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Geothermal Service of Canada

Service géothermique du Canada

1984
GEOTHERMAL INVESTIGATION PRINCE EDWARD ISLAND DRILLING
MacDOUGALL, PRINCE COUNTY HOLE NUMBER EPB 345

John A. Leslie & Associates
Consultant Geologists
Bedford, Nova Scotia

Earth Physics Branch Open File No. 85-10
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Department of Energy, Mines and Resources
Earth Physics Branch
Division of Gravity, Geothermics and Geodynamics

Ministère de L'Energie, des Mines et des Ressources du Canada
Direction de la physique du globe
Division de la gravité, gèothermie et géodynamique

ABSTRACT

A hole was drilled to a depth of 460 m near MacDougall, Prince Edward Island, to obtain a measurement of temperature gradient as part of an assessment of the geothermal energy potential of the region. A single temperature measurement from the bottom of a 3000 m hydrocarbon exploration well nearby indicated a gradient of 27 mK/m (27 degrees per kilometre). The accurate temperature measurements in the shallow well showed that the gradient is in fact only 14 mK/m. There is therefore no potential for low-grade geothermal heat utilisation in the area.

The report contains details of the drilling operation, a complete lithologic log, and the initial series of temperature logs.

RÉSUMÉ

Un forage a été mené près de MacDougall, Ile du Prince Edouard, jusqu'à une profondeur de 460 m afin de mesurer le gradient géothermique et d'évaluer le potentiel en énergie géothermique de la région. Une mesure unique de température de fond prise dans un forage d'exploration avoisinant de 3000 m de profondeur indiquait un gradient de 27 mK/m (27 degrés par kilomètre). Les mesures précises de température du forage moins profond ont révélé qu'en effet le gradient n'était que de 14 mK/m. La région n'a donc aucun potentiel pour l'utilisation d'énergie géothermique à basse énergie. Les détails opérationnels du forage, le diagramme lithologique complet et la première série d'enregistrements de température sont compris dans ce rapport.

JOHN A. LESLIE & ASSOCIATES LIMITED
GEOLOGICAL, GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

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1984

GEOTHERMAL INVESTIGATION
PRINCE EDWARD ISLAND DRILLING
MacDOUGALL, PRINCE COUNTY
HOLE NUMBER E.P.B. 345

by

John A. Leslie & Associates Limited
Consultant Geologists
Bedford, Nova Scotia

February 1985

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INTRODUCTION

A 459.5-metre diamond drill hole project was undertaken in October 1984, at MacDougall, Prince County, Prince Edward Island (Figure 1). The temperature and rock property data so obtained were to aid in assessing the regional low-grade geothermal energy potential.

The project was undertaken for the Division of Gravity, Geothermics and Geodynamics, Earth Physics Branch, Energy, Mines and Resources Canada. Scientific management was provided by Dr. M. J. Drury, Division of Gravity, Geothermics and Geodynamics. Contract management was provided by Mr. P. J. Monnelly, Supply and Services Canada. Field management was performed by John A. Leslie & Associates Limited, consultant geologists, Bedford, Nova Scotia, under contract number OSQ84-00046. Diamond drill services were provided by Longyear Canada Incorporated, Moncton, New Brunswick, under contract number OGR84-00351.

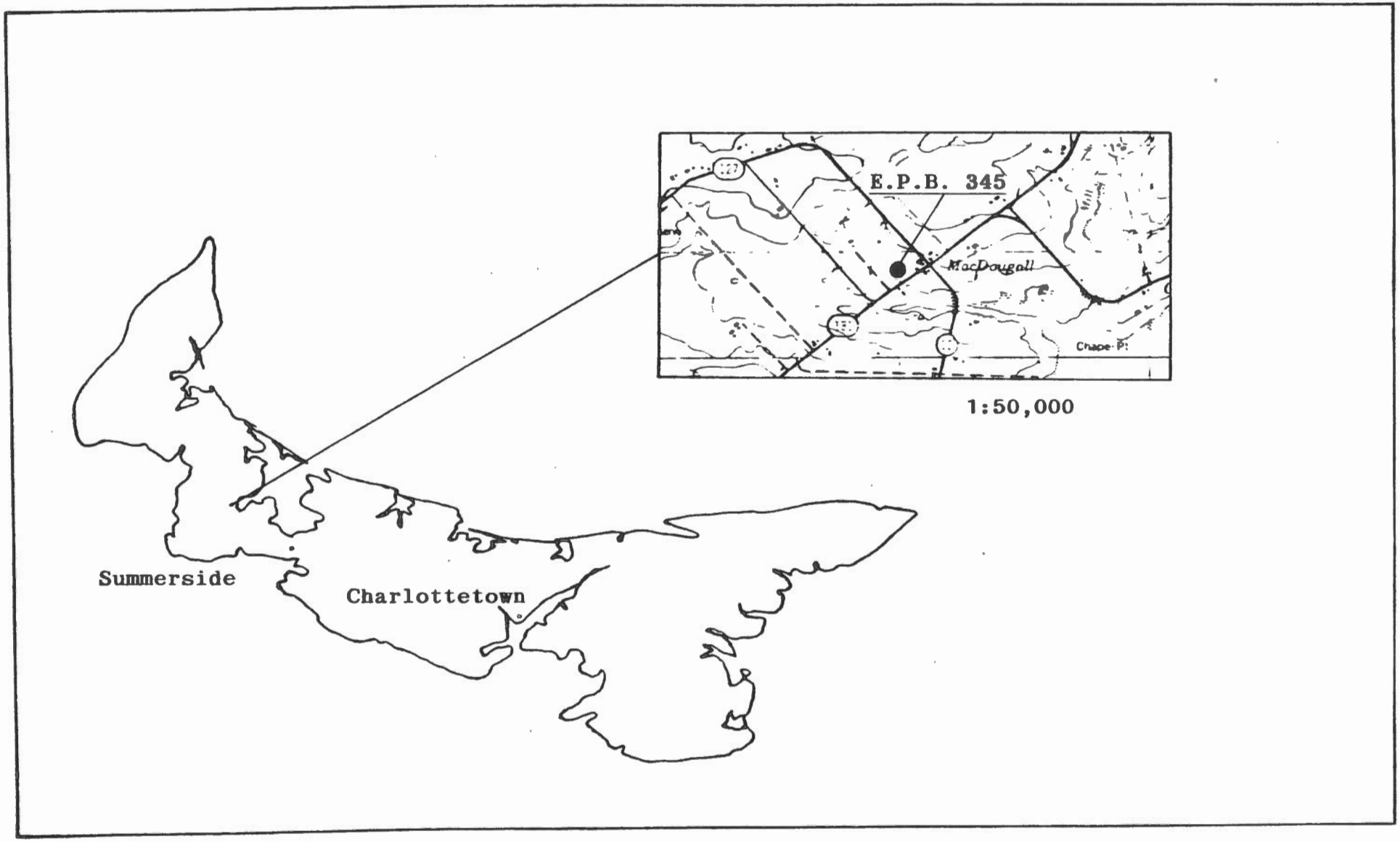

Figure 1

Location Map

ACKNOWLEDGEMENTS

The cooperation and assistance provided by the personnel of the Prince Edward Island Department of Energy and Forestry and Department of Community Affairs, Water Resources Unit, are gratefully acknowledged.

Special thanks are extended to Mr. Robert MacDougall on whose property the project was undertaken.

GEOLOGY OF SITE

Igneous and metamorphic basement rocks are overlain by Mississippian Pre-Pictou Group chocolate brown to greenish brown shale. The section also includes anhydrite of Windsor age. A major unconformity separates these strata from the overlying Pictou Group red and grey beds comprised of conglomerate, sandstone and claystone and traces of coal. The outcropping, flat-lying, red beds are of Permo-Carboniferous age. H. W. van de Poll (1983) in Geology of Prince Edward Island, has subdivided the Pictou Group into four major cyclic sequences, Megacyclic Sequences I to IV. Each sequence is 275 to 365 metres thick. They consist of conglomerate

at the base, thinning upward through sandstone to siltstone.

The drill hole collared in Megacyclic Sequence I. The upper portion of the hole intersected thinly to thickly interbedded red sandstone, siltstone and claystone. The sub-rounded to rounded, poorly sorted, arkosic sandstone varies from fine to medium grained. It is composed of 80 per cent detrital and 20 per cent matrix. The detrital fraction is composed of 40 per cent quartz, 40 per cent feldspar, 5 per cent lithic fragments and up to 5 per cent mica. The latter is usually concentrated in thin laminae. The matrix is of a silt-clay fraction. The cement is hematitic, often calcareous. Locally, the sandstone has a flecked appearance resulting from an increase in quartz and/or carbonate material. The siltstone has essentially the same constituents as the sandstone, differing mainly in grain size. The mineralogy of the claystone is not discernible megascopically. The mud-pellet conglomerate consists of claystone clasts to a few centimeters in diameter in either a sandstone or carbonate matrix. All rocks possess grey to grey-green segregations and contacts produced by reduction processes. Both micaceous and

calcareous sections are common. Most geologic boundaries are gradational.

Grey, medium grained sandstone was encountered at a depth of 432.6 metres. This section was preceded by a 12.5-metre transitional zone of interbedded red and grey sandstone, siltstone and claystone. The well sorted, grey sandstone is composed of 50 per cent quartz, 30 per cent feldspar, 10 per cent mica, five per cent lithic fragments and 5 per cent matrix and cement. The latter is locally calcareous. Coaly partings are frequent.

DRILLING PROJECT

The MacDougall drilling project comprised three phases: pre-drilling, drilling and post-drilling. These phases are discussed in detail below.

Pre-Drilling Phase

The pre-drilling phase concerned site selection, obtaining all necessary permissions and a site visit with potential bidders for the drilling contract.

Site Selection

Site selection was based on a recorded temperature of 74 degrees centigrade at a depth of 2,505 metres in a nearby petroleum exploration well. This

data was reported in the well history of Imperial MacDougall No. 1, drilled by Imperial Oil Limited in 1958.

Permissions

Permission to undertake the drilling on private property was granted by the landowner. Discussions with provincial government officials revealed that work permits, etc., were not applicable in this instance.

Site Visit

On August 9, 1984, three potential bidders for the drilling contract were shown the proposed site. The drilling contract was awarded in mid-September. Drill equipment was moved on the site on October 9, 1984, and drilling commenced on October 30, 1984.

Drilling Phase

General

A total of 459.5 metres of NQ wireline diamond drilling was accomplished using a Longyear Model 38 drill. The hole was drilled at an angle of minus 90 degrees. Overburden, consisting of red sandy clay, is 4.9 metres thick. HW casing was drilled and cemented to 6.2 metres, below the depth of severe weathering. NW casing was drilled to 50.3 metres to be below the depth of loss of water circulation at

about 25 metres. On completion of the drilling, all NW casing was removed and a steel liner, 69.9 millimeters in diameter, was inserted and grouted to total depth. The hole was capped to permit future access. All drilling activities were completed and the drill equipment removed on October 30, 1984.

Appendix I contains the drill contractor's shift reports which indicate drilling rates, problems, etc. Drilling was carried out during two 10-hour shifts per day. Although a biodegradable drilling fluid, Polydrill 1330, was used, drilling problems were encountered. Severe hole erosion resulted in a reduced penetration rate to prevent drill rod breakage from a whipping effect. It also resulted in the increased use of drilling fluid to alleviate difficulties in the removal of both cuttings and eroded material. Although some loss of water circulation was experienced, cementing and later grouting of the liner have prevented potential vertical water flow which would result in meaningless temperature data. Hole erosion necessitated using more grout than originally or normally anticipated.

The project manager checked the daily drilling progress. Due to drilling problems, there was con-

siderable involvement in discussions of remedial action.

Bottomhole Temperatures

Temperatures were recorded at the bottom of the hole as drilling progressed (Appendix II). Readings were taken with a temperature bridge Model BGT-1 employing a single thermistor probe. Attempts were made to record these temperatures at the same time each day. Although some instability of the readings is evident, they would have provided useful data in the event the hole was completely lost at any time due to incompetent rock.

Post-Drilling Phase

The post-drilling activities included temperature logging, lithologic logging, core sampling, core transportation and storage and site inspection.

Temperature Logging

Five complete temperature logs were carried out. The time intervals of these logs were one hour after core drilling and 24 hours, 72 hours, one month and four months after cessation of all drilling activities. Readings were taken utilizing temperature bridge Model BGT-1, employing a single thermistor probe. The station interval was five metres. The

collected temperatures and supporting data are tabled in Appendix III.

