

GEOTECHNICAL INVESTIGATIONS

Highway Construction
Km 1768.1 to 1775.7 Alaska #1
Yukon, 2003-2004
Volume 2 of 3



Transportation Engineering Branch
Geotechnical Services

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GR-01-164 DRW12

HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION

Km 1768.1 to 1775.7
YUKON 2003-2004

ALASKA HIGHWAY #1

Highway Construction
Km 1768.1 to 1775.7
Alaska Highway #1
Yukon 2003-2004
Volume 2 of 3

This Data Package prepared for project viewing:

December, 2002

Transportation Engineering Branch
Geotechnical Services
461 Range Road
Whitehorse, Yukon

CONTENTS

Volume 1 of 3

INTRODUCTION

Investigation notes, classification methods and legends.

CENTRELINE TESTING ALASKA HIGHWAY

Subsurface Exploration and Testing Report Sheets are provided.
The reports for the centreline holes are arranged according to project location, starting at Km 1768+503 and increasing to Km 1775+500.

TEST HOLES 01 to 35	shown with prefix 596-
TEST HOLES 36 to 50	shown with prefix 597-
TEST HOLES 51 to 74	shown with prefix 598-
TEST HOLES 75 to 97	shown with prefix 599-
TEST HOLES 98 to 117	shown with prefix 600-

NOTE:

Centreline Test Hole locations indicated on the Subsurface Exploration and Testing Report Sheets are approximate. Actual Test Hole locations, located by GPS survey or field survey, are as shown on project plans.

CONTENTS (continued)

Volume 2 of 3

CENTRELINE TESTING ALASKA HIGHWAY

Laboratory Testing Result Sheets are provided.

The reports for the centrelineholes are arranged according to test hole number, starting at 596-01 and increasing to 600-117.

TEST HOLES 01 to 35	shown with prefix 596-
TEST HOLES 36 to 50	shown with prefix 597-
TEST HOLES 51 to 74	shown with prefix 598-
TEST HOLES 75 to 97	shown with prefix 599-
TEST HOLES 98 to 117	shown with prefix 600-

NOTE:

Centreline Test Hole locations indicated on the Subsurface Exploration and Testing Report Sheets are approximate. Actual Test Hole locations, located by GPS survey or field survey, are as shown on project plans.

CONTENTS (continued)

Volume 3 of 3

GRANULAR SOURCE Km 1766.0 LHS ALASKA HIGHWAY

A Production History and location plans are provided.

History of Aggregate Production

2001	20 mm Granular "A" Base Course
2001	20 mm Granular "A" Base Course
2001	20 mm B.S.T. Aggregate

GRANULAR SOURCE Km 1776.0 RHS & LHS ALASKA HIGHWAY

A Production History, location plans, photographs, and subsurface exploration and testing report sheets are provided.

History of Aggregate Production

1992	20 mm Granular "A" Base Course
1992	20 mm B.S.T. Aggregate
2002	20 mm Granular "A" Base Course
2002	20 mm Granular "A" Base Course
2002	20 mm B.S.T. Aggregate

Auger Testing

2001	TEST HOLES 117	shown with prefix 600-
2001	TEST HOLES 1966 to 1978	shown with prefix 626-

Backhoe Testing

1988	TEST PITS 9	shown with prefix 33-
2001	TEST PITS 8 to 15	shown with prefix 610-
2002	TEST PITS 2579 to 2599	shown with prefix 641-
2002	TEST PITS 2601	shown with prefix 642-

HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION

Km 1768.1 to 1775.7
YUKON 2003-2004

ALASKA HIGHWAY #1

CENTRELINE

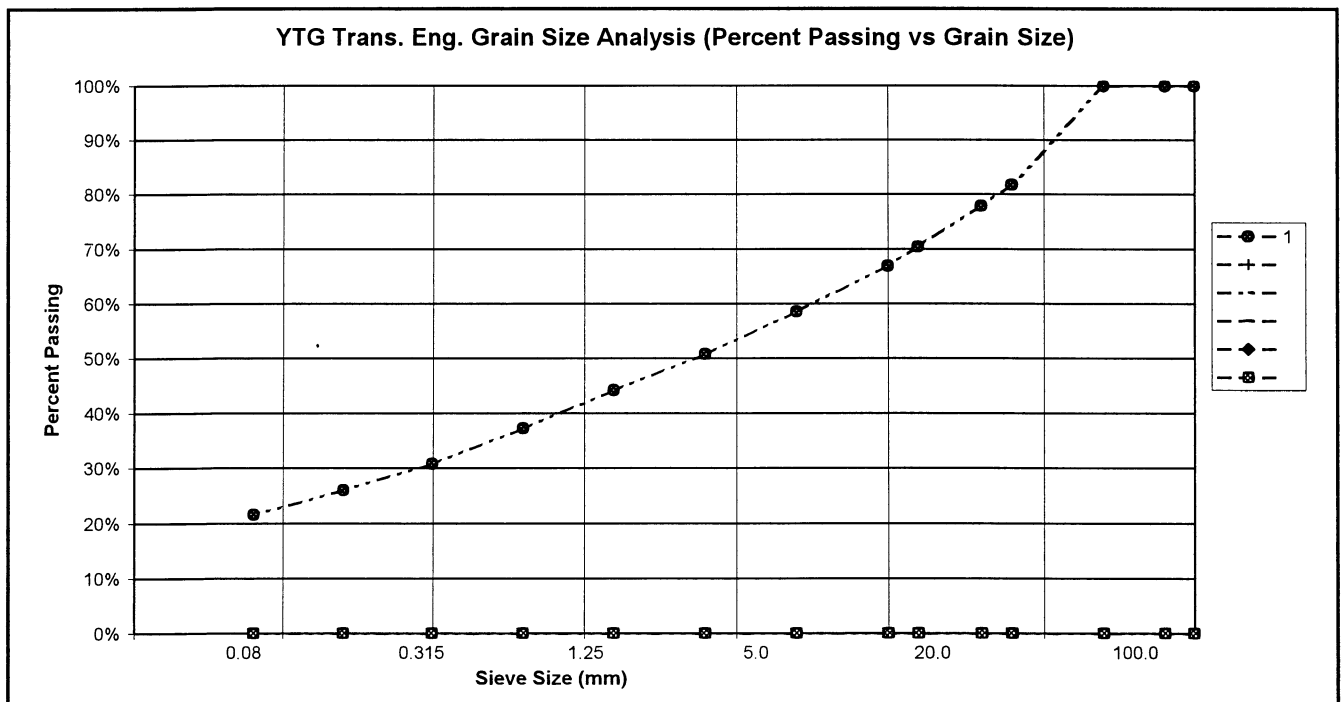
**CENTRELINE TESTING
1768+503 to 1775+500
ALASKA HIGHWAY**

PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-01

DATE COMP: 2001/04/25

FIELD NO:	1				
LAB NO:	507				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	82%				
20.0	78%				
12.5	70%				
10.0	67%				
5.0	59%				
2.5	51%				
1.25	44%				
0.630	37%				
0.315	31%				
0.160	26%				
0.080	22%				
M.C.(%)	5%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	41				
% SAND:	37				
% FINES:	22				
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)				

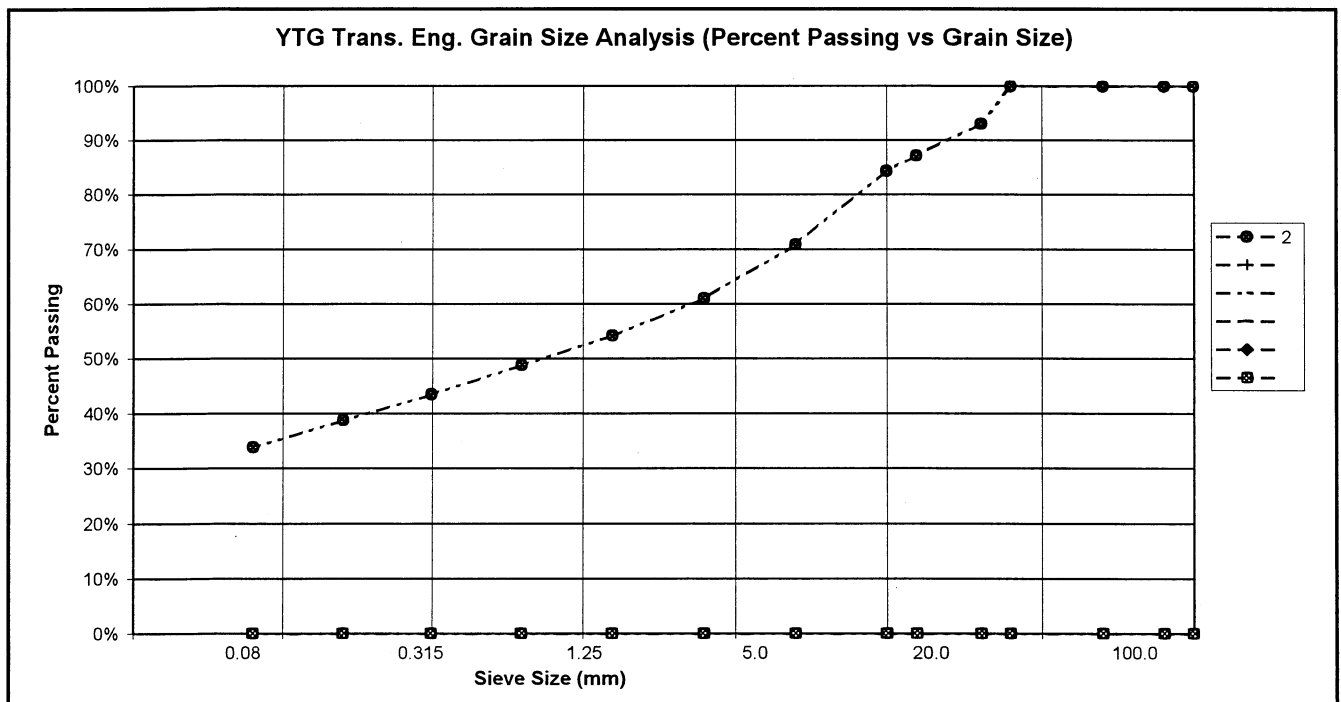


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-02

DATE COMP: 2001/04/25

FIELD NO:	2				
LAB NO:	508				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	93%				
12.5	87%				
10.0	84%				
5.0	71%				
2.5	61%				
1.25	54%				
0.630	49%				
0.315	44%				
0.160	39%				
0.080	34%				
M.C.(%):	11%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	29				
% SAND:	37				
% FINES:	34				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

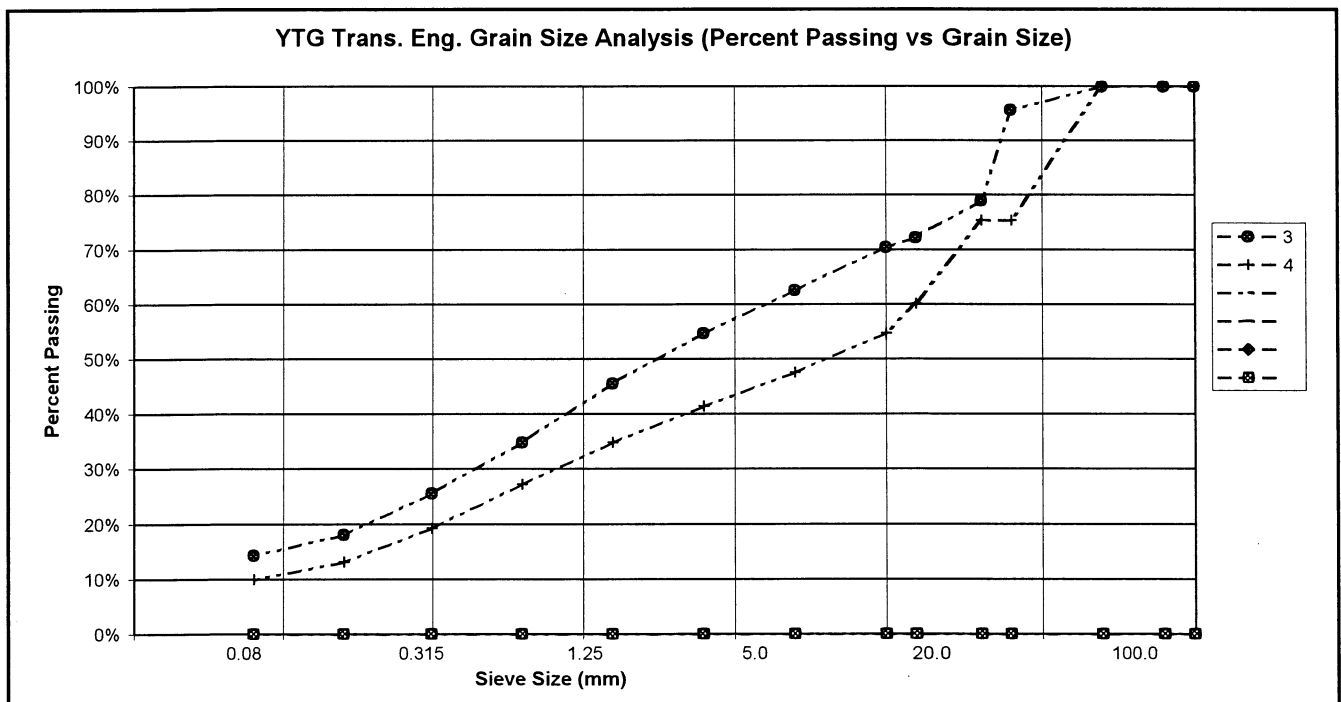


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-03

DATE COMP: 2001/04/25

FIELD NO:	3	4			
LAB NO:	509	510			
DEPTH:	1.1-1.3	2.6-2.8			
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	96%	75%			
20.0	79%	75%			
12.5	72%	60%			
10.0	70%	55%			
5.0	63%	48%			
2.5	55%	41%			
1.25	46%	35%			
0.630	35%	27%			
0.315	26%	19%			
0.160	18%	13%			
0.080	14%	10%			
M.C.(%)	5%	3%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	37	52			
% SAND:	48	38			
% FINES:	14	10			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

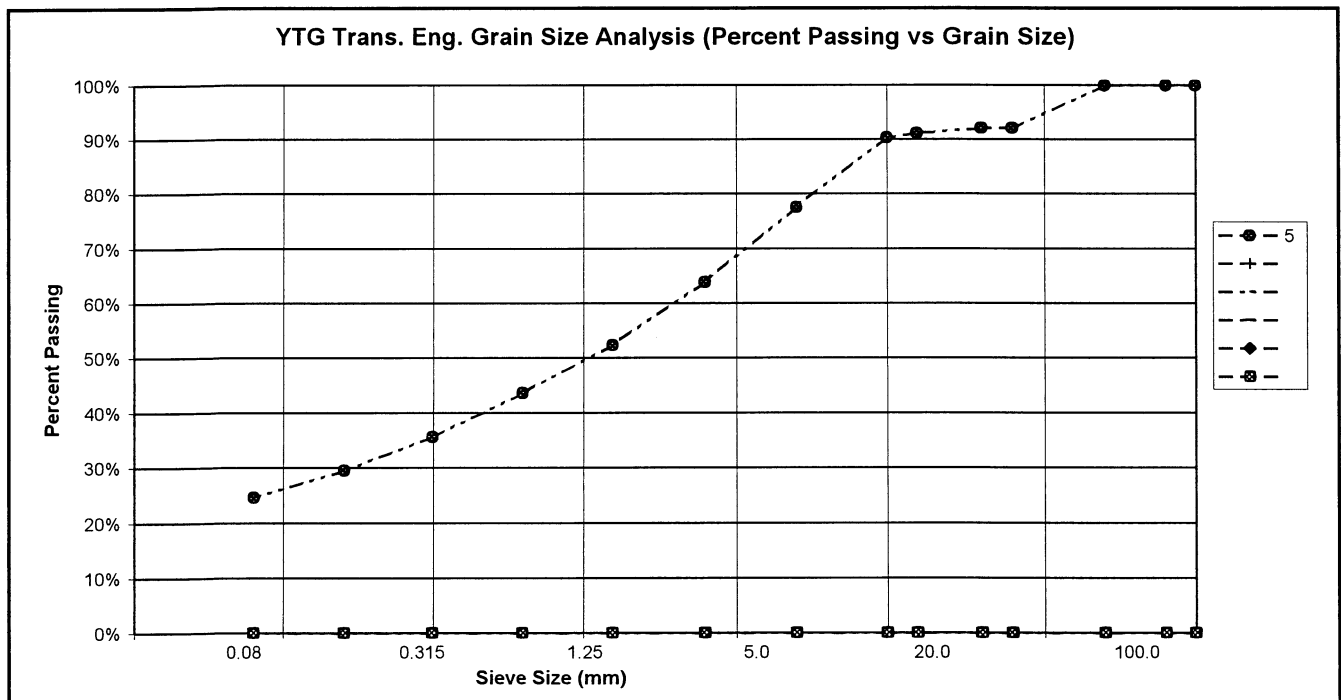


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-04

DATE COMP: 2001/04/25

FIELD NO:	5				
LAB NO:	511				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	92%				
20.0	92%				
12.5	91%				
10.0	90%				
5.0	78%				
2.5	64%				
1.25	52%				
0.630	44%				
0.315	36%				
0.160	30%				
0.080	25%				
M.C.(%)	11%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	22				
% SAND:	53				
% FINES:	25				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

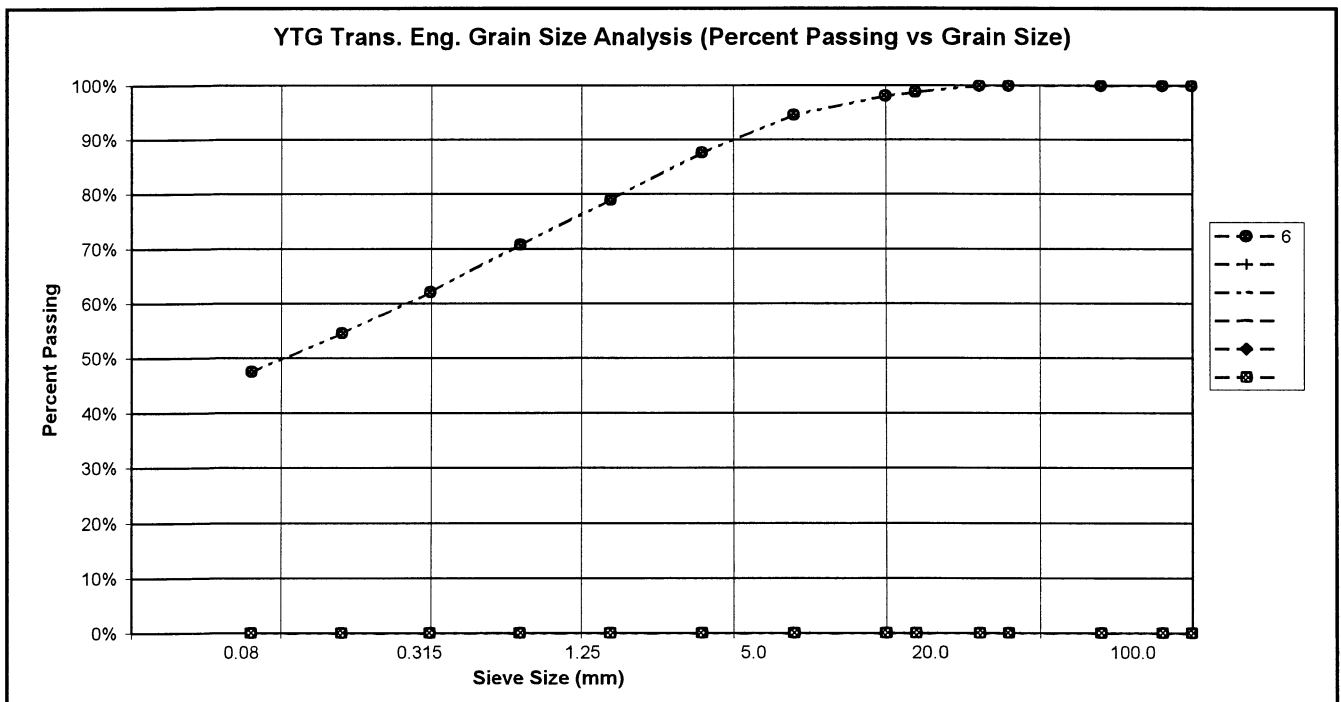


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-05

DATE COMP: 2001/04/25

FIELD NO:	6				
LAB NO:	512				
DEPTH:	2.5-2.7				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	99%				
10.0	98%				
5.0	95%				
2.5	88%				
1.25	79%				
0.630	71%				
0.315	62%				
0.160	55%				
0.080	47%				
M.C.(%):	15%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	5				
% SAND:	47				
% FINES:	47				
CLASSIFICATION	SILTY SAND (SM)				

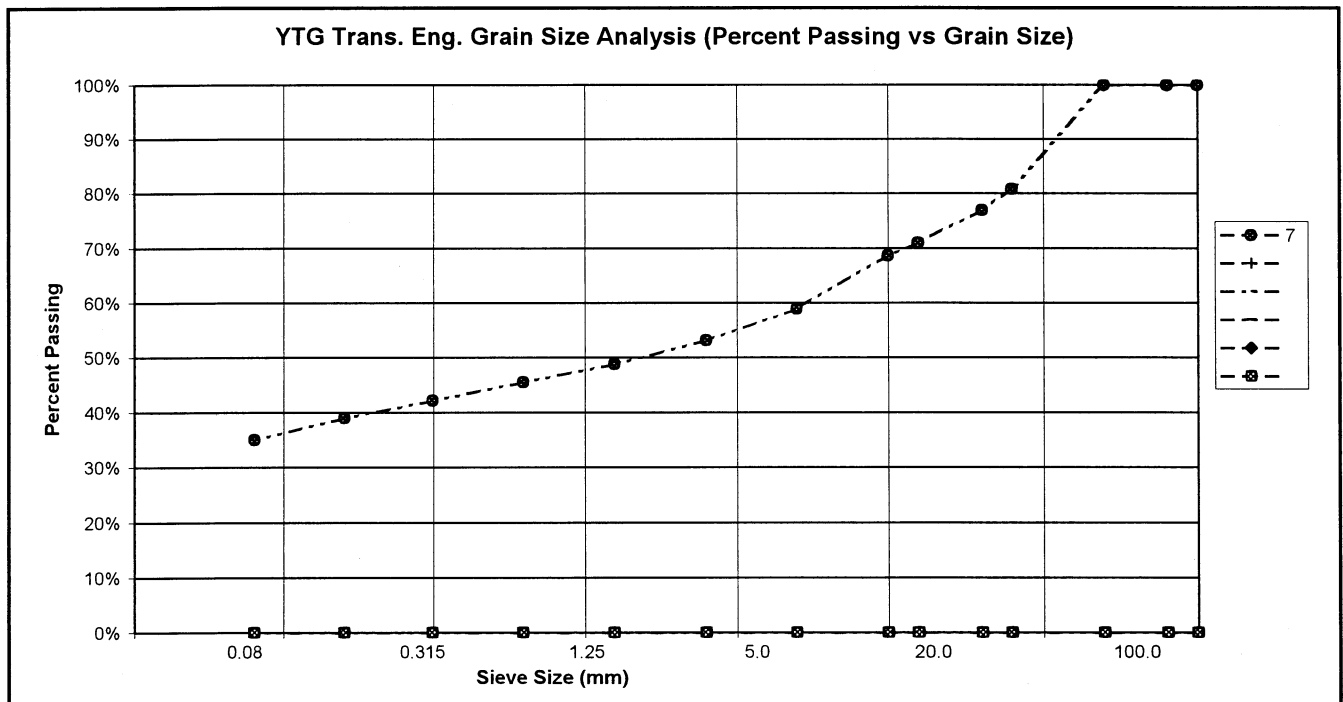


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-06

DATE COMP: 2001/04/25

FIELD NO:	7				
LAB NO:	513				
DEPTH:	2.2-2.4				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	81%				
20.0	77%				
12.5	71%				
10.0	69%				
5.0	59%				
2.5	53%				
1.25	49%				
0.630	46%				
0.315	42%				
0.160	39%				
0.080	35%				
M.C.(%):	12%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	41				
% SAND:	24				
% FINES:	35				
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)				

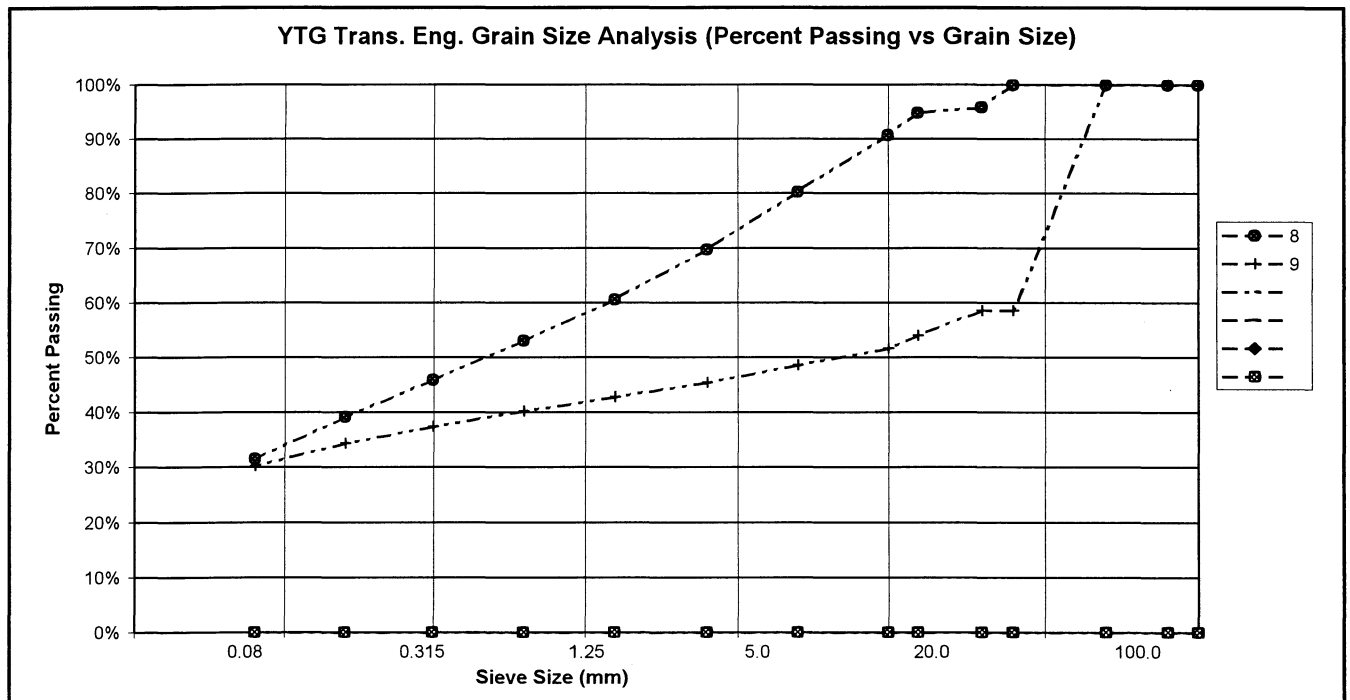


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-07

DATE COMP: 2001/04/25

FIELD NO:	8	9			
LAB NO:	514	515			
DEPTH:	1.1-1.3	2.6-2.8			
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%	59%			
20.0	96%	59%			
12.5	95%	54%			
10.0	91%	52%			
5.0	80%	49%			
2.5	70%	45%			
1.25	61%	43%			
0.630	53%	40%			
0.315	46%	37%			
0.160	39%	34%			
0.080	32%	30%			
M.C.(%):	5%	6%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	20	51			
% SAND:	49	18			
% FINES:	32	30			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)			

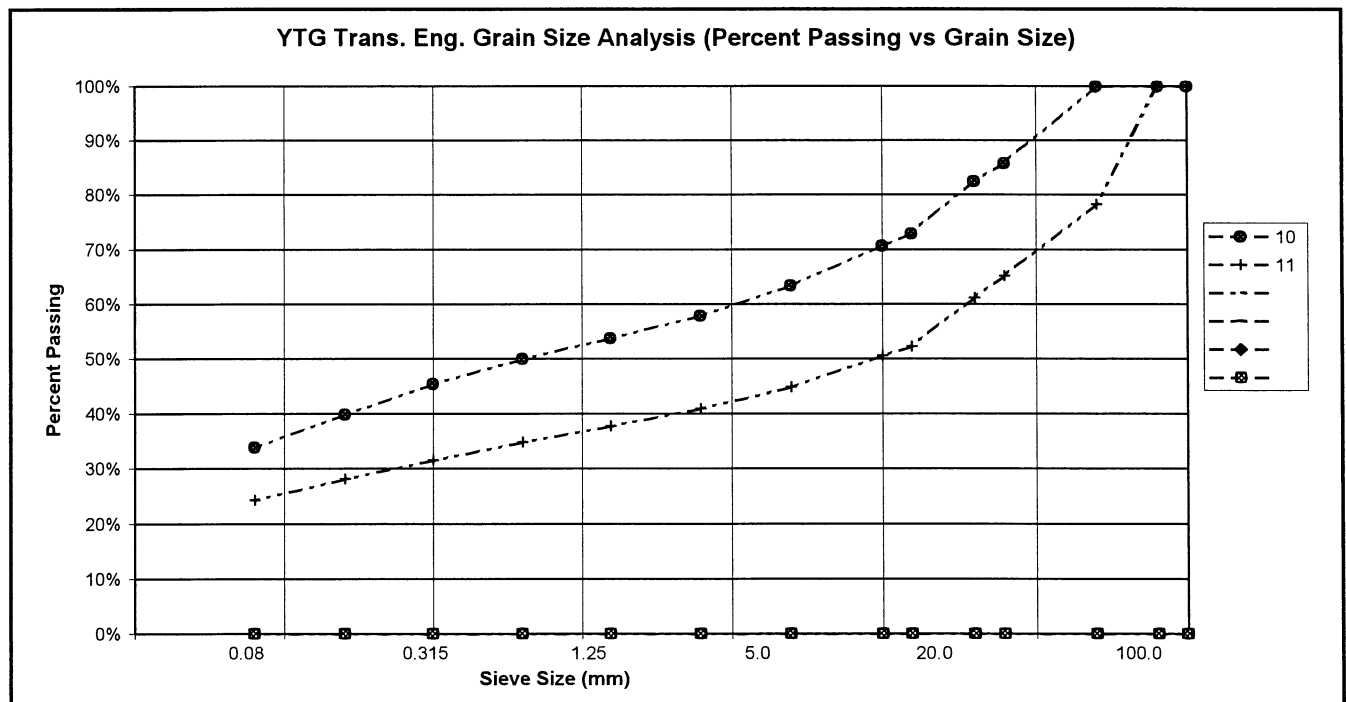


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-08

DATE COMP: 2001/04/25

FIELD NO:	10	11			
LAB NO:	516	517			
DEPTH:	1.1-1.3	2.6-2.8			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	78%			
25.0	86%	65%			
20.0	82%	61%			
12.5	73%	52%			
10.0	71%	51%			
5.0	63%	45%			
2.5	58%	41%			
1.25	54%	38%			
0.630	50%	35%			
0.315	45%	32%			
0.160	40%	28%			
0.080	34%	24%			
M.C.(%):	7%	4%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	37	55			
% SAND:	30	20			
% FINES:	34	24			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)			

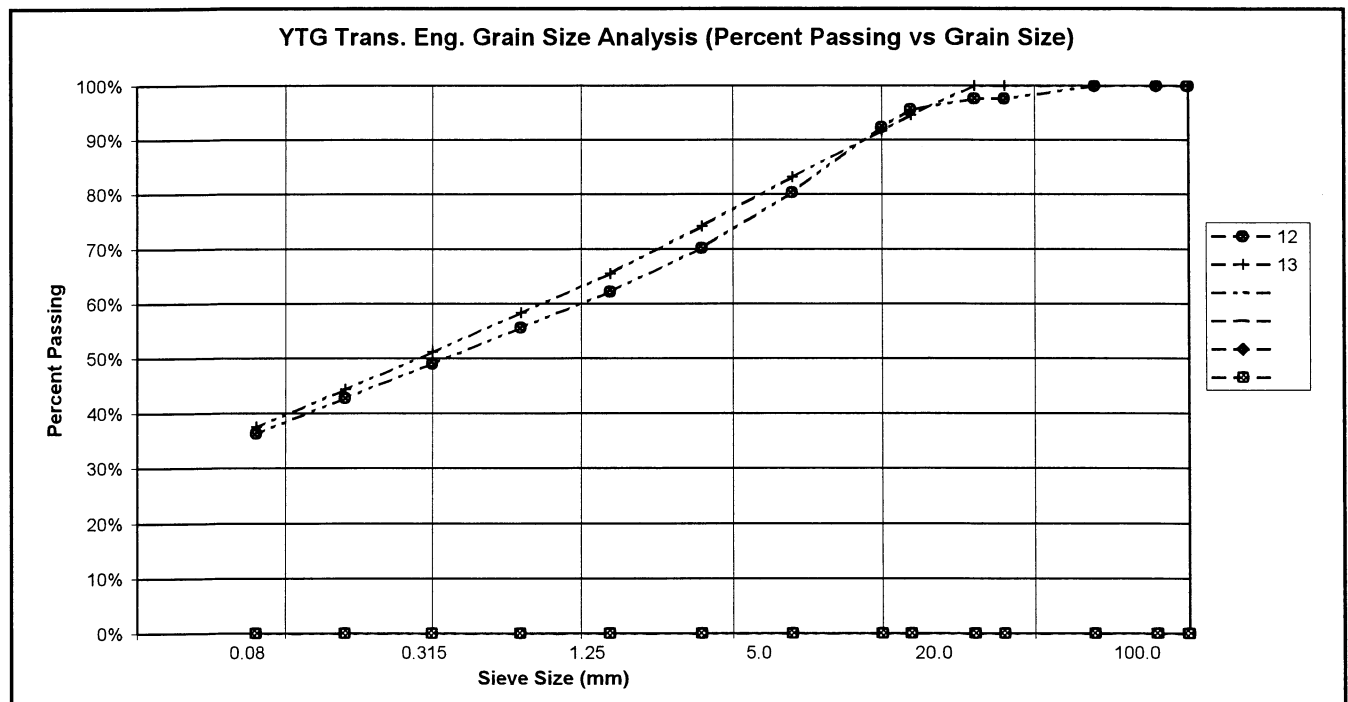


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-09

DATE COMP: 2001/04/25

FIELD NO:	12	13			
LAB NO:	518	519			
DEPTH:	1.1-1.3	2.6-2.8			
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	98%	100%			
20.0	98%	100%			
12.5	96%	95%			
10.0	92%	92%			
5.0	80%	83%			
2.5	70%	74%			
1.25	62%	66%			
0.630	56%	58%			
0.315	49%	51%			
0.160	43%	44%			
0.080	36%	38%			
M.C.(%):	7%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	20	17			
% SAND:	44	46			
% FINES:	36	38			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)			

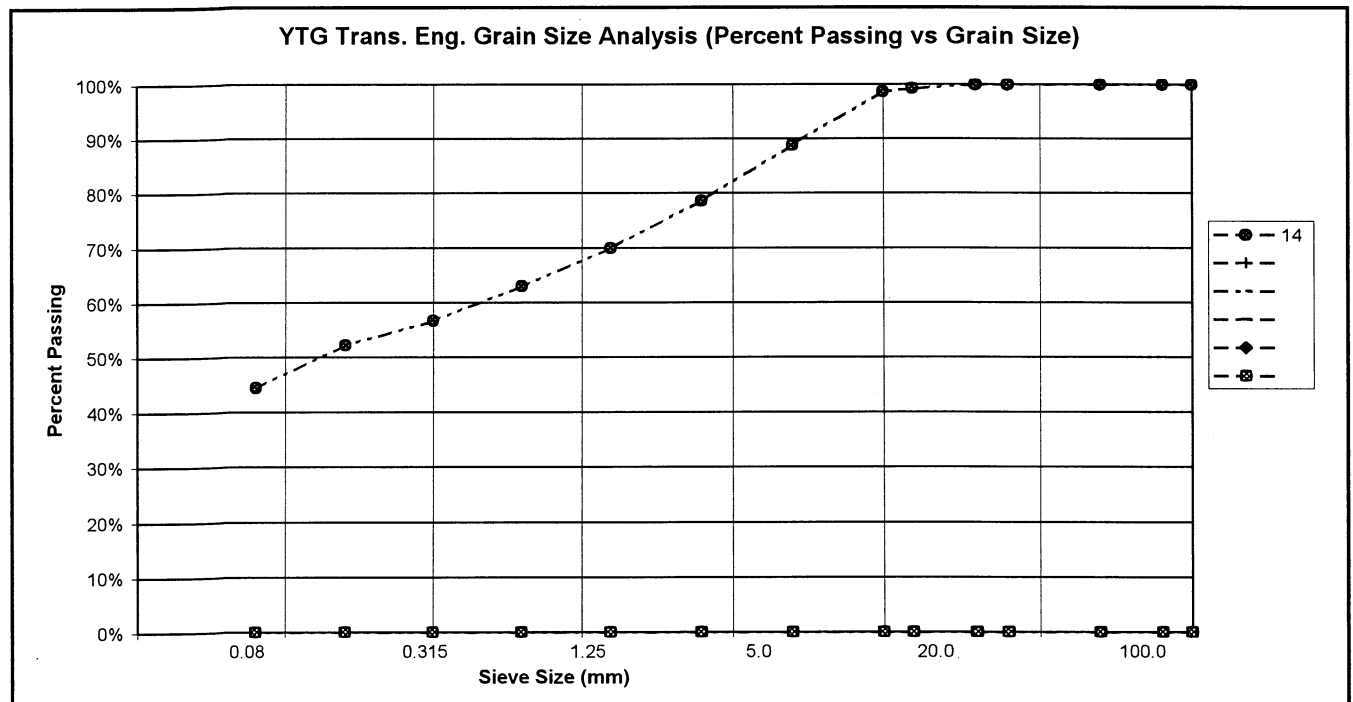


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-10

DATE COMP: 2001/04/25

FIELD NO:	14				
LAB NO:	520				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	99%				
10.0	99%				
5.0	89%				
2.5	79%				
1.25	70%				
0.630	63%				
0.315	57%				
0.160	52%				
0.080	44%				
M.C.(%):	9%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	11				
% SAND:	44				
% FINES:	44				
CLASSIFICATION	SILTY SAND (SM)				

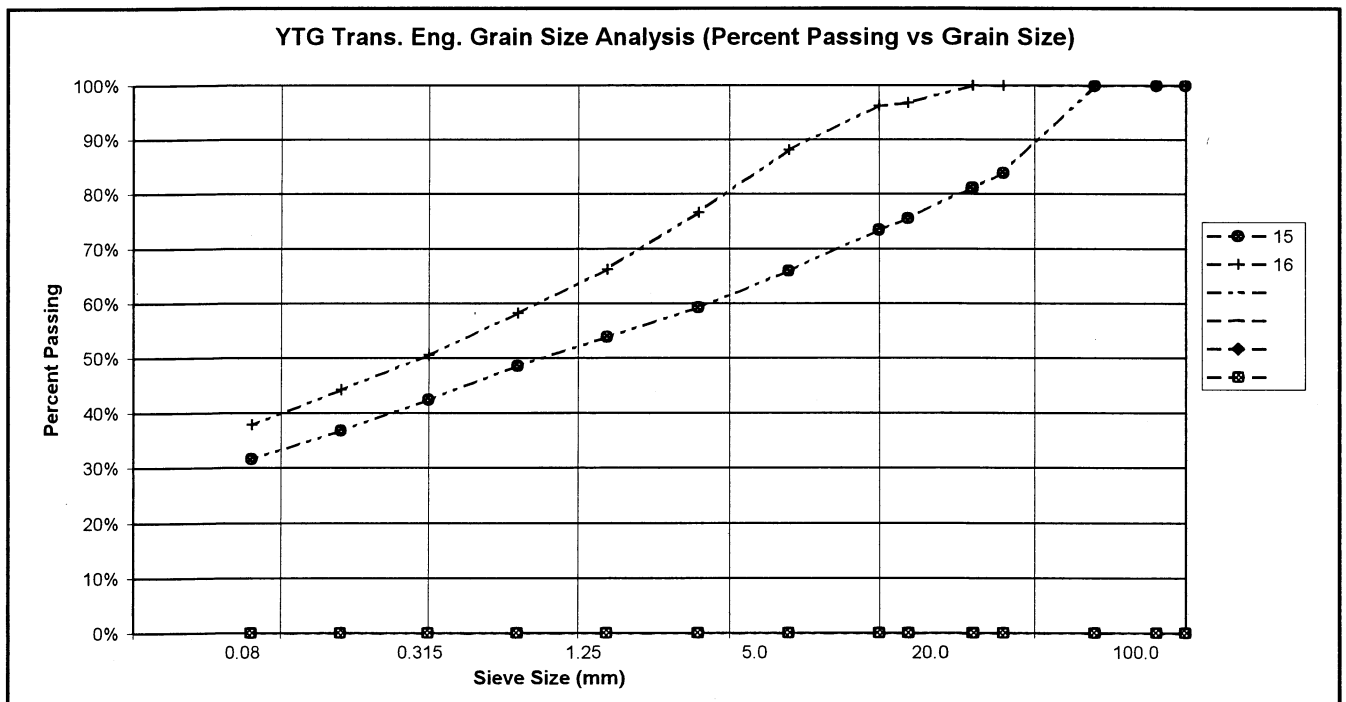


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-11

DATE COMP: 2001/04/25

FIELD NO:	15	16			
LAB NO:	521	522			
DEPTH:	1.3-1.5	2.8-3.0			
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	84%	100%			
20.0	81%	100%			
12.5	76%	97%			
10.0	73%	96%			
5.0	66%	88%			
2.5	59%	77%			
1.25	54%	66%			
0.630	49%	58%			
0.315	42%	51%			
0.160	37%	44%			
0.080	32%	38%			
M.C.(%):	21%	12%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	34	12			
% SAND:	34	50			
% FINES:	32	38			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND (SM)			

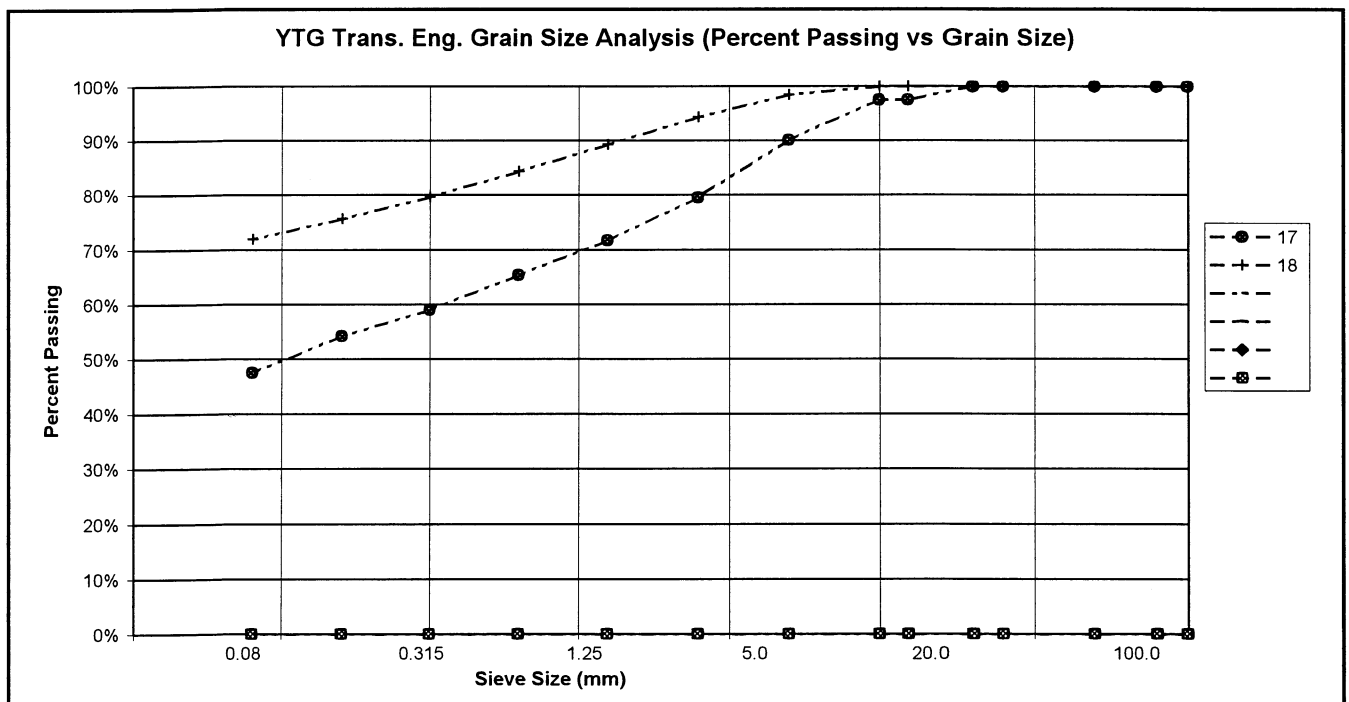


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-12

DATE COMP: 2001/04/25

FIELD NO:	17	18			
LAB NO:	523	524			
DEPTH:	1.3-1.5	2.6-2.8			
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%	100%			
20.0	100%	100%			
12.5	98%	100%			
10.0	98%	100%			
5.0	90%	98%			
2.5	80%	94%			
1.25	72%	89%			
0.630	65%	84%			
0.315	59%	80%			
0.160	54%	76%			
0.080	47%	72%			
M.C.(%):	9%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	10	2			
% SAND:	43	27			
% FINES:	47	72			
CLASSIFICATION	SILTY SAND (SM)	SILT WITH SAND (ML)			

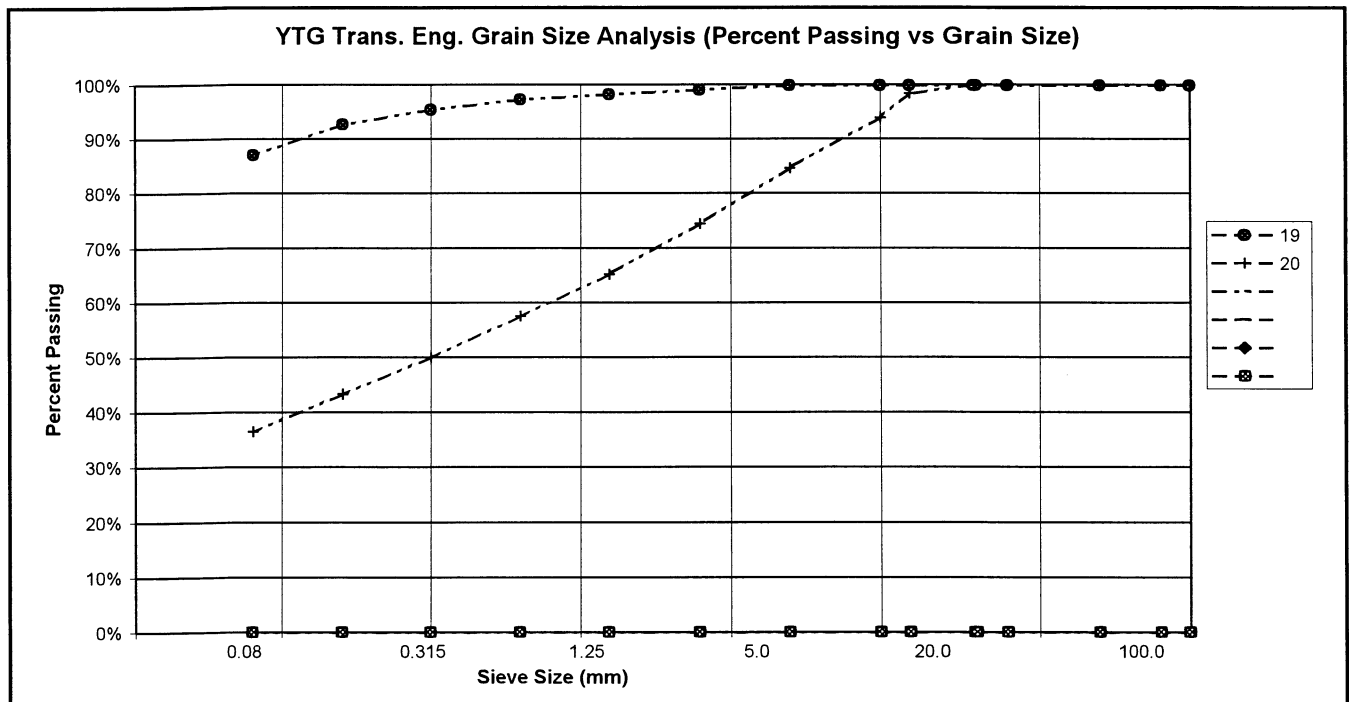


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-13

DATE COMP: 2001/04/26

FIELD NO:	19	20			
LAB NO:	252	526			
DEPTH:	1.3-1.5	1.9-2.0			
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%	100%			
20.0	100%	100%			
12.5	100%	98%			
10.0	100%	94%			
5.0	100%	85%			
2.5	99%	74%			
1.25	98%	65%			
0.630	97%	58%			
0.315	95%	50%			
0.160	93%	43%			
0.080	87%	36%			
M.C.(%):	103%	13%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	15			
% SAND:	13	48			
% FINES:	87	36			
CLASSIFICATION	SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

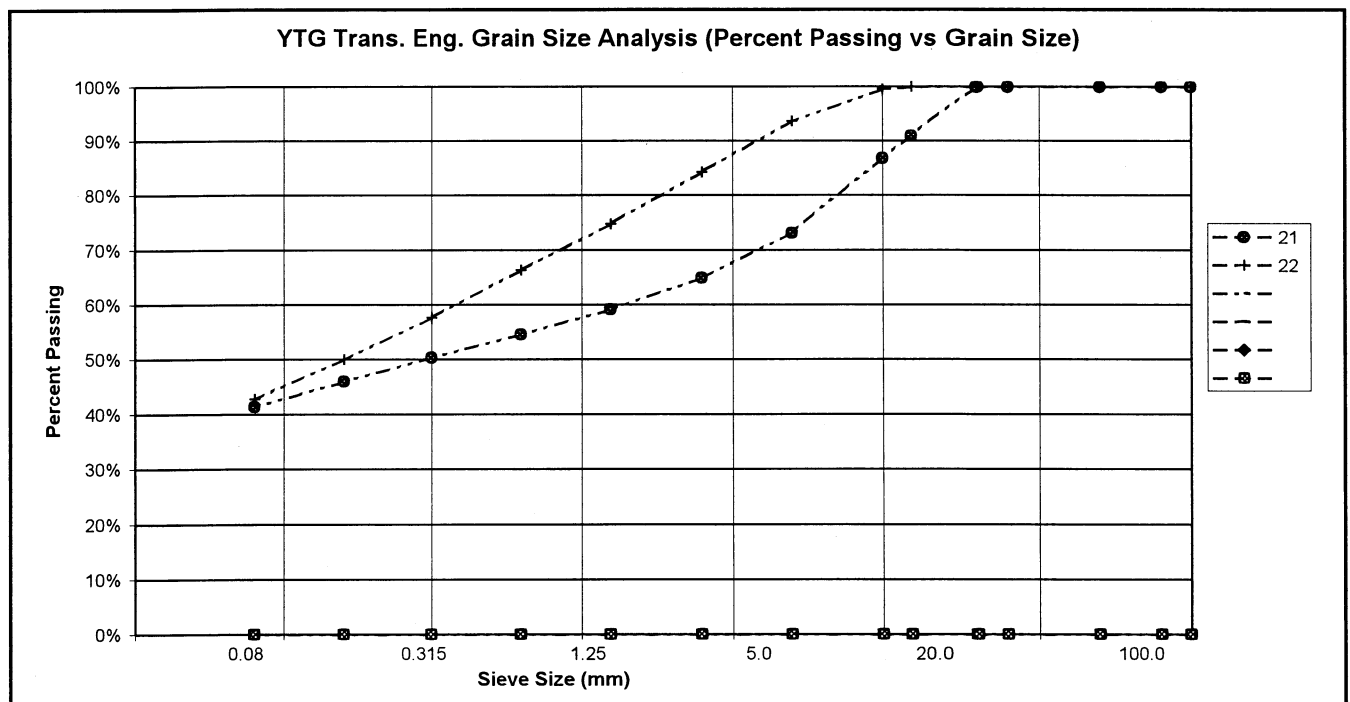


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-14

DATE COMP: 2001/04/26

FIELD NO:	21	22			
LAB NO:	527	528			
DEPTH:	0.8-1.0	1.6-1.8			
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%	100%			
20.0	100%	100%			
12.5	91%	100%			
10.0	87%	100%			
5.0	73%	94%			
2.5	65%	84%			
1.25	59%	75%			
0.630	55%	66%			
0.315	50%	58%			
0.160	46%	50%			
0.080	41%	43%			
M.C.(%):	10%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	27	6			
% SAND:	32	51			
% FINES:	41	43			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND (SM)			

