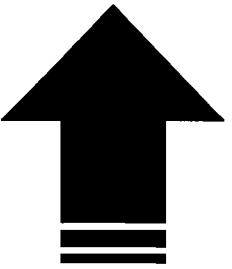
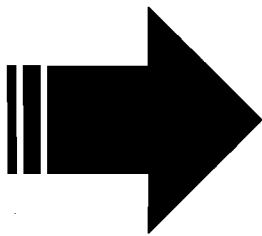


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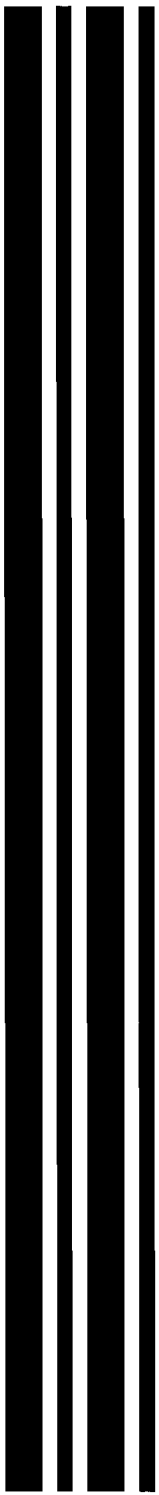


Landscape Feed
New Document Follows...
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Portrait Feed
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Printed on 6/15/2011 8:57:21 AM

This is a Patch T type separator sheet.



CALGAR

EXCO et al N. Chance Y.T.

D-22

Final Drilling Summary

Q111-EG-1-1

EXCO ET AL N CHANCE Y.T.

D-22

FINAL DRILLING SUMMARY

66°11' 06.10" N 137°35' 32.91" W

EXCO ENERGY LTD.

April, 1985

Warning for those using the Exco et al N. Chance D-22 final well report.

The final well report for this Exco et al N. Chance D-22 was prepared in a draft form by Winterhawk Concelling Services Limited and a great part consisted of poor photocopies of handwritten field reports.

COGLA-REB was authorized to photocopy Winterhawk's draft and COGLA-Engineering Branch typed the report the best they could.

Since we were not able to decipher or read those field reports the handwritten pages are stapled to the typed one so you can check the data yourself (especially numbers) and determine if you should rely on them.

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EXCO ET AL N CHANCE Y.T.

D-22

FINAL DRILLING SUMMARY

66°11' 06.10" N 137°35' 32.91" W

Exco Energy Ltd.

April, 1985

EXCO ET AL N. Chance Y.T. D-22

INTRODUCTION

In May of 1984 Exco Energy Ltd. concluded an Exploration Agreement with Westmin Resources Limited. Pursuant to the terms of the agreement, Exco was committed to conduct seismic activity and to drill two (2) wells within a specified grid area prior to April 30, 1985. By drilling these wells in furtherance of the agreement, Exco would earn a share of Westmin's interest in the lands; and, in so doing, would be entitled to earn additional acreage if they chose to exercise their option.

The first of the two wells to be drilled was Exco et al West Parkin Y.T. D-54. Both wells were to be drilled to a maximum depth of 1825 metres, measured distance, and to require approximately forty (40) days to complete.

Construction of the access route began in late November, 1984 after approval had been granted from Land Use. By December 10, 1984 the heavy equipment was on location and in the process of preparing the sump.

The rig, together with supplies and support services for the project were transported north in early December. With reference to the enclosed area maps, all equipment gained access to the location by travelling the Dempster Highway, which runs north from Dawson City, Yukon. As required, additional supplies were flown into the site airstrip (Parkins Airstrip), via DC-3's.

Although minor delays were experienced in rigging up, the well was spudded only a few days behind schedule, namely, on December 20, 1984. Total depth was reached February 9, 1985 and, following evaluation procedures, the well was cased and suspended, with the rig being released February 19, 1985.

At that time the rig, auxiliary equipment and supplies were transported to the second commitment well, Exco et al N. Chance Y.T. D-22.

Spudded on March 1, 1985 the D-22 well was drilled to total depth and evaluated in forty (40) days, with rig release taking place on April 9, 1985.

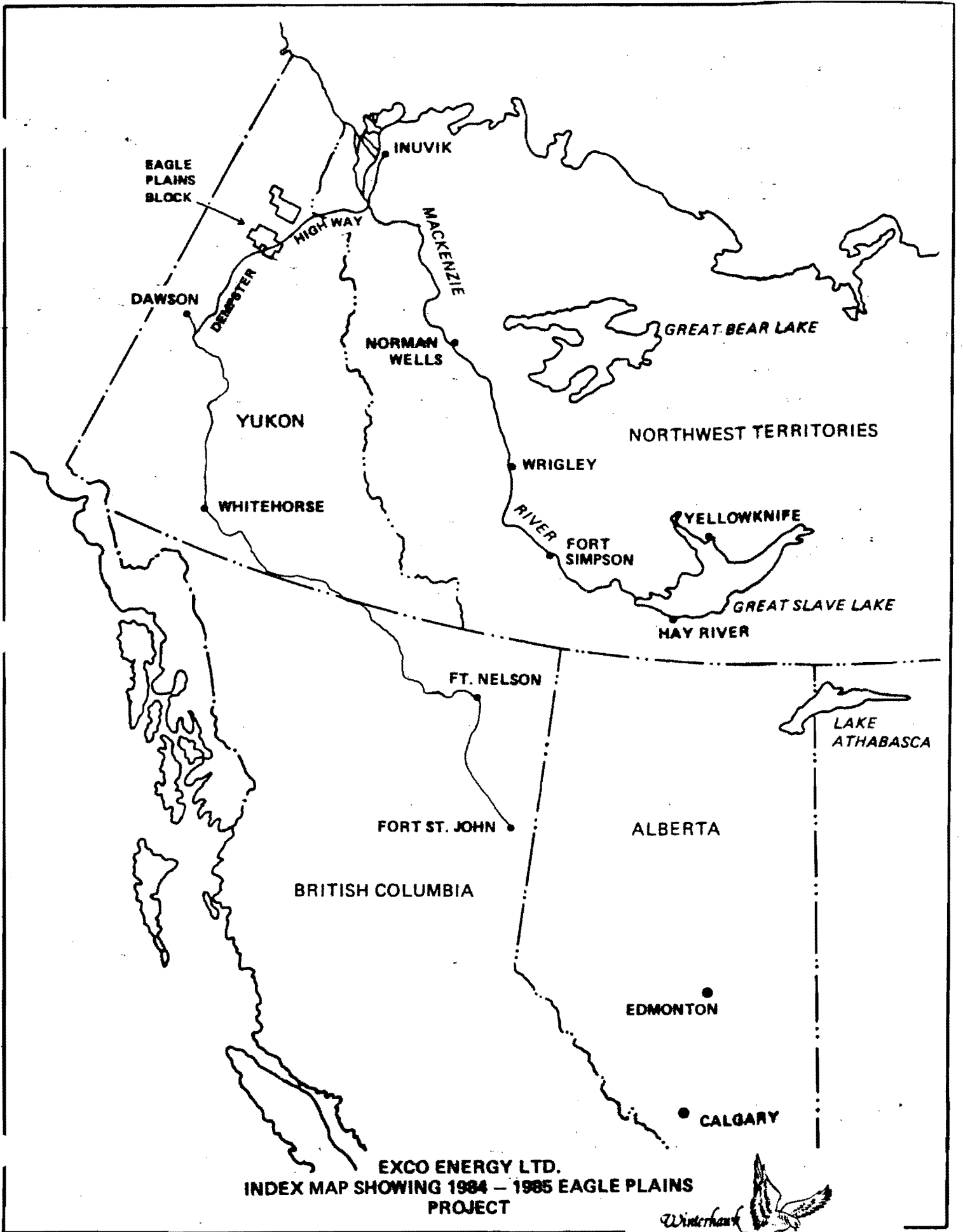
The primary prospects in the Exco et al North Chance well were considered to be the Lower Cretaceous Orange Sandstone and the Hart River "Chance Sandstone". However, since the Orange Marker exhibited no visible porosity warrant a drill stem test. With regard to the Chance Sandstone, a drill stem test was run over the porous upper portion but yielded no gas to surface and a recovery of 878 metres of clear slightly gas cut water. Unlike the upper 5 metres of the Chance Sandstone the remainder of the formation was characterized as being a tight conglomerate sandstone.

note

Secondary prospects included both the Lower Cretaceous Mid-Sandstone. Member and the sand or lime developments in the Hart River. Drill stem tests run over both zones yielded no gas to surface and recovering consisting of slightly gassified oil flecked and water cut drilling mud.

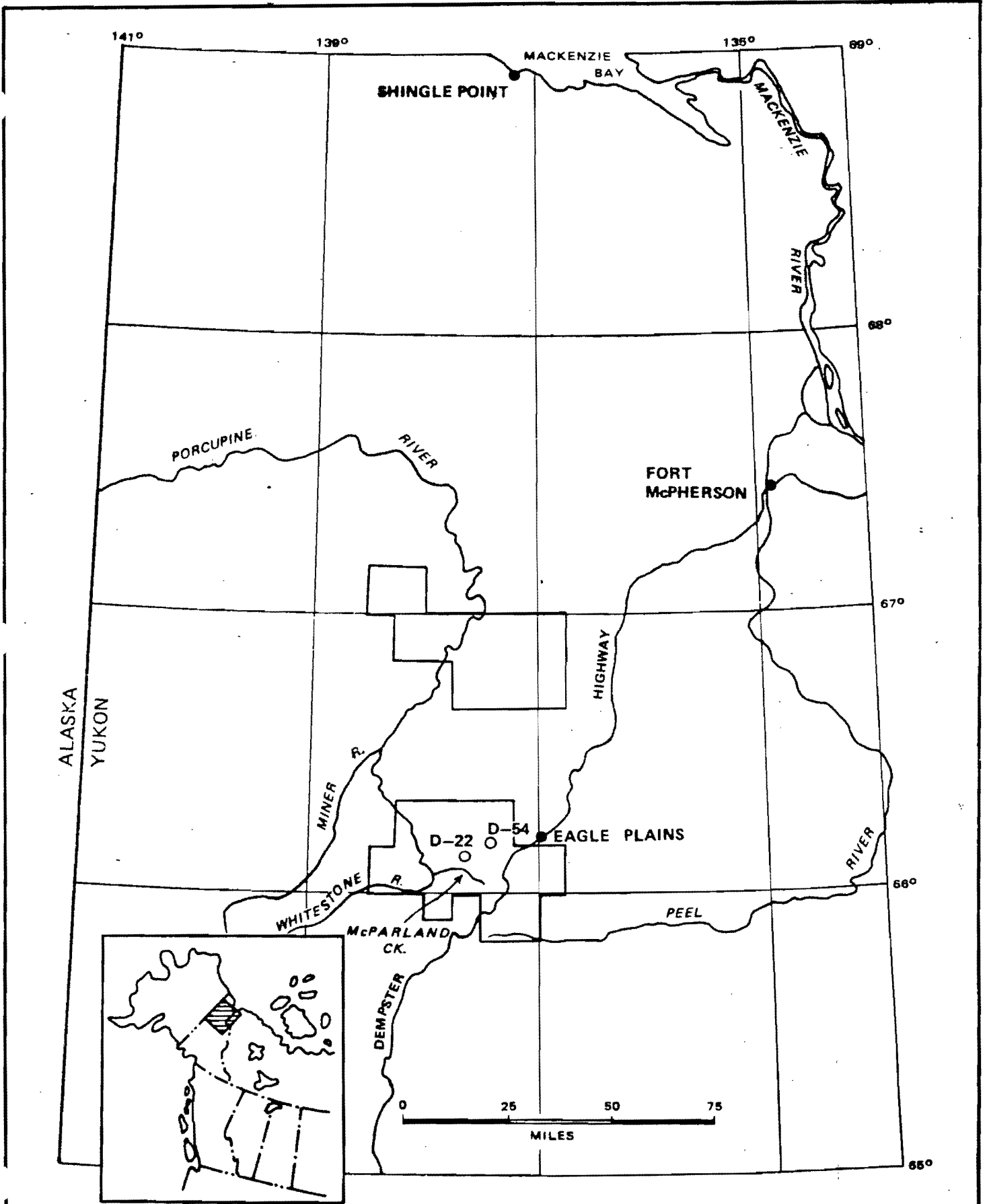
Since there was no prospect of hydrocarbon recovery the well was subsequently plugged and abandoned.

Exco hereby gives notice that the enclosed report is to be considered the final drilling summary for Exco et al N. Chance Y.T. D-22.



EXCO ENERGY LTD.
INDEX MAP SHOWING 1984 - 1985 EAGLE PLAINS
PROJECT





EXCO ENERGY LTD.
 1984 - 1985 EAGLE PLAINS PROJECT



GENERAL WELL INFORMATION

WELL NAME: Exco et of N. Chance Y.T. D-22

LESSOR: Westmin Resources Limited
farm out to Exco Energy Ltd.

OPERATOR: Exco Energy Ltd.
6th Floor, 700 - 4th Avenue S.W.
Calgary, Alberta
T2P 3J4

GRID AREA: 66-20-137-30; Unit D; Section 22

CO-ORDINATES: 66° 11'06.10"N
137° 35'32.91"W

UNIQUE WELL IDENTIFIER: 300 D22 6620 137 300

EXPLORATION AGREEMENT: No. 231

DRILLING AUTHORITY: No. 1209

DRILLING CONTRACTOR: Gray Mountain Drilling Ltd.
P.O. Box 4998
Whitehorse, Yukon
Y1A 4S2

2000 - 425 - 1st Street S.W.
Calgary, Alberta
T2P 3L8

DRILLING RIG: Custom Drilling Rig #94

CLASSIFICATION: New Field Exploratory (Northern)

ELEVATIONS: G.L. 531.50m
K.B. 535.43m

SPUD DATE: 1985-03-01@ 1115hrs.

COMPLETED DRILLING DATE: 1985-04-02@ 0730hrs.

RIG RELEASE: 1985-04-09@ 0200hrs.

WELL STATUS: Dry & Suspended

WELL SUMMARY

DATE 85-04-08.

Well Exco et al N. Chance Y.T. Location D-22

Elevations: KB 535.43m GL 531.50 CF n/a

History: Spud Date 1985-03-01@1115 hrs R.R. Date 1985-04-01@0200 hrs 1830.0m

Status Dry & abandoned Producing Zone(s) _____

A. DRILLING DETAILS

Hole Size 444mm Depth 55.00m Logs none

Hole Size 311mm Depth 461.00m Logs none

Hole Size 216mm Depth 1830.00m Logs MEL/DIL/BCS-CL-GR/CDL-CNS-GR

Hole Size _____ Depth _____ Logs _____

Casing Size 339mm Grade K-55 Depth 54.75m Cement Vol Load: 5.1m³ "G" Tail: 2.2m³

Casing Size 244mm Grade N-80 Depth 459.50m Cement Vol Load: 5.3m³ "G" Intern

Casing Size _____ Grade _____ Depth _____ Cement Vol 57m³ Perm: tail 6.3m³ "G"

Casing Size _____ Grade _____ Depth _____ Cement Vol. _____

DST No. 1 Int 1433m-1436m Zone Chance Sand

DST No. 2 Int 1538m-1554m Zone Hart River - Misrun

DST No. 3 Int 1538m-1554m Zone Hart River

DST No. 4 Int 786m-789m Zone Mid Sandstone Member

DST No. _____ Int _____ Zone _____

Core No. _____ Int _____ Zone _____ Rec. _____

Core No. _____ Int _____ Zone _____ Rec. _____

Core No. _____ Int _____ Zone _____ Rec. _____

Plug No. 1 Int 1830m-1730m Cement Vol. 5.04m³ "G" 2% CaCl₂ Felt NO

Plug No. 2 Int 1600m-1500m Cement Vol. 5.40m³ "G" 2% CaCl₂ Felt 147lm

Plug No. 3 Int 1475m-1375m Cement Vol. 5.40m³ "G" 2% CaCl₂ Felt NO

Plug No. 4 Int 850m-750m Cement Vol. 5.40m³ "G" 2% CaCl₂ Felt 75lm

Plug No. 5 Int 490m-430m Cement Vol. 3.79m³ "G" 2% CaCl₂ Felt 433m

Plug No. 6 Int 25m-0m Cement Vol. 1.2m³ "G" Felt _____

B. COMPLETION DETAILS

COMPLETION DATE: _____

Perforations: Int N/A Zone _____ Type _____

Int _____ Zone _____ Type _____

Int _____ Zone _____ Type _____

Stimulations: Formation N/A

Tubing Details: N/A

Anchor/Packer Details: N/A

Pumping Equipment: N/A

Remarks: _____

See specific forms for more detail.

ENGINEER Dave Campbell

DOWNHOLE PROBLEMS ENCOUNTERED

Summary

Relatively speaking the Exco et al N. Chance Y.T. D-22 well was drilled to total depth in a minimum of time.

After setting 244mm surface casing at the 460 metre depth, 216mm main hole was drilled down to the primary prospects, namely the lower Cretaceous Orange Sandstone and the Hart River Chance Sandstone, while drilling main hole a tight section was encountered on second trips through the section from 825 metres to 877 metres. The hole was corkscrewing through this section with deviation running between 2° to 4°.

From the top of the Orange Marker at 1020 metres down to the top of the Unit One Shale at 1770 metres chert was present in stringers and interbedded with limestone. Drilling was therefore slower through this section than originally prognosed.

At the 1611 metre depth partial returns were obtained after breaking circulation. In total 15m³ of drilling fluid was lost to the formation before full returns were obtained. Again, at the 1622, 1677, 1738 and 1778 metre depths on additional 57m³ of drilling fluid was lost, requiring in total approximately 14 hours of rig time to seal the thief zones.

Towards the end of the hole, specifically at the 1778 metre depth one drill cone remained in the hole after a trip while reaming underground hole on the cleanout trip another 25m³ of drilling fluid was lost to the formation. Milling the core, conditioning the mud and reaming to bottom accounted for 6.75 hours.

From this point on no other downhole problems were noted. In fact, the hole remained in excellent shape during the logging and testing operations.

Outlined on the following page is a synopsis of the delays and resultant lost time on the N. Chance D-22 well.

Synopsis

<u>Drilling Day</u>	<u>Particulars</u>	<u>Lost Time</u>
14	Tight Hole	During trip work tight hole at 826m, 650m and 578m
15	Ream	On return trip in the hole ream 15m to bottom
18	Tight Hole	During trip work tight hole requiring 10 hours in total
26	Lost Circulation	Partial returns after breaking circulation, lose 15m ³ drilling fluid
27	Lost Circulation	At 1622 metres lose 12m ³ drilling fluid-reduce mud density
28	Lost Circulation	At 1677metres lose an additional 10m ³ of drilling fluid
29	Lost Circulation	At 1738 metres ³ lose an additional 10m ³ of drilling fluid
30	Lost Circulation	At 1778 metres lose 25m ³ of drilling fluid
31	Mill on Core Lost Circulation	Lost one core in hole. Pull out of hole, run in hole and mill on core. During operation lost 25m ³ of mud to formation.

SECTION II
GEOLOGICAL SUMMARY

LOGGING RECORD

EXCO et al NORTH CHANCE D-22

Logging Company:

Computalog Gearhart Ltd.

85 - 04 - 02

Dual Induction Laterolog

459.5 m - 1825.2 m

Compensated Density, Compensated Neutron Log

459.5 m - 1821.8 m

Sonic Log

459.5 m - 1820.6 m

Micro-Electrical Log

459.5 m - 1818.9 m

Laserlog BCS-CNS Overlay

459.5 m - 1815 m

FORMATION TEST RECORD

EXCO et al NORTH CHANCE D-22

DST #1 85-04-04
Halliburton Services Ltd.
Tester - Louis Bruneau

Interval: 1433 m - 1436 m

Zone: Hart River "Chance Sandstone"

Type: Inflate Straddle

Times: Preflow 60 minutes (tool did not close)
ISI 60 minutes
FF 60 minutes
FSI 120 minutes

Test: Preflow - fair air blow increasing to good in 2 minutes
and strong in 5 minutes. NGTS.
FF - fair air blow increasing to good air blow in 4
minutes and continuing throughout flow period.
NGTS.

Recovery: 878 m clear slightly gas cut water
Sample #1 (top) 2860 ppm Cl
Sample #2 (middle) 6700 ppm Cl
Sample #3 (100 m above tool) 13600 ppm Cl
Sample #4 (top tool) 6400 ppm Cl

Pressures: IHP 15844 KPa
PFP 5885 KPa
ISIP 13941 KPa
IFP 6179 KPa
FFP 9110 KPa
FSIP 13941 KPa
FHP 15844 KPa

Remarks: Charts normal, test satisfactory.

DST #2

85-04-05
Halliburton Services Ltd.
Tester - Louis Bruneau

Interval:

1538 m - 1554 m

Zone:

Hart River

Remarks:

Miarum
Tried to pump up packers three times, failed.

DST #3

85-04-05
Halliburton Services Ltd.
Tester - Louis Bruneau

Interval:

1538 m - 1554 m

Zone:

Hart River

Type:

Inflate Straddle

Times:

Preflow	15 minutes
ISI	60 minutes
FF	60 minutes
FSI	120 minutes

Test:

Preflow - Fair to strong air blow in 2 minutes decreasing to nil in 8 minutes. NGTS.
FF - Weak air blow decreasing to nil in 6 minutes. NGTS.

Recovery:

3 m drilling mud.

Pressures:

Unable to read any flow or shut-in pressures.

Remarks:

Test satisfactory, formation barren.

DST #4

85-04-06
Halliburton Services Ltd.
Tester - Louis Bruneau

Interval:

786 m - 789 m

Zone:

L.C. Mid-Sandstone Member

Type:

Inflate Straddle

Times:

Preflow	15 minutes
ISI	60 minutes
FF	60 minutes
FSI	120 minutes

Test:

Preflow - Weak air blow throughout. NGTS.
FF - Very weak air blow decreasing to nil in 16 minutes. NGTS.

Recovery:

21 m slightly gassified and oil flecked water cut drilling fluid (1% oil & 2200 ppm Cl).

Pressures:

IHP	8209 KPa
FFP	151 KPa
ISIP	4552 KPa
IIFP	298 KPa
FFP	298 KPa
FSIP	2792 KPa
FHP	8209 KPa

Remarks:

Charts normal, test satisfactory.

SUMMARY ZONES OF INTEREST

EXCO ET AL NORTH CHANCE D-22

The primary prospects in the Exco et al North Chance well were considered to be the Lower Cretaceous Orange Sandstone and the Hart River "Chance Sandstone" with secondary prospects in the Lower Cretaceous Mid-Sandstone Member and in the sand or lime developments in the Hart River.

Orange Marker

The Orange Marker was encountered as a 1-2 m thick chert conglomerate with a siltstone matrix, and exhibited no visible porosity or hydrocarbon shows. This chert zone immediately overlay a tight siltstone which persisted to the base of the Orange Marker. No anomalous hydrocarbon readings were encountered on the gas detector. The zone was not considered to warrant a drill stem test.

Chance Sandstone

The Chance Sandstone was penetrated 112 m below the top of the Hart River and consisted of a conglomeratic sand. A thin, approximately 1 m, dolomite with good oil staining but no porosity was present in samples immediately overlying the Chance Sandstone.

The upper 5m gross of the sandstone exhibited some poor porosity (estimated 6%) and a trace fair porosity (estimated 8-9%) with scattered spotty oil stain. The remainder of the Chance zone was a lily tight conglomeratic sandstone. Subsequent to total depth and logging, a drill stem test was run over the porous upper portion but yielded no gas to surface and a recovery of 878m clear slightly gas cut water.

Lower Cretaceous Mid-Sandstone Member

The Mid-Sandstone Member, a sand/shale sequence, was predominantly a very fine grain silty sandstone with some intermittent poor non-effective appearing porosity and rare spotty oil stain in samples. A drill stem test, after reaching total depth, verified the lack of porosity by yielding no gas to surface and a recovery of 21m slightly gassified oil flecked and water cut drilling fluid.

Miscellaneous

Evidence of fracturing was present in samples over much of the Hart River, occasionally yielding anomalous gas readings on the gas detector. One of these zones, with a good gas anomaly on the gas detector and indications of fracturing but no visible porosity in samples, was tested over the interval 1538-1554m with no gas to surface and a recovery of 3m drilling mud. Flow and shut-in pressures were almost non-existent indicating the zone to be tight and barren.

Other than the Chance Sandstone and other than repeated indications of fracturing, the Hart River exhibited only rare isolated rock chips with porosity and off i no prospects of hydrocarbon recoveries. Consequently, after three drill stem tests, the well was plugged and abandoned.

SECTION III
ENGINEERING SUMMARY

DRILL STEM TESTS

Chance Sandstone, Hart River and Mid Sandstone Member were selectively tested for hydrocarbon determination. Of the four drill stem tests attempted, only one (1) was a misrun. One successful test was run across all of the above noted formations.

A. WELL DATA **FIELD DRILL STEM TEST REPORT**

DATE 85-04-04
 Well: Exco et al N. Chance Y.T. Location D-22
 DST No. ONE Interval 1433m-1436m Formation Chance Sand
 Last Casing: Size 244mm Depth 460mKB Open Hole: Size 216mm Depth 1830m
 Hole Troubles: none reported Caliper at Packer(s) 225mm
 Mud: Wt. 1080^{kg}/m³ Vis 70sec/1 W.L. 7.600 % Oil _____ ppm Cl 200

B. TEST STRING DATA

Testing Company Halliburton Type of Test Inflate Straddle
 Type and Number of Packers Gates Inflate - Two Size 177.8mm
 DP Size 114mm Wt 24.7 kg/m Length 1304.10m
 DC Size 159mm Wt 135kg/m I.D. 60mm Length 111.23m
 Tail Pipe Size _____ Wt _____ Length _____ Perfs _____ m
 T.D. String _____ Recorder Depth 1437.76m Water Cushion 70L. water Inhibitor CH Choke 19.07mm
 Packer Depth(s) 1433m & 1436m Weight on Packer(s) 10,000 daN
 Other Equipment P.O.S., Jars, Safety Joint, Floor manifold

C. TEST RESULTS

Times: PF 44 ISI 86 Flow 60 SI 120 Flow _____ FSI _____
 Pressures: PF 5885 IH 15844 ISI 13941 IF 6179
 TEMP 21.6 °C FH 15844 FSI 13941 FF 9110

Flow Descriptions:
 Prewlow: Fair air blow increasing to good in 2 min. to strong in 5 min.
N.G.T.S.
 Valve Open Flow: Fair air blow increasing to good in 4 min. throughout
remainder of valve open. N.G.T.S.
 Recoveries: 878m. total recovery Gas Cut - clear formation water. Sample:
#1 chlorides 2.860 ppm - H₂S 120 ppm. #2 chlorides 6700 ppm
H₂S 650 ppm. #3 Chlorides 13,600 ppm H₂S 55,000 ppm #4 Chlorides
6400 ppm
H₂S 1000 ppm

D. SAMPLE DETAILS:

4 samples #1 top #2 middle #3 100m above tool #4 top tool
 Sent to: Chemex-Calgary Via: Ranger Date Sent: 85-04-10

E. REMARKS:

Note: Data reported on this form are field readings taken at the time of test, and are subject to correction.

