SDCH - Stand Off for CNL	12.7000	MM
FSAL - Formation salinity	-50000.0	PPM
ANGL - Angle of Well	0.0	DEG
GGRD - Geothermal Gradient	.0100000	DF/F
BHFL - Borehole Fluid Type	WATE	
STSE - GENERALIZED TEMPERATURE SELECTION	TEMP	
SHT - Surface Hole Temperature	0.0	DEGC
BHT - Bottom Hole Temperature	57.0000	DEGC
STCI - DIFFERENTIAL TEMPERATURE COMPUTATION INTERVAL	0.0	M
BS - Bit Size	222.000	MM
BHI - Bore Hole Status (Open or Cased)	OPEN	



CP 32.23 FILE 15 07-MAR-1990 20:07



CP 32.2B FILE 15 07-MAR-1990 23:07

1/600

1000

1050

1100

1150

1200

1/600

CP 32.2B FILE 15 07-MAR-1990 23:10

(W) 0 A

LOGGING TOOL STRING SKETCH

AMS			18.41 M
	MRCS MTEM	17.88 M	
TCCB	LOGGING HEAD		16.21 M
SGTL	GR	15.01 M	15.29 M
PCSD			13.61 M
	CE	11.94 M	
	DUAL AXIS CALIPER	11.59 M	
FLEX2			11.02 M
FLEX1			10.41 M
MLTA			9.00 M
	BMIN BMND SMLT MCAL	8.76 M	
	MICROLOG PAD	7.41 M	
CNTH			7.49 M
	THRA	6.30 M	
	CFTC	6.13 M	
	CNTC	5.99 M	
	DECENTRALIZER	5.44 M	
LSTB			5.28 M
	90 DEG OFFSET	3.51 M	
	CALIPER C1	0.81 M	
	LUUC LULC LLUC		
	LLLC BTPL BTCL LITH LU LS LL	0.79 M	
	SUUC SULC SLUC		
	SLLC BTPS BTCS PAR1 ISS ISL	0.63 M	
	LSTB SKID	0.51 M	
	* BULL NOSE	- 0.17 M	TOOL ZERO

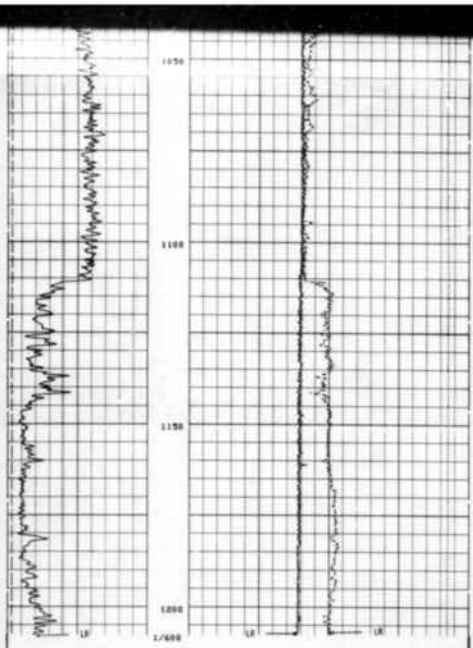
TOTAL TOOL STRING LENGTH IS 19.85 M.
TOTAL TOOL STRING WEIGHT IS 658.17 KG IN AIR.

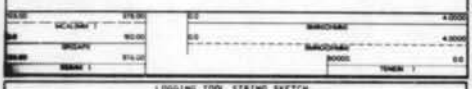
BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 07-MAR-1990 15:15
PROGRAM FILE: GYSAP (VERSION 32.2B 90/01/16 88/11/30)

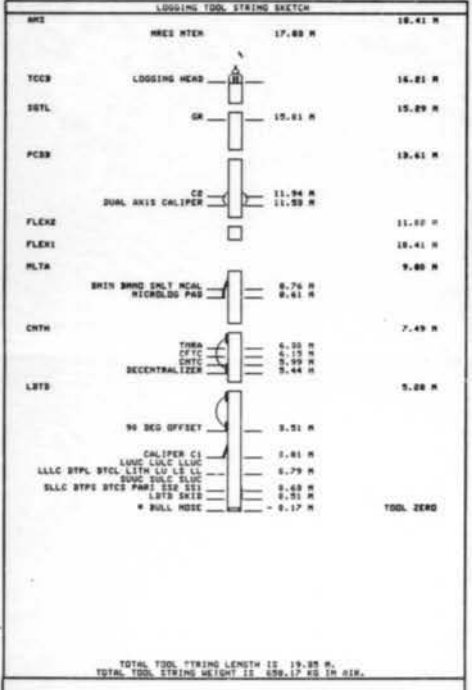
SGTL DETECTOR CALIBRATION SUMMARY

	MEASURED BKGD	MEASURED JIG	CALIBRATED	UNITS
GR	28	197	163	GAPI





LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 19.95 M.
TOTAL TOOL STRING WEIGHT IS 659.17 KG IN AIR.

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 07-MAR-1990 15:15
PROGRAM FILE: GTSAP (VERSION 02.29 90/01/18 88/11/30)

SGTL DETECTOR CALIBRATION SUMMARY

	MEASURED BKGD	JIG	CALIBRATED	UNITS
GR	28	197	165	GAPI

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 14:59 COMP: 07-MAR-1990 15:06

MLTA ELECTRONICS CALIBRATION SUMMARY

	MEASURED ZERO	PLUS	CALIBRATED ZERO	PLUS	UNITS
BRIN	.0	4.7	0.0	5.0	OHMM
BRNO	.0	6.5	0.0	6.7	OHMM

MLTA CALIPER CALIBRATION SUMMARY

	MEASURED SMALL	LARGE	CALIBRATED SMALL	LARGE	UNITS
MCAL	212.54	298.0	203.20	304.8	MM

CF 02.29 FILE 1 07-MAR-1990 15:14

COMPANY	PETRO CANADA INC.
WELL	PCI ISLAND LAKE N-45
FIELD	WILDCAT
TERRITORY	N.W.T.

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BOREHOLE COMPENSATED SONIC

COMPANY PETRO CANADA INC.

WELL PCI ISLAND LAKE N-45

FIELD WILDCAT

TERRITORY N.W.T.

Other Services: PHASOR DIPL, BHC SONIC CNL-LDL-GR NAGROLDS LOGNET

API SERIAL NO. | SECT. | TWP. | RANGE

Permanent Datum: GROUND LEVEL | Elev. 505.4 M
Log Measured From: KELLY BUSHING 4.0 M above Perm. Datum
Drilling Measured From: KELLY BUSHING

Date	7-MAR-90
Run No.	ONE
Depth Driller	1447.0 M
Depth Logger (Sch.)	1448.0 M
Bott. Log Interval	1450.0 M
Top Log Interval	400.0 M
Casing-Driller	344.8 MM @ 400.0 M
Casing-Logger	400.0 M
Bit Size	222 MM
Type Fluid in Hole	GEL CHEM
Density / Visc.	1.05 G/MM / 70.0 S
pH / Fluid Loss	10.0 / 5.0 ML
Source of Sample	FLOWLINE
Rm @ Meas. Temp.	3.600 OHMM @ 16.0 DEGC
Rmf @ Meas. Temp.	4.230 OHMM @ 16.0 DEGC
Rmc @ Meas. Temp.	3.990 OHMM @ 16.0 DEGC
Source: Rmf / Rmc	MEASURED / MEASURED
Rm @ BHT	1.701 OHMM @ 46.0 DEGC
Circulation Ended	19:00/07
Logger on Bottom	19:30/07
Max. Rec. Temp.	46.0 DEGC
Equip. Location	0506 GRANDE PRAIRIE
Recorded By	EARL HAYTON
Witnessed By	MR. HAL CINETTE

REMARKS:

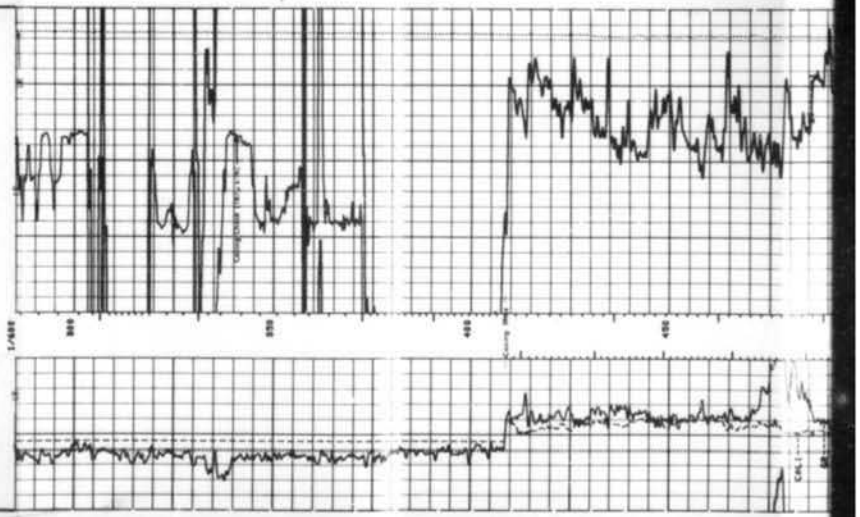
LAT: 1 NORTH 68 DEGREES - 4 MINUTES - 38.63 SECONDS
LONG: 1 WEST 135 DEGREES - 53 MINUTES - 0 34.34 SECONDS
SCALES AND PRESENTATION AS PER CLIENT REQUEST
SONIC CENTRALIZED WITH A CRC-77 3 SMOOTH CALIPER ARM
SONIC CENTRALIZED WITH A CRC-77 3 SMOOTH CALIPER ARM
2 METERS OF FILL, BETWEEN INITIAL REPEAT AND MAIN PASS
SP ZERO SHIFTS MADE AT 890, 1040, AND 1440 METERS

EVENT MARK SUMMARY:

OUTPUT INTERVAL, DEPTH TRACK
SELECTED PIPS EDGE
INV .100000 MS LEFT EDGE
ITT .045000000 S RIGHT EDGE

CEMENT VOLUME = 20.5478 M3 (ASSUMING 177.800 MM O.D. CASING)
HOLE VOLUME = 38.2149 M3
FROM 1449.90 TO 400.00 METE

CP NO.23 FILE 9 07-MAR-1990 20:46



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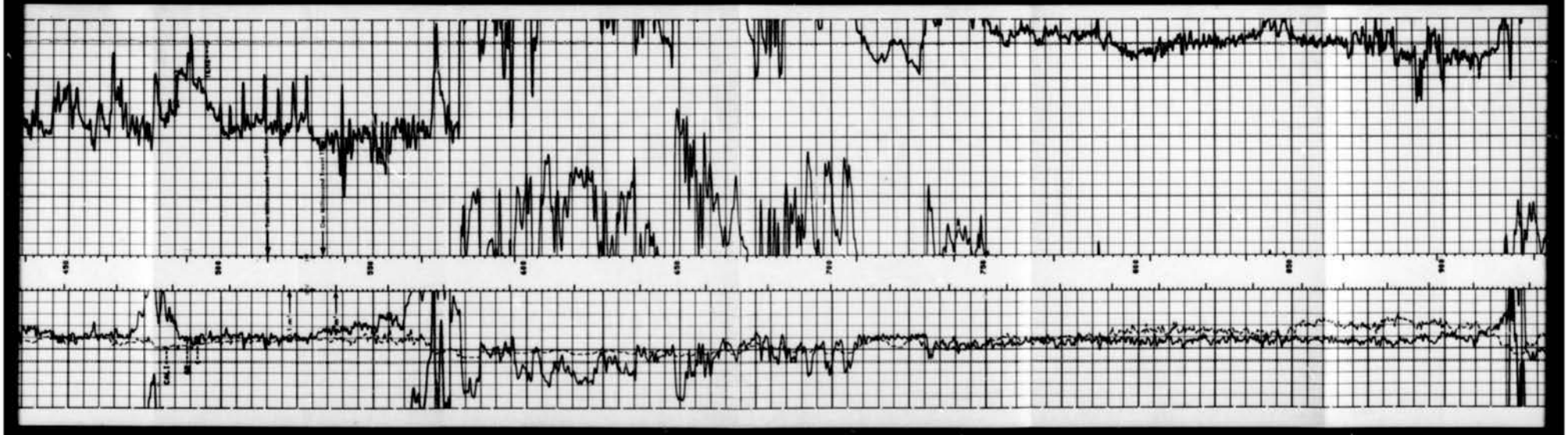

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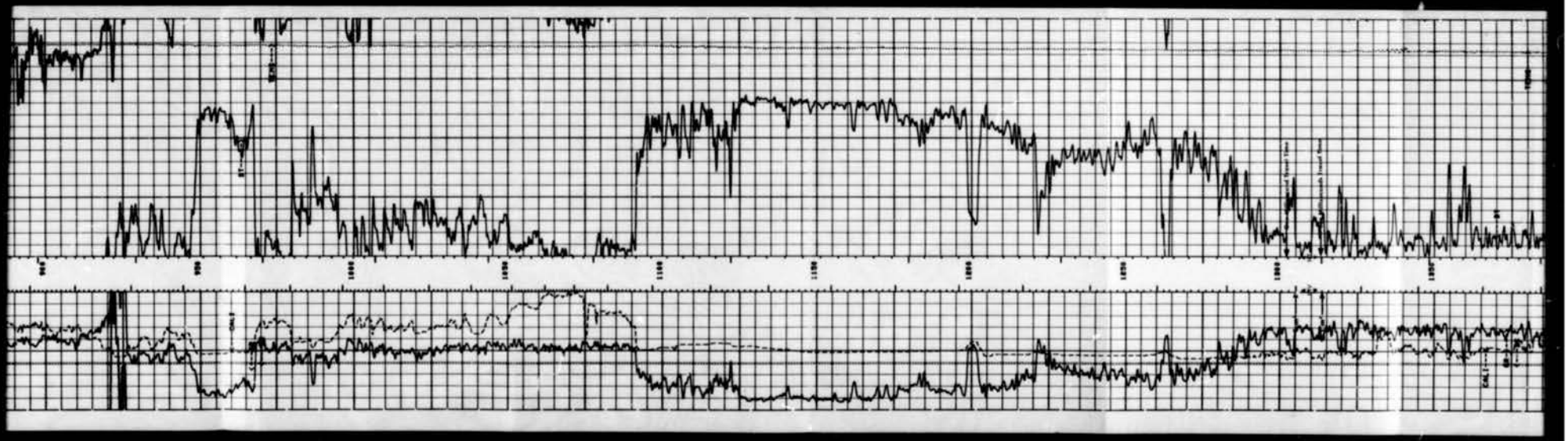
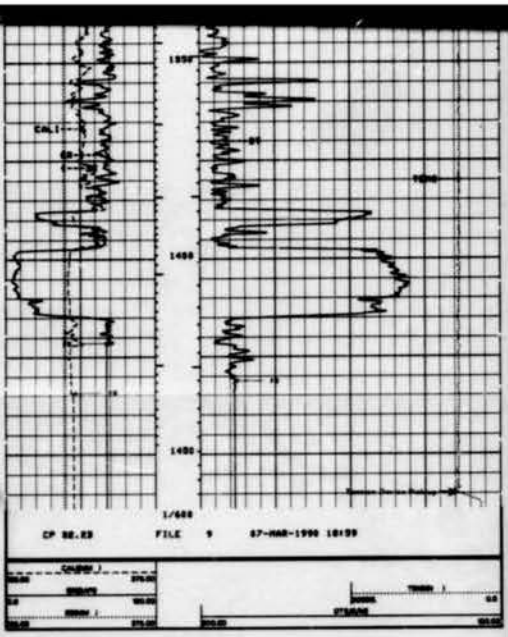
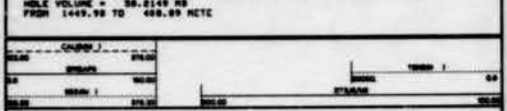


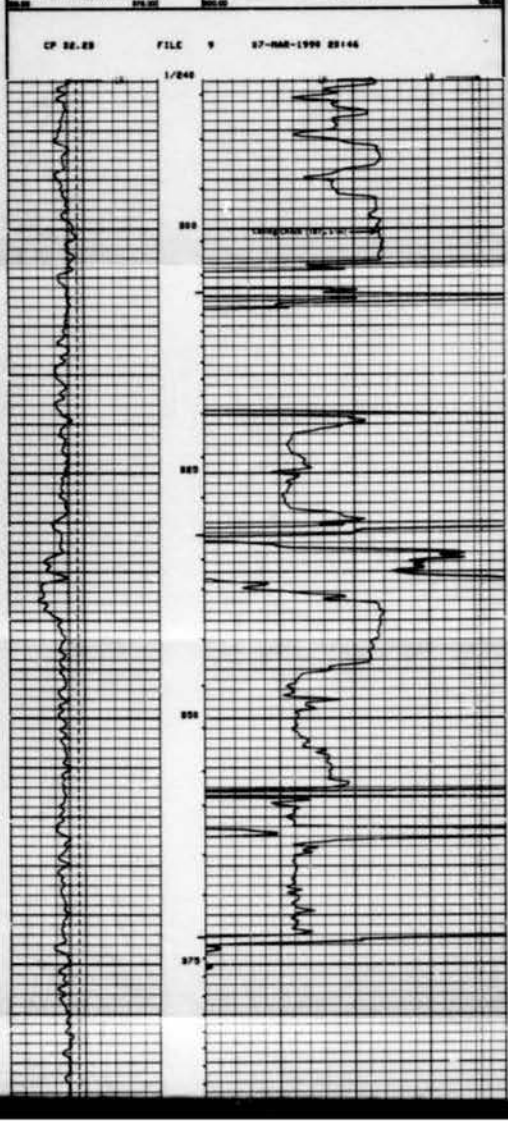


EVENT MARK SUMMARY:

OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
INV	.100000 MS	LEFT EDGE
ITT	.00100000 S	RIGHT EDGE

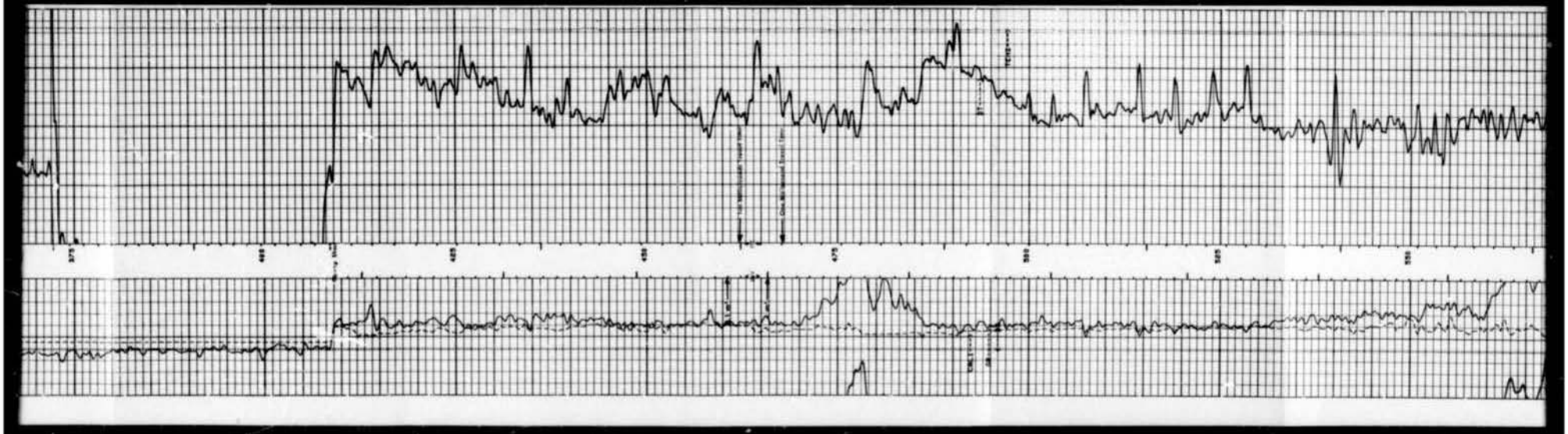
CEMENT VOLUME = 32.3672 MS (ASSUMING 177.800 MM O.D. CASING)
HOLE VOLUME = 50.2149 MS
FROM 1449.98 TO 400.89 METC





4 of

5 of



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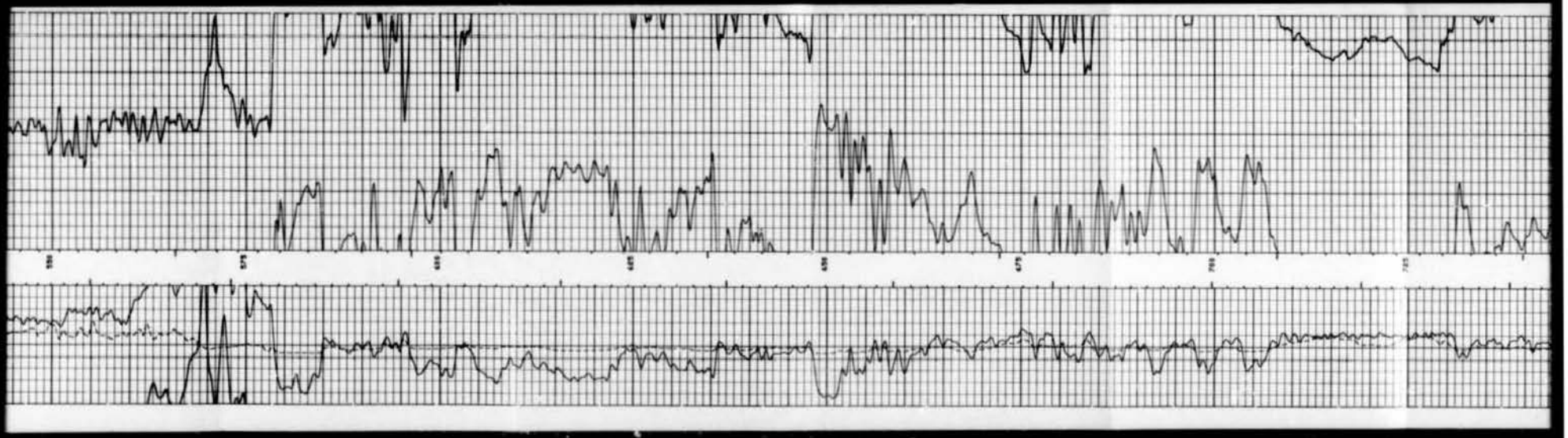
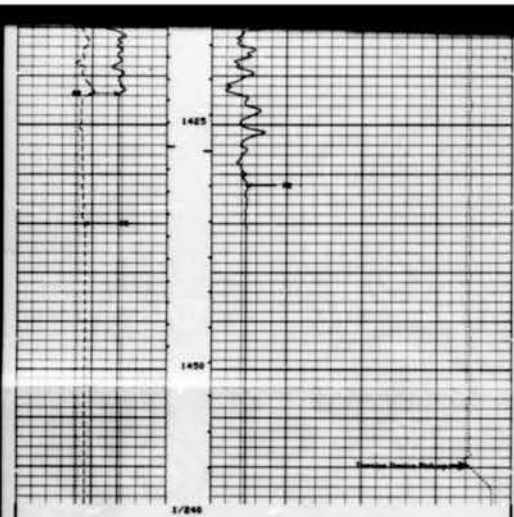


7 of

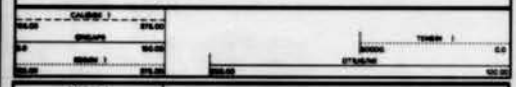
8 of

9 of


1250
1275
1300
1325
1350
1375
1400
1425



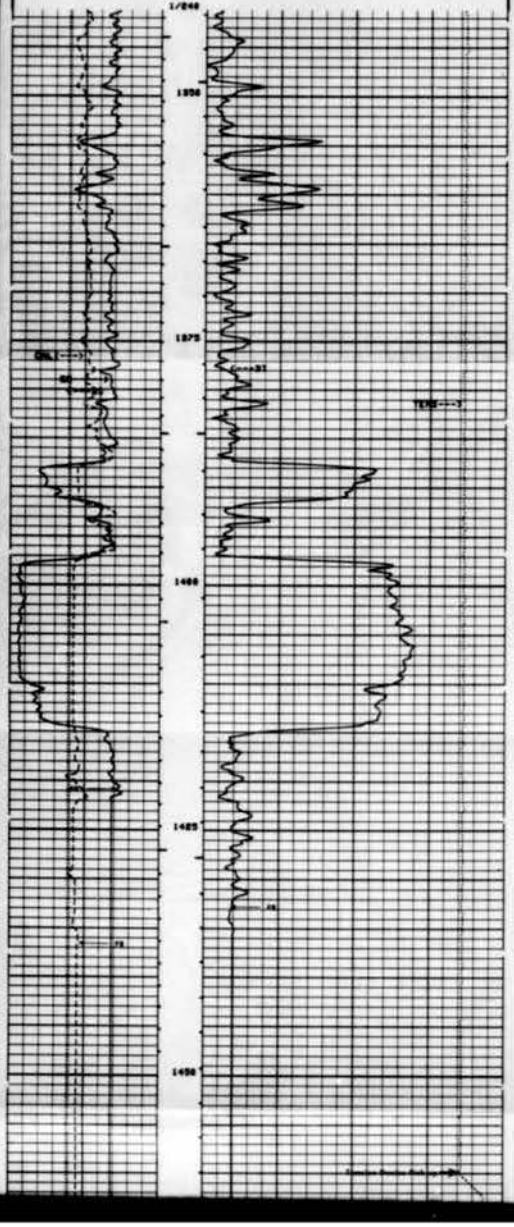
CP 92.23 FILE 9 07-MAR-1990 18:59

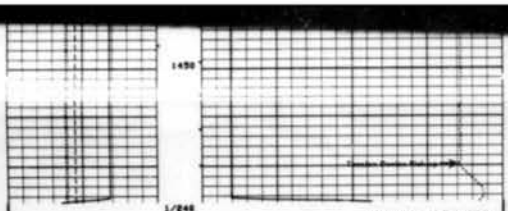


REPEAT SECTION

CP 92.23 FILE 12 07-MAR-1990 20:57

INPUT FILE(S) DATA ACQUIRED
6 07-MAR-1990 18:54





CP 88.89 FILE 12 07-MAR-1990 20:54

REPEAT SECTION

INPUT FILE(S)
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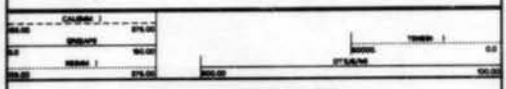
05- -1990 00:00



