

GEOTECHNICAL INVESTIGATIONS

3 of 5



Community and Transportation Services
Transportation Engineering Branch

Geotechnical Services

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ORIGINAL - Do Not Remove From File

GR-01-087

HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION
KM 1803.95 TO KM 1820.4
YUKON, 2000-2001

ALASKA HIGHWAY #1

HIGHWAY CONSTRUCTION
km 1803.95 to km 1820.4
ALASKA HIGHWAY #1
Yukon, 2000-2001
Volume 3 of 5

This Data Package prepared for project viewing:

February, 2000

Transportation Engineering Branch
Geotechnical Services
461 Range Road
Whitehorse, Yukon

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VOLUME 1 OF 5

Introduction

Centreline "Subsurface Exploration & Testing Report" sheets for holes located from km 1803+925 to km 1810+000

VOLUME 2 OF 5

Centreline "Subsurface Exploration & Testing Report" sheets for holes located from km 1810+000 to km 1820+400

VOLUME 3 OF 5

Centreline laboratory sample test result sheets for holes numbered 350 to 500

VOLUME 4 OF 5

Centreline laboratory sample test result sheets for holes numbered 501 to 849

VOLUME 5 OF 5

Granular testing - km 1819 LHS

CONTENTS

INTRODUCTION

Investigation notes, classification methods and legends.

CENTRELINE TESTING

“Subsurface Exploration & Testing Report” sheets and laboratory sample test result sheets are provided. The “Subsurface Exploration & Testing Report” sheets for the centreline holes are arranged according to project location, starting at km 1803+925 and increasing to km 1820+400. The laboratory sample test result sheets are arranged according to hole number.

Auger Testing

1999	TEST HOLES 350 to 400	shown on logs with prefix 509-
	TEST HOLES 401 to 425	shown on logs with prefix 511-
	TEST HOLES 426 to 436	shown on logs with prefix 512-
	TEST HOLES 440 to 448	shown on logs with prefix 512-
	TEST HOLES 429 to 500	shown on logs with prefix 513-
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	TEST HOLES 572 to 575	shown on logs with prefix 519-
	TEST HOLES 620 to 644	shown on logs with prefix 520-
	TEST HOLES 645 to 658	shown on logs with prefix 521-
	TEST HOLES 659 to 709	shown on logs with prefix 526-
	TEST HOLES 710 to 731	shown on logs with prefix 527-
	TEST HOLES 834 to 844	shown on logs with prefix 531-
	TEST HOLES 485 to 849	shown on logs with prefix 532-

Notes on plotting of Centreline Holes:

1. Hole 495 shown at ~ 1807+225 on Sheet 5 of 19 should be removed
2. Hole 400 shown at ~ 1808+520 on Sheet 6 of 19 should be removed
3. Add Hole 440 at 1811+870 (centreline) on Sheet 9 of 19
4. Add Hole 408 at 1814+625 (centreline) on Sheet 12 of 19
5. Hole 391 shown at ~ 1816+500 on Sheet 14 of 19 should read Hole 392
6. Hole 392 shown at ~ 1816+600 on Sheet 14 of 19 should read Hole 391
7. Hole 843 shown at ~ 1817+700 on Sheet 15 of 19 should read Hole 378

CONTENTS (continued)**GRANULAR TESTING - KM 1819 LHS**

"Subsurface Exploration & Testing Report" sheets, laboratory sample test result sheets, and location plans are provided.

The "Subsurface Exploration & Testing Report" sheets and the laboratory sample test result sheets are arranged according to hole number

Backhoe Testing

1994	TEST HOLES 4 to 10	shown with prefix 316-
1995	TEST HOLES 230 to 247, 249 to 250, & 252 to 253	shown with prefix 369-

Auger Testing

1995	TEST HOLES 1 to 9	shown with prefix 351-
	TEST HOLES 10 to 26	shown with prefix 352-

HIGHWAY CONSTRUCTION

GEOTECHNICAL INVESTIGATION
KM 1803.95 TO KM 1820.4
YUKON, 2000-2001

ALASKA HIGHWAY #1

CENTRELINE TESTING

**hole 350 to hole 500
Laboratory Sample Test Results**

PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-350
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1820+050 center line
 LOGGED BY: G.C. DATE COMP 99-04-19

FIELD NO: 40	FIELD No. 41	FIELD No: 42
LAB NO: 44	LAB No. 45	LAB No: 46
DEPTH: 0.8-1.2	DEPTH 2.0-3.0	DEPTH: 3.5-4.5
TYPE: AUGER	TYPE AUGER	TYPE: AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	88%	25.0	93%
20.0	100%	20.0	80%	20.0	82%
12.5	100%	12.5	66%	12.5	72%
10.0	100%	10.0	59%	10.0	68%
5.0	100%	5.0	39%	5.0	61%
2.5	99%	2.5	28%	2.5	56%
1.25	99%	1.25	23%	1.25	53%
0.630	98%	0.630	18%	0.630	45%
0.315	97%	0.315	7%	0.315	14%
0.160	96%	0.160	3%	0.160	4%
0.080	95%	0.080	2%	0.080	2%

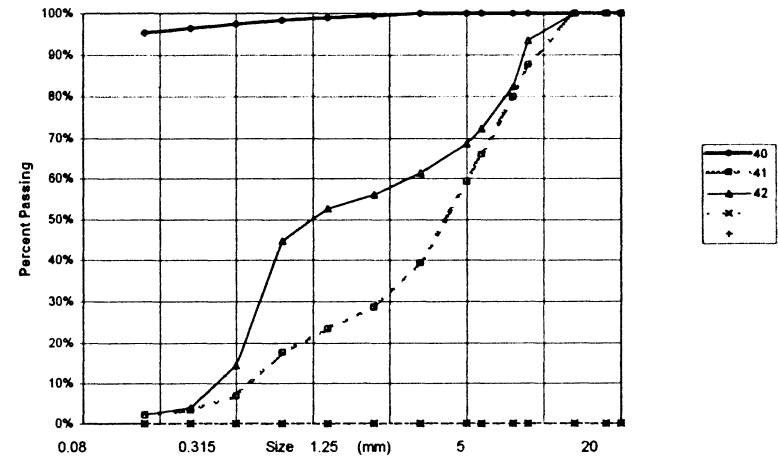
M.C.(%): 63%	M.C.(%): 6%	M.C.(%): 12%
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LIMITS		LIMITS		LIMITS	
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PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0

% GRAVEL:	0	% GRAVEL:	61	% GRAVEL:	39
% SAND:	5	% SAND:	37	% SAND:	59
% FINES:	95	% FINES:	2	% FINES:	2

CLASSIFICATION: SILT (ML)	CLASSIFICATION: POORLY GRADED GRAVEL WITH SAND (GP)	CLASSIFICATION: WELL-GRADED SAND WITH GRAVEL (SW)
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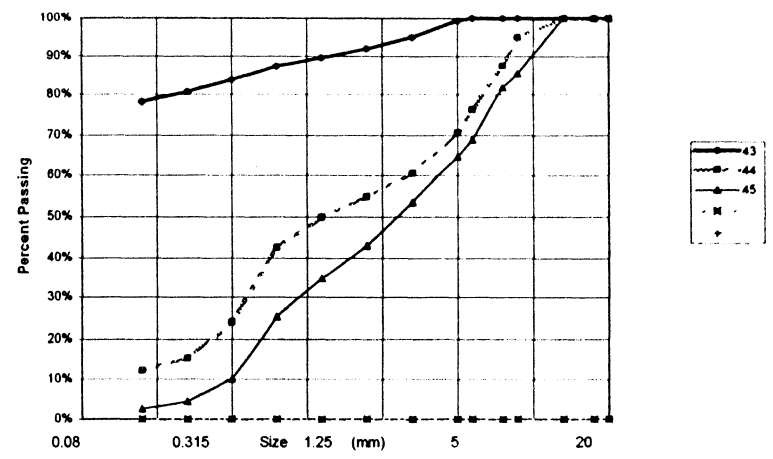
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-351
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1820+000 center line
 LOGGED BY: G.C. DATE COMP 99-04-19

FIELD NO:	LAB NO:	DEPTH:	TYPE:	PERCENT PASSING	SIEVE SIZE
43	47	0.8-1.0	AUGER		
44	48	1.5-2.0	AUGER		
45	49	3.5-4.5	AUGER		
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	95%	25.0	86%
20.0	100%	20.0	88%	20.0	82%
12.5	100%	12.5	76%	12.5	69%
10.0	99%	10.0	71%	10.0	65%
5.0	95%	5.0	60%	5.0	53%
2.5	92%	2.5	55%	2.5	43%
1.25	90%	1.25	50%	1.25	35%
0.630	87%	0.630	43%	0.630	25%
0.315	84%	0.315	24%	0.315	10%
0.160	81%	0.160	15%	0.160	4%
0.080	78%	0.080	12%	0.080	3%
M.C. (%)	68%	M.C. (%)	10%	M.C. (%)	9%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	5	% GRAVEL:	40	% GRAVEL:	47
% SAND:	17	% SAND:	48	% SAND:	51
% FINES:	78	% FINES:	12	% FINES:	3
CLASSIFICATION:	SILT WITH SAND (ML)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	WELL-GRADED SAND WITH GRAVEL (SW)