ENGINEER Dave Campbell

TESTERS	L. Bruneau
WITNESS	D. Campbell
DR CO .TOR	Grey Mountain



FORMATION TESTING
DATA SHEET

REFER TO INVOICE NO.	60 861
DATE OF TEST	85-04-03
TEST No.	1
JOB TYPE	Hydroflate Straddle

PRESSURE SUMMARY kPa						
GAUGE NUMBER	545	3163	2620	2326		
GAUGE DEPTH	1419.90	1421.15	1437.76	1439.62		
BLANKED OFF	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO
HOURLY CLOCK TRAVEL	24	24	48	48		
INITIAL HYDROSTATIC	15 435	15 336	15 585	15 454		
FIRST FLOW	INITIAL 1 889 FINAL 5 689	INITIAL 1 970 FINAL 5 557	INITIAL 2 147 FINAL 5 837	INITIAL 2 126 FINAL 5 780		
FIRST CLOSED IN	13 704	13 694	13 854	13 819		
SECOND FLOW	INITIAL 5 927 FINAL 8 840	INITIAL 5 931 FINAL 8 826	INITIAL 6 079 FINAL 9 062	INITIAL 6 105 FINAL 9 007		
SECOND CLOSED IN	13 687	13 725	13 869	13 844		
THIRD FLOW	INITIAL FINAL					
THIRD CLOSED IN						
FINAL HYDROSTATIC	15 515	15 535	15 674	15 667		

TIME PERIODS					
	FIRST	SECOND	THIRD		TIME
FLOW	44	60		TESTER VALVE OPENED	03:26
CLOSED IN	86	120		PACKER UNSEATED	08:35

EQUIPMENT AND WELL DATA			
FORMATION TESTED	Chance Sand		
TEMP. REC. No.	TE57		
DEPTH	1422.40 m		
MAX. TEMP.	36 °C		
NET PRODUCTIVE THICKNESS	m	MUD TYPE	Gel Chemical
K B ELEVATION	m	MUD DENSITY	1070 kg/m ³
		MUD VISC	70 s/L
ALL DEPTHS MEASURED FROM:	<input checked="" type="checkbox"/> KB GROUND	CASING OR HOLE SIZE	216 mm
PACKER DEPTHS	TOP 1433	BOTTOM 1436 m	RATHOLE SIZE mm
DEPTH OF TESTER VALVE	1414.59 m	DRILL PIPE	114.3 mm OD, 24.7 kg/m
CASING PERFORATED INTERVAL	N/A m	DRILL COLLARS ABOVE TESTER VALVE	71 mm ID, 111.23 mm LENGTH
TOTAL DEPTH	1830 m	SURFACE CHOKE	25.4 mm
AMOUNT AND TYPE CUSHION	70 L Inhibitor and Water		
		BOTTOM CHOKE	19.05 mm

LIQUID RECOVERY DATA	
METRES	DESCRIPTION OF LIQUID
868	Sour salt water.
10	Salt water.
878	TOTAL LIQUID RECOVERY

SAMPLE DATA	
OIL GRAVITY @ _____ °C	
GAS/OIL RATIO	
REFRACTOMETER/RELATIVE DENSITY	
RECOVERY WATER @ _____ °C	
CHLORIDE CONTENT _____ mg/L	

SAMPLE SHIPPED TO LABORATORY	YES	NO
SAMPLER No. 310, 61	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GAS SAMPLE BOTTLE No.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
LABORATORY Chemex (Calgary)		

REMARKS Gauge 545 show stairstepping on Preflow and part of the Initial Closed In period.

LEGAL DESCRIPTION: EXCO ENERGY LTD.
 PROVINCE OR TERRITORY: YUKON
 FIELD OR AREA: N. CHANCE
 TEST NUMBER: 1
 TEST INTERVAL: 1433 - 1436
 WELL NAME AND NUMBER: EXCO ET AL N. CHANCE YR D-22

DATES AND TIMES (00:00-24:00 HRS.)	CHOKE SIZE (mm)	SURFACE PRESSURE (kPa)	GAS RATE (m ³ /day)	LIQUID RATE (m ³ /day)	REMARKS
16:00					Thaw test tools.
18:00					Pick up tools for interval.
19:00					Pick up top section and load recorders.
20:15					Strap tools.
20:25					Strap collars and run in.
21:15					Cut line (slip).
23:00					Strap pipe and run in hole.
02:10					Head up surface equipment. String weight 29 500 daN.
02:25					Rotate at 65 RPM. Pick up nothing overpull.
02:57					Rotate 60 RPM.
03:20					Pick up 4000 daN overpull.
03:22					Put 7000 on tool.
03:24					Put another 2500 on tool.
03:26					Tool Opened: Fair blow to bottom of pail in 2 minutes. Increasing to strong in 5 minutes.
03:32					Open to flare pit. No gas to surface.
03:41					Shut in tool. Picked up 35 cm with free play.
03:55					Didn't seem to be shut in, so we picked up another 10 cm. String weight was now 33 000 daN.
04:20					String weight went up to 34 500 daN. We pulled up another 15 cm.
04:30					String weight went to 36 000, picked up another 15 cm.
05:35					Open tool: Fair to good in 4 minutes. Bottom of pail in 4 minutes. No gas to surface.
06:35					Shut in tool.
08:35					String weight was 38 000 daN when tool shut in. It was now showing 40 000. Pulled free with not much indication of deflating packers. Chain out of hole.
11:10					Got to fluid at 878 m.

HALLIBURTON SERVICES LIMITED

SPECIAL PRESSURE DATA

DATE: 85-04-03

TICKET # 60861

```

-----
* Gauge Number      :      3163.      *
* Gauge Depth       :      1421.      m      *
* Time of Flow      :           44.0 min.  *
* Final Pressure    :      5557.3 kPa.  *
-----
    
```

Initial Hydrostatic Pressure = 15365.8 kPa
 Final Hydrostatic Pressure = 15534.9 kPa

GAUGE 1, FLOW 1

	Time Deflection (in)	Time (minutes)	Pressure (kPa)
1.	0.0000	0.0	1969.6
2.	0.0164	5.0	2244.2
3.	0.0330	10.0	2761.0
4.	0.0495	15.0	3292.5
5.	0.0661	20.0	3682.3
6.	0.0824	25.0	4076.5
7.	0.0990	30.0	4495.8
8.	0.1155	35.0	4879.7
9.	0.1321	40.0	5270.9
10.	0.1453	44.0	5557.3

HALLIBURTON SERVICES LIMITED

GAUGE 1, CIP 1

	Time Deflection (in)	Time (minutes)	$\frac{T+dt}{dt}$ Log ----	Pressure (kPa)
1.	0.0067	2.0	1.3612	12352.9
2.	0.0133	4.0	1.0816	12592.4
3.	0.0202	6.0	0.9184	12759.4
4.	0.0267	8.0	0.8138	12862.4
5.	0.0334	10.0	0.7330	12969.9
6.	0.0402	12.0	0.6685	13035.2
7.	0.0502	15.0	0.5946	13129.5
8.	0.0669	20.0	0.5052	13252.9
9.	0.0837	25.0	0.4407	13332.8
10.	0.1005	30.0	0.3918	13403.9
11.	0.1171	35.0	0.3535	13448.9
12.	0.1337	40.0	0.3224	13491.0
13.	0.1506	45.0	0.2961	13528.7
14.	0.1672	50.0	0.2742	13559.2
15.	0.1841	55.0	0.2552	13586.8
16.	0.2006	60.0	0.2390	13608.6
17.	0.2342	70.0	0.2118	13652.1
18.	0.2676	80.0	0.1903	13673.9
19.	0.2877	86.0	0.1794	13694.2

HALLIBURTON SERVICES LIMITED

SPECIAL PRESSURE DATA

DATE: 85-04-03

TICKET # 60861

```

-----
* Gauge Number      :      3163.          *
* Gauge Depth       :      1421.    m      *
* Time of Flow      :           60.0 min.  *
* Final Pressure    :      8825.6 kPa.    *
-----
    
```

GAUGE 1, FLOW 2

	Time Deflection (in)	Time (minutes)	Pressure (kPa)
1.	0.0000	0.0	5930.9
2.	0.0161	5.0	6031.3
3.	0.0320	10.0	6356.1
4.	0.0481	15.0	6680.9
5.	0.0640	20.0	6982.1
6.	0.0801	25.0	7278.2
7.	0.0960	30.0	7526.4
8.	0.1121	35.0	7780.5
9.	0.1281	40.0	8014.2
10.	0.1441	45.0	8223.2
11.	0.1603	50.0	8440.9
12.	0.1762	55.0	8636.9
13.	0.1922	60.0	8825.6

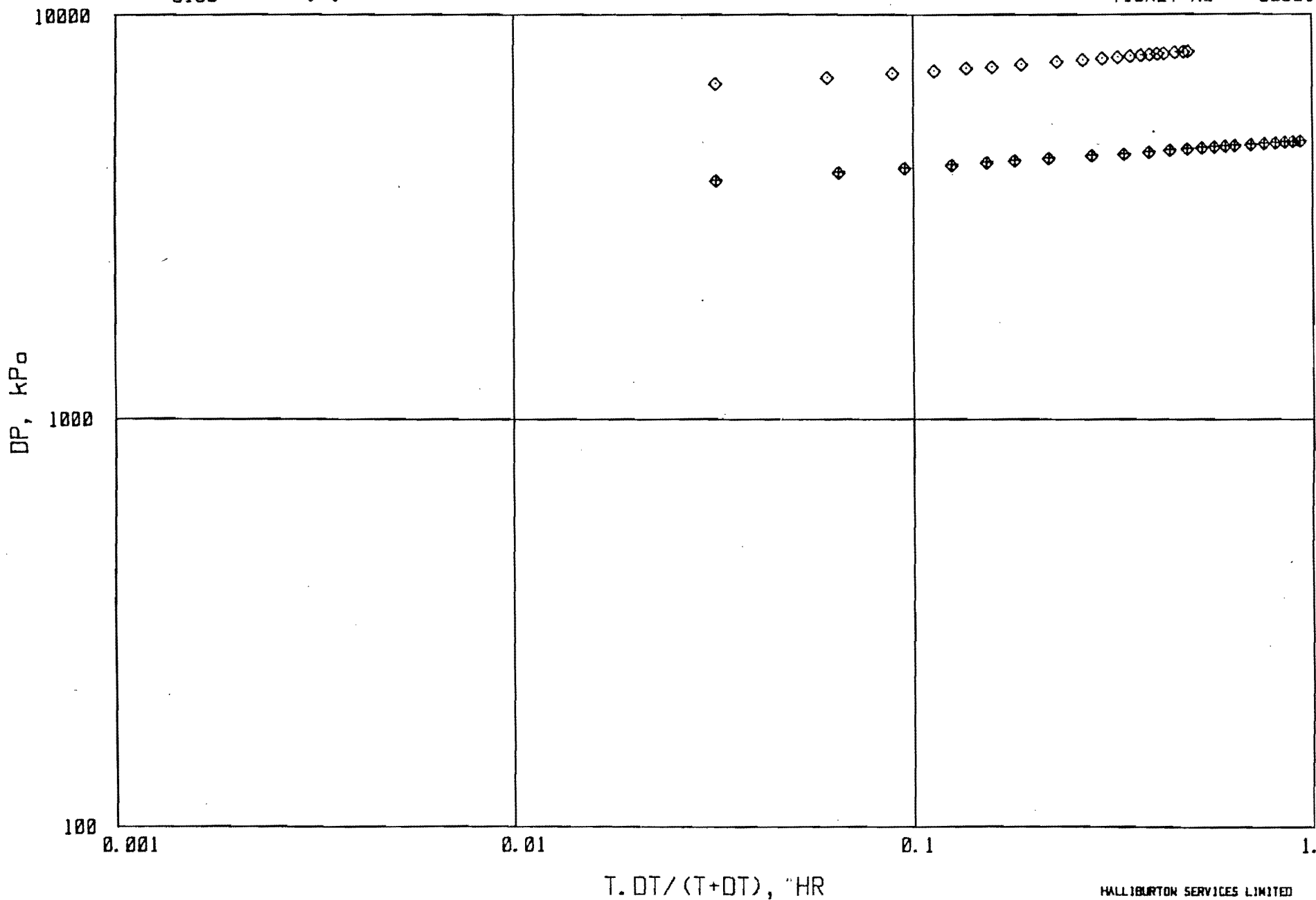
HALLIBURTON SERVICES LIMITED

GAUGE 1, CIP 2

	Time Deflection (in)	Time (minutes)	$\frac{T+dt}{dt}$ Log ---- dt	Pressure (kPa)
1.	0.0069	2.0	1.7343	12746.3
2.	0.0143	4.0	1.4264	12940.8
3.	0.0213	6.0	1.2612	13036.6
4.	0.0284	8.0	1.1441	13113.6
5.	0.0354	10.0	1.0561	13173.1
6.	0.0423	12.0	0.9861	13223.9
7.	0.0529	15.0	0.9001	13281.9
8.	0.0705	20.0	0.7932	13356.0
9.	0.0883	25.0	0.7127	13386.5
10.	0.1059	30.0	0.6502	13430.0
11.	0.1235	35.0	0.5993	13485.2
12.	0.1413	40.0	0.5563	13514.2
13.	0.1589	45.0	0.5201	13543.2
14.	0.1765	50.0	0.4888	13565.0
15.	0.1944	55.0	0.4609	13586.8
16.	0.2119	60.0	0.4368	13601.3
17.	0.2471	70.0	0.3956	13630.3
18.	0.2825	80.0	0.3618	13659.4
19.	0.3179	90.0	0.3336	13675.3
20.	0.3533	100.0	0.3096	13698.6
21.	0.3884	110.0	0.2891	13713.1
22.	0.4239	120.0	0.2711	13724.7

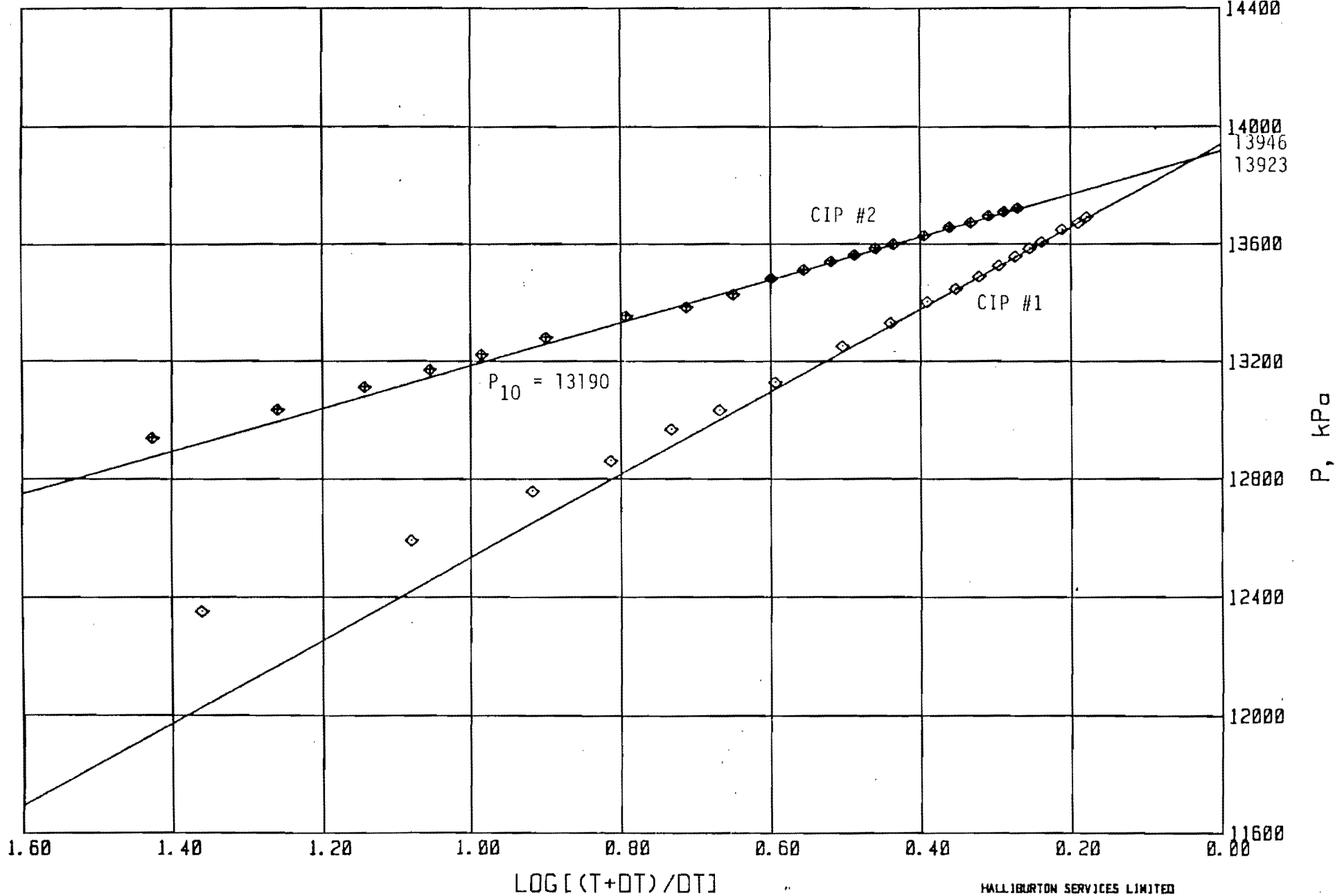
GAUGE NO CIP 1 2
3163 ♦ ♦

TICKET NO 60861



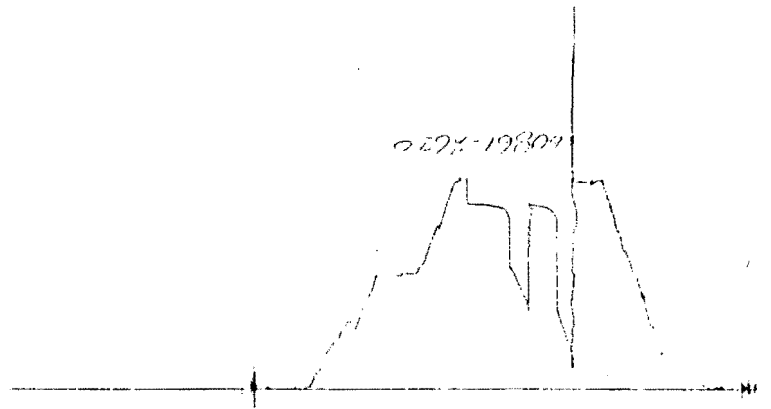
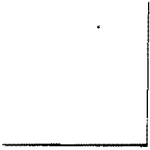
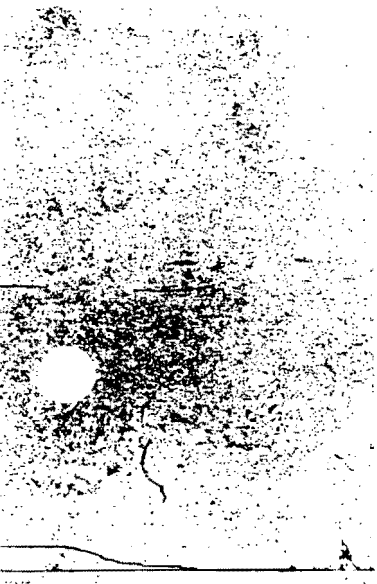
GAUGE NO CIP 1 2
3163 ◊ ◊

TICKET NO 60861

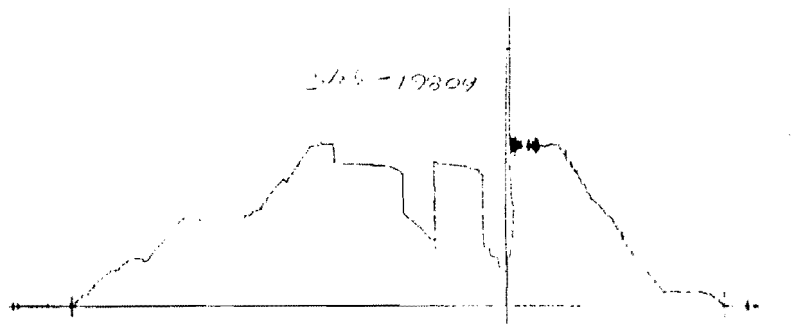
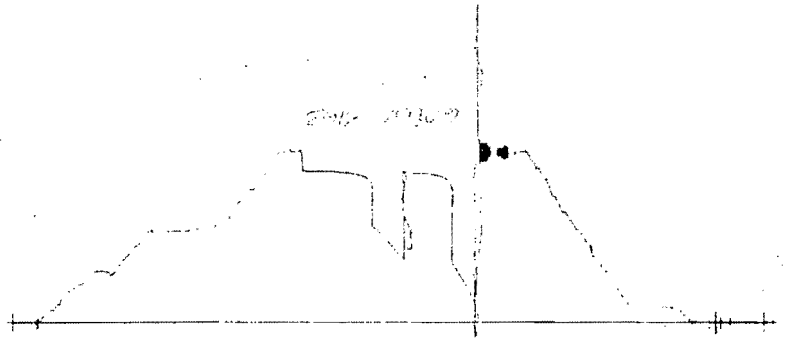


		O.D. (mm)	I.D. (mm)	LENGTH(m)	DEPTH(m)
3	DRILL COLLARS.....	159.0	71.0	111.23	
50	IMPACT REVERSING SUB.....	155.5	76.2	0.31	
5	CROSSOVER.....	155.5	76.2	0.31	
60	HYDROSPRING TESTER.....	127.0	19.1	3.15	1414.59
14	EXTENSION JOINT.....	127.0	25.4	2.16	
80	AP RUNNING CASE.....	127.0	57.2	1.25	1419.90
80	AP RUNNING CASE.....	127.0	57.2	1.25	1421.15
82	TEMPERATURE RUNNING CASE.....	127.0	57.2	1.25	
15	JAR.....	127.0	44.5	1.52	
16	VR SAFETY JOINT.....	127.0	25.4	1.03	
26	PUMP ASSEMBLY.....	127.0	22.3	2.15	
27	SCREEN ASSEMBLY.....	127.0	25.4	1.34	
11	HYDROFLATE PRESSURE LIMITER.....	127.0	25.4	1.52	
74	TOP HYDROFLATE PACKER.....	177.8	26.9	2.55	1433.00
28	PORT ASSEMBLY.....	127.0		1.03	
22	BLANK ANCHOR.....	127.0	57.2	0.58	
75	LOWER HYDROFLATE PACKER.....	177.8	50.8	2.37	1436.00
97	BELLY SP W/BLANKED OFF RECORDER.		57.2	1.55	1437.76
5	CROSSOVER.....	127.0	57.2	0.31	
81	BLANKED-OFF RUNNING CASE.....	127.0	57.2	1.25	1439.62
23	BLANK SUB.....	127.0	57.2	0.31	

EQUIPMENT DATA



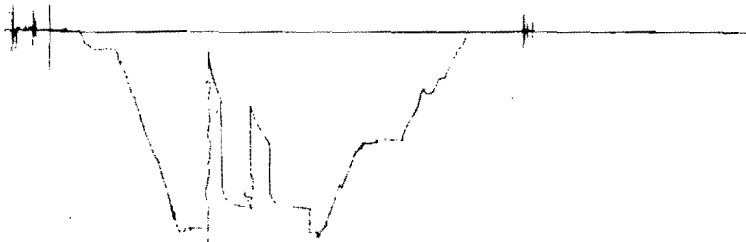
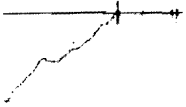
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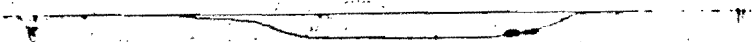
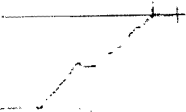
↑
PRESSURE

↑
PRESSURE

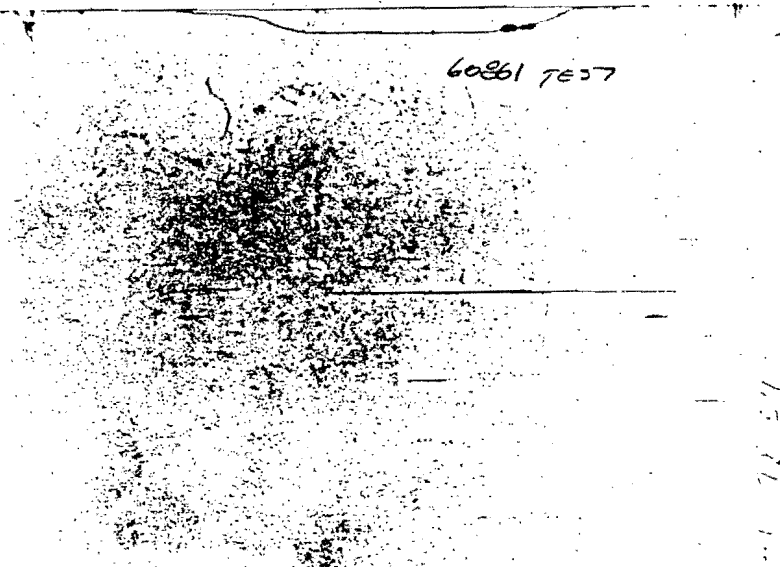
TIME →
PRESSURE ↓



60861-
7320



60861 7E37



1-13

1-5-71

FLUID RECOVERY AND DOWNHOLE

Sampler Analysis

For DST #1

Chance Sand 1433m-1436m

CONTAINER IDENTITY
TOOL #310,61

EDMONTON, ALBERTA
GAS ANALYSIS

LABORATORY NUMBER
84-3126-1

LICENCE NO. OPERATOR NAME AND ADDRESS
EXCO ENERGY LTD.