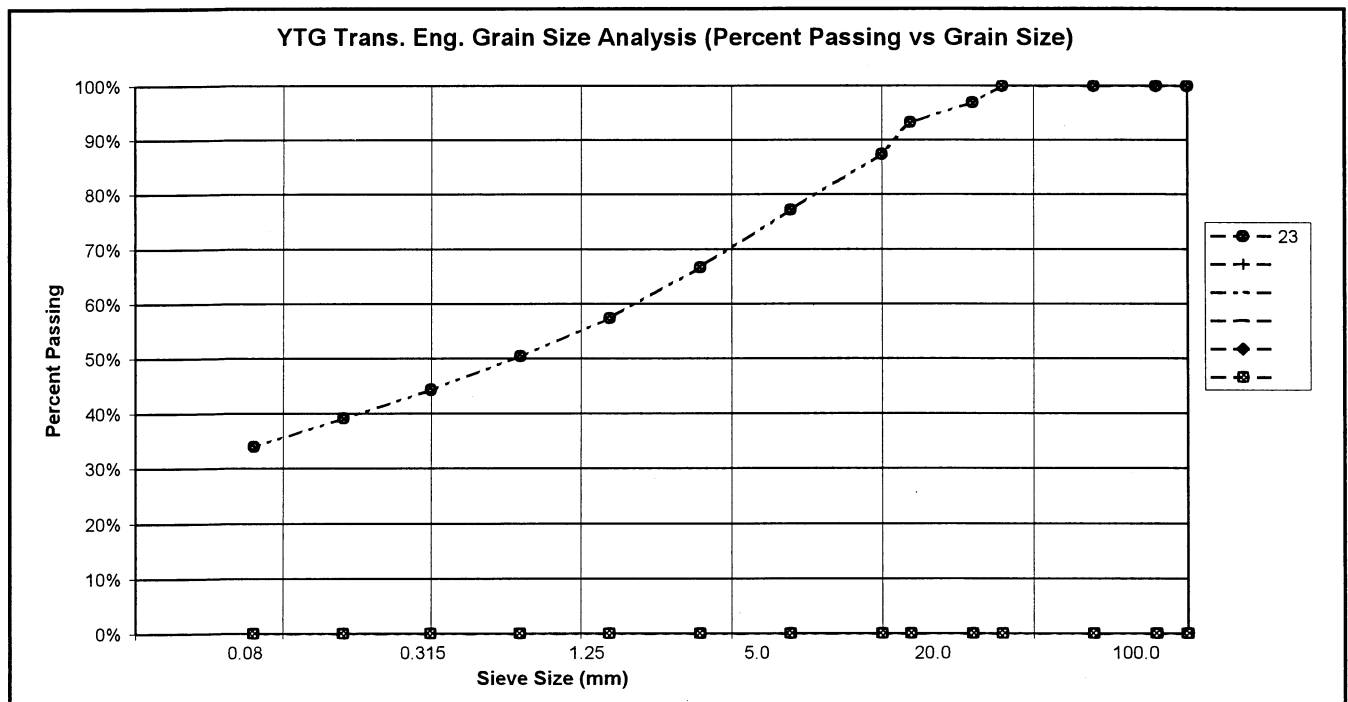


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-15

DATE COMP: 2001/04/26

FIELD NO:	23				
LAB NO:	529				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	97%				
12.5	93%				
10.0	87%				
5.0	77%				
2.5	67%				
1.25	57%				
0.630	50%				
0.315	44%				
0.160	39%				
0.080	34%				
M.C.(%):	16%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	23				
% SAND:	43				
% FINES:	34				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

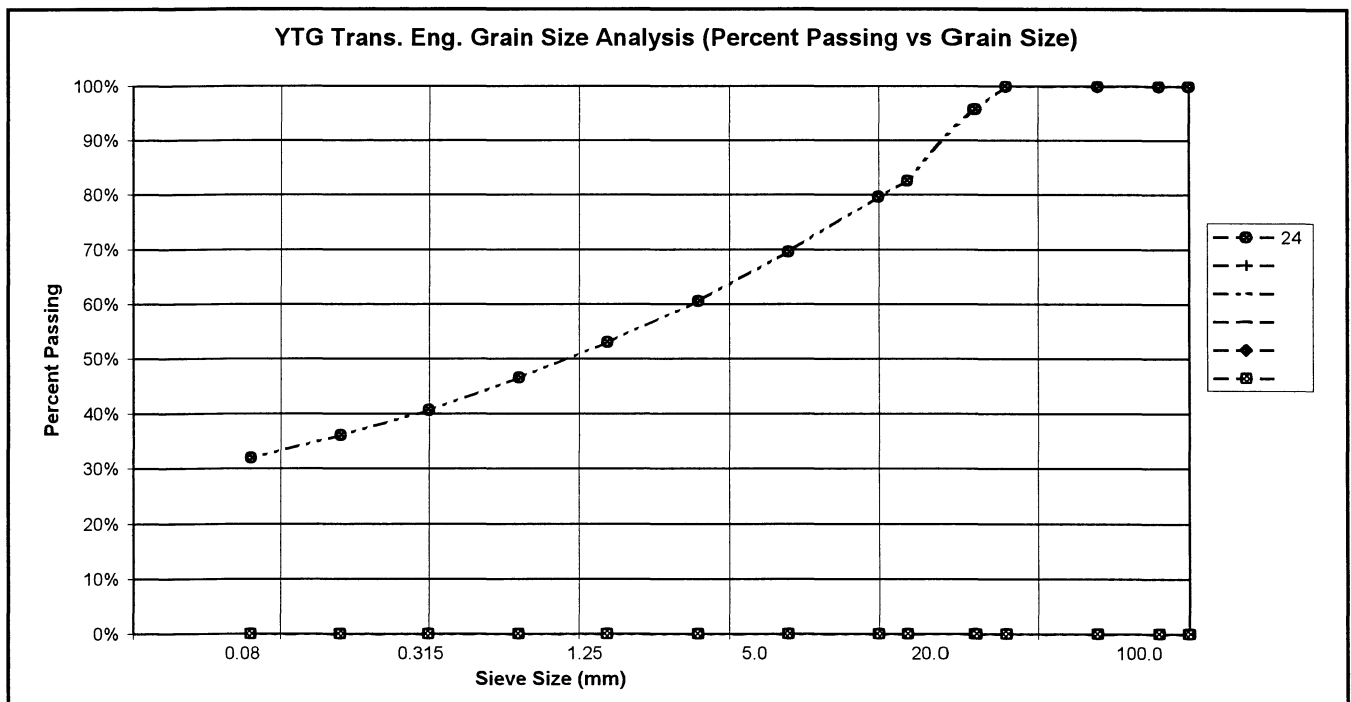


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-16

DATE COMP: 2001/04/26

FIELD NO:	24				
LAB NO:	530				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	96%				
12.5	83%				
10.0	80%				
5.0	70%				
2.5	61%				
1.25	53%				
0.630	47%				
0.315	41%				
0.160	36%				
0.080	32%				
M.C.(%):	8%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	30				
% SAND:	38				
% FINES:	32				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

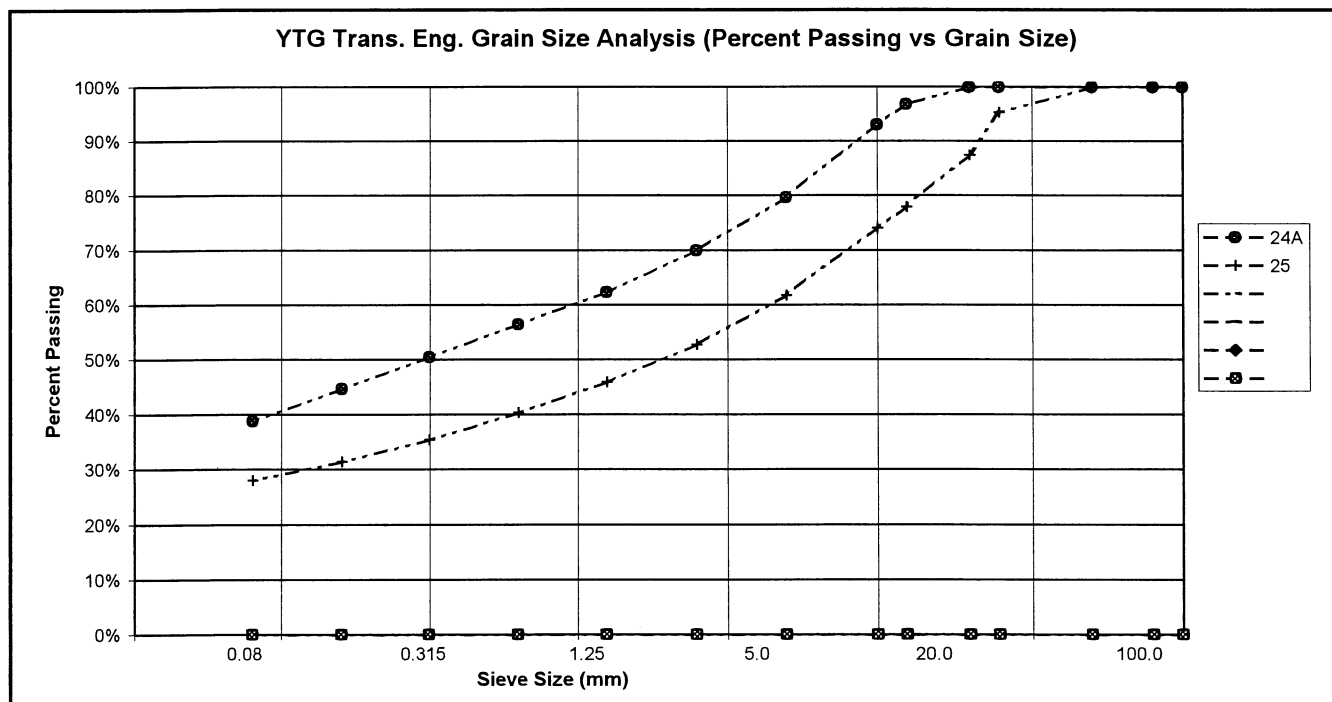


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-17

DATE COMP: 2001/04/26

FIELD NO:	24A	25			
LAB NO:	531	532			
DEPTH:	1.1-1.3	2.6-2.8			
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%	95%			
20.0	100%	87%			
12.5	97%	78%			
10.0	93%	74%			
5.0	80%	62%			
2.5	70%	53%			
1.25	62%	46%			
0.630	56%	40%			
0.315	50%	35%			
0.160	45%	31%			
0.080	39%	28%			
M.C.(%):	11%	11%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	20	38			
% SAND:	41	34			
% FINES:	39	28			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)			

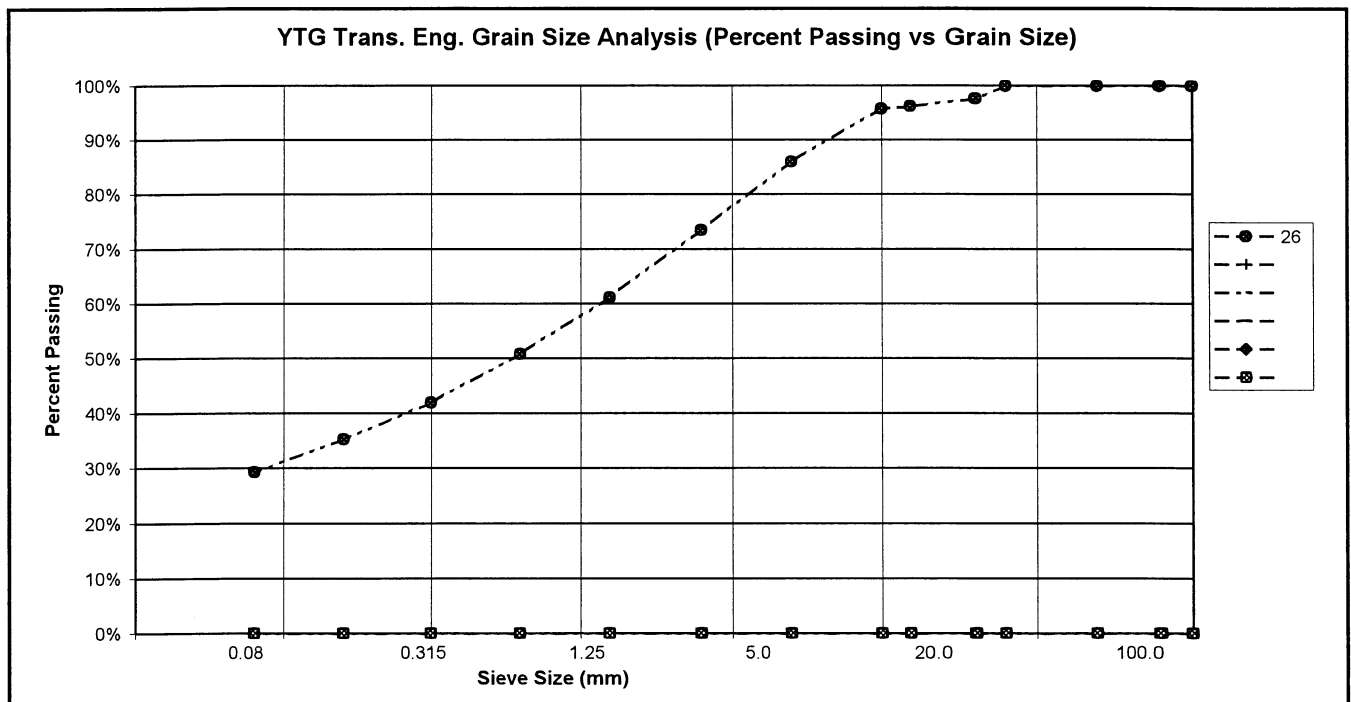


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-18

DATE COMP: 2001/04/26

FIELD NO:	26				
LAB NO:	533				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	98%				
12.5	96%				
10.0	96%				
5.0	86%				
2.5	73%				
1.25	61%				
0.630	51%				
0.315	42%				
0.160	35%				
0.080	29%				
M.C.(%):	8%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	14				
% SAND:	57				
% FINES:	29				
CLASSIFICATION	SILTY SAND (SM)				

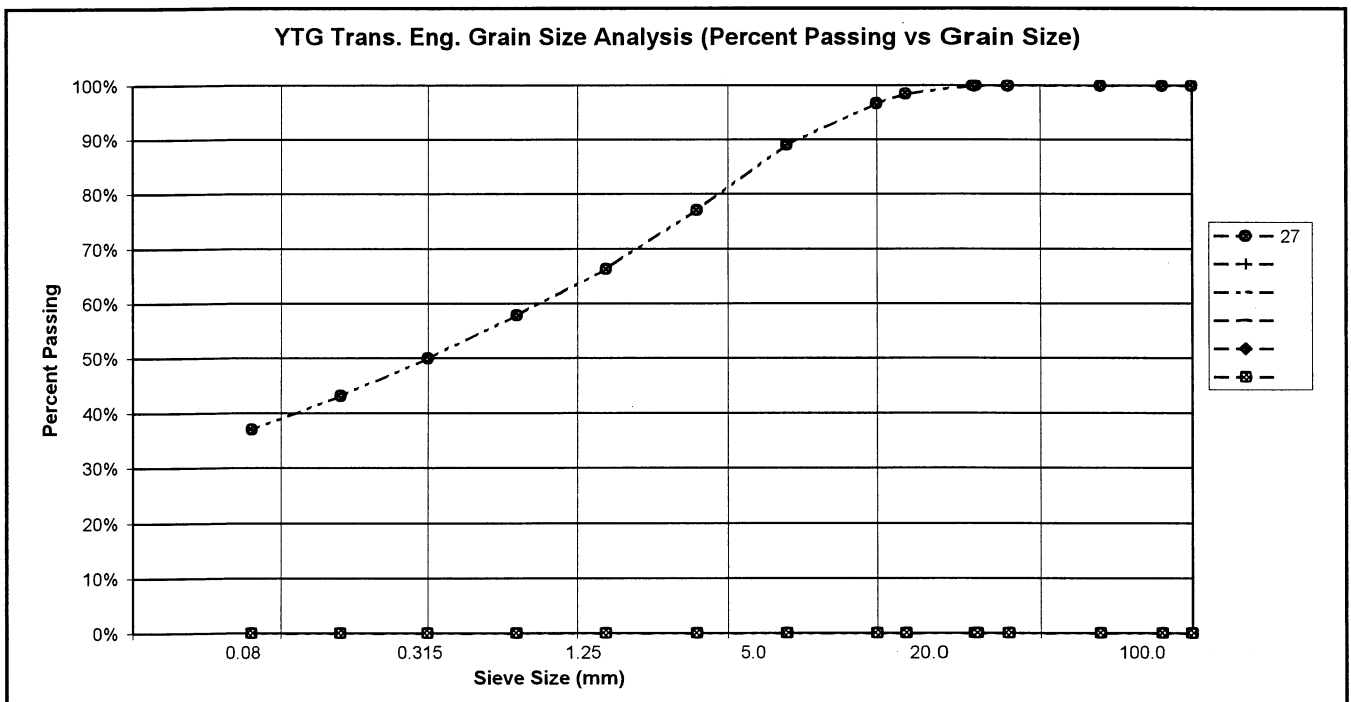


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-19

DATE COMP: 2001/04/26

FIELD NO:	27				
LAB NO:	534				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	99%				
10.0	97%				
5.0	89%				
2.5	77%				
1.25	66%				
0.630	58%				
0.315	50%				
0.160	43%				
0.080	37%				
M.C.(%):	12%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	11				
% SAND:	52				
% FINES:	37				
CLASSIFICATION	SILTY SAND (SM)				

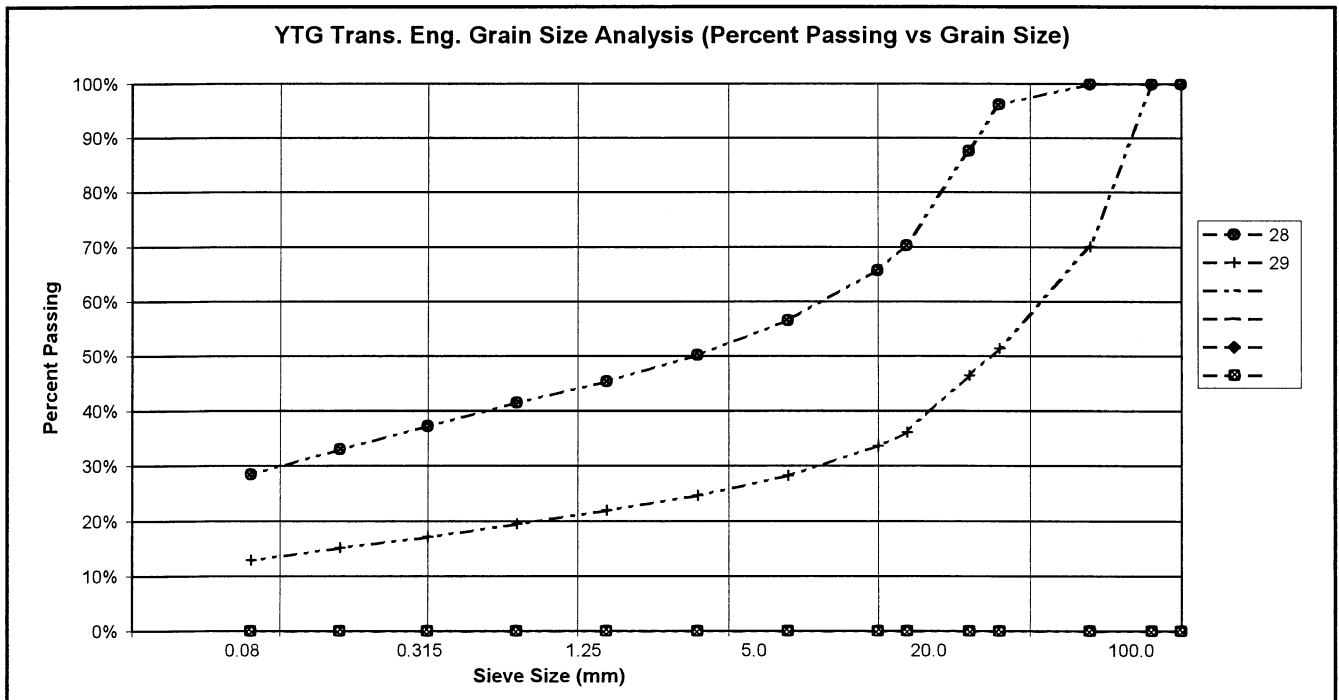


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-20

DATE COMP: 2001/04/26

FIELD NO:	28	29			
LAB NO:	535	536			
DEPTH:	1.9-2.1	2.8-3.0			
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING			
100.0	100%	100%			
80.0	100%	100%			
50.0	100%	70%			
25.0	96%	51%			
20.0	88%	47%			
12.5	70%	36%			
10.0	66%	34%			
5.0	57%	28%			
2.5	50%	25%			
1.25	45%	22%			
0.630	42%	20%			
0.315	37%	17%			
0.160	33%	15%			
0.080	29%	13%			
M.C.(%)	7%	3%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	43	72			
% SAND:	28	15			
% FINES:	29	13			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)			

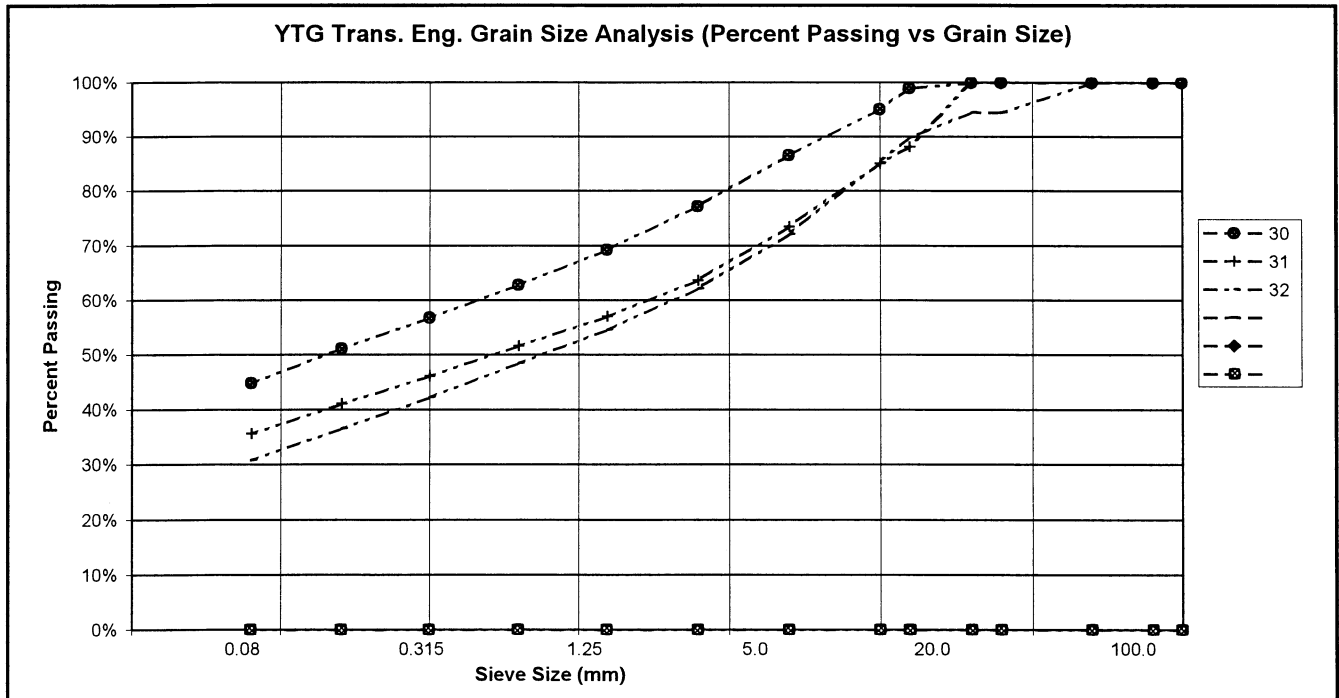


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-21

DATE COMP: 2001/04/26

FIELD NO:	30	31	32		
LAB NO:	537	538	539		
DEPTH:	1.1-1.3	2.6-3.0	3.6-3.8		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	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%	100%	100%	94%	
20.0	100%	100%	100%	94%	
12.5	99%	88%	90%	90%	
10.0	95%	85%	85%	85%	
5.0	87%	73%	72%	72%	
2.5	77%	64%	62%	62%	
1.25	69%	57%	55%	55%	
0.630	63%	52%	49%	49%	
0.315	57%	46%	42%	42%	
0.160	51%	41%	37%	37%	
0.080	45%	36%	31%	31%	
M.C.(%):	11%	11%	9%		
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	27	28		
% SAND:	42	38	41		
% FINES:	45	36	31		
CLASSIFICATION	SILTY SAND (SM)	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)		

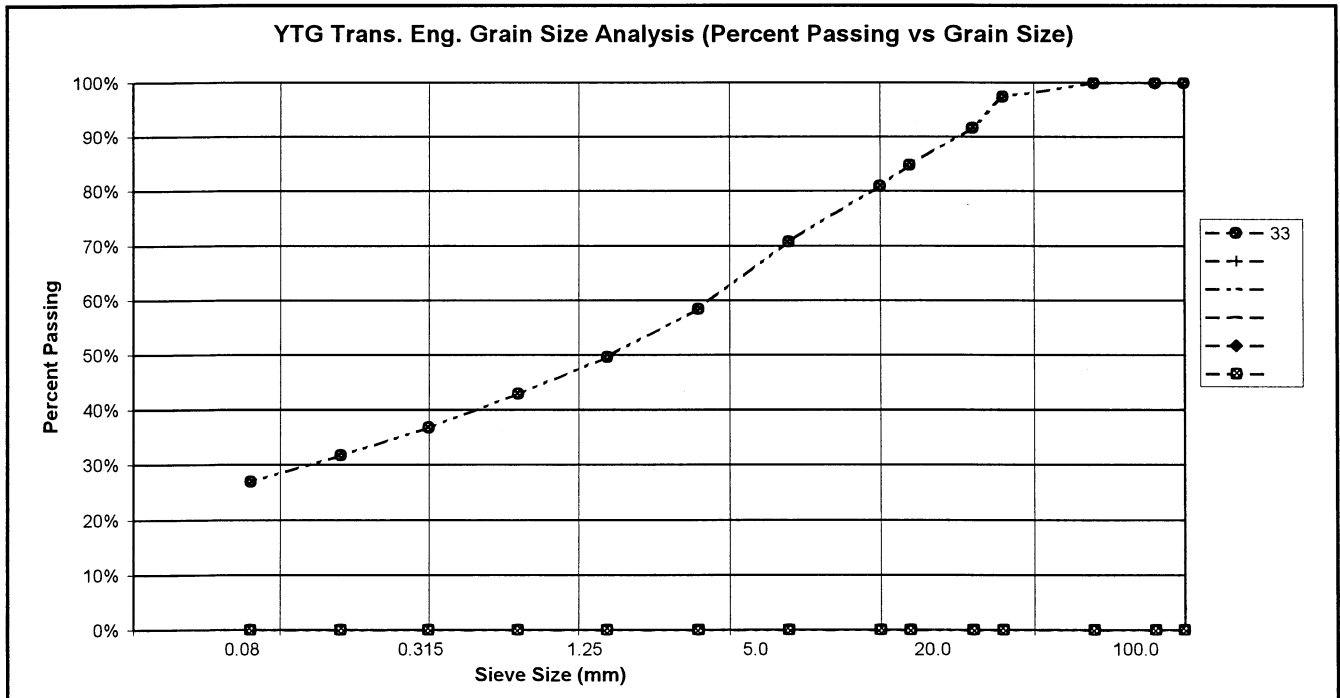


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-22

DATE COMP: 2001/04/26

FIELD NO:	33				
LAB NO:	540				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	97%				
20.0	92%				
12.5	85%				
10.0	81%				
5.0	71%				
2.5	58%				
1.25	50%				
0.630	43%				
0.315	37%				
0.160	32%				
0.080	27%				
M.C.(%):	10%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	29				
% SAND:	44				
% FINES:	27				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

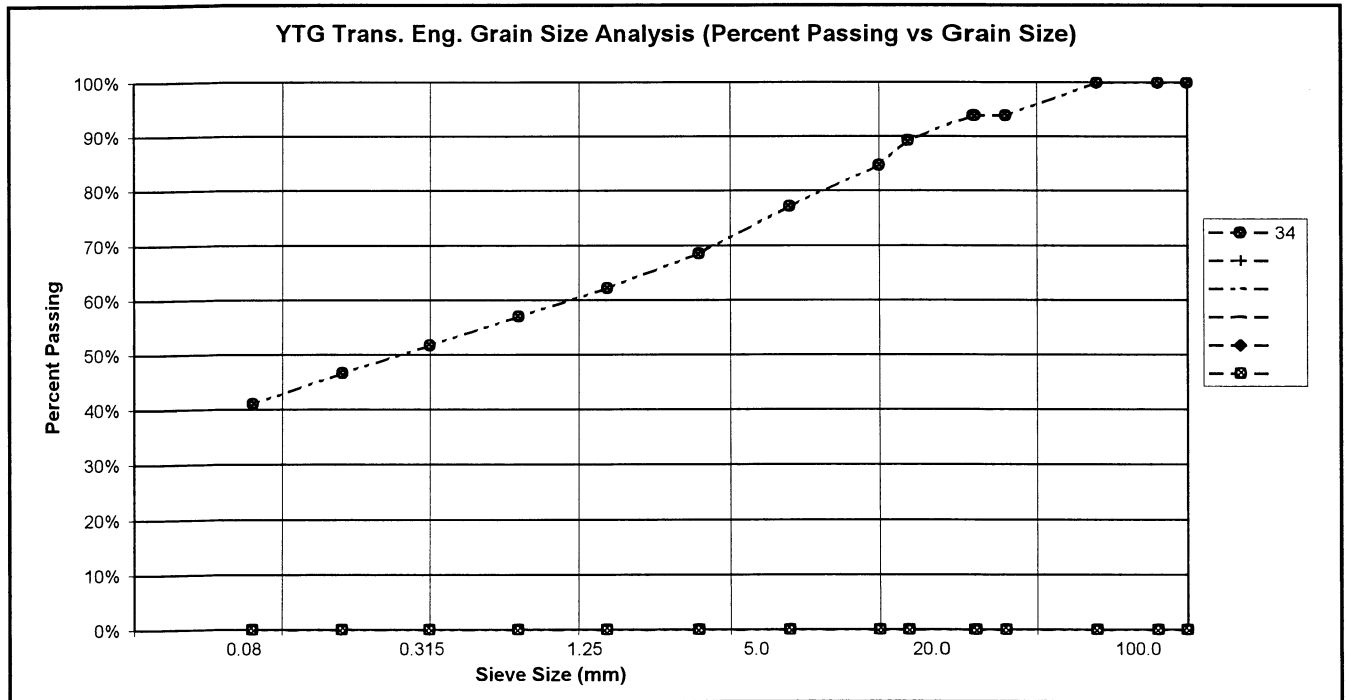


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-23

DATE COMP: 2001/04/26

FIELD NO:	34				
LAB NO:	541				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	94%				
20.0	94%				
12.5	89%				
10.0	85%				
5.0	77%				
2.5	68%				
1.25	62%				
0.630	57%				
0.315	52%				
0.160	47%				
0.080	41%				
M.C.(%):	29%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	23				
% SAND:	36				
% FINES:	41				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

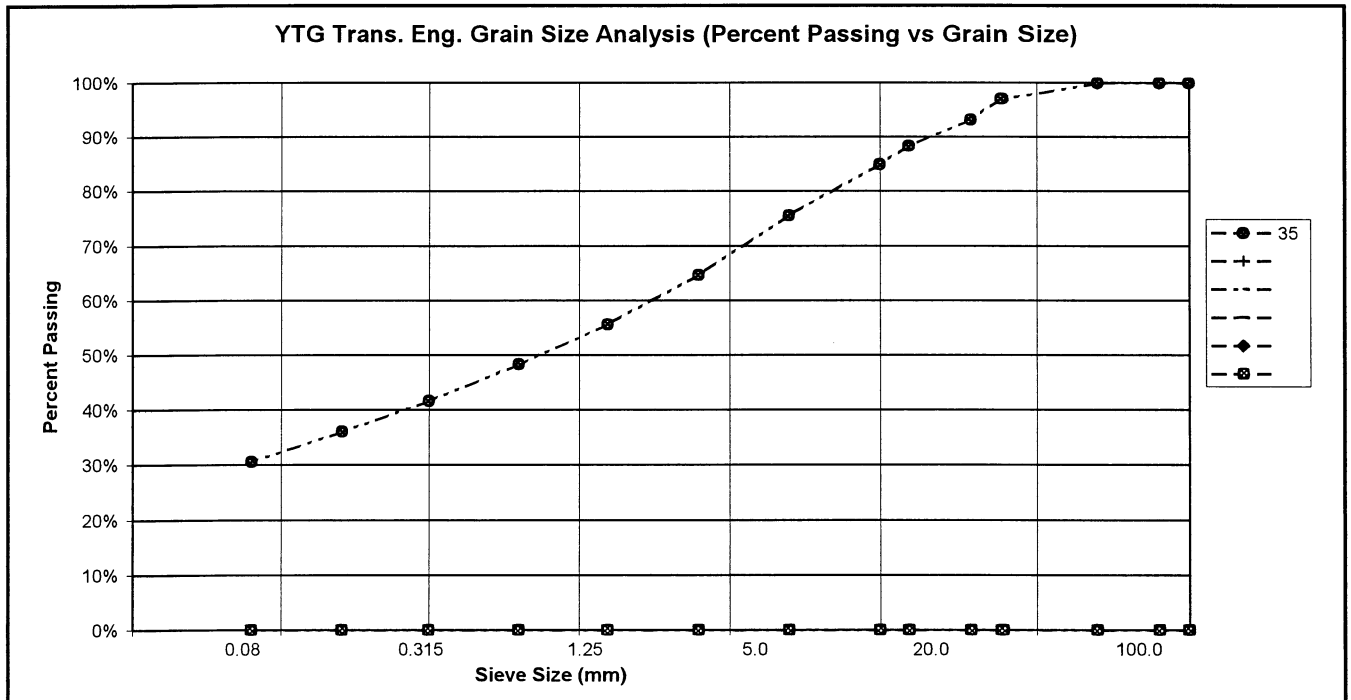


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-24

DATE COMP: 2001/04/26

FIELD NO:	35				
LAB NO:	542				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	97%				
20.0	93%				
12.5	88%				
10.0	85%				
5.0	76%				
2.5	65%				
1.25	56%				
0.630	48%				
0.315	42%				
0.160	36%				
0.080	31%				
M.C.(%):	11%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	24				
% SAND:	45				
% FINES:	31				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

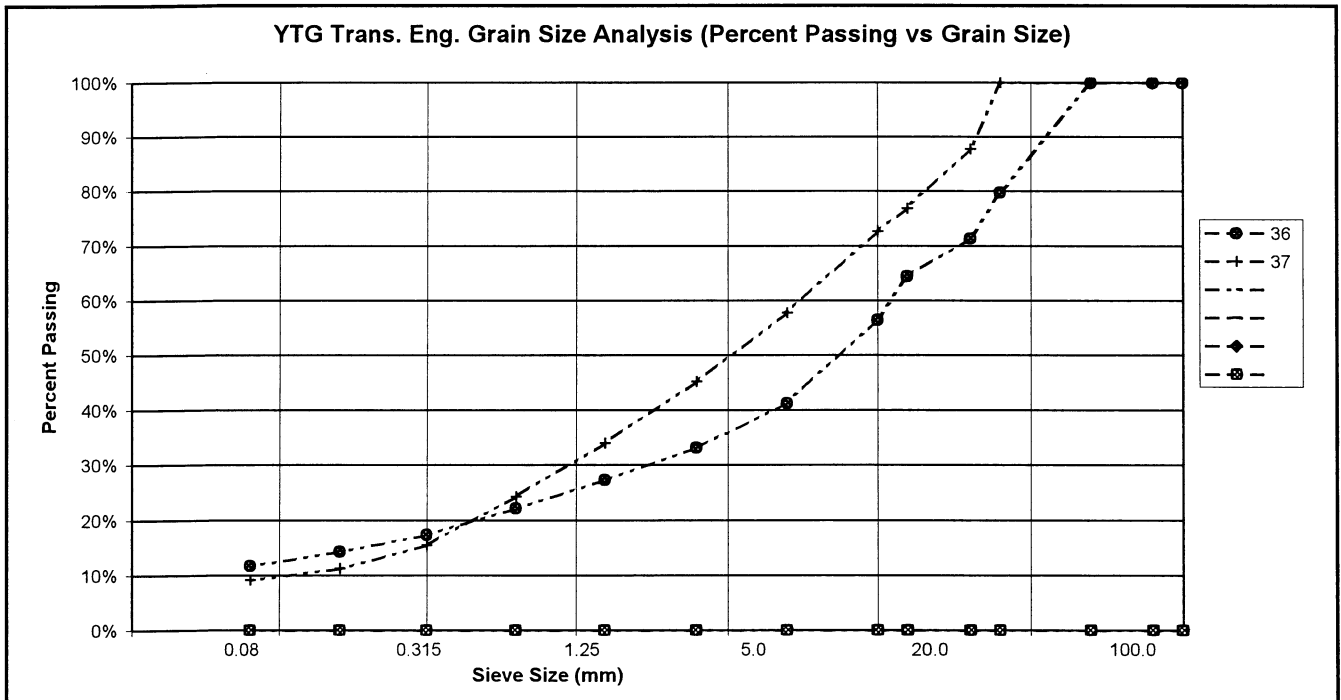


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-25

DATE COMP: 2001/04/26

FIELD NO:	36	37			
LAB NO:	543	544			
DEPTH:	1.1-1.3	2.6-2.8			
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	80%	100%			
20.0	71%	88%			
12.5	64%	77%			
10.0	56%	73%			
5.0	41%	58%			
2.5	33%	45%			
1.25	27%	34%			
0.630	22%	24%			
0.315	17%	16%			
0.160	14%	11%			
0.080	12%	9%			
M.C.(%):	4%	6%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	59	42			
% SAND:	30	49			
% FINES:	12	9			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)			

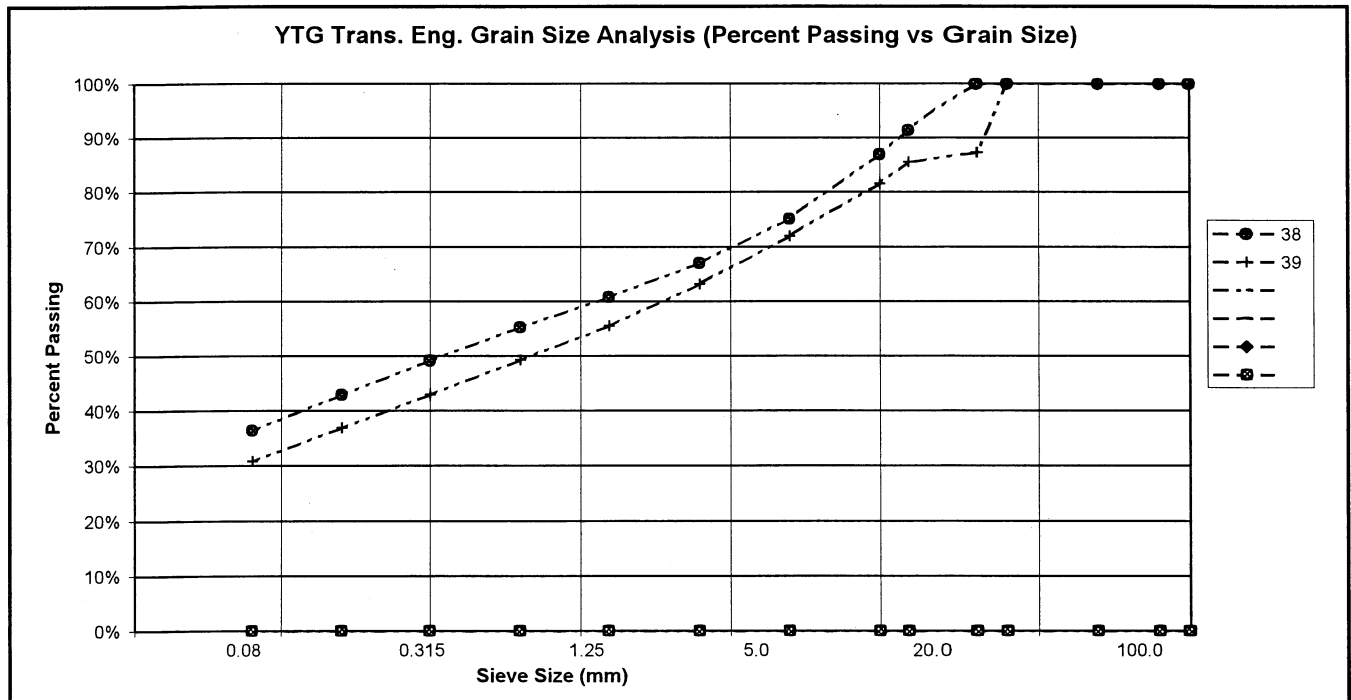


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-26

DATE COMP: 2001/04/26

FIELD NO:	38	39			
LAB NO:	545	546			
DEPTH:	1.1-1.3	2.3-2.5			
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	100%	100%			
20.0	100%	87%			
12.5	91%	86%			
10.0	87%	82%			
5.0	75%	72%			
2.5	67%	63%			
1.25	61%	56%			
0.630	55%	49%			
0.315	49%	43%			
0.160	43%	37%			
0.080	37%	31%			
M.C.(%):	8%	5%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	25	28			
% SAND:	39	41			
% FINES:	37	31			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)			

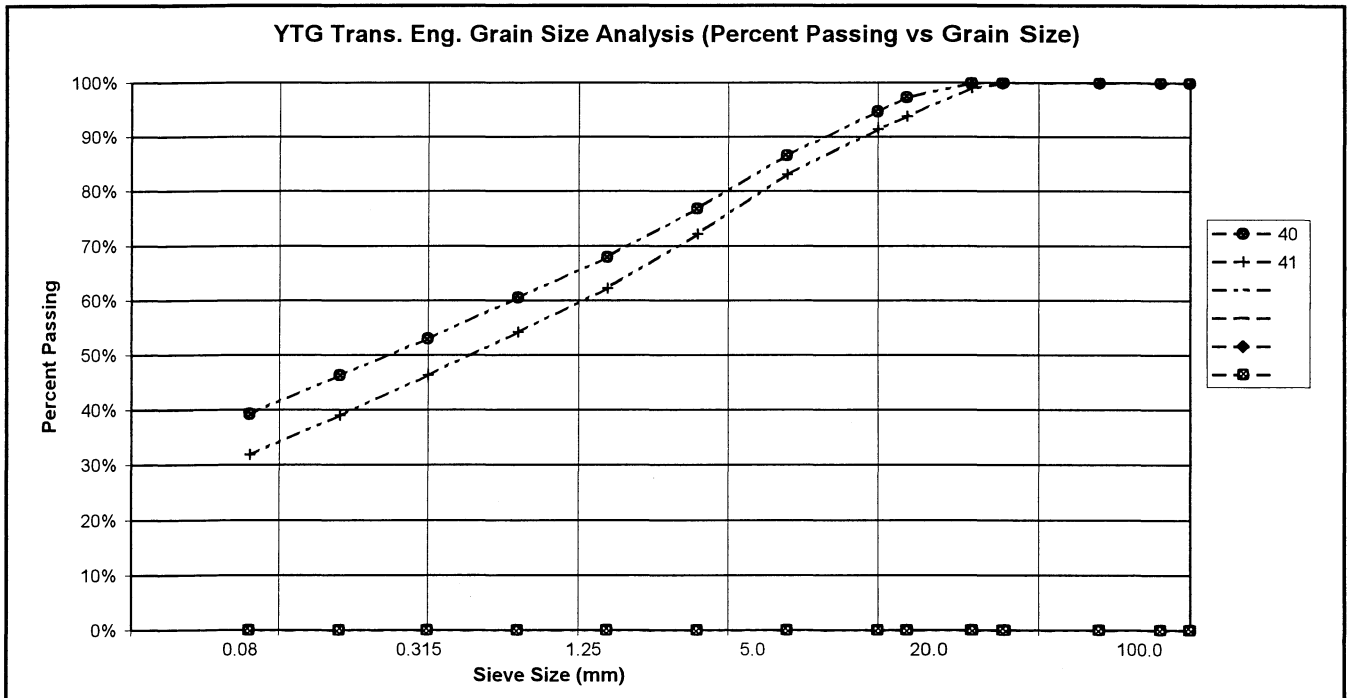


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-27

DATE COMP: 2001/04/26

FIELD NO:	40	41			
LAB NO:	547	548			
DEPTH:	1.0-1.2	2.0-2.2			
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%	100%			
20.0	100%	99%			
12.5	97%	94%			
10.0	95%	91%			
5.0	87%	83%			
2.5	77%	72%			
1.25	68%	62%			
0.630	61%	54%			
0.315	53%	46%			
0.160	46%	39%			
0.080	39%	32%			
M.C.(%):	7%	5%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	13	17			
% SAND:	47	51			
% FINES:	39	32			
CLASSIFICATION	SILTY SAND (SM)	SILTY SAND WITH GRAVEL (SM)			

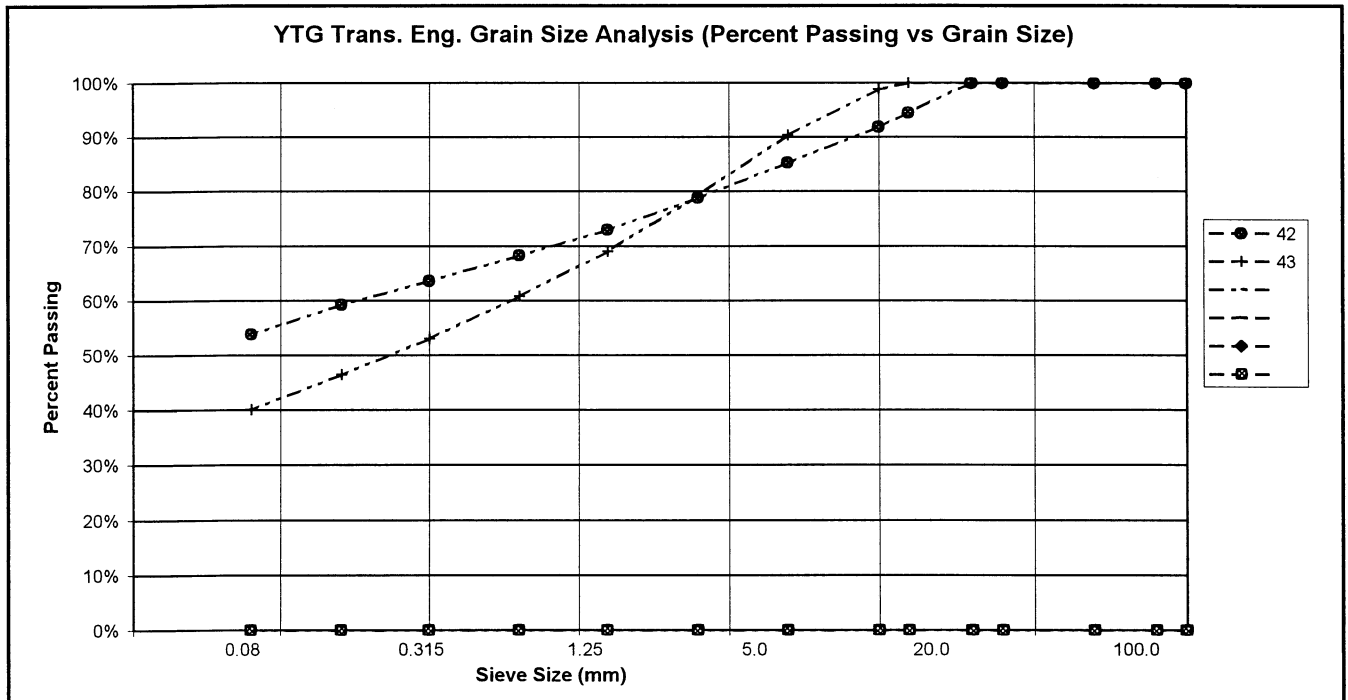


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-28

DATE COMP: 2001/04/27

FIELD NO:	42	43			
LAB NO:	549	550			
DEPTH:	1.1-1.3	2.6-2.8			
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%	100%			
20.0	100%	100%			
12.5	94%	100%			
10.0	92%	99%			
5.0	85%	90%			
2.5	79%	79%			
1.25	73%	69%			
0.630	68%	61%			
0.315	64%	53%			
0.160	59%	46%			
0.080	54%	40%			
M.C.(%):	17%	13%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	15	10			
% SAND:	31	50			
% FINES:	54	40			
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND (SM)			

