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G.I.-30 SEPT. 1976

GEOCRES No. 41J-14

DIST. 18 REGION NORTHWESTERN

W.P. No. 16-68-01

CONT. No. 74-175

W. O. No. 72-F-114

STR. SITE No. _____

HWY. No. 548

LOCATION HWY, 548-ST. JOSEPH ISLAND

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OVERSIZE DRAWINGS TO BE INCLUDED WITH THIS REPORT. _____

REMARKS: _____

72-F-114	16-68-01	HWY, 548-ST. JOSEPH ISLAND	415-14
W.O.	W.P.	LOCATION	GEOCRES NO.

● DATA ON FILE IN SOIL MECHANICS SECTION

REFER TO: W.P. FILE

~~21~~ Continued on 74-175

REMARKS LETTER & LOG SHEETS ONLY

GEOCRES INDEXING CARD FOR REPORTS NOT MICROFILMED

GI-20 AUG. 74

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MINISTRY OF TRANSPORTATION AND COMMUNICATIONS, ONTARIO

MEMORANDUM

TO: Mr. A. G. Stermac,
Principal Foundations Engineer,
Foundations Office,
Downsview.
ATTENTION: Mr. K. Selby,
Supervising Foundations Engineer.
OUR FILE REF.

FROM: Materials and Testing,
Northwestern Region.

DATE: October 4, 1972.

IN REPLY TO

72-1114

72-1115

SUBJECT:

Core Drilling On Work Projects 16-68-01 and 247-66-02

Further to your discussion with Mr. R. D. Gunter, Senior Soils Supervisor, we are requesting core drill work on two Work Projects in Sault Ste. Marie District.

On Work Project 16-68-01, Highway 548, St. Joseph's Island, several of the cuts require additional sampling in order to locate bedrock and to determine the usability of the cut material. The routine power and hand auger investigation carried out during August did not provide sufficient information regarding the subsoil in these cuts because penetration was stopped by boulders. We will require a continuous identification of the subsoil and representative samples from each of the hole locations shown on the Profile (No. 548TBI8-3) forwarded previously. The holes should be advanced to four feet below profile grade unless bedrock is encountered. The issue date for the Soils Design Report is November 29, 1972 and we would appreciate the information by mid-November.

On Work Project 247-66-02, Highway 129, a 20-foot fill is to be widened out over a fine medium clay subsoil. At this location, we require a recommendation regarding the stability of the proposed fill widening. The area to be widened is in the Township of Wells between Stations 636+00 and 640+00 and is marked out on the plan which you now have.

If we can be of any further assistance to you in this matter, please do not hesitate to contact this office.



R. B. ADAMSON,
PROJECT SOILS ENGINEER,

For:

R. MORGENROTH,
REGIONAL MATERIALS ENGINEER.

RBA/le

c.c.: Mr. G. R. Browning.

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DOWN TBAR 9 NOV 10/72 3:45P

MR P PAYER FOUNDATIONS OFFICE

WP 16-68-01 ST JOSEPH'S ISLAND

COULD YOU PLEASE FORWARD A COPY OF THE CORE DRILL BOREHOUSE LOGS
AND THE RESULTS FROM THE GRADATION AND PASS NO.200 CONTENT ON THE
CUT SAMPLES AS SOON AS THEY ARE AVAILABLE. I REQUIRE THESE BEFORE
WE CAN FINISH THE PROFILE AND REPORT FOR THE PROJECT.

I FORWARDED A COPY OF THE 247-66-02 PROFILE NEAR HWY 554 YESTERDAY.

BRUCE ADAMSON PROJECT SOILS ENGINEER

MA

RESULTS ARE GIVEN TO MR. R. ADAMSON, NOV. 20/72 AND NOV. 21/72
PP.

MEMORANDUM

41 J - 14

TO: Mr. R. Morgenroth,
Regional Materials Engineer,
Northwestern Region,
Thunder Bay, Ontario.

FROM: Foundations Office,
Design Services Branch,
West Bldg., Downsview.

ATTENTION: Mr. R. B. Adamson,
OUR FILE REF. Project Soils Engineer.

DATE: November 21, 1972.