CRA NUMBER WELL NAME KB ELEVATIONS METERS GRD
EXCO ETAL N. CHANCE D-22

FIELD OF AREA POOL OR ZONE NAME OF SAMPLER COMPANY
CHANCE SAND HALLIBURTON

TEST RECOVERY
878 M. FLUID
 TEST TYPE NO
DST 1
 MULTIPLE RECOVERY

TEST INTERVAL FROM TO
1433 1436
 SAMPLING POINT AMT & TYPE OF CUSHION MUD RESISTIVITY
DOWNHOLE SAMPLER

TYPE OF PRODUCTION
 PUMPING FLOWING GAS LIFT SWAB
 PRODUCTION RATES
 WATER OIL GAS

GAUGE PRESSURE - KPa TEMPERATURES °C
 SEPARATOR TREATER AS RECEIVED SEPARATOR TREATER AS RECEIVED
100 23
 DATE SAMPLED DATE RECEIVED DATE REPORTED ANALYST
85-04-03 85-05-16 85-05-22 R.A.

COMP.	MOL FRACTION AIR FREE AS RECD	MOL FRACTION AIR FREE ACID GAS FREE	LIQUID VOLUME m ³ AIR FREE AS RECD
H ₂	0.0214	0.0305	
He	0.0001	0.0001	
N ₂	0.0484	0.0690	
CO ₂	0.2983	0.0000	
H ₂ S	0.0000	0.0000	
C ₁	0.6071	0.8653	
C ₂	0.0175	0.0249	
C ₃	0.0049	0.0070	17.92
iC ₄	0.0003	0.0004	1.30
nC ₄	0.0008	0.0011	3.35
iC ₅	0.0002	0.0003	0.97
nC ₅	0.0001	0.0001	0.48
C ₆	0.0002	0.0003	1.08
C ₇₊	0.0007	0.0010	4.20
TOTAL	1.0000	1.0000	29.30

GROSS HEATING VALUE
 MJ m⁻³ @ 15°C AND 101.325 KPa
 (MOISTURE AND ACID GAS FREE)
 MEASURED CALCULATED **35.919** DEW POINT VAPOUR PRESS PENTANES PLUS **40.29**

RELATIVE DENSITY
 MOISTURE FREE AS SAMPLED MOISTURE AND ACID GAS FREE
 MEASURED CALCULATED **0.870** MEASURED CALCULATED **0.593**

PSEUDO CRITICAL PROPERTIES (CALCULATED)
 AS SAMPLED ACID GAS FREE
 pPc **5326.5** pTc **221.8** pPc **4451.9** pTc **186.8**

REMARKS

TOOLS HAD AN OPENING PRESSURE OF 1100 KPA
 TOOLS CONTAINED GAS AND 5000 ML OF WATER

EDMONTON, ALBERTA

WATER ANALYSIS

CONTAINER IDENTITY
TOOL #310

LABORATORY NUMBER
84-3126-2

LICENCE NO. _____ OPERATOR NAME AND ADDRESS
EXCO ENERGY LTD.

CPA NUMBER _____ WELL NAME
EXCO ET AL N. CHANCE D-22

FIELD OR AREA _____ POOL OR ZONE
CHANCE SAND

NAME OF SAMPLER _____ COMPANY
HALLIBURTON

TEST TYPE NO.
DST 1

MULTIPLE RECOVERY

TEST INTERVAL FROM
1433 m

TO
1456 m

PERFORATIONS FROM
_____ m

TO
_____ m

TEST RECOVERY _____

SAMPLING POINT
DOWNHOLE SAMPLER

AMT & TYPE OF CUSHION _____

MUD RESISTIVITY @ 25°C _____

TYPE OF PRODUCTION -
PUMPING FLOWING GAS LIFT SWAB

PRODUCTION RATES
WATER _____ m³/d OIL _____ m³/d GAS _____ 10³m³/d

GAUGE PRESSURE - KPa
SEPARATOR _____ TREATER _____ AS RECEIVED _____

TEMPERATURES °C
SEPARATOR _____ TREATER _____ AS RECEIVED _____

DATE SAMPLED DATE RECEIVED DATE REPORTED ANALYST
85-04-03 85-05-16 85-05-23 D.D.

ION	C g m ⁻³	MASS FRACTION	C mol m ⁻³
Na	7300		317.4
	110		2.8
Ca	160		4.0
Mg	100		4.2
Ba			
Sr			
Fe	1.5		<1

ION	C g m ⁻³	MASS FRACTION	C mol m ⁻³
Cl	6000		169.0
Br			
I			
HCO ₃	10248		168.0
SO ₄	25		<1
CO ₃	<1		<1
OH	<1		<1
H ₂ S	ABSENT		

TOTAL SOLIDS C/g m⁻³

BY EVAPORATION @ 110°C _____

BY EVAPORATION @ 180°C _____

ATIGNITION
18042

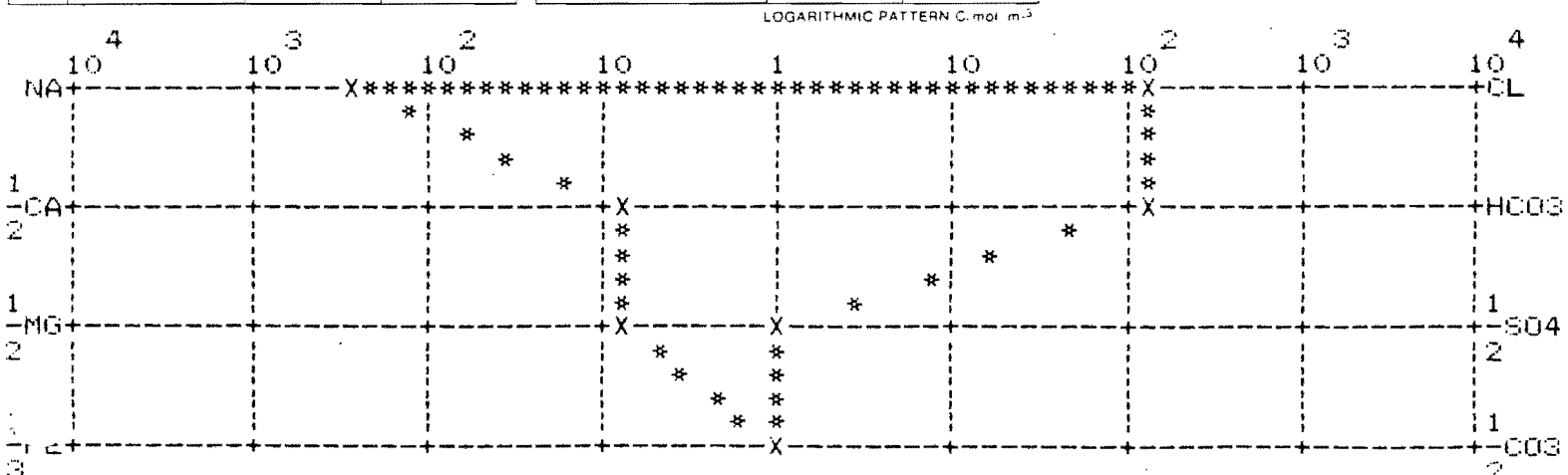
CALCULATED
18737

RELATIVE DENSITY @ 21°C
1.052

REFRACTIVE INDEX @ 25°C
1.335

OBSERVED PH @ 21°C
7.6

RESISTIVITY Ω m @ 25°C
.31



REMARKS

EDMONTON, ALBERTA WATER ANALYSIS

CONTAINER IDENTITY
PLASTIC

LABORATORY NUMBER
WINT-1101-847098

LICENCE NO.
[]

OPERATOR NAME AND ADDRESS
EXCO RESOURCES LTD.

CPANUMBER
[]

WELLNAME
EXCO ET AL N. CHANCE Y.T. D-22

ELEVATIONS METERS
KB [] GRD []

FIELD OF AREA
N. CHANCE Y.T.

POOL OR ZONE
CHANCE SANDS

NAME OF SAMPLER
[]

COMPANY
HALLIBURTON

TEST TYPE NO
DST 1

MULTIPLE RECOVERY []

TEST INTERVAL FROM
1433 m

TO
1436 m

PERFORATIONS FROM
[] m

TO
[] m

TEST RECOVERY
878M FLUID

SAMPLING POINT
810M ABOVE TOOL

AMT & TYPE OF CUSHION []

MUD RESISTIVITY @25°C []

TYPE OF PRODUCTION
PUMPING [] FLOWING [] GAS LIFT [] SWAB []

PRODUCTION RATES
WATER [] m³/d OIL [] m³/d GAS [] 10³m³/d

GAUGE PRESSURE - KPa
SEPARATOR [] TREATER [] AS RECEIVED []

TEMPERATURES °C
SEPARATOR [] TREATER [] AS RECEIVED []

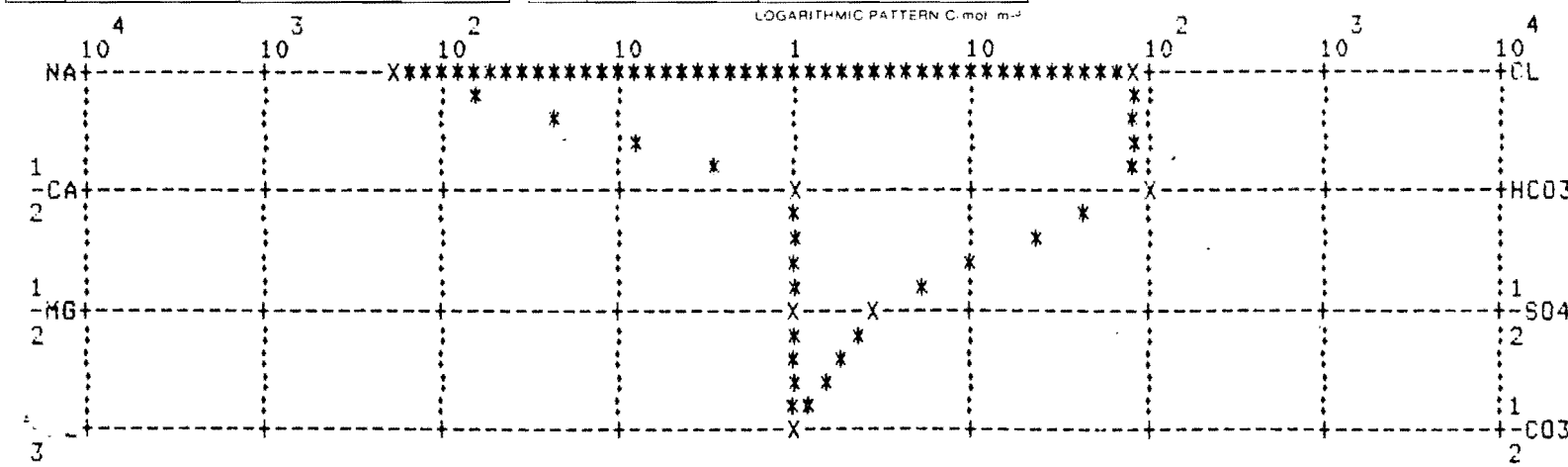
DATE SAMPLED DATE RECEIVED DATE REPORTED ANALYST
85-04-04*2800HR 85-04-24 85-04-26 BARE M.

ION	C g m ⁻³	MASS FRACTION	C mol m ⁻³
Na	4508		196
	21		.537
Ca	40		.998
Mg	12		.494
Ba			
Sr			
Fe	0.9		.016

ION	C g m ⁻³	MASS FRACTION	C mol m ⁻³
Cl	2910		82.1
Br			
I			
HCO ₃	6654		109
SO ₄	142		1.48
CO ₃	0.0		0.0
OH			
H ₂ S	ABSENT		

TOTAL SOLIDS C g m⁻³

BY EVAPORATION @ 110°C	BY EVAPORATION @ 180°C
[]	[]
ATIGNITION	CALCULATED
[]	11600
RELATIVE DENSITY @ 15°C	REFRACTIVE INDEX @ 25°C
1.008	1.335
OBSERVED PH @ 25°C	RESISTIVITY Ω m @ 25°C
8.2	0.728



REMARKS

A. WELL DATA

FIELD DRILL STEM TEST REPORT

DATE 85-04-05

Well: Exco et al N. Chance Y.T. Location D-22

DST No. Two Interval 1538m-1554m Formation Hart River

Last Casing: Size 244mm Depth 460m.KB Open Hole: Size 216mm Depth 1830m

Hole Troubles: none reported Caliper at Packer(s) 233mm & 237mm

Mud: Wt. 1080^{kg}/m³ Vis 70 sec/IW.L. 7.6cc % Oil ppm Cl 200

B. TEST STRING DATA

Testing Company Halliburton Type of Test Inflate Straddle

Type and Number of Packers Gates Inflate - Two Size 177.8 mm

DP Size 114mm Wt 24.7 Kg/m Length 1467.65m

DC Size 159mm Wt 135 kg/m I.D. 60 Length 55.64m

Tail Pipe Size Wt Length Perfs m

T.D. String Recorder Depth Water Cushion water 70L inhibitor and 5H Choke 19.07mm

Packer Depth(s) 1538 m & 1554 m Weight on Packer(s) Unable to pump up.

Other Equipment P.O.S., Jars, Safety Joint, Floor Manifold

C. TEST RESULTS

Times: PF ISI Flow SI Flow FSI

Pressures: PF IH ISI IF

TEMP °C FH FSI FF

Flow Descriptions:

Prewlow: Misrun - no packer seat

Valve Open Flow:

Recoveries:

D. SAMPLE DETAILS:

Sent to: Via: Date Sent:

E. REMARKS:

Tried to pump up packers 3 times with no success. Hoist DST#2
& change out inflate pump and reload recorders.

Note: Data reported on this form are field readings taken
at the time of test, and are subject to correction.

ENGINEER Dave Campbell

TESTERS	L. Bruneau
WITNESS	D. Campbell
DR. CO.	TOR Grey Mountain



FORMATION TESTING
DATA SHEET

REFER TO INVOICE NO.	60 862
DATE OF TEST	85-04-05
TEST No.	2
JOB TYPE	Hydroflate Straddle

PRESSURE SUMMARY kPa						
GAUGE NUMBER	545.	3163	2620	2326		
GAUGE DEPTH	1524.90	1526.15	1555.76	1557.61		
BLANKED OFF	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO
HOURLY CLOCK TRAVEL	24	24	48	48		
INITIAL HYDROSTATIC						
FIRST FLOW	INITIAL					
	FINAL					
FIRST CLOSED IN						
SECOND FLOW	INITIAL					
	FINAL					
SECOND CLOSED IN						
THIRD FLOW	INITIAL					
	FINAL					
THIRD CLOSED IN						
FINAL HYDROSTATIC						

TIME PERIODS					
	FIRST	SECOND	THIRD		TIME
FLOW				TESTER VALVE OPENED	
CLOSED IN				PACKER UNSEATED	

EQUIPMENT AND WELL DATA			
FORMATION TESTED	TEMP. REC. No.	TE57	
	DEPTH	1527.4	
	MAX. TEMP.		
NET PRODUCTIVE THICKNESS	m	MUD TYPE	Gel Chemical
K B ELEVATION	m	MUD DENSITY	kg/m ³ 1070
		MUD VISC	s/L 70
ALL DEPTHS MEASURED FROM:	<input checked="" type="checkbox"/> KB <input type="checkbox"/> GROUND	CASING OR HOLE SIZE	216 mm
PACKER DEPTHS	TOP 1538 BOTTOM 1554 m	RATHOLE SIZE	mm
DEPTH OF TESTER VALVE	1519.59 m	DRILL PIPE	OD mm 114.3 kg/m 24.7
CASING PERFORATED INTERVAL	N/A m	DRILL COLLARS ABOVE TESTER VALVE	ID mm 71 LENGTH m 55.64
TOTAL DEPTH	1830.0 m	SURFACE CHOKE	25.4 mm
AMOUNT AND TYPE CUSHION	70 L Inhibitor & Water	BOTTOM CHOKE	19.05 mm

LIQUID RECOVERY DATA	
METRES	DESCRIPTION OF LIQUID
MEASURED FROM TESTER VALVE	
Nil	TOTAL LIQUID RECOVERY

SAMPLE DATA	
OIL GRAVITY _____ @ _____ °C	
GAS/OIL RATIO _____	
REFRACTOMETER/RELATIVE DENSITY _____	
RECOVERY WATER _____ @ _____ °C	
CHLORIDE CONTENT _____ mg/L	

SAMPLE SHIPPED TO LABORATORY	YES	NO
SAMPLER No. _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>
GAS SAMPLE BOTTLE No. _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>
LABORATORY _____		

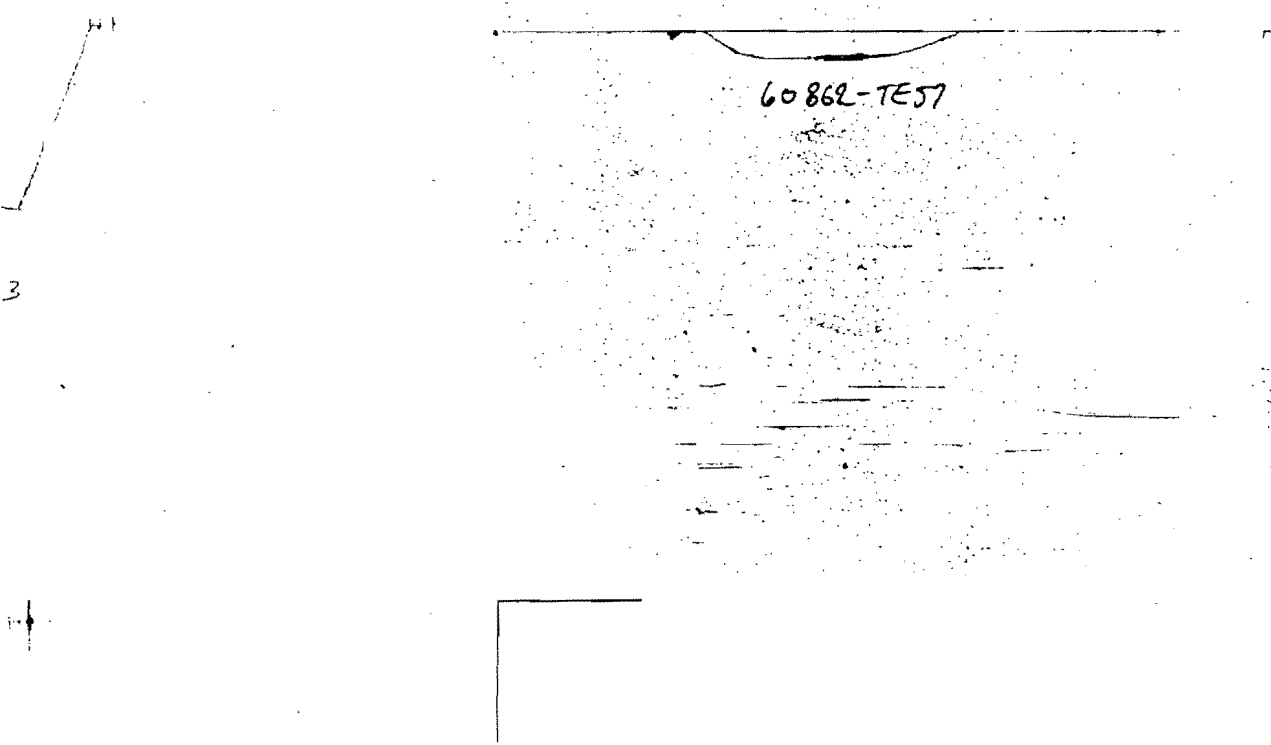
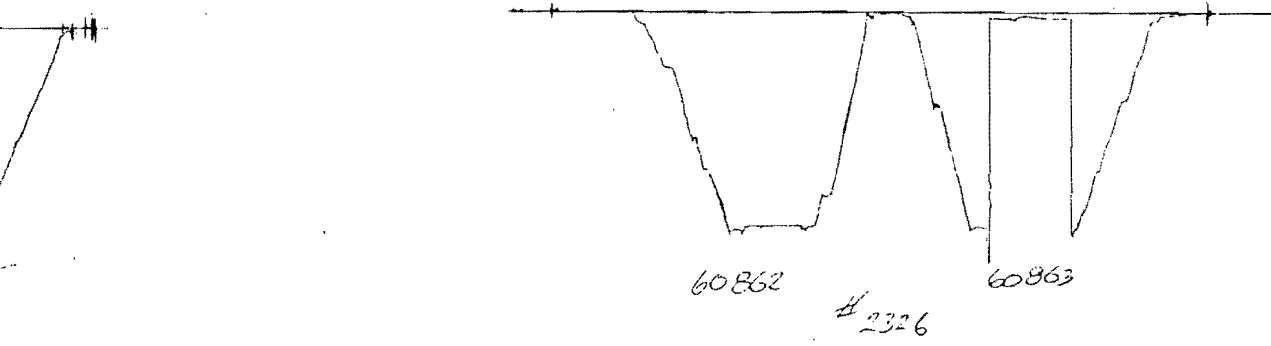
REMARKS
Misrun. No packer seat.

COMPANY EXCO ENERGY LTD.
LEGAL DESCRIPTION
PROVINCE OR TERRITORY YUKON
FIELD OR AREA
N. CHANCE
TEST NUMBER 2
WELL NAME AND NUMBER N. CHANCE YT D-22
TESTED INTERVAL 1538 - 1554

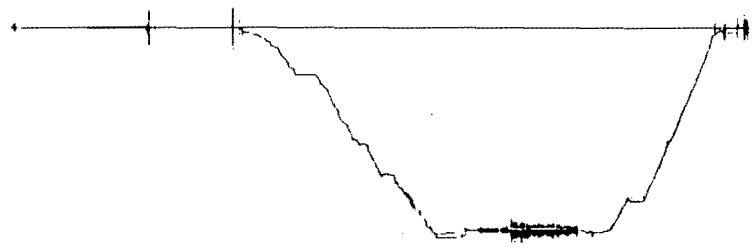
		U. D. (mm)	I. D. (mm)	LENGTH (m)	DEPTH (m)
5	DRILL COLLARS.....	159.0	71.0	55.64	
50	IMPACT REVERSING SUB.....	155.5	76.2	0.31	
5	CROSSOVER.....	155.5	76.2	0.31	
60	HYDRUSPRING TESTER.....	127.0	19.1	3.15	1519.59
14	EXTENSION JOINT.....	127.0	25.4	2.16	
80	AP RUNNING CASE.....	127.0	57.2	1.25	1524.90
80	AP RUNNING CASE.....	127.0	57.2	1.25	1526.15
82	TEMPERATURE RUNNING CASE.....	127.0	57.2	1.25	
15	JAR.....	127.0	44.5	1.52	
16	VR SAFETY JOINT.....	127.0	25.4	1.03	
26	PUMP ASSEMBLY.....	127.0	22.3	2.15	
27	SCREEN ASSEMBLY.....	127.0	25.4	1.34	
11	HYDROFLATE PRESSURE LIMITER.....	127.0	25.4	1.52	
74	TOP HYDROFLATE PACKER.....	177.8	26.9	2.55	1538.00
28	PORT ASSEMBLY.....	127.0		1.03	
5	CROSSOVER.....	155.5	76.2	0.31	
3	DRILL COLLARS.....	159.0	71.0	9.58	
5	CROSSOVER.....	155.5	76.2	0.31	
22	BLANK ANCHOR.....	127.0	57.2	3.38	
75	LOWER HYDROFLATE PACKER.....	177.8	50.8	2.37	1554.00
97	BELLY SP W/BLANKED OFF RECORDER.		57.2	1.55	1555.76
5	CROSSOVER.....	127.0	57.2	0.31	
81	BLANKED-OFF RUNNING CASE.....	127.0	57.2	1.25	1557.61
23	BLANK SUB.....	127.0	57.2	0.31	

EQUIPMENT DATA

TIME →
PRESSURE ↓

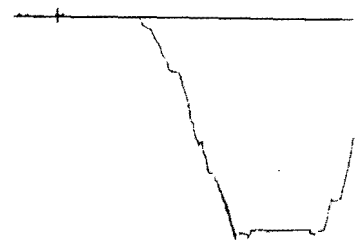


↑ PRESSUR



60862-545

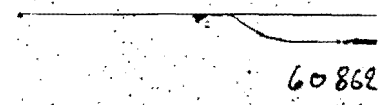
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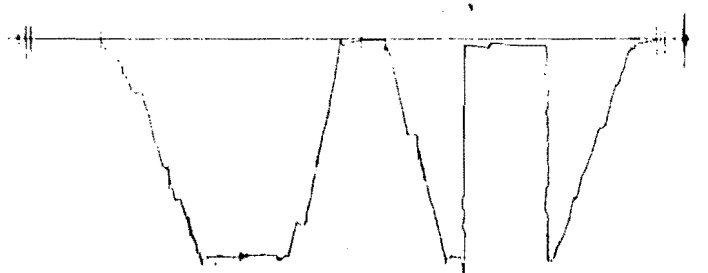
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60862-3163



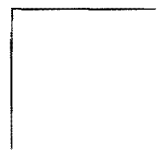
60862



60862

60863

At 2670



Fluid Recovery and Downhole Sampler

Analysis for DST #3

Hart River 1538m-1554m

**EDMONTON, ALBERTA
WATER ANALYSIS**

CONTAINER IDENTITY
TOOL #1002, 706

LABORATORY NUMBER
84-3126-3

LICENCE NO. OPERATOR NAME AND ADDRESS
EXCO ENERGY LTD.