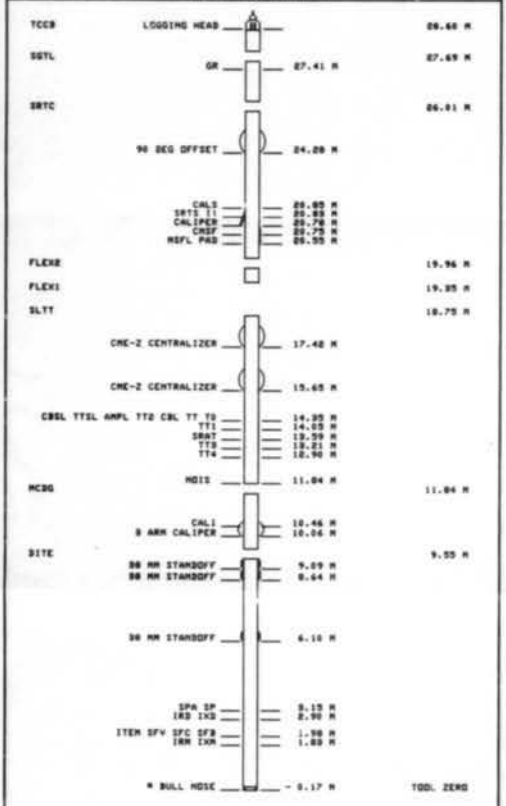
SENSOR MEASURE POINT TO TOOL ZERO

SRTS	20.88 METER	SP	9.15 METER
CALI	10.46 METER	CALZ	20.85 METER
AMPL	14.85 METER	GR	27.41 METER
CBL	14.85 METER	SRAT	13.59 METER
TT2	14.85 METER	TT1	14.05 METER
TT4	10.96 METER	TT3	13.21 METER
TT	14.85 METER	T0	14.85 METER
CBSL	14.85 METER	TTSL	14.85 METER
IRM	1.88 METER	IXM	1.88 METER
ITEM	1.98 METER	IXS	2.90 METER
SF9	1.98 METER	SPA	9.15 METER
SFV	1.98 METER	SFC	1.98 METER
TEMS	-14.3 METER	IRS	2.90 METER
CMSF	20.75 METER	I1	20.88 METER
MDIS	-14.3 METER		

PARAMETERS

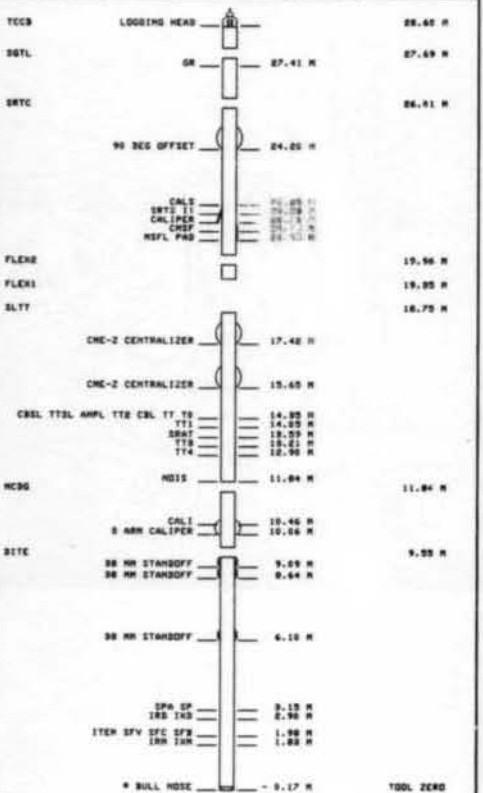
PARAMETER	VALUE	UNIT
PP - PAD PRESSURE	NORM	
DO - DEPTH OFFSET	-.000000	M
WMUD - Weight of Mud	1183.00	K/M3
TD - Total Depth	1450.00	M
FCD - FUTURE CASING DIAMETER	177.800	MM
IFR2 - DIT-E Induction Frequency Selector	20	KHZ
ISR - Side Bed Correction Factor	1.00000	OHMM
MXE2 - Medium Guard 20 kHz Sonde Error Correction	66.2128	MM/M
SXE2 - Deep Guard 20 kHz Sonde Error Correction	108.458	MM/M
MRE2 - Medium Real 20 kHz Sonde Error Correction	12.4846	MM/M
SRE2 - Deep Real 20 kHz Sonde Error Correction	13.4399	MM/M
MPH2 - Medium 20 kHz Phase Shift	-.956900	DEG
SPH2 - Deep 20 kHz Phase Shift	.8253779	DEG
MGF2 - Medium 20 kHz Gain Factor	1.03966	
SGF2 - Deep 20 kHz Gain Factor	1.08550	
DESP - DIT Despike Algorithm Enable	DISA	
SFLE - SFL Enable	ALLO	
DCAS - DIT-E Depth of Casing	489.000	M
ITEN - DIT-E Temperature Enable	ALLO	
DEVI - DIT-E HOLE DEVIATION	0.0	DEG
IPRO - DIT-E Induction Processing Selector	PHAS	
NWCO - DIGITIZER WORD COUNT	512	
DSIN - DIGITIZER SAMPLE INTERVAL	5	US
DDEL - DIGITIZING DELAY	200	US
SLC - Sonic Logging Cartridge	UA	
DTF - Delta-T Fluid	620.079	US/M
DTM - Delta-T Matrix	188.787	US/M
CDTS - C-Delta-T Shale (Empirical Correction)	100.000	
SPFS - Sonic Porosity Formula Select	R-W	
GTSC - GENERALIZED TEMPERATURE SELECTION	TEMP	
SHT - Surface Hole Temperature	26.6666	DEGC
BHT - Bottom Hole Temperature	82.2221	DEGC
RMUD - RESISTIVITY OF MUD SAMPLE	1.00000	OHMM
IPT - Value of SP which would have been read if Results were good	STAN	
CREF - Current Reference	AUTO	
ORM - Origin of Mud Resistivity	CONS	
SPAC - SPARC ENABLE	DISA	
BS - Bit Size	222.000	MM
BHS - Bore Hole Status (Open or Cased)	OPEN	

LOGGING TOOL STRING SKETCH



IPH2	- DIT-E Induction Processing Selector		
ISR	- Side Bed Correction Factor	1.00000	OHMM
RXXZ	- Medium Quad 20 kHz Sonde Error Correction	66.2129	MM/M
RXX2	- Deep Quad 20 kHz Sonde Error Correction	188.458	MM/M
RRZZ	- Medium Real 20 kHz Sonde Error Correction	12.4846	MM/M
RRZF	- Deep Real 20 kHz Sonde Error Correction	13.4399	MM/M
MPHZ	- Medium 20 KHZ Phase Shift	-.956900	DEG
DPHZ	- Deep 20 KHZ Phase Shift	.9258778	DEG
MGF2	- Medium 20 kHz Gain Factor	1.03966	
DGF2	- Deep 20 kHz Gain Factor	1.03930	
DEIP	- DIT Despike Algorithm Enable	DISA	
DFLE	- DFL Enable	ALLG	
DCAS	- DIT-E Depth of Casing	409.000	M
ITEM	- DIT-E Temperature Enable	ALLG	
DEVI	- DIT-E HOLE DEVIATION	0.0	DEG
IPRO	- DIT-E Induction Processing Selector	PHAS	
SWCO	- DIGITIZER WORD COUNT	512	
DSIN	- DIGITIZER SAMPLE INTERVAL	5	US
DDEL	- DIGITIZING DELAY	200	US
TLC	- Sonic Logging Cartridge	UA	
DTF	- Delta-T Fluid	620.5/79	US/M
DTM	- Delta-T Matrix	189.787	US/M
LDIA	- C-Delta-T Shale (Empirical Correction)	100.000	
SPFS	- Sonic Porosity Formula Select	B-H	
GTSE	- GENERALIZED TEMPERATURE SELECTION	TEMP	
SHT	- Surface Hole Temperature	26.6666	DEGC
BHT	- Bottom Hole Temperature	82.8221	DEGC
RMUS	- RESISTIVITY OF MUD SAMPLE	1.00000	OHMM
SPT	- Value of SP which would have been read if Results were good	STAN	
CREF	- Current Reference	AUTO	
DMR	- Origin of Mud Resistivity	CONS	
SPWE	- SPARC ENABLE	DISA	
BS	- Bit Size	222.000	MM
BHS	- Bore Hole Status (Open or Cased)	OPEN	

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 29.34 M.
TOTAL TOOL STRING WEIGHT IS 620.79 KG IN AIR.

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 07-MAR-1990 18:06
PROGRAM FILE: DTSAF (VERSION 02.28 90/01/18 08/11/10)

DGTL DETECTOR CALIBRATION SUMMARY

	MEASURES BKGD	JIG	CALIBRATED	UNITS
GR	28	197	165	GAPI

BACK: 07-MAR-1990 14:55 JIG: 07-MAR-1990 14:59 COMP: 07-MAR-1990 15:06

CP 02.28 FILE 5 07-MAR-1990 18:06

COMPANY	PETRO CANADA INC.
WELL	PCI ISLAND LAKE N-45
FIELD	WILDCAT
TERRITORY	N.W.T.

BOREHOLE COMPENSATED SONIC

1 of

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PHASOR INDUCTION - SSFL

COMPANY PETRO CANADA INC.

WELL PO ISLAND LAKE N-45

FIELD WILDCAT

TERRITORY N.W.T.

Permanent Datum	GROUND LEVEL	Elev.	508.4 M	
Log Measured From	KELLY BUSHING	4.8 M	Above Perm. Datum	
Drilling Measured From	KELLY BUSHING			

Date	7-MAR-90
Run No.	ONE
Depth Driller	1450.0 M
Depth Logger (Sch.)	1448.0 M
Btm. Log Interval	1444.0 M
Top Log Interval	408.0 M
Casing-Driller	244.5 MM @ 408.0 M
Casing-Logger	408.0 M
Bit Size	311 MM
Type Fluid in Hole	OIL CHEM
Density / Viscosity	1100 K/M3 / 70.0 S
pH / Fluid Loss	10.0 / 6.0 ML
Source of Sample	FLOWLINE
Rm @ Meas. Temp.	3.500 OHMM @ 18.0 DEGC
Rmf @ Meas. Temp.	4.230 OHMM @ 18.0 DEGC
Rmc @ Meas. Temp.	3.990 OHMM @ 18.0 DEGC
Source: Rmf / Rmc	MEASURED / MEASURED
Rm @ BHT	1.229 OHMM @ 66.0 DEGC
Circulation Ended	12:00/07
Logger on Bottom	18:00/07
Max. Rec. Temp.	66.0 DEGC
Equipment / Location	8100 / GRANDE PRAIRIE
Recorded By	EARL HAYDEN
Witnessed By	MR. HAL CHRETIE

Other Services: PHASOR IMPR. BHC SONIC CNL-ADL-GR MICRO-DIP LOGGING

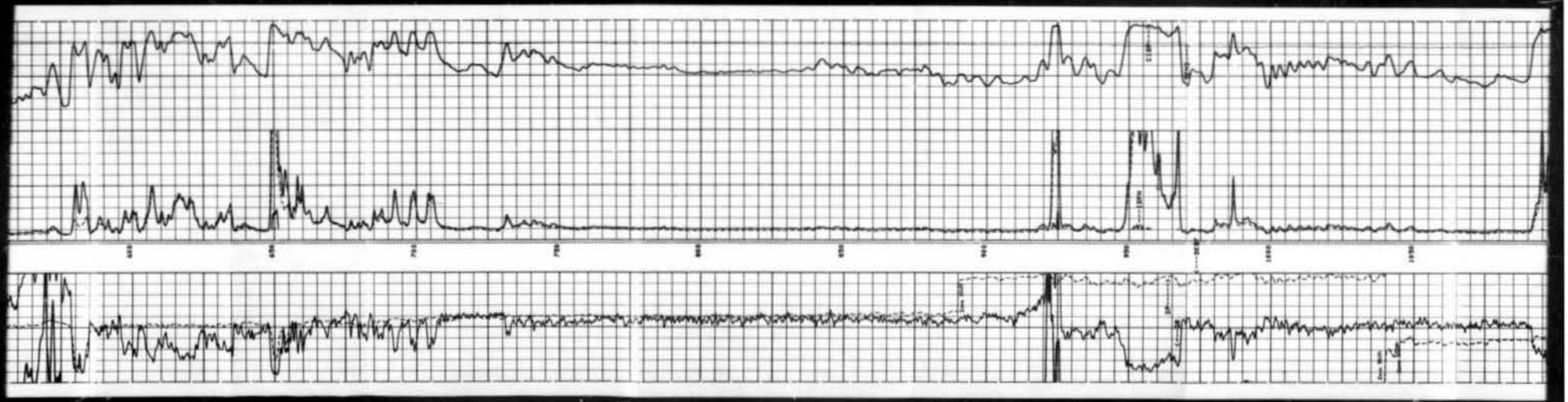
1	9 5/8" @ 1448.0' / 9 5/8" @ 244.5			
	API SERIAL NO.	DIST.	TWP.	RANGE

LINE	1
METER	2.5 M
TIME	1 MIN
DEPTH	1 M
SCALE	1 M = 1 MIN
TIME	1 MIN
DEPTH	1 M
SCALE	1 M = 1 M
CALIBRATION	
0.1 V	1 M
0.2 V	2 M
0.3 V	3 M
0.4 V	4 M
0.5 V	5 M
0.6 V	6 M
0.7 V	7 M
0.8 V	8 M
0.9 V	9 M
1.0 V	10 M
1.1 V	11 M
1.2 V	12 M
1.3 V	13 M
1.4 V	14 M
1.5 V	15 M
1.6 V	16 M
1.7 V	17 M
1.8 V	18 M
1.9 V	19 M
2.0 V	20 M

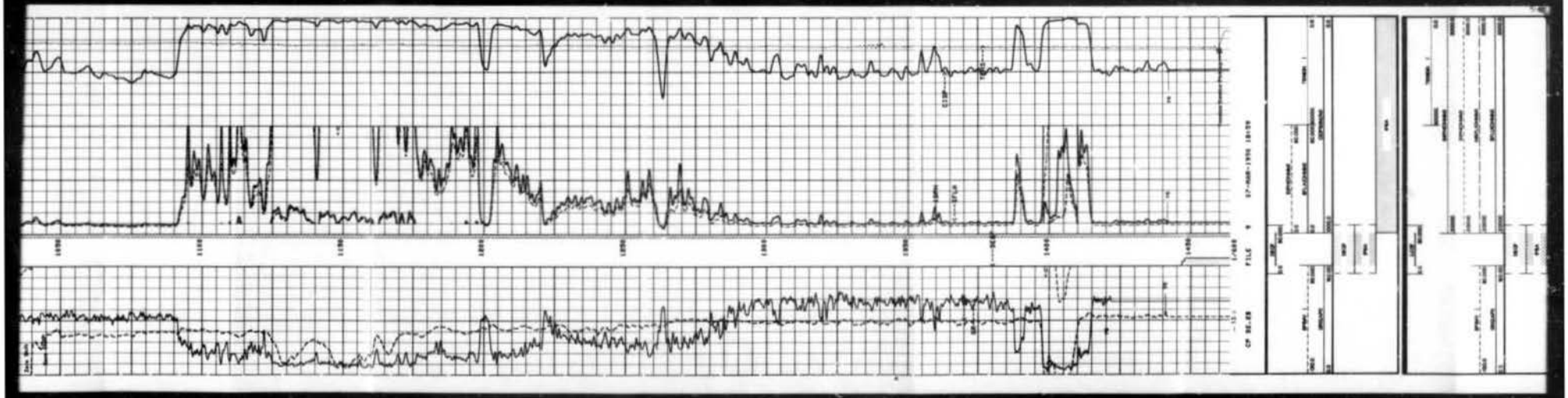
REMARKS:

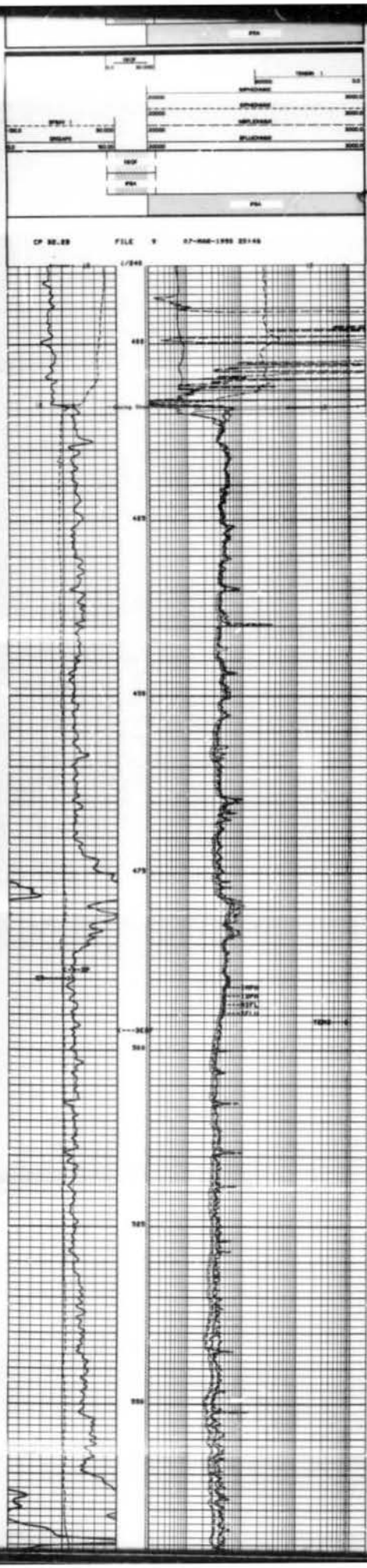
LAT : NORTH 68 DEGREES - 4 MINUTES - 38.42 SECONDS
LONG : WEST 128 DEGREES - 33 MINUTES -0 34.34 SECONDS
PHASES ARE PRESENTATIONS AS PER CLIENT REQUEST
CALIBRATED PHASOR INDUCTION, BHC SONIC, CNL-ADL-GR AMPLIFIER BU
SONIC CENTRALIZED WITH 2 CNL-2"S AND MCD CALIPER ARMS
5 METERS OF FILL, BETWEEN INITIAL REPLAY AND MAIN PASS
5" BOXES SHIFTS MADE AT 890.1, 1245, AND 1844 METERS