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: XXXXXXXXXX
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1819+875 2m RT
 LOGGED BY: G.C. DATE COMP 99-04-19

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
46	50	0.5-1.0	AUGER	47	51	1.0-1.5	AUGER	48	52	2.2-3.0	AUGER

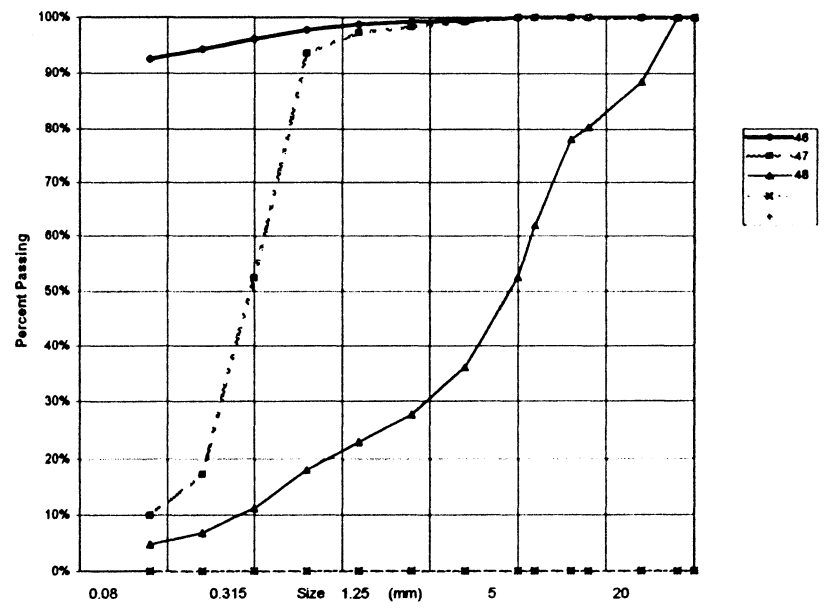
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	88%
25.0	100%	25.0	100%	25.0	80%
20.0	100%	20.0	100%	20.0	78%
12.5	100%	12.5	100%	12.5	62%
10.0	100%	10.0	100%	10.0	52%
5.0	99%	5.0	99%	5.0	36%
2.5	99%	2.5	98%	2.5	28%
1.25	99%	1.25	97%	1.25	23%
0.830	98%	0.830	94%	0.830	18%
0.315	96%	0.315	52%	0.315	11%
0.160	94%	0.160	17%	0.160	7%
0.080	93%	0.080	10%	0.080	5%

M.C.(%):	83%	M.C.(%):	22%	M.C.(%):	7%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0

% GRAVEL:	1	% GRAVEL:	1	% GRAVEL:	64
% SAND:	7	% SAND:	89	% SAND:	31
% FINES:	93	% FINES:	10	% FINES:	5

CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	POORLY GRADED SAND WITH SILT (SP-SM)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)
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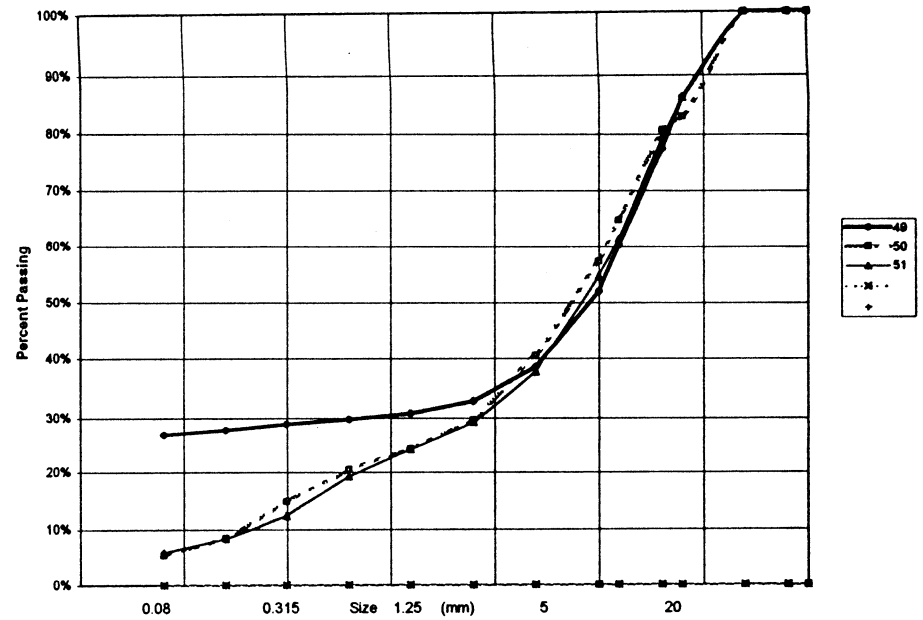
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-352
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1819+825 2m RT
 LOGGED BY: G.C. DATE COMP 99-04-19

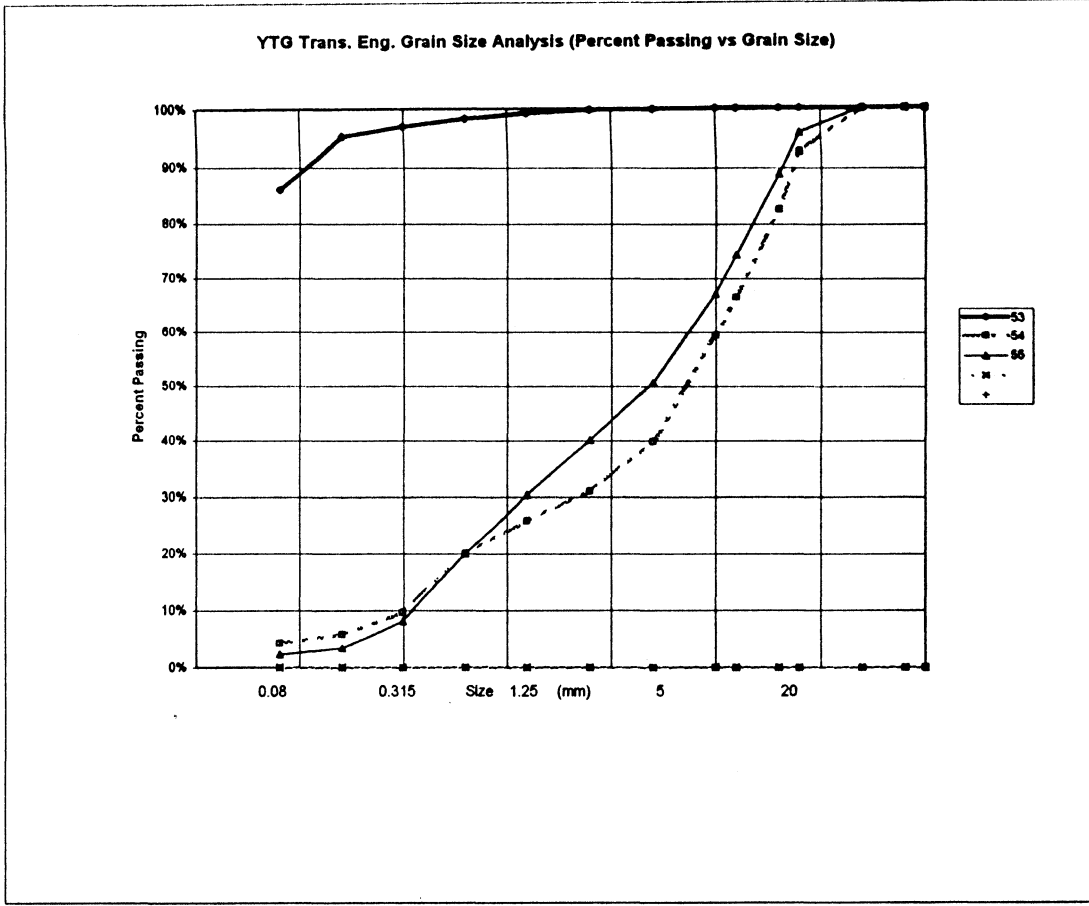
FIELD NO: 49		FIELD No. 50		FIELD No: 51	
LAB NO: 53		LAB No. 54		LAB No: 55	
DEPTH: 0.4-0.8		DEPTH 1.0-1.5		DEPTH: 2.5-3.0	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	87%	25.0	83%	25.0	87%
20.0	77%	20.0	81%	20.0	79%
12.5	60%	12.5	65%	12.5	61%
10.0	52%	10.0	57%	10.0	55%
5.0	38%	5.0	41%	5.0	38%
2.5	33%	2.5	30%	2.5	29%
1.25	31%	1.25	24%	1.25	24%
0.630	30%	0.630	20%	0.630	19%
0.315	29%	0.315	15%	0.315	12%
0.160	28%	0.160	8%	0.160	8%
0.080	27%	0.080	5%	0.080	6%
M.C.(%): 31%		M.C.(%): 7%		M.C.(%): 9%	
LIMITS		LIMITS		LIMITS	
LIQUID: 0.0		LIQUID: 0.0		LIQUID: 0.0	
PLASTIC: 0.0		PLASTIC: 0.0		PLASTIC: 0.0	
P.I.: 0.0		P.I.: 0.0		P.I.: 0.0	
% GRAVEL: 62		% GRAVEL: 59		% GRAVEL: 62	
% SAND: 12		% SAND: 35		% SAND: 32	
% FINES: 27		% FINES: 5		% FINES: 6	
CLASSIFICATION: SILTY GRAVEL (GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-354
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1790-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1819+875 center line
 LOGGED BY: G.C. DATE COMP 99-04-19