CPA NUMBER WELL NAME KB ELEVATIONS METERS GRD
EXCO ET AL N. CHANCE D-22

FIELD OR AREA POOL OR ZONE NAME OF SAMPLER COMPANY
HART RIVER **HALLIBURTON**

TEST RECOVERY
3 M MUDDY INHIBITOR

SAMPLING POINT AMT & TYPE OF CUSHION MUD RESISTIVITY
DOWNHOLE SAMPLER **@ 25° C**

TYPE OF PRODUCTION -
PUMPING FLOWING GAS LIFT SWAB

PRODUCTION RATES -
WATER m³/d OIL m³/d GAS 10³m³/d

GAUGE PRESSURE - KPa TEMPERATURES °C
SEPARATOR TREATER AS RECEIVED SEPARATOR TREATER AS RECEIVED

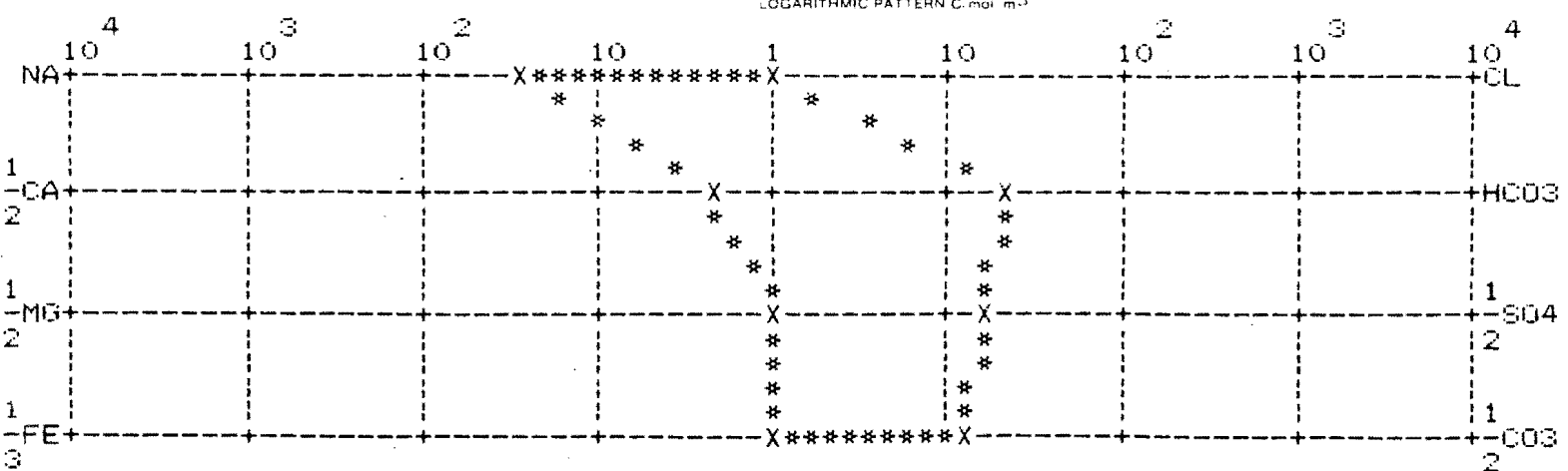
DATE SAMPLED DATE RECEIVED DATE REPORTED ANALYST
Y M D H:M Y M D Y M D D. D.

85-04-05 **85-05-16** **85-05-23** **D. D.**

ION	C g m ⁻³	MASS FRACTION	C mol m ⁻³
Na	870		37.8
	4		<1
Ca	41		1.0
Mg	2.6		<1
Ba			
Sr			
Fe	.70		<1

ION	C g m ⁻³	MASS FRACTION	C mol m ⁻³
Cl	20		<1
Br			
I			
HCO ₃	1220		20.0
SO ₄	912		9.5
CO ₃	480		8.0
OH	<1		<1
H ₂ S	ABSENT		

TOTAL SOLIDS (g m ⁻³)	
BY EVAPORATION @ 110 °C	BY EVAPORATION @ 130 °C
2779	2930
ATIGNITION	CALCULATED
2779	2930
RELATIVE DENSITY @ 21 °C	REFRACTIVE INDEX @ 25 °C
1.002	1.333
OBSERVED PH @ 21 °C	RESISTIVITY Ω _m @ 25 °C
9.0	1.9



REMARKS
TOOLS HAD AN OPENING PRESSURE OF 0 KPA
TOOLS CONTAINED 2000 ML OF MUD

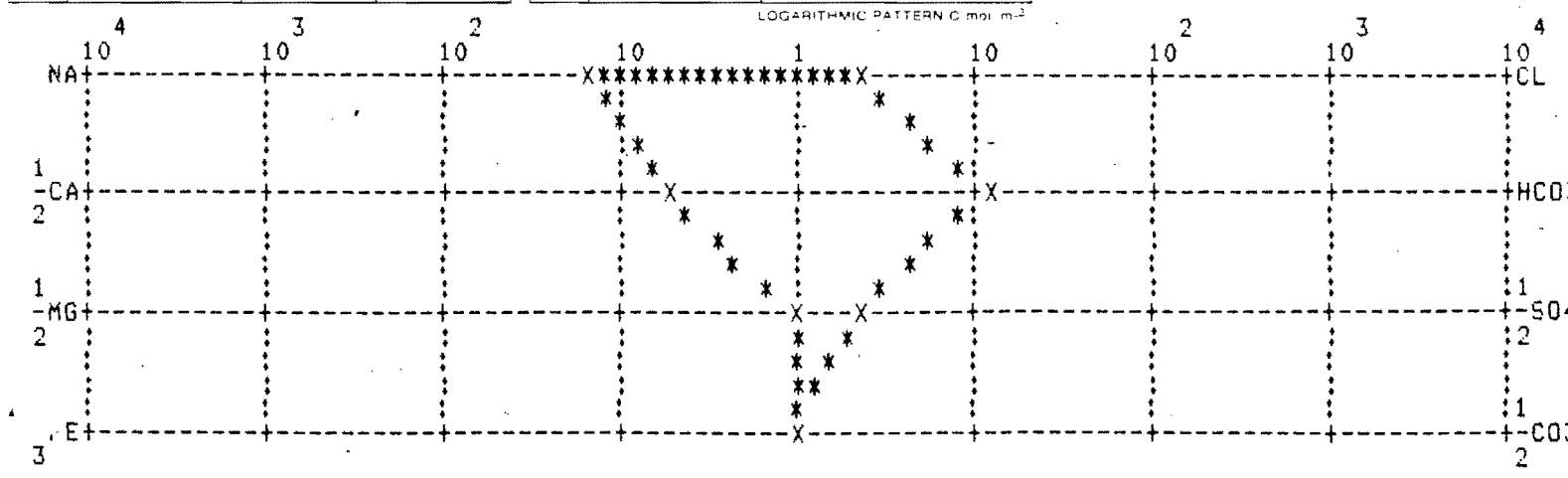
EDMONTON, ALBERTA WATER ANALYSIS

CONTAINER IDENTITY PLASTIC	LABORATORY NUMBER WINT-1101-847098
LICENCE NO.	OPERATOR NAME AND ADDRESS EXCO RESOURCES LTD.
CPA NUMBER	WELL NAME EXCO ET AL N. CHANCE Y.T. D-22
FIELD OF AREA N. CHANCE Y.T.	POOL OR ZONE HART RIVER
	NAME OF SAMPLER
	COMPANY HALLIBURTON
	TEST RECOVERY 3M MUDDY INHIBITOR
TEST TYPE NO DST 3	SAMPLING POINT ABOVE TOOL
MULTIPLE RECOVERY	AMT & TYPE OF CUSHION
TEST INTERVAL FROM 1538 m	MUD RESISTIVITY @25°C
TO 1554 m	TYPE OF PRODUCTION PUMPING <input type="checkbox"/> FLOWING <input type="checkbox"/> GAS LIFT <input type="checkbox"/> SWAB <input type="checkbox"/>
PERFORATIONS FROM	PRODUCTION RATES WATER <input type="text"/> m ³ /d OIL <input type="text"/> m ³ /d GAS <input type="text"/> 10 ³ m ³ /d
TO	GAUGE PRESSURE - kPa SEPARATOR TREATER AS RECEIVED
	TEMPERATURES °C SEPARATOR TREATER AS RECEIVED
	DATE SAMPLED DATE RECEIVED DATE REPORTED ANALYST 85-04-06 85-04-24 85-04-26 BARB M.

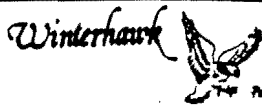
ION	C (g m ⁻³)	MASS FRACTION	C (mol m ⁻³)
Na	400		17.4
	6.3		.161
Ca	115		2.87
Mg	8.9		.366
Ba			
Sr			
Fe	3.0		.054

ION	C (g m ⁻³)	MASS FRACTION	C (mol m ⁻³)
Cl	100		2.82
Br			
I			
HCO ₃	900		14.7
SO ₄	115		1.20
CO ₃	0.0		0.0
OH			
H-S	ABSENT		

TOTAL SOLIDS (g m ⁻³)	
BY EVAPORATION @ 110°C	BY EVAPORATION @ 180°C
AT IGNITION	CALCULATED
	1300
RELATIVE DENSITY @ 15°C	REFRACTIVE INDEX @ 25°C
1.001	1.334
OBSERVED PH @ 25°C	RESISTIVITY Ω _m @ 25°C
7.7	5.38



REMARKS



A. WELL DATA

FIELD DRILL STEM TEST REPORT

DATE 85-04-05

Well: Exco et al N. Chance Y.T. Location D22
DST No. Three Interval 1538 m-1554 m Formation Hart River
Last Casing: Size 244 mm Depth 460m Open Hole: Size 216mm Depth 1830m
Hole Troubles: none reported Caliper at Packer(s) 233mm & 237mm
Mud: Wt. 1080Kg/m³ Vis 70 sec/I.W.L. 7.6cc % Oil ppm Cl 200

B. TEST STRING DATA

Testing Company Halliburton Type of Test Inflate Straddle
Type and Number of Packers Gates Inflate - Two Size 177.8mm
DP Size 114mm Wt 24.7 kg/m Length 1467.30m
DC Size 159mm Wt 135kg/m I.D. 60mm Length 55.67m
Tail Pipe Size Wt Length Perfs m
T.D. String Recorder Depth Water Cushion & water 140L inhibitor BH Choke 19.07mm
Packer Depth(s) 1538m & 1554m Weight on Packer(s) 10,000 daN
Other Equipment P.O.S., Jars, Safety Joint, Floor Manifold

C. TEST RESULTS

Times: PF 15 ISI 60 Flow 60 SI 120 Flow FSI
Pressures: PF IH ISI IF
TEMP °C FH FSI FF

Flow Descriptions:

Preflow: Fair to strong air blow in 2 min. decreasing to nil in 8 min. No gas to surface.

Valve Open Flow: Weak air blow decreasing to nil in 6 min. No gas to surface

Recoveries: 3m drlg. mud

D. SAMPLE DETAILS:

Sent to: Chemx Lag Calgary Via: Ranger Date Sent: 85-04-10

E. REMARKS:

Note: Data reported on this form are field readings taken at the time of test, and are subject to correction.

ENGINEER Dave Campbell

TESTERS	
L. Bruneau	
WITNESS	
D. Campbell	
DR CO	TOR Grey Mountain



FORMATION TESTING
DATA SHEET

REFER TO INVOICE NO.	60 863
DATE OF TEST	85-04-05
TEST No.	3
JOB TYPE	Hydroflate Straddle

PRESSURE SUMMARY kPa						
GAUGE NUMBER	545	3163	2620	2326		
GAUGE DEPTH	1524.90	1526.15	1555.76	1557.61		
BLANKED OFF	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO
HOURLY CLOCK TRAVEL	24	24	48	48		
INITIAL HYDROSTATIC	16 517	16 555	16 837	16 846		
FIRST FLOW	INITIAL 354	477	600	612		
	FINAL 277	334	512	521		
FIRST CLOSED IN	417	452	660	674		
SECOND FLOW	INITIAL 315	393	512	500		
	FINAL 244	325	438	492		
SECOND CLOSED IN	323	365	550	560		
THIRD FLOW	INITIAL					
	FINAL					
THIRD CLOSED IN						
FINAL HYDROSTATIC	16 422	16 429	16 668	16 667		

TIME PERIODS					
	FIRST	SECOND	THIRD		TIME
FLOW	15	60		TESTER VALVE OPENED	20:37
CLOSED IN	60	120		PACKER UNSEATED	00:52

EQUIPMENT AND WELL DATA			
FORMATION TESTED	Hart River		TEMP. REC. No. 1E57
NET PRODUCTIVE THICKNESS	m	MUD TYPE	Gel Chemical
K B ELEVATION	m	MUD DENSITY	1070 kg/m ³
ALL DEPTHS MEASURED FROM:	<input checked="" type="checkbox"/> KB <input type="checkbox"/> GROUND	CASING OR HOLE SIZE	216 mm
PACKER DEPTHS	TOP 1538 BOTTOM 1554	RATHOLE SIZE	mm
DEPTH OF TESTER VALVE	1519.59 m	DRILL PIPE	OD mm 114.3 kg/m 24.7
CASING PERFORATED INTERVAL	N/A m	DRILL COLLARS ABOVE TESTER VALVE	ID mm 71 LENGTH m 55.67
TOTAL DEPTH	1830.0 m	SURFACE CHOKE	25.4 mm
AMOUNT AND TYPE CUSHION	140 L Inhibitor and Water	BOTTOM CHOKE	19.05 mm

LIQUID RECOVERY DATA	
METRES	DESCRIPTION OF LIQUID
3	Muddy Inhibitor.
3	TOTAL LIQUID RECOVERY

SAMPLE DATA	
OIL GRAVITY _____ @ _____ °C	
GAS/OIL RATIO _____	
REFRACTOMETER/RELATIVE DENSITY	
RECOVERY WATER _____ @ _____ °C	
CHLORIDE CONTENT _____ mg/L	

SAMPLE SHIPPED TO LABORATORY	YES	NO
SAMPLER No. 1002, 706	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GAS SAMPLE BOTTLE No. _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>
LABORATORY Chemex (Calgary)		

EMARKS

LEGAL DESCRIPTION: EXCO ENERGY LTD.

COMPANY: EXCO ENERGY LTD.

PROVINCE OR TERRITORY: YUKON

RETURN OR AREA: N. CHANCE

WELL NAME AND NUMBER: EXCO F1 AL N. CHANCE YT D-22

TEST NUMBER: 3

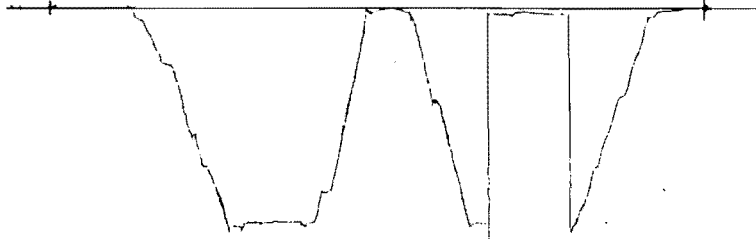
TESTED INTERVAL: 1538 - 1554

DATES AND TIMES (00:00-24:00 HRS.)	CHOKE SIZE (mm)	SURFACE PRESSURE (kPa)	GAS RATE (m ³ /day)	LIQUID RATE (m ³ /day)	REMARKS
14:30					Got to tools. Broke down top section.
15:00					Pulled all the way out of hole. Washed ports and screen. Packers looked good.
15:45					Loaded recorders and made up top section. Changed pumps.
16:30					Strapped collars and ran in.
16:50					Strap pipe and run in.
19:50					Head up surface equipment.
20:00					Rotate at 65 RPM.
20:30					Picked up 3000 overpull.
20:32					Set 4000 daN on tool.
20:35					Set another 6000 on tool.
20:37					Tool opened: Fair to strong blow in : 2 minutes, decreasing to nil in 8 minutes, no gas.
20:52					Shut in tool.
21:52					Open Tool: Weak air blow dead in 6 minutes.
22:52					Shut in tool.
00:52					Pull free. Rig out equipment.
01:15					Pull stands by chaining out.
05:00					Got to collars.
05:50					Pulled tools to recover recorder.
07:00					Laid down collar and bypass pipe.
08:20					Make up tools for DST #4. Changed pump and samplers.
10:00					Run in collars.

		O. D. (mm)	I. D. (mm)	LENGTH(m)	DEPTH(m)
3	DRILL COLLARS.....	159.0	71.0	55.64	
50	IMPACT REVERSING SUB.....	155.5	76.2	0.31	
5	CROSSOVER.....	155.5	76.2	0.31	
60	HYDROSPRING TESTER.....	127.0	19.1	3.15	1519.59
14	EXTENSION JOINT.....	127.0	25.4	2.16	
80	AP RUNNING CASE.....	127.0	57.2	1.25	1524.90
80	AP RUNNING CASE.....	127.0	57.2	1.25	1526.15
82	TEMPERATURE RUNNING CASE.....	127.0	57.2	1.25	
15	JAR.....	127.0	44.5	1.52	
16	VR SAFETY JOINT.....	127.0	25.4	1.03	
26	PUMP ASSEMBLY.....	127.0	22.3	2.15	
27	SCREEN ASSEMBLY.....	127.0	25.4	1.34	
11	HYDROFLATE PRESSURE LIMITER.....	127.0	25.4	1.52	
74	TOP HYDROFLATE PACKER.....	177.8	26.9	2.55	1538.00
28	PORT ASSEMBLY.....	127.0		1.03	
5	CROSSOVER.....	155.5	76.2	0.31	
3	DRILL COLLARS.....	159.0	71.0	9.58	
5	CROSSOVER.....	155.5	76.2	0.31	
22	BLANK ANCHOR.....	127.0	57.2	3.38	
75	LOWER HYDROFLATE PACKER.....	177.8	50.8	2.37	1554.00
97	BELLY SP W/BLANKED OFF RECORDER.		57.2	1.55	1555.76
5	CROSSOVER.....	127.0	57.2	0.31	
81	BLANKED-OFF RUNNING CASE.....	127.0	57.2	1.25	1557.61
23	BLANK SUB.....	127.0	57.2	0.31	

EQUIPMENT DATA

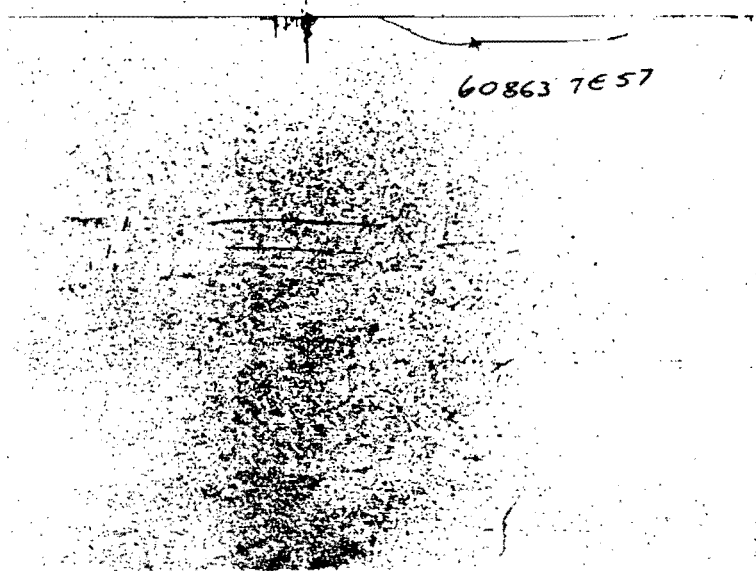
TIME →
PRESSURE ↓



60862

4 23:6

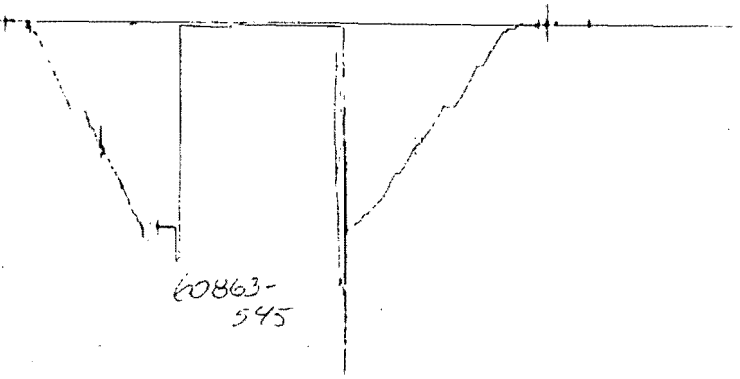
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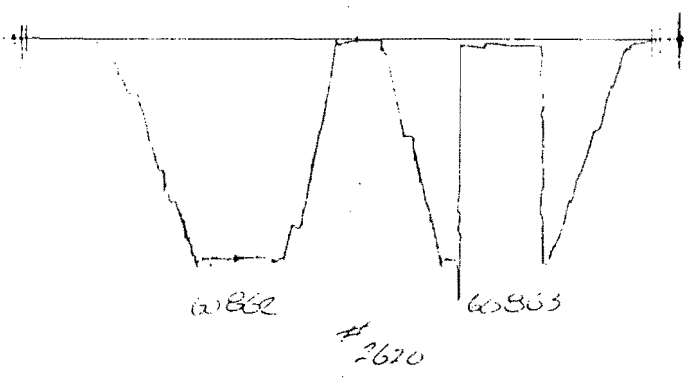
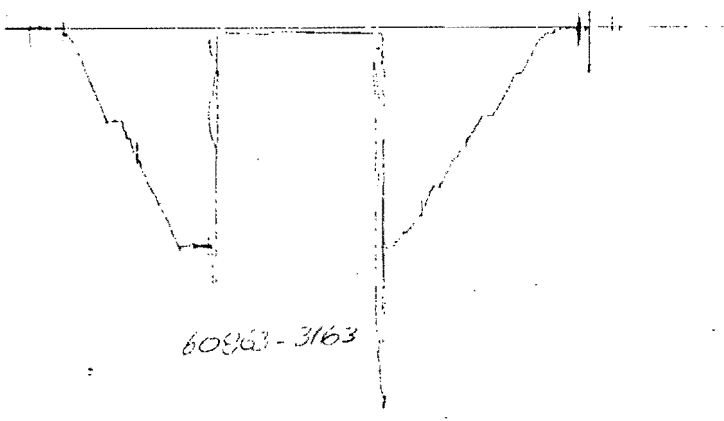
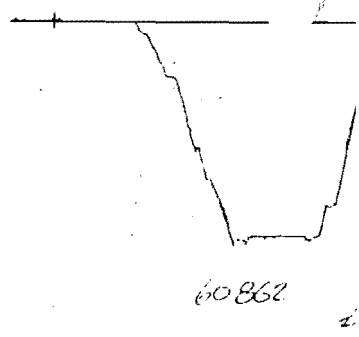
60863 7E57

60863 7E57

← PRESSUP



← PRESSUP





A. WELL DATA

FIELD DRILL STEM TEST REPORT

DATE 85-04-05

Well: Exco et al N. Chance Y.T. Location D22
DST No. Four Interval 786m -789m Formation Mid Sandstone Member
Last Casing: Size 244mm Depth 460m Open Hole: Size 216mm Depth 1830m
Hole Troubles: none reported Caliper at Packer(s) 216mm & 241 mm
Mud: Wt. 1080kg/m³ Vis 70 sec/L.W.L. 7.6 cc % Oil ppm Cl 200

B. TEST STRING DATA

Testing Company Halliburton Type of Test Inflate Straddle
Type and Number of Packers Gates Inflate - Two Size 177.8mm
DP Size 114mm Wt 24.7 Kg/m Length 719.22m
DC Size 159 mm Wt 135 Kg/m I.D. 60mm Length 55.67m
Tail Pipe Size Wt Length Perfs m
T.D. String Recorder Depth Water Cushion 5H Choke
Packer Depth(s) 786m & 789m Weight on Packer(s) 10,000 daN
Other Equipment P.O.S., Jars, Safety Joint, Floor Manifold

C. TEST RESULTS

Times: PF 15 ISI 60 Flow 60 SI 120 Flow FSI
Pressures: PF 151 IH 8209 ISI 4552 IF 298
TEMP below 10°C FH 8209 FSI 2792 FF 298

Flow Descriptions:

Preflow: Weak air blow throughout. No gas to surface

Valve Open Flow: Very weak air blow decreasing to nil in 16 min. No gas to surface.

Recoveries: 21m total fluid - slightly gasified oil flecked water.
cut drlg fluid. 1% oil, chlorides 2200 ppm.






















D. SAMPLE DETAILS:

Sent to: Chemex Lab Calgary Via: Ranger Date Sent: 85-04-10

E. REMARKS:

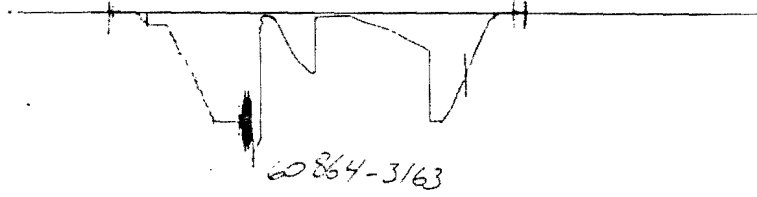
Note: Data reported on this form are field readings taken at the time of test, and are subject to correction.