IN REPLY TO

SUBJECT: *Foundation Investigation on St. Joseph's Island
Hwy. #548
W.P. 16-68-01
W.O. 72-11114
District #18, Sault Ste. Marie*

A foundation investigation was carried out at the following locations as requested by the Regional Materials and Testing Office.

Borehole #1	Sta. 281+03	Centre-line
#2	Sta. 254+11	48' LT.
#3	Sta. 250+00	59' LT.
#4	Sta. 250+00	23' LT.
#5	Sta. 250+00	Centre-line
#6	Sta. 224+37	Centre-line
#7	Sta. 216+22	9' LT.
#8	Sta. 223+48	47' LT.

The purpose of this investigation was to determine the usability of the material obtained from the cuts and to establish the bedrock level at the above described locations to a minimum depth of 4 feet below the proposed profile grade as indicated on Profile No. 548TB1-3.

The results of the field and the subsequent laboratory investigations are plotted on the attached Record of Borehole sheets.

The results, in part, were given to Mr. R. B. Adamson verbally on November 20 and 21, 1972.

If additional assistance or information are required, please contact our Office.

PP/ao

cc: Foundations Files
Documents

P. Payer
For: P. Payer,
Project Foundations Engineer,
K. G. Selby,
Supervising Foundations Eng.

DEPARTMENT OF HIGHWAYS- ONTARIO				RECORD OF BOREHOLE No. 1				FOUNDATION SECTION										
MATERIALS & TESTING OFFICE																		
JOB <u>72-11114</u>				LOCATION <u>Sta. 281 + 03 Ø</u>				ORIGINATED BY <u>PP</u>										
W.P. <u>16-48-01</u>				BORING DATE <u>Oct. 20 & 21, 1972</u>				COMPILED BY <u>PP</u>										
DATUM <u>Geodetic</u>				BOREHOLE TYPE <u>Cont. Flight Auger and Rock Coring</u>				CHECKED BY <u></u>										
SOIL PROFILE			SAMPLES			DYNAMIC PENETRATION RESISTANCE BLOWS / FOOT				LIQUID LIMIT — W _L PLASTIC LIMIT — W _P WATER CONTENT — W				BULK DENSITY		REMARKS		
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT	ELEV. SCALE	SHEAR STRENGTH P.S.F.				WATER CONTENT %				P.C.F.	GR. SA. SI. CL.		
							○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL x LAB. VANE				<div style="display: flex; justify-content: space-around; align-items: center;"> W_p — W — W_L </div>							
											<div style="display: flex; justify-content: space-between;"> 10 20 30 </div>							
660.5	Ground Level																	
0.0	Sand and gravel with silt and clay (Glacial Till) Very Dense	Δ	1	SS	139	660											56 3h (10)	
			2	SS	142													
			3	SS	221													
			4	SS	50 1/4"													
			5	SS	100 1/4"	650											27 4h 23 f	
			6	SS	95 1/8"													
			8	RC	-													
			9	SS	75 1/4"													
642.5			10	RC	-													
18.0	End of Borehole					640												

[illegible]

DEPARTMENT OF HIGHWAYS- ONTARIO						RECORD OF BOREHOLE No. 3								FOUNDATION SECTION						
MATERIALS & TESTING OFFICE																				
JOB 72-11114			LOCATION Sta. 250 + 00 59' Lt.			ORIGINATED BY PP														
W.P. 16-68-01			BORING DATE Oct. 23 & 24, 1972			COMPILED BY PP														
DATUM Geodetic			BOREHOLE TYPE Cont. Flight Auger & Rock Coring			CHECKED BY [Signature]														
SOIL PROFILE			SAMPLES			ELEV. SCALE			DYNAMIC PENETRATION RESISTANCE BLOWS / FOOT				LIQUID LIMIT — W _L PLASTIC LIMIT — W _P WATER CONTENT — W				BULK DENSITY		REMARKS	
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT	ELEV.	SHEAR STRENGTH P.S.F.				WATER CONTENT %				P.C.F.	GR. SA. SI. CL.				
							○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL x LAB. VANE				W _p — W — W _L 10 20 30									
609.5	Ground Level																			
0.0	Sand & Gravel, occasional boulders.		1	SS	11															
			2	SS	15															
602.3	Compact to Very Dense		3	SS	55/3"															
599.9	Weathered Sandstone		3A	AS	-	600														
9.6	Sound Sandstone		5	RC AXT	100%															
			6	RC AXT	81%	590														
			7	RC AXT	96%															
584.0																				
25.5	End of Borehole					580														

FOUNDATION SECTION

MATERIALS & TESTING OFFICE

JOB 72-11114

LOCATION Sta. 250 + 00 23' Lt.

