

CANADA OIL AND GAS LANDS
ADMINISTRATION
ADMINISTRATION DU PÉTROLE ET DU
GAZ DES TERRES DU CANADA

JUN 13 1985

ENGINEERING AND CONTROL
BRANCH
TECHNIQUE ET DU CONTRÔLE

9211-E9-2-1

FINAL DRILLING SUMMARIES
FOR
EXCO ET AL TUNAGO 2N-37 & N-37

66°06' 49.92"N 126°21' 59.80"W

PREPARED FOR:

Exco Energy Ltd.

PREPARED BY:

Winterhawk Petroleum Consulting Services Ltd.
102, 1040 - 7th Avenue S.W., Calgary, Alberta T2P 3G9 Telephone 237-8370

**EXCO ET AL TUNAGO
N-37
66°06' 49.92"N 126°21' 59.80"W
FINAL DRILLING SUMMARY**

Exco Energy Ltd.

April, 1985

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PREFACE

The text of this report includes detailed summaries of both the Exco et al Tunago N-37 and 2N-37 wells. Outlined under tabulation heading number one (1) is the Tunago N-37 well history, a report which summarizes the initial attempt to drill a well at this location. After a lengthy fishing operation a decision was made to plug back the hole, skid the rig and redrill the well as Exco et al Tunago 2N-37. Tabulation two (2) identifies the beginning of the 2N-37 well report.

SECTION I

SUMMARY - GENERAL DATA

EXCO ET AL TUNAGO N-37

INTRODUCTION

Pursuant to a Pooling and Farmout Agreement dated March 3, 1983, Dome Petroleum Limited, Columbia Gas Development of Canada Ltd., MT Partnership, Campbell Red Lake Mines Limited and Sigma Mines (Quebec) Limited pooled their interest in the subject lands and farmed out to Exco Energy Ltd. With reference to the enclosed index maps, the property consists of 467,784 hectares of land which is divided into three blocks, situated north east of Norman Wells, North West Territories.

According to the terms of the Rond Lake Exploration Agreement (No. 214), Exco was committed during the 1985 winter season to drill one (1) exploratory well, and to shoot an additional one hundred and sixty kilometres (160 Km) of seismic line on the south east block of the Rond Lake property.

In anticipation of a project start-up in early December, 1984, additional supplies and services for the project were barged in mid September, 1984, to Norman Wells, N.W.T. The drilling rig, along with the majority of the auxiliary equipment and supplies, were racked at the Lac Belot Storage area; a site selected at the completion of the 1984 winter drilling activity. The approximate location of the racksite was latitude - 66°50'N, longitude - 126°30'W.

Following the completion of the access road in late December, 1984, the transportation of the rig components and supplies began. In total, approximately two (2) weeks were required to move all materials to the Tunago N-37 well location from both the base station at Norman Wells and the racksite. After several additional days were spent rigging up the well was spudded January 12, 1985.

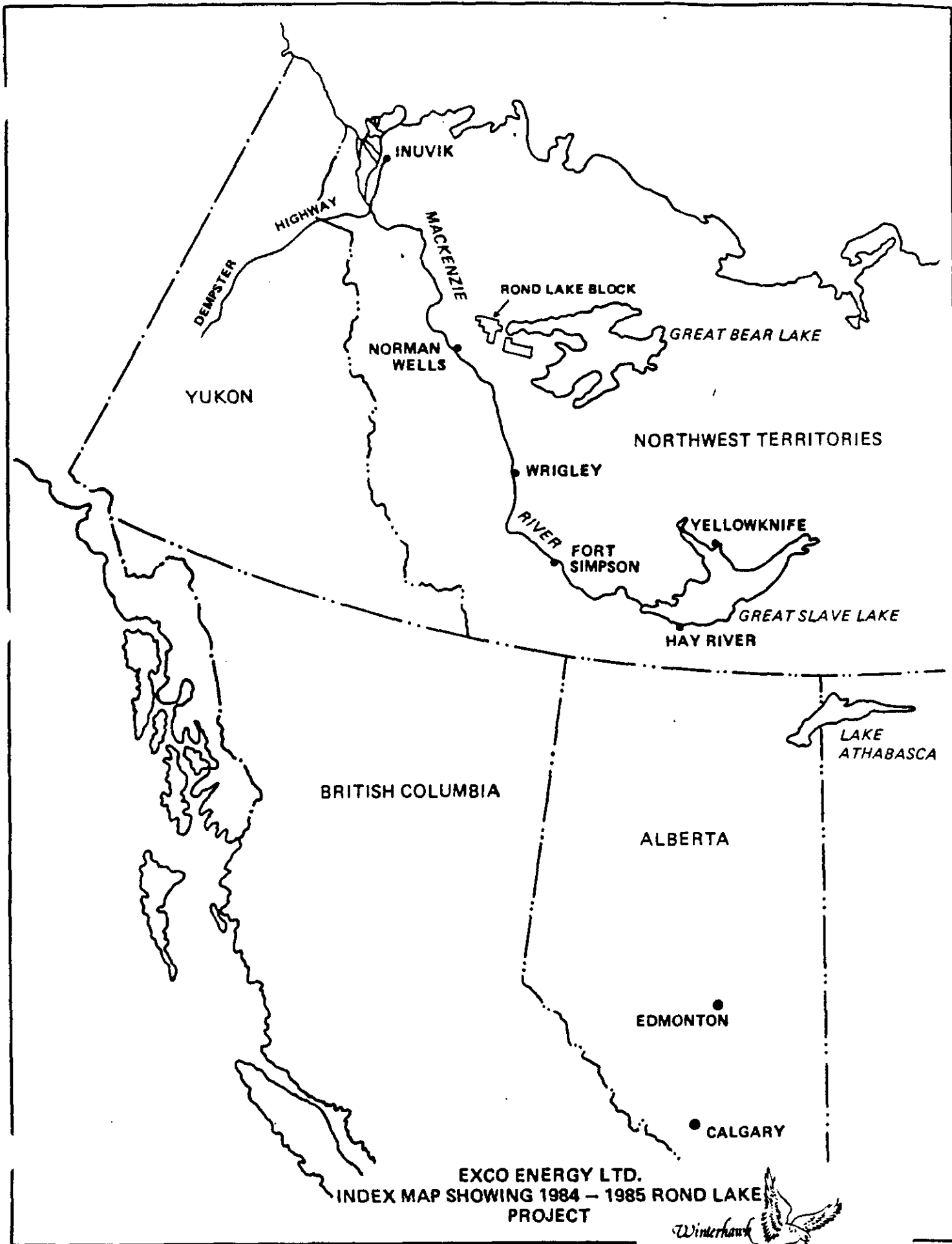
From the onset of drilling activity considerable difficulty was encountered in drilling and setting 339^{mm} conductor. From this point onward sloughing hole and gravel sections continued to impede progress while drilling 311^{mm} surface hole with Air-Durafoam. At approximately the 319 metre mark the drilling string became stuck in the hole. After a lengthy fishing operation a decision was made to plug back the hole, skid the rig and re-drill the well.

(Details of the fishing operation are enclosed in the body of the "WELL SUMMARY".)

Accordingly, application was made to the Canada Oil & Gas Lands Administration (COGLA) to re-drill the well as

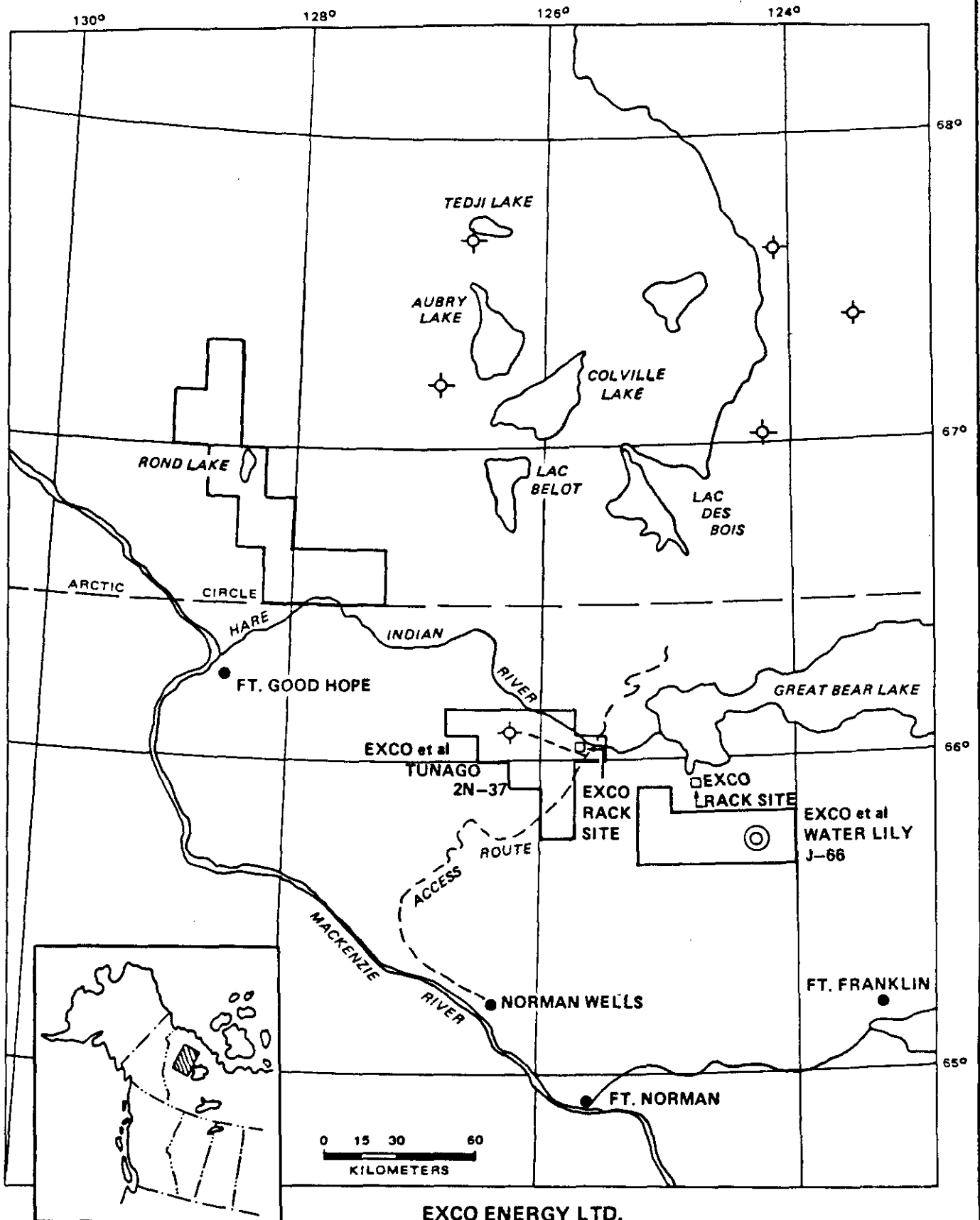
Exco et al Tunago 2N-37.

Exco hereby gives notice that the enclosed report is to be considered the FINAL DRILLING SUMMARY for the drilling of the Exco et al Tunago N-37 well.



EXCO ENERGY LTD.
INDEX MAP SHOWING 1984 - 1985 ROND LAKE
PROJECT





EXCO ENERGY LTD.
1984 - 1985 ROND LAKE PROJECT



GENERAL WELL INFORMATION

WELL NAME: Exco et al Tunago N-37

LESSOR: Dome Petroleum Limited
Box 200
Calgary, Alberta
T2P 2H8

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

GRID AREA: 66-10-126-15; Unit N; Section 37

CO-ORDINATES: 66° 06' 49.92"N
126° 21' 59.80"W

UNIQUE WELL IDENTIFIER: 300 N37 66 10 126 150

EXPLORATION AGREEMENT: No. 214

DRILLING AUTHORITY: No. 1212 issued 1985-01-09

DRILLING CONTRACTOR: In receivership - rig contracted from
bank by Exco Energy Ltd.

DRILLING RIG: "Mr. Ben" with National 370 drawworks

CLASSIFICATION: New Field Exploratory (Northern)

ELEVATIONS: G.L. 232.06^m
K.B. 236.46^m

SPUD DATE: 1985-01-12 @ 0900 hrs.

COMPLETED DRILLING DATE: Drilled to 319.00^m, string stuck in
hole

RIG RELEASE: 1985-01-31 @ 2400 hrs.

WELL STATUS: Abandoned - well skidded to 2N-37
drilling location



WELL SUMMARY

DATE 85-01-31

Well Exco et al Tunago N-37 Location _____
Elevations: KB 236.48 m GL 232.06 m CF 232.76 m
History: Spud Date 85-01-12(0900 hrs) R.R. Date 85-01-31(2400 hrs) TD 319.00 m
Status Abandoned - Rig Skidded Producing Zone(s) N/A

A. DRILLING DETAILS

Hole Size 444mm Depth 40 m Logs N/A
Hole Size 311mm Depth 319 m Logs N/A
Hole Size _____ Depth _____ Logs _____
Hole Size _____ Depth _____ Logs _____
Casing Size 339mm Grade K-55 Depth 37.11 m Cement Vol. 4.9 m³
Casing Size _____ Grade _____ Depth _____ Cement Vol. _____
Casing Size _____ Grade _____ Depth _____ Cement Vol. _____
Casing Size _____ Grade _____ Depth _____ Cement Vol. _____

DST No. _____ Int None Zone _____
DST No. _____ Int _____ Zone _____
DST No. _____ Int _____ Zone _____
DST No. _____ Int _____ Zone _____
DST No. _____ Int _____ Zone _____
Core No. _____ Int None Zone _____ Rec. _____
Core No. _____ Int _____ Zone _____ Rec. _____
Core No. _____ Int _____ Zone _____ Rec. _____

Plug No. 1 Int Surface - 25 m Cement Vol. 2.97 m³ Permafrost _____ Felt No
Plug No. _____ Int _____ Cement Vol. _____ Felt _____
Plug No. _____ Int _____ Cement Vol. _____ Felt _____
Plug No. _____ Int _____ Cement Vol. _____ 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: Due to downhole problems, the well was abandoned and the rig was skidded to the 2N-37 wellsite.
See specific forms for more detail. ENGINEER J. Maloney

DOWNHOLE PROBLEMS ENCOUNTERED

SUMMARY

Comment

In review, it is evident that the drilling problems experienced on the Tunago N-37 location were unique to this locality; in that similar downhole conditions had not been encountered on any of the previous winter projects conducted further north. Moreover, the potential seriousness of the downhole problems had not been anticipated by either the exploratory geologists or the seismic consultants. Classified as a rank exploratory well, there was simply no information available on the expected subsurface conditions.

Added to this fact was the inherent difficulty and cost involved in drilling and setting 508 mm conventional conductor casing with the drilling rig.

Furthermore, the well was to be drilled in an area of extensive lost circulation. From an engineering viewpoint, the only proven solution for drilling this interval was with the use of a Durafoam-Air drilling system. However, this technique was unreliable in terms of providing constant returns while drilling sloughing sections.

Finally, from an operations standpoint, no one had reason to believe that the sloughing sections were as troublesome as first reported. The general feeling was that these sections would prove less troublesome as the operation proceeded.

Operations

The 431.8 mm conductor hole was drilled to the 40 metre depth, but by the time the bit had drilled 27 metres, a large cavity had developed of approximately 2 metres in diameter. It wasn't until this point that air volumes were significantly reduced to prevent further erosion. In place of high air volumes, foamer was added with the air to enable less air volume to have equivalent carrying capacity. In total, of the 40 metres drilled to set conductor casing, the first 27 metres consisted of gravel beds. Needless to say, these unconsolidated gravel sections proved troublesome in running conductor casing. Specifically, after the casing was run to bottom the annulus sloughed in and the string had to be cemented in place by cementing down the annulus. Since the porous gravel would not hold the cement in place, alternate layers of gravel and cement were set to stabilize the conductor. Finally, a cribbing was constructed and cemented in place at the top of the conductor. At this point it was difficult to assess whether or not there was sufficient cement in place around the float shoe and shoe joint.

After nipping up, 311 mm surface hole was drilled with Durafoam-Air to the 108 metre depth before sloughing sections were encountered. Although drilling continued beyond this point, on each subsequent trip tight hole and sloughing conditions were noted at approximately the 100 metre mark.

Finally, while tripping for a bit of the 319 metre depth, the hole had to be reamed from the 90 metre to the 226 metre depth. Due partly to sloughing hole conditions and Durafoam-Air returns that were not always continuous, the string became stuck at the 226 metre depth. To this date, no other information is available as to exactly how the string became planted.

From this point on all further attempts to work the string failed, even though partial air returns had been established. Following numerous attempts to work the pipe free, a decision was made to back-off the string immediately above the free point and to run back in with washover pipe. However, after backing off, the hole sloughed in, thus preventing any attempt to run in and wash over the fish. After more than a week of futile attempts to ream past the 110 metre depth it was decided to plug back, and skid the rig.

In summary, Winterhawk is of the opinion that, geologically, there existed either a gravel section or a highly fractured dolomite-limestone at the 100 metre mark. Since this section was not initially cased off, prior to proceeding with 311 mm surface hole, it continually delayed operations and directly accounted for the fishing operation and resultant abandoning of the well.

On the offset, Tunago 2N-37 well, measures were instituted to ensure that this same section was cased off. Much of the success of the second well location, 2N-37, is attributed to the lessons learnt on the Tunago N-37 location.

SYNOPSIS

<u>DATE</u>	<u>DRILLING DAY</u>	<u>PARTICULARS</u>	<u>EXPLANATION</u>
85-01-13	2	Drill Conductor Casing	Establish air volumes so as not to erode the hole further - hole 2m in diameter
85-01-14	3	Cement Conductor Casing	While cementing - sloughing material plugged annulus. Re-cement down annulus - no returns to surface
85-01-15	4	Cement Conductor Casing	Fill annulus by staging in alternate layers of gravel and cement, allowing sufficient time for cement to set before the next layer of gravel is added
85-01-16	5	Cement Conductor Casing	Complete cribbing and cement annulus to surface
85-01-17	6	Pressure Test	Pressure test diverter, drill out cement
85-01-18	7	Circulate and Clean Hole	At 108m depth due to sloughing section
85-01-19	8	Work Tight Hole	At 108m, and from 76m to 108m
85-01-20	9	Drilling	Drill from 154m to 228m
85-01-21	10	Drilling	Drill from 228m to 289m
85-01-22	11	Hole Sloughing	At 90m - 117m while trying to run in hole after trip
85-01-23	12	Stuck In Hole	Ream from 108m - 226m. Work tight hole - stuck at 226 metres
85-01-24	13	Circulate & Work Pipe	Wait on fishing tools. Circulate and ream in the interval
85-01-25	14	Circulate & Work Pipe	Run gel system with lost circulation material. No returns
85-01-26	15	Circulate - Fishing	Back off drill collars - wait on set of break out tongs
85-01-27	16	RIH - Circulate and Begin to Ream Downhole	Drill out under shoe with stiff foam air. Pipe became stuck while reaming to bottom. Run freepoint and back off at 176 m. Pick up drill collars and run back in the hole. Proceed to ream from 76 m - 110 m over 36 hours.

SYNOPSIS

<u>DATE</u>	<u>DRILLING DAY</u>	<u>PARTICULARS</u>	<u>EXPLANATION</u>
85-01-28	17	Ream	Hole continually sloughing in. Ream from 65 m to 90 m. Presently running 2% Durafoam with 0.5 lbs/bbl of polymer. Bit pulled out of hole with well rounded shanks and one (1) bearing seal showing. Continue to ream from 90 m to 95 m. Foam is cleaning the hole well.
85-01-29	18	Ream	Note: water being produced from 60 m depth at rate of 5-6 bbls/min or 1m³/min. This water production has been constant throughout the reaming operation. Polymer concentration increased from 0.5 to 0.667 lbs/bbl. Trip for bit - bit bald with broken buttons, evidence of a very abrasive formation. Increase air volumes and attempt to ream ahead. Mix 300 bbls of 150 viscosity mud, using gel and Kelzan (20:1). Drill ahead blind.
85-01-30	19	Ream	Reaming at 110 m the last 24 hours with no progress. Trip for bit and run back to bottom. After changing nozzles switch over to Durafoam Air Drilling. Hole pulling tight and packing off. Shut off pump, pulled Kelly and one (1) single. Pull out of hole. Decision made to abandon the well, plug back and skid the rig.
85-01-31	20	Abandon	Wait on orders, pull out of hole and abandon the well.

SECTION II
GEOLOGICAL SUMMARY

GEOLOGICAL REPORT

for

EXCO ET AL TUNAGO N-37

McLEOD GEOLOGICAL ENTERPRISES LTD.

MALCOLM E. McLEOD, B.Sc., P.Geol.

EXCO ET AL TUNAGO N-37

SAMPLE DESCRIPTION

95 - 100	DOLOMITE, grey-white, fine to medium crystalline, poor vug porosity, part drusy, with scattered grey, massive chert.
100 - 105	DOLOMITE, as above, with few clear quartz crystal viens, scattered chert, white grey, massive, trace anhydrite.
105 - 115	DOLOMITE, as above, scattered drusy vug porosity, translucent chert, common, few quartz crystals, trace anhydrite.
115 - 125	DOLOMITE, grey-white, fine to medium crystalline, scattered drusy vug porosity, with white to grey, translucent chert, few quartz crystals, trace selenite.
125 - 130	DOLOMITE, as above, cherty, trace white, tripolitic chert, few large quartz crystals.
130 - 135	DOLOMITE, as above, somewhat finer crystalline, scattered chert and quartz, trace chert nodule with quartz crystal coating.
135 - 140	DOLOMITE, as above, trace pinkish-red dolomite, traces porosity, trace grey-white fossiliferous chert.
140 - 145	Poor sample - mainly large fragments - partially cavings.
145 - 150	DOLOMITE, grey, finely crystalline, hard, trace imbedded pyrite, cherty, traces drusy vug porosity.
150 - 155	DOLOMITE, as above.
155 - 160	DOLOMITE, grey, fine to medium crystalline, traces drusy vug porosity, chert and large quartz crystals common.
160 - 165	SANDSTONE, grey-brown, loose, fine grained well rounded, medium sorted, quartz trace pink feldspar, scattered black grains.
165 - 170	SANDSTONE, as above, part subrounded few large grains to small pebbles.
170 - 175	SANDSTONE, as above.
175 - 180	SANDSTONE, as above with Dolomite, grey, medium crystalline, traces porosity.

EXCO ET AL TUNAGO N-37

SAMPLE DESCRIPTION - Continued

180 - 185	DOLOMITE, grey, medium, part coarse, crystalline, traces chert with sand as above.
185 - 190	DOLOMITE, with increasing sand, grains few, red, quartz and feldspar grains.
190 - 195	SAND and DOLOMITE, as above
195 - 200	Missed samples - nothing to catch.
205 - 210	DOLOMITE, grey as above, with chert, white grey, massive, traces quartz crystal clusters, trace drusy vug lining.
210 - 215	SANDSTONE, as above.
215 - 220	SANDSTONE
225 - 230	DOLOMITE, grey, medium crystalline, scattered chert, trace anhydrite(?), with loose sand as above.
230 - 235	DOLOMITE, as above, few drusy vugs, trace quartz, crystal clusters, scattered chert.
235 - 240	No sample
240 - 245	SANDSTONE, loose, grey, red, rounded, poor sorting, medium to small pebble, few granite pebbles, traces Dolomite as above.
245 - 250	DOLOMITE, grey, medium crystalline scattered chert, (with traces orange-red mud ?)
250 - 255	DOLOMITE, as above, increasing chert, (with orange brown mud ?)
255 - 260	DOLOMITE, as above.
260 - 265	DOLOMITE, as above.
265 - 270	DOLOMITE, as above, scattered drusy vug porosity, trace tripolitic chert.
270 - 275	DOLOMITE, grey, medium, part coarse, crystalline, cherty, traces tripolitic chert, traces porosity.
275 - 280	DOLOMITE, as above, cherty.
280 - 285	DOLOMITE, cherty as above, trace pink Dolomite.

EXCO ET AL TUNAGO N-37

SAMPLE DESCRIPTION - Continued

285 - 290	DOLOMITE, as above, trace imbedded black nodules, part with orange mud, trace quartz crystals.
290 - 300	DOLOMITE, as above, traces porosity.
300 - 305	SANDSTONE, loose, rounded, medium to pebble size, varicolored, granite, quartz feldspar, with minor Dolomite.
	(Assumed cavings)
305 - 310	SANDSTONE, as above.
310 - 315	SANDSTONE, as above.

SECTION III
ENGINEERING SUMMARY

CASING SUMMARY

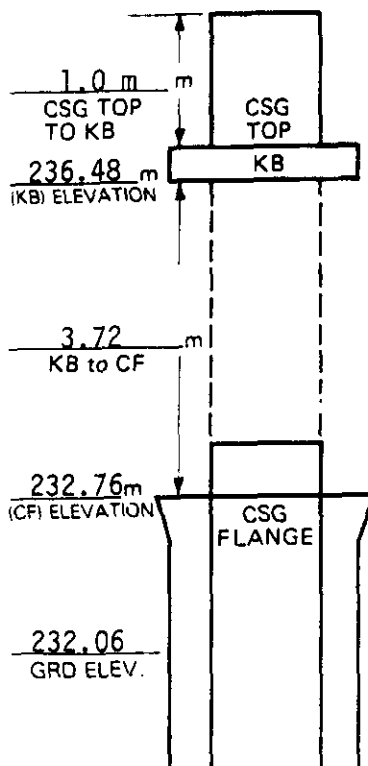
Enclosed is a Casing Summary for the running and setting of 339 mm Conductor Casing. No other casing strings were run on the subject well.



PAGE _____

CASING SUMMARY

WELL Exco et al Tunago N-37 LOCATION _____ DATE 85-01-12
Conductor Casing SIZE 339mm KB 4.42 m KB to CF -
New/Used _____ Inspected By: J. Maloney Drifted To: - API diam. _____



NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1	Shoe	.57	36.54
1	Shoe Jt. 340mm	12.10	24.44
1	Float Collar	.48	23.96
1	339mm Joint	12.40	11.56
1	339mm Joint	12.56	+ 1.00
	Scratchers		
	Centralizers		
Total String		38.11	Cut-off Jt. Length 4.19 m
minus	KB to Csg Top (STICK UP)	1.00	
	Landed Depth KB	37.11	
	Hole Depth KB	40.00	
	Distance Csg Landed Off Bottom	2.89	

Cementing Company Howco Well Servicing Ltd.
Wash - Type: Fresh Water - One pipe volume Volume 3.4 m³
Cement Type - Lead Slurry 6.6 Permafrost Volume: 4.9 m³
Cellophane: 5 sx Volume: _____
Cement Type - Tail Slurry _____ Volume: _____
Additives _____ Volume: _____
Cement Type - Above Stage Collar Note: In total 32.6 t of cement Volume: _____
Additives was run down the annulus to stabilize the conductor. Volume: _____
Displacement Rate: Max. _____ Avg. - (m³/min)
Calculated Cement Top(s) 10 - 12 m KB 4.42 m KB
Returns: Mud None m³ Cement None m³
String Wt. in a mud wt. of: Air kg/m³ = 14,000 daN
Wt. set on Slips: _____ daN

Remarks: Ran 6.6 Tonne Permafrost Cement 4.9 m³ slurry. Hole bridged off and unable to displace. No returns. Total Pipe Volume = 3.45 m³. Ran 2" pipe down annulus 12.2 m. Ran 6.1 Tonne Permafrost Cement 4.5 m³ slurry. Hole around casing 2 m X 10 m deep
Engineer: J. Maloney

[illegible]

BIT RECORD



WELL NAME Exco et al Tunago N-37 LOCATION Norman Wells N.W.T.
Contractor Tri-Can Contracting Co. Ltd Rig No. Mr. Ben Rig Field Norman Wells
Spud Date 1985-01-12 0900 hours T.D. Date 85-01-22 Rig Release Date 85-01-22

[illegible]

REMARKS Fish stuck at 230 m, while trying to ream to bottom. Progress was made each time, but lost ground on bit trips.

MUD REPORT

For details as to the Durafoam-Air properties maintained while drilling, refer to the enclosed "Daily Drilling Reports" found in Section V.

MUD ALL-FIVES

Well: Exco et al Tunago N-37

Drilling Day	Gel 40 kg.	Caustic 22 kg	RMZP-7 5 gal.	Kwikseal	Cellophane	Kelzan	Durafoam 55 gal-drum	Duraplex 50# sx.	Walnut Shells	Sta-flo
1							1			
2							1	2		
3										
4										
5										
6							1	1		
7							2	3		
8							2	4		
9							6	2		
10			2				2	5		
11			2				2	5		
12			2				2	5		
13							2	9		
14	179			45	20	2			85	
15	70			17			1			
16	60			40			3	9		
17							1	12		
18	65	1				3		2		
19	225					13				
20										
Totals	599	1	6	102	20	18	26	59	85	2

EVALUATION

- DRILL STEM TESTS
- LOGGING
- MUD LOGGING
- CORING

Due to the fact that the well was abandoned at the 319 metre mark, prior to setting surface casing, no evaluation program was carried out on the well.

ABANDONMENT

The well was plugged back and the rig was skidded to the Exco et al 2N-37 well location.



PAGE _____

ABANDONMENT REPORT

DATE 85-01-31Well Exco et al Tunago N-37 Location _____

A. WELL DATA

KB Elevation 236.48 m KB to CF 3.72 m FTD 319.00 m

Hole Size	Hole Depth	Casing Size	Casing Depth	Cement Top(s)	Perfs
311	319.00 m	339mm	37.4 m	Surface	N/A

B. ABANDONMENT DATA

Fluid in Hole Air and Mud Abandonment Company Exco Energy Ltd.Cementing Company Mixed by the crew Gov't Official confirmed w/J. Hamilton-COGLA

Plug	Interval	Formation	Cem Vol	Cem Type	Cem Wt.	Plug Down	Felt Plug Time	Depth
1	0 - 25 m	Surface csg.	2.2 T	Permafrost	1800 kg/m ³	2130 hrs		
				+ 3% CaCl ₂			Cement	to Surf.

Method of Feeling Plugs VisualSurface Casing Cut 1.31 m down from GL Surface Plug 0 - 25 m Plate Welded Yes

C. SALVAGE DATA

Casing Salvaged Pushed wiper plug to 25 m K.B. with drill collars. Mixed 4 sx Permafrost cement with CaCl₂ water. Wait 6 hours. Top with 4 more sx Permafrost cement Mixed with CaCl₂ water. Let set to hold column of cement. No fluid below to hold hydrostatic.

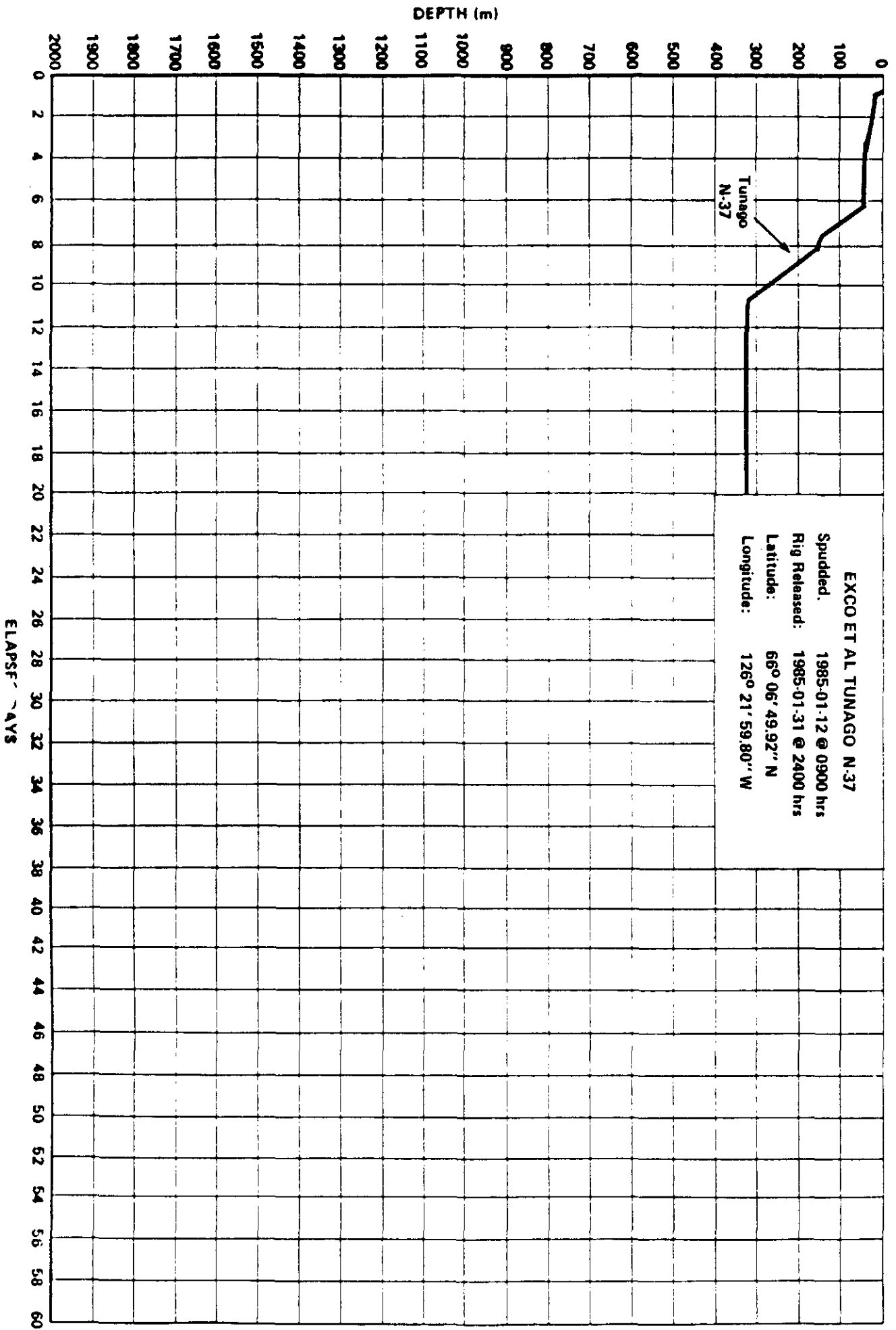
D. REMARKS Final T.D. was 319.0 m. Abandoned hole with collars in hole from 176 m to 230 m. Hole sluffed from 90 m to 176. Set plug from 25 m to surface 2.2 Tonne.