ENGINEER Dave Campbell

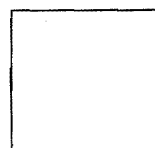
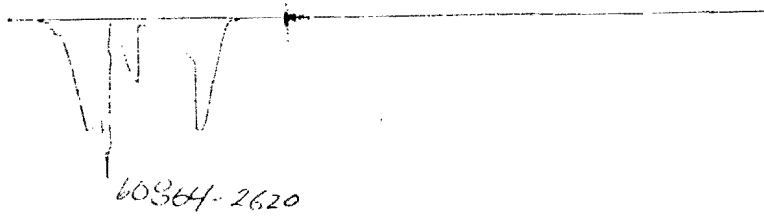
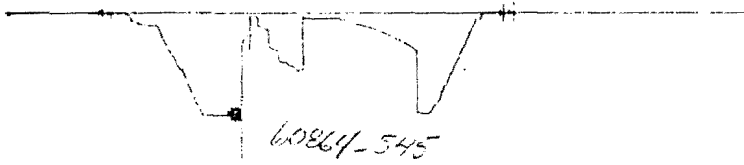
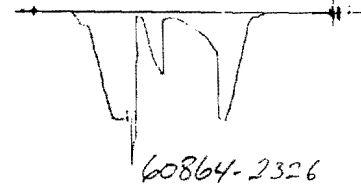
		O.D. (mm)	I.D. (mm)	LENGTH (m)	DEPTH (m)	
3		DRILL COLLARS.....	159.0	71.0	55.64	
50		IMPACT REVERSING SUB.....	155.5	76.2	0.31	
5		CROSSOVER.....	155.5	76.2	0.31	
60		HYDROSPRING TESTER.....	127.0	19.1	3.15	767.59
14		EXTENSION JOINT.....	127.0	25.4	2.16	
80		AP RUNNING CASE.....	127.0	57.2	1.25	772.90
80		AP RUNNING CASE.....	127.0	57.2	1.25	774.15
82		TEMPERATURE RUNNING CASE.....	127.0	57.2	1.25	
15		JAR.....	127.0	44.5	1.52	
16		VR SAFETY JOINT.....	127.0	25.4	1.03	
26		PUMP ASSEMBLY.....	127.0	22.3	2.15	
27		SCREEN ASSEMBLY.....	127.0	25.4	1.34	
11		HYDROFLATE PRESSURE LIMITER.....	127.0	25.4	1.52	
74		TOP HYDROFLATE PACKER.....	177.8	26.9	2.55	786.00
28		PORT ASSEMBLY.....	127.0		1.03	
22		BLANK ANCHOR.....	127.0	57.2	0.58	
75		LOWER HYDROFLATE PACKER.....	177.8	50.8	2.37	789.00
97		BELLY SP W/BLANKED OFF RECORDER.		57.2	1.55	790.76
5		CROSSOVER.....	127.0	57.2	0.31	
81		BLANKED-OFF RUNNING CASE.....	127.0	57.2	1.25	792.62
23		BLANK SUB.....	127.0	57.2	0.31	

EQUIPMENT DATA

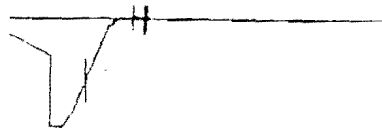
TIME
PRESSURE



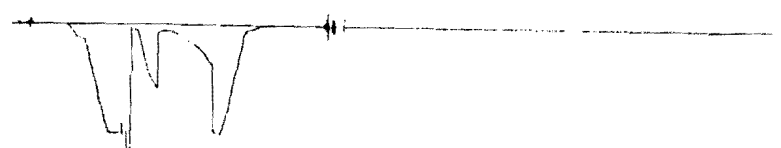
TIME
PRESSURE



TIME
↓
PRESSURE



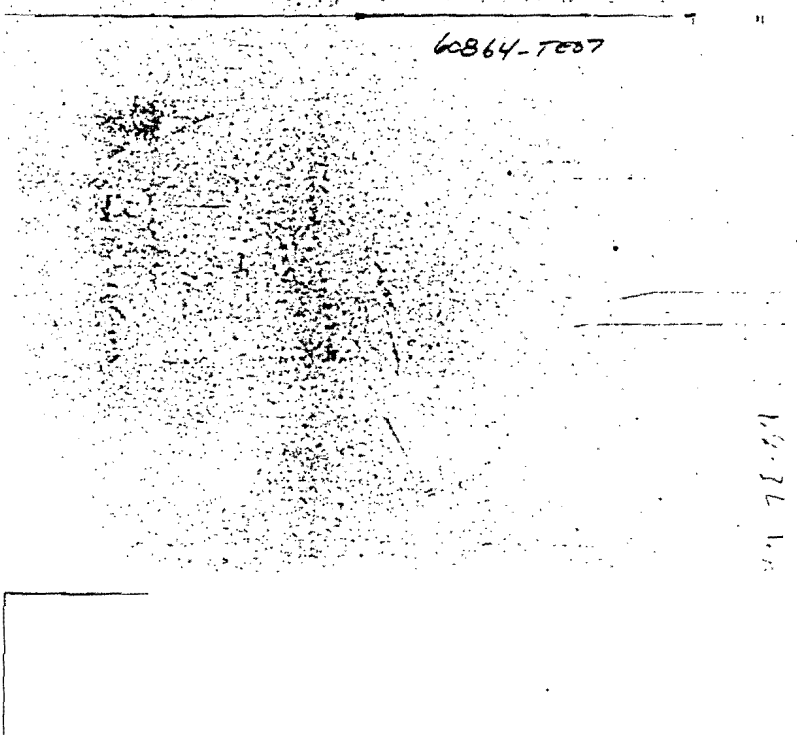
3/63



60864-2326



7/45



60864-7607

14-21

TESTERS	L. Bruneau
WITNESS	D. Campbell
OF CC	CTOR Grey Mountain



FORMATION TESTING
DATA SHEET

REFER TO INVOICE NO.	60 864
DATE OF TEST	85-04-06
TEST No.	4
JOB TYPE	Hydroflate Straddle

PRESSURE SUMMARY kPa

GAUGE NUMBER	3163	545	2620	2326		
GAUGE DEPTH	772.90	774.15	790.76	792.62		
BLANKED OFF	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO
HOUR CLOCK TRAVEL	24	24	48	48		
INITIAL HYDROSTATIC	8190	8176	8403	8422		
FIRST FLOW	INITIAL 230 FINAL 222	INITIAL 244 FINAL 244	INITIAL 394 FINAL 418	INITIAL 403 FINAL 450		
FIRST CLOSED IN	4400	4479	4659	4655		
SECOND FLOW	INITIAL 479 FINAL 340	INITIAL 474 FINAL 400	INITIAL 543 FINAL 587	INITIAL 577 FINAL 600		
SECOND CLOSED IN	2923	2960	3161	3188		
THIRD FLOW	INITIAL FINAL					
THIRD CLOSED IN						
FINAL HYDROSTATIC	8231	8209	8461	8502		

TIME PERIODS

	FIRST	SECOND	THIRD	TESTER VALVE OPENED	TIME
FLOW	15	60			13:29
CLOSED IN	60	120		PACKER UNSEATED	17:44

EQUIPMENT AND WELL DATA

FORMATION TESTED	Mid Sandstone Member	TEMP. REC. No.	TE57
		DEPTH	775.40
		MAX. TEMP.	21
NET PRODUCTIVE THICKNESS	m	MUD TYPE	Gel Chemical
K B ELEVATION	m	MUD DENSITY	1070
		MUD VISC	70
ALL DEPTHS MEASURED FROM:	<input checked="" type="checkbox"/> KB <input type="checkbox"/> GROUND	CASING OR HOLE SIZE	216 mm
PACKER DEPTHS	TOP 786 BOTTOM 789	RATHOLE SIZE	m
DEPTH OF TESTER VALVE	767.59 m	DRILL PIPE	OD mm 114.3 kg/m 24.7
CASING PERFORATED INTERVAL	N/A m	DRILL COLLARS ABOVE TESTER VALVE	ID mm 71 LENGTH m 55.67
TOTAL DEPTH	1830 m	SURFACE CHOKE	19.05 mm
AMOUNT AND TYPE CUSHION	Nil	BOTTOM CHOKE	25.4 mm

LIQUID RECOVERY DATA

METRES	DESCRIPTION OF LIQUID
21	Mud cut water.
MEASURED FROM TESTER VALVE	
21	TOTAL LIQUID RECOVERY

SAMPLE DATA

OIL GRAVITY _____ @ _____ °C
 GAS/OIL RATIO _____
 REFRACTOMETER/RELATIVE DENSITY _____
 RECOVERY WATER _____ @ _____ °C
 CHLORIDE CONTENT _____ mg/L

SAMPLE SHIPPED TO LABORATORY	YES	NO
SAMPLER No. 77, 96	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GAS SAMPLE BOTTLE No.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
LABORATORY Chemex (Calgary)		

REMARKS

COMPANY EXCO ENERGY LTD.
 LEGAL DESCRIPTION
 PROVINCE OR TERRITORY YUKON
 FIELD OR AREA N. CHANCE
 TEST NUMBER 4
 TESTED INTERVAL 786 - 789
 WELL NAME AND NUMBER N. CHANCE YT D-22
 EXCO F1 AL

CALGARY, ALBERTA

CHEMEX LABS (ALBERTA) LTD.

GRANDE PRAIRIE, ALBERTA

EDMONTON, ALBERTA
WATER ANALYSIS

CONTAINER IDENTITY
TOOL #77 AND 96

LABORATORY NUMBER
84-3126-4

LICENCE NO. OPERATOR NAME AND ADDRESS
EXCO ENERGY LTD.

CPA NUMBER WELLNAME KB ELEVATIONS METERS GRD
EXCO ET AL N. CHANCE D-22

FIELD OR AREA POOL OR ZONE NAME OF SAMPLER COMPANY
*** HALLIBURTON**

TEST TYPE NO
DST 4

MULTIPLE RECOVERY

TEST INTERVAL FROM TO
786 789 m

PERFORMATIONS FROM TO
m

TEST RECOVERY
21 M FLUID

SAMPLING POINT AMT & TYPE OF CUSHION MUD RESISTIVITY @ 25°C
DOWNHOLE SAMPLER

TYPE OF PRODUCTION
PUMPING FLOWING GAS LIFT SWAB

PRODUCTION RATES
WATER m³/d OIL m³/d GAS 10³m³/d

GAUGE PRESSURE - KPa TEMPERATURES °C
SEPARATOR TREATER AS RECEIVED SEPARATOR TREATER AS RECEIVED

DATE SAMPLED DATE RECEIVED DATE REPORTED ANALYST
85-04-06 85-05-16 85-05-23 D.D.

ION	C g. m. ⁻³	MASS FRACTION	C mol. m. ⁻³	ION	C g. m. ⁻³	MASS FRACTION	C mol. m. ⁻³
Na	790		34.3	Cl	15		<1
K	3		<1	Br			
Ca	21		<1				
Mg	1.2		<1	HCO ₃	1464		24.0
Ba				SO ₄	600		6.3
Sr				CO ₃	120		2.0
Fe	.70		<1	OH	<1		<1
				H ₂ S	ABSENT		

TOTAL SOLIDS C/g m.⁻³

BY EVAPORATION @ 110°C	BY EVAPORATION @ 180°C
ATIGNITION	CALCULATED
2156	2271

RELATIVE DENSITY @ 21°C

1.002

REFRACTIVE INDEX @ 25°C

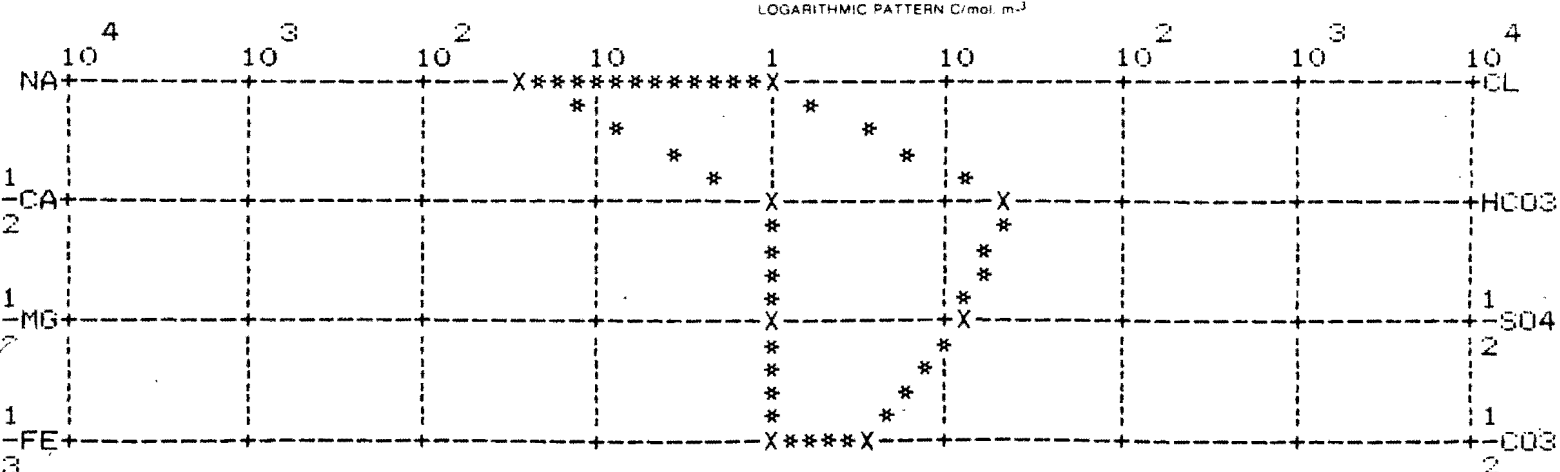
1.333

OBSERVED PH @ 21°C

8.8

RESISTIVITY Ωm @ 25°C

2.4



REMARKS
 TOOLS HAD AN OPENING PRESSURE OF 0 KPA
 TOOLS CONTAINED 4000 ML OF WATER
 * MID SANDSTONE MEMBER

CALGARY, ALBERTA

CHEMEX LABS (ALBERTA) LTD.

GRANDE PRAIRIE, ALBERTA

EDMONTON, ALBERTA
WATER ANALYSIS

CONTAINER IDENTITY
PLASTIC

LABORATORY NUMBER
WINT-1101-847098

LICENCE NO. OPERATOR NAME AND ADDRESS
EXCO RESOURCES LTD.

CPA NUMBER WELL NAME
EXCO ET AL N. CHANCE Y.T. D-22

FIELD OF AREA POOL OR ZONE NAME OF SAMPLER COMPANY
N. CHANCE Y.T. MID SANDSTONE HALLIBURTON

TEST TYPE NO
DST 4

MULTIPLE RECOVERY

TEST INTERVAL FROM
786 m
TO
789 m

PERFORATIONS FROM
m
TO
m

TEST RECOVERY
21M FLUID MEMBER

SAMPLING POINT AMT & TYPE OF CUSHION MUD RESISTIVITY
ABOVE TOOL

TYPE OF PRODUCTION
PUMPING FLOWING GAS LIFT SWAB

PRODUCTION RATES
WATER m³/d OIL m³/d GAS 10³m³/d

GAUGE PRESSURE - KPa TEMPERATURES *C
SEPARATOR TREATER AS RECEIVED SEPARATOR TREATER AS RECEIVED

DATE SAMPLED DATE RECEIVED DATE REPORTED ANALYST
85-04-06 85-04-24 85-04-26 BARB M.

ION	C g m ⁻³	MASS FRACTION	C mol m ⁻³
Na	872		37.9
K	5.1		.130
Ca	9.0		.225
Mg	1.0		.041
Ba			
Sr			
Fe	0.8		.014

ION	C g m ⁻³	MASS FRACTION	C mol m ⁻³
Cl	294		8.29
Br			
I			
HCO ₃	1220		20.0
SO ₄	397		4.13
CO ₃	29		.483
OH			
H ₂ S	ABSENT		

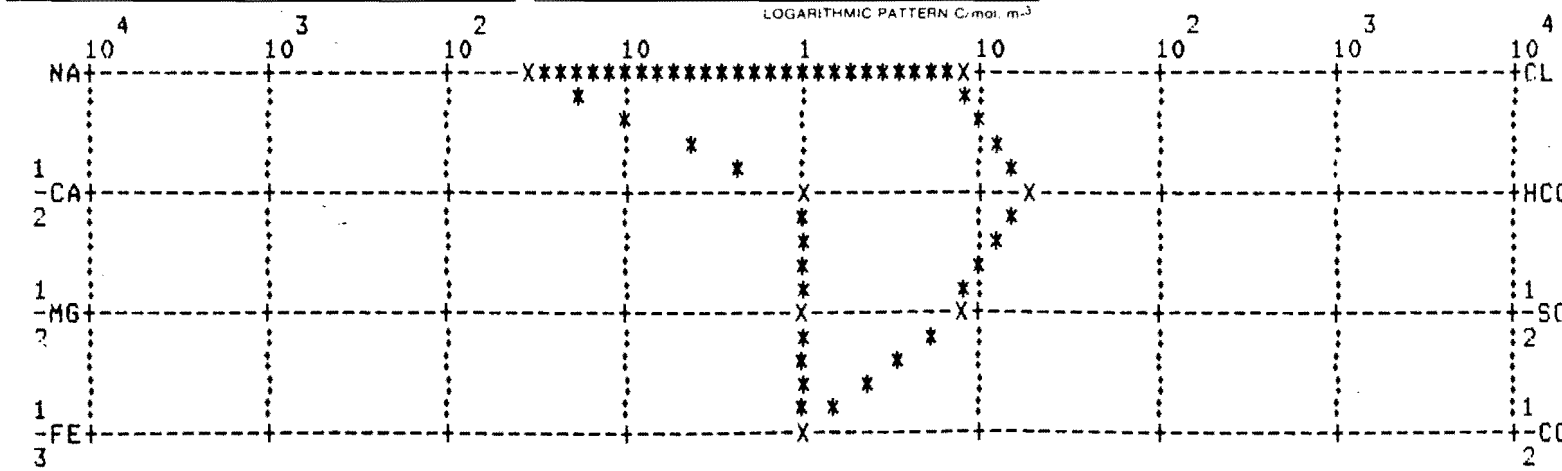
TOTAL SOLIDS C.g m⁻³

BY EVAPORATION @ 110 °C BY EVAPORATION @ 180 °C

AT IGNITION CALCULATED
2300

RELATIVE DENSITY @ 15 °C REFRACTIVE INDEX @ 25 °C
1.002 1.334

OBSERVED PH RESISTIVITY Ω m @ 25 °C
8.7 3.40



REMARKS

SEE NOTE ON FILTERED SAMPLE

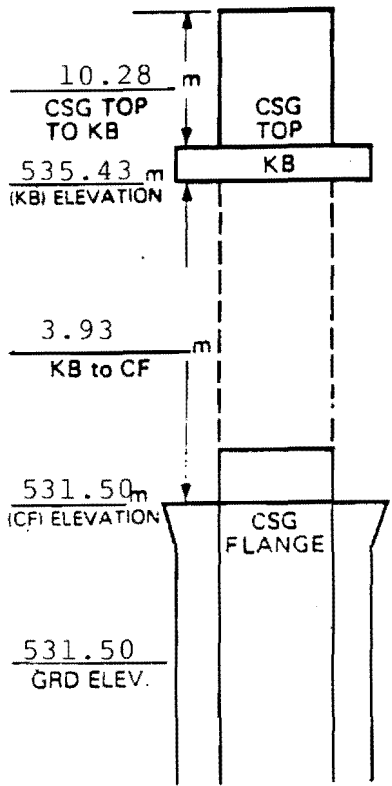
CASING SUMMARY

Enclosed are casing summaries for conductor and surface casing.

339^{mm} CONDUCTOR CASING

CASING SUMMARY

WELL Esso et al N. Chance LOCATION D-22 DATE March/85
 Conductor _____
~~SIZE AND TYPE~~ ~~PROOF LINED~~ ~~INTER SIZE~~ 339mm KB 535.43m KB to CF 3.93m
 New/ ~~Drift~~ Inspected By: Jim Reilly Drifted To: n/a API diam. _____



NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1	Davis Guide Shoe	0.90	53.85
4	jts 339.7mm, 81.1kg/m, K-55	54.13	10.28
	Scratchers		
2	Centralizers		
Total String		55.03	
minus KB to Csg Top (STICK UP)		0.28	Cut-off Jt. Length
Landed Depth KB		54.75	
Hole Depth KB		55.00	4.18m
Distance Csg Landed Off Bottom		0.25	

Cementing Company Halli Burton Services Ltd.

Wash - Type: Water Volume: 13m³

Cement Type - Lead Slurry Class 6 Volume: 5.1m³

Additives CFR-2 Volume: _____

Cement Type - Tail Slurry Perma .05 Volume: 2.2m³

Additives _____ Volume: _____

Cement Type - Above Stage Collar _____ Volume: _____

Additives _____ Volume: _____

Displacement Rate: Max. _____ Avg. 0.85 (m³/min)

Calculated Cement Top(s) Surface KB _____ KB

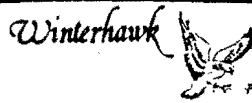
Returns: Mud 3.5m (25mm) m³ Cement 2.5m³ (0.5mm) m³

String Wt. in a mud wt. of: _____ kg/m³ = 7500 daN

Wt. set on Slips: 8000 daN

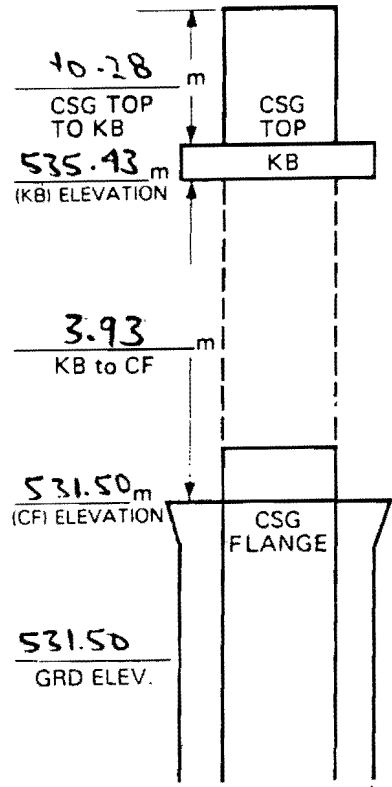
Remarks: _____

Engineer: Jim Reilly



CASING SUMMARY

WELL Field et al. N. 20001 LOCATION 2-2-2 DATE 11/02/05
 SIZE 339mm KB 535.43m KB to CF 3.93m
 New/ ~~Old~~ Inspected By: Jim Reilly Drifted To: n/a. API diam. _____



NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1	Davis Guide Shoe	0.70	53.85
4	etc. 339.7mm, 81.1kg/m, K-55	54.13	10.28
	Scratchers		
	Centralizers		
Total String		55.03	Cut-off Jt. Length 4.18m
minus KB to Csg Top (STICK UP)		0.28	
Landed Depth KB		54.75	
Hole Depth KB		55.00	
Distance Csg Landed Off Bottom		0.25	

Cementing Company 7 Haddock Services Ltd.
 Wash - Type: _____ Volume: _____
 Cement Type - Lead Slurry _____ E Volume: _____
 Additives _____ ? Volume: _____
 Cement Type - Tail Slurry _____ Volume: 2.2
 Additives _____ Volume: _____
 Cement Type - Above Stage Collar _____ Volume: _____
 Additives _____ Volume: _____
 Displacement Rate: Max. Y Avg. _____ (m3/min)
 Calculated Cement Top(s) _____ KB _____ KB
 Returns: Mud ? m3 Cement _____ m3
 String Wt. in a mud wt. of: _____ kg/m3 = _____ daN
 Wt. set on Slips: _____ daN
 Remarks: _____

Engineer: Jim Reilly

PIPE TALLY SHEET

PAGE 1 OF 1

WELL Forward et al N. Chance LOCATION D-22

SIZE 33973 WT. 81.1 kg/m GRADE K-55 COUPLING ST&C THRD SRD

Conductors Casing

DATE March 3, 1985

JOINT	LENGTH		JOINT	LENGTH		JOINT	LENGTH		JOINT	LENGTH	
1	13	57	11			21			31		41
2	13	56	12			22			32		42
3	13	42	13			23			33		43
4	13	36	14			24			34		44
5	13	58	15			25			35		45
6			16			26			36		46
7			17			27			37		47
8			18			28			38		48
9			19			29			39		49
10			20			30			40		50
A			B			C			D		E
51	67	49	61			71			81		91
52	LESS	13	36	62		72			82		92
53	=	54	13	63		73			83		93
54	+		90	64		74			84		94
55	55	03	65			75			85		95
56			66			76			86		96
57			67			77			87		97
58			68			78			88		98
59			69			79			89		99
60			70			80			90		100
F			G			H			I		J

A	67	49	SUB TOTAL	
B				
C				
D				
E				
F				
G				
H				
I				
J				

Shoe _____
 Float _____
 Collar _____
 Other _____

PAGE TOTAL _____
 BROUGHT FWD _____
 GRAND TOTAL _____

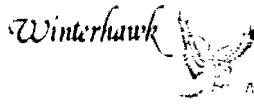
JOINTS	LENGTH
5	67.49
Float Equip.	.90
	68.39

JOINTS ON LOCATION 1

Remarks: Ram 4-ts anaco at 55m K-13

ENGINEER _____

NOTE: Use a new page for each casing type. Number joints in order of running. Indicate joints not run by * and do not include in total length.



PIPE TALLY SHEET

PAGE 1 OF 1

WELL Forward et al. No. 2-2-2 LOCATION D-22
 SIZE 33973 WT. 21.1 GRADE 100 COUPLING ST&C THRD 3/4
1 1/2 DATE 1/18/83

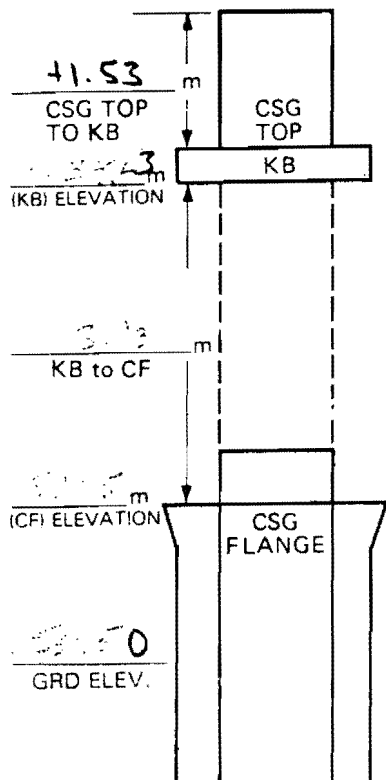
JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH
1		11		21		31		41	
2		12		22		32		42	
3		13		23		33		43	
4		14		24		34		44	
5		15		25		35		45	
6		16		26		36		46	
7		17		27		37		47	
8		18		28		38		48	
9		19		29		39		49	
10		20		30		40		50	
A	<u>67 49</u>	B		C		D		E	
51	<u>36</u>	61		71		81		91	
52	<u>= 13</u>	62		72		82		92	
53	<u>+ 90</u>	63		73		83		93	
54	<u>55 03</u>	64		74		84		94	
55		65		75		85		95	
56		66		76		86		96	
57		67		77		87		97	
58		68		78		88		98	
59		69		79		89		99	
60		70		80		90		100	
F		G		H		I		J	

A	<u>49</u>	SUB TOTAL				PAGE TOTAL	
B						BROUGHT FWD	
C						GRAND TOTAL	<u>57 39</u>
D						JOINTS ON LOCATION	<u>1</u>
E						Remarks: <u>Run - 100' more of 33973</u> <u>Run 11'</u>	
F						K.B.	
G						ENGINEER _____	
H							
I							
J							
TOTAL							

NOTE: Use a new page for each casing type. Number joints in order of running. Indicate joints not run by * and do not include in total length.

CASING SUMMARY

WELL 244 LOCATION 244 DATE 85-03-08
 SURF/INT/ROD/DNER/CF 244mm KB 535.43m KB to CF 3.93
 New/Used Used Inspected By: Jim Reilly Drifted To: na API diam.



NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1	Float Shoe	0.56	458.94
1	Jt. 244mm N-80	11.90	447.04
1	Float collar	0.56	446.48
38	Jts 244mm N-80	448.01	+1.53
	Scratchers		
	Centralizers		
Total String		461.03	
minus KB to Csg Top (STICK UP)		1.53	Cut-off Jr. Length
Landed Depth KB		457.50	
Hole Depth KB		461.00	
Distance Csg Landed Off Bottom		0.50	

Cementing Company _____
 Wash - Type: _____ Volume: _____
 Cement Type - Lead Slurry _____ Volume: _____
 Additives _____ Volume: _____
 Cement Type - Tail Slurry _____ Volume: _____
 Additives _____ Volume: _____
 Cement Type - Above Stage Collar _____ Volume: _____
 Additives _____ Volume: _____

Displacement Rate: Max. _____ Avg. _____ (m3/min)
 Calculated Cement Top(s) _____ KB _____ KB
 Returns: Mud _____ m3 Cement _____ m3
 String Wt. in a mud wt. of: _____ kg/m3 = _____ daN
 Wt. set on Slips: _____ daN

Remarks: _____

Engineer: _____

PIPE TALLY SHEET

PAGE _____ OF _____

WELL Exco et al N. Chance Y.T. LOCATION D-22
 SIZE 2444mg WT. 64.7kg/m GRADE N80 COUPLING LT&C THRD 830
 DATE March 1985

JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH
1	70	11	11 61	21	11 70	31	11 90	41	
2	11 75	12	12 00	22	11 40	32	11 74	42	
3	11 76	13	11 95	23	12 00	33	11 83	43	
4	11 79	14	11 85	24	11 87	34	11 69	44	
5	11 28	15	12 03	25	9 02	35	11 92	45	
6	11 91	16	11 27	26		36		46	
7	11 90	17	11 77	27		37	11	47	
8	11 82	18	11 60	28	12 09	38	11 29	48	
9		19	11 70	29		39	11 86	49	
10		20		30		40		50	
A		B	118 00	C	118 27	D		E	
51		61		71		81		91	
52		62		72		82		92	
53		63		73		83		93	
54		64		74		84		94	
55		65		75		85		95	
56		66		76		86		96	
57		67		77		87		97	
58		68		78		88		98	
59		69		79		89		99	
60		70		80		90		100	
F		G		H		I		J	

A	117 96	SUB TOTAL	
B	118 00	235	91
C	8 27	354	18
D	05 73	459	91
E			
F			
G			
H			
I			
J			
Total			

Shoe	0.56
Float Collar	0.56
Other	1.12

PAGE TOTAL
 BROUGHT FWD
 GRAND TOTAL

JOINTS	LENGTH
89	459.91
Float Equip.	1.12
	461.03

JOINTS ON LOCATION Nil

Remarks: _____

ENGINEER Jim Riley

NOTE: Use a new page for each casing type. Number joints in order of running. Indicate joints not run by " " and do not include in total length.



PIPE TALLY SHEET

PAGE _____ OF _____

WELL _____ LOCATION _____

SIZE _____ WT. _____ GRADE _____ COUPLING LT&C THRD _____

DATE _____

JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH
1		11		21		31		41	
2		12		22		32		42	
3	?	13	?	23		33		43	
4	?	14		24		34		44	
5		15		25		35		45	
6		16		26		36		46	
7		17		27		37		47	
8		18		28		38		48	
9		19		29		39		49	
10		20		30		40		50	
A		B		C		D		E	
51		61		71		81		91	
52		62		72		82		92	
53		63		73		83		93	
54		64		74		84		94	
55		65		75		85		95	
56		66		76		86		96	
57		67		77		87		97	
58		68		78		88		98	
59		69		79		89		99	
60		70		80		90		100	
F		G		H		I		J	

A	SUB TOTAL		JOINTS	LENGTH
B	235	91		
C	354	18		
D	457	91		
E				
F				
G				
H				
I				
J				

Shoe _____
 Float _____
 Collar _____
 Other _____

PAGE TOTAL _____
 BROUGHT FWD _____
 GRAND TOTAL _____
 JOINTS ON LOCATION _____

JOINTS	LENGTH
	1.03

Remarks: _____

ENGINEER _____

NOTE: Use a new page for each casing type. Number joints in order of running. Indicate joints not run by * and do not include in total length.

BIT RECORD

WELL NAME Exco et al N. Chance Y.T. LOCATION D-22
 Contractor Grey Mountain Rig No. Custom #94 Field Eagle Plains
 Spud Date 85-03-01 T.D. Date 85-04-02 Rig Release Date 85-04-09

BIT NO	SIZE mm	MAKE & TYPE	DEPTH OUT	METRES DRLD	ROT. HOURS	TOTAL HOURS	WEIGHT ON BIT - daN	BIT RPM	JETS - mm			PUMP PRESS kPa or MPa	PUMP OUT - PUT m ³ /min	DULL COND.			
									1	2	3			T	R	G	
1A	311	HW XDV	26	26	2	2	5000	140	13	13	13	2500	1.27	3	3	1	
2A	444	HW OSC	55	29	12 ²⁵	14 ²⁵	5000	100	14	14	14	2500	1.27	4	2	1	
3A	311	STC SVH	214	15.9	37 ⁵⁰	51 ⁷⁵	5000 10000	80 100	14	14	14	4000	1.19	4	3	1	
4A	311	STC SVH	372	158	22 ^{3/4}	74 ⁵⁰	12000	120	12	12	12	9000	1.19	4	2	1	
5A	311	HW JD7	384	12	4 ²⁵	78 ¹⁵	12000	110	12	12	12	9000	1.19	3	4	1	
6A	311	HW XDV	456	72	13	91 ⁷⁵	10000	120	12	12	12	8500	1.12	3	2	1	
IARR	311	HW XDV	461	5	1	92 ⁷⁵	12000	100	12	12	12	7000	1.15	3	3	1	
1	216	HW J2	647	186	29	29 121 ⁷⁵	10000 12000	110 120	7.9	7.9	7.9	10000	1.01	4	2	1	
2	216	HW J22	874	227	35 ^{1/2}	64 ⁵⁶ 151 ²⁵	10000	80	120	7.9	7.9	7.9	10000	.9955	4	3	1/4
3	216	HW J33	1184	310	69 ⁷⁵	134 ²⁵ 227	15000	65 70	7.9	7.9	7.9	10000	.9955	3	3	1	
4	216	HW X55R	1393	209	62 ^{3/4}	197 289 ⁷⁵	10000 15000	50	55	7.9	7.9	7.9	10000	.9412	4	2	1/8
5	216	HW J44	1503	110	39 ^{3/4}	236 ¹⁵ 329 ⁵⁰	15000 18000	50	55	7.9	7.9	8.7	10000	.9955	5	2	1/4
6	216	HW J55R	1611	108	44	280 ⁷⁵ 373 ⁵⁰	15000 18000	65	80	7.9	7.9	7.9	10000	.9412	5	3	1/8
7	216	HW J44	1788	177	69 ^{1/2}	350 ²⁵ 443	18000	55	7.9	7.9	7.9	8000	.905	8	8	1/2	
8	216	HW J44	1799	11	6	356 ²⁵ 449	5000 16000	55 60	9.5	9.5	9.5	4000	.7602	8	1	1/8	
9	216	HW J44	1830	31	14	370 ²⁵ 463	1800	55	9.5	9.5	9.5	5000	.9955	1	1	1	
			-TD-														

REMARKS _____



BIT RECORD

WELL NAME Exco et al N. Chance U.T. LOCATION D 22
 Contractor Grey Mountain Rig No. Custom #94 Field Eagle Plains
 Spud Date 85-03-01 T.D. Date 85-04-02 Rig Release Date 85-04-09

BIT NO.	SIZE mm	MAKE & TYPE	DEPTH OUT	METRES DRLD	ROT. HOURS	TOTAL HOURS	WEIGHT ON BIT - daN	BIT RPM	JETS - mm			PUMP PRESS kPa or MPa	PUMP OUT - PUT m ³ /min	DULL COND.		
									1	2	3			T	B	G
1A	311	H.W. XDV	26	26	2	2	5000	140	13	13	13	2500	1.27	3	3	1
2A	444	H.W. OSC	55	29	12 ²⁵	14 ²⁵	5000	100	14	14	14	2500	1.27	4	2	1
3A	311	STC. SVH	214	159	37 ⁵⁰	51 ⁷⁵	5000 10000	80/100	14	14	14	4000	1.19	4	3	1
4A	311	STC. SVH	372	158	22 ^{3/4}	74 ⁵⁰	12000	120	12	12	12	9000	1.19	4	2	1
5A	311	H.W. JD7	384	12	4 ²⁵	78 ¹⁵	12000	110	12	12	12	9000	1.19	3	4	1
6A	311	H.W. XDV	467 490	72	13	91 ⁷⁵	10000	120	12	12	12	8500	1.12	3	2	1
1AAR	311	H.W. XDV	461	5	1	92 ⁷⁵	12000	100	12	12	12	7000	1.15	3	3	1
1	216	H.W. J2	649	186	29	29/121 ⁷⁵	10000 12000	110/120	7.9	7.9	7.9	10000	1.01	4	2	1
2	216	H.W. J22	874	227	35 ^{1/2}	61 ⁵⁰ /157 ²⁵	10000	80/120	7.9	7.9	7.9	10000	.9955	4	3	1/4
3	216	H.W. J33	1184	310	69 ¹⁵	134 ⁷⁵ /227 ¹⁵	15000	65/70	7.9	7.9	7.9	10000	.9955	3	3	1
4	216	H.W. X55R	1393	209	62 ^{3/4}	197/227 ⁷⁵	10000 15000	50/55	7.9	7.9	7.9	10000	.9412	4	2	1/8
5	216	H.W. J44	1553 1743	110	39 ^{3/4}	236 ¹⁵ /319 ⁵⁰	15000 18000	50/55	7.9	7.9	8.7	10000	.9955	5	2	1/4
6	216	H.W. J55R	1677 1778	108	44	280 ¹⁵ /315 ⁵⁰	15000 18000	65/80	7.9	7.9	7.9	10000	.9412	5	3	1/8
7	216	H.W. J44	1708 1797	177	69 ^{1/2}	350 ¹⁵ /443 ⁵⁰	18000	55	7.9	7.9	7.9	8000	.905	8	8	1/2
8	216	H.W. J44	1797 1797	11	6	356 ²⁵ /449 ⁵⁰	5000 16000	55/60	9.5	9.5	9.5	4000	.7602	8	6	1/8
9	216	H.W. J44	1830	31	14	310 ¹⁵ /463 ⁵⁰	18000	55	9.5	9.5	9.5	5000	.9955	4	1	1
			-T.D.-													

REMARKS _____

MUD ADDITIVES

Well: _____

Drilling Day	Gel	Sawdust	Lime	Caustic	Kwikseal	Bicarb	Polyguard	Polysec	SAPP	CMC	Cypan	Barite
1	100		4	2								
2	80		1	1								
3	70			2		4						
4	90		1			4						
5	155		1	3								
6	50			1								
7	12											
8												
9												
10												
11	48					9	13	8		4	4	
12	12							2				
13	30			1			10	5		3	2	
14	18			3			10	3				
15	15			1				3		1		
16	16	100		1				2		2		
17	50			2				10				
18	36			2				7		1		
19	35	50		1				6				
20	70			2				12		1	1	
21	59			2			20	10				85
22	20			1				5				30
23	35			2			10	7		2	2	113
24	35							7				30
25	38	250		1			10	7			1	100
26	15			1				3				40
27	30			3			20			1	1	
28	42	50		3			10	7		2	2	40
29	18			2						1	1	
30	85	25		4			17	10		2	1	5
31	27	18	1	2								
32	52	30					5	5		1	1	
Sub Totals	1343	523	8	43		17	125	122		21	16	443

MUD ADDITIVES

N. Chance M.T. D-22

Well: Exco et al West Parkin Y.T. D-54

Drilling Day	Gel	Sawdust	Lime	Caustic	Kwikseal	Bicarb	Polyguard	Polysec	SAPP	CMC	Cypan	Barite
1	100 51	50	42	22								
2	80 15		12	1								
3	70			2		4						
4	90 27	75	12	4	5	4						
5	155 54	160	12	73	4							
6	50 59	92	3	21	23							
7	11 90	30		4								
8	60											
9	11	48			3							
10	47			1								
11	48 53			3		4	13	2		4	4	
12	12 51			3				2				
13	30 37			21			10	5		3	2	
14	18 49			23			10	3				
15	15			1				3		1		
16	16	100		1				2		2		
17	50 80	270		2		3		10				
18	30			2				7		1		
19	35 26	50 15		1		8	20	46	+	2		
20	10 22			2				212		71	1	
21	59 12	28		2			10 20	210		+		25
22	10 6	70		1				25		+	+	30
23	35 22			2			10 10	7		2	2	115
24	35							7				85 30
25	38 12	250		1			10	27		+	71	100
26	15 10	20		1			10	23		+	+	50 10
27	30 27			3			20	4		71	71	
28	42 6	50		3			10 10	77		2	2	10
29	18			2				3		1	1	
30	95 35	25		4			10 17	810		2	1	5
31	27 26	12	1	2				3		2	+	50
32	52 26	30 30					10 5	55		1	1	65
Sub Totals	1393 914	523 806	18 11	43 47	35	17 8	80 115	122 34	+	10 11	10 8	413 2511

P.11
3
3
2
2
4

MUD ADJUVES

N. Chance M.T. D-22

Well: Exco et al West Parkin Y.T. D-54

Drilling Day	Gel	Sawdust	Lime	Caustic	Kwikseal	Bicarb	Polyguard	Polysec	SAPP	CMC	Cypan	Barite
33	33			1			10				1	
34	21	10					10	4		+	+	90
35	10			2				2				40
36	22			2				2				80
37		30					10					
38	16	30	2	+				3		+	+	80
39	4	30					10	4				25
40	44	30						2				18
41	28						10	5				55
42	10							5		+	+	78
43			21				10					145
44	12							2		+	+	60
45	51						10	12				200
46	89						10	7				220
47	20						10	4		+	+	80
48	24											80
49												
50	21						10	5				60
51	18	80						3				
52							10			+	+	
53												
54	22	20					6	5				40
55												
56												
57	20											20
58	45						20					97
59												
60												
61												
62												
Totals	1376	525	6	44		17	135	122		21	17	443
Total Used	432	200	5	22	--	--	196	76	--	5	6	1889
Used	1347	2006	16	68	35	4	196	760	7	48	17	1889

EXCO ET AL N. CHANCE M.T.D-22

Degrees	Depth (m)
1/4	22
1/2	55
1/2	70
3/4	118
1/4	133
1/2	163
1/4	191
1	235
1	285
1	304
1 1/2	333
3/4	359
0	398
1/4	455
1/8	528
1/8	586
7/8	586
1 1/2	624
2	634
2	663
3	721
2	768
2 1/8	806
3	864
3	917
3	972

.../2

Degrees	Depth (m)	
4	1032	
4	1088	
4 1/2	1154	
8	1238	537°W
7	1270	
5 1/2	1325	510°E
5 3/4	1366	510°E
7 1/2	1401	
7 1/2	1434	53°E
5	1470	
4	1530	
4 1/2	1602	
6	1654	
5 3/4	1713	
4 1/4	1780	
3 3/4	1830	

Exo at N. Chance H.T. 0-2)

Degrees	Depth (m)	
1/4	22	
1/2	55	
1/2	70	
3/4	118	
1/4	133	
1/2	163	
1/4	191	
1	235	
1	285	
1	304	
1 1/2	333	
3/4	357	
0	398	
1/4	455	
1/4	528	
1/8	586	
7/8	586	
1 1/2	624	
2	634	
2	663	
3	721	
2	768	
2 1/8	806	
3	864	
3	917	
3	972	
4	1032	
4	1088	
4 1/2	1154	
8°	1238	S 37° W
7	1270	
8 1/2	1325	
5 1/2	1325	S 10° E
5 3/4	1366	S 10° E
7 1/2	1401	
7 1/2	1434	S 3° E
5°	1470	
4°	1530	
4 1/2°	1602	
6	1654	
5 3/4	1713	
4 1/4	1780	
3 3/4	1830	

ABANDONMENT REPORT

DATE 1985-04-08

Well Evro et al N. Chance M.T.

Location D-22

A. WELL DATA

KB Elevation 535.43 m KB to CF n/a FTD 1830.0m

Hole Size	Hole Depth	Casing Size	Casing Depth	Cement Top(s)	Perfs
444mm	55.0m	339mm	54.75m	surface	n/a
311mm	461.0m	244mm	459.50m	surface	n/a
216mm	1830.0m	--	--	abandoned	n/a

B. ABANDONMENT DATA

Fluid in Hole gol system w/polyguard Abandonment Company Grow Mountain Drilling

Cementing Company Halliburton Gov't Official John Hamilton COGLA

Plug	Interval (m)	Formation	Cem Vol	Cem Type	Cem Wt. †	Plug Down	Felt Plug Time	Plug Depth
1	1830-1730		5.04	"G"+2%CaCl	6.6	85.04-07-07 ¹⁵		NO
2	1600-1500	Chance	5.40	"G"+2%CaCl	7.1	85.04-07-09 ⁰⁰		1471m
3	1475-1375	Chance	5.40	"G"+2%CaCl	7.1	85.04-07-16 ⁰⁰		NO
4	850-750	Mid	5.40	"G"+2%CaCl	7.1	85.04-07-18 ⁰⁰		751m
5	490-430	244m casing	3.79	"G"+2%CaCl	5.0	85.04-08-02 ⁴⁵		433m
6	25-0	Surface	1.22	"G"	1.6	85.04-08-13 ⁴⁵		NO

Method of Feeling Plugs Drill Pipe

Surface Casing Cut Surface Surface Plug 0-25m Plate Welded with
well

C. SALVAGE DATA

Casing Salvaged None

D. REMARKS None

ENGINEER Dave Campbell

ABANDONMENT REPORT

DATE 1985-04-08

Well Exro et al N. Chance H.T. Location D-22

A. WELL DATA

KB Elevation 535.43m KB to CF n/a FTD 1830.0m

Hole Size	Hole Depth	Casing Size	Casing Depth	Cement Top(s)	Perfs
444mm	55.0m	339mm	54.75m	surface	n/a
311mm	461.0m	244mm	457.50m	surface	n/a
216mm	1830.0m	—	—	abandoned	n/a

B. ABANDONMENT DATA

Fluid in Hole gal section w/ polyquort Abandonment Company Great Mountain Drilling?

Cementing Company Halliburton Gov't Official John H. Williams

Plug	Interval	Formation	Cem Vol	Cem Type	Cem Wt #	Plug Down	Felt Plug Time	Felt Plug Depth
1	1830-1730	Daunian shale	5.04	6" + 235.0	2 6.6	8504-07-07	7	NO
2	1600-1500	Chance section	5.40	6" + 235.0	2 7.1	8504-07-09	7	1471m
3	1475-1375	Chance section	5.40	6" + 235.0	2 7.1	4504-07-10	7	NO
4	850-750	Mid section	5.40	6" + 235.0	2 7.1	8504-07-10	7	751m
5	415-430	244mm casing	3.77	6" + 235.0	2 5.0	8504-08-02	7	433m
6	25-0	surface	1.22	"6"	1.6	8504-08-18	7	NO

Method of Feeling Plugs drill pipe

Surface Casing Cut surface Surface Plug 0-25m Plate Welded with 1/2" dia
well head connection

C. SALVAGE DATA

Casing Salvaged none

D. REMARKS none

ENGINEER Dave Campbell

HALLIBURTON**CEMENTING AND/OR SPECIAL TOOLS
SERVICE REPORT**ATTACH TO
INVOICE No. 60 184HALLIBURTON DISTRICT
FrontierJOB DATE 1985. 04 08
YEAR MONTH DAY

OWNER, OPERATOR OR HIS AGENT STATES THE WELL IS IN GOOD CONDITION FOR THE SERVICE JOB TO BE PERFORMED AND SUBMITS THE FOLLOWING DATA

CUSTOMER Gray Mountain Drilling		FIELD OR AREA North Chance			WELL No. AND LEASE Exco et al YTD-22				
CALLED OUT DATE TIME	ON LOCATION 85-04-05 DATE TIME	JOB STARTED 85-04-05 DATE TIME	JOB COMPLETED 85-04-05 DATE TIME	PROVINCE Yukon	LSD	SEC	TWP	RANGE	MERIDIAN W

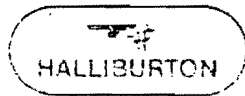
TYPE OF JOB <input checked="" type="checkbox"/>	WELL OR HOLE DATA								PRODUCTS	
SURFACE									EQUIPMENT	QUAN
INTERMEDIATE	HOLE DATA: HOLE SIZE 216 mm	TOTAL DEPTH 1830 m	TYPE MUD Gel	VISC. 1080	DENSITY 60				BASKETS	
PRODUCTION	CASING, TUBING OR LINER DATA NEW <input type="checkbox"/>	SIZE mm	kg/m	GRADE	DEPTH m				CENTRALIZERS	
LINER	USED <input type="checkbox"/>	SIZE mm	kg/m	GRADE	DEPTH m				CLAMPS	
SQUEEZE	PERFORATIONS: FROM m TO m	FROM m TO m	FROM m TO m	FROM m TO m	FROM m TO m				FLOAT COLLAR	
PLUG <input checked="" type="checkbox"/>	FROM m TO m	FROM m TO m	FROM m TO m	FROM m TO m	FROM m TO m				FLOAT SHOE	
PUMP	WASH FLUID TYPE: Fresh Water	VOL. m ³	DISPLACING FLUID TYPE: Mud	VOL. m ³				GUIDE SHOE		
PRESSURE TEST	TEMP MIXING DATA WATER °C	SLURRY °C	DISPLACING FLUID °C	RETURNS °C				INSERT FLOAT		
OTHER									SCRATCHERS	
									OTHER	

EQUIPMENT		
PACKER	CEMENT HEAD	
TYPE _____ SIZE _____ mm	CONTINUOUS <input type="checkbox"/> KNOCK OFF <input type="checkbox"/> SWAGE <input type="checkbox"/>	
DEPTH _____ m TAIL PIPE _____ m	OTHER 114 mm Nubbin	
TOP PLUG TYPE _____		
BOTTOM PLUG TYPE _____		

CEMENT DATA							
TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m ³	m ³ /tonne
33	G	Inland	Sacked	Oilwell	2% CaCl ₂ Prehydrated	1895	0.76
1.6	G	Inland	Sacked	Neat Blend		1880	0.74

HALLIBURTON OPERATOR <u>K. Town</u>	CUSTOMER REP. _____
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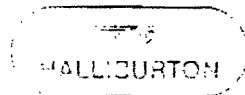
TREATING LOG								
CHART POSITION	TIME	RATE m ³ /min	VOLUME PUMPED IN m ³			PRESSURE MPa		REMARKS
			STAGE	TOTAL	IN FORMATION	TUBING	CASING	
1								Pump fresh water spacer.
2								Mix and pump slurry.
3								Pump fresh water spacer.
4								Displace with mud.
								Plugs #1, 2, 3, 4, 5.
1								Pump fresh water spacer.
2								Mix and pump slurry.



GRAY MOUNTAIN DRILLING
Exco et al YTD-22
Ticket No. 60 184

PLUG BACK JOB DATA

PLUG NO.	DEPTH		TONNE	DISPLACEMENT (m ³)	TIME (min)
	TOP	BOTTOM			
1	1730	1830	6.64	12.8	13
2	1500	1600	7.12	11.1	12
3	1275	1475	7.12	10.18	10
4	750	850	7.12	5.55	6
5	430	490	5.00	3.18	3
6	0	20	1.60	0.30	1



1985

MUD LOG

LITHOLOGY LOG

CDL-CNS/LASER/DIL/MEL/BCS

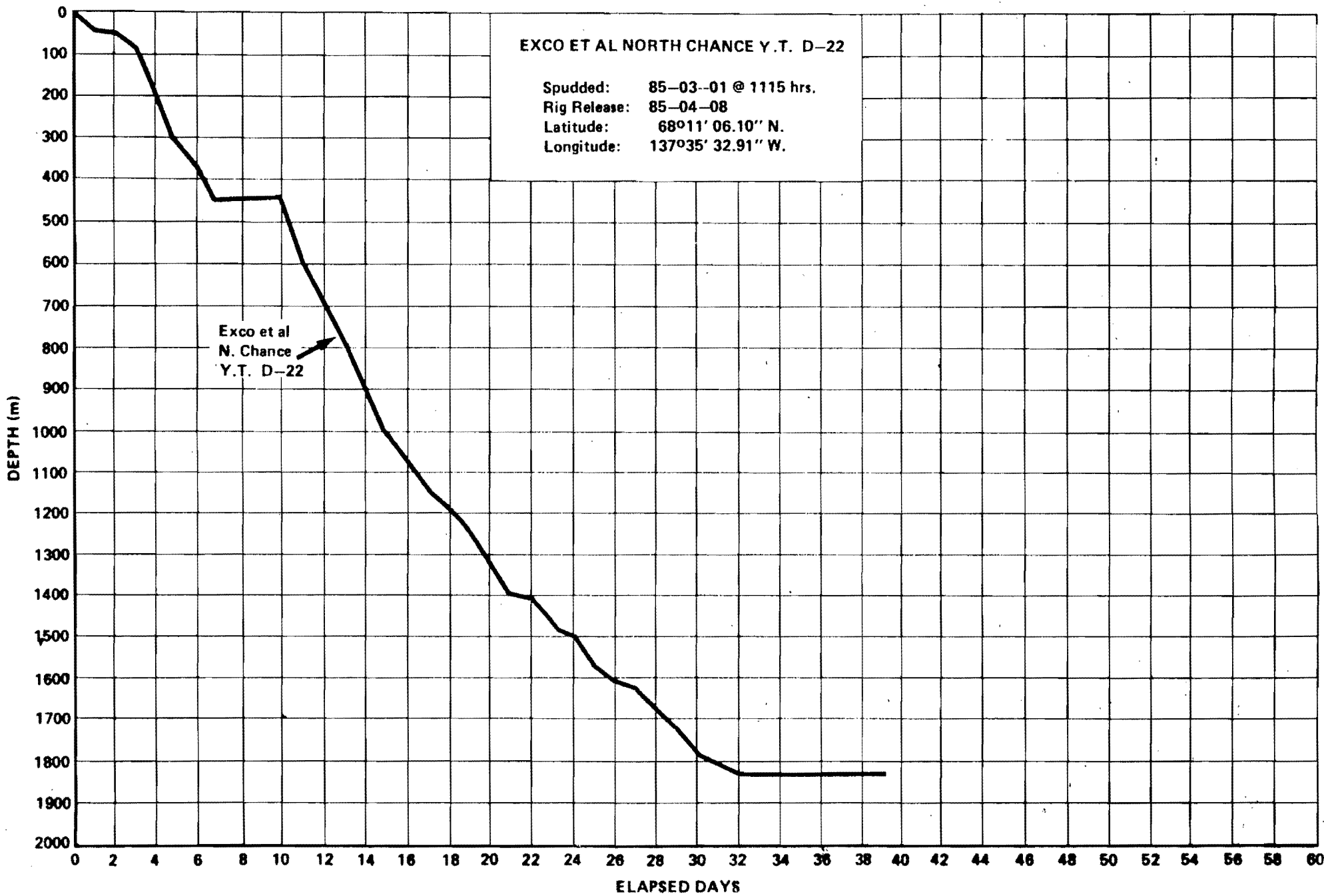
1985-04-02

DIL	459.5m - 1825.2m
CDL-CNS	451.5m - 1821.8m
MEL	459.5m - 1818.7m
BCS	459.5m - 1820.6m
Laserlog BCS-CNS Overlay	459.5m - 1815m