FIELD NO:	53	FIELD No. 54	FIELD No. 55		
LAB NO:	57	LAB No. 58	LAB No: 59		
DEPTH:	0.6-1.0	DEPTH 2.5-3.0	DEPTH: 4.0-4.5		
TYPE:	AUGER	TYPE AUGER	TYPE: AUGER		
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	93%	25.0	96%
20.0	100%	20.0	83%	20.0	89%
12.5	100%	12.5	67%	12.5	74%
10.0	100%	10.0	59%	10.0	67%
5.0	100%	5.0	40%	5.0	51%
2.5	100%	2.5	31%	2.5	40%
1.25	99%	1.25	26%	1.25	30%
0.630	98%	0.630	20%	0.630	20%
0.315	97%	0.315	10%	0.315	8%
0.160	95%	0.160	6%	0.160	3%
0.080	86%	0.080	4%	0.080	2%
M.C.(%):	47%	M.C.(%):	9%	M.C.(%):	10%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	60	% GRAVEL:	49
% SAND:	14	% SAND:	36	% SAND:	48
% FINES:	86	% FINES:	4	% FINES:	2
CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	POORLY GRADED GRAVEL WITH SAND (GP)	CLASSIFICATION:	POORLY GRADED GRAVEL WITH SAND (GP)



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-355
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1819+675 20m LT	DATE COMP	99-04-19
LOGGED BY:	G.C.		

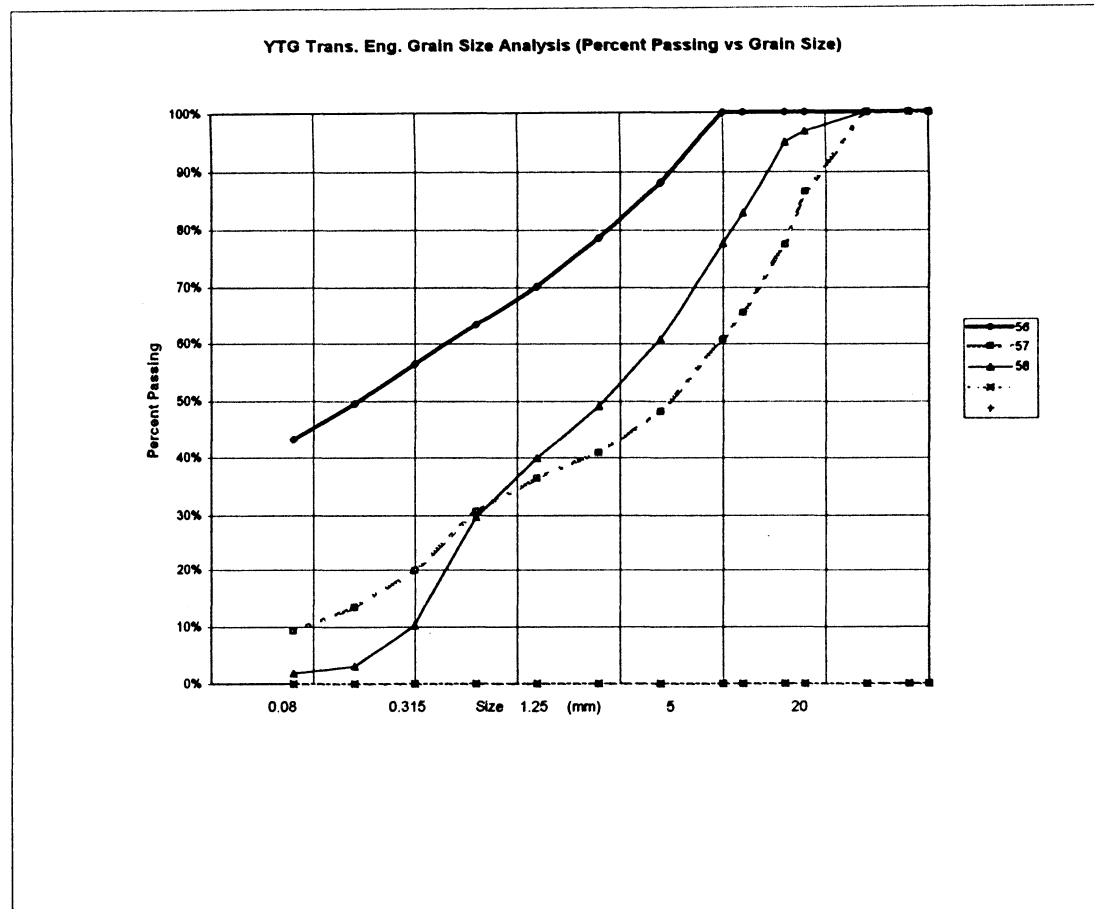
FIELD NO:	56	FIELD No:	57	FIELD No:	58
LAB NO:	60	LAB No:	61	LAB No:	62
DEPTH:	0.2-0.4	DEPTH:	2.5-3.0	DEPTH:	4.0-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	87%	25.0	97%
20.0	100%	20.0	77%	20.0	95%
12.5	100%	12.5	66%	12.5	83%
10.0	100%	10.0	61%	10.0	78%
5.0	88%	5.0	48%	5.0	61%
2.5	78%	2.5	41%	2.5	49%
1.25	70%	1.25	36%	1.25	40%
0.630	63%	0.630	31%	0.630	30%
0.315	56%	0.315	20%	0.315	10%
0.160	50%	0.160	13%	0.160	3%
0.080	43%	0.080	9%	0.080	2%

M.C.(%):	172%	M.C.(%):	10%	M.C.(%):	11%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0

% GRAVEL:	12	% GRAVEL:	52	% GRAVEL:	39
% SAND:	45	% SAND:	39	% SAND:	59
% FINES:	43	% FINES:	9	% FINES:	2

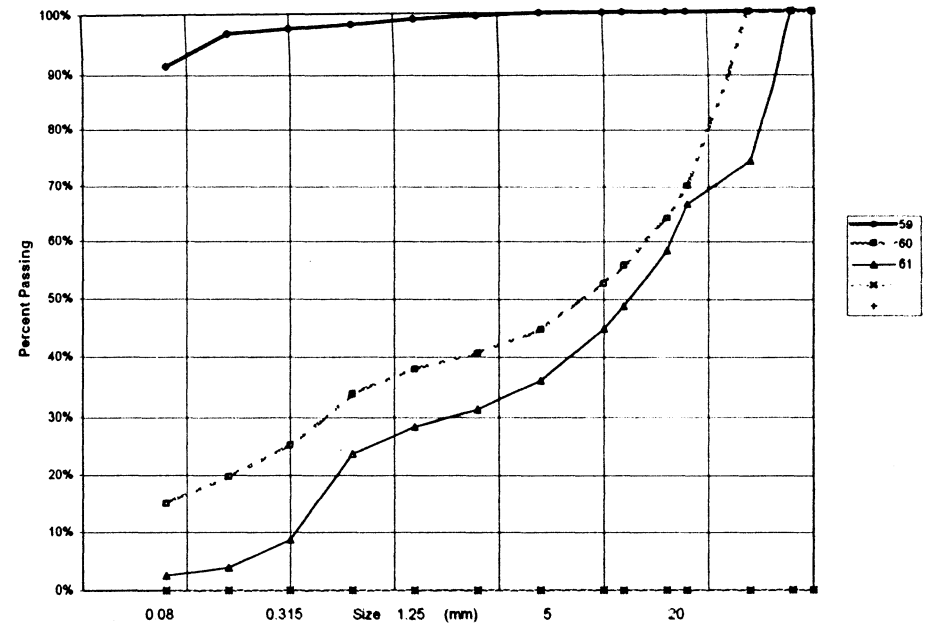
CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
SILTY SAND (SM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	WELL-GRADED SAND WITH GRAVEL (SW)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-356
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1819+575 2m RT
 LOGGED BY: G.C. DATE COMP 99-04-19

FIELD NO: 59		FIELD No. 60		FIELD No: 61	
LAB NO: 63		LAB No. 64		LAB No: 65	
DEPTH: 0.5-1.0		DEPTH 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	75%
25.0	100%	25.0	70%	25.0	67%
20.0	100%	20.0	64%	20.0	58%
12.5	100%	12.5	56%	12.5	49%
10.0	100%	10.0	53%	10.0	45%
5.0	100%	5.0	45%	5.0	36%
2.5	100%	2.5	41%	2.5	31%
1.25	99%	1.25	38%	1.25	28%
0.630	98%	0.630	34%	0.630	24%
0.315	97%	0.315	25%	0.315	9%
0.160	97%	0.160	20%	0.160	4%
0.080	91%	0.080	15%	0.080	2%
M.C. (%):	40%	M.C. (%):	12%	M.C. (%):	8%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	55	% GRAVEL:	64
% SAND:	9	% SAND:	30	% SAND:	33
% FINES:	91	% FINES:	15	% FINES:	2
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILT (ML)		SILTY GRAVEL WITH SAND (GM)		POORLY GRADED GRAVEL WITH SAND (GP)	