Lithologic Logging

A brief drill site lithologic log describing major changes in rock type was undertaken by the project manager. This is contained in Appendix IV.

Core Sampling

Full and intact core samples, 15 centimetres long, were collected for thermal conductivity measurements. The sample interval, being somewhat dependent on the lithology, averaged 10 metres. Although the thermal conductivity measurements were not available at the completion of the remaining phase of this investigation, pertinent data on the samples are listed in Appendix V.

Core Storage

All core boxes have been properly labelled and are stored in Charlottetown at a facility provided by the Prince Edward Island Department of Energy and Forestry.

Site Inspection

The drill site was inspected subsequent to the removal of the drill equipment. Little ground disturbance was evident. The site was left in as close to its pre-drilling condition as possible and to the satisfaction of the landowner.

CONCLUSIONS AND RECOMMENDATIONS

The collected temperature data indicate a thermal gradient of between 13 and 15 degrees centigrade per kilometre. Successive temperature logs indicate slight decreases in temperature with time. The largest decrease, that of 0.5 to 1.0 degrees, is between the one-hour and 24-hour logs. Temperature differences between the one-month and four-month logs are less than 0.2 degrees. Successive logs also indicate a slight increase, of less than one degree centigrade per kilometre, in the thermal gradient. This results, in part, from somewhat larger temperature decreases in the upper portion of the drill hole. This phenomenon reflects the dissipation of the thermal effects of drilling which decrease in a downhole direction.

The results of the investigation have failed to substantiate the rather significant thermal gradient indicated by a previously recorded temperature in a nearby petroleum exploration well. It is concluded, based on the obtained thermal gradient alone, that direct application of this resource would not be viable. Therefore, no further exploration for low-

grade geothermal energy is warranted for this region of Prince Edward Island.

Respectfully submitted

John A. Leslie

REGISTERED PROFESSIONAL ENGINEER
JOHN A. LESLIE
SIGNATURE
PROVINCE OF NOVA SCOTIA

John A. Leslie, P.Eng.
John A. Leslie & Associates Ltd.

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APPENDIX I

DRILL SHIFT REPORTS

Longyear

DAILY TIME REPORT

14

LONGYEAR CANADA INC.

SIZE OF CORE: AQ: BQ: (NQ:) HQ: PQ:

OTHER (SPECIFY) _____

CONTRACT D.S.S. P.E.I

TYPE OF DRILL 38 STUB Shaft

HOLE NO. #1

DATE Oct 1 19 34

SHIFT — DAY [X] AFT'N [ ] NIGHT [ ]

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

AW2	BW2	NW2	HW2	PW2	SW2
AW5	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
AW5	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

INCLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		
DEPTH START SHIFT		
CASED OR DRILLED		
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY _____

LABOUR

RUNNERS	FROM	TO	TOTAL HOURS
M. Blaume	6	8	14
[illegible]	6	8	14

HELPERS			

PUMPMEN			

TRACTOR OPERATOR			

TRACTOR HELPER			

TRACTOR			
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS:

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	
DRILLING	X	X	X	X	X	X	X						X	X
CASING (DEPTH)													X	
CEMENT (AT FT.)								X	X	X	X	X	X	X
WATERLINE (LENGTH)														
REAMING (FROM TO)								X	X	X	X	X	X	X
MOVING (LENGTH TO NEXT SETUP Trail to)								Com [illegible]					5	5
TEAR DOWN OR SET UP Load								Set up					9	9
AWAITING ORDERS								X	X	X	X	X	X	X
WEDGING (AT)														
TROPARI													X	X
OTHER (SPECIFY)								X	X	X	X	X	X	X
DELAYS (SPECIFY)	X	X	X	X	X	X	X							
REPAIRS (SPECIFY)	X	X	X	X	X	X	X							
OTHER (SPECIFY)	X	X	X	X	X	X	X							

FOREMAN'S REMARKS: Will have to stop the Drill Site [illegible] Drill on hole #1

CLIENT'S REPRESENTATIVE

M. & R. Blaume.
FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

DAILY TIME REPORT

15

Longyear **LONGYEAR CANADA INC.**

SIZE OF CORE: AQ: BQ: (NQ) HQ: PO:

OTHER (SPECIFY)

CONTRACT D.S.S. P.E.I

TYPE OF DRILL 38 STUB Shaft

HOLE NO. #1

DATE Oct 10 19 8

SHIFT: DAY ☑ AFT'N ☐ NIGHT ☐

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

AW2	BW2	NW2	HW2	PW2	SW2
AW5	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2 2	PW2	SW2
AW5	BW5	NW5	HW5 3	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

1 Bag of Cement Fondue
1 20L Pail of Drydrill

DIAMONDS OVERBURDEN

TYPE	NUMBER
Impregnated	EO 117
Surface	EO 117

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT	26	
DEPTH START SHIFT	0	
CASED OR DRILLED	26	
CORE RECOVERED		6

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW	0	21	HW	0	19
PW			SW		

SUPPLIES RE CEMENT:

1 Bag of Cement Fondue

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

RUNNERS	FROM	TO	TOTAL HOURS
M. Blomme	7	7	12
M. ATTWATER	7	7	12

HELPERS

PUMPMEN

TRACTOR OPERATOR

TRACTOR HELPER

TRACTOR

TYPE

NO CLIENT HOURS

TRACTOR REMARKS:

CLIENT HOURS / COMPANY HOURS

	CLIENT: SUPERVISION	CLIENT: RUNNER	CLIENT: HELPER	CLIENT: PUMPMEN	CLIENT: TR OPERATOR	CLIENT: TR HELPER	COMPANY: SUPERVISION	COMPANY: RUNNER	COMPANY: HELPER	COMPANY: PUMPMEN	COMPANY: TR OPERATOR	COMPANY: TR HELPER
DRILLING												
CASING (DEPTH 21)									4	4		
CEMENT (AT Surface Casing)			3	3								
WATERLINE (LENGTH 400)									1	1		
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP Finish set up									3	3		
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY Drain water tank & Pump)									1	1		
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: Drill HW casing down 19' & then drill NQ with WO to 21' put NQ rods down and core 6' Then

Drilled apart & ran water HW

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

DAILY TIME REPORT

16

longyear

LONGYEAR CANADA INC.

SHIFT: DAY [X] AFT'N [ ] NIGHT [ ]

...OF CORE. AQ: BQ: NQ: HQ: PQ:

...R (SPECIFY)

...ACT D.S.S P.E.I

TYPE OF DRILL 38 STUB Shaft

HOLE NO. #1

DATE [illegible] 19 84

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

BW2	NW2	HW2	PW2	SW2
BW5	NW5	HW5	PW5	SW5
BW10	NW10	HW10	PW10	SW10

DIAMONDS OVERBURDEN

TYPE	NUMBER

CASING-LEFT IN HOLE

BW2	NW2	HW2	PW2	SW2
BW5	NW5	HW5	PW5	SW5
BW10	NW10	HW10	PW10	SW10

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

...OMETER TESTS:

...ARI TESTS:

...PLIES CHARGEABLE RE OVERBURDEN:

Bag + wheat Bran
Pail [illegible] Polydrill

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		83
DEPTH START SHIFT		26
CASED OR DRILLED		57
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW	21	71	HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

...NERS	FROM	TO	TOTAL HOURS
Blomme	7	7	12
A. Tranter	7	7	12
...PERS			
...PMEN			
...CTOR OPERATOR			
...CTOR HELPER			
...CTOR			
...E	NO CLIENT HOURS		
...TOR ...ARKS.			

CLIENT HOURS / COMPANY HOURS

	Client: SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	Company: SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER
DRILLING									6	6		
CASING (DEPTH)												
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM 21 TO 71)		6	6									
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: [illegible] NW casing 50'
[illegible]
[illegible]
[illegible]

[signature]
CLIENT'S REPRESENTATIVE

Marc Blomme
FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

DAILY TIME REPORT

17

Longyear

LONGYEAR CANADA INC.

SIZE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY)

CONTRACT D.S.S. P.E.I.

TYPE OF DRILL 39 STUB Shaft

HOLE NO. E-1

DATE Oct 12 19 [illegible]

SHIFT — DAY [illegible] E
AFT'N [illegible] C
NIGHT [illegible] C

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

AW2	BW2	NW2	HW2	PW2	SW2
AW5	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
AW5	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10 1	HW10	PW10	SW10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

1 Pail 20L of Polyfield
1 Bag of Bran
1 Bag of Quick Wood
1 Dust cover over

DIAMONDS OVERBURDEN

TYPE	NUMBER
E [illegible]	E105

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		107
DEPTH START SHIFT		83
CASED OR DRILLED		27
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW	71	80	HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY)

LABOUR

RUNNERS	FROM	TO	TOTAL HOURS
M. Blomme	7	8	13
M. Attwater	7	8	13

HELPERS

PUMPMEN

TRACTOR OPERATOR

TRACTOR HELPER

TRACTOR TYPE — NO CLIENT HOURS

TRACTOR REMARKS:

CLIENT HOURS / COMPANY HOURS

	CLIENT: SUPERVISION	CLIENT: RUNNER	CLIENT: HELPER	CLIENT: PUMPMEN	CLIENT: TR OPERATOR	CLIENT: TR HELPER	COMPANY: SUPERVISION	COMPANY: RUNNER	COMPANY: HELPER	COMPANY: PUMPMEN	COMPANY: TR OPERATOR	COMPANY: TR HELPER
DRILLING									2	2		
CASING (DEPTH)												
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM 71 TO 80)			1/2	1/2								
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY)												
REPAIRS (SPECIFY To Drill)									1	1		
OTHER (SPECIFY)												

FOREMAN'S REMARKS: Lost circulation while reaming at 78' then started to cave. Reamed to 80' and was unable to advance past this point. Will [illegible]

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

18

LONGYEAR CANADA INC.

SIZE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY)

CONTRACT D.S.S. P.E.I

TYPE OF DRILL 3½ Stub Steel

HOLE NO. #1

DATE Oct 12 19 81

SHIFT: DAY ☐ AFT'N ☑ NIGHT ☐

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

/2	BW2	NW2	HW2	PW2	SW2
'5	BW5	NW5	HW5	PW5	SW5
AW 10	BW 10	NW 10	HW 10	PW 10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
W5	BW5	NW5	HW5	PW5	SW5
AW 10	BW 10	NW 10	HW 10	PW 10	SW10

CLINOMETER TESTS:

ROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

1 Pail of Polyplug 20L

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		137
DEPTH START SHIFT		107
CASED OR DRILLED		30
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW	30	100	HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

RUNNERS	FROM	TO	TOTAL HOURS
D-Doucette	8	6	10

HELPERS			
B-Doucette	8	6	10

PUMPMEN			

TRACTOR OPERATOR			

TRACTOR HELPER			

RACTOR			

TYPE — NO CLIENT HOURS

TRACTOR EMARKS:

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	
DRILLING										2	2			
CASING (DEPTH)														
CEMENT (AT FT.)														
WATERLINE (LENGTH)														
REAMING (FROM 30 TO 100)				8	3									
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS														
WEDGING (AT)														
TROPARI														
OTHER (SPECIFY)														
DELAYS (SPECIFY)														
REPAIRS (SPECIFY)														
OTHER (SPECIFY)														

FOREMAN'S REMARKS: Put casing back down hole to cure caving above zone we due to bad ground Coordin hill crimson area.

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN

BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

19

LONGYEAR CANADA INC.

SHIFT: DAY [X] AFT'N [ ] NIGHT [ ]

ZE OF CORE: AQ: BQ: NQ: HQ: PQ:

(SPECIFY)

TYPE OF DRILL 3½ Tub. Shaft

CONTRACT D.S.S. P.E.I

HOLE NO. #1

DATE Oct 13 19 8

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

V2	BW2	NW2	HW2	PW2	SW2
V5	BW5	NW5	HW5	PW5	SW5
AW 10	BW 10	NW 10	HW 10	PW 10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
W5	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

ROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

1 Pail of Hydrated Dol

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		207
DEPTH START SHIFT		137
CASED OR DRILLED		70
CORE RECOVERED		70

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
T. Balmer	6	6	12
HELPERS			
V. Duncette	4	6	14
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS:

CLIENT HOURS / COMPANY HOURS

	Client: Supervision	Client: Runner	Client: Helper	Client: Pumpmen	Client: Tr. Operator	Client: Tr. Helper	Company: Supervision	Company: Runner	Company: Helper	Company: Pumpmen	Company: Tr. Operator	Company: Tr. Helper
DRILLING								5	5			
CASING (DEPTH)												
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY Equipment)								4	6			
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: Drilling to 207'

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN

BLUE - BRANCH COPY

DAILY TIME REPORT

Longyear

LONGYEAR CANADA INC.