ENGINEER Niel Nichols

SECTION IV
LOGGING SUMMARY

No logs were run on this well as the hole was abandoned at the 319 metre depth.

SECTION V
DRILLING CURVE



SECTION VI
DAILY DRILLING REPORTS



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 01 12 2400

Year - Month - Day Time

WELL NAME Exco et al Tunago N-37

LOCATION _____

DAY 1 DEPTH 20 m METRES LAST 24 HRS. 20 m ROTATING HRS. 8.50

ACTIVITY AT REPORT TIME Drill 431mm hole

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
1A	431.8	M4N	942615	4000	110/150	20	20	20	8.5	8.5	2.35	DRILL		

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			
				Air	1,000	cfm	130 psi					
				1 1/2 gallons soap	per 10	gallons fluid						

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
Bit sub				
9' DC-1				
X/O				
X/O				
X/O				

COSTS

DAILY N/A

CUM. _____

SUPERVISOR: John Maloney

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	8.50	8.50
2. TRIPS	4.00	4.00
3. RIG SERVICE	.50	.50
4. DEVIATION SURVEY		
5. REAM & COND. HOLE		
6. MIX & COND. MUD	.50	.50
7. CIRCULATING		
8. RIG REPAIR		
9. RUN CASING & CEMENT		
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Drill mousehole & rathole	10.50	10.50
TOTALS	24.00	24.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 12 2400

Year - Month - Day - Time

Spudded at 0900 hours January 12, 1985. Notified COGLA in Yellowknife.

WANT LIST: _____

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 13 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 2 DEPTH 34 m METRES LAST 24 HRS. 14 m ROTATING HRS. 1500

ACTIVITY AT REPORT TIME Trip to run 13 3/8" casing KB-GL = 4.42 = 40 m setting depth

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
1A	431.8	Sec M4N	942615	6-8	110/160	14	14	34	6.50	15.00	2.27			
1B	311	XDV	77633	6-8	110/160	34	14	14	8.50	8.50	1.60	3	2	1

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			
				Air 500 cfm at 90 ps								
				16 gal soap/minute				5 gallons soap conc. per 10 bbls mix				

DEVIATION SURVEYS

1/2 ° at 25 m _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
Bit sub				
1 9" D.C.				
X/O				
X/O				
2 - 6" D.C.s				
Kelly				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	15.00	23.50
2. TRIPS	3.00	7.00
3. RIG SERVICE	.25	.75
4. DEVIATION SURVEY		
5. REAM & COND. HOLE	3.25	3.25
6. MIX & COND. MUD		.50
7. CIRCULATING air & mix	2.50	2.50
8. RIG REPAIR <i>durafloam</i>		
9. RUN CASING & CEMENT		
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		10.50
TOTALS	24.00	48.00

COSTS

DAILY N/A

CUM.

SUPERVISOR: John Maloney

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 13 2400

Year - Month - Day - Time

Gravel beds from surface to 27 m

Sloughing in hole - large cavity under rig stopped when increased soap and decreased CFM from 1000 to 500 cfm.

0000 - 0430 Drill ahead

0430 - 0445 Rig Service

0445 - 0615 Lay down D.C.

0615 - 0800 Wait on air returns and clean hole

0800 - 1000 Clean up hole

1000 - 1045 Handle tools

1045 - 1130 Drill 311mm pilot hole

1130 - 1145 Air drill

1145 - 1200 Drill 311mm pilot hole

1200 - 1715 Drill 311mm hole

1715 - 1745 Circulate

1745 - 1915 Drill 311mm pilot hole

1915 - 1930 Air Driller Pump

1930 - 2015 Drill 311mm pilot hole

2015 - 2030 POOH

2030 - 2045 Survey - 1/2°

2045 - 2115 RIH w/431.8mm bit

2115 - 2200 Ream 4 m fill

2200 - 2400 Drill 431.8mm hole

WANT LIST:

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 14 2400

Year · Month · Day · Time

WELL NAME Exco et al Tunago N-37

LOCATION _____

DAY 3 DEPTH 40 METRES LAST 24 HRS. 6 ROTATING HRS. 4.00

ACTIVITY AT REPORT TIME Cement 13-3/8" casing and wait on cement

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
1A	431.8	Sec M4N	942615	8	60	40	6	40	4.00	19.00	2.10	3	2	1

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			
				500 cfm.		16	gallons soap/minute					
							5 gallons conc./10 gallons mix					

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Durafoam 15 gals.

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
Bit Sub				
1 - 9" DC				
X/O				
X/O				
X/O				
2 - 6-1/4 DC's				
Kelly				

COSTS

DAILY

N/A

CUM.

SUPERVISOR John Maloney

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	4.00	27.50
2. TRIPS	4.25	11.25
3. RIG SERVICE	.25	1.00
4. DEVIATION SURVEY		
5. REAM & COND. HOLE		3.25
6. MIX & COND. MUD		.50
7. CIRCULATING	3.75	6.25
8. RIG REPAIR		
9. RUN CASING & CEMENT	11.75	11.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		10.50
TOTALS	24.00	72.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 14 2400

Year - Month - Day - Time

Ran 6.6 T cement on conductor casing, 4.9 m³ slurry of permafrost cement. Float shoe plugged off. Re-cemented down the annulus consisting of 6.1 T permafrost or 4.5 m³ slurry. No returns to surface. Presently going to fill the annulus and cement top 20 m³. Install a new cribbing and cement top 10-15 m³ in place.

0000 - 0400 Drill 431.8mm hole

0400 - 0415 Clean hole

0415 - 0445 POOH - wait 15 mins.

0445 - 0500 RIH

0500 - 0530 Circulate and condition hole

0530 - 0600 POOH, wait 15 mins and RIH

0600 - 0630 Circulate and condition hole

0630 - 0700 POOH to run 13-3/8" casing

0700 - 0800 Rig up to run casing

0800 - 1030 Run casing

1030 - 1130 Rig up, circulate head to run casing

1130 - 1200 Circulate casing

1200 - 1430 Circulate casing

1430 - 1600 POOH, rig Kelly hose

1600 - 1830 Circulate and condition hole to run casing.

1830 - 1915 POOH to run 13-3/8" casing

1915 - 2400 Run 13-3/8" casing - circulate casing down to 37 m and break circulation.

WANT LIST: _____

WEATHER -30°C

ROAD Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 15 2400
Year · Month · Day · Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 4 DEPTH 37 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME 0800: Nipple up BOP's

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

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

COSTS

DAILY N/A

CUM. _____

SUPERVISOR John Moloney

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		27.50
2. TRIPS		11.25
3. RIG SERVICE		1.00
4. DEVIATION SURVEY		
5. REAM & COND. HOLE		3.25
6. MIX & COND. MUD	2.75	3.25
7. CIRCULATING		6.25
8. RIG REPAIR		
9. RUN CASING & CEMENT	3.00	14.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP	1.00	1.00
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Plugs & cellar crib	17.25	27.75
TOTALS	24.00	96.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 15 2400

Year - Month - Day - Time

0245 hours - broke circulation and circulated casing. Ran 3 joints 339.7 mm 81.1 kg/m K-55 ST&C casing. Landed at 37 m. Cemented with 6.6 T permafrost cement, 4.9 m³ slurry (165 sx) - no returns. Float plugged off after mixing 165 sx.

Ran 2" pipe outside annulus and cemented with 150 sx. Filled cavity with gravel and sand and ran 2 cement plugs. One at 10 m - 150 sx, one at 5 m - 200 sx. Ran 2" pipe down annulus to 15 m and ran 6.1 T permafrost (4.5 m³ slurry - 150 sx).

Installed new cribbing in cellar and cemented.

WANT LIST: _____

WEATHER -35°C

ROAD Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 16 2400
Year Month Day Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 5 DEPTH 37 METRES LAST 24 HRS. 0 ROTATING HRS. 0

ACTIVITY AT REPORT TIME Test hydril and grant at 1500 kPa

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

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		27.50
2. TRIPS		11.25
3. RIG SERVICE		1.00
4. DEVIATION SURVEY		
5. REAM & COND. HOLE		3.25
6. MIX & COND. MUD		3.25
7. CIRCULATING		6.25
8. RIG REPAIR		
9. RUN CASING & CEMENT		14.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP	15.00	16.00
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Cement Cribbing	9.00	36.75
TOTALS	24.00	120.00

COSTS

DAILY N/A
 CUM. _____

SUPERVISOR John Moloney

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 16 2400

Year - Month - Day - Time

Cemented cribbing with 75 sx permafrost.

Drilling out and drilling ahead today.

Install cribbing, cement cribbing and around cribbing weld on casing bowl and nipple up spool. Hydril. Cement around cribbing. Mixed cement by hand. Cement from crib to matting.

WANT LIST: _____

WEATHER -40°C

ROAD Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 17 2400

Year · Month · Day · Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 6 DEPTH 37 METRES LAST 24 HRS. 0 ROTATING HRS. 0

ACTIVITY AT REPORT TIME 0800: Drill 311 mm hole at 45 m

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
2B	311	HWJ33	89169	6	60/80	DRILL OUT FLOAT COLLAR AND SHOT								

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

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

COSTS

DAILY N/A

CUM.

SUPERVISOR John Moloney

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		27.50
2. TRIPS	.50	11.75
3. RIG SERVICE	.25	1.25
4. DEVIATION SURVEY		
5. REAM & COND. HOLE		3.25
6. MIX & COND. MUD		3.25
7. CIRCULATING		6.25
8. RIG REPAIR	1.00	1.00
9. RUN CASING & CEMENT		14.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP	8.50	24.50
16. DRILLING OUT	7.50	7.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Thaw out stand pipe	6.25	43.00
blow hole TOTALS	24.00	144.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 17 2400

Year - Month - Day - Time

Low 1500 kPa, OK. Drilling out float and shoe.

Nipple up, drill mouse hole (cement) fix Kelly spinner, blow mouse hole with air. Rig Service, low pressure test - 1500 kPa, nipple up air head etc. Thaw out stand-pipe, cut mouse hole, pull out hose, repair flange and change out valve on blowey line. Blow hole dry. Drill out cement. Pull out of hole.

WANT LIST: _____

WEATHER -40°C

ROAD Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 18 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 7 DEPTH 108 METRES LAST 24 HRS. 71 ROTATING HRS. 14.00

ACTIVITY AT REPORT TIME Cleaning up sloughing hole

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
2B	311	J-33	89169	8-12	60/80	IN	71	71	14	14	5.07	I	N	

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			
				600 cfm	16	gallons	soap/minute					
						8	gallons conc/10 barrels (duraplex)					

DEVIATION SURVEYS

1/2 ° at 49 _____ ° at _____
 3/4 ° at 80 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Durafoam 2 sx _____
Duraplex 3 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.30	
Bit Sub			.82	
Shock Sub 9"		228	3.36	
2 - 9" D.C.'s		228	18.85	
Jars		228	5.81	
X/O			.79	
2 - 7" D.C.'s		190	18.87	
X/O			.77	
X/O			.43	
5 - 6-1/4" DC's			46.32	
			96.32	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	14.00	41.50
2. TRIPS	4.75	16.50
3. RIG SERVICE	.25	1.50
4. DEVIATION SURVEY	.50	.50
5. REAM & COND. HOLE		3.25
6. MIX & COND. MUD		3.25
7. CIRCULATING	2.75	9.00
8. RIG REPAIR		1.00
9. RUN CASING & CEMENT		14.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT	1.75	9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		43.00
TOTALS	24.00	168.00

COSTS

DAILY N/A

CUM.

SUPERVISOR: John Maloney

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 18 2400

Year - Month - Day - Time

0000 - 0115	Lay down 3 drill collars, pick up 9" drill collars, choke up bit and run in hole
0115 - 0300	Drill out cement
0300 - 0945	Drill 311 mm hole
0945 - 1315	Pull out of hole, pick up bottom hole assembly and run in hole
1315 - 1345	Dry out hole with air
1345 - 1445	Drill 311 mm hole
1445 - 1500	Survey
1500 - 2015	Drill 311 mm hole
2015 - 2100	Circulate to survey
2100 - 2115	Survey
2115 - 2130	Rig service
2130 - 2200	Drill 311 mm hole
2200 - 2230	Circulate and clean up hole
2230 - 2300	Drill 311 mm hole
2300 - 2400	Circulate and clean hole

WANT LIST: _____

WEATHER -35°C

ROAD Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 01 19 2400

Year - Month Day - Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 8 DEPTH 154 METRES LAST 24 HRS. 46 ROTATING HRS. 11.25

ACTIVITY AT REPORT TIME Drilling 311 mm hole at 181 m

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
2B	311	J-33	89169	12	70	IN	46	117	11.25	25.25	4.63	DRILL		

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			
				Air - 600 dfm, 200 psi 10 gallons soap/minutes								
				8 gallons conc/10 barrels								

DEVIATION SURVEYS

1 ° at 117 ° at _____
 1-1/8° at 145 ° at _____
 ° at _____ ° at _____
 ° at _____ ° at _____

MUD & CHEMICALS ADDED

Durafoam 2 bbls _____
Duraplex 4 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	11.25	52.75
2. TRIPS	2.00	18.50
3. RIG SERVICE	.25	1.75
4. DEVIATION SURVEY	.50	1.00
5. REAM & COND. HOLE	8.25	11.50
6. MIX & COND. MUD	1.75	5.00
7. CIRCULATING		9.00
8. RIG REPAIR		1.00
9. RUN CASING & CEMENT		14.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		43.00
TOTALS	24.00	192.00

COSTS

DAILY N/A
 CUM. _____

SUPERVISOR John Maloney

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 19 2400

Year - Month - Day - Time

0000 - 0145	Circulate and clean tight sloughing hole at 108 m
0145 - 0330	Change over air and foam system in hole
0330 - 0530	Trip out, install float, run in hole
0530 - 1015	Pick up kelly, clean to bottom from 76 m to 108 m
1015 - 1200	Drill 311 mm hole from 108 m to 117 m
1200 - 1345	Hole tight, work pipe
1345 - 1630	Drill 311 mm hole
1630 - 1645	Rig service, check hydril
1645 - 1700	Survey
1700 - 2345	Drill 311 mm hole
2345 - 2400	Survey

WANT LIST: _____

WEATHER -20°C

ROAD Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 20 2400
Year Month Day Time

WELL NAME Exco et al Tunago N-37 LOCATION _____
 DAY 9 DEPTH 228 METRES LAST 24 HRS. 74 ROTATING HRS. 20.25
 ACTIVITY AT REPORT TIME Drilling at 251 m

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
2B	311	J-33	89169	12/15	80		74	191	20.25	45.5	4.20			

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			
2B				Air 625 ft ³ /minute								
				Soap 45 L/minute				32/10 bbls concentrate				

DEVIATION SURVEYS

3/4 ° at 180 _____ ° at _____
 3/4 ° at 210 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 6 sx _____
 Foam 2 bbls _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
Bit Sub				
Shock Sub				
2 D.C.'s		228		
Jar		190		
2 D.C.'s		159		
3 X/O				
14 D.C.				
5 HW D.P.				
Kelly				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	20.25	73.00
2. TRIPS		18.50
3. RIG SERVICE	.75	2.50
4. DEVIATION SURVEY	.50	1.50
5. REAM & COND. HOLE		11.50
6. MIX & COND. MUD		5.00
7. CIRCULATING		9.00
8. RIG REPAIR	2.50	3.50
9. RUN CASING & CEMENT		14.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		43.00
TOTALS	24.00	216.00

COSTS

DAILY N/A
 CUM. _____

SUPERVISOR: John Maloney

PLEASE TURN OVER

85 01 20 2400
Year - Month - Day - Time

Year - Month - Day - Time

0015 - 0800 Drill

0800 - 0815 Rig service

0815 - 1100 Drill

1100 - 1115 Survey

1115 - 1300 Drill

1300 - 1400 Replace pack off unit on Grant head

1400 - 1430 Drill

1430 - 1600 Center hydril and work on Grant head

1600 - 1815 Drill

1815 - 1815 Drill

1815 - 1830 Rig service, check engine kills and hydril

1830 - 2115 Drill

2115 - 2130 Survey

2130 - 2400 Drill

WANT LIST:

WEATHER -20°C

ROAD Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 21 2400
Year Month Day Time

WELL NAME Exco et al Tunago N-37 LOCATION _____
 DAY 10 DEPTH 289 METRES LAST 24 HRS. 61 ROTATING HRS. 21.5
 ACTIVITY AT REPORT TIME Trip for bit at 319 m

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
2B	311	J33	89169	15	80	0	61	252	21.5	67	3.7	-	-	-

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			
2B				750 ft ³ /minute								
				36 L injection/minute			36 L soap/10 barrels					

DEVIATION SURVEYS

1/2 ° at 245 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Durafoam 2 bbls _____
Duraplex 5 sx _____
RMZB7 2 pails _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
Bit Sub				
Shock Sub				
2 D.C.'s	228			
Jar	190			
2 D.C.'s	159			
3 X/O's				
14 D.C.'s				
6 HW D.P.				
1 Std. D.P.				
2 Singles D.P.				
Kelly				

COSTS

DAILY N/A
 CUM. _____

SUPERVISOR John Maloney

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	21.50	94.50
2. TRIPS		18.50
3. RIG SERVICE	.50	3.00
4. DEVIATION SURVEY	.25	1.75
5. REAM & COND. HOLE		11.50
6. MIX & COND. MUD		5.00
7. CIRCULATING	1.75	10.75
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		43.00
TOTALS	24.00	240.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 21 2400

Year - Month - Day - Time

0000 - 0015	Rig service
0015 - 0615	Drill
0615 - 0730	Circulate and condition hole, clean out water
0730 - 0930	Drill
0930 - 1000	Circulate and condition hole
1000 - 1015	Survey
1015 - 1815	Drill
1815 - 1830	Rig service
1830 - 2400	Drill

WANT LIST: _____

WEATHER _____ -15°C

ROAD _____ Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 22 2400

Year Month Day Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 11 DEPTH 319 METRES LAST 24 HRS. 30 ROTATING HRS. 5.75

ACTIVITY AT REPORT TIME Clean out to bottom

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
2B	311	J33	89169	15	80	319	30	282	5.75	72.75	3.88	3	5	I

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			
				600 cfm at 125 psi								
				36 L Durafoam and 32 L duraplex per 10 barrels								

DEVIATION SURVEYS

3/4 ° at 282 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Durafoam 2 bbls _____
Duraplex 5 sx _____
RMZP7 10 gals (corrosion inhibitor) _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
Bit Sub			.82	
1 Shock Sub			3.36	
2 D.C.'s - 229			18.85	
1 Jar			5.81	
2 - 190 D.C.'s			18.87	
X/O			1.99	
X/O				
X/O				
14 D.C.'s - 159			129.14	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	5.75	100.25
2. TRIPS	5.50	24.00
3. RIG SERVICE	.75	3.75
4. DEVIATION SURVEY	.25	2.00
5. REAM & COND. HOLE	11.75	23.25
6. MIX & COND. MUD		5.00
7. CIRCULATING		10.75
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		43.00
TOTALS	24.00	264.00

COSTS

DAILY N/A

CUM.

SUPERVISOR John Maloney

PLEASE TURN OVER

OPERATIONS DETAILS PERIOD ENDING _____

85 01 22 2400

Year - Month - Day - Time

0000 - 0115	Drill 311 mm hole
0115 - 0130	Survey
0130 - 0145	Rig service
0145 - 0615	Drill 311 mm hole
0615 - 0800	Pull out of hole
0800 - 0815	Rig service
0815 - 1200	Pull out of hole, trip out, break 9" D.C.'s and trip in hole
1200 - 1600	Clean out from 90 m
1600 - 1615	Rig service
1615 - 2400	Clean out, ream from 90 m to 117 m

Hole sloughing badly from 90 m to 117 m. POOH at 2400 hours.

Samples show dolomite

Bit #3B - M89TF - shanks - deep scars also on bit sub, shock and 9" D.C.'s

WANT LIST _____

WEATHER _____ -23°C

ROAD _____ Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 23 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 12 DEPTH 319 METRES LAST 24 HRS. 0 ROTATING HRS. 0

ACTIVITY AT REPORT TIME Stuck at 230 m

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
3B	311	M89TF	160610	Clean	Out	90	117					2	2	1
4B	311	JD7	96037	Clean	Out	108 - 230 m								

CIRCULATION RECORD

BIT NO.	JETS - mm			PUMP			m ³ /min	ANN. VEL.		JET VEL	H.H.P.	SURF PRESS kPa
	1	2	3	STROKE	SPM	LINER		DP	DC			
				700 - 1400 ft	3/minute							
				125 - 300 psi			36 L soap/minute			32 L soap conc/10 barrels		

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Foam 2 bbls
 Duraplex 5 sx
 RMZP7 10 gallons

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
Bit Sub				
Shock Sub				
2 D.C.'s	228			
Jar				
2 D.C.'s	190			
3 X/O's				
14 D.C.'s	159			
5 HW D.P.				
Kelly				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		100.25
2. TRIPS	1.25	25.25
3. RIG SERVICE	.75	4.50
4. DEVIATION SURVEY		2.00
5. REAM & COND. HOLE	6.50	29.75
6. MIX & COND. MUD	7.75	12.75
7. CIRCULATING	7.75	18.50
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		43.00
TOTALS	24.00	288.00

COSTS

DAILY N/A

CUM.

SUPERVISOR John Maloney

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 23 2400

Year - Month - Day - Time

0000 - 0015	Rig service and check engine kills
0015 - 0130	Hoist for bit and run in hole with JD7 bit
0130 - 0800	Ream 108 - 226 m
0800 - 0815	Rig service
0815 - 1600	Break circulation and work tight hole, move down 4 m.
1600 - 1615	Rig service
1615 - 2400	Circulate and work tight hole

Pipe will rotate, unable to pull up. Estimate at 230 m now, currently, hole drilled to 319 m, maintaining some circulation now, coming through steady but a flat flow. 120 - 130000 daN, stuck above jars.

At neutral string weight, able to turn pipe, picking up is tight and unable to back ream.

WANT LIST: _____

WEATHER -16°C

ROAD Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 24 2400

Year · Month · Day · Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 13 DEPTH 319 METRES LAST 24 HRS. 0 ROTATING HRS. 0

ACTIVITY AT REPORT TIME Pump pill and mix mud, pump 2 - 300 barrels pills, no returns

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
4B	311	JD7	96037	Stuck in hole										

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

Duraplex 9 sx
Durafoam 2 bbls

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		100.25
2. TRIPS		25.25
3. RIG SERVICE	.75	5.25
4. DEVIATION SURVEY		2.00
5. REAM & COND. HOLE		29.75
6. MIX & COND. MUD		12.75
7. CIRCULATING		18.50
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Circ, work pipe	23.25	66.25
TOTALS	24.00	312.00

COSTS

DAILY

N/A

CUM.

SUPERVISOR John Maloney

PLEASE TURN OVER

OPERATIONS DETAILS PERIOD ENDING _____

85 01 24 2400

Year - Month - Day - Time

Circulate and work pipe, wait on fishing hand and mudman to arrive,
along with fishing tools.

0000 - 0015 Rig Service

0015 - 0800 Circulate and work pipe

0800 - 0815 Rig Service

0815 - 1600 Circulate and work pipe

1600 - 1615 Rig Service

1615 - 2400 Circulate and work pipe

WANT LIST: _____

WEATHER _____ -13⁰c

ROAD _____ Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 01 25 2400

Year · Month · Day · Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 14 DEPTH 319 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Trip out and try to break 6-1/4" collars

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	
4B	311	JD7	96037	Clean out to		230 m -	stuck in hole								

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

Gel 179 sx Kelzan 2 sx
 Walnut Shells 85 sx
 Cellophane 20 sx
 Kwikseal 45 sx

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
Bit Sub				
SS				
2 228 DC's				
1 228 Jar				
X/O				
2 190 DC's				
Left in hole (haven't confirmed yet)				

COSTS

DAILY N/A

CUM. _____

SUPERVISOR John Maloney/Mel Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		100.25
2. TRIPS		25.25
3. RIG SERVICE	.50	5.75
4. DEVIATION SURVEY		2.00
5. REAM & COND. HOLE		29.75
6. MIX & COND. MUD		12.75
7. CIRCULATING		18.50
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING	23.50	23.50
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. _____		66.25
TOTALS	24.00	336.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 25 2400

Year - Month - Day - Time

0000 - 0015	Rig service
0015 - 0800	Work pipe, mix 600 barrels mud with LCM, pump, no returns
0800 - 0815	Rig service
0815 - 2000	Mix 300 barrels mud and LCM, wait on fishing tools
2000 - 2300	Run free point tool with Dresser wireline and Howco services, free at 176 m
2300 - 2400	Fill annulus with mud and lost circulation rig up to back off

85 01 26

0000 - 0800	Back off and pull out of hole
-------------	-------------------------------

WANT LIST: _____

WEATHER _____ -15°C Snowing

ROAD _____ Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 26 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago N-37

LOCATION _____

DAY 15 DEPTH 319 METRES LAST 24 HRS. 0 ROTATING HRS. 0

ACTIVITY AT REPORT TIME Finish breaking drill collar, prepare to run in and clean out

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1060 VIS 80 WL. _____ 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
48	311	JD7	96037			Stuck in hole								

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

Gel 70 sx _____
 Kwikseal 17 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit				
Bit Sub			.82	
1 SS			3.36	
2 - 228		228	18.85	
1 Jar		228	5.81	
1 DC		190	9.50	

COSTS

DAILY N/A

CUM. _____

SUPERVISOR: Mel Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		100.25
2. TRIPS		25.25
3. RIG SERVICE		5.75
4. DEVIATION SURVEY		2.00
5. REAM & COND. HOLE		29.75
6. MIX & COND. MUD		12.75
7. CIRCULATING		18.50
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING	8.00	31.50
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON Tongs & Wash	16.00	16.00
15. NIPPLE UP & TEST BOP Pipe		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		66.25
TOTALS	24.00	360.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 26 2400

Year - Month - Day - Time

Mix and pump downhole LCM down annulus; free point and shoot off at 176 m. Back off fish and pull up free pipe. Break tong jaws and pins trying to break collars. Wait on larger set of tongs, wash pipe, subs, etc.

WANT LIST: _____

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 27 2400

Year · Month · Day · Time

WELL NAME Exco et al Tunago N-37

LOCATION _____

DAY 16 DEPTH 319 METRES LAST 24 HRS. 0 ROTATING HRS. 0

ACTIVITY AT REPORT TIME Tried to clean out, reaming at 92 m, top of fish at 176 m

Air

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
5B	311	HWJD7	88545	2/5	60	Reaming for		5.00	hours					

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

Gel 60 sx _____
Kwikseal 40 sx _____
Durafoam 1 bbf _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		311	.30	
Bit Sub		159	1.07	
3 DC's		159	28.44	
1 Jar		159	4.35	
2 DC's		159	18.46	

COSTS

DAILY N/A

CUM. _____

SUPERVISOR: Mel Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		100.25
2. TRIPS		25.25
3. RIG SERVICE	.50	6.25
4. DEVIATION SURVEY		2.00
5. REAM & COND. HOLE	5.00	34.75
6. MIX & COND. MUD	1.75	14.50
7. CIRCULATING		18.50
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING		31.50
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: <u>Tongs</u>	2.75	18.75
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21. Change out drilling string	14.00	80.25
TOTALS	24.00	384.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 27 2400

Year - Month - Day - Time

Wait on tongs. Rig up tongs and break drill collar. Re-torque same. Change out saver sub. Run in hole with collars. Lay down collars and heavy weight drill pipe and jars. Pick up kelly and break circulation at 30 m. No returns. Pick up drill collars. Mix mud and pump away. Blow kelly and clean mud tanks. Rig up to circulate with air. Clean to 65 m.

1st bridge 65 m

2nd bridge 78 m

3rd bridge 89.5 m

4th bridge 91 - 92 m

Ream, pull up and ream it all over again.

WANT LIST: _____

WEATHER -34°C

ROAD Fair

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 28 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 17 DEPTH 319 METRES LAST 24 HRS. 0 ROTATING HRS. 0

ACTIVITY AT REPORT TIME Reaming at 110 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

Air drilling viscosity 46 sec/L

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
5B	311	JD7	88545	2/5	50/70	90	Reaming		8	13		4	2	I
6B	311	H77SG	281483	2/5	50/70	IN	Reaming		13.75	13.75		DRILL		

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			
5B	O	P	E	N			Drilling with air - 1000 cfm					
							Injection rate 15-20 gal/min					

DEVIATION SURVEYS Air pressure 100-140 psi MUD & CHEMICALS ADDED
Water returns 4-5 bbl/min

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

Duraplex 9 sx
Duraflo 3 bbls

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		311	.30	
Bit Sub			1.07	
3 D.C.'s		159	28.44	
1 Jar		159	4.35	
6 D.C.'s		159	56.03	

COSTS

DAILY

N/A

CUM.

SUPERVISOR: Mel Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		100.25
2. TRIPS	1.50	26.75
3. RIG SERVICE	.75	7.00
4. DEVIATION SURVEY		2.00
5. REAM & COND. HOLE	21.75	56.50
6. MIX & COND. MUD		14.50
7. CIRCULATING		18.50
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING		31.50
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		18.75
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		80.25
TOTALS	24.00	408.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 28 2400
Year - Month - Day - Time

0000 - 0015	Rig service
0015 - 0815	Ream from 65 m to 90 m
0815 - 0830	Rig service
0830 - 1000	Trip for bit
1000 - 1200	Ream back to 90 m
1200 - 1600	Ream from 90 m to 95 m
1600 - 1615	Rig service
1615 - 2400	Ream from 95 - 98 m

90 - 93 m - rough rotating - similar to drilling boulders - hard bridge at 91 m.
Pull up past 91 m - go back down and sit on bridge - turn Kelly torque and grab
to 93 m. Roll around on boulder - break through - go to 95 m. same activity to
98 m. Possibly - glacial drift - gravel section following in on top of fill
causing the same effect as if drilling through boulders etc. Fill consisting
of drill cuttings, chert and dolomite.

WANT LIST: _____

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 29 2400
Year Month Day Time

WELL NAME Exco et al Tunago N-37 LOCATION _____
 DAY 18 DEPTH 319 METRES LAST 24 HRS. 0 ROTATING HRS. Ream 19.5
 ACTIVITY AT REPORT TIME Ream at 113 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1010 VIS 150 WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH 8.5
 % 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
B6	311	H77SG	281483	2/3	70	110	Reaming		9.75	13.75		7	1	1
B7	311	JD7	88542	2/3	70		Reaming		9.75	9.75				

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			
	O	P	E	N		Air						100-150
												psi

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Duraplex 12 sx Durafoam 1 bbl
 Gel 65 sx _____
 Kelzan 3 sx _____
 Caustic 1 sk _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		311	.30	
Bit Sub		159	1.07	
3 D.C.'s		159	28.44	
Jar		159	4.35	
6 D.C.'s		159	65.03	

COSTS

DAILY N/A
 CUM. _____

SUPERVISOR Mei Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		100.25
2. TRIPS	2.25	29.00
3. RIG SERVICE	.75	7.75
4. DEVIATION SURVEY		2.00
5. REAM & COND. HOLE	19.50	76.00
6. MIX & COND. MUD		14.50
7. CIRCULATING		18.50
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING		31.50
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Orders	1.50	20.25
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		80.25
TOTALS	24.00	432.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 29 2400

Year - Month - Day - Time

0000 - 0015 Rig service
0015 - 0800 Ream 89 - 110 m
0800 - 0815 Rig service
0815 - 1015 Ream 110 - 111 m
1015 - 1115 Trip out
1115 - 1245 Wait on orders
1245 - 1400 Trip in
1400 - 1615 Ream 92 - 101 m
1615 - 2400 Ream 101 - 110 m

Mix batch of drilling mud. Mix tanks full of mud.