2 of

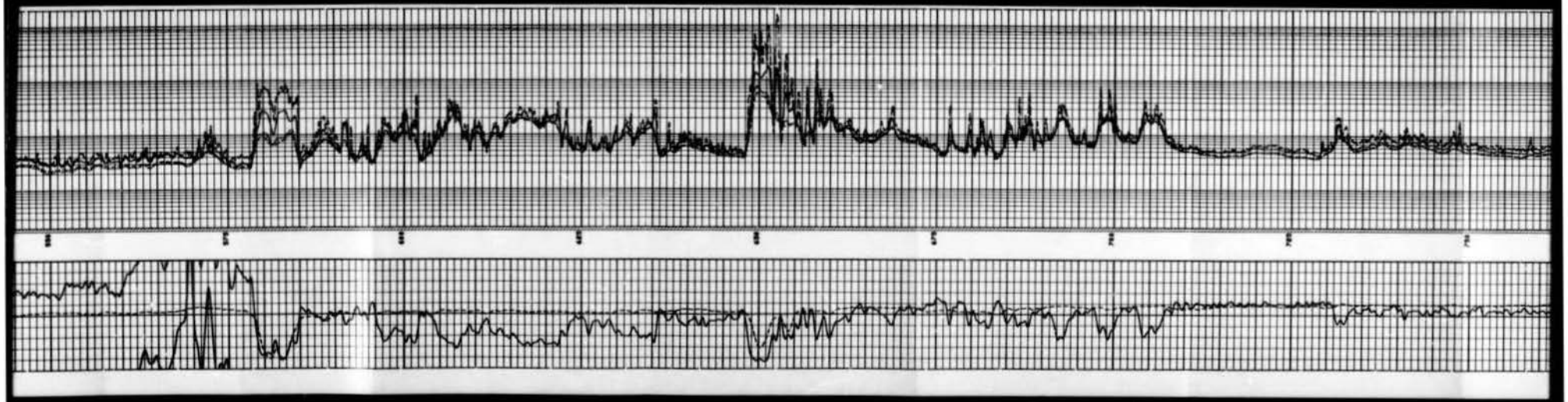


3 of

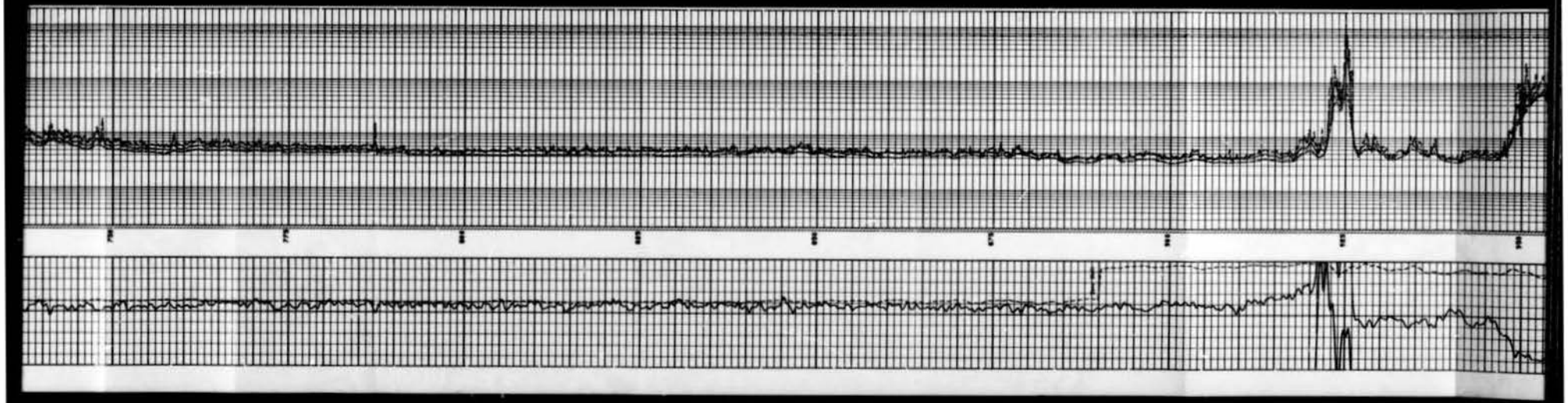



FILE 9

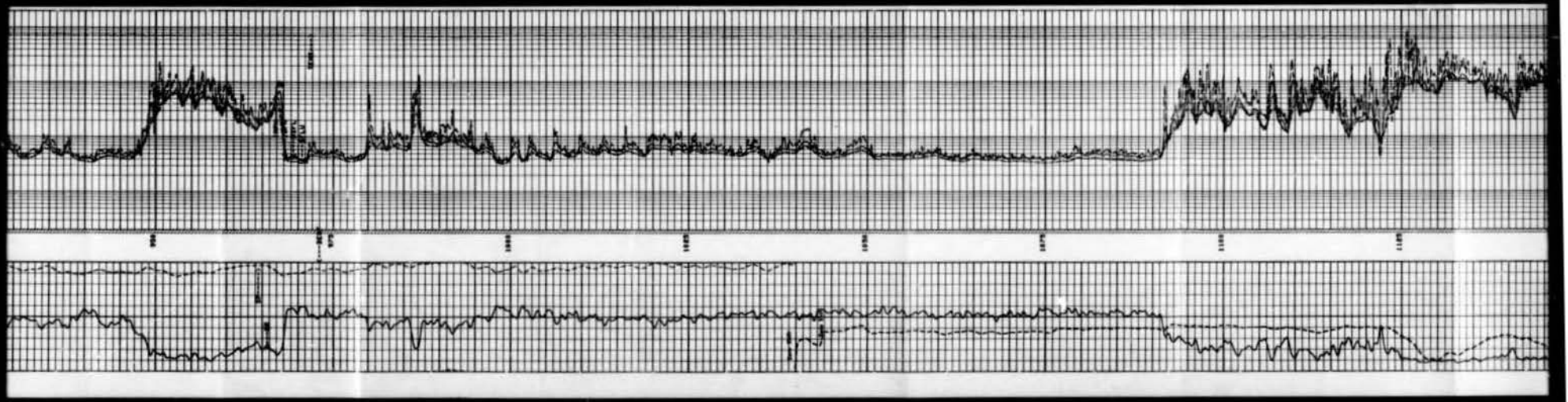
5 of



6 of



7 of



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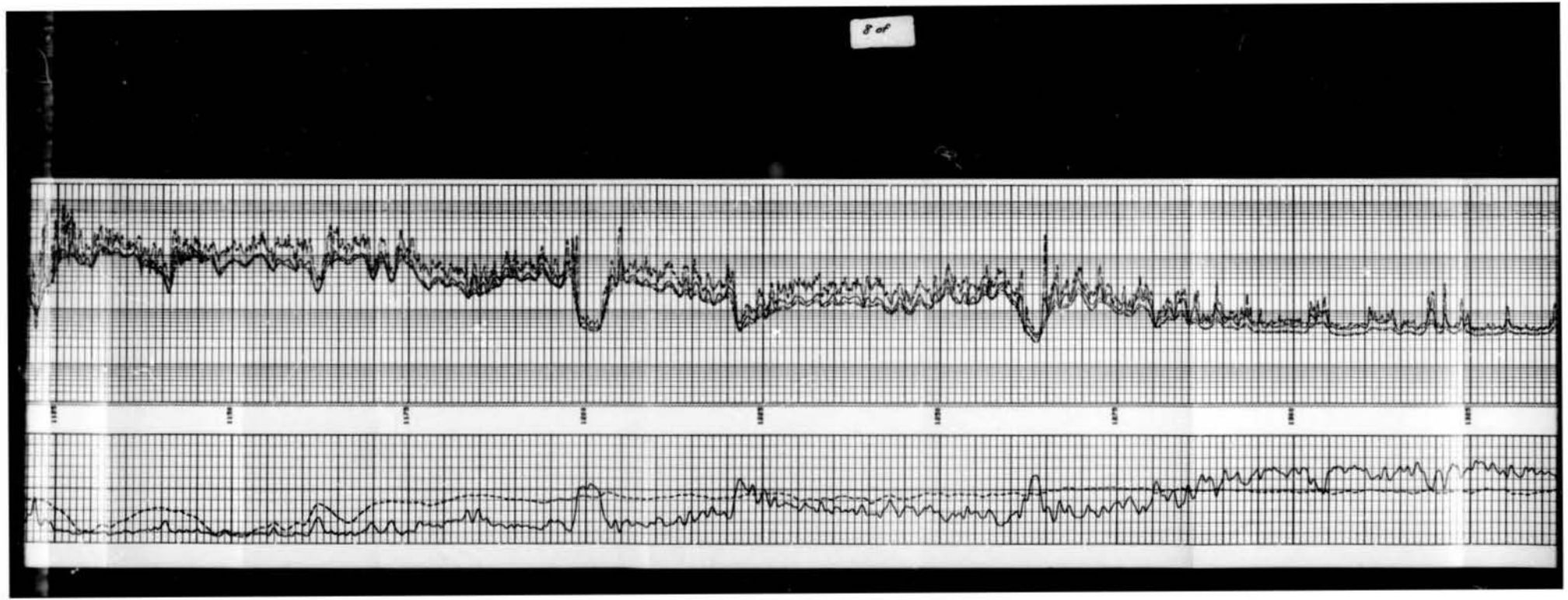
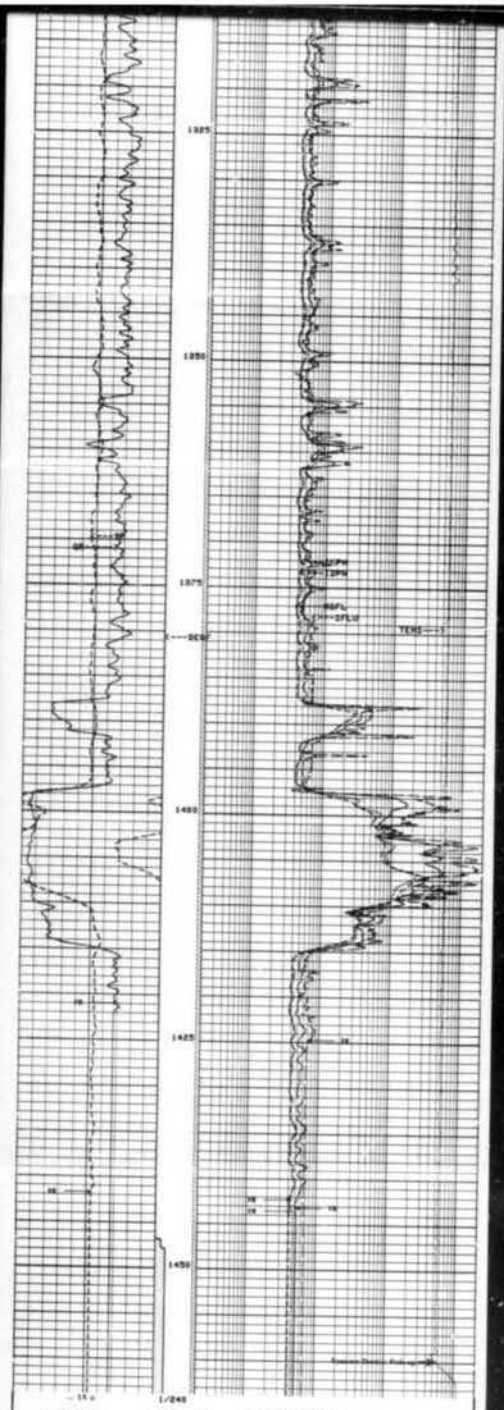
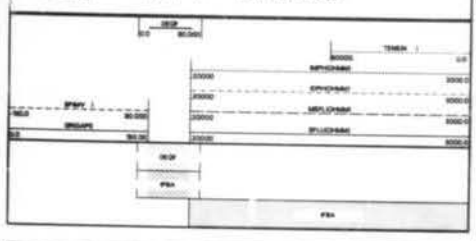
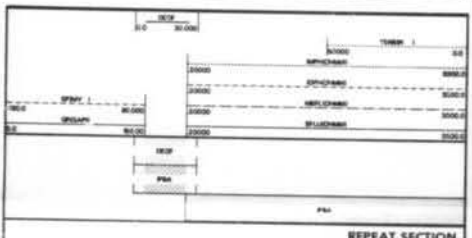




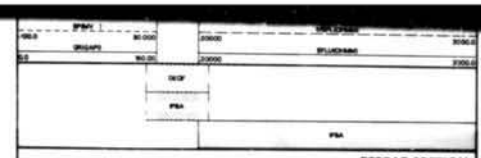




REPEAT SECTION

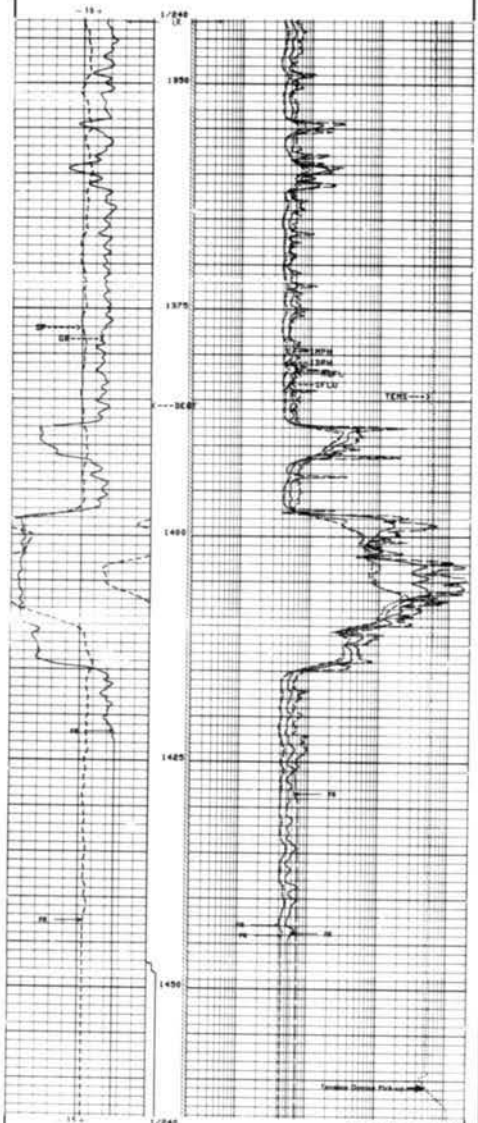
CP 32.E9 FILE 6 07-MAR-1990 18:00

1/240



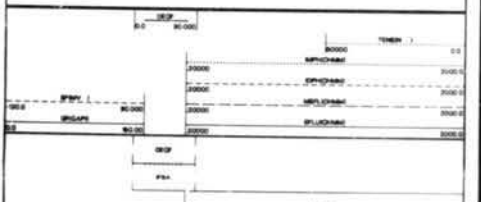
REPEAT SECTION

CP 32.29 FILE 6 07-MAR-1990 18:30



CP 32.29 FILE 6 07-MAR-1990 18:21

REPEAT SECTION



SENSOR MEASURE POINT TO TOOL ZERO

SRTS	20.88 METER	SP	9.15 METER
CALI	10.46 METER	CALS	20.85 METER
AMPL	14.35 METER	GR	27.41 METER
CBL	14.35 METER	SRAT	13.59 METER
TT2	14.35 METER	TT1	14.05 METER
TT4	12.90 METER	TT3	13.21 METER
TT	14.35 METER	TG	14.35 METER
CBSL	14.35 METER	TTSL	14.35 METER
IRM	1.80 METER	IXM	1.80 METER
ITEM	1.98 METER	IXS	2.90 METER
SFB	1.98 METER	SPA	9.15 METER
SFV	1.98 METER	SFC	1.98 METER
TENS	-14.3 METER	IRS	2.90 METER
CMSF	20.75 METER	TI	20.83 METER
MDIS	-14.3 METER		

PARAMETERS

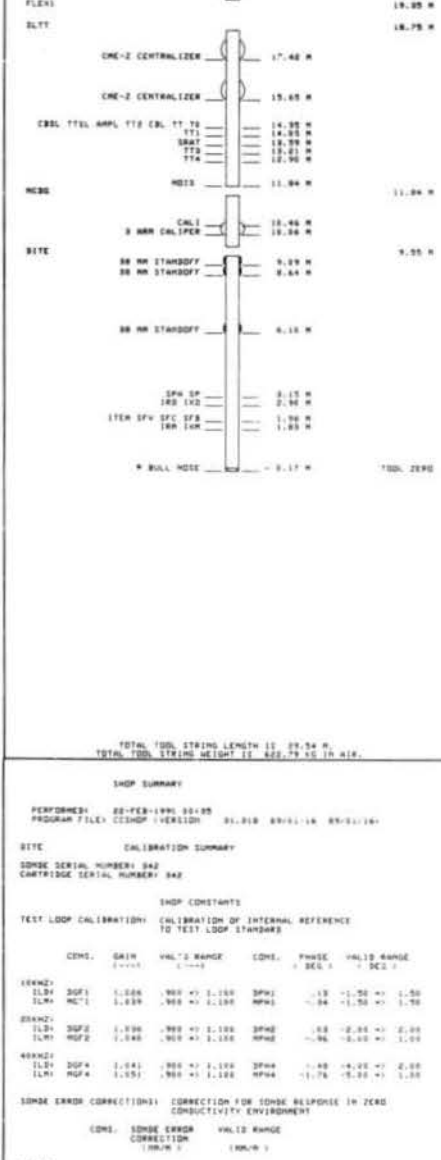
PARAMETER	VALUE	UNIT
MMUD - Weight of Mud	1125.00	K/M3
TD - Total Depth	1450.00	M
FCB - FUTURE CASING DIAMETER	177.800	MM
IFRS - DIT-E Induction Frequency Selector	20	KHZ
IBR - Side Bed Correction Factor	1.00000	OHMM
MRE2 - Medium Quad 20 kHz Sonde Error Correction	66.2120	MM/M
DRE2 - Deep Quad 20 kHz Sonde Error Correction	50.450	MM/M
MRE1 - Medium Real 20 kHz Sonde Error Correction	12.4046	MM/M
DRE1 - Deep Real 20 kHz Sonde Error Correction	18.4399	MM/M
MPHE - Medium 20 KHZ Phase Shift	-.956960	DEG
DPHE - Deep 20 KHZ Phase Shift	.8253778	DEG
MGF2 - Medium 20 kHz Gain Factor	1.03966	
DGF2 - Deep 20 kHz Gain Factor	1.03550	
DESP - DIT Deepest Alarm Enable	DISA	
SFLE - SFL Enable	ALLO	
DCAS - DIT-E Depth of Casing	409.000	M
ITEM - DIT-E Temperature Enable	ALLO	
DEVI - DIT-E HOLE DEVIATION	0.0	DEG
IPRO - DIT-E Induction Processing Selector	PHAS	
BWCO - DIGITIZER WORD COUNT	512	
BSIN - DIGITIZER SAMPLE INTERVAL	8	US

10 of

PARAMETERS

PARAMETER	VALUE	UNIT
WMUD - Weight of Mud	1125.00	K/M3
TD - Total Depth	1450.00	M
FCD - FUTURE CASING DIAMETER	177.800	MM
IFBI - DIT-E Induction Frequency Selector	20	KHZ
SBR - Side Band Correction Factor	1.00000	OHMM
RHE2 - Medium Dual 20 kHz Sonde Error Correction	66.2128	MM/M
RHE2 - Deep Dual 20 kHz Sonde Error Correction	100.450	MM/M
RHE2 - Medium Real 20 kHz Sonde Error Correction	17.4846	MM/M
RHE2 - Deep Real 20 kHz Sonde Error Correction	13.4399	MM/M
MPH2 - Medium 20 KHZ Phase Shift	-1.956901	DEG
DPH2 - Deep 20 KHZ Phase Shift	0.8253778	DEG
MGF2 - Medium 20 kHz Gain Factor	1.03966	
DGF2 - Deep 20 kHz Gain Factor	1.03550	
DCIP - DIT Deepine Algorithm Enable	DIGA	
DFLC - DFL Enable	ALLO	
DCAS - DIT-E Depth of Casing	409.000	M
ITEN - DIT-E Temperature Enable	ALLO	
DEVI - DIT-E HOLE DEVIATION	0.0	DEG
IPMD - DIT-E Induction Processing Selector	PMAX	
DWCO - DIGITIZER WORD COUNT	512	
DSIM - DIGITIZER SAMPLE INTERVAL	5	US
DDEL - DIGITIZING DELAY	250	US
SLC - Sonic Logging Cartridge	UA	
DTF - Delta-T Fluid	620.079	US/M
DTM - Delta-T Matrix	183.727	US/M
CDTS - C-Delta-T Shale (Empirical Correction)	100.000	
SPFS - Sonic Porosity Formula Select	W-H	
DTSE - GENERALIZED TEMPERATURE SELECTION	TEMP	
SHT - Surface Hole Temperature	26.6666	DEGC
BHT - Bottom Hole Temperature	82.2221	DEGC
RMUD - RESISTIVITY OF MUD SAMPLE	1.00000	OHMM
SPT - Value of SP which would have been read if Results were good(TAB		
CREF - Current Reference	MUTO	
DRM - Origin of Mud Resistivity	CONS	
SPWC - SPWRC ENABLE	DIGA	
BS - Bit Size	222.003	MM
BHC - Bore Hole Status (Open or Cased)	OPEN	

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 29.54 M.
TOTAL TOOL STRING WEIGHT IS 622.79 KG IN AIR.

SHOP SUMMARY

PERFORMED: 22-FEB-1996 00:35
PROGRAM FILE: CCSHOP (VERSION 01.010 89/01/16 85/01/16)

BITE CALIBRATION SUMMARY

SONDE SERIAL NUMBER: 942
CARTRIDGE SERIAL NUMBER: 942

SHOP CONSTANTS

TEST LOOP CALIBRATION: CALIBRATION OF INTERNAL REFERENCE TO TEST LOOP STANDARD

	CONS.	GAIN (----)	VAL'S RANGE (----)	CONS.	PHASE (DEG)	VALID RANGE (DEG)
10KHZ:						
ILD:	DGF1	1.006	.900 +) 1.100	DPH1	.13	-1.50 +) 1.50
ILM:	MGF1	1.039	.900 +) 1.100	MPH1	-.04	-1.50 +) 1.50
20KHZ:						
ILD:	DGF2	1.036	.900 +) 1.100	DPH2	.03	-2.00 +) 2.00
ILM:	MGF2	1.040	.900 +) 1.100	MPH2	-.06	-2.00 +) 2.00
40KHZ:						
ILD:	DGF4	1.041	.900 +) 1.100	DPH4	-.40	-4.00 +) 2.00
ILM:	MGF4	1.051	.900 +) 1.100	MPH4	-1.76	-5.00 +) 1.00

SONDE ERROR CORRECTION: CORRECTION FOR SONDE RESPONSE IN ZERO CONDUCTIVITY ENVIRONMENT

	CONS.	SONDE ERROR CORRECTION (MM/M)	VALID RANGE (MM/M)
10KHZ:			
IRD IXO:	DRD1	51.15	0.0 +) 100.0
IRD IXO:	DXO1	107.67	-250.0 +) 250.0
IRM IXM:	MRE1	41.30	-75.0 +) 140.0
IRM IXM:	MXE1	90.46	-300.0 +) 800.0
20KHZ:			
IRD IXO:	DRE2	19.44	0.0 +) 30.0
IRD IXO:	DXE2	107.46	-125.0 +) 125.0
IRM IXM:	MRE2	12.48	-10.0 +) 50.0
IRM IXM:	MXE2	66.21	-150.0 +) 150.0
40KHZ:			

(13)	SGFX	1.741	.988 +/- 1.188	SFHM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(14)	MGFX	1.151	.988 +/- 1.188	MFHM	-1.76	-5.48 +/-	1.98				

IDHSE ERROR CORRECTIONS: CORRECTION FOR IDHSE RESPONSE IN ZERO CONDUCTIVITY ENVIRONMENT

IDHS.	IDHSE ERROR CORRECTION (MM/M)	VALID RANGE (MM/M)
10KHZ:		
IR3 SEC: SRE3	52.15	0.0 +/- 100.0
IX2 SEC: SXE3	185.67	-250.0 +/- 250.0
IRM SEC: MRE3	61.53	-15.0 +/- 140.0
IXM SEC: MXE3	90.40	-200.0 +/- 200.0
20KHZ:		
IR3 SEC: SRE2	13.44	0.0 +/- 30.0
IX2 SEC: SXE2	100.46	-125.0 +/- 125.0
IRM SEC: MRE2	12.48	-10.0 +/- 50.0
IXM SEC: MXE2	66.21	-150.0 +/- 150.0
80KHZ:		
IR3 SEC: SRE4	2.50	0.0 +/- 15.0
IX2 SEC: SXE4	68.25	-75.0 +/- 75.0
IRM SEC: MRE4	1.80	-10.0 +/- 25.0
IXM SEC: MXE4	49.63	-85.0 +/- 35.0

NOTE: ALL IDHSE ERROR CORRECTIONS HAVE BEEN NORMALIZED TO 25 DEGC.

SHOP ELECTRONIC CALIBRATION SUMMARY

ELECTRONIC CALIBRATION: CALIBRATION OF SYSTEM ELECTRONICS USING THE INTERNAL REFERENCE

INDUCTION ELECTRONICS:

	OFFSET (MM/M)	VALID RANGE (MM/M)	GAIN (---)	VALID RANGE (---)	PHASE (DEG.)	VALID RANGE (DEG.)
10 KHZ:						
IR3	48.6	-375. +/- 375.	.984	.75 +/- 1.25		
IX2	42.8	-375. +/- 375.	.973	.75 +/- 1.25	7.11	-5.00 +/- 20.00
IRM	33.1	-900. +/- 900.	.969	.75 +/- 1.25		
IXM	62.5	-900. +/- 900.	.981	.75 +/- 1.25	7.74	-5.00 +/- 20.00
20 KHZ:						
IR3	16.4	-150. +/- 150.	.953	.75 +/- 1.25		
IX2	16.3	-150. +/- 150.	.942	.75 +/- 1.25	5.28	-5.00 +/- 20.00
IRM	12.7	-350. +/- 350.	.936	.75 +/- 1.25		
IXM	24.2	-350. +/- 350.	.962	.75 +/- 1.25	6.50	-5.00 +/- 20.00
80 KHZ:						
IR3	11.6	-100. +/- 100.	.905	.75 +/- 1.25		
IX2	10.4	-100. +/- 100.	.889	.75 +/- 1.25	14.10	-10.00 +/- 35.00
IRM	7.8	-200. +/- 200.	.913	.75 +/- 1.25		
IXM	15.3	-200. +/- 200.	.924	.75 +/- 1.25	1.66	-10.00 +/- 35.00

SFL ELECTRONICS:

	OFFSET	VALID RANGE	UNITS	GAIN	VALID RANGE
SFX	.5	-16.0 +/- 16.0	MV	1.002	.75 +/- 1.25
SFC	.0	-.7 +/- .7	MA	1.004	.75 +/- 1.25

CP 31.318 FILE 1 22-FEB-1990 00:34

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 27-MAR-1990 18:56
PROGRAM FILE: GTIAF (VERSION 32.28 90/01/18 88/11/30)

DATC ELECTRONICS CALIBRATION SUMMARY

	MEASURED ZERO	MEASURED PLUS	CALIBRATED ZERO	CALIBRATED PLUS	UNITS
CHGF	1.1	504.8	1.0	500.0	MM/M
I1	.1	90.2	.0	100.0	MA/M

ZERO: 27-MAR-1990 18:55 PLUS: 27-MAR-1990 18:43 COMP: 27-MAR-1990 18:01

DATC ELECTRONICS CALIBRATION SUMMARY

CALIPER COEFF. MEAS .05366 REF .05366

DATC CALIPER CALIBRATION SUMMARY

	MEASURED SMALL	MEASURED LARGE	CALIBRATED SMALL	CALIBRATED LARGE	UNITS
CAL3	303.87	458.4	303.00	464.0	MM

SMALL: 27-MAR-1990 15:59 LARGE: 27-MAR-1990 18:55 COMP: 27-MAR-1990 18:55

SGTL DETECTOR CALIBRATION SUMMARY

	MEASURED BKGD	MEASURED JIG	CALIBRATED JIG	UNITS
GR	29	197	165	GAPI

BKG: 27-MAR-1990 14:55 JIG: 27-MAR-1990 14:59 COMP: 27-MAR-1990 15:06

SITE ELECTRONICS CALIBRATION SUMMARY

IDHSE SERIAL NUMBER: 342
CARTRIDGE SERIAL NUMBER: 342
INDUCTION FREQUENCY: 20 KHZ

INDUCTION ELECTRONICS:

	OFFSET (MM/M)	VALID RANGE (MM/M)	GAIN (---)	VALID RANGE (---)	PHASE (DEG.)	VALID RANGE (DEG.)
IR3	18.3	-187. +/- 142.	.947	.80 +/- 1.19		
IX2	14.8	-187. +/- 142.	.939	.80 +/- 1.19	4.24	-4.72 +/- 22.28
IRM	19.4	-212. +/- 238.	.954	.80 +/- 1.19		
IXM	26.3	-201. +/- 249.	.966	.80 +/- 1.19	7.53	-8.47 +/- 21.53

SFL ELECTRONICS:

	OFFSET	VALID RANGE	UNITS	GAIN	VALID RANGE
SFX	.7	-14.5 +/- 15.5	MV	1.01	.85 +/- 1.20
SFC	.6	-.4 +/- .8	MA	1.01	.85 +/- 1.21

CP 32.28 FILE 5 27-MAR-1990 18:56

AFTER SURVEY TOOL CHECK SUMMARY

PERFORMED: 27-MAR-1990 20:49
PROGRAM FILE: GTIAF (VERSION 32.28 90/01/18 88/11/30)

DATC TOOL CHECK

	ZERO BEFORE	ZERO AFTER	PLUS BEFORE	PLUS AFTER	UNITS
CHGF	1.0	1.0	500.0	499.9	MM/M
I1	.0	.0	100.0	101.0	MA/M

BEFORE SURVEY: ZERO: 27-MAR-1990 18:56 PLUS: 27-MAR-1990 18:01
AFTER SURVEY CHECK: ZERO: 27-MAR-1990 20:48 PLUS: 27-MAR-1990 20:46

SITE TOOL CHECK

IDHSE SERIAL NUMBER: 342
CARTRIDGE SERIAL NUMBER: 342

FILE	DEPTH INTERVAL		
6	1431.0 -	1414.5	M
5	1430.1 -	1412.0	M
4	1424.1 -	1342.6	M
3	1423.7	1417.6	M
2	1424.1 -	1341.7	M
1	1423.0 -	1415.1	M
5	1423.0 -	204.7	M

MEAN CALIBRATION CHANGE

	ABSOLUTE CHANGE FOR RESISTIVITY : 27 OHM-M (MM/M)	TOLERANCE (MM/M)	PERCENT CHANGE FOR RESISTIVITY : 27 OHM-M (%)	TOLERANCE (%)	SFL ABS. CHANGE FOR RESISTIVITY : 1 OHM-M (OHMM)	TOLERANCE (OHMM)
DEEP	.05	: 0.75	.06	: 2.0	N/A	
MEDIUM	.04	: 0.75	.05	: 2.0	N/A	
SFL	.04	: 0.75	.04	: 2.0	0.0	: 0.02

NOTE: LOG QUALITY FLAGS IN DEPTH TRACK INDICATE WHEN ELECTRONIC CALIBRATION IS OUT OF TOLERANCE. FLAGGED VALUES ARE NOT INCLUDED IN THIS TABLE.

CP 32.28 FILE 11 27-MAR-1990 20:49

COMPANY	PETRO CANADA INC
WELL	PCI ISLAND LAKE N-45
FIELD	WILDCAT
TERRITORY	N.W.T.