SHIFT: DAY ______ AFT'N ______ NIGHT ______ 20

UF CORE. AQ: BQ: NQ: HQ: PQ:

R (SPECIFY) ____________ TYPE OF DRILL 38

ACT D.C. 2 P.E.I HOLE NO. 1 DATE 27-1-12 19 81

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
	BW 10	NW 10	HW 10	PW 10	SW 10

CASING-LEFT IN HOLE

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
	BW 10	NW 10	HW 10	PW 10	SW 10

OMETER TESTS:

'ARI TESTS:

PLIES CHARGEABLE RE OVERBURDEN:

[illegible] 206

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		317
DEPTH START SHIFT		307
CASED OR DRILLED		10
CORE RECOVERED		9.0

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

	FROM	TO	TOTAL HOURS
NERS			
[illegible]	8	6	10
PERS			
[illegible]	8	6	10
PMEN			
CTOR OPERATOR			
CTOR HELPER			
CTOR			
E	NO CLIENT HOURS		

TOR RKS.

CLIENT HOURS / COMPANY HOURS

	Client: SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	Company: SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER
DRILLING								10	10			
CASING (DEPTH)												
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS:

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN

BLUE - BRANCH COPY

DAILY TIME REPORT

21

Longyear

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SIZE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY) _____ TYPE OF DRILL 3P

CONTRACT D.S.S. Drill HOLE NO. 1 DATE Oct. 14 19 __

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

W2	BW2	NW2	HW2	PW2	SW2
W5	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
W5	BW5	NW5	HW5	PW5	SW5
W10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

1 pair Pulling Jt 2 3/4

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		41
DEPTH START SHIFT		31
CASED OR DRILLED		10
CORE RECOVERED		10

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY _____

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
L. Lalonde	5	6	10
HELPERS			
V. Doucette	5	6	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			
TYPE	NO CLIENT HOURS		
TRACTOR REMARKS:			

CLIENT HOURS / COMPANY HOURS

	CLIENT: SUPERVISION	CLIENT: RUNNER	CLIENT: HELPER	CLIENT: PUMPMEN	CLIENT: TR. OPERATOR	CLIENT: TR. HELPER	COMPANY: SUPERVISION	COMPANY: RUNNER	COMPANY: HELPER	COMPANY: PUMPMEN	COMPANY: TR. OPERATOR	COMPANY: TR. HELPER
DRILLING									9	4		
CASING (DEPTH)												
CEMENT (AT FT.)							X	X	X	X	X	X
WATERLINE (LENGTH)												
REAMING (FROM TO)							X	X	X	X	X	X
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS							X	X	X	X	X	X
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)							X	X	X	X	X	X
DELAYS (SPECIFY)												
REPAIRS (SPECIFY Rewire)									1	1		
OTHER (SPECIFY)												

FOREMAN'S REMARKS:

CLIENT'S REPRESENTATIVE

L. Lalonde

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

22

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

L OF CORE: AQ: BQ: NQ: HQ: PQ:

HER (SPECIFY) _____ TYPE OF DRILL _____

RACT _____ HOLE NO. _____ DATE _____ 19__

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
0	BW10	NW10	HW10	PW10	SW10

NOMETER TESTS:

OPARI TESTS:

PPLIES CHARGEABLE RE OVERBURDEN:

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		5 7
DEPTH START SHIFT		4 1
CASED OR DRILLED		1 6
CORE RECOVERED		1 6

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY _____

LABOUR

	FROM	TO	TOTAL HOURS
NNERS			
LPERS			
MPMEN			
ACTOR OPERATOR			
ACTOR HELPER			
ACTOR			
PE	NO CLIENT HOURS		

ACTOR MARKS:

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	
DRILLING										10	10			
CASING (DEPTH)														
CEMENT (AT FT.)														
WATERLINE (LENGTH)														
REAMING (FROM TO)														
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS														
WEDGING (AT)														
TROPARI														
OTHER (SPECIFY)														
DELAYS (SPECIFY)														
REPAIRS (SPECIFY)														
OTHER (SPECIFY)														

FOREMAN'S REMARKS:

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

23

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

E OF CORE: AQ: BQ: NQ: HQ: PQ:

HER (SPECIFY) _____ TYPE OF DRILL _____

CON[illegible]CT [illegible] HOLE NO. 1 DATE [illegible] 19 [illegible]

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

2	BW2	NW2	HW2	PW2	SW2
5	BW5	NW5	HW5	PW5	SW5
AW 10	BW 10	NW 10	HW 10	PW 10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
5	BW5	NW5	HW5	PW5	SW5
10	BW 10	NW 10	HW 10	PW 10	SW10

CLINOMETER TESTS:

ROPARI TESTS:

UPPLIES CHARGEABLE RE OVERBURDEN:

[illegible]

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		[illegible]
DEPTH START SHIFT		[illegible]
CASED OR DRILLED		[illegible]
CORE RECOVERED		[illegible]

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY _____

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
[illegible]			10
HELPERS			
2. Power	2		10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS:

CLIENT HOURS / COMPANY HOURS

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR HELPER	
DRILLING									[illegible]	[illegible]				
CASING (DEPTH)														
CEMENT (AT FT.)														
WATERLINE (LENGTH)														
REAMING (FROM TO)														
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS														
WEDGING (AT)														
TROPARI														
OTHER (SPECIFY)														
DELAYS (SPECIFY)														
REPAIRS (SPECIFY)														
OTHER (SPECIFY)														

FOREMAN'S REMARKS:

[illegible]
CLIENT'S REPRESENTATIVE

[illegible]
FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

LONGYEAR CANADA INC.

24

S OF CORE: AQ: BQ: NQ: HQ: PQ:

R (SPECIFY)

CONT. U.S. P.E.T.

TYPE OF DRILL 35

HOLE NO. 1

DATE D. T. 15 19

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

A	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

PARI TESTS:

PLIES CHARGEABLE RE OVERBURDEN:

Rod Mat. Hyd. Oil

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		7.7
DEPTH START SHIFT		6
CASED OR DRILLED		7
CORE RECOVERED		7

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

RUNNERS	FROM	TO	TOTAL HOURS
Doucette	5	1	10

HELPERS	FROM	TO	TOTAL HOURS
B. Doucette	8	1	10

PUMPMEN			

TRACTOR OPERATOR			

TRACTOR HELPER			

TRACTOR			
TYPE			

NO CLIENT HOURS

TRACTOR REMARKS:

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR OPERATOR	TR. HELPER	
DRILLING									5	5				
CASING (DEPTH)														
CEMENT (AT FT.)														
WATERLINE (LENGTH)														
~~REAMING~~ (FROM 60 TO 115)			2	2										
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS														
WEDGING (AT)														
TROPARI														
OTHER (SPECIFY)														
DELAYS (SPECIFY)														
REPAIRS (SPECIFY)														
OTHER (SPECIFY)														

FOREMAN'S REMARKS: Finish Rod Out

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

LONGYEAR CANADA INC.

25

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

TYPE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY)

CONTRACT DSS PF1

TYPE OF DRILL 35

HOLE NO. 1

DATE Oct 16 19 8

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
5	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

OPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

Spud of Drill 20 L.

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		747
DEPTH START SHIFT		747
CASED OR DRILLED		50
CORE RECOVERED		50

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

	FROM	TO	TOTAL HOURS
INNERS			
Estrada	8	6	10
LPERS			
L. Donald	8	6	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
ACTOR			
TYPE	NO CLIENT HOURS		
TRACTOR MARKS:			

	CLIENT HOURS						COMPANY HOURS					
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR OPERATOR	TR HELPER	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER
DRILLING								8	8			
CASING (DEPTH 15 ... ligged			2	2								
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: Built N.W. Casing on 1 of 2 in the Ground put N. Casing on ... Casing down at 11

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

26

LONGYEAR CANADA INC.

SHIFT — DAY ____ AFT'N ____ NIGHT ____

T OF CORE: AQ: BQ: NQ: HQ: PQ:

IF (SPECIFY) _____

TYPE OF DRILL 35

CONTRACT D-C's pad 1 HOLE NO. 1 DATE 2-7-76 19 ____

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
5	BW5	NW5	HW5	PW5	SW5
...10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

OPARI TESTS:

JPPLIES CHARGEABLE RE OVERBURDEN:

1 box wireline

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		[illegible]
DEPTH START SHIFT		26
CASED OR DRILLED		7
CORE RECOVERED		7

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY _____

LABOUR

NNERS	FROM	TO	TOTAL HOURS
J. Doucett	8	6	10

LPERS			
B. Doucett	8	6	10

PUMPMEN			

TRACTOR OPERATOR			

RACTOR HELPER			

ACTOR			

TYPE NO CLIENT HOURS

TRACTOR MARKS:

CLIENT HOURS / COMPANY HOURS

	CLIENT: SUPERVISION	CLIENT: RUNNER	CLIENT: HELPER	CLIENT: PUMPMEN	CLIENT: TR. OPERATOR	CLIENT: TR. HELPER	COMPANY: SUPERVISION	COMPANY: RUNNER	COMPANY: HELPER	COMPANY: PUMPMEN	COMPANY: TR. OPERATOR	COMPANY: TR. HELPER
DRILLING								7	7			
CASING (DEPTH)												
CEMENT (AT FT.)												
~~WATERLINE (LENGTH~~)												
~~REAMING~~ (FROM 115 TO 156)			3	3								
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: Cut P.W. casing in

Set at 3 hours.

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

DAILY TIME REPORT

Longyear

LONGYEAR CANADA INC.

27

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

S OF CORE: AQ: BQ: NQ: HQ: PQ:

O... (SPECIFY) _____ TYPE OF DRILL 3F

CONTRACT O.S.S. P.E.I HOLE NO. 1 DATE 21 [illegible] 19 [illegible]

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

A	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

PARI TESTS:

PLIES CHARGEABLE RE OVERBURDEN:

Part of Hydrall 206

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		75½
DEPTH START SHIFT		60
CASED OR DRILLED		15
CORE RECOVERED		12

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY _____

LABOUR

	FROM	TO	TOTAL HOURS
NERS			
L. Lalonde	8	6	10
PERS			
J. Brunette	8	6	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
CTOR			
TYPE	NO CLIENT HOURS		

TRACTOR ARKS:

	CLIENT HOURS								COMPANY HOURS							
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER			SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		
DRILLING											15	10				
CASING (DEPTH)																
CEMENT (AT FT.)																
WATERLINE (LENGTH)																
REAMING (FROM TO)																
MOVING (LENGTH TO NEXT SETUP)																
TEAR DOWN OR SET UP																
AWAITING ORDERS																
WEDGING (AT)																
TROPARI																
OTHER (SPECIFY)																
DELAYS (SPECIFY)																
REPAIRS (SPECIFY)																
OTHER (SPECIFY)																

FOREMAN'S REMARKS:

[signature] CLIENT'S REPRESENTATIVE

L. Lalonde FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN

BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

28

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SIZE OF CORE: AQ: BQ: (NQ) HQ: PQ:

OTHER (SPECIFY)

TYPE OF DRILL 25

CONTRACT D.D.H. No. 1

HOLE NO. 1

DATE Oct. 11 19 5

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

AWW	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

PARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		112
DEPTH START SHIFT		106
CASED OR DRILLED		6
CORE RECOVERED		7

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
Doucette	5	6	10
HELPERS			
D. Doucette	6	6	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			
TRACTOR	NO CLIENT HOURS		

TRACTOR REMARKS:

CLIENT HOURS / COMPANY HOURS

	CLIENT: SUPERVISION	CLIENT: RUNNER	CLIENT: HELPER	CLIENT: PUMPMEN	CLIENT: TR. OPERATOR	CLIENT: TR. HELPER	COMPANY: SUPERVISION	COMPANY: RUNNER	COMPANY: HELPER	COMPANY: PUMPMEN	COMPANY: TR. OPERATOR	COMPANY: TR. HELPER
DRILLING										2	2	
CASING (DEPTH)										3	3	
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS		5	5									
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: [illegible]

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN

BLUE - BRANCH COPY

DAILY TIME REPORT

29

LONGYEAR CANADA INC.

