GEOTECHNICAL INVESTIGATIONS

Highway Construction
km 1749.6 to 1759.2
Alaska Highway #1
Yukon, 2004-2005
Volume 2 of 2



Highways and Public Works
Transportation Engineering Branch

Geotechnical Services

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Highway Construction
km 1749.6 to 1759.2
Alaska Highway #1
Yukon, 2004-2005
Volume 2 of 2

This Data Package prepared for project viewing:

February, 2004

Transportation Engineering Branch
Geotechnical Services
461 Range Road
Whitehorse, Yukon

CONTENTS

Volume 1 of 2

INTRODUCTION

Investigation notes, classification methods and legends.

CENTRELINE TESTING km 1749.6 to 1759.2 Alaska Highway

Subsurface Exploration and Test Report Sheets are provided.
The reports for the Centreline testing holes are arranged according to project location, starting at km 1749+550 and increasing to km 1759+300.

Laboratory Testing Result Sheets are provided.
The reports for the centreline holes are arranged according to test hole number, starting at 544-1390 and increasing to 552-1502.

2000	TEST HOLES 1390 to 1418	shown with prefix 544-
	TEST HOLES 1419 to 1427	shown with prefix 545-
	TEST HOLES 1428 to 1452	shown with prefix 549-
	TEST HOLES 1453 to 1465	shown with prefix 550-
	TEST HOLES 1466 to 1490	shown with prefix 551-
	TEST HOLES 1491 to 1502	shown with prefix 552-

CONTENTS (continued)

Volume 2 of 2

GRANULAR SOURCE km 1750.0 LHS ALASKA HIGHWAY Pit ID 115 G-04A

A production history, location plans, photographs, and subsurface exploration and testing report sheets are provided.

Auger Testing

1985	TEST HOLES 32	shown with prefix 777-
2001	TEST HOLES 1962 & 1963	shown with prefix 625-

Test Pit Testing

1985	TEST PITS 108	shown with prefix 808-
1988	TEST PITS 1 & 2	shown with prefix 29-
1988	TEST PITS 38 & 39	shown with prefix 30-
2002	TEST PITS 5, 6, 10, 11, 15, 16, 20, & 21	shown with prefix 631-

GRANULAR SOURCE km 1753.0 LHS ALASKA HIGHWAY Pit ID 115 G-20

A production history, location plan, photographs, and subsurface exploration and testing report sheets are provided.

Auger Testing

2003	TEST HOLES 2717 to 2727	shown with prefix 652-

Test Pit Testing

2002	TEST PITS 2400 to 2450	shown with prefix 636-
2003	TEST PITS 2729 to 2731 & 2745 to 2753	shown with prefix 653-

GRANULAR SOURCE TESTING
km 1750.0 LHS
(Lewis Creek)
ALASKA HIGHWAY

HISTORY OF AGGREGATE PRODUCTION

Alaska Highway Km 1749.5 L.H.S.
115 G-04A (Lewis Creek)

Average Crusher Run Characteristics of Material Produced

File Number --- 4100-60-55 Contractor --- Summit Aggregates Inc.
Stockpile ID --- 2003-17 Commenced --- 03-11-16 Completed --- 03-11-18
Type of aggregate --- 20 mm B.S.T. Aggregate
Amount Produced ---5,664 m^3 No. of tests --- 14

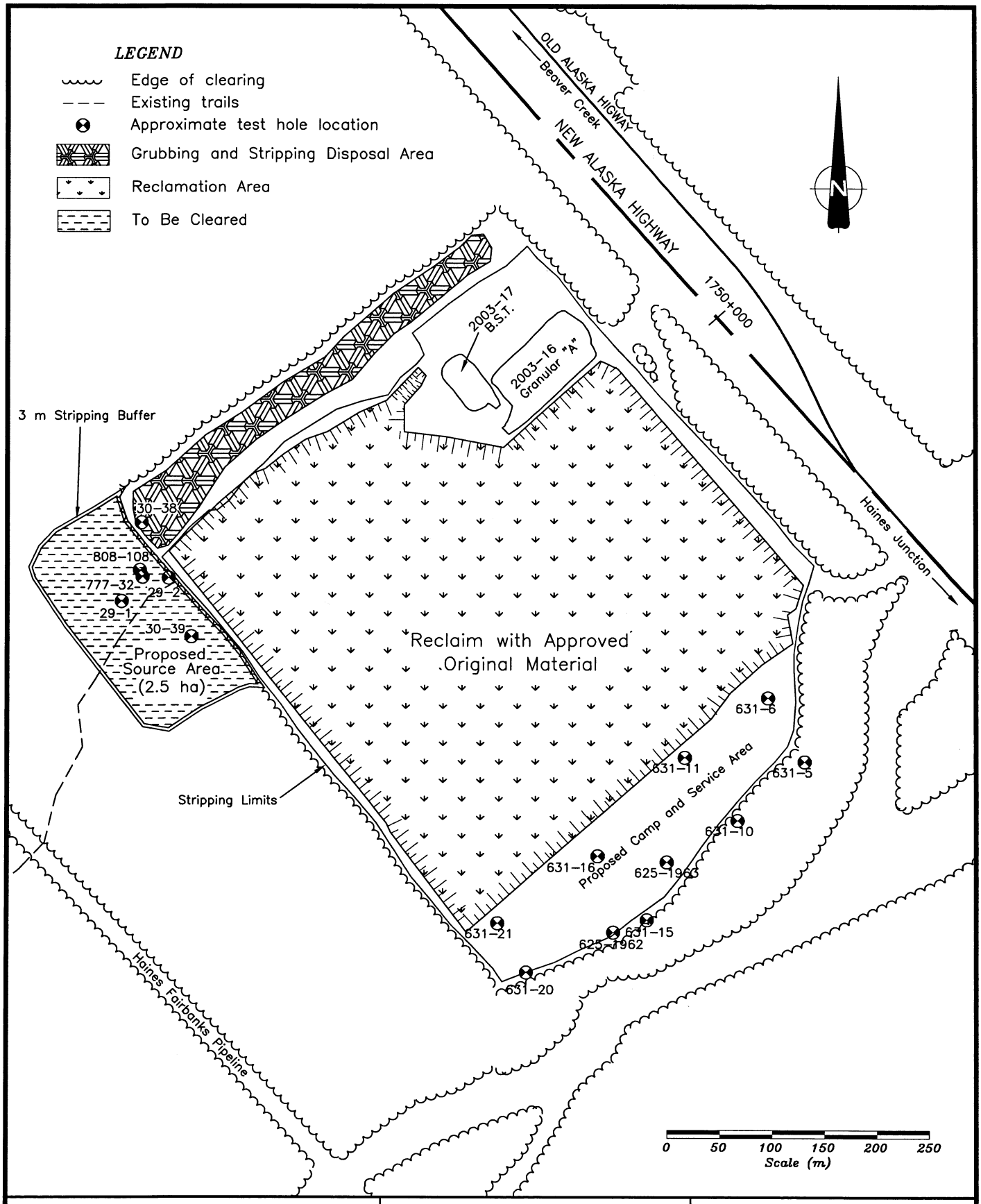
Sieve Size mm	20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	99.9	86.3	--	50.7	35.8	24.1	10.0	5.0

Moisture Content - 3.0 % Standard Proctor
Fracture - 68.6 % Kg/m^3 @ % moisture

File Number --- 4100-60-55 Contractor --- Summit Aggregates Inc.
Stockpile ID --- 2003-16 Commenced --- 03-11-14 Completed --- 03-11-24
Type of aggregate --- Granular "A" Base Course
Amount Produced ---37,921 m^3 No. of tests --- 88

Sieve Size mm	20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	99.9	85.4	--	52.0	37.8	26.8	12.1	5.5

Moisture Content - 3.0 % Standard Proctor
Fracture - 65.4 % 2290 Kg/m^3 @ 7.5 % moisture

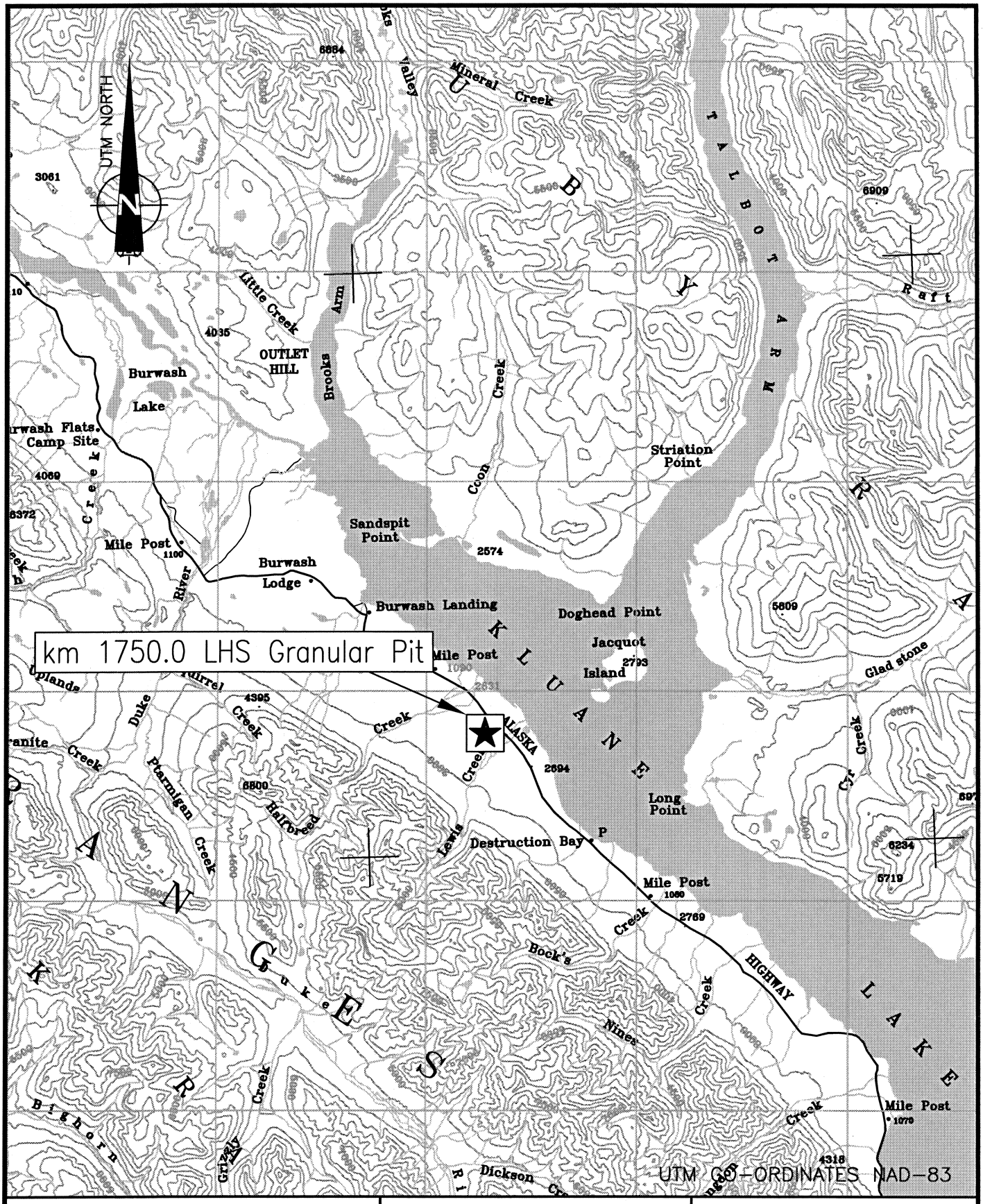


Yukon
Highways and Public Works

Transportation Engineering Branch

SITE PLAN
GRANULAR PIT
Km 1750.0 L.H.S.
(Lewis Creek)
ALASKA HWY. YUKON

pit file:	115 G-04A
revision:	2004-Proposed
drawn:	JJM
date:	2004-02-23
scale:	1: 5000
drwg:	115g-04aS



Yukon
Highways and Public Works

Transportation Engineering Branch

KEY PLAN
GRANULAR PIT
km 1750.0 LHS
(Lewis Creek)
ALASKA HWY. YUKON

pit file:	115 G-04A
quad:	115 G/07
drawn:	JJM
date:	2004-02-23
scale:	1: 250,000
drwg:	115g-04aK

Km 1750.0 LHS Alaska Highway #1
Pit Ident. 115 G-04A
(Copper Joe Creek)

May 1985
Book # 777

Auger Hole Logs

Public Works Canada

WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT 77-32

PROJECT/SECTION			HOLE No. 85-32
HOLE LOCATION		ELEV.	DEPTH TO G.W.L.
DATE DRILLED 85-05-31	DRILL UNIT B30 6" AUGER		TECHNICIAN D.S.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASS. or G.W.L.	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300 mm
1	WELL-GRADED GRAVEL WITH SAND - GREY		AP	97	224	GW	60.3	35.8	—	
2	ROCKY - SLOW DRILLING WELL-GRADED GRAVEL - GREY		AP	98	225	GW	83.4	14.2	—	
3	WELL-GRADED GRAVEL WITH SILTY SAND - GREY		AP	99	226	GW-GM	57.6	36.4	—	
	REFUSAL									

0 - % MOISTURE CONTENT
x - % < .074 mm
PLASTIC LIMIT — LIQUID LIMIT

0 10 20 30 40 50 60 70 80 90 100

Dwg No 80-253

Km 1750.0 LHS Alaska Highway #1
Pit Ident. 115 G-04A
(Copper Joe Creek)

September 2001
Book # 625

Auger Hole Logs

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAS SEG 11	TEST HOLE NO: 625-1963
ENGINEERING CAPITAL	LEWIS CREEK CHANNEL	Project No: 092-202101-0361
MOBILE B40L 6" AUGER	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp -rough drilling from surface to 4.5m							0.0
1.0								1.0
			1458		GP			
2.0								2.0
3.0								3.0
4.0			1459		GP			4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: G.C.	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 01/09/25
Fig. No:	Page 1 of 1

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAS SEG 11	TEST HOLE NO: 625-1962
ENGINEERING CAPITAL	LEWIS CREEK CHANNEL	Project No: 092-202101-0361
MOBILE B40L 6" AUGER	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -brown -damp -rough drilling from surface to 3.5m							
1.0								1.0
			1456 ▲		GP-GM		◆ ■	
2.0								2.0
3.0								3.0
	-smooth drilling below 3.5m							
4.0			1457 ▲		GP-GM		◆ ■	4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: C.C.	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 01/09/25
Fig. No:	Page 1 of 1

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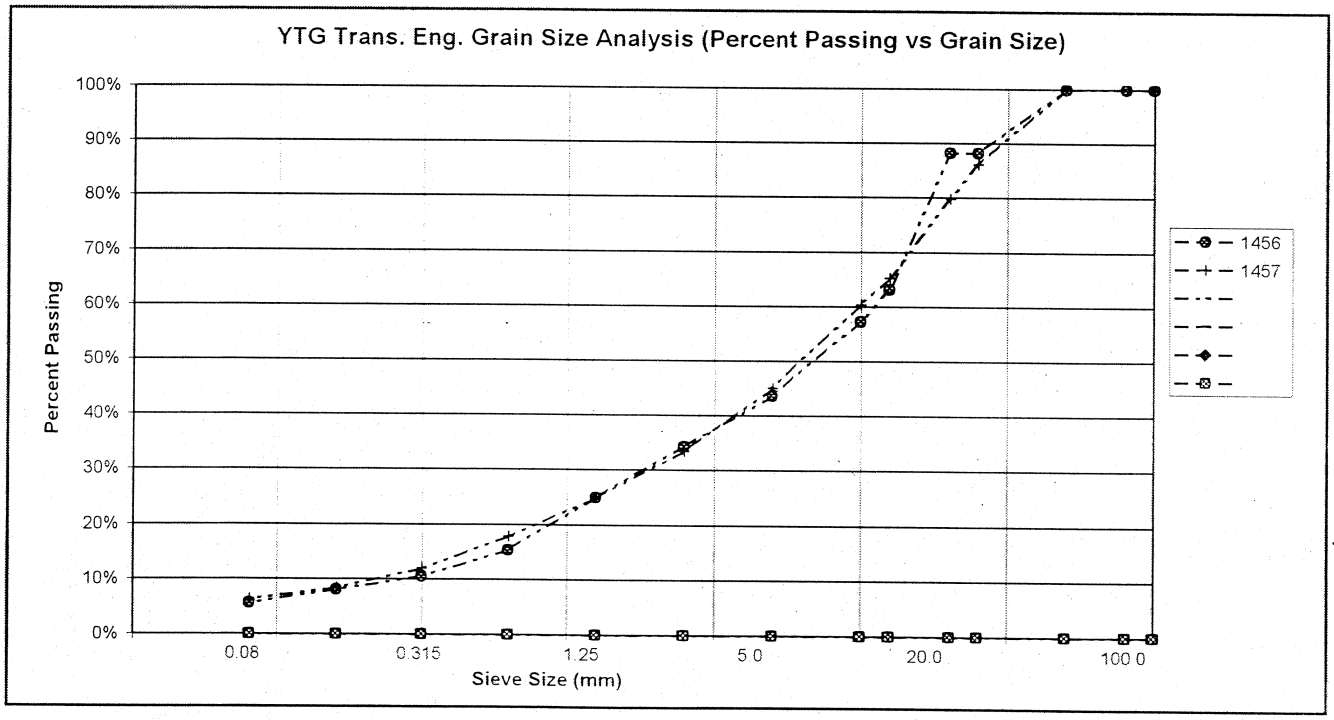
Km 1750.0 LHS Alaska Highway #1
Pit Ident. 115 G-04A
(Copper Joe Creek)

September 2001
Book # 625

Auger Sample Results

PROJECT NUMBER:	092-202101-0361-1		HOLE No.: 625-1962
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 11		
PROJECT LOCATION:	Lewis Creek Channel		
DRILL UNIT:	MOBILE B40 L		
HOLE LOCATION:	See Testhole Log Sheet		
LOGGED BY:	G.C.		DATE COMP: 2001/09/25

FIELD NO:	1456	1457				
LAB NO:	2237	2238				
DEPTH:	1.0-2.0	3.5-4.5				
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	100%				
25.0	88%	86%				
20.0	88%	80%				
12.5	63%	65%				
10.0	57%	60%				
5.0	44%	45%				
2.5	34%	33%				
1.25	25%	25%				
0.630	15%	18%				
0.315	11%	12%				
0.160	8%	8%				
0.080	6%	6%				
M.C.(%):	3%	3%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	56	55				
% SAND:	38	39				
% FINES:	6	6				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				

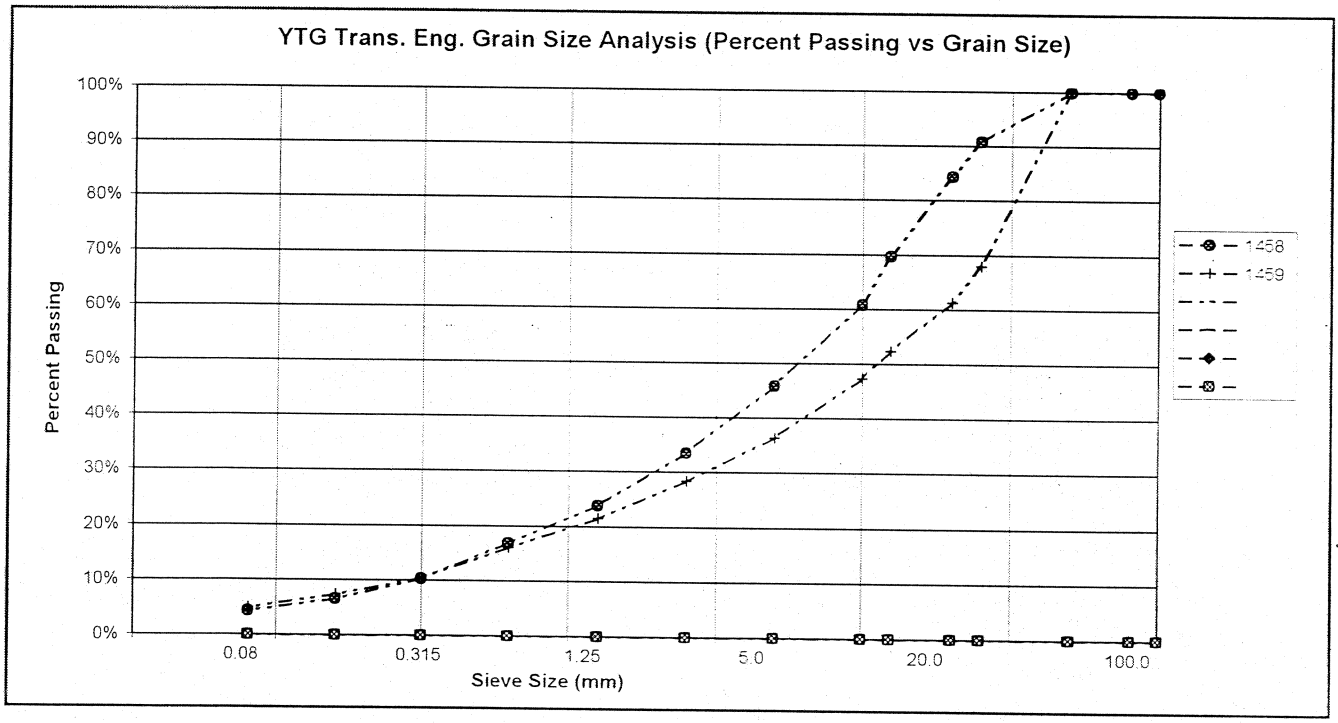


PROJECT NUMBER:	092-202101-0361-1
CLIENT:	ENGINEERING CAPITAL
PROJECT NAME:	SHAKWAK SEG 11
PROJECT LOCATION:	Lewis Creek Channel
DRILL UNIT:	MOBILE B40 L
HOLE LOCATION:	See Testhole Log Sheet
LOGGED BY:	G.C.

HOLE No.: 625-1963

DATE COMP: 2001/09/25

FIELD NO:	1458	1459				
LAB NO:	2236	2239				
DEPTH:	1.0-2.0	3.5-4.5				
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	100%				
25.0	91%	68%				
20.0	84%	61%				
12.5	70%	52%				
10.0	61%	47%				
5.0	46%	36%				
2.5	34%	28%				
1.25	24%	21%				
0.630	17%	16%				
0.315	10%	10%				
0.160	7%	7%				
0.080	4%	5%				
M.C.(%):	2%	2%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	54	64				
% SAND:	42	31				
% FINES:	4	5				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)				



Km 1750.0 LHS Alaska Highway #1
Pit Ident. 115 G-04A
(Copper Joe Creek)

June 1985
Book # 808

Test Pit Logs

Public Works Canada

MATERIALS QUALITY CONTROL LABORATORY
WHITEHORSE, Y.T.

SUBSURFACE EXPLORATION AND TESTING REPORT 808-108

PROJECT/SECTION			HOLE No. 85-108
HOLE LOCATION		ELEV.	DEPTH TO G.W.L.
DATE DRILLED 85-06-27	DRILL UNIT BACKHOE		TECHNICIAN D.S.

DEPTH (m.)	DESCRIPTION OF MATERIAL	PERMAFROST CLASS. or G.W.L.	SAMPLE DATA: SAMPLE TYPE	FIELD No.	LAB No.	UNIFIED CLASSIFICATION	% GRAVEL	% SAND	% < .005 mm	STD. PENETRATION BLOWS/300mm
1	POORLY GRADED GRAVEL WITH SAND - GREY									
2	EST. 20% COBBLES 10 TO 20 cm. ø									
3	HARD DIGGING - DK. GREY	UNFROZEN TO FROZEN	PIT RUN	255	2962	GP	57.4	39.4	—	
			CRUSH	255	2962	GW	55.2	44.1	—	
	END HOLE									
4										
5										
6										
7										
8										
9										
10										

0 – % MOISTURE CONTENT
x – % < .074 mm
PLASTIC LIMIT ⊢⊣ LIQUID LIMIT

0 10 20 30 40 50 60 70 80 90

x NP
x NP

C.C. = 83.9%

Km 1750.0 LHS Alaska Highway #1
Pit Ident. 115 G-04A
(Copper Joe Creek)

October 1988
Book # 029 and 030

Test Pit Logs

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 029-01
PWC CAPITAL – Y.T.	A/H KM 1749.5 LHS	Project No: 115-G-04
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	WELL-GRADED GRAVEL WITH SAND (GW) -maximum 100mm material							
1.0			1	▲	GW		◆ ■	1.0
2.0								2.0
3.0	SANDY SILT -light brown -saturated							3.0
	END HOLE at 3.5m							
4.0								4.0
5.0								5.0
6.0								6.0

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LOGGED BY: DT	COMPLETION DEPTH: 3.5 m
REVIEWED BY:	COMPLETE: 88/10/19
Fig. No:	Page 1 of 1

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SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 029-02
PWC CAPITAL – Y.T.	A/H KM 1749.5 LHS	Project No: 115-G-04
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL							0.0
	WELL-GRADED GRAVEL WITH SAND (GW) –maximum 150mm material –subrounded to rounded							
1.0								1.0
			2 ▲		GW		◆ ◆	
2.0								2.0
3.0	–damp below 3.0m		3 ▲		GW		◆ ◆	3.0
4.0								4.0
5.0	–caving in below 5.0m		4 ▲		GW		◆ ◆	5.0
	END HOLE at 5.3m							
6.0								6.0

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LOGGED BY: DT	COMPLETION DEPTH: 5.3 m
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Fig. No:	Page 1 of 1

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SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE-ENGINEERING	TEST PIT NO: 030-38
PWC CAPITAL – Y.T.	A/H KM 1749.5 LHS	Project No: 115-G-04
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC MATERIAL SANDY SILT							0.0
	POORLY TO WELL-GRADED GRAVEL WITH SAND (GP TO GW) –gray brown –moist –maximum 200mm material –estimate 5% +100mm							
1.0								1.0
			81 ▲		GP		◆ ■	
2.0								2.0
			82 ▲		GW		◆	
3.0								3.0
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) –gray brown –moist –maximum 200mm material –estimate 5% +100mm							
4.0								4.0
			83 ▲		GP-GM		◆ ■	
5.0	END HOLE at 5.0m –flat terrian –beside water course –formerly logged area							5.0
6.0								6.0

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Transportation Engineering

LOGGED BY: CB	COMPLETION DEPTH: 5.0 m
REVIEWED BY:	COMPLETE: 88/10/23
Fig. No:	Page 1 of 1

SUBSURFACE EXPLORATION AND TEST REPORT	ALASKA HIGHWAY PRE--ENGINEERING	TEST PIT NO: 030-39
PWC CAPITAL - Y.T.	A/H KM 1749.5 LHS	Project No: 115-G-04
BACKHOE: CAT 225	LOCATION: See Plan	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC MATERIAL				
	POORLY GRADED GRAVEL WITH SAND (GP) -gray brown -moist -maximum 250mm material -estimate 10% +100mm -easy digging		84	GP	
3.0	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) -gray brown -moist -maximum 250mm material -estimate 10% +100mm -hole caving in -easy digging		85	GP-GM	
4.0	-maximum 200mm material below 4.5m -estimate 5% +100mm below 4.5m				
5.0			86	GP-GM	
	END HOLE at 5.2m -photo #1-7				
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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	REVIEWED BY:	COMPLETE: 88/10/23
	Fig. No:	Page 1 of 1

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Km 1750.0 LHS Alaska Highway #1
Pit Ident. 115 G-04A
(Copper Joe Creek)

October 1988
Book # 029 and 030

Pit Run Sample Results

PROJECT NUMBER:	115-G-04	HOLE NUMBER:	029-01
CLIENT:	PWC CAPITAL - Y.T.		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1749.5 LHS		
DRILL UNIT:	CAT 225 HOE		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	DT	DATE COMPLETED:	88.10.19

FIELD NO: 1
LAB NO: 2853
DEPTH: 1.1-1.5
TYPE: BULK

SIEVE SIZE	PERCENT PASSING
101.6	100
76.2	75
50.8	69
38.1	65
25.4	57
19.0	53
12.7	45
9.5	41
4.76	34
2.38	--
2.00	27
1.19	--
0.841	20
0.595	--
0.42	14
0.297	--
0.177	--
0.149	7
0.074	4

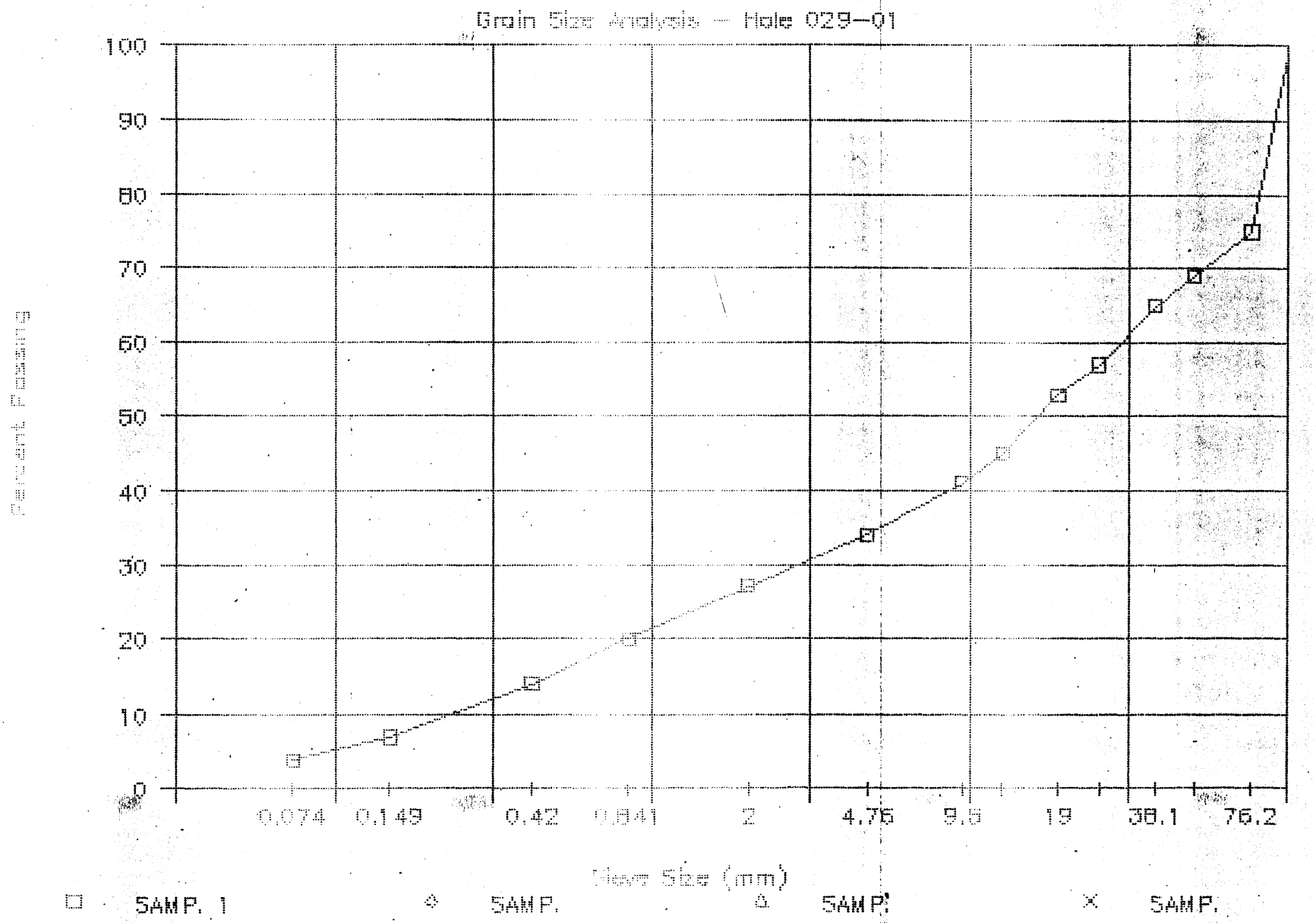
M.C.(%): --

LIMITS
LIQUID: --
PLASTIC: --
P.I.: N.P.

% GRAVEL: 66
% SAND: 31
% FINES: 4

CLASSIFICATION:
WELL-GRADED
GRAVEL WITH SAND
(GW)

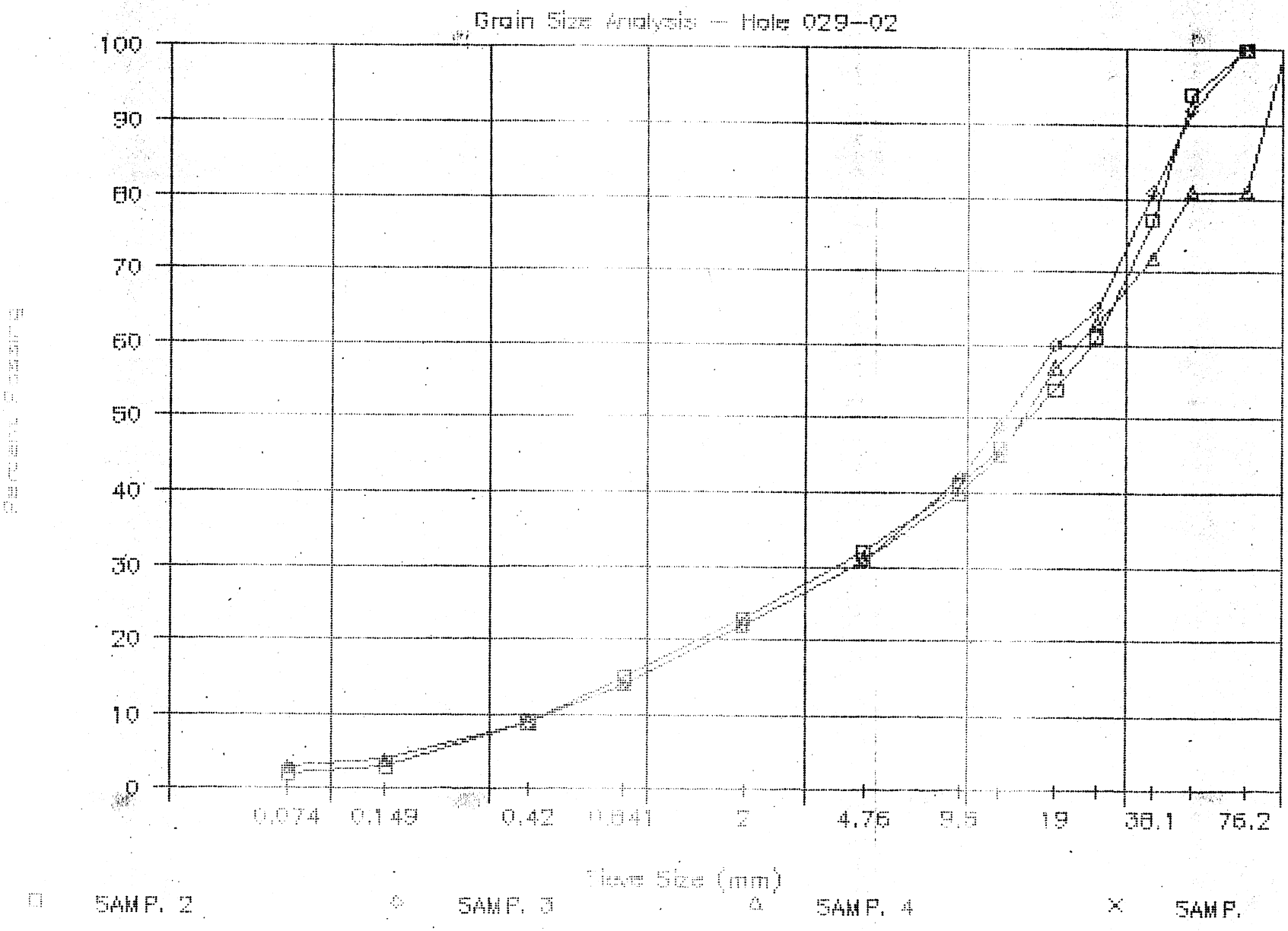
PUBLIC WORKS CANADA — WHITEHORSE, Y.T.



PROJECT NUMBER:	115-G-04	HOLE NUMBER:	029-02
CLIENT:	PWC CAPITAL - Y.T.		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1749.5 LHS		
DRILL UNIT:	CAT 225 HOE		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	DT	DATE COMPLETED:	88.10.19

FIELD NO: 2		FIELD NO: 3		FIELD NO: 4	
LAB NO:	2854	LAB NO:	2855	LAB NO:	2856
DEPTH:	1.2-1.9	DEPTH:	3.0-3.4	DEPTH:	5.0-5.3
TYPE:	BULK	TYPE:	BULK	TYPE:	BULK
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	100
76.2	100	76.2	100	76.2	81
50.8	94	50.8	92	50.8	81
38.1	77	38.1	81	38.1	72
25.4	61	25.4	65	25.4	63
19.0	54	19.0	60	19.0	57
12.7	46	12.7	49	12.7	45
9.5	41	9.5	42	9.5	40
4.76	32	4.76	31	4.76	31
2.38	--	2.38	--	2.38	--
2.00	22	2.00	22	2.00	22
1.19	--	1.19	--	1.19	--
0.841	15	0.841	14	0.841	14
0.595	--	0.595	--	0.595	--
0.42	9	0.42	9	0.42	9
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	3	0.149	4	0.149	4
0.074	2	0.074	3	0.074	3
M.C.(%):	--	M.C.(%):	--	M.C.(%):	--
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	68	% GRAVEL:	69	% GRAVEL:	69
% SAND:	30	% SAND:	29	% SAND:	28
% FINES:	2	% FINES:	3	% FINES:	3
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
WELL-GRADED GRAVEL WITH SAND (GW)		WELL-GRADED GRAVEL WITH SAND (GW)		WELL-GRADED GRAVEL WITH SAND (GW)	

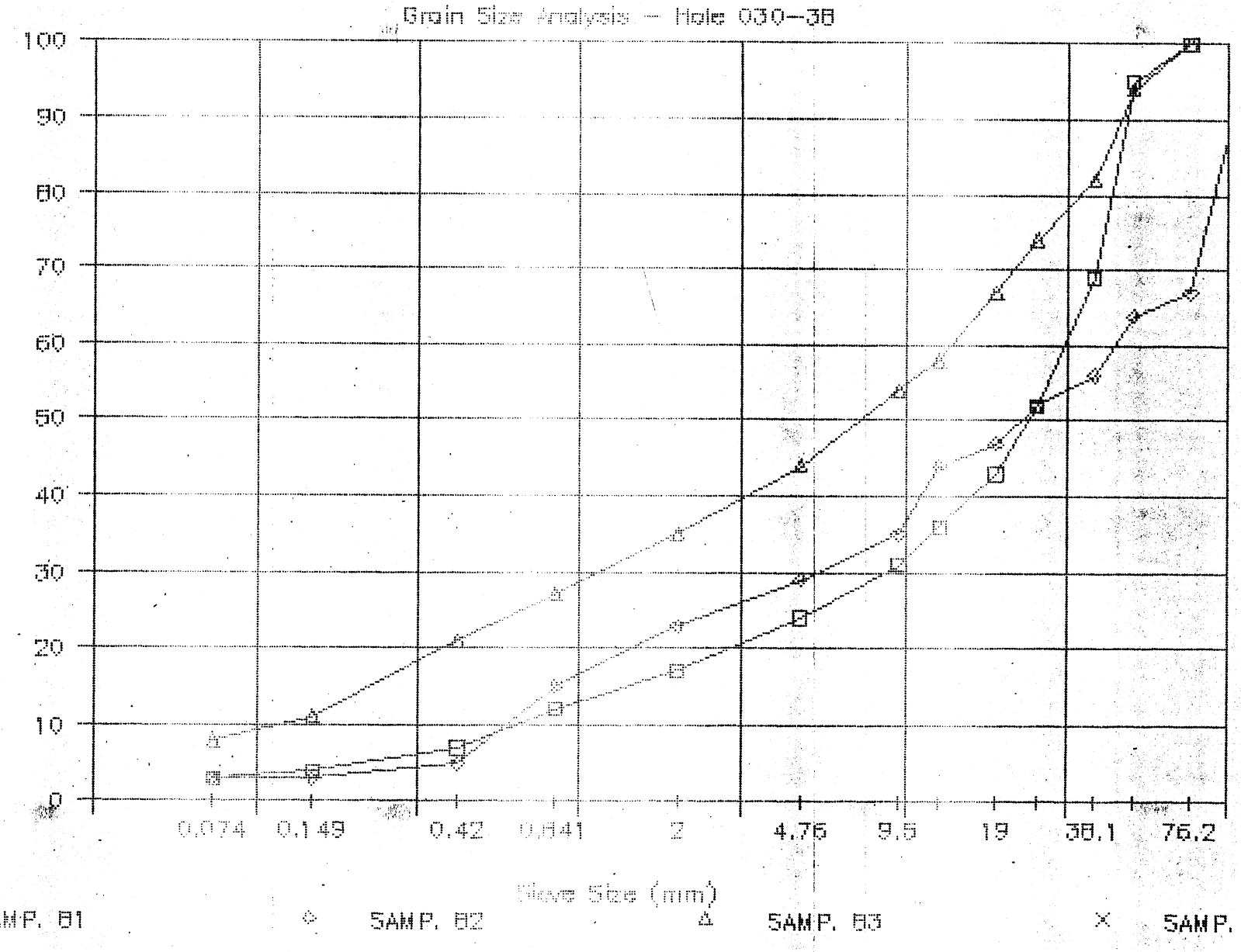
PUBLIC WORKS CANADA — WHITEHORSE, Y.T.



PROJECT NUMBER: 115-G-04 HOLE NUMBER: 030-38
CLIENT: PWC CAPITAL - Y.T.
PROJECT NAME: ALASKA HIGHWAY PRE-ENGINEERING
PROJECT LOCATION: A/H KM 1749.5 LHS
DRILL UNIT: CAT 225 HOE
HOLE LOCATION: SEE PLAN
LOGGED BY: CB DATE COMPLETED: 88.10.23

FIELD NO: 81		FIELD NO: 82		FIELD NO: 83	
LAB NO: 2931		LAB NO: 2932		LAB NO: 2933	
DEPTH: 1.4-1.8		DEPTH: 2.4-2.8		DEPTH: 4.4-4.8	
TYPE: BULK		TYPE: BULK		TYPE: BULK	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	89	101.6	--
76.2	100	76.2	67	76.2	100
50.8	95	50.8	64	50.8	94
38.1	69	38.1	56	38.1	82
25.4	52	25.4	52	25.4	74
19.0	43	19.0	47	19.0	67
12.7	36	12.7	44	12.7	58
9.5	31	9.5	35	9.5	54
4.76	24	4.76	29	4.76	44
2.38	--	2.38	--	2.38	--
2.00	17	2.00	23	2.00	35
1.19	--	1.19	--	1.19	--
0.841	12	0.841	15	0.841	27
0.595	--	0.595	--	0.595	--
0.42	7	0.42	5	0.42	21
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	4	0.149	3	0.149	11
0.074	3	0.074	3	0.074	8
M.C.(%):	--	M.C.(%):	--	M.C.(%):	--
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	76	% GRAVEL:	71	% GRAVEL:	56
% SAND:	21	% SAND:	26	% SAND:	37
% FINES:	3	% FINES:	3	% FINES:	8
CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SAND (GW)		CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	

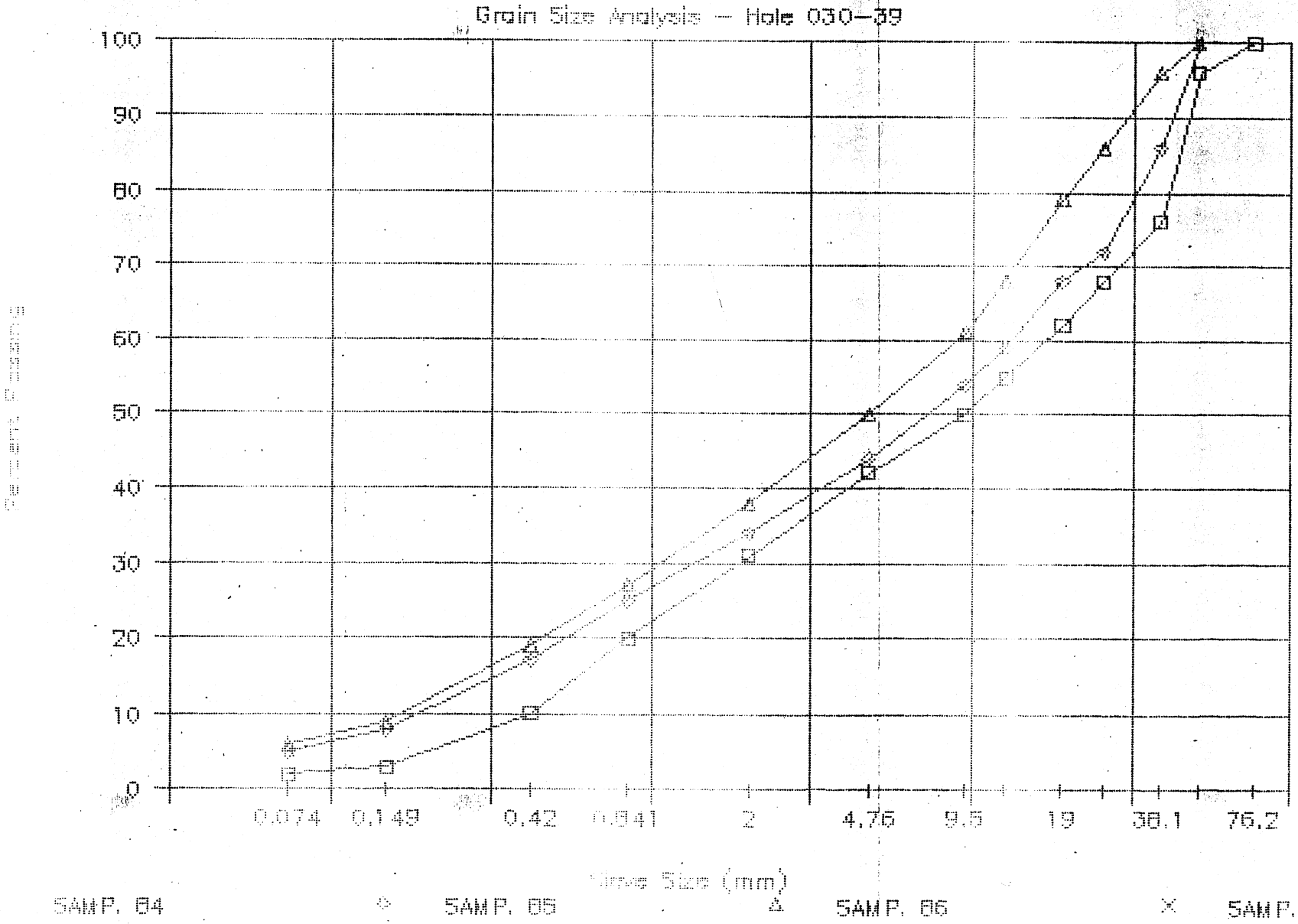
PUBLIC WORKS CANADA — WHITEHORSE, Y.T.



PROJECT NUMBER:	115-G-04	HOLE NUMBER:	030-39
CLIENT:	PWC CAPITAL - Y.T.		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1749.5 LHS		
DRILL UNIT:	CAT 225 HOE		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	CB	DATE COMPLETED:	88.10.23

FIELD NO: 84		FIELD NO: 85		FIELD NO: 86	
LAB NO: 2934		LAB NO: 2935		LAB NO: 2936	
DEPTH: 1.6-2.0		DEPTH: 3.4-3.8		DEPTH: 4.8-5.2	
TYPE: BULK		TYPE: BULK		TYPE: BULK	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	100	76.2	--	76.2	--
50.8	96	50.8	100	50.8	100
38.1	76	38.1	86	38.1	96
25.4	68	25.4	72	25.4	86
19.0	62	19.0	68	19.0	79
12.7	55	12.7	59	12.7	68
9.5	50	9.5	54	9.5	61
4.76	42	4.76	44	4.76	50
2.38	--	2.38	--	2.38	--
2.00	31	2.00	33	2.00	38
1.19	--	1.19	--	1.19	--
0.841	20	0.841	25	0.841	27
0.595	--	0.595	--	0.595	--
0.42	10	0.42	17	0.42	19
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	3	0.149	8	0.149	9
0.074	2	0.074	5	0.074	6
M.C.(%):	--	M.C.(%):	--	M.C.(%):	--
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	58	% GRAVEL:	56	% GRAVEL:	50
% SAND:	40	% SAND:	39	% SAND:	44
% FINES:	2	% FINES:	5	% FINES:	6
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
POORLY GRADED GRAVEL WITH SAND		POORLY GRADED GRAVEL WITH SILT & SAND		POORLY GRADED GRAVEL WITH SILT & SAND	

PUBLIC WORKS CANADA — WHITEHORSE, Y.T.



Km 1750.0 LHS Alaska Highway #1
Pit Ident. 115 G-04A
(Copper Joe Creek)

October 1988
Book # 029 and 030

Crush Sample Results

PROJECT NUMBER:	115-G-04	HOLE NUMBER:	029-01C
CLIENT:	PWC CAPITAL - Y.T.		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1749.5 LHS		
DRILL UNIT:	CAT 225 HOE		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	DT	DATE COMPLETED:	88.10.19

FIELD NO: 1
LAB NO: 2853
DEPTH: 1.1-1.5
TYPE: BULK
CC = 82%

SIEVE SIZE	PERCENT PASSING
101.6	--
76.2	--
50.8	--
38.1	--
25.4	--
19.0	100
12.7	88
9.5	72
4.76	48
2.38	--
2.00	31
1.19	--
0.841	21
0.595	--
0.42	15
0.297	--
0.177	--
0.149	7
0.074	4

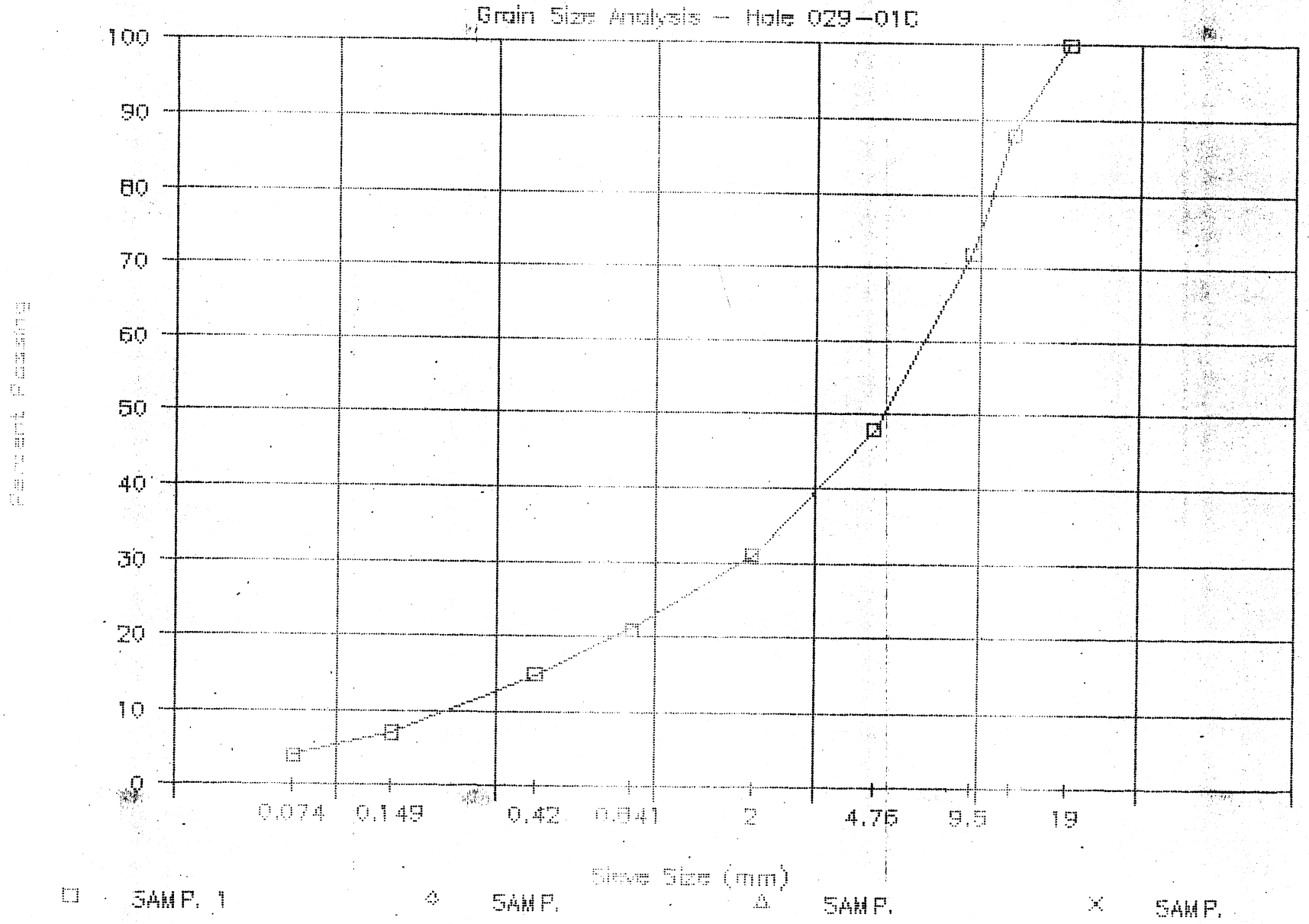
M.C.(%): --

LIMITS
LIQUID: --
PLASTIC: --
P.I.: N.P.

% GRAVEL: 52
% SAND: 43
% FINES: 4

CLASSIFICATION:
WELL-GRADED
GRAVEL WITH SAND
(GW)

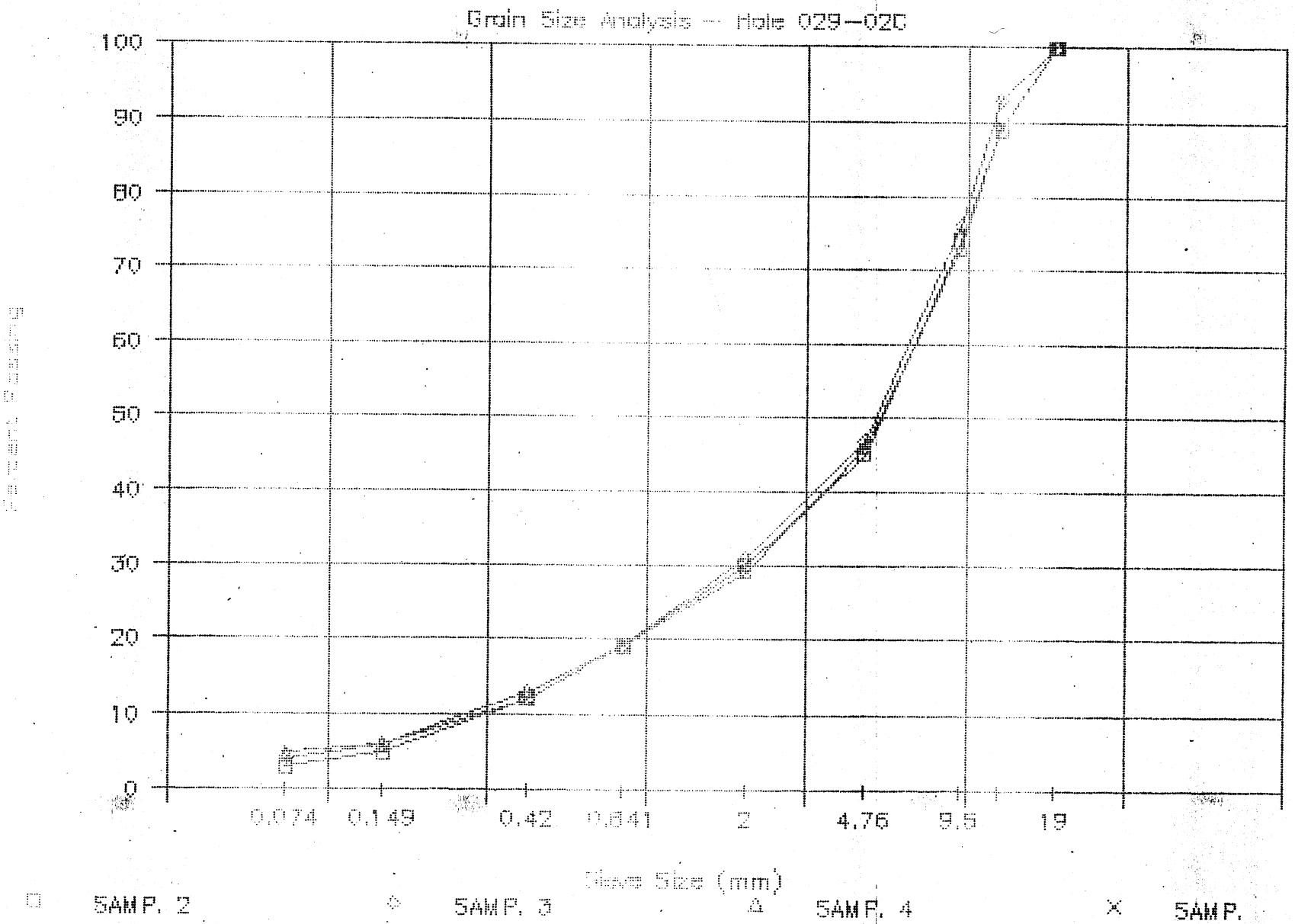
PUBLIC WORKS CANADA — WHITEHORSE, Y.T.