Schlumberger

PHASOR INDUCTION - MSFL

WELL HISTORY LOG

DATE MARCH 1990

WELL NAME PCI ISLAND LAKE N-45 LOCATION (SURFACE) N-45

STATUS D&A PREPARED BY NAL H. CHRISTIE P.Geol.

SPUDDED 90/02/21 01:15 RIG REL 90/03/14 1200 ELEVATIONS (GROUND) 605.4 (K.B.) 610.0

CONTRACTOR NABORS Rig 7 TOTAL DEPTHS (DRILLED) 1450 (LOGGED) 1447.5

OPERATOR PETROCANADA INC. PARTNERS None

CASING

SIZE	SET AT	CEMENT
244.5	409 m	

SURVEY LOG

RUN	DATE	TYPE	INTERVAL
1	90/03/07	Phasor Ind.	1-Depth-S cap.
1	"	MSFL	"
1	"	BHC Sonic	"
1	"	CNL/LDT/GR	"
1	"	Microlog	1440-1365
1	90/03/08	SAT	----

CORES

NO.	INTERVAL	FORMATION	CUT/REC.
1	1405 - 1423	Jean Marie/Fl.Gorge	18/18

PERFORATIONS

INTERVAL	FORM	SHOTS

FORMATION TESTS

TYPE	NO.	INTERVAL	FORMATION	PRESSURES	RESULTS	RECOVERY & BHT	IFP	FFP	IHP
DST	1	1395.2-1423	Jean Marie		Misrun				
"	2	1390-1409	"		Misrun				
"	3	1390-1409	"	30/60/180/260	VG WAB dwn to dead in 30 min	30 m. c.l.,gas cut m. & 64°C	1541/ 1535	448/ 356	386/ 4234
"	4	579 - 583.5	Flett	10/60/60/120	VG GAS built to Strong in 30 min.	20 m. light gc muddy water, 327m heavy g.c. water. 34°C	849/ 8433	3066/ 3966	3966/ 3957

DAILY PROGRESS | PENETRATION RATE (0.1 m/cm SCALE, 1.0 m/cm SCALE, 5.0 m/cm SCALE; AVERAGE, Min / m) | CORES + TESTS | DEPTH | LITHOLOGY | POROSITY | GRAIN AND/OR CRYSTALINE SIZE | DESCRIPTION

RUNDLE (Flett) 578.6

BANFF 648.1

425

450

500

550

600

650

700

750

Shale, dk gy, brn blue, sf, fire-soft earth, silty, sl. calc, tr. py.
Siltstone, m-dk gy & brn gy, arg, sl. calc, tr. fl. py.

Shale, dk to v. dk gy as ab, com. carbonaceous soft, fissile, l-bed w/ Siltstone, lt-m gy brn and brn gy, as ab, p. dev and p. soft (-gran arg not') com.

Shale, dark to v. dk. gray & sl w/ brn blue, sl-platey, soft-firm, carbonaceous, some approaching bituminous, silty. Siltstone as.

Shale, dk to v. dk gy, platey-blocky, soft to firm, carbonaceous, micromicaceous, w/ frags. approaching bituminous, tr. silty, tr. py l/p. trace Siltstone, lt-m gy/brn and brn/gy, as ab

Shale, dk-v.dk.gy as ab, commonly platey, carbonaceous to v. carbonaceous and some bit soft and Fissile. Incompetent Shale. Trace Siltstone as above.

Siltstone, lt-m brn, glauc, vfsf(), arg, w/ p-f l-gran por, perml, fair - good st. Sandstone, lt-m brn, vf-fg & m g, sft & s/fm, p. sort, arg, w/ p-f l-gran por, f-g stain.

Siltstone, lt-m gy & sl brn, glauc, mw com'd (alt), slsf(), arg, sl. calc.
Limestone/Mudstone, lt gray & gray brn, slsts, tr. bioc. text and some crain, arg, tr. silty, f. diss. py l/p.

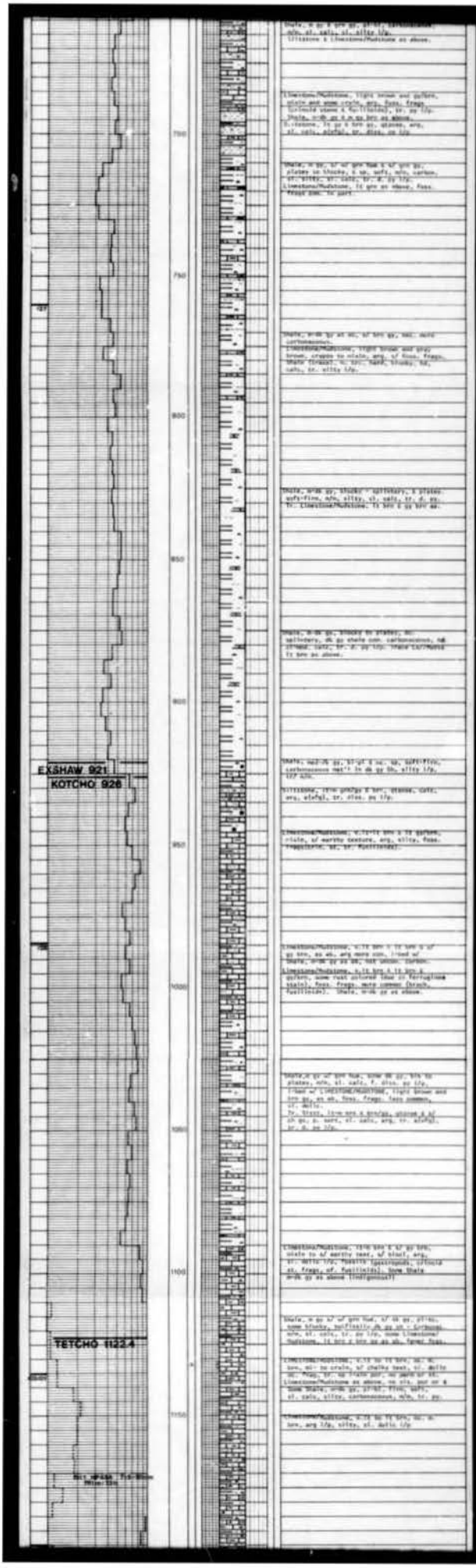
Limestone/Mudstone, lt gy & gy brn as ab, foss. frags (crin. st, fusilinids, bracho) more common.
Siltstone, light gray and brown gray as ab.
Limestone/Mudstone, lt brn & gy brn, slsts to some crystalin, w/ bioc text, arg, foss. frags (or tot shown), tr. py

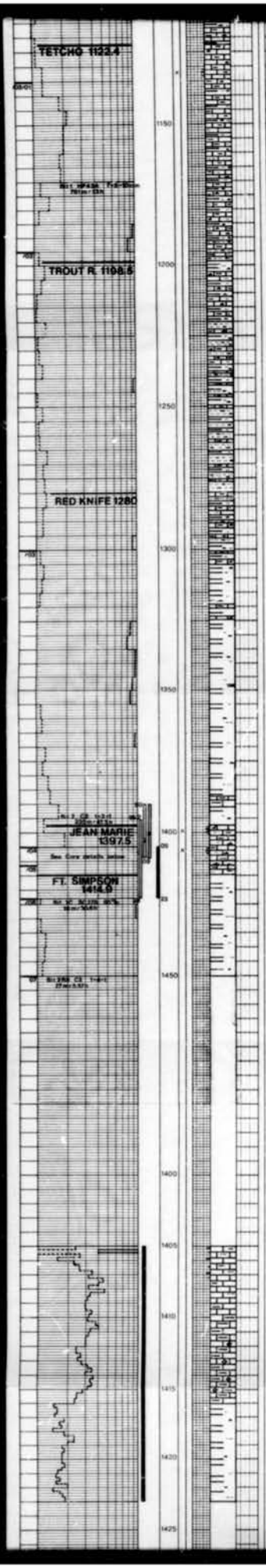
Siltstone, lt gy & brn gy, glauc, p. soft, mw com'd (calc), arg, slsf(),
Limestone/Mudstone, lt brn, slsts to crain, silty in part. Trace Shale, m gy/brn.
Shale, m gy & grn gy, pl-sl, carbonaceous, non, sl. calc, sl. silty l/p.
Siltstone & Limestone/Mudstone as above.

Limestone/Mudstone, light brown and gy/brn, slsts and some crain, arg, foss. frags (crinoid stems & fusilinids), tr. py l/p.
Shale, m-dk gy & m gy brn as above.
Siltstone, lt gy & brn gy, glauc, arg, sl. calc, slsf(), tr. diss. py l/p

Shale, m gy, sl w/ grn blue & sl grn gy, platey to blocky, s sp, soft, mfm, carbon. tr. silty, tr. calc, tr. m. py l/p.
Limestone/Mudstone, lt grn as above, foss. frags (crin. tr part).

Shale, m/dk gy as ab, sl brn gy, foss. frags


EXSHAW 921
KOTCHO 926
TETCHO 1122.4
700
750
800
850
900
950
1000
1050
1100
1150



Shale, m gy to dk gy, sm bn, sm gn, sm blk, some blocky, subfissile, dk gy sh - Carbonac. mfm, sl. calc, tr. py i/p, some Limestone/ Mudstone, lt b.b & brn gy as ab. Fewer fos.

LIMESTONE/MUDSTONE, v.lt to lt brn, sc. m. brn, mi- to crstn, w/ chalky text, sl. dolic sc. frag. tr. up 1mm per, no sam of ex. Limestone/Mudstone as above, no sls. per or f. Some Shale, m/dk gy, sl-sft, flex, soft, sl. calc, silty, carbonaceous, mfm, tr. py.

Limestone/Mudstone, v.lt to lt brn, sc. m. brn, arg i/p, silty, sl. dolic i/p

Shale, m gy to/ w/ grn hue, some dark gray as above. Limestone/Mudstone, lt-m brown as above, shale and some text. text, arg, silty. Siltst, lt brn & brn/gy as ab.

Sltstone, lt brn & lt gy brn, as ab. less arg mat'l. Limestone, lt brn & gy brn as above, generally less argillaceous material. Some Shale, m-/ dk gy as above. Shale, m-dk gy, thick-platey, soft, carbon. mfm, sl. silty i/p, sl. calc, tr. py. Some Ls/Mudstone, lt brn & gy brn as above. Some Sltstone, lt-m brn & brn gy as above. Sltstone, lt brn & gy brn as above, slightly arg(i/p), tr. up 1-gram per, no sl, tr. sty.

Limestone/Mudstone, lt-m brn & gy brn, shale to s/ of sln, sl. dolic, arg, tr. py. Shale, m-dk gy as ab. w/ w/ grn hue. Tr. Siltst, lt brn to gy brn as ab.

Shale, m gy to/ w/ grn hue, some maroon hue, platey & soft as above, incompetent & flex. Trace Limestone/Mudstone, lt brn, & gy brn, shale.

Shale, m gy, s/ w/ green hue, as ab. sc. w/ maroon hue. Trace Limestone/Mudstone, lt brn as ab. Some loose Qtz Grains, sl to lt-m brn & rust brown, fine grained, sc. c. grained.

Limestone/Mudstone, lt-m brn & gy brn, mi- to crstn sln, gen. dense, tr. py. Shale, m gy, slight, flex, sl. calc, sl. silty, mfm, tr. py. Tr to some Ls/Mudst as Limestone/Mudstone, lt-m brn & w/ gy, shale, some crstn, w/ blnct text, arg & silty, foss. material. Limestone/Mudstone, lt-m brn, shale to s/ sln w/ blnct. text, arg, silty, w/ soft i-sln & mlvsp per, no st to w/ frg st. locally

Shale, m gy, s/ w/ grn hue, s/ dk gy, pl-bl, soft, microlaceous, dk gy Shale carbonaceous, sl. silty i/p, tr. d. py i/p.

T.D. 1450

CORE DETAILS

CORE No.1 1405-1423

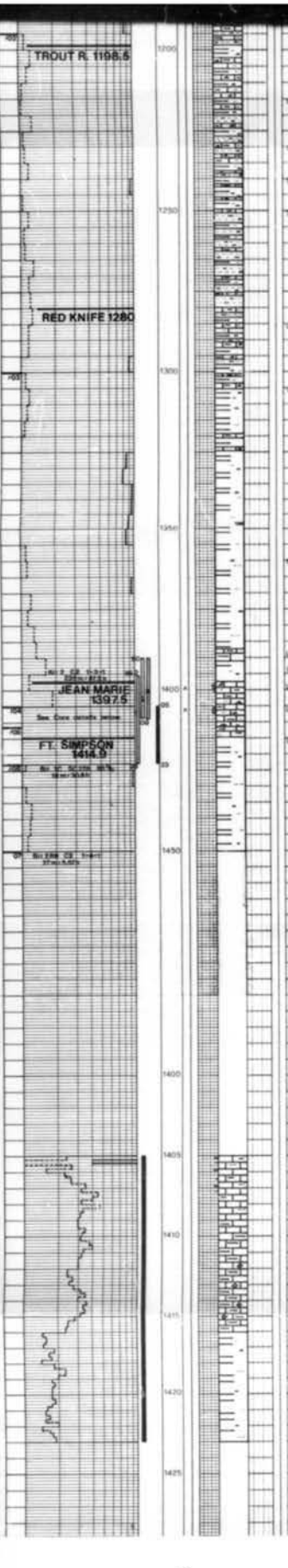
LIMESTONE/MUDSTONE, light to medium brown, microcrystalline & some very fine crystalline(etched & some subhed & sc. subed), finely disc. arg. mat'l not uncommon w/irregular accumulations of arg. mat'l not uncommon in part, sl. dolic. The upper 2.1 m has some p-f and sc. g. i-sln & m. sc. mlvsp per, some stain. Brach. shell frags not uncomon in lower 3 m.

LIMESTONE/MUDSTONE, lt brown to gray brown, mi-to some very fine,sln & crypocrystal: line, sm. argillaceous (finely disc. and as argillaceous partings and laminae. The limestone is well defined horizontally with the shale partings. Brachiopod shells aligned horizontally not uncomon throughout.

Shale is medium-dk gray, firm, calcareous, microlaceous & carbonaceous.

SHALE: dark gray, firm, carbonaceous with very fine to sum carbonaceous material common particularly on partings & bedding planes, slightly calcareous in part, trace silt grains locally. This section has well defined horizontal lineation and bedding and is commonly broken into 1 - 5 cm. pieces.

(3) of 8



Shale, m gy tf w/ grn hue, some dark gray as above. Limestone/Mudstone, lt-m brown as above, crsln and some sdspt. text. arg, silty. Siltst, lt brn & brn/gy as ab.

Siltstone, lt brn & lt gy brn, as ab. less arg mat'l. Limestone, lt brn & gy brn as above, generally less argillaceous material. Some Shale, m-vf dk gy as above.
Shale, m-dk gy, blocky-flakes, soft, carbonaceous, sl. silty lip, sl. calc, tr. py. Some Ls/Mudstone, lt brn & gy brn as above. Some Siltstone, lt-m brn & brn gy as above.
Siltstone, lt brn & gy brn as above, dense, grain(fg), tr. sm lighter por, no st, tr. bit.

Limestone/Mudstone, lt-m brn & gy brn, shale to 7 wf sln, sl. dolo, arg, tr. py.
Shale, m-dk gy as ab, tf w/ grn hue tr. Siltst, lt brn gy gy brn as ab.

Shale, m gy tf w/ grn hue, some maroon hue, platey & soft as above, incompetent & flss. Trace Limestone/Mudstone, lt brn, & gy brn, shale.

Shale, m gy, tf w/ green hue, as ab. nc. w/ maroon hue.
Trace Limestone/Mudstone, lt brn as ab.
Some loose Qtz Grains, sl gy lt-m brn & pink brown, fm grained, sr. c. grained.

Limestone/Mudstone, lt-m brn & gy brn, sl- to crypto sls, gen. dense, tr. py.
Shale, m gy, sl-sl. flss, sl. calc, sl. silty, mfs, tr. py. Tr to some Ls/Mudst as
Limestone/Mudstone, lt-m brn & gy gy, shale, some crsln, w/ blncl text, arg & silty, foss. material
Limestone/Mudstone, lt-m brn, shale to vf sln w/ blncl. text, arg, silty, w/ poff i-sln & mdsug por, sr. st to w/ frg st, locally
Shale, m gy, tf w/ grn hue, tf dk gy, sl-bl, soft, micromicaceous, Sh gy Shale carbonaceous, sl. silty lip, tr. d. py lip.

T.D. 1450

CORE DETAILS

CORE No.1 1405-1423

LIMESTONE/MUDSTONE, light to medium brown, microcrystalline & some vcrs fine-crystalline(anhedral & some subhed & sc. euhed), finely disc. arg. mat'l not uncommon w/irregular accumulations of arg. mat'l not uncommon to pass. sl. sdpt.
The upper 2.1 m has some p-f and sc. g. i-sln & sc. sn. mdsug por. some stain.
Bnsch. shell frags not uncommon in lower half.
LIMESTONE/MUDSTONE, lt brown to grey brown, shale to some very fine sln & cryptocrystalline, com. argillaceous (finely disc. and as argillaceous laminae and laminae.
The limestone is well defined horizontally with the shale partings. Brachiopod shells aligned horizontally not uncommon throughout.
Shale is medium-dk gray, fine, calcareous, micromicaceous & carbonaceous.

SHALE, dark gray, fine, carbonaceous usually fine to some carbonaceous material common particularly on partings & bedding planes, slightly calcareous in part, trace silt grains locally.
This section has well defined horizontal lineation and bedding and is commonly broken into 1 - 3 cm. pieces.

DAYMAR WELL LOGGING LTD.
CALGARY 250-9166

COMPANY Petro Canada Inc.
WELL PCI ISLAND LAKE N40
Location N 60° 4' 56.385" W 120° 52' 33.875"
Prov. or Territory N.W.T.
Depth Logged From 426m To 3450m
Date Logged From 26 FEB 90 To 7 MARCH 1990
Logging Technicians Roy Sorhoff Kevin Young
Drilling Fluid
Ground Elevation 905.4m
K.B. 5.0 m

DRILLING LEGEND | ENGINEERING LEGEND | MUD DATA | LEGEND

Drilling Rate min./m | DATE | % Lithology | Depth | % Porosity | Interpreted Lithology | HYDROCARBON GAS in Mud (%) | Chromatograph | Total | GEOLOGICAL COMMENTS

HOT WIRE SCALE (units)
CHROMATOGRAPH SCALE (%)

Drill break

GEOLOGICAL COMMENTS

DK-DY BLKY OCC SLTY SDSPLS SD

DK DY BLKY TR SLTST SD

SLTST LT DY BLKY VARG QTZ M SD

DK DY BLKY SDSPLTY SFNT L/P

DKGY SFNT L/P SCMG FLTY

SLTST LT-M DY V ARG M SD QTZ TR GLAU

SLTST LT-M DY V ARG M SD QTZ TR GLAU TR SS

M-DK DY BLKY-FLTY-SPLTY V SLTY L/P COM MIC MICA

LT DY VFGN SLTY SMDG TO SLSTST F SAT SDRANG FIRM MOD SO QTZ/TR GLAU

SL TR AS SCMG SL CALC

DK DY OCC LT-M DY+SLTY SDSPLTY SFNT L/P SMDG TO SLTST L/P

SL TR LG+BUFF DK DY VIT V ARG

SL TR SLIV SL CALC

SLTST LT-M DY SD SL CALC QTZ SL ARG

DK DY SDSPLTY M SD SM SLT OCC SFNT

SL TR SLTST

DK DY OCC LT-M DY V SD CARB SDSGLAY TR SLTST OCC SFNT

DK DY OCC LT-M DY V SD CARB SDSGLAY TR SLTST

SCMG SLTY L/P

DK DY SDSPLTY OCC SLTY+LT DY COM SFNT SL TR CARB FRAG

SLTST LT-M DY M DK ARG SIL S-P L/P

TR CALC FRAG SL

DK DK DY SDSPLTY OCC SLTY MIC MICA SFNT L/P TR SLTST

M-DK DY SDSPLTY OCC SLTY SFNT L/P MIC MICA

TR SLTST

M-DK DY SDSPLTY FLTY OCC FIL SFNT L/P

TR SLTST

DK DY SDSPLTY SS SLTY

TR LT SM SLTST

DK DY SDSGLAY OCC SFNT TR SLTST

TR V CALC SED SM SLTST

TR V SO V SIL SM SMDG CHT

M-DK DY SDSGLAY SDSPLTY V OCC SLTY

TR V SO SGL/SIL SM CONCAV

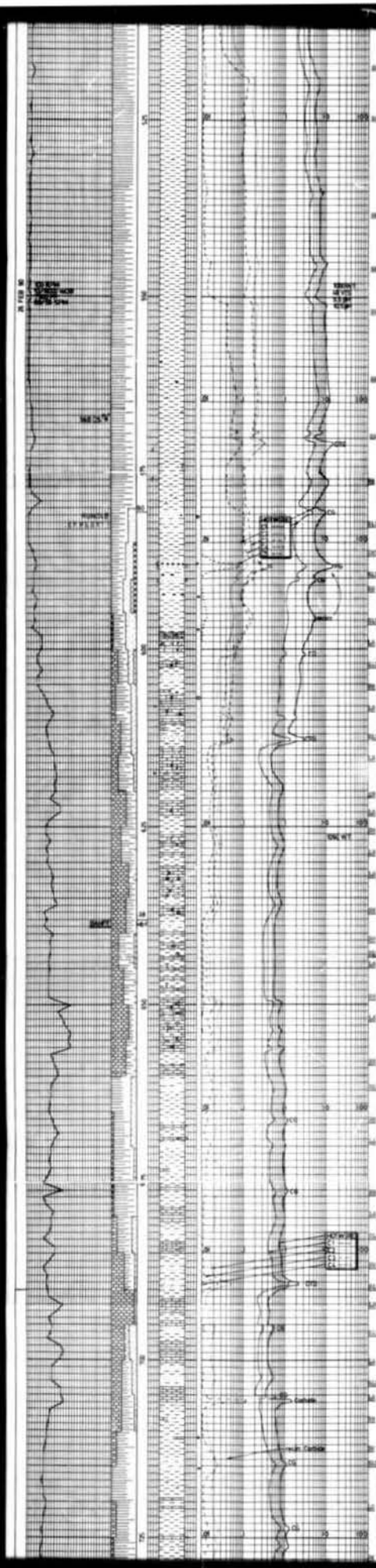
M-DK DY SCMG FLTY

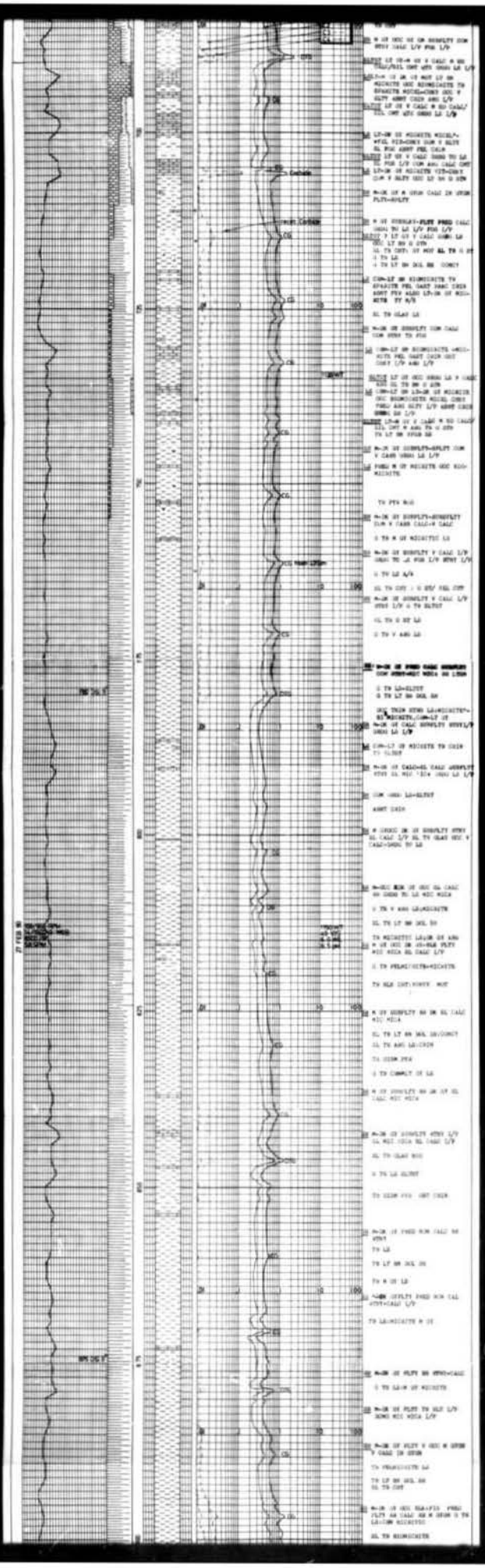
TR FTR

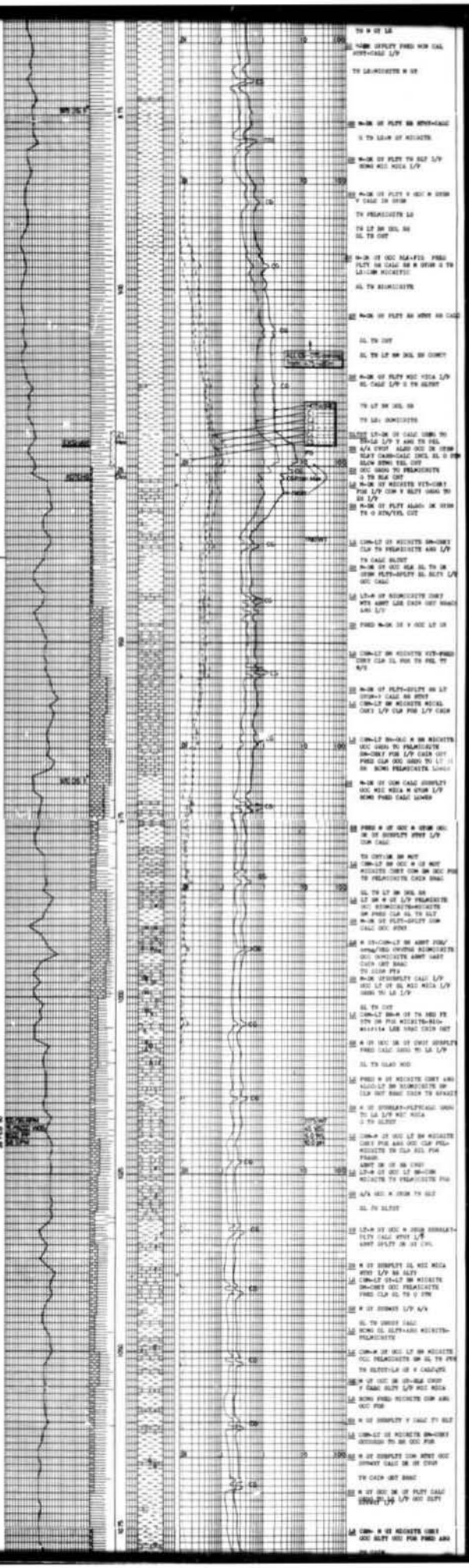
FNED M-DK DY SCMG SDSWET-FLTY TR SLT L/P