S OF CORE: AQ: BQ: (NQ) HQ: PQ:

TYPE OF DRILL 38

CONT O.D.S. PZ. 1 HOLE NO. 1 DATE Oct. 15 19 6

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

AWS	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
)	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

)PARI TESTS:

)PLIES CHARGEABLE RE OVERBURDEN:

Rail of Polyduct 20 c

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		1 1
DEPTH START SHIFT		2 2
CASED OR DRILLED		1
CORE RECOVERED		1

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

RUNNERS	FROM	TO	TOTAL HOURS
L. Labonte	5	6	10

HELPERS			
V. Doucette	5	6	10

PUMPMEN			

TRACTOR OPERATOR			

...CTOR HELPER			

...CTOR			

...E NO CLIENT HOURS

TRACTOR ...ARKS:

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	
DRILLING									1	1				
CASING (DEPTH)														
CEMENT (AT FT.)														
WATERLINE (LENGTH)														
REAMING (FROM TO)														
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS														
WEDGING (AT)														
TROPARI														
OTHER (SPECIFY)			9	9										
DELAYS (SPECIFY)														
REPAIRS (SPECIFY)														
OTHER (SPECIFY)														

FOREMAN'S REMARKS: Check hole start pulling rods Break at 2 pull 1 rod pull 2 rods pull 3 rods pull rods down again and start again

CLIENT'S REPRESENTATIVE

L Labonte
FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

DAILY TIME REPORT

longyear

LONGYEAR CANADA INC.

30

SIZE OF CORE: AQ: BQ: (NQ) HQ: PQ:

OTHER (SPECIFY) _____

TYPE OF DRILL 38

CONTRACT D-55 PC-1 HOLE NO. 1 DATE Oct 15 19 74

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

AW	BW2	NW2	HW2	PW2	SW2
AW	BW5	NW5	HW5	PW5	SW5
AW 10	BW 10	NW 10	HW 10	PW 10	SW 10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
AW	BW5	NW5	HW5	PW5	SW5
AW	BW 10	NW 10	HW 10	PW 10	SW 10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

+ Paid Mitchell 20 L

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		1007
DEPTH START SHIFT		947
CASED OR DRILLED		60
CORE RECOVERED		60

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY _____

LABOUR

RUNNERS	FROM	TO	TOTAL HOURS
D. Devitt	8	6	10

HELPERS	FROM	TO	TOTAL HOURS
B. Devitt	8	6	10

PUMPMEN	FROM	TO	TOTAL HOURS

TRACTOR OPERATOR	FROM	TO	TOTAL HOURS

TRACTOR HELPER	FROM	TO	TOTAL HOURS

TRACTOR	FROM	TO	TOTAL HOURS

TYPE NO CLIENT HOURS

TRACTOR REMARKS:

CLIENT HOURS / COMPANY HOURS

	Client: Supervision	Client: Runner	Client: Helper	Client: Pumpmen	Client: Tr. Operator	Client: Tr. Helper	Company: Supervision	Company: Runner	Company: Helper	Company: Pumpmen	Company: Tr. Operator	Company: Tr. Helper
DRILLING	X	X	X	X	X	X		10	10			X
CASING (DEPTH)												X
CEMENT (AT FT.)							X	X	X	X	X	X
WATERLINE (LENGTH)												
REAMING (FROM TO)							X	X	X	X	X	X
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS							X	X	X	X	X	X
WEDGING (AT)												
TROPARI												X
OTHER (SPECIFY.)							X	X	X	X	X	X
DELAYS (SPECIFY)	X	X	X	X	X	X						
REPAIRS (SPECIFY)	X	X	X	X	X	X						
OTHER (SPECIFY)	X	X	X	X	X	X						

FOREMAN'S REMARKS:

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

31

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SIZE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY) _____ TYPE OF DRILL _____

CONTRACT [redacted] HOLE NO. 1 DATE Dec. 16 19 ___

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

OPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

1 spool of tape in box

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		101
DEPTH START SHIFT		100
CASED OR DRILLED		60
CORE RECOVERED		60

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY _____

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
[redacted] Labrie	5	1	10
HELPERS			
J. Doucette	5	1	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
ACTOR			

TYPE _____ NO CLIENT HOURS

TRACTOR MARKS:

CLIENT HOURS / COMPANY HOURS

	Client: Supervision	Client: Runner	Client: Helper	Client: Pumpmen	Client: Tr. Operator	Client: Tr. Helper	Company: Supervision	Company: Runner	Company: Helper	Company: Pumpmen	Company: Tr. Operator	Company: Tr. Helper
DRILLING	X	X	X	X	X	X	X	10	10			
CASING (DEPTH)												
CEMENT (AT FT.)							X	X	X	X	X	X
WATERLINE (LENGTH)												
REAMING (FROM TO)							X	X	X	X	X	X
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS							X	X	X	X	X	X
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)							X	X	X	X	X	X
DELAYS (SPECIFY)	X	X	X	X	X	X						
REPAIRS (SPECIFY)	X	X	X	X	X	X						
OTHER (SPECIFY)	X	X	X	X	X	X						

FOREMAN'S REMARKS:

[redacted]
CLIENT'S REPRESENTATIVE

[redacted]
FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

DAILY TIME REPORT

32

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SIZE OF CORE: AQ: BQ: (NQ:) HQ: PQ:

OTHER (SPECIFY) _____ TYPE OF DRILL 3F

CONTRACT D. D. D. 1 HOLE NO. 1 DATE Oct. 17 19 S

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

ABW9	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
)	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

Rod at [illegible] Pol.

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		1127
DEPTH START SHIFT		1117
CASED OR DRILLED		10
CORE RECOVERED		6 0

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY _____

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
D. Doucette	5	17	10
HELPERS			
D. Doucette	5	17	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			
NONE	NO CLIENT HOURS		

TRACTOR REMARKS:

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR OPERATOR	TR. HELPER	
DRILLING									5	10				
CASING (DEPTH)														
CEMENT (AT FT.)														
WATERLINE (LENGTH)														
REAMING (FROM TO)														
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS														
WEDGING (AT)														
TROPARI														
OTHER (SPECIFY)														
DELAYS (SPECIFY)														
REPAIRS (SPECIFY)														
OTHER (SPECIFY)														

FOREMAN'S REMARKS:

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

DAILY TIME REPORT

33

Longyear **LONGYEAR CANADA INC.**

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SIZE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY) _____ TYPE OF DRILL 2 1/2

CONTRACT D.D.H. #1 HOLE NO. 1 DATE Oct. 20 19 58

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

AW	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
A 10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

1 Box of Steel #20L

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		111
DEPTH START SHIFT		102
CASED OR DRILLED		6
CORE RECOVERED		6

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY _____

LABOUR

RUNNERS	FROM	TO	TOTAL HOURS
[illegible]	8	6	10

HELPERS	FROM	TO	TOTAL HOURS
V. Dowdall	8	6	10

PUMPMEN	FROM	TO	TOTAL HOURS

TRACTOR OPERATOR	FROM	TO	TOTAL HOURS

TRACTOR HELPER	FROM	TO	TOTAL HOURS

TRACTOR	FROM	TO	TOTAL HOURS
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS:

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR OPERATOR	TR HELPER	
DRILLING	X	X	X	X	X	X			10	10		X	X	
CASING (DEPTH)												X		
CEMENT (AT FT.)								X	X	X	X	X	X	
WATERLINE (LENGTH)														
REAMING (FROM TO)								X	X	X	X	X	X	
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS								X	X	X	X	X	X	
WEDGING (AT)														
TROPARI												X	X	
OTHER (SPECIFY)								X	X	X	X	X	X	
DELAYS (SPECIFY)	X	X	X	X	X	X								
REPAIRS (SPECIFY)	X	X	X	X	X	X								
OTHER (SPECIFY)	X	X	X	X	X	X								

FOREMAN'S REMARKS:

[signature]
CLIENT'S REPRESENTATIVE

[signature]
FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

34

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

[redacted] OF CORE: AQ: BQ: (NQ) HQ: PQ:

OTHER (SPECIFY)

TYPE OF DRILL 3F

CONTRACT D.S.T. P.E. 1 HOLE NO. 1 DATE Oct. 20 19[illegible]

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
[illegible]0	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

)PARI TESTS:

PPLIES CHARGEABLE RE OVERBURDEN:

Part of Pickup Load 20 L.

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		1-1 [illegible]
DEPTH START SHIFT		11 8 [illegible]
CASED OR DRILLED		60
CORE RECOVERED		60

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

	FROM	TO	TOTAL HOURS
[illegible]NNERS			
J. Doucette	8	6	10
[illegible]LPERS			
B. Doucette	8	6	10
PUMPMEN			
TRACTOR OPERATOR			
[illegible]RACTOR HELPER			
[illegible]ACTOR			
[illegible]TYPE	NO CLIENT HOURS		

TRACTOR [illegible]MARKS:

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR OPERATOR	TR HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR OPERATOR	TR HELPER	
DRILLING									10	10				
CASING (DEPTH)														
CEMENT (AT FT.)														
WATERLINE (LENGTH)														
REAMING (FROM TO)														
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS														
WEDGING (AT)														
TROPARI														
OTHER (SPECIFY)														
DELAYS (SPECIFY)														
REPAIRS (SPECIFY)														
OTHER (SPECIFY)														

FOREMAN'S REMARKS:

[signature] CLIENT'S REPRESENTATIVE

[signature] FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

35

LONGYEAR CANADA INC.

SIZE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY)

CONTRACT D.S.S. R.E.1

TYPE OF DRILL [illegible]

HOLE NO. 1

DATE Oct. 21 19[illegible]

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

A[illegible]	BW2	NW2	HW2	PW2	SW2
A[illegible]	BW5	NW5	HW5	PW5	SW5
AW 10	BW 10	NW 10	HW 10	PW 10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
[illegible]	BW5	NW5	HW5	PW5	SW5
AW 10	BW 10	NW 10	HW 10	PW 10	SW10

CLINOMETER TESTS:

[illegible]PARI TESTS:

[illegible]PLIES CHARGEABLE RE OVERBURDEN:

1 Pail Wingfoil 20 L

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		1[illegible]
DEPTH START SHIFT		[illegible]2
CASED OR DRILLED		5[illegible]
CORE RECOVERED		50

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

	FROM	TO	TOTAL HOURS
[illegible]INERS [illegible]. Lafrate	5	6	10
[illegible]PERS [illegible]. Doucette	5	6	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
[illegible]CTOR			
TYPE	NO CLIENT HOURS		

TRACTOR [illegible]ARKS:

CLIENT HOURS / COMPANY HOURS

	Client: Supervision	Runner	Helper	Pumpmen	Tr. Operator	Tr. Helper	Company: Supervision	Runner	Helper	Pumpmen	Tr. Operator	Tr. Helper
DRILLING								9	9			
CASING (DEPTH)												
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY [illegible]. Lafr)			1	1								
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: Wait [illegible]

[illegible]

CLIENT'S REPRESENTATIVE

T. Lafrate

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN

BLUE - BRANCH COPY

DAILY TIME REPORT

36

Longyear

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SIZE OF CORE: AQ: BQ: NQ HQ: PQ:

OTHER (SPECIFY)

TYPE OF DRILL 3

CONTRACT Diesel

HOLE NO. 1

DATE Oct. 21 19

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

A	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

Paid for 2 core boxes

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		
DEPTH START SHIFT		
CASED OR DRILLED		
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING

SUPPLIES OTHER: (SPECIFY 2 - 10 ft 4"

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
D. Doucett			10
HELPERS			
B. Doucett			11
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TYPE	NO CLIENT HOURS		
TRACTOR			

REMARKS:

CLIENT HOURS / COMPANY HOURS

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	
DRILLING									7					
CASING (DEPTH)														
CEMENT (AT FT.)														
WATERLINE (LENGTH)														
REAMING (FROM TO)														
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS														
WEDGING (AT)														
TROPARI														
OTHER (SPECIFY Setting Rods)			3	3										
DELAYS (SPECIFY)														
REPAIRS (SPECIFY)														
OTHER (SPECIFY)														

FOREMAN'S REMARKS: Setup, Rig up + Drill

and Water Rods

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN

BLUE - BRANCH COPY

DAILY TIME REPORT

37

LONGYEAR CANADA INC.