PROJECT NUMBER:	115-G-04	HOLE NUMBER:	029-02C
CLIENT:	PWC CAPITAL - Y.T.		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1749.5 LHS		
DRILL UNIT:	CAT 225 HOE		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	DT	DATE COMPLETED:	88.10.19

FIELD NO: 2		FIELD NO: 3		FIELD NO: 4	
LAB NO:	2854	LAB NO:	2855	LAB NO:	2856
DEPTH:	1.2-1.9	DEPTH:	3.0-3.4	DEPTH:	5.0-5.3
TYPE:	BULK	TYPE:	BULK	TYPE:	BULK
CC = 79%		CC = 87%		CC = 97%	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--
38.1	--	38.1	--	38.1	--
25.4	--	25.4	--	25.4	--
19.0	100	19.0	100	19.0	100
12.7	89	12.7	93	12.7	89
9.5	74	9.5	76	9.5	73
4.76	45	4.76	47	4.76	46
2.38	--	2.38	--	2.38	--
2.00	36	2.00	31	2.00	29
1.19	--	1.19	--	1.19	--
0.841	19	0.841	19	0.841	19
0.595	--	0.595	--	0.595	--
0.42	12	0.42	12	0.42	13
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	5	0.149	6	0.149	6
0.074	3	0.074	4	0.074	5
M.C.(%):	--	M.C.(%):	--	M.C.(%):	--
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	55	% GRAVEL:	53	% GRAVEL:	54
% SAND:	42	% SAND:	43	% SAND:	41
% FINES:	3	% FINES:	4	% FINES:	5
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
WELL-GRADED GRAVEL WITH SAND (GW)		WELL-GRADED GRAVEL WITH SAND (GW)		WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	

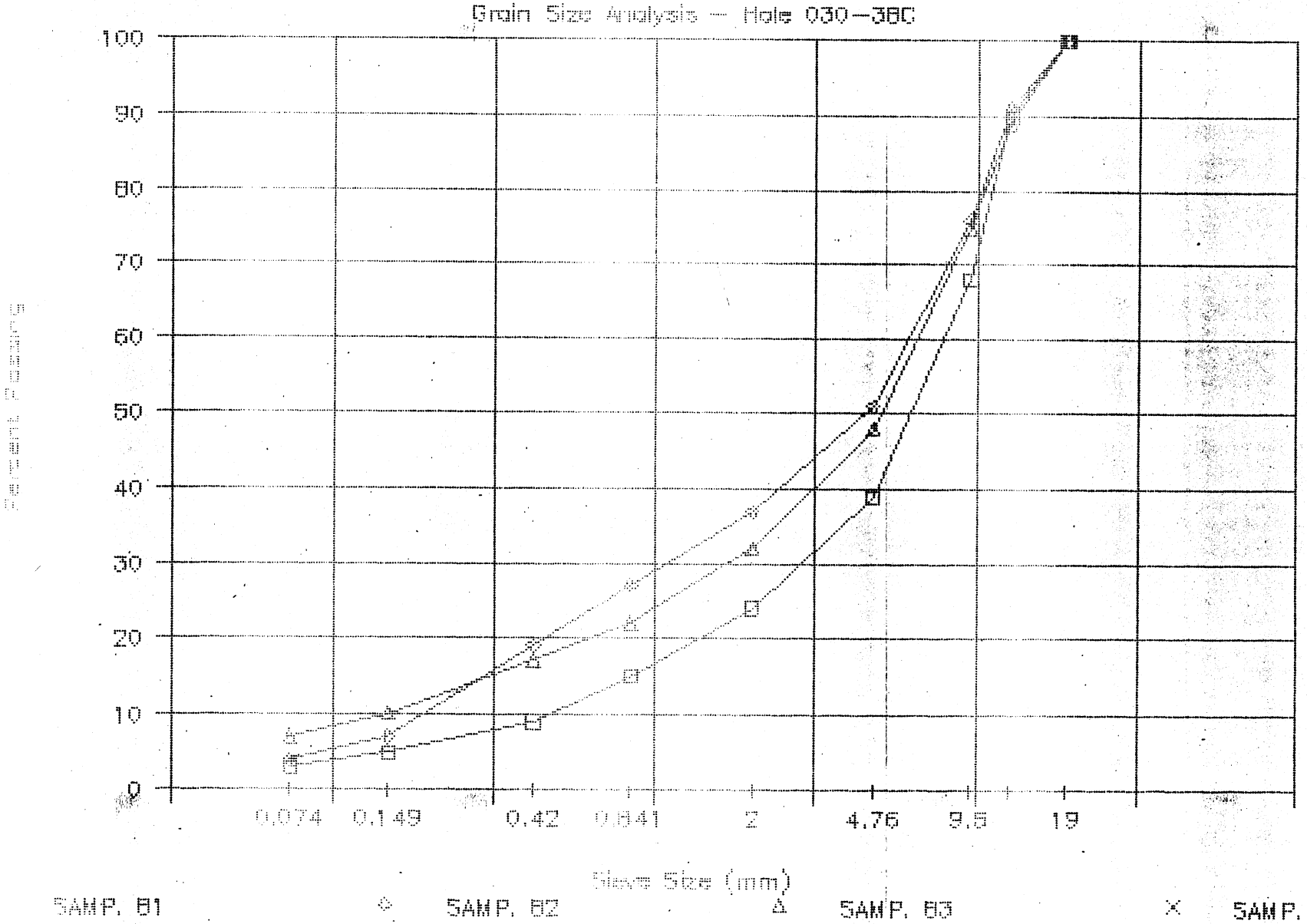
PUBLIC WORKS CANADA — WHITEHORSE, Y.T.



PROJECT NUMBER:	115-G-04	HOLE NUMBER:	030-38C
CLIENT:	PWC CAPITAL - Y.T.		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1749.5 LHS		
DRILL UNIT:	CAT 225 HOE		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	CB	DATE COMPLETED:	88.10.23

FIELD NO: 81		FIELD NO: 82		FIELD NO: 83	
LAB NO: 2931		LAB NO: 2932		LAB NO: 2933	
DEPTH: 1.4-1.8		DEPTH: 2.4-2.8		DEPTH: 4.4-4.8	
TYPE: BULK		TYPE: BULK		TYPE: BULK	
CC = 83%		CC = 85%		CC = 80%	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--
38.1	--	38.1	--	38.1	--
25.4	--	25.4	--	25.4	--
19.0	100	19.0	100	19.0	100
12.7	90	12.7	91	12.7	89
9.5	69	9.5	76	9.5	75
4.76	39	4.76	51	4.76	48
2.38	--	2.38	--	2.38	--
2.00	24	2.00	37	2.00	32
1.19	--	1.19	--	1.19	--
0.841	15	0.841	27	0.841	22
0.595	--	0.595	--	0.595	--
0.42	9	0.42	19	0.42	17
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	5	0.149	7	0.149	10
0.074	3	0.074	4	0.074	7
M.C.(%):	--	M.C.(%):	--	M.C.(%):	--
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	61	% GRAVEL:	49	% GRAVEL:	52
% SAND:	36	% SAND:	47	% SAND:	41
% FINES:	3	% FINES:	4	% FINES:	7
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
WELL-GRADED		WELL-GRADED		WELL-GRADED	
GRAVEL WITH SAND		GRAVEL WITH SAND		GRAVEL WITH SILT	
(GW)		(GW)		(GW-GM)	

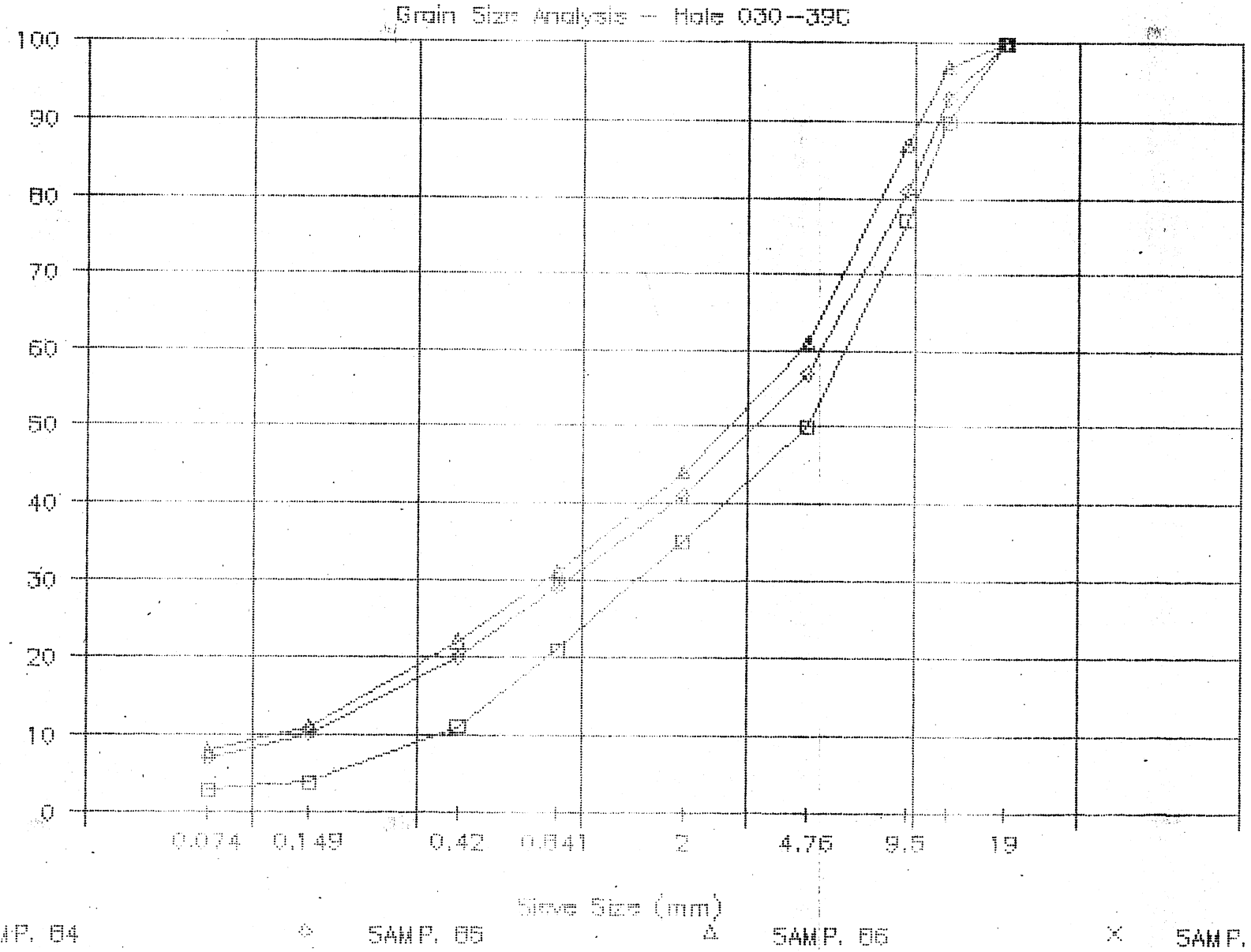
PUBLIC WORKS CANADA — WHITEHORSE, Y.T.



PROJECT NUMBER:	115-G-04	HOLE NUMBER:	030-39C
CLIENT:	PWC CAPITAL - Y.T.		
PROJECT NAME:	ALASKA HIGHWAY PRE-ENGINEERING		
PROJECT LOCATION:	A/H KM 1749.5 LHS		
DRILL UNIT:	CAT 225 HOE		
HOLE LOCATION:	SEE PLAN		
LOGGED BY:	CB	DATE COMPLETED:	88.10.23

FIELD NO: 84		FIELD NO: 85		FIELD NO: 86	
LAB NO: 2934		LAB NO: 2935		LAB NO: 2936	
DEPTH: 1.6-2.0		DEPTH: 3.4-3.8		DEPTH: 4.8-5.2	
TYPE: BULK		TYPE: BULK		TYPE: BULK	
CC = 79%		CC = 70%		CC = 60%	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
101.6	--	101.6	--	101.6	--
76.2	--	76.2	--	76.2	--
50.8	--	50.8	--	50.8	--
38.1	--	38.1	--	38.1	--
25.4	--	25.4	--	25.4	--
19.0	100	19.0	100	19.0	100
12.7	90	12.7	93	12.7	97
9.5	77	9.5	81	9.5	87
4.76	50	4.76	57	4.76	61
2.38	--	2.38	--	2.38	--
2.00	33	2.00	41	2.00	44
1.19	--	1.19	--	1.19	--
0.841	21	0.841	29	0.841	31
0.595	--	0.595	--	0.595	--
0.42	11	0.42	20	0.42	22
0.297	--	0.297	--	0.297	--
0.177	--	0.177	--	0.177	--
0.149	4	0.149	10	0.149	11
0.074	3	0.074	7	0.074	8
M.C.(%):	--	M.C.(%):	--	M.C.(%):	--
LIMITS		LIMITS		LIMITS	
LIQUID:	--	LIQUID:	--	LIQUID:	--
PLASTIC:	--	PLASTIC:	--	PLASTIC:	--
P.I.:	N.P.	P.I.:	N.P.	P.I.:	N.P.
% GRAVEL:	50	% GRAVEL:	43	% GRAVEL:	39
% SAND:	48	% SAND:	50	% SAND:	54
% FINES:	3	% FINES:	7	% FINES:	8
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
POORLY GRADED GRAVEL WITH SAND (GP)		WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)		WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	

PUBLIC WORKS CANADA — WHITEHORSE, Y.T.



Km 1750.0 LHS Alaska Highway #1
Pit Ident. 115 G-04A
(Copper Joe Creek)

February 2002
Book # 631

Test Pit Logs

SUBSURFACE EXPORATION & TESTING REPORT	LEWIS CREEK GRANULAR INVESTIGATION	TEST PIT NO: 631-05
ENGINEERING CAPITAL	PIT 115-G-04A	Project No: 092-202101-361
KOEHRING 6625 HOE	LOCATION:KM 1749.5 A/H LHS SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY SAND /SANDY SILT							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -grey/brown -dry -medium dense -cobbles to 150mm (50-75% gravels)		16		GP			
1.0								1.0
2.0	SILTY SAND WITH GRAVEL (SM) -with organic -dark brown -damp -firm		17		SM			2.0
3.0	POORLY GRADED GRAVEL WITH SAND TO WELL-GRADED SAND WITH SILT & GRAVEL (GP)-(SW-SM) -dark brown -damp -loose -cobbles to 150mm (40-60% gravels)		18		GP			3.0
4.0			19		SW-SM			4.0
	END HOLE @ 4.4m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.4 m
	REVIEWED BY:	COMPLETE: 02/02/11
	Fig. No: 115-G-04A	Page 1 of 1

02/03/08 09:09AM

SUBSURFACE EXPORATION & TESTING REPORT	LEWIS CREEK GRANULAR INVESTIGATION	TEST PIT NO: 631-06
ENGINEERING CAPITAL	PIT 115-G-04A	Project No: 092-202101-361
KOEHRING 6625 HOE	LOCATION:KM 1749.5 A/H LHS SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY SAND /SANDY SILT							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -grey/brown -dry -medium dense -cobbles to 150mm (50-75% gravels)		20		GP			
1.0								1.0
2.0	ORGANIC & SILT (ML) -dark brown -damp -firm		21		ML			2.0
3.0	SILTY SAND (SM) -dark brown -damp -loose -trace organics		22		SM			3.0
4.0	POORLY GRADED GRAVEL WITH SAND (GP) -dark brown -damp to moist -gravel to 50mm (40-70% gravels)		23		GP			4.0
	END HOLE @ 4.4m							
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 4.4 m
REVIEWED BY:	COMPLETE: 02/02/12
Fig. No: 115-G-04A	Page 1 of 1

02/03/11 01:30PM

SUBSURFACE EXPORATION & TESTING REPORT	LEWIS CREEK GRANULAR INVESTIGATION	TEST PIT NO: 631-10
ENGINEERING CAPITAL	PIT 115-G-04A	Project No: 092-202101-361
KOEHRING 6625 HOE	LOCATION:KM 1749.5 A/H LHS SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY SAND/SANDY SILT							0.0
	WELL TO POORLY GRADED GRAVEL WITH SAND (GW)-(GP) -grey/brown -dry -medium dense -cobbles to 200mm (50-75% gravels)							
1.0			36		GW			1.0
2.0			37		GP			2.0
	-dark brown below 2.8m -damp to moist -loose -cobbles to 150mm (40-70% gravels)							
3.0			38		GW			3.0
4.0	ORGANIC & SILT WITH SAND (ML) -dark brown, damp, firm -roots & wood encountered		39		ML			4.0
	SANDY GRAVEL -dark brown, damp,loose							
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 02/02/12
	Fig. No: 115-G-04A	Page ' of '

02/03/11 01:30PM

SUBSURFACE EXPORATION & TESTING REPORT	LEWIS CREEK GRANULAR INVESTIGATION	TEST PIT NO: 631-11
ENGINEERING CAPITAL	PIT 115-G-04A	Project No: 092-202101-361
KOEHRING 6625 HOE	LOCATION:KM 1749.5 A/H LHS SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY SAND/SANDY SILT							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -grey/brown -dry -medium dense -cobbles to 150mm (50-75% gravels) -wood encountered @ 1.0m		40	▲	GP		◆ ■	
1.0								1.0
2.0	-dark brown below 2.2m -damp to moist below 2.2m -gravel to 60mm below 2.2m (40-75% gravel)		41	▲	GP		◆ ■	2.0
3.0	ORGANIC & SILT WITH SAND (ML) -dark brown, damp, firm		42	● ▲	ML		◆ ■	3.0
	SILTY SAND (SM) -dark brown -damp -loose		43	● ▲	SM		◆ ■	
4.0								4.0
	END HOLE @ 4.4m							
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 4.4 m
REVIEWED BY:	COMPLETE: 02/02/12
File No: 115-G-04A	Page 1 of 1

10/02/11 01:30PM

SUBSURFACE EXPORATION & TESTING REPORT	LEWIS CREEK GRANULAR INVESTIGATION	TEST PIT NO: 631-15
ENGINEERING CAPITAL	PIT 115-G-04A	Project No: 092-202101-361
KOEHRING 6625 HOE	LOCATION:KM 1749.5 A/H LHS SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SILTY SAND/SANDY SILT				
	POORLY GRADED GRAVEL WITH SAND (GP) -grey brown -dry -medium dense -cobbles to 150mm (50-70 gravels) -wood encountered @ 1.0m				
1.0	-lost sample # 56		56		
2.0	-dark brown below 1.9m -moist -loose -cobbles to 150mm (40-70% gravels)		57	GP	
3.0			58	GP	
4.0			59	GP	
	END HOLE @ 4.4m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m)

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 4.4 m
REVIEWED BY:	COMPLETE: 02/02/15
Fig. No: 115-G-04A	Page 1 of 1

SUBSURFACE EXPORATION & TESTING REPORT	LEWIS CREEK GRANULAR INVESTIGATION	TEST PIT NO: 631-16
ENGINEERING CAPITAL	PIT 115-G-04A	Project No: 092-202101-361
KOEHRING 6625 HOE	LOCATION:KM 1749.5 A/H LHS SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY SAND/SANDY SILT							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -grey/brown -dry -medium dense -cobbles to 150mm (50-75% gravels) -wood encountered to 1.0m		60		GP			
1.0								1.0
2.0	ORGANIC SILT & SAND (ML) -dark brown,damp,firm		61		ML			2.0
	POORLY GRADED GRAVEL WITH SAND (GP) -dark brown -damp -loose -60mm max size (40-60% gravels)		62		GP			
3.0	SILT (ML) -dark brown -damp -firm		63		ML			3.0
4.0	WELL-GRADED SAND WITH GRAVEL (SW) -dark brown -damp -loose -60mm max size (40-60% gravels)		64		SW			4.0
	END HOLE @ 4.6m							
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 4.6 m
REVIEWED BY:	COMPLETE: 02/02/13
Fig. No: 115-G-04A	Page 1 of 1

SUBSURFACE EXPORATION & TESTING REPORT	LEWIS CREEK GRANULAR INVESTIGATION	TEST PIT NO: 631-20
ENGINEERING CAPITAL	PIT 115-G-04A	Project No: 092-202101-361
KOEHRING 6625 HOE	LOCATION:KM 1749.5 A/H LHS SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ☰ BULK ▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY SAND/SANDY SILT							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -trace of silt in seams 150mm thick -grey/brown -dry -medium dense -cobbles to 150mm (50-75% gravels) -some wood in top 1.0m		77	▲	GP		◆ ■	
1.0								1.0
2.0			78	▲	GP		◆ ■	2.0
	ORGANIC SILTS & SAND -dark brown -damp -firm							
3.0								3.0
	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -dark brown -damp to moist -cobbles to 100mm (30-70% gravels)		79	● ▲	GP-GM		◆ ■	
4.0								4.0
			80	● ▲	GP-GM		◆ ■	
	END HOLE @ 4.6m							
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.6 m
REVIEWED BY:	COMPLETE: 02/02/13
File No: 115-G-04A	Page 1 of 1

02/03/11 01:31PM

SUBSURFACE EXPORATION & TESTING REPORT	LEWIS CREEK GRANULAR INVESTIGATION	TEST PIT NO: 631-21
ENGINEERING CAPITAL	PIT 115-G-04A	Project No: 092-202101-361
KOEHRING 6625 HOE	LOCATION:KM 1749.5 A/H LHS SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY SAND/SANY SILT							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -grey/brown -dry -medium dense -cobbles to 200mm (50-75% gravel)							
1.0			81		GP			1.0
2.0			82		GP			2.0
	ORGANIC SILTS & SAND -dark brown,damp,firm -wood encountered							
3.0	POORLY GRADED GRAVEL WITH SAND (GP) -dark brown -damp -loose -cobbles to 200mm (50-75% gravels)		83		GP			3.0
4.0			84		GP			4.0
	END HOLE @ 4.2m							
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 4.2 m
REVIEWED BY:	COMPLETE: 02/02/13
Fig. No: 115-G-04A	Page 1 of 1

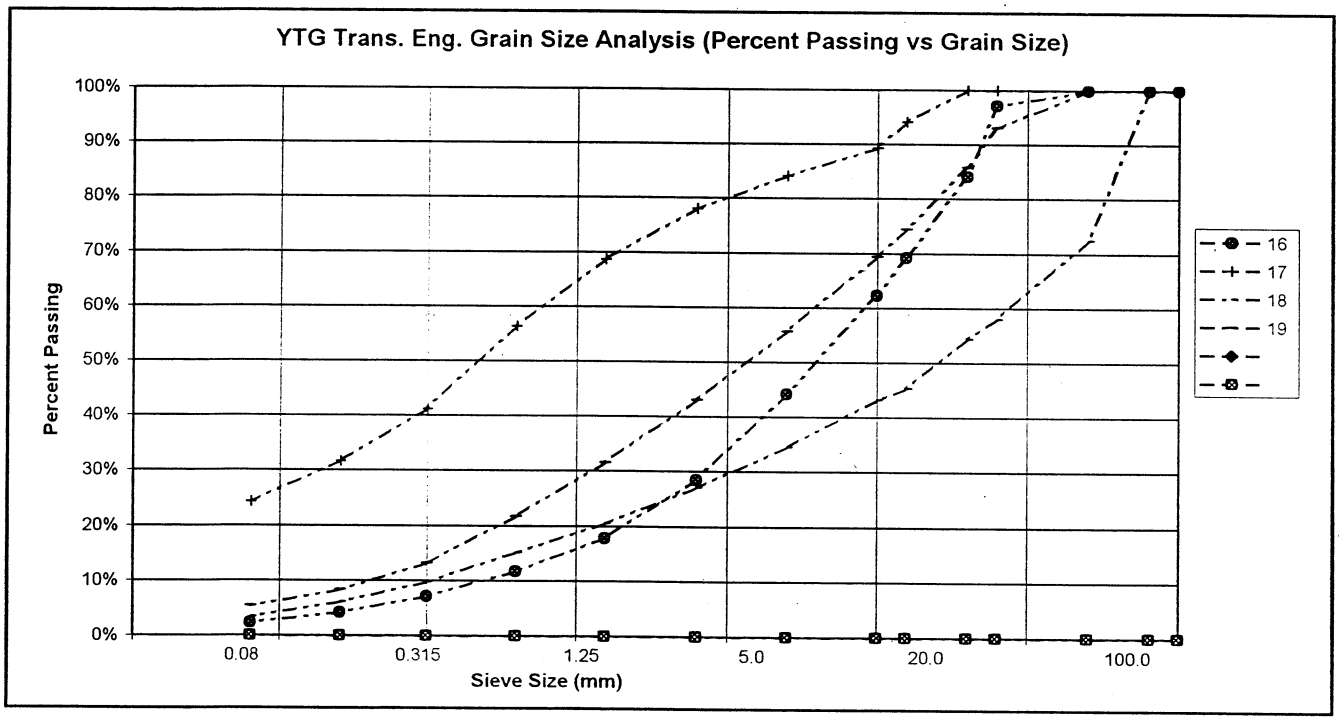
Km 1750.0 LHS Alaska Highway #1
Pit Ident. 115 G-04A
(Copper Joe Creek)

February 2002
Book # 631

Pit Run Sample Results

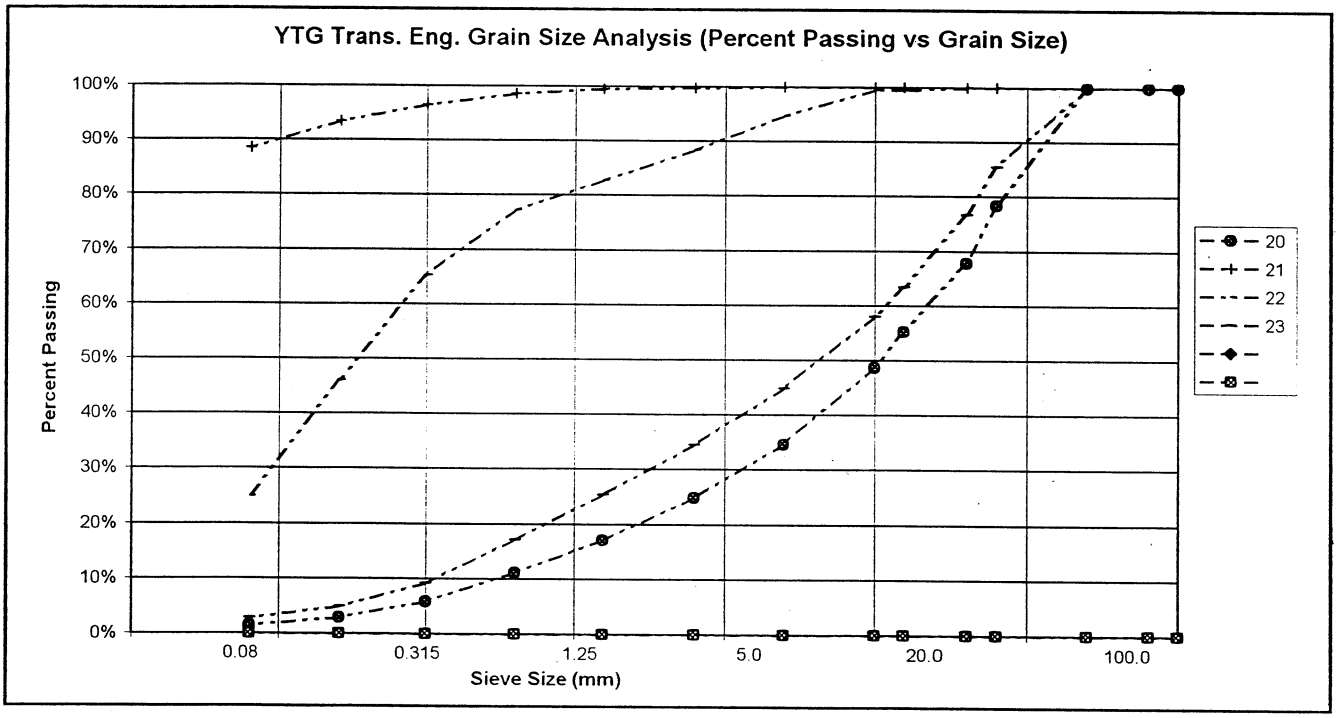
PROJECT NUMBER:	092-202101-0361-1		HOLE No.: 631-05
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	Granular Investigation Lewis Creek		
PROJECT LOCATION:	Km 1747.5 RHS A/H		
DRILL UNIT:	Koehring 6625 BackHoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JR Paine (R.W.)		DATE COMP: 2002/02/02

FIELD NO:	16	17	18	19		
LAB NO:	16	17	18	19		
DEPTH:	1.2-1.5	2.1-2.4	3.0-3.4	4.0-4.4		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	72%	100%		
25.0	97%	100%	58%	93%		
20.0	84%	100%	54%	86%		
12.5	69%	94%	45%	74%		
10.0	62%	89%	43%	69%		
5.0	44%	84%	34%	56%		
2.5	28%	78%	27%	43%		
1.25	18%	69%	21%	32%		
0.630	12%	56%	15%	22%		
0.315	7%	41%	10%	13%		
0.160	4%	32%	6%	8%		
0.080	2%	24%	3%	5%		
M.C.(%):	2%	63%	3%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	56	16	66	44		
% SAND:	42	60	31	50		
% FINES:	2	24	3	5		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY SAND WITH GRAVEL (SM)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)		



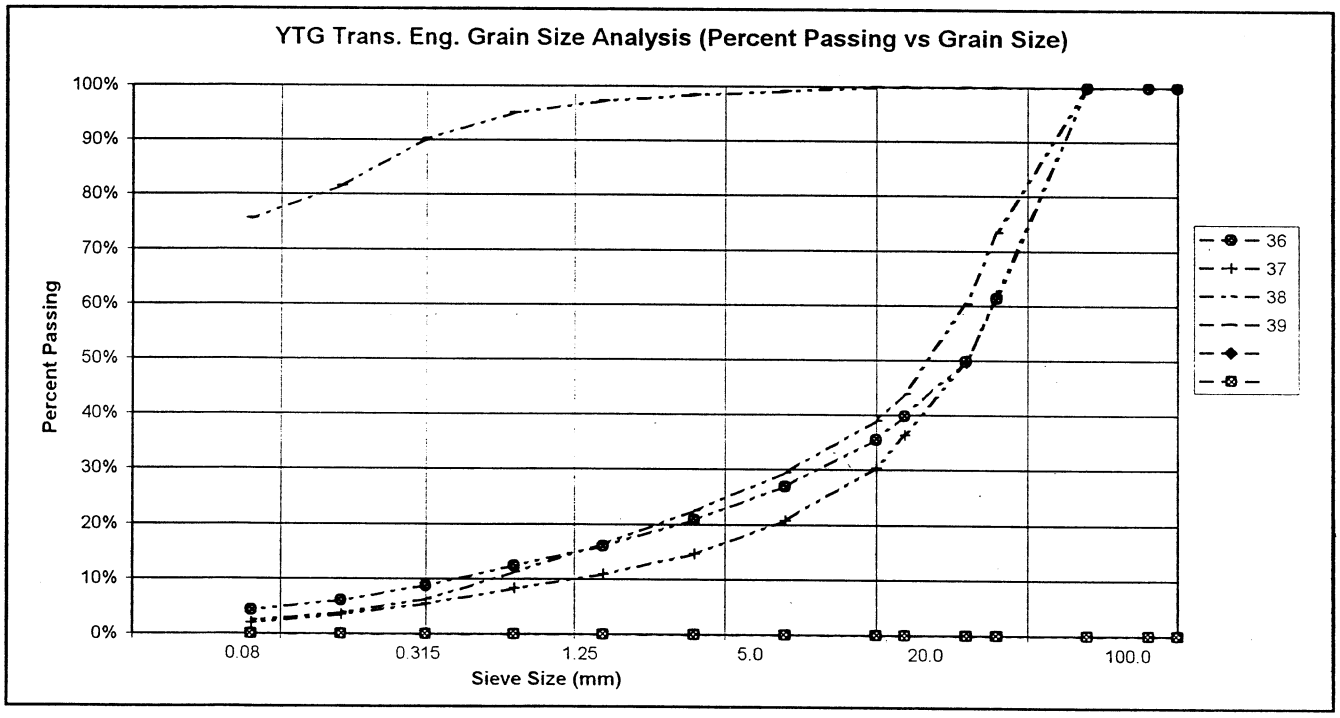
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CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	Granular Investigation Lewis Creek		
PROJECT LOCATION:	Km 1747.5 RHS A/H		
DRILL UNIT:	Koehring 6625 BackHoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JR Paine (R.W.)		DATE COMP: 2002/02/02

FIELD NO:	20	21	22	23		
LAB NO:	20	21	22	23		
DEPTH:	1.2-1.5	2.1-2.5	2.5-3.5	4.0-4.4		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	78%	100%	100%	85%		
20.0	68%	100%	100%	77%		
12.5	55%	100%	100%	63%		
10.0	49%	100%	100%	58%		
5.0	35%	100%	95%	45%		
2.5	25%	100%	88%	34%		
1.25	17%	99%	83%	25%		
0.630	11%	99%	77%	17%		
0.315	6%	97%	65%	9%		
0.160	3%	93%	46%	5%		
0.080	1%	88%	25%	3%		
M.C.(%):	2%	42%	15%	2%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	65	0	5	55		
% SAND:	33	12	70	42		
% FINES:	1	88	25	3		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	SILT (ML)	SILTY SAND (SM)	POORLY GRADED GRAVEL WITH SAND (GP)		



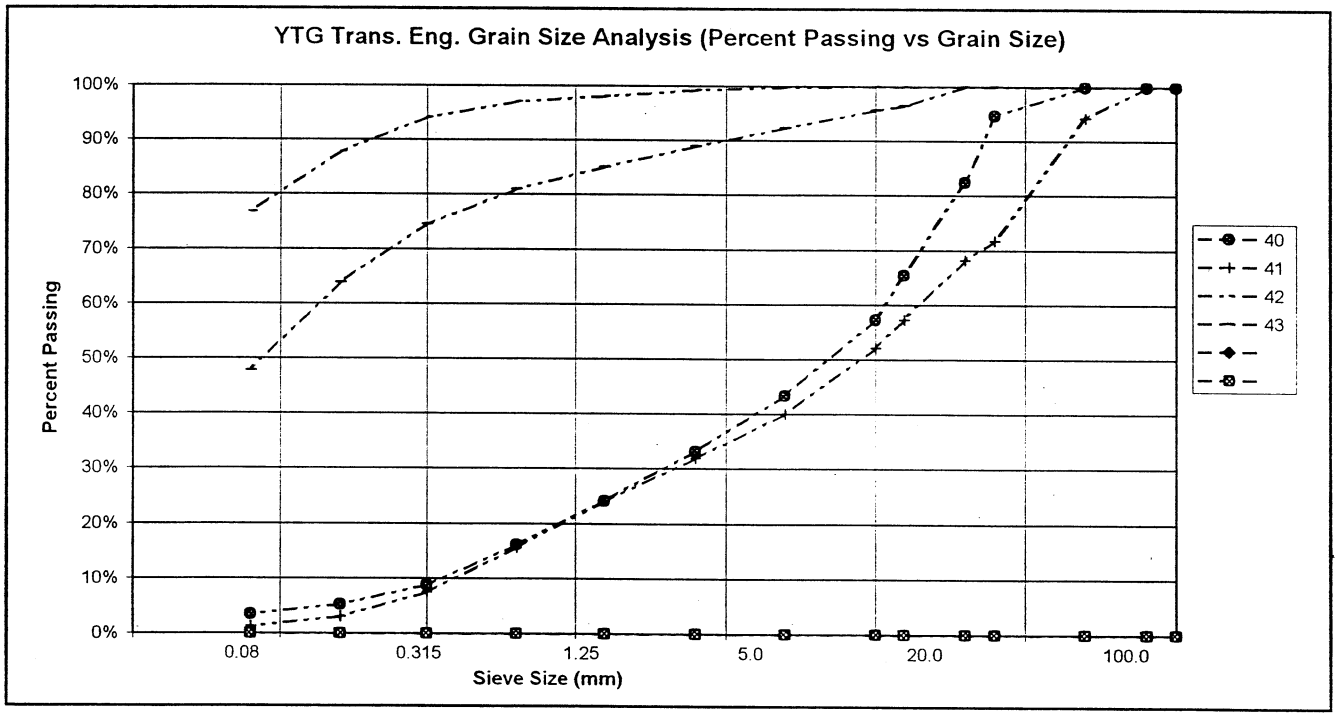
PROJECT NUMBER:	092-202101-0361-1		HOLE No.: 631-10
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	Granular Investigation Lewis Creek		
PROJECT LOCATION:	Km 1747.5 RHS A/H		
DRILL UNIT:	Koehring 6625 BackHoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JR Paine (R.W.)		DATE COMP: 2002/02/02

FIELD NO:	36	37	38	39		
LAB NO:	36	37	38	39		
DEPTH:	1.2-1.5	2.0-2.4	3.0-3.4	4.0-4.2		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	61%	62%	73%	100%		
20.0	50%	50%	60%	100%		
12.5	40%	36%	44%	100%		
10.0	36%	30%	39%	100%		
5.0	27%	21%	29%	99%		
2.5	21%	15%	22%	99%		
1.25	16%	11%	16%	97%		
0.630	12%	8%	11%	95%		
0.315	9%	6%	6%	90%		
0.160	6%	4%	4%	82%		
0.080	4%	2%	2%	76%		
M.C.(%):	3%	2%	2%	58%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	73	79	71	1		
% SAND:	23	19	27	24		
% FINES:	4	2	2	76		
CLASSIFICATION	WELL-GRADED GRAVEL WITH SAND (GW)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED GRAVEL WITH SAND (GW)	SILT WITH SAND (ML)		



PROJECT NUMBER:	092-202101-0361-1		HOLE No.: 631-11
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	Granular Investigation Lewis Creek		
PROJECT LOCATION:	Km 1747.5 RHS A/H		
DRILL UNIT:	Koehring 6625 BackHoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JR Paine (R.W.)		DATE COMP: 2002/02/02

FIELD NO:	40	41	42	43		
LAB NO:	40	41	42	43		
DEPTH:	1.2-1.5	2.3-2.6	3.0-3.3	4.0-4.4		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	94%	100%	100%		
25.0	95%	72%	100%	100%		
20.0	83%	68%	100%	100%		
12.5	65%	57%	100%	96%		
10.0	57%	52%	100%	96%		
5.0	43%	40%	100%	92%		
2.5	33%	32%	99%	89%		
1.25	24%	24%	98%	85%		
0.630	16%	16%	97%	81%		
0.315	9%	8%	94%	75%		
0.160	5%	3%	88%	64%		
0.080	3%	1%	77%	48%		
M.C.(%):	2%	2%	33%	21%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	57	60	0	8		
% SAND:	40	39	23	45		
% FINES:	3	1	77	48		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	SILT WITH SAND (ML)	SILTY SAND (SM)		

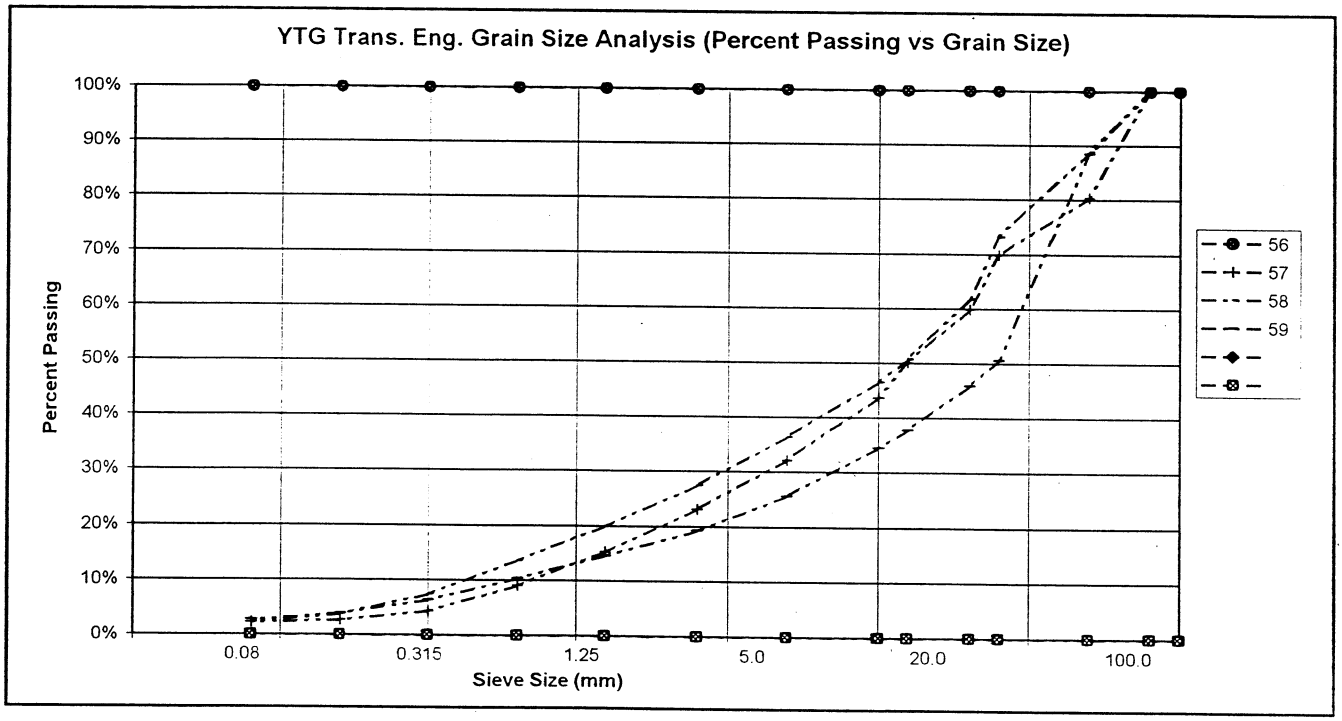


PROJECT NUMBER: 092-202101-0361-1
CLIENT: ENGINEERING CAPITAL
PROJECT NAME: Granular Investigation Lewis Creek
PROJECT LOCATION: Km 1747.5 RHS A/H
DRILL UNIT: Koehring 6625 BackHoe
HOLE LOCATION: See Plan
LOGGED BY: JR Paine (R.W.)

HOLE No.: 631-15

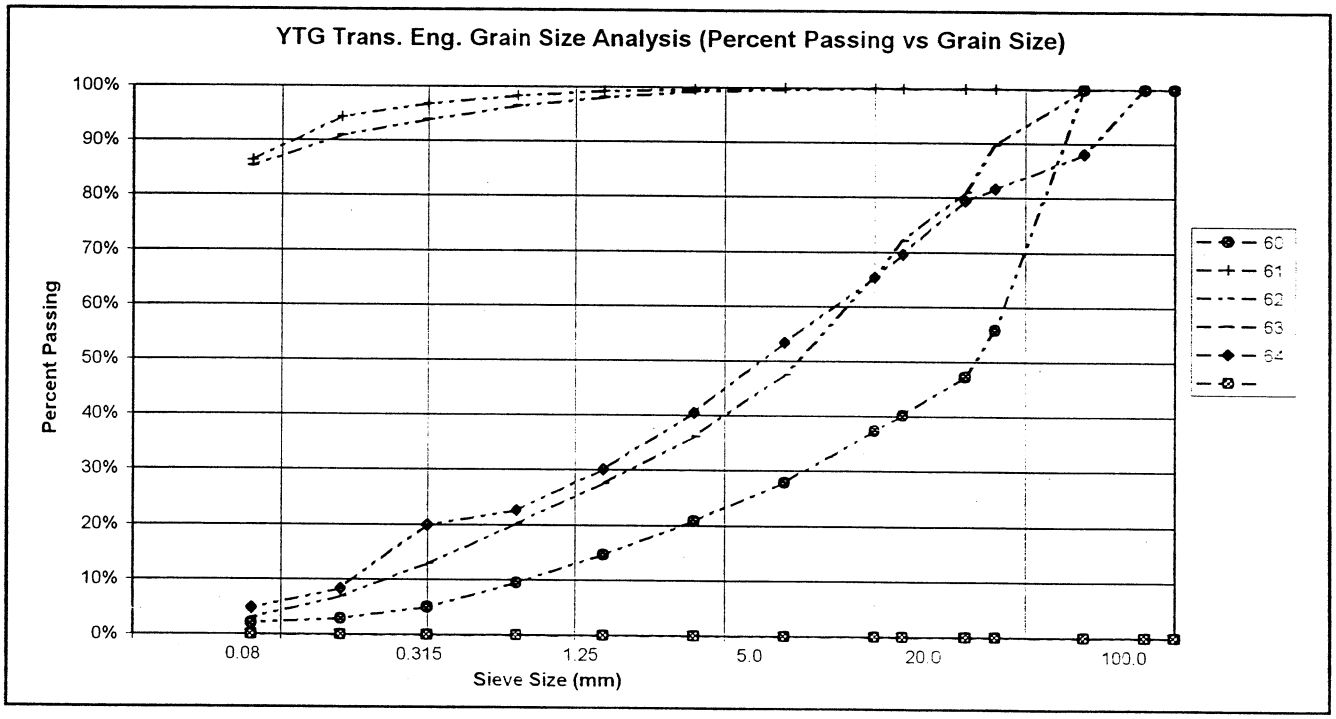
DATE COMP: 2002/02/02

FIELD NO:	56	57	58	59		
LAB NO:	Lost	57	58	59		
DEPTH:	1.2-1.5	2.2-2.5	3.2-3.5	4.1-4.4		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	80%	89%	89%		
25.0	100%	70%	73%	51%		
20.0	100%	60%	62%	46%		
12.5	100%	50%	51%	38%		
10.0	100%	44%	46%	35%		
5.0	100%	32%	36%	26%		
2.5	100%	23%	27%	19%		
1.25	100%	15%	20%	15%		
0.630	100%	9%	14%	10%		
0.315	100%	4%	7%	6%		
0.160	100%	3%	4%	4%		
0.080	100%	2%	2%	3%		
M.C.(%):	2%	2%	4%	1%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	0	68	64	74		
% SAND:	0	30	34	23		
% FINES:	[illegible]	2	2	3		
CLASSIFICATION	[illegible]	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		



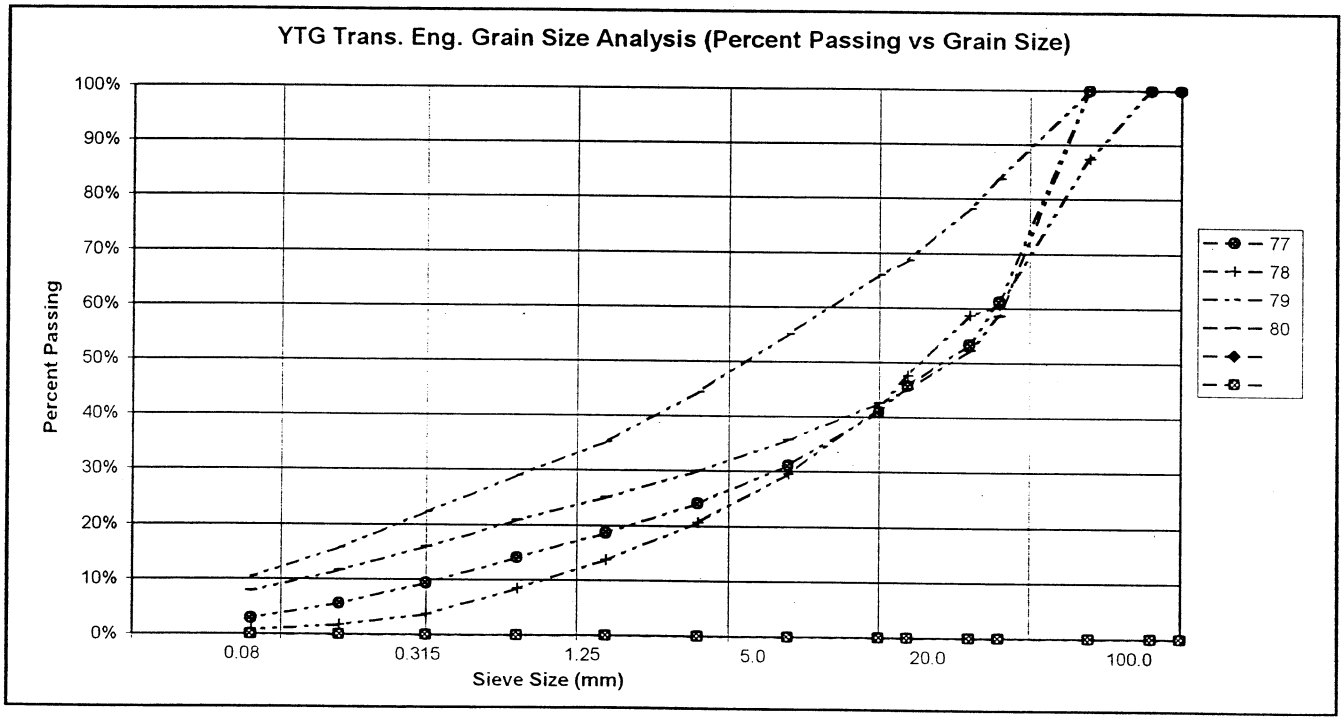
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CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	Granular Investigation Lewis Creek		
PROJECT LOCATION:	Km 1747.5 RHS A/H		
DRILL UNIT:	Koehring 6625 BackHoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JR Paine (R.W.)		DATE COMP: 2002/02/02

FIELD NO:	60	61	62	63	64	
LAB NO:	60	61	62	63	64	
DEPTH:	1.0-1.3	1.9-2.2	2.2-2.5	3.2-3.5	4.2-4.6	
TYPE:	BULK	BULK	BULK	BULK	BULK	#N/A
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	
100.0	100%	100%	100%	100%	100%	
80.0	100%	100%	100%	100%	100%	
50.0	100%	100%	100%	100%	88%	
25.0	56%	100%	90%	100%	82%	
20.0	47%	100%	81%	100%	79%	
12.5	40%	100%	72%	100%	70%	
10.0	37%	100%	65%	100%	65%	
5.0	28%	100%	48%	100%	53%	
2.5	21%	100%	36%	99%	40%	
1.25	15%	99%	28%	98%	30%	
0.630	10%	98%	20%	96%	23%	
0.315	5%	97%	13%	94%	20%	
0.160	3%	94%	7%	91%	8%	
0.080	2%	86%	3%	85%	5%	
M.C.(%):	2%	40%	2%	36%	3%	
LIQUID LIMIT:	0.0	0.0	0.0	0.0	0.0	
PLASTIC LIMIT:	0.0	0.0	0.0	0.0	0.0	
PLASTIC INDEX.:	0.0	0.0	0.0	0.0	0.0	
% GRAVEL:	72	0	52	0	47	
% SAND:	26	14	45	14	49	
% FINES:	2	86	3	85	5	
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	SILT (ML)	POORLY GRADED GRAVEL WITH SAND (GP)	SILT (ML)	WELL-GRADED SAND WITH GRAVEL (SW)	



PROJECT NUMBER:	092-202101-0361-1		HOLE No.: 631-20
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	Granular Investigation Lewis Creek		
PROJECT LOCATION:	Km 1747.5 RHS A/H		
DRILL UNIT:	Koehring 6625 BackHoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JR Paine (R.W.)		DATE COMP: 2002/02/02

FIELD NO:	77	78	79	80		
LAB NO:	77	78	79	80		
DEPTH:	1.1-1.4	2.1-2.4	3.2-3.6	4.2-4.6		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	87%	100%	100%		
25.0	61%	61%	84%	59%		
20.0	53%	59%	78%	52%		
12.5	46%	48%	69%	45%		
10.0	41%	42%	66%	43%		
5.0	31%	30%	55%	36%		
2.5	24%	21%	44%	30%		
1.25	19%	14%	35%	25%		
0.630	14%	8%	29%	21%		
0.315	9%	4%	22%	16%		
0.160	6%	2%	16%	12%		
0.080	3%	1%	10%	8%		
M.C.(%):	2%	2%	6%	5%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	69	70	45	64		
% SAND:	28	29	45	28		
% FINES:	3	1	10	8		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		

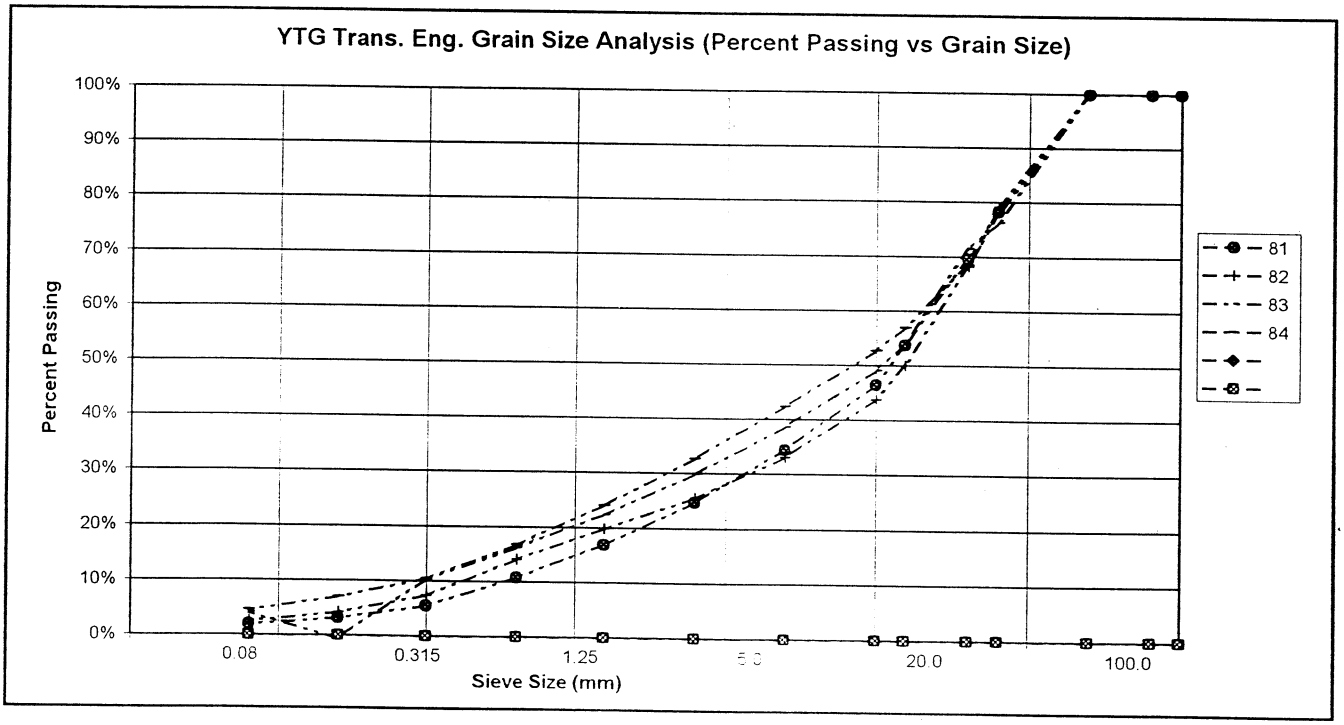


PROJECT NUMBER:	092-202101-0361-1
CLIENT:	ENGINEERING CAPITAL
PROJECT NAME:	Granular Investigation Lewis Creek
PROJECT LOCATION:	Km 1747.5 RHS A/H
DRILL UNIT:	Koehring 6625 BackHoe
HOLE LOCATION:	See Plan
LOGGED BY:	JR Paine (R.W.)