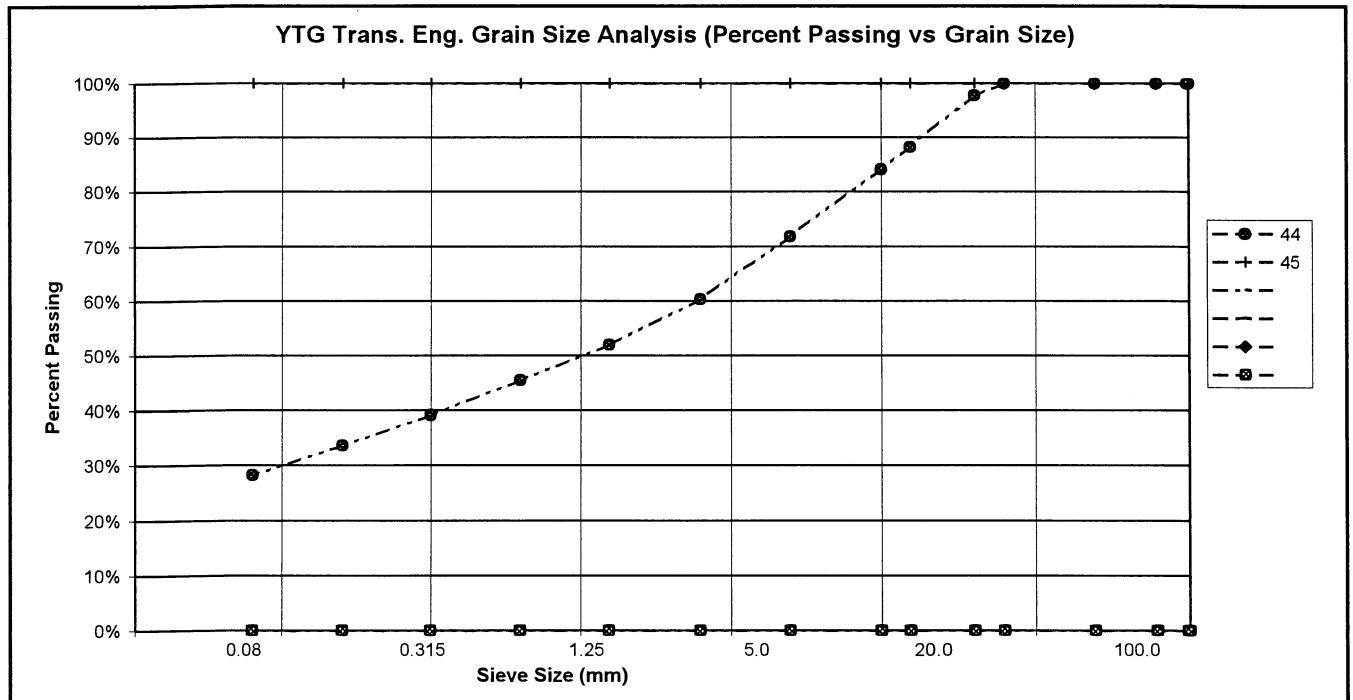


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-29

DATE COMP: 2001/04/26

FIELD NO:	44	45			
LAB NO:	551	lost			
DEPTH:	1.1-1.3	2.6-2.8			
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%	100%			
20.0	98%	100%			
12.5	88%	100%			
10.0	84%	100%			
5.0	72%	100%			
2.5	60%	100%			
1.25	52%	100%			
0.630	46%	100%			
0.315	39%	100%			
0.160	34%	100%			
0.080	28%	100%			
M.C.(%)	7%	3%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	28	0			
% SAND:	43	0			
% FINES:	28	100			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILT (ML)			

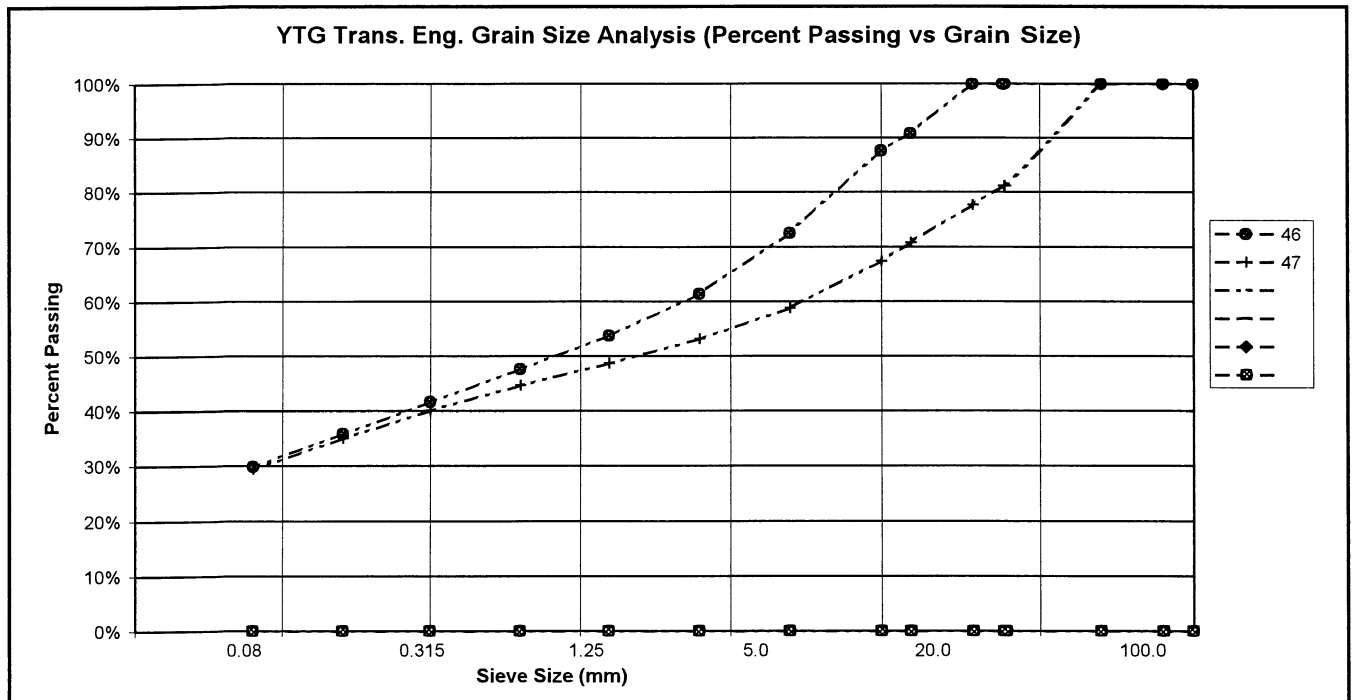


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-30

DATE COMP: 2001/04/26

FIELD NO:	46	47			
LAB NO:	553	554			
DEPTH:	1.0-1.2	2.6-2.8			
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%	81%			
20.0	100%	78%			
12.5	91%	71%			
10.0	88%	67%			
5.0	73%	59%			
2.5	61%	53%			
1.25	54%	49%			
0.630	48%	45%			
0.315	42%	40%			
0.160	36%	35%			
0.080	30%	29%			
M.C.(%):	6%	6%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	27	41			
% SAND:	43	29			
% FINES:	30	29			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)			

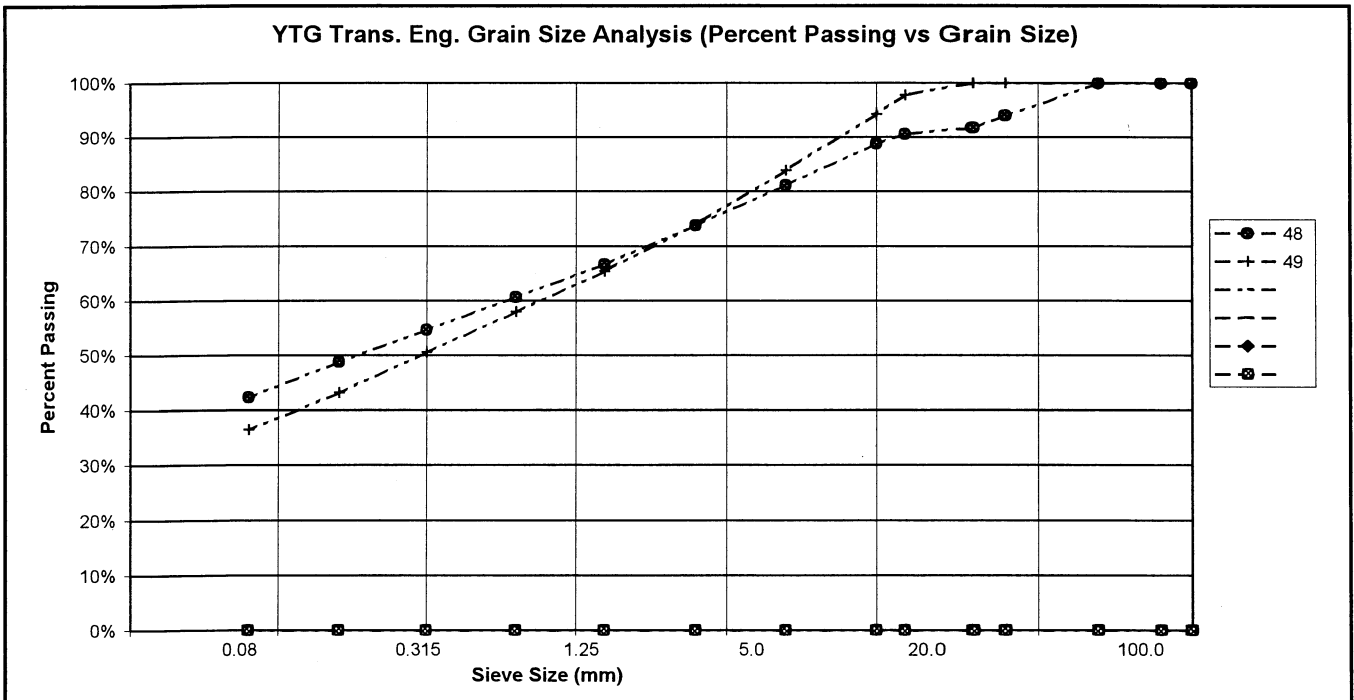


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-31

DATE COMP: 2001/04/26

FIELD NO:	48	49			
LAB NO:	555	556			
DEPTH:	1.1-1.3	2.3-2.5			
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	94%	100%			
20.0	92%	100%			
12.5	91%	98%			
10.0	89%	94%			
5.0	81%	84%			
2.5	74%	74%			
1.25	67%	65%			
0.630	61%	58%			
0.315	55%	51%			
0.160	49%	43%			
0.080	42%	36%			
M.C.(%)	19%	13%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	19	16			
% SAND:	39	47			
% FINES:	42	36			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)			

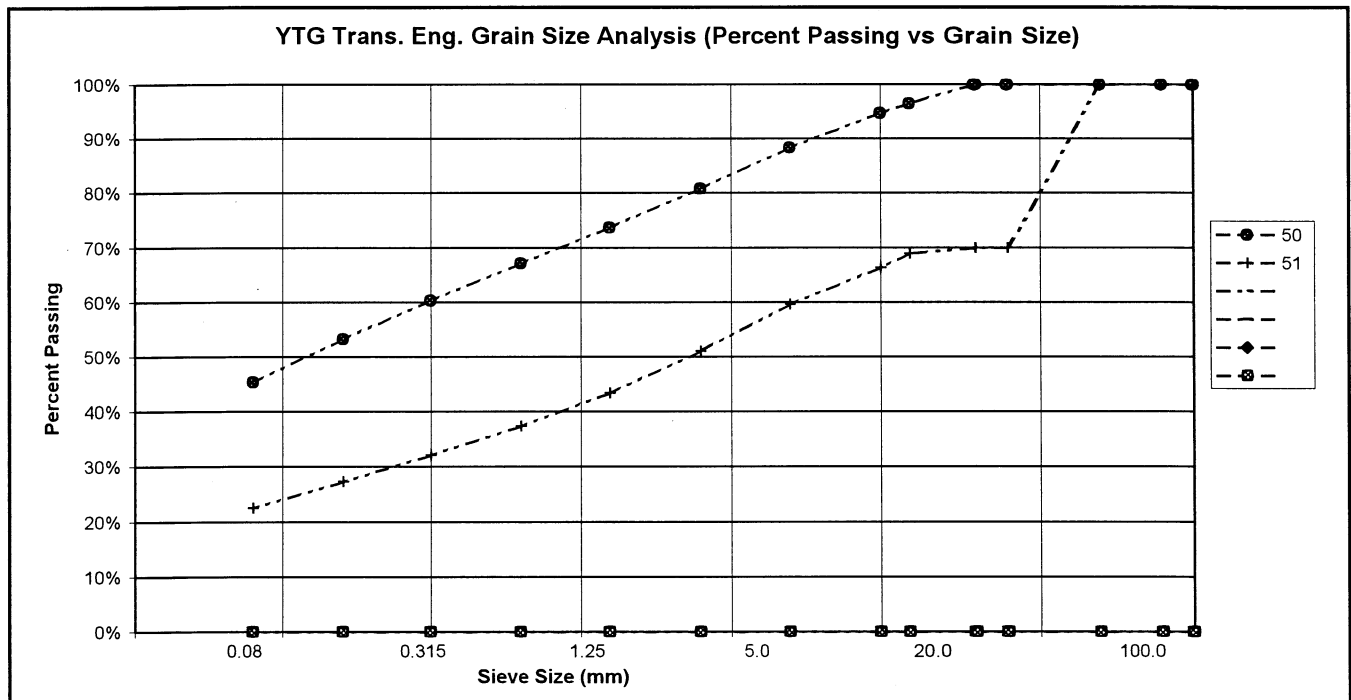


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-32

DATE COMP: 2001/04/26

FIELD NO:	50	51			
LAB NO:	557	558			
DEPTH:	1.1-1.3	2.6-2.8			
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%	70%			
20.0	100%	70%			
12.5	96%	69%			
10.0	95%	66%			
5.0	88%	60%			
2.5	81%	51%			
1.25	74%	43%			
0.630	67%	37%			
0.315	60%	32%			
0.160	53%	27%			
0.080	45%	23%			
M.C.(%)	13%	11%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	12	40			
% SAND:	43	37			
% FINES:	45	23			
CLASSIFICATION	SILTY SAND (SM)	SILTY GRAVEL WITH SAND (GM)			

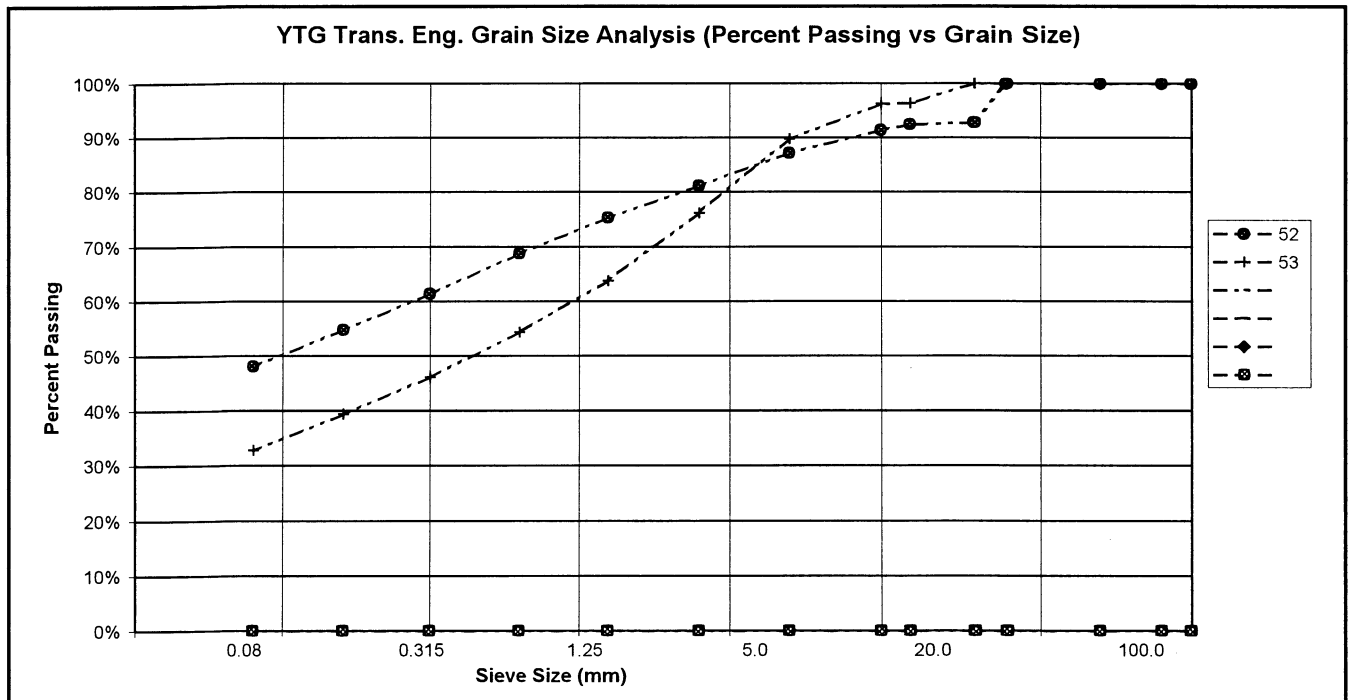


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-33

DATE COMP: 2001/04/26

FIELD NO:	52	53			
LAB NO:	559	560			
DEPTH:	0.8-1.0	2.2-2.4			
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%	100%			
20.0	93%	100%			
12.5	93%	96%			
10.0	91%	96%			
5.0	87%	90%			
2.5	81%	76%			
1.25	75%	64%			
0.630	69%	54%			
0.315	61%	46%			
0.160	55%	39%			
0.080	48%	33%			
M.C.(%)	10%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	13	10			
% SAND:	39	57			
% FINES:	48	33			
CLASSIFICATION	SILTY SAND (SM)	SILTY SAND (SM)			

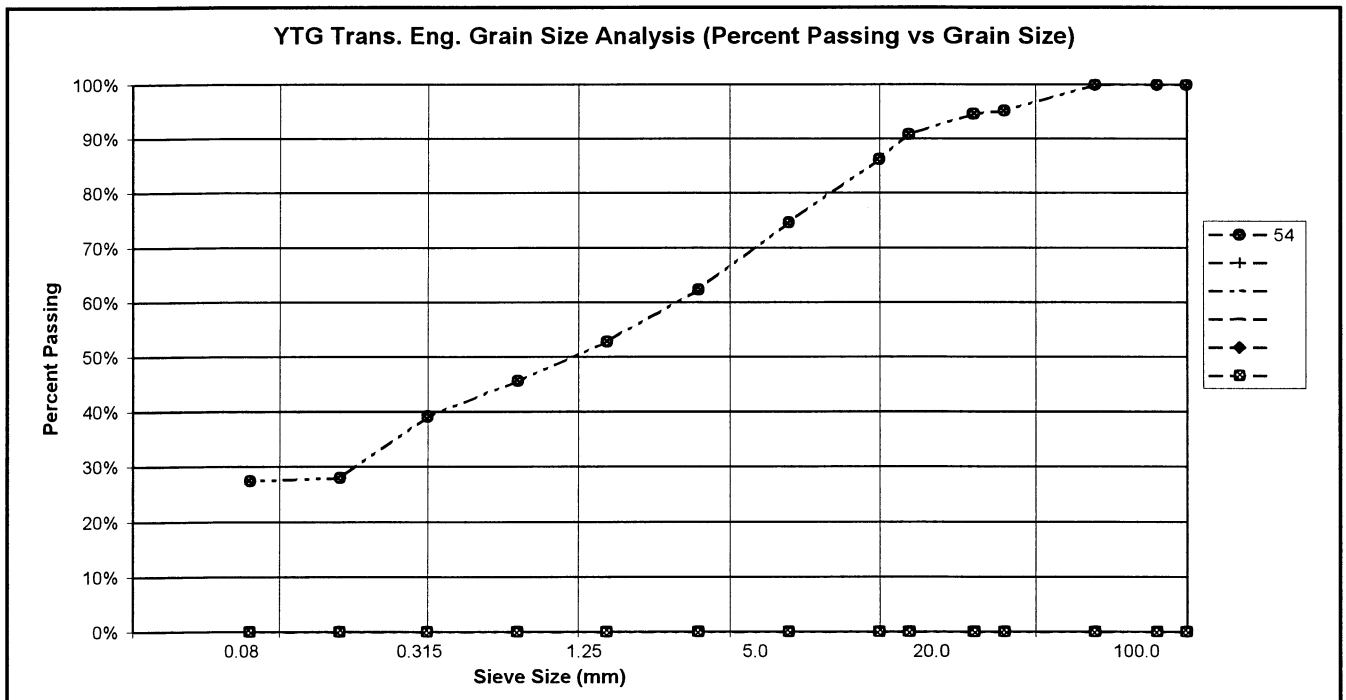


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-34

DATE COMP: 2001/04/26

FIELD NO:	54				
LAB NO:	561				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	95%				
20.0	95%				
12.5	91%				
10.0	86%				
5.0	75%				
2.5	62%				
1.25	53%				
0.630	46%				
0.315	39%				
0.160	28%				
0.080	27%				
M.C.(%):	10%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	25				
% SAND:	47				
% FINES:	27				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

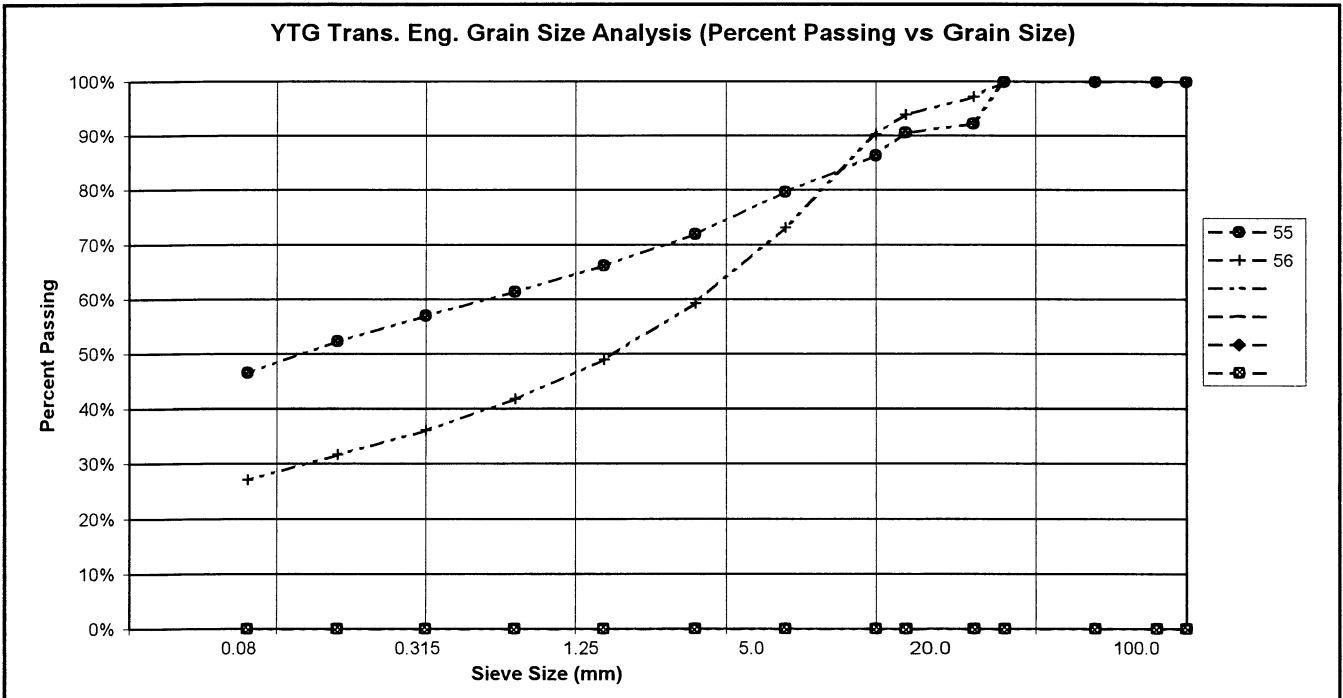


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: KM 1729.6 - 1787 A/H
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: K.J.

HOLE No.: 596-35

DATE COMP: 2001/04/26

FIELD NO:	55	56				
LAB NO:	562	563				
DEPTH:	1.1-1.3	2.6-2.8				
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%	100%				
20.0	92%	97%				
12.5	91%	94%				
10.0	86%	90%				
5.0	80%	73%				
2.5	72%	59%				
1.25	66%	49%				
0.630	61%	42%				
0.315	57%	36%				
0.160	52%	32%				
0.080	47%	27%				
M.C.(%)	34%	9%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX:	0.0	0.0				
% GRAVEL:	20	27				
% SAND:	33	46				
% FINES:	47	27				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)				

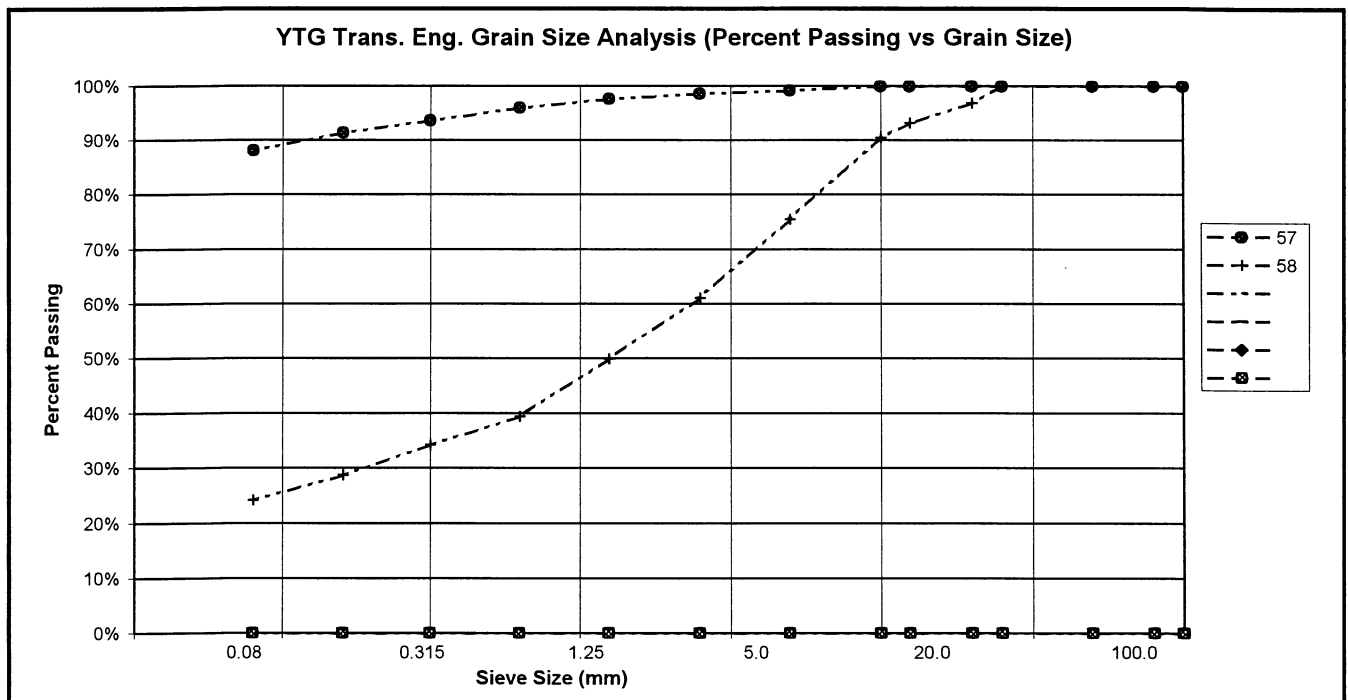


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1772-375 Centreline
 LOGGED BY: D.T.

HOLE No.: 597-36

DATE COMP: 2001/06/06

FIELD NO:	57	58			
LAB NO:	564	565			
DEPTH:	0.8-1.0	2.1-2.3			
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%	100%			
20.0	100%	97%			
12.5	100%	93%			
10.0	100%	91%			
5.0	99%	75%			
2.5	99%	61%			
1.25	98%	50%			
0.630	96%	39%			
0.315	94%	34%			
0.160	91%	29%			
0.080	88%	24%			
M.C.(%):	35%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	1	25			
% SAND:	11	51			
% FINES:	88	24			
CLASSIFICATION	SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

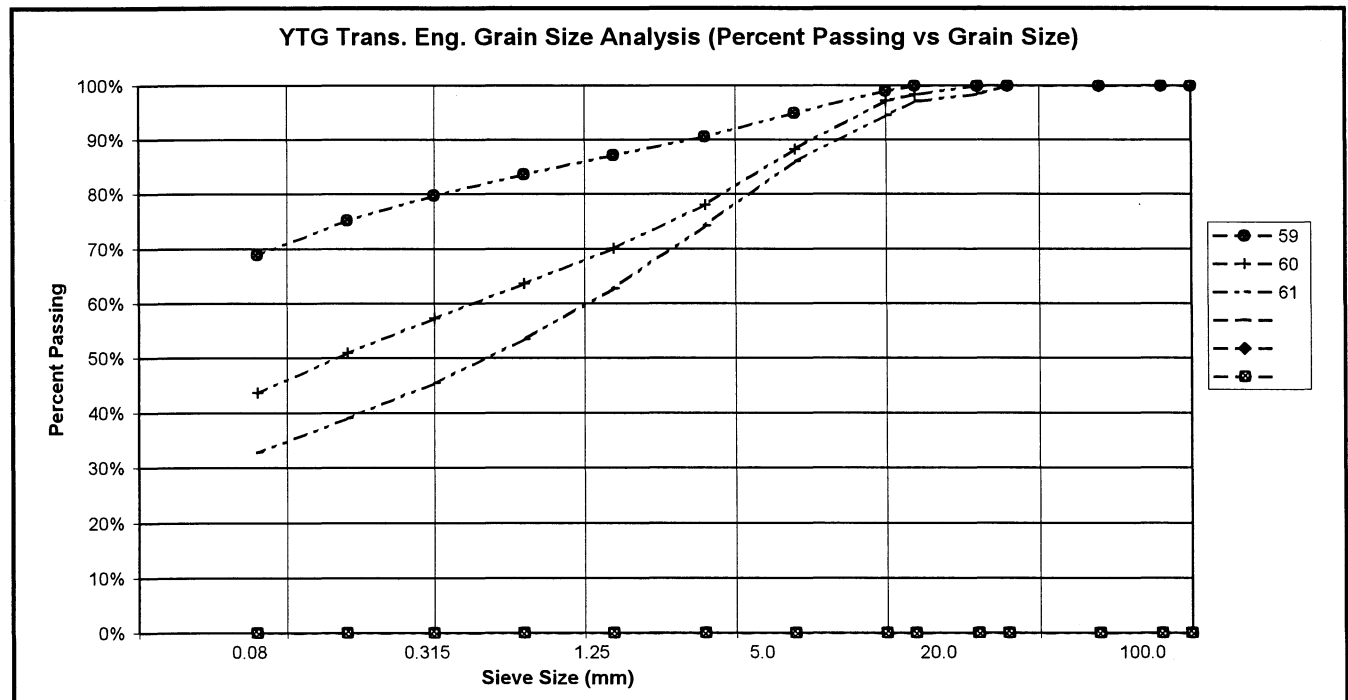


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1772+475 Centreline
 LOGGED BY: D.T.

HOLE No.: 597-37

DATE COMP: 2001/06/06

FIELD NO:	59	60	61		
LAB NO:	566	567	568		
DEPTH:	0.8-1.0	1.8-2.1	3.8-4.0		
TYPE:	AUGER	AUGER	AUGER	AUGER	
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%	100%	100%		
20.0	100%	100%	98%		
12.5	100%	98%	97%		
10.0	99%	97%	94%		
5.0	95%	88%	86%		
2.5	91%	78%	74%		
1.25	87%	70%	63%		
0.630	84%	64%	53%		
0.315	80%	57%	45%		
0.160	75%	51%	39%		
0.080	69%	44%	33%		
M.C.(%)	57%	13%	9%		
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:	5	12	14		
% SAND:	26	45	53		
% FINES:	69	44	33		
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND (SM)	SILTY SAND (SM)		

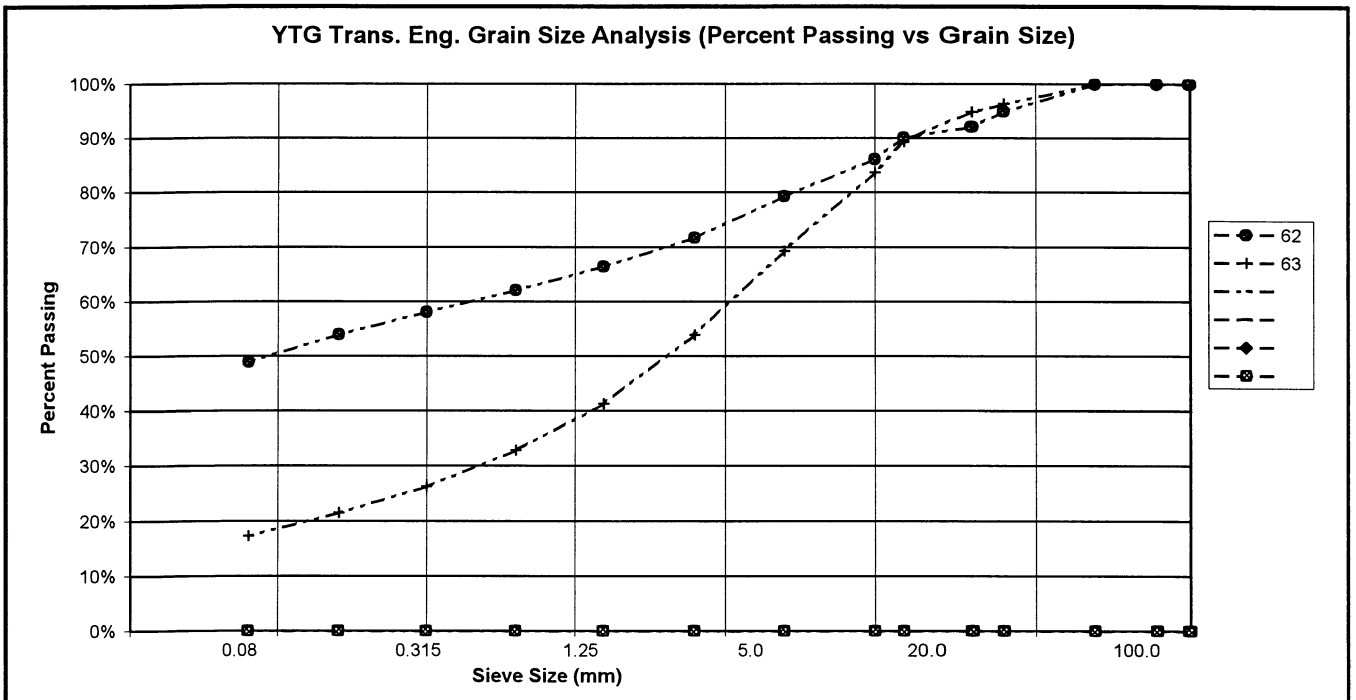


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1772+475 20m LT
 LOGGED BY: D.T.

HOLE No.: 597-38

DATE COMP: 2001/06/07

FIELD NO:	62	63			
LAB NO:	569	570			
DEPTH:	0.8-1.0	2.6-2.8			
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	95%	96%			
20.0	92%	95%			
12.5	90%	89%			
10.0	86%	84%			
5.0	79%	69%			
2.5	72%	54%			
1.25	66%	41%			
0.630	62%	33%			
0.315	58%	26%			
0.160	54%	21%			
0.080	49%	17%			
M.C.(%):	18%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	21	31			
% SAND:	30	52			
% FINES:	49	17			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)			

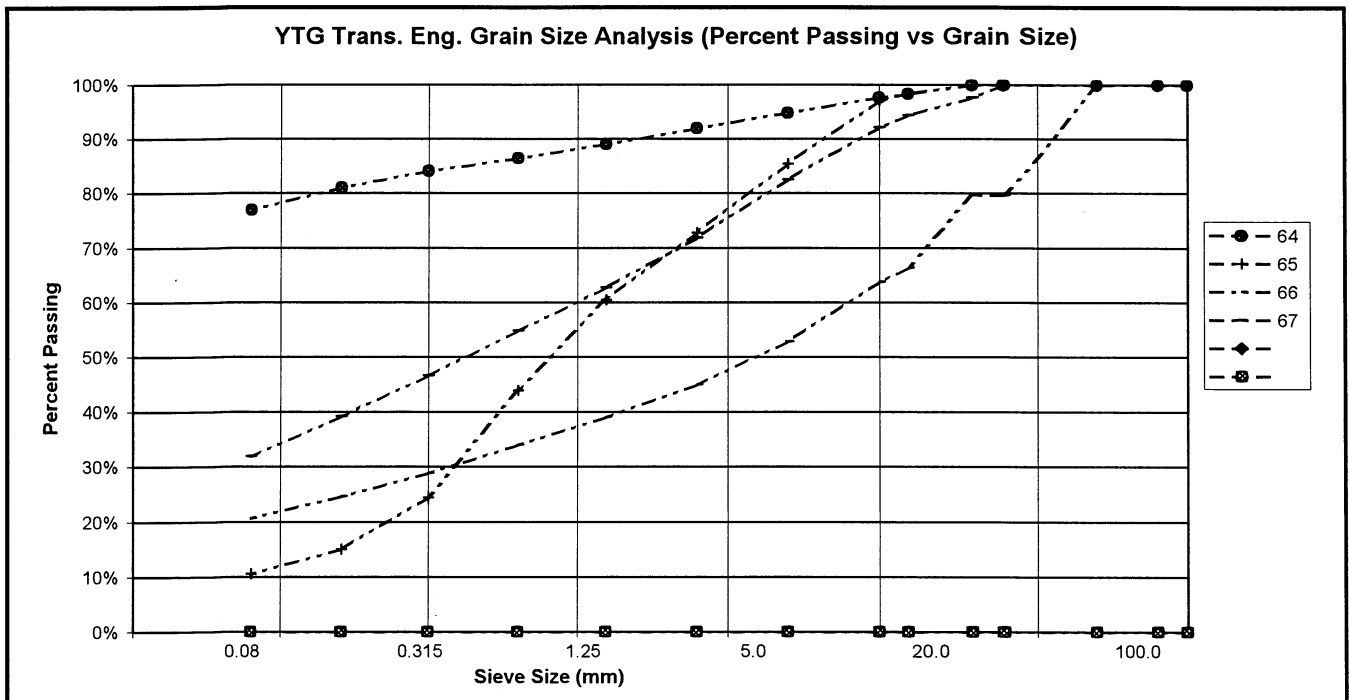


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1772+475 30M RT
 LOGGED BY: D.T.

HOLE No.: 597-39

DATE COMP: 2001/06/07

FIELD NO:	64	65	66	67		
LAB NO:	571	572	573	574		
DEPTH:	1.3-1.4	2.0-2.2	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	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	100%	100%	80%	100%		
20.0	100%	100%	80%	98%		
12.5	98%	98%	66%	94%		
10.0	98%	97%	64%	92%		
5.0	95%	85%	53%	83%		
2.5	92%	73%	45%	72%		
1.25	89%	60%	39%	63%		
0.630	87%	44%	34%	55%		
0.315	84%	24%	29%	47%		
0.160	81%	15%	25%	39%		
0.080	77%	11%	21%	32%		
M.C.(%)	53%	12%	8%	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:	5	15	47	17		
% SAND:	18	75	32	51		
% FINES:	77	11	21	32		
CLASSIFICATION	SILT WITH SAND (ML)	WELL-GRADED SAND WITH SILT (SW-SM)	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)		

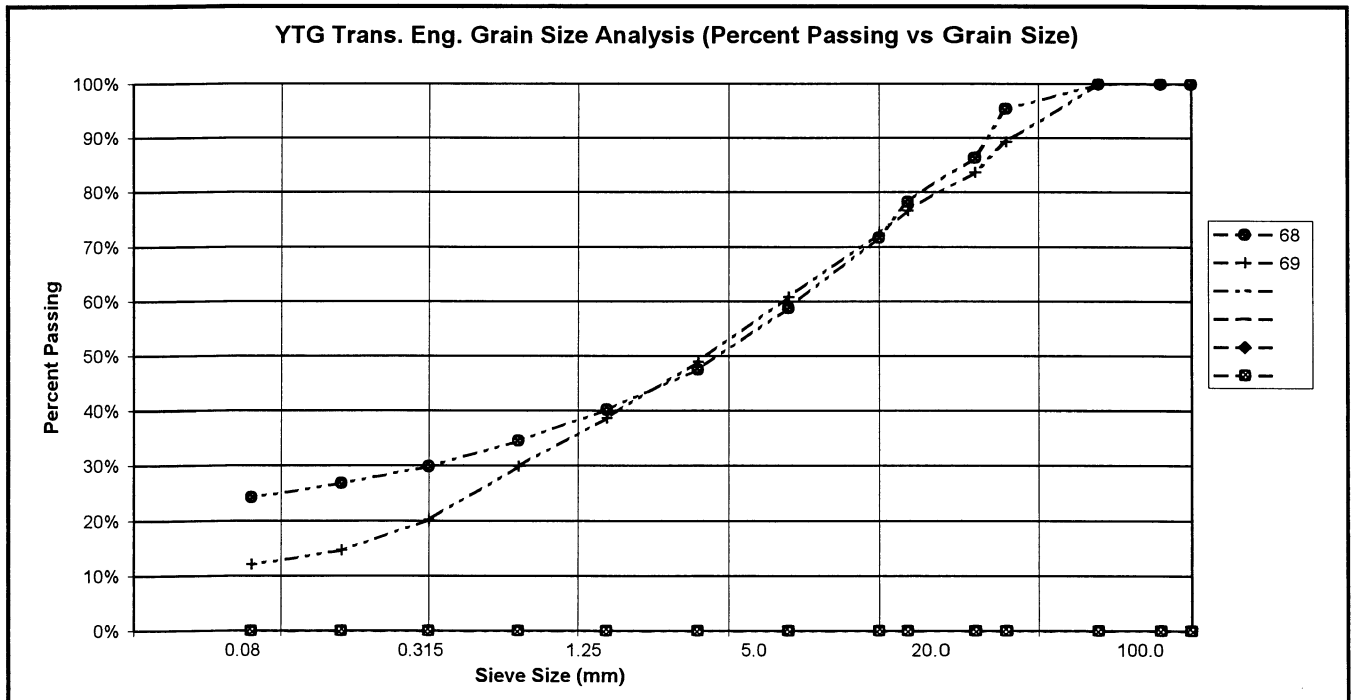


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1772+600 Centreline
 LOGGED BY: D.T.

HOLE No.: 597-40

DATE COMP: 2001/06/07

FIELD NO:	68	69			
LAB NO:	575	576			
DEPTH:	1.4-1.5	2.6-2.8			
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	95%	89%			
20.0	86%	84%			
12.5	78%	77%			
10.0	72%	72%			
5.0	59%	61%			
2.5	48%	49%			
1.25	40%	39%			
0.630	35%	30%			
0.315	30%	20%			
0.160	27%	15%			
0.080	24%	12%			
M.C.(%):	9%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	41	39			
% SAND:	34	49			
% FINES:	24	12			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)			

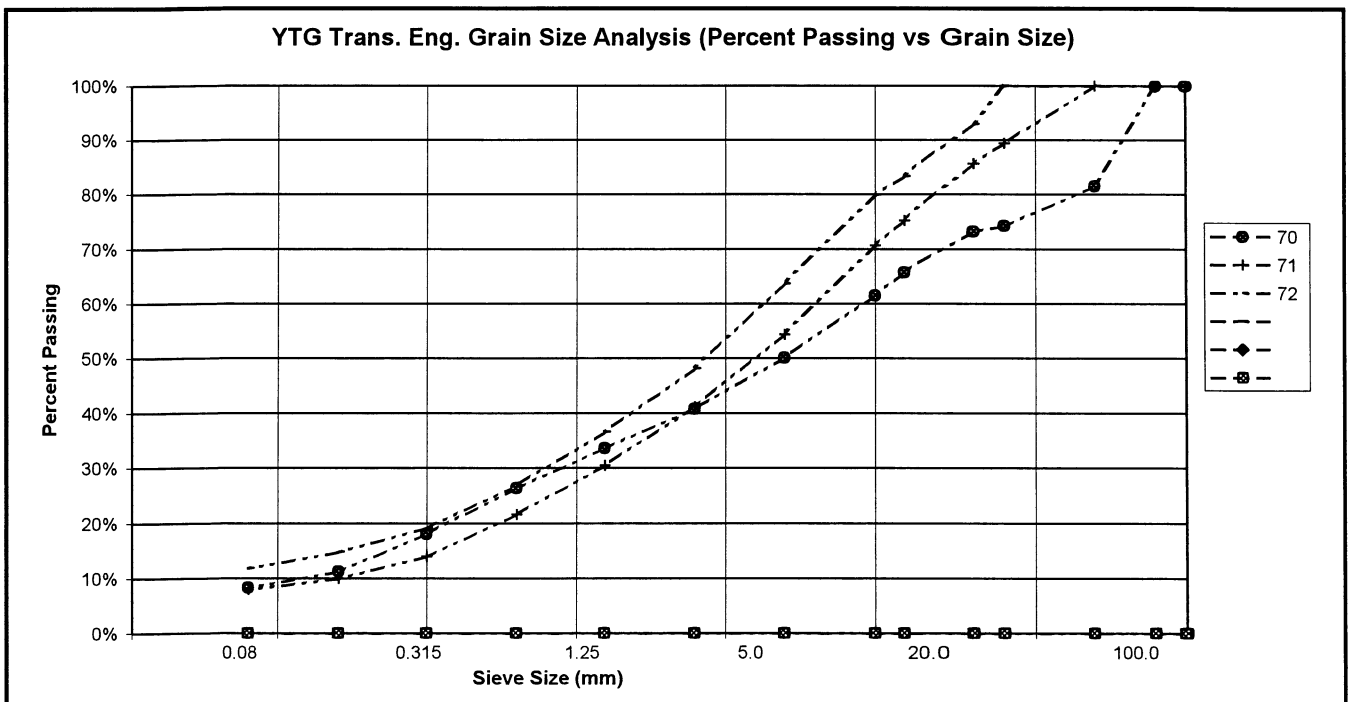


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1772+700 Centreline
 LOGGED BY: D.T.

HOLE No.: 597-41

DATE COMP: 2001/06/07

FIELD NO:	70	71	72		
LAB NO:	577	578	579		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING	PERCENT PASSING	PERCENT PASSING		
100.0	100%	100%	100%		
80.0	100%	100%	100%		
50.0	82%	100%	100%		
25.0	74%	89%	100%		
20.0	73%	86%	93%		
12.5	66%	75%	83%		
10.0	61%	71%	80%		
5.0	50%	54%	64%		
2.5	41%	41%	48%		
1.25	34%	31%	37%		
0.630	26%	22%	27%		
0.315	18%	14%	19%		
0.160	11%	10%	15%		
0.080	8%	8%	12%		
M.C.(%):	4%	4%	7%		
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:	50	46	36		
% SAND:	42	46	52		
% FINES:	8	8	12		
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)		

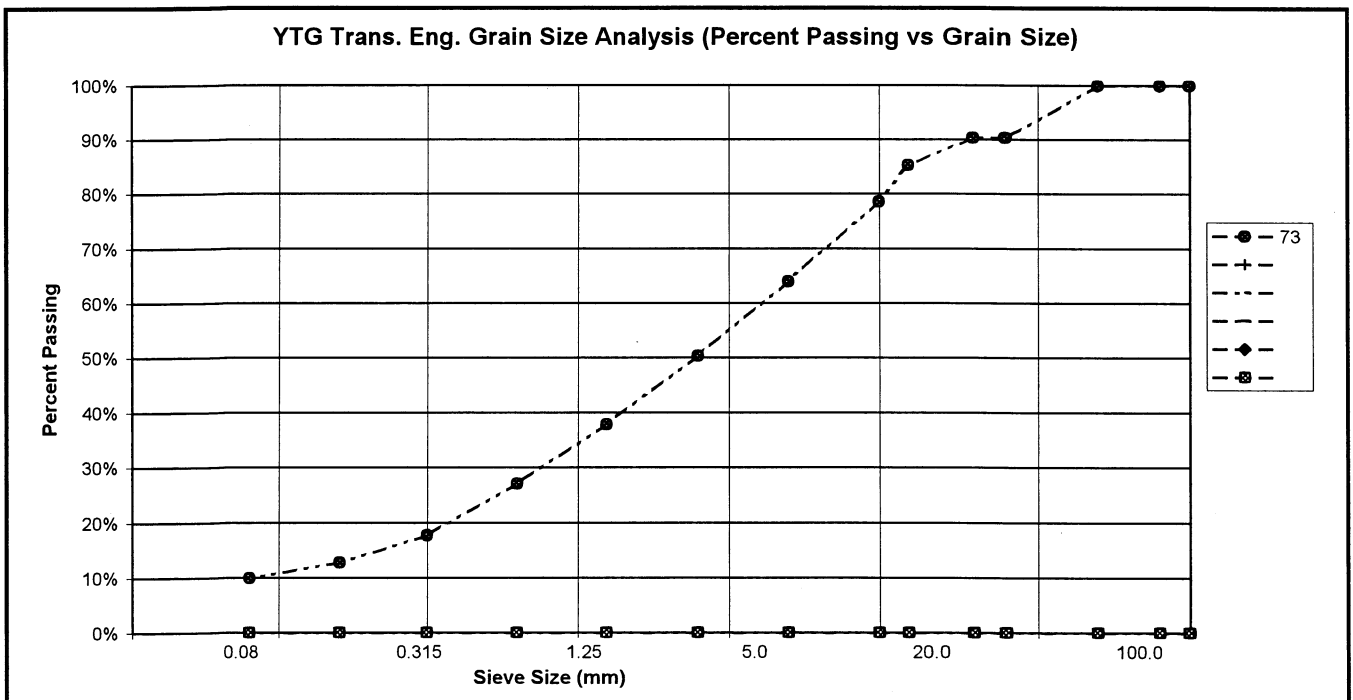


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1772+830 Centreline
 LOGGED BY: D.T.

HOLE No.: 597-42

DATE COMP: 2001/06/07

FIELD NO:	73				
LAB NO:	580				
DEPTH:	2.8-3.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	90%				
20.0	90%				
12.5	85%				
10.0	79%				
5.0	64%				
2.5	50%				
1.25	38%				
0.630	27%				
0.315	18%				
0.160	13%				
0.080	10%				
M.C.(%):	12%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	36				
% SAND:	54				
% FINES:	10				
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)				

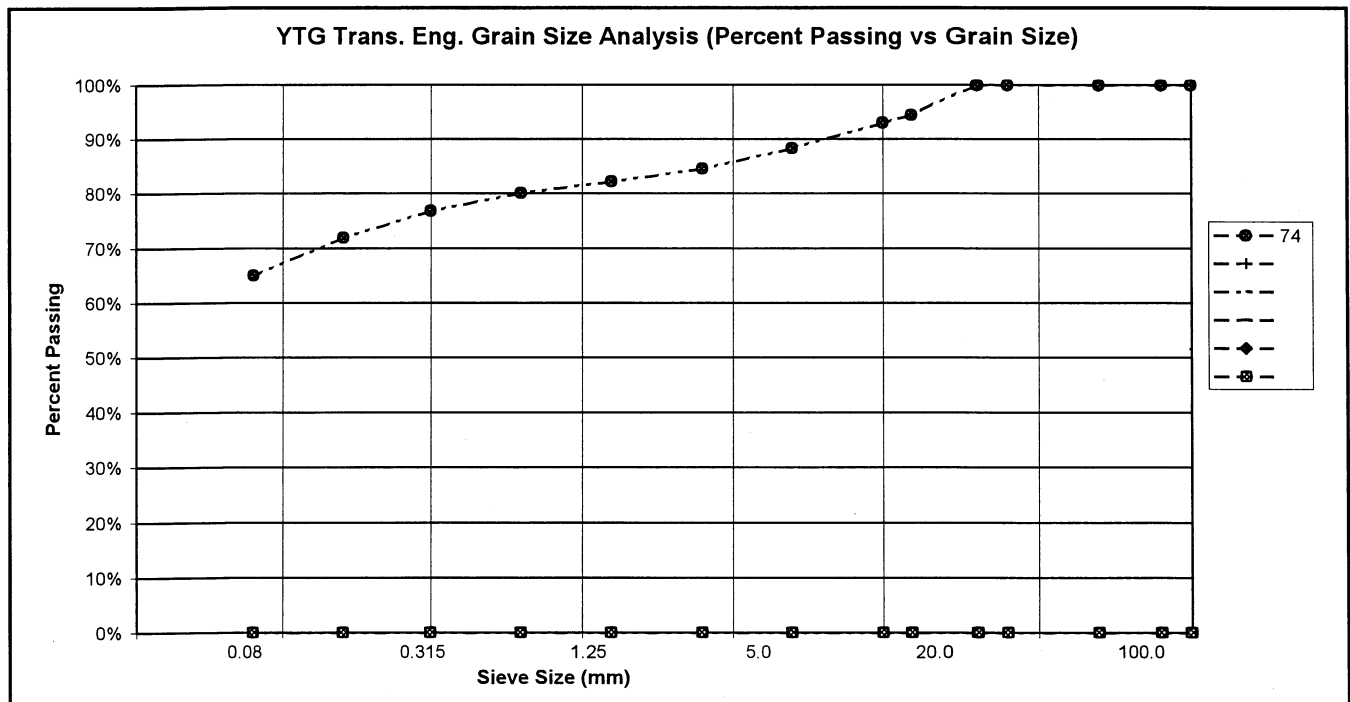


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1772+830 20M LT
 LOGGED BY: D.T.