SHIFT: DAY ____ AFT'N ____ NIGHT ____

SIZE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY) ____ TYPE OF DRILL 3F

CONTRACT U-S.S. P.E.I HOLE NO. 1 DATE Oct 22 19 F

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

A	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
)	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

PARI TESTS:

PLIES CHARGEABLE RE OVERBURDEN:

pair of rubber boots

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		1
DEPTH START SHIFT		13½
CASED OR DRILLED		5'
CORE RECOVERED		1'

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY ____

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
V. Lalonde	8	6	10
HELPERS			
V. Doucet	8	6	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS:

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	
DRILLING									9	9				
CASING (DEPTH)														
CEMENT (AT FT.)														
WATERLINE (LENGTH)														
REAMING (FROM TO)														
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS														
WEDGING (AT)														
TROPARI														
OTHER (SPECIFY)														
DELAYS (SPECIFY)														
REPAIRS (SPECIFY)														
OTHER (SPECIFY)														

FOREMAN'S REMARKS:

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK RETAIN BY FOREMAN

BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

38

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SIZES OF CORE: AQ: BQ: NQ HQ: PQ:

OTHER (SPECIFY)

TYPE OF DRILL 35

CONTRACT D.D.H. 1

HOLE NO. 1

DATE Oct 27 19 82

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

1 pair of Polycrystalline bit

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		1711
DEPTH START SHIFT		1396
CASED OR DRILLED		48
CORE RECOVERED		48

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY)

LABOUR

	FROM	TO	TOTAL HOURS
INERS: C. Dowdall	6	6	10
PERS: B Dowdall	8	6	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
ACTOR			
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS:

CLIENT HOURS / COMPANY HOURS

	Client: Supervision	Client: Runner	Client: Helper	Client: Pumpmen	Client: Tr. Operator	Client: Tr. Helper	Company: Supervision	Company: Runner	Company: Helper	Company: Pumpmen	Company: Tr. Operator	Company: Tr. Helper
DRILLING									7	4		
CASING (DEPTH)												
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY Mud bit)			1	1								
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS:

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

PINK - RETAIN BY FOREMAN

CANARY - CLIENT'S REPRESENTATIVE

BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

39

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

OF CORE: AQ: BQ: NQ: HQ: PQ:

(SPECIFY)

TYPE OF DRILL 2F

CONTRACT D.S.S.P.A.-1

HOLE NO. 1

DATE O.T.23 19 8

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
..0	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

)PARI TESTS:

PPLIES CHARGEABLE RE OVERBURDEN:

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		[illegible]
DEPTH START SHIFT		1114
CASED OR DRILLED		63
CORE RECOVERED		63

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

	FROM	TO	TOTAL HOURS
NNERS L. Lafontaine	8	6	10.
.PERS V. Dorattis	8	6	10
PUMPMEN			
TRACTOR OPERATOR			
ACTOR HELPER			
ACTOR			

TYPE — NO CLIENT HOURS

TRACTOR MARKS:

CLIENT HOURS / COMPANY HOURS

	CLIENT: SUPERVISION	CLIENT: RUNNER	CLIENT: HELPER	CLIENT: PUMPMEN	CLIENT: TR. OPERATOR	CLIENT: TR. HELPER	COMPANY: SUPERVISION	COMPANY: RUNNER	COMPANY: HELPER	COMPANY: PUMPMEN	COMPANY: TR. OPERATOR	COMPANY: TR. HELPER
DRILLING								10	10			
CASING (DEPTH)												
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS:

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

PINK - RETAIN BY FOREMAN

CANARY - CLIENT'S REPRESENTATIVE

BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

40

LONGYEAR CANADA INC.

SHIFT: DAY ______ AFT'N ______ NIGHT ______

E OF CORE: AQ: BQ: (NQ) HQ: PQ:

OTHER (SPECIFY) ____________

TYPE OF DRILL 3 [illegible]

CONTRACT D.S.S. P.E.1

HOLE NO. 1

DATE Oct 23 19 [illegible]

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
5	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

OPARI TESTS:

JPPLIES CHARGEABLE RE OVERBURDEN:

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		
DEPTH START SHIFT		1507
CASED OR DRILLED		
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY ____________

LABOUR

	FROM	TO	TOTAL HOURS
INNERS			
[illegible] Doucette	2	10	10
ELPERS			
B. Doucette	[illegible]	[illegible]	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS:

CLIENT HOURS / COMPANY HOURS

	Client: SUPERVISION	Client: RUNNER	Client: HELPER	Client: PUMPMEN	Client: TR OPERATOR	Client: TR HELPER	Company: SUPERVISION	Company: RUNNER	Company: HELPER	Company: PUMPMEN	Company: TR OPERATOR	Company: TR HELPER
DRILLING												
CASING (DEPTH)												
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS		9	4									
WEDGING (AT)												
TROPARI [illegible]									6	6		
OTHER (SPECIFY [illegible])		10	10									
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: [illegible] 2 hours. [illegible] N.Q. [illegible] 1507 [illegible]

CLIENT'S REPRESENTATIVE [signature]

FOREMAN'S SIGNATURE [signature]

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

DAILY TIME REPORT

41

Longyear

LONGYEAR CANADA INC.

SHIFT DAY E AFT'N E NIGHT E

E OF CORE: AQ: BQ: (NQ) HQ: PQ:

(SPECIFY)

TYPE OF DRILL 35

CONTRACT D.S.S. PL-1 HOLE NO. 1 DATE Oct 24 19 E

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW 10	BW 10	NW 10	HW 10	PW 10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
5	BW5	NW5	HW5	PW5	SW5
0	BW 10	NW 10	HW 10	PW 10	SW10

CLINOMETER TESTS:

OPARI TESTS:

PPLIES CHARGEABLE RE OVERBURDEN:

TNW on Boxes

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		
DEPTH START SHIFT		150
CASED OR DRILLED		
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
J. Talon	0	10	10
HELPERS			
J. Doucette	5	6	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS:

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	
DRILLING														
CASING (DEPTH Down Hole)			2	2						1.	2.			
CEMENT (AT FT.)														
WATERLINE (LENGTH)														
REAMING (FROM TO)														
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS														
WEDGING (AT)														
TROPARI														
OTHER (SPECIFY Dig Holes)			5	5										
DELAYS (SPECIFY)														
REPAIRS (SPECIFY)														
OTHER (SPECIFY)														

FOREMAN'S REMARKS: Left at 150' Down Hole

D.S. 1 holes for Summer

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

DAILY TIME REPORT

Longyear

LONGYEAR CANADA INC.

42

SHIFT: DAY ______ AFT'N ______ NIGHT ______

SIZE OF CORE: AQ: BQ: (NQ) HQ: PQ:

TYPE (SPECIFY) ______

CONTRACT D-22 P.E. 1

TYPE OF DRILL 35

HOLE NO. 1

DATE Oct. 25 19__

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2 2	PW2	SW2
	BW5	NW5	HW5 3	PW5	SW5
.0	BW10	NW10 0	HW10	PW10	SW10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

25 bags portland Cement

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

1-HW.	
casing shoe E-1-2	

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		
DEPTH START SHIFT		
CASED OR DRILLED		
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY ______

LABOUR

RUNNERS	FROM	TO	TOTAL HOURS
R. Labonte	8	8	12
HELPERS			
V. Doucette	8	8	12
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR TYPE	NO CLIENT HOURS		

TRACTOR REMARKS:

CLIENT HOURS / COMPANY HOURS

	Client: SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	Company: SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER
DRILLING Cut ??												
CASING (DEPTH ?? down)		8	8					8	8			
CEMENT (AT FT.)		4	4					4	4			
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: [illegible] drill NW casing left in 10 feet NW casing, [illegible] 14 feet HW casing and shoe sets

Cement hole [illegible] time [illegible] [illegible] paid [illegible]

CLIENT'S REPRESENTATIVE (signed)

FOREMAN'S SIGNATURE R. Labonte

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

43

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SIZE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY)

CONTRACT D.S.S. PQ-1 TYPE OF DRILL 38

HOLE NO. 1 DATE Oct. 26 19 F

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

A	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

60	Diamond
M4	T8119

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		
DEPTH START SHIFT		
CASED OR DRILLED		
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY)

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
Eaton	8	6	10
HELPERS			
Doucette	8	6	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			

NO CLIENT HOURS

TRACTOR REMARKS:

We will work out Station charge

	CLIENT HOURS							COMPANY HOURS						
	SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER		SUPERVISION	RUNNER	HELPER	PUMPMEN	TR. OPERATOR	TR. HELPER	
DRILLING	X	X	X	X	X	X							X	
CASING (DEPTH)													X	
CEMENT (AT 0 TO 400 FT.)		10	10					X	10	10	X	X	X	
WATERLINE (LENGTH)														
REAMING (FROM TO)								X	X	X	X	X	X	
MOVING (LENGTH TO NEXT SETUP)														
TEAR DOWN OR SET UP														
AWAITING ORDERS								X	X	X	X	X	X	
WEDGING (AT)														
TROPARI													X	
OTHER (SPECIFY)								X	X	X	X	X	X	
DELAYS (SPECIFY)	X	X	X	X	X	X								
REPAIRS (SPECIFY)	X	X	X	X	X	X								
OTHER (SPECIFY)	X	X	X	X	X	X								

FOREMAN'S REMARKS: Drill cement 400 feet

Reamed 60 rods.

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN

BLUE - BRANCH COPY

DAILY TIME REPORT

Longyear

LONGYEAR CANADA INC.

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SIZE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY)

TYPE OF DRILL 38

CONTRACT D.S.S. P-E-1

HOLE NO. 1

DATE Oct. 27 19 5

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

A	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

PARI TESTS:

PPLIES CHARGEABLE RE OVERBURDEN:

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		
DEPTH START SHIFT		
CASED OR DRILLED		
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY

LABOUR

	FROM	TO	TOTAL HOURS
FITTERS			
Patrick	8	5	10
			8
HELPERS			
V. Doucette	8	5	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
CTOR			
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS: Agree with work, but Caron charge 4th

CLIENT HOURS / COMPANY HOURS

	Client: Supervision	Runner	Helper	Pumpmen	Tr. Operator	Tr. Helper	Company: Supervision	Runner	Helper	Pumpmen	Tr. Operator	Tr. Helper
DRILLING												
CASING (DEPTH)												
CEMENT (AQ 60 ft 900 FT.)			12	12					12	12		
WATERLINE (LENGTH)												
REAMING (FROM TO)									14	14		
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)			1	1								
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: Asked Client's permission to 400 ft. Granted Project

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN

BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

45

LONGYEAR CANADA INC.

SHIFT: DAY ☑ AFT'N ☐ NIGHT ☐

SIZE OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY)

TYPE OF DRILL 35

CONTRACT O.S.S. P-C.1 HOLE NO. 1 DATE Oct-28 19

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

A	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

TROPARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		
DEPTH START SHIFT		
CASED OR DRILLED		
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY)

LABOUR

	FROM	TO	TOTAL HOURS
RUNNER Labonte	8	10	14
HELPERS			
J. Doucette	8	10	14
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
ACTOR			
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS: Agree with work, question charge [illegible]

CLIENT HOURS / COMPANY HOURS

	CLIENT: SUPERVISION	CLIENT: RUNNER	CLIENT: HELPER	CLIENT: PUMPMEN	CLIENT: TR. OPERATOR	CLIENT: TR. HELPER	COMPANY: SUPERVISION	COMPANY: RUNNER	COMPANY: HELPER	COMPANY: PUMPMEN	COMPANY: TR. OPERATOR	COMPANY: TR. HELPER
DRILLING	X	X	X	X	X	X						X
CASING (DEPTH)												X
CEMENT (AT 900 To 1500 FT.)			1/4	1/4					1/4	1/4		X
WATERLINE (LENGTH)												
REAMING (FROM TO)							X	X	X	X	X	X
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN OR SET UP	1/2											
AWAITING ORDERS	1/2						X	X	X	X	X	X
WEDGING (AT)												
TROPARI												X
OTHER (SPECIFY)							X	X	X	X	X	X
DELAYS (SPECIFY)	X	X	X	X	X	X						
REPAIRS (SPECIFY)	X	X	X	X	X	X						
OTHER (SPECIFY)	X	X	X	X	X	X						

FOREMAN'S REMARKS: Travel to Camp [illegible] To 1505 feet

CLIENT'S REPRESENTATIVE

L. Labonte
FOREMAN'S SIGNATURE

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE
PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

Longyear

DAILY TIME REPORT

12 12

LONGYEAR CANADA INC.