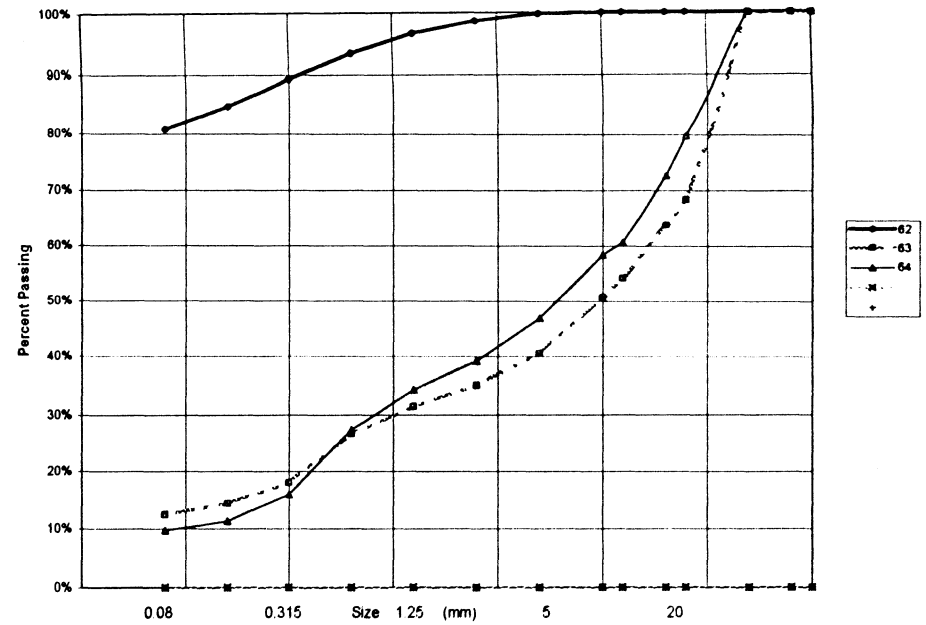
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-357
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1819+475 center line
 LOGGED BY: G.C. DATE COMP 99-04-19

FIELD NO: 62		FIELD No. 63		FIELD No. 64	
LAB NO: 66		LAB No. 67		LAB No. 68	
DEPTH: 0.5-1.0		DEPTH 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	69%	25.0	80%
20.0	100%	20.0	64%	20.0	73%
12.5	100%	12.5	54%	12.5	61%
10.0	100%	10.0	51%	10.0	58%
5.0	100%	5.0	41%	5.0	47%
2.5	99%	2.5	35%	2.5	39%
1.25	98%	1.25	31%	1.25	34%
0.630	93%	0.630	27%	0.630	27%
0.315	89%	0.315	18%	0.315	16%
0.160	85%	0.160	14%	0.160	11%
0.080	81%	0.080	12%	0.080	10%
M.C. (%)	88%	M.C. (%)	9%	M.C. (%)	11%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	59	% GRAVEL:	53
% SAND:	19	% SAND:	28	% SAND:	37
% FINES:	81	% FINES:	12	% FINES:	10
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILT WITH SAND (ML)		SILTY GRAVEL WITH SAND (GM)		POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	

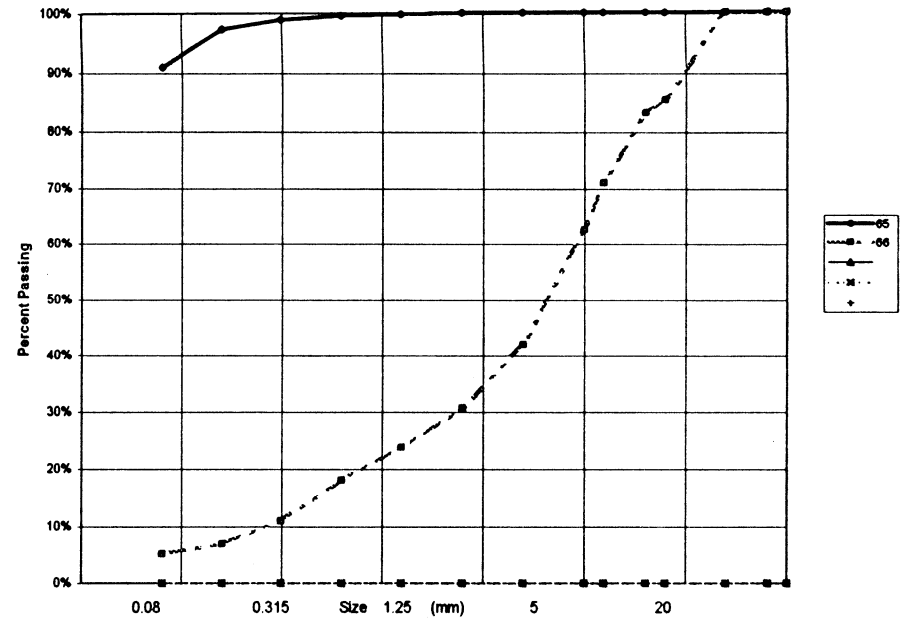
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-358
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1819+375 center line
 LOGGED BY: G.C. DATE COMP 99-04-19

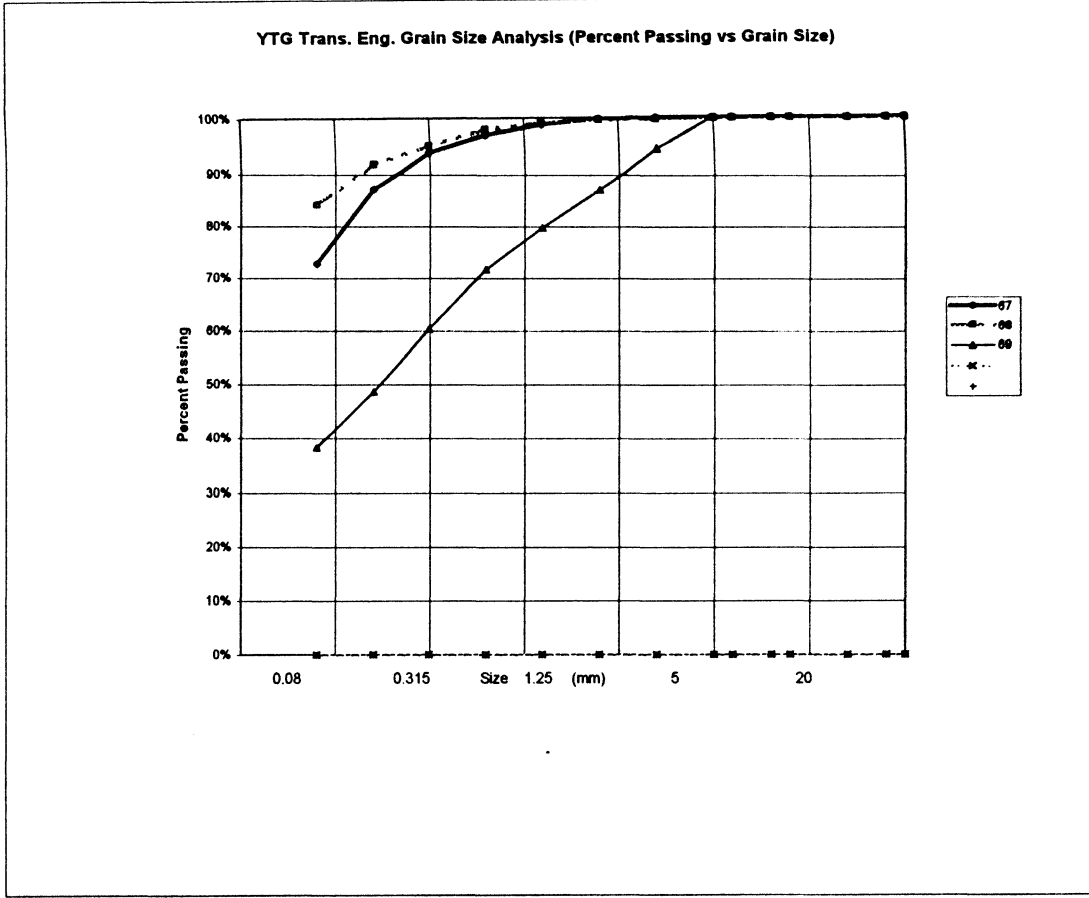
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	86%
20.0	100%	20.0	83%
12.5	100%	12.5	71%
10.0	100%	10.0	63%
5.0	100%	5.0	42%
2.5	100%	2.5	31%
1.25	100%	1.25	24%
0.630	100%	0.630	18%
0.315	99%	0.315	11%
0.160	97%	0.160	7%
0.080	91%	0.080	5%
M.C.(%): 42% M.C.(%): 8%			
LIMITS			
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	58
% SAND:	9	% SAND:	37
% FINES:	91	% FINES:	5
CLASSIFICATION:			
SILT (ML)		POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-359
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1819+275 1m RT
 LOGGED BY: G.C. DATE COMP 99-04-19