HOLE No.: 597-43

DATE COMP: 2001/06/07

FIELD NO:	74				
LAB NO:	581				
DEPTH:	2.8-3.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	95%				
10.0	93%				
5.0	88%				
2.5	85%				
1.25	82%				
0.630	80%				
0.315	77%				
0.160	72%				
0.080	65%				
M.C.(%)	30%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	12				
% SAND:	23				
% FINES:	65				
CLASSIFICATION	SANDY SILT (ML)				

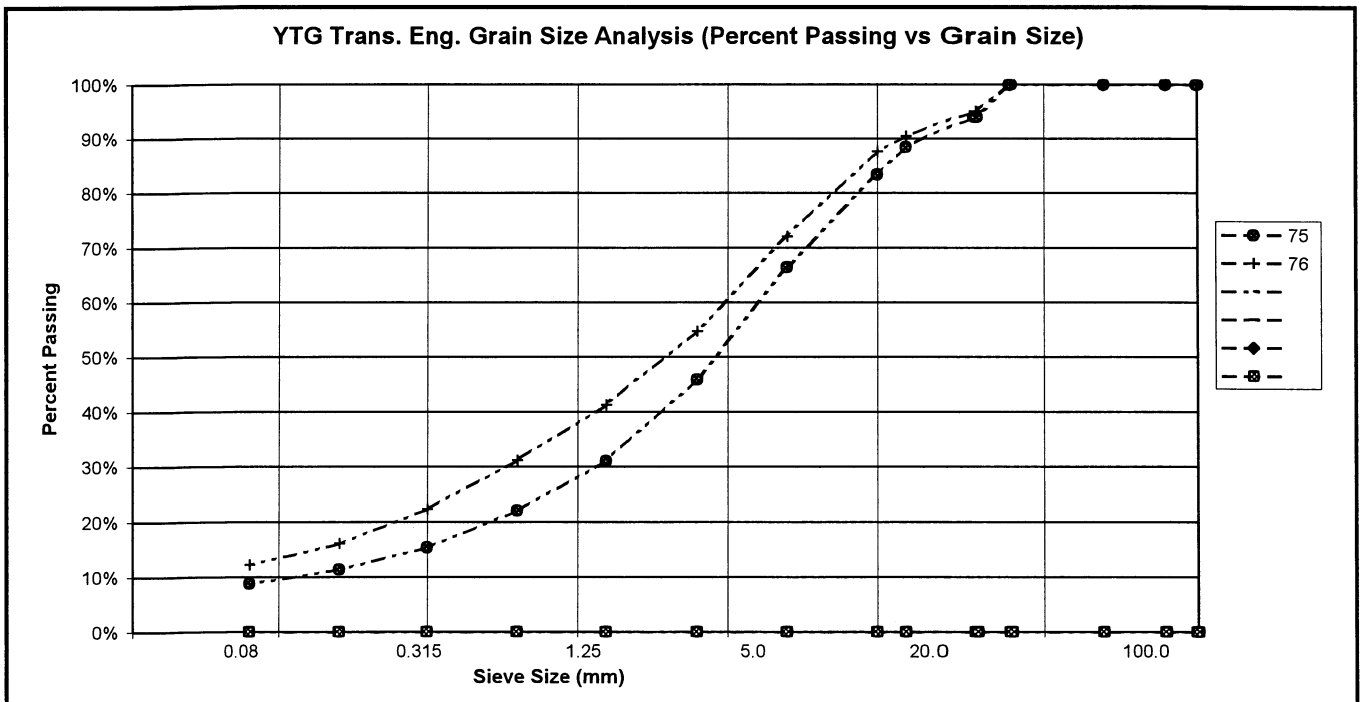


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1772+920 10M LT
 LOGGED BY: D.T.

HOLE No.: 597-44

DATE COMP: 2001/06/08

FIELD NO:	75	76			
LAB NO:	582	583			
DEPTH:	1.8-2.1	4.3-4.5			
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	100%	100%			
20.0	94%	95%			
12.5	89%	90%			
10.0	83%	88%			
5.0	66%	72%			
2.5	46%	55%			
1.25	31%	41%			
0.630	22%	31%			
0.315	15%	22%			
0.160	11%	16%			
0.080	9%	12%			
M.C.(%)	9%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	34	28			
% SAND:	58	60			
% FINES:	9	12			
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	SILTY SAND WITH GRAVEL (SM)			

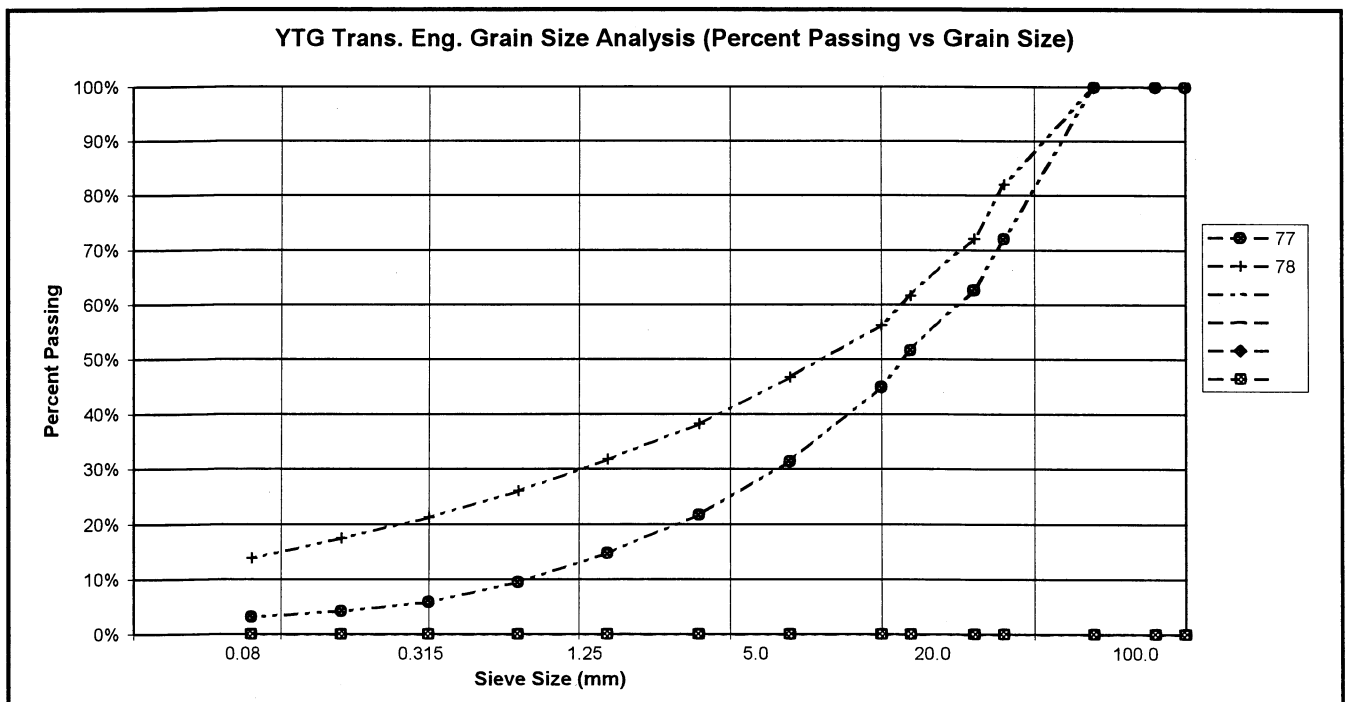


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1773+025 Centreline
 LOGGED BY: D.T.

HOLE No.: 597-45

DATE COMP: 2001/06/08

FIELD NO:	77	78			
LAB NO:	584	585			
DEPTH:	1.3-1.5	4.3-4.5			
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	72%	82%			
20.0	63%	72%			
12.5	52%	62%			
10.0	45%	56%			
5.0	31%	47%			
2.5	22%	38%			
1.25	15%	32%			
0.630	10%	26%			
0.315	6%	21%			
0.160	4%	17%			
0.080	3%	14%			
M.C.(%):	2%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	69	53			
% SAND:	28	33			
% FINES:	3	14			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)	SILTY GRAVEL WITH SAND (GM)			

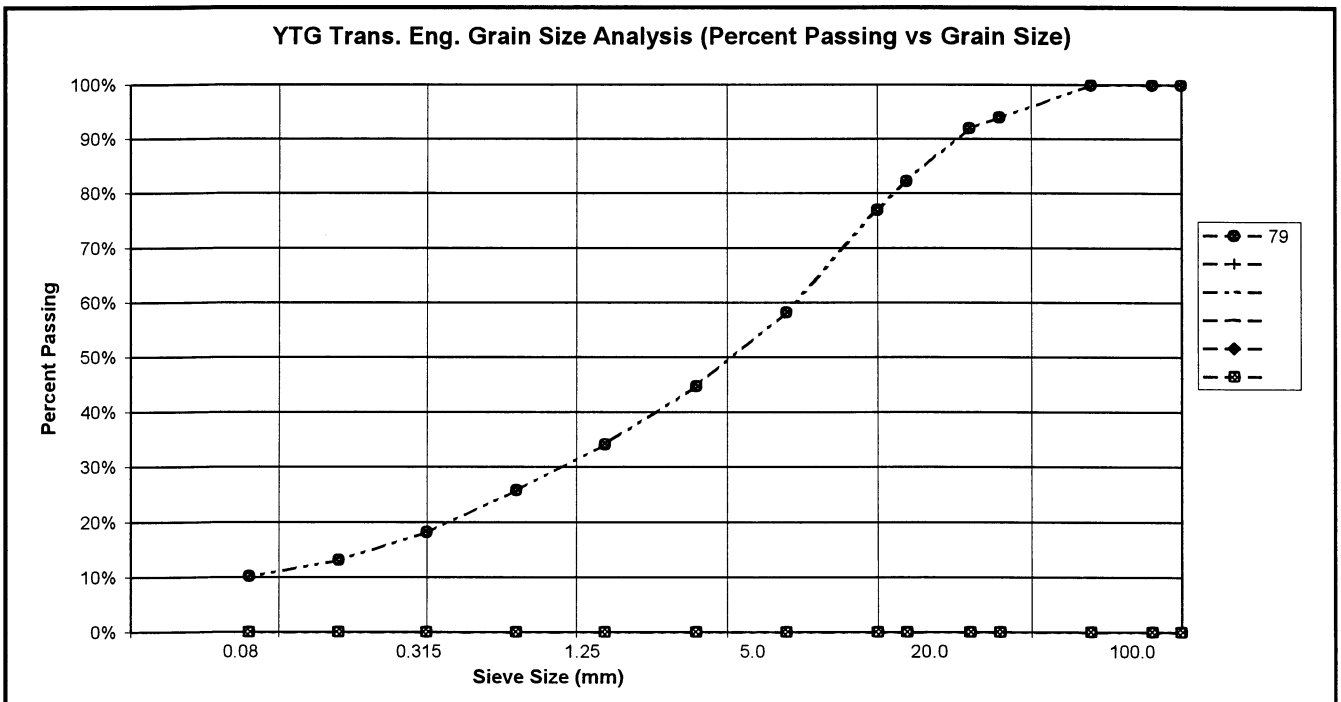


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: 1772+060 Centreline
 LOGGED BY: D.T.

HOLE No.: 597-46

DATE COMP: 2001/06/08

FIELD NO:	79				
LAB NO:	586				
DEPTH:	1.3-1.5				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	94%				
20.0	92%				
12.5	82%				
10.0	77%				
5.0	58%				
2.5	45%				
1.25	34%				
0.630	26%				
0.315	18%				
0.160	13%				
0.080	10%				
M.C.(%):	11%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	42				
% SAND:	48				
% FINES:	10				
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)				

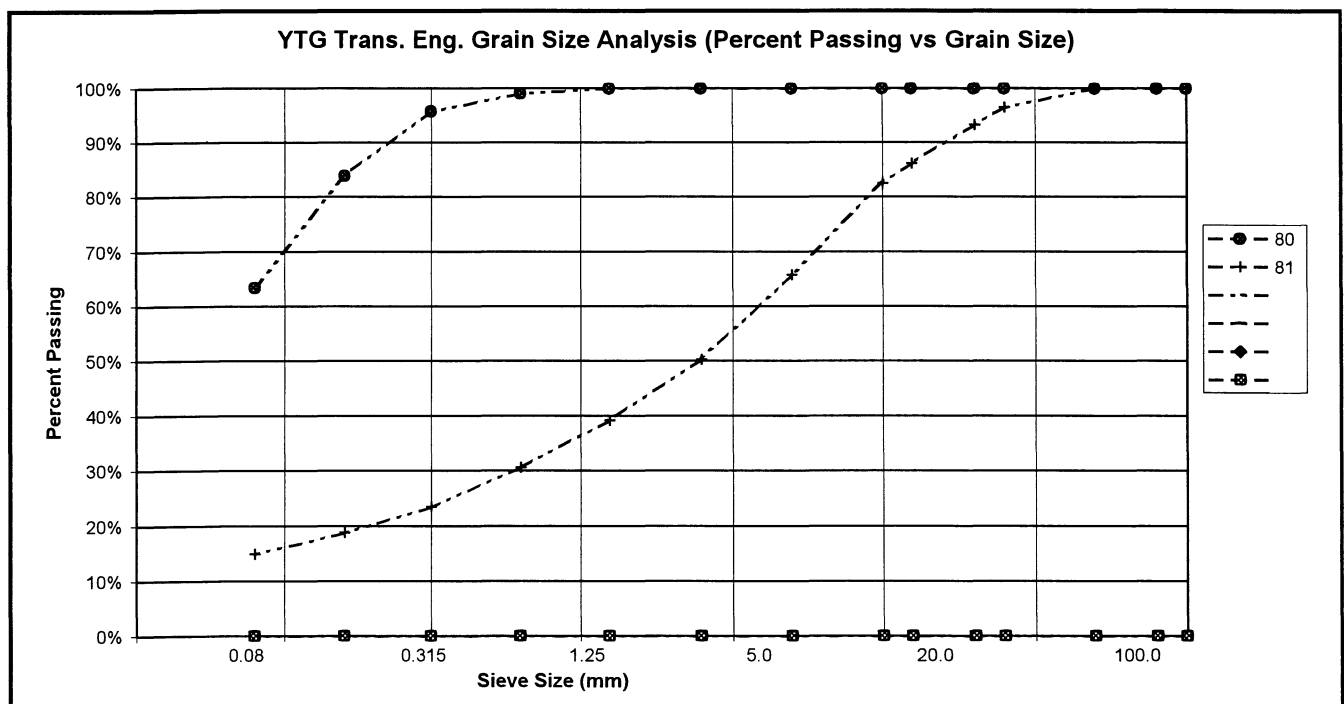


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See plan
 LOGGED BY: D.T.

HOLE No.: 597-47

DATE COMP: 2001/06/08

FIELD NO:	80	81			
LAB NO:	587	588			
DEPTH:	1.6-1.8	3.0-3.2			
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%	93%			
12.5	100%	86%			
10.0	100%	82%			
5.0	100%	66%			
2.5	100%	50%			
1.25	100%	39%			
0.630	99%	31%			
0.315	96%	23%			
0.160	84%	19%			
0.080	63%	15%			
M.C.(%)	24%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	34			
% SAND:	37	51			
% FINES:	63	15			
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

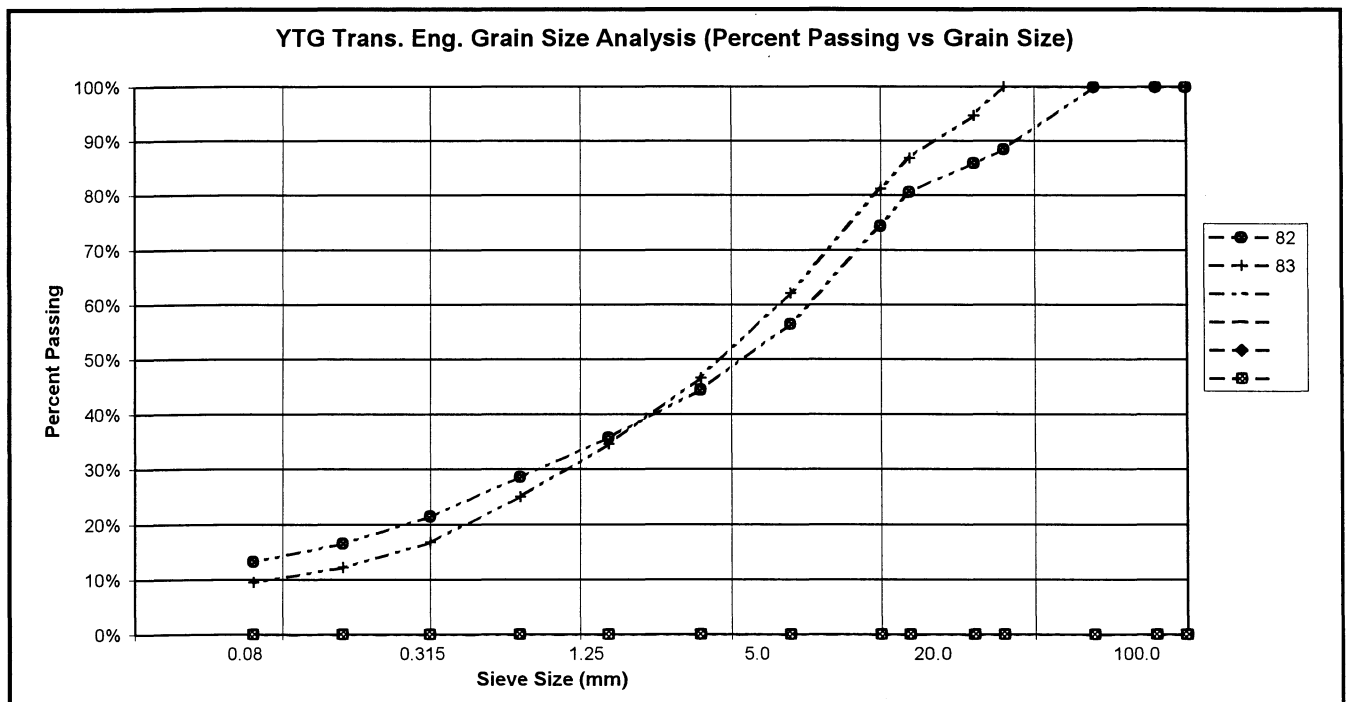


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See plan
 LOGGED BY: D.T.

HOLE No.: 597-48

DATE COMP: 2001/06/08

FIELD NO:	82	83			
LAB NO:	589	590			
DEPTH:	1.6-1.8	4.1-4.3			
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	89%	100%			
20.0	86%	95%			
12.5	81%	87%			
10.0	74%	81%			
5.0	56%	62%			
2.5	44%	47%			
1.25	36%	35%			
0.630	29%	25%			
0.315	21%	17%			
0.160	17%	12%			
0.080	13%	9%			
M.C.(%):	15%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	44	38			
% SAND:	43	53			
% FINES:	13	9			
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)			

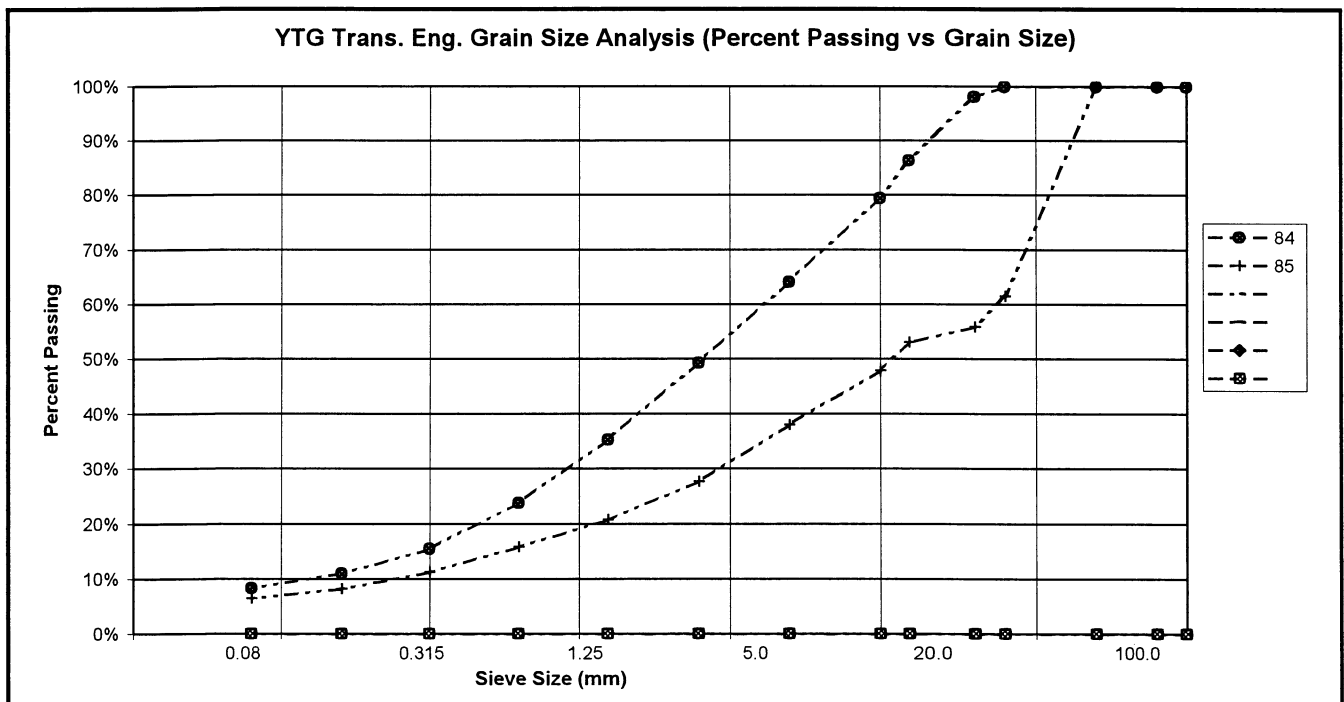


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See plan
 LOGGED BY: D.T.

HOLE No.: 597-49

DATE COMP: 2001/06/08

FIELD NO:	84	85			
LAB NO:	591	592			
DEPTH:	1.8-2.0	3.3-3.5			
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	100%	61%			
20.0	98%	56%			
12.5	86%	53%			
10.0	79%	48%			
5.0	64%	38%			
2.5	49%	28%			
1.25	35%	21%			
0.630	24%	16%			
0.315	15%	11%			
0.160	11%	8%			
0.080	8%	6%			
M.C.(%):	11%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	36	62			
% SAND:	56	32			
% FINES:	8	6			
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

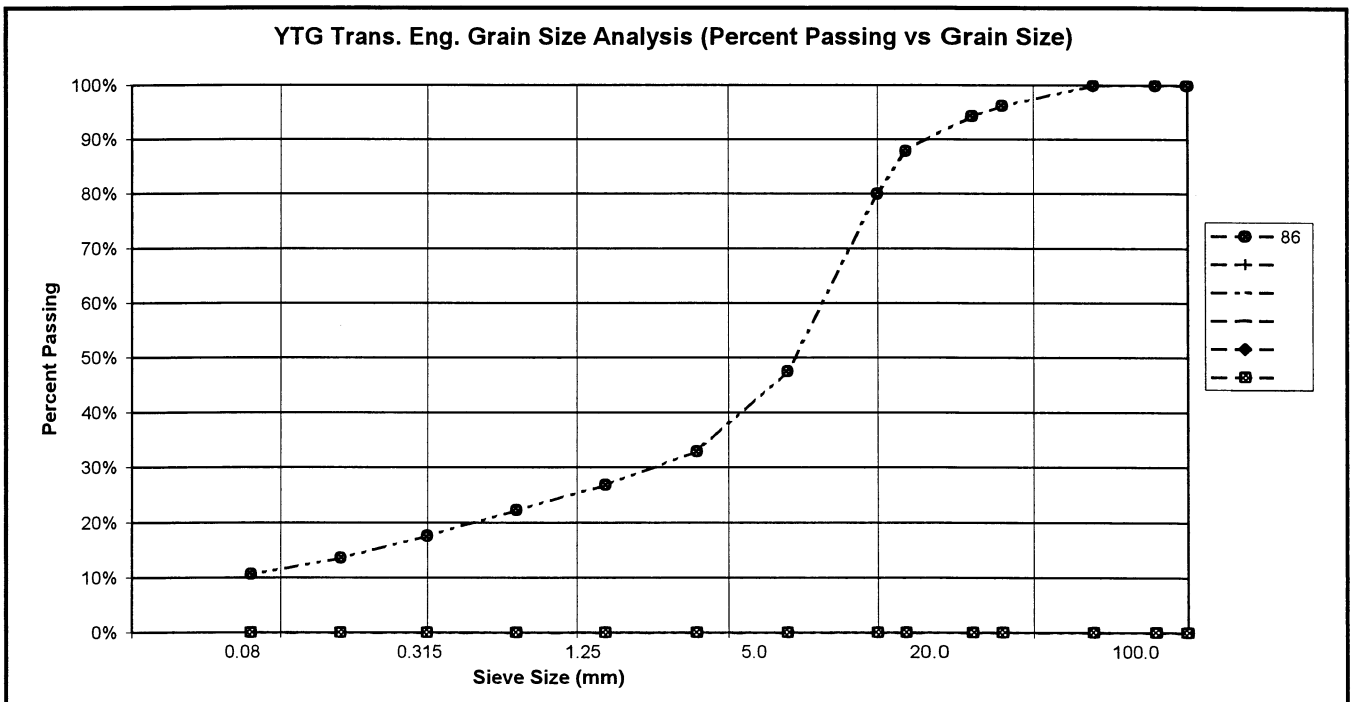


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Duke River to Quill Creek
 DRILL UNIT: MOBILE B30 L
 HOLE LOCATION: See plan
 LOGGED BY: D.T.

HOLE No.: 597-50

DATE COMP: 2001/06/08

FIELD NO:	86				
LAB NO:	593				
DEPTH:	1.8-2.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	96%				
20.0	94%				
12.5	88%				
10.0	80%				
5.0	47%				
2.5	33%				
1.25	27%				
0.630	22%				
0.315	18%				
0.160	14%				
0.080	11%				
M.C.(%):	11%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	53				
% SAND:	37				
% FINES:	11				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				

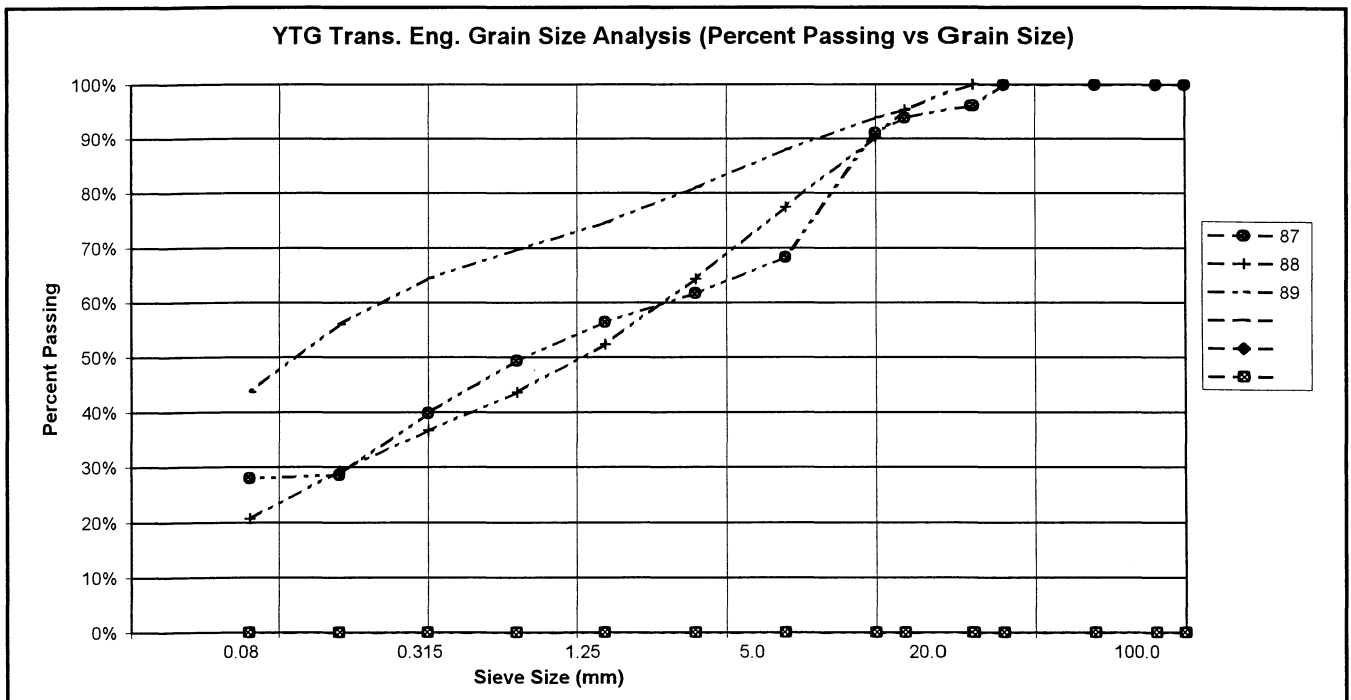


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-51

DATE COMP: 2001/06/11

FIELD NO:	87	88	89		
LAB NO:	594	595	596		
DEPTH:	2.0-2.2	3.0-3.2	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
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%	100%	100%		
20.0	96%	100%	100%		
12.5	94%	95%	95%		
10.0	91%	90%	94%		
5.0	68%	77%	88%		
2.5	62%	64%	81%		
1.25	56%	52%	75%		
0.630	49%	44%	70%		
0.315	40%	37%	64%		
0.160	29%	29%	56%		
0.080	28%	21%	44%		
M.C.(%)	11%	11%	18%		
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:	32	23	12		
% SAND:	40	57	44		
% FINES:	28	21	44		
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)	SILTY SAND (SM)		

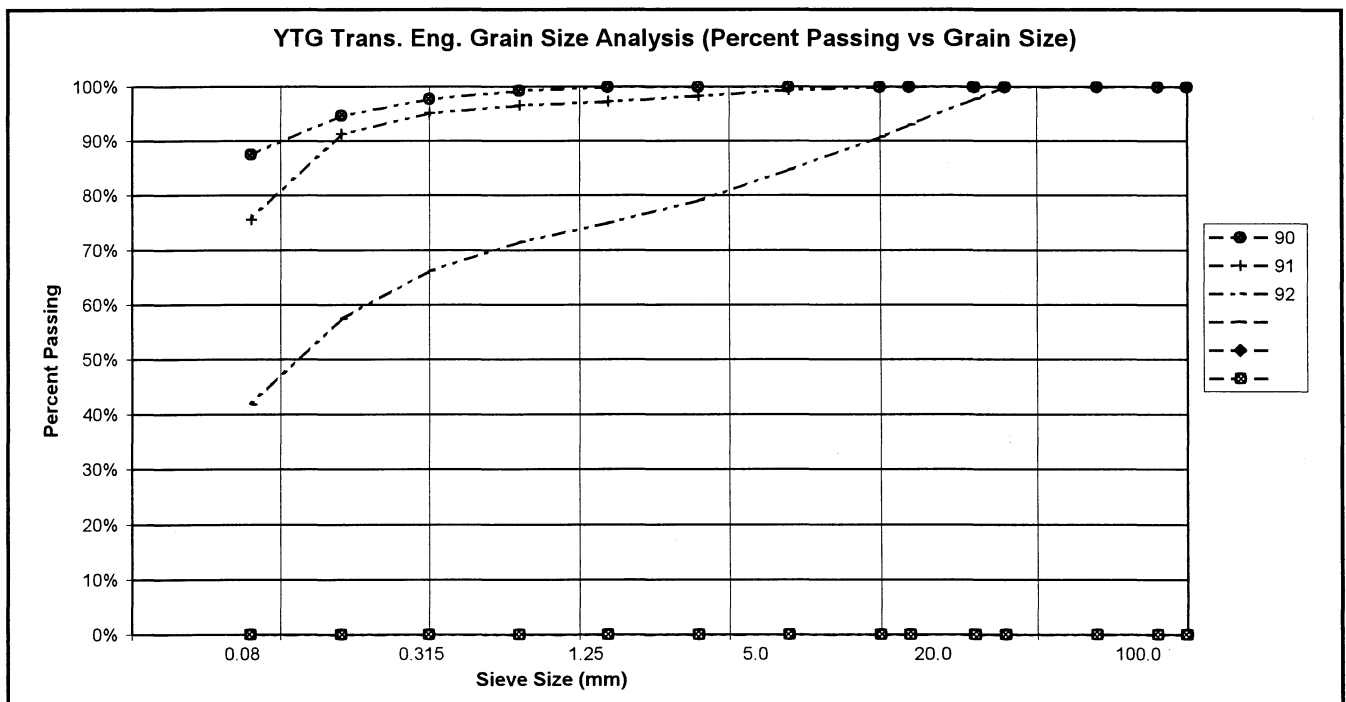


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-52

DATE COMP: 2001/06/11

FIELD NO:	90	91	92		
LAB NO:	597	598	599		
DEPTH:	2.3-2.5	3.5-3.7	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
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%	100%	100%		
20.0	100%	100%	98%		
12.5	100%	100%	93%		
10.0	100%	100%	91%		
5.0	100%	98%	85%		
2.5	100%	98%	79%		
1.25	100%	97%	75%		
0.630	99%	97%	71%		
0.315	98%	95%	66%		
0.160	95%	91%	57%		
0.080	88%	76%	42%		
M.C.(%)	25%	23%	14%		
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	1	15		
% SAND:	12	24	43		
% FINES:	88	76	42		
CLASSIFICATION	SILT (ML)	SILT WITH SAND (ML)	SILTY SAND WITH GRAVEL (SM)		

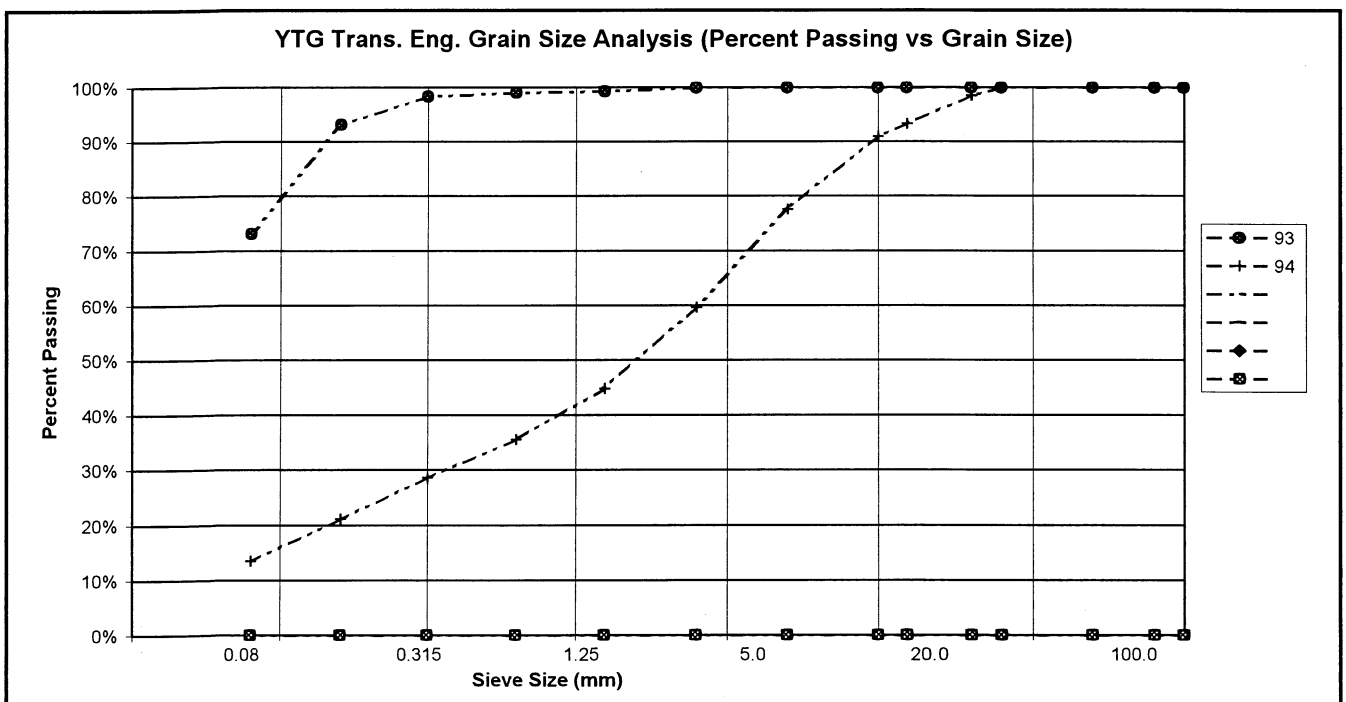


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-53

DATE COMP: 2001/06/11

FIELD NO:	93	94			
LAB NO:	600	601			
DEPTH:	2.5-2.7	4.3-4.5			
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	100%	100%			
20.0	100%	98%			
12.5	100%	93%			
10.0	100%	91%			
5.0	100%	78%			
2.5	100%	60%			
1.25	99%	45%			
0.630	99%	36%			
0.315	98%	29%			
0.160	93%	21%			
0.080	73%	14%			
M.C.(%):	23%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	22			
% SAND:	27	64			
% FINES:	73	14			
CLASSIFICATION	SILT WITH SAND (ML)	SILTY SAND WITH GRAVEL (SM)			

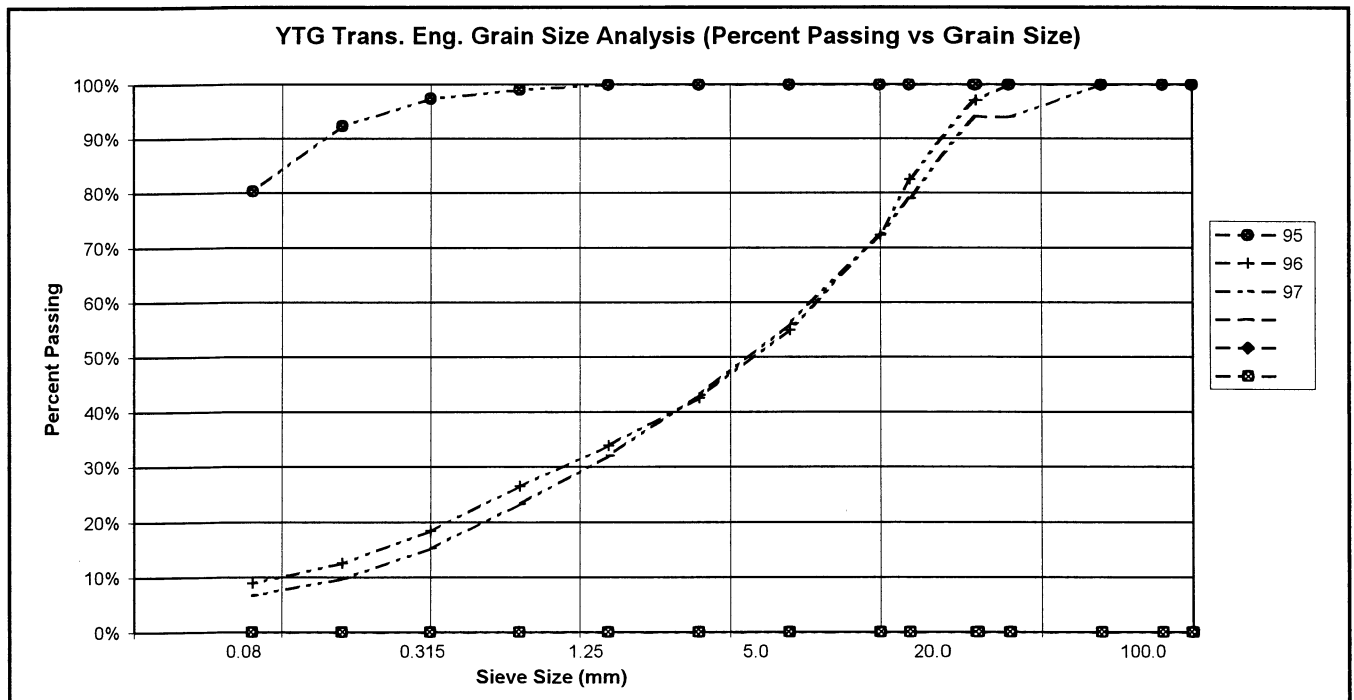


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-54

DATE COMP: 2001/06/11

FIELD NO:	95	96	97		
LAB NO:	602	603	604		
DEPTH:	1.5-1.7	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
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%	100%	94%		
20.0	100%	97%	94%		
12.5	100%	83%	79%		
10.0	100%	72%	72%		
5.0	100%	55%	56%		
2.5	100%	43%	43%		
1.25	100%	34%	32%		
0.630	99%	26%	23%		
0.315	97%	18%	15%		
0.160	92%	13%	10%		
0.080	80%	9%	7%		
M.C.(%)	30%	9%	8%		
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	45	44		
% SAND:	20	46	49		
% FINES:	80	9	7		
CLASSIFICATION	SILT WITH SAND (ML)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)		

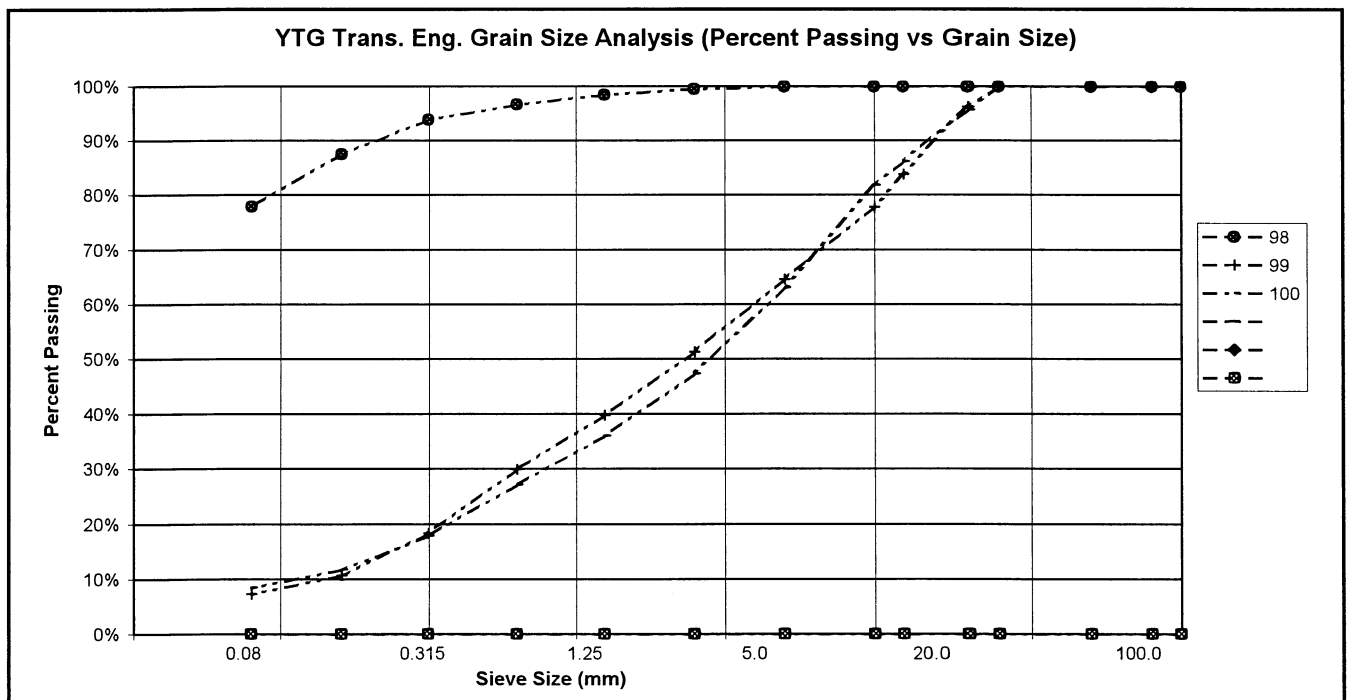


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-55

DATE COMP: 2001/06/11

FIELD NO:	98	99	100		
LAB NO:	605	606	607		
DEPTH:	1.2-1.4	1.8-2.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
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%	100%	100%		
20.0	100%	96%	96%		
12.5	100%	84%	86%		
10.0	100%	78%	82%		
5.0	100%	65%	63%		
2.5	100%	51%	47%		
1.25	98%	40%	36%		
0.630	97%	30%	27%		
0.315	94%	18%	18%		
0.160	88%	11%	12%		
0.080	78%	7%	9%		
M.C.(%)	39%	8%	8%		
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	35	37		
% SAND:	22	57	54		
% FINES:	78	7	9		
CLASSIFICATION	SILT WITH SAND (ML)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)		

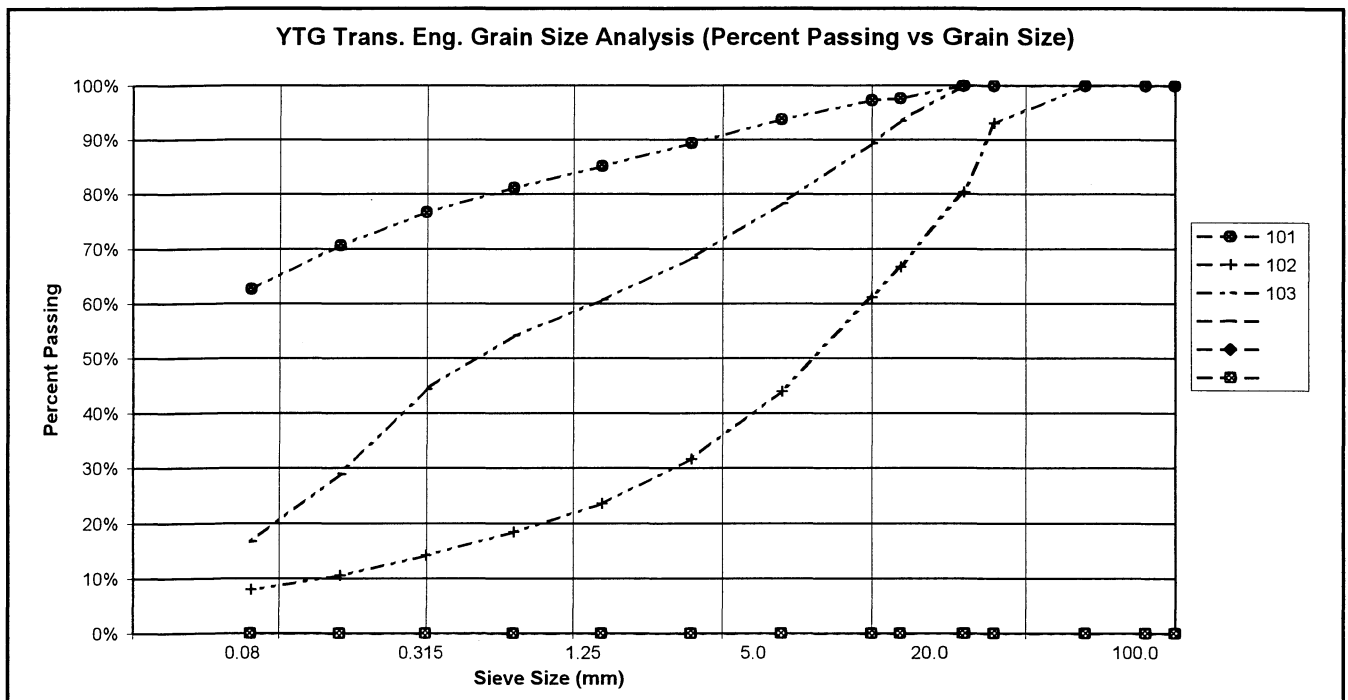


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-56

DATE COMP: 2001/06/11

FIELD NO:	101	102	103		
LAB NO:	608	609	610		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
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%	93%	100%		
20.0	100%	80%	100%		
12.5	98%	67%	93%		
10.0	97%	61%	89%		
5.0	94%	44%	78%		
2.5	89%	32%	68%		
1.25	85%	24%	61%		
0.630	81%	18%	54%		
0.315	77%	14%	44%		
0.160	71%	11%	29%		
0.080	63%	8%	17%		
M.C.(%)	34%	7%	12%		
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:	6	56	22		
% SAND:	31	36	62		
% FINES:	63	8	17		
CLASSIFICATION	SANDY SILT (ML)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	SILTY SAND WITH GRAVEL (SM)		

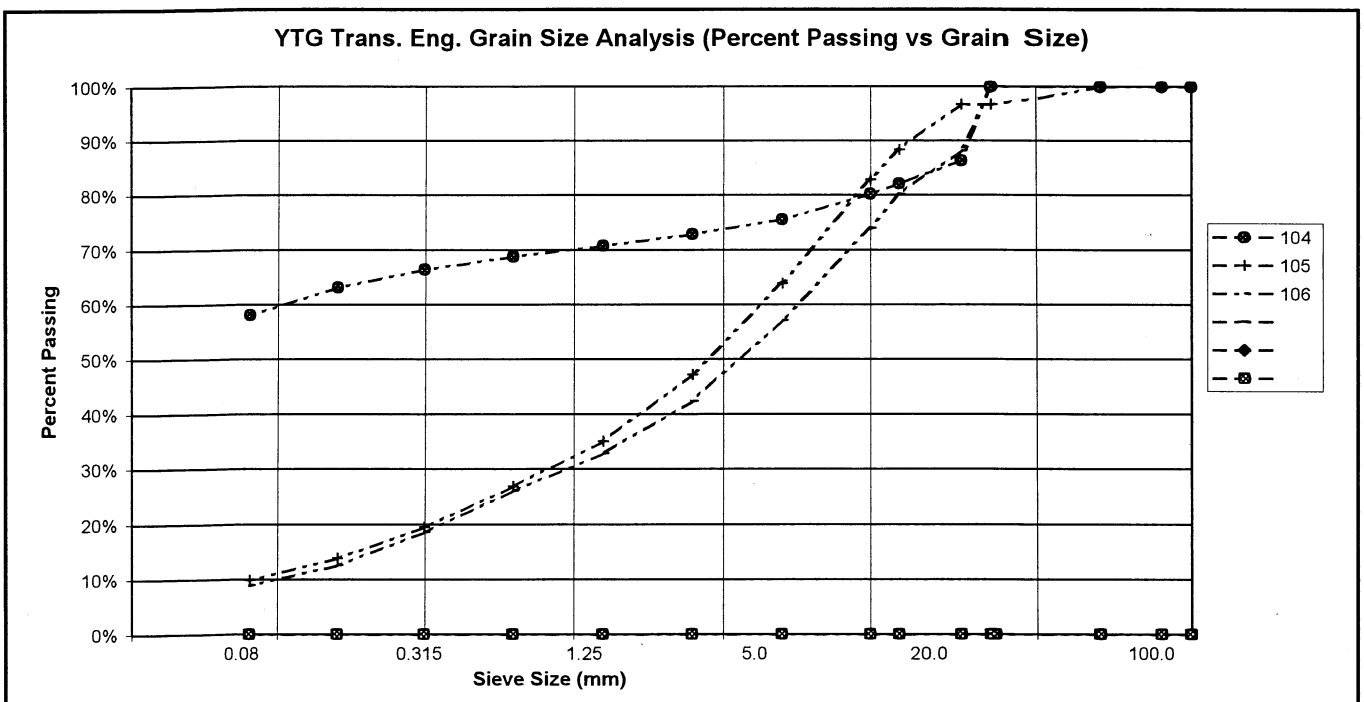


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-57

DATE COMP: 2001/06/11

FIELD NO:	104	105	106		
LAB NO:	611	612	613		
DEPTH:	1.3-1.5	2.8-3.0	4.3-4.5		
TYPE:	AUGER	AUGER	AUGER	AUGER	
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%	97%	100%		
20.0	86%	97%	88%		
12.5	82%	88%	80%		
10.0	80%	83%	74%		
5.0	76%	64%	57%		
2.5	73%	47%	42%		
1.25	71%	35%	33%		
0.630	69%	27%	26%		
0.315	66%	20%	19%		
0.160	63%	14%	13%		
0.080	58%	10%	9%		
M.C.(%)	38%	7%	8%		
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:	24	36	43		
% SAND:	17	54	48		
% FINES:	58	10	9		
CLASSIFICATION	GRAVELLY SILT WITH SAND (ML)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)		