S OF CORE: AQ: BQ: NQ: HQ: PQ:

OTHER (SPECIFY)

CONTRACT D.S.S. P.F. 1

TYPE OF DRILL 3F

HOLE NO. 1

DATE Oct. 29 19 71

SHIFT: DAY ☐ AFT'N ☐ NIGHT ☐

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

A	BW2	NW2	HW2	PW2	SW2
A	BW5	NW5	HW5	PW5	SW5
AW 10	BW 10	NW 10	HW 10	PW 10	SW 10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW 10	BW 10	NW 10	HW 10	PW 10	SW 10

CLINOMETER TESTS:

TROPARI TESTS: 1

SUPPLIES CHARGEABLE RE OVERBURDEN:

7 Bags cement

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		
DEPTH START SHIFT		
CASED OR DRILLED		
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY)

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS: L. Labonte	8	6	10
HELPERS: V. Doucette	8	6	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			
TYPE	NO CLIENT HOURS		
TRACTOR REMARKS:			

CLIENT HOURS / COMPANY HOURS

	CLIENT: SUPERVISION	CLIENT: RUNNER	CLIENT: HELPER	CLIENT: PUMPMEN	CLIENT: TR. OPERATOR	CLIENT: TR. HELPER	COMPANY: SUPERVISION	COMPANY: RUNNER	COMPANY: HELPER	COMPANY: PUMPMEN	COMPANY: TR. OPERATOR	COMPANY: TR. HELPER
DRILLING												
~~CASING~~ (DEPTH)			4	4					4	4		
CEMENT (AT Top FT.)			1	1					X	X		
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP)												
TEAR DOWN ~~OR SET UP~~			5	5					5	5		
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY)												
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: Broke at B.Q. Rods. 1 10 sack cement Top 1 drum. Ran drum ready for loading

CLIENT'S REPRESENTATIVE

FOREMAN'S SIGNATURE J. Labonte

WHITE - NORTH BAY OFFICE

CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN

BLUE - BRANCH COPY

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DAILY TIME REPORT

![Longyear logo]

LONGYEAR CANADA INC.

SHIFT: DAY ______ AFT'N ______ NIGHT ______

S OF CORE: AQ: BQ: NQ: HQ: PQ:

((SPECIFY) ______

CONTRACT: D.S.S. [illegible]

TYPE OF DRILL: 3[illegible]

HOLE NO. 1

DATE: [illegible] 19__

SUPPLIES CHARGEABLE TO CLIENT

CASING - WORN OUT

	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
AW10	BW10	NW10	HW10	PW10	SW10

CASING-LEFT IN HOLE

AW2	BW2	NW2	HW2	PW2	SW2
	BW5	NW5	HW5	PW5	SW5
	BW10	NW10	HW10	PW10	SW10

CLINOMETER TESTS:

PARI TESTS:

SUPPLIES CHARGEABLE RE OVERBURDEN:

1 Casing Cap.

DIAMONDS OVERBURDEN

TYPE	NUMBER

DIAMONDS LEFT IN HOLE

DIAMONDS RE CEMENTING

DIAMONDS REAMING

DIAMONDS WEDGING

FOOTAGE REPORT

	CASING	DRILLING
DEPTH END SHIFT		
DEPTH START SHIFT		
CASED OR DRILLED		
CORE RECOVERED		

HOLE CASED

SIZE	FROM	TO	SIZE	FROM	TO
AW			BW		
NW			HW		
PW			SW		

SUPPLIES RE CEMENT:

SUPPLIES RE MOVING:

SUPPLIES OTHER: (SPECIFY ______

LABOUR

	FROM	TO	TOTAL HOURS
RUNNERS			
[illegible]	8	[illegible]	1[illegible]
HELPERS			
V. Doucett	8	[illegible]	10
PUMPMEN			
TRACTOR OPERATOR			
TRACTOR HELPER			
TRACTOR			
TYPE	NO CLIENT HOURS		

TRACTOR REMARKS: B FILL PIT. LEVEL MOVE SLUDGE WITH BACK HOE & TRUCK - 1 LOAD

CLIENT HOURS / COMPANY HOURS

	Client: SUPERVISION	Client: RUNNER	Client: HELPER	Client: PUMPMEN	Client: TR. OPERATOR	Client: TR. HELPER	Company: SUPERVISION	Company: RUNNER	Company: HELPER	Company: PUMPMEN	Company: TR. OPERATOR	Company: TR. HELPER
DRILLING												
CASING (DEPTH)												
CEMENT (AT FT.)												
WATERLINE (LENGTH)												
REAMING (FROM TO)												
MOVING (LENGTH TO NEXT SETUP [illegible])								6	6			
TEAR DOWN OR SET UP												
AWAITING ORDERS												
WEDGING (AT)												
TROPARI												
OTHER (SPECIFY)												
DELAYS (SPECIFY [illegible])								4	4			
REPAIRS (SPECIFY)												
OTHER (SPECIFY)												

FOREMAN'S REMARKS: [illegible]

CLIENT'S REPRESENTATIVE: [signature]

FOREMAN'S SIGNATURE: [signature]

WHITE - NORTH BAY OFFICE
CANARY - CLIENT'S REPRESENTATIVE

PINK - RETAIN BY FOREMAN
BLUE - BRANCH COPY

APPENDIX II

BOTTOMHOLE TEMPERATURES

Date	Time	Depth (m)	Temperature (°C)
October 14, 1984	1800	127.1	9.329
October 16, 1984	1830	240.0	10.483
October 17, 1984	1815	285.4	11.353
October 19, 1984	1830	325.3	11.320
October 20, 1984	1845	361.9	11.253
October 21, 1984	1830	395.4	12.252
October 23, 1984	1900	495.5	12.866

N.B.

Some daily bottomhole temperatures were not obtained due to mechanical and drilling difficulties.

APPENDIX III

COLLECTED TEMPERATURE DATA

Hole: E.P.B. 345 **Location:** MacDougall, P. E. I. (1-hour log, October 24, 1984)

Latitude: 46°30'32"

Longitude: 63°56'29" **Thermistor No.** 5326

Total Depth: 459.5 m **Logged Depth:** 457.0 m

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
0	229	10,007	10.916	Logged through NQ
5		10,122	10.649	rods one hour after
10		10,300	10.242	cessation of drill-
15		10,343	10.144	ing activities.
20		10,400	10.016	
25		10,396	10.026	0 - 4.9 m: overburden
30		10,365	10.095	
35		10,383	10.054	4.9 m - 410.1 m: Permo-
40		10,278	10.291	Carboniferous red beds
45		10,275	10.298	consisting of sand-
50	229	10,273	10.303	stone, claystone and siltstone.
55		10,328	10.178	
60		10,345	10.140	410.1 - 432.6 m:
65		10,318	10.201	transitional zone
70		10,314	10.210	consisting of brownish
75		10,325	10.185	red to grey sandstone,
80		10,325	10.185	claystone and silt-
85		10,322	10.192	stone.
90		10,326	10.183	
95		10,326	10.183	432.6 - 459.5 m:
100	228	10,305	10.230	mainly grey sandstone with coaly partings.
105		10,303	10.235	
110		10,311	10.217	
115		10,298	10.246	
120		10,340	10.151	
125		10,381	10.059	
130		10,300	10.242	
135		10,292	10.260	
140		10,310	10.219	
145		10,238	10.382	
150	228	10,306	10.228	
155		10,298	10.246	
160		10,311	10.217	
165		10,259	10.448	
170		10,269	10.312	
175		10,269	10.312	

Hole: E.P.B. 345 (1-hour log) **Location:**

Latitude:

Longitude: **Thermistor No.**

Total Depth: **Logged Depth:**

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
180		10,250	10.355	
185		10,230	10.401	
190		10,204	10.460	
195		10,200	10.469	
200	227	10,181	10.513	
205		10,157	10.568	
210		10,146	10.593	
215		10,123	10.646	
220		10,108	10.681	
225		10,089	10.725	
230		10,063	10.785	
235		10,042	10.835	
240		10,017	10.892	
245		9,994	10.946	
250	227	9,979	10.981	
255		9,954	11.040	
260		9,913	11.137	
265		9,905	11.156	
270		9,873	11.232	
275		9,854	11.277	
280		9,824	11.348	
285		9,776	11.464	
290		9,777	11.461	
295		9,753	11.519	
300	227	9,721	11.594	
305		9,701	11.645	
310		9,677	11.703	
315		9,657	11.752	
320		9,629	11.820	
325		9,602	11.886	
330		9,572	11.960	
335		9,546	12.024	
340		9,512	12.091	
345		9,402	12.383	
350	227	9,464	12.228	

COLLECTED TEMPERATURE DATA

Hole: E.P.B. 345 (1-hour log) **Location:**

Latitude:

Longitude: **Thermistor No.**

Total Depth: **Logged Depth:**

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
355		9,449	12.273	
360		9,426	12.323	
365		9,381	12.436	
370		9,365	12.476	
375		9,339	12.542	
380		9,323	12.582	
385		9,287	12.674	
390		9,261	12.740	
395		9,241	12.791	
400	227	9,217	12.853	
405		9,190	12.923	
410		9,157	13.008	
415		9,134	13.068	
420		9,103	13.148	
425		9,080	13.208	
430		9,056	13.271	
435		9,038	13.318	
440		9,023	13.358	
445		9,014	13.381	
450	227	9,020	13.366	
455		9,056	13.271	
457		9,124	13.094	End of log.

COLLECTED TEMPERATURE DATA

Hole: E.P.B. 345

Location: MacDougall, P. E. I. (24-hour log, October 29, 1984)

Latitude: 46°30'32"

Longitude: 63°56'29"

Thermistor No. 5326

Total Depth: 459.5 m

Logged Depth: 455.0 m

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
0	232	8,504	14.772	Logged through liner
5		6,936	19.734	5 days after core
10		8,826	13.884	drilling, 4 days
15		10,375	10.072	after cementing liner
20		10,031	10.861	and 1 day after drill-
25		10,622	9.525	ing cement.
30		10,620	9.529	
35		10,710	9.311	Instability and high
40		10,706	9.342	temperatures near top
45		10,696	9.363	of hole caused by
50	230	10,719	9.313	curing cement.
55		10,770	9.203	0 - 4.9 m: overburden.
60		10,829	9.076	
65		10,860	9.010	4.9 - 410.1 m: Permo-
70		10,889	8.948	Carboniferous red beds
75		10,903	8.919	consisting of sand-
80		10,918	8.886	stone, claystone and
85		10,927	8.867	siltstone.
90		10,937	8.846	
95		10,940	8.840	410.1 - 432.6 m:
100	230	10,884	8.959	transitional zone consisting of brownish
105		10,803	9.132	red to grey sandstone,
110		11,061	8.585	claystone and silt-
115		11,039	8.631	stone.
120		11,018	8.675	
125		11,008	8.696	432.6 - 459.5 m: mainly
130		10,944	8.832	grey sandstone with
135		10,936	8.848	coaly partings.
140		10,891	8.944	
145		10,847	9.038	
150	229	10,817	9.102	
155		10,806	9.126	
160		10,775	9.193	
165		10,772	9.307	
170		10,693	9.370	
175		10,679	9.400	

COLLECTED TEMPERATURE DATA

Hole: E.P.B. 345 (24-hour log) **Location:**

Latitude:

Longitude: **Thermistor No.**

Total Depth: **Logged Depth:**

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
180		10,649	9.465	
185		10,626	9.516	
190		10,578	9.621	
195		10,563	9.654	
200	229	10,534	9.718	
205		10,507	9.778	
210		10,478	9.842	
215		10,452	9.901	
220		10,427	9.956	
225		10,403	10.009	
230		10,372	10.079	
235		10,353	10.122	
240		10,325	10.185	
245		10,302	10.237	
250	228	10,264	10.323	
255		10,240	10.378	
260		10,194	10.483	
265		10,170	10.538	
270		10,135	10.619	
275		10,107	10.672	
280		10,062	10.788	
285		10,031	10.860	
290		10,002	10.928	
295		9,972	10.999	
300	228	9,943	11.065	
305		9,913	11.136	
310		9,884	11.205	
315		9,849	11.289	
320		9,824	11.348	
325		9,801	11.404	
330		9,772	11.474	
335		9,743	11.542	
340		9,718	11.603	
345		9,681	11.694	
350	228	9,651	11.767	

COLLECTED TEMPERATURE DATA

Hole: E.P.B. 345 (24-hour log)

Location:

Latitude:

Longitude:

Thermistor No.