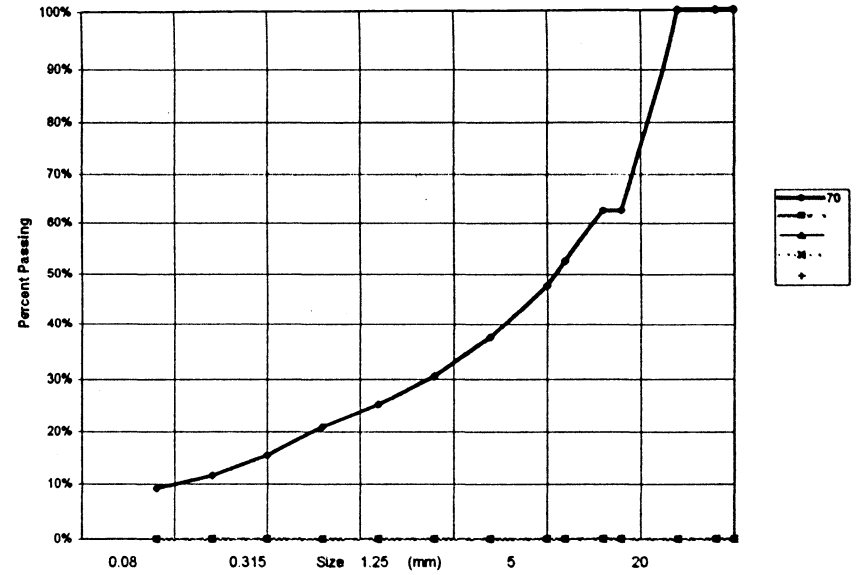
FIELD No: 67		FIELD No: 68		FIELD No: 69	
LAB No: 71		LAB No: 72		LAB No: 73	
DEPTH: 1.5-2.0		DEPTH: 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE: AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	100%
20.0	100%	20.0	100%	20.0	100%
12.5	100%	12.5	100%	12.5	100%
10.0	100%	10.0	100%	10.0	100%
5.0	100%	5.0	100%	5.0	95%
2.5	100%	2.5	100%	2.5	87%
1.25	99%	1.25	99%	1.25	80%
0.630	97%	0.630	98%	0.630	72%
0.315	94%	0.315	95%	0.315	60%
0.160	87%	0.160	92%	0.160	49%
0.080	73%	0.080	84%	0.080	38%
M.C.(%):	51%	M.C.(%):	55%	M.C.(%):	25%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	0	% GRAVEL:	5
% SAND:	27	% SAND:	16	% SAND:	57
% FINES:	73	% FINES:	84	% FINES:	38
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILT WITH SAND (ML)		SILT WITH SAND (ML)		SILTY SAND (SM)	



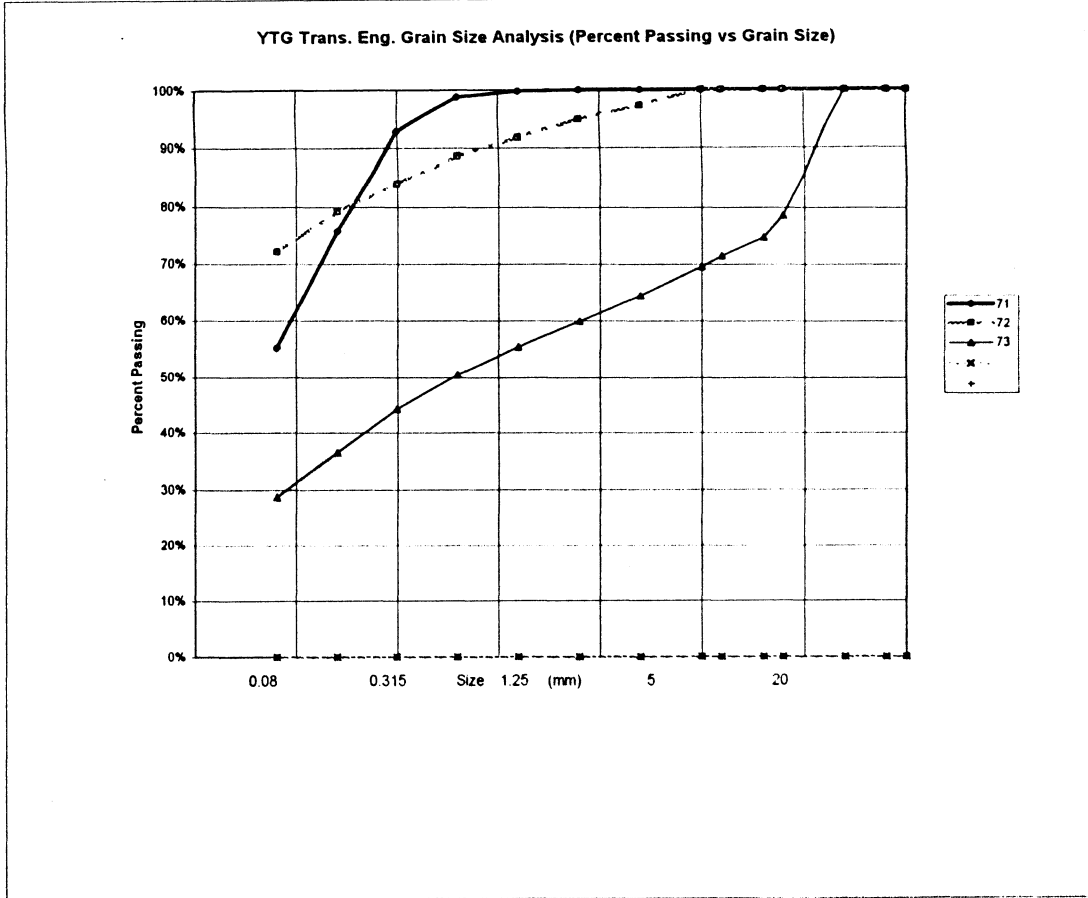
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-360
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1819+200 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-04-19

FIELD NO: 70			
LAB NO: 74			
DEPTH: 1.5-2.0			
TYPE: AUGER			
SIEVE SIZE	PERCENT PASSING		
100.0	100%		
80.0	100%		
50.0	100%		
25.0	63%		
20.0	63%		
12.5	53%		
10.0	48%		
5.0	37%		
2.5	30%		
1.25	25%		
0.630	21%		
0.315	15%		
0.160	12%		
0.080	9%		
M.C.(%):	5%		
LIMITS			
LIQUID:	0.0		
PLASTIC:	0.0		
P.I.:	0.0		
% GRAVEL:	63		
% SAND:	28		
% FINES:	9		
CLASSIFICATION:			
POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)			

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



PROJECT NUMBER: 091-202101-0329-199		HOLE No.: 509-361	
CLIENT: ENGINEERING CAPITAL			
PROJECT NAME: SHAKWAK SEG 13			
PROJECT LOCATION: KM 1799-1822 A/H			
DRILL UNIT: B-40-L Nodwell			
HOLE LOCATION: 1819+100 center line		DATE COMP 99-04-19	
LOGGED BY: G.C.			
=====		=====	
FIELD NO: 71	FIELD No. 72	FIELD No: 73	
LAB NO: 75	LAB No. 76	LAB No: 77	
DEPTH: 0.2-0.5	DEPTH 2.8-3.2	DEPTH: 4.0-4.5	
TYPE: AUGER	TYPE AUGER	TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	79%
20.0	100%	20.0	75%
12.5	100%	12.5	71%
10.0	100%	10.0	70%
5.0	100%	5.0	65%
2.5	100%	2.5	60%
1.25	100%	1.25	55%
0.630	99%	0.630	50%
0.315	93%	0.315	44%
0.160	76%	0.160	36%
0.080	55%	0.080	29%
M.C.(%): 12%	M.C.(%): 33%	M.C.(%): 16%	
LIMITS	LIMITS	LIMITS	
LIQUID: 0.0	LIQUID: 0.0	LIQUID: 0.0	
PLASTIC: 0.0	PLASTIC: 0.0	PLASTIC: 0.0	
P.I.: 0.0	P.I.: 0.0	P.I.: 0.0	
% GRAVEL: 0	% GRAVEL: 3	% GRAVEL: 35	
% SAND: 45	% SAND: 25	% SAND: 38	
% FINES: 55	% FINES: 72	% FINES: 29	
CLASSIFICATION: SANDY SILT (ML)	CLASSIFICATION: SILT WITH SAND (ML)	CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-362
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B.40-L Nodwell
 HOLE LOCATION: 1819+000 center line
 LOGGED BY: G.C. DATE COMP 99-04-20

FIELD NO: 74
 LAB NO: 78
 DEPTH: 1.3-1.6
 TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	100%
20.0	97%
12.5	82%
10.0	74%
5.0	59%
2.5	51%
1.25	44%
0.630	36%
0.315	26%
0.160	19%
0.080	14%