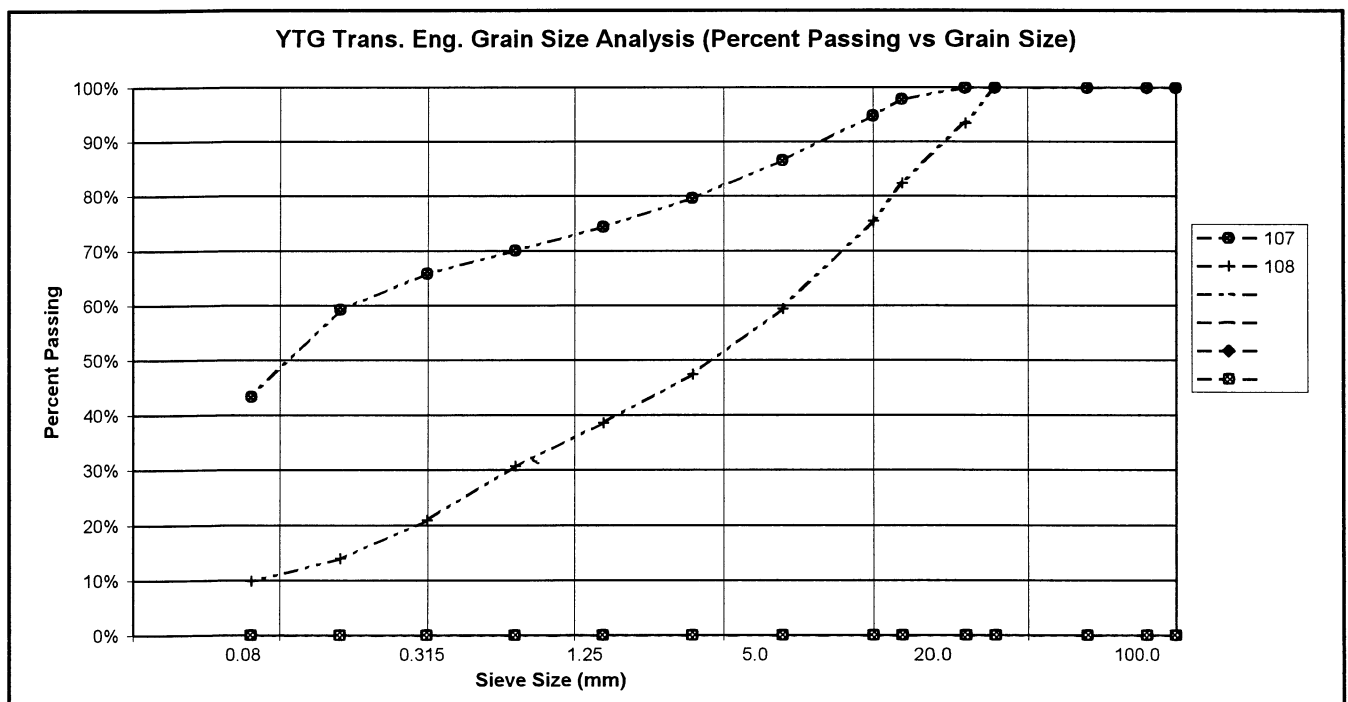


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-58

DATE COMP: 2001/06/11

FIELD NO:	107	108			
LAB NO:	614	615			
DEPTH:	1.5-1.7	2.8-3.0			
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%	100%			
20.0	100%	93%			
12.5	98%	82%			
10.0	95%	75%			
5.0	87%	59%			
2.5	80%	47%			
1.25	74%	39%			
0.630	70%	31%			
0.315	66%	21%			
0.160	59%	14%			
0.080	43%	10%			
M.C.(%):	15%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	13	41			
% SAND:	43	50			
% FINES:	43	10			
CLASSIFICATION	SILTY SAND (SM)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)			

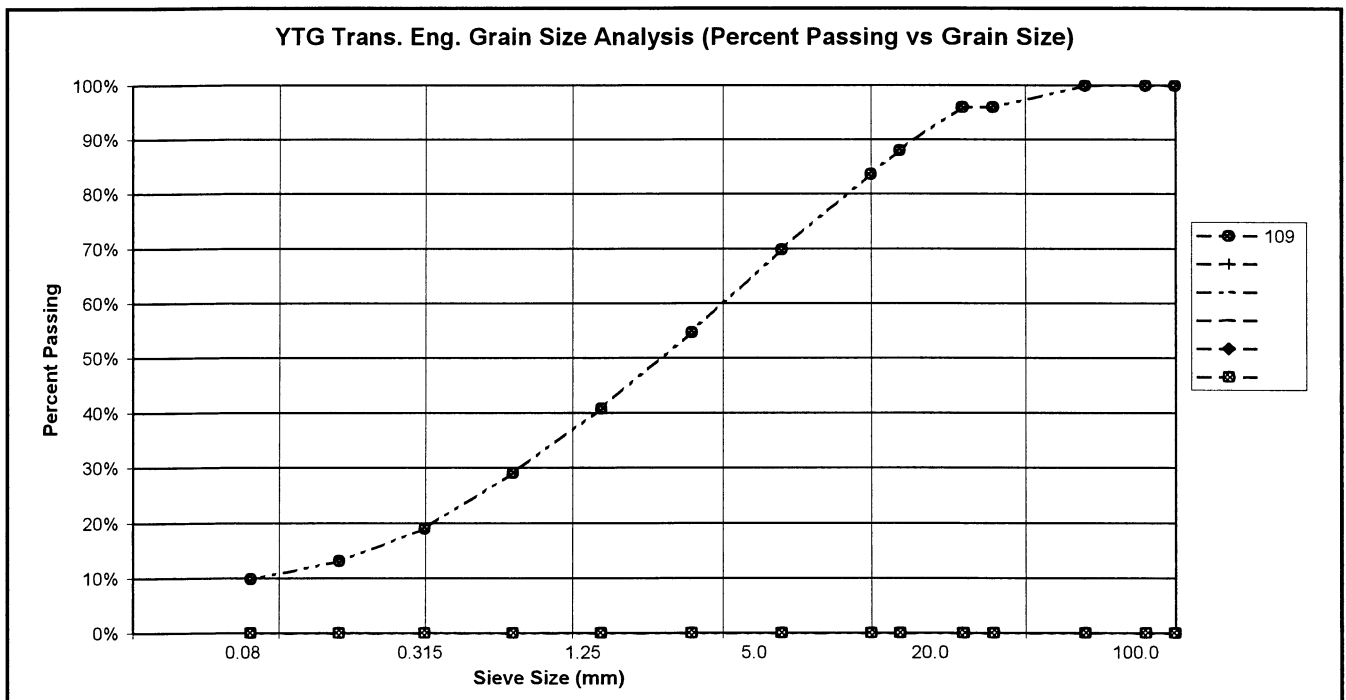


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-59

DATE COMP: 2001/06/11

FIELD NO:	109				
LAB NO:	616				
DEPTH:	2.9-3.1				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	96%				
20.0	96%				
12.5	88%				
10.0	84%				
5.0	70%				
2.5	55%				
1.25	41%				
0.630	29%				
0.315	19%				
0.160	13%				
0.080	10%				
M.C.(%):	8%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	30				
% SAND:	60				
% FINES:	10				
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)				

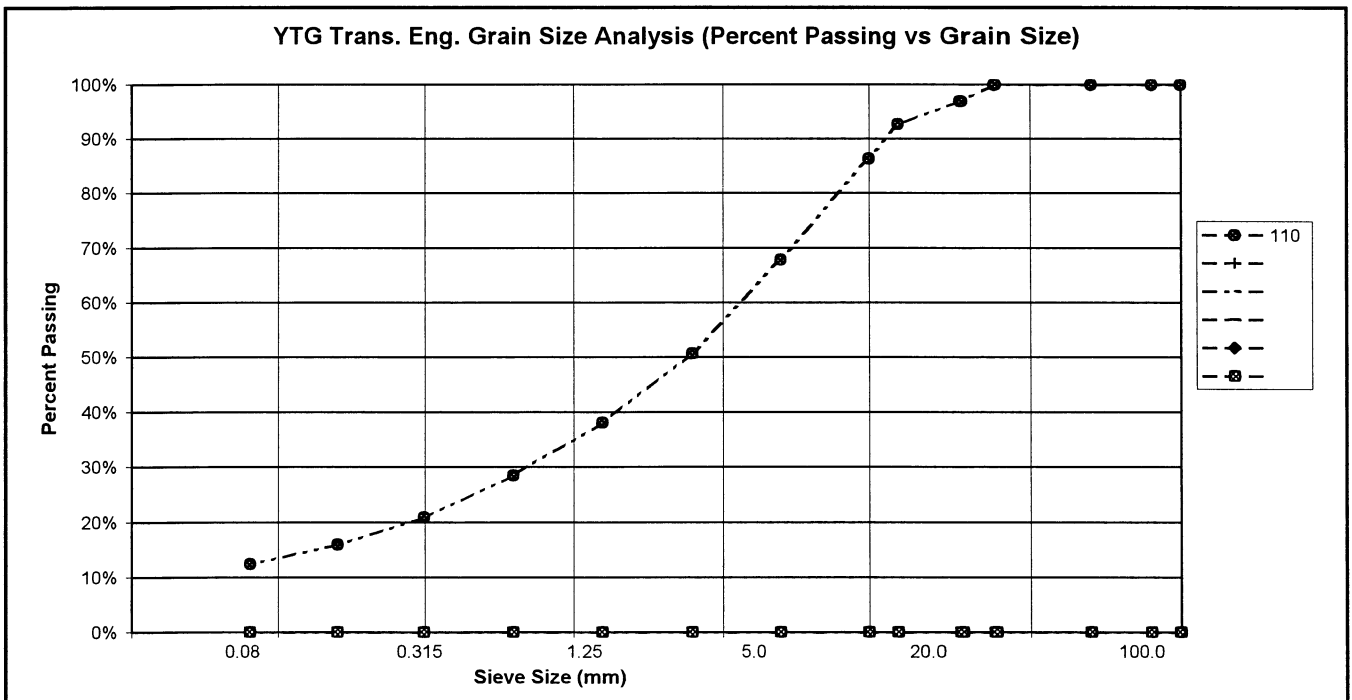


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-60

DATE COMP: 2001/06/11

FIELD NO:	110				
LAB NO:	617				
DEPTH:	1.8-2.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	97%				
12.5	93%				
10.0	86%				
5.0	68%				
2.5	51%				
1.25	38%				
0.630	29%				
0.315	21%				
0.160	16%				
0.080	12%				
M.C.(%):	10%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	32				
% SAND:	55				
% FINES:	12				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

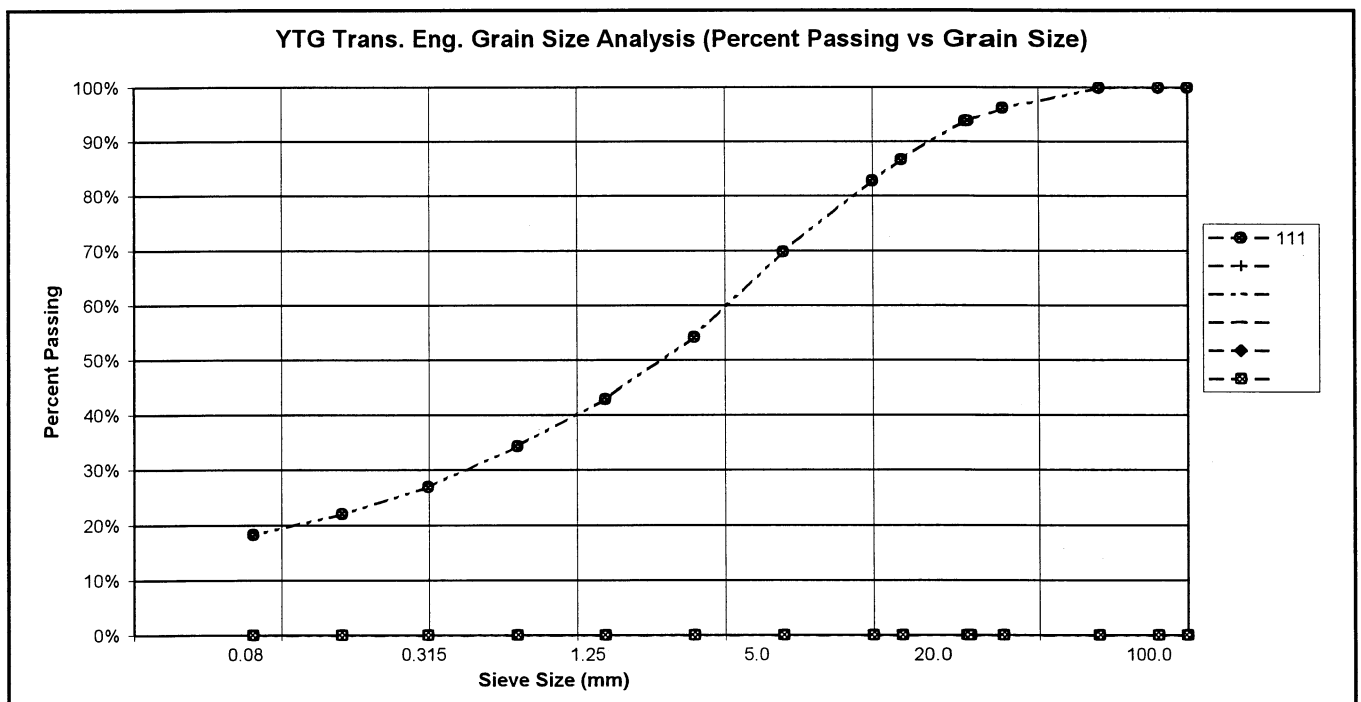


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-61

DATE COMP: 2001/06/11

FIELD NO:	111				
LAB NO:	618				
DEPTH:	1.8-2.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	96%				
20.0	94%				
12.5	87%				
10.0	83%				
5.0	70%				
2.5	54%				
1.25	43%				
0.630	34%				
0.315	27%				
0.160	22%				
0.080	18%				
M.C.(%)	13%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX:	0.0				
% GRAVEL:	30				
% SAND:	51				
% FINES:	18				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

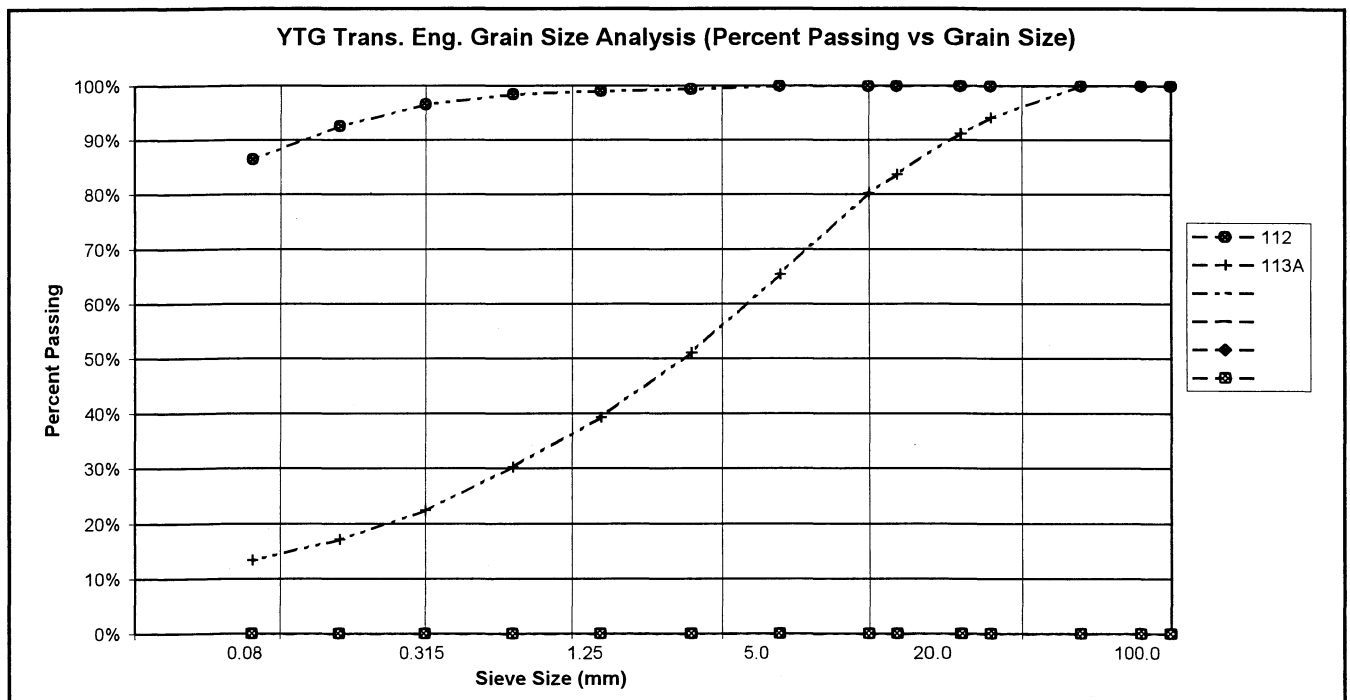


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-62

DATE COMP: 2001/06/11

FIELD NO:	112	113A			
LAB NO:	619	620			
DEPTH:	2.6-2.8	4.3-4.5			
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	100%	94%			
20.0	100%	91%			
12.5	100%	84%			
10.0	100%	80%			
5.0	100%	65%			
2.5	99%	51%			
1.25	99%	39%			
0.630	98%	30%			
0.315	97%	22%			
0.160	93%	17%			
0.080	87%	13%			
M.C.(%):	29%	54%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	35			
% SAND:	13	52			
% FINES:	87	13			
CLASSIFICATION	SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

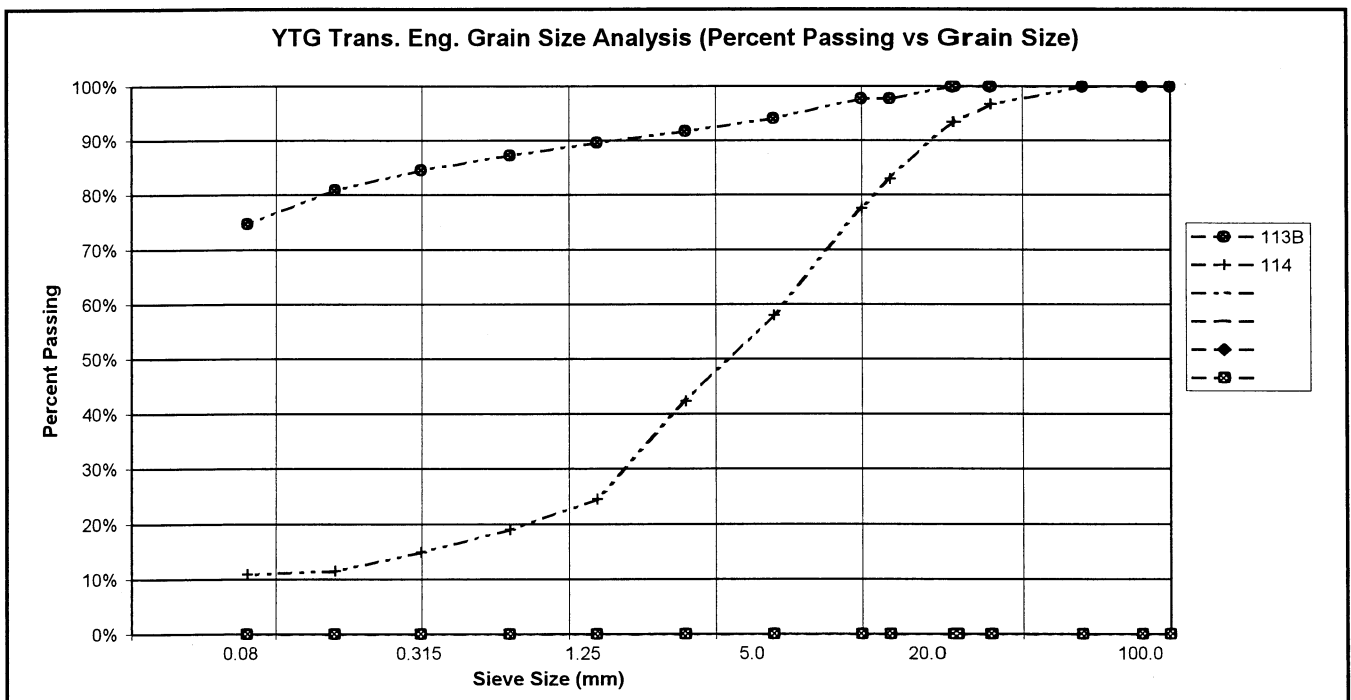


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-63

DATE COMP: 2001/06/11

FIELD NO:	113B	114			
LAB NO:	621	622			
DEPTH:	2.0-2.2	2.9-3.1			
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%	97%			
20.0	100%	93%			
12.5	98%	83%			
10.0	98%	78%			
5.0	94%	58%			
2.5	92%	42%			
1.25	90%	25%			
0.630	87%	19%			
0.315	85%	15%			
0.160	81%	12%			
0.080	75%	11%			
M.C.(%)	8%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	6	42			
% SAND:	19	47			
% FINES:	75	11			
CLASSIFICATION	SILT WITH SAND (ML)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)			

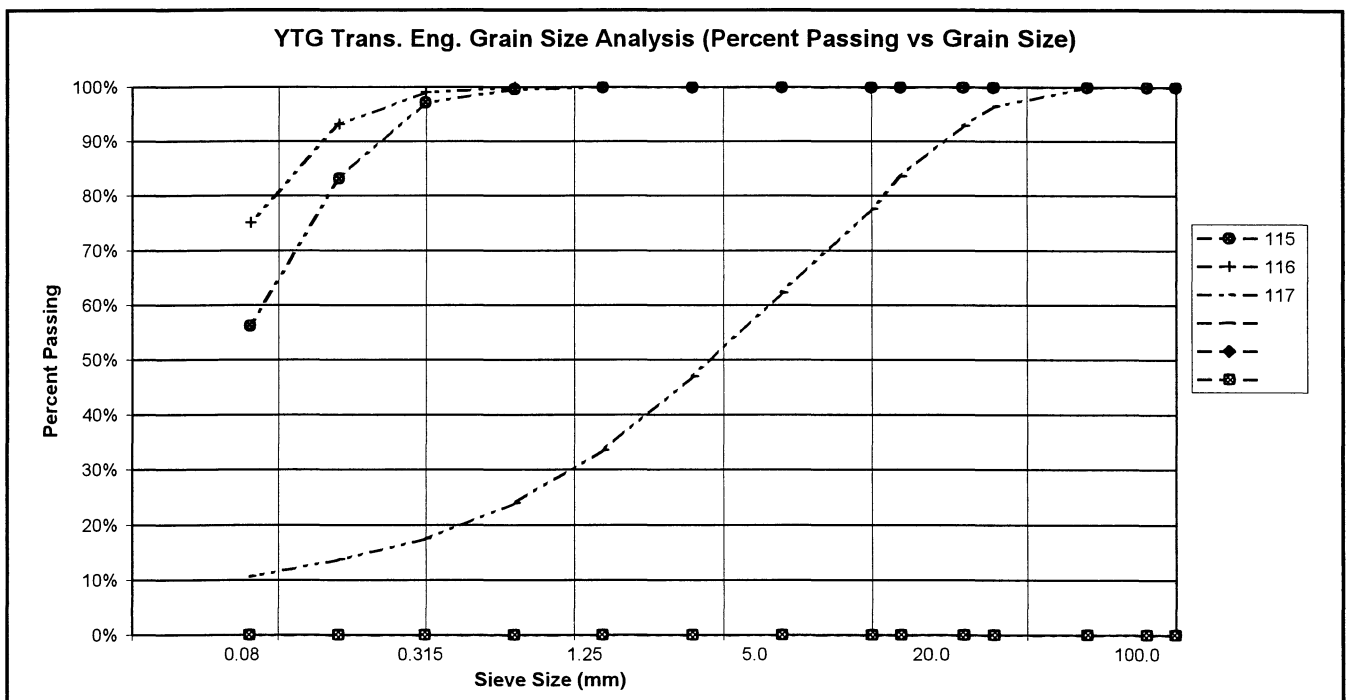


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-64

DATE COMP: 2001/06/11

FIELD NO:	115	116	117			
LAB NO:	623	624	625			
DEPTH:	1.5-1.7	2.9-3.1	3.9-4.1			
TYPE:	AUGER	AUGER	AUGER	AUGER		
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%	100%	97%			
20.0	100%	100%	93%			
12.5	100%	100%	84%			
10.0	100%	100%	78%			
5.0	100%	100%	62%			
2.5	100%	100%	47%			
1.25	100%	100%	34%			
0.630	100%	100%	24%			
0.315	97%	99%	17%			
0.160	83%	93%	14%			
0.080	56%	75%	11%			
M.C.(%)	45%	36%	8%			
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	0	38			
% SAND:	44	25	51			
% FINES:	56	75	11			
CLASSIFICATION	SANDY SILT (ML)	SILT WITH SAND (ML)	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)			

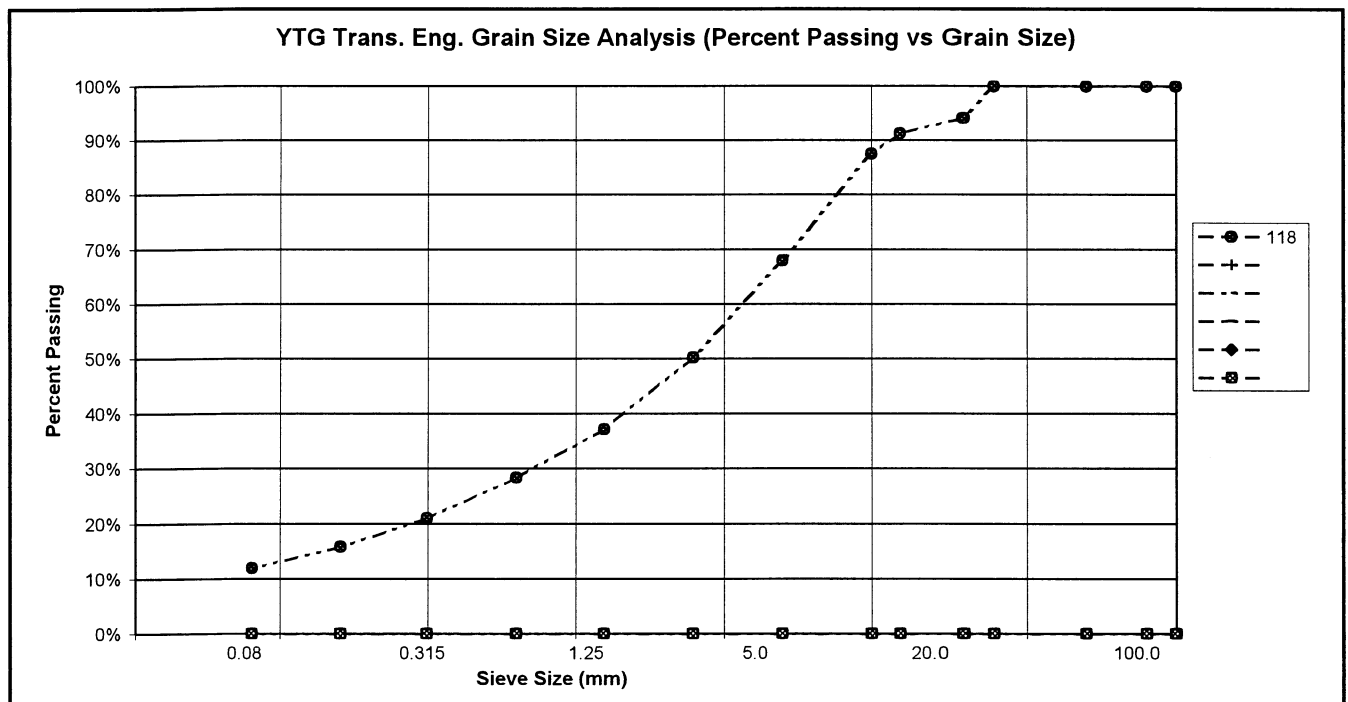


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-66

DATE COMP: 2001/06/11

FIELD NO:	118				
LAB NO:	626				
DEPTH:	2.0-2.2				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	94%				
12.5	91%				
10.0	88%				
5.0	68%				
2.5	50%				
1.25	37%				
0.630	28%				
0.315	21%				
0.160	16%				
0.080	12%				
M.C.(%):	8%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	32				
% SAND:	56				
% FINES:	12				
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)				

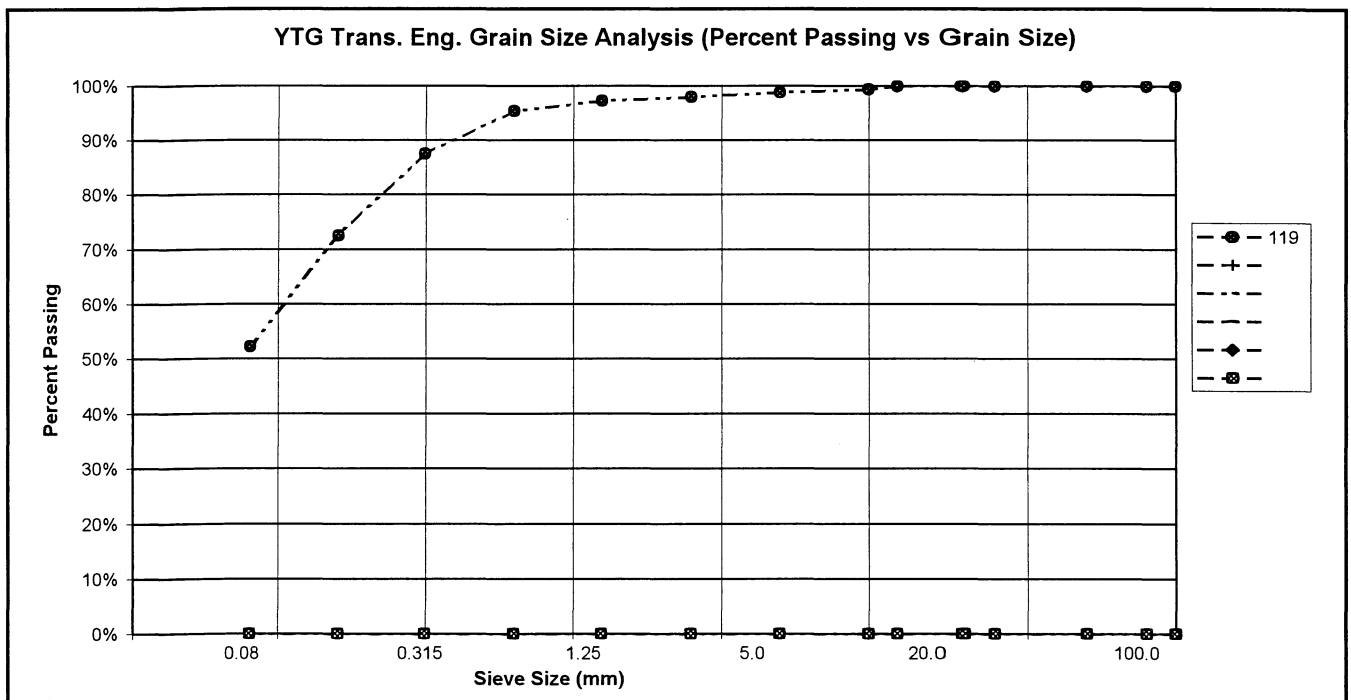


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-67

DATE COMP: 2001/06/11

FIELD NO:	119				
LAB NO:	627				
DEPTH:	2.7-2.9				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	100%				
10.0	99%				
5.0	99%				
2.5	98%				
1.25	97%				
0.630	95%				
0.315	88%				
0.160	73%				
0.080	52%				
M.C.(%)	31%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	1				
% SAND:	47				
% FINES:	52				
CLASSIFICATION	SANDY SILT (ML)				

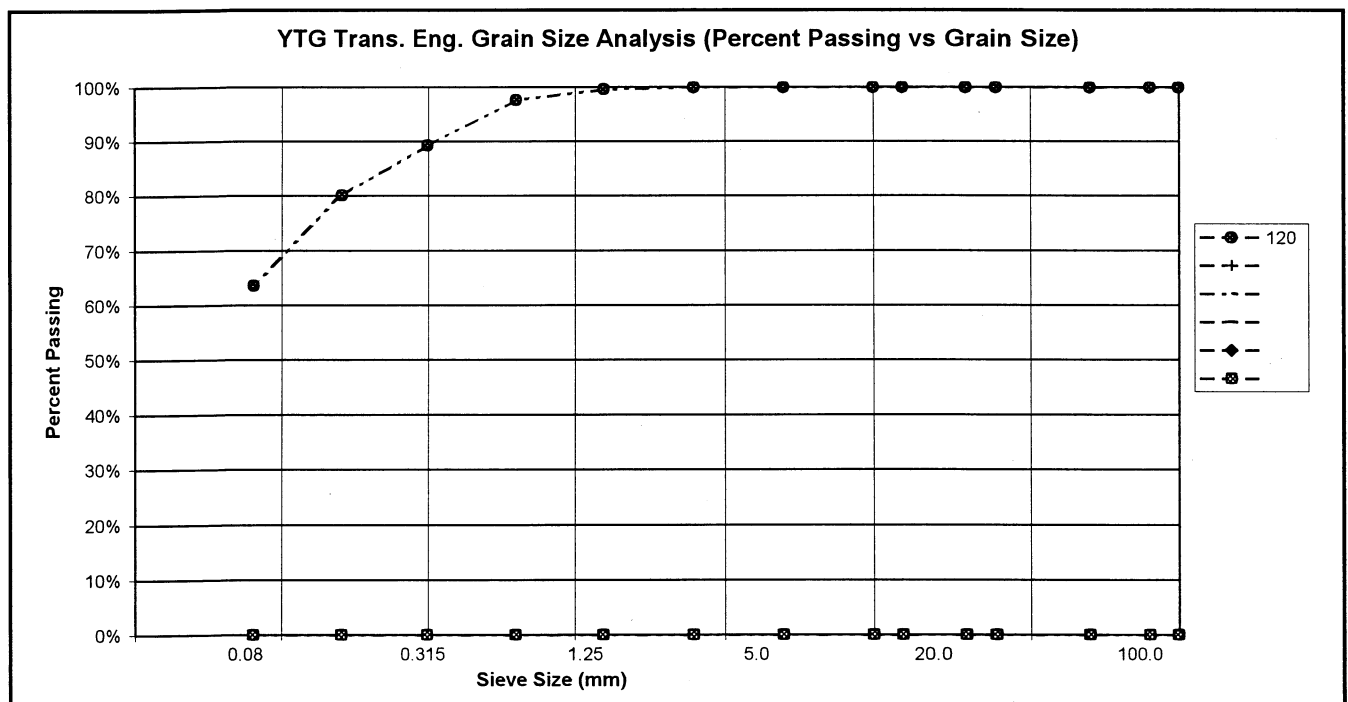


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-68

DATE COMP: 2001/06/11

FIELD NO:	120				
LAB NO:	628				
DEPTH:	2.7-2.9				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	100%				
10.0	100%				
5.0	100%				
2.5	100%				
1.25	100%				
0.630	98%				
0.315	89%				
0.160	80%				
0.080	64%				
M.C.(%)	34%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	0				
% SAND:	36				
% FINES:	64				
CLASSIFICATION	SANDY SILT (ML)				

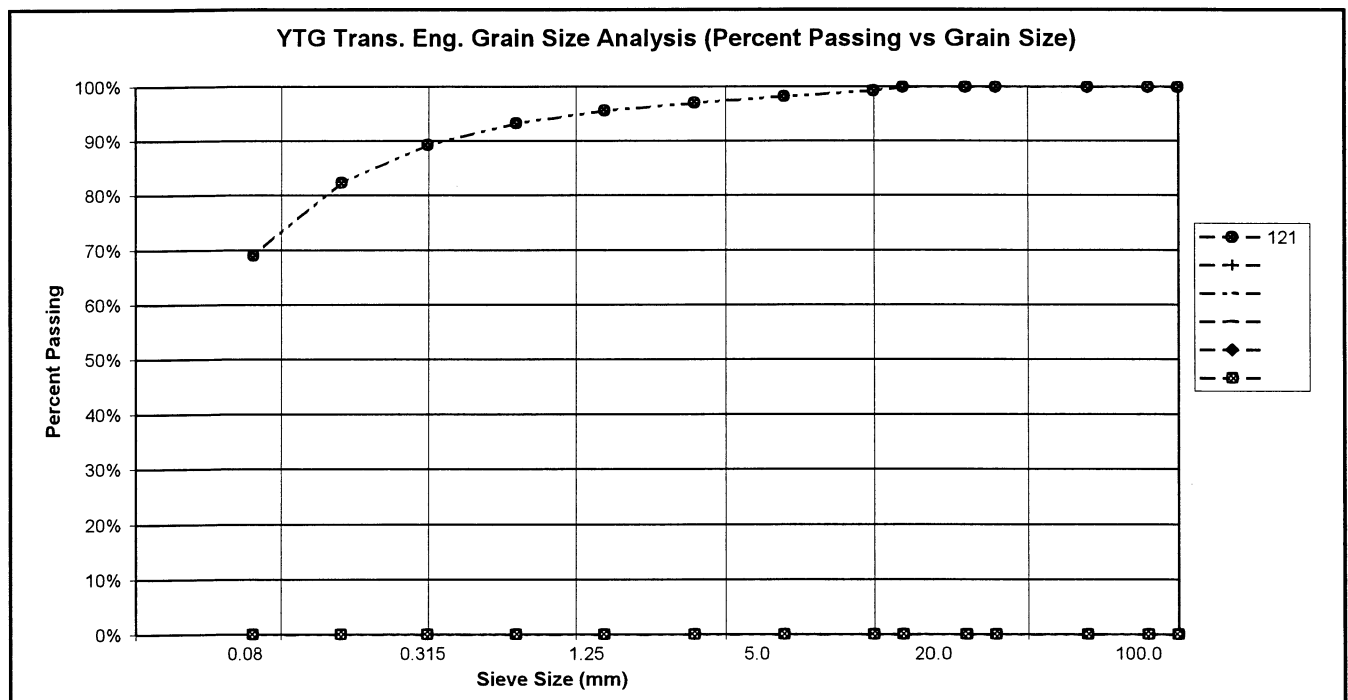


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-69

DATE COMP: 2001/06/15

FIELD NO:	121				
LAB NO:	629				
DEPTH:	2.2-2.4				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	100%				
10.0	99%				
5.0	98%				
2.5	97%				
1.25	96%				
0.630	93%				
0.315	89%				
0.160	82%				
0.080	69%				
M.C.(%):	46%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	2				
% SAND:	29				
% FINES:	69				
CLASSIFICATION	SANDY SILT (ML)				

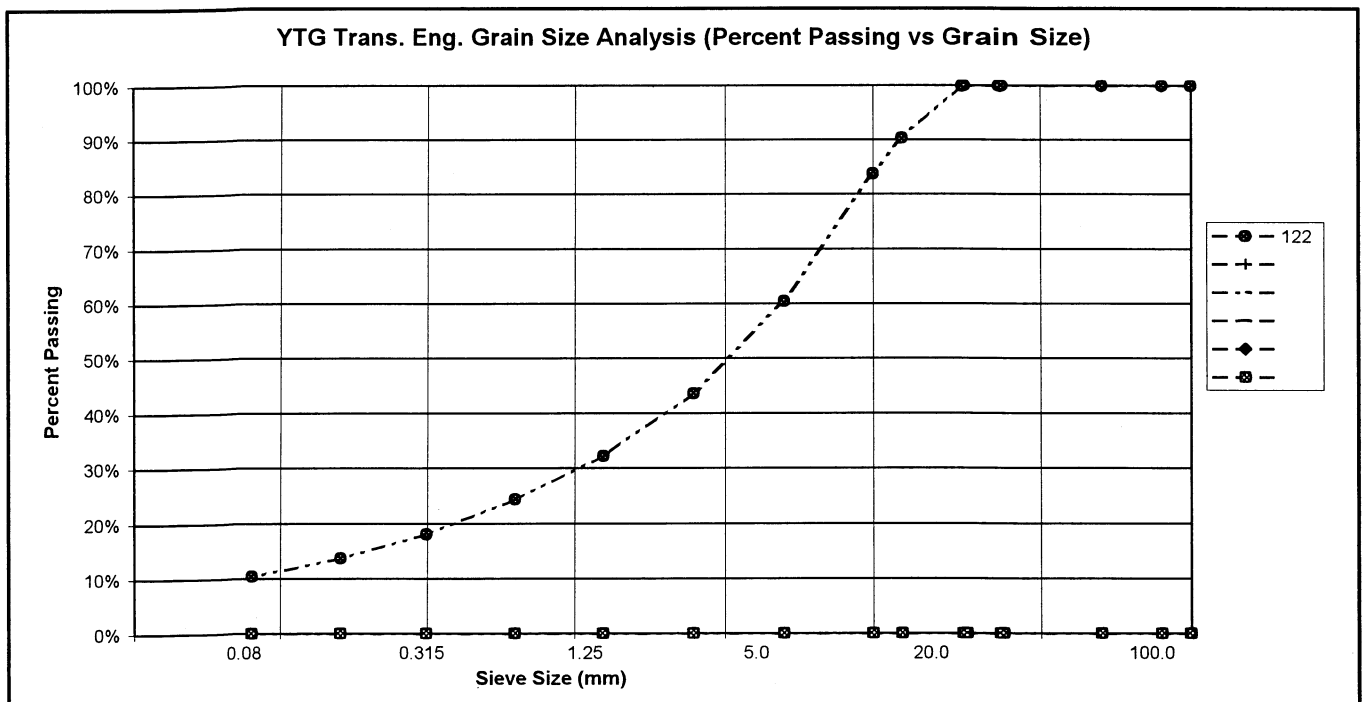


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-70

DATE COMP: 2001/06/15

FIELD NO:	122				
LAB NO:	630				
DEPTH:	2.6-2.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	90%				
10.0	84%				
5.0	61%				
2.5	44%				
1.25	32%				
0.630	24%				
0.315	18%				
0.160	14%				
0.080	10%				
M.C.(%):	8%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	39				
% SAND:	50				
% FINES:	10				
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)				

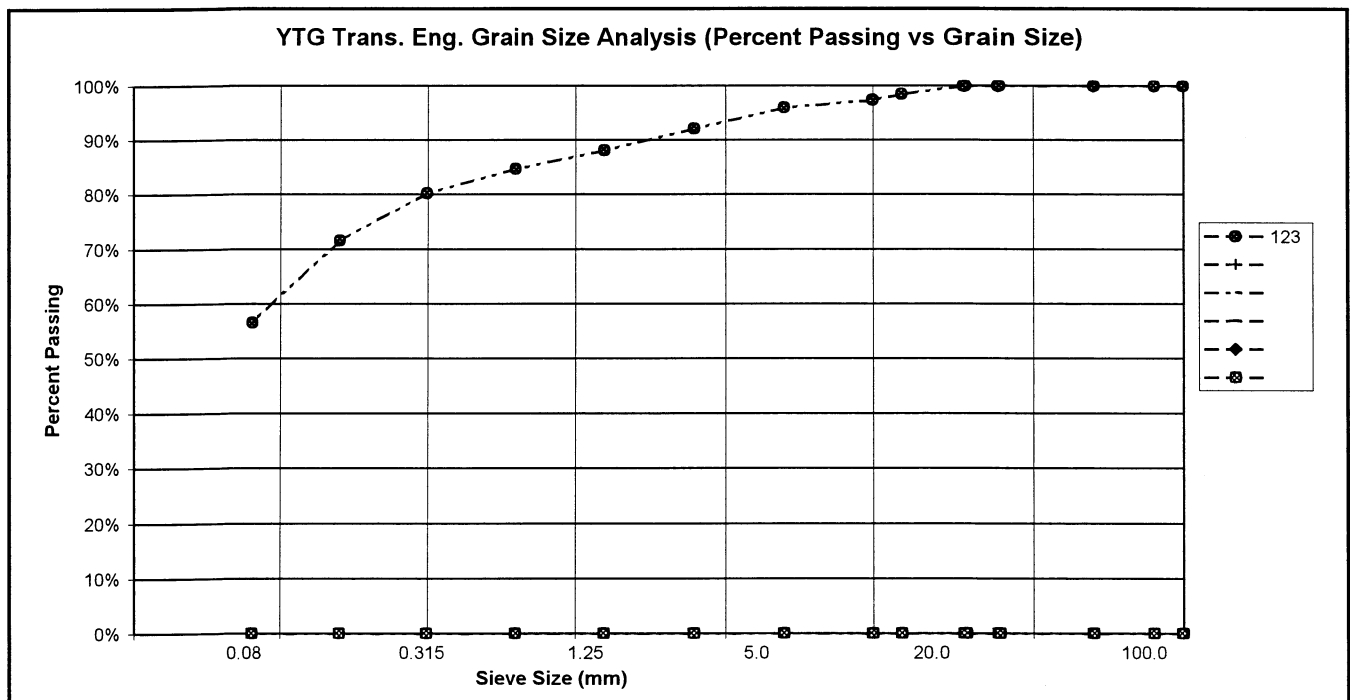


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-71

DATE COMP: 2001/06/15

FIELD NO:	123				
LAB NO:	631				
DEPTH:	2.5-2.7				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	98%				
10.0	97%				
5.0	96%				
2.5	92%				
1.25	88%				
0.630	85%				
0.315	80%				
0.160	72%				
0.080	57%				
M.C.(%):	16%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	4				
% SAND:	39				
% FINES:	57				
CLASSIFICATION	SANDY SILT (ML)				

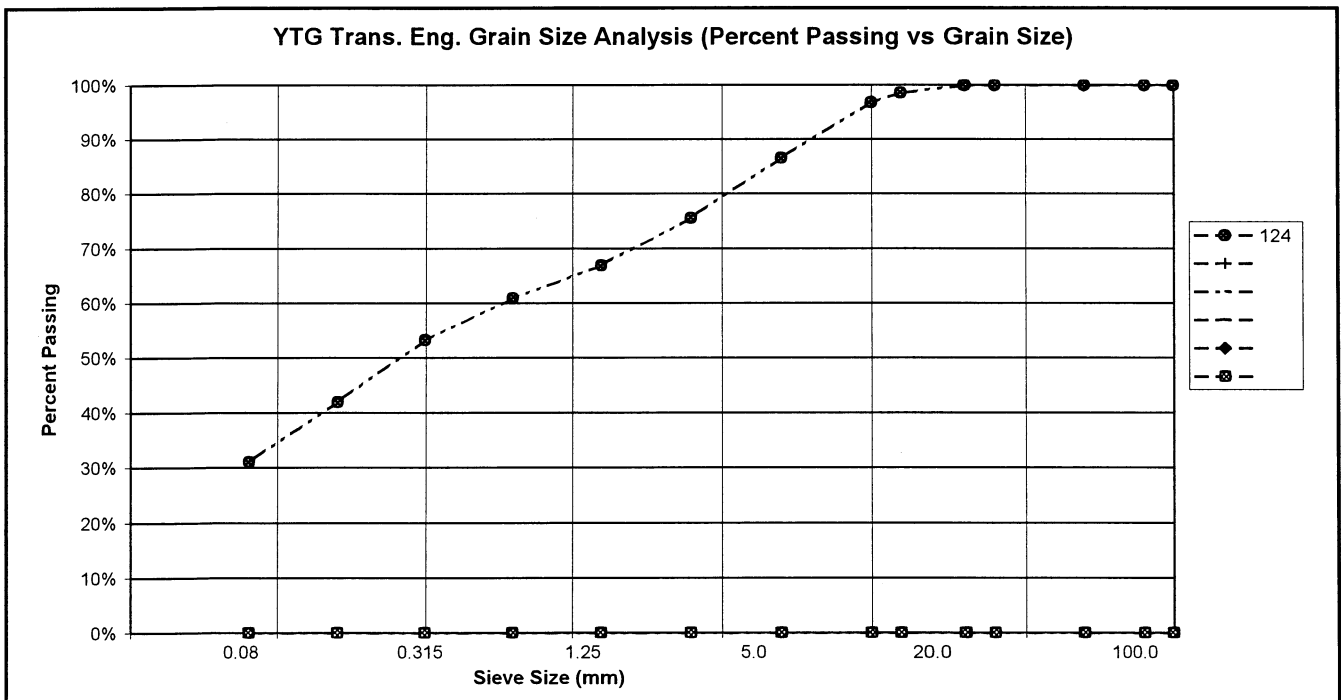


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-72

DATE COMP: 2001/06/15

FIELD NO:	124				
LAB NO:	632				
DEPTH:	2.7-2.9				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	99%				
10.0	97%				
5.0	87%				
2.5	76%				
1.25	67%				
0.630	61%				
0.315	53%				
0.160	42%				
0.080	31%				
M.C.(%):	25%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	13				
% SAND:	55				
% FINES:	31				
CLASSIFICATION	SILTY SAND (SM)				

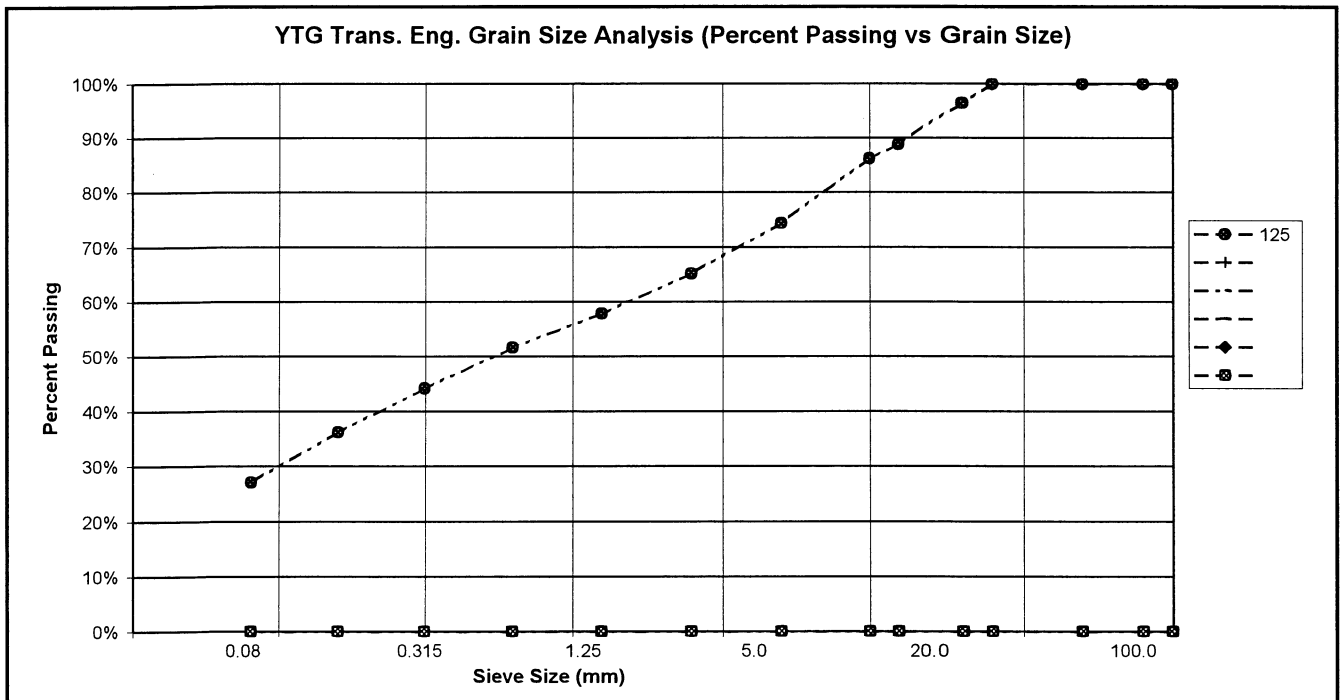


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-73

DATE COMP: 2001/06/15

FIELD NO:	125				
LAB NO:	633				
DEPTH:	2.7-2.9				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	96%				
12.5	89%				
10.0	86%				
5.0	74%				
2.5	65%				
1.25	58%				
0.630	52%				
0.315	44%				
0.160	36%				
0.080	27%				
M.C.(%)	14%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	26				
% SAND:	47				
% FINES:	27				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

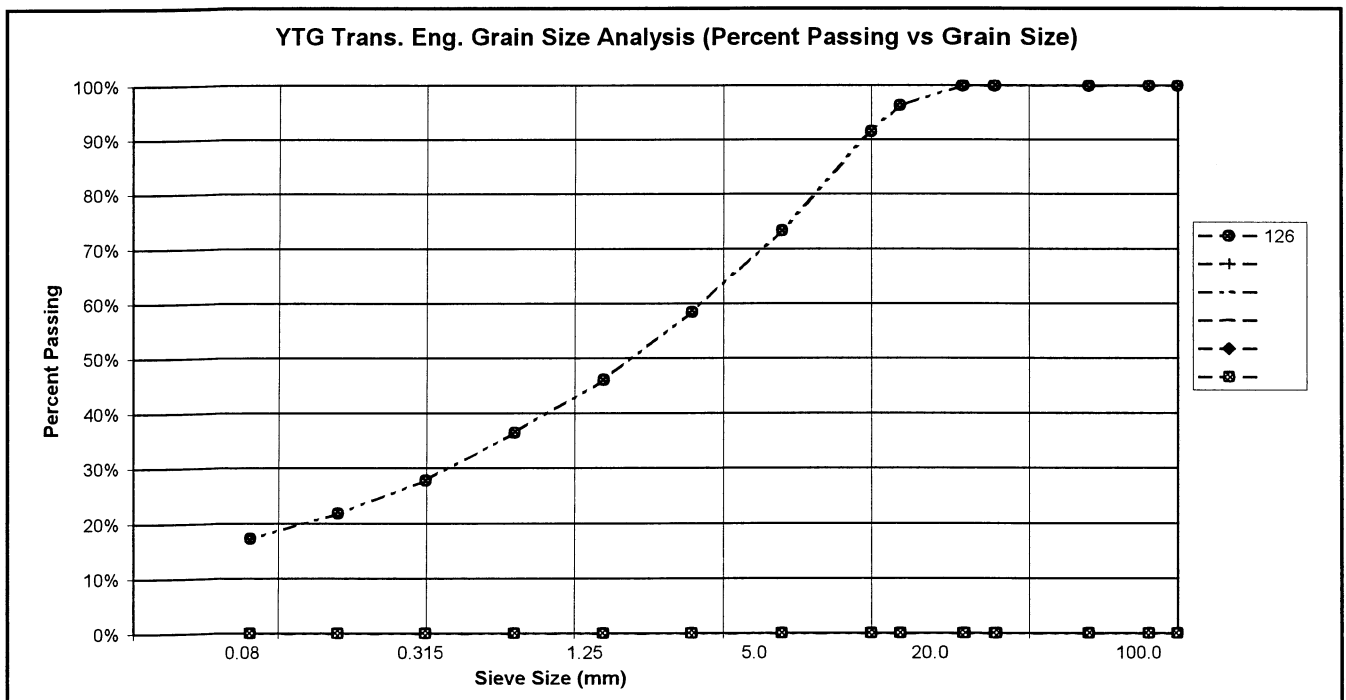


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: B.B.