Air 600 cfm 100 - 150 psi 1.5 orifice

Injection 10 - 15 gallons/minute

1.5% duraflow

Premix 2 lb/gallon duraplex - viscosity 45

Water returns 3 barrels/minute

WANT LIST: _____

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 30 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 19 DEPTH 319 METRES LAST 24 HRS. _____ ROTATING HRS. Ream 14

ACTIVITY AT REPORT TIME Prepare to skid rig

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1030 VIS 140 WL. _____ GELS _____ % SOLIDS _____ PV _____ YP _____ pH 8

% 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
78	311	JD7	88542	2/5	60/70	110	Ream	ng	4.5	14.25		5	1	1
88	311	H77SG	281483	2/3	60	100	Ream	ng	9.5	23.25		3	1	1

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

Gel 225 sx _____
Kelzan 13 sx _____
Staflor 2 bb1 _____
Duraplex 2 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		311	.30	
Bit Sub		159	1.07	
3 D.C.'s		159	28.44	
Jar		159	4.35	
7 D.C.'s		159	65.30	

COSTS

DAILY N/A
 CUM. _____

SUPERVISOR Mel Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		100.25
2. TRIPS	8.00	37.00
3. RIG SERVICE	.50	8.25
4. DEVIATION SURVEY		2.00
5. REAM & COND. HOLE	14.00	90.00
6. MIX & COND. MUD		14.50
7. CIRCULATING		18.50
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING		31.50
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Orders	1.50	21.75
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		
21.		80.25
TOTALS	24.00	456.00

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 30 2400

Year - Month - Day - Time

0000 - 0015	Rig service
0015 - 0445	Ream
0445 - 0545	Blow line, repair hopper
0545 - 0630	Unplug mud hopper
0630 - 0745	Run in hole
0745 - 0945	Ream
0945 - 1145	Trip for jets
1145 - 1200	Rig service
1200 - 1230	Repair air controls on pump motors
1230 - 1345	Run in hole and repair grant head
1345 - 2115	Ream
2115 - 2230	Trip out of hole
2230 - 2400	Wait on orders

WANT LIST: _____

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 01 31 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago N-37 LOCATION _____

DAY 20 DEPTH _____ METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Tear out rig, build location

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

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		100.25
2. TRIPS		37.00
3. RIG SERVICE	.50	8.75
4. DEVIATION SURVEY		2.00
5. REAM & COND. HOLE		90.00
6. MIX & COND. MUD		14.50
7. CIRCULATING		18.50
8. RIG REPAIR		3.50
9. RUN CASING & CEMENT		14.75
10. FISHING		31.50
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Orders	8.00	29.75
15. NIPPLE UP & TEST BOP		24.50
16. DRILLING OUT		9.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS	3.00	3.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT	12.50	12.50
21. _____		80.25
TOTALS	24.00	480.00

COSTS

DAILY N/A
 CUM. _____

SUPERVISOR: Mel Nichols

PLEASE TURN OVER

OPERATIONS DETAILS. PERIOD ENDING _____

85 01 31 2400

Year - Month - Day - Time

0000 - 0800 Wait on orders

0800 - 0815 Rig service

0815 - 1115 Lay down drill collars, push 339 mm wiper plug to 25 m

1115 - 2400 Tear out

Abandonment: Pushed 339 mm wiper plug to 25 m; top with 4 sx permafrost cement
+ 3% CaCl_2 ; let set for 5 hours; mix up another 4 sx plug permafrost
+ 3% CaCl_2 ; wait 4 hours to be cemented to surface when Howco sets
conductor pipe on offset well, i.e. 2N-37

WANT LIST: _____

WEATHER _____

ROAD _____

IN DETAIL: MOVEMENT OF PURCHASE & RENTAL ITEMS (WHERE, WHEN, HOW)

SECTION I
SUMMARY - GENERAL DATA

EXCO ET AL TUNAGO
2N-37
66°06' 49.92"N 126°21' 59.80"W
FINAL DRILLING SUMMARY

(rig skidded on same wellsite from N-37 to 2N-37
location)

Exco Energy Ltd.

April, 1985

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III ENGINEERING SUMMARY

- Casing and Cementing Summary
 - 508 mm Conductor Pipe
 - 444 mm Conductor Hole
 - 339 mm Conductor Casing
 - 244 mm Surface Casing
- Formation Leak Off Test
- Mud Report
- Air Drilling Report
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- Abandonment
- Drill Stem Tests
 - Mount Clark DST #1
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- Logs /DIL-GR-CAL/CN-CDL-GR-YCAL/CBL-CCL-GR/AC-GR-CAL/
- Mud log
- Lithology log

EXCO ET AL TUNAGO 2N-37

INTRODUCTION

After the abandonment of the Tunago N-37 well, permission was obtained from the Canada Oil and Gas Lands Administration (COGLA) to skid the rig on the same well location and to re-drill the well as 2N-37. In preparation for re-drilling the hole the lease had to be prepared in that the construction crews required several days to level one section of the lease and to fill in and extend the outer lease boundaries. Skidding the rig and auxiliary equipment was accomplished in short order as several cats were made available for this sequence of operations. Rigging up was nearly complete by the end of the move, with the 2N-37 well spudded February 4, 1985; less than four (4) days from the rig release date on the N-37 location.

Following consultation with all concerned parties, it had been decided that an additional string of conductor casing would be run and set. Specifically, in place of the single string of 339 mm conductor, 508 mm conductor pipe would be run to case off the upper, unconsolidated sand and gravel which was subject to massive erosion.

With the 508 mm conductor pipe cemented in place at the 24 metre depth, 444 mm hole was drilled to the 133 metre mark. Again, this section proved troublesome both in drilling and in setting casing. More specifically, because the hole was constantly sloughing the 339 mm casing was cemented in place at 120 metres, nearly 12 metres off bottom.

With the troublesome section now cased off, 311 mm surface hole proceeded with little difficulty to the 630 metre depth where 244 mm casing was run and set. Main hole drilling in 215.9 mm hole required several additional days to reach total depth of 1626 metres. Evaluation consisted of logging and testing the Mount Clark formation. Since there was no indication of any hydrocarbons of commercial quantity, a decision was made to abandon the well.

Exco hereby gives notice that the enclosed report is to be considered the FINAL DRILLING SUMMARY for the drilling of the Exco et al Tunago 2N-37 well.

**EXCO ENERGY LTD.
HOLE CONFIGURATION AND CASING SETTING DEPTH
FOR TUNAGO N-37 & 2N-37**

**HOLE
SIZE** **DEPTH**

660 mm

24 m

fractured

444 mm

133 m

311 mm

630 m

215.9 mm

1626 m

2N-37

**CASING
SIZE**

CONDUCTOR PIPE

508 mm

CONDUCTOR

CASING

339 mm

(set to 120 m)

N-37

319 m

SURFACE

244 mm



GENERAL WELL INFORMATION

WELL NAME: Exco et al Tunago 2N-37

LESSOR: Dome Petroleum Limited
Box 200
Calgary, Alberta
T2P 2H8

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

GRID AREA: 66-10-126-15; Unit N; Section 37

CO-ORDINATES: 66° 06' 49.92"N
126° 21' 59.80"W

UNIQUE WELL IDENTIFIER: 30 2N37 66 10 126 150

EXPLORATION AGREEMENT: No. 214

DRILLING AUTHORITY: No. 1212 issued 1985-02-04

DRILLING CONTRACTOR: In receivership - rig contracted from
bank by Exco Energy Ltd.

DRILLING RIG: "Mr. Ben" with National 370 drawworks

CLASSIFICATION: New Field Exploratory (Northern)

ELEVATIONS: G.L. 232.10^m
K.B. 236.10^m

SPUD DATE: 1985-02-04 @ 1045 hrs.

COMPLETED DRILLING DATE: Drilled to T.D. at 1626 ^m 1985-03-05
2400 hours

RIG RELEASE: 1985-03-16 @ 1200 hrs.

WELL STATUS: Dry and abandoned



WELL SUMMARY

DATE 1985-03-16

Well Exco et al Tunago 2N-37 Location _____
Elevations: KB 236.10 m GL 232.10 m CF N/A
History: Spud Date 85-02-04; 1045 hrs. R.R. Date 85-03-16; 1200 hrs. TD 1626 m
Status Dry & Abandoned Producing Zone(s) N/A

A. DRILLING DETAILS

Hole Size 609mm Depth 24.00 m Logs N/A
Hole Size 444mm Depth 133.00 m Logs N/A
Hole Size 311mm Depth 630.00 m Logs N/A
Hole Size 216mm Depth 1626.00 m Logs AC-GR-CAL/CN-CDL-GR-YCAL/DIL-GR-CAL
Casing Size _____ Grade _____ Depth _____ Cement Vol. _____
Casing Size 508mm Grade K-55 Depth 23.69 m Cement Vol. 4.4 m³ Permafrost +
Casing Size 339mm Grade K-55 Depth 122.00 m Cement Vol. _____ 2% CaCl₂
Casing Size 244mm Grade K-55 Depth 630.00 m Cement Vol. Refer to cementing
summary for details.

DST No. 1 Int 1285.60 m - 1299.60 m Zone Mount Clark - MISRUN
DST No. 2 Int 1283.48 m - 1297.48 m Zone Mount Clark - MISRUN
DST No. 3 Int 1241.50 m - 1296.50 m Zone Mount Clark
DST No. _____ Int _____ Zone _____
DST No. _____ Int _____ Zone _____
Core No. _____ Int _____ Zone _____ Rec. _____
Core No. _____ Int _____ Zone _____ Rec. _____
Core No. _____ Int _____ Zone _____ Rec. _____

Plug No. 1 Int 1626 m - 1525 m Cement Vol. 5.2 m³ Class "G" Felt No
Plug No. 2 Int 1350 m - 1250 m Cement Vol. 6.9 m³ Class "G" + 2% CaCl₂ Felt Yes @ 1238 m
Plug No. 3 Int 660 m - 600 m Cement Vol. 7.8 m³ Class "G" + 2% CaCl₂ Felt Yes, not present
Plug No. 4 Int 600 m - 244mm casing packer Cement Vol. 1.8 m³ Permafrost Felt No
Plug No. 5 Int 30 m - 0 m Cement Vol. 1.11 m³ Permafrost Felt No

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 Mei Nichols

DOWNHOLE PROBLEMS ENCOUNTERED

SUMMARY

Comment

The experience gained from drilling the Tunago N-37 well location was put to good use in drilling the 2N-37 location. This was particularly true of the decision to run and set 508 mm conductor pipe before attempting to run and set 339 mm conductor casing.

Although the 508 mm conductor pipe was only set to 24 metres, it was an important string in that it prevented further erosion uphole or a washout of such magnitude that the stability of the drilling rig would be threatened.

After the setting of 508 mm conductor 339 mm conductor casing was to be run to a point below the sloughing section. Based on the offset N-37 well, it was determined that this troublesome section would be cased off at approximately the 100-120 metre depth. In actual fact, the drilling of this section was much more difficult than originally anticipated; the hole continually sloughed in at this point and made drilling somewhat precarious. For example, after tripping for a bit at the 122 metre depth sloughing conditions made it near impossible to ream back to bottom. Following repeated attempts at drilling through this section, it was decided to run in open ended and cement the loose fill material in place. However, due to the porosity of the section, very little, if any, of the cement remained in place. In total, several plugs were attempted without success.

Finally, at the 133 metre depth it was decided to run and cement 339 mm conductor casing. Since the hole had filled in, the casing could not be run any deeper than approximately the 108 metre depth. With the use of rig tongs the casing was literally reamed down to the 120 metre mark. At this point the casing became crimped, and impossible to ream any further. Consequently, the casing was cemented in place at this depth. As expected, no cement returns were observed to surface even with the addition of C-322 Fluid Less additive and Celloflake. A remedial cement job was run by cementing down the annulus. Once completed, the rig nipped up a 346 mm 21 000 kPa Annular Preventer, conducted a pressure test and then drilled out the floats and proceeded to drill ahead in 311 mm surface hole.

While drilling surface hole with Air and Durafoam the hole conditions were very stable. Aside from dealing with the water influx to the wellbore, there was little fill noted, or related drilling problems encountered while drilling this interval. At the 630 metre depth 244 mm surface casing was run. A combination external casing packer and stage tool were run in an attempt to obtain a competent cement bond on the top hole section. A bond log ran over this section indicated that only the bottom 100 metres of surface hole had retained cement sufficient to ensure a good bond. As for the section above the external casing packer, very little had been accomplished by running the tool since virtually no cement remained in place. Subsequently, cement was run down the annulus to stabilize the top of the 339 mm casing.

After nipping up a 229 mm 21 000 kPa Blowout Preventer and performing both a pressure test and formation leak-off test, 215.9 mm main hole drilling commenced. From 630 metres to total depth at 1626 metres very few problems were observed. Once total depth was reached a salt saturated mud system was run. With initial mud weight gradient of 12 kPa/m, compared to a leak-off test gradient of only 10 kPa/m it was not surprising that lost circulation was first noted. Additions of lost circulation material helped heal the problem in short order.

Afterwards, several clean out trips were required to enable the first log to reach bottom. Following the completion of the logging program, three (3) tests were run across the Mount Clark formation, with two (2) of the three (3) tests being misruns. In both cases the packers failed to properly seat.

Later, based on an analysis of the logs run to date and the drill stem test results, the Calgary office of Exco Energy Ltd. ordered the abandonment of the Tunago 2N-37 well. Plugs were run across the porous zones and inside the surface casing to prevent any possible migration of downhole gases.

At this time the rig and auxiliary equipment were moved off location to the racksite.

SECTION II
GEOLOGICAL SUMMARY

GEOLOGICAL REPORT

for

EXCO ET AL TUNAGO 2N-37

McLEOD GEOLOGICAL ENTERPRISES LTD.

MALCOLM E. McLEOD, B.Sc., P.Geol.

EXCO ET AL TUNAGO 2N-37

GEOLOGICAL FORMATIONS

K.B. 236.48 m.

	<u>DEPTH</u>	<u>ELEVATION</u>
Mount Kindle	20.	216.48
Franklin Mountain	104.	132.48
Saline River	615.6	-379.12
Mount Cap	1010.4	-773.92
Mount Clark	1276.	-1039.52
Pre Cambrian	1292.6	-1056.12
T.D.	1626.	-1389.52

SAMPLE DESCRIPTION

0 -	12	SANDSTONE, loose, rounded to subrounded varicolored, poorly sorted, quartz, various granite, carbonate grains.
12 -	15	Clay, grey-brown, imbedded sand and pebbles.
15 -	20	Gravel, boulders and pebbles etc. in sand and clay matrix.
20 -	24	DOLOMITE, light brown, cream, finely crystalline, tight, hard.
24 -	30	DOLOMITE, light grey-brown, finely crystalline, hard, with stringers red mudstone/shale, soft, silty to sandy.
30 -	35	DOLOMITE, light grey-brown, finely crystalline, poor inter-crystalline to small vug porosity, no shows.
35 -	40	DOLOMITE, as above.
40 -	45	DOLOMITE, as above, trace red. Dolomite, trace iron stain.
45 -	50	DOLOMITE, grey, grey-brown, finely crystalline, trace red Dolomite, traces micro vug porosity.
50 -	55	DOLOMITE, as above, part slightly coarser, medium crystalline, traces small to micro vug porosity, part drusy.
55 -	60	DOLOMITE, light brown, grey-brown, fine to medium crystalline, traces micro vug porosity.
60 -	65	DOLOMITE, light brown, as above, traces inter-crystalline porosity.
65 -	70	DOLOMITE, as above, with 20% white, chert or quartz, trace clear quartz crystal veins, with trace orange-red mudstone.
70 -	75	DOLOMITE, light brown, traces red, medium to coarse crystalline, mainly loose crystals, traces drusy vug linings, scattered clear quartz crystals.
75 -	80	DOLOMITE, light brown, grey, part red, medium to coarse crystalline, scattered chert fragments, traces drusy vug porosity.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

80 -	85	DOLomite, as above, trace tripolitic chert, with red mudstone, stringer.
85 -	90	Chert, grey, white, massive, part secondary often fossil Dolomite, part with vugs lined with quartz crystals, with streaks orange to reddish silicified mudstone (?), trace blackish nodules (?), scattered leached vugs and viens.
90 -	95	Chert, as above.
95 -	100	Chert, as above, with Dolomite, grey fine crystalline, traces drusy vug porosity.
100 -	105	DOLomite, grey, fine to medium crystalline with vari-colored chert, massive, traces siliceous mudstone, trace quartz.
105 -	110	DOLomite, grey, white, pink, fine to medium crystalline, trace red mudstone stringer with chert, white, grey, massive traces clear quartz crystals.
110 -	115	DOLomite, brown, grey, fine to part medium crystalline, traces white and grey chert, few red and/or orange-red Dolomite grains.
115 -	120	DOLomite, light brown, grey, fine to medium crystalline, trace drusy vug porosity, scattered white, part translucent, chert, rare clear quartz crystal.
120 -	125	Chert, grey, white, yellow, massive, part translucent, with Dolomite, grey, brown, red, yellow, fine to medium crystalline, trace fossil shadows, part appears pelletoidal (?), traces drusy vug porosity.
125 -	133	DOLomite, as above, with 30% chert as above.
133 -	135	DOLomite, white, trace red and yellow stain, finely crystalline, traces quartz veining and vug linings.
135 -	140	DOLomite, as above, traces siliceous residue.
140 -	145	DOLomite, light grey, white, very finely crystalline, traces pink, trace orange yellow stain (oxidation).
145 -	150	DOLomite, as above, increases in pink Dolomite, minor Dolomite rhombs imbedded in anhydrite matrix, trace stringer yellow shale, soft.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION ~ Continued

150 - 155	DOLOMITE, as above, with medium crystalline Dolomite in siliceous to tripolitic chert.
155 - 160	DOLOMITE, light grey-brown, very finely crystalline, hard.
160 - 165	DOLOMITE, grey, finely crystalline, slightly sucrosic texture, rare trace green shale, trace white chert.
165 - 170	DOLOMITE, light grey, finely crystalline, trace red mottling, trace waxy green shale inclusions, trace white, very fine sucrosic Dolomite, trace white opalescent chert.
170 - 175	DOLOMITE, as above, scattered rosy-red Dolomite, trace anhydrite (?), trace chert, rare yellow stain.
175 - 180	DOLOMITE, grey, buff, minor red, finely to very finely crystalline, trace chert, trace pale green shale, few well rounded quartz grains (.05 mm.) scattered yellow oxidized stain.
180 - 185	DOLOMITE, light grey-brown, white-grey very finely crystalline, hard.
185 - 190	DOLOMITE, as above, trace green shale, trace yellow shale, with imbedded quartz grains.
190 - 195	DOLOMITE, as above, trace red shale, with light brown Dolomite rhombs in anhydritic(?) matrix, scattered rounded quartz grains (?), rare micro vug porosity, trace grey-black imbedded mineral.
195 - 200	Sand, loose, well rounded, polished grains, vari-colored up to 2-3 mm., trace pebbles (cavings ?), with Dolomite, grey, finely crystalline.
200 - 210	DOLOMITE, light grey, finely crystalline, trace drusy vug porosity, rare trace chert.
210 - 215	DOLOMITE, grey, trace red, medium crystalline, trace green shale partings, traces anhydrite.
215 - 220	DOLOMITE, as above, part light grey-brown, trace pink, part anhydrite matrix, trace pyrite.
220 - 225	DOLOMITE, grey, very finely crystalline, with minor medium crystalline, red to grey Dolomite.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

225 - 230	DOLOMITE, as above, trace pyrite, trace red medium crystalline Dolomite.
230 - 235	DOLOMITE, light grey, very fine crystalline, streaks medium crystalline with stringer red Dolomite, medium crystalline with stringer waxy pale green, pyrite shale.
235 - 240	DOLOMITE, grey, white, light brown, very fine to finely crystalline, trace pyrite, trace oolitic chert.
240 - 245	DOLOMITE, light grey to grey-brown, finely crystalline, part medium, trace pyrite.
245 - 250	DOLOMITE, light buff, part pink, traces yellow, fine to medium crystalline, scattered pyrite, trace pale green shale.
250 - 255	DOLOMITE, grey-brown, minor red, trace pyrite, as above.
255 - 260	DOLOMITE, as above.
260 - 265	DOLOMITE, light grey, very finely crystalline.
265 - 270	DOLOMITE, grey, part light brown, very fine to finely crystalline, trace yellow shale.
270 - 275	DOLOMITE, as above, traces pyrite.
275 - 280	DOLOMITE, as above.
280 - 285	DOLOMITE, grey, light brown, as above.
285 - 290	DOLOMITE, as above, trace green shale, imbedded pyrite.
290 - 305	DOLOMITE, as above, silty residue.
305 - 315	DOLOMITE, grey, white, fine to part medium crystalline, slightly silty residue, trace buff Dolomite, rare pyrite inclusion.
315 - 320	DOLOMITE, as above, trace pyrite, with minor brown, finely crystalline Dolomite.
320 - 325	DOLOMITE, medium grey-brown, finely crystalline, slightly argillaceous residue, trace shaly Dolomite.
325 - 330	DOLOMITE, light grey to white, finely crystalline, traces pink and light brown, part slightly medium crystalline.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

330 - 335	DOLOMITE, light grey-white as above.
335 - 340	DOLOMITE, as above, coarser, becoming fine to medium crystalline, traces grey to green shale.
340 - 345	DOLOMITE, as above, with pink, light brown, medium crystalline Dolomite, traces shale, argillaceous residue.
345 - 350	DOLOMITE, light grey-brown, grey, fine to very finely crystalline, argillaceous partings, trace pink Dolomite.
350 - 355	DOLOMITE, light grey, very finely crystalline, with minor pink and light brown, medium crystalline Dolomite.
355 - 360	DOLOMITE, as above.
360 - 365	DOLOMITE, light pinkish white, medium crystalline, rare drusy vug, traces green shale partings, part siliceous residue.
365 - 370	DOLOMITE, light grey-white, very finely crystalline, scattered pyrite, rare pale green shale inclusion, trace veining.
370 - 375	DOLOMITE, as above with stringer brown-yellow shale.
375 - 380	DOLOMITE, as above, pyrite common, trace quartz crystals.
380 - 385	DOLOMITE, as above.
385 - 390	DOLOMITE, as above, disseminated pyrite.
390 - 395	DOLOMITE, as above, with pale waxy green shale, disseminated pyrite, trace pink Dolomite.
395 - 400	DOLOMITE, light grey-white, very finely crystalline, traces pyrite, rare trace pale green shale.
400 - 420	DOLOMITE, as above, part light buff rare shale partings.
420 - 425	DOLOMITE, medium grey-brown, very finely crystalline, slightly argillaceous residue, trace dark brown shale.
425 - 430	DOLOMITE, light brown, grey, very finely crystalline, trace green shale.
430 - 440	DOLOMITE, as above, part grey, traces disseminated pyrite, traces green shale.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

440 - 445	DOLomite, as above with green shale partings and inclusions.
445 - 450	DOLomite, as above slight pink cast.
450 - 455	DOLomite, as above, streak brown sucrosic Dolomite, trace shale.
455 - 460	DOLomite, as above
460 - 465	DOLomite, light grey-white, finely crystalline traces pyrite, somewhat friable.
465 - 470	DOLomite, grey, light brown, very finely crystalline, traces pyrite, harder than above.
470 - 475	DOLomite, as above, trace shale.
475 - 485	DOLomite, light grey-brown, very finely crystalline, argillaceous in part, trace pyrite, trace chert.
485 - 490	DOLomite, medium grey-brown, microcrystalline, argillaceous to shaly.
490 - 495	DOLomite, grey-brown to light brown, micro to very finely crystalline, argillaceous.
495 - 500	DOLomite, as above, rare STYLOLITE, trace green shale.
500 - 505	DOLomite, medium grey-brown as above, part argillaceous, trace shaley Dolomite.
505 - 510	DOLomite, grey-brown, microcrystalline, argillaceous to part shaly.
510 - 515	DOLomite, grey-brown, microcrystalline, argillaceous, part sub-lithographic trace veining, scattered Dolomitic, grey-brown shale.
515 - 520	DOLomite, grey-brown as above with shale, green Dolomitic.
520 - 525	DOLomite, as above, minor shale.
525 - 530	DOLomite, grey-brown, microcrystalline, slightly argillaceous, with shale, grey, green.
530 - 535	DOLomite, as above, part grey, microcrystalline, argillaceous.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

535 - 540	DOLOMITE, light brown, microcrystalline to crypto-crystalline, part argillaceous.
540 - 545	DOLOMITE, as above, with grey to grey-green Dolomitic shale.
545 - 555	DOLOMITE, with shale, as above.
555 - 570	DOLOMITE, medium brown, microcrystalline, minor shale.
580 - 585	DOLOMITE, as above, with shale, green-grey, slightly blocky.
585 - 595	DOLOMITE, as above with shale.
595 - 600	Shale, grey-green, Dolomitic with Dolomite, as above.
600 - 605	DOLOMITE and shale, as above, trace gypsum stringer in light brown cryptocrystalline Dolomite.
605 - 610	DOLOMITE, as above, with green shale, trace gypsum.
610 - 615	DOLOMITE, light brown, cryptocrystalline, tight with shale green, grey, Dolomitic.
615 - 620	Shale, red, green, slightly Dolomitic, interbedded, slightly fissile, slightly micro-micaceous with Dolomite, light brown cryptocrystalline.
620 - 625	Shale, as above, trace gypsum, minor Dolomite stringers, light brown cryptocrystalline.
625 - 630	Shale, as above.
630 - 635	Very poor sample.
635 - 640	Shale, green, grey, with Dolomite, grey-brown, micro-crystalline.
640 - 645	Shale, green, red, slightly micro-micaceous with anhydrite, white crystalline.
645 - 650	Shales, with anhydrite, as above.
650 - 655	Shale, red, part green, part mudstone with anhydrite, clear, white crystalline.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

655 - 670	Shale, as above, with anhydrite stringer, part Dolomitic with Dolomite red, microcrystalline, argillaceous.
670 - 675	Shale, green, minor red, with anhydrite lens and stringers, trace red microcrystalline Dolomite. Possible salt casts.
675 - 680	Shale, green, traces red, as above, traces anhydrite with stringer brown, earthy Dolomite.
680 - 685	Shale, as above, with anhydrite stringer and lens, clear, reddish, finely crystalline.
685 - 690	Shales, red and green as above, with anhydrite as above.
690 - 695	Salt, white, clear, massive with shale as above.
695 - 700	Salt, with red soft shales, minor green shale.
700 - 705	Shale, green, trace red, soft in part, with salt, clear, pink, massive.
705 - 710	Shale and salt as above.
710 - 715	Shale and salt as above. (Note: Poor samples, drilling with air and foam, poor returns.)
715 - 720	Salt, with green shale to mudstone.
720 - 725	No sample - no recovery.
725 - 730	Shale-mudstone, green, red, soft with salt.
730 - 735	Mudstone and salt, as above.
735 - 745	Shale-mudstone, green, red, soft minor salt, minor light grey-brown Dolomitic shale, part with thin salt laminae, part anhydrite.
745 - 750	Shale-mudstone, as above, with salt interbeds and lens.
750 - 755	Shale, as above with shale, brown-red subfissile.
755 - 760	Shale, red, minor green, soft slightly anhydrite, with salt lens.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

760 - 775	Shale-mudstone, green, red, interbedded soft, minor grey, brown, few anhydrite laminae.
775 - 780	Shale-mudstone, as above, trace salt or anhydrite laminae.
780 - 785	Shale-mudstone as above, with traces anhydrite and salt, (Drill times indicated salt).
785 - 790	Shale-mudstone as above, traces salt and anhydrite.
790 - 795	Shale-mudstone as above, mainly green, trace light brown Dolomitic shale.
795 - 800	Anhydrite, clear crystalline, with imbedded salt, with green to red mudstone.
800 - 805	Salt, clear, white, with anhydrite, grey-white, microcrystalline, part dolomitic, trace brown shale.
805 - 810	Shale-mudstone, red and green, inter-laminated, minor light brown, with trace (?) salt, clear red, massive.
810 - 815	Salt, clear, red, brown, with anhydrite, grey microcrystalline and Shale-mudstone as above.
815 - 825	Salt, as above, traces anhydrite, brown Dolomitic with Shale-mudstones as above, part with salt veining.
825 - 830	Anhydrite, grey-brown, cryptocrystalline, Dolomitic with interbedded salt and shales as above.
830 - 835	Salt, clear red, massive, with red and green shales, very slightly Dolomitic, traces anhydrite.
835 - 840	Salt, as above, minor anhydrite, with Shale-mudstone, as above.
840 - 850	No sample.
850 - 860	Shale-mudstone, green, red, soft, very slightly Dolomitic, with anhydrite, grey-brown cryptocrystalline.
860 - 870	Anhydrite, grey-brown, cryptocrystalline, slightly Dolomitic, traces red and green shales.
870 - 885	Shale-mudstone, red and green, soft very slightly Dolomitic with minor anhydrite, traces salt, trace brown shale.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

885 - 890	Shales, as above, with shale, olive green.
890 - 895	Salt, clear, orange-red, massive with shale-mudstone, green, red, to scattered anhydrite, grey-brown crypto to microcrystalline.
895 - 905	Shale, red, pale to olive green, soft with thin salt laminae, trace light brown, Dolomitic anhydrite, cryptocrystalline.
905 - 910	Salt, clear red, massive, and shale, as above.
910 - 915	Shale-mudstone, as above, traces light grey shale, minor grey-brown anhydrite, possible salt (?).
915 - 920	Shale-mudstone, as above, trace anhydrite, possible salt lens.
920 - 930	Shale-mudstone, red, part mottled green, very slightly Dolomitic, with thin salt stringer, traces anhydrite.
930 - 940	Shale, green, red, somewhat indurated, trace anhydrite, scattered salt cast, possible salt laminae.
940 - 950	Salt, clear, massive, minor shale-mudstone.
950 - 960	Salt, etc as above.
960 - 970	Shale-mudstone, green, grey, minor red, with interbeds of microcrystalline, Dolomite and salt.
970 - 980	Salt, clear, massive, with shale, green, grey, slightly mudstone, very slightly Dolomitic, slightly indurated.
980 - 990	Shale, grey, green, slightly fissile, slightly Dolomitic, with thin stringers of brown anhydrite, microcrystalline, Dolomitic.
990 - 1000	Shale, green, grey, as above, trace brownish red, with anhydrite, and salt, clear, massive.
1000 - 1010	Shale, green, red, as above, with salt, clear massive, trace anhydrite.
1010 - 1020	Shale, medium green, moderately indurated, slightly Dolomitic with stringers anhydrite, brown, microcrystalline.
1020 - 1030	Shale, as above, part green-grey, scattered anhydrite.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

1030 - 1040	Shale and anhydrite, as above.
1040 - 1050	Shale, green, grey-green slightly Dolomitic, moderately indurated with anhydrite interbeds, dark brown, micro-crystalline.
1050 - 1055	Shale and anhydrite as above, trace brown translucent chert.
1055 - 1060	Shale, dark green, slightly fissile, scattered anhydrite stringers, trace chert.
1060 - 1065	Shales, as above, trace brown, with brown anhydrite, trace dark brown chert.
1065 - 1070	Shales, as above.
1070 - 1075	Anhydrite, light to dark brown, very fine to finely crystalline, Dolomitic, with minor shale as above.
1075 - 1080	Shale, grey-green, very slightly Dolomitic, with anhydrite as above and chert, dark brown, translucent, trace drusy crystals.
1080 - 1085	Shale, dark green, slightly splintery with minor chert and anhydrite.
1085 - 1090	Shale, as above, slightly micro-micaceous.
1090 - 1095	Shale, as above, trace black carbonaceous (?) fragment trace chert.
1095 - 1100	Shale, as above with anhydrite, dark brown, micro-crystalline, traces chert.
1100 - 1105	Shale, as above, trace anhydrite.
1105 - 1110	Shale, green, as above, traces black fossil (?) possibly carbonaceous (?).
1110 - 1115	Shale, as above, rare fossil.
1115 - 1130	Shale, as above, slightly fissile
1130 - 1135	Shale, medium green, slightly fissile part splintery, slightly micro-micaceous.
1135 - 1140	Shale, as above, trace grey-brown, Dolomitic shale, rare trace pyrite, possibly shell replacement.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