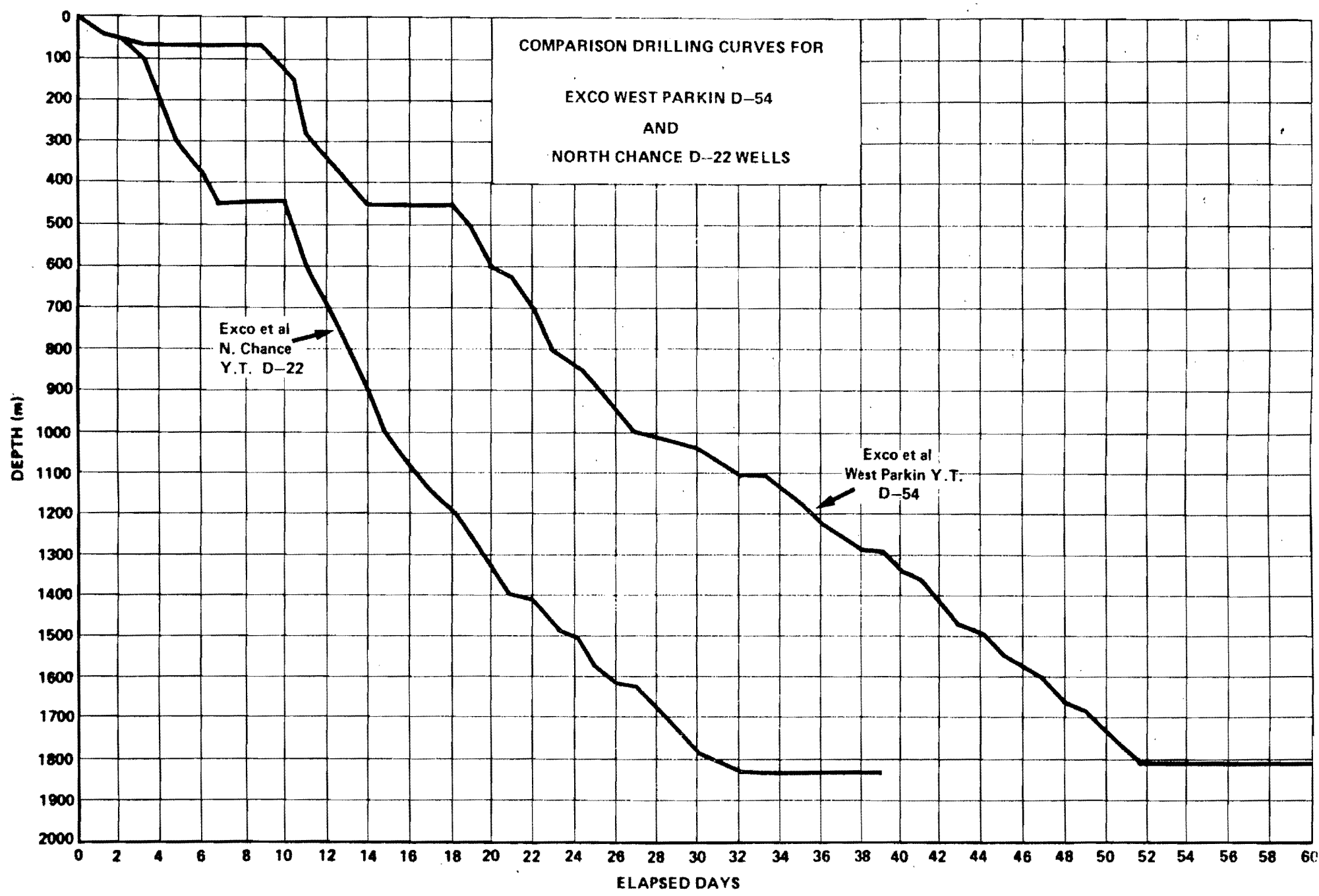
EXCO ET AL NORTH CHANCE Y.T. D-22

Spudded: 85-03-01 @ 1115 hrs.
Rig Release: 85-04-08
Latitude: 68°11' 06.10" N.
Longitude: 137°35' 32.91" W.

Exco et al
N. Chance
Y.T. D-22



COMPARISON DRILLING CURVES FOR
EXCO WEST PARKIN D-54
AND
NORTH CHANCE D-22 WELLS



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 04 05 2400

Year Month Day Time

WELL NAME Exco et al N. Chance Y.T. D-22 LOCATION _____

DAY 36 DEPTH 1830 TD METRES LAST 24 HRS. _____ ROTATING HRS _____

ACTIVITY AT REPORT TIME Testing with Halliburton

DRILLING MUD PROPERTIES AT SHAKER SUCTION PIT:

WT. 1080 VIS 70 WL. 7.6 GELS _____ % SOLIDS _____ PV _____ YP _____ pH 10

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM m DRLD	Rot. hrs TODAY	CUM. Rot. hrs	m/HR	DULL CONC		
				WT	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

TOOL	B	DESCRIPTION	TIME	MUD ANALYSIS	
				TODAY	CUM
		1. DRILLING	456.53		
		2. TRIPS	147.00		
		3. RIG SE	10.52		
		4. DEVIATI.	51.52	11.50	
		5. REAM & CL	10.50		
		6. MIX & COND.	27.52		
		7. CIRCULATING	6.20		
		8. RIG REPAIR	18.00		
		9. RUN CASING & CEME.	12.75		
		10. FISHING	1.50		
		11. LOGGING	22.00		
		12. CORING			
		13. FORMATION TESTING	26.75		
		14. WAITING ON	19.75		
		15. NIPPLE UP & TEST BOP	30.25		
		16. DRILLING OUT	0.50	12.50	
		17. LOSS CIRC.	11.50		
		18. LAY DOWN DP & BOPS			
		19. PLUG & ABANDON			
		20. RIG UP - TEAR OUT	11.25		
		21	28.25		
		TOTALS	864.00		

DAILY CUM. N/A

SUPERVISOR _____

Day 36

PLEASE TURN OVER

ALS 24.00

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING
85 04 05 2400
 Year Month Day Time

WELL NAME Exco et al N. Chance Y.T. D-22 LOCATION _____
 DAY 36 DEPTH 1830 TD METRES LAST 24 HRS. _____ ROTATING HRS _____
 ACTIVITY AT REPORT TIME Testing with Halliburton

DRILLING MUD PROPERTIES AT SHAKER SUCTION PIT:

WT. 1080 VIS 70 WL. 7.6 GELS _____ % SOLIDS _____ PV _____ YP _____ pH 10
 % OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM m DRLD	Rot. hrs. TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

TOOL	BIT	DESCRIPTION	TIME	MUD ANALYSIS	
				TODAY	CUM
		1. DRILLING	456.53		
		2. TRIPS	147.00		
		3. RIG SE	10.52		
		4. DEVIATI.	51.52		
		5. REAM & CC	10.50		
		6. MIX & COND.	27.52		
		7. CIRCULATING	6.20		
		8. RIG REPAIR	18.00		
		9. RUN CASING & CEME.	12.75		
		10. FISHING	1.50		
		11. LOGGING	22.00		
		12. CORING			
		13. FORMATION TESTING	26.75		
		14. WAITING ON	19.75		
		15. NIPPLE UP & TEST BOP	30.25		
		16. DRILLING OUT	0.50		
		17. LOSS CIRC.	11.50		
		18. LAY DOWN DP & BOPS			
		19. PLUG & ABANDON			
		20. RIG UP - TEAR OUT	11.25		
		21	28.25		
		TOTALS	864.00		

DAILY N/A

SUPERVISOR: _____

Day 36 PLEASE TURN OVER

TOTALS 24.00

DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING
 85 04 07 2400
 Year Month Day Time

WELL NAME Exco et al N. Chance Y.T. D-22 LOCATION _____
 DAY 38 DEPTH 1830 TD METRES LAST 24 HRS. _____ ROTATING HRS. _____
 ACTIVITY AT REPORT TIME Plug and Abandoned

DRILLING MUD PROPERTIES AT SHAKER SUCTION PIT

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____
 % OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER NO	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs TODAY	CUM. Rot. hrs	m/HR	DULL COND		
				WT	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

MUD & CHEMICALS ADDED

_____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

TOOL	8	1. DRILLING	456.25	MUD ANALYSIS	
				TODAY	CUM.
		2. TRIPS	156.00		
		3. RIG SE	10.50		
		4. DEVIAT.	21.25		
		5. REAM & CL	27.75		
		6. MIX & COND.	6.50		
		7. CIRCULATING	12.50		
		8. RIG REPAIR	18.00		
		9. RUN CASING & CEME.	12.75		
		10. FISHING	1.50		
		11. LOGGING	22.00		
		12. CORING			
		13. FORMATION TESTING	41.00		
		14. WAITING ON	19.75		
		15. NIPPLE UP & TEST BOP	30.25		
		16. DRILLING OUT	0.50		
		17. LOSS CIRC.	11.50		
		18. LAY DOWN DP & BOPS			
DAILY	N/A	19. PLUG & ABANDON	24.00		
CUM.		20. RIG UP - TEAR OUT	11.25		
		21	28.75		
		TOTALS	912.00		

NT
 G
 DP
 PS 24.00
 24.00

SUPERVISOR: _____ Day 38 PLEASE TURN OVER

24.00



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 04 09 100

Year - Month - Day

WELL NAME Exco et al N. Chance Y.T. D-22 LOCATION _____

DAY 40 DEPTH 1830 TD METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Rigging Out

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS _____ WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH _____

% OIL _____ % SAND _____ CAKE _____ PPMCL _____ PPMCa _____

BIT RECORD

BIT NO.	SIZE mm	MAKE & TYPE	SER. NO.	BIT		DEPTH OUT m	m DRLD TODAY	CUM. m DRLD	Rot. hrs TODAY	CUM. Rot. hrs.	m/HR	DULL COND		
				WT.	RPM							T	B	G

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP				ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER	m ³ /min	DP	DC			

DEVIATION SURVEYS

_____ ° at _____ ° at
 _____ ° at _____ ° at
 _____ ° at _____ ° at
 _____ ° at _____ ° at

MUD & CHEMICALS ADDED

BOT

TIME ANALYSIS

TOOL	DESCRIPTION	TIME	TIME ANALYSIS	
			TODAY	CUM
	1. DRILLING	456 ⁰⁰		
	2. TRIPS	156 ⁰⁰		
	3. RIG SERVIC	10 ⁵⁰		
	4. DEVIATION	21 ²⁵		
	5. REAM & CONL	27 ⁷⁵		
	6. MIX & COND. M.	6 ⁵⁰		
	7. CIRCULATING	12 ⁵⁰		
	8. RIG REPAIR	18 ⁰⁰		
	9. RUN CASING & CEMENT	12 ⁷⁵		
	10. FISHING	1 ⁵⁰		
	11. LOGGING	22 ⁰⁰		
	12. CORING			
	13. FORMATION TESTING	41 ⁰⁰		
	14. WAITING ON:	17 ⁷⁵		
	15. NIPPLE UP & TEST BOP	30 ²⁵		
	16. DRILLING OUT	0 ⁵⁰		
	17. LOSS CIRC.	11 ⁵⁰		
	18. LAY DOWN DP & BOPS			
	19. PLUG & ABANDON	48 ⁰⁰		
	20. RIG UP - TEAR OUT	11 ²⁵		
	21. _____	28 ⁷⁵		
	TOTALS	960 ⁰⁰	22.00	
DAILY	N/A			
CUM.				
SUPERVISOR:				

DAY 40

PLEASE TURN OVER LS 24.00

SECTION VII

POCKET ENCLOSURE

- **CDL/CNS/BSC/DIL/MEL/LASER**
- **MUD**
- **LITHOLOGY**

SECTION VII

POCKET ENCLOSURE

- CDL / CNS / BCS / DIL / MEL / LASER
- MUD
- LITHOLOGY
- ~~---~~ SURVEY PLOT (DIRECTIONAL) ~~---~~



<u>Date</u>	<u>Depth (M)</u>	<u>Activity</u>
85-02-28	--	Cement Conductor Barrel and drilled rat hole.
85-03-01	44	Drilled 311mm rat hole to 25M. P.O.O.H. pick up 444mm bit and drill ahead.
85-03-02	55	Drilled to 55M. Condition Hole. Dummy trip. No fill. Circulate 1 hr. P.O.O.H.. Run 340mm casing and cement W.O.C.
85-03-03	89	W.O.C. cut casing and nipple up. Pressure test. Drill out shoe and cement. Drill ahead with 311mm hole.
85-03-04	191	Drilling ahead with 311mm hole. Hole cleaning well.
85-03-05	327	Drilling ahead to 230M trip for bit. Hole good. Drilling ahead. Deviation out to 1° @ 304M.
85-03-06	384	Drill to 372M trip for bit some hole drag. No fill on bottom. Lost pump pressure from 8000kPa to 2500kPa start out of hole. Repair clutch on floor motor.
85-03-07	456	Trip for bit. Hole good with 6M fill. Drill to 456M trip for bit. No fill.
85-03-08	461	Drill to 461M. Circulate 1½ hrs. P.O.O.H. lay down 7" and 9" collars. Run 244mm casing. Circulate casing and wait for cement to arrive on location.
85-03-09	461	Wait on cement and circulate casing until 10:00 hrs. cement casing. W.O.C. nipple up. Clean mud tanks.
85-03-10	461	Nipple up and pressure test stack. Low press. 2000kPa high press. 10,500kPa.
85-03-11	590	Drill 106M cement float collar and shoe with 216mm bit, drill to 464M do leak off. Did not feed off @ 1300kPa. Drill ahead treating out cement and conditioning.
85-03-12	645	Bit #1 drilled 184M in 29 hrs. 2-3-1/8". Hole fair. No fill. Did collar inspection and found a number of cracked collars. Ran stabilizer @ 30M and 90M.
85-03-13	806	Drilling ahead. Surveys 72/M 3°, 768M 2°, 806M 2 1/8° R.O.P. 2-3M/hr.
85-03-14	874	Drill to 874M. P.O.O.H. very tight up to 650M. Bit #2 drilled 227M in 35½ hrs. 4-3-5mm. Pick up D.C. Surveys @ 864M 3°.
85-03-15	970	Reamed 15M to bottom on trip. Hole tight on connections. Drilling ahead. Mud cleaner taking out accumulated sand in system. Survey 3° @ 917M.
85-03-16	1070	Drilling ahead. Surveys @ 972M 3°, 1032M 4°.



<u>Date</u>	<u>Depth (M)</u>	<u>Activity</u>
85-03-18	1184	P.O.O.H. @ 1184M. Hole very tight from 895M to 820M. Took 10 hrs to ream out of this section of hole. Hole corkscrewed at this depth. R.I.H. after changing bits. Bit #3 3-3in.
85-03-19	1251	21M fill on bottom. After trip. Ream and drill ahead at 3-4m/hr. Picked up monel collar and run directional surveys at 1238M 8° S37W.
85-03-20	1325	Surveys at 1276M 7°, 1325M 5½° S10E. Drilling ahead. Interbedded Chert, Shale, Dolomite at 1323M+ mud cleaner pump gave up the ghost.
85-03-21	1395	Drilling ahead in Chert, Dolomite, Shale, Sandstone Interbedded. Survey at 1366M 5 3/4° S10E.
85-03-22	1426	Tripped for Bit #4 4-4-3M. Hole in excellent condition. Survey at 1401M 7½°. Drilling ahead at 2-3m/hr. 20-30% Chert.
85-03-23	1490	Drilling ahead. Hole good. R.O.P. 2m/hr. Surveys at 1434M 7½° S3E, at 1470M 5°. Interbedded Chert.
85-03-24	1512	Bit #5 drilled 110M in 39 3/4 hours 5-2-8mm. Reamed undergauge hole from 1465M - 1503M with Bit #6 no tight spots. No fill on trip at 1503M. Drilling ahead.
85-03-25	1573	Drilling ahead at 2m/hr. Survey 4° at 1530M.
85-03-26	1611	Bit #6 drilled 108M in 46 hrs. 5-3-6mm. Hole good pulling out. Undergauge hole @ 1580M when R.I.H. broke circ. 25% returns to nil, P.O.O.H. to 1380M. Before getting returns R.I.H. break circ. every 5 stands. Ream undergauge hole to bottom. Lost 15m ³ mud to formation.
85-03-27	1636	Lost circulation at 1622M. 12m ³ mud. Regained circulation got back 6m ³ after dropping mud density to 1080kg/m ³ drill ahead. Survey @ 1602M 4½°.
85-03-28	1688	Drill to 1677M lose circ. cut pump back to 30 strokes. Lower mud density regain circulation after losing 10m ³ mud. Drilling ahead 2 2m/hr. Survey at 1654M 6° S3E.
85-03-29	1740	Drill ahead @ 2m/hr. Lost 10m ³ mud @ 1738M to formation. Fractured formation. Survey at 1713M 5½° S7E.
85-03-30	1788	Lost 25m ³ mud at 1778M. Drill ahead to 1788M. Circulate and condition. Before P.O.O.H. for Bit. Survey at 1780M 4½° S3E.
85-03-31	1793	P.O.O.H. at 1788M. Lost 1 cone. 8-8-30mm R.I.H. with J44 and junk sub. Mill on cone and lost 25m ³ mud to formation. Regain circ. drill ahead on Iron and starting to make hole. Conditioning mud. Hole excellent on trip.
85-04-01	1819	P.O.O.H. at 1799M for bit after mixing cone. #8 drilled 11M in 6 hrs. 8-lin. Drilling ahead at 3m/hr. Hole in excellent condition on trip.



<u>Date</u>	<u>Depth(M)</u>	<u>Activity</u>
85-04-02	1830 (T.D.)	Drilled to 1830M circulate 1½ hrs. P.O.O.H. lay down 171mm collars and stab. log.
85-04-03	1830	Log hole and run D.S.T. #1. Hole in excellent condition.
85-04-04	1830	873M fluid (sour salt water) in pipe on D.S.T. #1. No gas to surface. Make up D.S.T. #2.
85-04-05	1830	D.S.T. #2 Packers would not pump up. P.O.O.H. Install new pump R.I.H. with D.S.T. #3. Got seat testing.
85-04-06	1830	P.O.O.H. with D.S.T. #3. Run D.S.T. #4. P.O.O.H. Lay down test tools R.I.H. open end. Run bottom hole plug 100M.
85-04-07	1730	Run Plug #2, #3, #4.
85-0-408		Run Plug #5 and #6. Rig out. Mud engineer flown to Edmonton. Arrived at 85-04-08 at 23:00 hrs.

NATIONAL MUD CONTROL LABORATORIES



WELL RECAP

WELL NAME: Exco et al N. Chance LOCATION: D-22
 OPERATOR: Exco Energy CONTRACTOR: Grey Mountain Drilling (Custom) RIG: 94
 OPERATOR'S REPRESENTATIVE: Dave Campbell TOOLPUSHER: John Dortch
Terry Rolandson
Jim Rielly
 MUD ENGINEER: Gerald Franklin WAREHOUSE: Edmonton TRUCKING: _____
 SPUD DATE: 85-03-01 TOTAL DEPTH: 1830M DATE: 85-04-02
 RELEASE DATE: 85-04-03 TOTAL DAYS: 38

HOLE SUMMARY

MAXIMUM DEVIATION: 8° S37W @ 1238M LOST CIRCULATION DEPTHS: 1611M (15m³), 1622M (12m³)
1677M (10m³), 1738M (10m³)
1778M (25m³)
 PRESSURE ZONES: Nil ANHYDRITIC ZONES: Nil
 HOLE SIZE: 444 mm to 55 m CASING PROGRAM: 340 mm at 55 m
311 mm to 461 m 244 mm at 461 m
216 mm to 1830M Ran 6 Bottom Hole Plugs

COST SUMMARY

HOLE SECTION	INTERVAL (m)	DAYS	MUD SYSTEM	EST. COSTS	ACTUAL COSTS	COST VARIANCE
Surface Hole	55	1	Gel-Lime Slurry		1,505.75	
Int. Hole	461	9	Gel Chemical w/ Polyguard		6,869.80	
Main Hole	1369	22	Gel Chemical w/ Polyguard		40,546.05	
Daywork		6				

TOTALS 38 48,921.60

Total Materials Costs \$ 48,921.60
 Trucking Costs \$ _____
 TOTAL INVOICE \$ 48,921.60

COST OVER RUN

Lost Circulation Costs (Sawdust, Cellophane, Mica) \$ 4,723.15
 Weight Material Costs \$ 7,326.00

COMMENTS:

The mud was kept in good shape throughout drilling of this hole.
 For a daily breakdown of operations, please refer to the attached.



Nova Scotia	<input type="checkbox"/>	West Coast	<input type="checkbox"/>	Well Status	
Newfoundland	<input type="checkbox"/>	Northern	<input checked="" type="checkbox"/>	Suspended	<input type="checkbox"/>
Gulf of St. Lawrence	<input type="checkbox"/>	Hudson Bay	<input type="checkbox"/>	Completed	<input type="checkbox"/>
				Abandoned	<input checked="" type="checkbox"/>

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: Exco et al N. Chance Y.T. D-22 Area: Eagle Plains, Yukon
 Grid Area: 66-20-137-30 Field/Block: N/A
 Exploration Agreement: #231 Final Coordinates: Lat: 66°11' 06.10" N Long: 137°35' 32.91" W
 Drilling ^{Rig} ~~Unit~~ Custom Drilling #94 Elevations ~~HT/KB~~ 535.43 m ~~SPGL~~ 531.50 m (ASL)
 Spud Date: 1985-03-01 1115 hr Rig Released: 1985-04-09 0200 hr Total Depth: 1830.0 m

CASING AND CEMENTING

O.D.:	Weight:	Grade:	Depth Set:	Cement and Additives:
339mm	81.1 kg/m	K-55	55.00 m	Lead: 5.1 m ³ - "G" Tail: 2.2 m ³ - Permafrost
244mm	64.7 kg/m	N-80	460.30 m	Lead: 5.3 m ³ - "G" Interm: 5.7 m ³ - Permafrost Tail: 6.3 m ³ - "G"
			54.75 ~	
			451.50 ~	

Approval of the following program was obtained
 (person) John Hamilton
 verbal confirmation on Apr

violette from
 Gas Lands Administration by means of
 confirmed abandonment program
 by telecopier the same day.

Type of Plug:	Interval:	Felt:	Cement and Additives:
Cement	1830 m - 1730 m	No	6.64 t Class "G" + 2% CaCl ₂
Cement	1600 m - 1500 m	at 1471 m	7.1 t Class "G" + 2% CaCl ₂
Cement	1475 m - 1375 m	No	7.1 t Class "G" + 2% CaCl ₂
Cement	850 m - 750 m	at 751 m	7.1 t Class "G" + 2% CaCl ₂
Cement	490 m - 430 m	at 433 m	4.99 t Class "G" + 2% CaCl ₂
Cement	<u>25m - 0m</u>	<u>NO</u>	<u>1.6 t class "G"</u>

Other Downhole Completion/Suspension equipment: W/O

CERTIFICATION

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

Signed: G. Lavolette P. Eng. Title: Special Projects Engineer

Name: Gary Lavolette Date: April 30, 1985

Submitted by:
 WINTERHAWK PETROLEUM CONSULTING SERVICES LTD.
 as agent of Exco Energy Ltd.

Acknowledged by: R. Nancarrow
 Engineering Branch

Date: 1985-05-09

File: 9111-E9-3-1

S U M M A R Y R E P O R T
on the
G E O L O G Y & T E S T I N G
of
EXCO ET AL NORTH CHANCE D-22
66° 11' 06.10" N Latitude
137° 35' 32.91" W Longitude

S U M M A R Y R E P O R T
on the
G E O L O G Y & T E S T I N G

of

EXCO ET AL NORTH CHANCE D-22

66° 11' 06.10" N Latitude
137° 35' 32.91" W Longitude

W E L L S I T E S U P E R V I S I O N

by

JAMES N. TAYLOR, GEOLOGIST

Calgary, Alberta

April, 1985

James N. Taylor
James N. Taylor

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WELL SUMMARY

Well Name: Exco et al North Chance D-22

Co-ordinates: 66° 11' 06.10" North Latitude
137° 35' 32.91" West Longitude

Province: Yukon Territories

Elevations: Ground 531.50 m
Kelly bushing 535.43 m

Spud-in-date: 85-03-01-11:15

Drilling Completed: 85-04-02-07:30

Total Depth: Driller 1830 m
Logger 1825.9 m

Status: Dry and abandoned

Geologist: J. Taylor

Engineer: Winterhawk Petroleum Consulting Service Ltd.
Jim Reilly, Terry Rollinson, Dave Campbell

Drilling Contractor: Gray Mountain Drilling Ltd.
Rig # 94 (Custom Drilling)
Drilling Supervisor - John Dortch

Mud Supply: National Mud Control
Mud Engineer - Gerald Franklin
Mud type - gel chemical poly

Mud Logger: Daymar
Operators: Dave Varty, Dave Jessop

Electric Logging: Computalog Gearhart Ltd.
Dual Induction Laterolog
Compensated Density Neutron Log
Sonic Log
Micro-Electrical Log
Laserlog BCS - CNS Overlay

Hole Size: Surface 311 mm to 461 m KB
Main 216 mm to 1830 m KB

Surface Casing: Ran 39 joints, 244.4 mm, K55, 53.57 kg/m casing.
Landed at 460.3 m KB and cemented with 5.3 cubic m Class G 1700 kg/cubic m lead slurry, 5.7 cubic m Permafrost 1880 kg/cubic m intermediate slurry, and 6.3 cubic m Class G 1895 kg/cubic m tail in slurry. Plug down 85-03-09-12:15

Cement Plugs: Plug #1 1830 - 1730 m. No feel
Plug #2 1600 - 1500 m. Felt at 1471 m
Plug #3 1475 - 1375 m. No feel
Plug #4 850 - 750 m. Felt at 751 m
Plug #5 490 - 430 m
Plug #6 Surface - 25 m

Ditch Samples: Institute of Petroleum & Sedimentary Geology
1 set bagged samples (5 m intervals)
460 - 1830 m
1 set plastic jar samples (10 m intervals)
460 - 1830 m
2 sets glass vial samples (5 m intervals)
460 - 1830 m
Exco Energy Ltd.
1 set plastic vial samples (5 m intervals)
460 - 1830 m

Sample Descriptions: 460 - 1830 m

Cored Intervals: Nil

Lost Circulation: 1611, 1622, 1677, 1695, 1738, 1769 m

Formation Tests: DST #1 1433 - 1436 m, Chance Sandstone
DST #2 1538 - 1554 m. Misrun
DST #3 1538 - 1554 m. Hart River
DST #4 786 - 789 m. L.C. Mid Sandstone Member

GEOLOGICAL MARKERS
EXCO et al NORTH CHANCE D-22

<u>MARKERS</u>	<u>LOG PICKS</u>	<u>SS DEPTHS</u>	<u>Sample Picks</u>
<u>Lower Cretaceous</u>			
Mid-Sandstone Member	785.5	- 250.5	786
Lower Shale Member	850.5 (?)	- 315.5 (?)	850
Orange Marker	1020.5	- 485.5	1023
Basal Silt	1237	- 702	1238
<u>Permo Penn</u>			
Hart River	1319	- 784	1323
Chance Sandstone	1431	- 896	1436
<u>Devonian</u>			
Unit One Shale/Silt Seq.	1763.5	- 1228.5	1766
Total Depth	1826		1830

GEOLOGICAL PROGNOSIS

EXCO ET AL NORTH CHANGE D-22

Co-ordinates: 66° 11' 06.10" N., 137° 35' 32.91" W.
Elevations: Ground: 531.5m K.B.: 535.43m
Contract Depth: 153m into the Unit One Shale/Silt sequence or
1829m - whichever first occurs.