HOLE No.: 598-74

DATE COMP: 2001/06/15

FIELD NO:	126				
LAB NO:	634				
DEPTH:	2.7-2.9				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	96%				
10.0	92%				
5.0	73%				
2.5	58%				
1.25	46%				
0.630	37%				
0.315	28%				
0.160	22%				
0.080	17%				
M.C.(%):	7%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	27				
% SAND:	56				
% FINES:	17				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

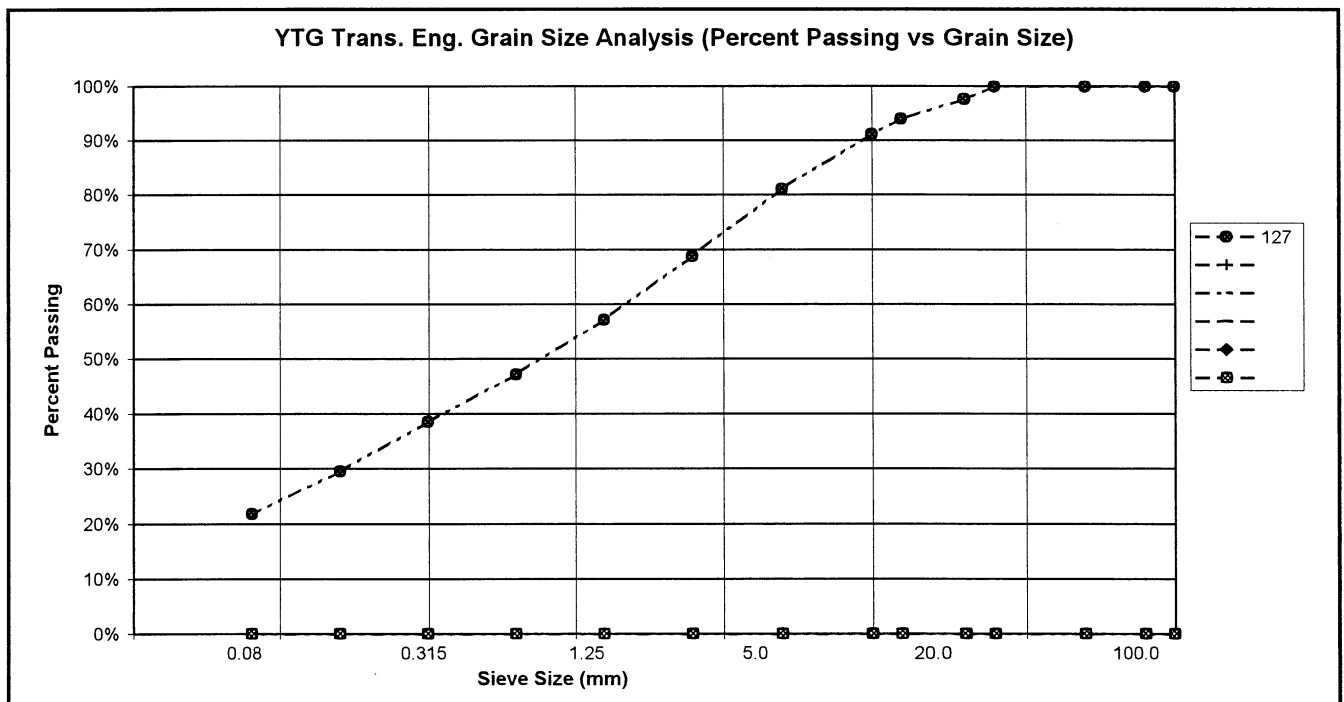


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-75

DATE COMP: 2001/06/18

FIELD NO:	127				
LAB NO:	635				
DEPTH:	1.8-2.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	98%				
12.5	94%				
10.0	91%				
5.0	81%				
2.5	69%				
1.25	57%				
0.630	47%				
0.315	39%				
0.160	30%				
0.080	22%				
M.C.(%):	11%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	19				
% SAND:	59				
% FINES:	22				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

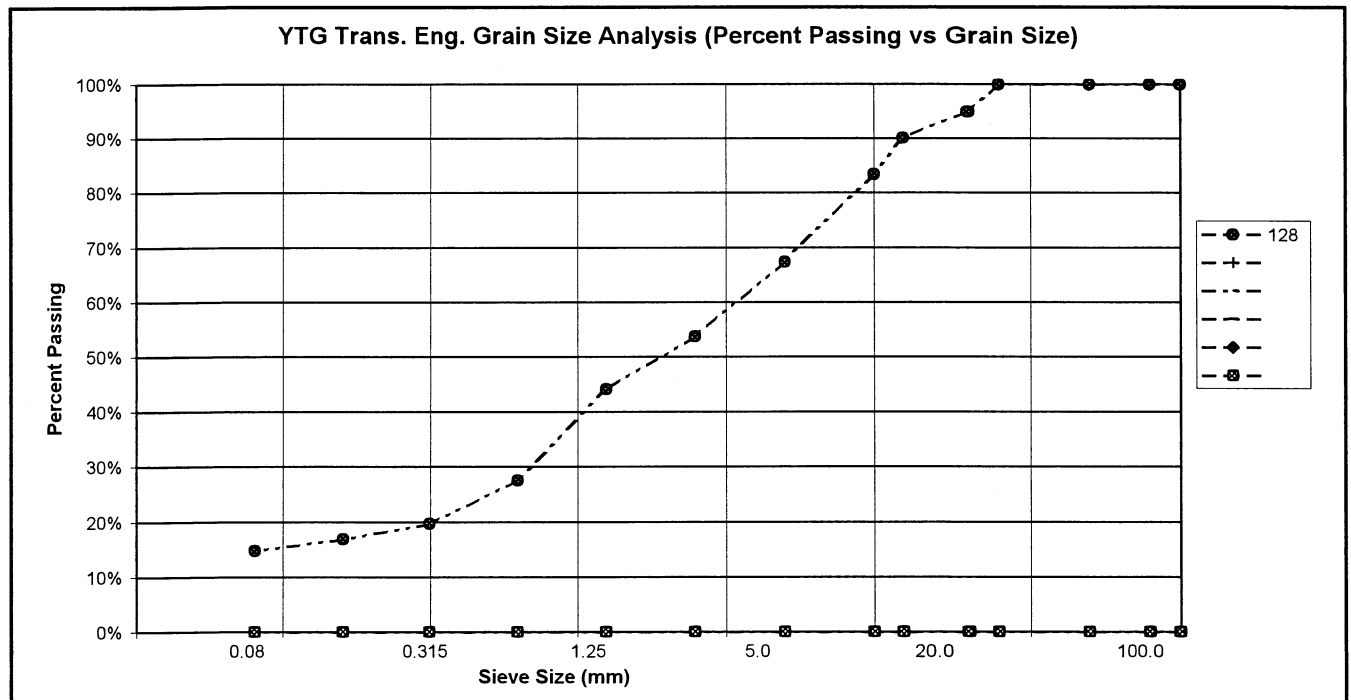


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-76

DATE COMP: 2001/06/18

FIELD NO:	128				
LAB NO:	636				
DEPTH:	2.4-2.6				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	95%				
12.5	90%				
10.0	83%				
5.0	67%				
2.5	54%				
1.25	44%				
0.630	28%				
0.315	20%				
0.160	17%				
0.080	15%				
M.C.(%)	10%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX:	0.0				
% GRAVEL:	33				
% SAND:	52				
% FINES:	15				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

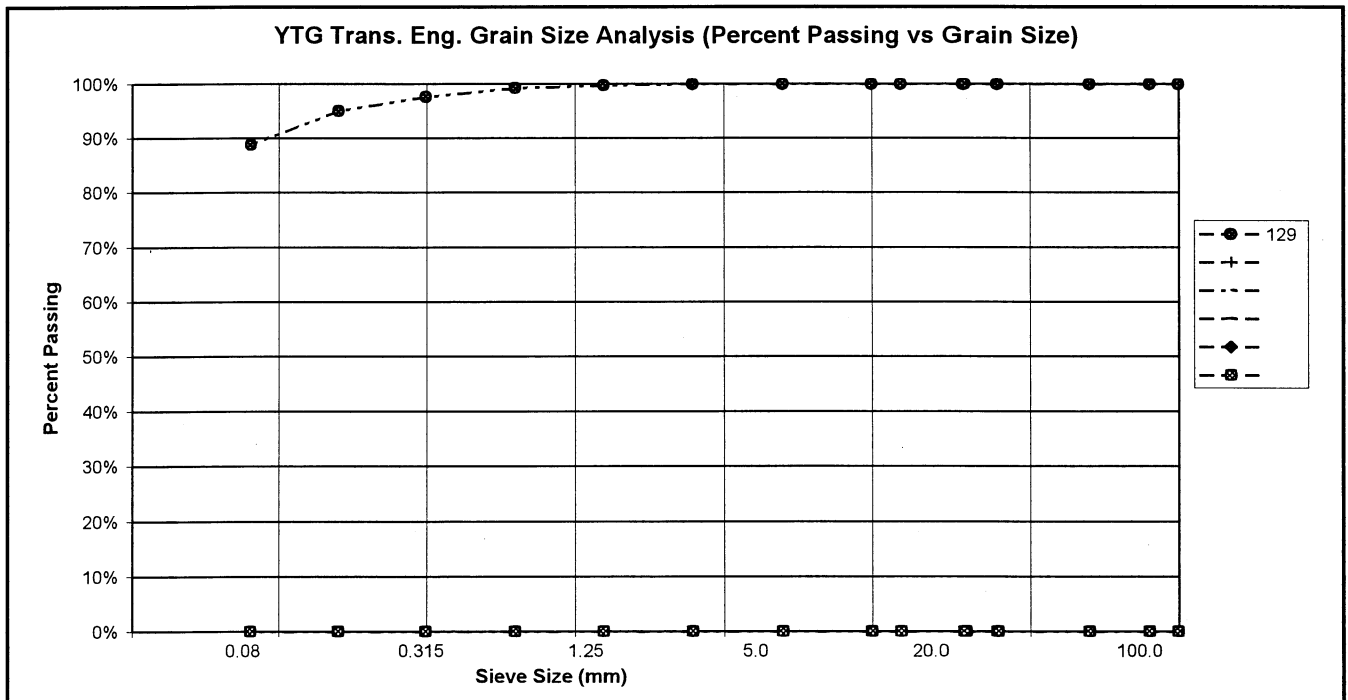


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-77

DATE COMP: 2001/06/18

FIELD NO:	129				
LAB NO:	637				
DEPTH:	2.0-2.2				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	100%				
10.0	100%				
5.0	100%				
2.5	100%				
1.25	100%				
0.630	99%				
0.315	98%				
0.160	95%				
0.080	89%				
M.C.(%):	36%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	0				
% SAND:	11				
% FINES:	89				
CLASSIFICATION	SILT (ML)				

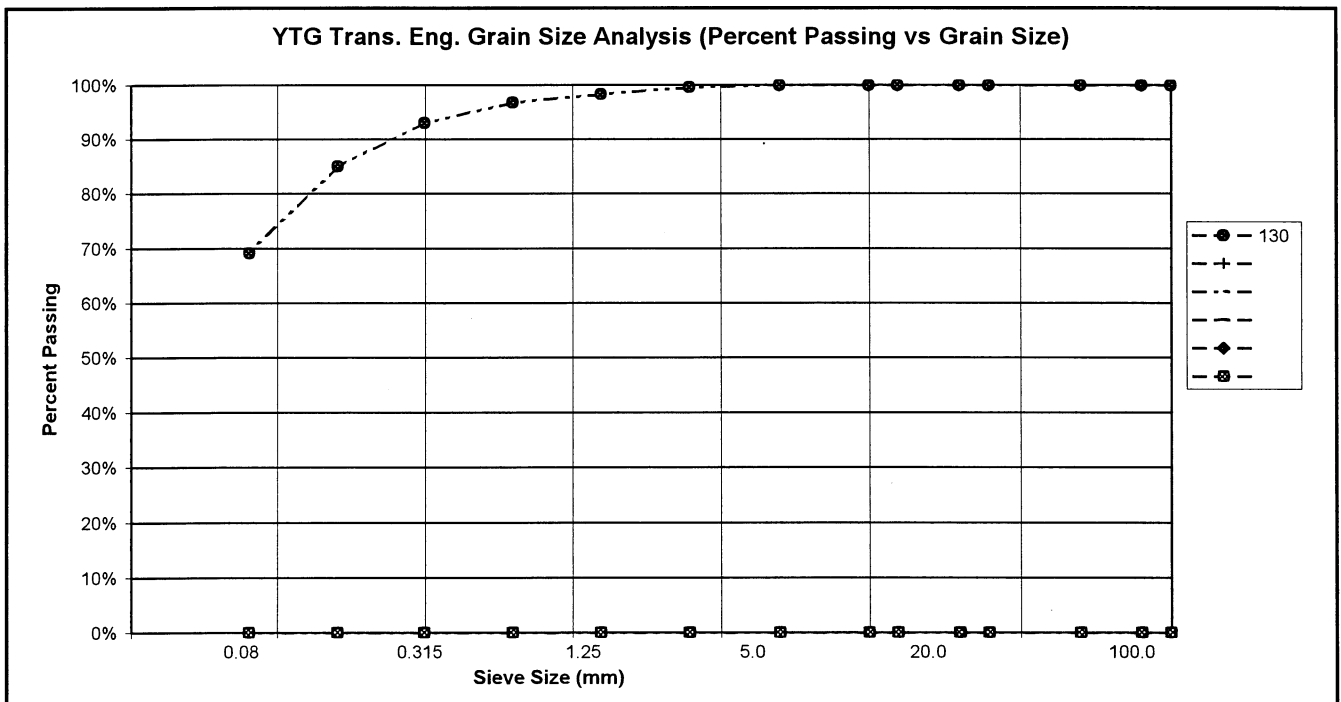


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-78

DATE COMP: 2001/06/18

FIELD NO:	130				
LAB NO:	638				
DEPTH:	2.0-2.2				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	100%				
10.0	100%				
5.0	100%				
2.5	100%				
1.25	98%				
0.630	97%				
0.315	93%				
0.160	85%				
0.080	69%				
M.C.(%):	24%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	0				
% SAND:	31				
% FINES:	69				
CLASSIFICATION	SANDY SILT (ML)				

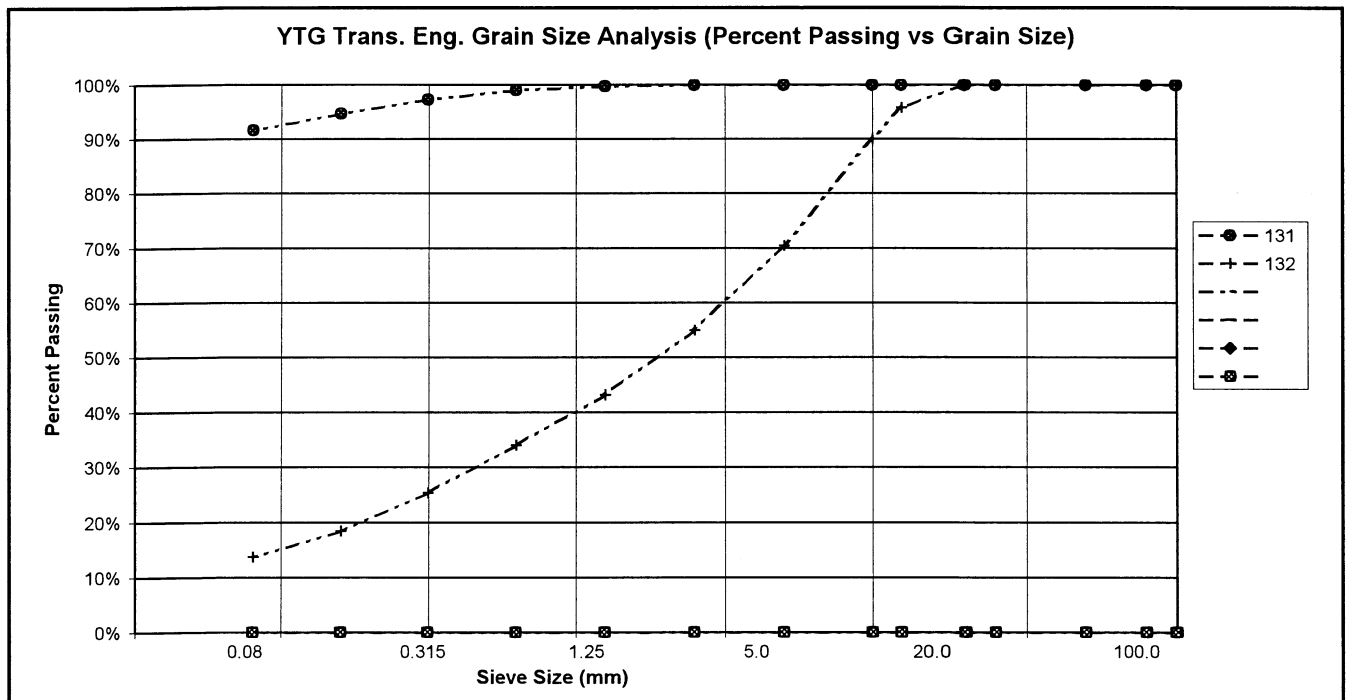


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-79

DATE COMP: 2001/06/18

FIELD NO:	131	132			
LAB NO:	639	640			
DEPTH:	1.8-2.0	2.7-2.9			
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%	100%			
20.0	100%	100%			
12.5	100%	96%			
10.0	100%	90%			
5.0	100%	70%			
2.5	100%	55%			
1.25	100%	43%			
0.630	99%	34%			
0.315	97%	25%			
0.160	95%	18%			
0.080	92%	14%			
M.C.(%):	39%	7%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	30			
% SAND:	8	57			
% FINES:	92	14			
CLASSIFICATION	SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

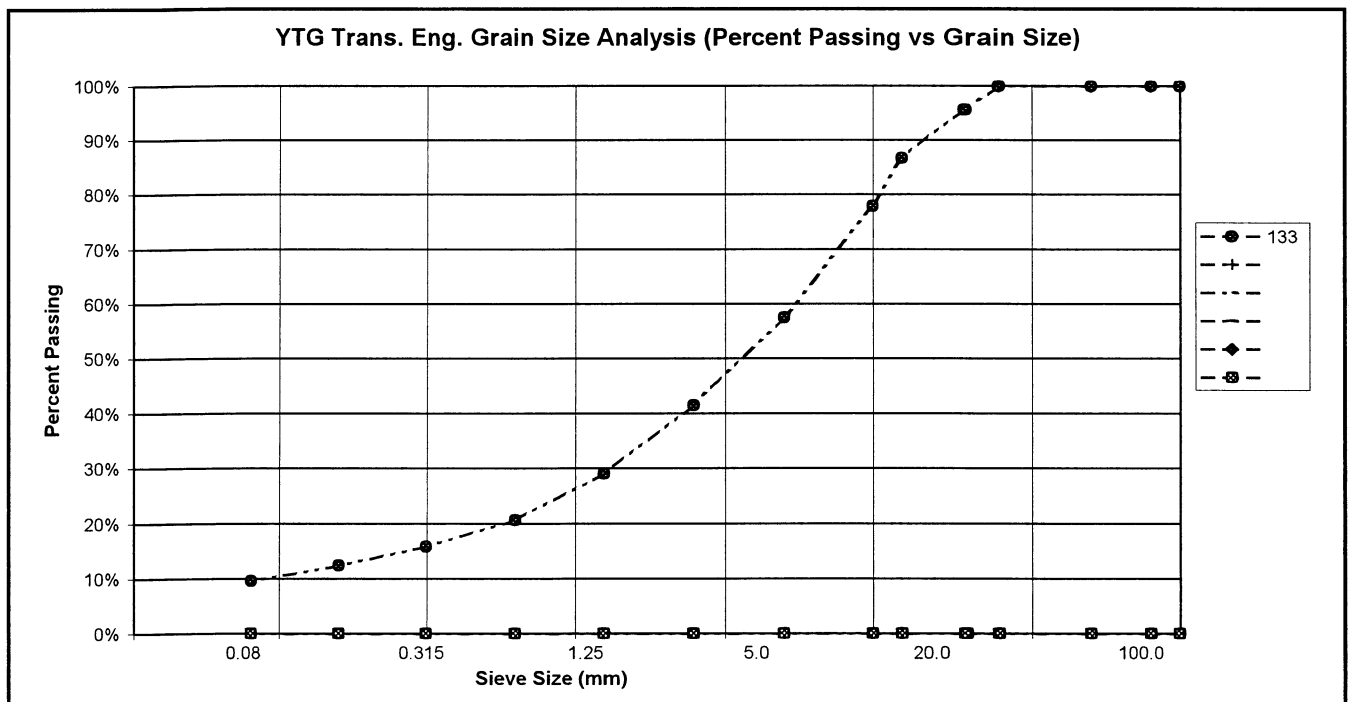


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-80

DATE COMP: 2001/06/18

FIELD NO:	133				
LAB NO:	641				
DEPTH:	2.8-2.9				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	96%				
12.5	87%				
10.0	78%				
5.0	58%				
2.5	42%				
1.25	29%				
0.630	21%				
0.315	16%				
0.160	12%				
0.080	10%				
M.C.(%):	8%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	42				
% SAND:	48				
% FINES:	10				
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)				

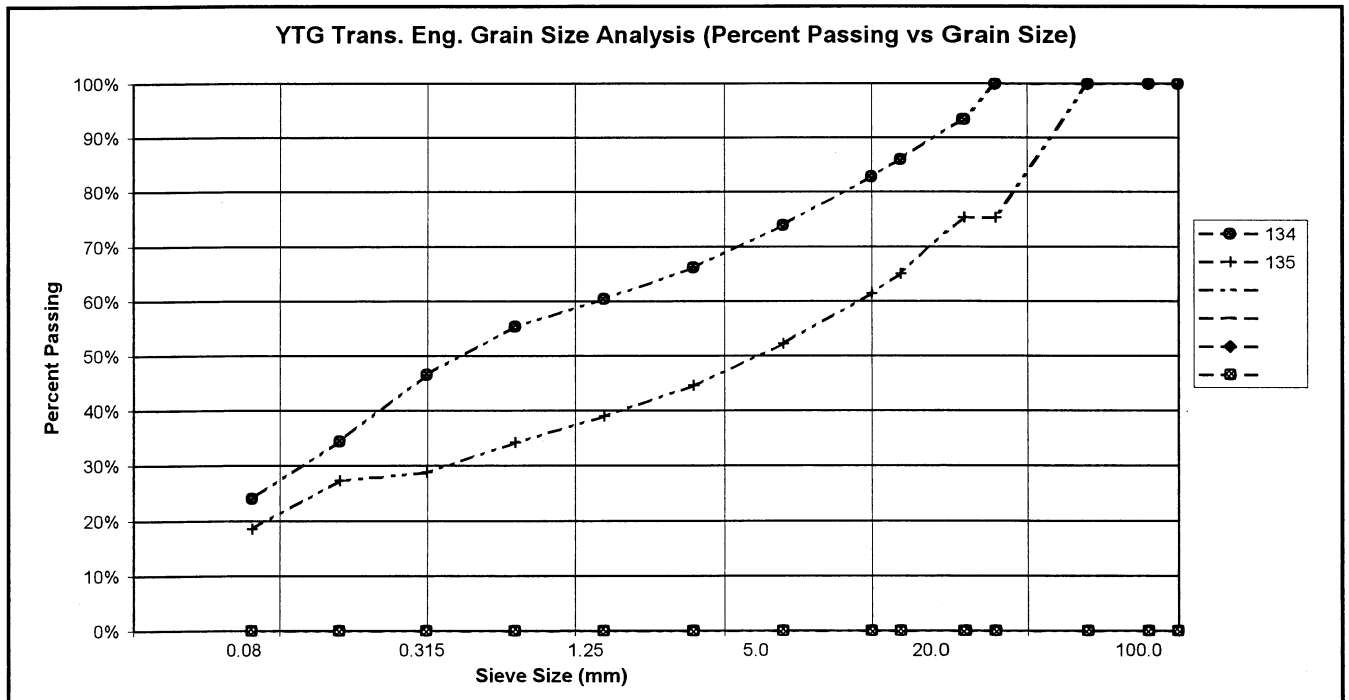


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-81

DATE COMP: 2001/06/18

FIELD NO:	134	135			
LAB NO:	642	643			
DEPTH:	1.5-1.7	2.7-2.9			
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%	75%			
20.0	93%	75%			
12.5	86%	65%			
10.0	83%	61%			
5.0	74%	52%			
2.5	66%	45%			
1.25	60%	39%			
0.630	55%	34%			
0.315	47%	29%			
0.160	34%	27%			
0.080	24%	19%			
M.C.(%):	8%	6%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	26	48			
% SAND:	50	34			
% FINES:	24	19			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)			

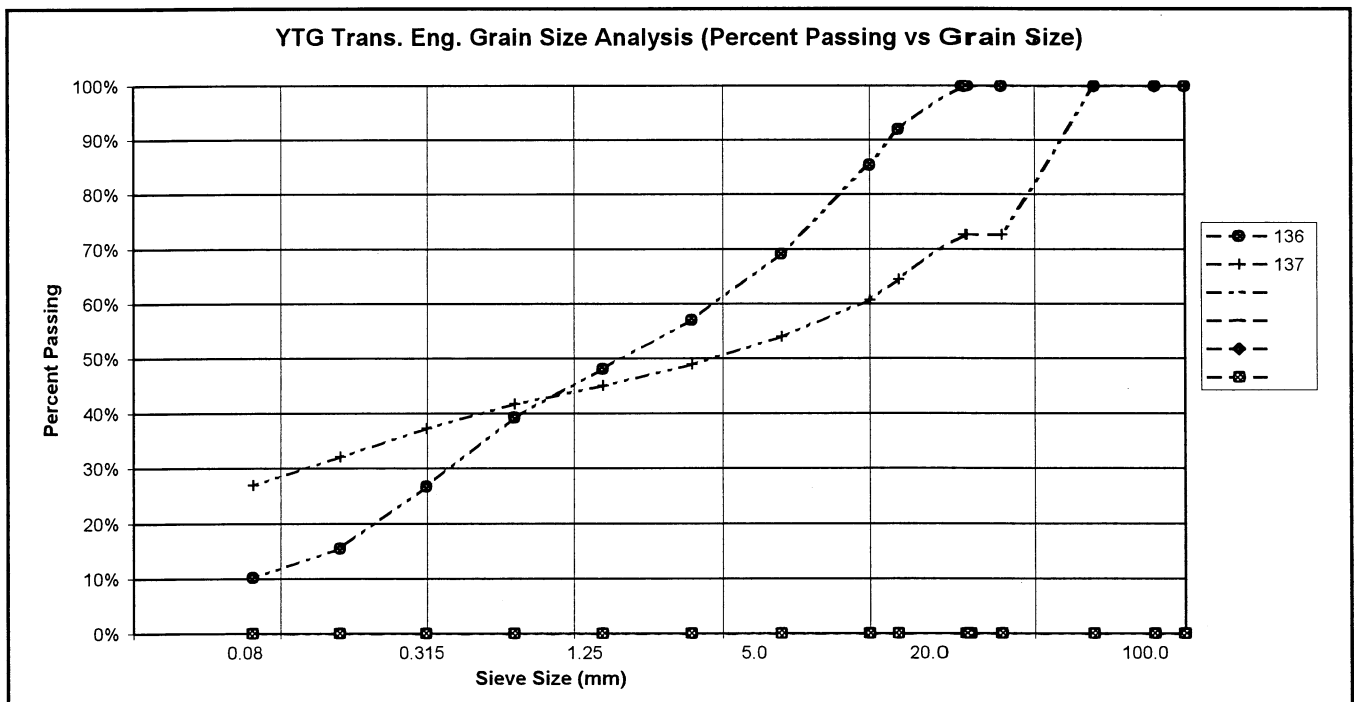


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-82

DATE COMP: 2001/06/18

FIELD NO:	136	137			
LAB NO:	644	645			
DEPTH:	1.5-1.6	2.7-2.8			
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%	73%			
20.0	100%	73%			
12.5	92%	64%			
10.0	85%	61%			
5.0	69%	54%			
2.5	57%	49%			
1.25	48%	45%			
0.630	39%	42%			
0.315	27%	37%			
0.160	16%	32%			
0.080	10%	27%			
M.C.(%)	10%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	31	46			
% SAND:	59	27			
% FINES:	10	27			
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	SILTY GRAVEL WITH SAND (GM)			

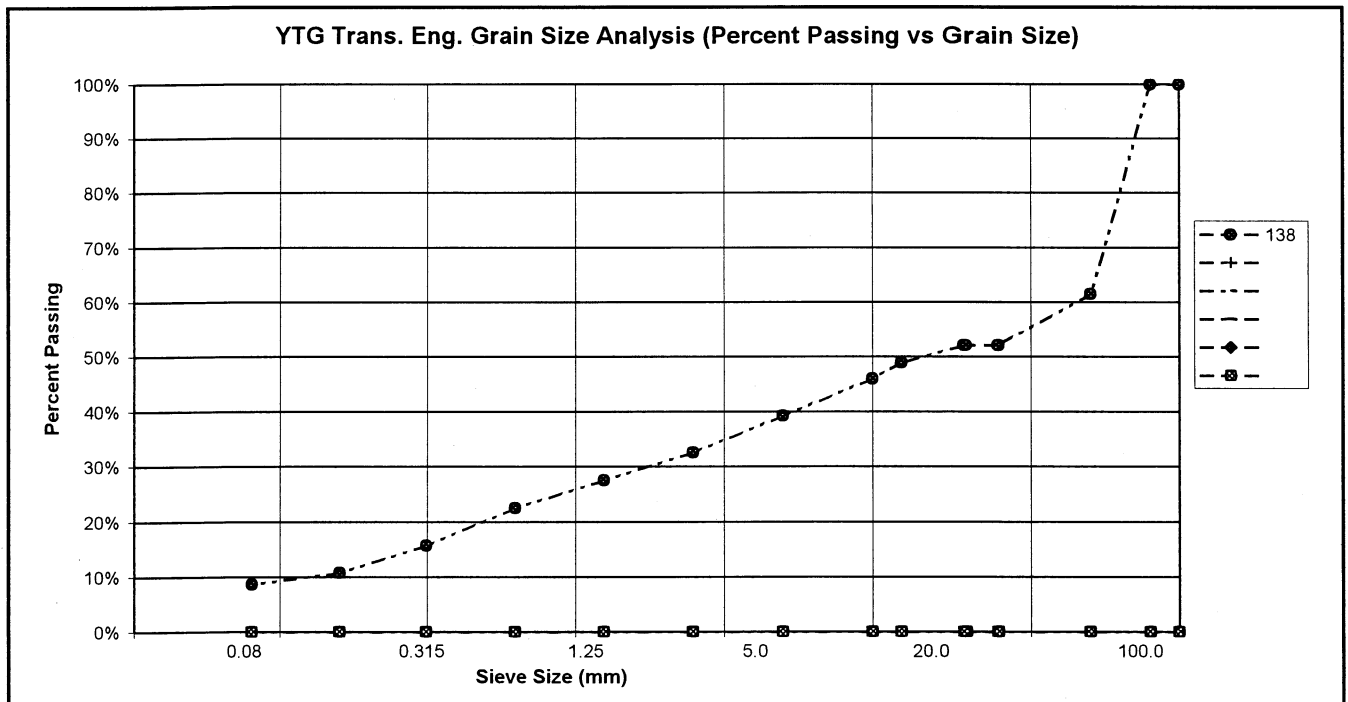


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-83

DATE COMP: 2001/06/18

FIELD NO:	138				
LAB NO:	646				
DEPTH:	1.4-1.6				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	62%				
25.0	52%				
20.0	52%				
12.5	49%				
10.0	46%				
5.0	39%				
2.5	33%				
1.25	28%				
0.630	23%				
0.315	16%				
0.160	11%				
0.080	9%				
M.C.(%):	4%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	61				
% SAND:	31				
% FINES:	9				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				

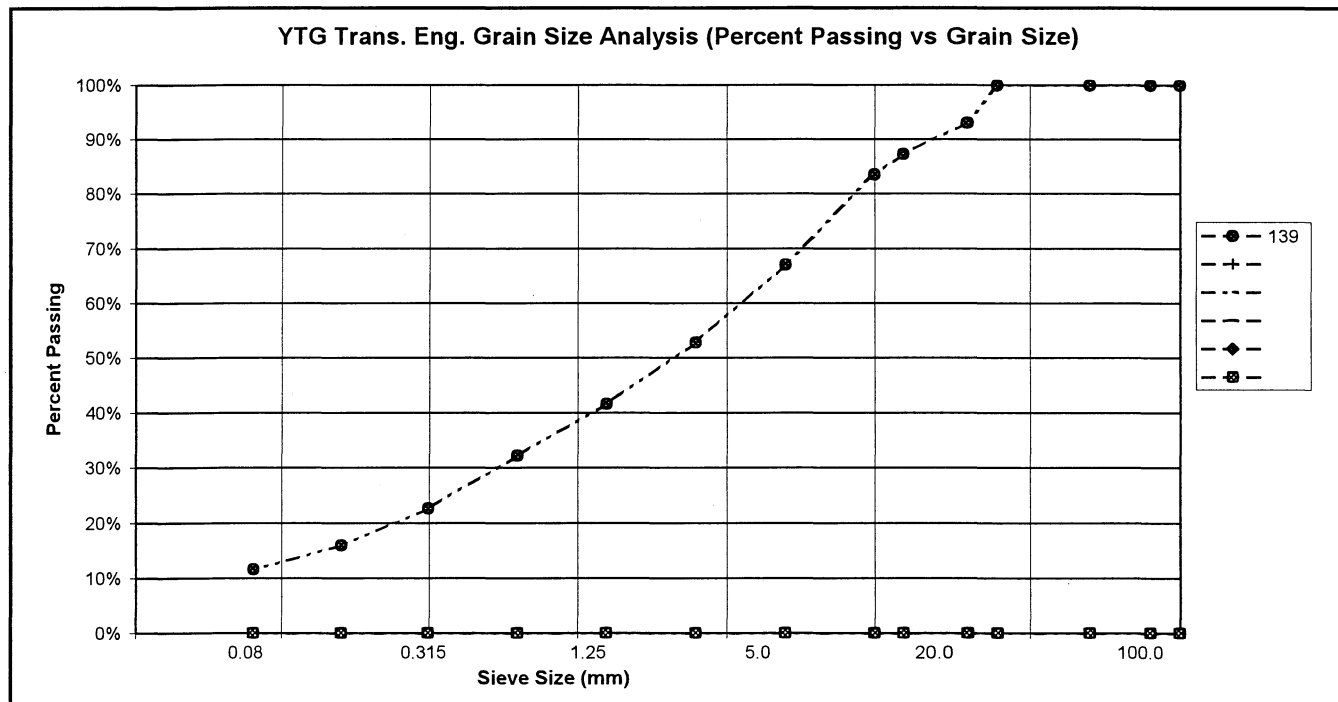


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-84A

DATE COMP: 2001/06/18

FIELD NO:	139				
LAB NO:	647				
DEPTH:	2.7-2.9				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	93%				
12.5	87%				
10.0	84%				
5.0	67%				
2.5	53%				
1.25	42%				
0.630	32%				
0.315	23%				
0.160	16%				
0.080	12%				
M.C.(%):	10%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	33				
% SAND:	55				
% FINES:	12				
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)				

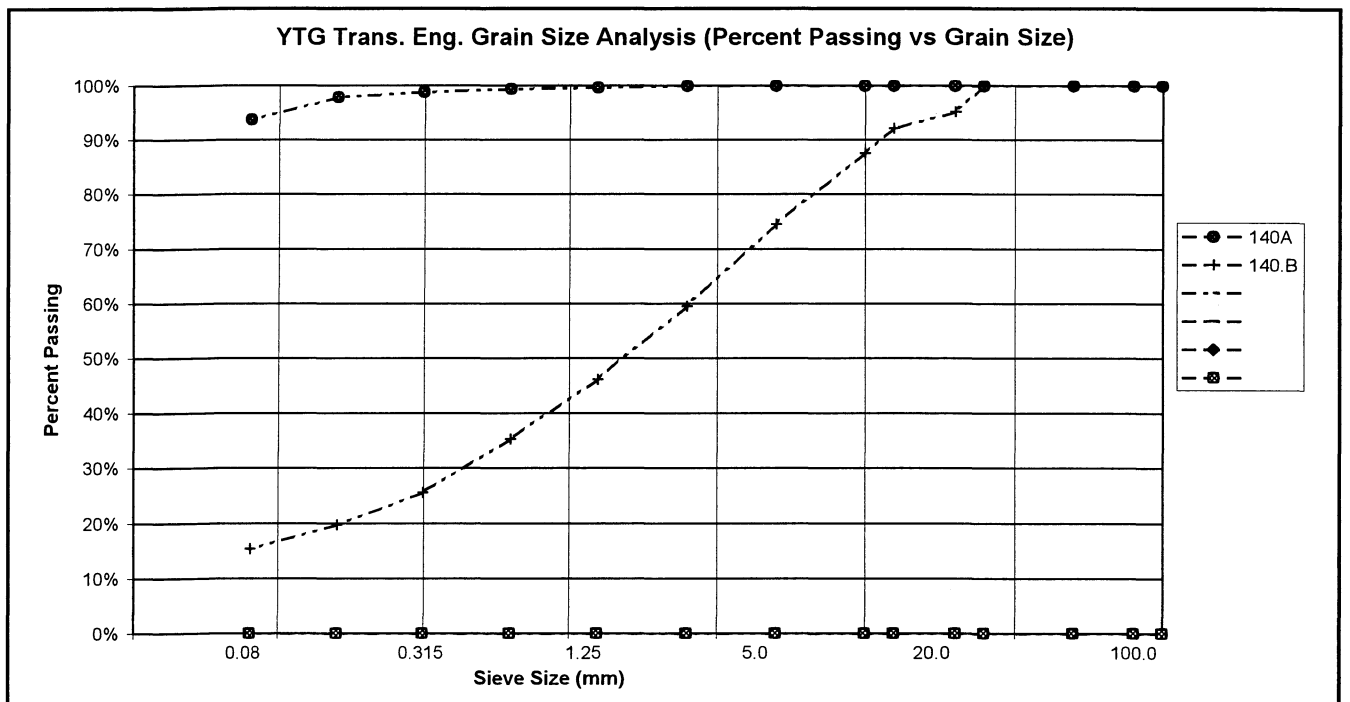


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-86

DATE COMP: 2001/06/18

FIELD NO:	140A	140.B			
LAB NO:	648	649			
DEPTH:	1.4-1.6	2.6-2.8			
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%	100%			
20.0	100%	95%			
12.5	100%	92%			
10.0	100%	88%			
5.0	100%	74%			
2.5	100%	59%			
1.25	100%	46%			
0.630	99%	35%			
0.315	99%	26%			
0.160	98%	20%			
0.080	94%	15%			
M.C.(%):	33%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	26			
% SAND:	6	59			
% FINES:	94	15			
CLASSIFICATION	SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

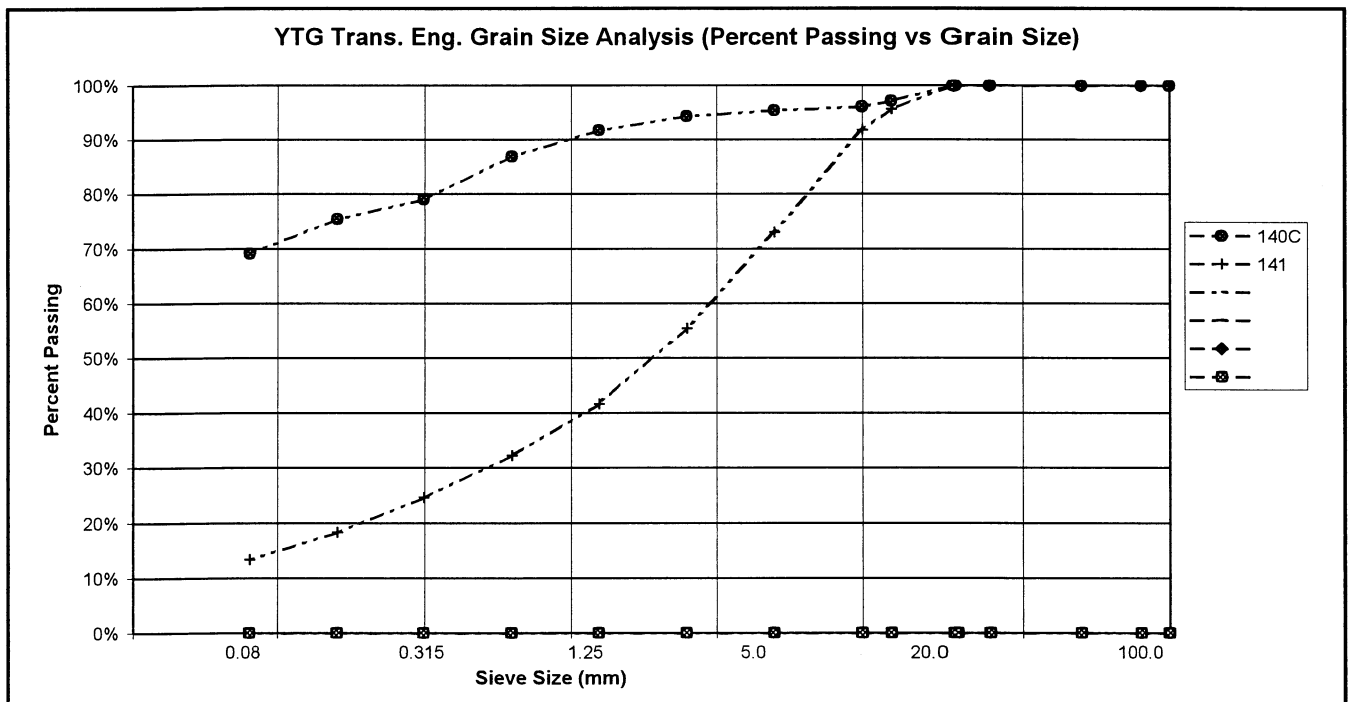


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-87

DATE COMP: 2001/06/18

FIELD NO:	140C	141			
LAB NO:	650	651			
DEPTH:	1.5-1.6	2.7-2.8			
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%	100%			
20.0	100%	100%			
12.5	97%	96%			
10.0	96%	92%			
5.0	95%	73%			
2.5	94%	55%			
1.25	92%	42%			
0.630	87%	32%			
0.315	79%	25%			
0.160	75%	18%			
0.080	69%	13%			
M.C.(%):	24%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	5	27			
% SAND:	26	60			
% FINES:	69	13			
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

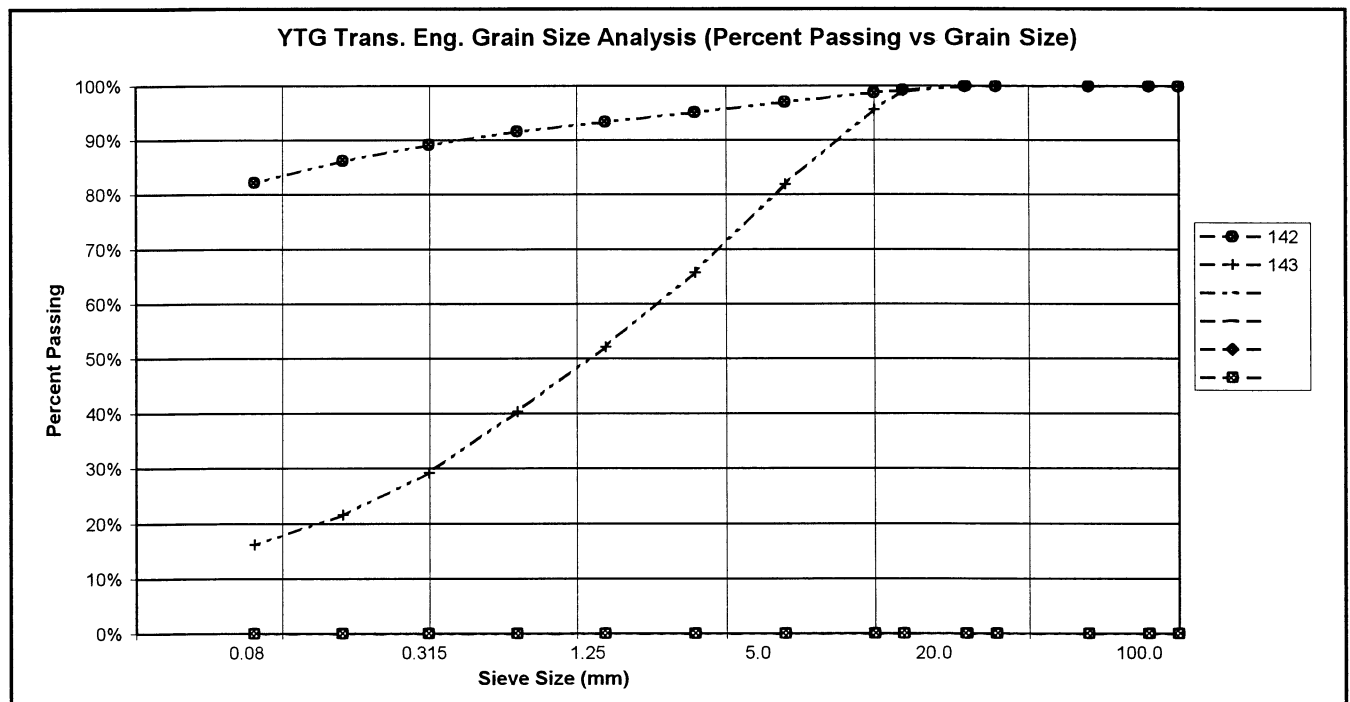


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-88

DATE COMP: 2001/06/18

FIELD NO:	142	143				
LAB NO:	652	653				
DEPTH:	2.0-2.2	2.7-2.9				
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%	100%				
20.0	100%	100%				
12.5	99%	99%				
10.0	99%	96%				
5.0	97%	82%				
2.5	95%	66%				
1.25	93%	52%				
0.630	92%	40%				
0.315	89%	29%				
0.160	86%	22%				
0.080	82%	16%				
M.C.(%):	31%	9%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX.:	0.0	0.0				
% GRAVEL:	3	18				
% SAND:	15	66				
% FINES:	82	16				
CLASSIFICATION	SILT WITH SAND (ML)	SILTY SAND WITH GRAVEL (SM)				