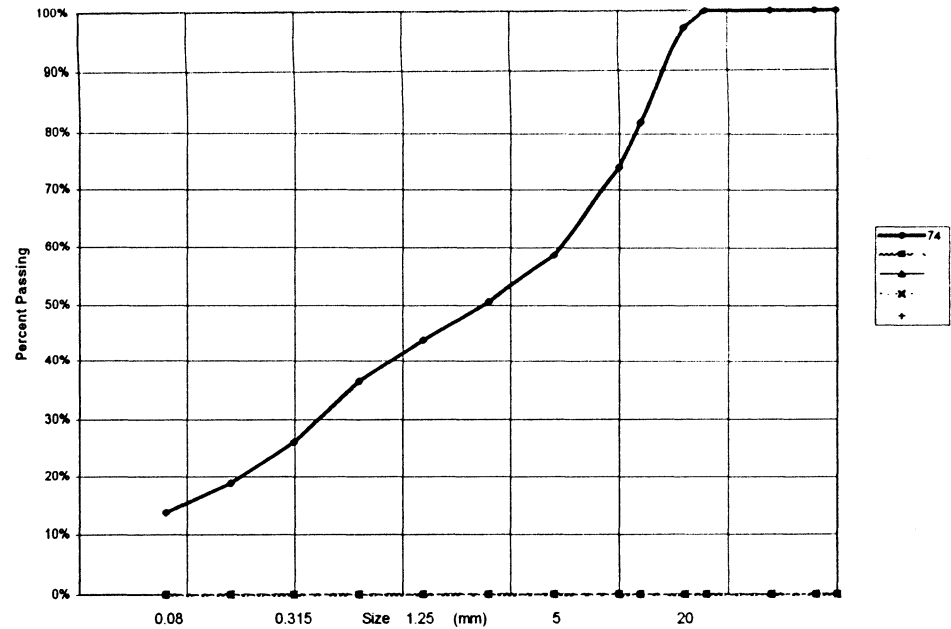
M.C.(%): 11%

LIMITS
 LIQUID: 0.0
 PLASTIC: 0.0
 P.I.: 0.0

% GRAVEL: 41
 % SAND: 45
 % FINES: 14

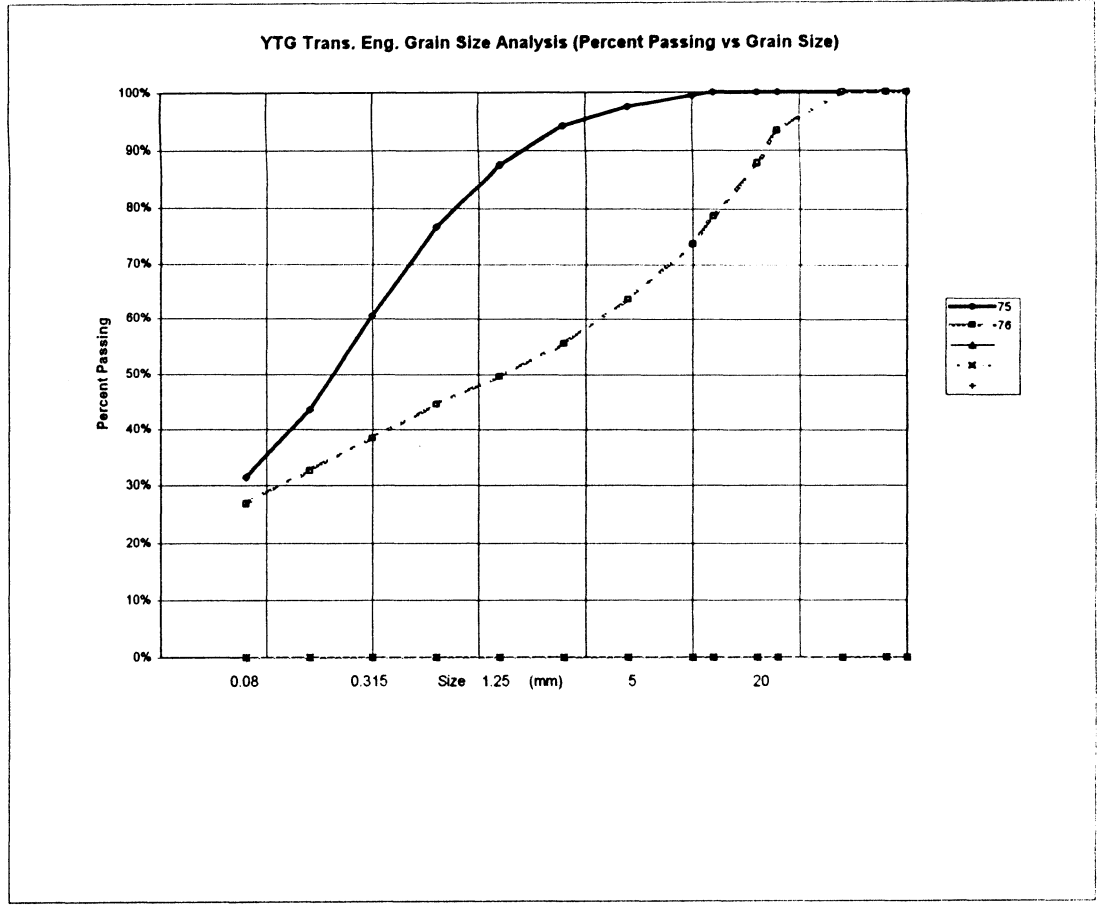
CLASSIFICATION:
 SILTY SAND WITH GRAVEL (SM)

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-363
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1818+775 20m RT
 LOGGED BY: G.C. DATE COMP 99-04-20

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	93%
20.0	100%	20.0	88%
12.5	100%	12.5	79%
10.0	99%	10.0	74%
5.0	97%	5.0	64%
2.5	94%	2.5	56%
1.25	88%	1.25	50%
0.630	77%	0.630	45%
0.315	61%	0.315	38%
0.160	44%	0.160	33%
0.080	31%	0.080	27%
M.C.(%):	17%	M.C.(%):	19%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	3	% GRAVEL:	36
% SAND:	66	% SAND:	37
% FINES:	31	% FINES:	27
CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND (SM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-364
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 AH		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1818+775 10m LT		
LOGGED BY:	G.C.	DATE COMP	99-04-20

FIELD NO:	77	FIELD No.	78
LAB NO:	81	LAB No.	82
DEPTH:	1.8-2.4	DEPTH	4.0-4.5
TYPE:	AUGER	TYPE	AUGER

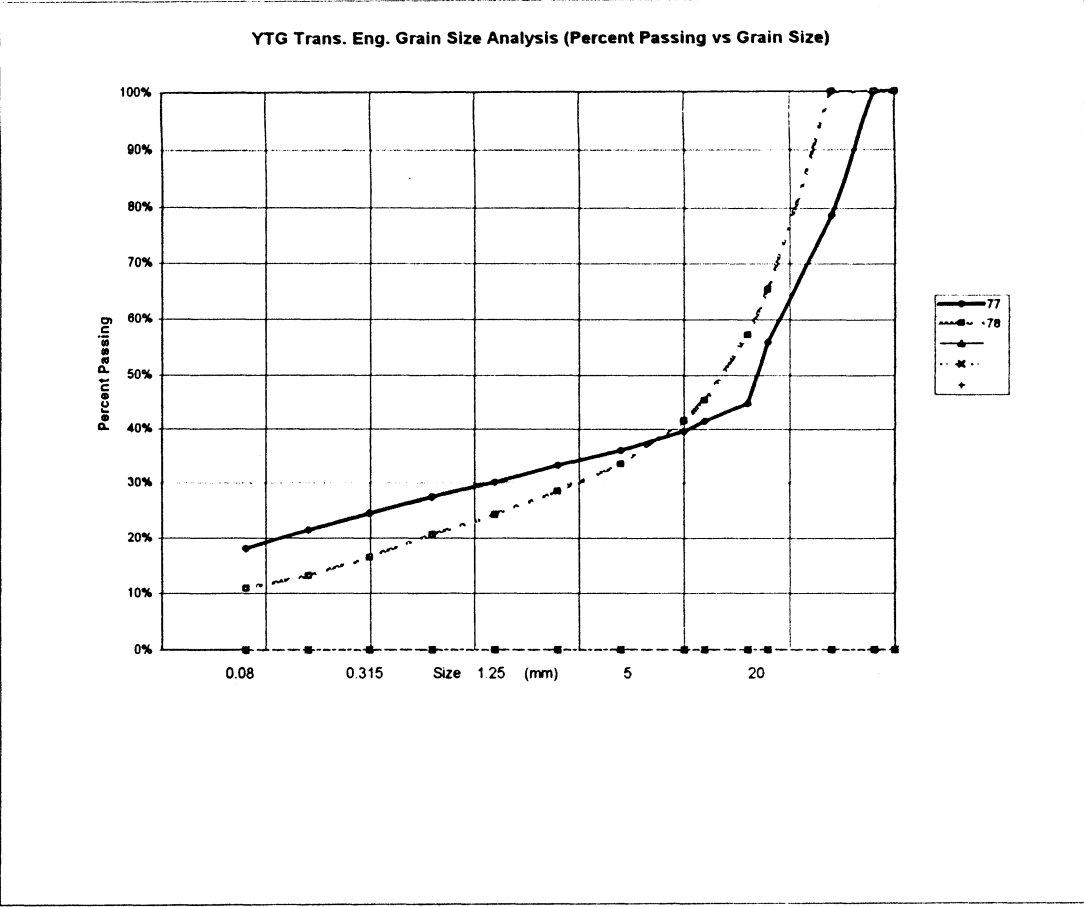
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	79%	50.0	100%
25.0	56%	25.0	65%
20.0	45%	20.0	57%
12.5	41%	12.5	45%
10.0	40%	10.0	42%
5.0	36%	5.0	34%
2.5	33%	2.5	28%
1.25	30%	1.25	24%
0.830	27%	0.830	21%
0.315	25%	0.315	16%
0.160	21%	0.160	13%
0.080	18%	0.080	11%