26 FEB 90

107







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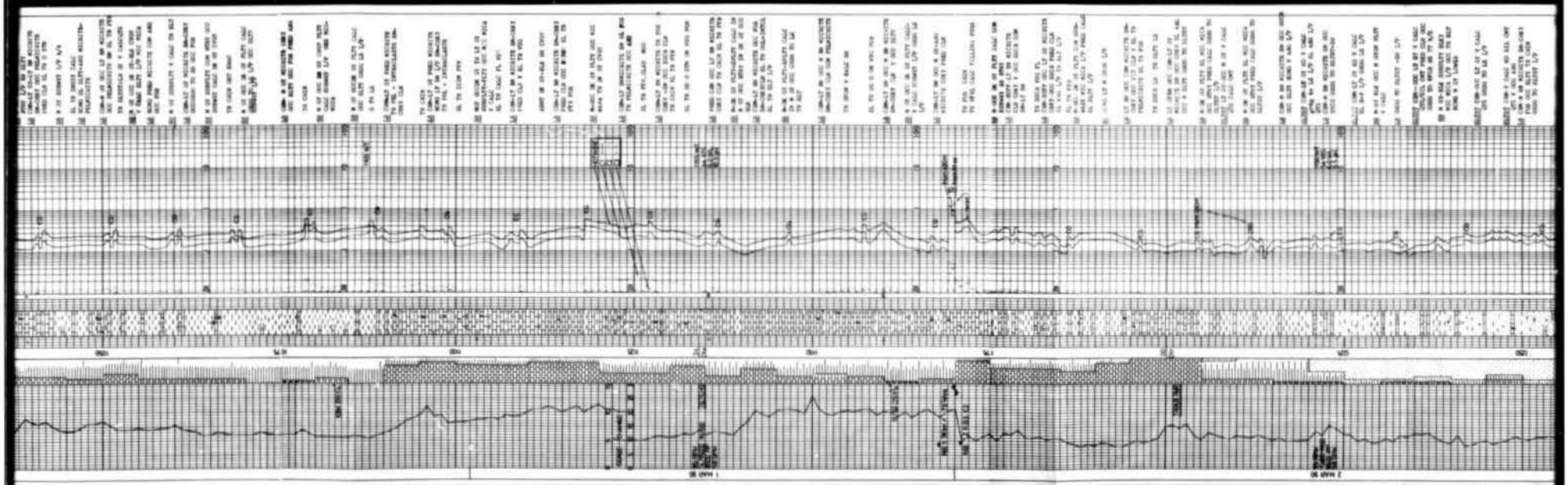
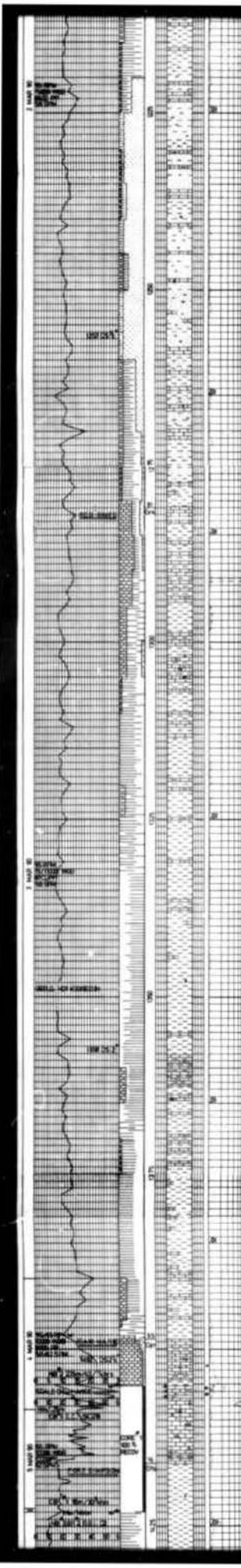
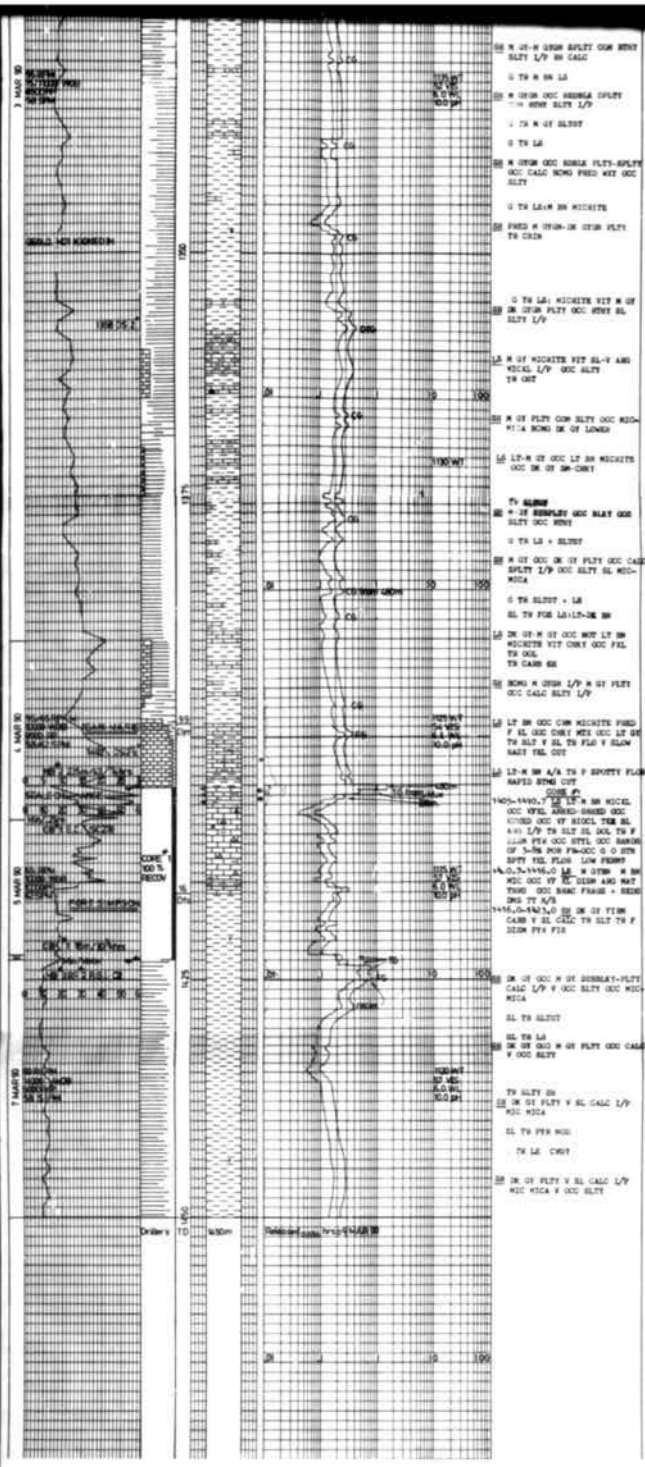





3 MAR 90
4 MAR 90
5 MAR 90
7 MAR 90
CORE 1
100 % RECOV
Driller's TD
1450
1475
1500
1525
1550
CORE #1
1405-1440.7 SS LT-M BR MICEL OCC VFEL ARRED-SRRED OCC VCORD OCC VF SIDCL TRR SL ANH L/P TR SLT SL DOL TR F SLOR PTR OCC STYL OCC BANDS OF 5-7MM POR PR-OCC G O STN SPOT YEL FLOR LOW PERMT
1440.0-1446.0 LS M GYBR M BR MDC OCC VF SC DISM ANG MAT TRAC OCC BARC FRAGS + REDS DOL TT A/R
1446.0-1423.0 SS DK GY YIBR CARB V SL CALC TR SLT TR F DISM PYR FIR
DK GY OCC M GY SUBBLKY-FLTY CALC L/P V OCC SLTY OCC MIC-MICA
SL TR GLTOT
SL TR LS
DK GY OCC M GY FLTY OCC CALC V OCC SLTY
TR SLTY SH
DK GY FLTY V SL CALC L/P MIC MICA
SL TR PYR MIC
TR LS CMNT
DK GY FLTY V SL CALC L/P MIC MICA V OCC SLTY

Canada Oil and Gas Lands Administration | Administration du pétrole et du gaz des terres du Canada

D.A. 1412

				Well Status	
Nova Scotia	☐	West Coast	☐	Suspended	☐
Newfoundland	☐	Northern	☒	Completed	☐
Gulf of St. Lawrence	☐	Hudson Bay	☐	Abandoned	☒

WELL TERMINATION RECORD

This record is submitted in triplicate in compliance with Section 184 of the Canada Oil and Gas Drilling Regulations.

WELL DATA

Well Name: PCI Island Lake N-45 Area: North West Territories

Grid Area: 60°10' - 120°45' Field/Pool: N/A

Permit or Lease No.: E.L. 328A Final Coordinates: Lat.: N60°4'56.369" Long: W120°33'33.675"

Drilling Unit: Nabors #7 Elevations-RT/KB: 610.00 m SF/GL: 605.40 m

Spud Date: 90-02-21 - 01:15 Rig Released: 90-03-14 - 12:00 Total Depth: 1450 m

CASING AND CEMENTING

O.D.:	Weight: kg/m	Grade:	Depth Set:	Cement and Additives:
244.5 mm	48.07	H-40	409 m	32.2 t. 0:1:0 "G" + 1% $CaCl_2$

PLUGGING PROGRAM

Approval of the following program was obtained by (person) Brian Hebert from (person) Dave Scratch of the Canada Oil and Gas Lands Administration by means of telephone on March 9th 1990.

Type of Plug:	Interval:	Felt:	Cement and Additives:
Class "G"	1450-1382 m	Not Required	5.5t. Class "G" + 0.75% CFR-3 + 0.1% HR-4
Class "G"	1107-911 m	871 m	21.2 t. Class "G" + 0.75% CFR-3 + 0.1% HR-4
Class "G"	664-563 m	548 m	7.4 t. Class "G" + 0.5% CFR-3
Class "G" cement	424-394 m 10 m to surface	350 m Visual	2.7 t. Class "G" + 0.5% CFR-3

Lost Circulation/Overpressure Zones: None

Equipment left on Seafloor (Describe): None

Provision for Re-entry (Describe and attach sketch): N/A

Cores: Type: Conventional Intervals: 1405-1423 m

Other Downhole Completion/Suspension Equipment: None

CERTIFICATION

I certify on the basis of personal knowledge of operations undertaken at the above named well that the above information is accurate.

Signed: R.D. Heikkinen P. Eng. Title: Drilling Manager

Name: R.D. Heikkinen Date: 90-03-15

Acknowledged by: [signature] Engineering Branch

Date: 90-04-02

File: 9211-P28-6-1

Department of Energy, Mines and Resources | Ministère de l'Énergie, des Mines et des Ressources

Department of Indian Affairs and Northern Development | Ministère des Affaires indiennes et du Nord canadien

Canada

1 of

OTTAWA COPY

WELL SEISMIC REPORT

Using the following logs: SAT BHC

Company: PETRO CANADA INC.

Well: PO ISLAND LAKE N-45

Field: WILDCAT

Province: NORTHWEST TERRITORIES, CANADA

Location:

Latitude: 60 4' 58.67" Longitude: 119 53' 34.34"

Date Last Logged: 9-MAR-1986

Date Processed: MAR 1986

Seismic Reference Datum: 700.0 METRES ASL

Elevations: KB: 610.00 DF: 609.70 GL: 605.40

Permanent Datum: GL Depth Units: METRES

FIELD DATA

FIELD OPERATIONS

Lower Shot 5.7 (Zero or Blanked Shots)

Greater Shot 5.7 (Zero or Not Noted Shots)

X

FIELD AND OFFICE RECORDINGS

Source

Energy

Source Type

Source Depth

Source Array

Trace Spacing

Sample Rate

Filter

Gain

Recorded Fold

Remarks

Author: Date: Number: 1986007 Job Number: 7008

Remarks

WELL SEISMIC REPORT PRINT DIAGRAMS CORRECTED SAME

SOURCE DEPTHS (SHOTS IN THE METRES AGL)

SOURCE ENERGY & CHANGES (FOR ANY REPORT)

SOURCE ELEVATIONS & CHANGES (ANY REPORT)

SOURCE ELEVATIONS & CHANGES (ANY REPORT)

NEW SOURCE VELOCITY & CHANGES

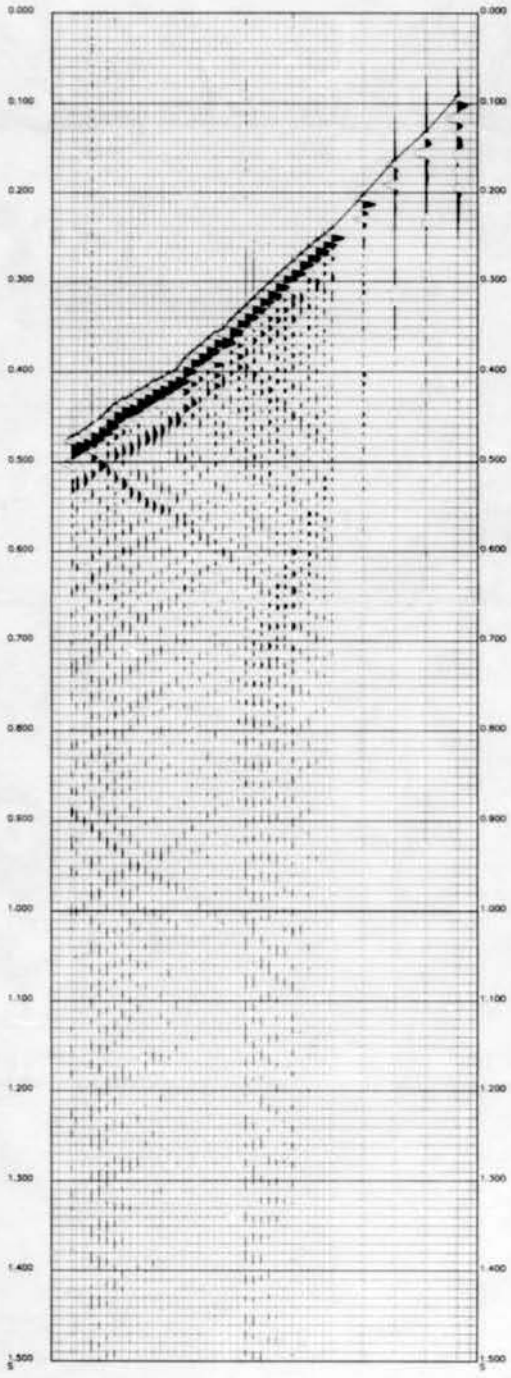
THE SHOT PRINT DATA (SHOTS MADE BY CHECK SHOTS) DIAGRAMS ARE

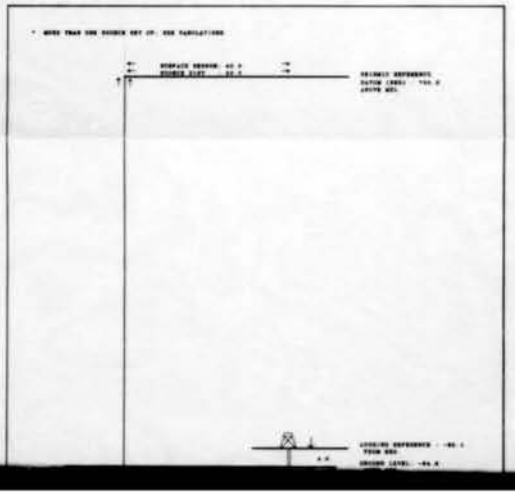
FOUND IN THE FIELD DATA OF FIELD SHEETS.

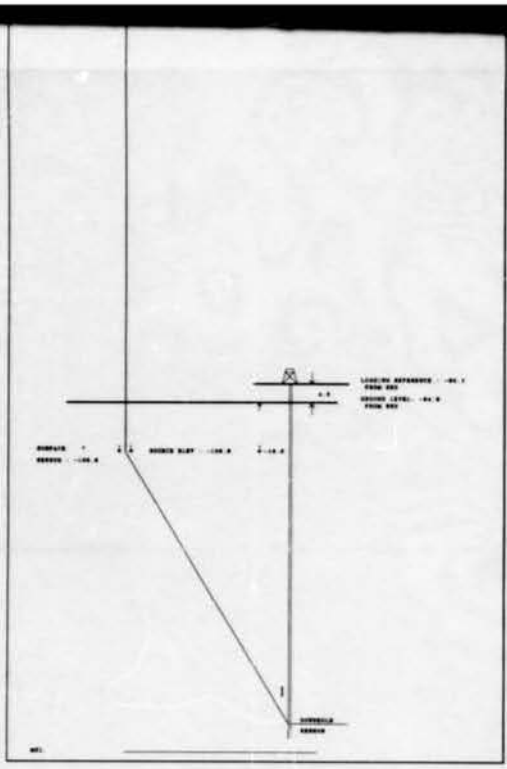
CHECK SHOT REPORT

COMPUTING CENTER STACKS
VERTICAL COMPONENT

RAW DEPTH M	TRANSIT TIME MS	LEVEL NO	MIN AMPLITUDE	MAX AMPLITUDE


0.000
0.100
0.200
0.300
0.400
0.500
0.600
0.700
0.800
0.900
1.000
1.100
1.200
1.300
1.400
1.500
S





DEPTHS ARE POSITIVE DOWNWARDS
MSL MEAN SEA LEVEL
SRD SEISMIC REFERENCE DATUM

ELEVATION OF THE MEASURED DEPTH REFERENCE ABOVE MSL 510.000 M
ELEVATION OF THE ABOVE MSL -24.0000 M
ELEVATION OF THE MEASURED DEPTH REFERENCE ABOVE SRD -24.0000 M
ELEVATION OF GROUND ABOVE SRD -24.0000 M

VELOCITY BETWEEN SURFACE SENSOR AND SOURCE 1700.00 M/S
VELOCITY BETWEEN SOURCE AND SRD 1700.00 M/S

SOURCE AND SURFACE SENSOR POSITIONS

X-Y ELEVATION ABOVE SRD
X-Y EASTS (+) WEST (-) COORDINATE
X-Y NORTH (+) SOUTH (-) COORDINATE

TIME CORRECTIONS

SS-SRD TIME FROM SURFACE SENSOR TO SOURCE
SRD-SR VERTICAL TIME FROM SOURCE TO SRD

SOURCE POSITION — SURFACE SENSOR POSITION — TIME CORRECTIONS

	SOURCE X M	SOURCE Y M	SOURCE Z M	SURFACE X M	SURFACE Y M	SURFACE Z M	SS-SRD MS	SRD-SR MS
1	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
2	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
3	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
4	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
5	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
6	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
7	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
8	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
9	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
10	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
11	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
12	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
13	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
14	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
15	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
16	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
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18	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
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22	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
23	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
24	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
25	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
26	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
27	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
28	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
29	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
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39	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
40	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
41	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
42	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
43	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
44	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
45	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
46	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
47	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0
48	-1100.0	-20.0	-18.0	-1100.0	-20.0	-18.0	0	23.0

OBSERVED SHOT TIME IS MEASURED
FROM THE SURFACE SENSOR BREAK
TO THE DOWNHOLE SENSOR BREAK

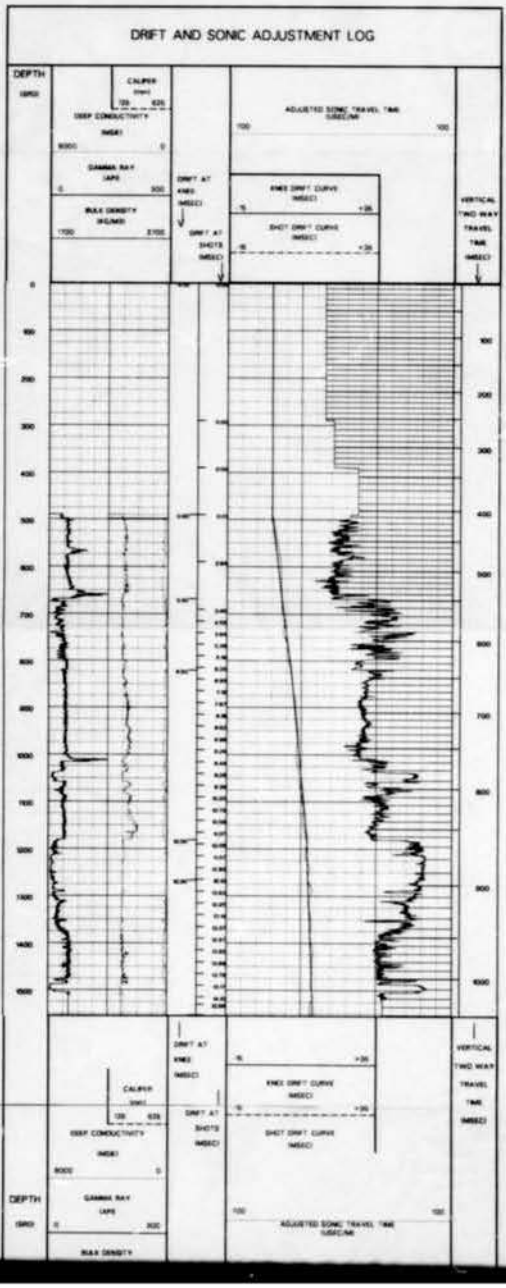
THIS TIME IS THEN CORRECTED IN THE FOLLOWING SEQUENCE

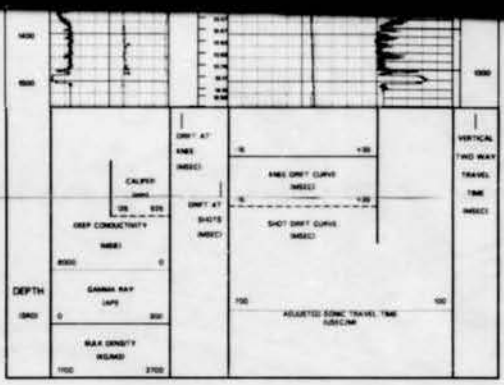
TIME FROM THE SOURCE TO DOWNHOLE = (SS-SRD) + (SRD-SR)
VERTICAL TIME FROM THE SOURCE TO DOWNHOLE = (SRD-SR)

THE CODING CORRECTION, COD.C, IS DEFINED BY
THE HORIZONTAL DISTANCE FROM SOURCE TO DOWNHOLE SENSOR
THE VERTICAL DISTANCE FROM SOURCE TO DOWNHOLE SENSOR

SHOT NUMBER	MEASURED SHOT DEPTH M	VERTICAL DEPTH M	OBSERVED SHOT TIME MS	VERTICAL TIME FROM SRD MS	AVERAGE VERTICAL DISTANCE SOURCE DOWNHOLE M/S	COD.C	INTERVAL VELOCITY FROM SHOTS M/S
1	250.0	280.0	91.1	129.0	.0265	187.00	9054
2	300.0	380.0	130.0	166.4	.2316	282.25	9918
3	400.0	480.0	183.1	203.2	.2410	377.10	9442
4	500.0	580.0	242.8	243.3	.2428	477.10	9850
5	600.0	680.0	240.2	280.7	.2458	577.10	9781
6	625.0	715.0	247.7	288.2	.2481	602.10	9780
7	650.0	740.0	252.8	294.2	.2514	627.10	9787
8	675.0	765.0	262.0	302.5	.2528	652.10	9812
9	700.0	790.0	268.8	308.4	.2554	677.10	9828
10	725.0	815.0	277.4	315.0	.2580	702.10	9838
11	750.0	840.0	285.5	326.1	.2578	727.11	9848
12	775.0	865.0	292.5	334.2	.2599	752.10	9858
13	800.0	890.0	302.2	342.9	.2596	777.08	9888
14	825.0	915.0	310.8	351.3	.2600	802.10	9863
15	850.0	940.0	318.8	359.3	.2615	827.10	9871
16	875.0	965.0	327.2	367.8	.2624	852.10	9879
17	900.0	990.0	334.8	375.3	.2638	877.10	9888
18	925.0	1015.0	342.9	383.8	.2648	902.10	9882
19	950.0	1040.0	352.8	391.4	.2657	922.25	9898
20	975.0	1065.0	358.3	397.9	.2683	952.11	9903
21	1000.0	1090.0	363.7	404.4	.2695	977.10	9908
22	1025.0	1115.0	371.3	412.0	.2708	1002.10	9912
23	1050.0	1140.0	377.8	418.6	.2723	1027.08	9918