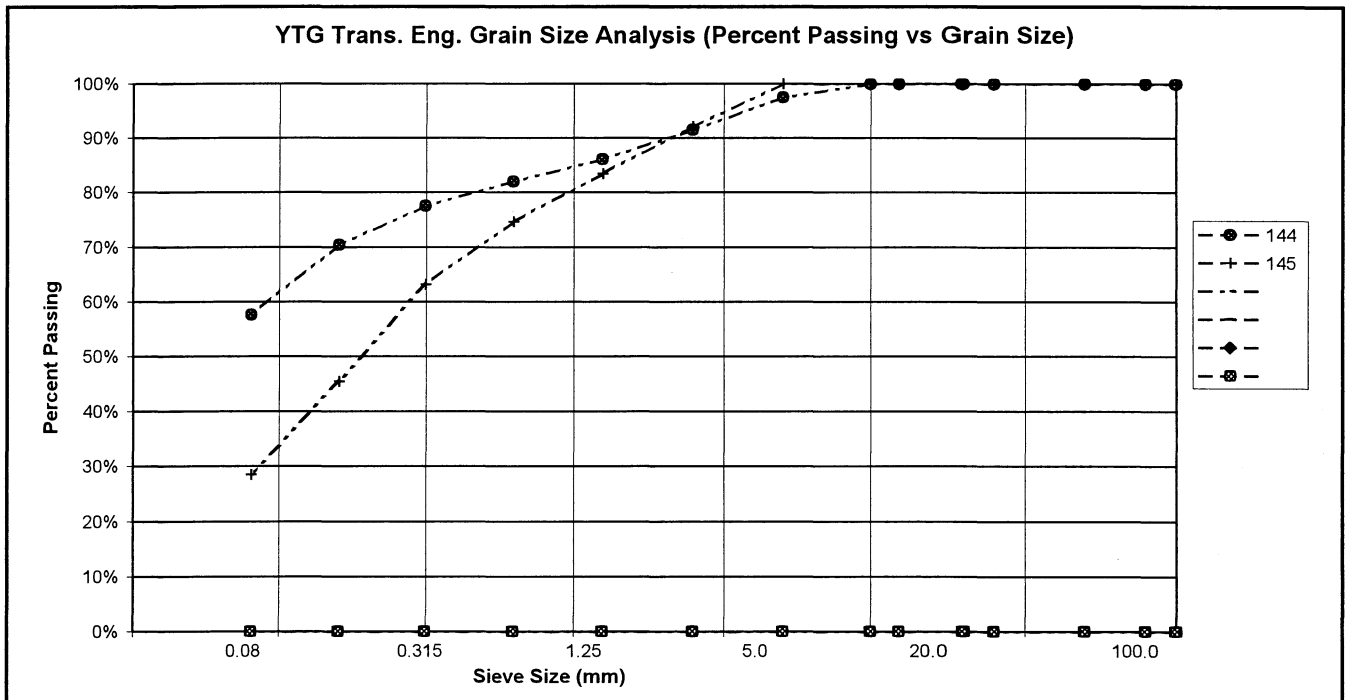


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-89

DATE COMP: 2001/06/18

FIELD NO:	144	145			
LAB NO:	654	655			
DEPTH:	2.0-2.1	2.7-2.8			
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%	100%			
20.0	100%	100%			
12.5	100%	100%			
10.0	100%	100%			
5.0	97%	100%			
2.5	92%	92%			
1.25	86%	83%			
0.630	82%	75%			
0.315	78%	63%			
0.160	70%	45%			
0.080	58%	29%			
M.C.(%):	18%	14%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	3	0			
% SAND:	40	71			
% FINES:	58	29			
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND (SM)			

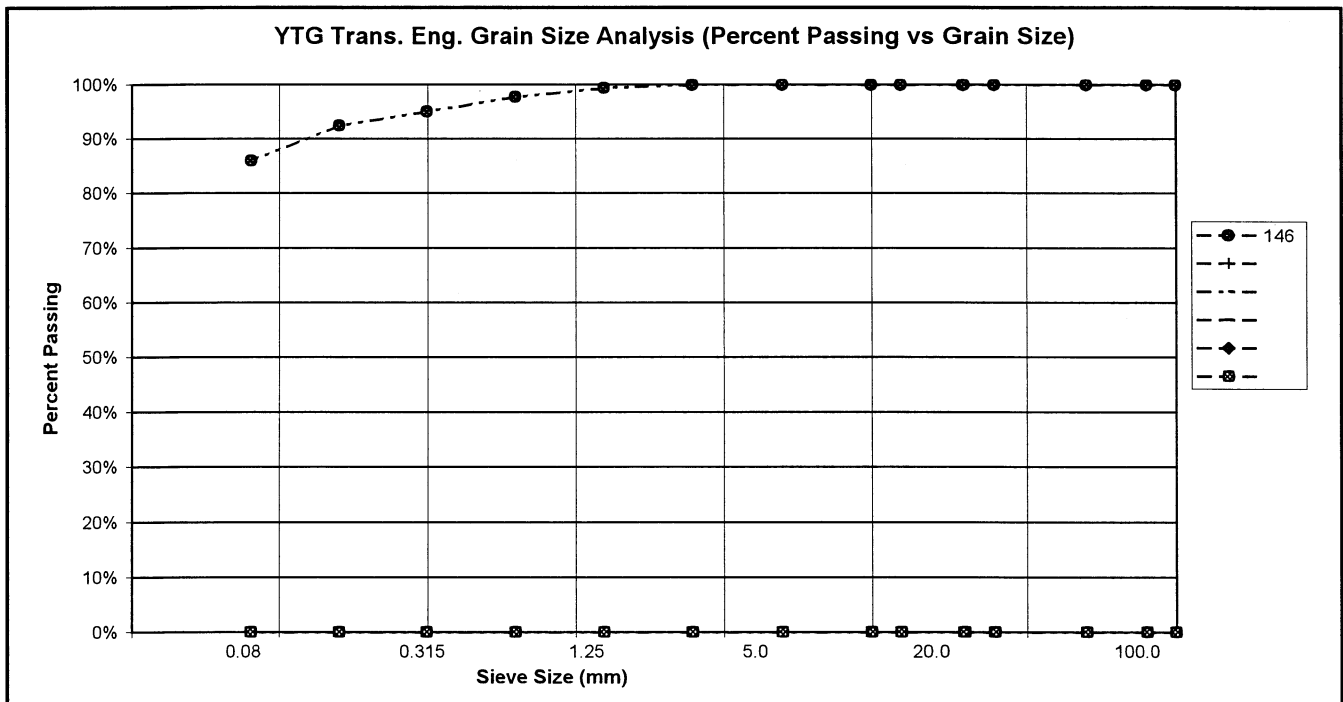


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-90

DATE COMP: 2001/06/18

FIELD NO:	146				
LAB NO:	656				
DEPTH:	1.8-2.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	100%				
10.0	100%				
5.0	100%				
2.5	100%				
1.25	99%				
0.630	98%				
0.315	95%				
0.160	93%				
0.080	86%				
M.C.(%):	31%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	0				
% SAND:	14				
% FINES:	86				
CLASSIFICATION	SILT (ML)				

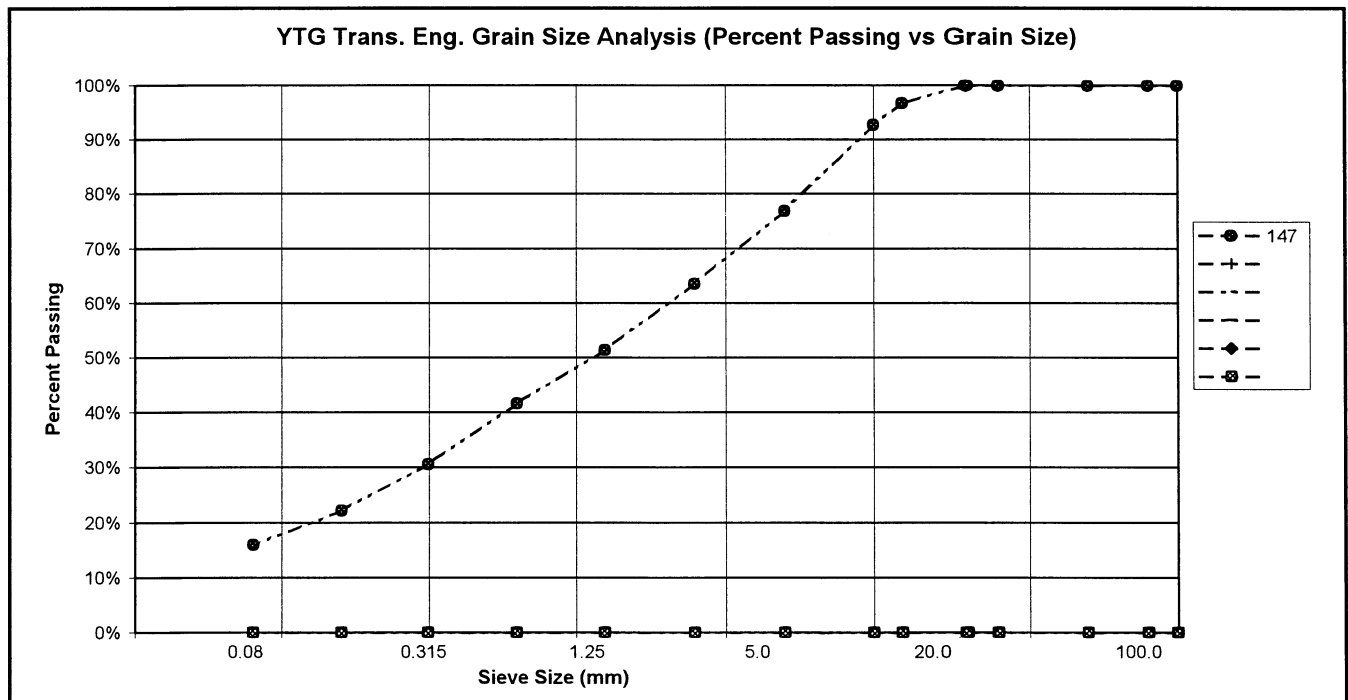


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-91

DATE COMP: 2001/06/18

FIELD NO:	147				
LAB NO:	657				
DEPTH:	2.7-2.9				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	97%				
10.0	93%				
5.0	77%				
2.5	64%				
1.25	51%				
0.630	42%				
0.315	31%				
0.160	22%				
0.080	16%				
M.C.(%):	10%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	23				
% SAND:	61				
% FINES:	16				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

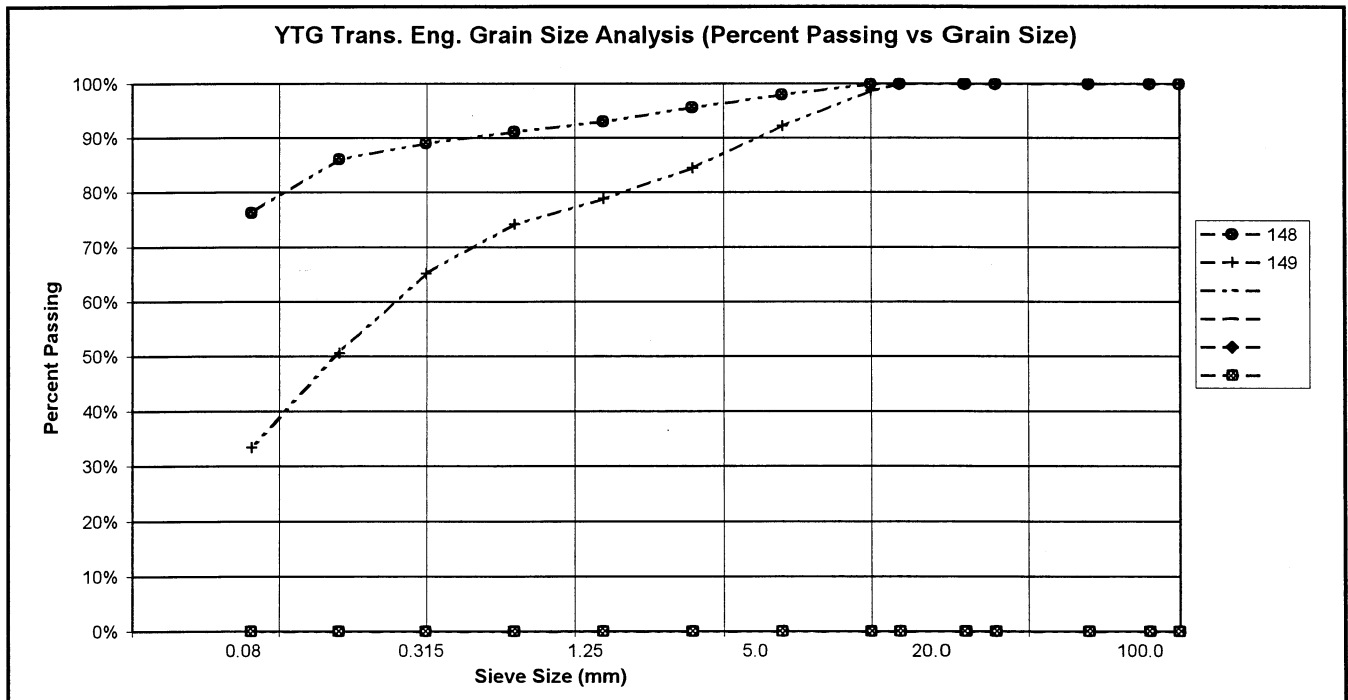


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-92

DATE COMP: 2001/06/18

FIELD NO:	148	149			
LAB NO:	658	659			
DEPTH:	1.8-2.0	2.5-2.7			
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%	100%			
20.0	100%	100%			
12.5	100%	100%			
10.0	100%	99%			
5.0	98%	92%			
2.5	96%	84%			
1.25	93%	79%			
0.630	91%	74%			
0.315	89%	65%			
0.160	86%	51%			
0.080	76%	33%			
M.C.(%):	23%	13%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	2	8			
% SAND:	22	59			
% FINES:	76	33			
CLASSIFICATION	SILT WITH SAND (ML)	SILTY SAND (SM)			

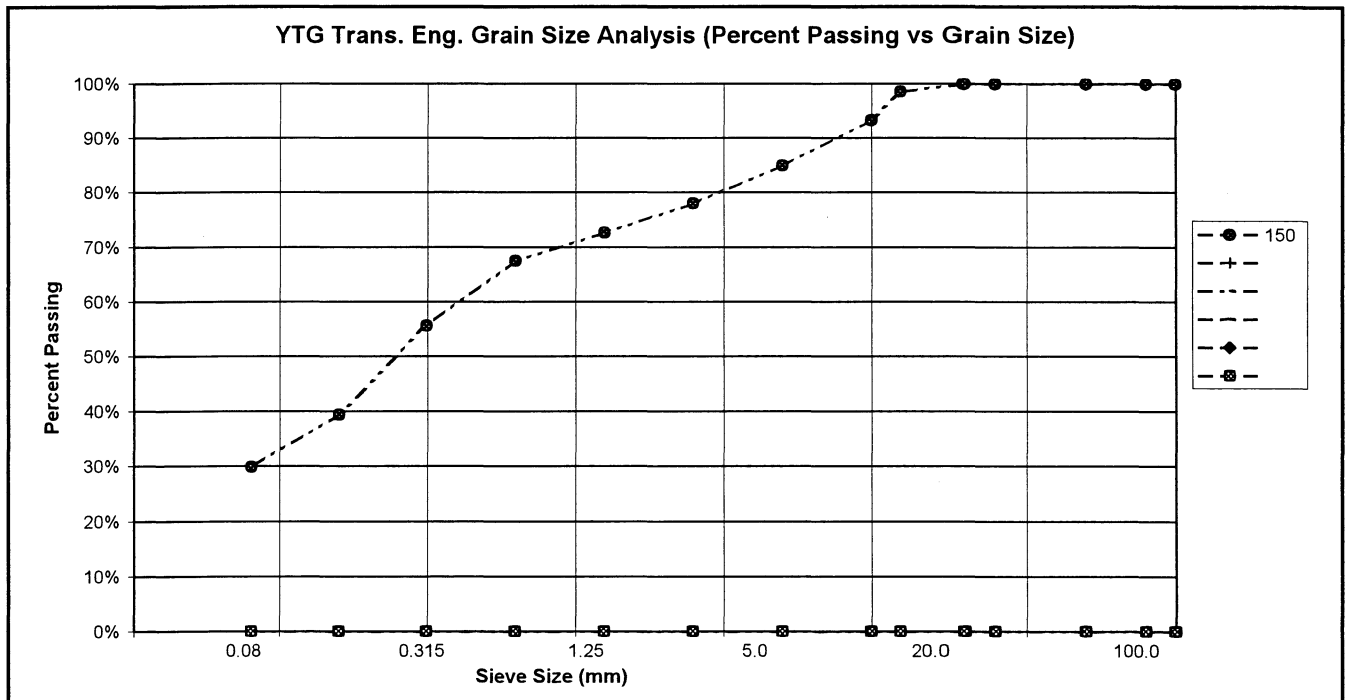


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-93

DATE COMP: 2001/06/18

FIELD NO:	150				
LAB NO:	660				
DEPTH:	1.5-1.7				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	99%				
10.0	95%				
5.0	85%				
2.5	78%				
1.25	73%				
0.630	68%				
0.315	56%				
0.160	39%				
0.080	30%				
M.C.(%):	22%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	15				
% SAND:	55				
% FINES:	30				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

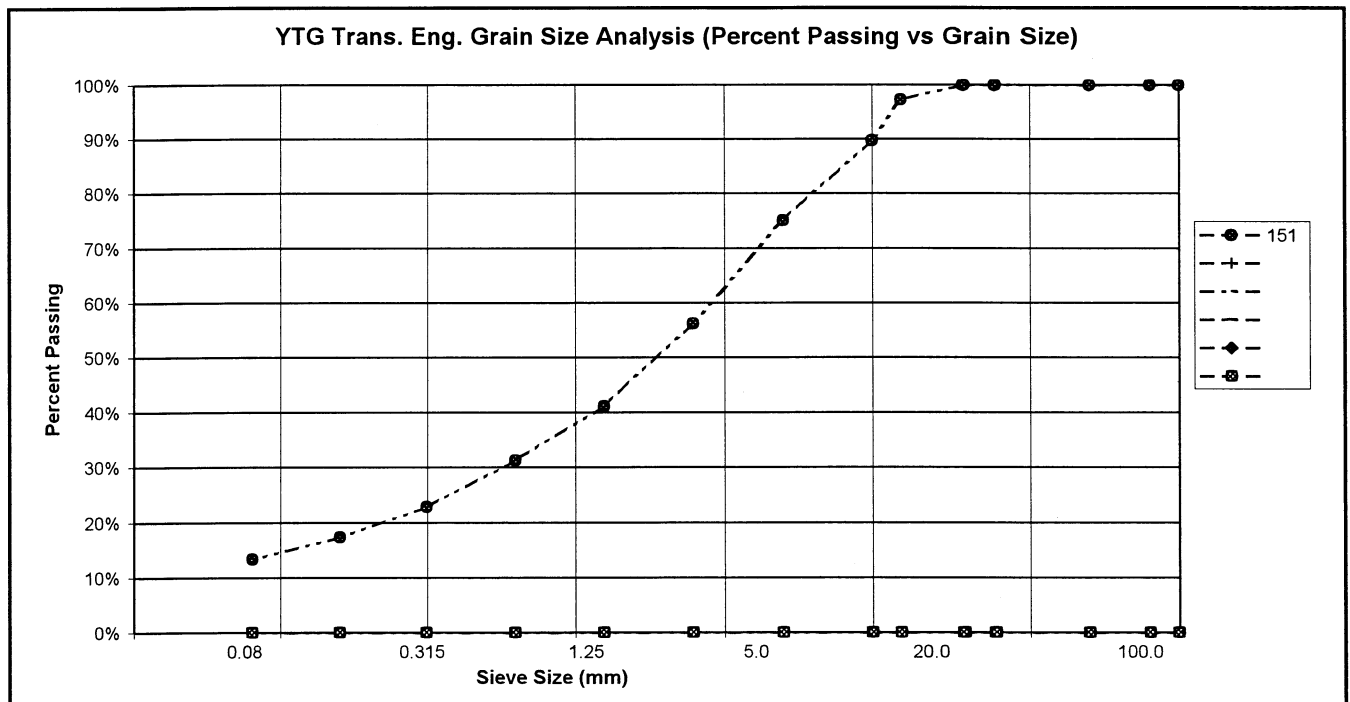


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-94

DATE COMP: 2001/06/18

FIELD NO:	151				
LAB NO:	661				
DEPTH:	2.7-2.9				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	100%				
12.5	97%				
10.0	90%				
5.0	75%				
2.5	56%				
1.25	41%				
0.630	31%				
0.315	23%				
0.160	17%				
0.080	13%				
M.C.(%):	9%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	25				
% SAND:	62				
% FINES:	13				
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)				

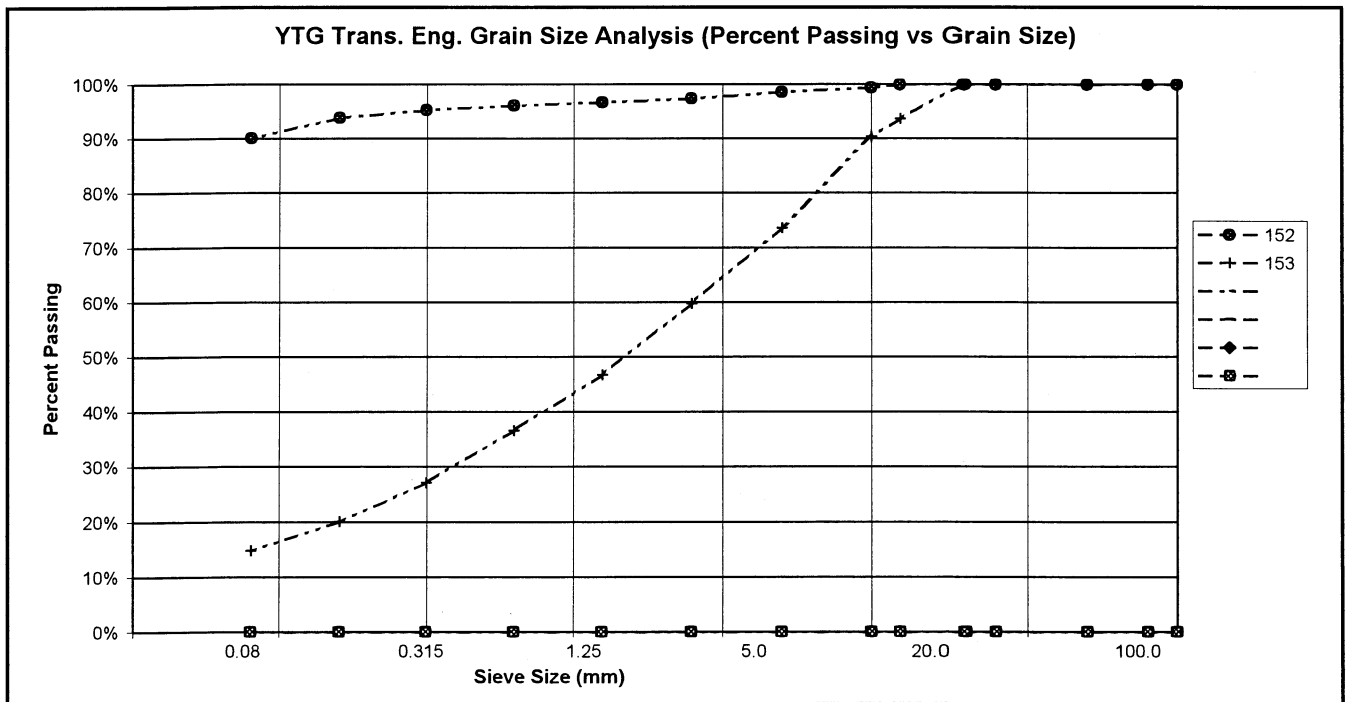


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-95

DATE COMP: 2001/06/18

FIELD NO:	152	153			
LAB NO:	662	663			
DEPTH:	1.5-1.7	2.5-2.7			
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%	100%			
20.0	100%	100%			
12.5	100%	94%			
10.0	99%	90%			
5.0	99%	74%			
2.5	97%	60%			
1.25	97%	47%			
0.630	96%	37%			
0.315	95%	27%			
0.160	94%	20%			
0.080	90%	15%			
M.C.(%):	53%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	1	26			
% SAND:	8	59			
% FINES:	90	15			
CLASSIFICATION	SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

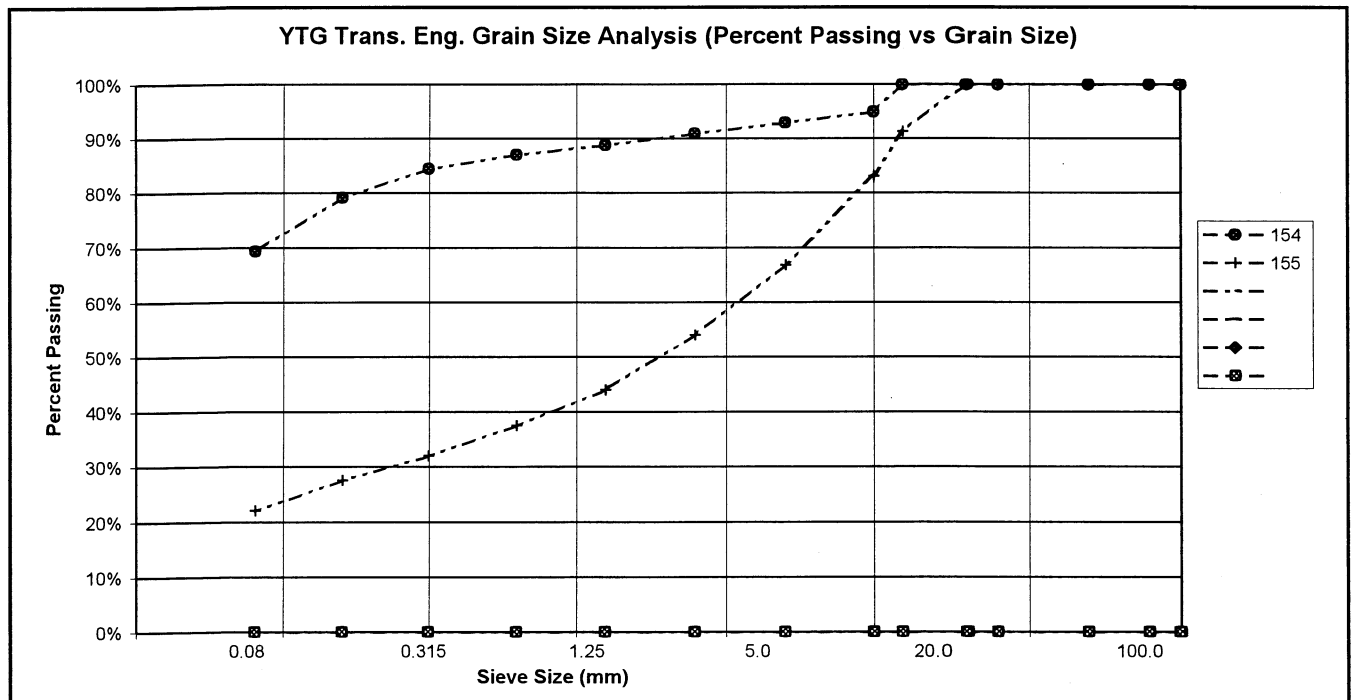


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-96

DATE COMP: 2001/06/18

FIELD NO:	154	155			
LAB NO:	664	665			
DEPTH:	1.0-1.2	2.5-2.7			
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%	100%			
20.0	100%	100%			
12.5	100%	91%			
10.0	95%	83%			
5.0	93%	67%			
2.5	91%	54%			
1.25	89%	44%			
0.630	87%	38%			
0.315	84%	32%			
0.160	79%	28%			
0.080	69%	22%			
M.C.(%)	36%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	7	33			
% SAND:	24	45			
% FINES:	69	22			
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND WITH GRAVEL (SM)			

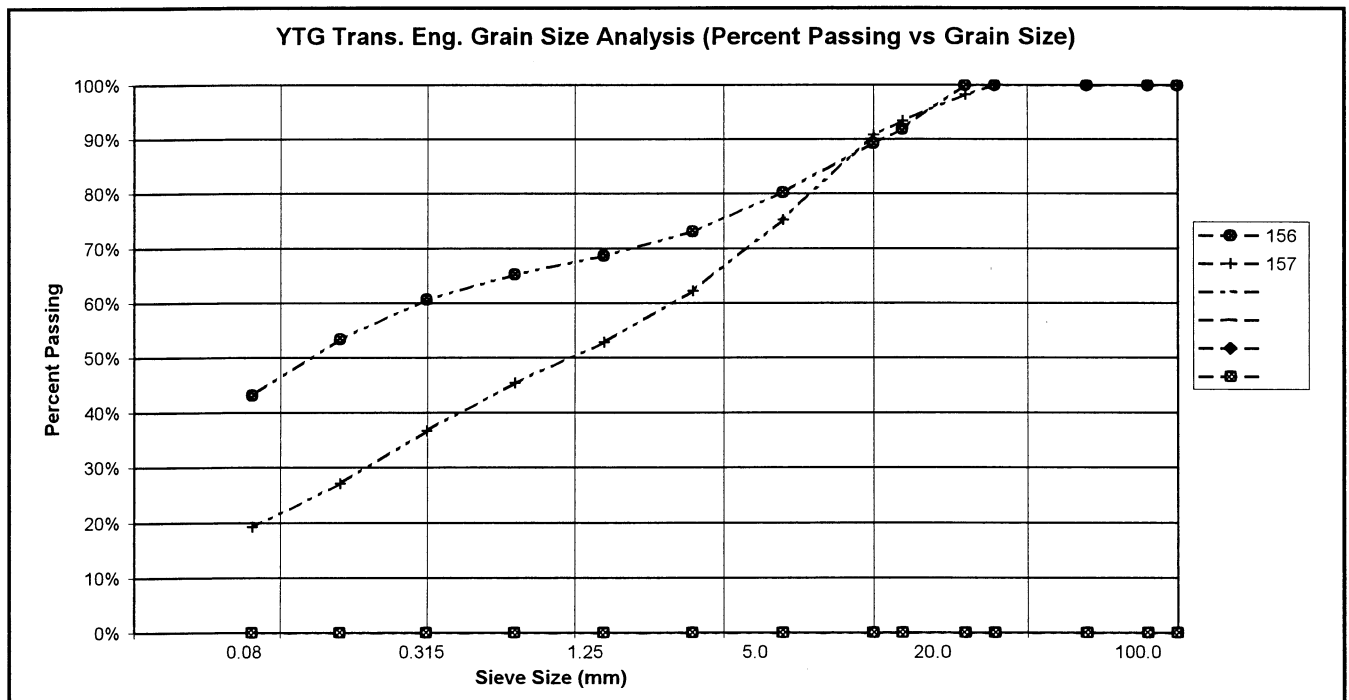


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729.6-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: See Testhole Log Sheet
 LOGGED BY: D.T.

HOLE No.: 599-97

DATE COMP: 2001/06/18

FIELD NO:	156	157			
LAB NO:	666	667			
DEPTH:	1.3-1.5	2.7-2.9			
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%	100%			
20.0	100%	98%			
12.5	92%	93%			
10.0	89%	91%			
5.0	80%	75%			
2.5	73%	62%			
1.25	69%	53%			
0.630	65%	45%			
0.315	61%	37%			
0.160	53%	27%			
0.080	43%	19%			
M.C.(%):	17%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	20	25			
% SAND:	37	56			
% FINES:	43	19			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)			

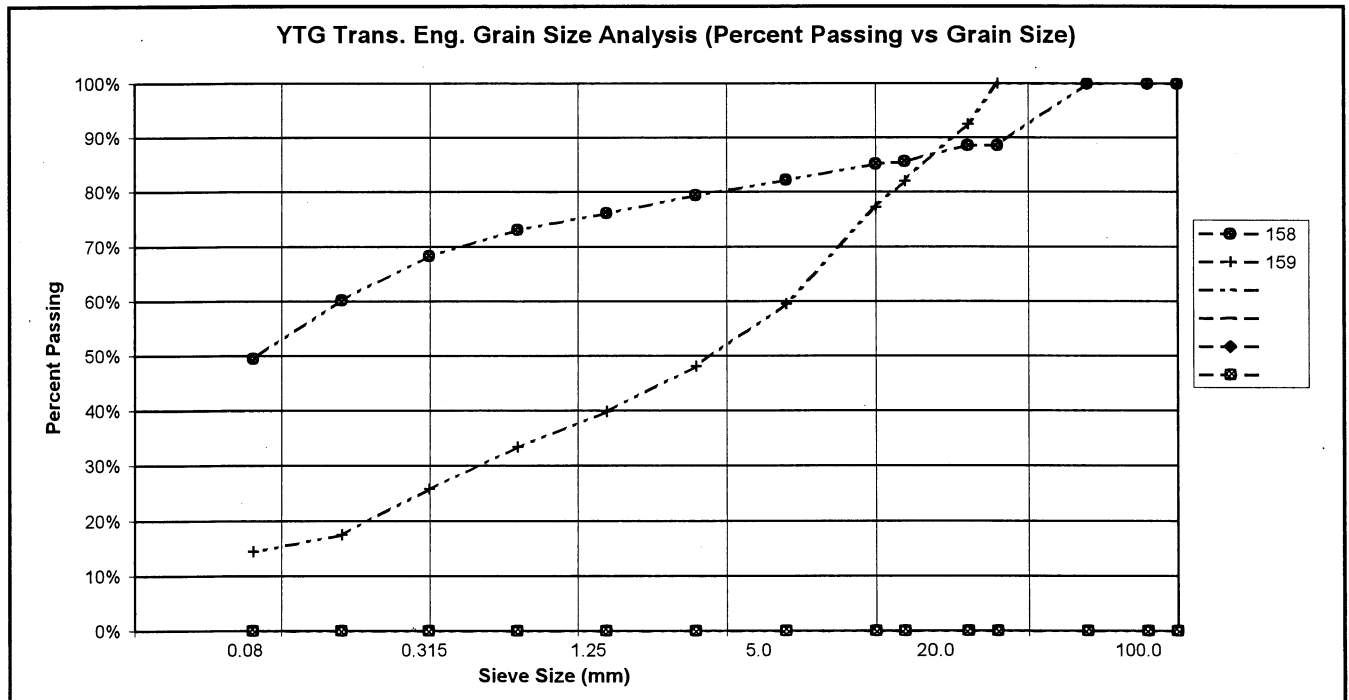


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1774+350 35m LT
 LOGGED BY: B.B.

HOLE No.: 600-98

DATE COMP: 2001/06/20

FIELD NO:	158	159			
LAB NO:	668	669			
DEPTH:	1.5-1.7	2.7-2.9			
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	89%	100%			
20.0	89%	93%			
12.5	86%	82%			
10.0	85%	77%			
5.0	82%	60%			
2.5	79%	48%			
1.25	76%	40%			
0.630	73%	33%			
0.315	68%	26%			
0.160	60%	18%			
0.080	50%	14%			
M.C.(%):	23%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	18	40			
% SAND:	33	45			
% FINES:	50	14			
CLASSIFICATION	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)			

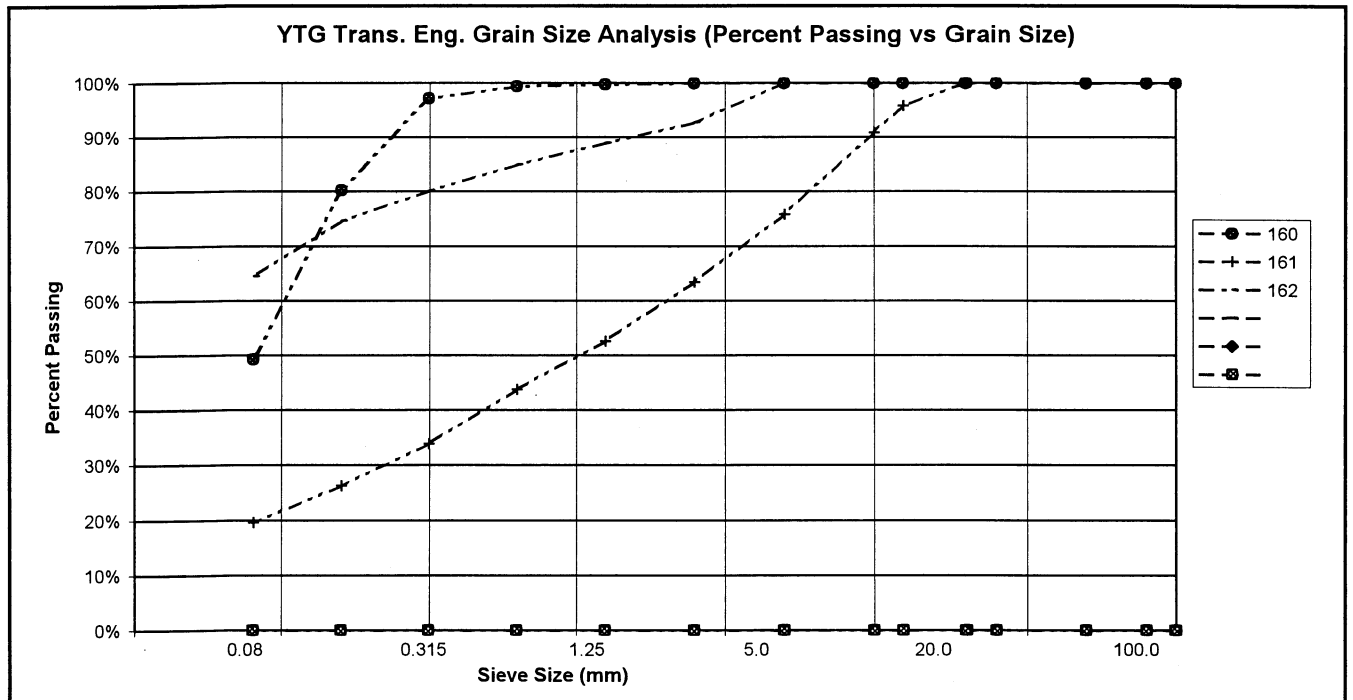


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1774+450 35M LT
 LOGGED BY: B.B.

HOLE No.: 600-99

DATE COMP: 2001/06/20

FIELD NO:	160	161	162		
LAB NO:	670	671	672		
DEPTH:	1.3-1.5	2.2-2.4	2.7-2.9		
TYPE:	AUGER	AUGER	AUGER	AUGER	
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%	100%	100%		
20.0	100%	100%	100%		
12.5	100%	96%	100%		
10.0	100%	91%	100%		
5.0	100%	76%	100%		
2.5	100%	63%	93%		
1.25	100%	53%	89%		
0.630	99%	44%	85%		
0.315	97%	34%	80%		
0.160	80%	26%	75%		
0.080	49%	20%	64%		
M.C.(%)	26%	10%	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:	0	24	0		
% SAND:	51	56	36		
% FINES:	49	20	64		
CLASSIFICATION	SILTY SAND (SM)	SILTY SAND WITH GRAVEL (SM)	SANDY SILT (ML)		

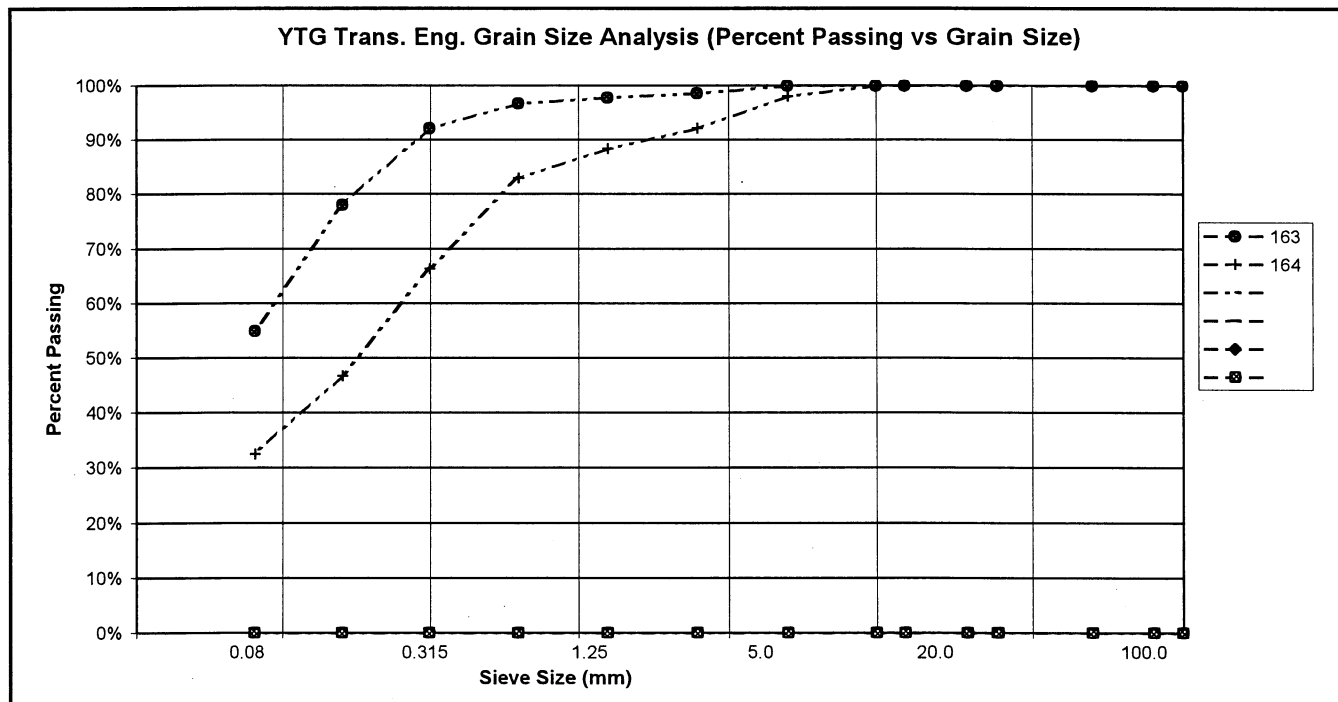


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1774.600+600 35M LT
 LOGGED BY: B.B.

HOLE No.: 600-100

DATE COMP: 2001/06/20

FIELD NO:	163	164				
LAB NO:	673	674				
DEPTH:	1.5-1.7	2.7-2.9				
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%	100%				
20.0	100%	100%				
12.5	100%	100%				
10.0	100%	100%				
5.0	100%	98%				
2.5	99%	92%				
1.25	98%	88%				
0.630	97%	83%				
0.315	92%	66%				
0.160	78%	47%				
0.080	55%	32%				
M.C.(%):	30%	17%				
LIQUID LIMIT:	0.0	0.0				
PLASTIC LIMIT:	0.0	0.0				
PLASTIC INDEX:	0.0	0.0				
% GRAVEL:	0	2				
% SAND:	45	66				
% FINES:	55	32				
CLASSIFICATION	SANDY SILT (ML)	SILTY SAND (SM)				

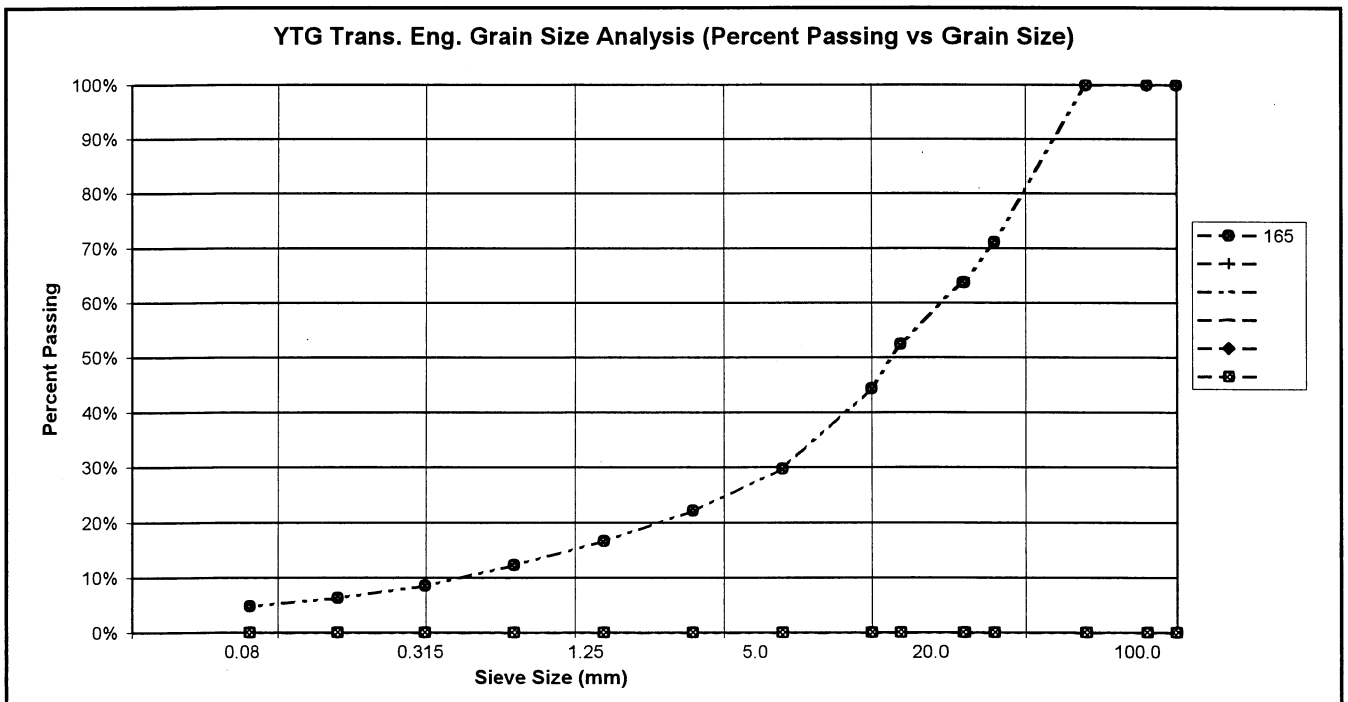


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1774+700 35M LT
 LOGGED BY: B.B.

HOLE No.: 600-101

DATE COMP: 2001/06/20

FIELD NO:	165				
LAB NO:	675				
DEPTH:	1.6-1.8				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	71%				
20.0	64%				
12.5	53%				
10.0	44%				
5.0	30%				
2.5	22%				
1.25	17%				
0.630	12%				
0.315	9%				
0.160	6%				
0.080	5%				
M.C.(%):	6%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	70				
% SAND:	25				
% FINES:	5				
CLASSIFICATION	WELL-GRADED GRAVEL WITH SAND (GW)				

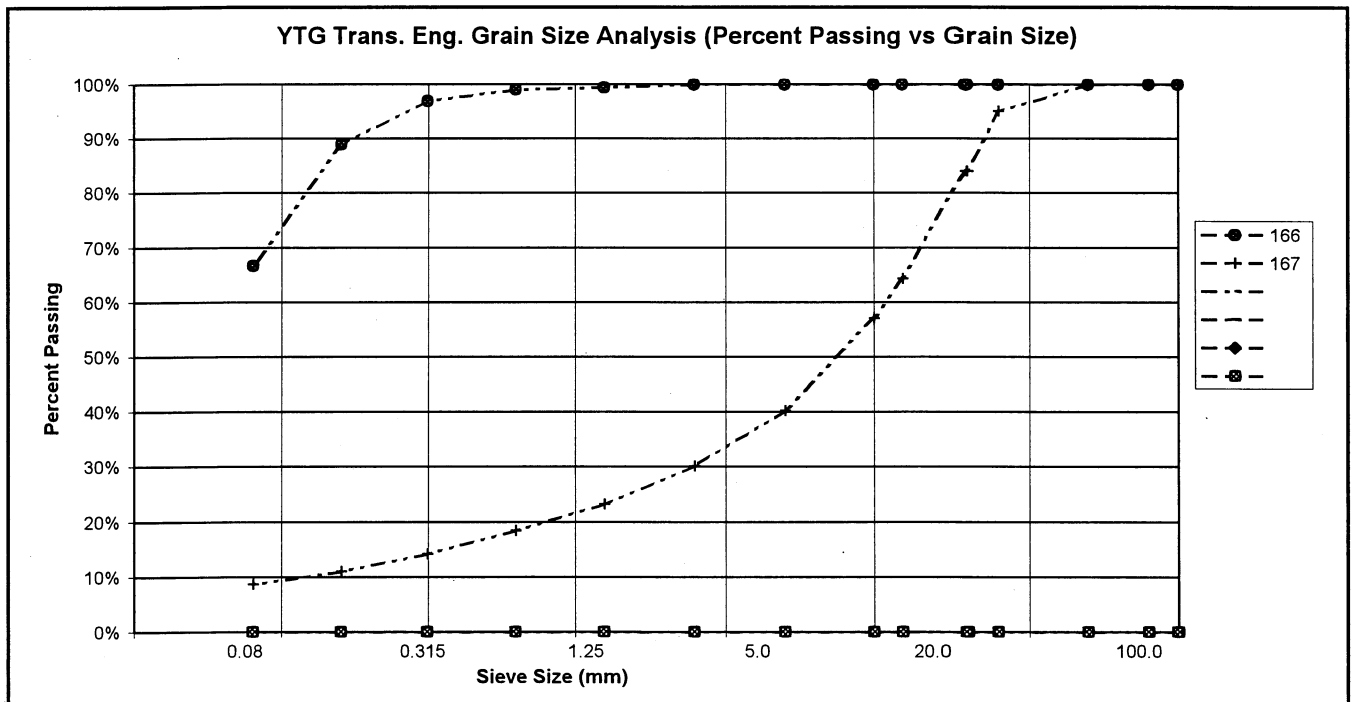


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1774+800 35M LT
 LOGGED BY: B.B.