HOLE No.: 631-21

DATE COMP: 2002/02/02

FIELD NO:	81	82	83	84		
LAB NO:	81	82	83	84		
DEPTH:	1.0-1.3	1.8-2.1	3.3-3.6	4.0-4.2		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	78%	79%	76%	78%		
20.0	70%	68%	72%	68%		
12.5	54%	50%	54%	57%		
10.0	47%	44%	49%	53%		
5.0	34%	33%	39%	42%		
2.5	25%	26%	30%	33%		
1.25	17%	20%	22%	24%		
0.630	11%	14%	16%	17%		
0.315	5%	7%	10%	10%		
0.160	3%	4%	-1%	7%		
0.080	2%	3%	4%	5%		
M.C.(%):	2%	2%	3%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	66	67	61	58		
% SAND:	32	30	34	38		
% FINES:	2	3	4	5		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP	POORLY GRADED GRAVEL WITH SAND (GP)		



GRANULAR SOURCE TESTING
km 1753.0 LHS
(Copper Joe Creek)
ALASKA HIGHWAY

HISTORY OF AGGREGATE PRODUCTION

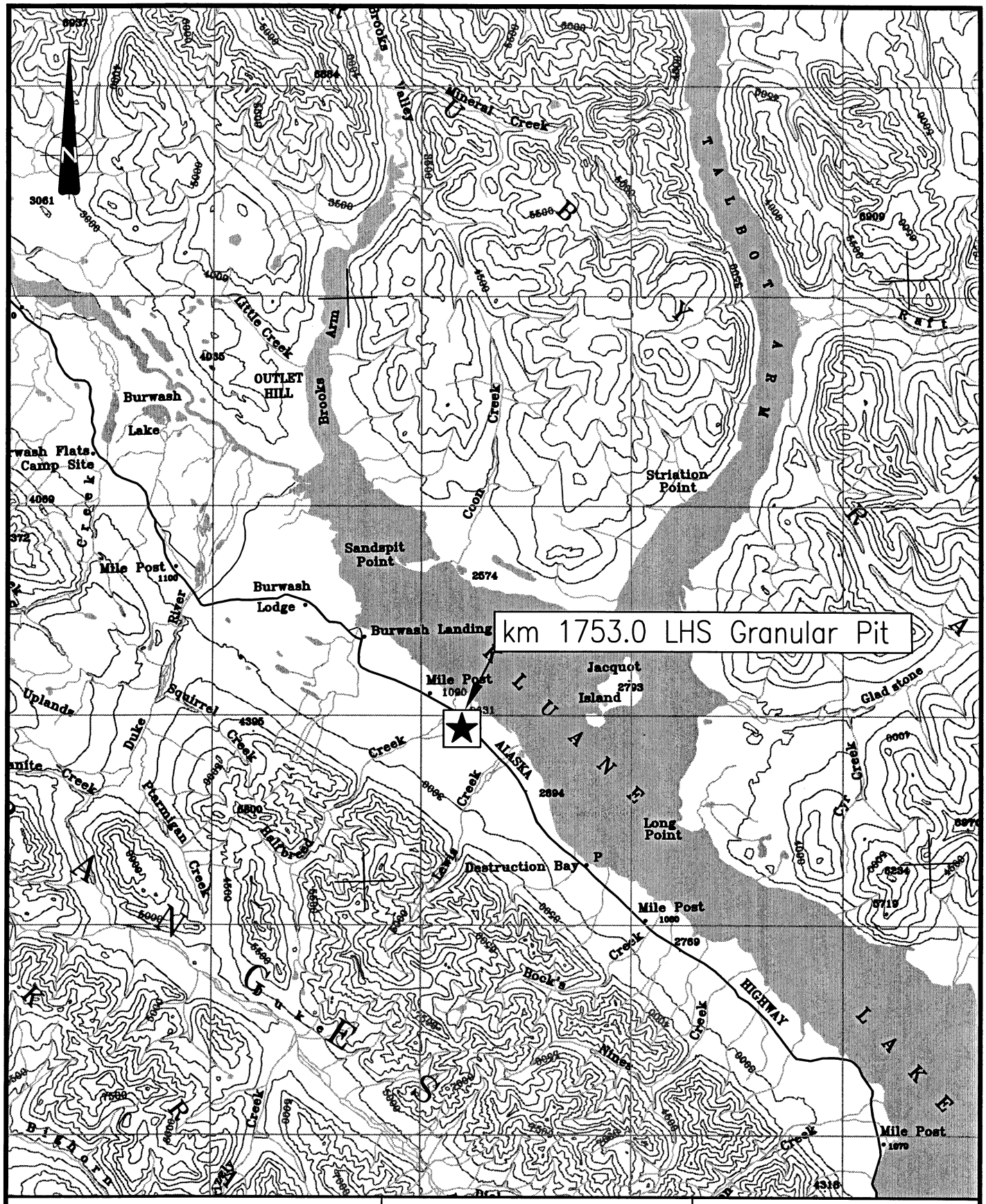
Alaska Highway Km 1753.0 LHS
Pit ID 115 G-20 (Copper Joe Creek)

Average Crusher Run Characteristics of Material Produced

File Number --- 4100-60-55 Contractor --- Summit Aggregates Inc.
Stockpile ID --- 2003-21 Commenced --- 03-11-07 Completed --- 03-11-10
Type of aggregate --- Granular "A" Base Course
Amount Produced --- 8,916 m^3 No. of tests --- 20

Sieve Size mm	20.0	12.5	10.0	5.00	2.50	1.25	0.315	0.080
Percent Passing	100	89.6	--	59.6	--	32.9	15.0	5.6

Moisture Content - 3.8 % Standard Proctor
Fracture - 61.6 % 2220 Kg/m^3 @ 8.2 % moisture

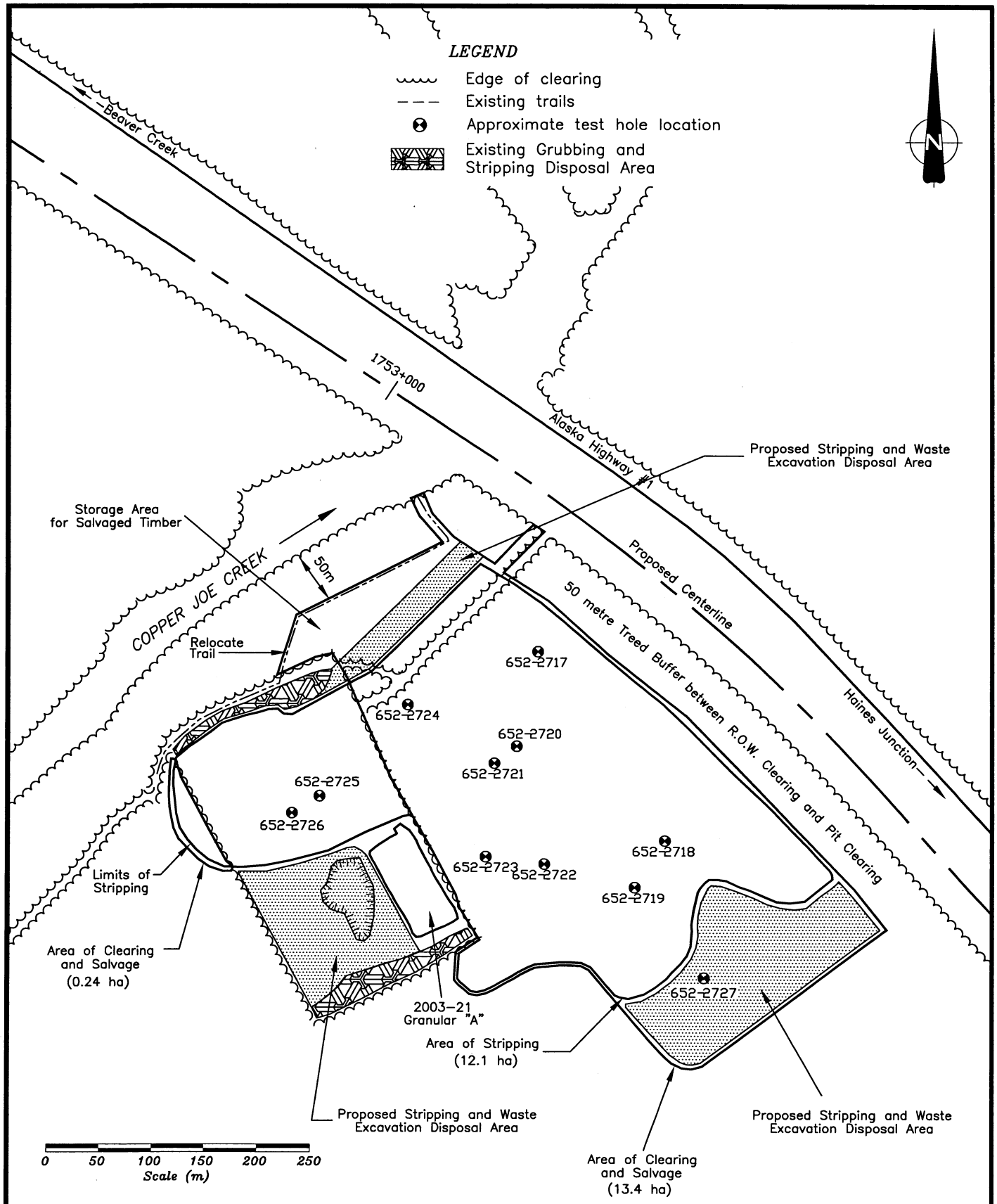


Yukon
Highways and Public Works

Transportation Engineering Branch

KEY PLAN
GRANULAR PIT
RESERVE
km 1753.0 L.H.S.
(Copper Joe Creek)
ALASKA HWY. YUKON

pit file:	115-G-20
quad:	115G/07
drawn:	S. Fraser
date:	2003-09-19
scale:	1: 250,000
drwg:	115g-20K

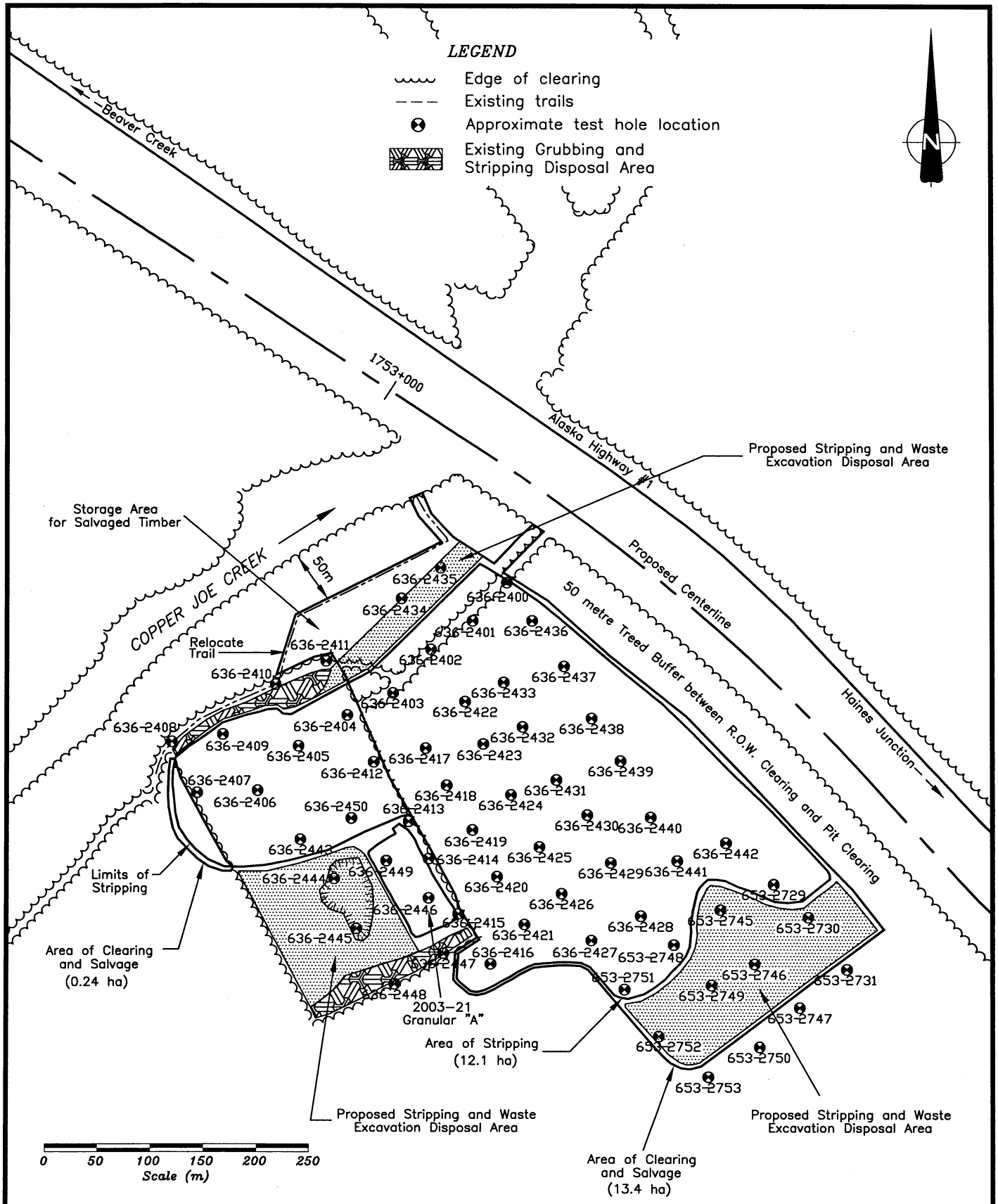


Yukon
Highways and Public Works

Transportation Engineering Branch

SITE PLAN
GRANULAR PIT
km 1753.0 L.H.S.
(Copper Joe Creek)
ALASKA HWY. YUKON

pit file:	115 G-20
revision:	2004-Proposed
drawn:	JJM
date:	2004-02-23
scale:	1: 5000
drwg:	115g-20S



Yukon
Highways and Public Works

Transportation Engineering Branch

SITE PLAN
GRANULAR PIT
km 1753.0 L.H.S.
(Copper Joe Creek)
ALASKA HWY. YUKON

pit file:	115 G-20
revision:	2004-Proposed
drawn:	JJM
date:	2004-02-23
scale:	1: 5000
drwg:	115g-20S

Km 1753.0 LHS Alaska Highway #1
Pit Ident. 115 G-20
(Copper Joe Creek)

September 2003
Book # 652

Auger Hole Logs

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2717
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0362
D-4 CAT - 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANIC				
	SANDY SILT (ML) -with organics -brown -damp -smooth easy drilling	AUGER	185	ML	
1.0					
	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM) -grey -damp -smooth & little grinding -Note: Believed we hooked a rock with 3rd auger, Had to reverse auger coming up until 3m mark. Grinding below 3.0m Lot of silt augered up -heavier grinding @ 3.5m -easy drilling below 4.0m	AUGER	186	SW-SM	
2.0					
3.0					
4.0					
5.0	-easy - some grinding below 4.8m				
6.0	-easy drilling - light grinding below 5.6m				
7.0	-rougher - tighter drilling 7.0-7.5m				
	END HOLE @ 7.5m				
8.0					
9.0					
10.0					

▲ PERCENT FINES ▲ (20 40 60 80)

PLASTIC M.C. LIQUID (20 40 60 80)

◆ PERCENT SAND ◆ (20 40 60 80)

■ PERCENT GRAVEL ■ (20 40 60 80)

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0

Government of Yukon Transportation Engineering	LOGGED BY: GC	COMPLETION DEPTH: 7.5 m
	REVIEWED BY:	COMPLETE: 03/10/01
	Fig. No:	Page 1 of 1

04/02/24 11:50AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2718
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
D-4 CAT - 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0								0.0
	SANDY GRAVEL -grinding starts @ 0.4m - 7.5m -consistent grinding - average drilling							
1.0								1.0
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
	END HOLE @ 7.5m							
8.0								8.0
9.0								9.0
10.0								10.0

Government of Yukon Transportation Engineering	LOGGED BY: GC	COMPLETION DEPTH: 7.5 m
	REVIEWED BY:	COMPLETE: 03/10/01
	Fig. No:	Page 1 of 1

04/02/24 12:03PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2719
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
D-4 CAT – 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC & SILT							0.0
	SANDY GRAVEL							
	-brown							
	-damp							
1.0	-grinding starts @ 0.1m							1.0
	-easy drilling							
2.0								2.0
	-small gravel augered up							
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
	END HOLE @ 7.5m							
8.0								8.0
9.0								9.0
10.0								10.0

Government of Yukon
Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 7.5 m
REVIEWED BY:	COMPLETE: 03/10/01
Fig. No:	Page 1 of 1

04/02/24 11:51AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2720
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
D-4 CAT - 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ☰ BULK ▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SANDY GRAVEL -grey -damp -visible gravel on surface -very little organics -grinding from surface -easy drilling							0.0
1.0								1.0
2.0	-small gravel augered up							2.0
3.0	-heavier grinding @ 3.0 to 4.0m							3.0
4.0								4.0
5.0	-still grinding @ 4.8m -easy drilling below 5.0m							5.0
6.0								6.0
7.0								7.0
7.5	END HOLE @ 7.5m -no silt coming up with augers -maximum 50mm material augered up							
8.0								8.0
9.0								9.0
10.0								10.0

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Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 7.5 m
REVIEWED BY:	COMPLETE: 03/10/02
Fig. No:	Page 1 of 1

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2721
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
D-4 CAT - 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	-grinding 0-0.6m							0.0
1.0	SILT -brown -damp to moist -smooth drilling							1.0
2.0	SANDY GRAVEL -grinding -rougher @ 1.5m -grinding but easier drilling below 2.0							2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0								6.0
7.0								7.0
	END HOLE @ 7.5m							
8.0								8.0
9.0								9.0
10.0								10.0

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Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 7.5 m
REVIEWED BY:	COMPLETE: 03/10/02
Fig. No:	Page 1 of 1

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2722
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
D-4 CAT - 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ☰ BULK ▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANICS							0.0
	SAND -smooth 0-1.3m							
1.0								1.0
	SANDY GRAVEL -grinding but easy drilling							
2.0								2.0
3.0	-smooth - quiet grinding below 3.0m -small gravel augerer up below 3.0m							3.0
4.0	-possible coarser gravel below 4.0m -rough drilling 4.0-6.0m							4.0
5.0								5.0
	-dry to damp below 5.6m							
6.0	-rough - tight drilling 6.0-7.5m							6.0
7.0								7.0
	END HOLE @ 7.5m							
8.0								8.0
9.0								9.0
10.0								10.0

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Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 7.5 m
REVIEWED BY:	COMPLETE: 03/10/02
Fig. No:	Page 1 of 1

04/02/24 11:57AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2723
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
D-4 CAT - 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC & SILT SAND							0.0
1.0	SILT LAYER GRAVELLY SAND -grinding light -easy drilling							1.0
2.0								2.0
3.0	SANDY GRAVEL -coarser grinding 3.0m-4.5m							3.0
4.0	-rough 4.0-4.5m							4.0
5.0	-rough slow drilling 4.5-6.0m							5.0
6.0	-coarse below 6.0m -rough & tight below 6.0m							6.0
7.0	END HOLE @ 7.5m							7.0
8.0								8.0
9.0								9.0
10.0								10.0

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Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 7.5 m
REVIEWED BY:	COMPLETE: 03/10/02
Fig. No:	Page 1 of 1

04/02/24 12:07PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2724
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
D-4 CAT - 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	-smooth drilling 0-0.5m							0.0
	SANDY GRAVEL -grinding 0.5 - 6.0m							
1.0								1.0
2.0								2.0
3.0								3.0
4.0								4.0
5.0								5.0
6.0	-rough drilling 6.0-7.5m							6.0
7.0								7.0
	END HOLE @ 7.5m							
8.0								8.0
9.0								9.0
10.0								10.0

Government of Yukon
Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 7.5 m
REVIEWED BY:	COMPLETE: 03/10/02
Fig. No:	Page 1 of 1

04/02/24 11:59AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2725
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
D-4 CAT - 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ☰ BULK ▯ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANICS							0.0
	GRAVELLY SAND							
	SAND							
1.0	SANDY GRAVEL -moist -silty -light grinding							1.0
2.0	-easy drilling							2.0
3.0								3.0
4.0	-silty below 4.0m							4.0
5.0								5.0
	-heavy rough grinding drilling							
6.0	END HOLE @ 6.0m -refusal - tight							6.0
7.0								7.0
8.0								8.0
9.0								9.0
10.0								10.0

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Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 6.0 m
REVIEWED BY:	COMPLETE: 03/10/02
Fig. No:	Page 1 of 1

04/02/24 12:00PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2726
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
D-4 CAT - 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	SANDY GRAVEL -light grinding							
1.0								1.0
2.0								2.0
	-moist silty sand brought up with auger							
3.0								3.0
4.0	-silty below 4.0 -smooth below 4.0m							4.0
5.0								5.0
	GRAVEL -rough drilling							
6.0								6.0
7.0	END HOLE @ 6.8m -refusal							7.0
8.0								8.0
9.0								9.0
10.0								10.0

Government of Yukon Transportation Engineering	LOGGED BY: GC	COMPLETION DEPTH: 6.8 m
	REVIEWED BY:	COMPLETE: 03/10/02
	Fig. No:	Page 1 of 1

04/02/24 12:03PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST HOLE NO: 652-2727
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
D-4 CAT - 6" AUGER	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANICS							0.0
	SAND							
1.0								1.0
	SAND WITH GRAVEL -minor grinding -tight 2.0-3.0m							
2.0								2.0
3.0								3.0
	SAND -saturated							
4.0	SILT -wet							4.0
5.0	END HOLE @ 5.0m							5.0
6.0								6.0
7.0								7.0
8.0								8.0
9.0								9.0
10.0								10.0

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LOGGED BY: GC	COMPLETION DEPTH: 5.0 m
REVIEWED BY:	COMPLETE: 03/10/02
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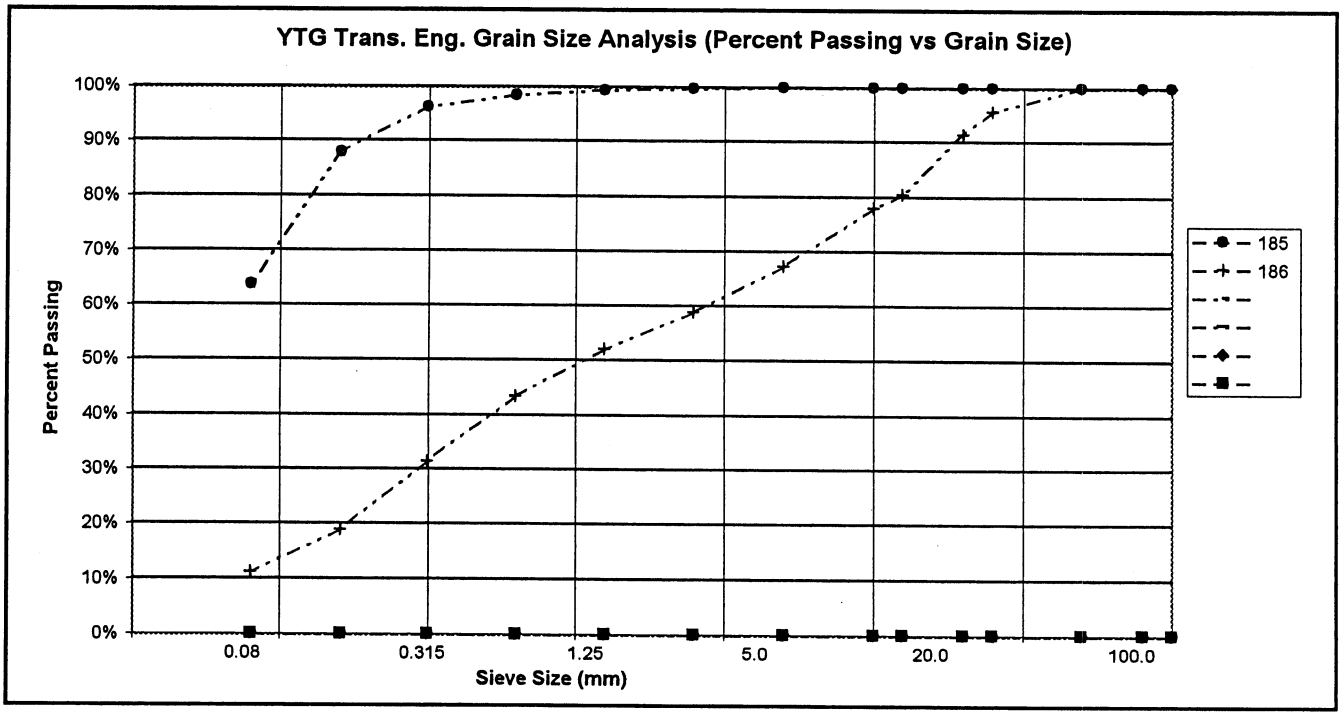
Km 1753.0 LHS Alaska Highway #1
Pit Ident. 115 G-20
(Copper Joe Creek)

September 2003
Book # 652

Auger Sample Results

PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 652-2717
CLIENT:	Shakwak		
PROJECT NAME:	Copper Joe Granular Investigation		
PROJECT LOCATION:	Km 1753 Alaska Highway		
DRILL UNIT:	D-4 Cat		
HOLE LOCATION:	See Plan / GPS		
LOGGED BY:	G.C		DATE COMP: 03/12/17

FIELD NO:	185	186				
LAB NO:	345	346				
DEPTH:	0.4-0.8	2.0-3.0				
TYPE:	AUGER	AUGER	AUGER	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING				
100.0	100%	100%				
80.0	100%	100%				
50.0	100%	100%				
25.0	100%	96%				
20.0	100%	91%				
12.5	100%	80%				
10.0	100%	78%				
5.0	100%	67%				
2.5	100%	59%				
1.25	99%	52%				
0.630	99%	43%				
0.315	96%	31%				
0.160	88%	19%				
0.080	64%	11%				
M.C.(%):	20%	3%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	0	33				
% SAND:	36	56				
% FINES:	64	11				
CLASSIFICATION	SANDY SILT (ML)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)				



Km 1753.0 LHS Alaska Highway #1
Pit Ident. 115 G-20
(Copper Joe Creek)

September 2002
Book # 636

Test Pit Logs

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2400
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICALS SILT & ORGANICS -brown -dense							0.0
1.0	POORLY GRADED GRAVEL WITH SAND (GP) -grey - brown -damp -medium dense -estimate 0-5% +75mm material -maximum 150 mm diameter		1		GP			1.0
2.0			2		GP			2.0
3.0			3		GP			3.0
4.0			4		GP			4.0
5.0	END HOLE @ 4.5m							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 02/09/
	Fig. No:	Page 1 of 1

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2401
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS & ORGANICS -brown -dry, dense							0.0
1.0	POORLY GRADED GRAVEL WITH SAND (GP) -grey / brown -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		5	▲	GP		◆ ■	1.0
2.0	POORLY GRADED SAND WITH GRAVEL (SP) -grey / brown -damp, loose		6	▲	SP		◆ ◆	2.0
3.0	POORLY GRADED GRAVEL WITH SAND (GP) -grey / brown -damp, medium dense		7	▲	GP		◆ ■	3.0
4.0	SILT WITH SAND (ML) -brown -damp, fine grained		8	● ▲	ML		◆	4.0
5.0	END HOLE @ 4.5m							5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 02/09/
Fig. No:	Page 1 of 1

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2402
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS -brown -dry, dense							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -grey / brown -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		9		GP			
1.0								1.0
	-organics noted between 1.8-2.2m trees & roots							
2.0	-increase cobbles 2.2 to 3.0m -estimate 5-15% +75mm material -maximum 150mm diameter		10		GP			2.0
3.0								3.0
	-moist to wet below 3.5m		11		GP			
4.0								4.0
	SILT (ML) -brown -damp, soft to firm -oxidized layers		12		ML			
5.0								5.0
	END HOLE @ 4.8m							
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.8 m
REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2403
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS & ORGANICS -brown -dry, dense							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -grey / brown -damp to moist -estimate 0-5% +75mm material -maximum 100mm diameter -loose		13		GP			
1.0								1.0
			14		GP			
2.0								2.0
			15		GP			
3.0								3.0
			16		GP			
4.0								4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

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	REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2404
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ☰ BULK ▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS							0.0
	POORLY TO WELL TO POORLY GRADED GRAVEL WITH SAND (GP)-(GW)-(GP)							
	-grey / brown							
	-damp to moist							
	-medium dense							
1.0	-estimate 0-5% +75mm material							1.0
	-maximum 150mm diameter							
	POORLY GRADED GRAVEL WITH SAND		17		GP			
2.0			18		GP			2.0
3.0			19		GW			3.0
4.0			20		GP			4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

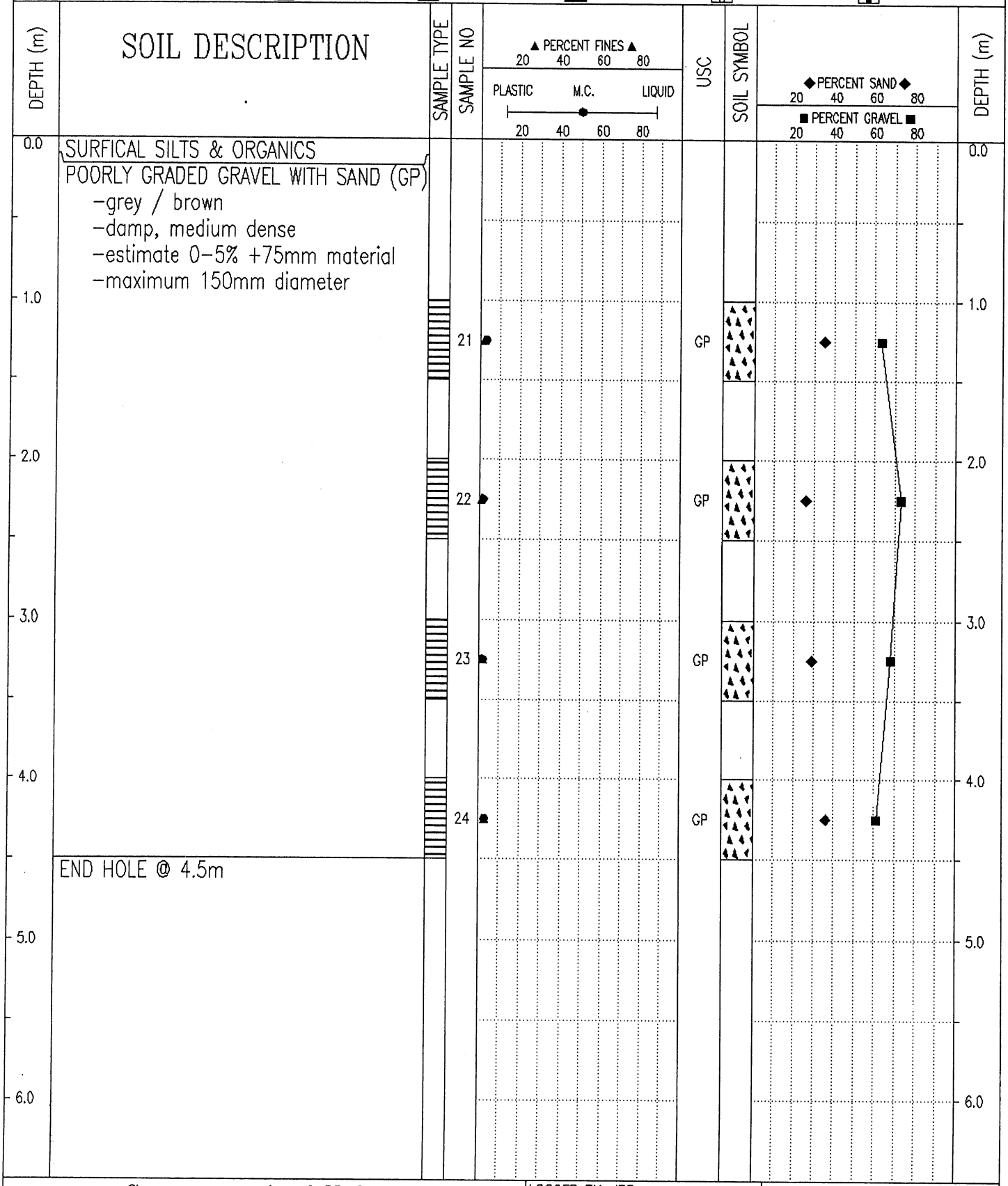
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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2405
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE



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	REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2406
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS & ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -grey / brown -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		25		GP			
1.0								1.0
2.0			26		GP			2.0
3.0	WELL-GRADED SAND WITH GRAVEL (SW) -grey / brown -moist, loose		27		SW			3.0
4.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -grey / brown -moist -medium dense		28		GP-GM			4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2407
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS & ORGANICS							0.0
	WELL TO POORLY GRADED GRAVEL WITH SAND (GW)-(GP) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter							
1.0			29		GW			1.0
2.0	-moist below 2.0m		30		GP			2.0
3.0			31		GP			3.0
	-tree encountered @ 3.8m -estimate 0-10% +75mm material -maximum 200mm diameter							
4.0			32		GP			4.0
	END HOLE @ 4.8m							
5.0								5.0
6.0								6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2408
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILTY GRAVELLY SAND TO GRAVELLY SILTY SAND -trace organics -brown -damp, loose							0.0
1.0								1.0
	POORLY GRADED GRAVEL WITH SAND (GP) -grey / brown -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		33		GP			
2.0								2.0
			34		GP			
3.0	SILTY SAND WITH GRAVEL (SM) -brown -damp, loose							3.0
4.0			35		SM			4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2409
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -grey / brown -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		36		GP			
1.0								1.0
	SILT, SOME SAND -organics -damp, firm							
	POORLY GRADED GRAVEL WITH SAND (GP) -grey / brown -damp to moist -medium dense		37		GP			
2.0								2.0
3.0	-estimate 0-5% +75mm material -maximum 150mm diameter		38		GP			3.0
4.0	SILT WITH SAND (ML) -brown -damp to moist, firm -organic silts		39		ML			4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

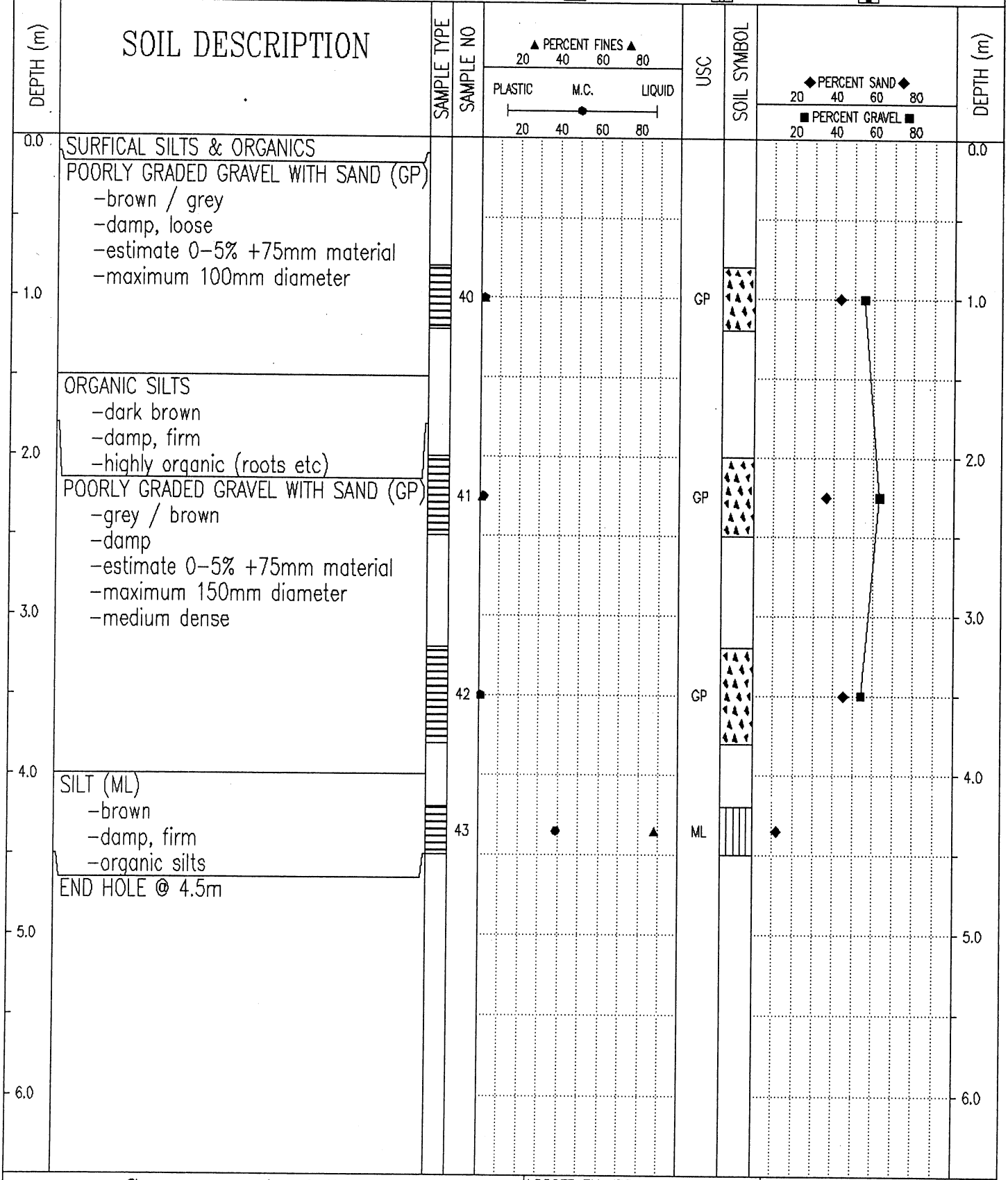
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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2410
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▥ CORE



Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2411
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL SILTS & ORGANICS				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -dry to damp -estimate 0-5% +75mm material -maximum 100mm diameter -loose		44	GP	
1.0	ORGANIC SILTS -brown -damp, firm				
2.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp, medium dense -estimate 0-5% +75mm material -maximum 100mm diameter		45	GP	
3.0					
4.0	SILT (ML) -brown -damp, firm -dark organic seams		46	ML	
	END HOLE @ 4.2m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.2 m
REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2412
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS & ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) –brown / grey –damp, loose		47		GP			
1.0	SILTY SAND (SM) –brown –damp, loose –fine grained		48		SM			1.0
2.0	POORLY GRADED SAND WITH GRAVEL (SP) –brown –damp, loose		49		SP			2.0
3.0	POORLY GRADED GRAVEL WITH SAND (GP) –brown –damp, medium dense		50		GP			3.0
4.0								4.0
5.0	END HOLE @ 4.8m							5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.8 m
	REVIEWED BY:	COMPLETE: 02/09/
	Fig. No:	Page 1 of 1

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2413
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL ORGANICS & SILTS				
	SANDY GRAVEL –brown –damp, loose				
1.0	SANDY SILT –brown –damp, firm –highly organic (roots etc)				
	SILTY SAND (SM) –brown –damp, loose		51	SM	
2.0	SANDY SILT –brown –damp, loose –trace gravel				
	SILTY SAND (SM) –brown –damp, loose –organic silts noted		52	SM	
3.0					
4.0	POORLY GRADED GRAVEL WITH SAND (GP) –brown –moist, loose		53	GP	
	END HOLE @ 4.5m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID

20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2414
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS							0.0
	GRAVELLY SAND –brown –damp, loose							
1.0	SILT –brown –damp, firm –highly organic		54		GP			1.0
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –damp, medium dense							
2.0	SILTY SAND (SM) –brown –damp, loose		55		SM			2.0
3.0	POORLY GRADED GRAVEL WITH SAND (GP) –brown / grey –damp, medium dense –estimate 0–5% +75mm material –maximum 150mm diameter –estimate 0–10% +75mm material –maximum 300mm diameter		56		GP			3.0
4.0			57		GP			4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2415
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL ORGANICS & SILT							0.0
	GRAVELLY SAND -brown -damp, loose							
1.0	SANDY SILT (ML) -brown -damp, loose -organic noted		58		ML			1.0
2.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		59		GP			2.0
3.0			60		GP			3.0
4.0			61		GP			4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 02/09/
Fig. No:	Page 1 of 1

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2416
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ☰ BULK ▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL ORGANIC & SILTS				
	SILTY SAND -brown -damp, loose				
1.0	POORLY GRADED GRAVEL WITH SAND TO POORLY GRADED GRAVEL WITH SILT & SAND (GP)-(GP-GM) -brown -damp, medium dense -estimate 0-5% +75mm material -maximum 200mm diameter -moist below 1.8m		62	GP	
2.0			63	GP	
3.0	-grey / brown below 3.0m		64	GP	
4.0			65	GP-GM	
	END HOLE @ 4.5m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

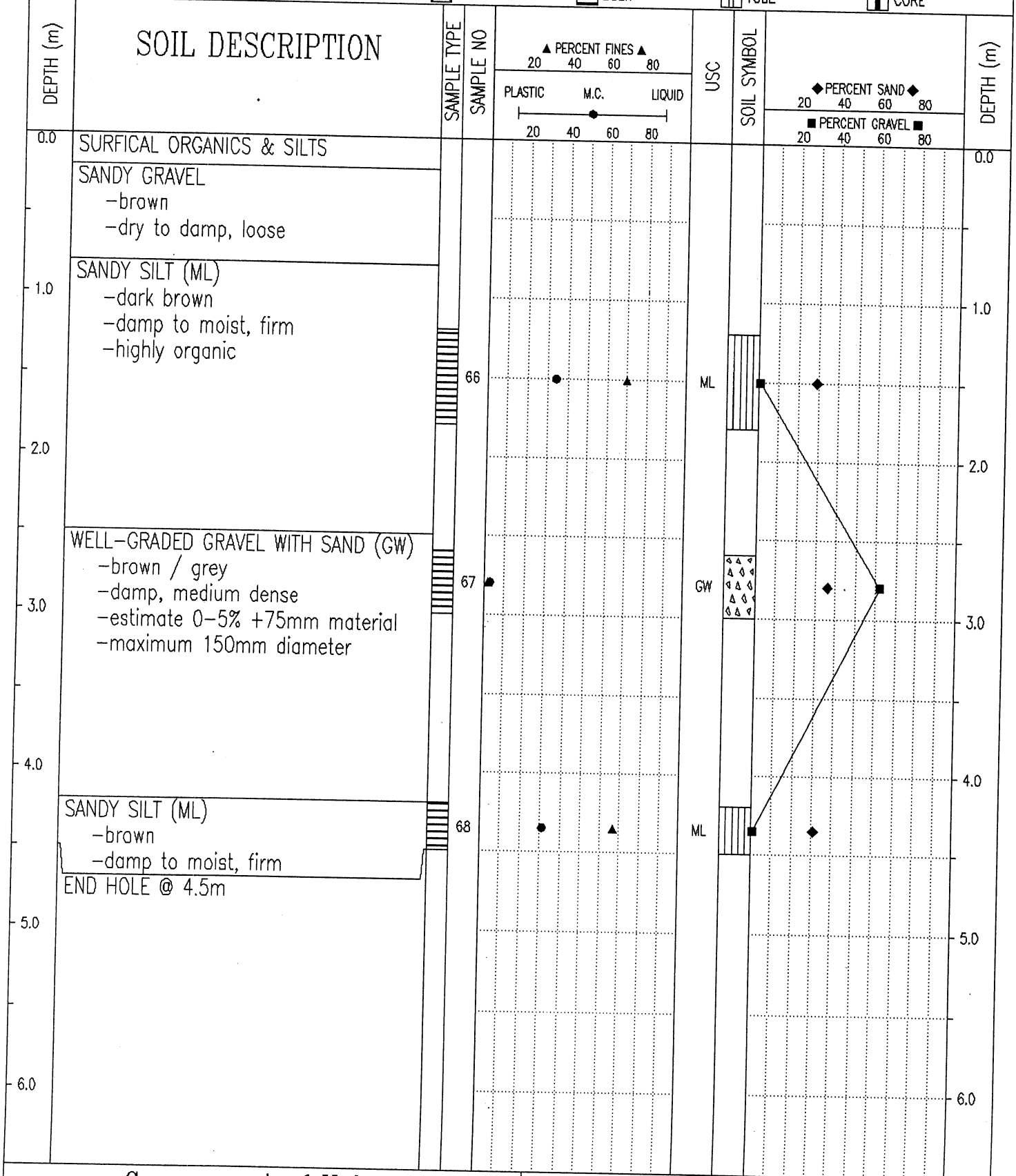
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LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2417
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE



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	REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2418
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, loose -estimate 0-5% +75mm material -maximum 150mm diameter		69		GP			
1.0								1.0
	-moist below 1.8m		70		GP			
2.0								2.0
3.0	SANDY SILT / SILTY SAND -brown -damp, loose -some organic noted							3.0
	POORLY GRADED GRAVEL WITH SILT & SAND TO POORLY GRADED GRAVEL WITH SAND (GP-GM)-(GP) -brown / grey -moist, medium dense		71		GP-GM			
4.0			72		GP			4.0
	END HOLE @ 4.8m							
5.0								5.0
6.0								6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.8 m
REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2419
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL SILT & ORGANICS				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, medium dense -estimate 0-10% +75mm material -maximum 150mm diameter		73	GP	
1.0					
2.0	-organic (tree) noted @ 2.0-2.2m -moist below 2.2m		74	GP	
3.0	WELL-GRADED SAND WITH GRAVEL TO POORLY GRADED GRAVEL WITH SAND (SW)-(GP) -brown / grey -moist, medium dense -estimate 0-10% +75mm material -maximum 200mm diameter		75	SW	
4.0	-estimate 0-10% +75mm material below 3.8m -maximum 300mm diameter		76	GP	
	END HOLE @ 4.5m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2420
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL ORGANIC & SILT				
	SANDY SILT -brown -damp to moist, firm				
1.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, loose -estimate 0-5% +75mm material -maximum 150mm diameter		77	GP	
2.0	SANDY SILT / SILTY SAND -brown -damp, firm -highly organic (trees, roots)				
3.0	POORLY GRADED GRAVEL WITH SILT & SAND TO POORLY GRADED GRAVEL WITH SAND (GP-GM)-(GP) -brown / grey -moist , medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		78	GP-GM	
4.0	-estimate 0-10% +75mm material below 4.0m -maximum 300mm diameter		79	GP	
5.0	END HOLE @ 4.8m				
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2421
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, loose -estimate 0-5% +75mm material -maximum 150mm diameter		80		GP			
1.0								1.0
			81		GP			
2.0								2.0
			82		GP			
3.0								3.0
4.0	WELL-GRADED SAND WITH GRAVEL (SW) -brown / grey -damp, loose -some organics (decomposed wood)		83		SW			4.0
	END HOLE @ 4.8m							
5.0								5.0
6.0								6.0

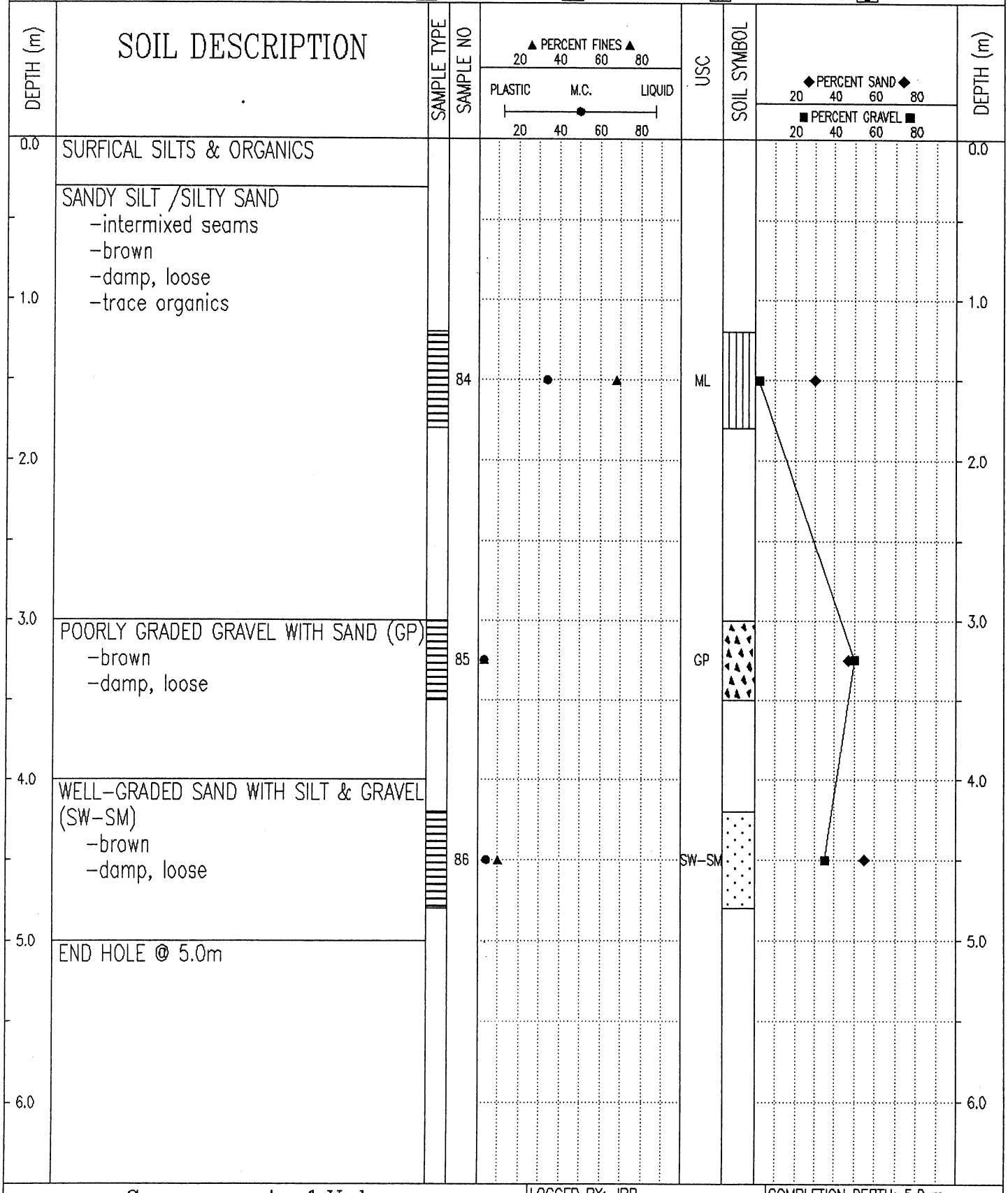
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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2422
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ☰ BULK ▯ TUBE ▮ CORE



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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2423
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS & ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND (GP)							
	-brown / grey							
	-damp, medium dense							
	-estimate 0-5% +75mm material							
	-maximum 150mm diameter							
1.0	-moist below 1.0m		87		GP			1.0
2.0			88		GP			2.0
3.0			89		GP			3.0
4.0			90		GP			4.0
5.0	END HOLE @ 5.0							5.0
6.0								6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2424
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS & ORGANICS							0.0
	SANDY SILT (ML) -brown -damp, loose		91	● ▲	ML		◆	
1.0								1.0
2.0								2.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 300mm diameter		92	●	GP		◆ ■	
3.0								3.0
4.0			93	●	GP		◆ ■	4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2425
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS							0.0
	SANDY SILT -brown -damp, loose -organics noted							
1.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, loose -estimate 0-5% +75mm material -maximum 100mm diameter		94		GP			1.0
2.0	SANDY SILT -brown -damp, loose -organic noted							2.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter -increase gravels with depth		95		GP			
3.0								3.0
			96		GP			
4.0								4.0
			97		GP			
5.0	END HOLE @ 4.8m							5.0
6.0								6.0

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2426
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL SILT & ORGANICS				
	SANDY SILT –brown –damp, loose –organics noted				
1.0	POORLY GRADED GRAVEL WITH SAND (GP) –brown / grey –damp, medium dense –estimate 0–10% +75mm material –maximum 200mm diameter		98	GP	
2.0	POORLY GRADED SAND WITH GRAVEL (SP) –brown / grey –moist, medium dense –estimate 0–5% +75mm material –maximum 150mm diameter		99	SP	
3.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP–GM) –brown / grey –moist, medium dense –estimate 0–10% +75mm material –maximum 200mm diameter		100	GP–GM	
4.0	SANDY SILT /SILTY SAND –brown –damp, loose –fine grained, organics noted		101	GP–GM	
5.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP–GM) –brown / grey –damp, medium grained –estimate 0–5% +75mm material –maximum 150mm diameter				
	END HOLE @ 4.8m				
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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	REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2427
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL SILT & ORGANICS				
	SANDY SILT / SILTY SAND -brown -damp, loose -fine grained, organics noted				
1.0	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM) -brown / grey -damp, medium dense		102	SW-SM	
2.0	SANDY SILT -brown -damp, firm				
	SANDY GRAVEL -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter -sample 103 lost		103		
3.0					
4.0	SILT WITH SAND TO SANDY SILT (ML) -brown -damp, loose -organics noted 3.6 to 4.0m		104	ML	
			105A	ML	
5.0	END HOLE @ 4.8m				
6.0					

PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.8 m
REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2428
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	PERCENT FINES / PLASTIC M.C. LIQUID	USC	SOIL SYMBOL	PERCENT SAND / PERCENT GRAVEL	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		105B		GP			
1.0								1.0
	WELL-GRADED SAND WITH GRAVEL TO POORLY GRADED GRAVEL WITH SAND (SW)-(GP) -brown / grey -moist -increase gravels with depth -noted sandy seams between 1.6-2.5		106		SW			
2.0								2.0
3.0			107		GP			3.0
4.0	SILT WITH SAND (ML) -damp, firm -organics noted		108		ML			4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

PERCENT FINES: 20 40 60 80 | PLASTIC M.C. LIQUID: 20 40 60 80 | PERCENT SAND: 20 40 60 80 | PERCENT GRAVEL: 20 40 60 80

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2429
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp, loose -variable sand/silt seams 0.8-1.0m -trace organics, (rootlets)		109	▲	GP			
1.0								1.0
	SILTY SAND WITH GRAVEL (SM) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter -wood encountered @ 2.0m		110	●▲	SM			
2.0								2.0
3.0								3.0
	SILTY SAND / SANDY SILT -brown -damp, loose -organic noted		111	●	GP-GM			
4.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM) -brown/grey -damp to moist, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter							4.0
5.0	END HOLE @ 4.2m							5.0
6.0								6.0

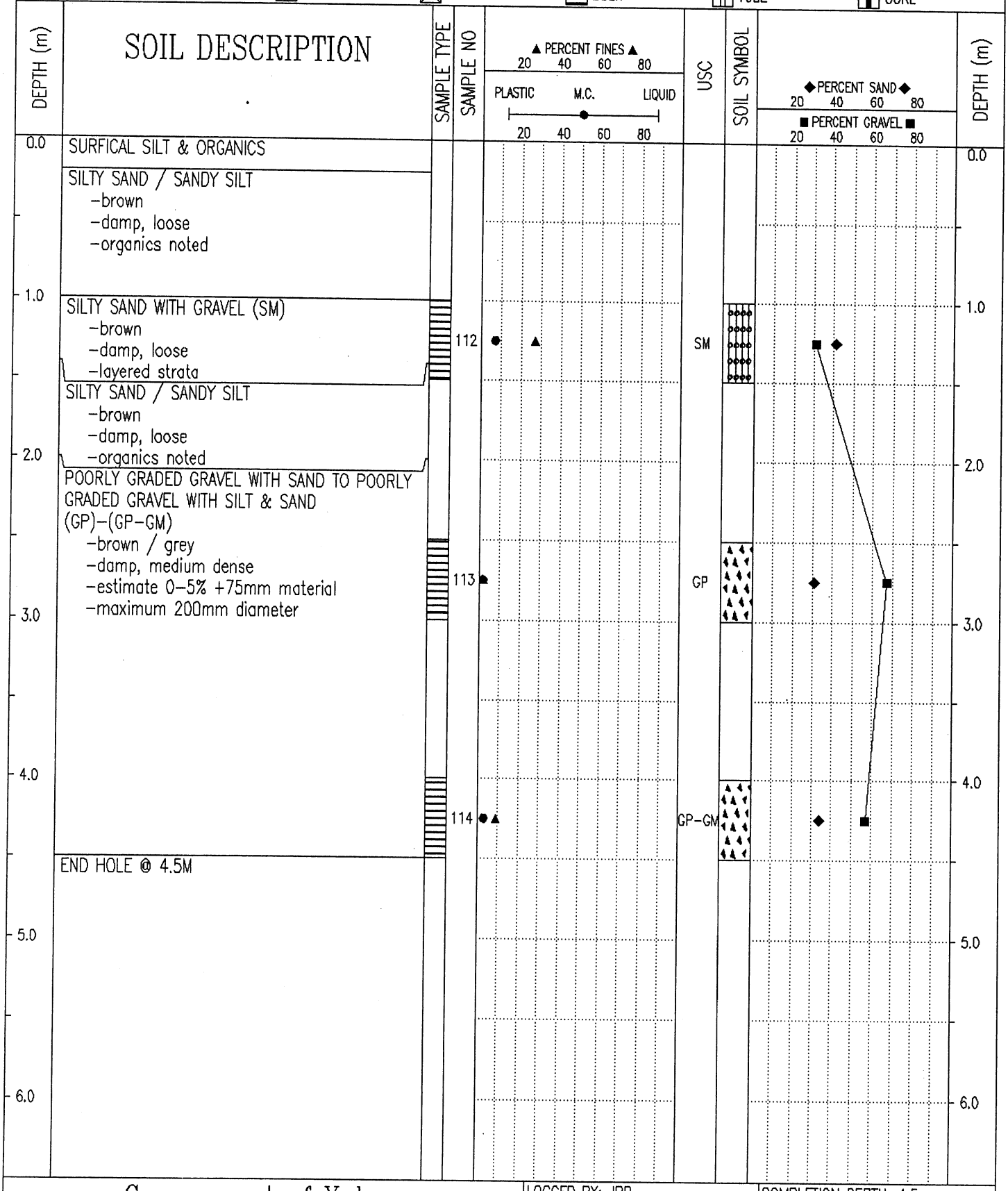
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2430
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE



Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2431
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