1	200.0	290.0	91.1	129.9	2285	187.85	99544		2412
2	300.0	390.0	130.8	169.4	2316	283.35	99018		2884
3	400.0	490.0	187.1	193.3	2410	311.10	99442		2507
4	500.0	590.0	202.6	243.2	2429	437.10	99050		2884
5	600.0	690.0	242.3	280.7	2458	577.10	99781		3300
6	625.0	715.0	247.7	288.2	2481	602.10	99780		4098
7	650.0	740.0	253.6	294.3	2514	627.10	99797		3048
8	675.0	765.0	282.0	302.5	2528	652.10	99812		3658
9	700.0	790.0	288.4	308.4	2554	677.10	99828		2687
10	725.0	815.0	277.4	318.0	2583	702.10	99828		3156
11	750.0	840.0	283.3	339.1	2578	727.11	99849		3088
12	775.0	865.0	293.3	334.2	2589	752.11	99858		2377
13	800.0	890.0	302.3	342.9	2598	777.09	99868		2992
14	825.0	915.0	312.4	351.3	2605	802.10	99863		3025
15	850.0	940.0	318.8	359.5	2611	827.10	99871		2888
16	875.0	965.0	327.2	367.8	2624	852.10	99879		3302
17	900.0	990.0	334.8	375.3	2638	877.10	99888		3016
18	925.0	1015.0	340.8	383.8	2648	902.14	99892		3013
19	950.0	1040.0	353.9	391.4	2657	923.25	99898		4492
20	975.0	1065.0	356.2	397.0	2663	952.11	99903		3341
21	1000.0	1090.0	363.7	404.4	2665	977.10	99908		3318
22	1025.0	1115.0	371.0	412.6	2704	1002.10	99912		3708
23	1050.0	1140.0	377.9	419.8	2723	1027.08	99916		3981
24	1075.0	1165.0	380.0	429.8	2733	1052.10	99920		3484
25	1100.0	1190.0	387.4	434.0	2742	1069.01	99960		4047
26	1125.0	1215.0	401.8	439.1	2773	1114.00	99961		4394
27	1150.0	1240.0	406.4	444.0	2793	1138.00	99964		7053
28	1175.0	1265.0	415.0	447.5	2827	1161.00	99963		3992
29	1200.0	1290.0	419.4	453.8	2842	1189.00	99952		6766
30	1225.0	1315.0	420.1	457.8	2874	1211.00	99951		3968
31	1250.0	1340.0	426.4	463.9	2888	1236.00	99950		4418
32	1275.0	1365.0	429.9	469.8	2907	1255.01	99948		4391
33	1300.0	1390.0	435.7	475.4	2924	1280.00	99948		3120
34	1325.0	1415.0	443.7	480.4	2937	1305.00	99948		3905
35	1350.0	1440.0	451.8	486.4	2937	1330.05	99947		3560
36	1375.0	1465.0	457.7	491.4	2945	1355.00	99946		4358
37	1400.0	1490.0	463.8	503.3	2961	1380.00	99943		3937
38	1425.0	1515.0	466.8	508.8	2973	1402.10	99945		4998
39	1449.0	1539.0	471.9	512.7	2984	1417.10	99943		





DRIFT AND SONIC ADJUSTMENT REPORT

RAW DRIFT IS COMPUTED AT EACH SHOT LEVEL AS
SHOT TIME - SONIC TIME

FROM THE RAW DRIFT CURVE -NOKES- ARE SELECTED
PAIRS OF POINTS DEFINE THE SONIC ADJUSTMENT
SELECTED DRIFT VALUES AT NOKES DEFINE THE AMOUNT
OF TIME ADJUSTMENT TO THE SONIC LOG IN EACH ZONE

WHEN THE GRADIENT BETWEEN DEPTH OF THE SELECTED DRIFT IS
POSITIVE SONIC VELOCITIES ARE SLOWER THAN SHOTS
THE TIMES ARE INCREASED BY A CONSTANT DRIFT
THE VALUE OF THE SELECTED DRIFT GRADIENT

ADJUSTED DELTA_T = DELTA_T - DRIFT

WHEN THE GRADIENT IS NEGATIVE SONIC VELOCITIES ARE TOO LOW
THE DECREASE OF SONIC TRANSIT TIMES OVER A DELTA_T MINIMUM
IS REDUCED BY A CONSTANT REDUCTION FACTOR C

WHEN DELTA_T < DELTA_T MINIMUM
ADJUSTED DELTA_T = DELTA_T
WHEN DELTA_T > DELTA_T MINIMUM
ADJUSTED DELTA_T = C * (DELTA_T - (DELTA_T MINIMUM))
+ (DELTA_T MINIMUM)

KNEE NUMBER	VERTICAL DEPTH FROM KB M	VERTICAL DEPTH FROM SHOT M	SELECTED DRIFT AT KNEE MS	DRIFT US/M	DELTA_T MINIMUM US/M	REDUCTION FACTOR C	SELECTED DRIFT GRADIENT US/M
1	-80.0	1	0	0			0
2	400.0	480.1	0	18.5			18.5
3	578.3	658.4	5.3	21.0			21.0
4	731.0	801.1	8.8	19.3			19.3
5	1041.4	1181.5	12.0	3.5			3.5
6	1178.0	1268.1	12.3	5.0			5.0
7	1483.0	1553.1	14.0				

AFTER THE ADJUSTMENT OF THE SONIC LOG

RESIDUAL IS COMPUTED AT EACH SHOT LEVEL AS
SHOT TIME - ADJUSTED SONIC TIME
IT INDICATES HOW CLOSELY THE ADJUSTMENT
WAS FOLLOWED THE SHOT TIMES

INTERVAL, AVERAGE AND RMS VELOCITIES
COMPUTED FROM THE ADJUSTED SONIC LOG
ARE LISTED AT THE SHOT LEVELS

MEASURED DEPTH FROM KB M	VERTICAL DEPTH FROM SHOT M	VERTICAL SHOT TIME MS	ADJUSTED SHOT TIME MS	RAW DRIFT MS/M	RESIDUAL SHOT - ADJUSTED SONIC MS	ADJUSTED INTERVAL VELOCITY M/S	ADJUSTED RMS VELOCITY M/S	ADJUSTED AVERAGE VELOCITY M/S
-80.1	0	0	0	0	0	0		0
300.1	380.0	128.0	128.0	0	0	2285	2285	2285
300.1	380.0	188.4	188.4	0	0	2412	2317	2318
400.1	480.0	203.3	203.3	0	0	2862	2419	2410
500.0	580.1	242.2	242.0	0.0	1.0	2579	2446	2437
600.0	680.1	286.7	281.0	3.3	-3	2570	2467	2458
625.0	715.1	288.2	288.0	4.8	3	2593	2501	2493
650.0	740.1	294.3	288.5	3.8	-1.2	2714	2526	2504
675.0	765.0	302.5	302.5	5.4	1	2579	2556	2526
700.0	790.0	309.4	310.0	5.2	-.7	2508	2575	2548
725.0	815.0	318.0	318.0	6.2	-.1	2579	2593	2562
750.1	840.0	326.1	326.0	6.9	1	2160	2609	2577
775.1	865.0	334.2	334.0	7.1	0	2054	2620	2588
800.1	890.0	343.0	343.0	7.4	3	2058	2630	2598
825.1	915.0	351.0	351.0	8.2	2	2961	2629	2607
850.1	940.0	359.5	359.0	8.6	3	3047	2646	2617
875.1	965.0	367.8	367.5	9.0	3	2990	2667	2626
900.1	990.0	376.3	376.1	8.3	-.8	2919	2683	2633
925.1	1015.1	383.8	384.8	8.4	-1.0	2959	2670	2639
950.1	1040.0	391.4	391.5	8.3	-.8	3388	2686	2654
975.1	1065.1	397.3	397.8	9.4	-.8	4278	2716	2676
1000.0	1090.0	404.4	404.0	10.3	-.4	3504	2735	2690
1025.0	1115.1	412.0	412.0	10.8	-.2	3428	2749	2705
1050.0	1140.0	418.8	419.4	10.8	-.8	3488	2762	2718
1075.0	1165.1	426.8	427.2	11.4	-.4	3205	2772	2727
1100.0	1190.1	434.0	434.0	10.1	0	3888	2780	2742
1125.0	1215.1	438.3	438.9	11.4	-.8	3384	2828	2760
1150.0	1240.1	444.0	443.2	10.9	.7	3740	2846	2788
1175.0	1265.1	447.5	447.7	10.1	-.2	5836	2868	2828
1200.0	1290.1	453.0	452.0	10.8	1.4	5123	2843	2851
1225.0	1315.1	457.8	458.0	12.3	-.3	4818	2868	2872
1250.0	1340.1	463.0	463.5	13.1	.4	4484	2892	2891
1275.0	1365.0	469.8	469.1	12.4	.6	4476	2914	2910
1300.0	1390.0	475.4	475.8	12.8	-.3	3862	2928	2923
1325.0	1415.0	480.4	480.7	13.0	.7	3515	2935	2932
1350.1	1440.0	486.4	486.0	13.7	.4	3414	2942	2939
1375.1	1465.0	487.4	487.1	13.8	.3	3526	2949	2947
1400.1	1490.0	503.3	503.7	13.3	-.5	3777	2961	2958
1425.1	1515.0	508.8	509.3	14.1	.2	4485	2980	2975
1440.0	1530.1	512.7	513.5	15.0	-.8	5535	3088	2979
1463.0	1553.1	519.0	520.0	18.0	-1.0	5538		2998

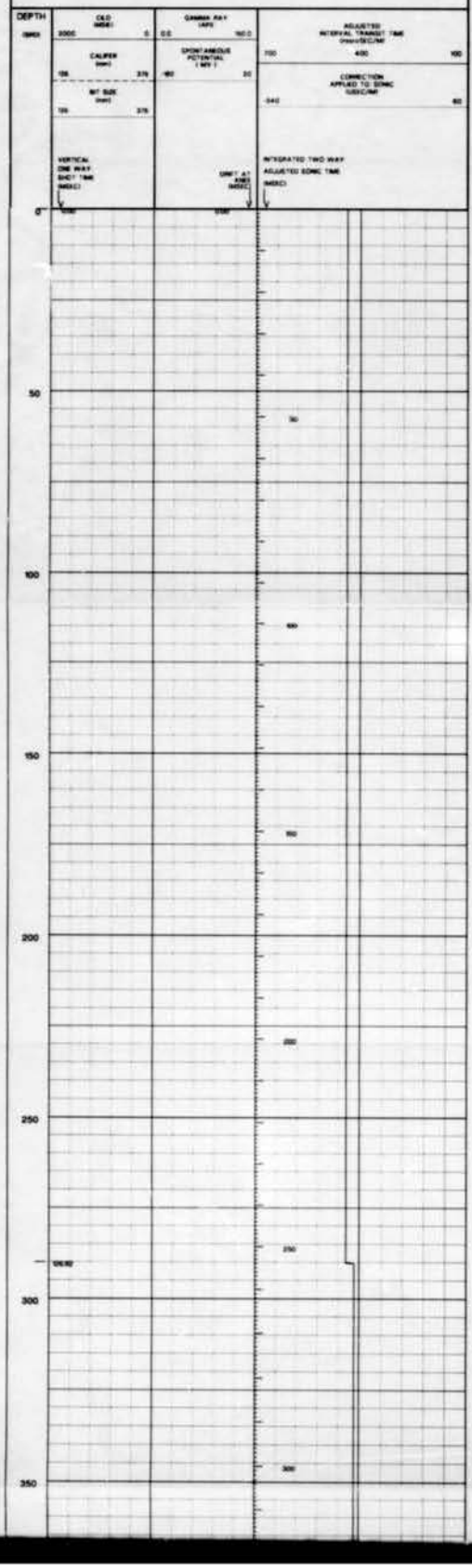
5 of

ADJUSTED SONIC LOG

DEPTH	CLD (MSEC)	GAMMA RAY (API)	ADJUSTED

1380.0	1380.0	470.4	470.4	12.0	-2	3516	3038	2873
1385.0	1415.0	483.4	482.7	15.0	7	3414	3035	2832
1350.1	1440.0	480.4	480.6	13.7	4	3520	3042	2839
1375.1	1465.0	497.4	497.1	13.8	3	3777	3049	2847
1400.1	1490.0	503.5	505.7	13.0	-5	4480	3061	2858
1425.1	1515.0	509.6	509.3	14.1	3	3535	3065	2875
1440.0	1530.1	512.7	513.9	13.0	-8	3539	3084	2876
1465.0	1553.1	519.0	520.0	13.0	-1.0			2869

ADJUSTED SONIC LOG



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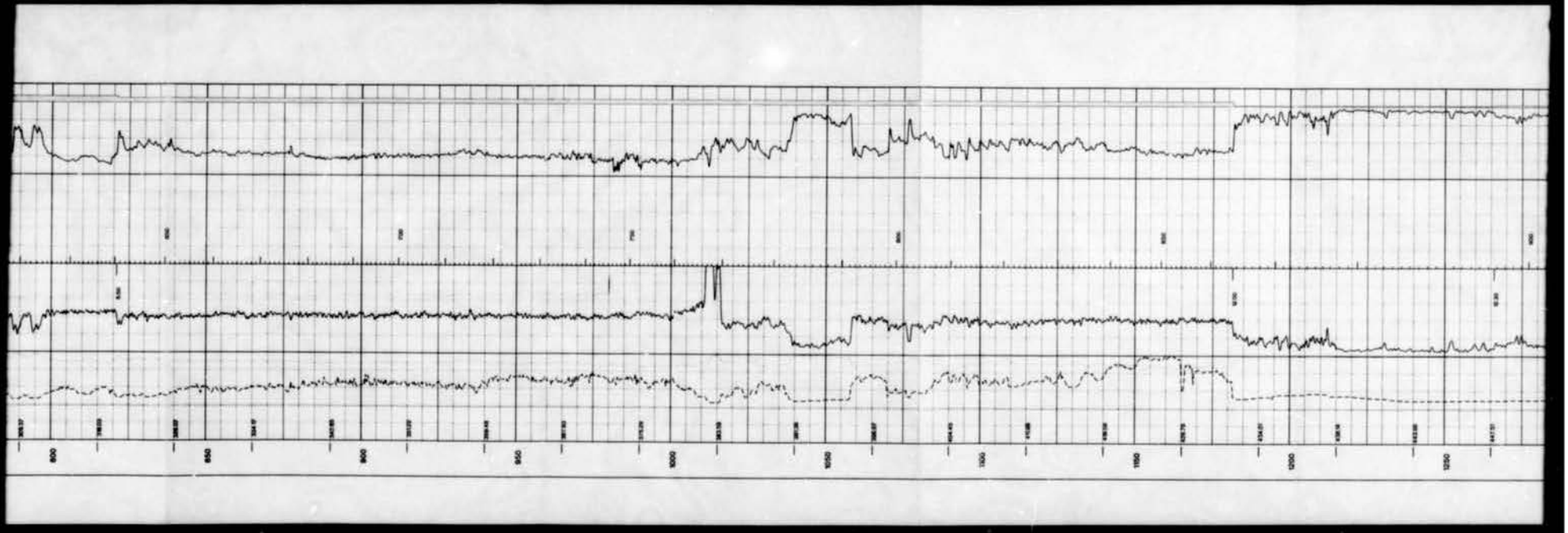
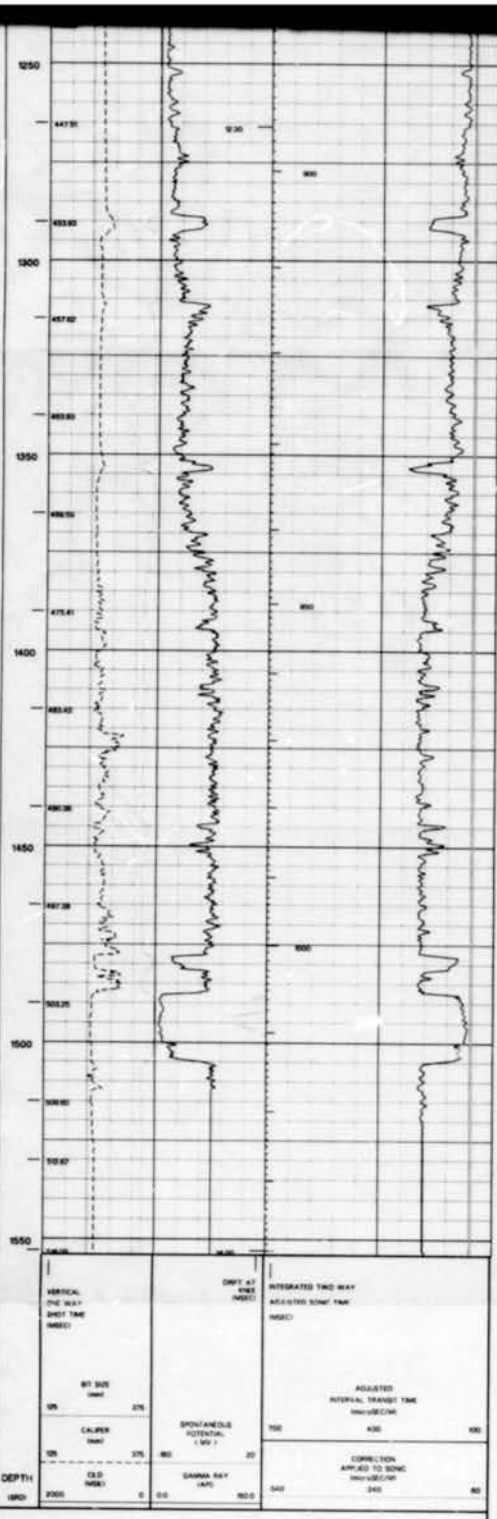
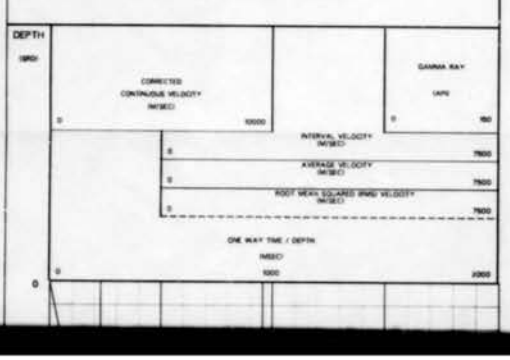
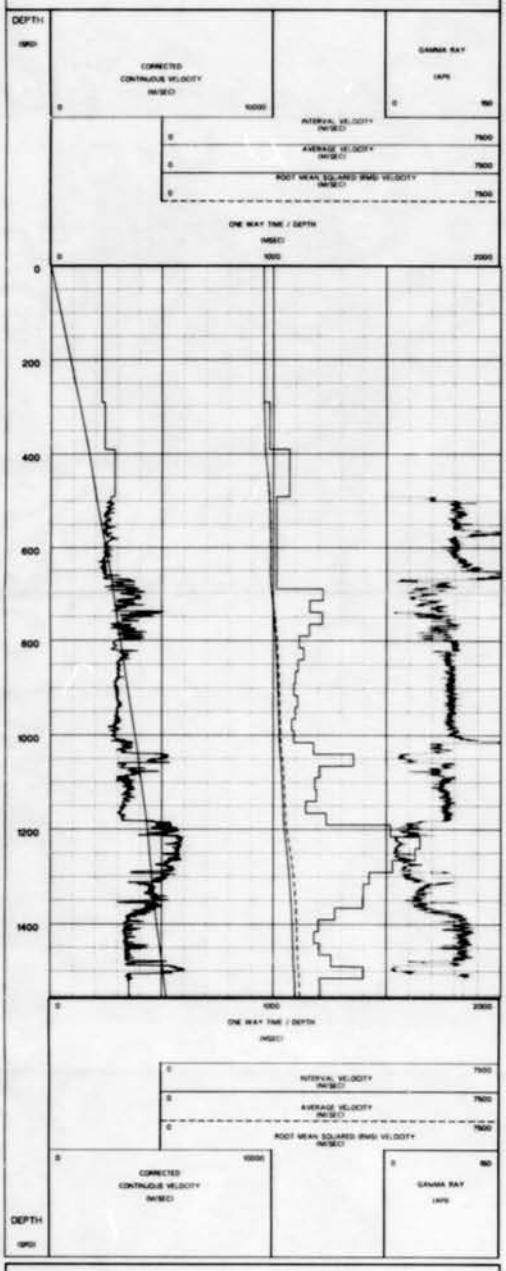




TIME AND VELOCITIES LOG

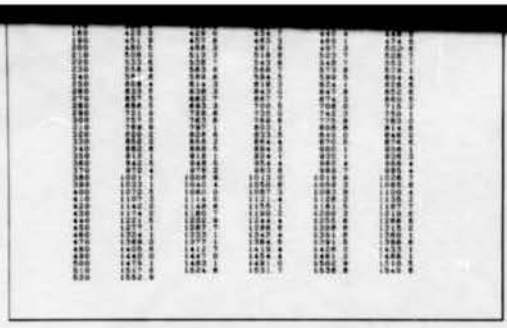


TIME AND VELOCITIES LOG



TIME/DEPTH REPORT

ONE WAY SONIC TIME FROM SHO MS	DEPTH AT TIME + 0 MS M	DEPTH AT TIME + 4 MS M	DEPTH AT TIME + 8 MS M	DEPTH AT TIME + 12 MS M	DEPTH AT TIME + 16 MS M
0	0.0	1.1	2.1	3.1	4.1
20	20.0	21.0	22.0	23.0	24.0
40	40.0	41.0	42.0	43.0	44.0
60	60.0	61.0	62.0	63.0	64.0
80	80.0	81.0	82.0	83.0	84.0
100	100.0	101.0	102.0	103.0	104.0
120	120.0	121.0	122.0	123.0	124.0
140	140.0	141.0	142.0	143.0	144.0
160	160.0	161.0	162.0	163.0	164.0
180	180.0	181.0	182.0	183.0	184.0
200	200.0	201.0	202.0	203.0	204.0
220	220.0	221.0	222.0	223.0	224.0
240	240.0	241.0	242.0	243.0	244.0
260	260.0	261.0	262.0	263.0	264.0
280	280.0	281.0	282.0	283.0	284.0
300	300.0	301.0	302.0	303.0	304.0
320	320.0	321.0	322.0	323.0	324.0
340	340.0	341.0	342.0	343.0	344.0
360	360.0	361.0	362.0	363.0	364.0
380	380.0	381.0	382.0	383.0	384.0
400	400.0	401.0	402.0	403.0	404.0
420	420.0	421.0	422.0	423.0	424.0
440	440.0	441.0	442.0	443.0	444.0
460	460.0	461.0	462.0	463.0	464.0
480	480.0	481.0	482.0	483.0	484.0
500	500.0	501.0	502.0	503.0	504.0
520	520.0	521.0	522.0	523.0	524.0
540	540.0	541.0	542.0	543.0	544.0
560	560.0	561.0	562.0	563.0	564.0
580	580.0	581.0	582.0	583.0	584.0
600	600.0	601.0	602.0	603.0	604.0
620	620.0	621.0	622.0	623.0	624.0
640	640.0	641.0	642.0	643.0	644.0
660	660.0	661.0	662.0	663.0	664.0
680	680.0	681.0	682.0	683.0	684.0
700	700.0	701.0	702.0	703.0	704.0
720	720.0	721.0	722.0	723.0	724.0
740	740.0	741.0	742.0	743.0	744.0
760	760.0	761.0	762.0	763.0	764.0
780	780.0	781.0	782.0	783.0	784.0
800	800.0	801.0	802.0	803.0	804.0
820	820.0	821.0	822.0	823.0	824.0
840	840.0	841.0	842.0	843.0	844.0
860	860.0	861.0	862.0	863.0	864.0
880	880.0	881.0	882.0	883.0	884.0
900	900.0	901.0	902.0	903.0	904.0
920	920.0	921.0	922.0	923.0	924.0
940	940.0	941.0	942.0	943.0	944.0
960	960.0	961.0	962.0	963.0	964.0
980	980.0	981.0	982.0	983.0	984.0
1000	1000.0	1001.0	1002.0	1003.0	1004.0
1020	1020.0	1021.0	1022.0	1023.0	1024.0
1040	1040.0	1041.0	1042.0	1043.0	1044.0
1060	1060.0	1061.0	1062.0	1063.0	1064.0
1080	1080.0	1081.0	1082.0	1083.0	1084.0
1100	1100.0	1101.0	1102.0	1103.0	1104.0
1120	1120.0	1121.0	1122.0	1123.0	1124.0
1140	1140.0	1141.0	1142.0	1143.0	1144.0
1160	1160.0	1161.0	1162.0	1163.0	1164.0
1180	1180.0	1181.0	1182.0	1183.0	1184.0
1200	1200.0	1201.0	1202.0	1203.0	1204.0
1220	1220.0	1221.0	1222.0	1223.0	1224.0
1240	1240.0	1241.0	1242.0	1243.0	1244.0
1260	1260.0	1261.0	1262.0	1263.0	1264.0
1280	1280.0	1281.0	1282.0	1283.0	1284.0
1300	1300.0	1301.0	1302.0	1303.0	1304.0
1320	1320.0	1321.0	1322.0	1323.0	1324.0
1340	1340.0	1341.0	1342.0	1343.0	1344.0
1360	1360.0	1361.0	1362.0	1363.0	1364.0
1380	1380.0	1381.0	1382.0	1383.0	1384.0
1400	1400.0	1401.0	1402.0	1403.0	1404.0
1420	1420.0	1421.0	1422.0	1423.0	1424.0
1440	1440.0	1441.0	1442.0	1443.0	1444.0
1460	1460.0	1461.0	1462.0	1463.0	1464.0
1480	1480.0	1481.0	1482.0	1483.0	1484.0
1500	1500.0	1501.0	1502.0	1503.0	1504.0
1520	1520.0	1521.0	1522.0	1523.0	1524.0
1540	1540.0	1541.0	1542.0	1543.0	1544.0