1140 - 1145	Shale, as above, trace Brachiopod.
1145 - 1150	Shale, as above.
1150 - 1155	Shale, as above, trace fossil, part appears chitinous.
1155 - 1160	Shale, as above, trace Trilobite, few Brachiopods.
1160 - 1175	Shale, green subfissile, trace pyrite.
1175 - 1185	Shale, green, slightly fissile, slightly spintery, slightly micro-micaceous.
1185 - 1190	Shale, as above, part dark grey-black, trace pyrite.
1190 - 1195	Anhydrite, dark brown, microcrystalline, Dolomitic, traces brown translucent chert, with shale as above.
1195 - 1200	Anhydrite, medium brown calcareous very finely crystalline, Dolomitic, scattered brown translucent chert, with shale, as above.
1200 - 1205	Shale, dark green, black, fissile, scattered Trilobites, trace bitumen with imbedded Dolomite rhombs.
1205 - 1210	Shales, dark green, grey black, slightly fissile, few Trilobites, with minor Dolomite, dark brown, very finely crystalline.
1210 - 1215	Shale, dark green, grey green, micro-micaceous, sub-fissile, scattered fossils, trace brown, crypto-crystalline limestone, argillaceous.
1215 - 1230	Shale, as above, micro-micaceous, fissile, traces fossils, trace anhydrite.
1230 - 1235	Shale, as above.
1235 - 1240	DOLomite, dark brown, fine crystalline, white veining, traces pyrite, slightly bituminous, with shale, as above.
1240 - 1250	Shale, green, fissile, trace fossils with Dolomite as above.
1250 - 1255	Siltstone, grey-brown, Dolomitic, traces glauconite, with shales, as above.
1255 - 1260	Shale, green, with interbeds of siltstone and Dolomite as above, trace fossils.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

1260 - 1265	Siltstone, grey-brown, Dolomitic, glauconite, with shale interbeds and traces brown Dolomite, fine crystalline.
1265 - 1270	Siltstone, as above, with green shale, as above.
1270 - 1275	DOLOMITE, dark brown, part with white veining, finely crystalline, with shale, as above.
1275 - 1280	Sandstone, grey, green, medium grained, rounded, medium sorting, slightly Dolomitic, siliceous, glauconitic, tight, no shows, with shale, as above.
1280 - 1285	Sandstone, white, grey, as above, trace bitumen enfilled porosity, few floating coarse grains in siltstone to sandstone, minor shale.
1285 - 1290	Siltstone, grey-brown, imbedded coarse, rounded quartz with bituminous partings and Sandstone, grey-white, fine grained, Dolomitic, siliceous, rounded medium, well sorted, tight minor shale trace intergranular porosity, pyrobitumen.
1290 - 1295	Siltstone to sandstone, as above with Dolomite, light brown, cryptocrystalline, trace red stain.
1295 - 1300	DOLOMITE, light brown, microcrystalline, argillaceous with green Dolomitic shale interbands, trace red Dolomite veining and inclusions.
1300 - 1305	DOLOMITE, as above, becoming shaley with green Dolomitic shale, green.
1305 - 1315	DOLOMITE, brown cryptocrystalline, argillaceous to shaley, with red veining and inclusions, part grading to Dolomitic shale, trace pyrobitumen.
1315 - 1320	Shale, grey, grey-brown, very Dolomitic, with green Dolomitic shale.
1320 - 1325	Shale, light grey-brown, very Dolomitic with green Dolomitic shale.
1325 - 1330	Shale, grey, very Dolomitic, part appears to be shaley Dolomite, with green Dolomitic shale.
1330 - 1335	Shale, as above.
1335 - 1345	Shale, grey, very Dolomitic, appears to be Dolomite, white veining, with green Dolomitic shale.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

1345 - 1355	Shale, as above, part black trace bituminous (?) partings.
1355 - 1365	Shale, green, grey, blocky, trace Dolomite veining, trace black shale, trace black very Dolomitic siltstone, argillaceous (bituminous), disseminated pyrite.
1365 - 1370	Shale, green, grey, fissile, trace siltstone, trace black flaky shale, part with Dolomite veining.
1370 - 1380	Shale, as above, trace silt, black shale, rare Dolomite vein.
1380 - 1395	Shale, green, grey, slightly fissile, trace black, flaky shale, scattered white Dolomite veining.
1395 - 1405	Shale, dark grey-green, slightly blocky, few Dolomite veins, trace black shale.
1405 - 1410	Shale, as above, increase in black shale.
1410 - 1420	Shale, as above.
1420 - 1425	Shale, black, blocky, with white Dolomite veins, with shale, grey-green as above.
1425 - 1430	Shale, as above, trace siltstone black.
1430 - 1435	Shale, dark grey to black, part bituminous (?).
1435 - 1440	Shale, black, part green, black is bituminous, part flaky, with white Dolomite veining.
1440 - 1445	Shale, as above, increase in green-grey.
1445 - 1450	Missed sample.
1450 - 1455	Shale, black, blocky, interbeds of siltstone, trace coarse Dolomite crystal veining.
1455 - 1460	Shale, green, blocky, with black shale, as above.
1460 - 1465	Shale, black, blocky with Siltstone, black, bituminous, very slightly Dolomitic.
1465 - 1475	Shale, dark grey, black, blocky, slightly micaceous, minor silt.
1475 - 1480	Shale, black, as above, silty, blocky.

EXCO ET AL TUNAGO 2N-37

SAMPLE DESCRIPTION - Continued

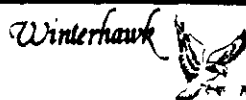
1480 - 1485	Shale, as above, silt laminae, trace black, flaky shale, possible slickensided (?).
1485 - 1500	Shale, as above, trace Dolomite veins, minor green shale, few siltstone laminae.
1500 - 1510	Shale, black, blocky, few Dolomite crystal viens, trace slickensides, trace silt, minor grey shale.
1510 - 1515	Shale, as above, trace disseminated pyrite.
1515 - 1520	Shale, as above, laminated with grey shale, Dolomite veins.
1520 - 1525	Shale, black, slightly micro-micaceous, blocky, pyrite common, Dolomite veining common, slickensided in part.
1525 - 1530	Shale, as above.
1530 - 1545	Shale, black, silty, blocky pyrite, trace Dolomite veins, minor green shale.
1545 - 1555	Shale, as above, siltstone stringer, trace pyrite, Dolomite veining.
1555 - 1560	Shale, as above, trace slickensided, Dolomite veining.
1560 - 1575	Shale, as above, becoming quite hard, silty.
1575 - 1585	Shale, black, blocky, brittle, silty, trace calcite veining.
1585 - 1600	Shale, very dark grey to black brittle, hard, silty, rare slickensides.
1600 - 1610	Shale, as above.
1610 - 1615	Shale, as above, with shale, green, hard, blocky.
1615 - 1620	Shale, as above, increase in green shale.
1620 - 1625	Shale, green, hard blocky, trace Dolomite veining.

SECTION III
ENGINEERING SUMMARY

CASING AND CEMENTING SUMMARY

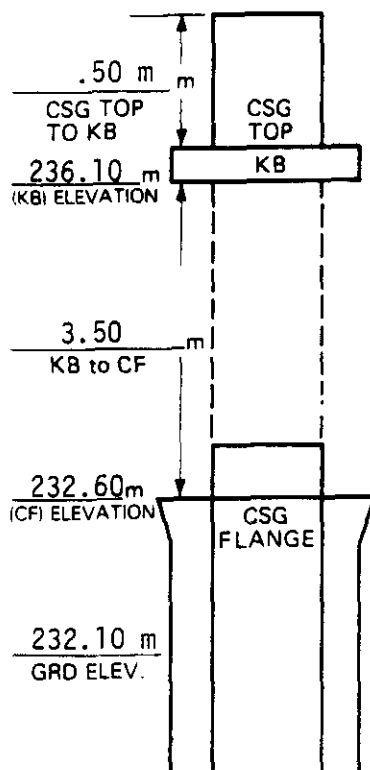
Enclosed are casing and cementing summaries for conductor pipe, conductor casing and surface casing.

508 mm CONDUCTOR PIPE



CASING SUMMARY

WELL Exco et al Tunago 2N-37 LOCATION _____ DATE 85-02-06
Conductor _____
~~SURFACE HOLE~~ SIZE 508mm KB 236.10 m KB to CF 3.90 m
New/Used _____ Inspected By: Mel Nichols Drifted To: N/A API diam. _____



NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1		12.76	10.93
2		11.43	+ 0.50
	Scratchers Nil		
	Centralizers Nil		
Total String		24.19	Cut-off Jt. Length
minus KB to Csg Top (STICK UP)		.50	
Landed Depth KB		23.69	
Hole Depth KB		24.50	
Distance Csg Landed Off Bottom		.81	

Cementing Company Halliburton Well Services Ltd.Wash - Type: Nil Volume -Cement Type - Lead Slurry Permafrost Volume: 4.44 m³ (6 t =Additives 2% Volume: 155 sx)

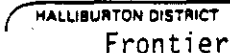
Cement Type - Tail Slurry _____ Volume: _____

Additives _____ Volume: _____

Cement Type - Above Stage Collar _____ Volume: _____

Additives _____ Volume: _____

Displacement Rate: Max. 2 MPa Avg. 1.12 (m³/min)Calculated Cement Top(s) Surface KB 4.90 m KBReturns: Mud Foam m³ Cement 1.8 m³String Wt. in a mud wt. of: Foam kg/m³ = _____ daNWt. set on Slips: N/A daNRemarks: Good foam returns throughout - while mixing and displacing weld and tab joint.Engineer: Mel Nichols



ATTACH TO
INVOICE No. 43 113

JOB DATE 1985 02 06
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 Ranger Distributors Limited (Exco)				FIELD OR AREA Tunago				WELL No. AND LEASE Exco et al Tunago 2N-37											
CALLED OUT DATE TIME		ON LOCATION DATE TIME		JOB STARTED 85-02-06 DATE TIME		JOB COMPLETED 85-02-06 DATE TIME		PROVINCE N.W.T.		LSD		SEC		TWP		RANGE		MERIDIAN W	

TYPE OF JOB ☒		WELL OR HOLE DATA								PRODUCTS							
										EQUIPMENT	QUAN						
SURFACE	☐									BASKETS							
INTERMEDIATE	☐	HOLE DATA:	HOLE SIZE	609mm	TOTAL DEPTH	25	m	TYPE MUD	Air	VISC.	DENSITY	CENTRALIZERS					
PRODUCTION	☐	CASING, TUBING OR LINER DATA	NEW ☒	USED ☐	SIZE	508	mm	kg/m	158.5	GRADE	K-55	DEPTH	25	m	CLAMPS		
LINER	☐				SIZE		mm	kg/m		GRADE		DEPTH		m	FLOAT COLLAR		
SQUEEZE	☐	PERFORATIONS:	FROM		m	TO		m	FROM		m	TO		m	FLOAT SHOE		
PLUG	☐				FROM		m	TO		m	FROM		m	TO	m	GUIDE SHOE	
PUMP	☐	WASH FLUID TYPE:	Nil	VOL.		m ³		DISPLACING FLUID TYPE:	H ₂ O	VOL.	3.5	m ³			INSERT FLOAT		
PRESSURE TEST	☐	TEMP MIXING		°C	SLURRY		°C	DISPLACING FLUID		°C	RETURNS		°C		SCRATCHERS		
OTHER	☒											OTHER					

EQUIPMENT			
PACKER TYPE _____ SIZE _____ mm DEPTH _____ m TAIL _____ m SET _____ PIPE _____	TOP PLUG TYPE _____ BOTTOM PLUG TYPE _____	CEMENT HEAD CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☒ OTHER _____	

TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m³	m³/tonne
6.0	G	Inland	Sacked	Permafrost	2% CaCl₂	1880	0.74

HALLIBURTON OPERATOR K. Town CUSTOMER REP.

[illegible]

444 mm CONDUCTOR HOLE

Cement Plugs were run at 104 metres and 118 metres prior to running 339 mm Conductor Casing.

Note: The above noted plugs were run in an attempt to prevent the hole from sloughing in any further. When the interval cemented was drilled out it was evident that very little cement remained in place.



ATTACH TO
INVOICE No. 43 115

JOB DATE 1985 02 11
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 Ranger Distributors Limited (Exco)				FIELD OR AREA Tunago				WELL No. AND LEASE Exco et al Tunago 2N-37											
CALLED OUT		ON LOCATION		JOB STARTED		JOB COMPLETED		PROVINCE		LSD		SEC		TWP		RANGE		MERIDIAN	
DATE TIME		DATE TIME		DATE TIME		DATE TIME		N.W.T.										W	
				85-02-11 07:00		85-02-11 08:00													

TYPE OF JOB ✓		WELL OR HOLE DATA								PRODUCTS		
										EQUIPMENT	QUAN	
SURFACE										BASKETS		
INTERMEDIATE		HOLE DATA:	HOLE SIZE	444.5 mm	TOTAL DEPTH	104 m	TYPE MUD	Air/Foam	VISC.	DENSITY	CENTRALIZERS	
PRODUCTION		CASING, TUBING OR LINER DATA	NEW ☐	SIZE	mm	kg/m	GRADE	DEPTH	m	CLAMPS		
LINER		USED ☐	SIZE	mm	kg/m	GRADE	DEPTH	m	FLOAT COLLAR			
SQUEEZE		PERFORATIONS: FROM	m	TO	m	FROM	m	TO	m	FLOAT SHOE		
PLUG	✓	FROM	m	TO	m	FROM	m	TO	m	GUIDE SHOE		
PUMP		WASH FLUID TYPE:	H ₂ O	VOL.	3.0 m ³	DISPLACING FLUID TYPE:	H ₂ O	VOL.	0.37 m ³	INSERT FLOAT		
PRESSURE TEST		TEMP MIXING DATA	WATER	°C	SLURRY	°C	DISPLACING FLUID	°C	RETURNS	°C	SCRATCHERS	
OTHER										OTHER		

EQUIPMENT				
PACKER				CEMENT HEAD
TYPE _____	SIZE _____ mm	TOP PLUG TYPE _____	CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☒	
DEPTH _____ m	TAIL _____ m	BOTTOM PLUG TYPE _____	OTHER _____	
SET _____	PIPE _____			

CEMENT DATA						
TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m ³ m ³ /tonne
22.0	G	Inland	Sacked	Oilwell	3% CaCl ₂	1895 0.76

HALLIBURTON OPERATOR K. Town CUSTOMER REP. _____

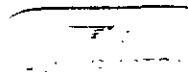
[illegible]



Ranger Distributors Limited (Exco)
Exco et al Tunago 2N-37
Ticket No.: 43 115

PLUG BACK JOB DATA

PLUG NO.	DEPTH		TONNE	DISPLACEMENT (m ³)	TIME (min)
	TOP	BOTTOM			
1	50	104	22.0	0.37	1



JOB
DATE 1985 02 13
YEAR MONTH DAY

LIBURTON DISTRICT
Frontier

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 Ranger Distributors Limited (Exco)				FIELD OR AREA Tunago				WELL No. AND LEASE Exco et al Tunago 2N-37											
CALLED OUT		ON LOCATION		JOB STARTED 85-02-13 06:00		JOB COMPLETED 85-02-13 06:45		PROVINCE N.W.T.		LSD		SEC		TWP		RANGE		MERIDIAN W	

TYPE OF JOB ☒		WELL OR HOLE DATA						PRODUCTS			
SURFACE								EQUIPMENT	QUAN		
INTERMEDIATE		HOLE DATA:	HOLE SIZE	444.5 mm	TOTAL DEPTH	118 m	TYPE MUD	Air/Foamisc.	DENSITY		
PRODUCTION		CASING, TUBING OR LINER DATA	NEW ☐	SIZE		mm	kg/m	GRADE		DEPTH	
LINER		USED ☐		SIZE		mm	kg/m	GRADE		DEPTH	
SQUEEZE		PERFORATIONS, FROM									
PLUG	☒										
PUMP		WASH FLUID TYPE:	H ₂ O	VOL.	3.2	m ³	DISPLACING FLUID TYPE:	H ₂ O	VOL.	0.87	m ³
PRESSURE TEST		TEMP	MIXING		°C	SLURRY		°C	DISPLACING FLUID		°C
OTHER		DATA	WATER						RETURNS		
								BASKETS			
								CENTRALIZERS			
								CLAMPS			
								FLOAT COLLAR			
								FLOAT SHOE			
								GUIDE SHOE			
								INSERT FOOT			
								SCRATCHERS			
								OTHER			

EQUIPMENT

PACKER TYPE _____ SIZE _____ mm DEPTH _____ m TAIL _____ m SET _____ PIPE _____		TOP PLUG TYPE _____ BOTTOM PLUG TYPE _____	CEMENT HEAD CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☐ OTHER <u>Nubbin</u>
---	--	---	--

CEMENT DATA

TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m³	m³/tonne
12.0	G	Inland	Sacked	Oilwell	3% CaCl ₂	1895	0.76

HALLIBURTON OPERATOR K. Town CUSTOMER REP.

TREATING LOG

[illegible]

Ranger Distributors Limited (Exco)
Exco et al Tunago 2N-37
TICKET NO.: 43 116

PLUG BACK JOB DATA

PLUG NO.	TOP	DEPTH BOTTOM	TONNE	DISPLACEMENT (m ³)	TIME (min)
1	96.0	118	12.0	0.87	1

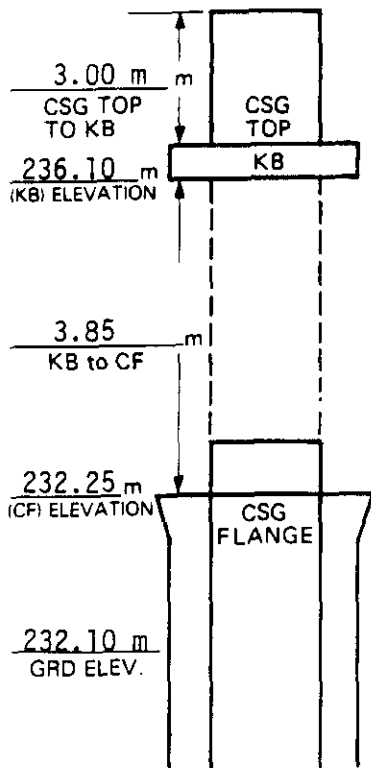
339 mm CONDUCTOR CASING

CASING SUMMARY

WELL Exco et al Tunago 2N-37 LOCATION _____ DATE 85-02-15

SURF/INT/PROD/LINER SIZE 339mm KB 236.10 m KB to CF 4.00 m

New/Used Inspected By: Niel Nichols Drifted To: N/A API diam.



NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1	Float Shoe	0.62	119.88
1	339mm Casing - 81.1 kg/m	9.59	110.29
1	Float Collar	0.62	109.67
10	339mm Casing - 81.1 kg/m	112.67	+ 3.00
	Scratchers Nil		
1	Centralizers Cement Basket 4 m		
Total String		123.50	Cut-off Jt. Length
minus	KB to Csg Top (STICK UP)	3.00	
	Landed Depth KB	120.50	
	Hole Depth KB	133.00 m	
	Distance Csg Landed Off Bottom	13.50 m	

Cementing Company Halliburton Well Services Ltd.

Wash Type: Fresh Water Volume 3.2 m³

Cement Type - Lead Slurry Oilwell "G" Volume: 6.84 m³ (9.0 t)

Additives 3% CaCl₂ + 0.75% C-322 (Fluid + 6 sx Volume: _____

Cement Type - Tail Slurry Celloflake Loss Additive Volume: _____

Additives _____ Volume: _____

Cement Type - Above Stage Collar _____ Volume: _____

Additives _____ Volume: _____

Displacement Rate: Max. 1.2 m³/min. Avg. 0.97 m³/min. (m³/min)

Calculated Cement Top(s) _____ KB _____ KB

Returns: Mud Nil m3 Cement Nil m3

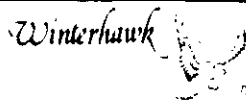
String Wt. in a mud wt. of: Air kg/m³ = 21 000 daN

Wt. set on Slips: N/A daN

Remarks: Sloughing Dolomite - circulate and tong to depth of 120.50 m. After becoming stuck at this point, cement in place. Displace with 8.75 m³ water.

Plug down 1985-02-15 at 1945 hours.

Engineer: Mel Nichols



PIPE TALLY SHEET

PAGE _____ OF _____

WELL Exco et al Tunago 2N-37 LOCATION _____

SIZE 339mm WT. 81.1 kg/m GRADE K-55 COUPLING ST&C THRD 8 RD

DATE _____

JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH
1	9 59	11	11 30	21		31		41	
2	11 41	12		22		32		42	
3	11 27	13		23		33		43	
4	11 49	14		24		34		44	
5	11 69	15		25		35		45	
6	11 22	16		26		36		46	
7	10 21	17		27		37		47	
8	11 23	18		28		38		48	
9	11 06	19		29		39		49	
10	11 79	20		30		40		50	
A	110 96	B	11 30	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	110 96	SUB TOTAL	JOINTS	LENGTH
B	11 30	122 26	11	122.26 m
C			-	-
D			11	122.26 m
E				
F				
G				
H				
I				
J				
TOTAL	122 26			

Shoe 0.62 m
 Float 0.62 m
 Collar _____
 Other _____

PAGE TOTAL
 BROUGHT FWD
 GRAND TOTAL

JOINTS ON LOCATION _____

Remarks: _____

ENGINEER Me1 Nichols

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.

HALLIBURTON**CEMENTING AND/OR SPECIAL TOOLS
SERVICE REPORT**ATTACH TO
INVOICE No. 43 114JOB
DATE 1985 02 15
YEAR MONTH DAY

HALLIBURTON DISTRICT

Frontier

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 Ranger Distributors Limited (Exco)				FIELD OR AREA Tunago				WELL No. AND LEASE Exco et al Tunago 2N-37			
CALLER OUT	ON LOCATION	JOB STARTED	JOB COMPLETED	PROVINCE	LSD	SEC	TWP	RANGE	MERIDIAN		
DATE TIME	DATE TIME	DATE TIME	DATE TIME	DATE TIME							
		85-02-13 17:45	85-02-13 19:45	N.W.T.					W		

TYPE OF JOB	WELL OR HOLE DATA								PRODUCTS	
									EQUIPMENT	QUAN
SURFACE									BASKETS	1
INTERMEDIATE									CENTRALIZERS	
PRODUCTION									CLAMPS	
LINER									FLOAT COLLAR	
SQUEEZE									FLOAT SHOE	1
PLUG									GUIDE SHOE	1
PUMP									INSERT FLOAT	
PRESSURE TEST									SCRATCHERS	
OTHER									OTHER	

HOLE DATA: HOLE SIZE 444.5 mm TOTAL DEPTH 133 m TYPE MUD Air/Foam VISC. _____ DENSITY _____
 CASING, TUBING OR LINER DATA: SIZE 340 mm kg/m 90.8 GRADE K-55 DEPTH 120.5 m
 USED ☐ SIZE _____ mm kg/m _____ GRADE _____ DEPTH _____ m
 PERFORATIONS: FROM _____ m TO _____ m FROM _____ m TO _____ m
 FROM _____ m TO _____ m FROM _____ m TO _____ m
 WASH FLUID TYPE: Fresh Water VOL. 3.2 m³ DISPLACING FLUID TYPE: Fresh Water VOL. 8.75 m³
 TEMP MIXING DATA _____ °C SLURRY _____ °C DISPLACING FLUID _____ °C RETURNS _____ °C

EQUIPMENT

PACKER			CEMENT HEAD	
TYPE	SIZE	mm	TOP PLUG TYPE	
DEPTH	TAIL	m	BOTTOM PLUG TYPE	
SET	PIPE	m	OTHER	

CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☒

CEMENT DATA

TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m ³	m ³ /tonne
9.0	G	Inland	Sacked	Oilwell	3% CaCl ₂ 0.75% C-322	1895	0.76

HALLIBURTON OPERATOR K. Town CUSTOMER REP. _____**TREATING LOG**

CHART POSITION	TIME	RATE m ³ /min	VOLUME PUMPED IN m ³			PRESSURE MPa		REMARKS
			STAGE	TOTAL	IN FORMATION	TUBING	CASING	
1								Prehydrate Calcium Chloride and C-322.
2	18:47 18:50	1.07					2.0	Pump fresh water preflush.
3	18:50 19:25	0.20					2.0	Mix and pump slurry.
	19:25 19:36							Drop plug.
	19:36 19:45	0.97					2.5	Displace.

244 mm SURFACE CASING



PAGE _____

CASING SUMMARY

WELL Exco et al Tunago 2N-37 LOCATION _____ DATE 85-02-25
SURF/INT/PROD/LINER SIZE 244mm KB 236.10 m KB to CF 4.00 m
New/Used _____ Inspected By: Mel Nichols Drifted To: N/A API diam. _____

NO.	DESCRIPTION	MEASURED LENGTH	KB DEPTH
1	244mm Float Shoe	0.52	629.48
1	244mm Shoe Joint - 64.7 kg/m	11.73	617.75
1	244mm Float Collar	0.44	617.31
23	244mm jts - 64.7 kg/m	270.92	346.39
1	Lynes Inflate Packer - 244mm	2.69	343.70
1	Howco Stage Tool	1.00	342.70
29	244mm jts - 64.7 kg/m	343.79	+ 1.09
	Cement Baskets at 117 & 343 m		
3	Centralizers on jts #2, 24 & 42		
	Total String	631.09	Cut-off Jt. Length
	minus KB to Csg Top (STICK UP)	1.09	
	Landed Depth KB	630.00	
	Hole Depth KB	630.00	
	Distance Csg Landed Off Bottom	0.00	

Diagram labels: 1.09 m CSG TOP TO KB, 236.10 m (KB) ELEVATION, 4.10 m KB to CF, 232.00 m (CF) ELEVATION, 232.10 GRD ELEV., CSG TOP, KB, CSG FLANGE

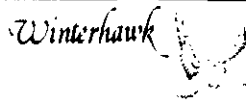
Cementing Company Halliburton Well Services Ltd.Wash - Type: Water - Plug down 1985-02-24 0500 hours Volume 1.6 m³Cement Type - Lead Slurry Oilwell Class "G" 19.3 tonne Volume: 14.7 m³Additives 0.75% C-322 Fluid Loss Additive Volume: _____Cement Type - Tail Slurry N/A Volume: _____Additives N/A Volume: _____Cement Type - Above Stage Collar Oilwell Class "G" 10.3 tonne Volume: 7.8 m³Additives 0.75% C-322 Fluid Loss Reducer Volume: _____Displacement Rate: Max. _____ Avg. _____ (m³/min)

Calculated Cement Top(s) _____ KB _____ KB

Returns: ~~MAX~~ Drill with air m³ Cement _____ m³String Wt. in a mud wt. of: _____ kg/m³ = _____ daN

Wt. set on Slips: _____ daN

Remarks: Top cement from surface. 4.8 tonne Permafrost to Surface.Top cement from surface between 339.7mm casing and 508mm conductor casing with 6 t Permafrost.Engineer: Dave Campbell



PIPE TALLY SHEET

PAGE _____ OF _____

WELL Exco et al Tunago 2N-37 LOCATION _____

SIZE 244.4mm WT. 64.7 kg/m GRADE L80 COUPLING LT&C THRD 8RD

DATE 85-02-24

JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH	JOINT	LENGTH
1	11 73	11	11 25	21	11 51	31	11 19	41	12 47
2	11 54	12	11 83	22	11 82	32	11 98	42	12 03
3	11 09	13	11 82	23	11 84	33	11 17	43	11 82
4	11 73	14	11 75	24	11 76	34	12 03	44	11 80
5	13 08	15	11 79	25	11 11	35	11 19	45	12 03
6	12 02	16	11 84	26	11 43	36	12 32	46	12 41
7	12 53	17	11 72	27	11 98	37	13 36	47	11 75
8	11 85	18	11 71	28	11 73	38	12 70	48	11 92
9	11 86	19	11 33	29	11 76	39	11 78	49	11 82
10	11 95	20	11 30	30	11 40	40	11 93	50	11 47
A	119 38	B	116 34	C	116 34	D	119 65	E	119 52
51	11 70	61		71		81		91	
52	11 88	62		72		82		92	
53	11 63	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	35 21	G		H		I		J	
A	119 38	SUB TOTAL						JOINTS	LENGTH
B	116 34	232 72						53	626.44 m
C	116 34	352 06							4.65 m
D	119 65	471 71							631.09 m
E	119 52	591 23						JOINTS ON LOCATION <u>Stick up 1.09 m</u>	
F	35 21	626 44						Collar	
G								Remarks:	
H									
I									
J									
TOTAL	626 44							ENGINEER <u>Dave Campbell</u>	

Shoe .52 m

Float .44 m

Collar 2.69 m

Other 1.00 m

Stage 1.00 m

PAGE TOTAL

BROUGHT FWD

GRAND 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.