M.C.(%):	11%	M.C.(%):	7%
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LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

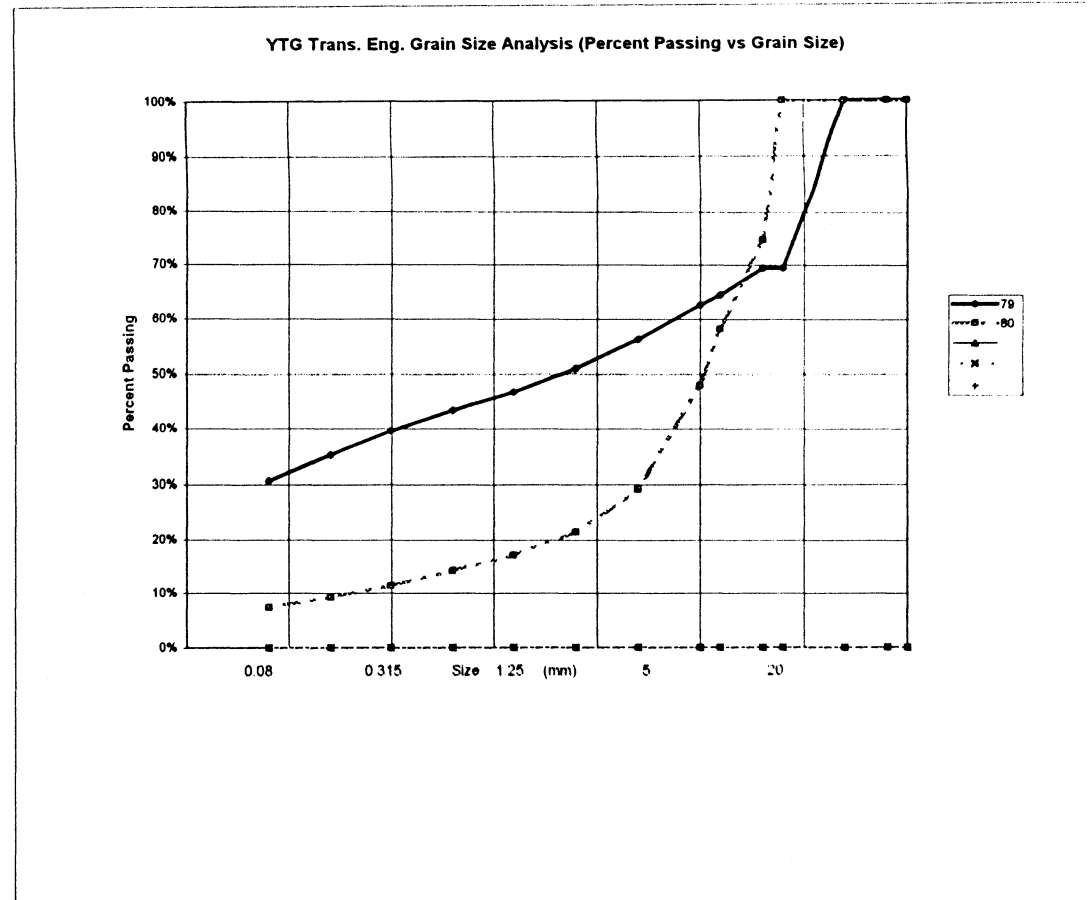
% GRAVEL:	64	% GRAVEL:	66
% SAND:	18	% SAND:	23
% FINES:	18	% FINES:	11

CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)
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PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-365
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1818+725 10m RT
 LOGGED BY: G.C. DATE COMP 99-04-20

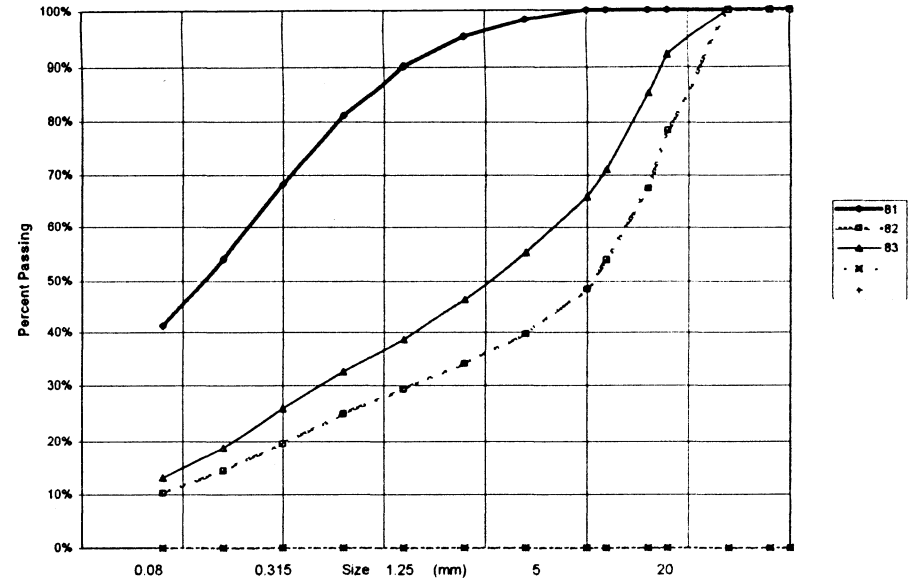
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	69%	25.0	100%
20.0	69%	20.0	75%
12.5	65%	12.5	58%
10.0	63%	10.0	48%
5.0	56%	5.0	29%
2.5	51%	2.5	21%
1.25	47%	1.25	17%
0.630	43%	0.630	14%
0.315	40%	0.315	11%
0.160	35%	0.160	9%
0.080	31%	0.080	7%
M.C.(%): 32%		M.C.(%): 5%	
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	44	% GRAVEL:	71
% SAND:	26	% SAND:	22
% FINES:	31	% FINES:	7
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-366
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1818+355 center line
 LOGGED BY: G.C. DATE COMP 99-04-20

FIELD NO:	81	FIELD No:	82	FIELD No:	83
LAB NO:	85	LAB No:	86	LAB No:	87
DEPTH:	1.0-1.5	DEPTH:	2.5-3.0	DEPTH:	4.0-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	78%	25.0	92%
20.0	100%	20.0	67%	20.0	86%
12.5	100%	12.5	54%	12.5	71%
10.0	100%	10.0	49%	10.0	66%
5.0	98%	5.0	40%	5.0	55%
2.5	95%	2.5	34%	2.5	46%
1.25	90%	1.25	29%	1.25	39%
0.630	81%	0.630	25%	0.630	32%
0.315	68%	0.315	19%	0.315	26%
0.160	54%	0.160	14%	0.160	19%
0.080	41%	0.080	10%	0.080	13%
M.C.(%):	20%	M.C.(%):	6%	M.C.(%):	12%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	2	% GRAVEL:	60	% GRAVEL:	45
% SAND:	57	% SAND:	29	% SAND:	42
% FINES:	41	% FINES:	10	% FINES:	13
CLASSIFICATION:	SILTY SAND (SM)	CLASSIFICATION:	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-367
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1818+350 20m RT
 LOGGED BY: G.C. DATE COMP 99-04-20

FIELD NO: 84 FIELD No. 85
 LAB NO: 88 LAB No. 89
 DEPTH: 2.0-2.5 DEPTH 3.2-3.6
 TYPE: AUGER TYPE AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	84%
20.0	100%	20.0	82%
12.5	100%	12.5	63%
10.0	100%	10.0	52%
5.0	100%	5.0	32%
2.5	99%	2.5	22%
1.25	97%	1.25	16%
0.630	92%	0.630	12%
0.315	82%	0.315	9%
0.160	71%	0.160	6%
0.080	58%	0.080	5%