Schlumberger

SYNTHETIC SEISMOGRAM

CLIENT = PETRO CANADA INC

FIELD = WILDCAT

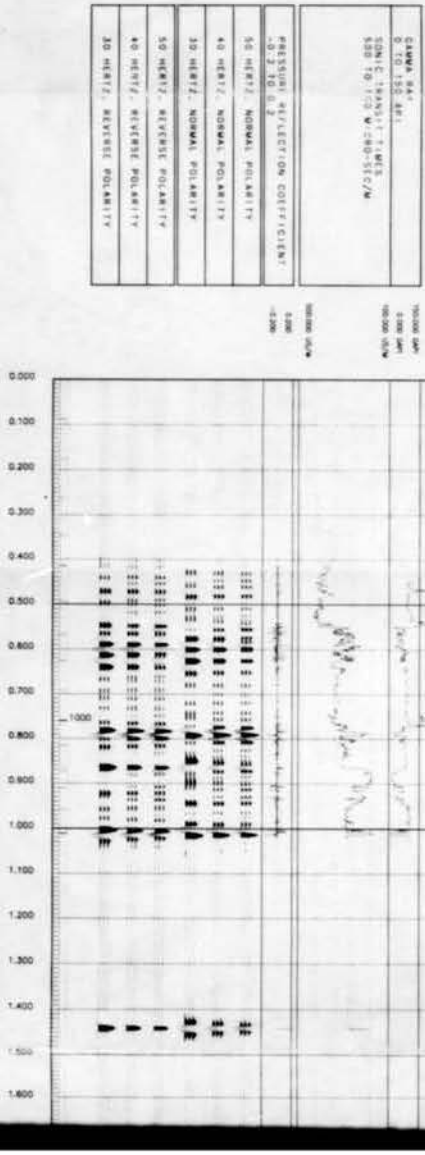
WELL = PCI ISLAND LAKE N-45

LOCATION	: 60 4 58.62/120 53 34.34
PROVINCE COUNTRY	: NORTHWEST TERRITORIES : CANADA
DATE COMPUTED JOB NUMBER	: MAR-1990 : 51226

REFERENCE DATUM ACOUSTIC IMPEDANCE	: 700 METRES A.S.L. : FROM SONIC AND DENSITY
SAMPLING RATE WAVELET	: 1 MSEC : RICKER ZERO PHASE 30, 40, 50 HERTZ

POLARITY CONVENTION:
NORMAL POLARITY: AN INCREASE OF ACOUSTIC IMPEDANCE APPEARS AS A WHITE TROUGH

THE WAVELET IS DISPLAYED FOR A PRESSURE REFLECTION COEFFICIENT OF 0.2 (INCREASE OF IMPEDANCE)



CLIENT - PETRO CANADA INC

FIELD - WILDCAT

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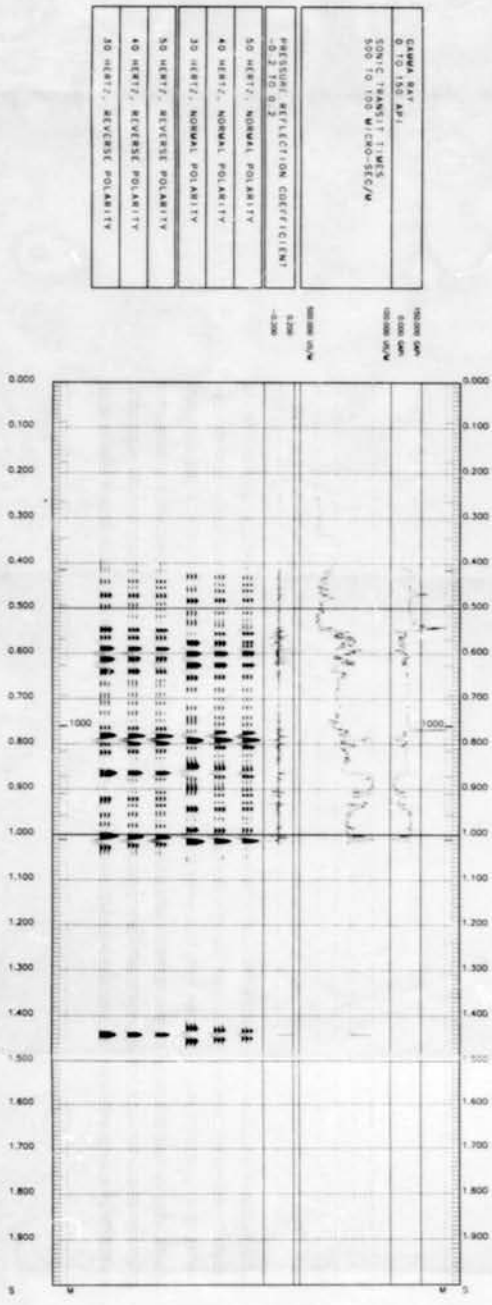

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Schlumberger

SCHLUMBERGER OF CANADA
CALGARY LOG INTERPRETATION CENTER
24TH FLOOR, MONENCO PLACE
801 6th Avenue SW
Calgary, Alberta T2P 3W2
(403) 231-9600

VERTICAL SEISMIC PROFILE

SAT - INCIDENT VSP
OFFSET 40 METRES - NW/SW

Company: PETRO CANADA INC.

Well Name: PCI ISLAND LAKE N-45

Field: WILDCAT

Location :
Latitude : 60 4' 58.62" **Longitude :** 120 53' 34.34"

Province : NORTHWEST TERRITORIES, CANADA

ELEVATIONS DATA:

Permanent Datum:	GL		Elevations Measured to:	METRES	
Seismic Reference Datum (SRD):		700.0 METRES ASL		SRD Elevation:	700.00
Logs Measured From:	KB	Drilling Measured From:	KB	Water/Mud Line Depth:	
Kelly Bushing (KB):	410.00	Drill Floor (DF):	408.70	Ground Level (GL):	406.40

ACQUISITION DATA:

Run Number:	1
Date:	8-MAR-1990
Total Depth:	1532 M
Bit Size:	222 MM
Casing Size:	244.5 MM @ 408 M
Tool Type:	SAT
Source Type:	DYNAMITE
Source Azimuth:	VARIABLE (SEE SHOT REPORT)
Source Offset:	VARIABLE (SEE SHOT REPORT)
Source Elevation:	VARIABLE (SEE SHOT REPORT)
Engineer:	JORDAN
Witness:	CHRISTIE
CSU Software:	CP 32
Logging Unit:	9100
District:	GRANDE PRAIRIE

DYNAMITE:

PROCESSING DATA:

Processing Job Reference:	91026	Processing Date:	MAR 1990
Log Analyst:	N. FASHAK	Processing Software Baseline:	90.0001

REPLACMENT VELOCITY=2750 M/SEC.

DYNAMITE ARRAY

PROCESSING SEQUE

RAW STACKS

Median stacking of the shots from the ve
after manual selection

PREPROCESSED Z STACKS

INPUT : RAW Z STACKS
BAND PASS FILTER: 10-90 hertz, zero pha
18-35 db/octave
NORMALIZATION : Amplitudes at each lev
RMS value in a window of
40 milliseconds before P
GAIN FUNCTION : T**1.7

VELOCITY FILTER : WAVEFIEL

MEDIAN P DOWNGOING
INPUT : PREPROCESSED Z STACKS
MEDIAN FILTER :
11 levels median filter to enhance downgoing, after
alignment of downgoing waves steered by first P ar
BAND PASS FILTER: 10-90 hertz, zero pha
18-36 db/octave

PREPROCESSED STACKS MINUS DOWNG
The median P downgoing waves are subtracted from
to create a difference file

MEDIAN UPGOING
INPUT : PREPROCESSED Z STACKS
MEDIAN FILTER :
11 levels median filter to enhance upgoing after fre
of upgoing waves along a slope of -1.0 the first P a
BAND PASS FILTER: 10-90 hertz, zero pha
18-36 db/octave

WAVESHAPING

INPUT : MEDIAN P DOWNGOING an
WIENER FILTER : A Wiener filter designed
LEVEL is applied to both
MEDIAN UPGOING
Input : 2000 msec of downgoing, starti
Desired output : Impulse response of a sixth o
Butterworth filter 10-90 hertz
Lags of desired output : 1000 msec
Filter duration : 1000 msec
White noise : 0.01
BAND PASS FILTER: 10-90 hertz, zero pha
18-36 db/octave
OUTPUTS : WAVESHAPED DOWNGOIN
Mute of waveshaped upgoing to the first arrival

CORRIDOR STACKS

INPUT : WAVESHAPED UPGOING
WINDOW : A 100 msec window was
OUTPUTS : Summed corridor stack

PROCESSING SEQUENCE

RAW STACKS

Median stacking of the shots from the vertical component after manual selection

PREPROCESSED Z STACKS

INPUT : RAW Z STACKS
BAND PASS FILTER: 10–90 hertz, zero phase, sixth order Butterworth, 18–36 db/octave
NORMALIZATION : Amplitudes at each level are normalized to the same RMS value in a window of 160 milliseconds, starting 40 milliseconds before P arrival time.
GAIN FUNCTION : T**1.7

VELOCITY FILTER : WAVEFIELD SEPARATION

MEDIAN P DOWNGOING

INPUT : PREPROCESSED Z STACKS
MEDIAN FILTER :
11 levels median filter to enhance downgoing, after frequency domain alignment of downgoing waves steered by first P arrival times
BAND PASS FILTER: 10–90 hertz, zero phase, sixth order Butterworth 18–36 db/octave

PREPROCESSED STACKS MINUS DOWNGOING

The median P downgoing waves are subtracted from the preprocessed Z stacks to create a difference file.

MEDIAN UPGOING

INPUT : PREPROCESSED Z STACKS minus MEDIAN DOWNGOING
MEDIAN FILTER :
11 levels median filter to enhance upgoing after frequency domain alignment of upgoing waves along a slope of –1.0 the first P arrival slope.
BAND PASS FILTER: 10–90 hertz, zero phase, sixth order Butterworth, 18–36 db/octave

WAVESHAPING

INPUT : MEDIAN P DOWNGOING and MEDIAN UPGOING
WIENER FILTER : A Wiener filter designed on the median downgoing at EACH LEVEL is applied to both the MEDIAN DOWNGOING and MEDIAN UPGOING
Input : 2000 msec of downgoing, starting 40 msec before first break
Desired output : Impulse response of a sixth order zero phase, Butterworth filter 10–90 hertz
Lags of desired output : 1000 msec
Filter duration : 1000 msec
White noise : 0.01
BAND PASS FILTER: 10–90 hertz, zero phase, sixth order Butterworth, 18–36 db/octave
OUTPUTS : WAVESHAPED DOWNGOING and WAVESHAPED UPGOING
Mute of waveshaped upgoing to the first arrival transit time

CORRIDOR STACKS

INPUT : WAVESHAPED UPGOING
WINDOW : A 100 msec window was used
OUTPUTS : Summed corridor stack

EXPLANATION OF PANELS

PANELS :

1. RAW STACKS
2. PREPROCESSED Z STACKS
3. MEDIAN P DOWNGOING
4. PREPROCESSED STACKS MINUS DOWN P
5. MEDIAN UPGOING
   Normal polarity
6. MEDIAN UPGOING
   Reverse polarity
7. WAVE SHAPED DOWNGOING
8. WAVE SHAPED UPGOING
   Normal polarity
   File normalized
9. SUMMED CORRIDOR STACK
   Normal polarity
10. WAVE SHAPED UPGOING
    Reverse polarity
    File normalized
11. SUMMED CORRIDOR STACK
    Reverse polarity

POLARITY CONVENTION

NORMAL POLARITY :
An increase of acoustic impedance appears as a white trough.
(S.E.G. convention when a compressional source is used)

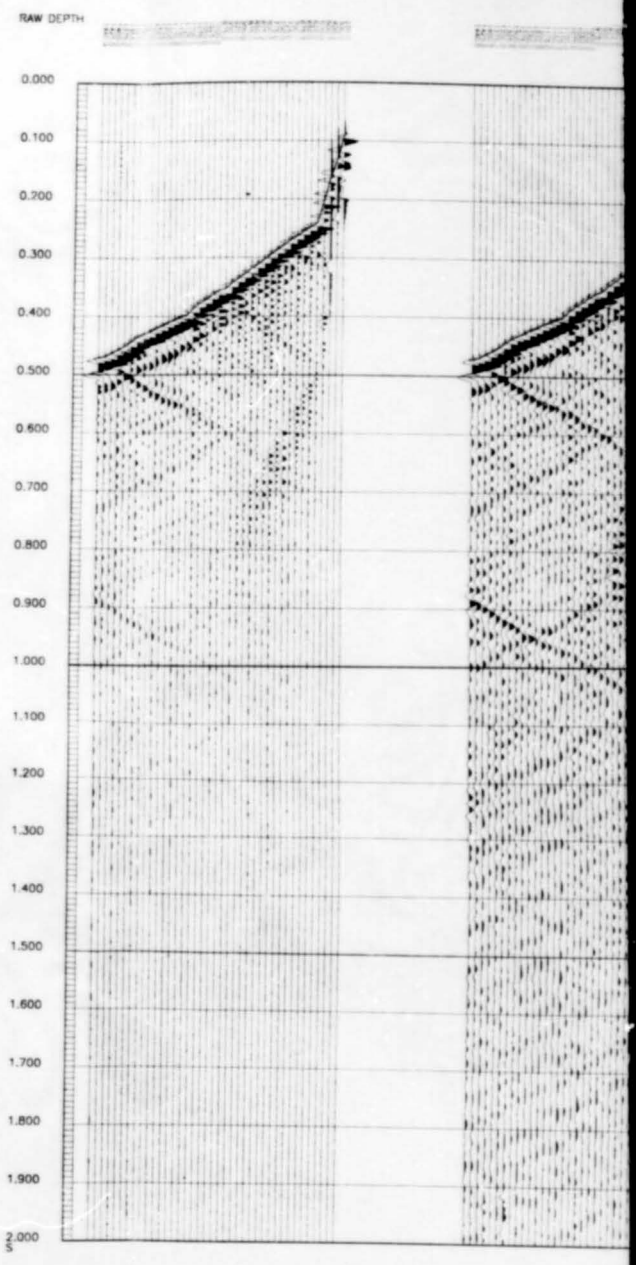
NELS

NUS DOWN P

s a white trough.
urce is used)