[illegible]



CEMENTING AND/OR SPECIAL TOOLS SERVICE REPORT

ATTACH TO
INVOICE No. 43 119

LIBURTON DISTRICT
Frontier

JOB
DATE 1985 02 24
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				FIELD OR AREA				WELL No. AND LEASE											
Ranger Distributors Limited (Exco)				Tunago				Exco et al Tunago 2N-37											
CALLED OUT		ON LOCATION		JOB STARTED		JOB COMPLETED		PROVINCE		LSD		SEC		TWP		RANGE		MERIDIAN	
DATE TIME		DATE TIME		10:30 DATE TIME		16:30 DATE TIME		N.W.T.										W	

TYPE OF JOB ☒		WELL OR HOLE DATA							PRODUCTS	
									EQUIPMENT	QUAN
SURFACE	☐								BASKETS	
INTERMEDIATE	☐	HOLE DATA:	HOLE SIZE _____ mm	TOTAL DEPTH _____ m	TYPE MUD _____	VISC. _____	DENSITY _____	CENTRALIZERS		
PRODUCTION	☐	CASING, TUBING OR LINER DATA	NEW ☐	SIZE _____ mm	kg/m _____	GRADE _____	DEPTH _____ m	CLAMPS		
LINER	☐		USED ☐	SIZE _____ mm	kg/m _____	GRADE _____	DEPTH _____ m	FLOAT COLLAR		
SQUEEZE	☐	PERFORATIONS: FROM _____ m TO _____ m FROM _____ m TO _____ m							FLOAT SHOE	
PLUG	☒	FROM _____ m TO _____ m FROM _____ m TO _____ m							GUIDE SHOE	
PUMP	☐	WASH FLUID TYPE: _____	VOL. _____ m ³	DISPLACING FLUID TYPE: _____	VOL. _____ m ³	INSERT FLOAT				
PRESSURE TEST	☐	TEMP MIXING _____ °C	SLURRY _____ °C	DISPLACING FLUID _____ °C	RETURNS _____ °C	SCRATCHERS				
OTHER	☐	DATA WATER _____ °C							OTHER	

EQUIPMENT

PACKER TYPE _____ SIZE _____ mm DEPTH _____ m TAIL _____ m SET _____ PIPE _____	TOP PLUG TYPE _____ BOTTOM PLUG TYPE _____	CEMENT HEAD CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☐ OTHER _____
---	---	--

CEMENT DATA

TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m³	m³/tonne
11	G	Inland	Bulk	Permafrost		1880	0.74

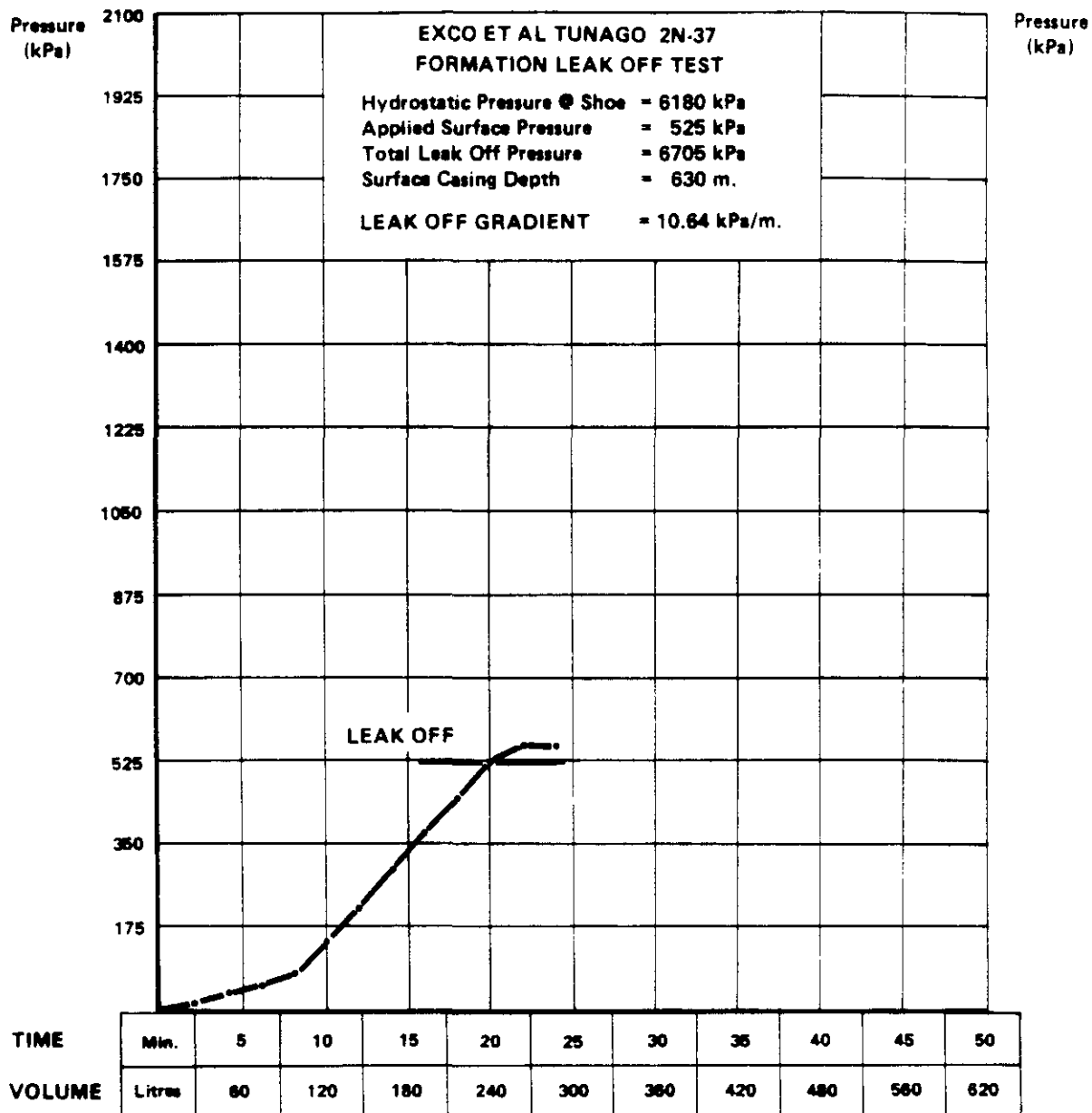
HALLIBURTON OPERATOR J. Beddow CUSTOMER REP. _____

TREATING LOG

[illegible]

FORMATION LEAKOFF TEST

Performed at Surface Casing Depth 630 m



TIME - SURFACE TO BIT (MINUTES)

PRESSURE - CIRCULATING PRESSURE (kPa)

MUD REPORT

Exco et al Tunago 2N-37

Drilling Day	Durafoam 50 lbs.	Durafoam (bbl)	Gel	Product RMPZ7 5 gallon	Caustic	Salt	Staflor	Defoamer	Kelzan	Kwikseal	Lime
1	5	1									
2	4	1									
3											
4	1										
5	4	1									
6	5	1									
7	7	1									
8		1									
9	4										
10	2										
11	2										
12	2	2	76								
13	2										
14	6	1		1							
15	5	1		1							
16	5	2		2							
17	6	1	45	1							
18	2	1		2							
19	5	1		1							
20	2	1		1							
21											
22											
23	1			1							
24	3			2							
25	5	1		2							
26	6			2							
27	5			1							
28	9		70	2	2						
29	6			2							
30	4	2		2							
31			25		3	545	14	3			
32			140		4				8	90	3
33					2		2		1		
34					2				2		
35											
36											
37											
38											
39											
40											
41											
Totals	108	18	356	21	13	545	16	3	11	90	3

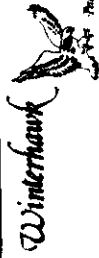
AIR DRILLING REPORT

Date 1985	Hole Size (mm)	Interval Drilled (m)	Air Volume (m ³ /m)	Injection Rate (l/min)	Surfactant Addition	Surface Air Pressure kPa	Remarks
February 4	311	14-21	11-7	32	1%	700	Rig up cellar to Channel foam to sump.
February 5	311/444	21-24	7-11	32-40	1%	700-1300	
February 6	609	0-24	11	38	1%	500	Drill 444 mm hole; ream out to 609 mm to set conductor.
February 7	444	24-43	12-11	36	0.75-1%	1100- 700	Drill out shoe and drill ahead.
February 8	444	43-87	11-10	37	0.75-1%	850- 900	At 87 m blowey line showing signs of restriction. Begin picking up water.
February 9	444	87-106	12-13	45-54	1.4%	900-1050	Try to regain circulation; isolate ice plug and clean hole - hole sloughing at 89 m depth. Hole making water.
February 10	444	106-122	13	54	1.7%	1170-1200	Formation change; Hole water increasing in volume. Hole pulling tight-pulled 58000 daN at 112 m.
February 11	444	ream cement	14-15	54	1.7%	1250- 960	Run in open ended to set cement plug at 122 m, to cement off sloughing section. Hole gradually making more and more water.
February 12	444	ream	14-16	36-68	2.3%	1250 (high of 2400)	No Duraplex being added. Thaw restriction in Kelly and line pipe. Run in hole and clean to bottom.

Date 1985	Hole Size (mm)	Interval Drilled (m)	Air Volume (m ³ /m)	Injection Rate (l/min)	Surfactant Addition	Surface Air Pressure kPa	Remarks
February 13	444	clean to 118m to run cement plug	16	45	2.3%	1100-1200	Run in hole and tag cement. Break circulation and clean hole.
February 14	444	122-133	33	22	2.3%	1300	Drill ahead with 444 mm bit to conductor casing point.
February 17	311	133-181	25-19	50	1.0-1.9%	1200	Drill out float and drill ahead. On each connection 1m to 2m of fill is noted.
February 19	311	289-381	21-28	36	1.8%	2000-3120	Drilling ahead with few problems noted.
February 20	311	381-470	28	36	1.8%	3200	Drilling ahead - no problems noted.
February 21	311	470-497	28	23	1.8%	3200	Drilling ahead - no problems noted
February 22	311	497-588	33	23	2.3%	3700	Drilling ahead - more water noted as there is a 500 kPa pressure increase.
February 23	311	588-630	33	23	2.3%	3700	Dummy trip and circulate to run casing.
February 26	215	630-638	19	25	1.1%	1000	Drill out stage tool - pressure test with injection pump.
February 27	215	638-764	17-20	35-40	1.1%	1000	Hole cleaning well; no fill on connections; survey at 6° deviation

Date 1985	Hole Size (mm)	Interval Drilled (m)	Air Volume (m ³ /m)	Injection Rate (l/min)	Surfactant Addition	Surface Air Pressure kPa	Remarks
February 28	215	764-874	22-27	40-54	1.6%	1400	Increase air volumes to handle penetration increase.
March 1	215	874-1081	27	54	1.6%	1400-1240	Hole cleaning well with no fill on connections.
March 2	215	1081-1224	27	54	1.6%	1250	Drill ahead.
March 3	215	1224-1341	28	54	1.6%	1300	Penetration slower-pressure build up.
March 4	215	1341-1410	28	54	1.6%	1250	On return trip at 1344 m tag fill at 1326 m.
March 5	215	1410-1626	28	54	1.6%	1200	Drill to logging point at 1626 m.

BIT RECORD



BIT RECORD

WELL NAME Exco et al Iunago 2N-37 LOCATION Field Wild Cat
 Contractor Irican Contracting Company Rig No. Mr. Ben
 Spud Date 85-02-04 1045 hours T.D. Date 85-03-16 1200 hours

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 m3/min	DULL COND		
									1	2	3			T	B	G
1A	311.0	HW XDV 77633	24.5	24.5	15.75	15.75	2	60/70	0	P	E	N	Foam & Air	5	1	I
2A	444.5	HW ER727	24.5	24.5	4.25	20	2	60/70	0	P	E	N	Foam & Air	2	1	I
1 HQ	609.0	Sec. 8255	24.0	24.0	10.25	30.25	1	50/70	0	P	E	N	Foam & Air	6	0	D
1B	444.5	SBE256	122	98	51.00	51.00	3/15	60/100	0	P	E	N	Foam & Air	2	3	I
2B	444.5	USCIG ER727	REAM	22	5.75	REAM	3/5	60	0	P	E	N	Foam & Air	1	1	I
3B	216	Smith SVH CR7157	REAM	20	6	REAM	2	50/60	0	P	E	N	Foam & Air	2	2	I
4B	444.5	OSCIG ER727	133	11	10	61.00	2/6		0	P	E	N	Foam & Air	6	3	1/8
5B	311	F2 EC0929	486	353	80.5	141.50	14	80/85	0	P	E	N	Foam	7	8	1/4
6B	311	F2 EC0928	630	144	35.5	177.00	15	60/65	0	P	E	N	Foam	8	4	I
1	216	JD7 58408	778	148	28	28.00	2	110	0	P	E	N	Foam	3	1	I
2	216	JD4 94498	1174	396	45.75	73.75	7/15	150	0	P	E	N	Foam	6	3	I
3	216	JD4 84762	1356	182	29.5	103.25	12	120	1.5"	Orifice			1000 CFM	8	8	1/8
4	216	ES9912 Smith SVH	1626	216	27.5	130.75	10	65	1.5"	Orifice			150 PSI-SP 1000 CFM	2	2	I
5 RR	216	CR2157 Smith SVH	Clean Out Bit				5/10 - 6/8		0	P	E	N	3500	3	3	I
6 RR	216	CR7157	Clean Out Bit				5/10 - 6/8									

REMARKS

ABANDONMENT



PAGE _____

ABANDONMENT REPORT

DATE _____

Well Exco et al Tunago 2N-37 Location _____

A. WELL DATA

KB Elevation 236.10 m KB to CF 4.00 m FTD 1626.00 m

Hole Size	Hole Depth	Casing Size	Casing Depth	Cement Top(s)	Perfs
609mm	24.00 m	508mm	23.69 m	Surface	N/A
444mm	133.00 m	339mm	120.50 m	Surface	
311mm	630.00 m	244mm	630.00 m	Surface - recement down an-	nulus

B. ABANDONMENT DATA

Fluid in Hole Salt Saturated Mud Abandonment Company Exco Energy Ltd.Cementing Company Halliburton Well Services Gov't Official John Hamilton - COGLA, Yellowknife

Plug	Interval	Formation	Cem Vol	Cem Type	Cem Wt.	Plug Down	Felt Plug Time	Depth
1	1525-1626 m	Precambrian	5.2	"G"+2%CaCl ₂	1895	2105	-	No
2	1250-1350 m	Mount Clark	6.9	"G"+2%CaCl ₂	1895	2209	0300	1238 m
3	600- 660 m	At Surf. Csg.	3.9	"G"+2%CaCl ₂	1895	0400	1100	No evidence of plug
4	600- 660 m	At Surf. Csg.	3.9	"G"	1880	1430	2200	No evidence of plug
5	600- 550 m	Set Bridge Plug @ 600 m	1.8	Permafrost	1880	0030	-	Cement sat on top of bridge plug.
6	0 - 35 m	Inside Casing	1.1	Permafrost	1880	0230	0400	Visual Check

Method of Feeling Plugs Run in with drill pipe - open ended.Surface Casing Cut 231.06 m Surface Plug To Surface Plate Welded 231.06 m
1 m below ground level

C. SALVAGE DATA

Casing Salvaged NilD. REMARKS Ran 244mm Ezi-drill plug at 600 m depth and set cement on top.
Attempts to run cement from the 600 m to the 660 m depth failed as the cement
was lost to the formation.ENGINEER Mel Nichols



ATTACH TO
INVOICE No. 43 120

JOB DATE 1985 03 13
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 Ranger Distributors Limited (Exco)			FIELD OR AREA Tunago			WELL No. AND LEASE Exco et al Tunago 2N-37				
CALLED OUT DATE TIME	ON LOCATION DATE TIME	JOB STARTED 85-03-13 DATE TIME	JOB COMPLETED 85-03-16 DATE TIME	PROVINCE N.W.T.	LSD	SEC	TWP	RANGE	MERIDIAN W	

TYPE OF JOB ☒		WELL OR HOLE DATA								PRODUCTS					
										EQUIPMENT	QUAN				
SURFACE	☐									BASKETS					
INTERMEDIATE	☐	HOLE DATA:	HOLE SIZE	215.7 mm	TOTAL DEPTH	1626 m	TYPE MUD	Gel	VISC.	55	DENSITY	1050	CENTRALIZERS		
PRODUCTION	☐	CASING, TUBING OR LINER DATA	NEW ☐	SIZE	mm	kg/m	GRADE		DEPTH	m	CLAMPS				
LINER	☐	USED ☐	SIZE	mm	kg/m	GRADE		DEPTH	m	DEPTH	m	DEPTH	m	DEPTH	m
SQUEEZE	☐	PERFORATIONS: FROM m TO m FROM m TO m													
PLUG	☒	FROM m TO m FROM m TO m													
PUMP	☐	WASH FLUID TYPE:	H ₂ O	VOL.	7.0 m ³	DISPLACING FLUID TYPE:	Mud	VOL.	m ³	DISPLACING FLUID	TEMP	MIXING DATA	WATER	°C	
PRESSURE TEST	☐	SLURRY °C RETURNS °C													
OTHER	☐	OTHER													

PACKER

TYPE EZ-SV SIZE 245 mm
DEPTH _____ m TAIL _____ m
SET _____ PIPE _____

TOP PLUG TYPE

BOTTOM PLUG TYPE

CEMENT HEAD

CONTINUOUS ☐ KNOCK OFF ☐ SWAGE ☐

OTHER 114.3 mm X H Nubbin

CEMENT DATA

TONNE	API CLASS	BRAND	BULK OR SACKED	CEMENT BLEND	ADDITIVES TYPE AND PERCENT	kg/m ³	m ³ /tonne
	G	Inland	Sacked	Oilwell Neat	2% CaCl ₂ in mix water	1895	0.76
	G	Inland	Sacked	Permafrost Blend		1880	0.74

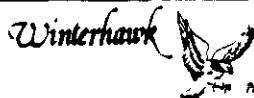
HALLIBURTON OPERATOR K. Town CUSTOMER REP.

[illegible]

Ranger Distributors Limited (Exco)
Exco et al Tunago 2N-37
TICKET No.: 43 120

PLUG BACK JOB DATA						
PLUG NO.	TOP	DEPTH BOTTOM	TONNE	DISPLACEMENT (m ³)	TIME (min)	
1	1525	1626	6.80	12.03	15	
2	1250	1350	9.0	10.00	13	
3	600	660	5.13	4.90	6	
4	600	660	5.13	4.90	6	
5	550	600	2.50	4.44	5	
6	0	30	1.50	0.20	1	

DRILL STEM TESTS



PAGE _____

A. WELL DATA

FIELD DRILL STEM TEST REPORT

DATE March 11, 1985

Well: Exco et al Tunago 2N-37 Location _____
DST No. 1 Interval 1285.60 - 1299.60 m Formation Mount Clark
Last Casing: Size 244.5mm Depth 630.0 m Open Hole: Size 216mm Depth 1626 m
Hole Troubles: Lost Circulation (healed) Caliper at Packer(s) 260mm
Mud: Wt. 1150 kg/m³ Vis 55 W.L. 11.4 % Oil Nil ppm Cl 109000

B. TEST STRING DATA

Testing Company Lynes United Services Ltd. Type of Test Inflate Straddle
Type and Number of Packers Inflate - two (2) Size 194mm
DP Size 114mm Wt 24.7 kg/m Length 1190.83 m
DC Size 159mm Wt 139 kg/m I.D. 50.8mm Length 84.93 m
Tail Pipe Size Nil Wt - Length - Perfs - m
T.D. String - Recorder Depth 1277.13 m Water Cushion Nil BH Choke 25.4mm
Packer Depth(s) 1283 m - 1297 m Weight on Packer(s) Inflate
Other Equipment Samplers, Pump Out Sub, Jars, Manifold

C. TEST RESULTS

Times: PF _____ ISI _____ Flow _____ SI _____ Flow _____ FSI _____
Pressures: PF _____ IH _____ ISI _____ IF _____
TEMP _____ °C FH _____ FSI _____ FF _____

Flow Descriptions:

Preflow: Misrun - see remarks below

Valve Open Flow: _____

Recoveries: _____

D. SAMPLE DETAILS:

N/A

Sent to: _____ Via: _____ Date Sent: _____

E. REMARKS:

Misrun. Found an error in strap on DST #1. Corrected depths of packers,
were 1285.60 m to 1299.60 m. Tape was missing. .05 m on each stand
.05 x 45 stands = 2.25 m

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

ENGINEER Mel Nichols

EXCO ET AL TUNAGO 2N-37
400/ 66.649 / 126.215 /00
DST#01
1283.00m to 1297.00m
MOUNT CLARK

DEPTH: 1284.73m

PRESSURE
kPa

RECORDER # 021356

1)Initial Hydro : 15445.
14)Final Hydro. : 15445.

-----
RECOVERY DATA

NO GAS TO SURFACE. NO FLUID RECOVERY DUE TO MISRUN.

REMARKS AND TEST SUMMARY

Misrun - unable to maintain a packer seat. Recorder #8728 - malfunctioned;
no readings.

TABLE OF CONTENTS

PAGE 1	PAGE 2	PAGE 3	PAGE 4
General Data	Tool Sequence	PRESSURE	Plot Summary
Blow Description	Recorder Summary	-TIME	Reservoir Calculations
Liquid Recovery	Mud and Hole Data	LISTING	-Parameters used
Gas Measurements			-Results

***** RECORDER PAGES & FIGURES *****

Well name : EXCO ET AL TUNAGO 2N-37
* ation : 400/ 66.649 / 126.215 /00
rval : 1283.00m to 1297.00m
Test Date : 85/03/11
Test Type : INFLATE STRADDLE
Formation : MOUNT CLARK

K.B.Elevation : 236.56m
Grd.Elevation : 232.06m
TD @ test Date: 1629.00m
Ticket Number : 68600
Unit Number : M-2

Started in hole at : 1126 hrs
Tool opened at :
Reverse circulated?: NO
Contractor & Rig No: TRI-CAN #707
Lynes#1 : 1 of 1 on the same trip.

Operator: EXCO ENERGY LTD.
6TH FLR.
700 - 4TH AVE. S.W.
CALGARY ALBERTA
T2P3J4

Company Rep : NICHOLS M
Testers : LUNGAL A

5 REPORTS(S) TO: MERLE MCCLAIN
Company:

BLOW DESCRIPTION

Misrun.

TOTAL LIQUID RECOVERY : .00m

For DST# 1 through DST# 1

.00m

GAS MEASUREMENTS

No Gas Measurements

TOOL SEQUENCE

*****RECORDER SUMMARY*****

SUB	LENGTH (m)	
PUMP OUT SUB	.42	1) NUMBER : 004636
DOUBLE PIN SUB	.29	TYPE : K-3
INSIDE RECORDER	1.38	LOCATION: OUTSIDE
HYDRAULIC TOOL	1.50	RANGE: 18300.00kPa
BTM. HOLE SAMPLER	1.03	DEPTH : 1284.73m
BTM. HOLE SAMPLER	1.03	2) NUMBER : 008728
HYDRAULIC JARS	2.19	TYPE : K-3
INSIDE RECORDER	1.38	LOCATION: INSIDE
SAFETY JOINT	.65	RANGE: 20700.00kPa
INFLATE PUMP	2.28	DEPTH : 1270.00m
SCREEN	1.16	3) NUMBER : 012358
TOP INFLATE PACKER	1.78	TYPE : K-3T
PACKER STICK DOWN	.82	LOCATION: OUTSIDE
PORTED COMB. SUB	.31	RANGE : 1C to 130C
RECORDER CARRIER	2.06	DEPTH : 1284.73m
SPACING	.29	4) NUMBER : 013832
CROSS OVER SUB	.31	TYPE : K-3
DRILL COLLARS	9.40	LOCATION: INSIDE
CROSS OVER SUB	.31	RANGE: 19300.00kPa
PACKER STICK UP	.50	DEPTH : 1277.13m
BTM. INFLATE PACKER	1.90	5) NUMBER : 021356
PERFORATIONS	.61	TYPE : K-3
BELLY SPRING	2.00	LOCATION: OUTSIDE
		RANGE: 23300.00kPa
		DEPTH : 1284.73m
***** TOOL TOTAL 33.60		
DRILL COLLARS		
	ID= 53.0mm: 84.93	
	ID= :	
DRILL PIPE		
	OD=114.3mm: 1190.83	
	OD= :	
COLLAR-PIPE TOTAL 1275.76		
STICK UP ABOVE TABLE : 7.85		
TOOL ABOVE INTERVAL : 15.09		
TOTAL INTERVAL : 14.00		
BOTTOM CHOKE SIZE: 25.40 mm		

MUD AND HOLE DATA

Calipered Hole Size @ Test Depth:	Water Loss : 11.4cc/s
Hole Condition at Test Time : GOOD	Filter Cake: 1.5 mm
Hole Conditioned Prior to Test? : YES	
Mud Weight : 1150.0 kg/m3	Main Hole Size: 216.00mm
Type : SALT BASED	
viscosity : 55.0s/l	Temperature @1284.73m =

DST#01
EXCO ET AL TUNAGO 2N-37
1283.00m to 1297.00m

PRESSURE RECORDER NUMBER : 004636

PTH : 1284.73m
PE : K-3

LOCATION : OUTSIDE
CAPACITY : 18300.00 kPa

PRESSURE
kPa

1) Initial Hydro : 15317.
14) Final Hydro. : 15317.



PRESSURE RECORDER NUMBER : 008728

DEPTH : 1270.00m
TYPE : K-3

LOCATION : INSIDE
CAPACITY : 20700.00 kPa

PRESSURE
kPa

1) Initial Hydro :
14) Final Hydro. :

Above Hydraulic Tool

ABOVE HYDRAULIC
TOOL RECORDER.
NO READINGS.

DST=01
EXCO ET AL TUNAGO 2N-37
1283.00m to 1297.00m

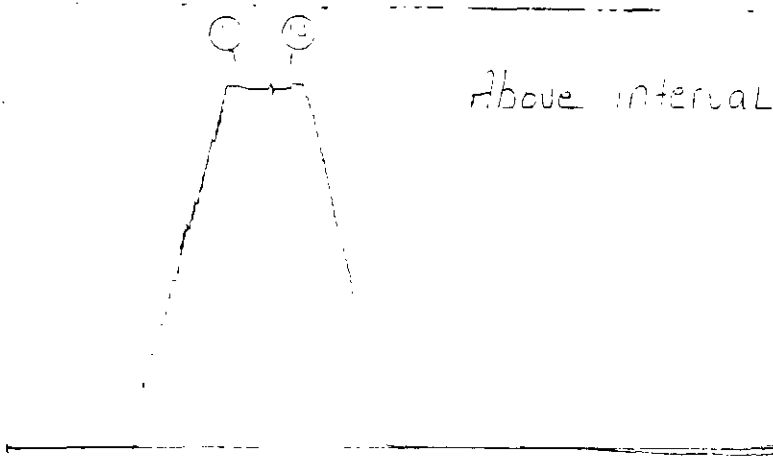
PRESSURE RECORDER NUMBER : 013832

PTH : 1277.13m
PE : K-3

LOCATION : INSIDE
CAPACITY : 19300.00 kPa

PRESSURE
kPa

1)Initial Hydro :15298.
14)Final Hydro. :15298.



ABOVE INTERVAL
RECORDER.

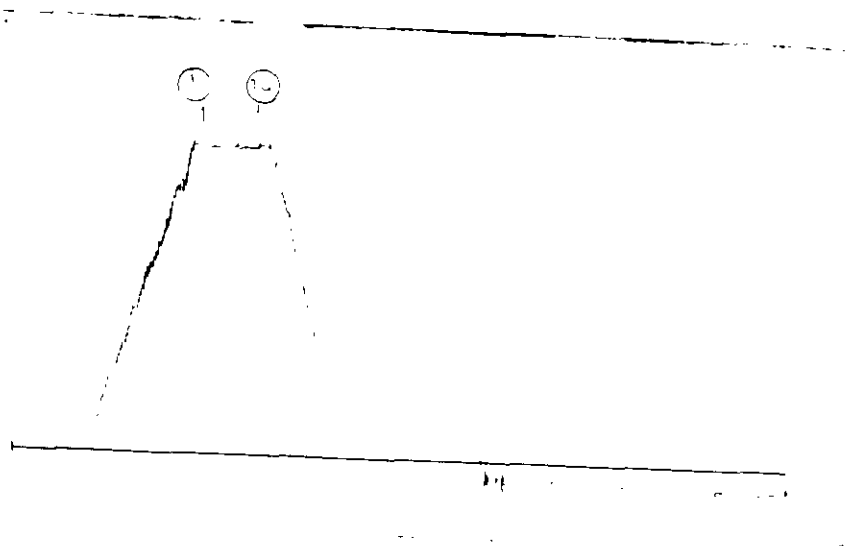
PRESSURE RECORDER NUMBER : 021356

DEPTH : 1284.73m
TYPE : K-3

LOCATION : OUTSIDE
CAPACITY : 23300.00 kPa

PRESSURE
kPa

1)Initial Hydro :15445.
14)Final Hydro. :15445.



DST:01
EXCO ET AL TUNAGO 2N-37
1283.00m to 1297.00m

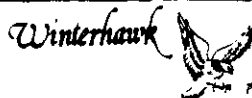
TEMPERATURE RECORDER NUMBER : 012358

PTH : 1284.73m LOCATION : OUTSIDE
TYPE : K-3T RANGE : 130.00C

TEMPERATURE
RECORDER.
NO READING.

***** TEMPERATURE AT RECORDER DEPTH =

Temperature



PAGE _____

A. WELL DATA

FIELD DRILL STEM TEST REPORT

DATE March 11, 1985

Well: Exco et al Tunago 2N-37 Location _____
DST No. 2 Interval 1283.48 m - 1297.48 m Formation Mount Clark
Last Casing: Size 244 mm Depth 630.0 m Open Hole: Size 216mm Depth 1626 m
Hole Troubles: Slight Lost Circulation (healed) Caliper at Packer(s) 260mm - Jagged
Mud: Wt. 1150 Vis 54 W.L. 11 % Oil Nil ppm Cl 109000

B. TEST STRING DATA

Testing Company Lynes United Services Ltd. Type of Test Inflate Straddle
Type and Number of Packers Straddle Inflate - two (2) Size 194mm
DP Size 114mm Wt 24.7 kg/m Length 1188.23 m
DC Size 159mm Wt 139 kg/m I.D. 50.8mm Length 84.76 m
Tail Pipe Size N/A Wt _____ Length _____ Perfs _____ m
T.D. String - Recorder Depth 1277.61 m Water Cushion N/A BH Choke 25.4mm
Packer Depth(s) 1283.48 m - 1297.48 m Weight on Packer(s) 10,000 to open
Other Equipment Samplers, Pump Out Sub, Jars, Manifold

C. TEST RESULTS

Times: PF _____ ISI 15808 Flow _____ SI _____ Flow _____ FSI _____
Pressures: PF _____ IH _____ ISI _____ IF _____
TEMP _____ °C FH 15801 FSI _____ FF _____

Flow Descriptions:

PREFLOW: Misrun

Valve Open Flow: _____

Recoveries: _____

D. SAMPLE DETAILS:

N/A

Sent to: _____ Via: _____ Date Sent: _____

E. REMARKS:

Failed to obtain packer seat. Hoisted and found top of packer had blown.

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

ENGINEER Mel Nichols

EXCO ET AL TUNAGO 2N-37
400/ 66.649 / 126.215 /00
DST#02
1283.48m to 1297.48m
MOUNT CLARK

DEPTH: 1285.21m

RECORDER # 021356

PRESSURE
kPa

1) Initial Hydro : 15494.
14) Final Hydro. : 15494.



RECOVERY DATA

NO GAS TO SURFACE. NO FLUID RECOVERY DUE TO MISRUN.

REMARKS AND TEST SUMMARY

Misrun - unable to maintain a packer seat. Ruptured the top element.

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PAGE 1	PAGE 2	PAGE 3	PAGE 4
General Data	Tool Sequence	PRESSURE	Plot Summary
Blow Description	Recorder Summary	-TIME	Reservoir Calculations
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Gas Measurements			-Results

***** RECORDER PAGES & FIGURES *****

Well name : EXCO ET AL TUNAGO 2N-37
Location : 400/ 66.649 / 126.215 /00
Interval : 1283.48m to 1297.48m
Test Date : 85/03/11
Test Type : INFLATE STRADDLE
Formation : MOUNT CLARK

K.B.Elevation : 236.56m
Grd.Elevation : 232.06m
TD @ test Date: 1629.00m
Ticket Number : 66052
Unit Number : M-2

Started in hole at : 2044 hrs
Tool opened at :
Reverse circulated?: NO
Contractor & Rig No: TRI-CAN #707
Lynes#2 : 1 of 1 on the same trip.

Operator: EXCO ENERGY LTD.
6TH FLR.
700 - 4TH AVE. S.W.
CALGARY ALBERTA
T2P3J4

Company Rep : NICHOLS M
Testers : LUNGAL A

5 REPORTS(S) TO:
Company:

BLOW DESCRIPTION

Misrun.

TOTAL LIQUID RECOVERY : .00m

For DST# 2 through DST# 2

.00m

GAS MEASUREMENTS

No Gas Measurements

TOOL SEQUENCE

RECORDER SUMMARY

SUB	LENGTH (m)	
PUMP OUT SUB	.42	1) NUMBER : 004636
DOUBLE PIN SUB	.29	TYPE : K-3
INSIDE RECORDER	1.38	LOCATION: OUTSIDE
HYDRAULIC TOOL	1.50	RANGE: 18300.00kPa
BTM. HOLE SAMPLER	1.03	DEPTH : 1285.21m
BTM. HOLE SAMPLER	1.03	2) NUMBER : 008728
HYDRAULIC JARS	2.19	TYPE : K-3
INSIDE RECORDER	1.38	LOCATION: INSIDE
SAFETY JOINT	.65	RANGE: 20700.00kPa
INFLATE PUMP	2.28	DEPTH : 1270.48m
SCREEN	1.16	3) NUMBER : 012358
TOP INFLATE PACKER	1.78	TYPE : K-3T
PACKER STICK DOWN	.82	LOCATION: OUTSIDE
PORTED COMB. SUB	.31	RANGE : 1C to 130C
RECORDER CARRIER	2.06	DEPTH : 1285.21m
SPACING	.29	4) NUMBER : 013832
CROSS OVER SUB	.31	TYPE : K-3
DRILL COLLARS	9.40	LOCATION: INSIDE
CROSS OVER SUB	.31	RANGE: 19300.00kPa
PACKER STICK UP	.50	DEPTH : 1277.61m
BTM.INFLATE PACKER	1.90	5) NUMBER : 021356
PERFORATIONS	.61	TYPE : K-3
BELLY SPRING	2.00	LOCATION: OUTSIDE
		RANGE: 23300.00kPa
		DEPTH : 1285.21m
***** TOOL TOTAL	33.60	
DRILL COLLARS		
ID= 53.0mm:	84.76	
ID= :		
DRILL PIPE		
OD=114.3mm:	1188.23	
OD= :		
COLLAR-PIPE TOTAL	1272.99	
STICK UP ABOVE TABLE :	4.60	
TOOL ABOVE INTERVAL :	15.09	
TOTAL INTERVAL :	14.00	
BOTTOM CHOKE SIZE:	25.40 mm	

MUD AND HOLE DATA

Calipered Hole Size @ Test Depth:	260.00mm	Water Loss :	11.4cc/s
Hole Condition at Test Time :	GOOD	Filter Cake:	1.5 mm
Hole Conditioned Prior to Test? :	NO		
Mud Weight :	1150.0 kg/m3	Main Hole Size:	216.00mm
Type :	SALT BASED		
osity :	55.0s/l	Temperature @1285.21m =	

DST#02
EXCO ET AL TUNAGO 2N-37
1283.48m to 1297.48m

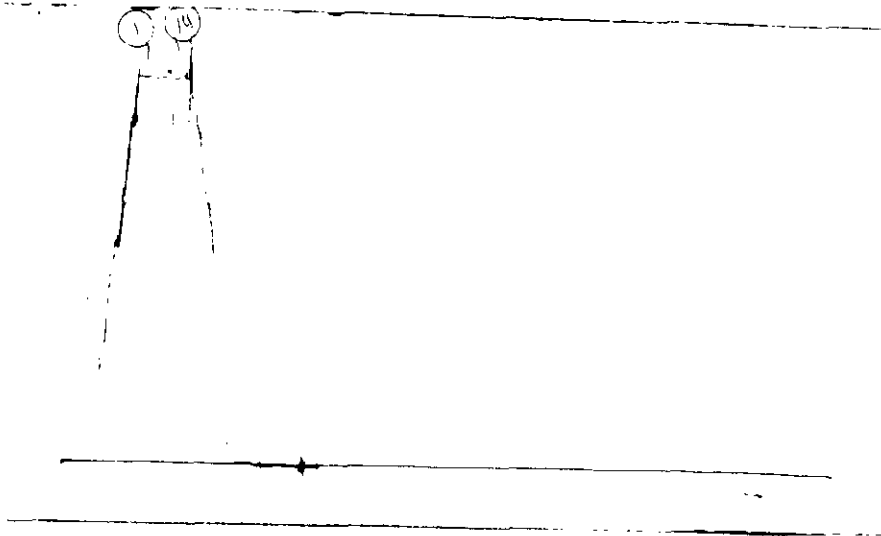
PRESSURE RECORDER NUMBER : 004636

PTH : 1285.21m
PE : K-3

LOCATION : OUTSIDE
CAPACITY : 18300.00 kPa

PRESSURE
kPa

1) Initial Hydro : 15394.
14) Final Hydro. : 15394.