HOLE No.: 600-102

DATE COMP: 2001/06/20

FIELD NO:	166	167			
LAB NO:	676	677			
DEPTH:	1.6-1.8	2.7-2.9			
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%	95%			
20.0	100%	84%			
12.5	100%	64%			
10.0	100%	57%			
5.0	100%	40%			
2.5	100%	30%			
1.25	99%	23%			
0.630	99%	18%			
0.315	97%	14%			
0.160	89%	11%			
0.080	67%	9%			
M.C.(%):	35%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	60			
% SAND:	33	32			
% FINES:	67	9			
CLASSIFICATION	SANDY SILT (ML)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

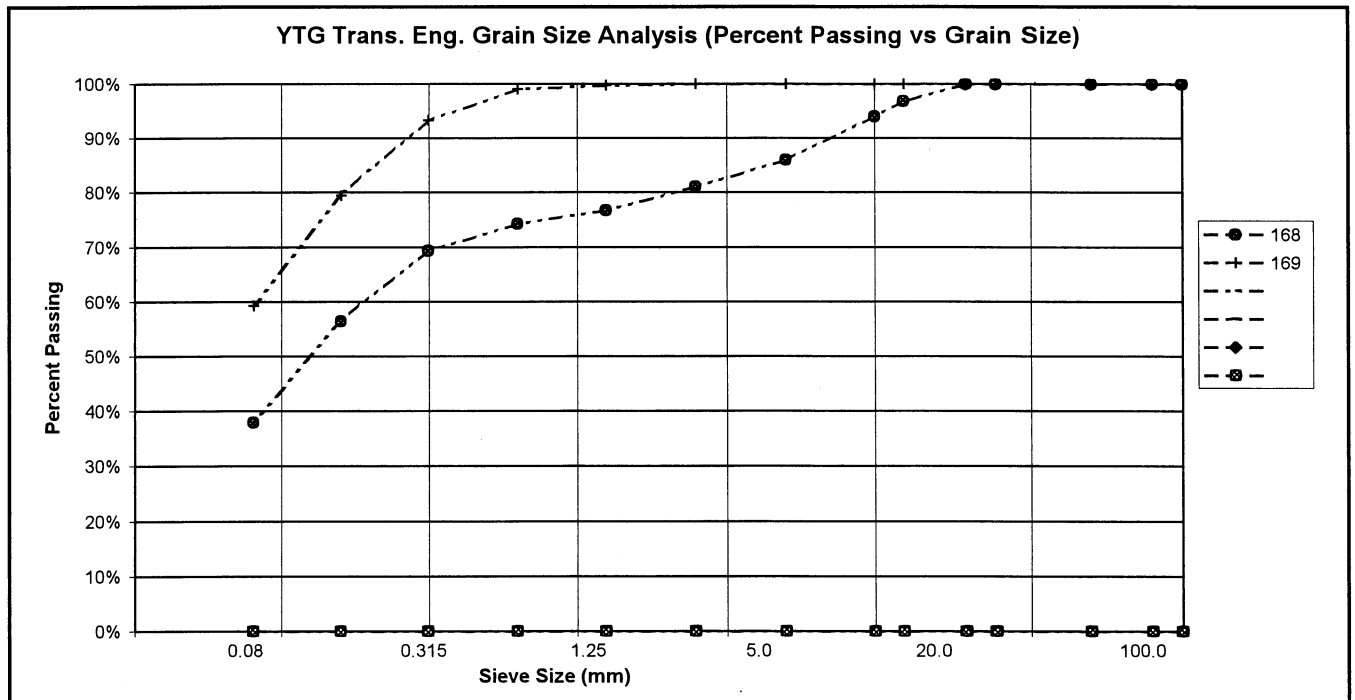


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1774+900 35M LT
 LOGGED BY: B.B.

HOLE No.: 600-103

DATE COMP: 2001/06/20

FIELD NO:	168	169			
LAB NO:	678	679			
DEPTH:	1.3-1.5	2.7-2.8			
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%	100%			
20.0	100%	100%			
12.5	97%	100%			
10.0	94%	100%			
5.0	86%	100%			
2.5	81%	100%			
1.25	77%	100%			
0.630	74%	99%			
0.315	69%	93%			
0.160	56%	79%			
0.080	38%	59%			
M.C.(%):	21%	27%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	14	0			
% SAND:	48	41			
% FINES:	38	59			
CLASSIFICATION	SILTY SAND (SM)	SANDY SILT (ML)			

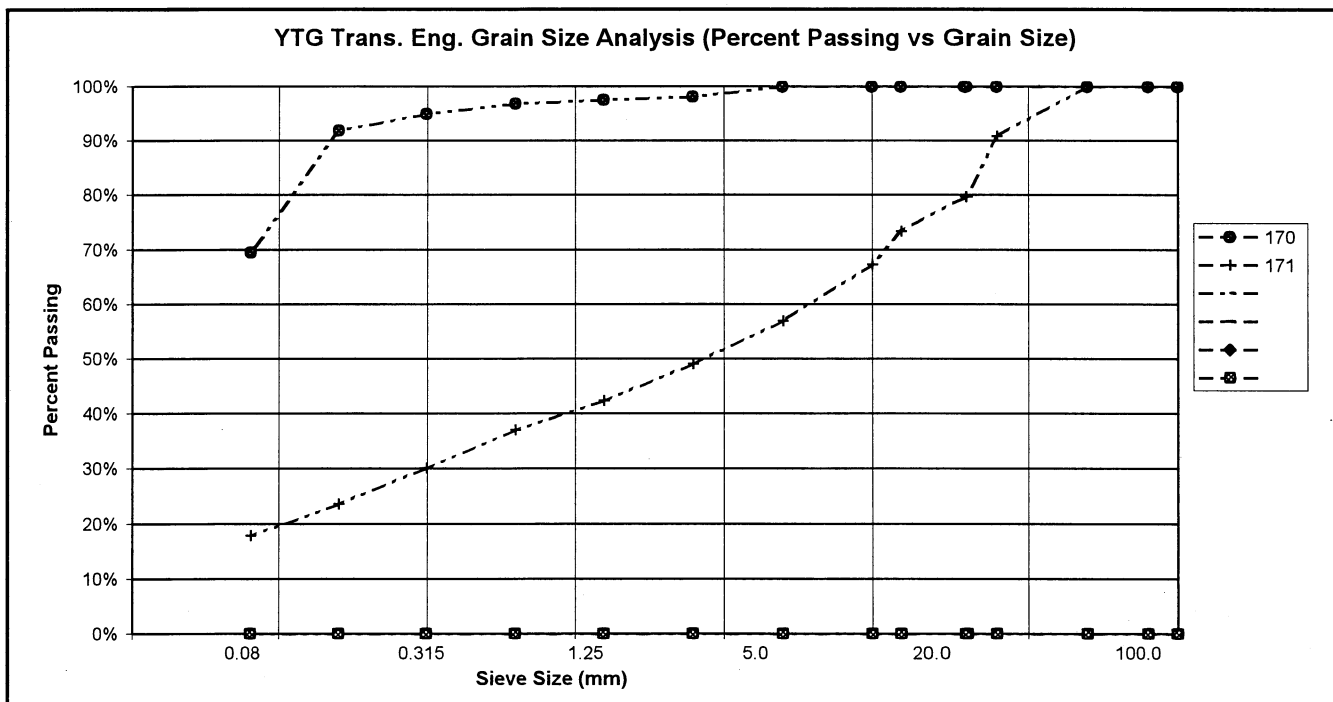


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1775+000 35M LT
 LOGGED BY: B.B.

HOLE No.: 600-104

DATE COMP: 2001/06/20

FIELD NO:	170	171			
LAB NO:	680	681			
DEPTH:	2.0-2.2	2.7-2.9			
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%	91%			
20.0	100%	80%			
12.5	100%	73%			
10.0	100%	67%			
5.0	100%	57%			
2.5	98%	49%			
1.25	98%	42%			
0.630	97%	37%			
0.315	95%	30%			
0.160	92%	24%			
0.080	70%	18%			
M.C.(%):	33%	10%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	43			
% SAND:	30	39			
% FINES:	70	18			
CLASSIFICATION	SANDY SILT (ML)	SILTY GRAVEL WITH SAND (GM)			

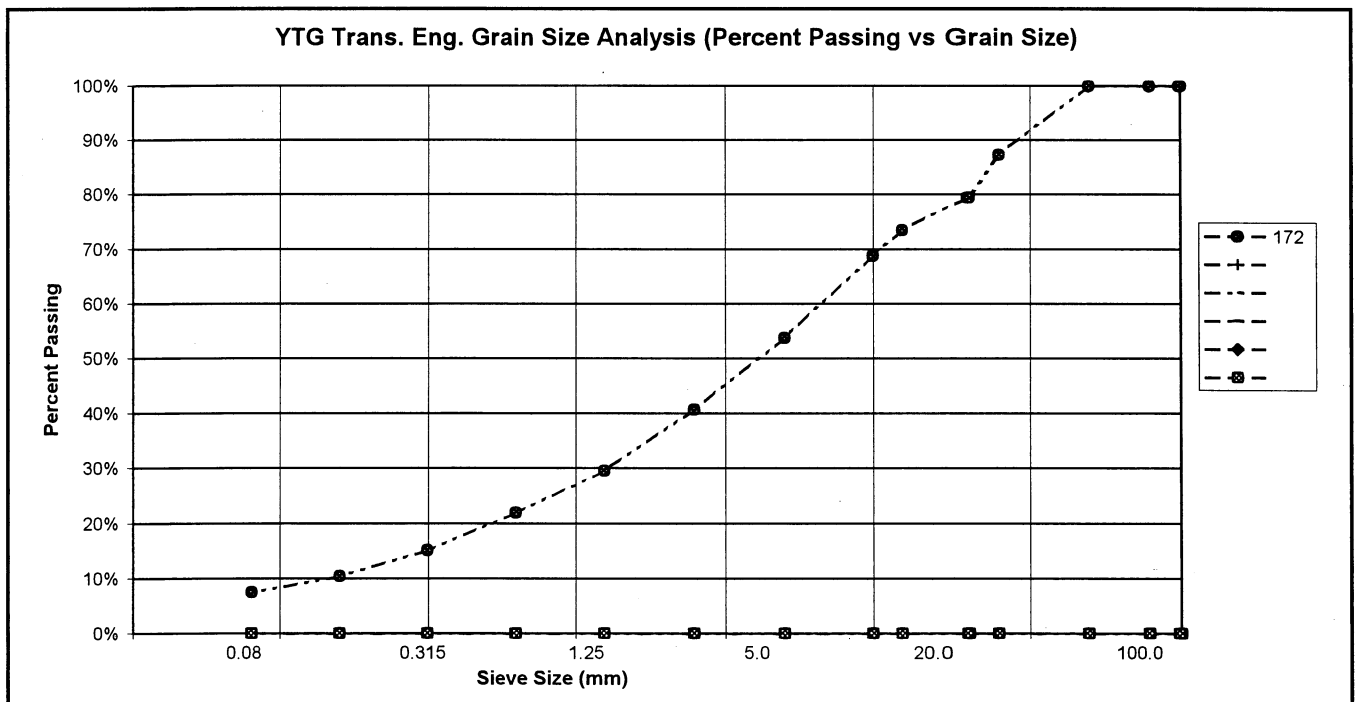


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1775+100 35M LT
 LOGGED BY: B.B.

HOLE No.: 600-105

DATE COMP: 2001/06/20

FIELD NO:	172				
LAB NO:	682				
DEPTH:	1.8-2.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	87%				
20.0	79%				
12.5	73%				
10.0	69%				
5.0	54%				
2.5	41%				
1.25	30%				
0.630	22%				
0.315	15%				
0.160	10%				
0.080	8%				
M.C.(%):	5%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	46				
% SAND:	46				
% FINES:	8				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				



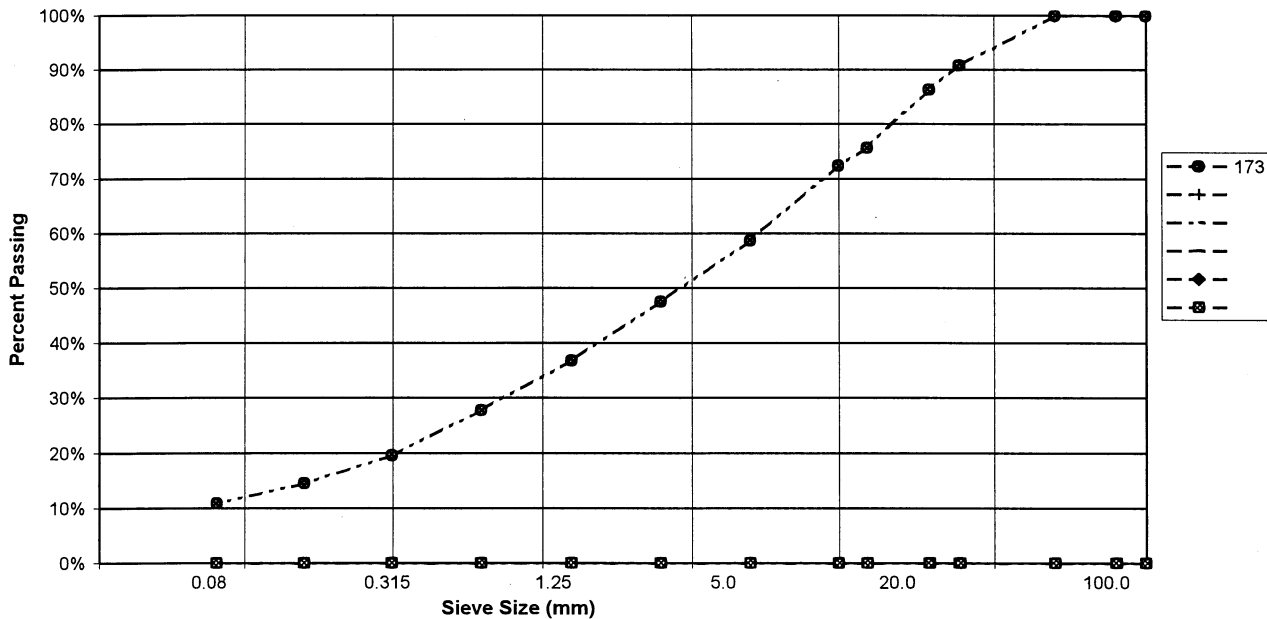
PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1775+200 35M LT
 LOGGED BY: B.B.

HOLE No.: 600-106

DATE COMP: 2001/06/20

FIELD NO:	173				
LAB NO:	683				
DEPTH:	1.8-2.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	91%				
20.0	86%				
12.5	76%				
10.0	72%				
5.0	59%				
2.5	48%				
1.25	37%				
0.630	28%				
0.315	20%				
0.160	15%				
0.080	11%				
M.C.(%)	6%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	41				
% SAND:	48				
% FINES:	11				
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)				

YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)

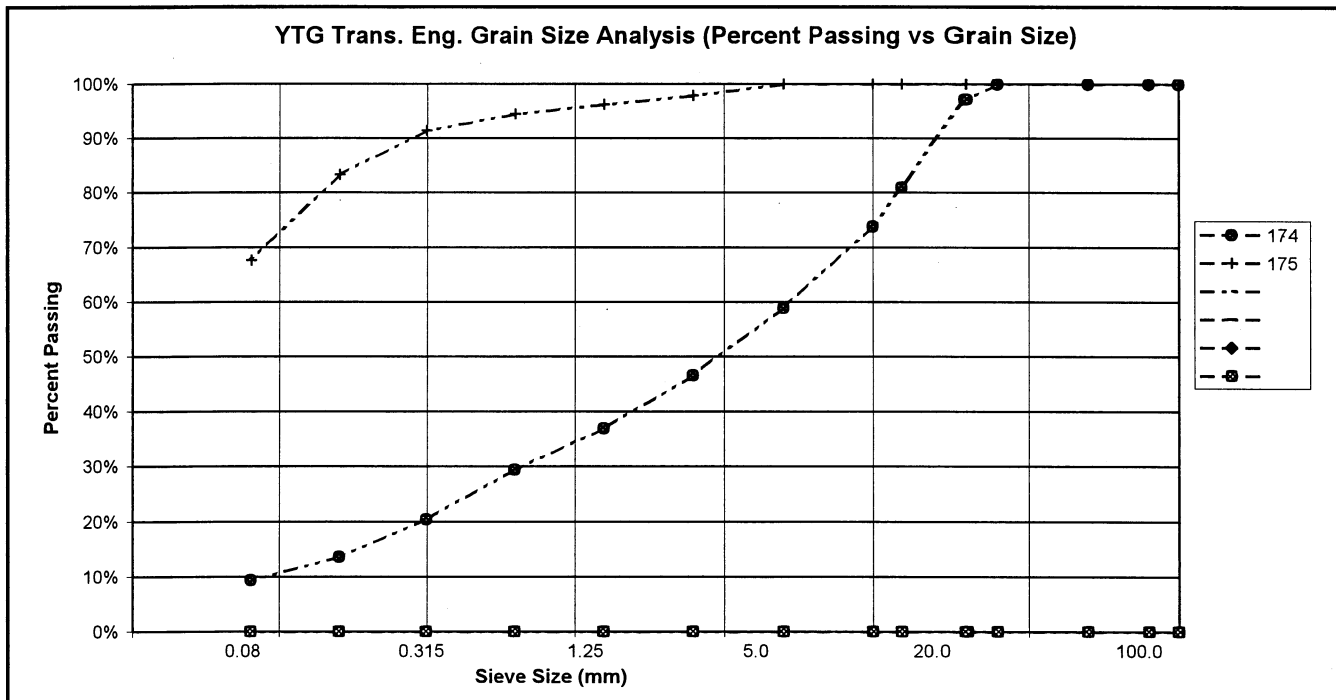


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1775+350 35M LT
 LOGGED BY: B.B.

HOLE No.: 600-107

DATE COMP: 2001/06/20

FIELD NO:	174	175			
LAB NO:	684	685			
DEPTH:	1.3-1.5	2.7-2.9			
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%	100%			
20.0	97%	100%			
12.5	81%	100%			
10.0	74%	100%			
5.0	59%	100%			
2.5	47%	98%			
1.25	37%	96%			
0.630	29%	94%			
0.315	20%	91%			
0.160	14%	83%			
0.080	9%	68%			
M.C.(%):	8%	33%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	41	0			
% SAND:	50	32			
% FINES:	9	68			
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	SANDY SILT (ML)			

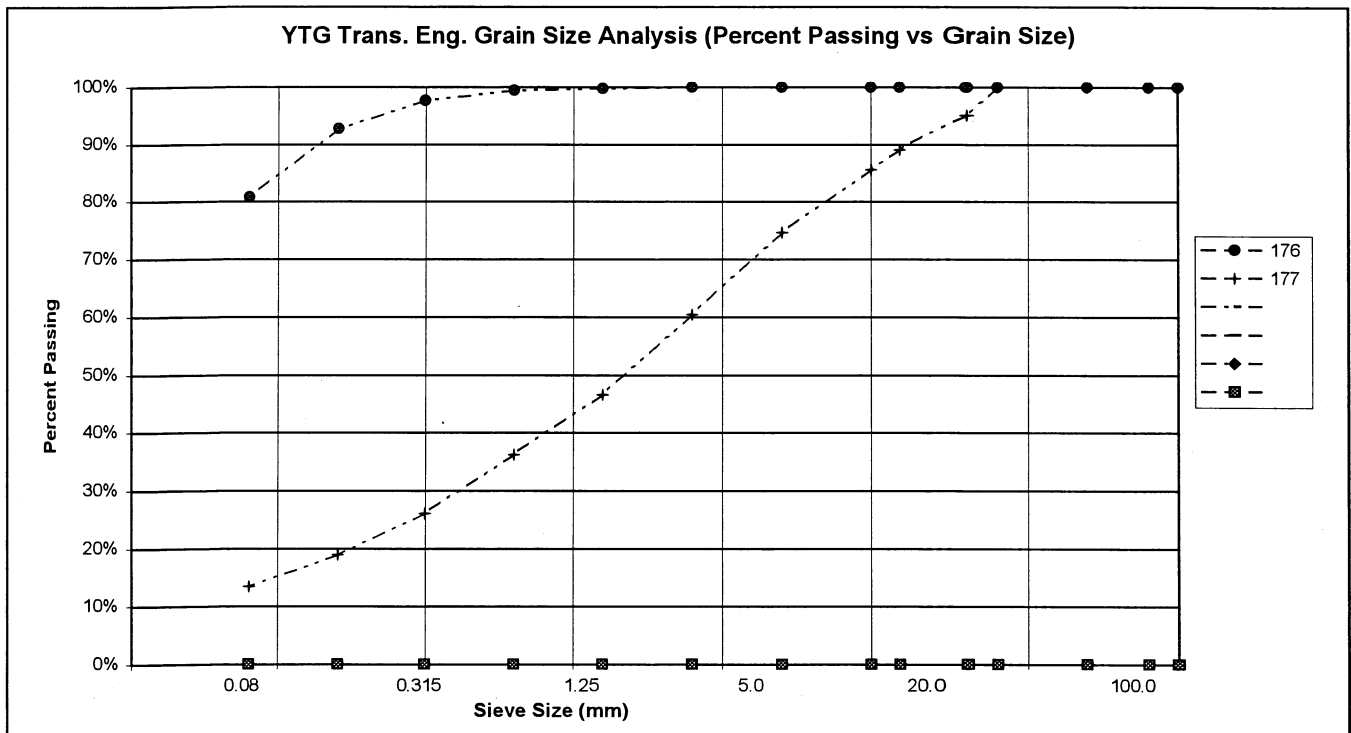


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1774+775 20M LT
 LOGGED BY: B.B.

HOLE No.: 600-108

DATE COMP: 2001/06/20

FIELD NO:	176	177			
LAB NO:	686	687			
DEPTH:	1.1-1.3	2.8-3.0			
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%	100%			
20.0	100%	95%			
12.5	100%	89%			
10.0	100%	86%			
5.0	100%	75%			
2.5	100%	60%			
1.25	100%	47%			
0.630	99%	36%			
0.315	98%	26%			
0.160	93%	19%			
0.080	81%	13%			
M.C.(%)	42%	9%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	25			
% SAND:	19	61			
% FINES:	81	13			
CLASSIFICATION	SILT WITH SAND (ML)	SILTY SAND WITH GRAVEL (SM)			

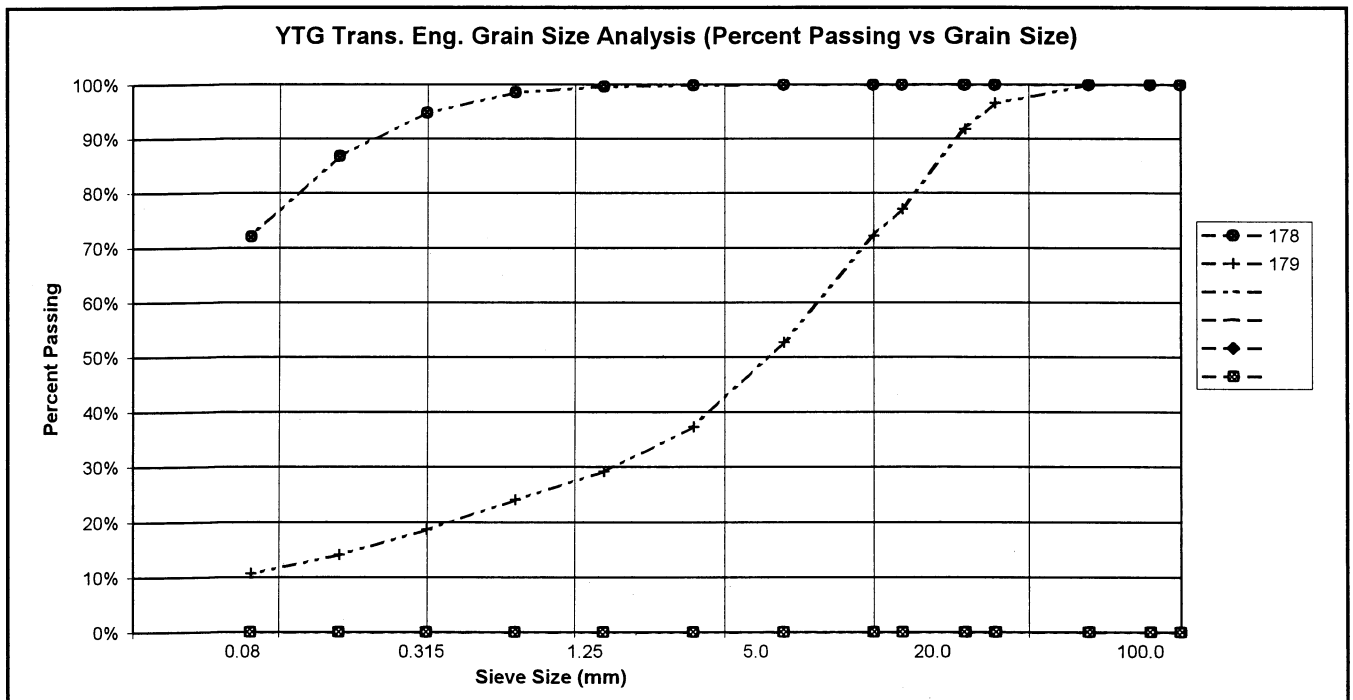


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1774+775 CENTRELINE
 LOGGED BY: B.B.

HOLE No.: 600-109

DATE COMP: 2001/06/20

FIELD NO:	178	179			
LAB NO:	688	689			
DEPTH:	1.3-1.5	2.3-2.5			
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	100%	97%			
20.0	100%	92%			
12.5	100%	77%			
10.0	100%	72%			
5.0	100%	53%			
2.5	100%	37%			
1.25	100%	29%			
0.630	99%	24%			
0.315	95%	19%			
0.160	87%	14%			
0.080	72%	11%			
M.C.(%):	55%	8%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	47			
% SAND:	28	42			
% FINES:	72	11			
CLASSIFICATION	SILT WITH SAND (ML)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

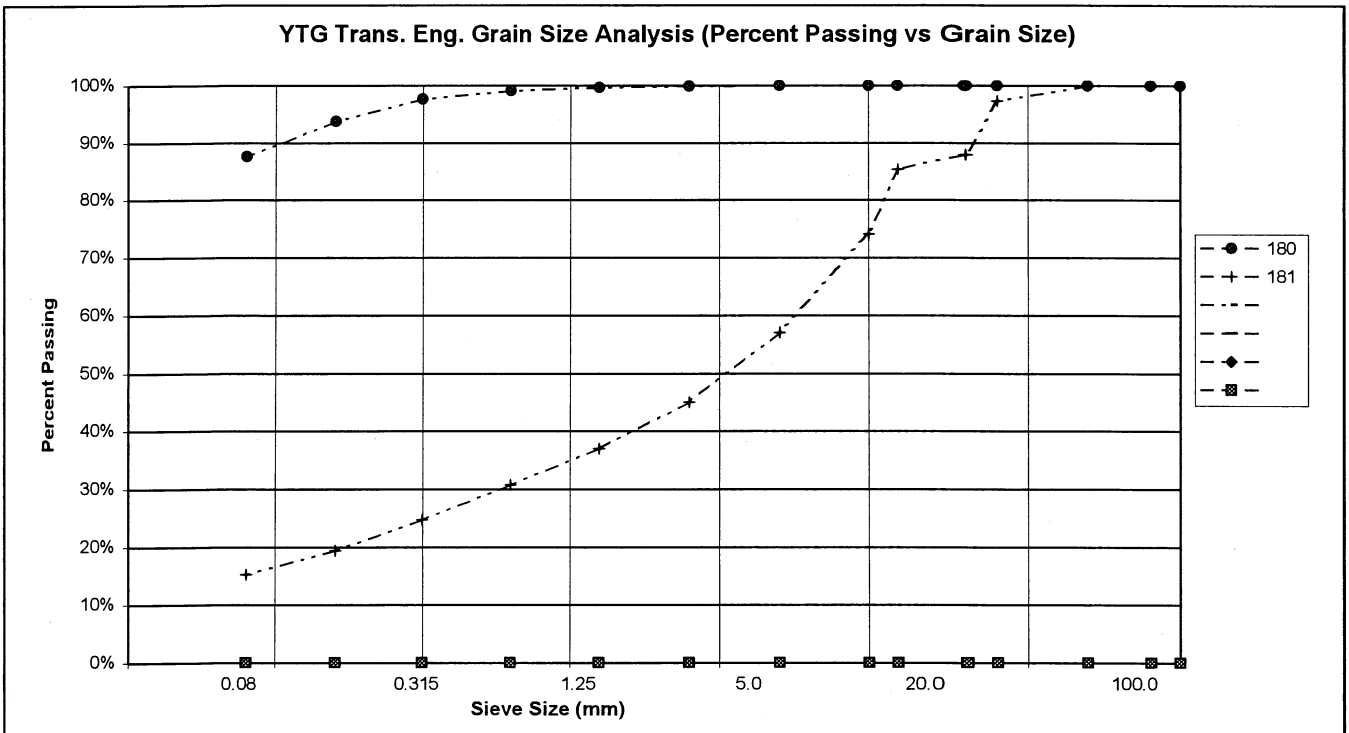


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1774+775 25M RT
 LOGGED BY: B.B.

HOLE No.: 600-110

DATE COMP: 2001/06/20

FIELD NO:	180	181			
LAB NO:	690	691			
DEPTH:	1.2-1.4	2.3-2.5			
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	100%	97%			
20.0	100%	88%			
12.5	100%	85%			
10.0	100%	74%			
5.0	100%	57%			
2.5	100%	45%			
1.25	100%	37%			
0.630	99%	31%			
0.315	98%	25%			
0.160	94%	19%			
0.080	88%	15%			
M.C.(%):	72%	15%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX.:	0.0	0.0			
% GRAVEL:	0	43			
% SAND:	12	42			
% FINES:	88	15			
CLASSIFICATION	SILT (ML)	SILTY GRAVEL WITH SAND (GM)			

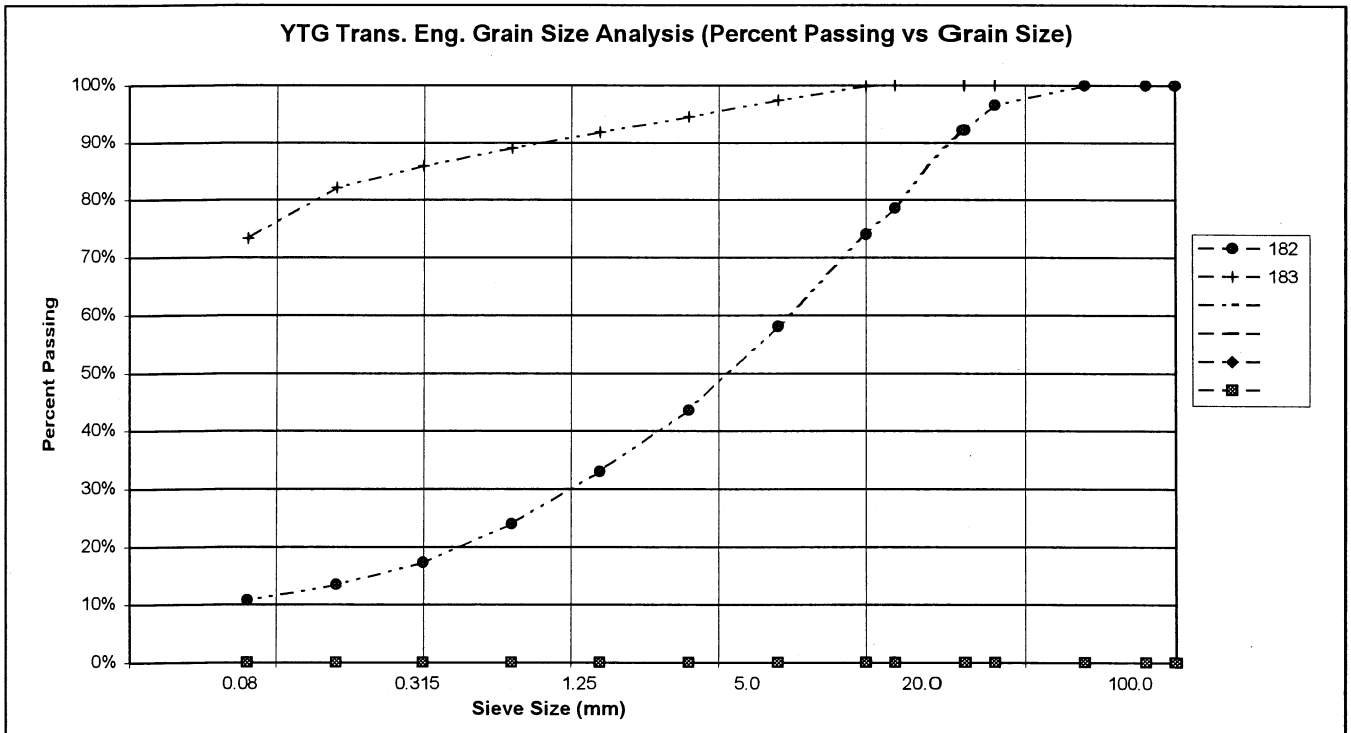


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1774+900 CENTRELINE
 LOGGED BY: B.B.

HOLE No.: 600-111

DATE COMP: 2001/06/21

FIELD NO:	182	183			
LAB NO:	692	693			
DEPTH:	1.8-2.0	3.3-3.5			
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	97%	100%			
20.0	92%	100%			
12.5	79%	100%			
10.0	74%	100%			
5.0	58%	97%			
2.5	44%	95%			
1.25	33%	92%			
0.630	24%	89%			
0.315	17%	86%			
0.160	13%	82%			
0.080	11%	73%			
M.C.(%)	12%	36%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	42	3			
% SAND:	47	24			
% FINES:	11	73			
CLASSIFICATION	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	SILT WITH SAND (ML)			

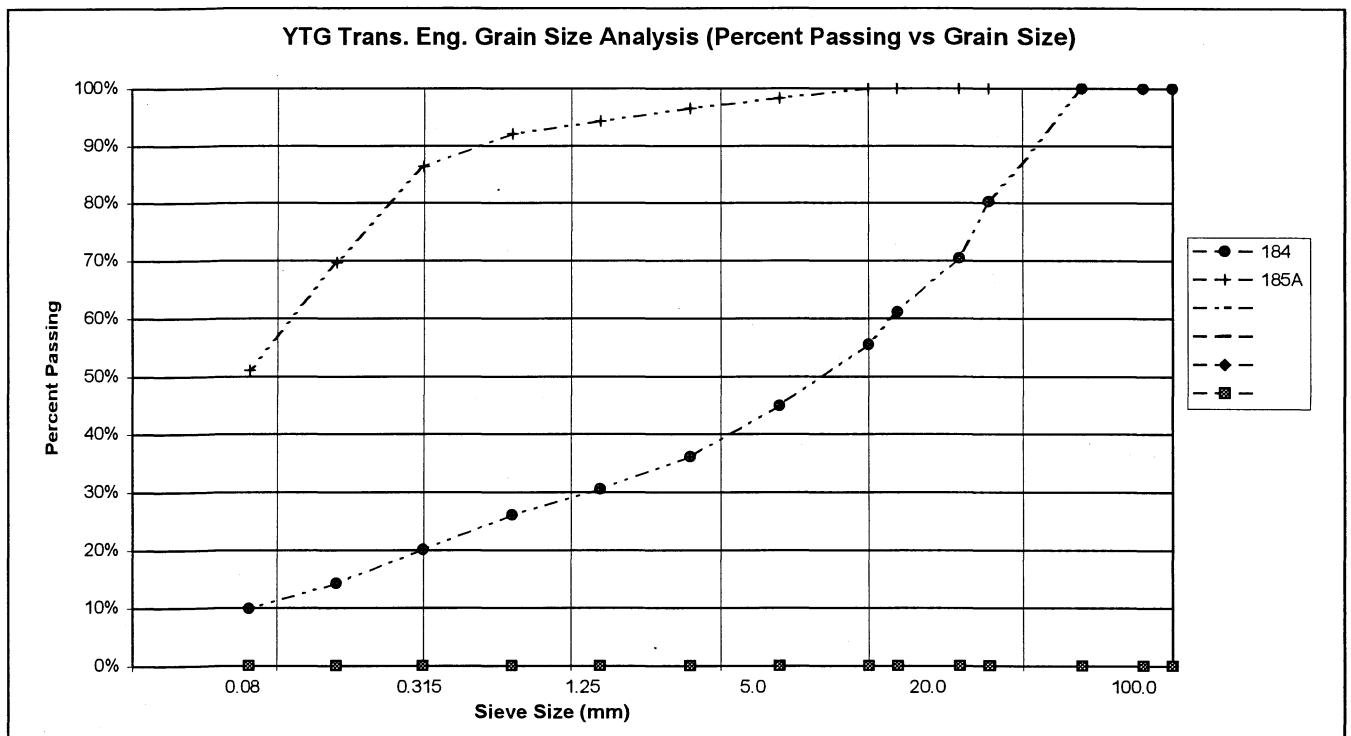


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1775+000 10m LT
 LOGGED BY: B.B.

HOLE No.: 600-112

DATE COMP: 2001/06/21

FIELD NO:	184	185A			
LAB NO:	694	695			
DEPTH:	1.8-2.0	4.5-4.7			
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	80%	100%			
20.0	70%	100%			
12.5	61%	100%			
10.0	56%	100%			
5.0	45%	98%			
2.5	36%	96%			
1.25	31%	94%			
0.630	26%	92%			
0.315	20%	86%			
0.160	14%	70%			
0.080	10%	51%			
M.C.(%):	4%	27%			
LIQUID LIMIT:	0.0	0.0			
PLASTIC LIMIT:	0.0	0.0			
PLASTIC INDEX:	0.0	0.0			
% GRAVEL:	55	2			
% SAND:	35	47			
% FINES:	10	51			
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	SANDY SILT (ML)			

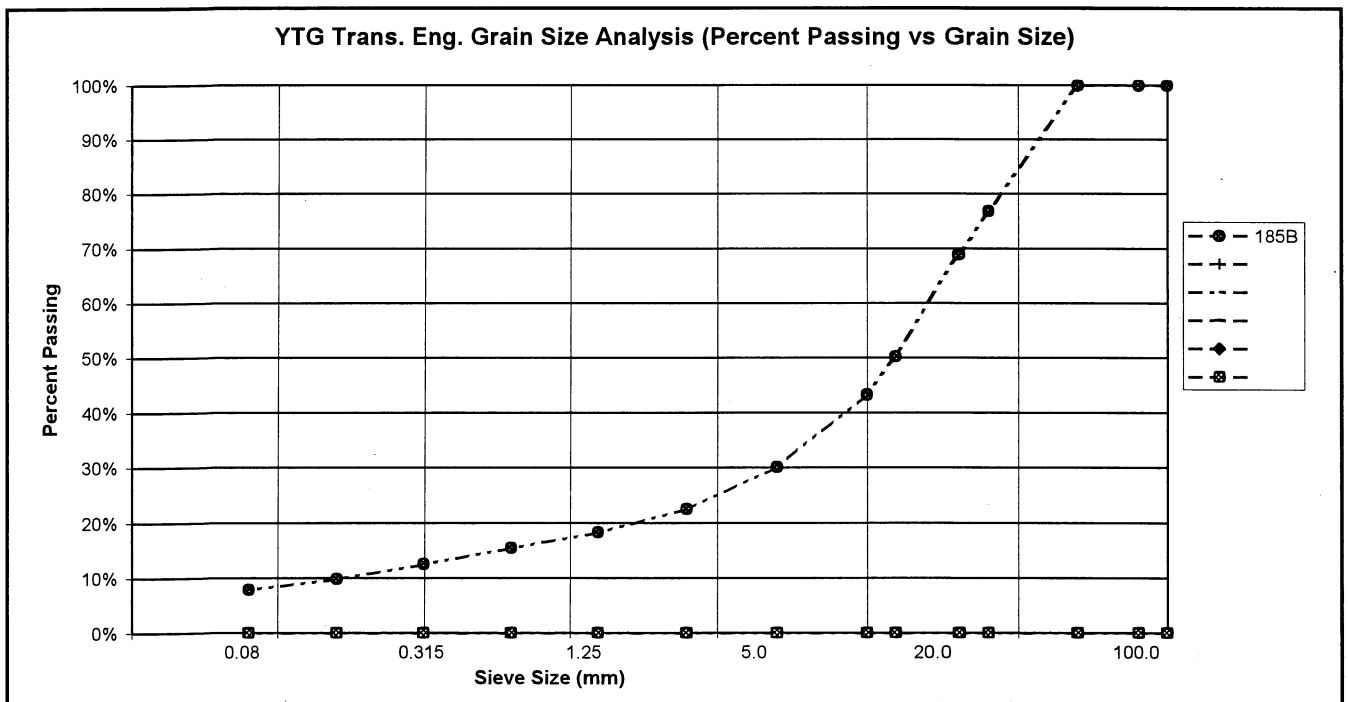


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1775+100 15M LT
 LOGGED BY: B.B.

HOLE No.: 600-113

DATE COMP: 2001/06/21

FIELD NO:	185B				
LAB NO:	696				
DEPTH:	2.8-3.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	77%				
20.0	69%				
12.5	50%				
10.0	43%				
5.0	30%				
2.5	23%				
1.25	18%				
0.630	16%				
0.315	13%				
0.160	10%				
0.080	8%				
M.C.(%):	4%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	70				
% SAND:	22				
% FINES:	8				
CLASSIFICATION	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)				

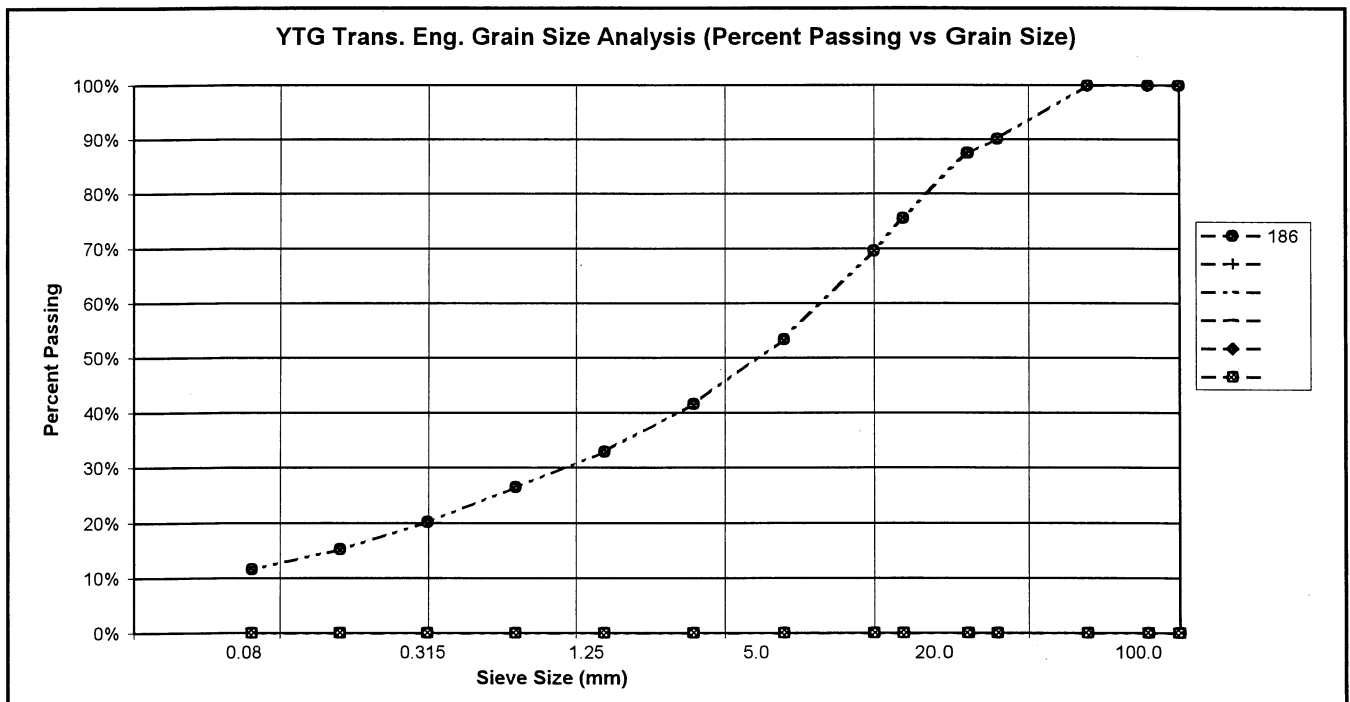


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1775+200 13M LT
 LOGGED BY: B.B.

HOLE No.: 600-114

DATE COMP: 2001/06/21

FIELD NO:	186				
LAB NO:	697				
DEPTH:	3.8-4.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	90%				
20.0	88%				
12.5	76%				
10.0	70%				
5.0	53%				
2.5	42%				
1.25	33%				
0.630	26%				
0.315	20%				
0.160	15%				
0.080	12%				
M.C.(%):	4%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	47				
% SAND:	42				
% FINES:	12				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)				

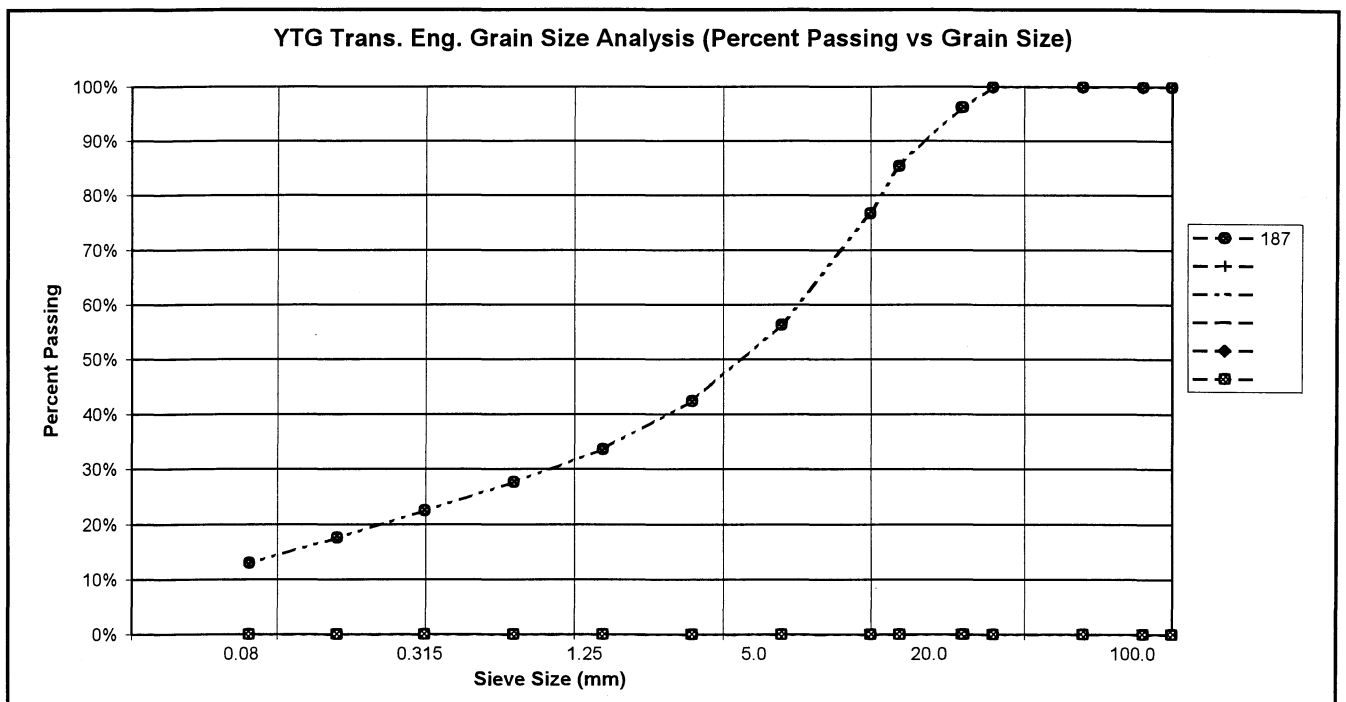


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1775+300 13M LT
 LOGGED BY: B.B.

HOLE No.: 600-115

DATE COMP: 2001/06/21

FIELD NO:	187				
LAB NO:	698				
DEPTH:	3.8-4.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	100%				
20.0	96%				
12.5	85%				
10.0	77%				
5.0	56%				
2.5	43%				
1.25	34%				
0.630	28%				
0.315	23%				
0.160	18%				
0.080	13%				
M.C.(%):	4%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	44				
% SAND:	43				
% FINES:	13				
CLASSIFICATION	SILTY GRAVEL WITH SAND (GM)				

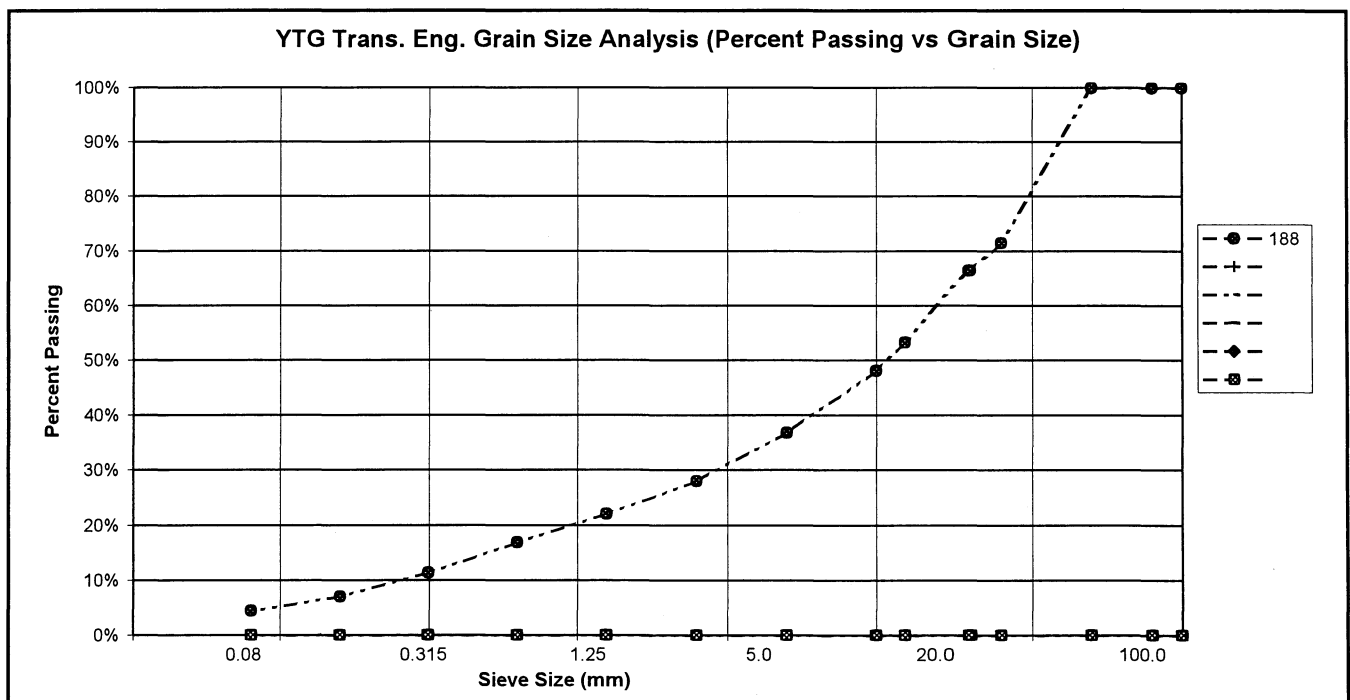


PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1775+400 10M LT
 LOGGED BY: B.B.

HOLE No.: 600-116

DATE COMP: 2001/06/21

FIELD NO:	188				
LAB NO:	699				
DEPTH:	1.3-1.5				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	71%				
20.0	66%				
12.5	53%				
10.0	48%				
5.0	37%				
2.5	28%				
1.25	22%				
0.630	17%				
0.315	11%				
0.160	7%				
0.080	4%				
M.C.(%):	2%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	63				
% SAND:	32				
% FINES:	4				
CLASSIFICATION	POORLY GRADED GRAVEL WITH SAND (GP)				



PROJECT NUMBER: 092-202101-0361-1
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 11
 PROJECT LOCATION: Km 1729-1787 A/H
 DRILL UNIT: MOBILE B40 L
 HOLE LOCATION: 1775+500 10M LT
 LOGGED BY: B.B.

HOLE No.: 600-117

DATE COMP: 2001/06/21

FIELD NO:	189				
LAB NO:	700				
DEPTH:	3.8-4.0				
TYPE:	AUGER	AUGER	AUGER	AUGER	
SIEVE SIZE	PERCENT PASSING				
100.0	100%				
80.0	100%				
50.0	100%				
25.0	81%				
20.0	75%				
12.5	60%				
10.0	54%				
5.0	39%				
2.5	30%				
1.25	22%				
0.630	16%				
0.315	10%				
0.160	7%				
0.080	5%				
M.C.(%):	2%				
LIQUID LIMIT:	0.0				
PLASTIC LIMIT:	0.0				
PLASTIC INDEX.:	0.0				
% GRAVEL:	61				
% SAND:	34				
% FINES:	5				
CLASSIFICATION	WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)				