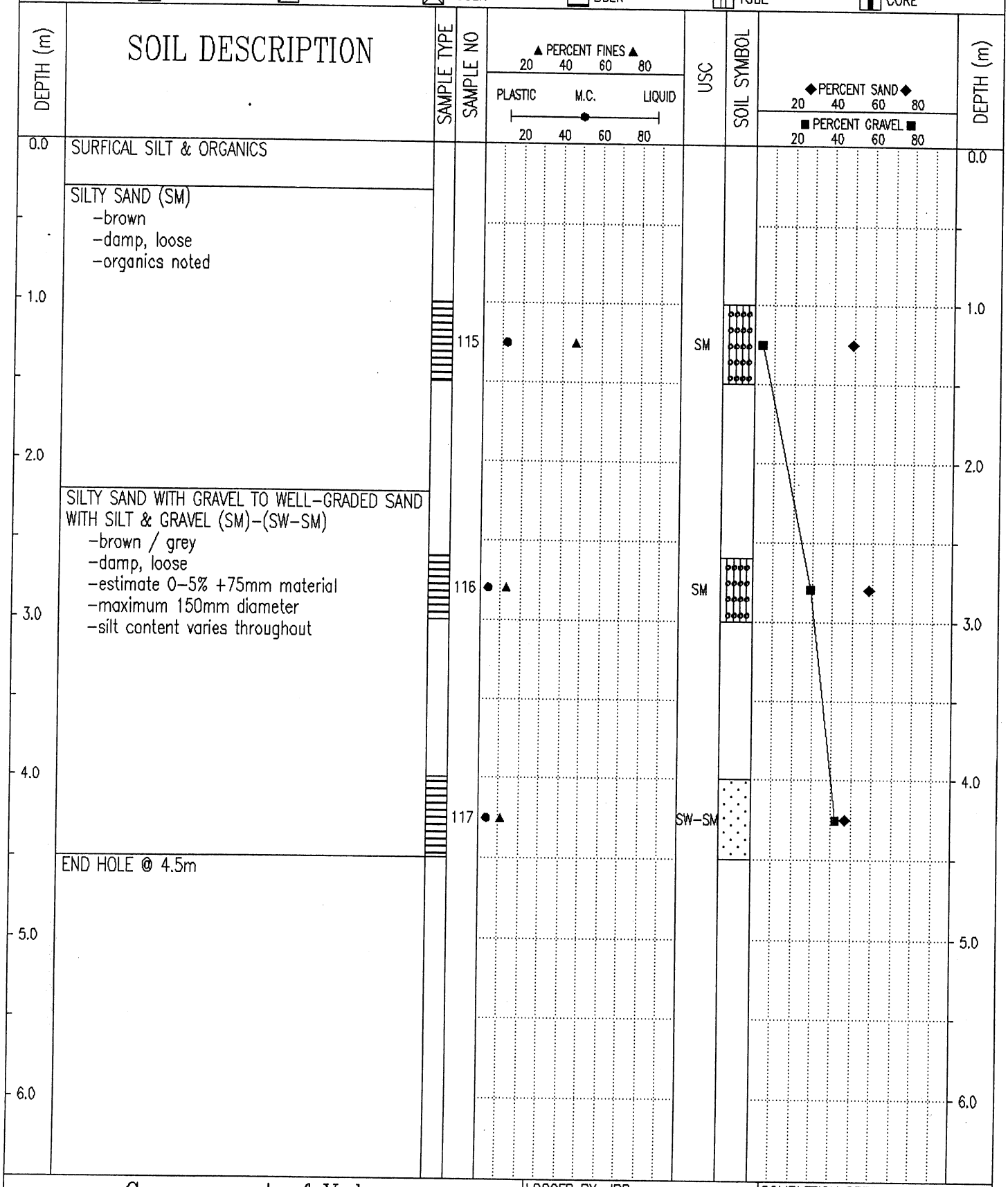
SOIL DESCRIPTION

SURFICAL SILT & ORGANICS

SILTY SAND (SM)
- -brown
- -damp, loose
- -organics noted

SILTY SAND WITH GRAVEL TO WELL-GRADED SAND WITH SILT & GRAVEL (SM)-(SW-SM)
- -brown / grey
- -damp, loose
- -estimate 0-5% +75mm material
- -maximum 150mm diameter
- -silt content varies throughout

END HOLE @ 4.5m



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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2432
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS & ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter -moist below 1.2m		118		GP			
1.0								1.0
			119		GP			
2.0								2.0
3.0	-sand seam 3.1 to 3.4m							3.0
			120		GP			
4.0								4.0
			121		GP			
5.0	END HOLE @ 4.8m							5.0
6.0								6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2433
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL SILTY & ORGANICS				
	SILTY SAND WITH GRAVEL (SM) -brown -damp, loose -highly organics		122	SM	
2.0	WELL-GRADED SAND WITH GRAVEL (SW) -brown / grey -moist, medium dense		123	SW	
4.0	SILT (ML) -brown -damp, firm		124	ML	
	END HOLE @ 4.5m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80
PLASTIC M.C. LIQUID 20 40 60 80
◆ PERCENT SAND ◆ 20 40 60 80
■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2434
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

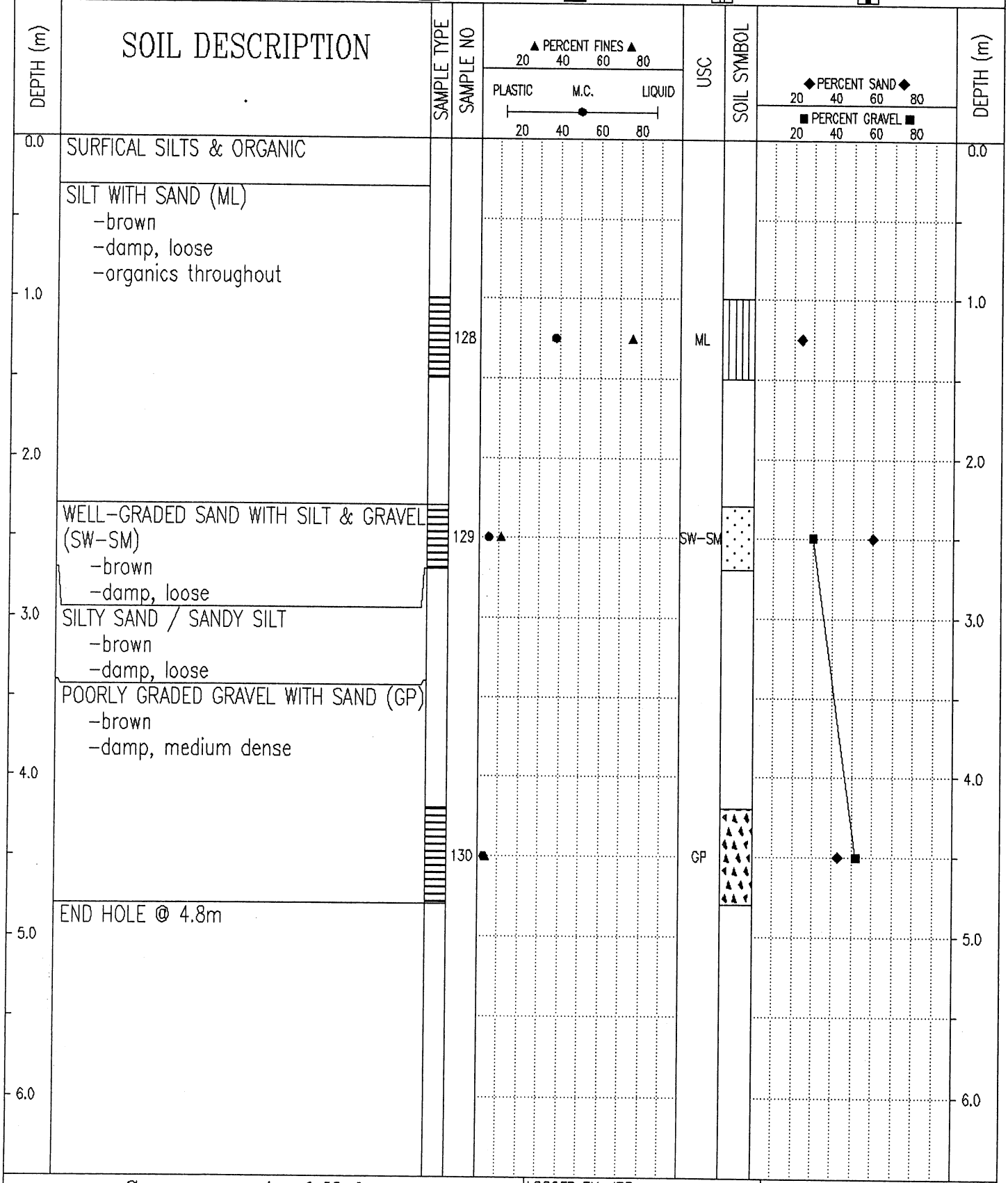
DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT ORGANICS							0.0
	GRAVELLY SAND							
	SANDY SILT (ML) -brown -damp, loose		125		ML			
1.0								1.0
2.0								2.0
	WELL-GRADED SAND WITH GRAVEL (SW) -brown -damp, loose		126		SW			
3.0	SILTY SAND / SANDY SILT -damp, loose							3.0
	WELL-GRADED GRAVEL WITH SAND (GW) -brown -damp, medium dense		127		GW			
4.0								4.0
	END HOLE @ 4.8m							
5.0								5.0
6.0								6.0

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2435
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ☰ BULK ▯ TUBE ▮ CORE



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	REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2436
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS & ORGANICS							0.0
	SILT SOME SAND TO SANDY SILT -brown -damp, loose							
1.0	WELL-GRADED SAND WITH GRAVEL (SW) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		131		SW			1.0
2.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown/grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		132		GP			2.0
3.0			133		GP			3.0
4.0			134		GP			4.0
5.0	END HOLE @ 5.0							5.0
6.0								6.0

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2437
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS							0.0
	GRAVELLY SAND -some silt -brown -dry to damp, loose							
1.0	SANDY SILT -brown -damp, loose -organics noted (roots etc.)							1.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		135		GP			
2.0			136		GP			2.0
	SANDY SILT / SILTY SAND -brown -damp, loose -organics noted							
3.0	POORLY GRADED GRAVEL WITH SAND TO POORLY GRADED GRAVEL WITH SILT & SAND (GP)-(GP-GM) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		137		GP			3.0
4.0			138		GP-GM			4.0
	END HOLE @ 4.8m							
5.0								5.0
6.0								6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2438
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL SILTS & ORGANICS				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, loose -rootlets noted to 0.5m depth -sample #139 taken from excavation side wall – not spill pile		139	GP	
1.0					
	SILT WITH SAND (ML) -brown -damp, loose -organics throughout		140	ML	
2.0					
	POORLY GRADED GRAVEL WITH SAND TO POORLY GRADED GRAVEL WITH SILT & SAND (GP)-(GP-GM) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter -moist below 3.5m		141	GP	
3.0					
4.0			142	GP-GM	
	END HOLE @ 4.8m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2439
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL ORGANICS							0.0
	SILTY SAND WITH GRAVEL (SM) -brown -damp, loose -some gravelly seams		143		SM			
1.0								1.0
2.0	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp, medium dense -odd cobble to 150mm diameter							2.0
			144		GP			
3.0	-estimate 0-5% +75mm material below 3.0m -maximum 150mm diameter							3.0
4.0			145		GP			4.0
	END HOLE @ 4.5m							
5.0								5.0
6.0								6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2440
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▯ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -dry to damp, loose -estimate 0-5% +75mm material -maximum 150mm diameter -organics noted throughout (rootlets)		146		GP			
1.0								1.0
2.0			147		GP			2.0
3.0	SILTY SAND / SANDY SILT -brown -damp, loose							3.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		178		GP			
4.0			179		GP			4.0
5.0	END HOLE @ 4.8m							5.0
6.0								6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2441
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL SILT & ORGANICS				
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -dry to damp, loose -organics noted throughout		150	GP	
1.0	-brown / grey below 1.4m -moist, medium dense below 1.4m -estimate 0-5% +75mm material -maximum 150mm diameter		151	GP	
2.0					
3.0	-increase cobbles below 3.0m -estimate 0-10% +75mm material -maximum 150mm diameter		152	GP	
4.0			153	GP	
5.0	END HOLE @ 4.8m				
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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LOGGED BY: JRP	COMPLETION DEPTH: 4.8 m
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2442
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ☰ BULK ▯ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL SILTS & ORGANIC				
	GRAVELLY SILTY SAND –brown –damp, loose –organics throughout				
1.0	POORLY GRADED GRAVEL WITH SILT & SAND (GP–GM) –brown / grey –damp, medium dense –estimate 0–5% +75mm material –maximum 100mm diameter		154	GP–GM	
2.0					
	POORLY GRADED GRAVEL WITH SAND (GP) –brown / grey –damp, medium dense –estimate 0–5% +75mm material –maximum 150mm diameter		155	GP	
3.0					
	SANDY SILT (ML) –brown –damp –damp, loose		156	ML	
4.0	END HOLE @ 4.0M –sloughage				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2443
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANICS							0.0
	POORLY GRADED GRAVEL WITH SAND TO WELL-GRADED SAND WITH GRAVEL TO POORLY GRADED GRAVEL WITH SAND (GP)-(SW)-(GP) -brown -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter		157		GP			
1.0								1.0
2.0			158		SW			2.0
3.0			159		GP			3.0
4.0	SILTY SAND WITH GRAVEL (SM) -brown / grey -damp, medium dense -silt present in odd seams -estimate 0-5% +75mm material -maximum 150mm diameter		160		SM			4.0
5.0								5.0
	END HOLE @ 5.2m							
6.0								6.0

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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2444
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	USC	SOIL SYMBOL
0.0	SURFICAL SILT & ORGANICS				
	WELL-GRADED SAND WITH GRAVEL (SW) -brown -damp, medium dense -noted organics		161	SW	
1.0					
2.0	SILTY SAND WITH GRAVEL (SM) -brown -damp, loose -alternating sandy silt & gravelly sand strata -organics noted		162	SM	
3.0	SANDY GRAVEL -brown / grey -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter -some sandy silt seams noted				
4.0	SANDY SILT (ML) -brown -damp, loose		163	ML	
	END HOLE @ 4.5m				
5.0					
6.0					

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m) 0.0 1.0 2.0 3.0 4.0 5.0 6.0

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2445
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILT & ORGANIC							0.0
	GRAVELLY SAND –trace silt –brown –damp, mediium dense							
1.0	POORLY GRADED GRAVEL WITH SAND (GP) –brown –damp, medium dense –estimate 0–5% +75mm material –maximum 150mm diameter		164		GP			1.0
2.0	–sandy seam noted 2.4 – 2.7m		165		GP			2.0
3.0	SANDY SILT – TRACE TO SOME GRAVEL (SEAMS) –organic silts –brown –damp, loose –odd gravelly seam							3.0
4.0	POORLY GRADED GRAVEL WITH SAND (GP) –brown / grey –damp, medium dense –estimate 0–5% +75mm material –maximum 150mm diameter		166		GP			4.0
	END HOLE @ 4.8m							
5.0								5.0
6.0								6.0

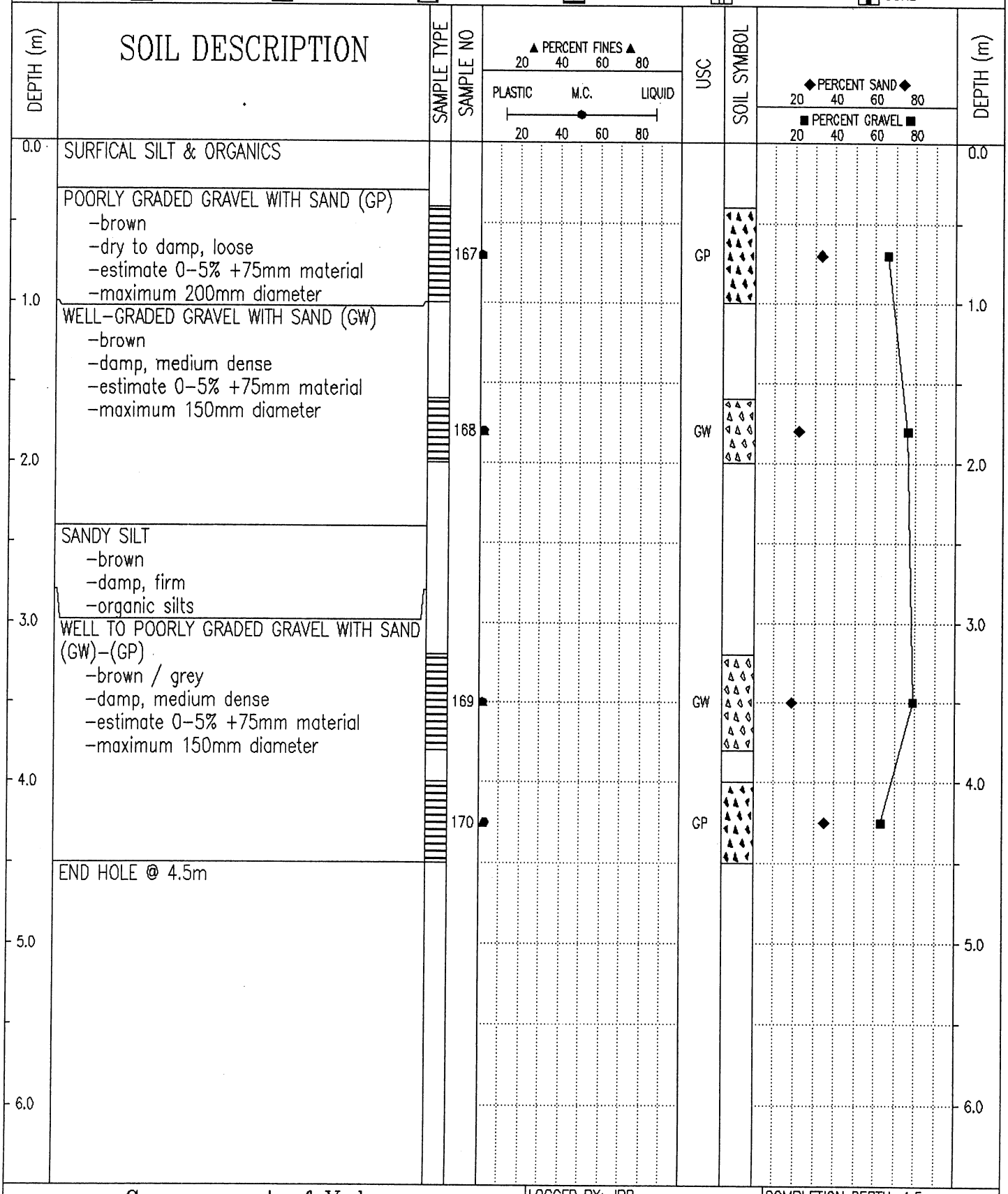
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REVIEWED BY:	COMPLETE: 02/09/
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2446
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ☒ S.P.T. ☒ AUGER ☰ BULK ▯ TUBE ◧ CORE



Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 02/09/
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02/11/06 02:36PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2447
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊠ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION
0.0	SURFICAL SILT & ORGANIC
	SILTY SAND (SM) –brown –damp, loose –some organic silt seams noted
1.0	
	SANDY GRAVEL –brown / grey –damp, medium dense
	SANDY SILT / SILTY SAND –brown –damp, medium dense –organic noted throughout
2.0	
	WELL-GRADED SAND WITH SILT & GRAVEL TO POORLY GRADED GRAVEL WITH SAND (SW-SM)-(GP) –brown / grey –damp, medium dense –estimate 0-5% +75mm material –maximum 150mm diameter
3.0	
4.0	
	END HOLE @ 4.5m
5.0	
6.0	

SAMPLE TYPE / SAMPLE NO: 171, 172, 173, 174

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

USC / SOIL SYMBOL: SM, SW-SM, GP, GP

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

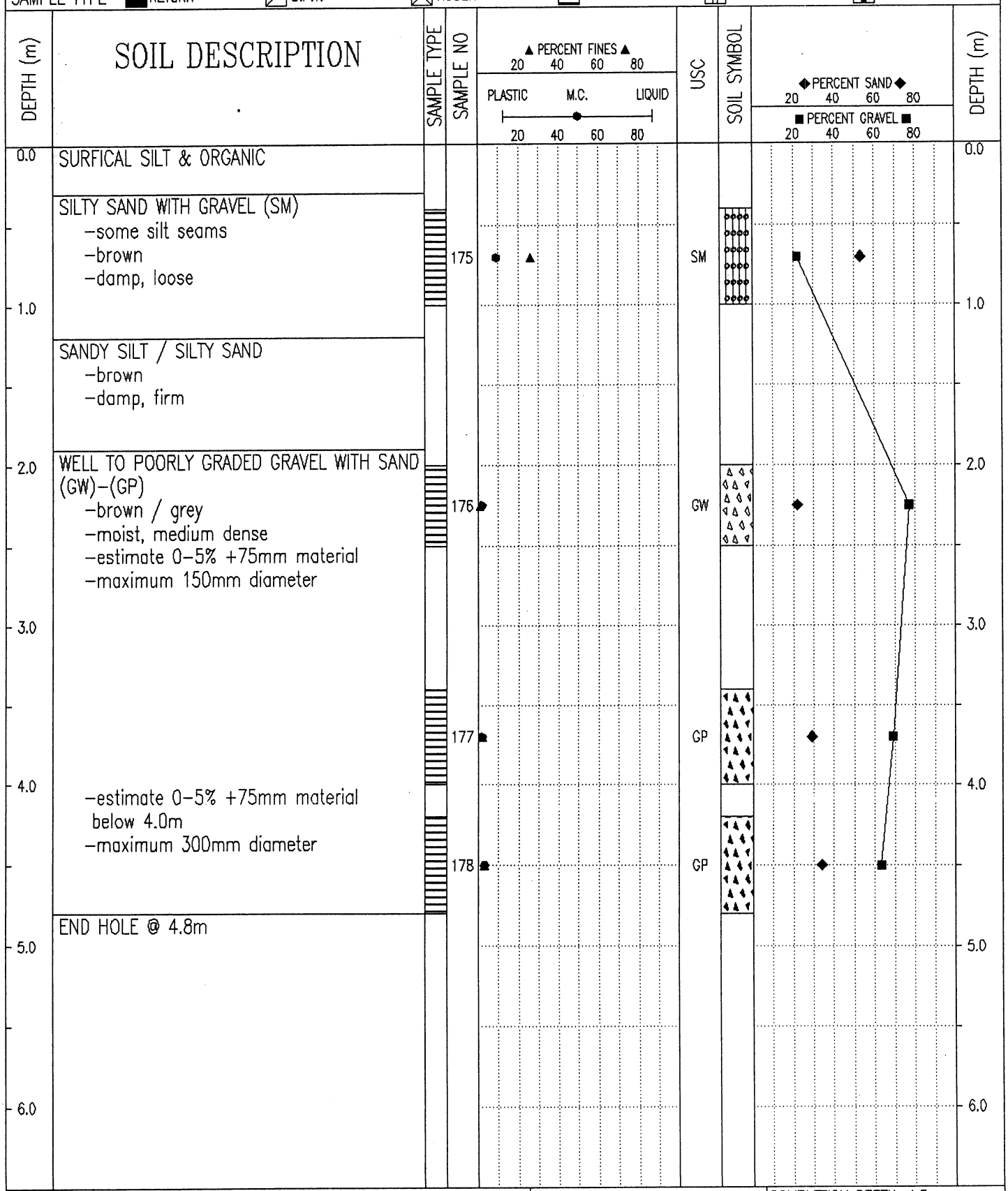
DEPTH (m): 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0

Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 02/09/
	Fig. No:	Page 1 of 1

02/11/06 02:36PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2448
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▥ CORE

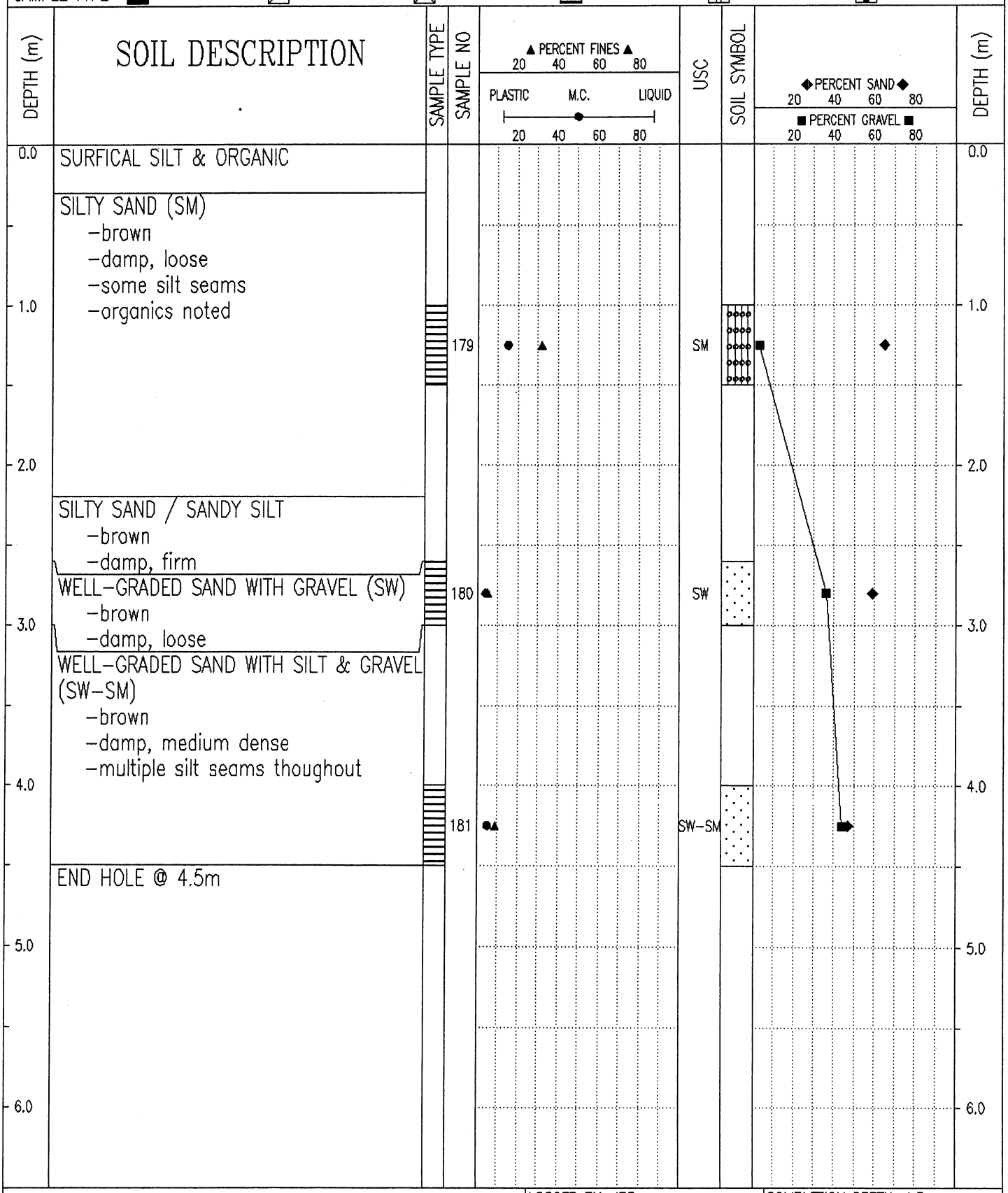


Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.8 m
	REVIEWED BY:	COMPLETE: 02/09/
	Fig. No:	Page 1 of 1

02/11/06 02:36PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2449
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE



Government of Yukon Transportation Engineering	LOGGED BY: JRP	COMPLETION DEPTH: 4.5 m
	REVIEWED BY:	COMPLETE: 02/09/
	Fig. No:	Page 1 of 1

02/11/06 02:36PM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK SEGMENT 11	TEST PIT NO: 636-2450
ENGINEERING CAPITAL	COPPER JOE CREEK	Project No: 552-202101-0361
KOEHRING 6625 BACKHOE	LOCATION: SEE PLAN	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SURFICAL SILTS & ORGANICS							0.0
	WELL TO POORLY-GRADED GRAVEL WITH SAND (GW)-(GP) -brown -damp, medium dense -estimate 0-5% +75mm material -maximum 150mm diameter -organics noted to 1.2m depth		182		GW			
1.0								1.0
2.0			183		GP			2.0
3.0								3.0
4.0			184		GP			4.0
	SILT WITH SAND (ML) -brown -damp, loose		185		ML			
5.0	END HOLE @ 4.8m							5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: JRP	COMPLETION DEPTH: 4.8 m
REVIEWED BY:	COMPLETE: 02/09/
Fig. No:	Page 1 of 1

02/11/06 02:43PM

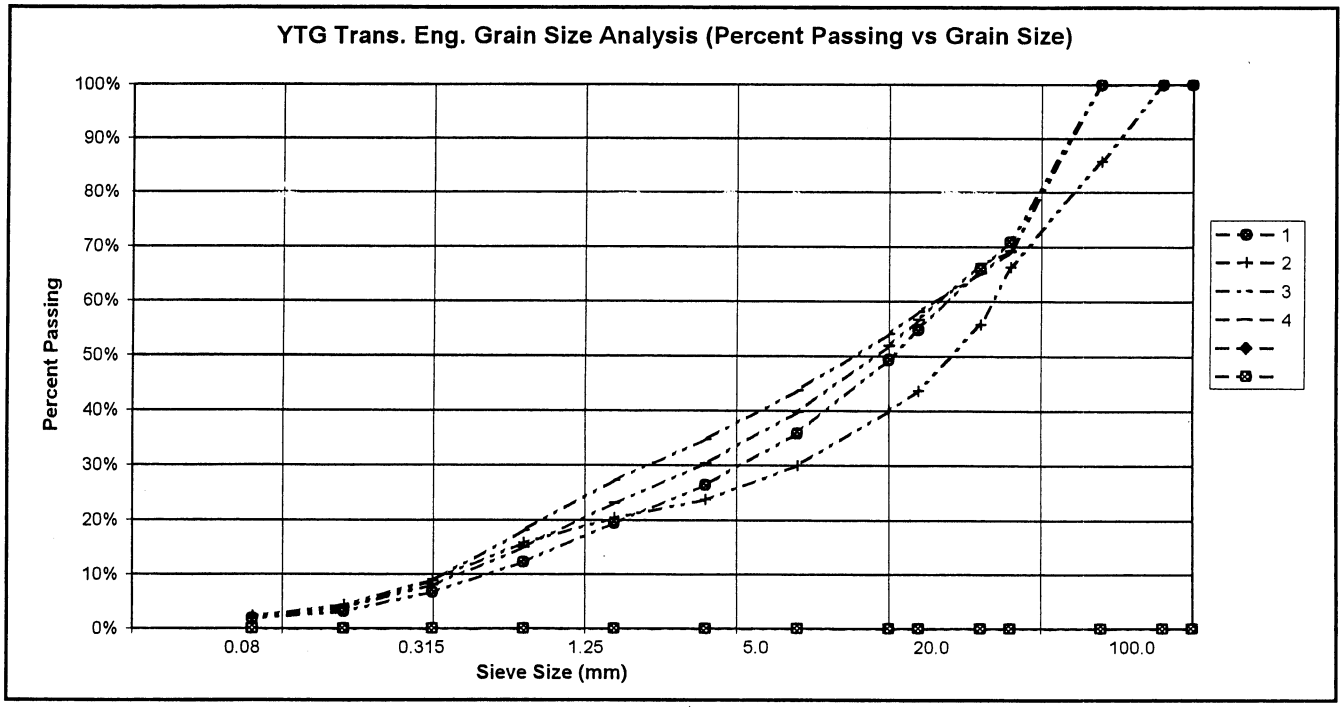
Km 1753.0 LHS Alaska Highway #1
Pit Ident. 115 G-20
(Copper Joe Creek)

September 2002
Book # 636

Pit Run Sample Results

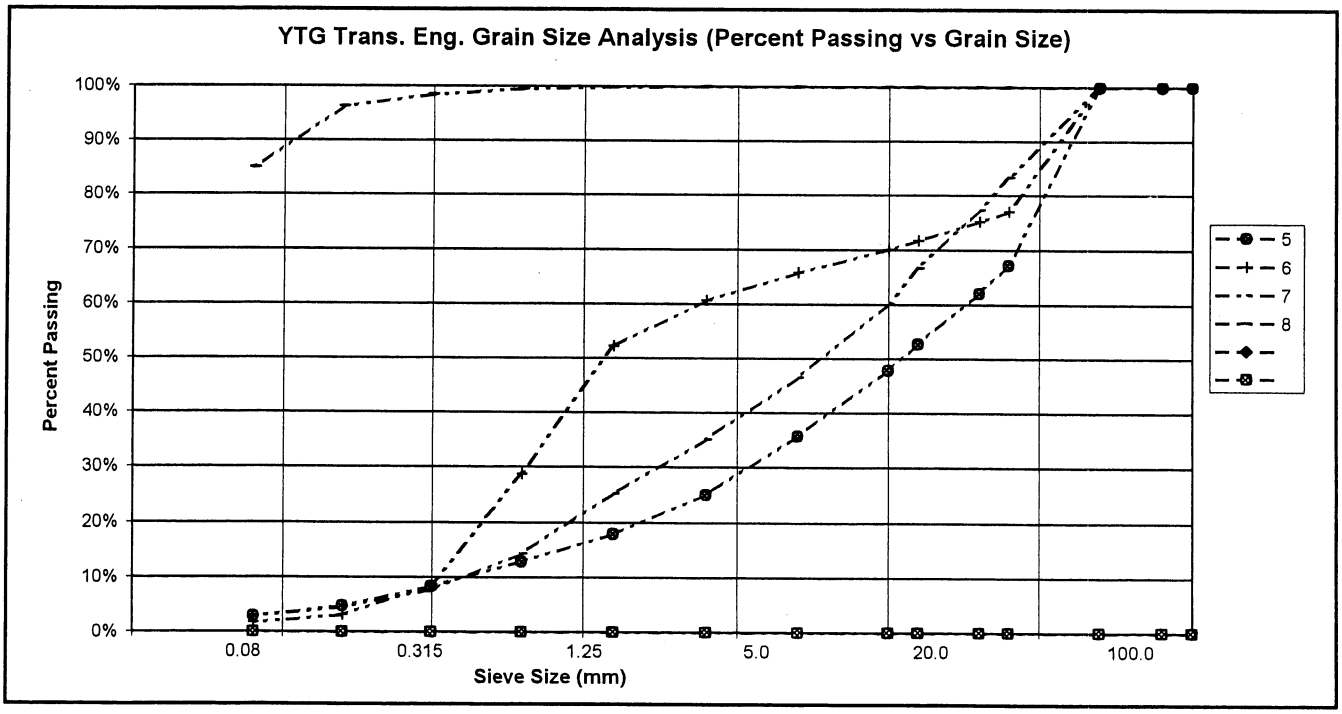
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2400
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	1	2	3	4		
LAB NO:	261	262	263	264		
DEPTH:	1-1.5	2-2.5	3-3.5	4-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	86%	100%	100%		
25.0	71%	66%	69%	69%		
20.0	66%	56%	65%	67%		
12.5	55%	44%	58%	57%		
10.0	49%	40%	54%	52%		
5.0	36%	30%	44%	40%		
2.5	27%	24%	35%	30%		
1.25	19%	20%	27%	23%		
0.630	12%	16%	18%	15%		
0.315	7%	9%	9%	8%		
0.160	3%	4%	4%	4%		
0.080	2%	2%	2%	2%		
M.C.(%):	2%	2%	2%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	64	70	56	60		
% SAND:	34	28	42	38		
% FINES:	2	2	2	2		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		



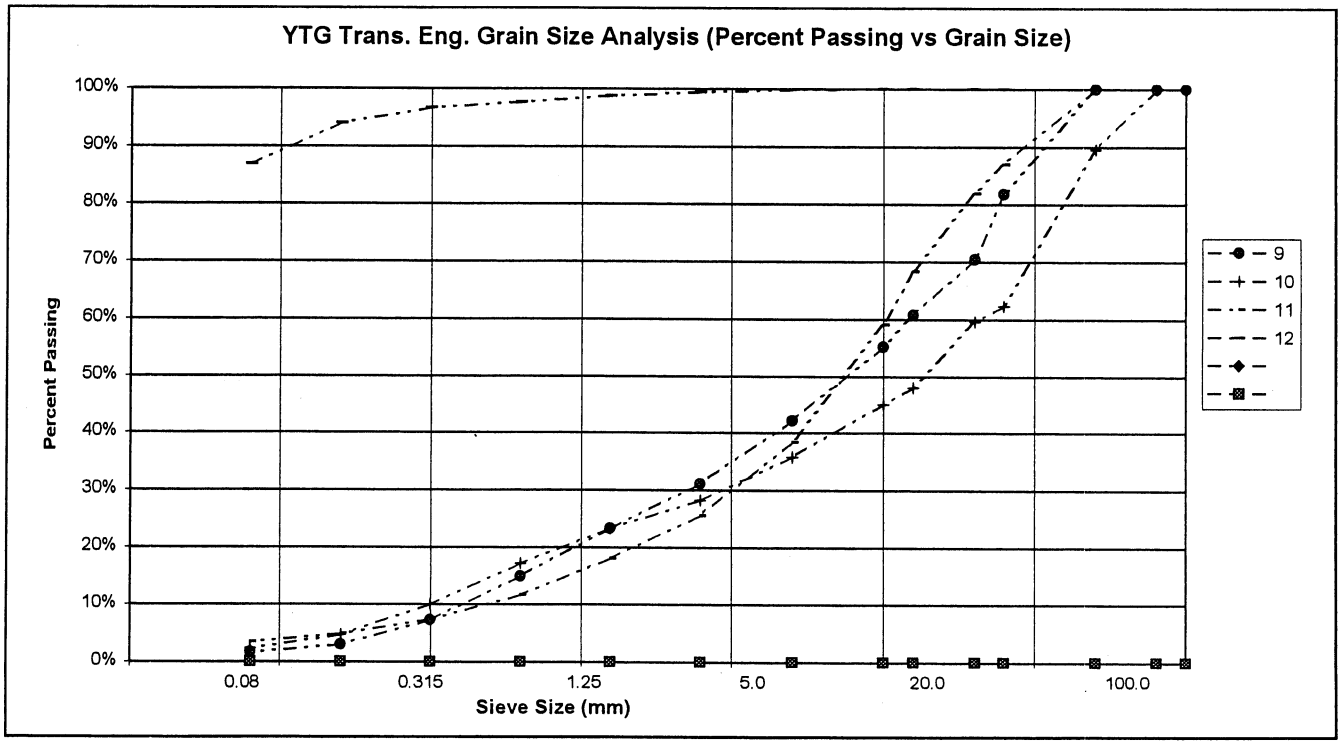
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2401
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	5	6	7	8		
LAB NO:	265	266	267	268		
DEPTH:	1-1.5	2-2.5	3-3.5	4.2-4.5		
TYPE:	BULK	AUGER	BULK	AUGER		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	67%	77%	83%	100%		
20.0	62%	75%	77%	100%		
12.5	53%	72%	67%	100%		
10.0	48%	70%	60%	100%		
5.0	36%	66%	47%	100%		
2.5	25%	61%	35%	100%		
1.25	18%	52%	25%	100%		
0.630	13%	29%	14%	100%		
0.315	8%	8%	8%	99%		
0.160	5%	3%	5%	96%		
0.080	3%	2%	3%	85%		
M.C.(%):	2%	3%	3%	35%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	64	34	53	0		
% SAND:	33	64	44	15		
% FINES:	3	2	3	85		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED SAND WITH GRAVEL (SP)	POORLY GRADED GRAVEL WITH SAND (GP)	SILT WITH SAND (ML)		



PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2402
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	9	10	11	12		
LAB NO:	269	270	271	272		
DEPTH:	1-1.5	2-2.5	3.5-4.0	4.5-4.8		
TYPE:	BULK	AUGER	BULK	AUGER		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	90%	100%	100%		
25.0	82%	62%	87%	100%		
20.0	70%	60%	82%	100%		
12.5	61%	48%	68%	100%		
10.0	55%	45%	59%	100%		
5.0	42%	36%	38%	100%		
2.5	31%	28%	26%	99%		
1.25	23%	23%	18%	99%		
0.630	15%	17%	12%	98%		
0.315	7%	10%	7%	97%		
0.160	3%	5%	5%	94%		
0.080	2%	2%	3%	87%		
M.C.(%):	2%	2%	4%	34%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	58	64	62	0		
% SAND:	40	33	35	13		
% FINES:	2	2	3	87		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	SILT (ML)		

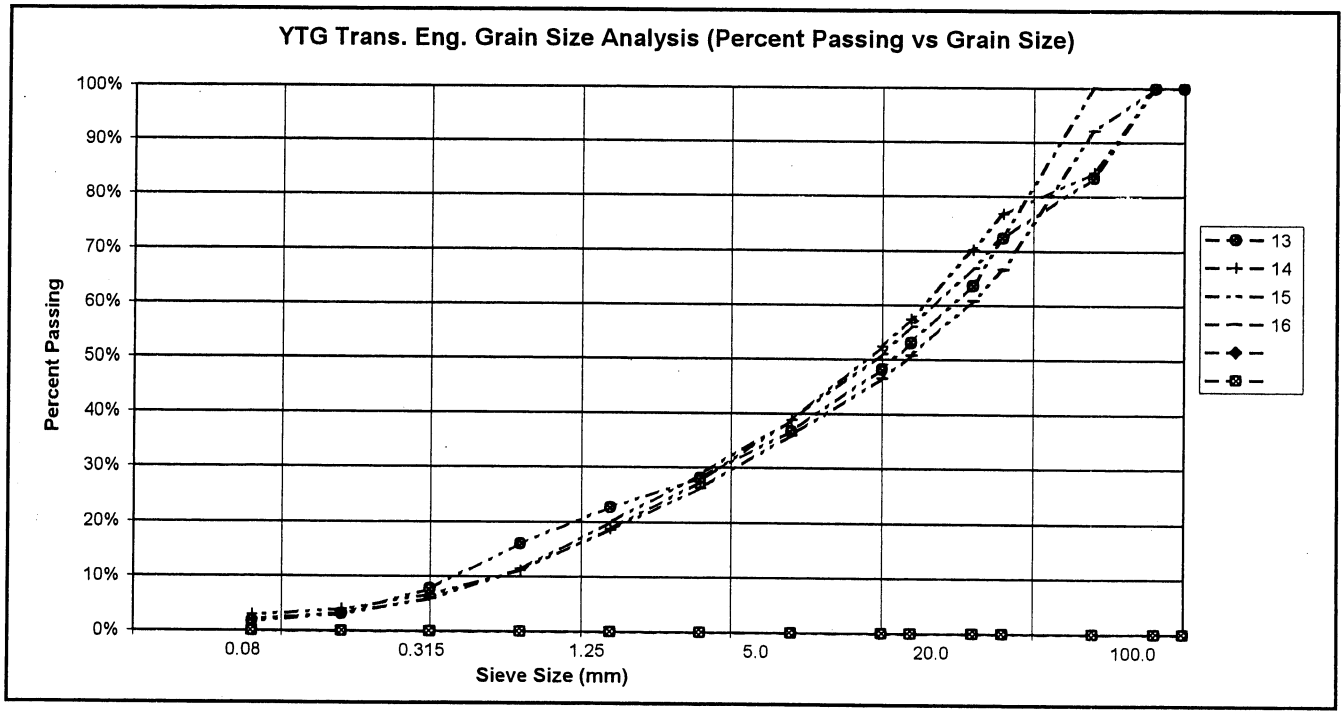


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2403

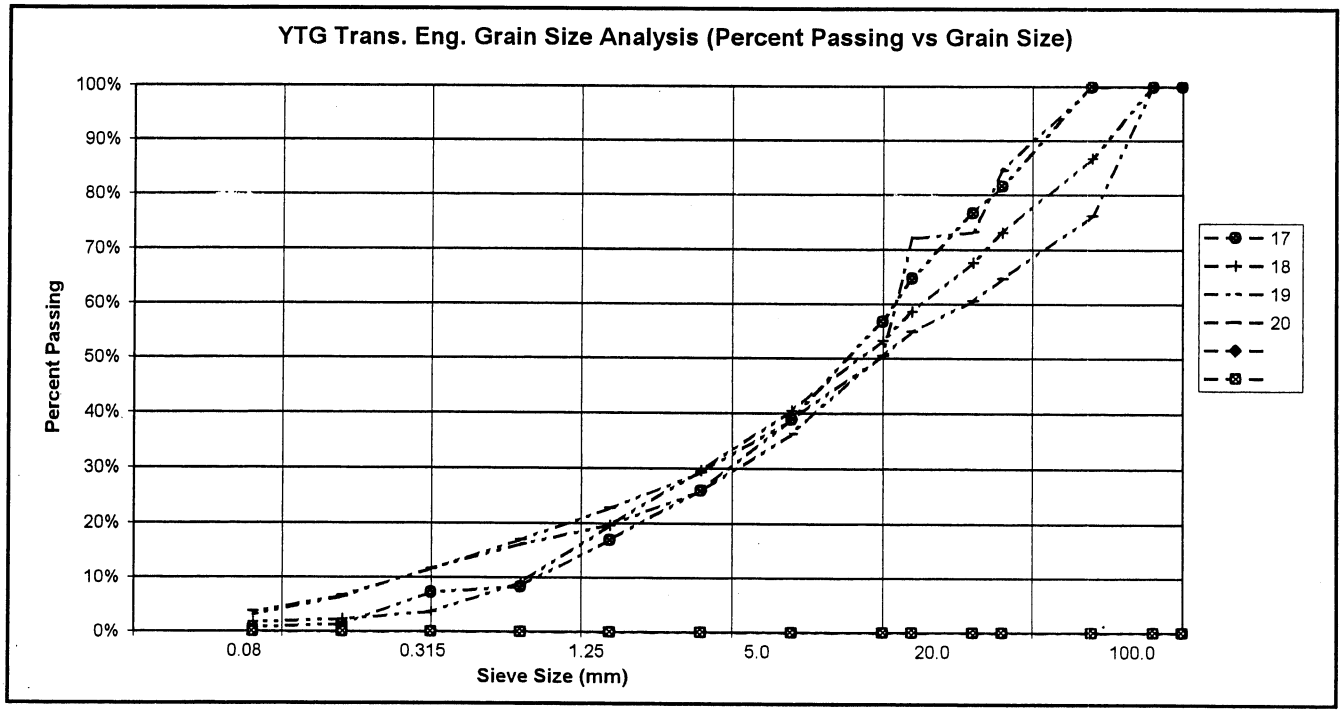
DATE COMP: Sept 2002

FIELD NO:	13	14	15	16		
LAB NO:	273	274	275	276		
DEPTH:	1-1.5	2-2.5	3.2-3.8	4-4.5		
TYPE:	BULK	AUGER	BULK	AUGER		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	84%	84%	100%	92%		
25.0	72%	77%	73%	67%		
20.0	64%	70%	67%	61%		
12.5	53%	57%	56%	51%		
10.0	48%	52%	51%	47%		
5.0	37%	39%	39%	36%		
2.5	28%	27%	29%	26%		
1.25	23%	19%	20%	19%		
0.630	16%	11%	11%	11%		
0.315	8%	7%	6%	6%		
0.160	3%	4%	3%	3%		
0.080	2%	3%	2%	2%		
M.C.(%):	2%	3%	3%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	63	61	61	64		
% SAND:	35	36	37	34		
% FINES:	2	3	2	2		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		



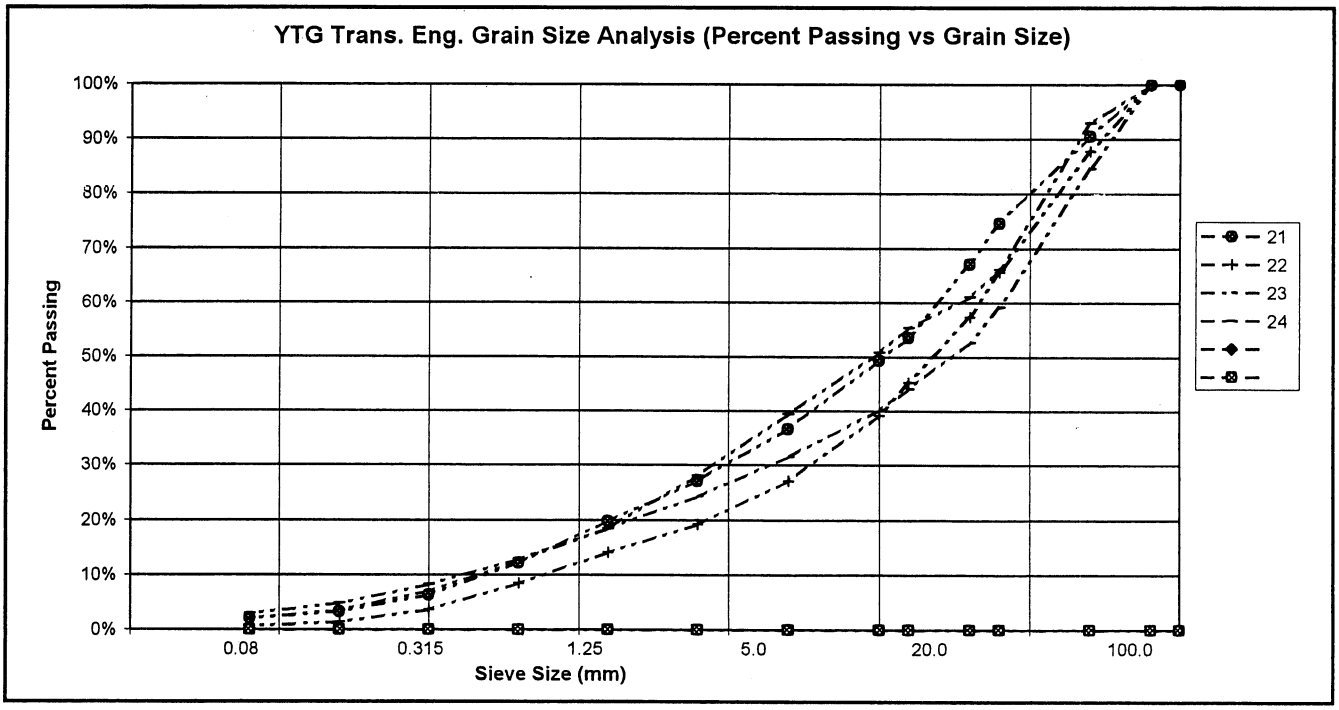
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2404
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	17	18	19	20		
LAB NO:	277	278	279	280		
DEPTH:	1-1.5	2-2.5	3-3.5	4-4.5		
TYPE:	BULK	AUGER	BULK	AUGER		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	87%	100%	76%		
25.0	82%	73%	85%	65%		
20.0	77%	68%	73%	61%		
12.5	65%	59%	72%	55%		
10.0	57%	53%	51%	50%		
5.0	39%	41%	36%	39%		
2.5	26%	30%	26%	29%		
1.25	17%	20%	20%	23%		
0.630	8%	9%	16%	17%		
0.315	7%	4%	12%	12%		
0.160	1%	2%	6%	7%		
0.080	1%	2%	3%	4%		
M.C.(%):	2%	2%	3%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	61	59	64	61		
% SAND:	38	39	33	35		
% FINES:	1	2	3	4		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED GRAVEL WITH SAND (GW)	POORLY GRADED GRAVEL WITH SAND (GP)		



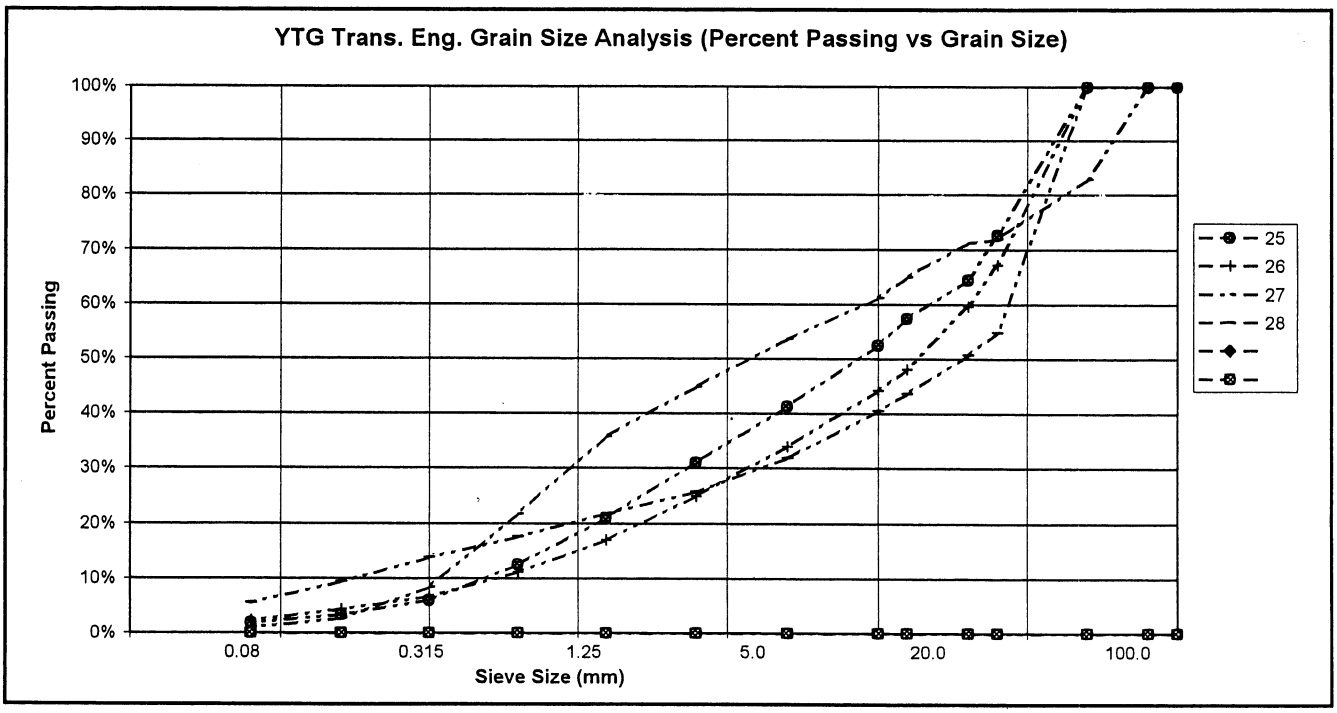
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CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	21	22	23	24		
LAB NO:	281	282	283	284		
DEPTH:	1-1.5	2-2.5	3-3.5	4-4.5		
TYPE:	BULK	AUGER	BULK	AUGER		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	91%	88%	85%	93%		
25.0	75%	66%	59%	66%		
20.0	67%	57%	53%	61%		
12.5	54%	45%	44%	55%		
10.0	49%	39%	40%	51%		
5.0	37%	27%	32%	39%		
2.5	27%	19%	24%	28%		
1.25	20%	14%	19%	18%		
0.630	12%	8%	12%	13%		
0.315	6%	4%	7%	8%		
0.160	3%	1%	3%	5%		
0.080	2%	1%	2%	3%		
M.C.(%):	3%	2%	2%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	63	73	68	61		
% SAND:	35	26	29	36		
% FINES:	2	1	2	3		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		



PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2406
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	25	26	27	28		
LAB NO:	285	286	287	288		
DEPTH:	1-1.5	2-2.5	3-3.5	4-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	83%	100%		
25.0	73%	67%	72%	55%		
20.0	64%	60%	71%	51%		
12.5	57%	48%	65%	44%		
10.0	52%	44%	61%	40%		
5.0	41%	34%	54%	32%		
2.5	31%	25%	45%	26%		
1.25	21%	17%	36%	22%		
0.630	13%	11%	22%	18%		
0.315	6%	7%	8%	14%		
0.160	3%	4%	3%	9%		
0.080	2%	2%	1%	5%		
M.C.(%):	2%	2%	3%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	59	66	46	68		
% SAND:	40	32	53	26		
% FINES:	2	2	1	5		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		

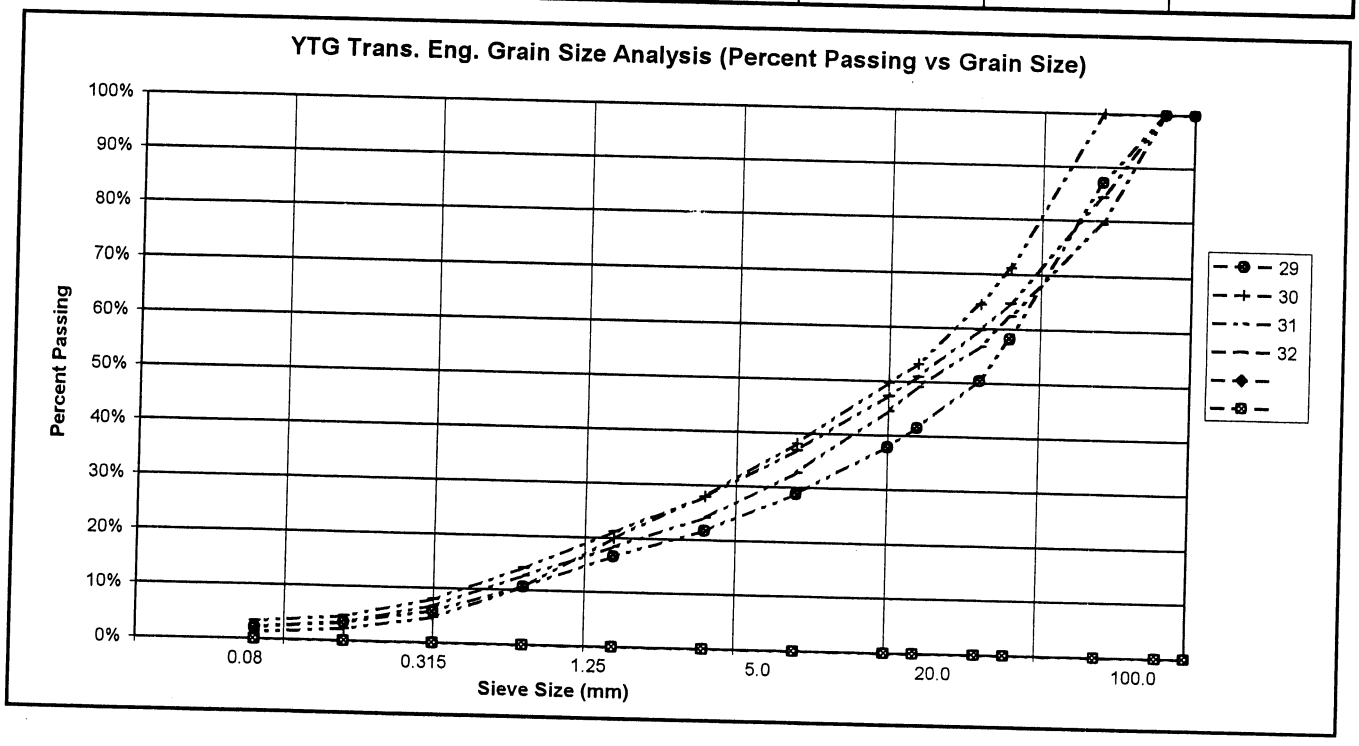


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2407

DATE COMP: Sept 2002

FIELD NO:	29	30	31	32		
LAB NO:	289	290	291	292		
DEPTH:	1-1.5	2-2.5	3-3.5	4.2-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	87%	100%	79%	84%		
25.0	58%	71%	62%	65%		
20.0	51%	64%	57%	60%		
12.5	42%	53%	49%	51%		
10.0	38%	50%	44%	47%		
5.0	29%	38%	33%	37%		
2.5	22%	28%	24%	28%		
1.25	17%	20%	18%	21%		
0.630	11%	11%	13%	14%		
0.315	6%	5%	7%	8%		
0.160	3%	2%	4%	5%		
0.080	2%	1%	2%	3%		
M.C.(%):	2%	2%	3%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	71	62	67	63		
% SAND:	27	37	30	34		
% FINES:	2	1	2	3		
CLASSIFICATION	WELL-GRADED GRAVEL WITH SAND (GW)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		