PRESSURE RECORDER NUMBER : 008728

DEPTH : 1270.48m
TYPE : K-3

LOCATION : INSIDE
CAPACITY : 20700.00 kPa

PRESSURE
kPa

1) Initial Hydro :
14) Final Hydro. :

Above Hydraulic Tool

ABOVE HYDRAULIC
TOOL RECORDER.
NO READINGS.

DST#02
EXCO ET AL TUNAGO 2N-37
1283.48m to 1297.48m

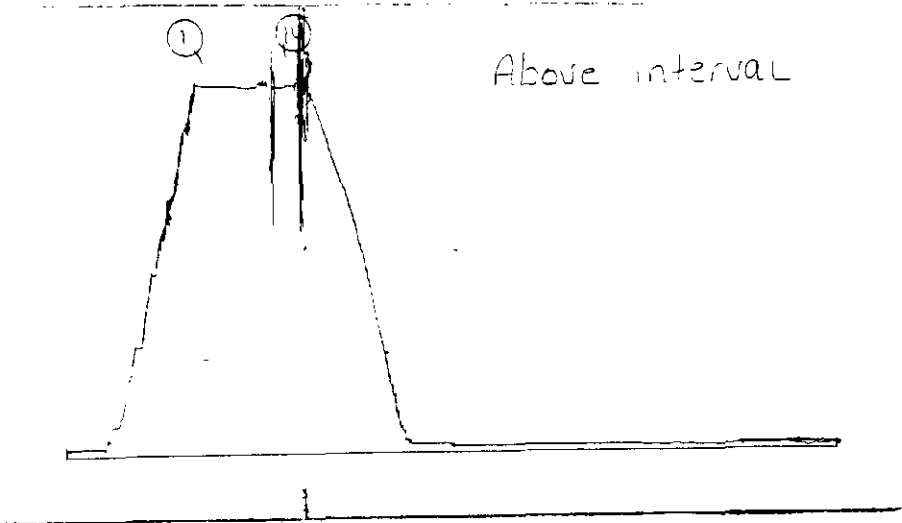
PRESSURE RECORDER NUMBER : 013832

DEPTH : 1277.61m
E : K-3

LOCATION : INSIDE
CAPACITY : 19300.00 kPa

PRESSURE
kPa

1)Initial Hydro :15363.
14)Final Hydro. :15363.



ABOVE INTERVAL
RECORDER.

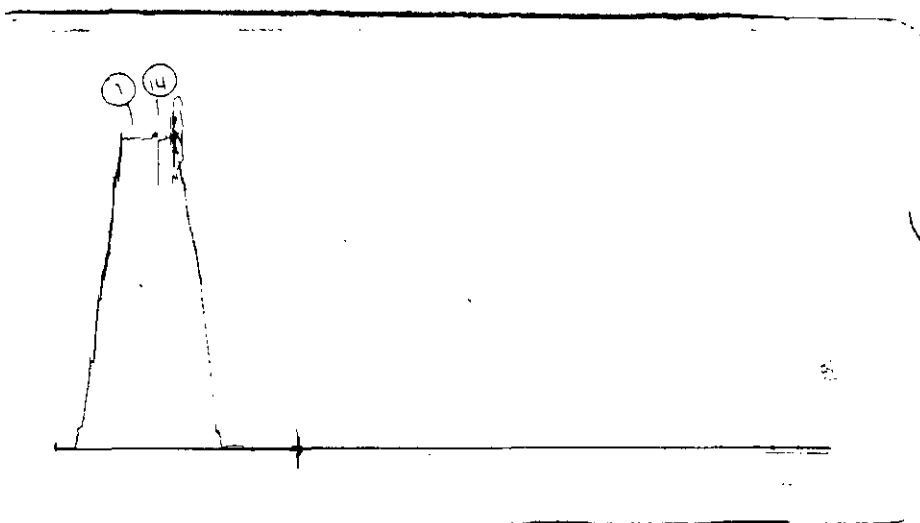
PRESSURE RECORDER NUMBER : 021356

DEPTH : 1285.21m
TYPE : K-3

LOCATION : OUTSIDE
CAPACITY : 23300.00 kPa

PRESSURE
kPa

1)Initial Hydro :15494.
14)Final Hydro. :15494.



DST#02
EXCO ET AL TUNAGO 2N-37
1283.48m to 1297.48m

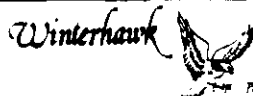
TEMPERATURE RECORDER NUMBER : 012358

PTH : 1285.21m LOCATION : OUTSIDE
TYPE : K-3T RANGE : 130.00C

TEMPERATURE
RECORDER.
NO READING.

***** TEMPERATURE AT RECORDER DEPTH =

Temperature



PAGE _____

A. WELL DATA

FIELD DRILL STEM TEST REPORT

DATE March 11, 1985

Well: Exco et al Tunago 2N-37 Location _____
DST No. 3 Interval 1241.5 m - 1296.5 m Formation Mount Clark
Last Casing: Size 244mm Depth 630.0 m Open Hole: Size 216mm Depth 1626 m
Hole Troubles: Slight Lost Circulation @ 630 m Caliper at Packer(s) Top-225mm, Bottom-214mm
Mud: Wt. 1120 kg/mvis 54 W.L. 11 % Oil Nil ppm Cl 109000

B. TEST STRING DATA

Testing Company Lynes United Services Ltd. Type of Test Inflate Straddle
Type and Number of Packers Inflate - two (2) Size 194mm
OP Size 114mm Wt 24.7 kg/m Length 1133.79 m
DC Size 159mm Wt 139 kg/m I.D. 50.8mm Length 93.83 m
Tail Pipe Size N/A Wt N/A Length N/A Perfs N/A m
T.D. String N/A Recorder Depth 1243.23 m Water Cushion Nil BH Choke 25.4mm
Packer Depth(s) Top-1241.5 m Bottom-1296.5m Weight on Packer(s) 20,000 to open
Other Equipment Samplers, Pump Out Sub, Jars, Manifold

C. TEST RESULTS

Times: PF 15 ISI 60 Flow 60 SI - Flow - FSI 120
Pressures: PF 575 kPa IH 14729 kPa ISI 2414 kPa IF 690 kPa
TEMP 18 °C FH 14449 kPa FSI 1724 kPa FF 690 kPa

Flow Descriptions:

Preflow: Very weak air blow throughout. N.G.T.S.Valve Open Flow: Very weak air blow, dead in 20 mins. N.G.T.S.Recoveries: 9 m drilling mud

D. SAMPLE DETAILS:

Btm. H Sampler #196, #242 - Sent to Chemex (4 samples in total)Sent to: _____ Via: Lynes United Services Date Sent: _____

E. REMARKS:

Good DST.

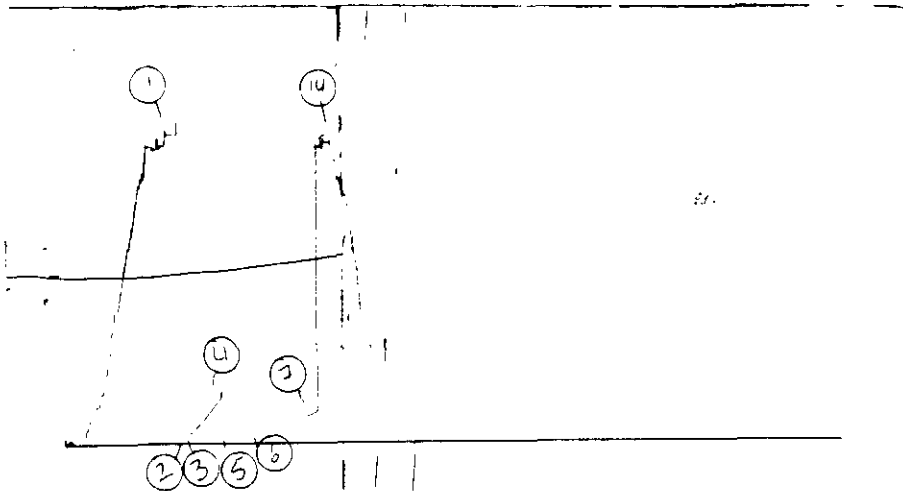
Note: Data reported on this form are field readings taken
at the time of test, and are subject to correction.

ENGINEER Mei Nichols

EXCO ET AL TUNAGO 2N-37
400/ 66.649 / 126.215 /00
DST#03
1241.50m to 1296.50m
MOUNT CLARK

DEPTH: 1243.23m

RECORDER # 021356



PRESSURE
kPa

```

1)Initial Hydro : 14835.
2)1st Flow Start: 409.
3)1st Flow End : 457.
4)END 1st Shutin: 2219.
5)2nd Flow Start: 505.
6)2nd Flow End : 552.
7)END 2nd Shutin: 1571.
14)Final Hydro. : 14835.

```

TEST TIMES (MIN)

```
1stFLOW      :    15.
  SHUTIN:    60.
2ndFLOW      :    60.
  SHUTIN:   120.
```

RECOVERY DATA

WAS TO SURFACE. TOTAL FLUID RECOVERY CONSISTS OF 9.00 METERS OF
CUTTING MUD.

REMARKS AND TEST SUMMARY

Test results indicate a mechanically successful test. Bottom hole pressures and the shape of the shut-in curves suggest VIRTUALLY NO PERMEABILITY within the interval tested.

TABLE OF CONTENTS

PAGE 1	PAGE 2	PAGE 3	PAGE 4
General Data	Tool Sequence	PRESSURE	Plot Summary
Blow Description	Recorder Summary	-TIME	Reservoir Calculations
Liquid Recovery	Mud and Hole Data	LISTING	-Parameters used
Gas Measurements			-Results
***** RECORDER PAGES & FIGURES *****			

Well name : EXCO ET AL TUNAGO 2N-37
Location : 400/ 66.649 / 126.215 /00
Interval : 1241.50m to 1296.50m
Test Date : 85/03/12
Test Type : INFLATE STRADDLE
Formation : MOUNT CLARK

K.B.Elevation : 236.56m
Grd.Elevation : 232.06m
TD @ test Date: 1629.00m
Ticket Number : 66053
Unit Number : M-2

Started in hole at : 2030 hrs
Tool opened at : 0008 hrs
Reverse circulated?: YES
Contractor & Rig No: TRI-CAN #707
Lynes#3 : 1 of 1 on the same trip.

Operator: EXCO ENERGY LTD.
6TH FLR.
700 - 4TH AVE. S.W.
CALGARY ALBERTA
T2P3J4

Company Rep : NICHOLS M
Testers : LUNGAL A

5 REPORTS(S) TO:
Company:

BLOW DESCRIPTION

Very weak air blow throughout preflow. No gas to surface.
Very weak air blow decreasing to nil after 20 minutes on final flow. No gas to surface.

TOTAL LIQUID RECOVERY : 9.00m

For DST# 3 through DST# 3
4 Fluid Samples
Sent to: GEOTECH

Sample Salinity :109000.0g/m3

Btm. Hole Sampler #: 196,242
Sent to: GEOTECH

9.00m DRILLING MUD.

GAS MEASUREMENTS

No Gas Measurements

TOOL SEQUENCE

*****RECORDER SUMMARY*****

SUB	LENGTH (m)
PUMP OUT SUB	.42
DOUBLE PIN SUB	.29
INSIDE RECORDER	1.38
HYDRAULIC TOOL	1.50
BTM. HOLE SAMPLER	1.03
BTM. HOLE SAMPLER	1.03
HYDRAULIC JARS	2.19
INSIDE RECORDER	1.38
SAFETY JOINT	.65
INFLATE PUMP	2.28
SCREEN	1.16
TOP INFLATE PACKER	1.78
PACKER STICK DOWN	.82
PORTED COMB. SUB	.31
RECORDER CARRIER	2.06
SPACING	4.17
CROSS OVER SUB	.31
DRILL COLLARS	46.52
CROSS OVER SUB	.31
PACKER STICK UP	.50
BTM. INFLATE PACKER	1.90
PERFORATIONS	.61
BELLY SPRING	2.00

1) NUMBER : 004636	ABOVE HYDRAULIC
TYPE : K-3	TOOL RECORDER.
LOCATION: INSIDE	
RANGE: 18300.00kPa	
DEPTH : 1228.50m	
2) NUMBER : 006548	
TYPE : K-3	
LOCATION: OUTSIDE	
RANGE: 26200.00kPa	
DEPTH : 1243.23m	
3) NUMBER : 012358	TEMPERATURE
TYPE : K-3T	RECORDER.
LOCATION: OUTSIDE	
RANGE : 1C to 130C	
DEPTH : 1243.23m	
4) NUMBER : 013832	ABOVE INTERVAL
TYPE : K-3	RECORDER.
LOCATION: INSIDE	
RANGE: 19300.00kPa	
DEPTH : 1235.63m	
5) NUMBER : 021356	
TYPE : K-3	
LOCATION: OUTSIDE	
RANGE: 23300.00kPa	
DEPTH : 1243.23m	

***** TOOL TOTAL 74.60

DRILL COLLARS
ID= 53.0mm: 93.83
ID= :

DRILL PIPE
OD=114.3mm: 1133.79
OD= :

COLLAR-PIPE TOTAL 1227.62

STICK UP ABOVE TABLE : 1.21
TOOL ABOVE INTERVAL : 15.09
TOTAL INTERVAL : 55.00
BOTTOM CHOKE SIZE: 25.40 mm

MUD AND HOLE DATA

Calipered Hole Size @ Test Depth:	Water Loss : 11.4cc/s
Hole Condition at Test Time : GOOD	Filter Cake: 1.5 mm
Hole Conditioned Prior to Test? : YES	
Mud Weight : 1120.0 kg/m3	Main Hole Size: 216.00mm
Type : SALT BASED	
osity : 54.0s/l	Temperature @1243.23m = 14.0C

DST#03
EXCO ET AL TUNAGO 2N-37
1241.50m to 1296.50m

PRESSURE RECORDER NUMBER : 004636

PTH : 1228.50m
PE : K-3

LOCATION : INSIDE
CAPACITY : 18300.00 kPa

PRESSURE
kPa

- 1) Initial Hydro :
- 2) 1st Flow Start: 23.
- 3) 1st Flow End : 152.
- 4) END 1st Shutin:
- 5) 2nd Flow Start: 152.
- 6) 2nd Flow End : 296.
- 7) END 2nd Shutin: 296.
- 14) Final Hydro. :

Above Hydraulic TOOL

ABOVE HYDRAULIC
TOOL RECORDER.

② ③ ⑤ ⑥ ⑦

TEST TIMES (MIN)

- 1st FLOW : 15.
SHUTIN: 60.
2nd FLOW : 60.
SHUTIN: 120.

PRESSURE RECORDER NUMBER : 006548

DEPTH : 1243.23m
TYPE : K-3

LOCATION : OUTSIDE
CAPACITY : 26200.00 kPa

PRESSURE
kPa

- 1) Initial Hydro : 14711.
- 2) 1st Flow Start: 586.
- 3) 1st Flow End : 586.
- 4) END 1st Shutin: 2138.
- 5) 2nd Flow Start: 701.
- 6) 2nd Flow End : 713.
- 7) END 2nd Shutin: 1506.
- 14) Final Hydro. : 14444.

① ⑭
④ ⑦
② ③ ⑤ ⑥

DST#03
EXCO ET AL TUNAGO 2N-37
1241.50m to 1296.50m

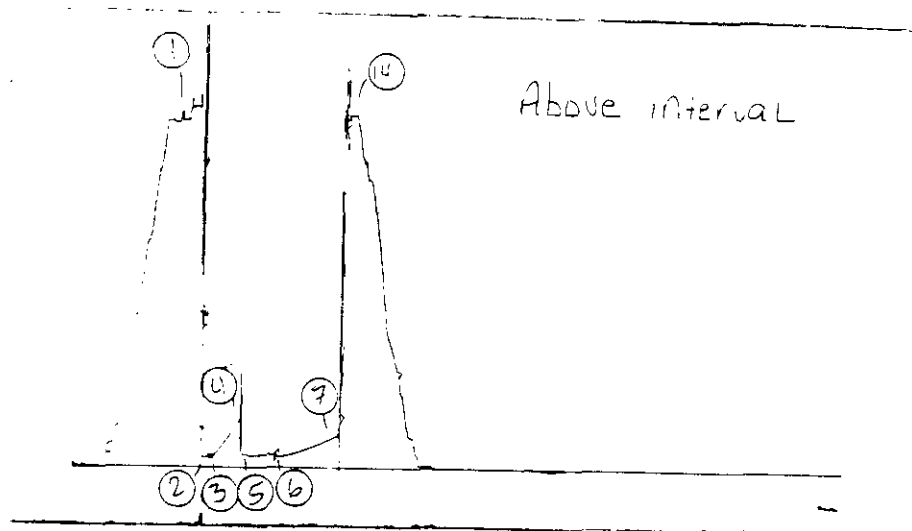
PRESSURE RECORDER NUMBER : 013832

PTH : 1235.63m
PE : K-3

LOCATION : INSIDE
CAPACITY : 19300.00 kPa

PRESSURE
kPa

- 1) Initial Hydro : 14698.
- 2) 1st Flow Start: 508.
- 3) 1st Flow End : 508.
- 4) END 1st Shutin: 2096.
- 5) 2nd Flow Start: 606.
- 6) 2nd Flow End : 524.
- 7) END 2nd Shutin: 1433.
- 14) Final Hydro. : 14698.



ABOVE INTERVAL
RECORDER.

TEST TIMES (MIN)

- 1st FLOW : 15.
SHUTIN: 60.
2nd FLOW : 60.
SHUTIN: 120.

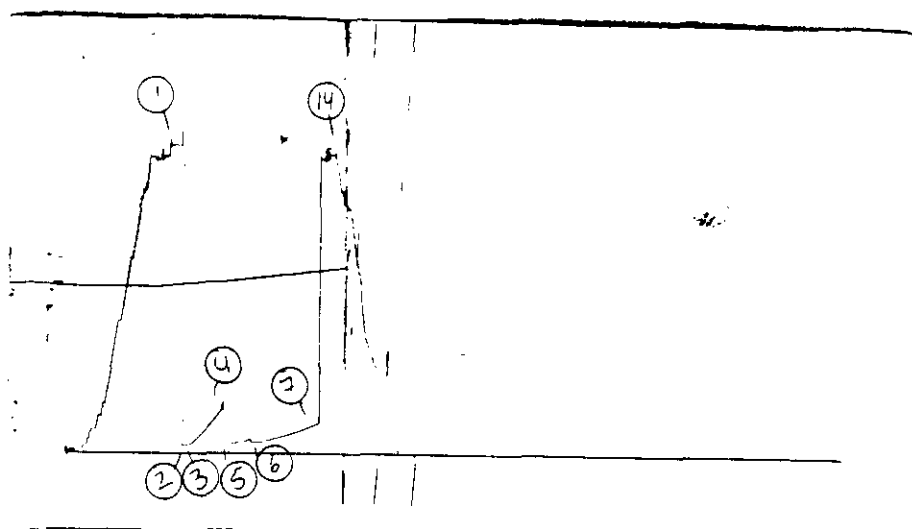
PRESSURE RECORDER NUMBER : 021356

DEPTH : 1243.23m
TYPE : K-3

LOCATION : OUTSIDE
CAPACITY : 23300.00 kPa

PRESSURE
kPa

- 1) Initial Hydro : 14835.
- 2) 1st Flow Start: 409.
- 3) 1st Flow End : 457.
- 4) END 1st Shutin: 2219.
- 5) 2nd Flow Start: 505.
- 6) 2nd Flow End : 552.
- 7) END 2nd Shutin: 1571.
- 14) Final Hydro. : 14835.



DST#03
EXCO ET AL TUNAGO 2N-37
1241.50m to 1296.50m

TEMPERATURE RECORDER NUMBER : 012358

PTH : 1243.23m LOCATION : OUTSIDE
TYPE : K-3T RANGE : 130.00C

TEMPERATURE
RECORDER.

***** TEMPERATURE AT RECORDER DEPTH = 14.0 C

Temperature

③

WATER ANALYSIS

FOR DST #3

MT. CLARKE 1241.5 m - 1296.3 m

tti GEOTECHnical resources ltd.



4500 - 5th STREET N.E., CALGARY, ALBERTA T2E 7C3.

(403) 230-4128

FILE NUMBER

85AS5194

LABORATORY NUMBER

5194-W1

CONTAINER IDENTITY

WATER ANALYSIS

OPERATOR'S NAME

EXCO ENERGY LTD.

SAMPLE LOCATION

WELL NAME

ELEVATIONS

KB

GRD

FIELD OR AREA

POOL OR ZONE

NAME OF SAMPLER

COMPANY

MT. CLARKE

LYNES

TEST RECOVERY

900m

SAMPLING POINT

AMT. AND TYPE OF CUSHION

MUD RESISTIVITY (Ω/m)

DST CHAMBER 242

PUMPING ☐

FLOWING ☐

GAS LIFT ☐

SWAB ☐

WATER m^3/d

OIL m^3/d

GAS $10^3 m^3/d$

SEPARATOR

TREATER

RESERVOIR

SAMPLED

RECEIVED

GAUGE PRESSURE g/pa

TEMPERATURE ($^{\circ}C$)

DATE SAMPLED
Y - M - D H:M

85-03-14

DATE RECEIVED
Y - M - D

85-03-19

DATE ANALYZED
Y - M - D

85-03-26

ANALYST

KW/HD

TEST TYPE NO.
DST **3**

MULTIPLE RECOVERY ☐

TEST INTERNAL FROM
1241.5

TO
1296.3

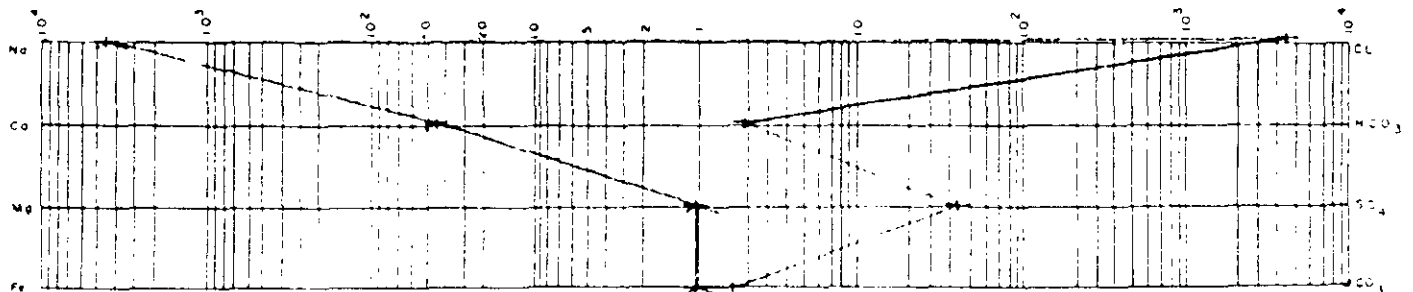
PERFORATIONS FROM

TO

SUMMARY DATA

TOTAL HARDNESS AS $CaCO_3$	2046	g/m^3
TOTAL ALKALINITY	185	g/m^3
SALINITY	27.04	$\%$
SATURATION INDEX	*	
STABILITY INDEX	*	
CORROSION TENDENCY	1149.78	

LOGARITHMIC PATTERN MEG PER LITRE



REMARKS

* No Temperature Data

WATER ANALYSIS

DETAILED REPORT



OPERATOR'S NAME

EXCO ENERGY LTD.

WELL NAME

EXCO ET AL TUNAGO

LOCATION

66-10-126-15W

SAMPLING POINT

DST CHAMBER 242

FILE NUMBER

85AS5194

LABORATORY NUMBER

5194-W1

CATIONS

ION	g/m ³	MASS FRACTION	MEQ/L
Na	95200	0.38	4140
K	485	0.00	12
Ca	813	0.00	40
Mg	< 0.01		
Ba	0.079	0.00	0.001
Sr	14.4	0.00	0.3
Fe	0.060	0.00	0.003
Mn			
Al			
Si			
B			
U			
Th			

ANIONS

ION	g / m ³	MASS FRACTION	MEQ/L
Cl	149800	0.61	4222
Br			
I	37.0	0.00	0.3
F			
HCO ₃	122	0.00	2
CO ₃	50.8	0.00	1.7
OH	0.000	0.00	0.000
SO ₄	1950	0.01	40
H ₂ S			
PO ₄			

TOTAL SOLIDS (g/m³)

EVAPORATED AT 110°C EVAPORATED AT 180°C

AT IGNITION CALCULATED

248472

SPECIFIC GRAVITY

at 15°C

REFRACTIVE INDEX (n_D)

at 25°C

1.381

OBSERVED pH

at 25°C

RESISTIVITY (RW) Ω m

at 25°C

0.048

REDOX POTENTIAL (E_h)

DISSOLVED O₂

g/m³

TOTAL METALS

METAL	g/m ³
Fe	
Mn	

REMARKS

OPENING PRESSURE ON SAMPLER 242
WAS 0 kPa. TOTAL FLUID VOLUME WAS
650ml MUD. CHAMBER 196 RECEIVED EMPTY.

HYDROCARBON ANALYSIS

HYDROCARBON ANALYSIS

on:

FORWARD RESOURCES et al TUNAGO 2N-37

66° 6' 49.92" N
126° 21' 69.8" W

Prepared for Forward Resources Ltd.

Prepared by GeoChem Laboratories Ltd.

CONFIDENTIAL

March 1985

SUMMARY OF ORGANIC CARBON ANALYSES

GEOCHEM SAMPLE NUMBER	WELL DEPTH (METERS)	PERCENT ORGANIC CARBON
C876A-001	300	0.05
C876A-002	330	0.08
C876A-003	370	0.03
C876A-004	400	0.04
C876A-005	430	0.06, 0.05R
C876A-006	460	0.04
C876A-007	490	0.11
C876A-008	520	0.09
C876A-009	550	0.09
C876A-010	580	0.11
C876A-011	610	0.13
C876A-012	640	0.08
C876A-013	670	0.07
C876A-014	700	0.08, 0.08R
C876A-019	790	0.07
C876A-020	820	0.09
C876A-021	850	0.07
C876A-022	880	0.10
C876A-024	910	0.09
C876A-025	940	0.07
C876A-026	970	0.13
C876A-027	1000	0.09
C876A-028	1030	0.13
C876A-029	1060	0.33
C876A-030	1090	0.29, 0.29R
C876A-031	1120	0.16
C876A-032	1150	0.18
C876A-033	1180	0.49
C876A-034	1210	1.14
C876A-035	1240	0.47

SUMMARY OF ORGANIC CARBON ANALYSES

GEOCHEM SAMPLE NUMBER	WELL DEPTH (METERS)	PERCENT ORGANIC CARBON
C876A-036	1270	0.33
C876A-037	1300	0.18
C876A-038	1330	0.19
C876A-039	1360	0.22
C876A-040	1390	0.20
C876A-041	1410	0.26
C876A-043	1460	1.09
C876A-044	1480	0.90
C876A-045	1510	0.72
C876A-046	1540	1.45
C876A-047	1570	0.55, 0.54R
C876A-048	1600	1.02
C876A-049	1626	0.22

ORGANIC CARBON ANALYSES AND GROSS LITHOLOGICAL DESCRIPTION

GeoChem Sample Number	Well Interval (meters)	Gross Lithological Description	Total Organic Carbon (% of Rock)
C876A-001 - A	300	100% DOLOMITE: creamy grey in colour, microcrystalline and cryptocrystalline, calcareous, poor porosity, brittle, trace pyrite and limestone	0.05
C876A-002 - A	330	100% DOLOMITE: creamy grey (some pink), microcrystalline and cryptocrystalline, calcareous, poor porosity, brittle, trace pyrite and limestone	0.08
C876A-003 - A	370	100% DOLOMITE: creamy to grey, microcrystalline and cryptocrystalline, calcareous, moderate to poor visible porosity, brittle, trace pyrite	0.03
C876A-004 - A	400	100% DOLOMITE: creamy colour, some grey, microcrystalline and cryptocrystalline, calcareous, poor visible porosity, trace rust staining	0.04
C876A-005 - A	430	100% DOLOMITE: brittle, creamy to grey and brown in colour, calcareous, microcrystalline and cryptocrystalline, poor visible porosity, trace pyrite inclusions and rust stains, trace fine black stained dolomite?	0.06, 0.05 R
C876A-006 - A	460	100% DOLOMITE: cream with some grey, calcareous, predominantly cryptocrystalline, poor visible porosity, trace glauconite and pyrite, brittle	0.04
76A-007 - A	490	100% DOLOMITE: grey to brown with some cream, brittle, calcareous, predominantly cryptocrystalline, poor visible porosity, trace pyrite included.	0.11

ORGANIC CARBON ANALYSES AND GROSS LITHOLOGICAL DESCRIPTION

GeoChem Sample Number	Well Interval (meters)	Gross Lithological Description	Total Organic Carbon (% of Rock)
C876A-008	520		0.09
- A		100% DOLOMITE: grey brown in colour, calcareous cryptocrystalline, brittle, poor visible porosity, trace pyrite included	
C876A-009	550		0.09
- A		100% DOLOMITE: grey in colour, crypto- crystalline, calcareous, poor visible porosity, brittle, trace rust stain	
C876A-010	580		0.11
- A		100% DOLOMITE: grey in colour, crypto- crystalline, calcareous, poor visible porosity, brittle, trace rust stain	
C876A-011	610		0.13
- A		80% DOLOMITE: grey brown in colour, crypto to microcrystalline, poor visible porosity, brittle to hard	
- B		20% SHALE - DOLOMITE (Calcareous): greenish- grey in colour, waxy texture, blocky, firm hardness	
C876A-012	640		0.08
- A		50% DOLOMITE: grey-brown in colour, crypto to microcrystalline, low visible porosity, brittle to hard	
- B		50% SHALE: 30% reddish brown, smooth-earth texture, blocky, firm hardness	
- C		20% green, waxy texture, blocky, slightly calcareous	
- D		Trace gypsum-anhydrite	
C876A-013	670		0.07
- A		50% DOLOMITE: grey (predominant) reddish brown, greenish microcrystalline, poor porosity, firm hardness	

ORGANIC CARBON ANALYSES AND GROSS LITHOLOGICAL DESCRIPTION

GeoChem Sample Number	Well Interval (meters)	Gross Lithological Description	Total Organic Carbon (% of Rock)
C876A-013 (Con't)		50% SHALE: 30% red-brown, earthy texture, blocky, firm 20% green, waxy texture, blocky, slightly calcareous Trace anhydrite	
C876A-014 - A	700	80% SHALE: 40% reddish brown, earthy texture, calcareous in part, blocky, firm hardness, some inter- bedded anhydrite 40% green, waxy to earthy texture, calcareous, blocky, firm hardness 5% DOLOMITE: grey-cream coloured, trace reddish, indurated hardness 15% ANHYDRITE (gypsum) pink with some white, pearly lustre, moderately indurated	0.08, 0.08 R
C876A-019 - A	790	100% MARL: green, red and white, earthy. Trace dolomite, anhydrite. This sample contains very little indurated sediment	0.07
C876A-020 - A	820	90% CALCAREOUS SHALE: cream, earthy texture, soft to firm, blocky 10% MARL: green and red brown, soft and friable, trace anhydrite	0.09
C876A-021 - A - B	850	75% CALCAREOUS SHALE: cream coloured, earth texture, thinly bedded, hard, blocky 20% ANHYDRITE: white - pink pearly lustre, moderately indurated, massive	0.07