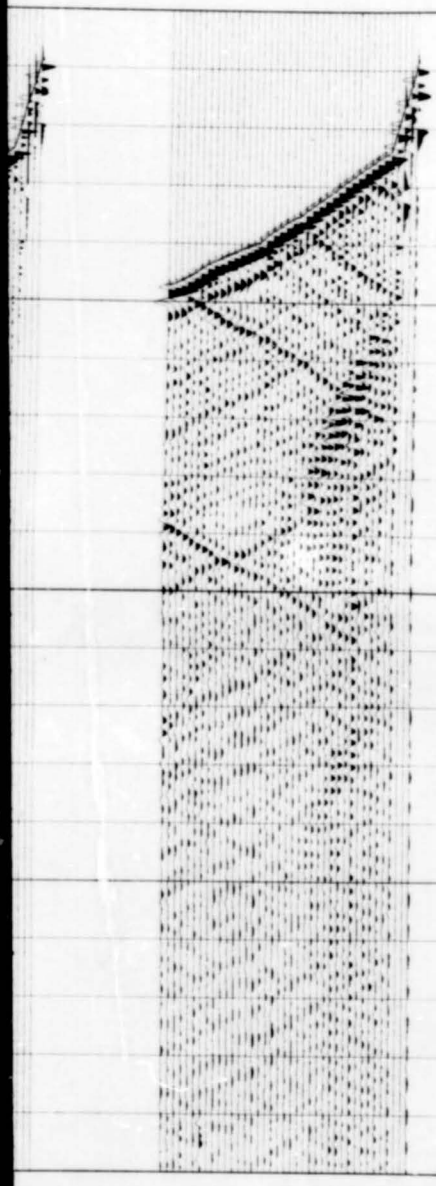
1. RAW STACKS

2. PREPROCESSED Z

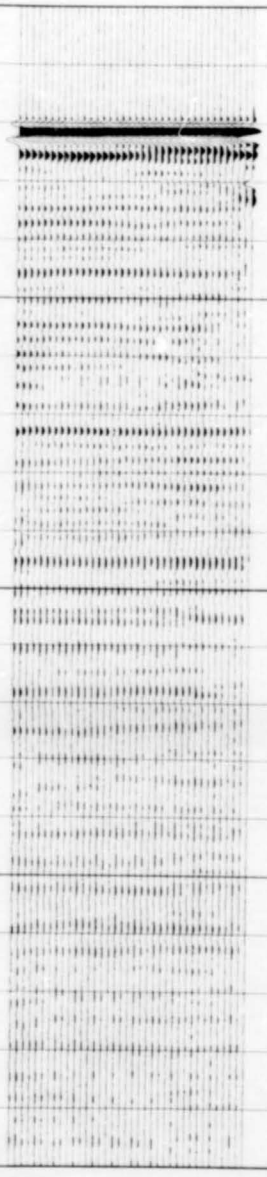


4 of

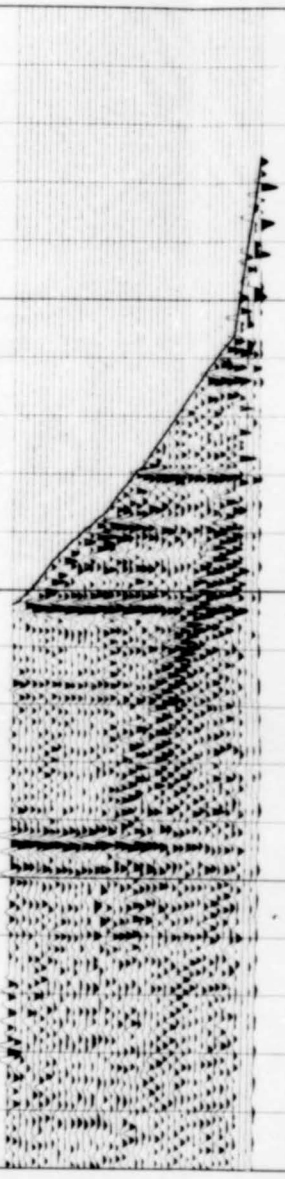
2. PREPROCESSED Z STACKS



3. MEDIAN P DOWN



4. PREPROCESSED STACKS MINUS DOWN P

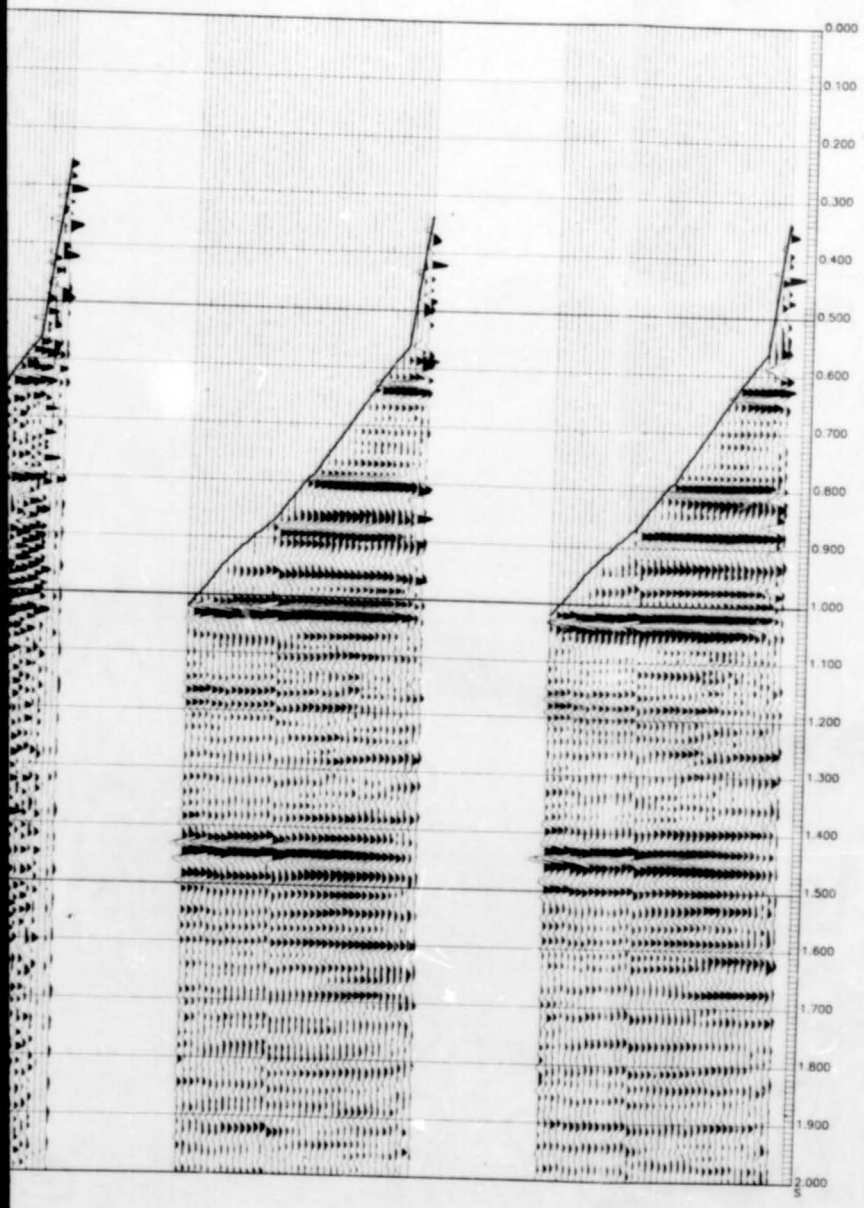


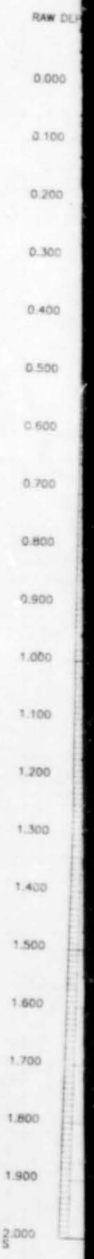
5 of

STACKS
P

5. MEDIAN UP NP

6. MEDIAN UP RP



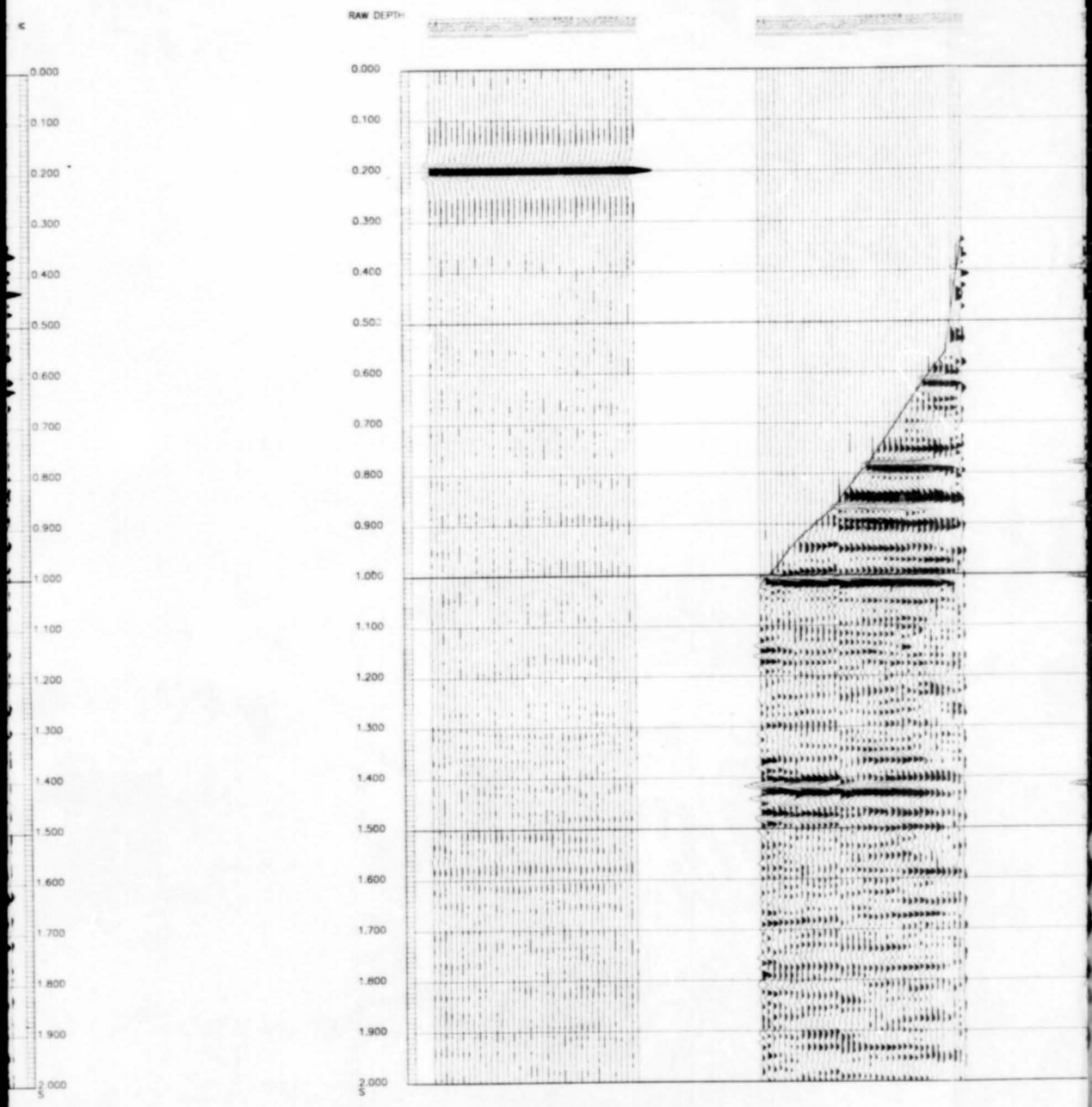


6 of 9

7. WAVE SHAPED DOWN

8. WAVE SHAPED UP NP

9. COR



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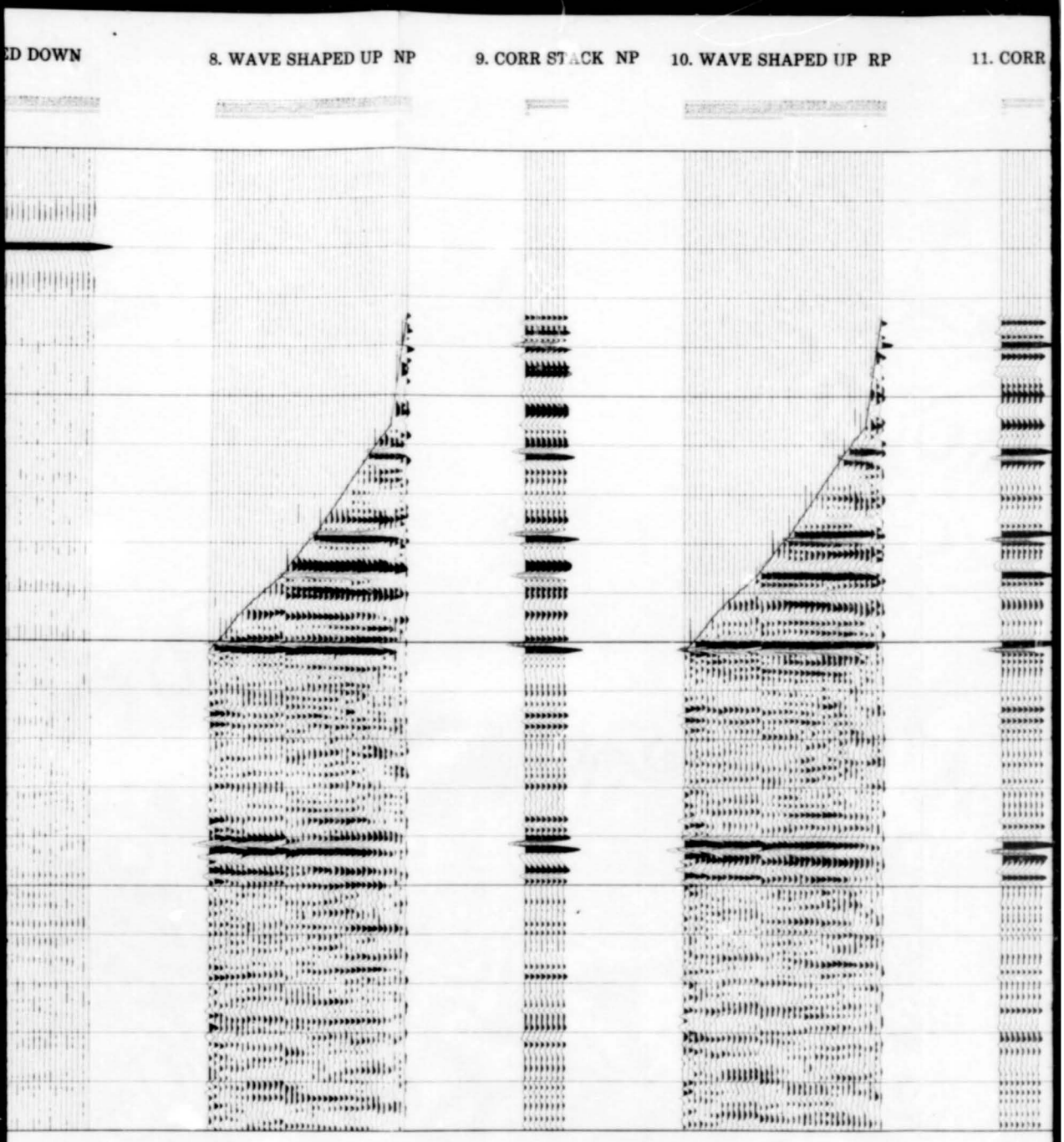
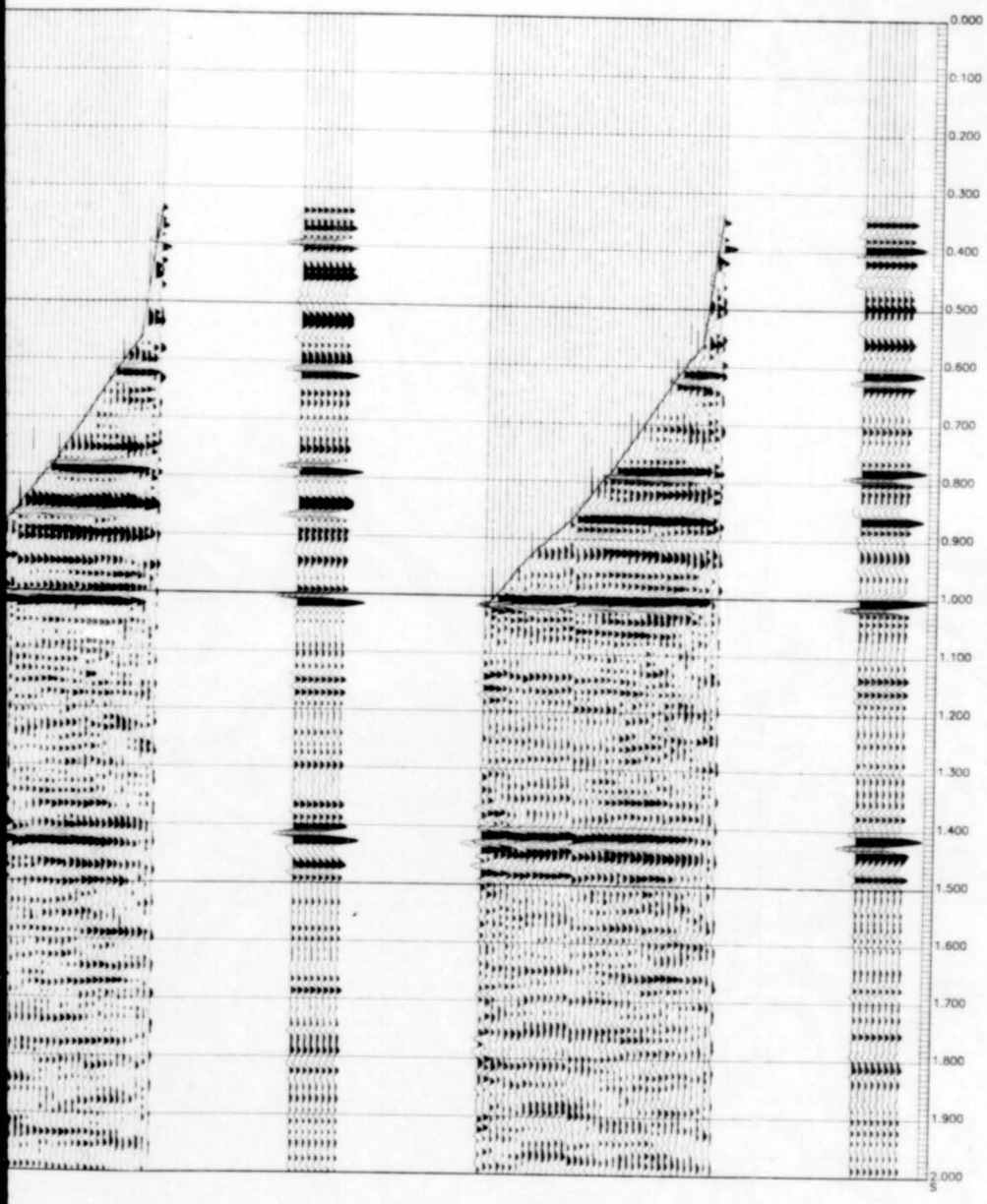

ED DOWN
8. WAVE SHAPED UP NP
9. CORR STACK NP
10. WAVE SHAPED UP RP
11. CORR

8 of 8

E SHAPED UP NP | 9. CORR STACK NP | 10. WAVE SHAPED UP RP | 11. CORR STACK RP



1 of

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Schlumberger

SCHLUMBERGER OF CANADA
CALGARY LOG INTERPRETATION CENTER
24TH FLOOR, MONENCO PLACE
801 6th Avenue SW
Calgary, Alberta T2P 3W2
(403) 231-0600

VERTICAL SEISMIC PROFILE

COMPOSITE LOGS
OFFSET 40 METRES - NW/SW

Company: PETRO CANADA INC.

Well Name: PCI ISLAND LAKE N-45

Field: WILDCAT

Location :
Latitude : 60 4' 56.62" **Longitude :** 120 53' 34.34"

Province : NORTHWEST TERRITORIES, CANADA

ELEVATIONS DATA

ACQUISITION DATA

PROCESSING DATA

VSP, SYNTHETIC SEISMOGRAMS AND LOGS
REVERSE POLARITY

REFERENCE DATUM : 700.0 METRES A.S.L.
ACOUSTIC IMPEDANCE : FROM SONIC ONLY
SYNTHETIC SAMPLING RATE : 1.0 MSEC

POLARITY CONVENTION:

NORMAL POLARITY: AN INCREASE OF ACOUSTIC IMPEDANCE APPEARS AS A WHITE TROUGH.

THIS IS SEG NORMAL POLARITY WHEN A COMPRESSIONAL SOURCE IS USED

VSP, SYNTHETIC SEISMOGRAMS AND LOGS
REVERSE POLARITY

REFERENCE DATUM : 700.0 METRES A.S.L.
ACOUSTIC IMPEDANCE : FROM SONIC ONLY
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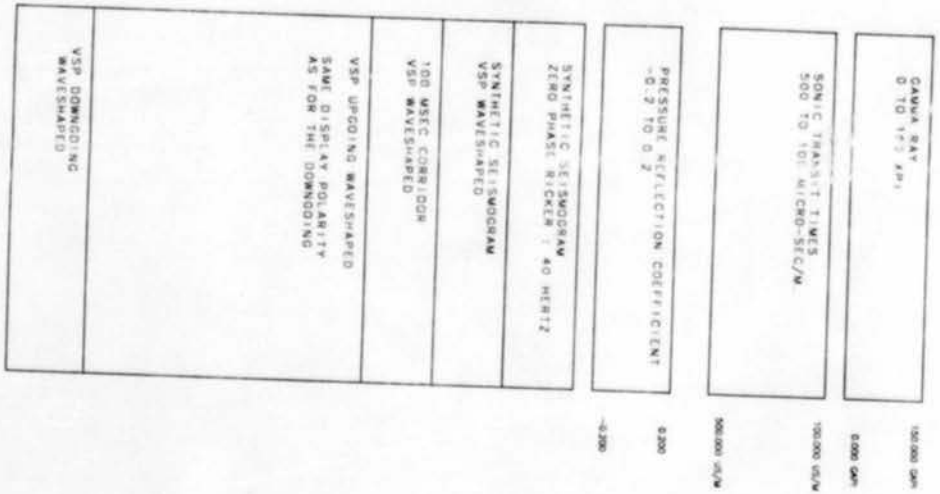
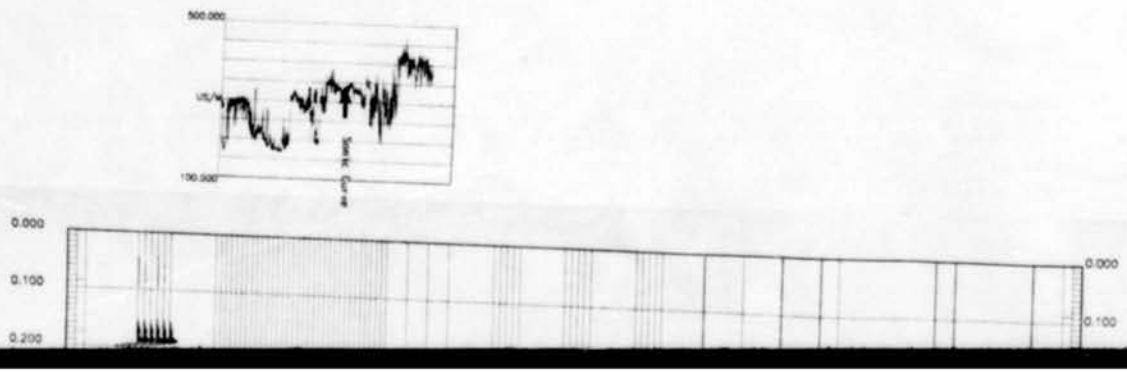
THIS IS SEG NORMAL POLARITY, WHEN A COMPRESSIONAL SOURCE IS USED





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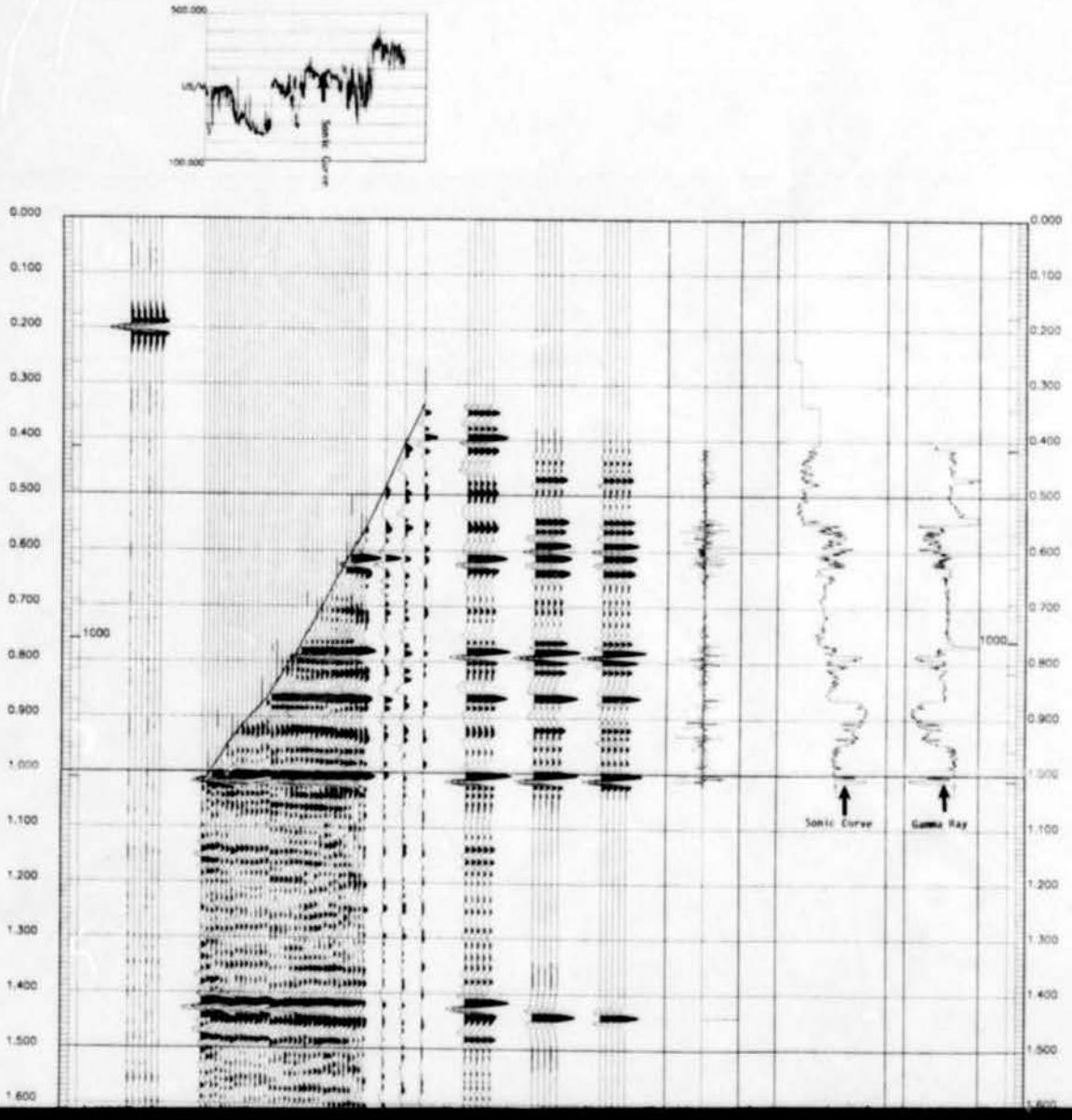
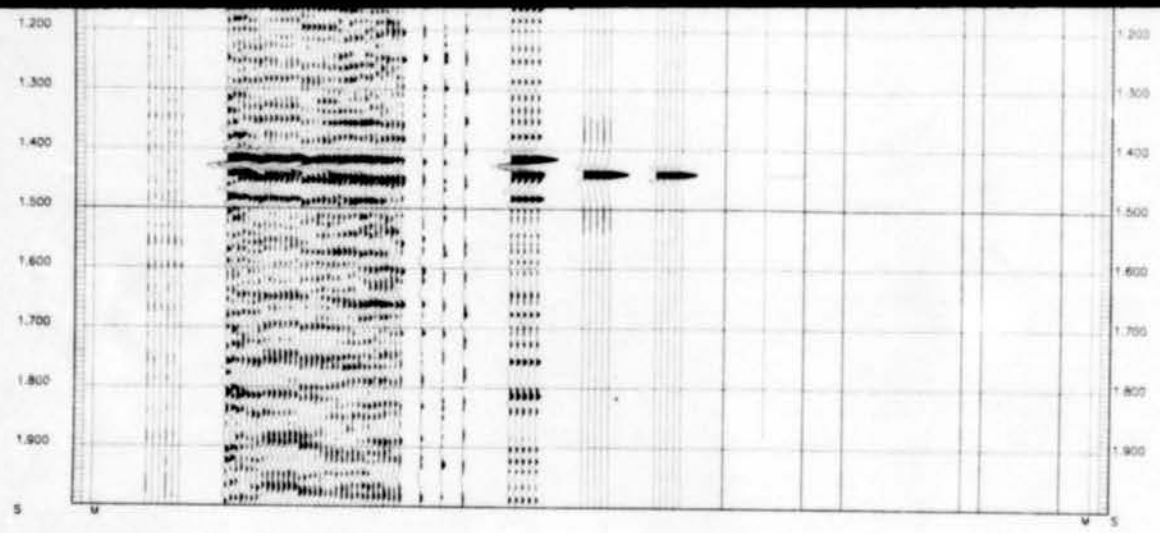

500.000
100.000
Sonic Curve
0.000
0.100
0.200
0.300
0.400
0.500
0.600
0.700
0.800
0.900
1.000
1.100
1.200
1.300
1.400
1.500
1.600
1000
Sonic Curve
Gamma Ray

3 of



VSP, SYNTHETIC SEISMOGRAMS AND LOGS

NORMAL POLARITY

REFERENCE DATUM : 700.0 METRES A.S.L.
ACOUSTIC IMPEDANCE : FROM SONIC ONLY
SYNTHETIC SAMPLING RATE : 1.0 MSEC

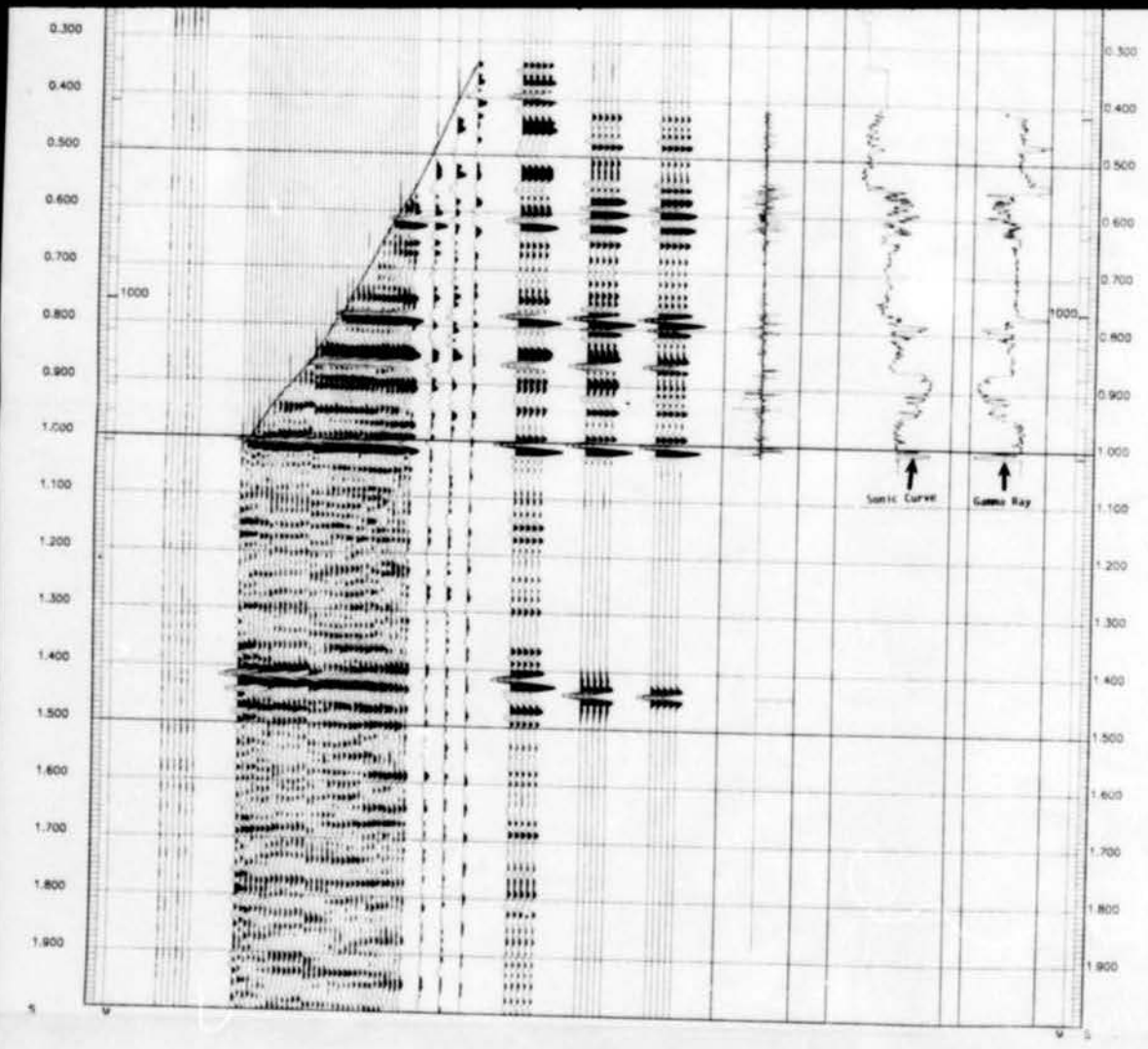
POLARITY CONVENTION:

NORMAL POLARITY: AN INCREASE OF ACOUSTIC IMPEDANCE APPEARS AS A WHITE TROUGH.
THIS IS SEG NORMAL POLARITY, WHEN A COMPRESSIONAL SOURCE IS USED

VSP DOWGOING WAVESHAPED	
	VSP UPGOING WAVE SAME DISPLAY POL AS FOR THE DOWG
VSP WAVESHAPED 100 MSEC CORRELOD	
SYNTHETIC SEISMO VSP WAVESHAPED	
SYNTHETIC SEISMO ZERO PHASE WICKE	
PRESSURE REFLECT -0.2 TO 0.2	
SONIC TRANSIT T 500 TO 100 MICRO	
GAMMA RAY 0 TO 100 API	

NORMAL POLARITY: AN INCREASE OF ACOUSTIC IMPEDANCE
APPEARS AS A WHITE TROUGH.
THIS IS SEG NORMAL POLARITY,
WHEN A COMPRESSIONAL SOURCE IS USED

5 of


0.300
0.400
0.500
0.600
0.700
0.800
0.900
1.000
1.100
1.200
1.300
1.400
1.500
1.600
1.700
1.800
1.900
1000
Sonic Curve
Gamma Ray

6 of 8