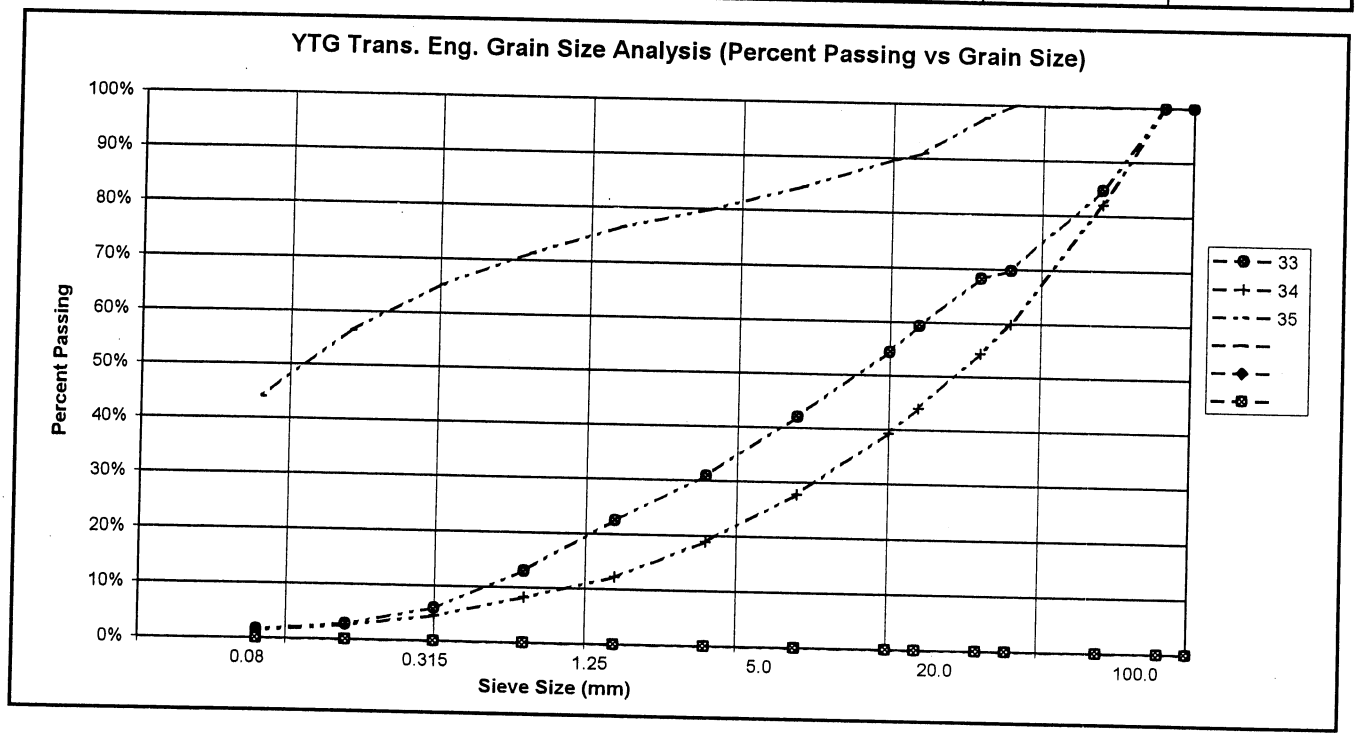


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2408

DATE COMP: Sept 2002

FIELD NO:	33	34	35			
LAB NO:	293	294	295			
DEPTH:	1.5-2.1	2.5-3.0	4.0-4.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	85%	82%	100%			
25.0	70%	60%	100%			
20.0	68%	54%	98%			
12.5	59%	44%	91%			
10.0	54%	39%	90%			
5.0	42%	28%	84%			
2.5	31%	19%	80%			
1.25	22%	12%	76%			
0.630	13%	8%	71%			
0.315	6%	5%	65%			
0.160	3%	3%	56%			
0.080	2%	1%	44%			
M.C.(%):	2%	2%	16%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	58	72	16			
% SAND:	41	26	40			
% FINES:	2	1	44			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY SAND WITH GRAVEL (SM)			

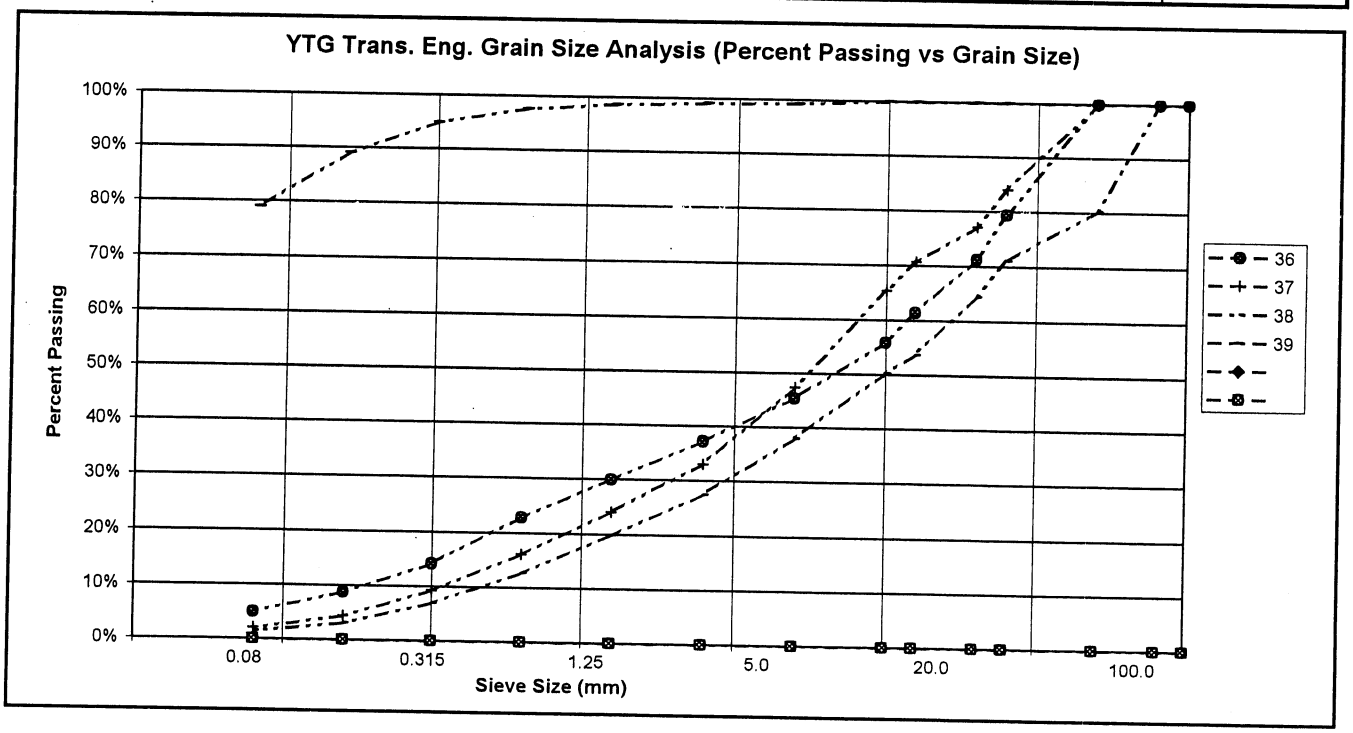


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2409

DATE COMP: Sept 2002

FIELD NO:	36	37	38	39		
LAB NO:	296	297	298	299		
DEPTH:	0.5-1.0	2-2.5	3.2-3.8	4.0-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	80%	100%		
25.0	79%	84%	71%	100%		
20.0	71%	77%	64%	100%		
12.5	61%	71%	54%	100%		
10.0	56%	65%	50%	100%		
5.0	45%	47%	38%	99%		
2.5	37%	33%	27%	99%		
1.25	30%	24%	20%	99%		
0.630	23%	16%	13%	98%		
0.315	14%	9%	7%	95%		
0.160	9%	4%	3%	89%		
0.080	5%	2%	1%	79%		
M.C.(%):	3%	2%	2%	34%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	55	53	62	1		
% SAND:	41	45	37	20		
% FINES:	5	2	1	79		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	SILT WITH SAND (ML)		

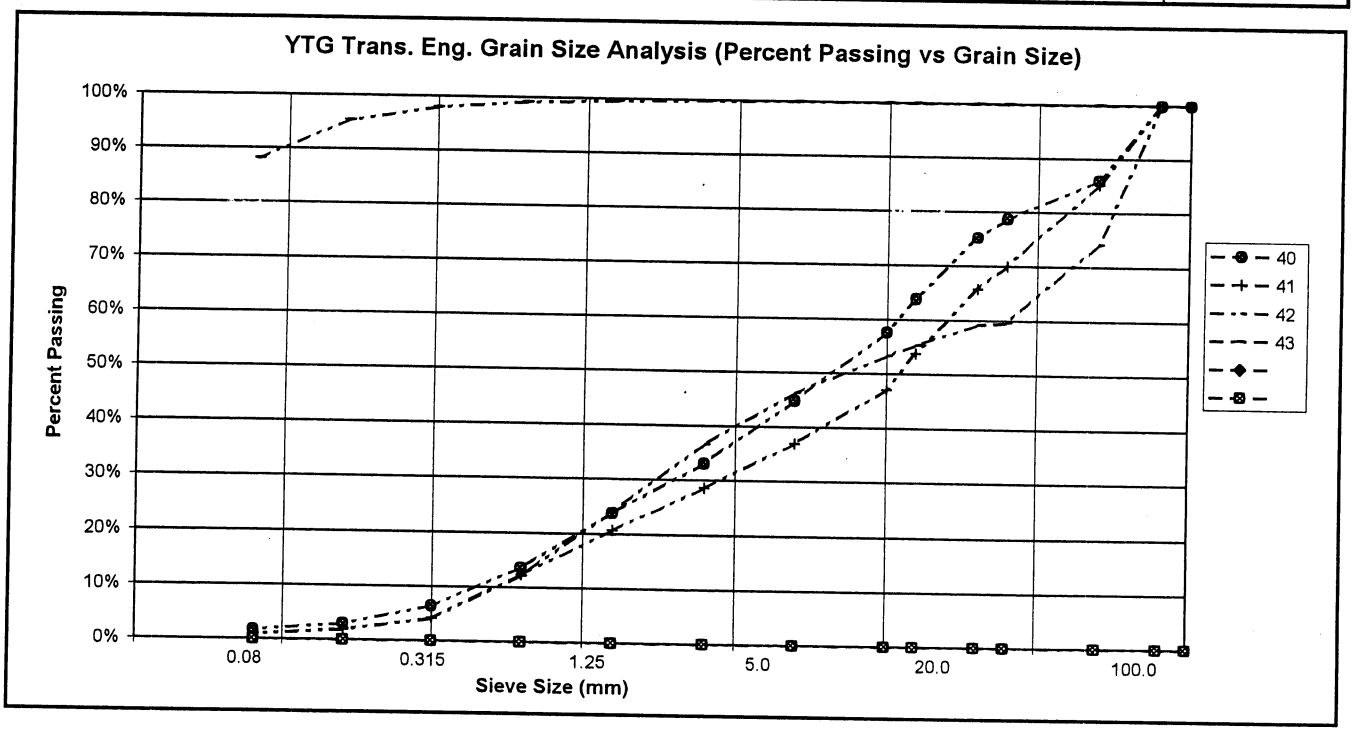


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2410

DATE COMP: Sept 2002

FIELD NO:	40	41	42	43		
LAB NO:	300	301	302	303		
DEPTH:	0.8-1.2	2.0-2.5	3.2-3.8	4.2-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	86%	85%	74%	100%		
25.0	79%	70%	60%	100%		
20.0	75%	66%	59%	100%		
12.5	64%	54%	55%	100%		
10.0	58%	47%	53%	100%		
5.0	45%	37%	46%	100%		
2.5	33%	29%	37%	100%		
1.25	24%	21%	24%	100%		
0.630	14%	12%	12%	99%		
0.315	6%	4%	4%	98%		
0.160	3%	2%	2%	95%		
0.080	2%	1%	1%	88%		
M.C.(%):	2%	2%	1%	39%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	55	63	54	0		
% SAND:	43	36	45	12		
% FINES:	2	1	1	88		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	SILT (ML)		

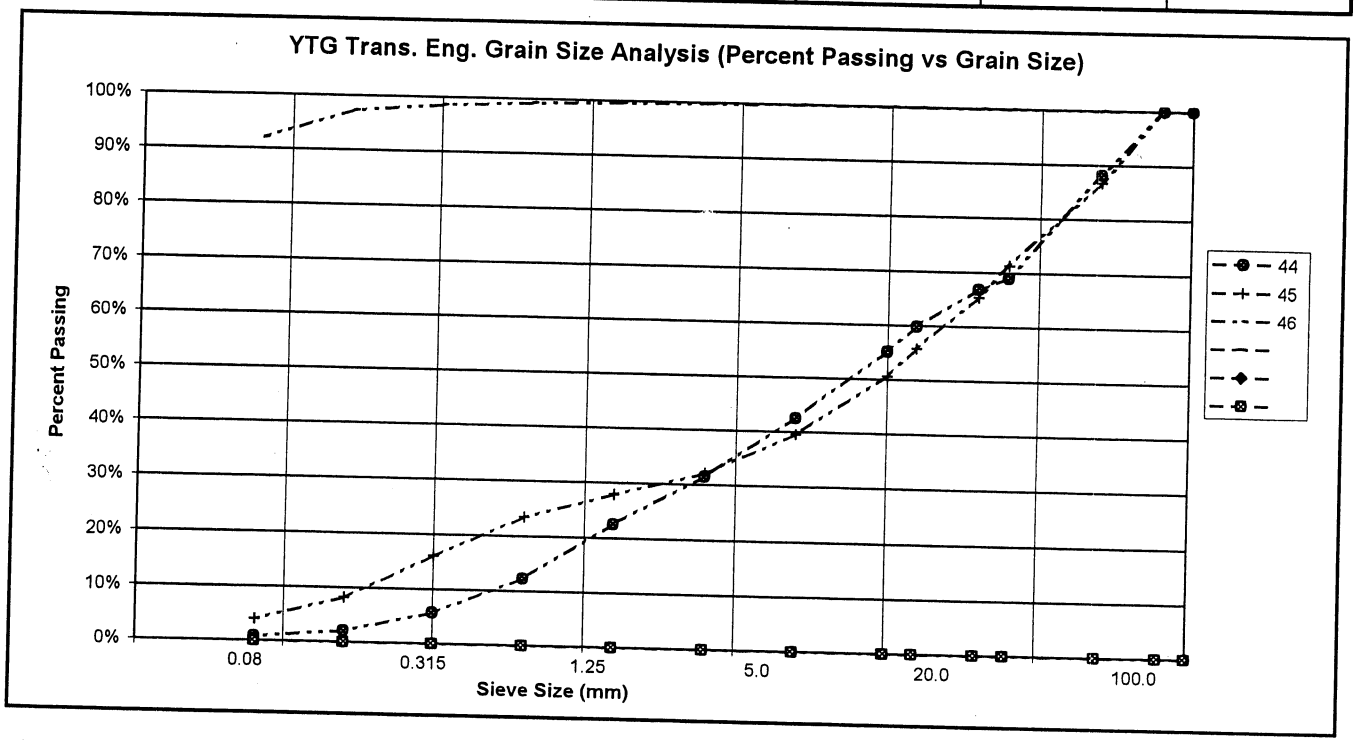


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2411

DATE COMP: Sept 2002

FIELD NO:	44	45	46			
LAB NO:	304	305	306			
DEPTH:	0.8-1.2	2.2-2.8	3.8-4.2			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	88%	87%	100%			
25.0	69%	71%	100%			
20.0	67%	65%	100%			
12.5	60%	56%	100%			
10.0	55%	51%	100%			
5.0	43%	40%	100%			
2.5	32%	32%	100%			
1.25	23%	28%	100%			
0.630	12%	23%	99%			
0.315	6%	16%	99%			
0.160	2%	8%	97%			
0.080	1%	4%	92%			
M.C.(%):	2%	2%	43%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	57	60	0			
% SAND:	42	36	8			
% FINES:	1	4	92			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	SILT (ML)			

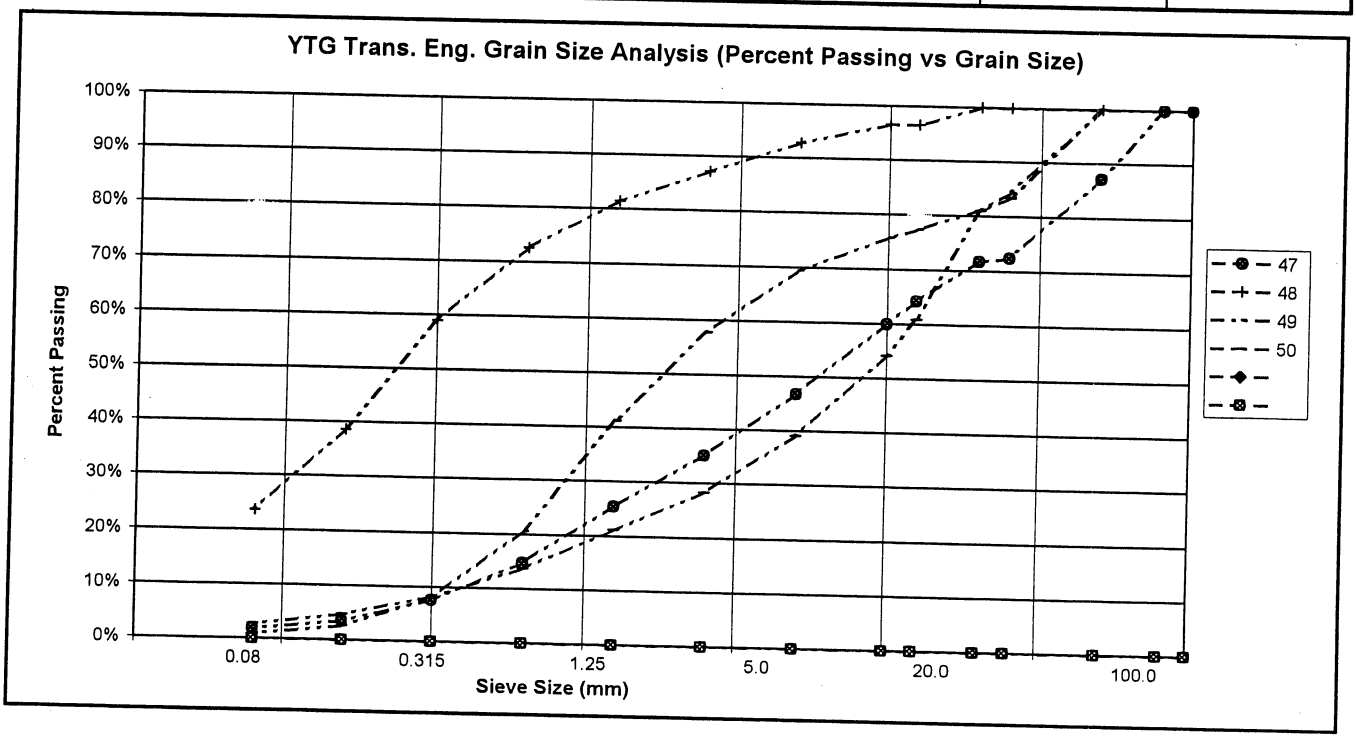


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2412

DATE COMP: Sept 2002

FIELD NO:	47	48	49	50		
LAB NO:	307	308	309	310		
DEPTH:	0.2-0.8	1.0-1.5	2.3-2.9	4.0-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	87%	100%	100%	100%		
25.0	72%	100%	84%	83%		
20.0	72%	100%	81%	81%		
12.5	64%	97%	77%	61%		
10.0	60%	97%	76%	54%		
5.0	47%	93%	69%	39%		
2.5	35%	87%	58%	28%		
1.25	25%	81%	41%	21%		
0.630	15%	73%	21%	14%		
0.315	8%	59%	8%	8%		
0.160	3%	39%	3%	5%		
0.080	2%	24%	1%	3%		
M.C.(%):	2%	12%	2%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	53	7	31	61		
% SAND:	45	69	68	36		
% FINES:	2	24	1	3		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY SAND (SM)	POORLY GRADED SAND WITH GRAVEL (SP)	POORLY GRADED GRAVEL WITH SAND (GP)		

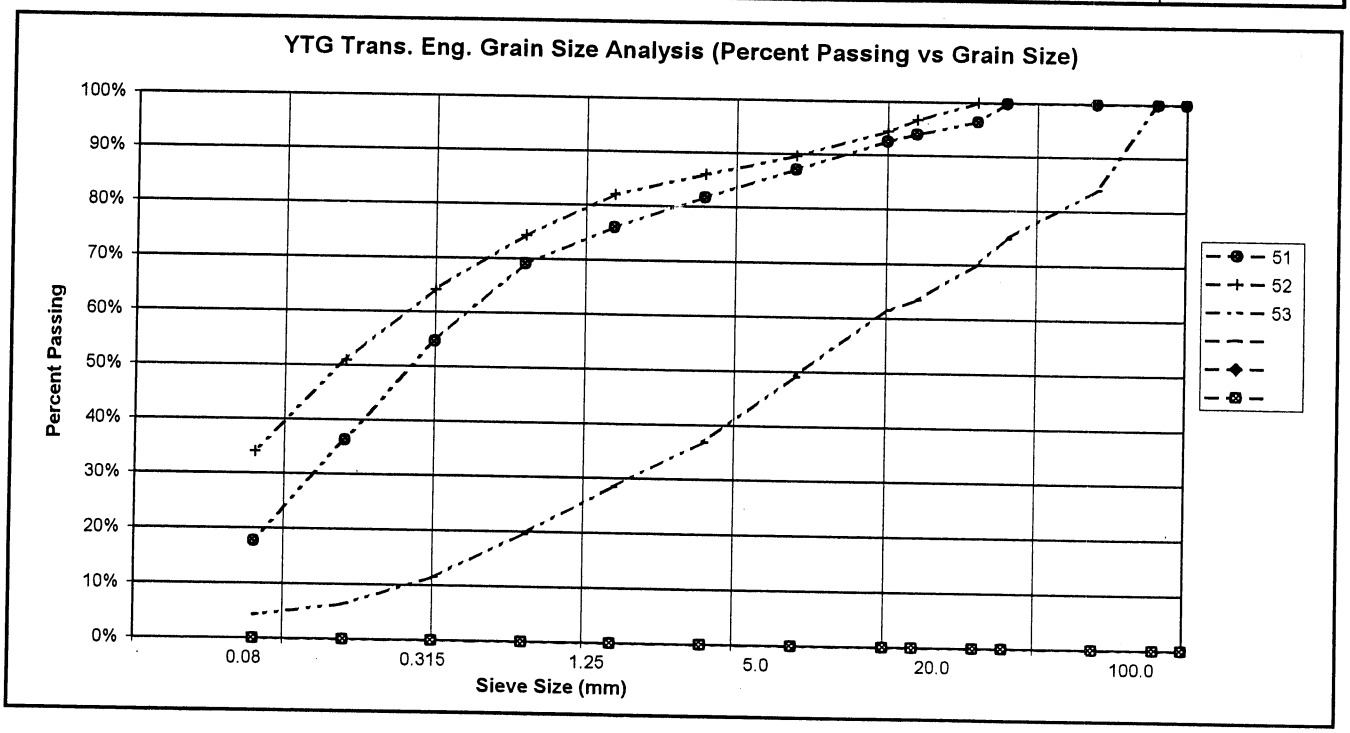


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2413

DATE COMP: Sept 2002

FIELD NO:	51	52	53			
LAB NO:	311	312	313			
DEPTH:	1.4-2.0	2.6-3.0	4-4.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	84%			
25.0	100%	100%	75%			
20.0	97%	100%	70%			
12.5	94%	97%	63%			
10.0	93%	94%	61%			
5.0	87%	90%	49%			
2.5	82%	86%	37%			
1.25	76%	82%	28%			
0.630	69%	74%	19%			
0.315	55%	64%	11%			
0.160	36%	51%	6%			
0.080	18%	34%	4%			
M.C.(%):	9%	14%	3%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	13	10	51			
% SAND:	69	56	45			
% FINES:	18	34	4			
CLASSIFICATION	SILTY SAND (SM)	SILTY SAND (SM)	POORLY GRADED GRAVEL WITH SAND (GP)			

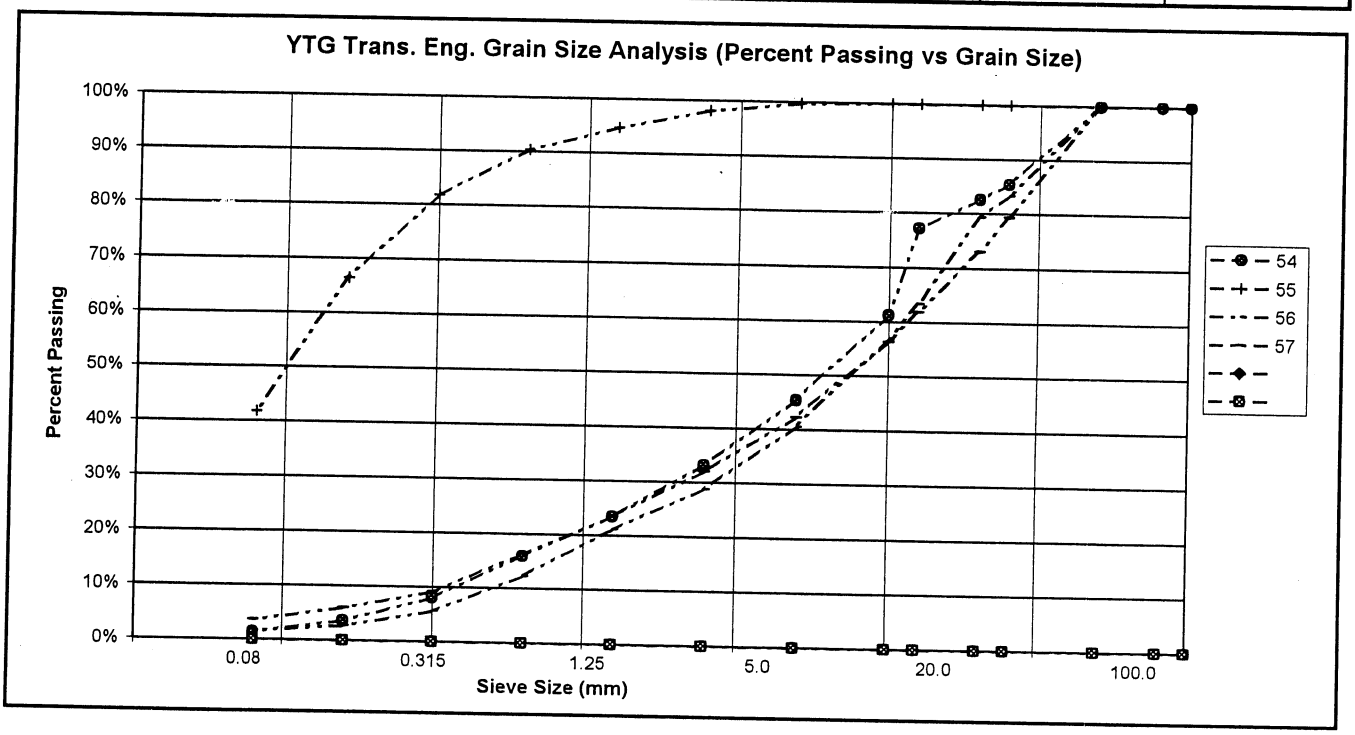


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2414

DATE COMP: Sept 2002

FIELD NO:	54	55	56	57		
LAB NO:	314	315	316	317		
DEPTH:	0.8-1.2	2.1-2.5	3.0-3.5	4-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	85%	100%	83%	79%		
20.0	83%	100%	79%	73%		
12.5	77%	100%	63%	62%		
10.0	61%	100%	57%	56%		
5.0	45%	100%	40%	42%		
2.5	33%	98%	29%	32%		
1.25	23%	95%	21%	23%		
0.630	16%	90%	12%	16%		
0.315	8%	82%	6%	9%		
0.160	4%	66%	3%	6%		
0.080	1%	42%	2%	4%		
M.C.(%):	2%	13%	2%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	55	0	60	58		
% SAND:	44	58	39	39		
% FINES:	1	42	2	4		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY SAND (SM)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		

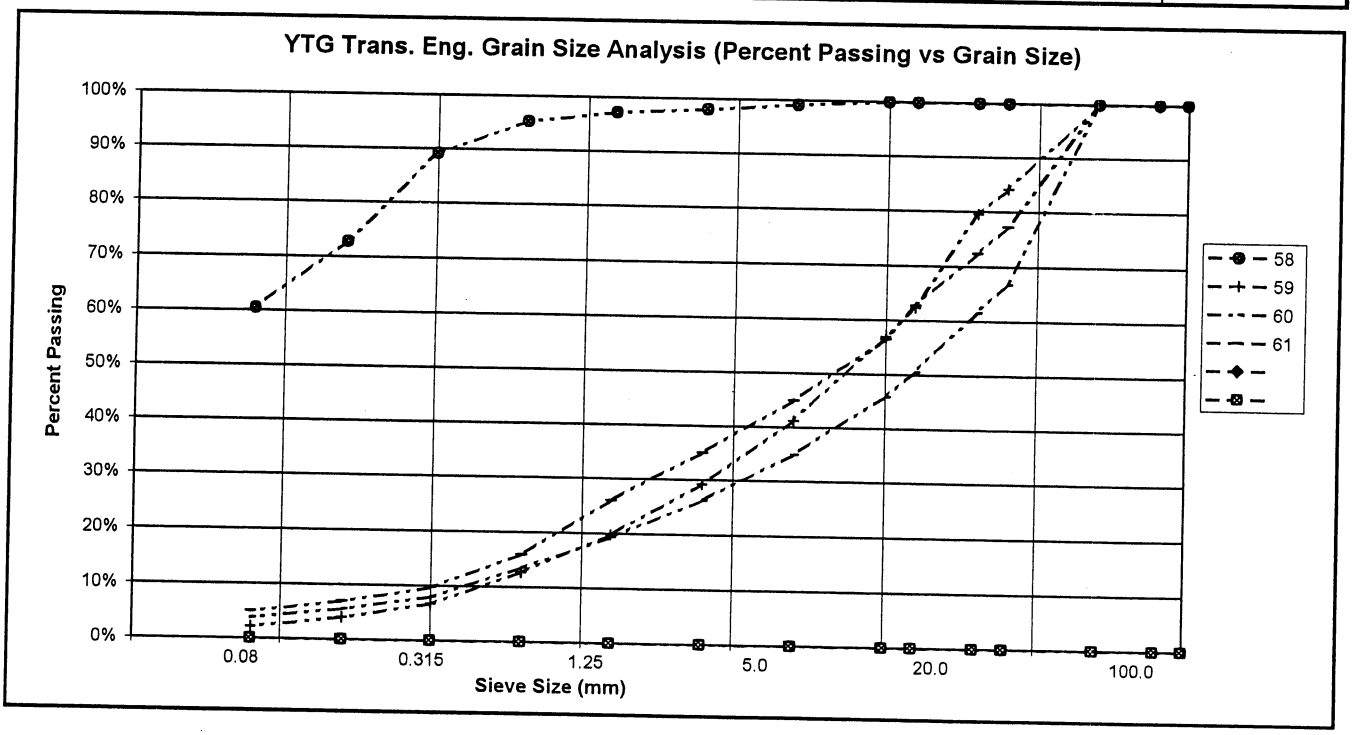


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2415

DATE COMP: Sept 2002

FIELD NO:	58	59	60	61		
LAB NO:	318	319	320	321		
DEPTH:	1.0-1.5	2.0-2.5	3.0-3.5	4.0-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	100%	84%	67%	77%		
20.0	100%	80%	62%	72%		
12.5	100%	62%	51%	63%		
10.0	100%	57%	46%	56%		
5.0	99%	41%	35%	45%		
2.5	98%	29%	26%	35%		
1.25	97%	20%	19%	26%		
0.630	95%	13%	13%	16%		
0.315	89%	7%	8%	10%		
0.160	73%	4%	5%	7%		
0.080	60%	2%	4%	5%		
M.C.(%):	28%	2%	3%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	1	59	65	55		
% SAND:	39	39	31	40		
% FINES:	60	2	4	5		
CLASSIFICATION	SANDY SILT (ML)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		

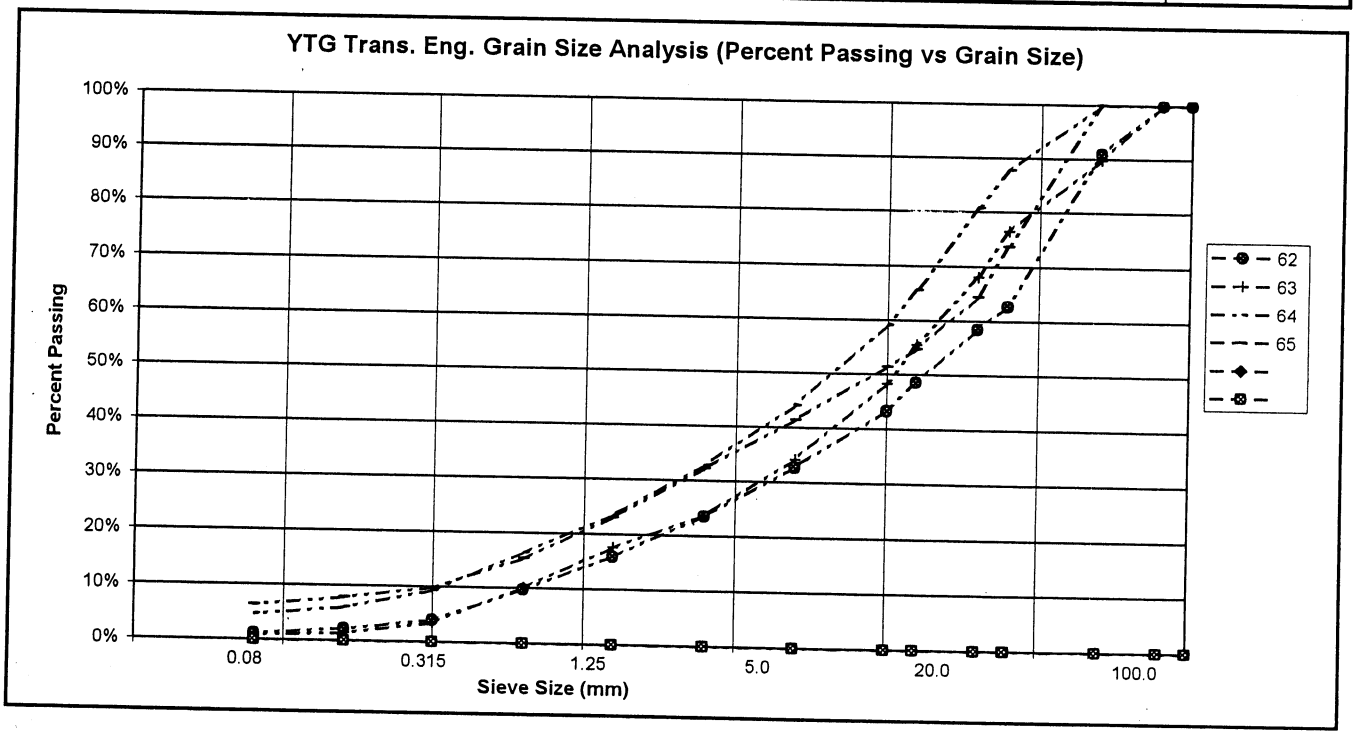


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2416

DATE COMP: Sept 2002

FIELD NO:	62	63	64	65		
LAB NO:	322	323	324	325		
DEPTH:	1.0-1.5	2.0-2.5	3.0-3.5	4.0-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	91%	90%	100%	100%		
25.0	63%	76%	88%	74%		
20.0	58%	68%	81%	64%		
12.5	49%	56%	66%	55%		
10.0	43%	48%	59%	51%		
5.0	33%	34%	44%	41%		
2.5	24%	24%	33%	32%		
1.25	16%	18%	23%	23%		
0.630	10%	10%	16%	15%		
0.315	4%	4%	9%	10%		
0.160	2%	1%	6%	8%		
0.080	1%	1%	5%	6%		
M.C.(%):	4%	2%	4%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	67	66	56	59		
% SAND:	32	33	39	35		
% FINES:	1	1	5	6		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		

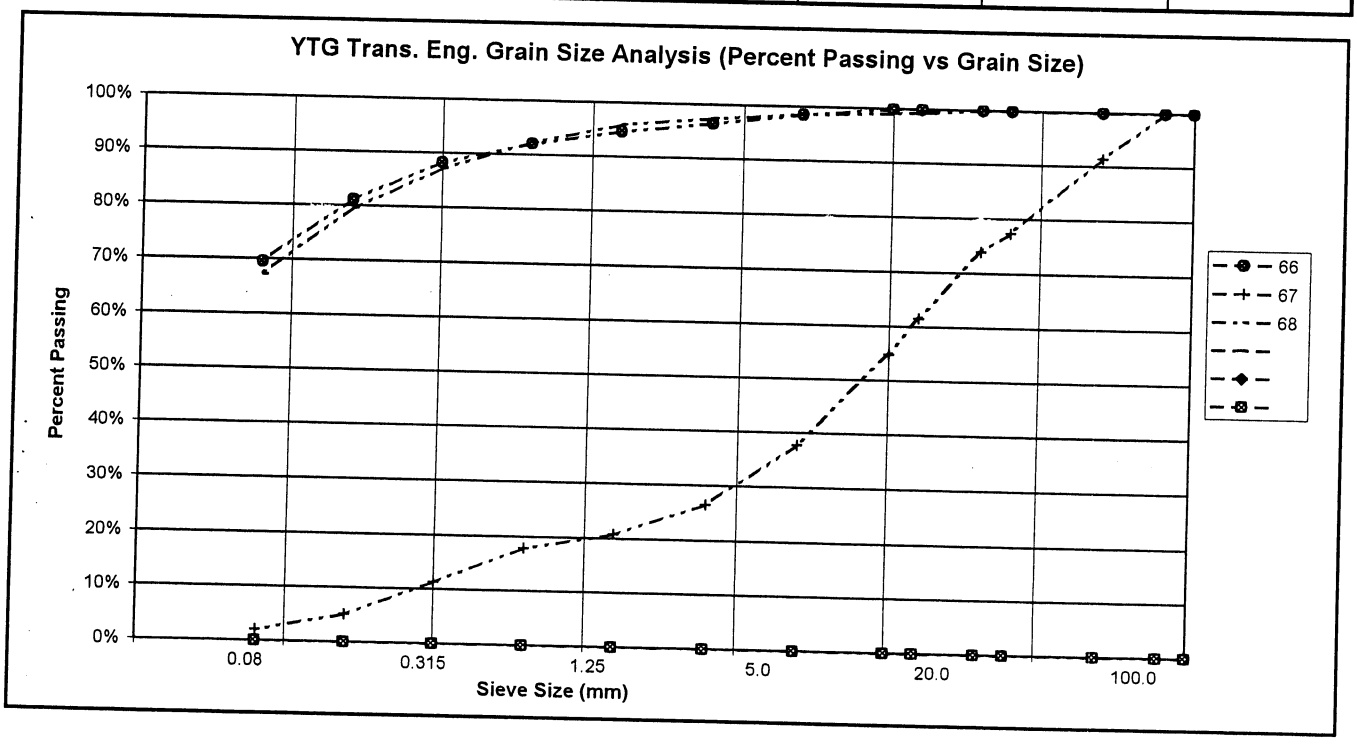


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2417

DATE COMP: Sept 2002

FIELD NO:	66	67	68			
LAB NO:	626	627	628			
DEPTH:	1.2-1.8	2.6-3.0	4.2-4.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	91%	100%			
25.0	100%	77%	100%			
20.0	100%	74%	100%			
12.5	100%	61%	99%			
10.0	100%	55%	99%			
5.0	99%	38%	99%			
2.5	97%	26%	98%			
1.25	95%	21%	96%			
0.630	92%	18%	92%			
0.315	88%	11%	87%			
0.160	81%	5%	80%			
0.080	70%	2%	67%			
M.C.(%):	34%	3%	31%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	1	62	1			
% SAND:	29	36	31			
% FINES:	70	2	67			
CLASSIFICATION	SANDY SILT (ML)	WELL-GRADED GRAVEL WITH SAND (GW)	SANDY SILT (ML)			

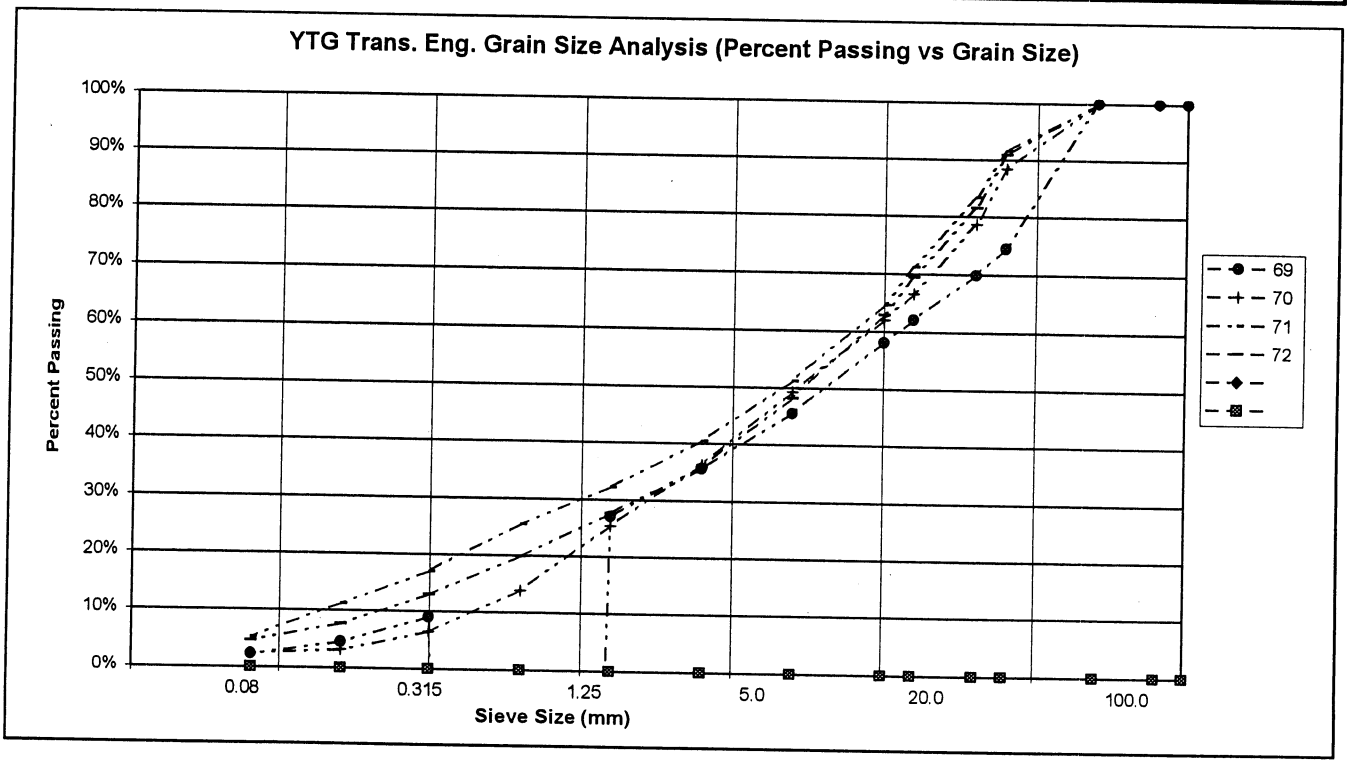


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2418

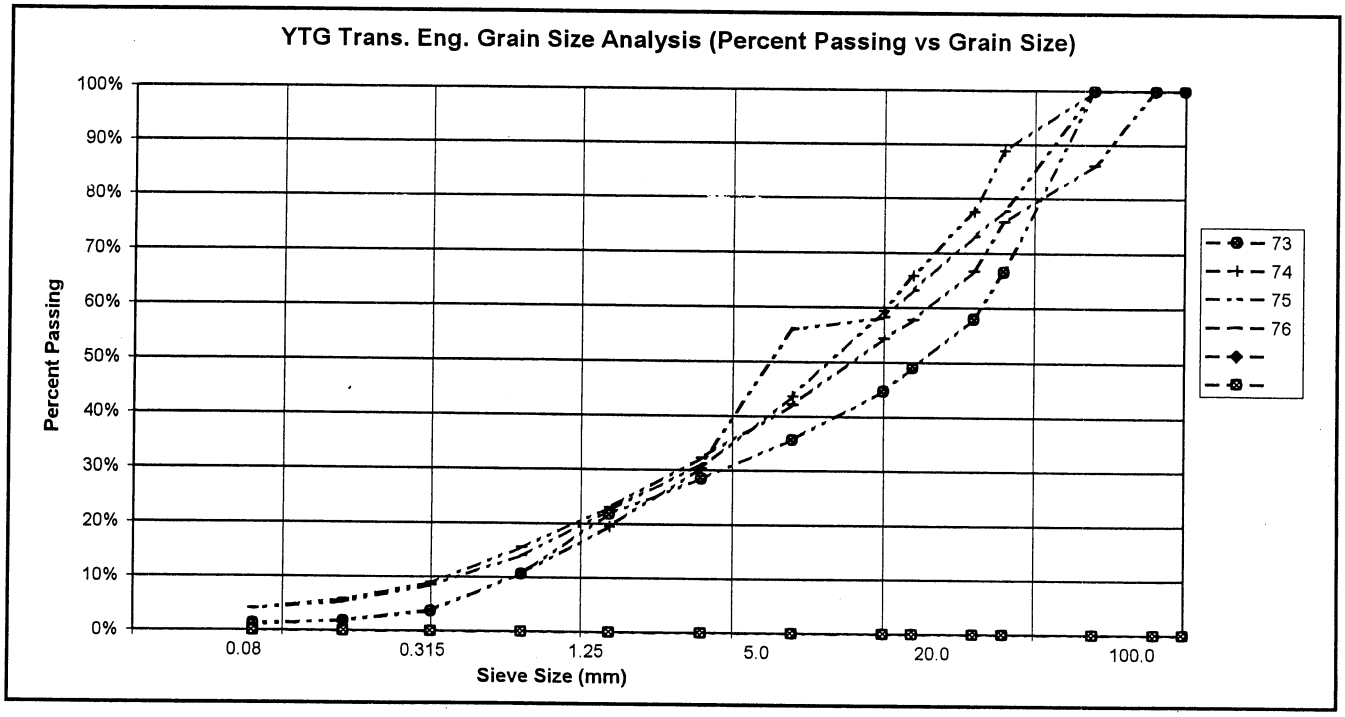
DATE COMP: Sept 2002

FIELD NO:	69	70	71	72		
LAB NO:	329	330	331	332		
DEPTH:	0.5-1.0	2.0-2.5	3.5-4.0	4.2-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	75%	88%	92%	91%		
20.0	70%	79%	83%	82%		
12.5	62%	67%	71%	69%		
10.0	58%	62%	65%	63%		
5.0	46%	49%	51%	48%		
2.5	36%	36%	40%	36%		
1.25	27%	25%	32%	28%		
0.630	-655%	14%	26%	20%		
0.315	9%	6%	17%	13%		
0.160	5%	3%	11%	8%		
0.080	2%	2%	5%	5%		
M.C.(%):	3%	4%	6%	6%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	54	51	49	52		
% SAND:	43	47	46	44		
% FINES:	2	2	5	5		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SAND (GP)		



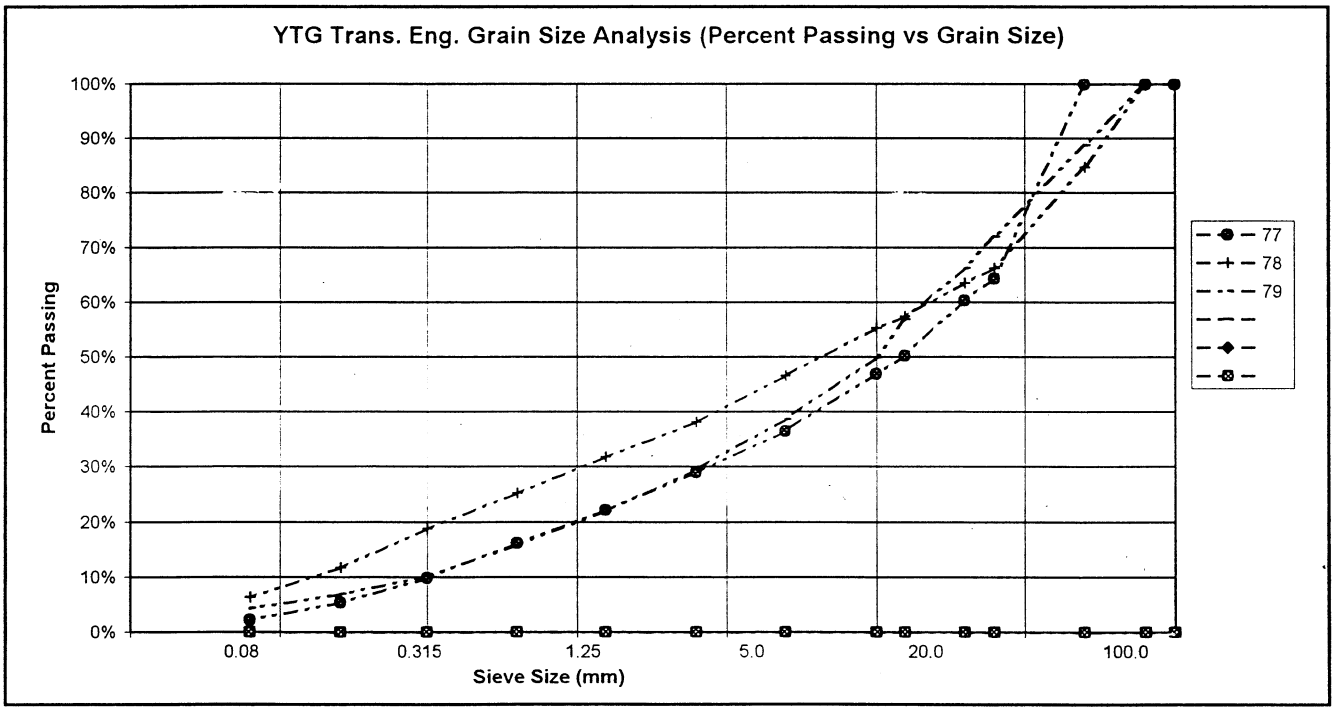
PROJECT NUMBER:	552-202101-0361-1	HOLE No.: 636-2419
CLIENT:	Engineering Capital	
PROJECT NAME:	Shakwak Granular Investigation	
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek	
DRILL UNIT:	Koehring 6625 Backhoe	
HOLE LOCATION:	See Plan	
LOGGED BY:	JRP R.W.	DATE COMP: Sept 2002

FIELD NO:	73	74	75	76		
LAB NO:	333	334	335	336		
DEPTH:	0.6-1.2	2.2-2.8	3.2-3.8	4.0-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	86%		
25.0	67%	89%	78%	76%		
20.0	58%	78%	73%	67%		
12.5	49%	66%	63%	58%		
10.0	45%	59%	58%	54%		
5.0	36%	44%	56%	42%		
2.5	28%	30%	31%	32%		
1.25	22%	19%	22%	23%		
0.630	11%	11%	14%	16%		
0.315	4%	4%	8%	9%		
0.160	2%	2%	5%	6%		
0.080	1%	1%	4%	4%		
M.C.(%):	2%	2%	4%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	64	56	44	58		
% SAND:	34	43	52	38		
% FINES:	1	1	4	4		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)		



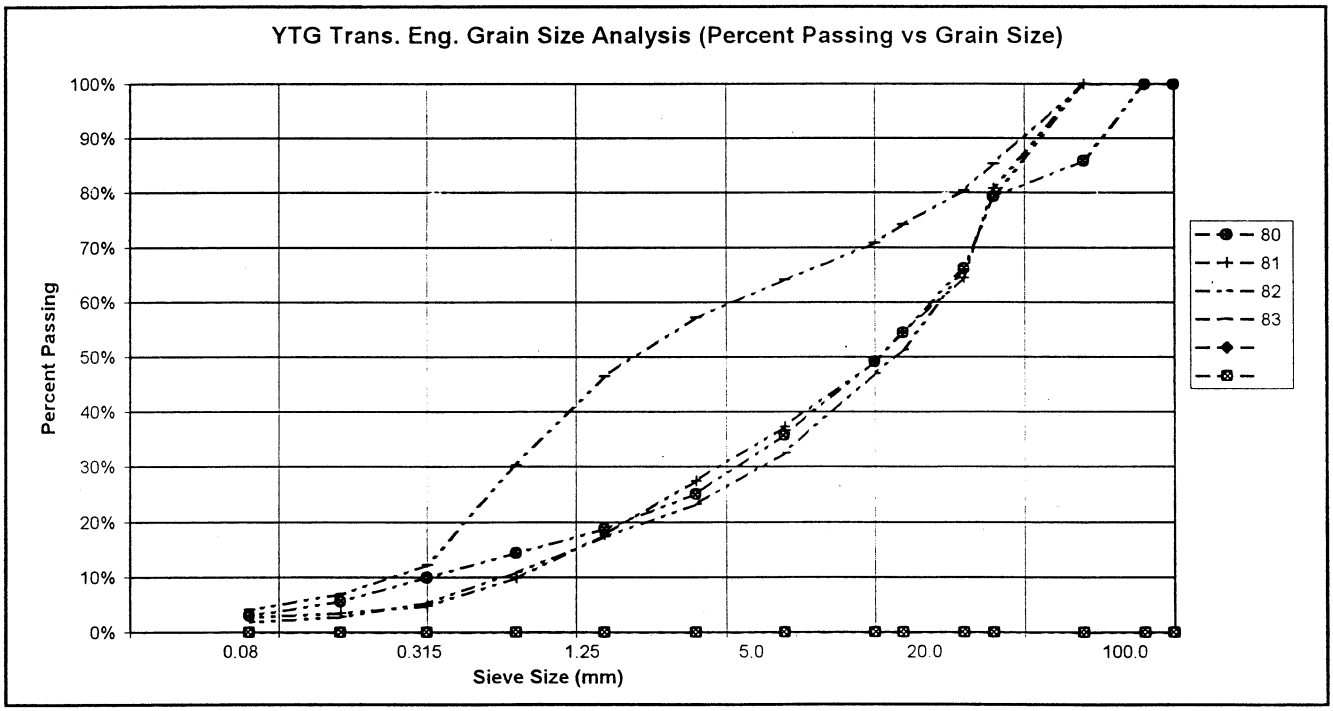
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2420
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	77	78	79			
LAB NO:	337	338	339			
DEPTH:	1.0-1.5	3.0-3.5	4.4-4.8			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	85%	89%			
25.0	64%	66%	72%			
20.0	60%	64%	66%			
12.5	50%	57%	57%			
10.0	47%	55%	50%			
5.0	36%	47%	39%			
2.5	29%	38%	30%			
1.25	22%	32%	22%			
0.630	16%	25%	16%			
0.315	10%	19%	10%			
0.160	5%	12%	7%			
0.080	2%	6%	4%			
M.C.(%):	2%	3%	3%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	64	53	61			
% SAND:	34	40	34			
% FINES:	2	6	4			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SAND (GP)			