ORGANIC CARBON ANALYSES AND GROSS LITHOLOGICAL DESCRIPTION

GeoChem Sample Number	Well Interval (meters)	Gross Lithological Description		Total Organic Carbon (% of Rock)
C876A-021 (Con't)		2%	DOLOMITE: grey in colour	
		3%	MARL: predominantly green, some red	
C876A-022	880			0.10
- A		20%	MARL: green, some red - brown, soft friable	
- B		55%	CALCAREOUS SHALE: white - cream, hard, blocky, earthy texture, thinly bedded	
- C		20%	ANHYDRITE: pearly white - pink, well indurated, massive	
- D		5%	DOLOMITE: grey in colour, trace grey shale	
C876A-024	910			0.09
- A		20%	ANHYDRITE: pearly white - pink, massive, trace fibrous crystals	
- B		30%	CALCAREOUS SHALE: white, thinly bedded, hard, blocky	
- C		30%	DOLOMITE: grey in colour, micro- crystalline	
- D		20%	SHALE: green, red, grey cal- careous in part (red), earthy texture, fissile, moderately indurated	
C876A-025	940			0.07
- A		50%	CALCAREOUS SHALE: white, earthy texture, blocky, hard	
- B		25%	MARL: green - red very soft, friable, small amount is slightly indurated and fissile	
- C		15%	DOLOMITE: cream to grey in colour, small amount of vuggy dolomite	

ORGANIC CARBON ANALYSES AND GROSS LITHOLOGICAL DESCRIPTION

GeoChem Sample Number	Well Interval (meters)	Gross Lithological Description	Total Organic Carbon (% of Rock)
C876A-025 (Con't)			
- D		10% ANHYDRITE: pearly white massive, moderately indurated	
C876A-026	970		0.13
- A		50% DOLOMITE CALCITIC: brown - cream coloured, earthy texture, argillaceous, vuggy, indurated hardness	
- B		30% MARL: green, red in colour, soft - friable, some is slightly indurated and fissile	
- C		20% ANHYDRITE: pearly white, moderately indurated, massive	
C876A-027	1000		0.09
- A		50% MARL: green, red - brown in colour, soft - friable	
- B		45% DOLOMITE-Calcitic: creamy to brown in colour, slightly vuggy, moderately indurated	
- C		5% ANHYDRITE: pearly white, massive, moderately indurated	
C876A-028	1030		0.13
- A		100% CALCAREOUS SHALE: greenish - grey in colour, blocky, slightly carbonaceous, brittle	
- B		Trace anhydrite, marl	
C876A-029	1060		0.33
- A		60% SHALE: green and grey in colour, calcareous, carbonaceous, blocky, firm hardness	
- B		40% DOLOMITE: Reddish brown in colour, cryptocrystalline, low visible porosity, hard to brittle	
- C		Trace anhydrite, chert	

ORGANIC CARBON ANALYSES AND GROSS LITHOLOGICAL DESCRIPTION

GeoChem Sample Number	Well Interval (meters)	Gross Lithological Description	Total Organic Carbon (% of Rock)
C876A-030	1090		0.29, 0.29R
- A		70% SHALE: greenish grey, earthy texture, blocky, firm hardness, trace green, waxy, calcareous, block shale	
- B		30% DOLOMITE: reddish brown in colour, cryptocrystalline, sucrosic, hard	
- C		1% BROWN CERT: trace creamy calcareous shale and anhydrite	
C876A-031	1120		0.16
- A		100% SHALE: green (greyish) calcareous, carbonaceous in part, blocky, earthy, texture, firm hardness, trace pyrite inclusions	
C876A-032	1150		0.18
- A		100% SHALE: greyish green calcareous carbonaceous, blocky, smooth - earth texture, firm hardness	
- B		Trace dolomite	
C876A-033	1180		0.49
- A		100% SHALE: 70% grey - brown, calcareous, carbonaceous, thinly bonded, earthy texture, blocky, hard	
		30% green, pyrite inclusions, waxy texture, fissile, hard	
C876A-034	1210		1.14
- A		100% SHALE: 70% grey brown, calcareous, carbonaceous, earthy texture, hard, blocky	
		30% green, pyrite included, carbonaceous in part, fissile, brittle, blocky in part	
- B		Trace limestone, dolomite and anhydrite crystals	

ORGANIC CARBON ANALYSES AND GROSS LITHOLOGICAL DESCRIPTION

GeoChem Sample Number	Well Interval (meters)	Gross Lithological Description		Total Organic Carbon (% of Rock)
C876A-035	1240			0.47
- A		75%	SHALE: 50% green, smooth texture, calcareous, brittle, blocky, fissile 25% grey - brown, calcareous, carbonaceous, blocky, brittle	
- B		25%	DOLOMITE - Calcitic: microcrystalline, reddish brown, very hard, moderate visible porosity	
C876A-036	1270	60%	SHALE: 30% green, slightly calcareous in part, waxy texture, moderately indurated, fissile 10% grey - brown, calcareous, carbonaceous, blocky, hard	0.33
		40%	SILTSTONE: grey in colour, dolomite cement, poorly cemented, silt sized quartz grains	
C876A-037	1300			0.18
- A		70%	SHALE: green and brown - grey, calcareous, carbonaceous, blocky, moderately indurated	
- B		30%	DOLOMITE - Calcitic: creamy coloured, cryptocrystalline, hard	
- C			Trace siltstone, anhydrite	
C876A-038	1330			0.19
- A		60%	SHALE: greenish grey, waxy to earthy texture, firm hardness, carbonaceous	
- B		40%	DOLOMITE: grey, cryptocrystalline, very hard, sucrosic	

ORGANIC CARBON ANALYSES AND GROSS LITHOLOGICAL DESCRIPTION

GeoChem Sample Number	Well Interval (meters)	Gross Lithological Description	Total Organic Carbon (% of Rock)
C876A-039	1360		0.22
- A		60% SHALE: green - grey, calcareous in part, waxy - earthy texture, firm hardness, carbonaceous, trace black - grey, carbonaceous, thinly bonded, hard, shale	
- B		40% DOLOMITE: grey, cryptocrystalline, very hard, sucrosic	
C876A-040	1390		0.20
- A		80% SHALE: 50% green, calcareous (in part), carbonaceous, waxy texture, fissile - blocky, firm	
		30% grey - black, calcareous, carbonaceous, thinly bonded, fissile - blocky, brittle to friable	
- B		20% DOLOMITE: grey microcrystalline, cryptocrystalline	
C876A-041	1410		0.26
- A		100% SHALE: 40% grey, siliceous, slightly calcareous, very hard, brittle	
		30% green, carbonaceous, calcareous inclusions, friable - firm, blocky	
		30% black - grey, slightly calcareous, thinly banded in part, brittle, non fissile, siliceous	
- B		Trace Dolomite and Calcite	
C876A-043	1460		1.09
		100% SHALE: 50% black - grey, non fissile, brittle, siliceous, grey shales, slightly calcareous	
		40% green, waxy, carbonaceous, calcareous inclusions, firm, blocky	

ORGANIC CARBON ANALYSES AND GROSS LITHOLOGICAL DESCRIPTION

GeoChem Sample Number	Well Interval (meters)	Gross Lithological Description	Total Organic Carbon (% of Rock)
C876A-043 (Cont't)			
- B		Trace Marl, Dolomite	
C876A-044	1480		0.90
		100% SHALE: 50% black, siliceous, non-fissile, trace pyrite, brittle	
		50% greyish green, calcareous included, carbonaceous, firm, waxy texture, blocky, trace pyrite included	
C876A-045	1510		0.72
- A		100% SHALE: 90% grey - black, thinly banded, siliceous, brittle, non-fissile, trace pyrite	
		10% green, carbonaceous, banded, in part, firm blocky - non-fissile	
C876A-046	1540		1.45
- A		100% SHALE: 50% black, highly siliceous, thinly banded including some quartz veins, brittle, non-fissile	
C876A-047	1570		0.55, 0.54R
- A		100% SHALE: 95% black, siliceous, brittle, thinly banded, non-fissile, trace quartz veins and inclusions, trace pyrite	
		5% green, slightly cal- careous, carbonaceous, blocky - fissile, waxy texture, firm hardness	
C876A-048	1600		1.02
- A		100% SHALE: 80% black (some grey), siliceous, thinly banded, brittle, non- fissile	
		20% green, slightly calcareous, carbonaceous, blocky, firm hardness	

ORGANIC CARBON ANALYSES AND GROSS LITHOLOGICAL DESCRIPTION

GeoChem Sample Number	Well Interval (meters)	Gross Lithological Description	Total Organic Carbon (% of Rock)
C876A-049	1626		0.22
- A		100% SHALE: 90% green, carbonaceous, waxy texture, blocky, firm hardness 10% black, siliceous, brittle, non-fissile, quartz veinlets	

RESULTS OF ROCK-EVAL PYROLYSIS

FORWARD - Tunasgo N-37

Geochem Sample	Interval (meters)	Tmax (C)	S1 (ms/g)	S2 (ms/g)	S1+S2 (ppm)	S3 (ms/g)	TR	T.O.C. (wt %)	HI	OI
C876A-029	1060	*	.13	.15	280	.42	.46	.33	45	127
C876A-030	1090	*	.07	.09	160	.35	.44	.29	31	120
C876A-031	1120	*	.05	.04	90	.27	.56	.16	25	168
C876A-032	1150	*	.07	.01	80	.27	.88	.18	5	150
C876A-033	1180	343	.16	.37	530	.27	.30	.49	75	55
C876A-034	1210	424	.87	3.00	3870	.21	.22	1.14	263	18
C876A-035	1240	350	.15	.25	400	.39	.37	.47	53	82
C876A-036	1270	351	.19	.40	590	.13	.32	.33	121	39
C876A-037	1300	*	.11	.04	150	.17	.73	.18	22	94
C876A-038	1330	*	.07	.03	100	.14	.70	.19	15	73
C876A-039	1360	*	.13	.01	140	.16	.93	.22	4	72
C876A-040	1390	*	.10	.02	120	.12	.83	.20	10	60
C876A-041	1410	*	.16	.06	220	.13	.73	.26	23	50
C876A-043	1460	342	.43	.25	680	.12	.63	1.09	22	11
C876A-044	1480	*	.17	.03	200	.15	.85	.90	3	16
C876A-045	1510	*	.20	.04	240	.09	.83	.72	5	12
C876A-046	1540	*	.13	.00	130	.08	1.00	1.45	0	5
C876A-047	1570	*	.19	.00	190	.09	1.00	.55	0	16
C876A-048	1600	*	.17	.02	190	.09	.89	1.02	1	8
C876A-049	1626	*	.06	.00	60	.08	1.00	.22	0	36

Tmax = Temperature index, degrees C.

S1 = Free hydrocarbons (ms HC/g of rock)

S2 = Residual hydrocarbon potential

(ms HC/g of rock)

S3 = CO2 produced from kerogen pyrolysis

(ms CO2/g of rock)

TR = Transformation ratio (S1/S1+S2)

T.O.C. = Total organic carbon, wt %

HI = Hydrogen index (ms HC/g organic carbon)

OI = Oxygen index (ms CO2/g organic carbon)

* = No Tmax

Forward Res. Tunay. 4-37

GEOCHEM JOB C876A

	G-GOOD	F-FAIR	P-POOR	Po-POLYMERS	O-OIL	RW-REWORKED	±2=YELLOW	±3=BROWN	±4=BLACK
FI-FINE		M-MEDIUM	C-COARSE	R-RESIN	Tr-TRACE	Co-CAVED			

SECTION IV
LOGGING SUMMARY

LOGGING SUMMARY

MARCH 8, 1985

MUD LOG - refer to pocket enclosure

LITHOLOGY - refer to pocket enclosure

DIRECTIONAL SURVEY - refer to pocket enclosure

CN-CDL-GR-YCAL

Top logged Interval 15.0 m
Bottom logged Interval 1617.0 m

AC-GR-CAL

Top logged Interval 600.0 m
Bottom logged Interval 1620.3 m

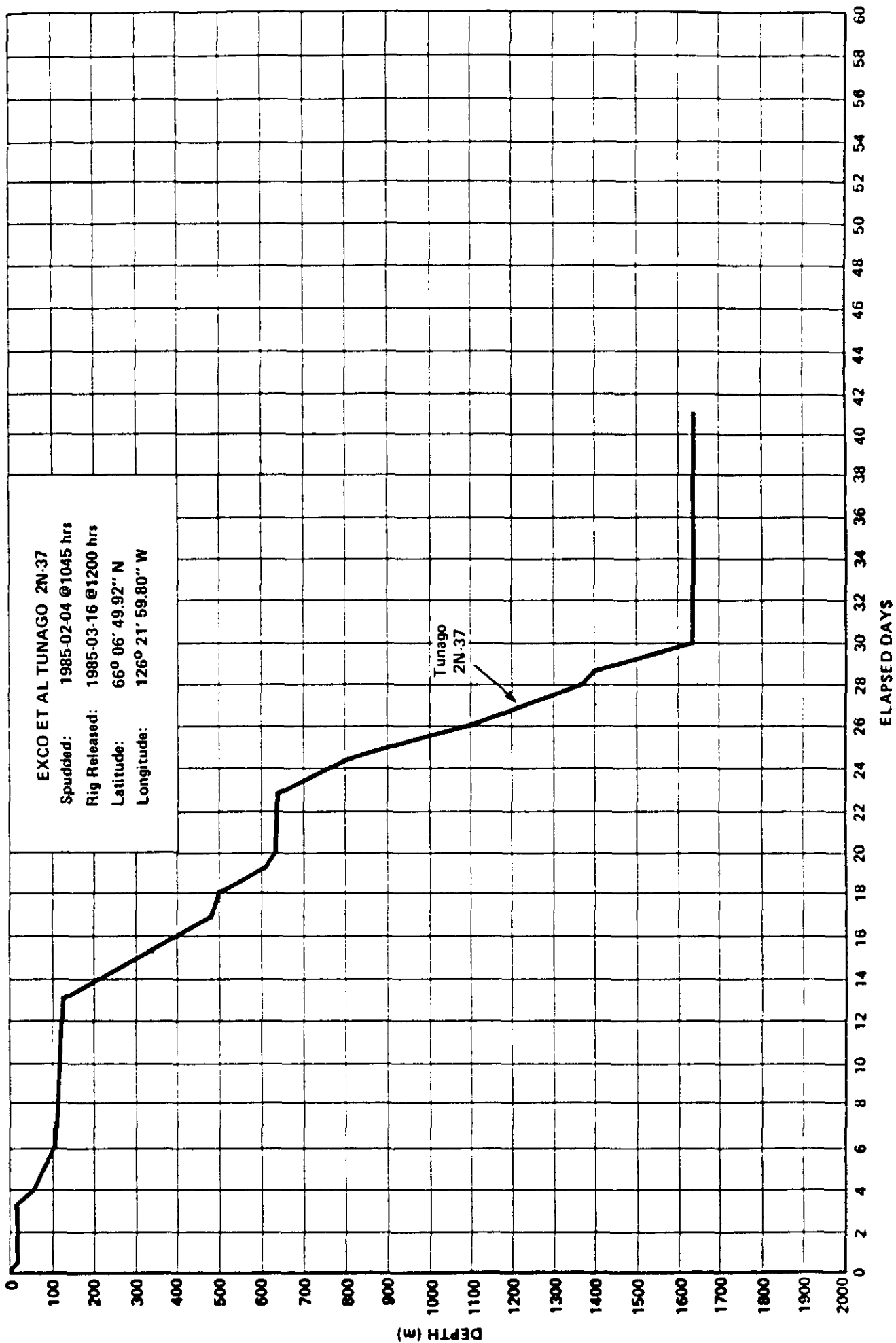
DIL-GR-CAL

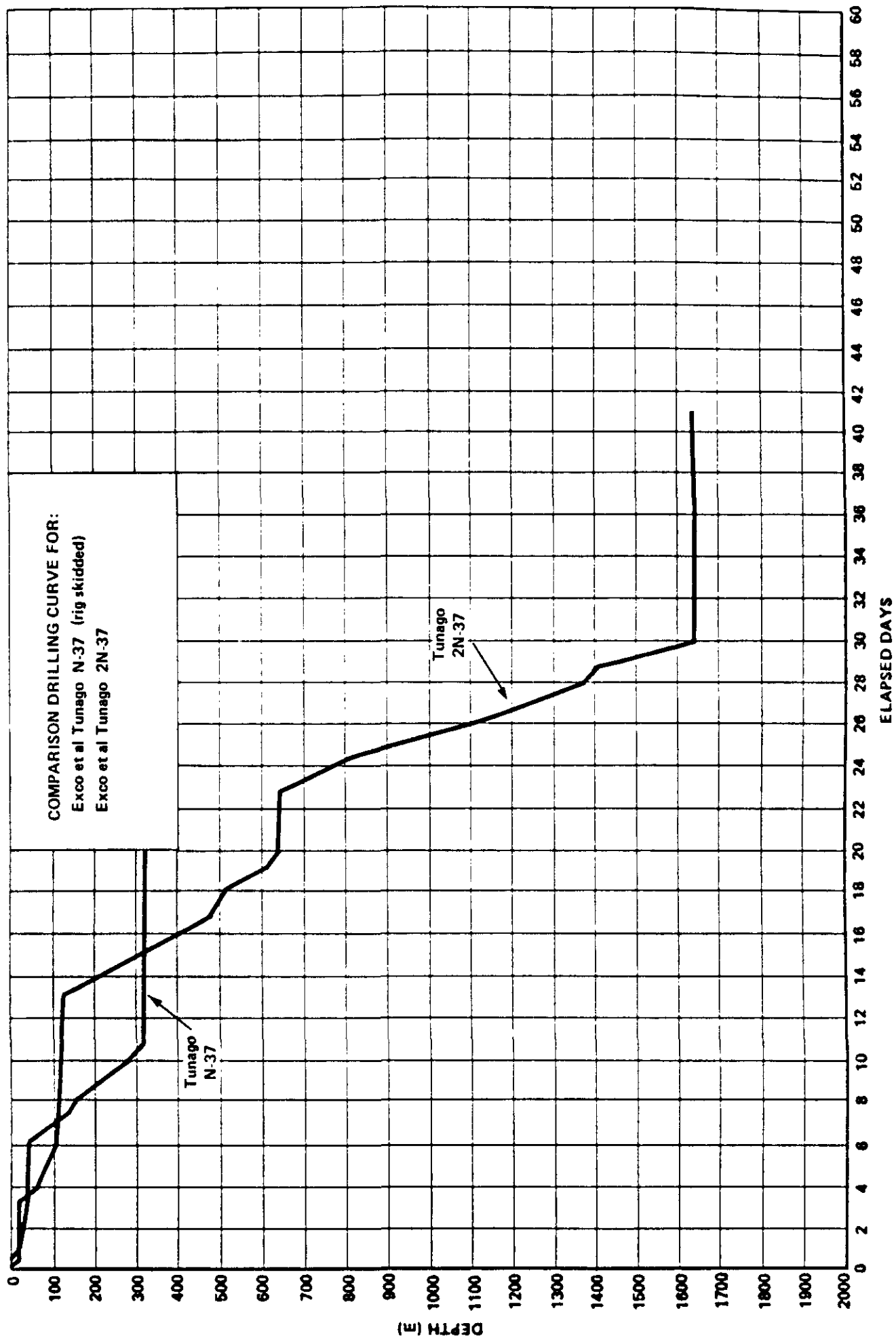
Top logged Interval 600.0 m
Bottom logged Interval 1615.0 m

CBL-CCL-GR

Top logged Interval 11.0 m
Bottom logged Interval 632.0 m

SECTION V
DRILLING CURVE





SECTION VI
DAILY DRILLING REPORTS

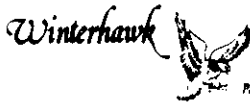
CHRONOLOGICAL HISTORY

WELL Exco et al Tunago 2N-37

LOCATION _____

ENGINEER Mel Nichols

DATE	WORK DESCRIPTION						
85 02 03	<u>RIG UPDATE:</u> Finished drilling rathole (pure sand). Spotted matting, sub and pump. Rigged up with trucks. Derrick up by 1600 hours. Rigged up rig. To go with mud, need to rig up a suction. Time Analysis: <table> <tr> <td>Rig Up</td><td>8.00</td></tr> <tr> <td>Rig Move</td><td><u>16.00</u></td></tr> <tr> <td>Total</td><td><u>24.00</u></td></tr> </table>	Rig Up	8.00	Rig Move	<u>16.00</u>	Total	<u>24.00</u>
Rig Up	8.00						
Rig Move	<u>16.00</u>						
Total	<u>24.00</u>						



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 04 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37

LOCATION _____

DAY 1 DEPTH 22 METRES LAST 24 HRS. 22 ROTATING HRS. 12.50ACTIVITY AT REPORT TIME Reaming at 21.6 m with 431 mm bit Pilot Hole

Air/Foam Vis 55 sec/L 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
1A	311	XDV	77633	1-15	60/70	IN	22	22	12.5	12.5	1.8	DRILL		

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			
1A				Drill	with air	13 m						
				Drill	with foam	9 m						

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Duraplex 5 sx
Durafoam 1 bbl

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		311	.30	
Bit Sub		159	1.07	
1 D.C.		159	9.16	
Kelly				

COSTS

AILY N/A

CUM.

SUPERVISOR: Mei Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	12.50	12.50
2. TRIPS		
3. RIG SERVICE	.25	.25
4. DEVIATION SURVEY		
5. REAM & COND. HOLE		
6. MIX & COND. MUD		
7. CIRCULATING		
8. RIG REPAIR		
9. RUN CASING & CEMENT		
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT	6.25	6.25
21. Mousehole/rathole	5.00	5.00
TOTALS	24.00	24.00



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 05 2400

Year - Month Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 2 DEPTH 24.50 METRES LAST 24 HRS. 2.50 ROTATING HRS. 3.25

ACTIVITY AT REPORT TIME Circulate 508 mm casing

Foam

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
1A	311	XDV	77633	2	60/70	24.5	2.5	24.5	3.25	15.75	1.5	5	1	1
2A	444	OSC1GJ	ER727	1/2	60/70	REAM	24.5	24.5	4.25	4.25	5.76	2	1	1

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			
1A	O	P	E	N								

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Duraplex 4 sx _____
Duraflow 1 bb1 _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		311	.30	
Hole Opener		609.5	1.45	
X/O		159	1.07	
D.C.		159	9.16	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	3.25	15.75
2. TRIPS	2.50	2.50
3. RIG SERVICE	.75	1.00
4. DEVIATION SURVEY		
5. REAM & COND. HOLE	12.50	12.50
6. MIX & COND. MUD		
7. CIRCULATING		
8. RIG REPAIR		
9. RUN CASING & CEMENT		
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		
15. NIPPLE UP & TEST BOP		
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. Rig up sub floor	5.00	10.00
TOTALS	24.00	48.00

COSTS

AILY N/A

CUM.

SUPERVISOR: Me1 Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 06 2400
Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 3 DEPTH 24.5 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Rig up blowey line, finish nippling up

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
Hole Opener	609	SEC	8255	1	50/70	24	24	24	10.25	10.25	2.34	G	O	O

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			
	O P E N			38 L/minute injection rate 1% Durafoam orifice - 490 kPa								
	surface - no reading											

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

No Additives

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		311	.30	
Bit Sub		159	1.07	
Hole Opener		609	1.45	
1 DC		159	9.16	

COSTS

WILLY _____
 CUM. _____
 N/A

SUPERVISOR Mel Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		15.75
2. TRIPS	1.00	3.50
3. RIG SERVICE	.75	1.75
4. DEVIATION SURVEY		
5. REAM & COND. HOLE	2.00	14.50
6. MIX & COND. MUD		
7. CIRCULATING	2.50	2.50
8. RIG REPAIR		
9. RUN CASING & CEMENT	6.00	6.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: cement	8.00	8.00
15. NIPPLE UP & TEST BOP	3.75	3.75
16. DRILLING OUT		
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		10.00
TOTALS	24.00	72.00



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 02 07 2400
Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 4 DEPTH 52 METRES LAST 24 HRS. 28 ROTATING HRS. 8

ACTIVITY AT REPORT TIME Drilling at 58 m

Foam drill

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
1B	444.5	2JS Smith	SBE256	9	70/75	DRILL	28	28	8	8	3.5	I	N	

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			
1B	O	P	E	N								

DEVIATION SURVEYS

1 ° at 28 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 1 sk _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		444.5	.41	
Bit Sub		229	1.07	
X/O		229	.35	
2 - 9" DC's		229	19.02	
2 - 6-1/4 DC's		159	18.46	
1 X/O		159	.64	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	8.00	23.75
2. TRIPS		3.50
3. RIG SERVICE	.50	2.25
4. DEVIATION SURVEY	.50	.50
5. REAM & COND. HOLE		14.50
6. MIX & COND. MUD		
7. CIRCULATING		2.50
8. RIG REPAIR		
9. RUN CASING & CEMENT		6.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		8.00
15. NIPPLE UP & TEST BOP	12.50	16.25
16. DRILLING OUT	2.50	2.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		10.00
TOTALS	24.00	96.00

COSTS

AILY N/A

CUM.

SUPERVISOR Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 08 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 5 DEPTH 87 METRES LAST 24 HRS. 35 ROTATING HRS. 19

ACTIVITY AT REPORT TIME Drilling with foam at 87 m

Foam

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
1B	444.5	2JS	SBE256	12	55/70	IN	35	63	19	27	2.33	I	N	

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			
1B	OPEN			Air valves between 350 - 1300 m ³								
				Injection rate 13 gallons/minute								

DEVIATION SURVEYS

3/4 ° at 60 m _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 4 sx _____
 Durafoam 1 bbl _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		444.5	.41	
Bit Sub		229	1.07	
2 D.C.'s		229	19.02	
X/O		229	.64	
X/O		177.8	.35	
6 D.C.'s		159	56.00	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	19.00	42.75
2. TRIPS	1.00	4.50
3. RIG SERVICE	.75	3.00
4. DEVIATION SURVEY		.50
5. REAM & COND. HOLE		14.50
6. MIX & COND. MUD		
7. CIRCULATING	2.50	5.00
8. RIG REPAIR	.75	.75
9. RUN CASING & CEMENT		6.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		8.00
15. NIPPLE UP & TEST BOP		16.25
16. DRILLING OUT		2.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		10.00
TOTALS	24.00	120.00

COSTS

DAILY _____
 N/A

CUM. _____

SUPERVISOR: Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 09 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 6 DEPTH 106 METRES LAST 24 HRS. 19 ROTATING HRS. 10.50

ACTIVITY AT REPORT TIME Drilling at 113.5 m

Foam

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
1B	444.5	2JS	SBE256	8	60		19	82	10.5	37.5	2.19	I	N	

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			
1B	O	P	E	N								

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Duraplex 5 sx _____
Durafoam 1 sk _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.30	
Bit Sub		229	1.07	
2 D.C.'s		229	19.02	
X/O		229	.35	
X/O			.64	
8 D.C.'s		159	74.52	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	10.50	53.25
2. TRIPS		4.50
3. RIG SERVICE	.50	3.50
4. DEVIATION SURVEY		.50
5. REAM & COND. HOLE	4.00	18.50
6. MIX & COND. MUD		
7. CIRCULATING	7.75	12.75
8. RIG REPAIR	1.25	2.00
9. RUN CASING & CEMENT		6.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		8.00
15. NIPPLE UP & TEST BOP		16.25
16. DRILLING OUT		2.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		10.00
TOTALS	24.00	144.00

COSTS

AILY N/A

CUM. _____

SUPERVISOR: Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 02 10 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____
DAY 7 DEPTH 122 METRES LAST 24 HRS. 16 ROTATING HRS. 13.50
ACTIVITY AT REPORT TIME Plug back

Foam

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
18	444.5	2JS	SBE256	3/15	60/100	122	16	98	13.5	51	1.9	2	3	1

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			
18	OPEN											

DEVIATION SURVEYS

none - tight hole

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

MUD & CHEMICALS ADDED

Duraplex 7 sx _____
Duraflow 1 sk _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		444.5	.30	
Bit Sub		229	1.07	
2 D.C.'s		229	19.02	
1 X/O		229	.35	
1 X/O		177	.64	
8 D.C.'s		159	74.52	

COSTS

JILY N/A

CUM.

SUPERVISOR: Mel Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	13.50	66.75
2. TRIPS	5.00	9.50
3. RIG SERVICE	.50	4.00
4. DEVIATION SURVEY		.50
5. REAM & COND. HOLE	5.00	23.50
6. MIX & COND. MUD		
7. CIRCULATING		12.75
8. RIG REPAIR		2.00
9. RUN CASING & CEMENT		6.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		8.00
15. NIPPLE UP & TEST BOP		16.25
16. DRILLING OUT		2.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		10.00
TOTALS	24.00	168.00



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 11 2400
Year Month Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 8 DEPTH 122 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Clean to 118 m

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
2B	444.5	OSC1G	ER727WRB	3/5	60	IN Reaming	22 m in	2.75	hours					

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			
2B	O	P	E	N								

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Durafoam 1 sk

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit		444	.30	
Bit Sub		229	1.07	
2 D.C.'s		229	19.02	
1 X/O		229	.35	
1 X/O		177	.64	
8 D.C.'s		159	74.52	

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	2.75	69.50
2. TRIPS	2.00	11.50
3. RIG SERVICE	.50	4.50
4. DEVIATION SURVEY		.50
5. REAM & COND. HOLE		23.50
6. MIX & COND. MUD		
7. CIRCULATING		12.75
8. RIG REPAIR		2.00
9. RUN CASING & CEMENT		6.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: <u>cement</u>	18.75	26.75
15. NIPPLE UP & TEST BOP		16.25
16. DRILLING OUT		2.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		10.00
TOTALS	24.00	192.00

COSTS

WILLY N/A
 CUM. _____
 SUPERVISOR: Mel Nichols

PLEASE TURN OVER



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 02 12 2400
Year - Month Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 9 DEPTH 122 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Waiting on cement

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
2B	444	OSC1G	ER727 WAB	3-5	60	95	Ream	out	22 m	in 3 hours		1	1	1
3B	215.9	SVH	CR7157	1	50/60	Ream	21	21	6	6		2	2	1

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

95 ° at 1/2 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 4 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit	215		.20	
Bit Sub	159		.97	
1 DC	159		9.51	
DP to surface				

TIME ANALYSIS

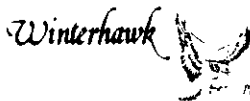
OPERATION	TODAY	CUM
1. DRILLING		69.50
2. TRIPS	4.00	15.50
3. RIG SERVICE	.25	4.75
4. DEVIATION SURVEY	.25	.75
5. REAM & COND. HOLE	13.50	37.00
6. MIX & COND. MUD		
7. CIRCULATING		12.75
8. RIG REPAIR		2.00
9. RUN CASING & CEMENT		6.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		26.75
15. NIPPLE UP & TEST BOP		16.25
16. DRILLING OUT		2.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. Thaw out lines	6.00	16.00
TOTALS	24.00	216.00

COSTS

AILY N/A

CUM.

SUPERVISOR: Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 02 13 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 10 DEPTH 122 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Trip out of hole at 133 m

Foam Driller

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
4B	444.5	OSC1G	ER727 WAB	2-15	60/100	Ream foam 96	- 118	m in	5 hours				IN	

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			
4B	O	P	E	N		Air						

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Duraplex 2 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Bit			.30	
Bit Sub			1.07	
X/O			.36	
X/O			.64	
8 DC's			74.52	

TIME ANALYSIS

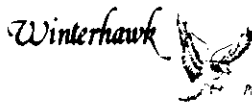
OPERATION	TODAY	CUM
1. DRILLING		69.50
2. TRIPS	1.00	16.50
3. RIG SERVICE		4.75
4. DEVIATION SURVEY		.75
5. REAM & COND. HOLE	9.75	46.75
6. MIX & COND. MUD		
7. CIRCULATING		12.75
8. RIG REPAIR		2.00
9. RUN CASING & CEMENT	1.50	7.50
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Cement	11.00	37.75
15. NIPPLE UP & TEST BOP		16.25
16. DRILLING OUT		2.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. Thaw out Kelly	.75	16.75
TOTALS	24.00	240.00

COSTS

AILY N/A

CUM.