ORIGINATED BY PP

W.P. 16-68-01

BORING DATE Oct. 24, 1972

COMPILED BY PP

DATUM Geodetic

BOREHOLE TYPE Cont. Flight Auger

CHECKED BY

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FOUNDATION SECTION

JOB	72-11114	LOCATION	Sta. 250 + 00 @	ORIGINATED BY	PP
W.P.	16-68-01	BORING DATE	Oct. 24 & 25, 1972	COMPILED BY	PP
DATUM	Geodetic	BOREHOLE TYPE	Cont. Flight Auger & Rock Coring	CHECKED BY	<i>[Signature]</i>

SOIL PROFILE			SAMPLES			ELEV. SCALE	DYNAMIC PENETRATION RESISTANCE		LIQUID LIMIT ——— w_L PLASTIC LIMIT ——— w_p WATER CONTENT ——— w			BULK DENSITY γ P.C.F.	REMARKS
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT		SHEAR STRENGTH P.S.F.		WATER CONTENT % w_p ——— w ——— w_L 10 ——— 20 ——— 30				
							○ UNCONFINED ● QUICK TRIAXIAL	+ FIELD VANE x LAB. VANE					
594.0	Ground Level												
0.0	Sand and Gravel					590							592.0
	Compact		1	SS	19								0 72 22 6
585.8			2	RC	16%								
	Weathered Sandstone		3	RC BX	27%	580							
578.9													
15.1	End of Borehole					570							

FOUNDATION SECTION

CHECKED BY AK

SOIL PROFILE			SAMPLES			ELEV. SCALE	DYNAMIC PENETRATION RESISTANCE				LIQUID LIMIT ——— w_L PLASTIC LIMIT ——— w_p WATER CONTENT ——— w			BULK DENSITY γ P.C.F.	REMARKS
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT		SHEAR STRENGTH P.S.F.				WATER CONTENT %				
							○ UNCONFINED ● QUICK TRIAXIAL		+ FIELD VANE x LAB. VANE		w_p	w	w_L		
613.5	Ground Level														
0.0	Sand with some gravel, silt and clay. Dense to Very Dense occasional boulders					640									
		1	SS	74											27 45 27 1
		2	SS	38											▽ 632.1
		3	SS	68			630								0 61 35 4
		4	SS	165			620								
615.3			5	AS	-										8 60 30 2
28.2	End of Borehole					610									

DEPARTMENT OF HIGHWAYS- ONTARIO						RECORD OF BOREHOLE No. 7								FOUNDATION SECTION				
MATERIALS & TESTING OFFICE																		
JOB	72-1111h		LOCATION	Sta. 216 + 22 9' Lt.			ORIGINATED BY			PP								
W.P.	16-68-01		BORING DATE	Oct. 25, 1972			COMPILED BY			PP								
DATUM	Geodetic		BOREHOLE TYPE	Cont. Flight Auger			CHECKED BY											
SOIL PROFILE			SAMPLES			DYNAMIC PENETRATION RESISTANCE			LIQUID LIMIT — W _L			BULK DENSITY			REMARKS			
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT	ELEV. SCALE	BLOWS / FOOT			PLASTIC LIMIT — W _P			WATER CONTENT %			P.C.F.		
639.0	Ground Level						SHEAR STRENGTH P.S.F.			WATER CONTENT — W			γ			GR. SA. SI. CL.		
0.0	Sand with some gravel, silt and clay		1	SS	26	630				○						9 69 (22) ▼ 635.2		
	Compact to Very Dense		2	SS	41					○						29 49 (22)		
	occasional boulders		3	SS	65	620				○						7 74 (19)		
614.0			3A	AS	-					○								
25.0	End of Borehole					610												

FOUNDATION SECTION

ORIGINATED BY PP

COMPILED BY PP 12

CHECKED BY 

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