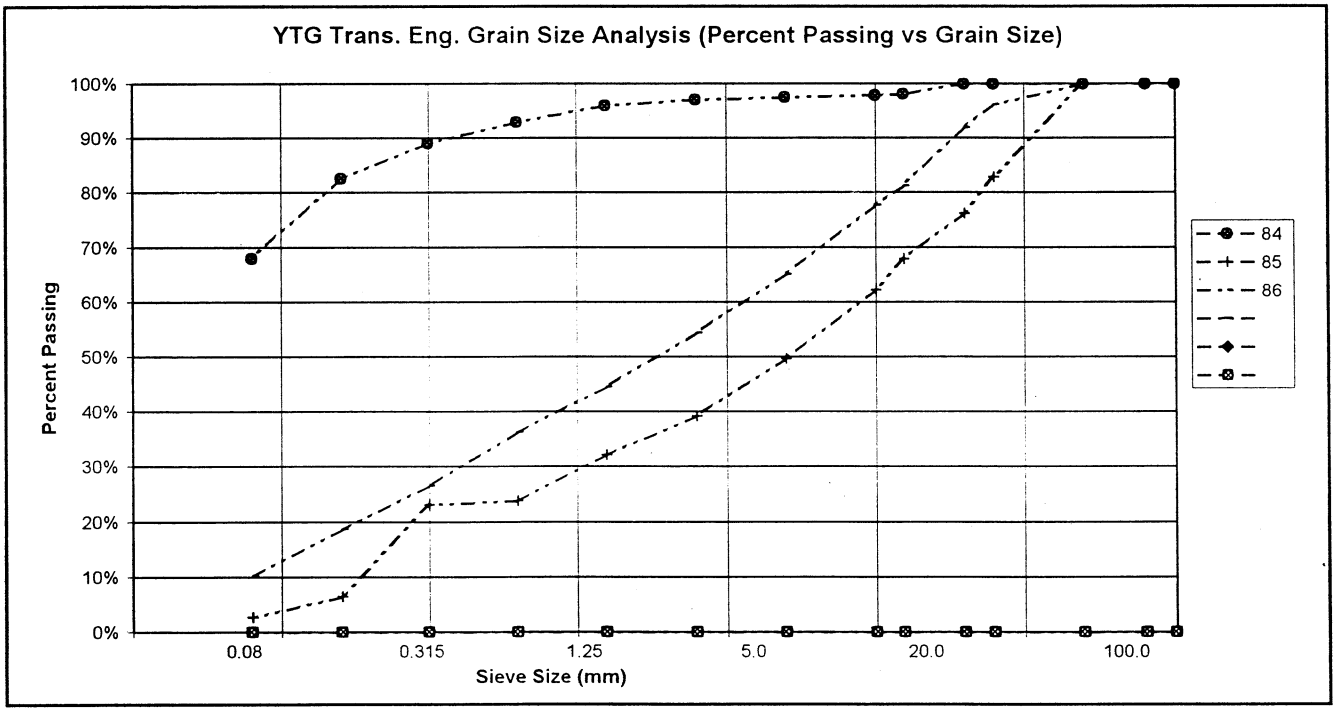
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2421
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	80	81	82	83		
LAB NO:	340	341	342	343		
DEPTH:	1.0-1.6	2.0-2.6	3.0-3.6	4.0-4.6		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	86%	100%	100%	100%		
25.0	79%	81%	79%	85%		
20.0	66%	64%	66%	80%		
12.5	55%	54%	51%	74%		
10.0	49%	49%	47%	71%		
5.0	36%	37%	33%	64%		
2.5	25%	27%	23%	57%		
1.25	19%	18%	17%	46%		
0.630	14%	10%	11%	30%		
0.315	10%	5%	5%	12%		
0.160	6%	4%	3%	7%		
0.080	3%	3%	2%	4%		
M.C.(%):	2%	3%	3%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	64	63	67	36		
% SAND:	33	35	31	60		
% FINES:	3	3	2	4		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED SAND WITH GRAVEL (SW)		



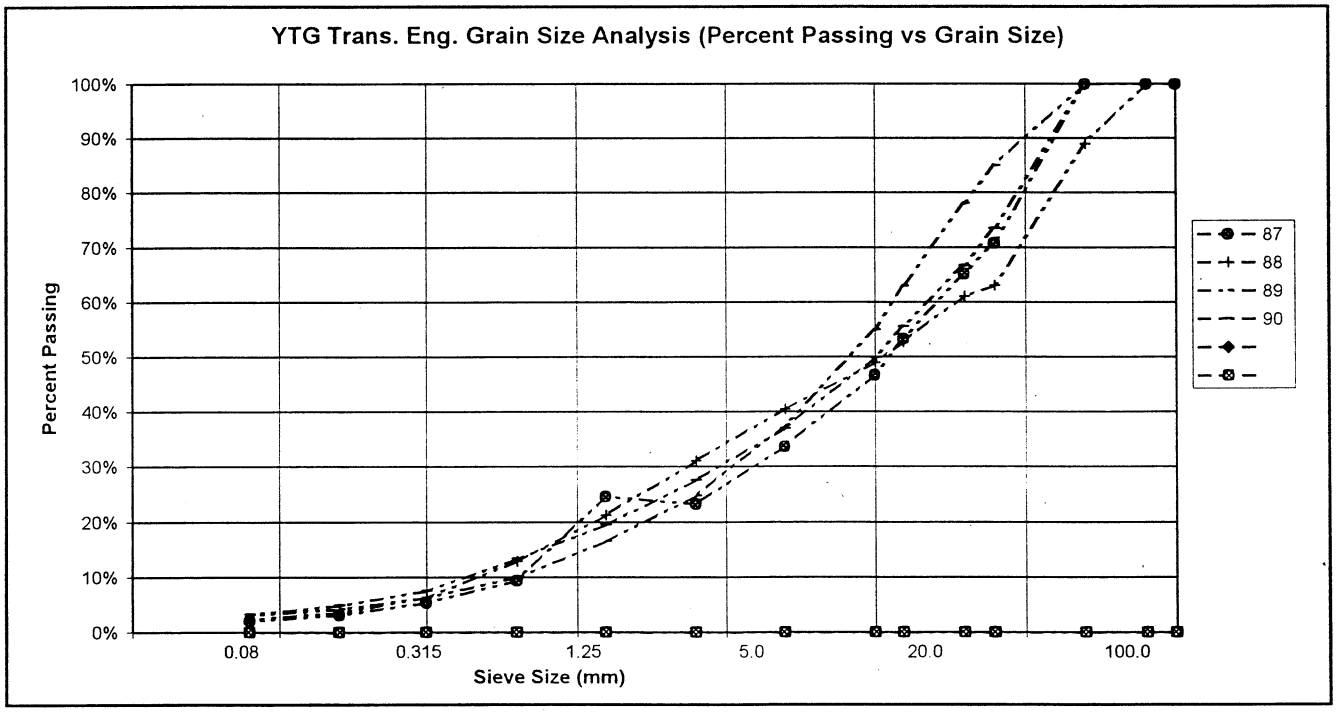
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2422
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	84	85	86			
LAB NO:	344	345	346			
DEPTH:	1.2-1.8	3.0-3.5	4.2-4.8			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	100%	83%	96%			
20.0	100%	76%	92%			
12.5	98%	68%	81%			
10.0	98%	62%	78%			
5.0	98%	50%	65%			
2.5	97%	39%	54%			
1.25	96%	32%	45%			
0.630	93%	24%	36%			
0.315	89%	23%	27%			
0.160	83%	6%	19%			
0.080	68%	3%	10%			
M.C.(%):	34%	3%	4%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	2	50	35			
% SAND:	30	47	55			
% FINES:	68	3	10			
CLASSIFICATION	SANDY SILT (ML)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)			



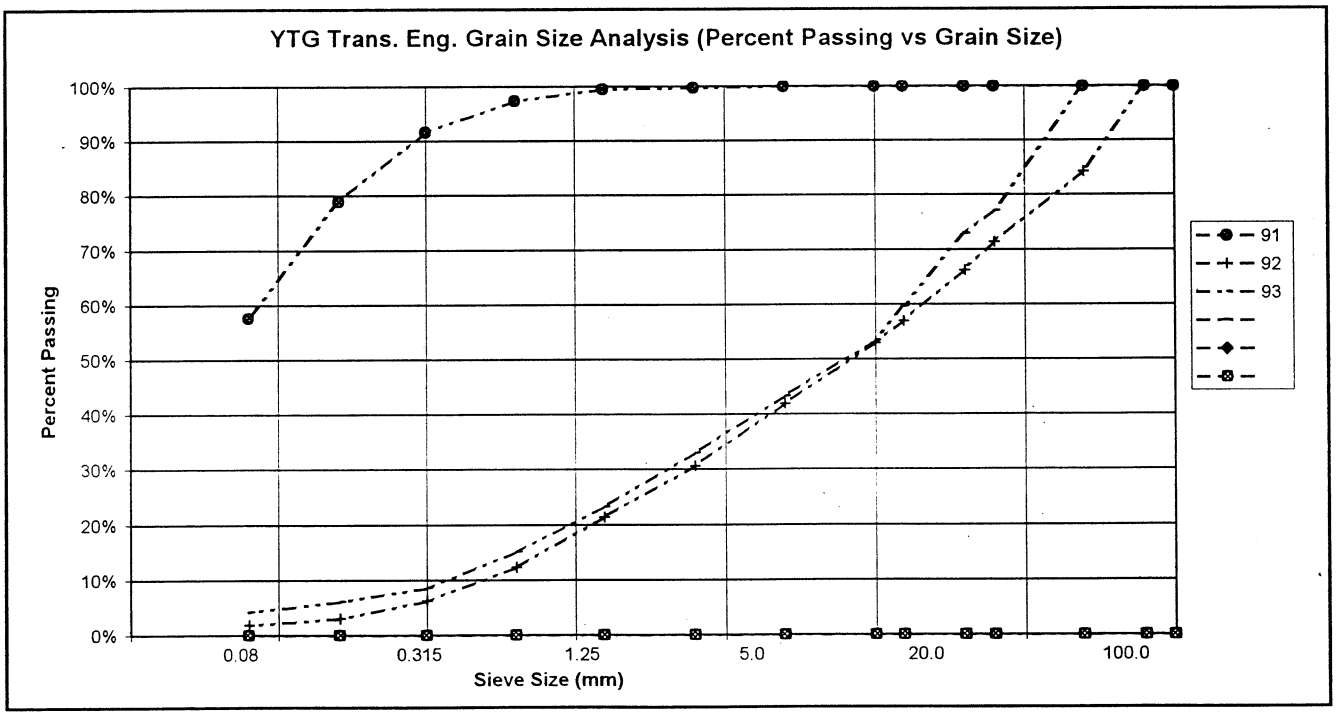
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2423
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	87	88	89	90		
LAB NO:	347	348	349	350		
DEPTH:	1.0-1.5	2.0-2.5	3.2-3.8	4.3-4.9		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	89%	100%	100%		
25.0	71%	63%	85%	73%		
20.0	65%	61%	78%	67%		
12.5	53%	53%	63%	55%		
10.0	47%	49%	55%	50%		
5.0	34%	40%	38%	37%		
2.5	23%	31%	25%	28%		
1.25	25%	21%	17%	19%		
0.630	9%	13%	10%	13%		
0.315	5%	6%	6%	8%		
0.160	3%	4%	4%	5%		
0.080	2%	2%	3%	3%		
M.C.(%):	5%	4%	4%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	66	60	62	63		
% SAND:	31	38	34	34		
% FINES:	2	2	3	3		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		



PROJECT NUMBER:	552-202101-0361-1	HOLE No.: 636-2424
CLIENT:	Engineering Capital	
PROJECT NAME:	Shakwak Granular Investigation	
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek	
DRILL UNIT:	Koehring 6625 Backhoe	
HOLE LOCATION:	See Plan	
LOGGED BY:	JRP R.W.	DATE COMP: Sept 2002

FIELD NO:	91	92	93			
LAB NO:	351	352	353			
DEPTH:	1.0-1.4	2.5-3.0	4.0-4.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	84%	100%			
25.0	100%	71%	77%			
20.0	100%	66%	73%			
12.5	100%	57%	60%			
10.0	100%	53%	53%			
5.0	100%	42%	43%			
2.5	100%	31%	33%			
1.25	99%	21%	23%			
0.630	97%	12%	15%			
0.315	92%	6%	9%			
0.160	79%	3%	6%			
0.080	58%	2%	4%			
M.C.(%):	19%	2%	3%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	0	58	57			
% SAND:	42	40	39			
% FINES:	58	2	4			
CLASSIFICATION	SANDY SILT (ML)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			

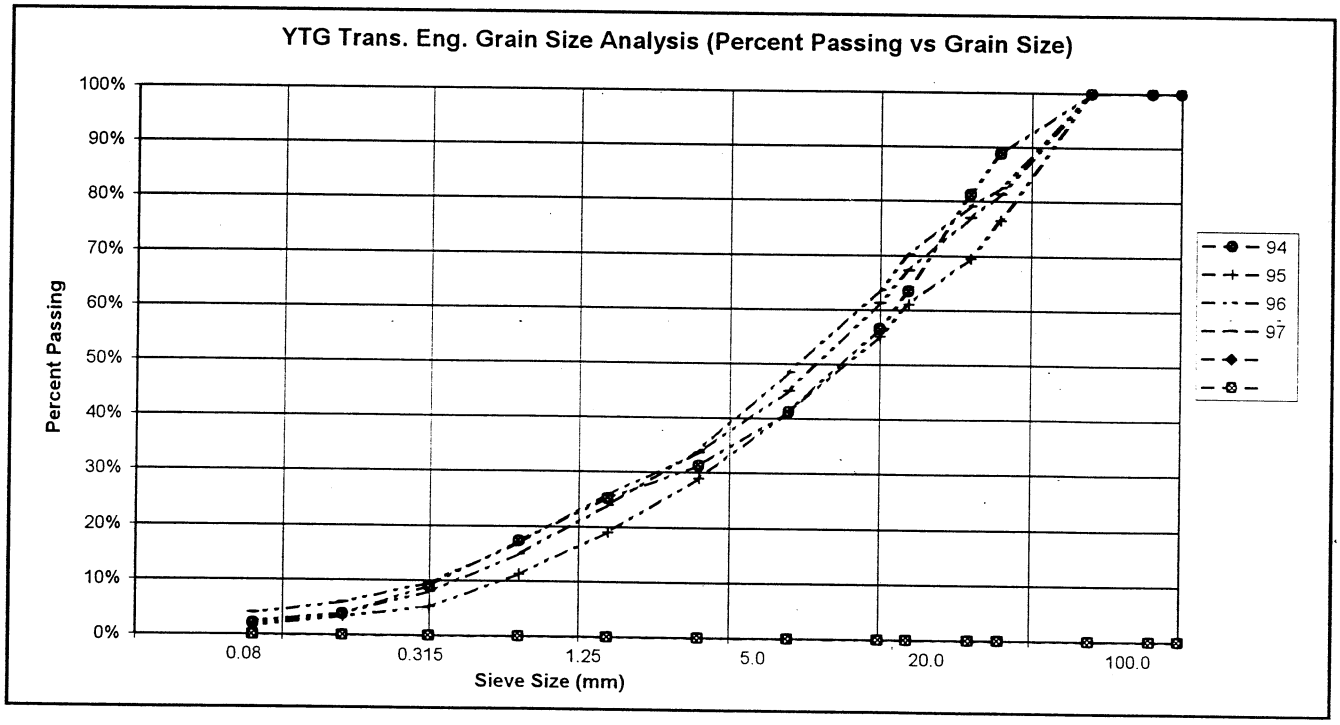


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2425

DATE COMP: Sept 2002

FIELD NO:	94	95	96	97		
LAB NO:	354	355	356	357		
DEPTH:	1.0-1.4	2.2-2.8	3.3-3.8	4.3-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	89%	76%	83%	81%		
20.0	81%	69%	79%	77%		
12.5	64%	61%	70%	67%		
10.0	57%	55%	64%	61%		
5.0	41%	41%	49%	45%		
2.5	31%	29%	34%	34%		
1.25	25%	19%	24%	26%		
0.630	17%	11%	15%	17%		
0.315	9%	5%	8%	10%		
0.160	4%	3%	4%	6%		
0.080	2%	2%	3%	4%		
M.C.(%):	2%	2%	2%	2%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	59	59	51	55		
% SAND:	39	40	46	41		
% FINES:	2	2	3	4		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		

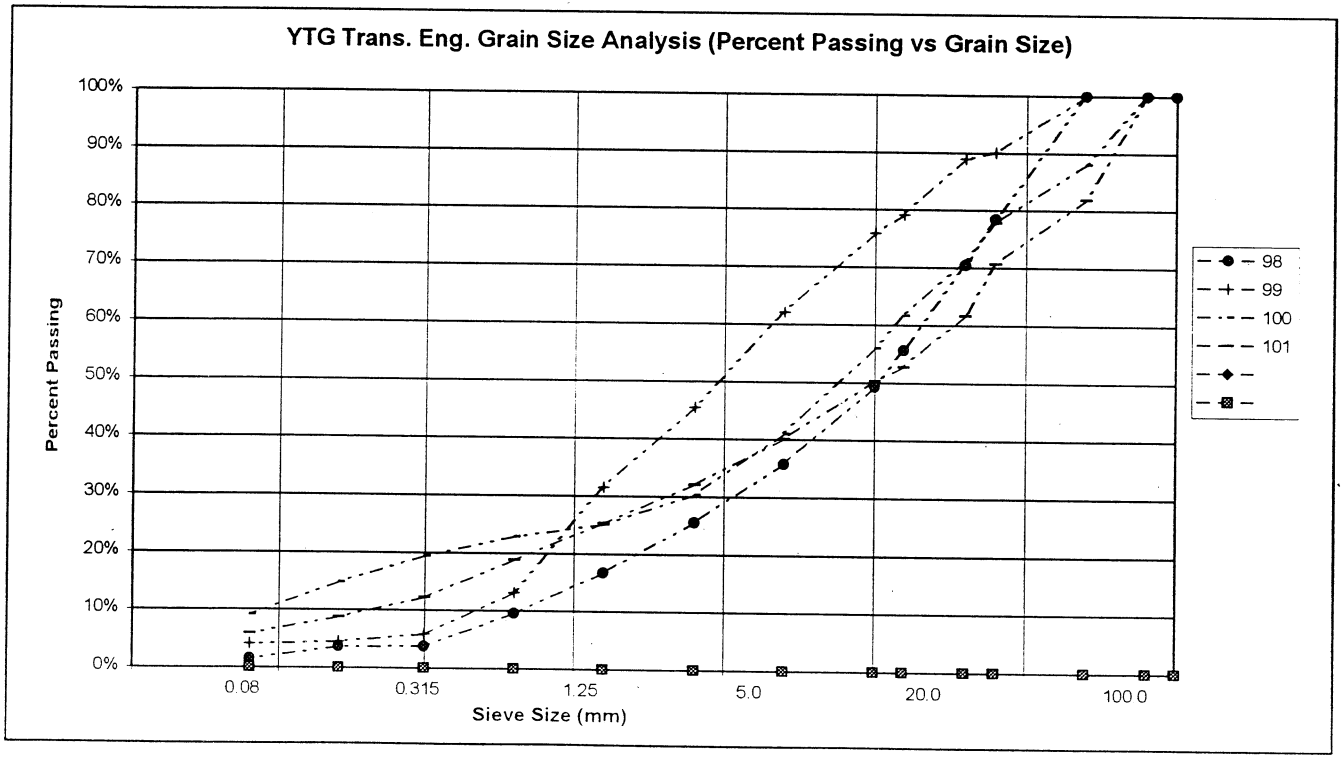


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2426

DATE COMP: Sept 2002

FIELD NO:	98	99	100	101		
LAB NO:	358	359	360	361		
DEPTH:	0.8-1.4	2.0-2.5	3.0-3.5	4.3-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	88%	82%		
25.0	79%	90%	78%	71%		
20.0	70%	89%	71%	62%		
12.5	56%	79%	62%	53%		
10.0	49%	76%	56%	50%		
5.0	36%	62%	41%	40%		
2.5	26%	45%	30%	32%		
1.25	17%	32%	25%	25%		
0.630	10%	13%	23%	19%		
0.315	4%	6%	19%	12%		
0.160	4%	5%	15%	9%		
0.080	2%	4%	9%	6%		
M.C.(%):	2%	4%	5%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	64	38	59	60		
% SAND:	34	58	32	34		
% FINES:	2	4	9	6		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED SAND WITH GRAVEL (SP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		

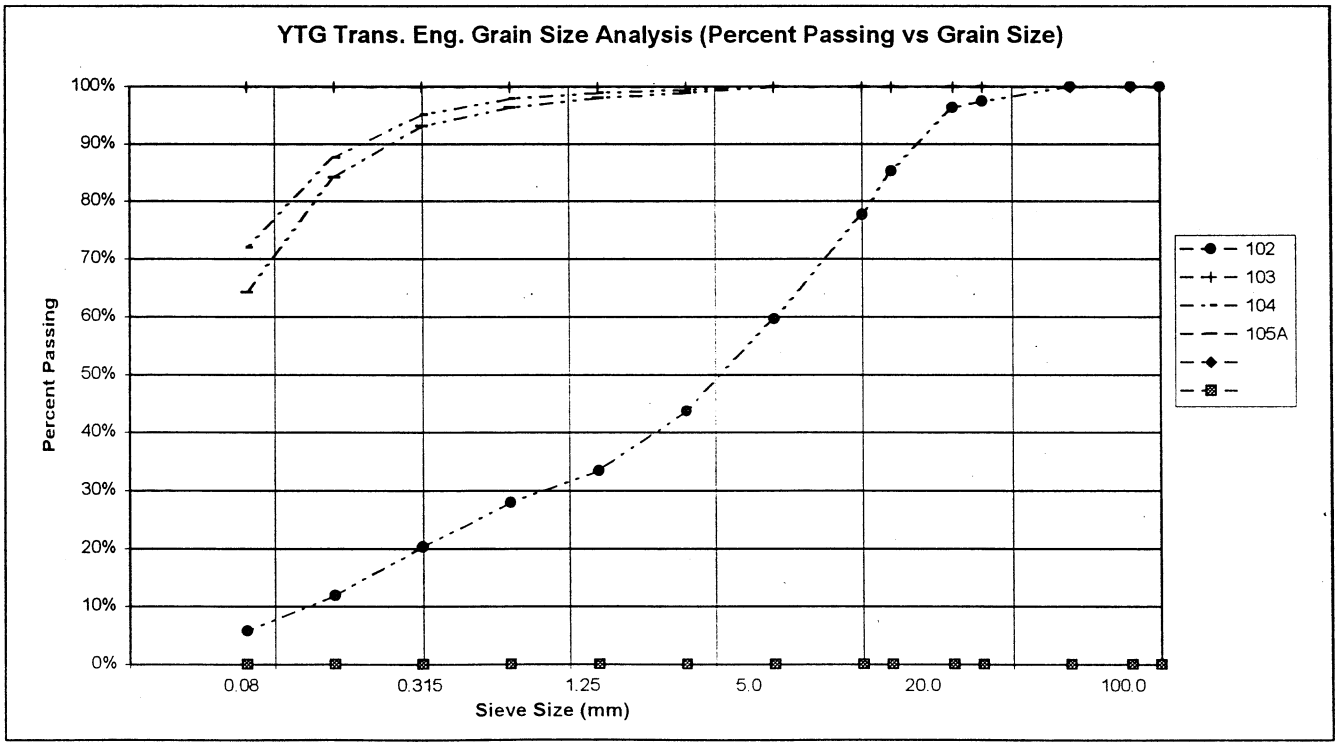


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2427

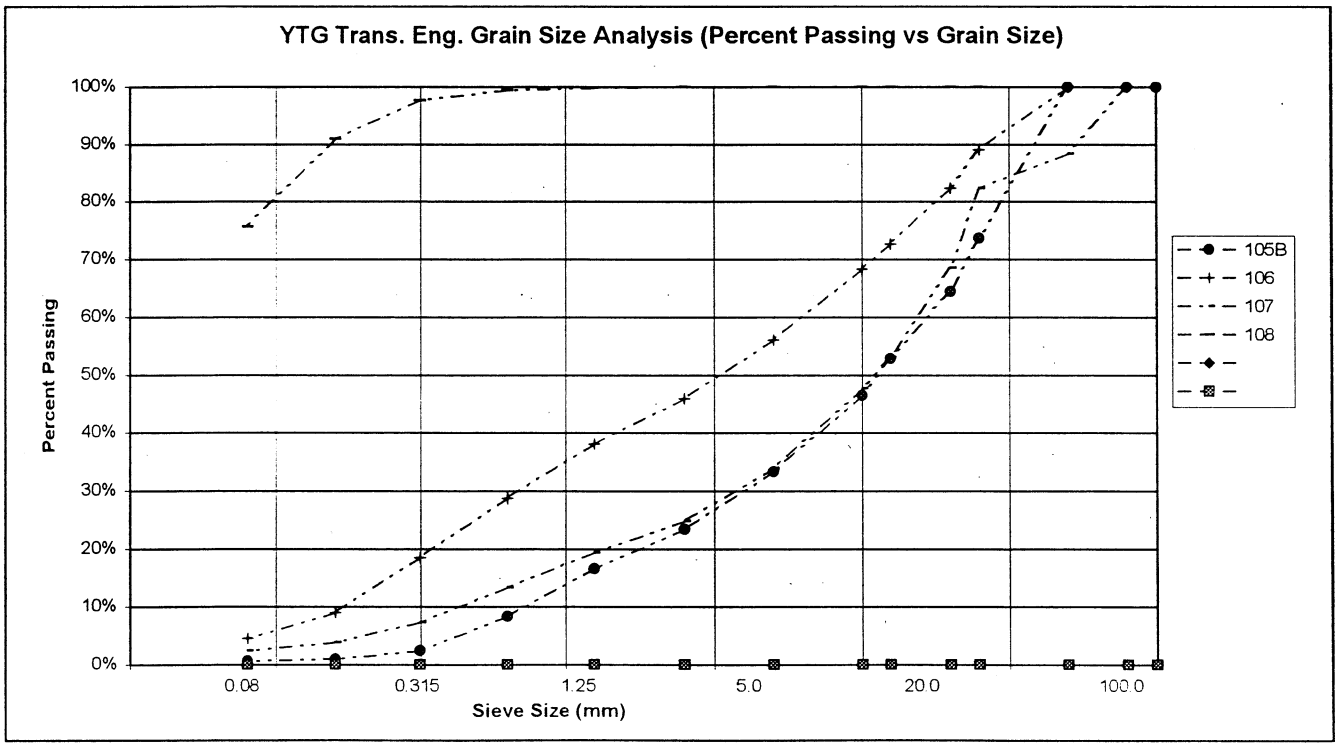
DATE COMP: Sept 2002

FIELD NO:	102	103	104	105A		
LAB NO:	362	LOST	363	364		
DEPTH:	1.0-1.5	2.2-2.8	3.6-4.0	4.2-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	97%	100%	100%	100%		
20.0	96%	100%	100%	100%		
12.5	85%	100%	100%	100%		
10.0	78%	100%	100%	100%		
5.0	60%	100%	100%	100%		
2.5	44%	100%	99%	99%		
1.25	33%	100%	99%	98%		
0.630	28%	100%	98%	96%		
0.315	20%	100%	95%	93%		
0.160	12%	100%	88%	84%		
0.080	6%	100%	72%	64%		
M.C.(%):	4%		27%	25%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	40	0	0	0		
% SAND:	54	0	28	36		
% FINES:	6	100	72	64		
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	~~SILT (ML)~~ LOST	SILT WITH SAND (ML)	SANDY SILT (ML)		



PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2428
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	105B	106	107	108		
LAB NO:	365	366	367	368		
DEPTH:	0.4-1.0	1.6-2.2	3.0-3.5	4.2-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	88%	100%		
25.0	74%	89%	82%	100%		
20.0	64%	82%	69%	100%		
12.5	53%	73%	53%	100%		
10.0	46%	68%	48%	100%		
5.0	33%	56%	34%	100%		
2.5	23%	46%	25%	100%		
1.25	17%	38%	19%	100%		
0.630	8%	29%	13%	99%		
0.315	2%	19%	7%	98%		
0.160	1%	9%	4%	91%		
0.080	1%	5%	2%	76%		
M.C.(%):	2%	5%	3%	32%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	67	44	66	0		
% SAND:	33	52	31	24		
% FINES:	1	5	2	76		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)	SILT WITH SAND (ML)		

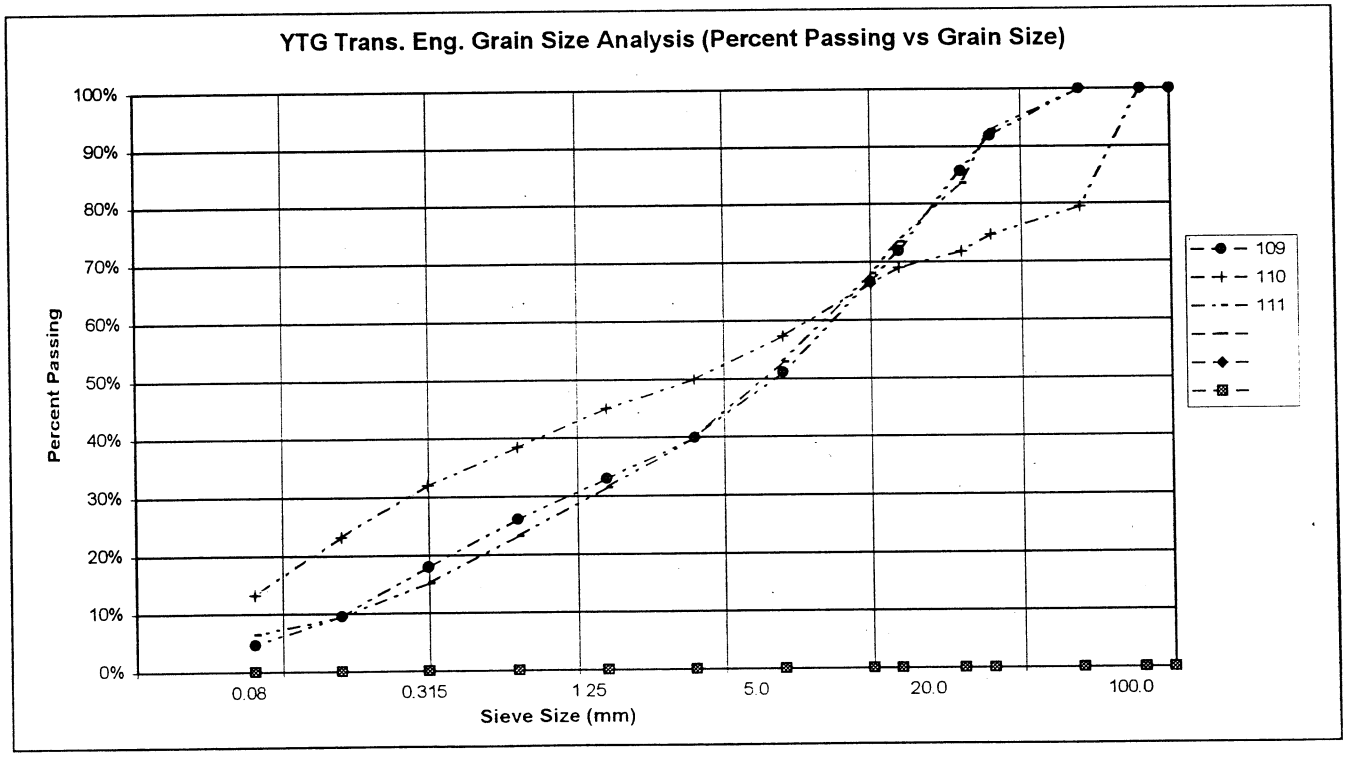


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2429

DATE COMP: Sept 2002

FIELD NO:	109	110	111			
LAB NO:	369	370	371			
DEPTH:	0.6-1.0	1.8-2.4	3.8-4.2			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	79%	100%			
25.0	92%	75%	93%			
20.0	86%	72%	84%			
12.5	72%	69%	74%			
10.0	67%	66%	68%			
5.0	51%	57%	53%			
2.5	40%	50%	40%			
1.25	33%	45%	31%			
0.630	26%	38%	23%			
0.315	18%	32%	15%			
0.160	10%	23%	9%			
0.080	5%	13%	6%			
M.C.(%):	2%	6%	4%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	49	43	47			
% SAND:	46	44	46			
% FINES:	5	13	6			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY SAND WITH GRAVEL (SM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

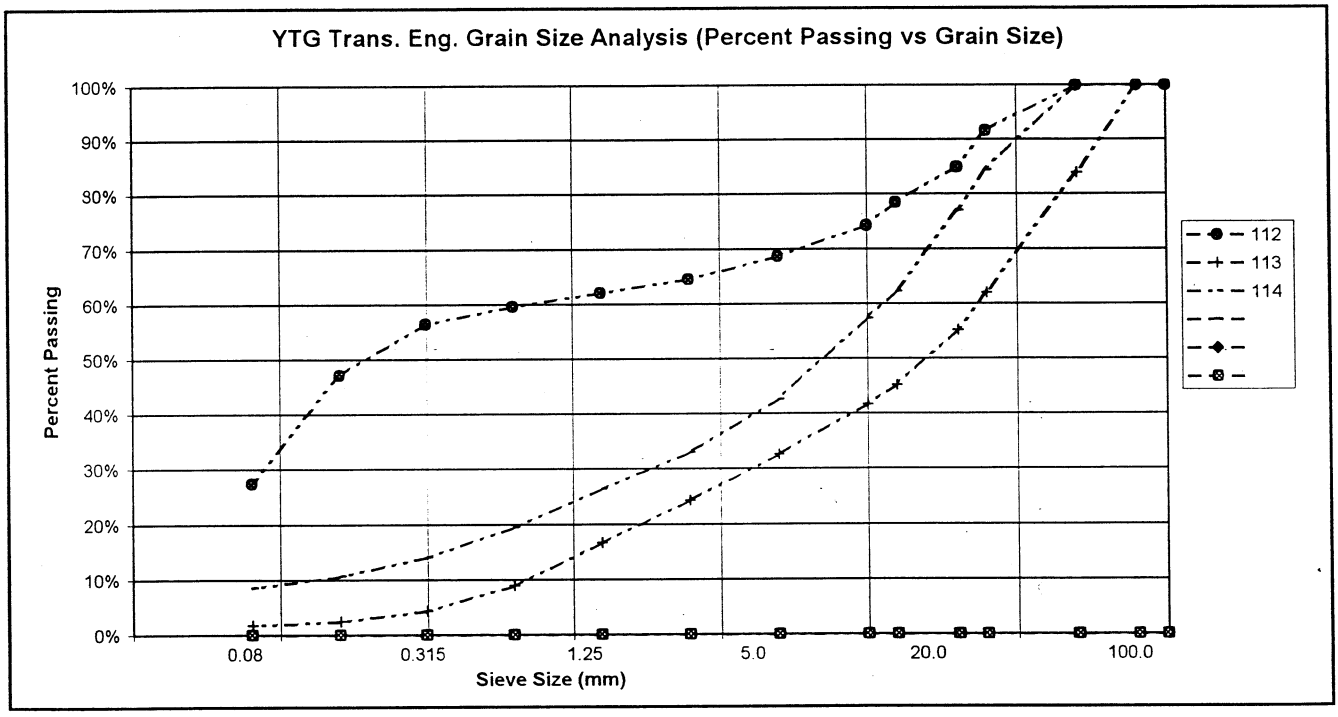


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2430

DATE COMP: Sept 2002

FIELD NO:	112	113	114			
LAB NO:	372	373	374			
DEPTH:	1.0-1.5	2.5-3.0	4.0-4.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	84%	100%			
25.0	92%	62%	84%			
20.0	85%	55%	77%			
12.5	79%	45%	62%			
10.0	74%	42%	57%			
5.0	69%	33%	43%			
2.5	65%	24%	33%			
1.25	62%	17%	26%			
0.630	60%	9%	20%			
0.315	56%	4%	14%			
0.160	47%	2%	11%			
0.080	27%	2%	9%			
M.C.(%):	7%	2%	3%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	31	67	57			
% SAND:	41	31	34			
% FINES:	27	2	9			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

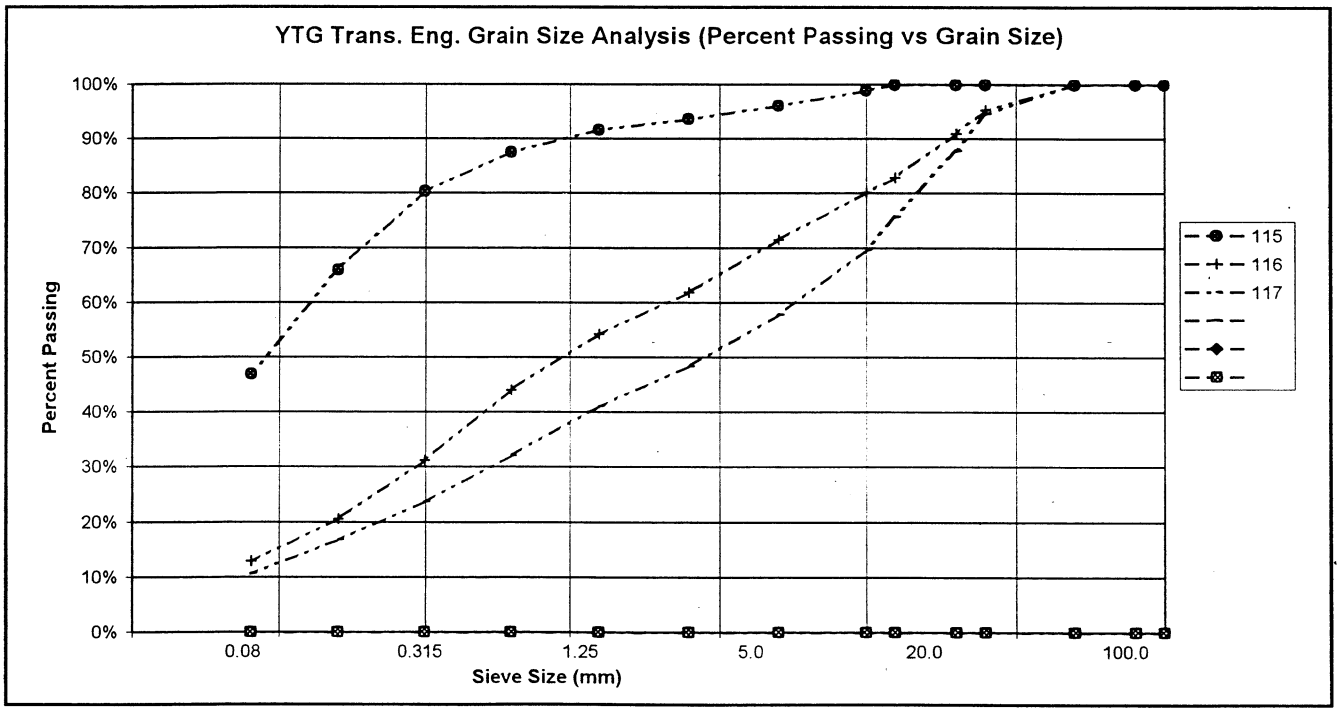


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2431

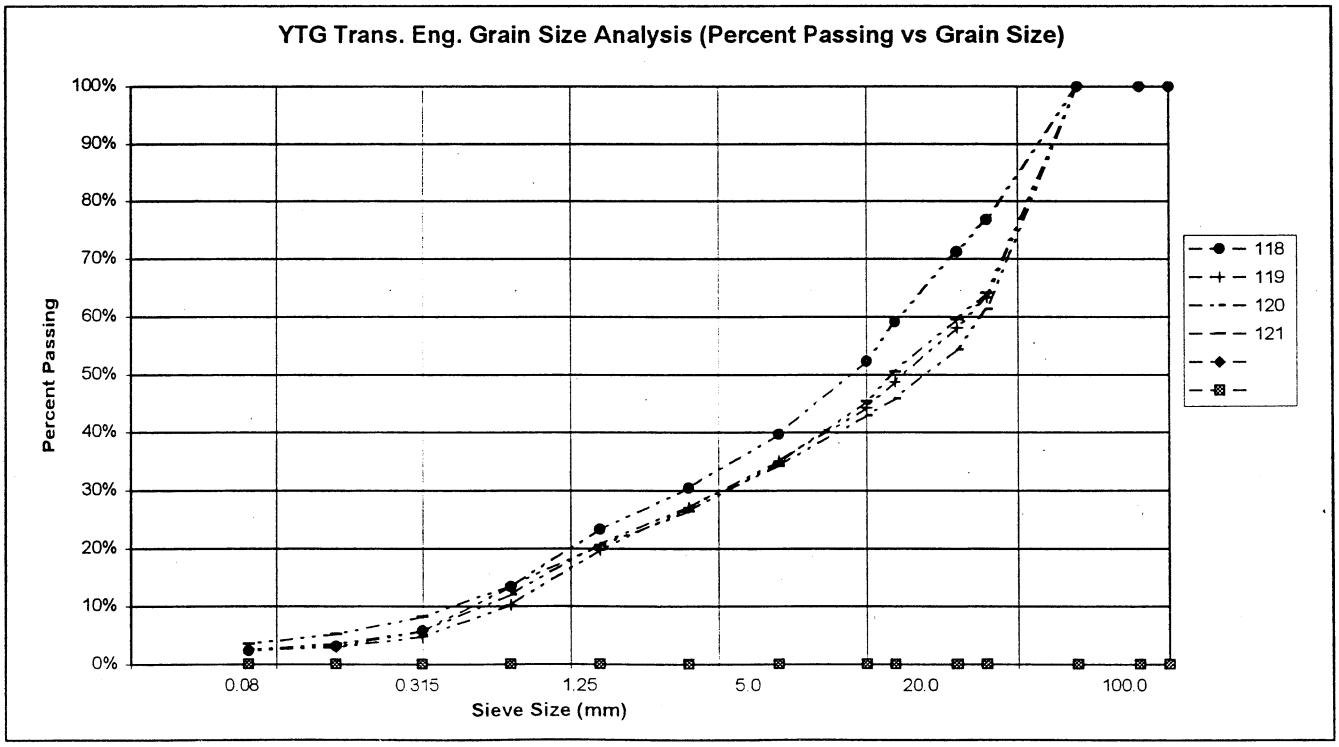
DATE COMP: Sept 2002

FIELD NO:	115	116	117			
LAB NO:	375	376	377			
DEPTH:	1-1.5	2.6-3.0	4-4.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	100%	95%	95%			
20.0	100%	91%	88%			
12.5	100%	83%	76%			
10.0	99%	80%	70%			
5.0	96%	71%	58%			
2.5	94%	62%	48%			
1.25	92%	54%	41%			
0.630	88%	44%	32%			
0.315	80%	31%	24%			
0.160	66%	21%	17%			
0.080	47%	13%	11%			
M.C.(%):	12%	4%	4%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	4	29	42			
% SAND:	49	58	47			
% FINES:	47	13	11			
CLASSIFICATION	SILTY SAND (SM)	SILTY SAND WITH GRAVEL (SM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)			



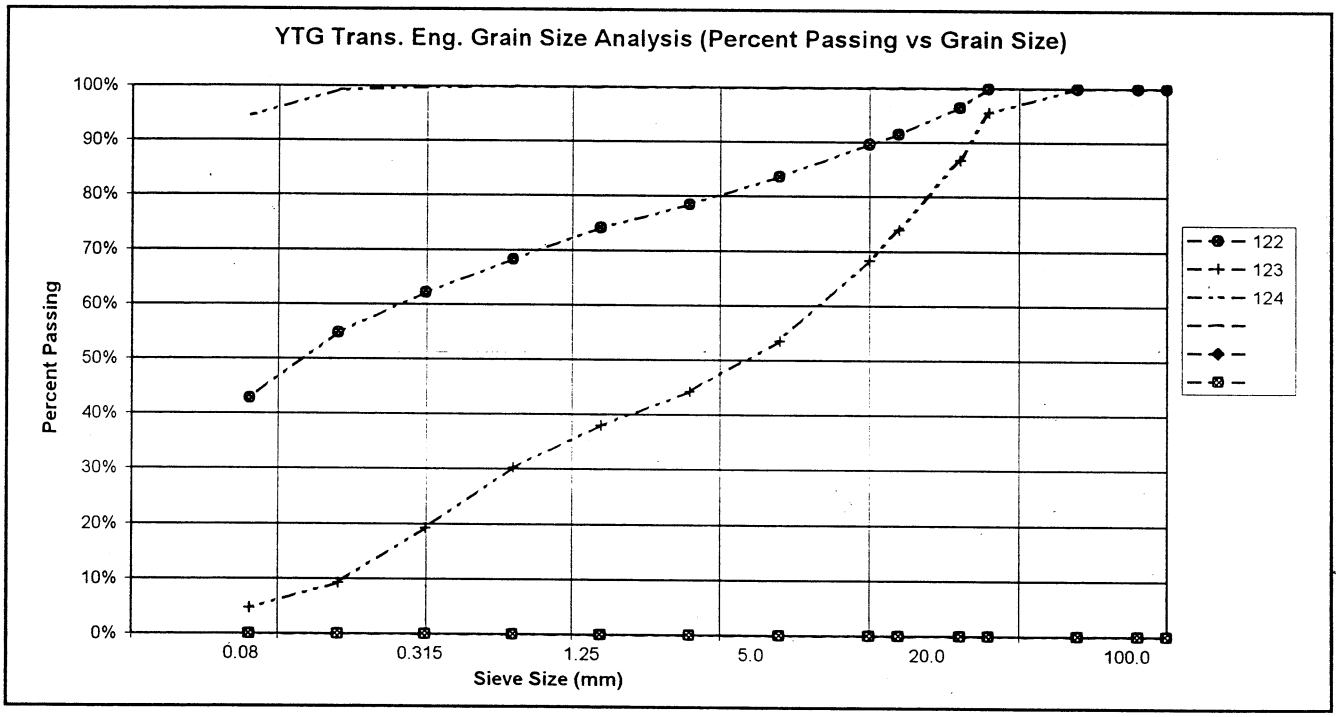
PROJECT NUMBER:	552-202101-0361-1	HOLE No.: 636-2432
CLIENT:	Engineering Capital	
PROJECT NAME:	Shakwak Granular Investigation	
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek	
DRILL UNIT:	Koehring 6625 Backhoe	
HOLE LOCATION:	See Plan	
LOGGED BY:	JRP R.W.	DATE COMP: Sept 2002

FIELD NO:	118	119	120	121		
LAB NO:	378	379	380	381		
DEPTH:	0.8-1.2	1.5-2.0	3.2-3.8	4.2-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	77%	63%	61%	64%		
20.0	71%	58%	54%	60%		
12.5	59%	49%	46%	51%		
10.0	52%	44%	43%	45%		
5.0	40%	35%	34%	35%		
2.5	30%	27%	27%	26%		
1.25	23%	20%	21%	20%		
0.630	13%	10%	12%	14%		
0.315	6%	5%	6%	8%		
0.160	3%	3%	4%	5%		
0.080	2%	2%	3%	4%		
M.C.(%):	2%	3%	3%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	60	65	66	65		
% SAND:	37	33	32	31		
% FINES:	2	2	3	4		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		



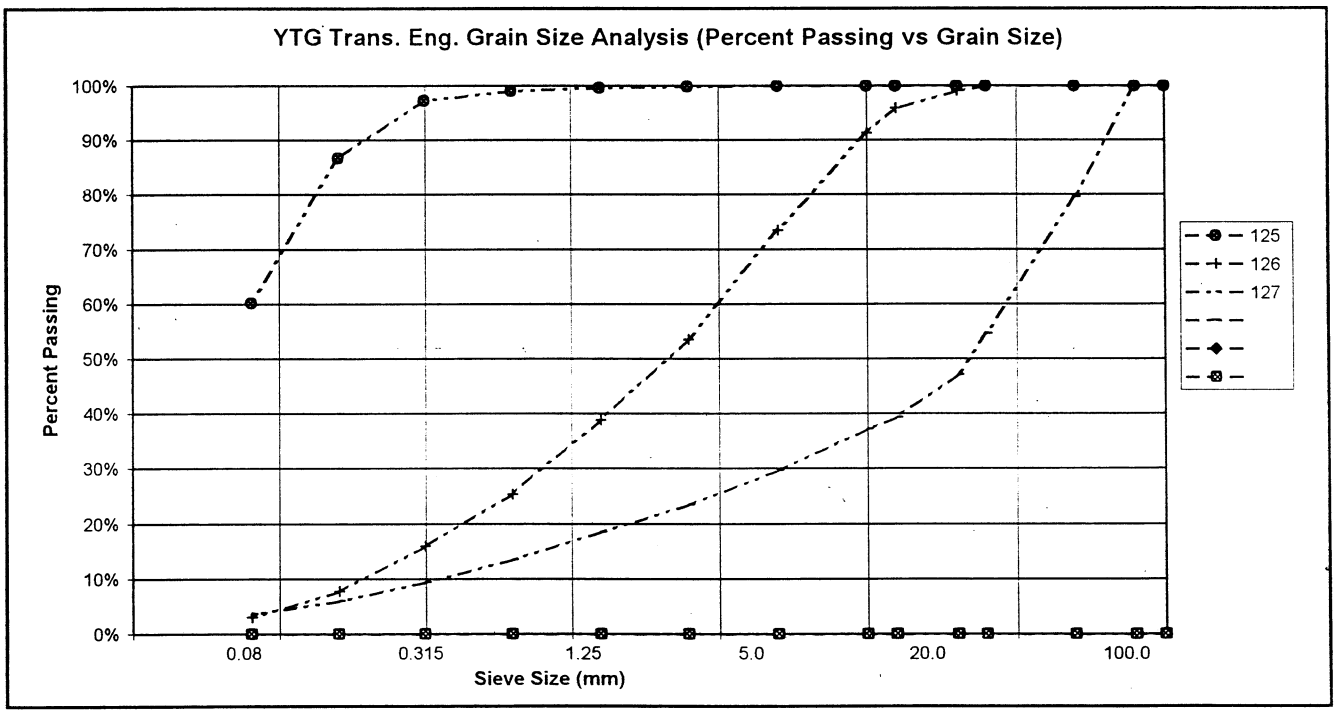
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2433
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	122	123	124			
LAB NO:	382	383	384			
DEPTH:	1.0-1.6	2.2-2.8	4.0-4.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	100%	96%	100%			
20.0	97%	87%	100%			
12.5	92%	74%	100%			
10.0	90%	68%	100%			
5.0	84%	54%	100%			
2.5	79%	44%	100%			
1.25	74%	38%	100%			
0.630	68%	30%	100%			
0.315	62%	19%	100%			
0.160	55%	9%	99%			
0.080	43%	5%	95%			
M.C.(%):	15%	3%	28%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	16	46	0			
% SAND:	41	49	5			
% FINES:	43	5	95			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	WELL-GRADED SAND WITH GRAVEL (SW)	SILT (ML)			



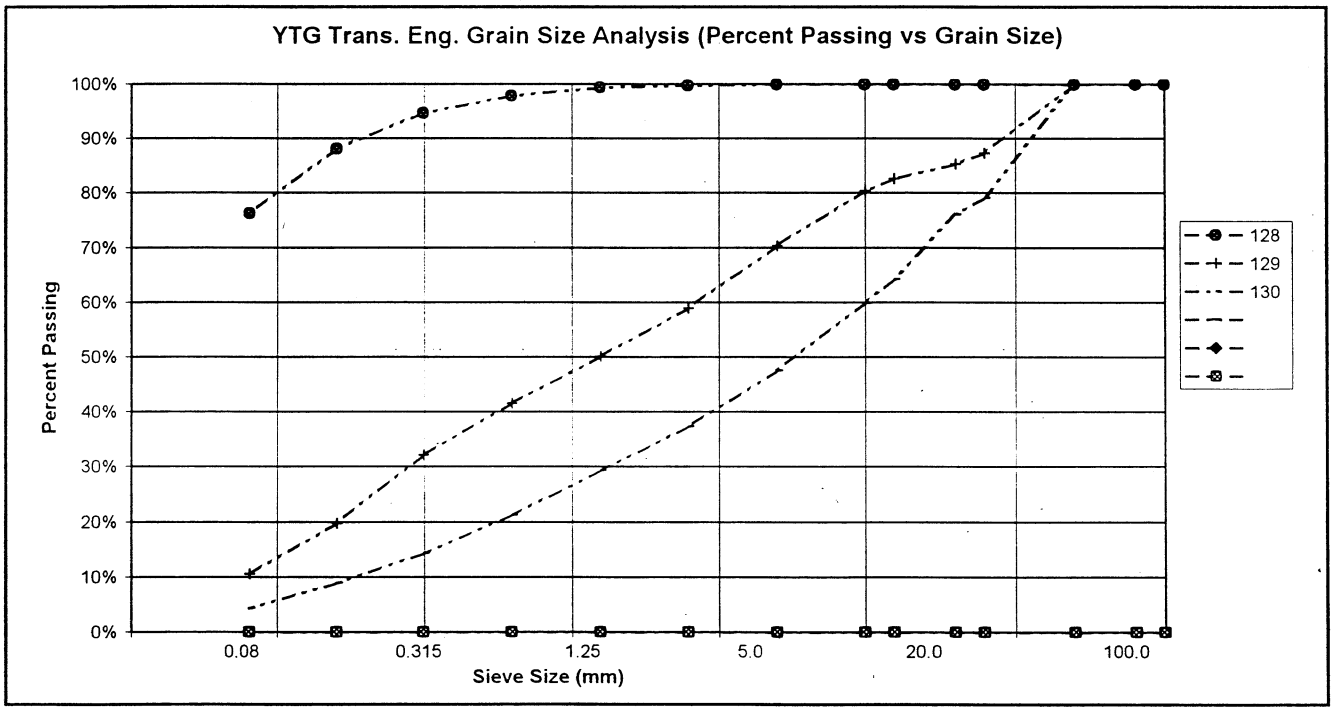
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2434
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	125	126	127			
LAB NO:	385	386	387			
DEPTH:	1.0-1.5	2.5-2.9	4.2-4.8			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	80%			
25.0	100%	100%	55%			
20.0	100%	99%	47%			
12.5	100%	96%	39%			
10.0	100%	91%	37%			
5.0	100%	73%	30%			
2.5	100%	54%	23%			
1.25	100%	39%	19%			
0.630	99%	25%	14%			
0.315	97%	16%	9%			
0.160	87%	8%	6%			
0.080	60%	3%	4%			
M.C.(%):	22%	3%	2%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	0	27	70			
% SAND:	40	70	26			
% FINES:	60	3	4			
CLASSIFICATION	SANDY SILT (ML)	WELL-GRADED SAND WITH GRAVEL (SW)	WELL-GRADED GRAVEL WITH SAND (GW)			



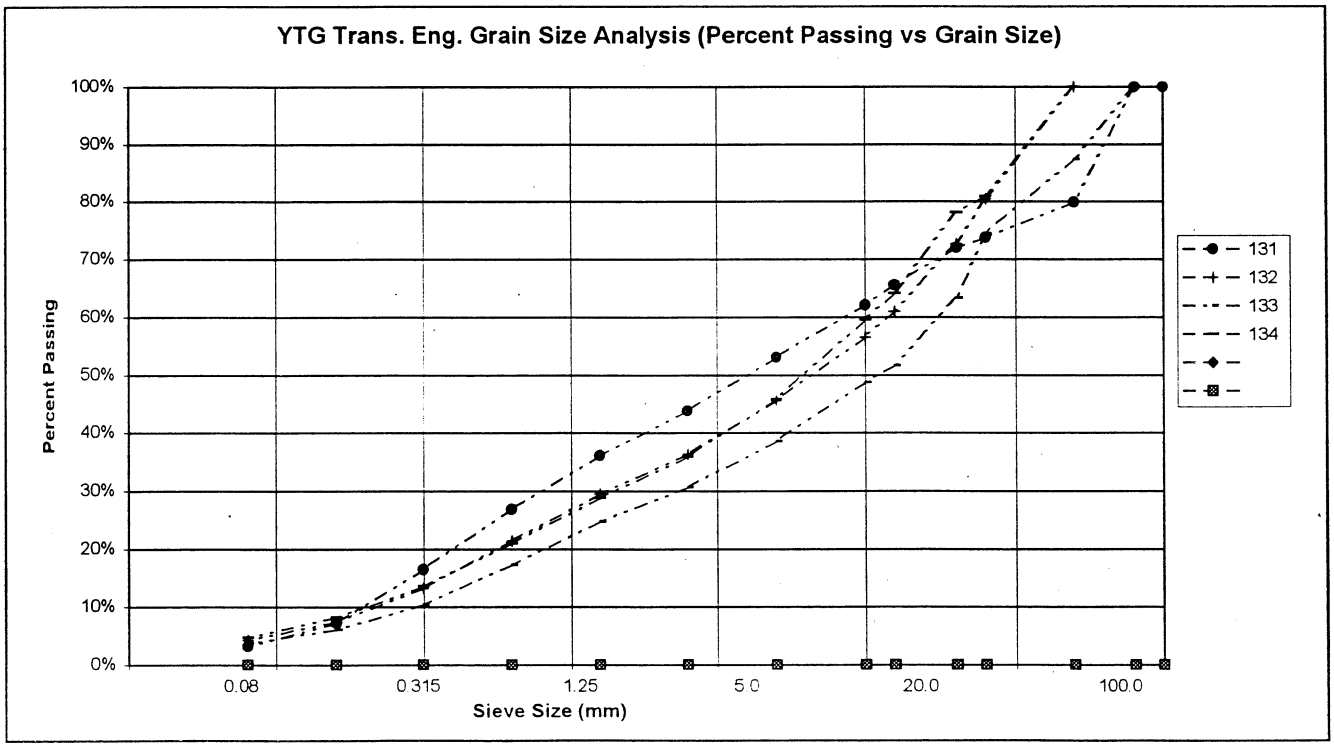
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2435
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	128	129	130			
LAB NO:	388	389	390			
DEPTH:	1.0-1.5	2.3-2.7	4.2-4.8			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	100%	87%	79%			
20.0	100%	85%	76%			
12.5	100%	83%	64%			
10.0	100%	80%	60%			
5.0	100%	70%	48%			
2.5	100%	59%	37%			
1.25	99%	50%	29%			
0.630	98%	42%	21%			
0.315	95%	32%	14%			
0.160	88%	20%	9%			
0.080	76%	11%	4%			
M.C.(%):	38%	5%	3%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	0	30	52			
% SAND:	24	60	43			
% FINES:	76	11	4			
CLASSIFICATION	SILT WITH SAND (ML)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	POORLY GRADED GRAVEL WITH SAND (GP)			