SUPERVISOR: Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 14 2400
Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 11 DEPTH 133 METRES LAST 24 HRS. 11 ROTATING HRS. 3.50

ACTIVITY AT REPORT TIME Ream with casing at 118 m

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
4B	444.5	OSC1J	ER727 WAB	2/10	60	133	11	11	3.50	10.00	2.86	6	3	1/2
including reaming														

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

Duraplex 2 sx

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	3.50	73.00
2. TRIPS	1.75	18.25
3. RIG SERVICE	.25	5.00
4. DEVIATION SURVEY		.75
5. REAM & COND. HOLE	2.00	48.75
6. MIX & COND. MUD		
7. CIRCULATING	.75	13.50
8. RIG REPAIR		2.00
9. RUN CASING & CEMENT	15.75	23.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		37.75
15. NIPPLE UP & TEST BOP		16.25
16. DRILLING OUT		2.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		16.75
TOTALS	24.00	264.00

COSTS

AILY N/A
 CUM.
 SUPERVISOR Me1 Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 15 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 12 DEPTH 133 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Nipple up, stringing blowey line

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			
				Drill with Durafoam and mud slugging occasionally								

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Gel 76 sx _____
Caustic 2 sx _____
Duraplex 2 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same				

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		73.00
2. TRIPS		18.25
3. RIG SERVICE		5.00
4. DEVIATION SURVEY		.75
5. REAM & COND. HOLE	4.00	52.75
6. MIX & COND. MUD		
7. CIRCULATING		13.50
8. RIG REPAIR		2.00
9. RUN CASING & CEMENT	15.75	39.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Cement	4.25	42.00
15. NIPPLE UP & TEST BOP	16.25	16.25
16. DRILLING OUT	2.50	2.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. _____		16.75
TOTALS	24.00	288.00

COSTS

AILY N/A

CUM. _____

SUPERVISOR Me1 Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 16 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 13 DEPTH 133 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Drilling ahead at 143 m

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

Duraplex 2 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		73.00
2. TRIPS		18.25
3. RIG SERVICE		5.00
4. DEVIATION SURVEY		.75
5. REAM & COND. HOLE		52.75
6. MIX & COND. MUD		
7. CIRCULATING		13.50
8. RIG REPAIR		2.00
9. RUN CASING & CEMENT		39.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.00
15. NIPPLE UP & TEST BOP	24.00	40.25
16. DRILLING OUT		2.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. _____		16.75
TOTALS	24.00	312.00

COSTS

ATLY N/A
 CUM. _____
 SUPERVISOR: Me1 Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 17 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 14 DEPTH 183 METRES LAST 24 HRS. 50 ROTATING HRS. 10.5ACTIVITY AT REPORT TIME Drilling at 209 m

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
5B	311	F2	EC0929	10	70	IN	50	50	10.5	10.5	4.8			

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			
5B	0	P	E	N	Drilling with foam							

DEVIATION SURVEYS

1 ° at 155 ° at _____
3/4 ° at 183 ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 6 sx _____
RMPZ7 1 pail _____
Duraplex 1 sk _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same				

COSTS

AILY N/A

CUM.

SUPERVISOR: Me1 Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	10.50	83.50
2. TRIPS	.75	19.00
3. RIG SERVICE	.50	5.50
4. DEVIATION SURVEY	.75	1.50
5. REAM & COND. HOLE	4.00	56.75
6. MIX & COND. MUD		
7. CIRCULATING		13.50
8. RIG REPAIR	4.00	6.00
9. RUN CASING & CEMENT		39.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.00
15. NIPPLE UP & TEST BOP	.75	41.00
16. DRILLING OUT	2.75	5.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		16.75
TOTALS	24.00	336.00



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 18 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 15 DEPTH 283 METRES LAST 24 HRS. 100 ROTATING HRS. 18.25

ACTIVITY AT REPORT TIME Drilling at 313 m

Foam

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
5B	311	F2	EC0929	14	70	IN	100	150	18.25	28.75	5.22		IN	

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			
5B	0	P	E	N								

DEVIATION SURVEYS

1/2 ° at 212 _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____
 _____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 5 sx _____
RPMZ-7 1 pJ _____
Duraflow 1 sk _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	18.25	101.75
2. TRIPS		19.00
3. RIG SERVICE	.25	5.75
4. DEVIATION SURVEY	.25	1.75
5. REAM & COND. HOLE		56.75
6. MIX & COND. MUD	2.00	2.00
7. CIRCULATING		13.50
8. RIG REPAIR	3.25	9.25
9. RUN CASING & CEMENT		39.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.00
15. NIPPLE UP & TEST BOP		41.00
16. DRILLING OUT		5.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. TOTALS	24.00	360.00

COSTS

DAILY N/A
 CUM. _____

SUPERVISOR Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 19 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 16 DEPTH 382 METRES LAST 24 HRS. 99 ROTATING HRS. 23.25ACTIVITY AT REPORT TIME Drill at 410 m

Foam

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
5B	311	F2	EC0929	13	70		99	249	23.25	52	4.9		IN	

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			
5B	0	P	E	N								

DEVIATION SURVEYS

1/2 ° at 280 _____ ° at _____
3/4 ° at 343 _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 5 sx _____
RMZP-7 2 pails _____
Durafoam 2 bbls _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same				

TIME ANALYSIS

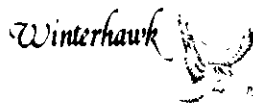
OPERATION	TODAY	CUM
1. DRILLING	23.25	125.00
2. TRIPS		19.00
3. RIG SERVICE	.25	6.00
4. DEVIATION SURVEY	.50	2.25
5. REAM & COND. HOLE		56.75
6. MIX & COND. MUD		2.00
7. CIRCULATING		13.50
8. RIG REPAIR		9.25
9. RUN CASING & CEMENT		39.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.00
15. NIPPLE UP & TEST BOP		41.00
16. DRILLING OUT		5.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		16.75
TOTALS	24.00	384.00

COSTS

AILY N/A

CUM.

SUPERVISOR: Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 02 20 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 17 DEPTH 470 METRES LAST 24 HRS. 88 ROTATING HRS. 23ACTIVITY AT REPORT TIME 480 m - work on compressors - drill ahead

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

Foam drilling - pressure at 470 psi - air volumes

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
5B	311	F2	EC0929	11-14	70/90	IN	88	337	23	75	4.49	DRILL		

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			
5B	0	P	E	N								

DEVIATION SURVEYS

1/2 ° at 430 _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 6 sx Gel 45 sx
RMZP-7 1 pail Diesel 20 bbls
Duraflow 1 pail _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN
Same				

COSTS

DAILY N/A

CUM. _____

SUPERVISOR: Me1 Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	23.00	148.00
2. TRIPS		19.00
3. RIG SERVICE	.75	6.75
4. DEVIATION SURVEY	.25	2.50
5. REAM & COND. HOLE		56.75
6. MIX & COND. MUD		2.00
7. CIRCULATING		13.50
8. RIG REPAIR		9.25
9. RUN CASING & CEMENT		39.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.00
15. NIPPLE UP & TEST BOP		41.00
16. DRILLING OUT		5.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21		16.75
TOTALS	24.00	408.00



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 21 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37

LOCATION _____

DAY 18 DEPTH 495 m METRES LAST 24 HRS. 25 ROTATING HRS. 9.75ACTIVITY AT REPORT TIME Drilling at 528 m

Foam

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
5B	311	F2	EC0929	14	80/85	486	16	353	5.5	80.5	4.39	7	8	1/4
6B	311	F2	EC0698	15	70		9	9	4.25	4.25	2.1			

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			
5B	O P E N			480 psi			10 bbls/minute water					
6B				Orifide 1.25			CFM 1000					

DEVIATION SURVEYS

1/2 ° at 467 _____ ° at _____
1/2 ° at 473 _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 2 _____
RMZP - 7 2 pails _____
Duraflow 1 BBL _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

COSTS

AILY

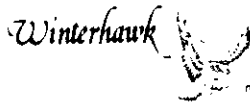
N/A

CUM.

SUPERVISOR: Mei Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	9.75	157.75
2. TRIPS	4.75	23.75
3. RIG SERVICE	.5	7.25
4. DEVIATION SURVEY	.75	3.25
5. REAM & COND. HOLE	3.75	60.50
6. MIX & COND. MUD		2.00
7. CIRCULATING		13.50
8. RIG REPAIR		9.25
9. RUN CASING & CEMENT		39.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.00
15. NIPPLE UP & TEST BOP		41.00
16. DRILLING OUT		5.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. work on air equipment	4.5	21.25
TOTALS	24.00	432.00



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 02 22 2400

Year - Month Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 19 DEPTH 588 METRES LAST 24 HRS. 93 ROTATING HRS. 23.00ACTIVITY AT REPORT TIME Drilling at 630 m

DRILLING MUD PROPERTIES AT SHAKER SUCTION/PIT.

Foam 560 psi 1000 cfm 1.25 in. orifice with 10 bbls/minute

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
6B	311	F2	EC0698	15	65		93	102	23	27.25	3.74	I	N	

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

1/2 ° at 543 _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 5 sx _____
RMZ-7 1 pail _____
Durafoam 1 bbl _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	23.00	180.75
2. TRIPS		23.75
3. RIG SERVICE	.75	8.00
4. DEVIATION SURVEY	.25	3.50
5. REAM & COND. HOLE		60.50
6. MIX & COND. MUD		2.00
7. CIRCULATING		13.50
8. RIG REPAIR		9.25
9. RUN CASING & CEMENT		39.00
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		42.00
15. NIPPLE UP & TEST BOP		41.00
16. DRILLING OUT		5.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		21.25
TOTALS	24.00	456.00

COSTS

AILY N/A

CUM.

SUPERVISOR: Dave Campbell



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 23 2400

Year Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 20 DEPTH 630 METRES LAST 24 HRS. 42 ROTATING HRS. 8.25ACTIVITY AT REPORT TIME Waiting on cement, run cement down top of casing

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

Air drilling 560 psi 1000 cfm vis. 45

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
6B	311	F2	EC0698	15	65	630	42	144	8.25	35.5	4.06	8	4	I

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

3/4 ° at 630 _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____
_____ ° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 2 sx _____
RMZP-7 1 pail _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	8.25	189.00
2. TRIPS	5.00	28.75
3. RIG SERVICE	.50	8.50
4. DEVIATION SURVEY	.25	3.75
5. REAM & COND. HOLE		60.50
6. MIX & COND. MUD		2.00
7. CIRCULATING	3.75	17.25
8. RIG REPAIR		9.25
9. RUN CASING & CEMENT	5.25	44.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON		42.00
15. NIPPLE UP & TEST BOP		41.00
16. DRILLING OUT		5.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS	1.00	1.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		21.25
TOTALS	24.00	480.00

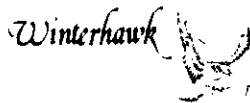
COSTS

AILY

N/A

CUM.

SUPERVISOR Dave Campbell



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 24 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37

LOCATION

DAY 21 DEPTH 630 METRES LAST 24 HRS.

ROTATING HRS.

ACTIVITY AT REPORT TIME Nipple up BOP's

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

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		189.00
2. TRIPS		28.75
3. RIG SERVICE		8.50
4. DEVIATION SURVEY		3.75
5. REAM & COND. HOLE		60.50
6. MIX & COND. MUD		2.00
7. CIRCULATING		17.25
8. RIG REPAIR		9.25
9. RUN CASING & CEMENT	8.00	52.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Cement	16.00	58.00
15. NIPPLE UP & TEST BOP		41.00
16. DRILLING OUT		5.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		1.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21		21.25
TOTALS	24.00	504.00

COSTS

DAILY

N/A

CUM.

SUPERVISOR Dave Campbell



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 25 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 22 DEPTH 630 METRES LAST 24 HRS. _____ ROTATING HRS. _____ACTIVITY AT REPORT TIME Pressure test BOP's

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
1	215.9	JD7	58408											

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

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		189.00
2. TRIPS	.50	29.25
3. RIG SERVICE	.25	8.75
4. DEVIATION SURVEY		3.75
5. REAM & COND. HOLE		60.50
6. MIX & COND. MUD		2.00
7. CIRCULATING		17.25
8. RIG REPAIR		9.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON		58.00
15. NIPPLE UP & TEST BOP	10.25	51.25
16. DRILLING OUT		5.25
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS	4.00	5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. Slip & Cut line,	9.00	30.25
WO Bowl, MU BHA TOTALS	24.00	528.00

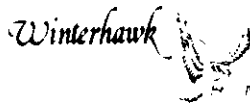
COSTS

DAILY

N/A

CUM.

SUPERVISOR Dave Campbell



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 02 26 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 23 DEPTH 636 METRES LAST 24 HRS. 6 ROTATING HRS. 1ACTIVITY AT REPORT TIME Drilling at 693 m

DRILLING MUD PROPERTIES AT SHAKER SUCTION PIT:

1000 dfm 1.25" orifice

WT. _____ VIS 36 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
1	216	JD7	58408	12	75	IN	6	6	1	1	6		IN	

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

Duraplex 1 sk _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	1.00	190.00
2. TRIPS	.50	29.75
3. RIG SERVICE	.25	9.00
4. DEVIATION SURVEY		3.75
5. REAM & COND. HOLE		60.50
6. MIX & COND. MUD		2.00
7. CIRCULATING	2.00	19.25
8. RIG REPAIR		9.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP	2.75	54.00
16. DRILLING OUT	6.25	11.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. Thaw kelly, leak off	11.25	41.50
TOTALS	24.00	552.00

COSTS

AILY N/A

CUM. _____

SUPERVISOR Dave Campbell



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 27 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37

LOCATION _____

DAY 24 DEPTH 764 m METRES LAST 24 HRS. 128 m ROTATING HRS. 22.75ACTIVITY AT REPORT TIME Drilling at 778 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. _____ VIS 37 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
1	216	JD7	58408	2	110	IN	128	134	22.75	23.75	5.6		IN	

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			
1	AIR											

DEVIATION SURVEYS

2 3/4 ° at 694 ° at _____
4 3/4 ° at 722 ° at _____
4 3/4 ° at 740 ° at _____
4 1/2 ° at 759 ° at _____

MUD & CHEMICALS ADDED

RMZP - 7 1 pail
Duraplex 3

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

COSTS

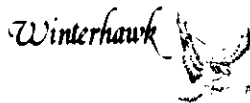
DAILY _____

CUM. _____

SUPERVISOR: Dave Campbell

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	22.75	212.75
2. TRIPS		29.75
3. RIG SERVICE	.50	9.50
4. DEVIATION SURVEY	.75	4.50
5. REAM & COND. HOLE		60.50
6. MIX & COND. MUD		2.00
7. CIRCULATING		19.25
8. RIG REPAIR		9.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		41.50
TOTALS	24.00	576.00



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 02 28 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N37 LOCATION _____DAY 25 DEPTH 872 METRES LAST 24 HRS. 108 ROTATING HRS. 17ACTIVITY AT REPORT TIME Drill at 940 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PISTON:

WT. _____ VIS 37 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
1	216	JD7	58408	2	110	778	14	148	4.25	28	5.3	3	1	I
2	216	JD4		2.5/3	150		94	94	12.75	12.75	7.4			

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

5	° at	778	4	° at	872
4 3/4	° at	794		° at	
4 1/2	° at	822		° at	
4 3/4	° at	853		° at	

MUD & CHEMICALS ADDED

Durafoam	1 bbl	
Duraplex	5 sx	
RMZP-7	2 pails	

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	17.00	229.75
2. TRIPS	3.25	33.00
3. RIG SERVICE	.75	10.25
4. DEVIATION SURVEY	1.00	5.50
5. REAM & COND. HOLE		60.50
6. MIX & COND. MUD		2.00
7. CIRCULATING		19.25
8. RIG REPAIR	2.00	11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		41.50
TOTALS	24.00	600.00

COSTS

DAILY

CUM.

SUPERVISOR: Dave Campbell



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 01 2400

Year Month Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 26 DEPTH 1081 METRES LAST 24 HRS. 209 ROTATING HRS. 21.50

ACTIVITY AT REPORT TIME Drill 216 mm hole at 1137 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

Air volume 1000 cfm through 1.5" Viscosity 37 Surface pressure 150 psi - 175

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
2	215.9	JD4	94498	3	150	IN	209	303	21.5	34.25	8.85	R	U	N

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

3-3/4 ° at 901 3-1/2 ° at 1012
 4 ° at 929 3-3/4 ° at 1041
 3-3/4 ° at 955 3 ° at 1071
 3-3/4 ° at 984 ° at _____

MUD & CHEMICALS ADDED

Duraplex 6 sx
RMZP-7 2 pails

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	21.50	251.25
2. TRIPS		33.00
3. RIG SERVICE	.75	11.00
4. DEVIATION SURVEY	1.75	7.25
5. REAM & COND. HOLE		60.50
6. MIX & COND. MUD		2.00
7. CIRCULATING		19.25
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21		41.50
TOTALS	24.00	624.00

COSTS

DAILY

N/A

CUM.

SUPERVISOR: Mei Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 02 2400

Year - Month Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 27 DEPTH 1222 METRES LAST 24 HRS. 141 ROTATING HRS. 16.25

ACTIVITY AT REPORT TIME Drill at 1279 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

Air volume 1000 cfm 37 Viscosity Surface pressure 150 psi

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
2	216	JD4	94498	3	150	1174	93	396	11.5	45.75	8.66	6	3	I
3	216	JD4	84762	7	150		48	48	4.75	4.75	10.1			

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

3-1/4 ° at 1094 3 ° at 1212
 3 ° at 1128 ° at _____
 2-3/4 ° at 1153 ° at _____
 2-3/4 ° at 1181 ° at _____

MUD & CHEMICALS ADDED

Duraplex 5 sx _____
RMZP-7 1 pail _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	16.25	267.50
2. TRIPS	3.75	36.75
3. RIG SERVICE	.75	11.75
4. DEVIATION SURVEY	1.50	8.75
5. REAM & COND. HOLE	1.00	61.50
6. MIX & COND. MUD		2.00
7. CIRCULATING	.75	20.00
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		41.50
TOTALS	24.00	648.00

COSTS

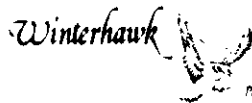
DAILY N/A
 CUM. _____

SUPERVISOR: Jim Reilly

Day 28

Geology:

1222 - 1240 m	Dolomite, dark brown, fine crystalline with shale
1240 - 1250 m	Shale
1250 - 1265 m	Sandstone, grey brown, dolomitic with green shale
1265 - 1270 m	Siltstone, grey brown, dolomitic with green shale
1270 - 1275 m	Dolomite, dark brown, finely crystalline with green shale
1275 - 1285 m	Sandstone, grey white, medium grained and rounded, siliceous, dolomitic, glogomitic with siltstone and shale interbedded
1285 - 1295 m	Siltstone, grey brown, interbedded with coarse sand, sandstone grey and white
1295 - 1300 m	Dolomite, light brown with traces of green shale interbedded
1300 - 1315 m	Dolomite, light brown
1315 - 1355 m	Shale, grey and very dolomitic with green shale traces, black dolomite



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 03 03 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 28 DEPTH 1345 METRES LAST 24 HRS. 123 ROTATING HRS 20.75ACTIVITY AT REPORT TIME Tripping at 1356 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT

1000 cfm Surface pressure 255 psi

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
3	215.9	JD4	84762	3-12	120		123	171	20.75	25.5	6.7			

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			
3	0	P	E	N								

DEVIATION SURVEYS

4 ° at 1241 3 ° at 1336
5 ° at 1260 ° at _____
4-1/4 ° at 1295 ° at _____
3-1/2 ° at 1314 ° at _____

MUD & CHEMICALS ADDED

Duraplex 9 sx _____
RMZP-7 2 pails _____
Gel 70 sx _____
Caustic 2 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	20.75	288.25
2. TRIPS		36.75
3. RIG SERVICE	.75	12.50
4. DEVIATION SURVEY	2.50	11.25
5. REAM & COND. HOLE		61.50
6. MIX & COND. MUD		2.00
7. CIRCULATING		20.00
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		41.50
TOTALS	24.00	672.00

COSTS

AILY N/A

CUM.

SUPERVISOR: Me1 Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 04 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 29 DEPTH 1410 METRES LAST 24 HRS. 65 ROTATING HRS. 10.25ACTIVITY AT REPORT TIME Drill 1467 m

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

cfm 1000 150 psi

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
3	216	JD4	84762	12	120	1356	11	182	4.00	29.50	8.64	8	8	I
4	216	F2	ES9912	8-10	70	IN	54	54	6.25	6.25		I	N	

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			
4	0	P	E	N	J	E	T	S				

DEVIATION SURVEYS

Misrun° at 1354 ° at _____
Misrun° at 1370 ° at _____
5/8 ° at 1382 ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 6 sx
RMZ-7 2 pails

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	10.25	298.50
2. TRIPS	6.75	43.50
3. RIG SERVICE	.25	12.75
4. DEVIATION SURVEY	1.50	12.75
5. REAM & COND. HOLE	4.00	65.50
6. MIX & COND. MUD		2.00
7. CIRCULATING	1.25	21.25
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		41.50
TOTALS	24.00	696.00

COSTS

DAILY N/A
CUM. _____

SUPERVISOR Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 03 05 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37

LOCATION _____

DAY 30 DEPTH 1626 METRES LAST 24 HRS. 216 ROTATING HRS. 21.25ACTIVITY AT REPORT TIME Circulate hole with foam, build volume in mud tanks

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
4	216	F2	ES9912	10	65	1626	216	270	21.25	27.50	9.8	2	2	1

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			
4	O	P	E	N								

DEVIATION SURVEYS

Misrun° at 1348 ° at _____
° at _____ ° at _____
° at _____ ° at _____
° at _____ ° at _____

MUD & CHEMICALS ADDED

Duraplex 4 sx _____
RMZP-7 2 sx _____
Duraflo 2 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING	21.25	319.75
2. TRIPS	.50	44.00
3. RIG SERVICE	.75	13.50
4. DEVIATION SURVEY	1.50	14.25
5. REAM & COND. HOLE		65.50
6. MIX & COND. MUD		2.00
7. CIRCULATING		21.25
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		41.50
TOTALS	24.00	720.00

COSTS

DAILY N/A

CUM.

SUPERVISOR Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 06 2400
Year Month Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 31 DEPTH 1626 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Mix mud and LCM

DRILLING MUD PROPERTIES AT SHAKER/SUCTION PIT:

WT. 1210 VIS 65 WL. 9.4 GELS 1.9/6.2 % SOLIDS _____ PV 31 YP 9.5 pH 10.5

% OIL Nil % SAND Nil CAKE 1.5 Tight 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

Defoamer 3 pails Gel 25 sx
Caustic 3 sx _____
Salt 545 sx _____
Staflor 14 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS	6.00	50.00
3. RIG SERVICE	.25	13.75
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE	2.50	68.00
6. MIX & COND. MUD	6.75	8.75
7. CIRCULATING		21.25
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING	3.50	3.50
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.	3.00	3.00
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. Displace Hole	2.00	43.50
TOTALS	24.00	744.00

COSTS

DAILY

N/A

CUM.

SUPERVISOR: Mei Nichols



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 03 07 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 32 DEPTH 1626 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Rig up loggers

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1140 VIS 57 WL. 10 GELS 2.8/6.7 % SOLIDS _____ PV 21 YP 10.1 pH 10

% OIL Nil % SAND Trace CAKE 1.5 PPMCL 98,000 PPMCa 260

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
5RR	215.9	SVH	CR7157	6/8	50/80	1624	Ream	5.25						

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			
5RR	0	P	E	N	197	100	152	1.07	39	63		3,500

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

Gel 140 sx Lime 3 sx
 Caustic 4 sx _____
 Kelzan 8 sx _____
 Kwikseal 90 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS	6.50	56.50
3. RIG SERVICE		13.75
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE	5.25	73.25
6. MIX & COND. MUD	10.00	18.75
7. CIRCULATING	2.25	23.50
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		3.50
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		3.00
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		43.50
TOTALS	24.00	768.00

COSTS

DAILY N/A

CUM.

SUPERVISOR Mei Nichols



DAILY DRILLING REPORT

FOR 24 HR PERIOD ENDING

85 03 08 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 33 DEPTH 1626 METRES LAST 24 HRS. _____ ROTATING HRS. _____ACTIVITY AT REPORT TIME Circulate and run clean out trip

DRILLING MUD PROPERTIES AT SHAKER SUCTION PIT:

WT. 1155 VIS 61 WL. 11 GELS 2.4/6.2 % SOLIDS .003 PV 21 YP 13.4 pH 9.5% OIL _____ % SAND Trace CAKE 1.5 PPMCL 102,000 PPMCa 260

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

Caustic 2 sx _____
Staflor 2 sx _____
Kelzan 1 sk _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS	4.00	60.50
3. RIG SERVICE		13.75
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE	1.00	74.25
6. MIX & COND. MUD		18.75
7. CIRCULATING	2.00	25.50
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING	17.00	20.50
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		3.00
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21		43.50
TOTALS	24.00	792.00

COSTS

DAILY

N/A

CUM.

SUPERVISOR Me1 Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 09 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 34 DEPTH 1626 METRES LAST 24 HRS. _____ ROTATING HRS. _____ACTIVITY AT REPORT TIME Wait on orders

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT:

WT. 1100 VIS 61 WL. 11 GELS 2.4/6.2 % SOLIDS .0013 PV 21 YP 13.4 pH 9.5% OIL _____ %SAND Trace CAKE 1.5 PPMCL 102,000 PPMCa 260

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

Caustic 2 sx _____
Kelzan 2 sx _____

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS	6.25	66.75
3. RIG SERVICE		13.75
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE	3.00	77.25
6. MIX & COND. MUD		18.75
7. CIRCULATING	2.00	27.50
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING	12.75	33.25
12. CORING		
13. FORMATION TESTING		
14. WAITING ON:		58.00
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		3.00
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21. _____		43.50
TOTALS	24.00	816.00

COSTS

DAILY N/A

CUM. _____

SUPERVISOR: Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 10 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37

LOCATION _____

DAY 35 DEPTH 1626 METRES LAST 24 HRS. _____

ROTATING HRS. _____

ACTIVITY AT REPORT TIME Pull out of hole to test

DRILLING MUD PROPERTIES AT SHAKER SUCTION/PIT.

WT. 1160 VIS 53 WL 11 GELS 2.9/6.2 % SOLIDS .02 PV 26 YP 10.5 pH 8.5% OIL _____ % SAND .0025 CAKE 1.5 PPMCL 109,000 PPMCa 3000

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
5RR	215.9	SVH	CR7157	7-10	70	Clean out, ream 16		m to bottom						

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			
5RR	0	P	E	N	197	100	152	1.07	39	63		3,500

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

COSTS

DAILY

N/A

CUM.

SUPERVISOR Mei Nichols

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS	2.25	69.00
3. RIG SERVICE		13.75
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE	1.25	78.50
6. MIX & COND. MUD		18.75
7. CIRCULATING		27.50
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING	1.25	34.50
12. CORING		
13. FORMATION TESTING		
14. WAITING ON: Orders	19.25	77.25
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		3.00
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		43.50
TOTALS	24.00	840.00



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 11 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 36 DEPTH 1626 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Circulate and condition hole, wait for packers, test interval

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT: 1243 - 1296 m

WT. 1150 VIS 53 WL. 11 GELS 2.9/6.2 % SOLIDS .02 PV 26 YP 10.5 pH 8.5

% OIL _____ %SAND .0025 CAKE 1.5 PPMCL 109.000 PPMCa 300

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
5RR	215.9	SVH	CR7157			Ream to bottom								

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			
5RR	0	P	E	N	197	100	152.4	1.07	39	63		3,500

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

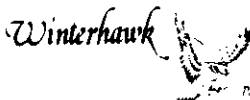
TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS	7.00	76.00
3. RIG SERVICE	.25	14.00
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE		78.50
6. MIX & COND. MUD		18.75
7. CIRCULATING		27.50
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		34.50
12. CORING		
13. FORMATION TESTING	11.50	11.50
14. WAITING ON: Test Tools	5.25	82.50
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		3.00
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		43.50
TOTALS	24.00	864.00

COSTS

DAILY N/A
 CUM. _____

SUPERVISOR: Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 12 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____DAY 37 DEPTH 1626 METRES LAST 24 HRS. _____ ROTATING HRS. _____ACTIVITY AT REPORT TIME Recover recorders and service tool

DRILLING MUD PROPERTIES AT SHAKER/SUCTION/PIT

WT. 1120 VIS 54 WL. 11 GELS _____ % SOLIDS _____ PV _____ YP _____ pH 8.5

% 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
5RR	215.9	SVH	CR7157	7	60	1626	Reamed to bottom	7 m						

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			
5RR	O	P	E	N	197	100	152.4	1.07	39	63		3,500

DEVIATION SURVEYS

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

MUD & CHEMICALS ADDED

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS	8.75	84.75
3. RIG SERVICE	.75	14.75
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE	1.25	79.75
6. MIX & COND. MUD		18.75
7. CIRCULATING	5.75	33.25
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		34.50
12. CORING		
13. FORMATION TESTING	7.50	19.00
14. WAITING ON:		82.50
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		3.00
18. LAY DOWN DP & BOPS		5.00
19. PLUG & ABANDON		
20. RIG UP - TEAR OUT		6.25
21.		43.50
TOTALS	24.00	888.00

COSTS

DAILY N/A
CUM. _____

SUPERVISOR Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 13 2400

Year Month Day Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 38 DEPTH 1626 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Waiting on cement - abandoning the well

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

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS	5.50	90.25
3. RIG SERVICE	1.25	16.00
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE		79.75
6. MIX & COND. MUD		18.75
7. CIRCULATING	.50	33.75
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		34.50
12. CORING		
13. FORMATION TESTING	7.00	26.00
14. WAITING ON: <u>Orders</u>	4.25	86.75
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		3.00
18. LAY DOWN DP & BOPS	2.00	7.00
19. PLUG & ABANDON	3.50	3.50
20. RIG UP - TEAR OUT		6.25
21. _____		43.50
TOTALS	24.00	912.00

COSTS

DAILY

N/A

CUM.

SUPERVISOR: Me1 Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 14 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 39 DEPTH 1626 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Wait on setting packer, tear out rig

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

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS		90.25
3. RIG SERVICE		16.00
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE		79.75
6. MIX & COND. MUD		18.75
7. CIRCULATING		33.75
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		34.50
12. CORING		
13. FORMATION TESTING		26.00
14. WAITING ON: Packer	2.00	88.75
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		3.00
18. LAY DOWN DP & BOPS		7.00
19. PLUG & ABANDON	22.00	25.50
20. RIG UP - TEAR OUT		6.25
21. _____		43.50
TOTALS	24.00	936.00

COSTS

DAILY

N/A

CUM.

SUPERVISOR Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 15 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 40 DEPTH 1626 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME _____

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

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS	2.00	92.25
3. RIG SERVICE		16.00
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE		79.75
6. MIX & COND. MUD		18.75
7. CIRCULATING		33.75
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		34.50
12. CORING		
13. FORMATION TESTING		26.00
14. WAITING ON: Packer	20.00	108.75
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		3.00
18. LAY DOWN DP & BOPS		7.00
19. PLUG & ABANDON	2.00	27.50
20. RIG UP - TEAR OUT		6.25
21. _____		43.50
TOTALS	24.00	960.00

COSTS

DAILY N/A

CUM.

SUPERVISOR: Mel Nichols



DAILY DRILLING REPORT

FOR 24 HR. PERIOD ENDING

85 03 16 2400

Year - Month - Day - Time

WELL NAME Exco et al Tunago 2N-37 LOCATION _____

DAY 41 DEPTH 1626 METRES LAST 24 HRS. _____ ROTATING HRS. _____

ACTIVITY AT REPORT TIME Finish tear out with truck

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

BOTTOM ASSEMBLY

TOOL	ID mm	O.D. mm	LENGTH m	WEIGHT daN

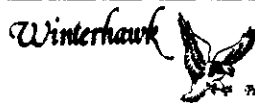
TIME ANALYSIS

OPERATION	TODAY	CUM
1. DRILLING		319.75
2. TRIPS		92.25
3. RIG SERVICE		16.00
4. DEVIATION SURVEY		14.25
5. REAM & COND. HOLE		79.75
6. MIX & COND. MUD		18.75
7. CIRCULATING		33.75
8. RIG REPAIR		11.25
9. RUN CASING & CEMENT		52.25
10. FISHING		
11. LOGGING		34.50
12. CORING		
13. FORMATION TESTING		26.00
14. WAITING ON:		108.75
15. NIPPLE UP & TEST BOP		54.00
16. DRILLING OUT		11.50
17. LOSS CIRC.		3.00
18. LAY DOWN DP & BOPS	11.00	18.00
19. PLUG & ABANDON	1.00	28.50
20. RIG UP - TEAR OUT	12.00	18.25
21. _____		43.50
TOTALS	24.00	984.00

COSTS

DAILY N/A
 CUM. _____

SUPERVISOR: Mel Nichols



PAGE _____

CHRONOLOGICAL HISTORY

WELL Exco et al Tunago 2N-37

LOCATION _____

ENGINEER Mel Nichols

DATE	WORK DESCRIPTION
85 03 18	Approval for two rack sites has been granted. Weather -15°C in the evening, 0 to -9°C in the day. Presently completing the inventory at each work site. First rack site is 20 miles west of the Water Lily well location. Second rack site is at the Tunago rack site, near the Losia Lake (rig camp, Quinn camp, 2 cats, drawworks, air drilling equipment, 1 fuel storage tank with fuel, loader). First rack site is not large enough, nor is there access to water for the rig watchers.