	<u>Sub-Sea</u>	<u>Drilling Depth</u>
Lower Cret. Upper Shale Member	+ 70m	465m
Lower Cret. Mid-Sandstone Member	-233m	768m
Lower Cret. Lower Shale Member	-265m	800m
Hart River	-732m	1267m
T.D. (maximum)		1829m (see contract depth)

All depths are based on seismic.

Testing during penetration at discretion of wellsite geologist.

Suggested Logs: DIL
CNL-Density
Integrated Sonis - Neutron
Microlog - Caliper

SAMPLE DESCRIPTIONS

EXCO et al NORTH CHANCE D-22

66° 11' 06.10" N, 137° 35' 32.91" W

- 461 - 472 m Shale: Dark brown-gray, sub fissile, micromicaceous, slightly bituminous in part, non-calcareous, with interbeds brown-gray silty shale to shaly siltstone, trace glauconitic.
- 472 - 475 Sandstone: Medium gray-brown, very fine grain, silty, micaceous, shaly. Streaks dark gray shale and black bituminous shale.
- 475 - 483 Shale: Dark gray, brown-gray, sub fissile, micromicaceous, with thin interbeds sandstone: Light gray-brown, salt and pepper, fine to medium grain, poorly sorted, argillaceous, tight.
- 483 - 493 Shale: Dark gray with brown tinge, sub fissile, micromicaceous.
- 493 - 494 Sandstone: Pale brown, quartzose, very fine grain, very silty, micaceous, argillaceous.
- 494 - 495 Shale.
- 495 - 496 Sandstone: Light brown, unsorted, fine to medium and scattered coarse grain, quartz and chert, sub round to sub angular, weakly consolidated (abundant loose grains), trace poor porosity.
- 496 - 507 Shale: Dark brown-gray, black, fissile, micromicaceous. Abundant loose sand cavings.
- 507 - 510 Sandstone: Light gray-brown, salt and pepper, fine to medium and scattered coarse grain, unsorted, weakly consolidated, sideritic, trace coal.
- 510 - 512 Shale: Dark gray, brown, scattered red, scattered black bituminous.
- 512 - 521 Encountered tight hole at 512 m and temporarily stuck in hole at 521 m. Resulting samples very poor but interval probably interbedded shale and unsorted weakly consolidated slightly arkosic sandstone. Possible coaly bed at 518 - 519.5 m.
- 521 - 526 Siltstone to very fine grain sandstone: Light brown, quartzose, micaceous, argillaceous, slightly dolomitic, some carbonaceous flecking.
- 526 - 530 Shale: Dark gray, brown, micromicaceous, trace coal.
- 530 - 535 Interbedded shale as above with light brown, argillaceous to shaly siltstone. Trace coal.
- 535 - 563 Shale: Dark gray, trace red and brown, sub fissile, micromicaceous, with stringers shaly siltstone. Scattered ironstone. Trace coal streaks in top 10 m.

- 563 - 575 Shale: As above with interbeds siltstone 566 - 567 m, 569 - 571.5 m: Gray-brown, very fine sandy, micaceous, argillaceous to shaly. Scattered ironstone.
- 575 - 580 Predominantly siltstone as above.
- 580 - 585 Shale: Dark gray, brown tinge in part, scattered brown, trace red, sub fissile, micromicaceous, with 40% siltstone as above. Trace ironstone.
- 585 - 590 Shale: Gray-black, micromicaceous, slightly bituminous. Streaks coal.
- 590 - 596 Shales as above with 30% interbedded sandstone: Light gray-brown, quartzose to slightly salt and pepper, very fine grain, silty, micaceous, tight.
- 596 - 601 Sandstone: Light gray- brown, fine to scattered medium grain, moderately sorted, weakly consolidated (predominantly loose grains), sub round to sub angular, sideritic, argillaceous, trace poor porosity, trace spotty oil stain.
- 601 - 625 Shale: Dark gray, trace red, sub fissile, micromicaceous, scattered ironstone. Occasional lenses coal.
- 625 - 630 Sandstone: Light brown, quartzose, very fine grain, very silty, micaceous, trace glauconitic. Tight
- 630 - 640 Shale: Dark gray, brown, sub fissile, micromicaceous, scattered ironstone. Trace coal.
- 640 - 655 Shale as above, part slightly bituminous, lenses coal, trace ironstone, stringers siltstone.
- 655 - 660 Shale: Dark gray to black with brown tinge, fissile, micromicaceous, scattered ironstone, trace coal.
- 660 - 665 Shale: Dark gray, gray-green, sub fissile, micromicaceous.
- 665 - 670 Shale as above with 30% light gray to light brown, argillaceous to shaly, siltstone. Trace ironstone.
- 670 - 677 Shale: Dark gray with brown tinge, sub fissile, micromicaceous. Ironstone.
- 677 - 683 Siltstone: Light gray-brown, part sandy, micaceous, slightly calcareous, argillaceous.
- 683 - 687 Shale.
- 687 - 695 Sandstone: Light gray-brown, salt and pepper, fine to medium grain, sub round to sub angular, weakly consolidated (abundant loose grains), slightly calcareous, kaolinitic, shale and coal inclusions, tight.
- 695 - 703 Sandstone as above but medium to coarse grain, siderite inclusions.
- 703 - 710 Siltstone: Light brown, micaceous, shaly, trace glauconitic.
- 710 - 725 Siltstone as above, occasional very fine sandy. 40% interbedded dark gray shale.

- 725 - 739 Shale: Gray-black, sub fissile, micromicaceous.
- 739 - 765 Siltstone: Light brown, micaceous, slightly calcareous, with 40% interbedded shale.
- 765 - 770 70% shale as above, 30% siltstone as above, non-calcareous.
- 770 - 775 Shale: Dark gray, blocky to sub fissile, micromicaceous.
- 775 - 786 Shale as above with lenses coal.
- Lower Cretaceous Mid-Sandstone Member 786 m
- 786 - 797 Sandstone: Light brown, quartzose slightly salt and pepper, very fine to fine grain grading to very fine at base, very silty, sub angular to sub round, moderately friable, slightly glauconitic, scattered bituminous partings and inclusions, intermittently tight to poor non-effective appearing porosity, no fluorescence but leaves faint fluorescent ring in dimple dish when cut with chlorothene. 20% interbedded shale.
- 797 - 809 Shale: Dark gray to black, sub fissile, micromicaceous.
- 809 - 812 Sandstone: Pale brown, quartzose slightly salt and pepper, very fine grain, sub round to sub angular, limy, trace glauconitic, trace micaceous, scattered intergranular shale infillings, tight, no shows.
- 812 - 820 Sandstone: Light brown, quartzose slightly salt and pepper, very fine grain, very silty, moderately friable, slightly argillaceous, slightly glauconitic, tight to very poor non-effective porosity, scattered spotty oil stain and cut. Scattered bituminous shale partings. 20% interbedded shale.
- 820 - 840 Shale: Dark gray to black with brown tinge, fissile, micromicaceous. 20% sandstone as above with scattered very poor porosity.
- 840 - 850 Sandstone: Pale brown, quartzose, very fine grain, silty, very slightly calcareous, trace micaceous, rare glauconitic, scattered bituminous argillaceous flecks and infillings, stringers poor non-effective appearing porosity, spotty oil cut in top 5 m.
- 850 - 865 Shale: Black with brown tinge, micromicaceous, thin interbeds very fine grain sandstone to siltstone. Occasional ironstone.
- 865 - 870 Siltstone: Light gray-brown, argillaceous.
- 870 - 880 Poor samples, trip.
Shale as above with interbeds siltstone as above. Sandstone cavings.
- 880 - 930 Shale: Dark gray to black with brown tinge, sub fissile, micromicaceous, stringers to occasional thin interbeds light gray-brown siltstone.
- 930 - 935 Shale: Dark gray to black as above, minor siltstone.

- 935 - 1000 Dark gray shale as above, scattered ironstone.
- 1000 - 1005 Shale as above with trace gray siltstone mottled with orange-red. Ironstone.
- 1005 - 1023 Shale: Dark gray, fissile, micromicaceous. Minor siltstone.
- Orange Marker 1023 m
- 1023 - 1025 Chert: Varicolored (gray, black, green, amber, brown, occasional spicular), angular fragments of granules to pebbles, matrix of siltstone: Medium gray-brown, part very fine grain sandy, sideritic, shaly, slightly micaceous, tight. Scattered ironstone, occasionally glauconitic.
- 1025 - 1050 Shaly sandy siltstone as above, scattered chert fragments (probably cavings). Some interbedded shale and sandy shale.
- 1050 - 1059 Siltstone to very fine grain sandstone: Medium brown-gray, slightly salt and pepper, slightly glauconitic, slightly micaceous, argillaceous to shaly, tight, no shows. Scattered ironstone. Trace white speckled shale.
- 1059 - 1061 Shale: Dark gray, micaceous.
- 1061 - 1065 Shale as above with 70% shaly silty sandstone, slightly pyritic.
- 1065 - 1100 Shale: Dark gray with brown tinge, fissile, micromicaceous, scattered pyrite, scattered siltstone stringers. Scattered ironstone.
- 1100 - 1150 Dark gray shale as above, occasional silty. Scattered ironstone.
- 1150 - 1160 Shale: Dark gray, sub fissile, micromicaceous. Trace white microcrystalline limestone streaks.
- 1160 - 1165 Shale as above, trace brown limy shale stringers and white limestone as above.
- 1165 - 1185 Shale as above. Scattered ironstone. Stringers brown-gray limy shale to shaly limestone. Trace coal lenses.
- 1185 - 1190 Trip for bit at 1184 m.
Shale as above. Sandstone cavings.
- 1190 - 1238 Shale: Dark gray, fissile, micromicaceous, slightly pyritic. Occasional limestone streak. Scattered ironstone. Occasional chert fragment (caving).
- Basal Silt 1238 m
- 1238 - 1255 Shale: Brown-gray, silty to occasional very fine sandy, slightly calcareous, glauconitic, grading to argillaceous siltstone (20%).

- 1255 - 1290 Shale: Dark gray, sub fissile, micromicaceous, slightly silty to stringers very silty, slightly glauconitic, trace pyritic.
- 1290 - 1310 As above, increased silty. Trace ironstone.
- 1310 - 1315 Shale: Dark gray, sub fissile, micromicaceous, increased pyritic, minor silty.
- 1315 - 1321 Shale: Dark gray as above. Stringers very glauconitic, pyritic, silty shale to argillaceous siltstone.
- 1321 - 1323 Shale: Brown-black, bituminous.
- Hart River 1323 m
- 1323 - 1324 Chert: (90%), milky, amber, brown, gray, black, part spicular, angular fragments, trace fractures and incipient fractures. Thin sandstone at top, brown, fine to very coarse grain, quartz and chert, sub round, limy. No porosity or shows. Limestone at base.
- 1324 - 1333 Limestone: Light brown, brown, micritic, argillaceous to marly, part silty. Chert (20%).
- 1333 - 1350 Dolomite: Brown, gray-brown, microcrystalline, part argillaceous, siliceous, very silty in part, rare pin point poor porosity with pyrobitumen in 1340 m sample. Trace fractures lined with pyrobitumen. Chert 20%.
- 1350 - 1355 Dolomite as above, stringers non-effective pin point porosity with pyrobitumen. Chert 15%.
- 1355 - 1360 Dolomite as above grading downwards to limestone and marlstone.
- 1360 - 1365 Siliceous argillaceous limestone grading to marlstone: Brown, gray-brown, crypto/microcrystalline, with thin interbeds, stringers, and patches brown to dark gray-brown chert (30%). Scattered hairline fracture veins.
- 1365 - 1380 Argillaceous limestone grading to marlstone: Medium to dark brown and gray-brown, crypto/microcrystalline, cherty (30% chert), scattered fractures, trace pyrobitumen, one chip with oil stain noted in 1375 m sample. Stringers bituminous shale.
- 1380 - 1395 Limestone: Light to medium to dark brown and gray-brown, crypto/microcrystalline, slightly to very argillaceous, cherty (20% chert), scattered fractures, trace drusy fragments with pyrobitumen in 1385 m sample (from fractures?).
- 1395 - 1405 Limestone as above, variably argillaceous to marly, variably siliceous (20% chert), scattered calcite fracture veins, occasional open fracture face lined with pyrobitumen or drusy calcite.
- 1405 - 1408 Limestone as above with trace drusy fracture faces and scattered very coarse crystalline rhombohedral calcite fragments and clusters apparently from open fracture faces. Calcite exhibits spotty oil stain and light cut. No porosity was noted except in association with fractures.

- 1408 - 1435 Limestone grading to marlstone: Light to dark brown and dark gray-brown, crypto/microcrystalline, argillaceous to marly, variably siliceous (chert 15%), scattered fractures and trace slickensiding, trace bituminous shale partings.
- 1435 - 1436 Dolomite: Brown, microcrystalline sucrosic, tight, oil stained.
- Chance Sandstone 1436 m
- 1436 - 1439 Conglomeratic sandstone: Medium gray-brown, quartz and varicolored chert, sandy, medium to very coarse grain to pebbles, silty, angular to round, moderately friable, calcareous, part sideritic, ranges tight to poor (estimated 6%) to trace fair (estimated 8 - 9%) porosity, spotty oil stain and cut.
- 1439 - 1455 Conglomeratic sandstone as above but more conglomeratic: Light gray, gray, sub angular to round, increased calcite matrix, tight, trace spotty oil stain and rare pyrobitumen.
- 1455 - 1460 Conglomeratic sandstone as above with thin interbeds brown cryptocrystalline siliceous marlstone. Tight. No shows. Considerable dark gray shale in sample (cavings?).
- 1460 - 1469 Conglomeratic sandstone: Light gray, quartz and varicolored chert, limy matrix, sub angular to round, tight, no shows.
- 1469 - 1470 Dolomite: Brown, microcrystalline granular, slightly sucrosic, argillaceous, tight, uniform oil stain with good cut.
- 1470 - 1480 Marlstone: Brown, gray-brown, cryptocrystalline, part siliceous to cherty (chert 10%).
- 1480 - 1500 Limestone grading to marlstone: Light to dark brown, gray-brown, crypto/microcrystalline, argillaceous to marly, variably siliceous (chert 10%), scattered fractures.
- 1500 - 1505 Limestone grading to marlstone: Light to dark brown and gray-brown, cryptocrystalline, pelletoidal, slightly to very argillaceous, part siliceous, chert 10%, tight.
- 1505 - 1520 As above, increased chert (25%). Fractured.
- 1520 - 1530 Limestone to marlstone: Light brown, gray-brown, cryptocrystalline, slightly chalky to dense, non cherty, argillaceous to marly, scattered fractures.
- 1530 - 1540 Marlstone: Dark gray-brown, argillaceous to shaly, limy, scattered fractures, trace slickensiding, trace crystalline calcite clusters with oil stain. Stringers or cavings dark gray non-calcareous shale.

- 1540 - 1545 Limestone/marlstone: Light brown to gray-brown, crypto-crystalline to chalky, argillaceous to marly, scattered rhombohedral calcite fragments (from fractures ?), Gas show on gas detector from 1544 - 1545 m peaking at 44.8% apparently from fractures. Chert 10%.
- 1545 - 1550 Limestone/marlstone: Light brown chalky to dark brown and gray-brown cryptocrystalline, pelletoidal, argillaceous to marly, chert stringers and patches (20%).
- 1550 - 1570 As above, 30% chert, fractures.
- 1570 - 1580 Limestone: Brown, cryptocrystalline, argillaceous, part siliceous (chert 10%), fractures.
- 1580 - 1585 Argillaceous limestone/marlstone as above, stringers fragmental, part variably siliceous (chert 5%).
- 1585 - 1590 Marlstone: Dark gray-brown, crypto/microcrystalline, variably siliceous.
- 1590 - 1593 Marlstone grading to shale: Dolomitic, dark gray-brown, microcrystalline, siliceous, with 5% chert.
- 1593 - 1594 Conglomeratic sandstone: Light gray, quartz and chert, limy, tight.
- 1594 - 1610 Dolomitic marlstone/shale as above. 10% chert. Fractures.
- 1610 - 1630 Limestone: Light brown, brown, gray-brown, crypto/microcrystalline, argillaceous to marly, part variably siliceous, chert 20%, scattered fracture veins and open fractures, scattered coarse crystalline calcite fragments, Brown-black bituminous shale stringers and inclusions with trace slickensides. Trace oil stain in 1625 m sample (one chip noted).
- 1630 - 1635 Argillaceous limestone as above, increased coarse crystalline calcite fragments from patches or fractures (occasionally with pyrobitumen).
- 1635 - 1644 Limestone grading to marlstone: Light brown, gray-brown, crypto/microcrystalline, argillaceous to marly, part very siliceous. Chert 20%. Scattered fractures, trace gouge fragments and drusy calcite fragments, trace pyrobitumen. Scattered dark gray shale stringers and trace bituminous shale partings.
- 1644 - 1655 Limestone: Light brown, brown, gray-brown, cryptocrystalline, argillaceous to marly. Chert 5%. Thin interbeds shale: Dark gray, micromicaceous, slightly calcareous.
- 1655 - 1665 Limestone grading to marlstone: Gray-brown, microcrystalline, argillaceous to marly. Chert 5%. Trace fractures, trace crystalline calcite fragments.
- 1665 - 1685 As above. Chert 10% increasing downwards to 20%.
- 1685 - 1690 Limestone: Light to medium gray-brown, crypto/microcrystalline, argillaceous to occasional marly, non to very siliceous plus 30% chert. Scattered fractures.

- 1690 - 1705 Limestone as above and 30% chert. Increased fracture veins and trace open fractures with drusy calcite and rare pyrobitumen.
- 1705 - 1720 Limestone: Light to medium brown and dark gray-brown, crypto/microcrystalline, part chalky, variably argillaceous to stringers marlstone, stringers very siliceous, 20% chert, scattered fractures, scattered white crystalline calcite fragments, trace quartz veins, trace styolitic shale and bituminous shale partings.
- 1720 - 1735 As above. Some shale cavings.
- 1735 - 1755 As above. 20 - 30% chert.
- 1755 - 1766 Limestone: Light gray-brown, slightly earthy, argillaceous, with stringers dark gray-brown crypto/microcrystalline marlstone. Chert 5%.
- Unit One Shale/Silt Sequence 1766 m
- 1766 - 1770 Shale: Gray-black, fissile, micromicaceous, slightly bituminous, calcareous.
- 1770 - 1779 Shale: Dark gray, fissile, micromicaceous, part calcareous, scattered crinoids.
- 1779 - 1785 Marlstone: Light to dark gray-brown, cherty, part silty, with stringers calcareous siltstone to very fine grain sandstone.
- 1785 - 1800 Siltstone: Light gray-brown, limy, sandy, slightly cherty, argillaceous, grades in part to marlstone. Scattered stringers fine to medium grain salt and pepper limy sandstone. Stringers dark gray shale.
- 1800 - 1802 Chert: Dark brown to dark gray-brown, scattered fractures. Stringers brown-black, siliceous, calcareous, slightly bituminous shale.
- 1802 - 1810 Siltstone: Light gray-brown, very calcareous, sandy, with interbeds very fine to fine grain limy tight sandstone.
- 1810 - 1818 Siltstone: Brown, dark gray-brown, siliceous to cherty, calcareous, argillaceous.
- 1818 - 1820 Shale: Brown-black with white specks, calcareous, bituminous, very siliceous to silty.
- 1820 - 1825 Siltstone: Light to dark brown and gray-brown, limy, siliceous, slightly cherty, with thin interbeds fine grain limy sandstone.
- 1825 - 1830 Siltstone as above, 20% chert.

TOTAL DEPTH 1830 m

LOGGING RECORD

EXCO et al NORTH CHANCE D-22

Logging Company:

Computalog Gearhart Ltd.

85 - 04 - 02

Dual Induction Laterolog

459.5 m - 1825.2 m

Compensated Density, Compensated Neutron Log

459.5 m - 1821.8 m

Sonic Log

459.5 m - 1820.6 m

Micro-Electrical Log

459.5 m - 1818.9 m

Laserlog BCS-CNS Overlay

459.5 m - 1815 m

FORMATION TEST RECORD

EXCO et al NORTH CHANCE D-22

DST #1 85-04-04
Halliburton Services Ltd.
Tester - Louis Bruneau

Interval: 1433 m - 1436 m

Zone: Hart River "Chance Sandstone"

Type: Inflate Straddle

Times: Preflow 60 minutes (tool did not close)
ISI 60 minutes
FF 60 minutes
FSI 120 minutes

Test: Preflow - fair air blow increasing to good in 2 minutes
and strong in 5 minutes. NGTS.
FF - fair air blow increasing to good air blow in 4
minutes and continuing throughout flow period.
NGTS.

Recovery: 878 m clear slightly gas cut water
Sample #1 (top) 2860 ppm Cl
Sample #2 (middle) 6700 ppm Cl
Sample #3 (100 m above tool) 13600 ppm Cl
Sample #4 (top tool) 6400 ppm Cl

Pressures: IHP 15844 KPa
PFP 5885 KPa
ISIP 13941 KPa
IFP 6179 KPa
FFP 9110 KPa
FSIP 13941 KPa
FHP 15844 KPa

Remarks: Charts normal, test satisfactory.

DST #2 85-04-05
Halliburton Services Ltd.
Tester - Louis Bruneau

Interval: 1538 m - 1554 m

Zone: Hart River

Remarks: Misrun
Tried to pump up packers three times, failed.

DST #3 85-04-05
Halliburton Services Ltd.
Tester - Louis Bruneau

Interval: 1538 m - 1554 m

Zone: Hart River

Type: Inflate Straddle

Times:

Preflow	15 minutes
ISI	60 minutes
FF	60 minutes
FSI	120 minutes

Test: Preflow - Fair to strong air blow in 2 minutes decreasing to nil in 8 minutes. NGTS.
FF - Weak air blow decreasing to nil in 6 minutes. NGTS.

Recovery: 3 m drilling mud.

Pressures: Unable to read any flow or shut-in pressures.

Remarks: Test satisfactory, formation barren.

DST #4 85-04-06
Halliburton Services Ltd.
Tester - Louis Bruneau

Interval: 786 m - 789 m

Zone: L.C. Mid-Sandstone Member

Type: Inflate Straddle

Times: Preflow 15 minutes
ISI 60 minutes
FF 60 minutes
FSI 120 minutes

Test: Preflow - Weak air blow throughout. NGTS.
FF - Very weak air blow decreasing to nil in 16
minutes. NGTS.

Recovery: 21 m slightly gassified and oil flecked water cut
drilling fluid (1% oil & 2200 ppm Cl).

Pressures: IHP 8209 KPa
PPF 151 KPa
ISIP 4552 KPa
IFP 298 KPa
FFP 298 KPa
FSIP 2792 KPa
FHP 8209 KPa

Remarks: Charts normal, test satisfactory.

SUMMARY ZONES OF INTEREST
EXCO ET AL NORTH CHANCE D-22

The primary prospects in the Exco et al North Chance well were considered to be the Lower Cretaceous Orange Sandstone and the Hart River "Chance Sandstone" with secondary prospects in the Lower Cretaceous Mid-Sandstone Member and in the sand or lime developments in the Hart River.

Orange Marker

The Orange Marker was encountered as a 1-2 m thick chert conglomerate with a siltstone matrix, and exhibited no visible porosity or hydrocarbon shows. This chert zone immediately overlay a tight siltstone which persisted to the base of the Orange Marker. No anomalous hydrocarbon readings were encountered on the gas detector. The zone was not considered to warrant a drill stem test.

Chance Sandstone

The Chance Sandstone was penetrated 112 m below the top of the Hart River and consisted of a conglomeratic sand. A thin, approximately 1 m, dolomite with good oil staining but no porosity was present in samples immediately overlying the Chance Sandstone.

The upper 5m gross of the sandstone exhibited some poor porosity (estimated 6%) and a trace fair porosity (estimated 8-9%) with scattered spotty oil stain. The remainder of the Chance zone was a limy tight conglomeratic sandstone. Subsequent to total depth and logging, a drill stem test was run over the porous upper portion but yielded no gas to surface and a recovery of 878m clear slightly gas cut water.

Lower Cretaceous Mid-Sandstone Member

The Mid-Sandstone Member, a sand/shale sequence, was predominantly a very fine grain silty sandstone with some intermittent poor non-effective appearing porosity and rare spotty oil stain in samples. A drill stem test, after reaching total depth, verified the lack of porosity by yielding no gas to surface and a recovery of 21m slightly gassified oil flecked and water cut drilling fluid.

Miscellaneous

Evidence of fracturing was present in samples over much of the Hart River, occasionally yielding anomalous gas readings on the gas detector. One of these zones, with a good gas anomaly on the gas detector and indications of fracturing but no visible porosity in samples, was tested over the interval 1538-1554m with no gas to surface and a recovery of 3m drilling mud. Flow and shut-in pressures were almost non-existent indicating the zone to be tight and barren.

Other than the Chance Sandstone and other than repeated indications of fracturing, the Hart River exhibited only rare isolated rock chips with porosity and offered no prospects of hydrocarbon recoveries. Consequently, after three drill stem tests, the well was plugged and abandoned.