Total Depth:

Logged Depth:

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
355		9,632	11.813	
360		9,603	11.883	
365		9,578	11.945	
370		9,558	11.993	
375		9,536	12.049	
380		9,515	12.101	
385		9,454	12.253	
390		9,442	12.283	
395		9,422	12.333	
400	227	9,396	12.398	
405		9,371	12.461	
410		9,321	12.588	
415		9,283	12.684	
420		9,226	12.727	
425		9,213	12.863	
430		9,212	12.866	
435		9,196	12.907	
440		9,170	12.974	
445		9,153	13.018	
450	227	9,135	13.065	
455		9,098	13.161	End of log.

COLLECTED TEMPERATURE DATA

Hole: E.P.B. 345

Location: MacDougall, P. E. I. (72-hour log, October 31, 1984)

Latitude: 46°30'32"

Longitude: 63°56'29"

Thermistor No. 5326

Total Depth: 459.5 m

Logged Depth: 455.0 m

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
0	229	10,660	9.442	Logged through liner
5		10,742	9.264	7 days after core
10		11,299	8.094	drilling, 6 days after
15		11,368	7.945	cementing and 3 days
20		11,429	7.830	after drilling cement.
25		11,385	7.919	
30		11,401	7.886	0 - 4.9 m: overburden.
35		11,383	7.923	
40		11,366	7.955	4.9 - 410.1 m: Permo-
45		11,351	7.988	Carboniferous red beds
50	229	11,345	8.000	consisting of sand-
				stone, claystone and
55		11,351	7.988	siltstone.
60		11,332	8.026	
65		11,318	8.055	410.1 - 432.6 m:
70		11,287	8.118	transitional zone con-
75		11,229	8.237	sisting of brownish
80		11,231	8.233	red sandstone, clay-
85		11,226	8.243	stone and siltstone.
90		11,207	8.282	
95		11,173	8.353	432.6 m - 459.5 m:
100	229	11,038	8.633	mainly grey sandstone
				with coaly partings.
105		11,051	8.606	
110		11,122	8.458	
115		11,100	8.504	
120		11,082	8.542	
125		11,069	8.569	
130		11,011	8.690	
135		10,996	8.721	
140		10.949	8.821	
145		10,912	8.900	
150	229	10,881	8.965	
155		10,857	9.016	
160		10,827	9.081	
165		10,782	9.178	
170		10,751	9.244	
175		10,722	9.307	

COLLECTED TEMPERATURE DATA

Hole: E.P.B. 345 (72-hour log) **Location:**

Latitude:

Longitude: **Thermistor No.**

Total Depth: **Logged Depth:**

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
180		10,696	9.363	
185		10,673	9.413	
190		10,633	9.500	
195		10,606	9.560	
200	230	10,574	9.630	
205		10,546	9.691	
210		10,523	9.742	
215		10,494	9.808	
220		10,468	9.864	
225		10,444	9.918	
230		10,416	9.981	
235		10,393	10,032	
240		10,365	10.095	
245		10,321	10.195	
250	230	10,308	10,224	
255		10,275	10.398	
260		10,237	10.385	
265		10,206	10.456	
270		10,168	10.542	
275		10,130	10.630	
280		10,106	10.686	
285		10,071	10.767	
290		10,035	10.850	
295		10,006	10.919	
300	230	9,975	10.991	
305		9,947	11.057	
310		9,909	11.146	
315		9,885	11.203	
320		9,855	11.275	
325		9,827	11.342	
330		9,797	11.413	
335		9,774	11.468	
340		9,736	11.560	
345		9,710	11.623	
350	231	9,686	11.681	

Hole: E.P.B. 345 (72-hour log) **Location:**

Latitude:

Longitude: **Thermistor No.**

Total Depth: **Logged Depth:**

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
355		9,658	11.749	
360		9,630	11.818	
365		9,609	11.869	
370		9,578	11.945	
375		9,554	12.004	
380		9,499	12.140	
385		9,478	12.192	
390		9,457	12.246	
395		9,434	12.303	
400	231	9,403	12.380	
405		9,358	12.493	
410		9,316	12.600	
415		9,291	12.663	
420		9,243	12.786	
425		9,233	12.812	
430		9,210	12.871	
435		9,192	12.918	
440		9,168	12.979	
445		9,148	13.031	
450	231	9,112	13.125	
455		9,116	13.120	End of log.

COLLECTED TEMPERATURE DATA

Hole: E.P.B. 345 **Location:** MacDougall, P. E. I. (1-month log, November 28, 1984)

Latitude: 46°30'32"

Longitude: 63°56'29" **Thermistor No.** 5326

Total Depth: 459.5 m **Logged Depth:** 455.0 m

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
0	227	13,109	4.700	Logged through liner
5		11,035	8.640	36 days after core
10		11,499	7.689	drilling, 35 days
15		11,584	7.520	after cementing and
20		11,585	7.518	32 days after drill-
25		11,582	7.524	ing cement.
30		11,591	7.506	
35		11,575	7.538	0 - 4.9 m: overburden
40		11,560	7.568	
45		11,555	7.578	4.9 - 410.1 m: Permo-
50	227	11,543	7.601	Carboniferous red beds consisting of sand-
55		11,536	7.615	stone, claystone and
60		11,516	7.655	siltstone.
65		11,503	7.681	
70		11,477	7.733	410.1 - 432.6 m: trans-
75		11,434	7.820	itional zone consisting
80		11,426	7.836	of brownish red sand-
85		11,414	7.860	stone, claystone and
90		11,380	7.909	siltstone.
95		11,368	7.953	
100	228	11,302	8.088	432.6 - 459.5 m: mainly grey sandstone
105		11,284	8.124	with coaly partings.
110		11,270	8.153	
115		11,241	8.212	
120		11,211	8.274	
125		11,194	8.309	
130		11.146	8.408	
135		11,117	8.468	
140		11,080	8.546	
145		11,043	8.623	
150	228	10,999	8.715	
155		10,964	8.790	
160		10,926	8.869	
165		10,866	8.997	
170		10,846	9.040	
175		10,817	9.102	

COLLECTED TEMPERATURE DATA

Hole: E.P.B. 345 (1-month log) **Location:**

Latitude:

Longitude: **Thermistor No.**

Total Depth: **Logged Depth:**

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
180		10,795	9.150	
185		10,765	9.214	
190		10,728	9.293	
195		10,717	9.318	
200	228	10,669	9.422	
205		10,645	9.464	
210		10,616	9.538	
215		10,589	9.597	
220		10,557	9.690	
225		10,533	9.720	
230		10,505	9.782	
235		10,479	9.840	
240		10,450	9.905	
245		10,422	9.967	
250	229	10,396	10.026	
255		10,367	10.091	
260		10,322	10.192	
265		10,290	10.264	
270		10,255	10.344	
275		10,217	10.430	
280		10,185	10.504	
285		10,149	10.586	
290		10,115	10.665	
295		10,085	10.734	
300	229	10,053	10.808	
305		10,024	10.876	
310		9,992	10.951	
315		9,955	11.038	
320		9,924	11.111	
325		9,898	11.173	
330		9,868	11.241	
335		9,842	11.305	
340		9,810	11.382	
345		9,787	11.437	
350	229	9,746	11.536	

COLLECTED TEMPERATURE DATA

Hole: E.P.B. 345 (1-month log)

Location:

Latitude:

Longitude:

Thermistor No.

Total Depth:

Logged Depth:

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
355		9,721	11.597	
360		9,693	11.664	
365		9,668	11.725	
370		9,638	11.798	
375		9,611	11.864	
380		9,572	11.960	
385		9,506	12.123	
390		9,482	12.183	
395		9,455	12.250	
400	230	9,411	12.360	
405		9,361	12.486	
410		9,336	12.549	
415		9,294	12.656	
420		9,270	12.717	
425		9,241	12.791	
430		9,218	12.850	
435		9,193	12.915	
440		9,171	12.971	
445	230	9,144	13.042	
450		9,149	13.029	End of log.

Hole: E.P.B. No. 345 **Location:** MacDougall, P. E. I. (4-month log, February 21, 1985)

Latitude: 46°30'32"

Longitude: 63°56'29" **Thermistor No.** 5326

Total Depth: 459.5 m **Logged Depth:** 455.0 m

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
0	232	14,372	2.619	Logged through lines
5		11,612	7,464	4 months after
10		11,631	7,427	drilling.
15		11,623	7,443	
20		11,636	7,417	0 - 4.9 m: overburden
25		11,639	7.411	
30		11,647	7.395	4.9 - 410.1 m: Permo-
35		11,627	7.435	Carboniferous red beds
40		11,609	7.472	consisting of sand-
45		11,600	7.488	stone, claystone and
50	230	11,588	7.512	siltstone.
55		11,577	7.534	410.1 - 432.6 m:
60		11,562	7.564	transitional zone
65		11,540	7.607	consisting of brownish
70		11,522	7.643	red sandstone, clay-
75		11,494	7.689	stone and siltstone.
80		11,473	7.742	
85		11,450	7.788	432.6 - 459.5 m:
90		11,428	7.830	mainly grey sand-
95		11,407	7.874	stone with coaly
100	230	11,370	7.949	partings.
105		11,331	8.028	
110		11,301	8.090	
115		11,269	8.155	
120		11,239	8.216	
125		11,219	8.258	
130		11,175	8.348	
135		11,143	8.415	
140		11,104	8.496	
145		11,059	8.589	
150	229	11,019	8.673	
155		10,977	8.762	
160		10,948	8.823	
165		10,900	8.925	
170		10,860	9.010	
175		10,833	9.068	

COLLECTED TEMPERATURE DATA

Hole: E.P.B. No. 345 (4 month log) **Location:**

Latitude:

Longitude: **Thermistor No.**

Total Depth: **Logged Depth:**

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
180		10,801	9.137	
185		10,770	9.203	
190		10,742	9.264	
195		10,713	9.326	
200	229	10,685	9.387	
205		10,654	9.455	
210		10,692	9.509	
215		10,596	9.582	
220		10,575	9.628	
225		10,544	9.696	
230		10,520	9.749	
235		10,487	9.823	
240		10,458	9.887	
245		10,431	9.947	
250	228	10,406	10.003	
255		10,373	10.077	
260		10,356	10.115	
265		10,337	10.158	
270		10,295	10.253	
275		10,258	10.337	
280		10,221	10.421	
285		10,191	10.490	
290		10,148	10.588	
295		10,121	10.651	
300	228	10,089	10.725	
305		10,059	10.794	
310		10,027	10.869	
315		9,996	10.942	
320		9,962	11.021	
325		9,928	11.102	
330		9,902	11.163	
335		9,872	11.234	
340		9,839	11.312	
345		9,808	11.387	
350	228	9,775	11.466	

COLLECTED TEMPERATURE DATA

Hole: E.P.B. No. 345 (4-month log) **Location:**

Latitude:

Longitude: **Thermistor No.**

Total Depth: **Logged Depth:**

Vertical Depth(m)	Cable Resist.(ohms)	Corrected Resist.(ohms)	Temp.(°C)	Lithology/Remarks
355		9,746	11.536	
360		9,719	11.601	
365		9,695	11.659	
370		9,668	11.725	
375		9,633	11.810	
380		9,603	11.884	
385		9,569	11.967	
390		9,539	12.041	
395		9,505	12.126	
400	228	9,481	12.186	
405		9,455	12.250	
410		9,403	12.380	
415		9,355	12.501	
420		9,323	12.582	
425		9,293	12.658	
430		9,267	12.725	
435		9,241	12.791	
440		9,215	12.858	
445		9,194	12.913	
450	228	9,171	12.971	
455		9,155	13.013	End of log.