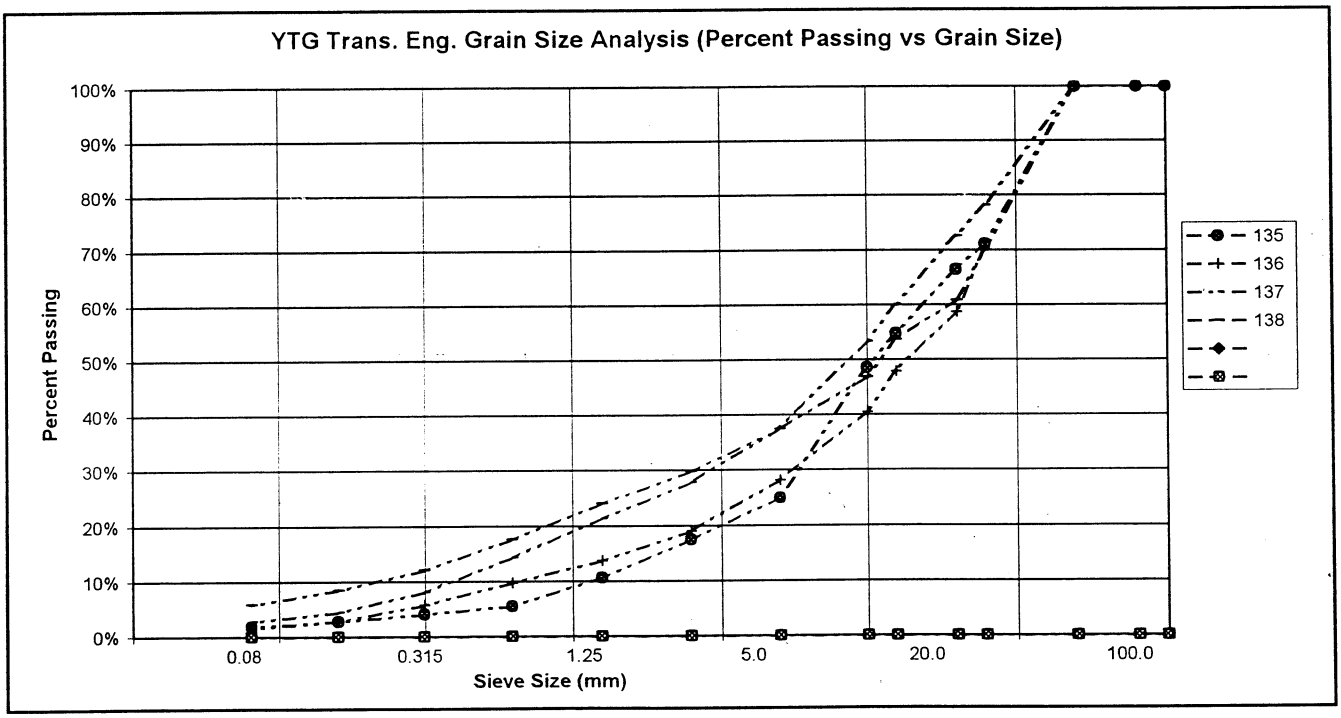
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2436
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	131	132	133	134		
LAB NO:	391	392	393	394		
DEPTH:	1.1-1.6	2.2-2.8	3.2-3.8	4.4-5.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	80%	100%	87%	100%		
25.0	74%	81%	75%	81%		
20.0	72%	73%	63%	78%		
12.5	65%	61%	52%	64%		
10.0	62%	56%	49%	60%		
5.0	53%	46%	39%	46%		
2.5	44%	36%	31%	36%		
1.25	36%	30%	25%	29%		
0.630	27%	21%	17%	21%		
0.315	16%	13%	11%	14%		
0.160	7%	7%	6%	8%		
0.080	3%	4%	4%	5%		
M.C.(%):	3%	3%	3%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	47	54	61	54		
% SAND:	50	41	35	41		
% FINES:	3	4	4	5		
CLASSIFICATION	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		



PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2437
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	135	136	137	138		
LAB NO:	395	396	397	398		
DEPTH:	1.0-1.5	2.0-2.5	3.2-3.8	4.2-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	71%	71%	78%	70%		
20.0	66%	59%	72%	61%		
12.5	55%	48%	60%	54%		
10.0	49%	41%	53%	47%		
5.0	25%	28%	38%	37%		
2.5	18%	19%	28%	30%		
1.25	11%	14%	21%	24%		
0.630	6%	10%	14%	18%		
0.315	4%	6%	8%	12%		
0.160	3%	3%	5%	8%		
0.080	2%	2%	3%	6%		
M.C.(%):	2%	2%	4%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	75	72	62	63		
% SAND:	23	26	35	32		
% FINES:	2	2	3	6		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		

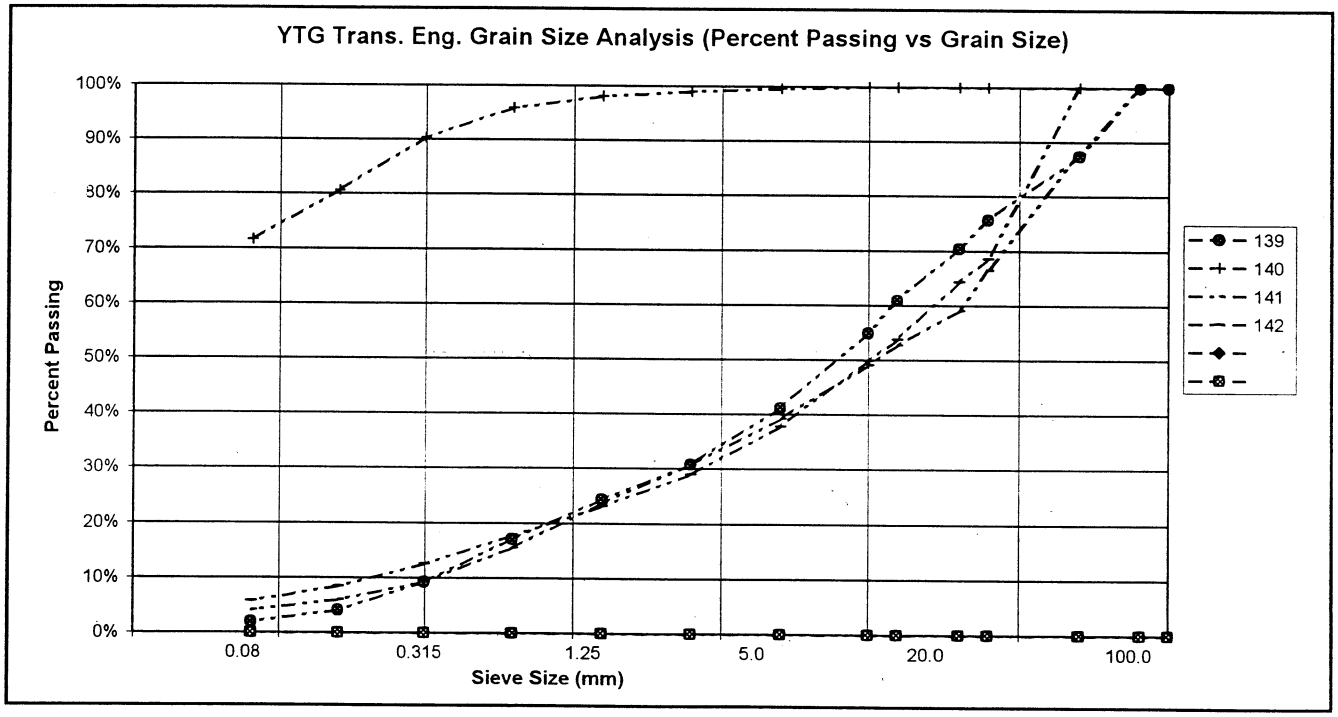


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2438

DATE COMP: Sept 2002

FIELD NO:	139	140	141	142		
LAB NO:	399	400	401	402		
DEPTH:	0.4-1.0	2.2-2.6	2.8-3.3	4.4-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	87%	100%	88%	100%		
25.0	76%	100%	66%	69%		
20.0	70%	100%	59%	64%		
12.5	61%	100%	53%	54%		
10.0	55%	100%	49%	50%		
5.0	41%	100%	39%	38%		
2.5	31%	99%	31%	29%		
1.25	24%	98%	24%	23%		
0.630	17%	96%	15%	18%		
0.315	9%	90%	9%	13%		
0.160	4%	81%	6%	8%		
0.080	2%	72%	4%	6%		
M.C.(%):	2%	42%	4%	4%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	59	0	61	62		
% SAND:	39	28	35	32		
% FINES:	2	72	4	6		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	SILT WITH SAND (ML)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		

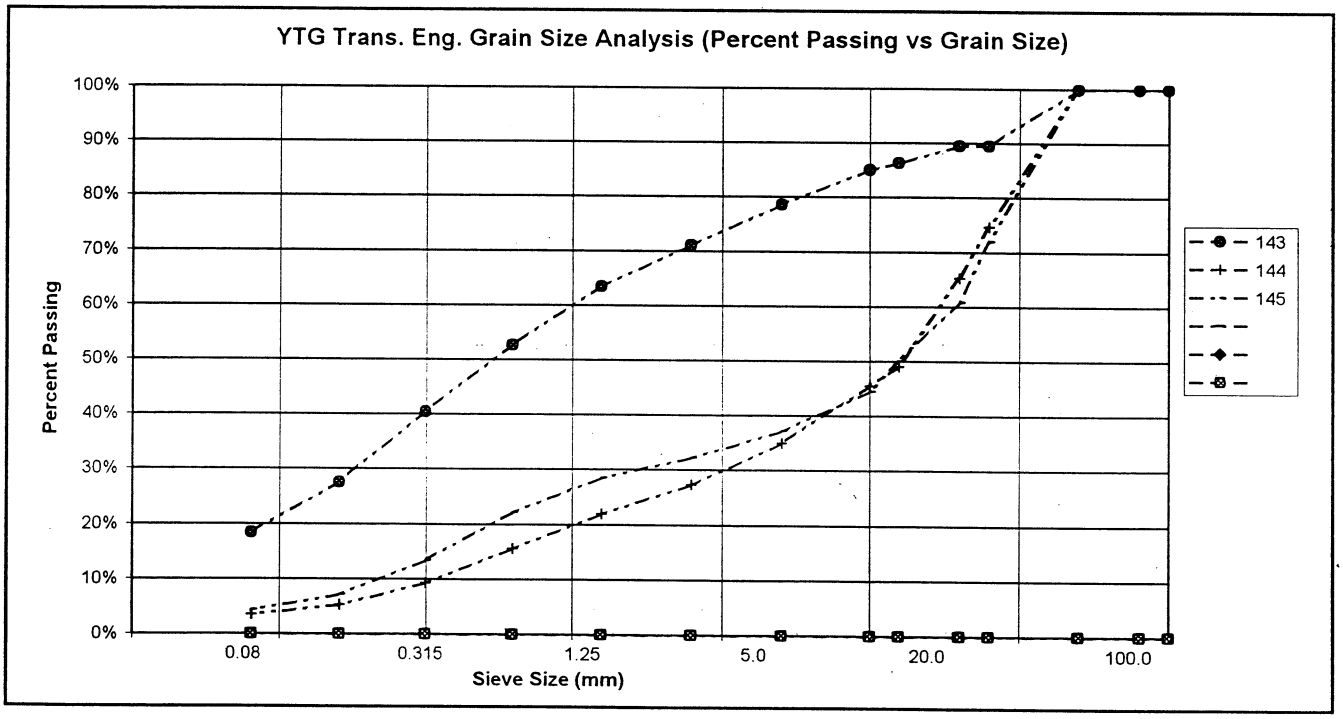


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2439

DATE COMP: Sept 2002

FIELD NO:	143	144	145			
LAB NO:	403	404	405			
DEPTH:	1.0-1.6	2.6-3.2	4.0-4.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	90%	75%	72%			
20.0	90%	65%	61%			
12.5	86%	49%	50%			
10.0	85%	46%	44%			
5.0	79%	35%	37%			
2.5	71%	27%	32%			
1.25	63%	22%	29%			
0.630	53%	16%	22%			
0.315	41%	9%	13%			
0.160	28%	5%	7%			
0.080	18%	4%	4%			
M.C.(%):	5%	2%	2%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	21	65	63			
% SAND:	60	31	33			
% FINES:	18	4	4			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			

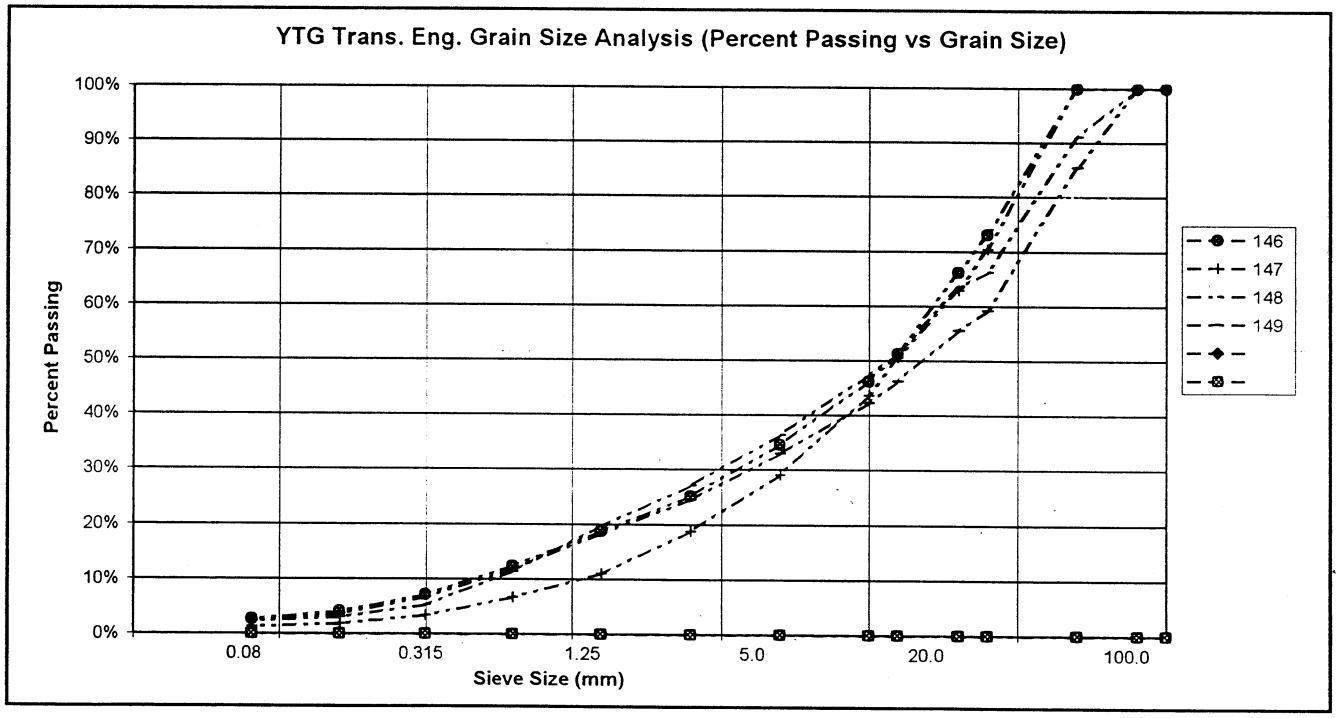


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2440

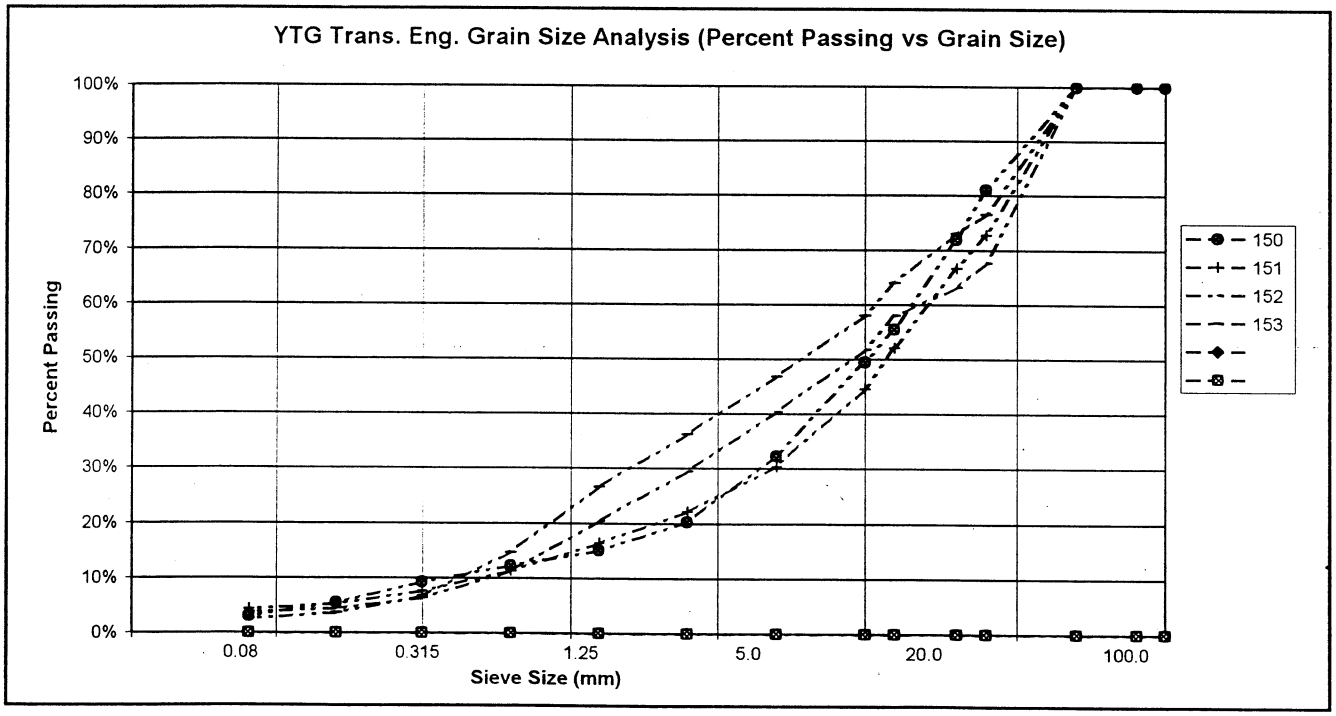
DATE COMP: Sept 2002

FIELD NO:	146	147	148	149		
LAB NO:	406	407	408	409		
DEPTH:	0.6-1.2	1.8-2.4	3.2-3.8	4.2-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	91%	85%		
25.0	73%	70%	66%	59%		
20.0	66%	63%	63%	56%		
12.5	51%	51%	51%	46%		
10.0	46%	44%	47%	42%		
5.0	35%	29%	36%	33%		
2.5	25%	19%	27%	25%		
1.25	19%	11%	20%	18%		
0.630	12%	7%	11%	12%		
0.315	7%	3%	5%	7%		
0.160	4%	2%	3%	4%		
0.080	3%	1%	2%	2%		
M.C.(%):	2%	2%	2%	2%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	65	71	64	67		
% SAND:	32	28	34	31		
% FINES:	3	1	2	2		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		



PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2441
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	150	151	152	153		
LAB NO:	410	411	412	413		
DEPTH:	0.8-1.5	2.0-2.6	3.2-3.9	4.2-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	81%	73%	68%	77%		
20.0	72%	67%	63%	73%		
12.5	56%	52%	58%	64%		
10.0	50%	45%	52%	58%		
5.0	32%	30%	40%	47%		
2.5	20%	22%	29%	36%		
1.25	15%	16%	20%	27%		
0.630	12%	11%	11%	15%		
0.315	9%	8%	6%	7%		
0.160	5%	5%	4%	4%		
0.080	3%	4%	4%	3%		
M.C.(%):	2%	3%	3%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	68	70	60	53		
% SAND:	29	26	37	44		
% FINES:	3	4	4	3		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		

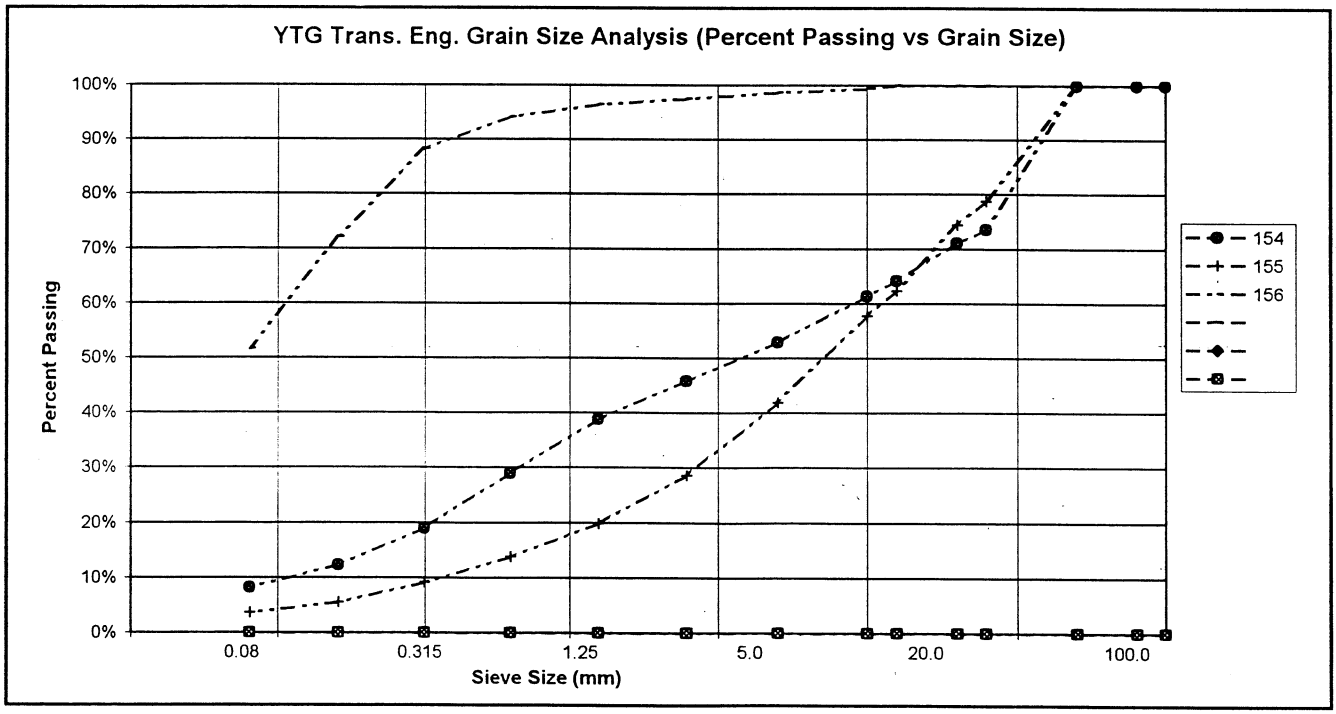


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2442

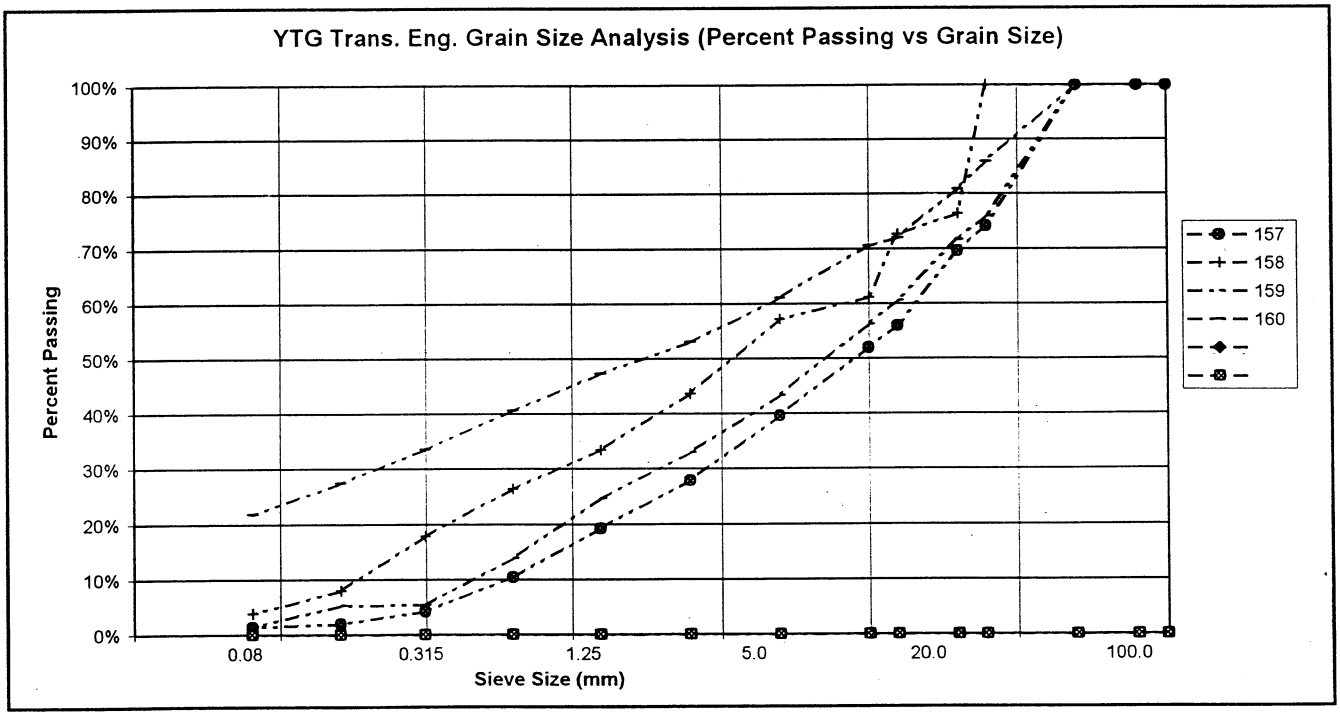
DATE COMP: Sept 2002

FIELD NO:	154	155	156			
LAB NO:	414	415	416			
DEPTH:	0.8-1.2	2.2-2.8	3.4-3.8			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	74%	79%	100%			
20.0	71%	74%	100%			
12.5	64%	62%	100%			
10.0	61%	58%	99%			
5.0	53%	42%	99%			
2.5	46%	29%	98%			
1.25	39%	20%	96%			
0.630	29%	14%	94%			
0.315	19%	9%	88%			
0.160	12%	6%	72%			
0.080	8%	4%	52%			
M.C.(%):	4%	3%	23%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	47	58	1			
% SAND:	45	38	47			
% FINES:	8	4	52			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SAND (GP)	SANDY SILT (ML)			



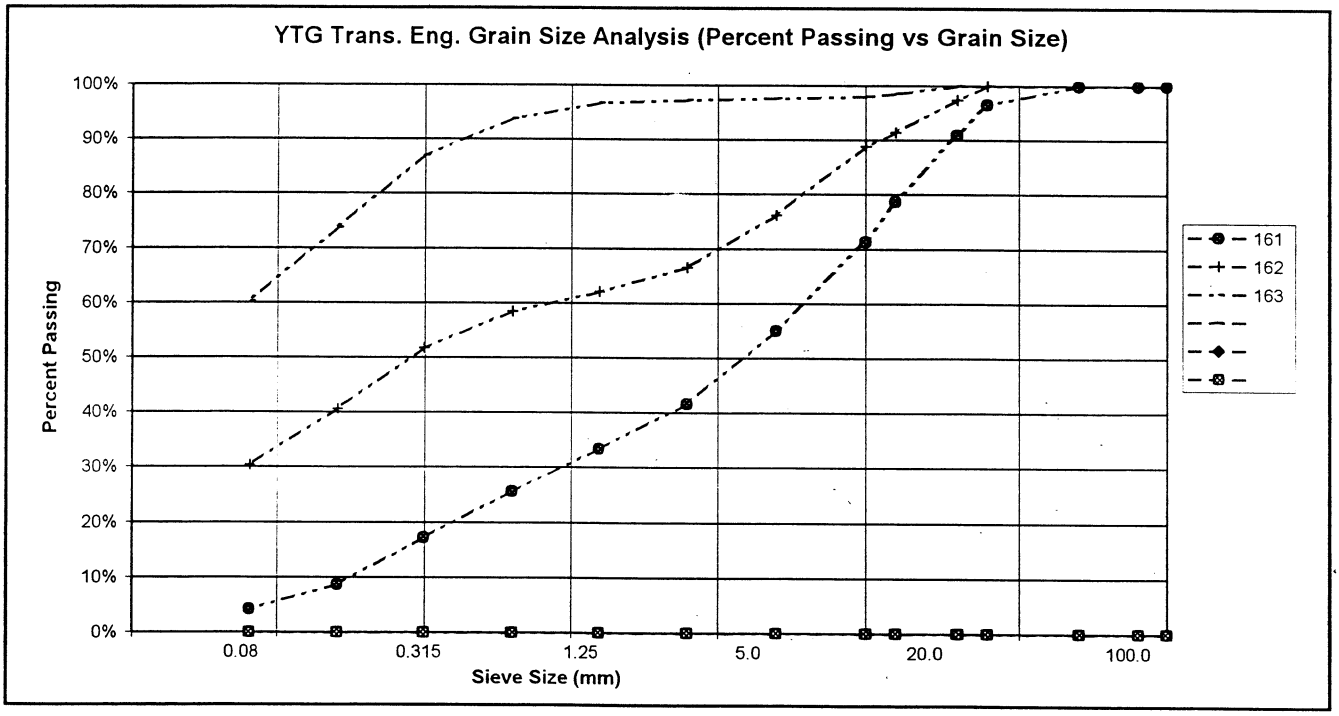
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2443
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	157	158	159	160		
LAB NO:	417	418	419	420		
DEPTH:	0.8-1.5	2.2-2.9	3.2-3.9	4.6-5.2		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	74%	100%	76%	86%		
20.0	70%	76%	72%	81%		
12.5	56%	73%	61%	72%		
10.0	52%	61%	56%	71%		
5.0	40%	57%	43%	61%		
2.5	28%	44%	33%	53%		
1.25	19%	33%	25%	47%		
0.630	10%	26%	14%	41%		
0.315	4%	18%	5%	34%		
0.160	2%	8%	5%	27%		
0.080	1%	4%	2%	22%		
M.C.(%):	2%	3%	2%	11%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	60	43	57	39		
% SAND:	38	53	42	39		
% FINES:	1	4	2	22		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY SAND WITH GRAVEL (SM)		



PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 636-2444
CLIENT:	Engineering Capital		
PROJECT NAME:	Shakwak Granular Investigation		
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek		
DRILL UNIT:	Koehring 6625 Backhoe		
HOLE LOCATION:	See Plan		
LOGGED BY:	JRP R.W.		DATE COMP: Sept 2002

FIELD NO:	161	162	163			
LAB NO:	421	422	423			
DEPTH:	0.6-1.2	2.0-2.6	4.0-4.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	97%	100%	100%			
20.0	91%	97%	100%			
12.5	79%	91%	99%			
10.0	71%	89%	98%			
5.0	55%	76%	98%			
2.5	42%	67%	97%			
1.25	33%	62%	97%			
0.630	26%	58%	94%			
0.315	17%	52%	87%			
0.160	9%	41%	74%			
0.080	4%	30%	60%			
M.C.(%):	4%	19%	26%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	45	24	2			
% SAND:	51	46	37			
% FINES:	4	30	60			
CLASSIFICATION	WELL-GRADED SAND WITH GRAVEL (SW)	SILTY SAND WITH GRAVEL (SM)	SANDY SILT (ML)			

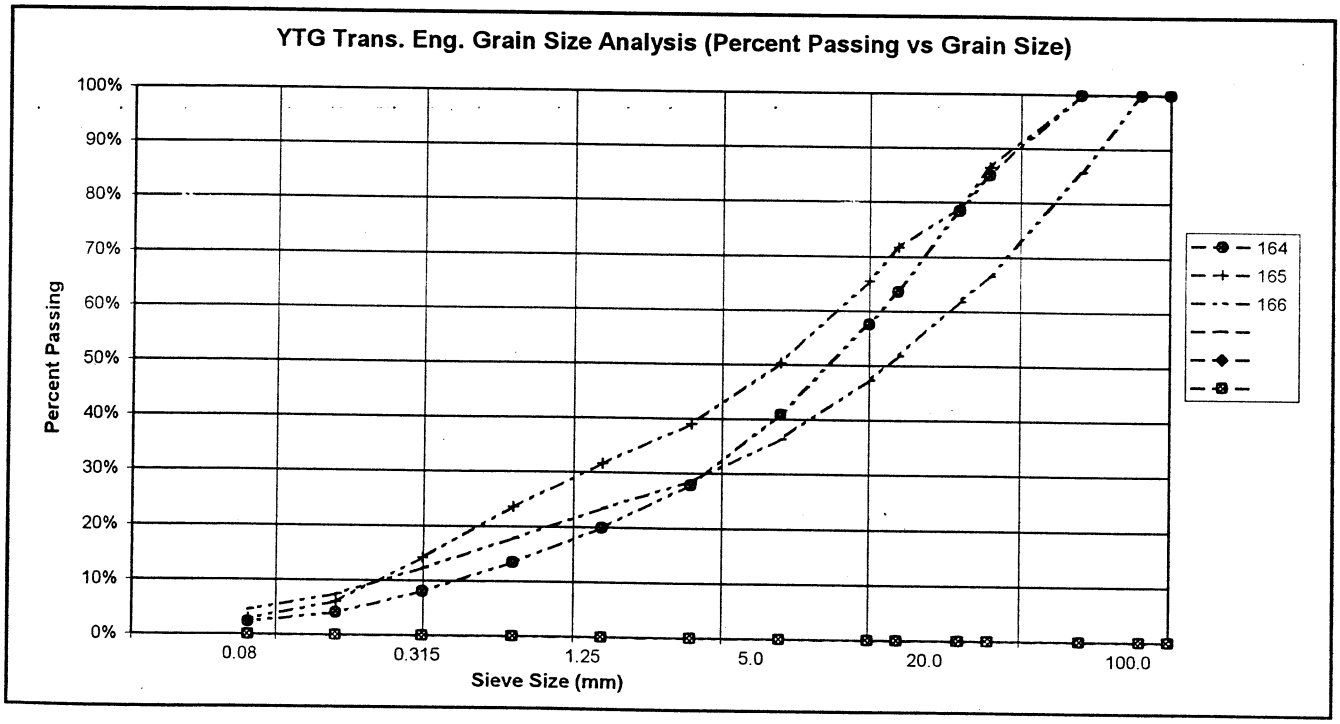


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2445

DATE COMP: Sept 2002

FIELD NO:	164	165	166			
LAB NO:	424	425	426			
DEPTH:	1.0-1.5	2.2-2.8	4.2-4.8			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	86%			
25.0	85%	87%	66%			
20.0	78%	79%	62%			
12.5	64%	72%	52%			
10.0	58%	65%	47%			
5.0	41%	50%	36%			
2.5	28%	39%	29%			
1.25	20%	32%	23%			
0.630	13%	24%	18%			
0.315	8%	14%	12%			
0.160	4%	6%	8%			
0.080	2%	3%	5%			
M.C.(%):	2%	3%	3%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	59	50	64			
% SAND:	39	47	32			
% FINES:	2	3	5			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)			

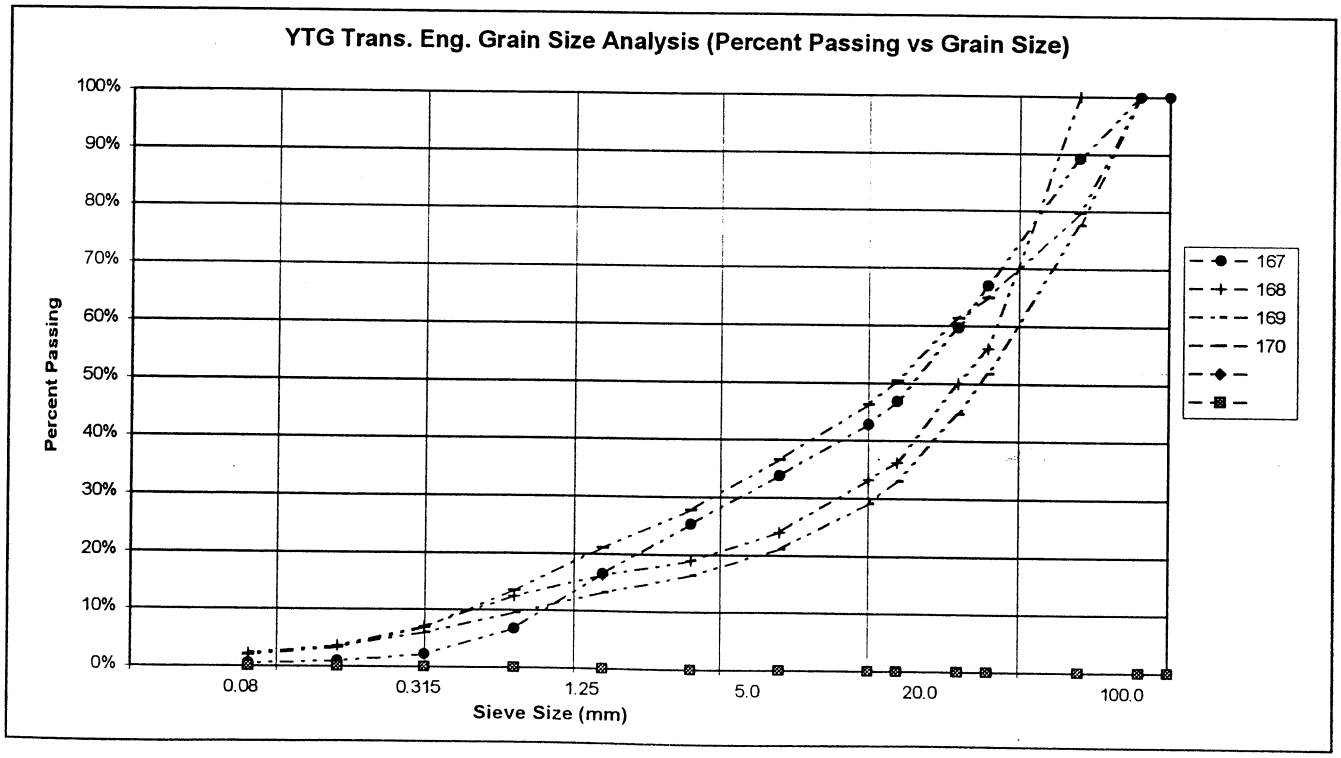


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2446

DATE COMP: Sept 2002

FIELD NO:	167	168	169	170		
LAB NO:	427	428	429	430		
DEPTH:	0.4-1.0	1.6-2.0	3.2-3.8	4.0-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	89%	100%	78%	80%		
25.0	67%	56%	52%	65%		
20.0	60%	50%	45%	61%		
12.5	47%	36%	33%	50%		
10.0	43%	33%	29%	46%		
5.0	34%	24%	21%	37%		
2.5	25%	19%	16%	28%		
1.25	17%	16%	13%	21%		
0.630	7%	12%	10%	13%		
0.315	2%	7%	6%	7%		
0.160	1%	4%	4%	3%		
0.080	1%	2%	2%	2%		
M.C.(%):	1%	2%	2%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	66	76	79	63		
% SAND:	33	22	19	35		
% FINES:	1	2	2	2		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED GRAVEL WITH SAND (GW)	WELL-GRADED GRAVEL WITH SAND (GW)	POORLY GRADED GRAVEL WITH SAND (GP)		

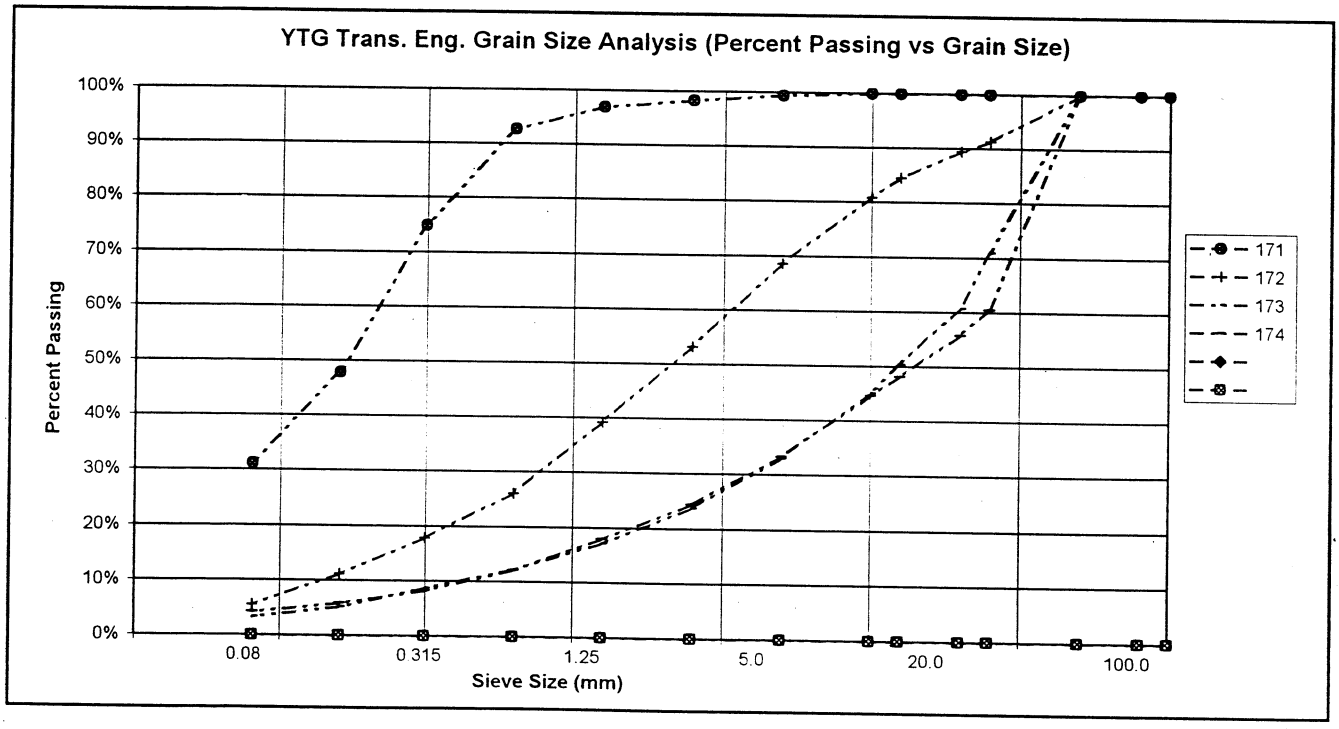


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2447

DATE COMP: Sept 2002

FIELD NO:	171	172	173	174		
LAB NO:	431	432	433	434		
DEPTH:	0.4-1.0	2.3-2.8	3.2-3.8	4.0-4.5		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	100%	91%	71%	60%		
20.0	100%	89%	61%	56%		
12.5	100%	84%	50%	48%		
10.0	100%	81%	45%	45%		
5.0	99%	69%	33%	33%		
2.5	98%	53%	24%	24%		
1.25	97%	39%	17%	18%		
0.630	93%	26%	12%	12%		
0.315	75%	18%	9%	8%		
0.160	48%	11%	5%	6%		
0.080	31%	6%	3%	4%		
M.C.(%):	13%	3%	2%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	1	31	67	67		
% SAND:	68	63	30	29		
% FINES:	31	6	3	4		
CLASSIFICATION	SILTY SAND (SM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		

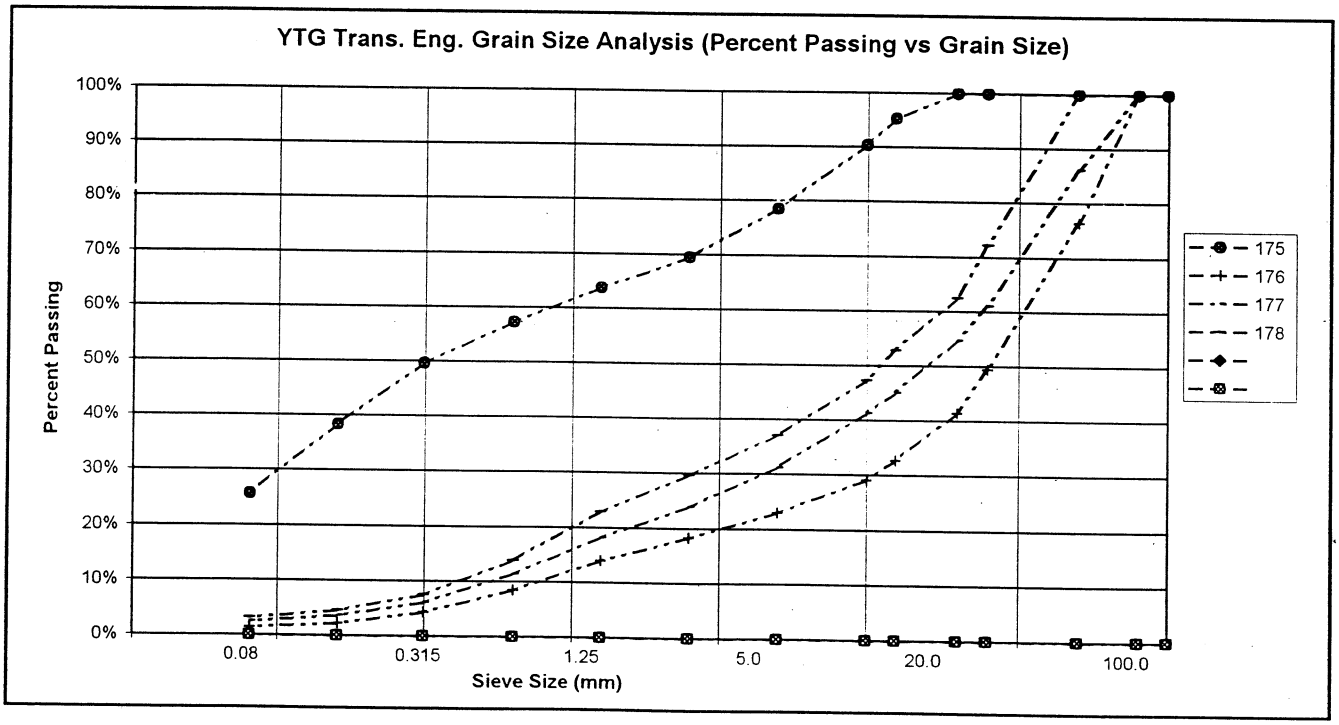


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Engineering Capital
PROJECT NAME: Shakwak Granular Investigation
PROJECT LOCATION: Km 1753 LHS Copper Joe Creek
DRILL UNIT: Koehring 6625 Backhoe
HOLE LOCATION: See Plan
LOGGED BY: JRP R.W.

HOLE No.: 636-2448

DATE COMP: Sept 2002

FIELD NO:	175	176	177	178		
LAB NO:	435	436	437	438		
DEPTH:	0.4-1.0	2.0-2.5	3.4-4.0	4.2-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	76%	86%	100%		
25.0	100%	49%	61%	72%		
20.0	100%	41%	55%	62%		
12.5	95%	33%	45%	53%		
10.0	90%	29%	41%	47%		
5.0	78%	23%	31%	37%		
2.5	70%	18%	24%	30%		
1.25	64%	14%	18%	23%		
0.630	57%	8%	11%	14%		
0.315	50%	4%	6%	8%		
0.160	38%	2%	4%	5%		
0.080	26%	1%	2%	3%		
M.C.(%):	9%	2%	2%	3%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	22	77	69	63		
% SAND:	53	22	29	34		
% FINES:	26	1	2	3		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	WELL-GRADED GRAVEL WITH SAND (GW)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		

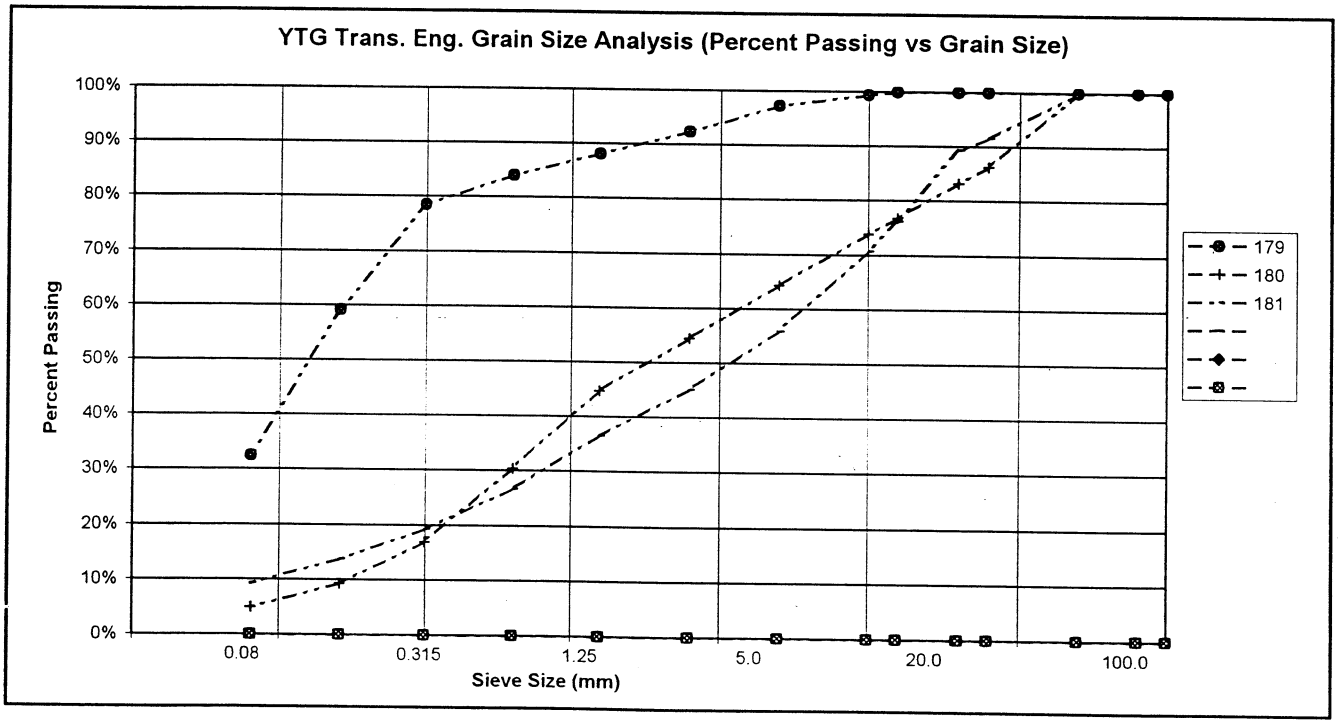


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2449

DATE COMP: Sept 2002

FIELD NO:	179	180	181			
LAB NO:	439	440	442			
DEPTH:	1.0-1.5	2.6-3.0	4.0-4.5			
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**			
100.0	100%	100%	100%			
80.0	100%	100%	100%			
50.0	100%	100%	100%			
25.0	100%	86%	92%			
20.0	100%	83%	89%			
12.5	100%	77%	76%			
10.0	99%	74%	71%			
5.0	97%	64%	56%			
2.5	92%	54%	45%			
1.25	88%	45%	36%			
0.630	84%	30%	27%			
0.315	79%	17%	19%			
0.160	59%	9%	14%			
0.080	32%	5%	9%			
M.C.(%):	15%	4%	5%			
LIQUID LIMIT:	0.0	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0	0.0			
% GRAVEL:	3	36	44			
% SAND:	65	59	47			
% FINES:	32	5	9			
CLASSIFICATION	SILTY SAND (SM)	WELL-GRADED SAND WITH GRAVEL (SW)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)			

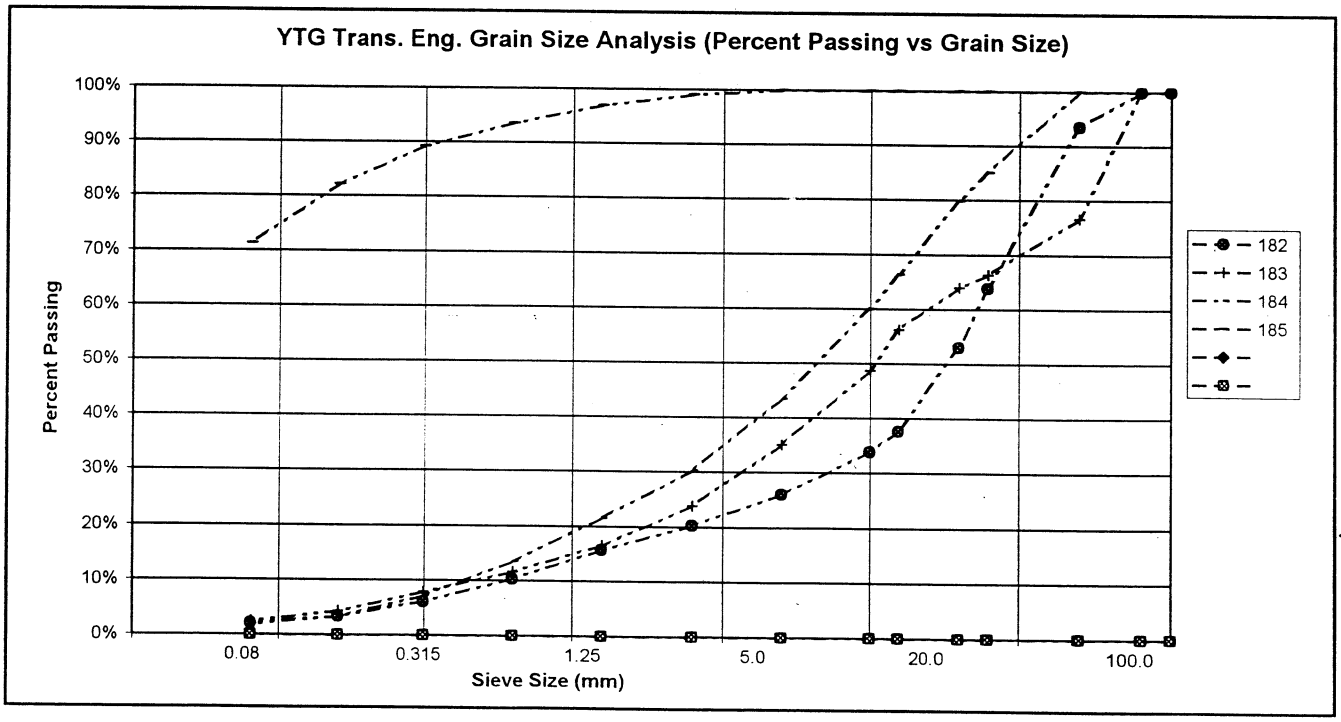


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Engineering Capital
PROJECT NAME:	Shakwak Granular Investigation
PROJECT LOCATION:	Km 1753 LHS Copper Joe Creek
DRILL UNIT:	Koehring 6625 Backhoe
HOLE LOCATION:	See Plan
LOGGED BY:	JRP R.W.