APPENDIX IV

LITHOLOGIC LOG

Hole No.: E.P.B. No. 345	Location: MacDougall, P. E. I.
Latitude: 46°30'32"	Longitude: 63°56'29"
Drilled by: Longyear Canada	Drill Type: Longyear Model 38
Started: October 9, 1984	Completed: October 29, 1984
Dip: Vertical	Final Depth: 459.5 metres
Core Size: NQ	Logged by: J. Leslie

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0 - 6.2: HW CASING (cemented in hole)

0 - 50.3: NW CASING (removed)

0 - 459.5: LINER (NQ rods cemented in hole, capped)

0 - 4.9: OVERBURDEN - red sandy clay

4.9 - 7.2: CLAYSTONE

Massive, red. Scattered grey-green segregations up to 3 cm in diameter.

7.2 - 16.2: SANDSTONE

Fine to medium grained, red, massive to thinly bedded.

16.2 - 38.4: INTERBEDDED SANDSTONE AND MUD-PELLET CONGLOMERATE

Individual beds to 1.5 metres thick. The sandstone is locally laminated, calcareous, and contains isolated claystone clasts. Also scattered narrow claystone beds to 5 cm thick. The mud-pellet conglomerate consists of claystone clasts to 4 cm in diameter in a calcareous matrix.

31.9 - 33.5; massive, red claystone.

LITHOLOGIC LOG (Cont'd)

38.4 - 54.3: CLAYSTONE

Massive, red, scattered silty sections. Locally calcareous.

53.1 - 54.3: silty.

54.3 - 62.2: INTERBEDDED SANDSTONE AND MUD-PELLET CONGLOMERATE

Scattered narrow grey-green calcareous beds in the sandstone.

62.2 - 95.3: INTERBEDDED CLAYSTONE AND SILTSTONE

62.2 - 64.5; claystone, locally calcareous.
64.5 - 66.2; siltstone, scattered grey-green beds.
66.2 - 75.2; claystone, scattered sandstone and siltstone beds to 3 cm thick.
75.2 - 81.6; well-bedded siltstone.
79.1 - 79.9; claystone.
79.9 - 80.1, 80.8 - 81.3 and 81.6 - 81.9; mud-pellet conglomerate.
81.6 - 93.3; claystone, locally broken and strongly calcareous.
93.3 - 95.3; siltstone, locally thinly laminated.
94.2 - 94.3; claystone.

95.3 - 152.7: INTERBEDDED CLAYSTONE AND SANDSTONE

95.3 - 99.1; sandstone, locally calcareous.
95.3 - 97.4; fine grained sandstone.
99.1 - 121.5; claystone, massive with scattered calcareous sections to 6 cm thick. Isolated grey-green segregations.
121.5 - 125.4; massive red sandstone.
125.4 - 129.8; thinly interbedded red and grey-green calcareous sandstone.

LITHOLOGIC LOG (Cont'd.)

128.4 - 128.5; mud-pellet conglomerate.
129.8 - 152.7; claystone, scattered silty sections.
149.2 - 150.3; rounded lithic clasts to 0.5 cm in diameter.

152.7 - 158.2: SILTSTONE

Locally shaly.

158.2 - 163.1: SANDSTONE

158.2 - 160.0; massive, red.
160.0 - 163.1; thinly laminated red and grey-green calcareous sandstone.

163.1 - 172.3: CLAYSTONE

Generally massive - local fragmented sections.

165.2 - 165.5; brecciated, calcareous.

172.3 - 173.6: SILTSTONE

Massive, red.

173.6 - 191.9: SANDSTONE

Poorly laminated. Flecked appearance from increase in quartz? Slightly calcareous throughout.

190.4 - 191.9; scattered claystone clasts.

191.9 - 192.7: CLAYSTONE

Massive, red.

191.9 - 192.2; brecciated, calcareous.

192.7 - 261.0: INTERBEDDED SANDSTONE AND SILTSTONE

Mainly sandstone, with scattered siltstone interbeds to 3 metres thick.

192.7 - 196.1; massive siltstone.

LITHOLOGIC LOG (Cont'd.)

196.1 - 219.1;	fine to medium grained sandstone. Flecked appearance. Bedding expressed by clayey laminae.
209.0 - 216.5;	scattered claystone clasts with long axes paralleling the bedding.
211.1 - 211.3;	mud-pellet conglomerate.
214.5 - 216.3;	conglomeratic, sub-rounded lithic fragments to 2 cm with 5 - 7 cm claystone clasts in sandstone matrix. Calcareous.
219.1 - 219.8;	thinly laminated grey-green and red siltstone.
219.8 - 226.7;	medium grained, red sandstone.
225.3 - 226.7;	claystone clasts.
225.5 - 225.6;	siltstone.
226.7 - 234.5;	sandstone, flecked appearance. Laminated. Soft.
234.4 - 234.5;	conglomeratic, calcareous matrix.
234.5 - 235.8;	interbedded red and grey-green siltstone. Locally shaly.
235.8 - 245.4:	sandstone, flecked appearance.
240.2 - 240.7;	conglomeratic.
240.7 - 242.4;	massive, red sandstone.
242.4 - 245.4;	claystone clasts.
245.4 - 261.0;	massive to thinly laminated, red.
245.4 - 246.3;	scattered claystone clasts.
253.3 - 255.2;	claystone clasts in narrow calcareous sections.
254.0 - 254.9;	thinly laminated red and grey-green sandstone. Calcareous. Local claystone clasts.
258.2 - 258.7;	siltstone.
259.6 - 261.0;	grey-green sandstone with claystone clasts. Calcareous.

LITHOLOGIC LOG (Cont'd.)

261.0 - 267.4: CLAYSTONE

Massive, red. Locally sheared and slickensided. Calcareous.

267.4 - 271.6: INTERBEDDED SILTSTONE AND SANDSTONE

267.4 - 267.7; crossbedded siltstone.
267.7 - 270.3; massive, red sandstone.
270.3 - 271.6; massive siltstone.

271.6 - 272.7: BRECCIA

Claystone and siltstone clasts of 2.5 cm in calcareous matrix.

272.7 - 273.3: SANDSTONE

Thinly laminated. Flecked appearance.

273.1 - 273.2; brecciated.

273.3 - 274.5: CLAYSTONE

Massive, red. Locally sheared and broken.

274.5 - 275.6: SILTSTONE

Medium grained, massive.

275.6 - 317.4: INTERBEDDED SANDSTONE AND CLAYSTONE

275.6 - 278.9; sandstone with narrow interbeds of siltstone.
278.9 - 279.9; massive, red claystone.
279.9 - 286.3; massive to poorly laminated sandstone.
280.5 - 286.3; flecked appearance.
281.7 - 282.2 and 282.6 - 282.9; claystone clasts in calcareous matrix.
286.3 - 290.4; massive, red shale. Locally sheared.
290.4 - 315.5; poorly laminated sandstone. Flecked appearance. Cross-bedded. Abundant mica. Scattered claystone clasts.
315.5 - 317.4; massive, red, calcareous claystone.

LITHOLOGIC LOG (Cont'd.)

317.4 - 321.3: INTERBEDDED SILTSTONE AND CLAYSTONE

317.4 - 318.0; thinly interbedded.
318.0 - 319.4; red claystone.
319.4 - 320.9; massive siltstone.
320.9 - 321.3; massive, red claystone.

321.3 - 352.1: SANDSTONE

Fine to medium grained. Poorly laminated. Flecked appearance. Scattered claystone clasts. Narrow brecciated calcareous sections.

328.4 - 328.8; claystone.
330.2 - 330.6 and 330.9 - 331.6; silty.
333.8 - 335.4; scattered calcareous sections to 20 cm thick.
336.3 - 337.3; laminated siltstone.
340.9; 10 cm claystone clast.
345.3 - 347.0; scattered claystone clasts.
347.0 - 348.7; medium to coarse grained. Scattered clayey wisps and claystone clasts.
351.0 - 351.5; siltstone.

352.1 - 357.1: CLAYSTONE

Massive, red. Locally silty. Scattered narrow grey-green beds.

357.1 - 357.9: SILTSTONE

Fine grained, thinly laminated. Cross-bedded.

357.9 - 385.2: SANDSTONE

357.9 - 365.7; fine grained, massive to thinly laminated. Scattered conglomeratic sections with claystone clasts in calcareous matrix.
365.7 - 372.0; flecked appearance. Scattered claystone clasts.

LITHOLOGIC LOG (Cont'd.)

371.0 - 372.0; conglomeratic, calcareous.
372.0 - 378.7; fine grained, red. Locally silty. Scattered claystone clasts.
378.7 - 385.2; flecked appearance. Abundant claystone clasts. Conglomeratic and calcareous.

385.2 - 390.6; CLAYSTONE

Massive. Locally sheared, broken and calcareous.

390.6 - 410.1: SANDSTONE

Fine to medium grained. Red, greyish toward end of section. Massive to poorly laminated. Flecked appearance. Widely scattered calcareous conglomeratic sections.

410.1 - 432.6: TRANSITIONAL ZONE

Interbedded brownish-red to grey sandstone, siltstone and claystone.

410.1 - 412.8; grey-green claystone. Locally broken, chloritic, calcareous.
412.8 - 414.3; massive brownish-red claystone. Locally sheared.
414.3 - 416.8; grey-green claystone. Silty.
416.8 - 419.5; massive brownish-red claystone.
419.5 - 426.2; poorly laminated, brownish-red sandstone. Flecked appearance. Silty.
426.2 - 429.6; brownish-red claystone. Calcareous.
428.7 - 429.6; silty.
429.6 - 432.6; grey to brownish-grey sandstone. Thinly laminated. Flecked appearance. Scattered calcareous section to 20 cm thick.

LITHOLOGIC LOG (Cont'd.)

432.6 - 459.5: SANDSTONE

Fine to medium grained, grey, massive to thinly laminated. Crossbedded. Local silty sections. Calcareous section to 15 cm thick.

435.4 - 438.1; fairly massive.
444.2 - 445.3 and 448.3 - 449.2; fine grained, massive.
445.6 - 445.9; laminated with coaly partings. Includes 6 cm coaly-pyritic section.
450.6 - 450.8; thin coaly beds.
452.0 - 453.0, 453.4 - 453.7 and 454.2 - 454.8; siltstone with coaly partings.
454.6 - 454.7; massive coaly-pyritic section.
455.3 - 455.5; coaly-pyritic partings.
455.5 - 459.5; widely scattered coaly partings.
456.7 - 456.9; coaly material, calcareous.
457.6 - 457.7 and 458.4 - 458.6; Silty.

459.5 END OF HOLE

CORE RECOVERY - 100 percent.

CORE ANGLES

Degrees	Depth (m)	Degrees	Depth (m)
78	22.2	78	273.2
80	29.0	82	305.5
80	58.2	80	326.8
78	76.6	85	349.1
80	96.3	82	364.0
71	128.4	85	373.8
84	157.0	80	406.1
82	188.4	85	415.5
85	203.7	76	423.2
86	219.5	80	431.4
85	245.7	78	456.4

APPENDIX V

THERMAL CONDUCTIVITY SAMPLES

Sample No.	Depth (m)	Rock Type	Sample No.	Depth (m)	Rock Type
S-1	11.3	sandstone	S-27	243.6	sandstone
S-2	21.3	sandstone	S-28	254.0	sandstone
S-3	35.1	sandstone	S-29	265.9	claystone
S-4	42.1	claystone	S-30	277.4	sandstone
S-5	49.4	claystone	S-31	289.0	claystone
S-6	58.5	sandstone	S-32	300.0	sandstone
S-7	65.9	siltstone	S-33	310.4	sandstone
S-8	72.6	claystone	S-34	318.6	claystone
S-9	80.5	siltstone	S-35	328.0	sandstone
S-10	89.6	claystone	S-36	338.7	sandstone
S-11	99.4	sandstone	S-37	348.8	sandstone
S-12	110.4	claystone	S-38	354.9	claystone
S-13	118.3	claystone	S-39	360.4	sandstone
S-14	125.0	sandstone	S-40	370.4	sandstone
S-15	135.1	claystone	S-41	379.6	sandstone
S-16	146.6	claystone	S-42	387.5	claystone
S-17	154.0	claystone	S-43	395.7	sandstone
S-18	162.2	sandstone	S-44	404.9	sandstone
S-19	172.0	claystone	S-45	410.7	claystone
S-20	180.5	sandstone	S-46	418.6	claystone
S-21	188.7	sandstone	S-47	425.6	sandstone
S-22	198.2	sandstone	S-48	434.5	sandstone
S-23	208.5	sandstone	S-49	444.5	sandstone
S-24	218.3	sandstone	S-50	451.8	siltstone
S-25	227.4	sandstone	S-51.	457.9	sandstone
S-26	235.1	siltstone			