HOLE No.: 636-2450

DATE COMP: Sept 2002

FIELD NO:	182	183	184	185		
LAB NO:	442	443	444	445		
DEPTH:	0.6-1.2	2.0-2.5	3.6-4.0	4.4-4.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	94%	77%	100%	100%		
25.0	64%	66%	85%	100%		
20.0	53%	64%	80%	100%		
12.5	38%	56%	66%	100%		
10.0	34%	49%	60%	100%		
5.0	26%	35%	43%	100%		
2.5	20%	24%	30%	99%		
1.25	16%	17%	21%	97%		
0.630	10%	12%	13%	94%		
0.315	6%	8%	7%	89%		
0.160	3%	4%	3%	82%		
0.080	2%	3%	2%	71%		
M.C.(%):	2%	2%	3%	28%		
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	74	65	57	0		
% SAND:	24	33	42	29		
% FINES:	2	3	2	71		
CLASSIFICATION	WELL-GRADED GRAVEL WITH SAND (GW)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	SILT WITH SAND (ML)		



Km 1753.0 LHS Alaska Highway #1
Pit Ident. 115 G-20
(Copper Joe Creek)

September 2003
Book # 653

Test Pit Logs

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2729
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE: RETURN | S.P.T. | AUGER | BULK | TUBE | CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE NO	USC	SOIL SYMBOL
0.0	ORGANICS			
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp -maximum 150mm material	186	GP	
1.0	-maximum 100mm material below 1.2m -easy digging below 1.2m	187	GP	
2.0				
		188	GP	
3.0				
		189	GP	
4.0	END HOLE @ 4.0m			
5.0				
6.0				

▲ PERCENT FINES ▲ 20 40 60 80

PLASTIC M.C. LIQUID 20 40 60 80

◆ PERCENT SAND ◆ 20 40 60 80

■ PERCENT GRAVEL ■ 20 40 60 80

DEPTH (m)

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Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 03/10/07
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2730
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ☰ BULK ▯ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	POORLY GRADED SAND WITH SILT (SP-SM) -small layers of silt & coarse sand		190	▲	SP-SM		■ ◆	
1.0	WELL-GRADED SAND WITH SILT & GRAVEL TO SILTY SAND WITH GRAVEL (SW-SM)-(SM) -layer of gravelly sand / sand and small seams of silt -brown -damp -easy digging		191	▲	SW-SM		■ ◆	1.0
2.0								2.0
			192	▲	SW-SM		■ ◆	
3.0								3.0
			193	▲	SM		■ ◆	
4.0	END HOLE @ 4.0 Note: Primarily 3.5m of sand -Walls of excavation stable.							4.0
5.0								5.0
6.0								6.0

Government of Yukon Transportation Engineering	LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 03/10/07
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2731
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID / 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp -maximum 150mm material -easy digging		194 ▲		GP			
1.0								1.0
	WELL-GRADED SAND WITH GRAVEL (SW) -brown -damp		195 ▲		SW			
2.0								2.0
	POORLY GRADED GRAVEL WITH SAND (GP) -layered -brown -damp		196 ▲		GP			
3.0								3.0
			197 ▲		GP			
4.0	END HOLE @ 4.0m							4.0
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 03/10/07
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2745
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM) -silt and sand layers -brown -damp		198	▲	SW-SM		◆ ■	
1.0								1.0
	SILTY SAND WITH GRAVEL (SM) -brown -damp		199	▲	SM		◆ ■	
2.0								2.0
			200	▲	SM		◆ ■	
3.0								3.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp		201	▲	GP		◆ ■	
4.0	END HOLE @ 4.0m							4.0
5.0								5.0
6.0								6.0

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LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 03/10/07
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2746
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	SILT & ORGANICS							0.0
	SILTY SAND (SM) -maximum 50mm material		202	▲	SM		■ ◆	
1.0								1.0
	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM) -layers of sand & small gravels		203	▲	SW-SM		■ ◆	
2.0								2.0
	SANDY SILT SEAM							
	SILTY SAND WITH GRAVEL (SM) -damp		204	▲	SM		■ ◆	
3.0								3.0
	-silt seam 3.4 to 3.6m		205	▲	SM		■ ◆	
4.0	END HOLE @ 4.0m -easy digging throughout -wall holding up							4.0
5.0								5.0
6.0								6.0

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LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 03/10/07
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2747
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ☒ AUGER ▤ BULK ▥ TUBE ▥ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –damp –maximum 100mm material		206 ▲		GP		◆ ■	
1.0								1.0
			207 ▲		GP		◆ ■	
2.0								2.0
	SILTY SAND WITH GRAVEL TO POORLY GRADED GRAVEL WITH SAND (SM)–(GP) –brown –damp –maximum 100mm material		208 ▲		SM		◆ ■	
3.0								3.0
			209 ▲		GP		■	
4.0	END HOLE @ 4.0m							4.0
5.0								5.0
6.0								6.0

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Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 03/10/07
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2748
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	SILTY SAND WITH GRAVEL (SM) –damp to moist		210 ▲		SM			
1.0	POORLY GRADED GRAVEL WITH SAND (GP) –maximum 75mm material –easy digging – walls not sloughing		211 ▲		GP			1.0
2.0								2.0
3.0	–brown below 2.8m –damp below 2.8m –maximum 150mm material below 2.8m		212 ▲		GP			3.0
	–maximum 100mm material below 3.2m		213 ▲		GP			
4.0	END HOLE @ 4.0m							4.0
5.0								5.0
6.0								6.0

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Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 03/10/07
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2749
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	COARSE SAND							
	SILTY SAND WITH GRAVEL (SM) -brown -moist		214	▲	SM		◆ ■	
1.0	WELL-GRADED SAND WITH GRAVEL (SW) -grey -damp -old rotten tree @ 1.0 - 2.0		215	▲	SW		◆ ■	1.0
2.0	SILT -brown							2.0
	POORLY GRADED GRAVEL WITH SAND (GP) -moist		216	▲	GP		◆ ■	
3.0	SILTY SAND WITH GRAVEL (SM) -frozen (Vx)							3.0
			217	▲	SM		◆ ■	
4.0	END HOLE @ 4.0m							4.0
5.0								5.0
6.0								6.0

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LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 03/10/08
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2750
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⊘ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	POORLY GRADED GRAVEL WITH SAND (GP) -brown -damp -maximum 150mm material		218 ▲		GP			1.0
1.0								
			219 ▲		GP			
2.0	WELL-GRADED SAND WITH GRAVEL TO POORLY GRADED GRAVEL WITH SAND (SW)-(GP) -brown -damp -maximum 100mm material -no silt seams							2.0
			220 ▲		SW			
3.0								3.0
			221 ▲		GP			
4.0	END HOLE @ 4.0							4.0
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 03/10/08
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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2751
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆PERCENT SAND◆ 20 40 60 80 / ■PERCENT GRAVEL■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	SILTY SAND WITH GRAVEL (SM) –grey –damp –maximum 50mm material		222 ▲		SM			
1.0	LAYER OF BROWN SILT							1.0
	POOR GRADED SAND WITH GRAVEL TO WELL-GRADED SAND WITH SILT & GRAVEL TO POORLY GRADED GRAVEL WITH SAND (SP)-(SW-SM)-(GP) –grey –damp –maximum 100mm material		223 ▲		SP			
2.0								2.0
3.0			224 ▲		SW-SM			3.0
4.0	END HOLE @ 4.0m		225 ▲		GP			4.0
5.0								5.0
6.0								6.0

Government of Yukon
Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
REVIEWED BY:	COMPLETE: 03/10/08
Fig. No:	Page 1 of 1

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SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2752
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ▨ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	▲ PERCENT FINES ▲ 20 40 60 80 / PLASTIC M.C. LIQUID 20 40 60 80	USC	SOIL SYMBOL	◆ PERCENT SAND ◆ 20 40 60 80 / ■ PERCENT GRAVEL ■ 20 40 60 80	DEPTH (m)
0.0	ORGANIC							0.0
	SAND –brown –damp							
	POORLY GRADED GRAVEL WITH SAND (GP) –brown –damp –maximum 50mm material		226	▲	GP		◆ ■	
1.0								1.0
	–maximum 75mm material below 1.5m		227	▲	GP		◆ ■	
2.0								2.0
	SMALL SILT SEAM –moist							
	SILTY SAND WITH GRAVEL (SM) –moist to wet		228	▲	SM		◆ ■	
3.0	–frozen below 3.0m		229	▲	SM		◆ ■	3.0
	END HOLE @ 3.5m							
4.0								4.0
5.0								5.0
6.0								6.0

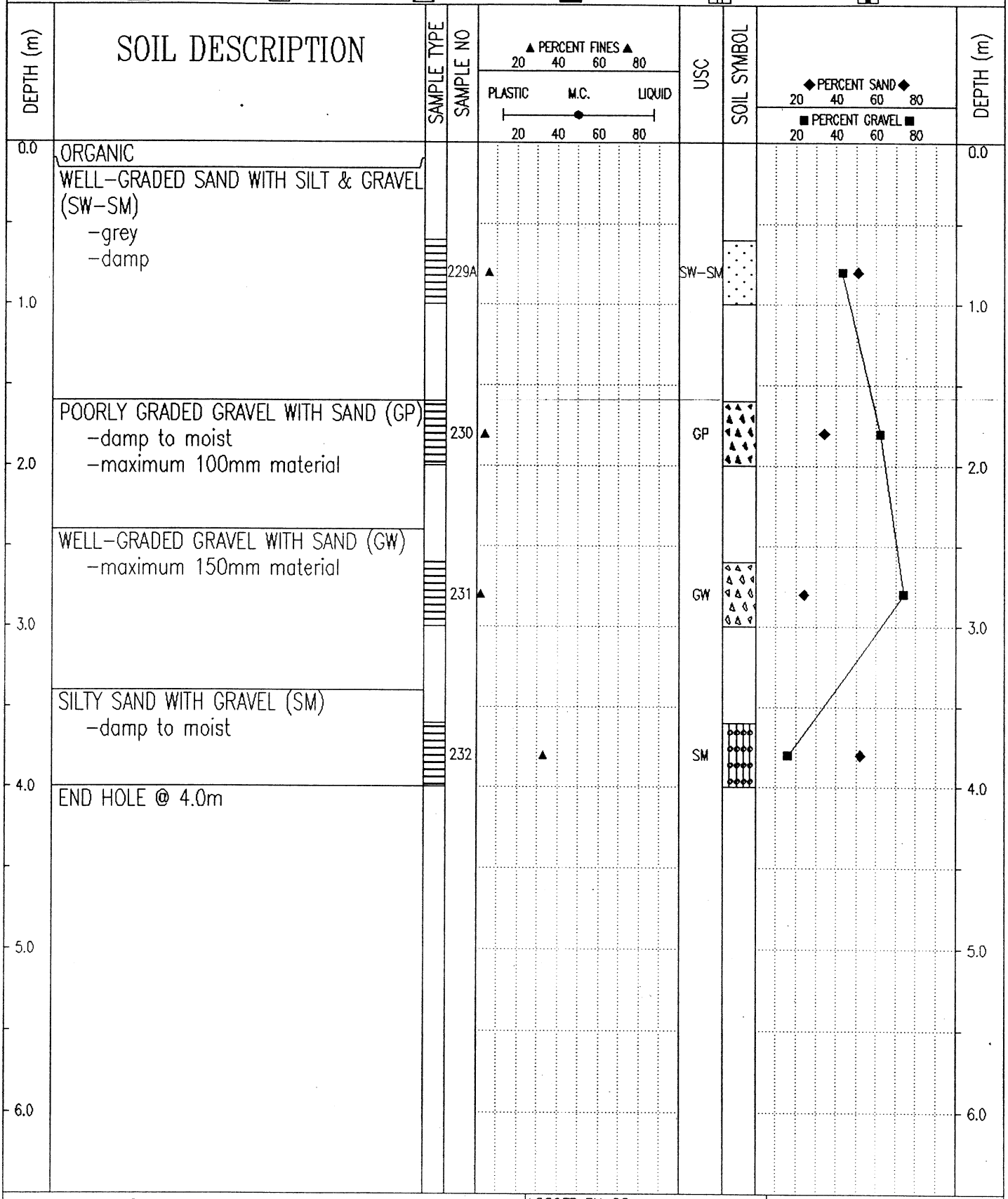
Government of Yukon
Transportation Engineering

LOGGED BY: GC	COMPLETION DEPTH: 3.5 m
REVIEWED BY:	COMPLETE: 03/10/08
Fig. No:	Page 1 of 1

03/12/08 11:51AM

SUBSURFACE EXPLORATION & TESTING REPORT	SHAKWAK PROJECT GRANULAR INVESTIGATION	TEST PIT NO: 653-2753
ENGINEERING CAPITAL	COPPER JOE 115-G-20	Project No: 552-202101-0361
KAMATSU PC 220 LC EXCAVATOR	LOCATION: SEE PLAN & GPS	ELEVATION: 0.00 (m)

SAMPLE TYPE ■ RETURN ⧄ S.P.T. ⊠ AUGER ▤ BULK ▥ TUBE ▮ CORE



Government of Yukon Transportation Engineering	LOGGED BY: GC	COMPLETION DEPTH: 4.0 m
	REVIEWED BY:	COMPLETE: 03/10/08
	Fig. No:	Page 1 of 1

03/12/08 11:51AM

Km 1753.0 LHS Alaska Highway #1
Pit Ident. 115 G-20
(Copper Joe Creek)

September 2003
Book # 653

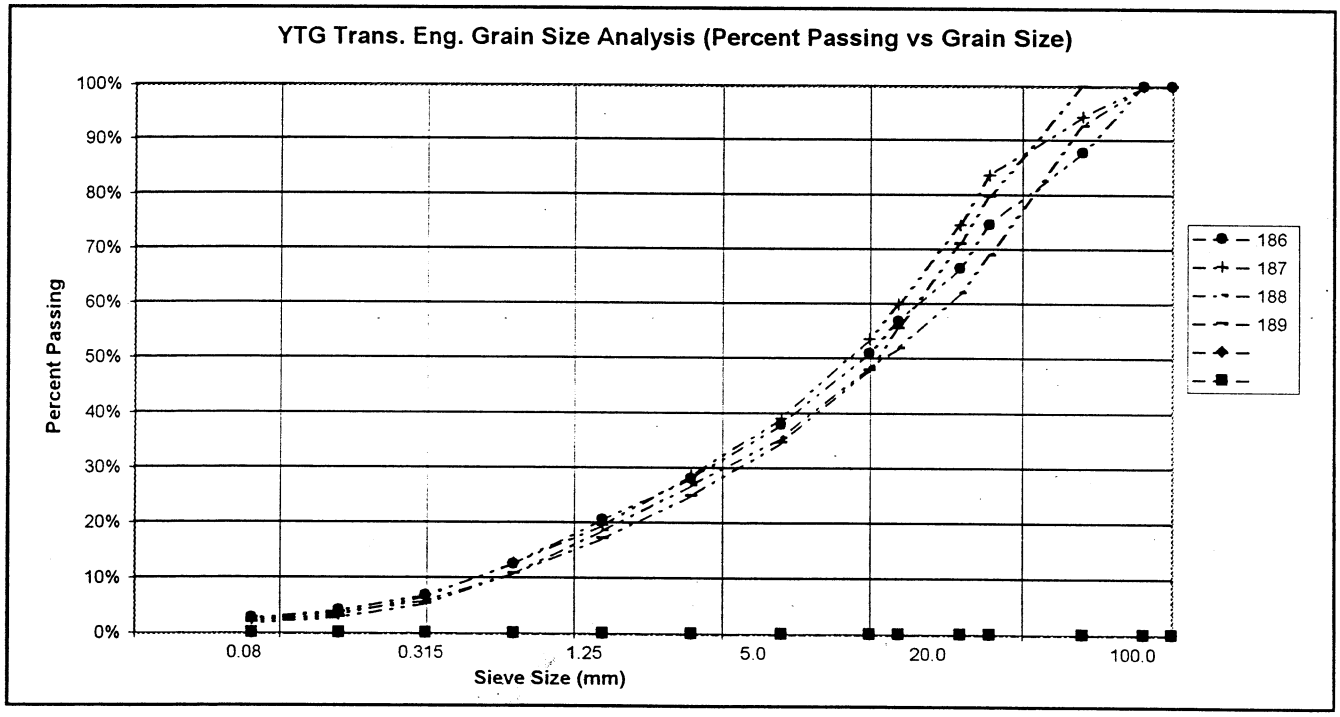
Pit Run Sample Results

PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Shakwak
PROJECT NAME:	Copper Joe Granular Investigation
PROJECT LOCATION:	Km 1753 Alaska Highway
DRILL UNIT:	Kamatsu PC 220 LC
HOLE LOCATION:	See Plan
LOGGED BY:	G.C

HOLE No.: 653-2729

DATE COMP: 03/10/07

FIELD NO:	186	187	188	189		
LAB NO:	347	348	349	350		
DEPTH:	0.5-1.0	1.5-2.0	2.5-3.0	3.5-4.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	88%	94%	93%	100%		
25.0	75%	84%	69%	80%		
20.0	67%	74%	62%	71%		
12.5	57%	60%	52%	56%		
10.0	51%	54%	48%	48%		
5.0	38%	39%	36%	35%		
2.5	28%	29%	27%	25%		
1.25	21%	20%	19%	17%		
0.630	13%	13%	11%	11%		
0.315	7%	7%	6%	5%		
0.160	4%	3%	4%	3%		
0.080	3%	2%	3%	2%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	62	61	64	65		
% SAND:	35	37	33	33		
% FINES:	3	2	3	2		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		

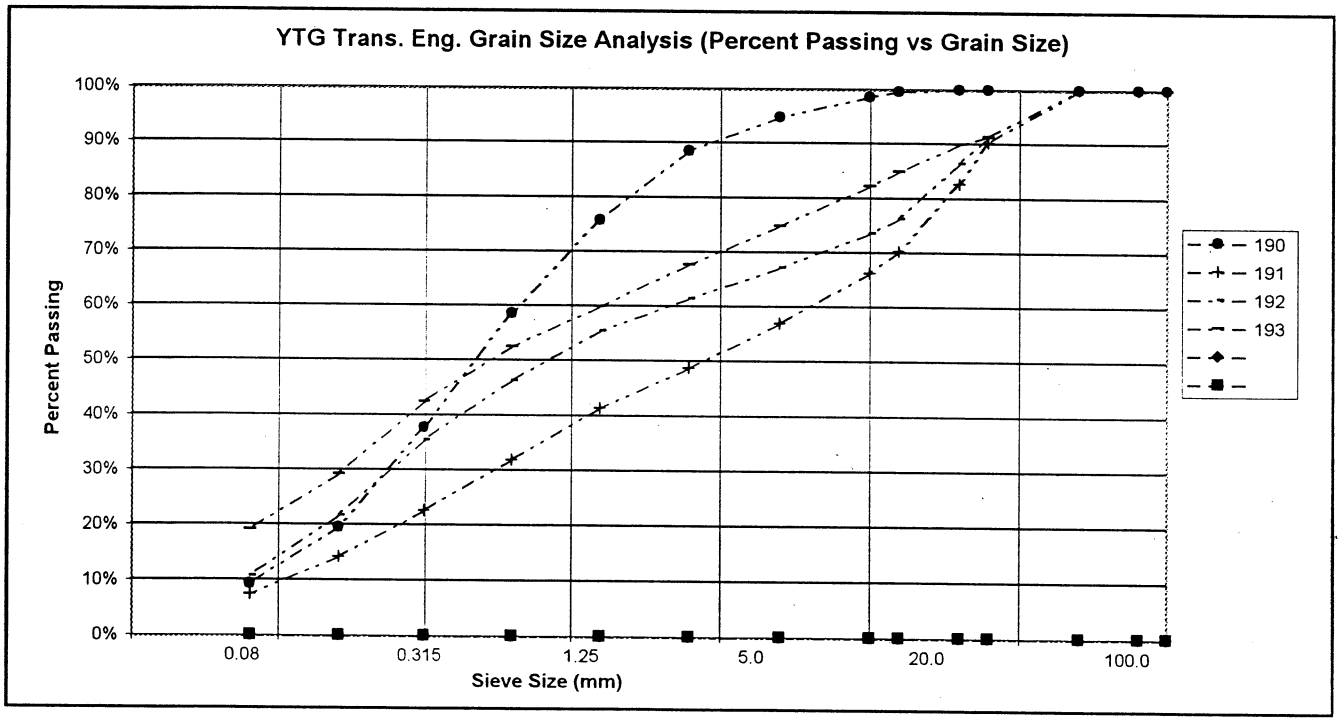


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Shakwak
PROJECT NAME: Copper Joe Granular Investigation
PROJECT LOCATION: Km 1753 Alaska Highway
DRILL UNIT: Kamatsu PC 220 LC
HOLE LOCATION: See Plan
LOGGED BY: G.C

HOLE No.: 653-2730

DATE COMP: 03/10/07

FIELD NO:	190	191	192	193		
LAB NO:	351	352	353	354		
DEPTH:	0.5-1.0	1.5-2.0	2.5-3.0	3.5-4.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	100%	90%	91%	91%		
20.0	100%	83%	86%	90%		
12.5	100%	70%	76%	85%		
10.0	99%	66%	73%	82%		
5.0	95%	57%	67%	75%		
2.5	89%	49%	61%	68%		
1.25	76%	41%	55%	60%		
0.630	59%	32%	46%	52%		
0.315	38%	23%	35%	42%		
0.160	20%	14%	22%	29%		
0.080	9%	7%	11%	19%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	5	43	33	25		
% SAND:	86	50	57	56		
% FINES:	9	7	11	19		
CLASSIFICATION	POORLY GRADED SAND WITH SILT (SP-SM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	SILTY SAND WITH GRAVEL (SM)		

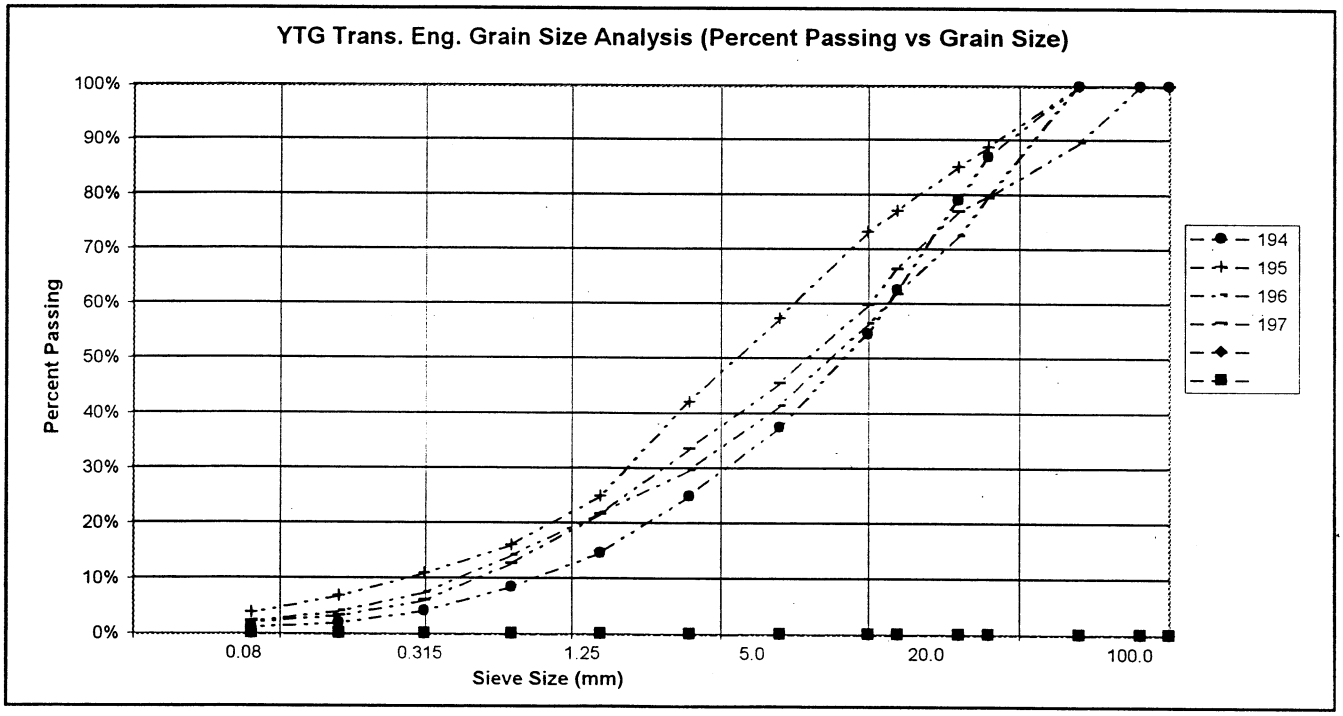


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Shakwak
PROJECT NAME: Copper Joe Granular Investigation
PROJECT LOCATION: Km 1753 Alaska Highway
DRILL UNIT: Kamatsu PC 220 LC
HOLE LOCATION: See Plan
LOGGED BY: G.C

HOLE No.: 653-2731

DATE COMP: 03/10/07

FIELD NO:	194	195	196	197		
LAB NO:	355	356	357	358		
DEPTH:	0.5-1.0	1.5-2.0	2.5-3.0	3.5-4.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	90%	100%		
25.0	87%	89%	79%	80%		
20.0	79%	85%	72%	77%		
12.5	63%	77%	62%	66%		
10.0	55%	73%	56%	60%		
5.0	38%	57%	41%	45%		
2.5	25%	42%	30%	33%		
1.25	15%	25%	22%	22%		
0.630	8%	16%	14%	13%		
0.315	4%	11%	7%	6%		
0.160	2%	7%	4%	3%		
0.080	1%	4%	2%	2%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	62	43	59	55		
% SAND:	36	54	39	43		
% FINES:	1	4	2	2		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		

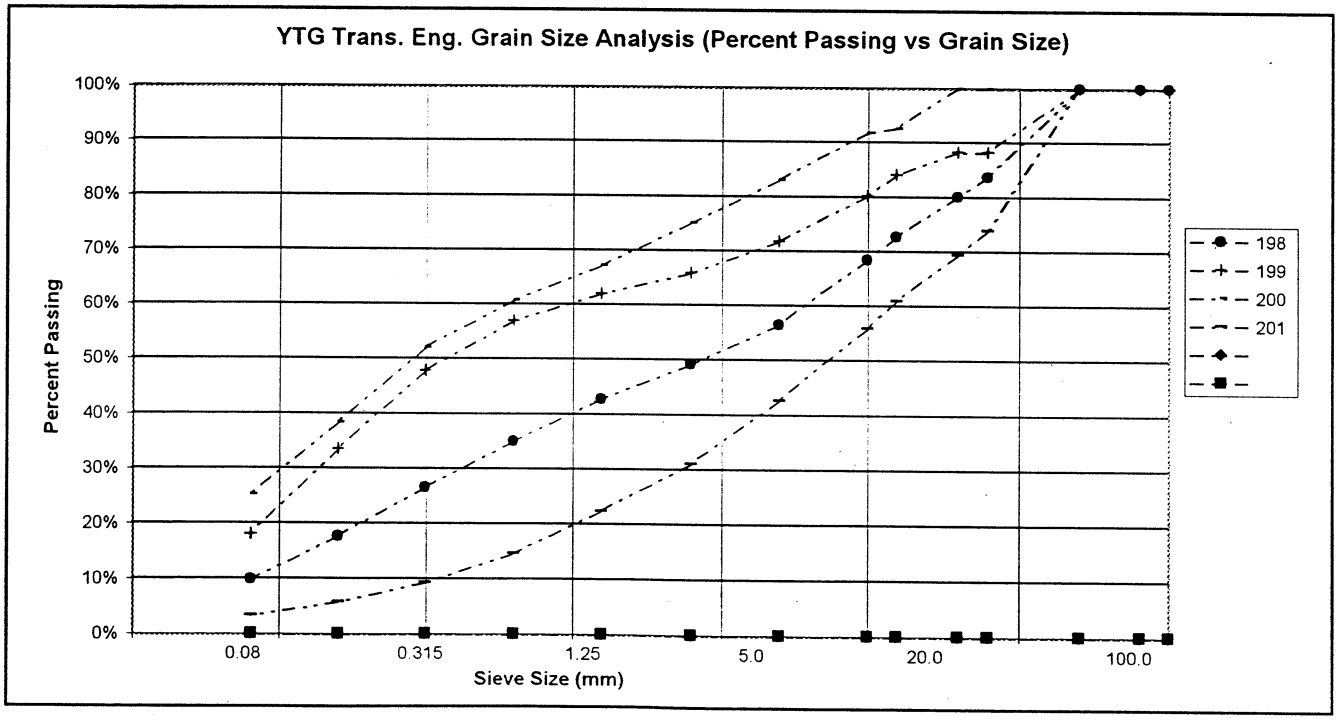


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Shakwak
PROJECT NAME:	Copper Joe Granular Investigation
PROJECT LOCATION:	Km 1753 Alaska Highway
DRILL UNIT:	Kamatsu PC 220 LC
HOLE LOCATION:	See Plan
LOGGED BY:	G.C

HOLE No.: 653-2745

DATE COMP: 03/10/07

FIELD NO:	198	199	200	201		
LAB NO:	359	360	361	362		
DEPTH:	0.5-1.0	1.6-2.0	2.5-3.0	3.5-4.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	84%	88%	100%	74%		
20.0	80%	88%	100%	69%		
12.5	73%	84%	93%	61%		
10.0	69%	80%	92%	56%		
5.0	56%	72%	83%	43%		
2.5	49%	66%	75%	31%		
1.25	43%	62%	67%	22%		
0.630	35%	57%	61%	15%		
0.315	27%	48%	52%	9%		
0.160	18%	34%	38%	6%		
0.080	10%	18%	25%	3%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	44	28	17	57		
% SAND:	47	54	58	39		
% FINES:	10	18	25	3		
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)	POORLY GRADED GRAVEL WITH SAND (GP)		

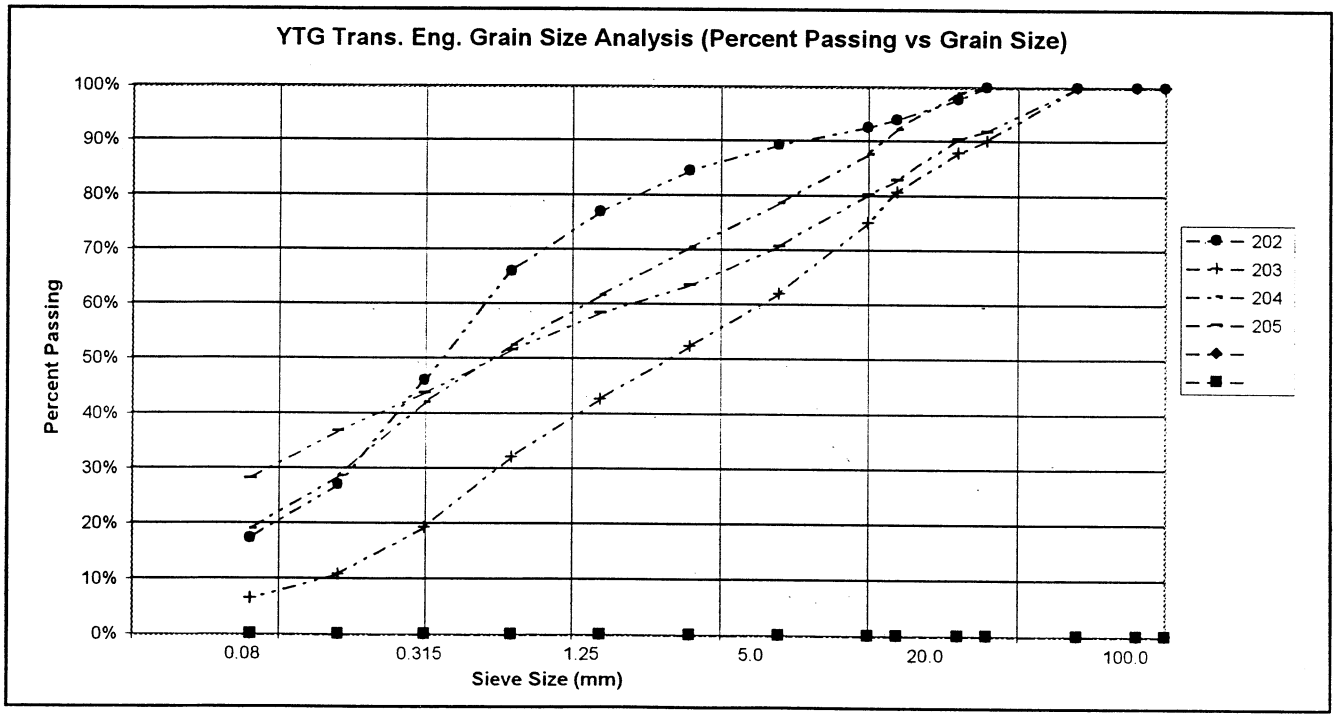


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Shakwak
PROJECT NAME: Copper Joe Granular Investigation
PROJECT LOCATION: Km 1753 Alaska Highway
DRILL UNIT: Kamatsu PC 220 LC
HOLE LOCATION: See Plan
LOGGED BY: G.C

HOLE No.: 653-2746

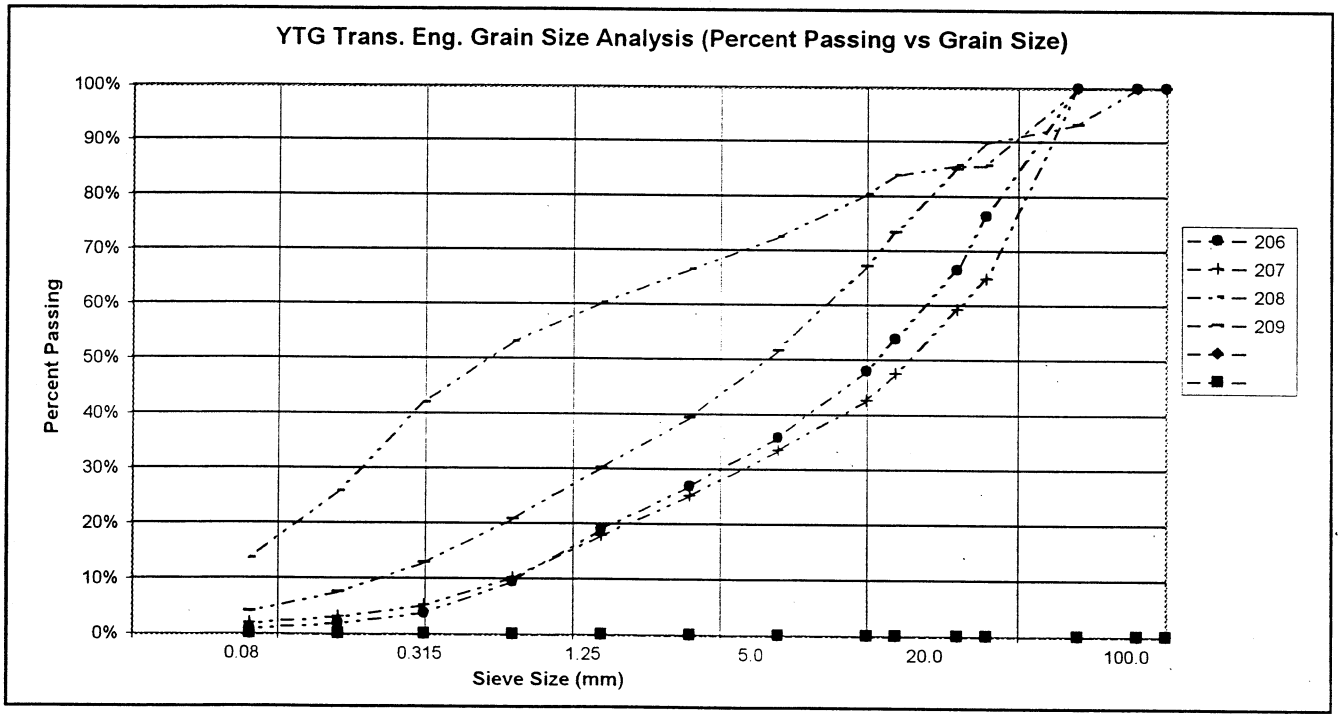
DATE COMP: 03/10/07

FIELD NO:	202	203	204	205		
LAB NO:	363	364	365	366		
DEPTH:	0.6-1.0	1.6-2.0	2.6-3.0	3.6-4.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	100%	90%	100%	92%		
20.0	98%	88%	99%	90%		
12.5	94%	81%	92%	83%		
10.0	93%	75%	88%	80%		
5.0	89%	62%	78%	71%		
2.5	85%	52%	70%	64%		
1.25	77%	43%	62%	58%		
0.630	66%	32%	52%	52%		
0.315	46%	19%	42%	44%		
0.160	27%	11%	29%	37%		
0.080	17%	6%	19%	28%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	11	38	22	29		
% SAND:	72	56	59	43		
% FINES:	17	6	19	28		
CLASSIFICATION	SILTY SAND (SM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)		



PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 653-2747
CLIENT:	Shakwak		
PROJECT NAME:	Copper Joe Granular Investigation		
PROJECT LOCATION:	Km 1753 Alaska Highway		
DRILL UNIT:	Kamatsu PC 220 LC		
HOLE LOCATION:	See Plan		
LOGGED BY:	G.C		DATE COMP: 03/10/07

FIELD NO:	206	207	208	209		
LAB NO:	367	368	369	370		
DEPTH:	0.5-1.0	1.5-2.0	2.6-3.0	3.6-3.8		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	93%		
25.0	76%	65%	86%	90%		
20.0	67%	59%	86%	85%		
12.5	54%	48%	84%	73%		
10.0	48%	43%	80%	67%		
5.0	36%	34%	72%	52%		
2.5	27%	25%	66%	39%		
1.25	19%	18%	60%	30%		
0.630	10%	10%	53%	21%		
0.315	4%	5%	42%	13%		
0.160	2%	3%	26%	8%		
0.080	1%	2%	14%	4%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	64	66	28	48		
% SAND:	35	32	59	48		
% FINES:	1	2	14	4		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY SAND WITH GRAVEL (SM)	POORLY GRADED GRAVEL WITH SAND (GP)		

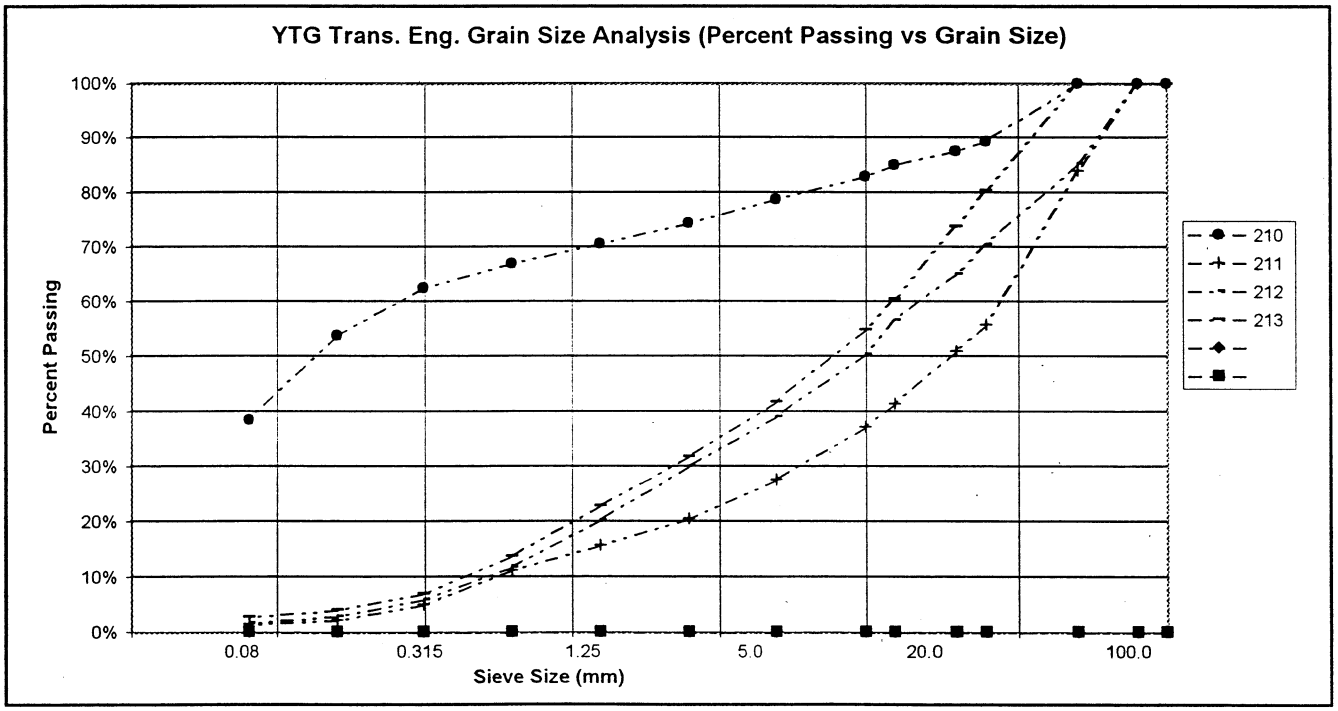


PROJECT NUMBER: 552-202101-0361-1
CLIENT: Shakwak
PROJECT NAME: Copper Joe Granular Investigation
PROJECT LOCATION: Km 1753 Alaska Highway
DRILL UNIT: Kamatsu PC 220 LC
HOLE LOCATION: See Plan
LOGGED BY: G.C

HOLE No.: 653-2748

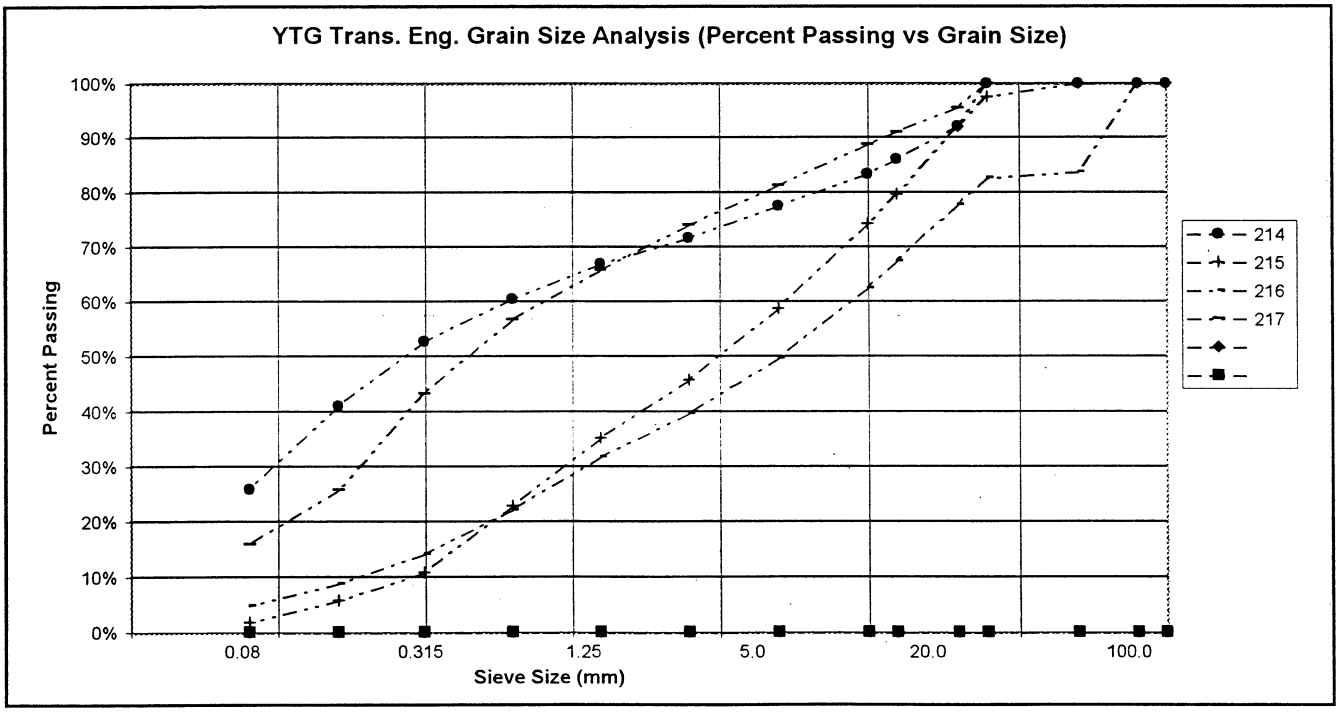
DATE COMP: 03/10/07

FIELD NO:	210	211	212	213		
LAB NO:	371	372	373	374		
DEPTH:	0.4-0.6	1.5-2.0	2.8-3.2	3.6-4.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	84%	85%	100%		
25.0	89%	56%	70%	80%		
20.0	88%	51%	65%	74%		
12.5	85%	41%	57%	60%		
10.0	83%	37%	50%	55%		
5.0	79%	27%	39%	42%		
2.5	74%	21%	30%	32%		
1.25	71%	16%	20%	23%		
0.630	67%	11%	12%	14%		
0.315	63%	5%	6%	7%		
0.160	54%	2%	3%	4%		
0.080	38%	1%	2%	3%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	21	73	61	58		
% SAND:	40	26	37	39		
% FINES:	38	1	2	3		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)		



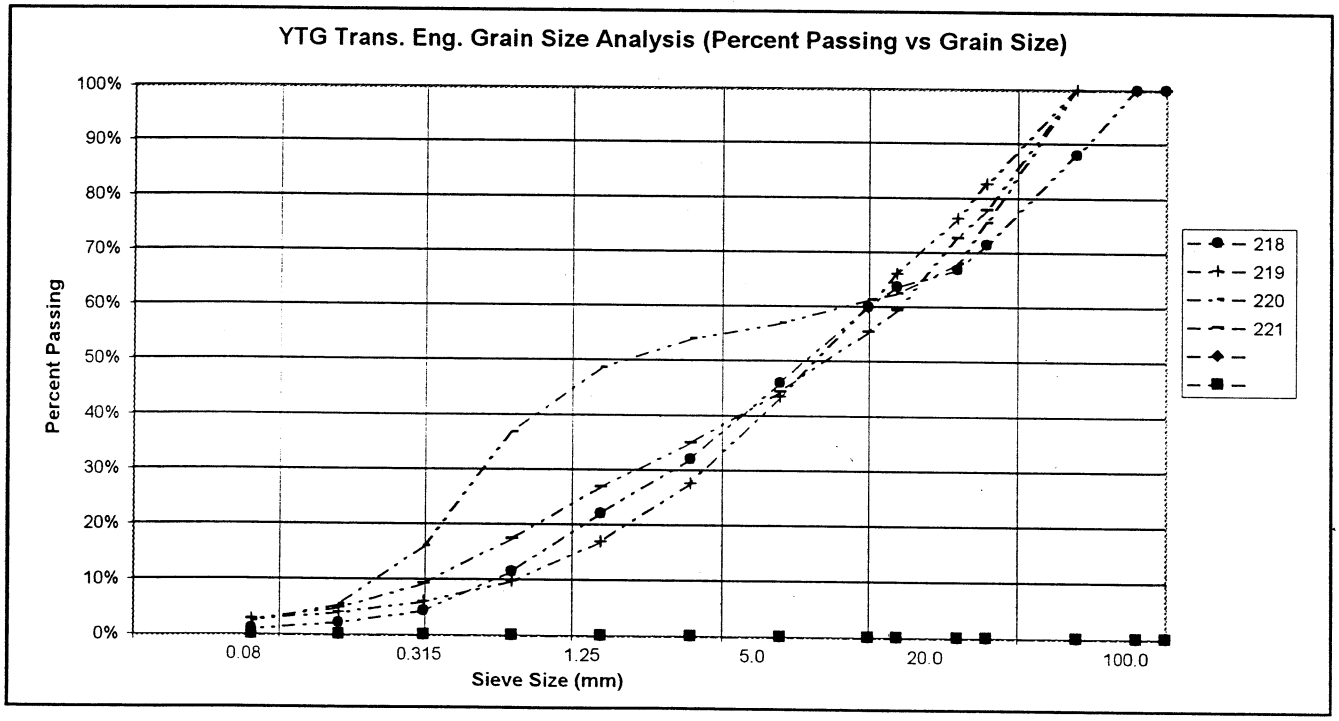
PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 653-2749
CLIENT:	Shakwak		
PROJECT NAME:	Copper Joe Granular Investigation		
PROJECT LOCATION:	Km 1753 Alaska Highway		
DRILL UNIT:	Kamatsu PC 220 LC		
HOLE LOCATION:	See Plan		
LOGGED BY:	G.C		DATE COMP: 03/10/07

FIELD NO:	214	215	216	217		
LAB NO:	375	376	377	378		
DEPTH:	0.6-1.0	1.6-2.0	2.6-3.0	3.6-4.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	84%	100%		
25.0	100%	98%	83%	100%		
20.0	92%	92%	78%	96%		
12.5	86%	80%	67%	91%		
10.0	83%	74%	62%	89%		
5.0	77%	59%	50%	81%		
2.5	72%	46%	40%	74%		
1.25	67%	35%	32%	66%		
0.630	61%	23%	22%	57%		
0.315	53%	11%	14%	43%		
0.160	41%	6%	9%	26%		
0.080	26%	2%	5%	16%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	23	41	50	19		
% SAND:	52	57	45	65		
% FINES:	26	2	5	16		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY SAND WITH GRAVEL (SM)		



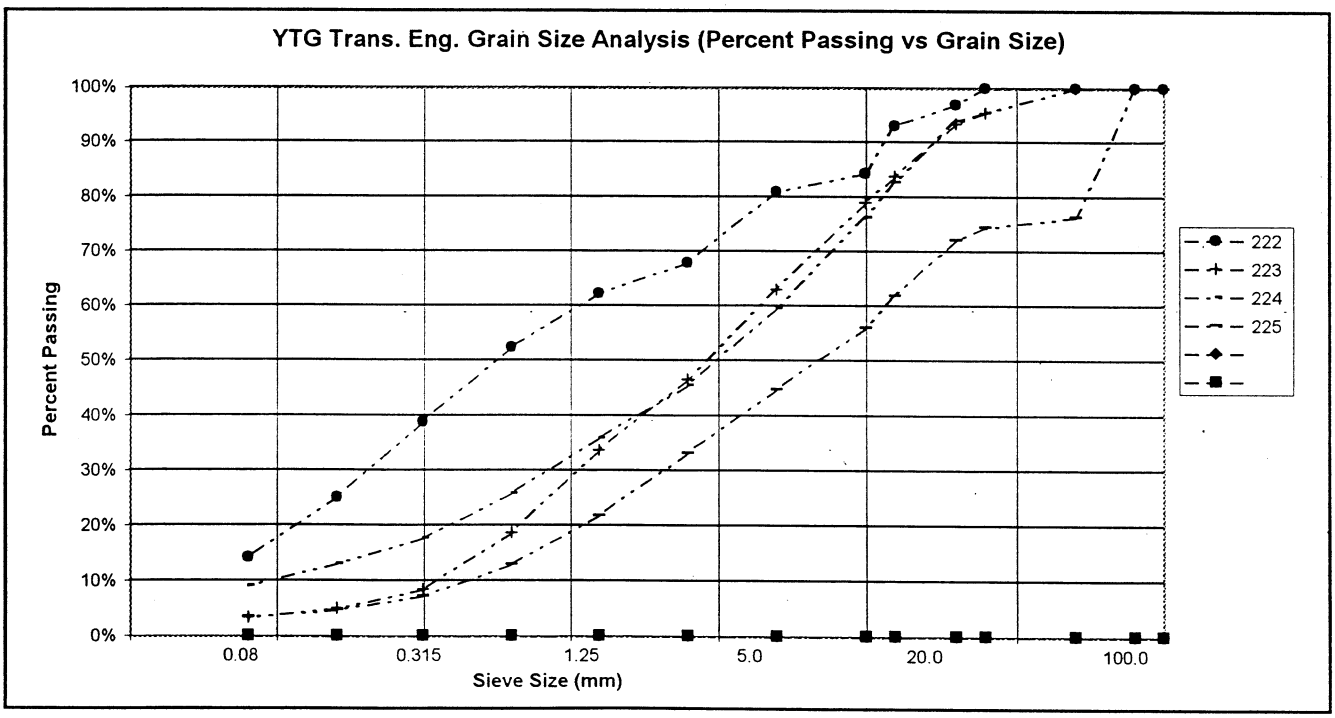
PROJECT NUMBER:	552-202101-0361-1	HOLE No.:	653-2750
CLIENT:	Shakwak		
PROJECT NAME:	Copper Joe Granular Investigation		
PROJECT LOCATION:	Km 1753 Alaska Highway		
DRILL UNIT:	Kamatsu PC 220 LC		
HOLE LOCATION:	See Plan		
LOGGED BY:	G.C	DATE COMP:	03/10/08

FIELD NO:	218	219	220	221		
LAB NO:	379	380	381	382		
DEPTH:	0.6-1.0	1.6-2.0	2.6-3.0	3.6-4.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	88%	100%	100%	100%		
25.0	71%	83%	76%	78%		
20.0	67%	76%	68%	73%		
12.5	64%	66%	62%	59%		
10.0	60%	60%	61%	55%		
5.0	46%	43%	57%	44%		
2.5	32%	28%	54%	35%		
1.25	22%	17%	49%	27%		
0.630	11%	10%	37%	17%		
0.315	4%	6%	16%	9%		
0.160	2%	4%	5%	5%		
0.080	1%	3%	2%	3%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	54	57	43	56		
% SAND:	45	41	55	42		
% FINES:	1	3	2	3		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED SAND WITH GRAVEL (SW)	POORLY GRADED GRAVEL WITH SAND (GP)		



PROJECT NUMBER:	552-202101-0361-1		HOLE No.: 653-2751
CLIENT:	Shakwak		
PROJECT NAME:	Copper Joe Granular Investigation		
PROJECT LOCATION:	Km 1753 Alaska Highway		
DRILL UNIT:	Kamatsu PC 220 LC		
HOLE LOCATION:	See Plan		
LOGGED BY:	G.C		DATE COMP: 03/10/08

FIELD NO:	222	223	224	225		
LAB NO:	383	384	385	386		
DEPTH:	0.6-1.0	1.6-2.0	2.6-3.0	3.6-4.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	76%		
25.0	100%	95%	96%	74%		
20.0	97%	93%	94%	72%		
12.5	93%	84%	83%	62%		
10.0	84%	79%	76%	56%		
5.0	81%	63%	60%	45%		
2.5	68%	47%	45%	33%		
1.25	62%	34%	36%	22%		
0.630	52%	19%	26%	13%		
0.315	39%	8%	18%	7%		
0.160	25%	5%	13%	5%		
0.080	14%	3%	9%	3%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	19	37	40	55		
% SAND:	67	60	50	41		
% FINES:	14	3	9	3		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	POORLY GRADED SAND WITH GRAVEL (SP)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	POORLY GRADED GRAVEL WITH SAND (GP)		

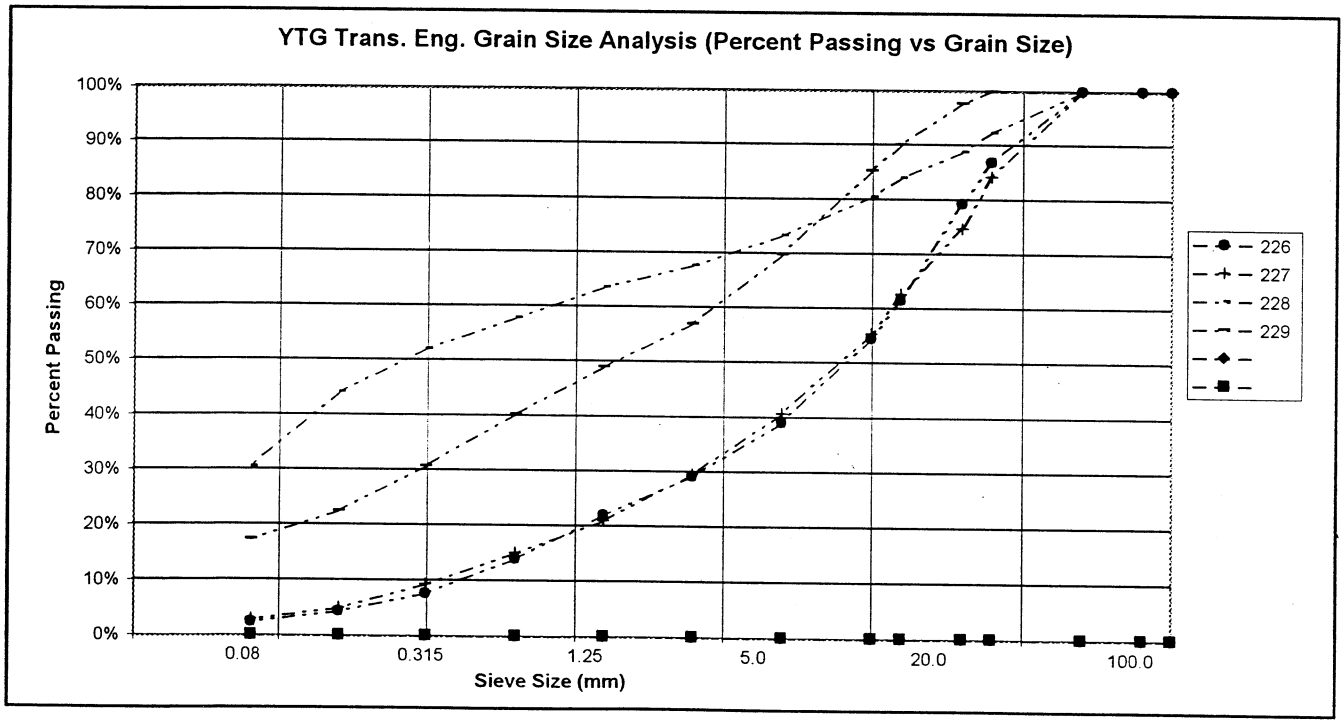


PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Shakwak
PROJECT NAME:	Copper Joe Granular Investigation
PROJECT LOCATION:	Km 1753 Alaska Highway
DRILL UNIT:	Kamatsu PC 220 LC
HOLE LOCATION:	See Plan
LOGGED BY:	G.C

HOLE No.: 653-2752

DATE COMP: 03/10/08

FIELD NO:	226	227	228	229		
LAB NO:	387	388	389	390		
DEPTH:	0.6-1.0	1.6-2.0	2.6-3.0	3.0-3.4		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	100%	100%	100%		
25.0	87%	84%	92%	100%		
20.0	79%	75%	89%	98%		
12.5	62%	63%	84%	90%		
10.0	54%	55%	80%	85%		
5.0	39%	41%	73%	70%		
2.5	29%	30%	68%	57%		
1.25	22%	21%	64%	49%		
0.630	14%	15%	58%	40%		
0.315	8%	9%	52%	31%		
0.160	4%	5%	44%	23%		
0.080	2%	3%	31%	17%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	61	59	27	30		
% SAND:	37	38	43	52		
% FINES:	2	3	31	17		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)		



PROJECT NUMBER:	552-202101-0361-1
CLIENT:	Shakwak
PROJECT NAME:	Copper Joe Granular Investigation
PROJECT LOCATION:	Km 1753 Alaska Highway
DRILL UNIT:	Kamatsu PC 220 LC
HOLE LOCATION:	See Plan
LOGGED BY:	G.C

HOLE No.: 653-2753

DATE COMP: 03/10/08

FIELD NO:	229A	230	231	232		
LAB NO:	391	392	393	394		
DEPTH:	0.6-1.0	1.6-2.0	2.6-3.0	3.6-4.0		
TYPE:	BULK	BULK	BULK	BULK		
SIEVE SIZE	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**	**PERCENT PASSING**		
100.0	100%	100%	100%	100%		
80.0	100%	100%	100%	100%		
50.0	100%	85%	91%	100%		
25.0	97%	75%	59%	100%		
20.0	93%	70%	51%	100%		
12.5	83%	57%	40%	93%		
10.0	76%	53%	36%	90%		
5.0	57%	38%	26%	84%		
2.5	44%	28%	21%	81%		
1.25	36%	19%	17%	78%		
0.630	29%	12%	13%	75%		
0.315	19%	7%	7%	68%		
0.160	10%	5%	3%	51%		
0.080	6%	4%	2%	33%		
M.C.(%):						
LIQUID LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC LIMIT:	0.0	0.0	0.0	0.0		
PLASTIC INDEX.:	0.0	0.0	0.0	0.0		
% GRAVEL:	43	62	74	16		
% SAND:	51	34	24	52		
% FINES:	6	4	2	33		
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	POORLY GRADED GRAVEL WITH SAND (GP)	WELL-GRADED GRAVEL WITH SAND (GW)	SILTY SAND WITH GRAVEL (SM)		