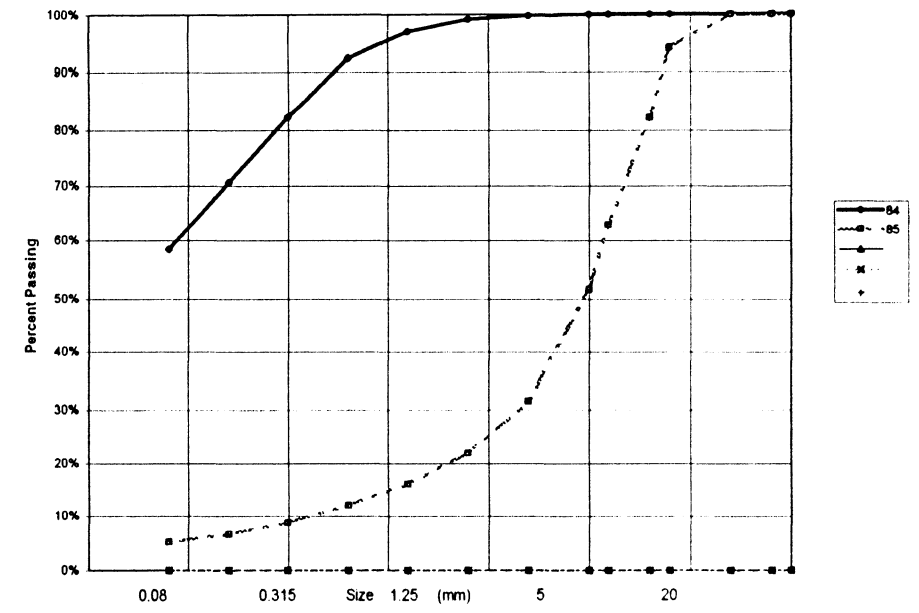
M.C.(%): 49% M.C.(%): 6%

LIMITS
 LIQUID: 0.0 LIQUID: 0.0
 PLASTIC: 0.0 PLASTIC: 0.0
 P.I.: 0.0 P.I.: 0.0

% GRAVEL: 0 % GRAVEL: 68
 % SAND: 41 % SAND: 26
 % FINES: 58 % FINES: 5

CLASSIFICATION: SANDY SILT (ML)
 CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)

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



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-368
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1818+275 5m LT		
LOGGED BY:	G.C.	DATE COMP	99-04-20

FIELD NO:	86	FIELD No:	87	FIELD No:	88
LAB NO:	90	LAB No:	91	LAB No:	92
DEPTH:	0.8-1.0	DEPTH:	1.8-2.0	DEPTH:	4.0-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

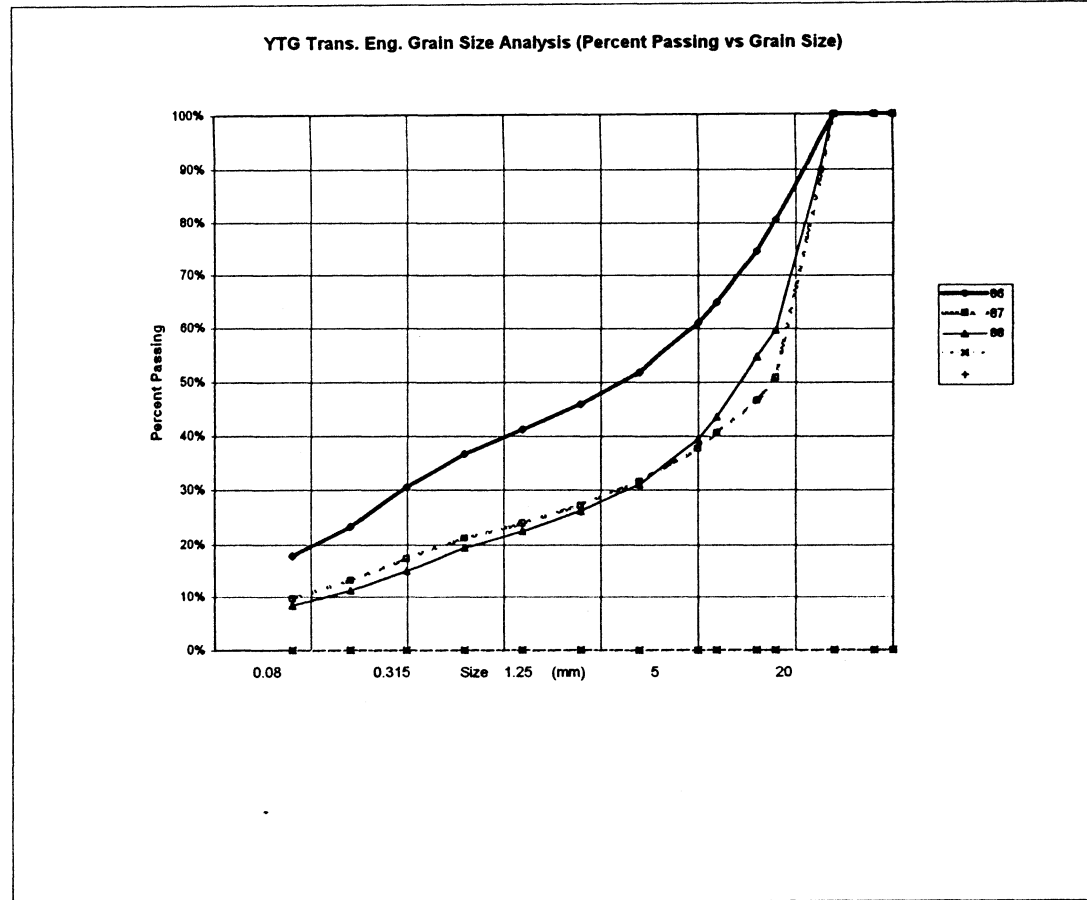
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	81%	25.0	51%	25.0	60%
20.0	75%	20.0	47%	20.0	55%
12.5	65%	12.5	41%	12.5	44%
10.0	61%	10.0	38%	10.0	39%
5.0	52%	5.0	32%	5.0	31%
2.5	46%	2.5	27%	2.5	26%
1.25	41%	1.25	24%	1.25	23%
0.630	37%	0.630	21%	0.630	19%
0.315	30%	0.315	17%	0.315	15%
0.160	23%	0.160	13%	0.160	11%
0.080	18%	0.080	10%	0.080	8%

M.C.(%):	5%	M.C.(%):	3%	M.C.(%):	3%
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LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0

% GRAVEL:	48	% GRAVEL:	68	% GRAVEL:	69
% SAND:	34	% SAND:	22	% SAND:	23
% FINES:	18	% FINES:	10	% FINES:	8

CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-369
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1818+200 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-04-20

FIELD NO:	89
LAB NO:	93
DEPTH:	2.6-3.0
TYPE:	AUGER

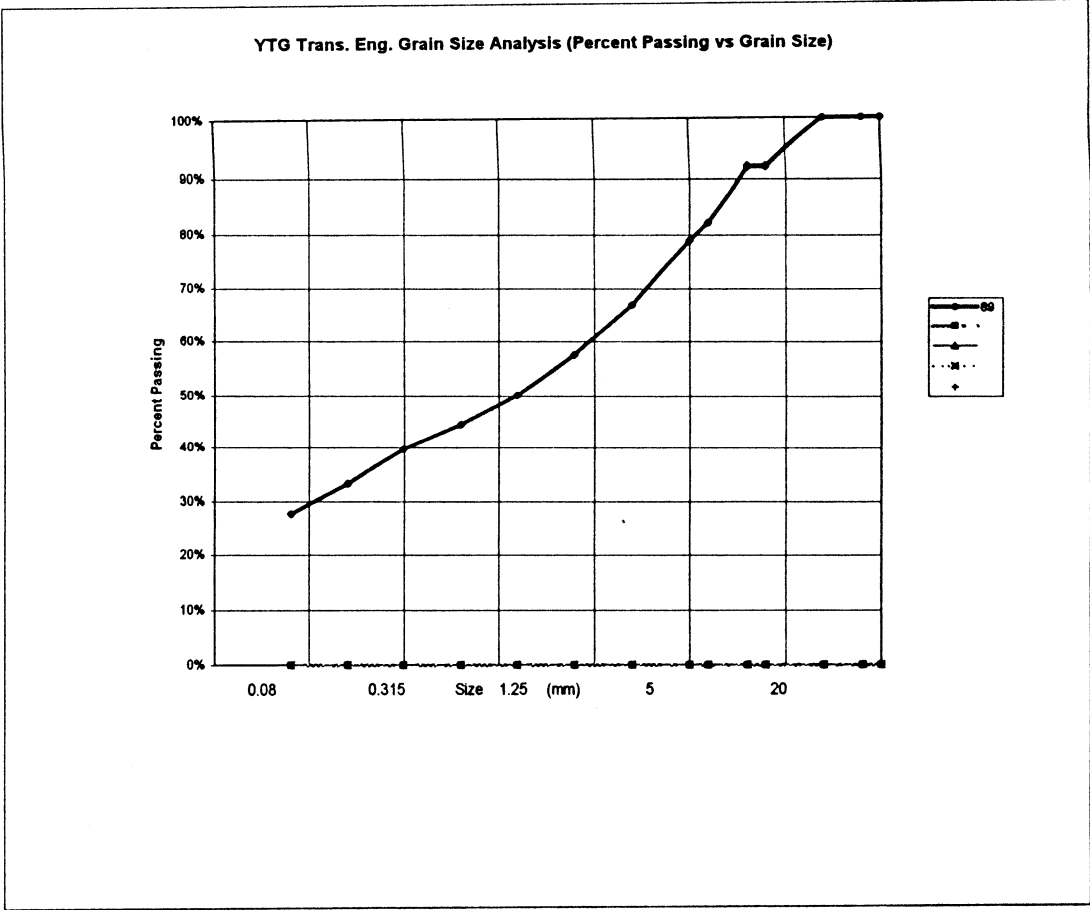
SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	92%
20.0	92%
12.5	82%
10.0	79%
5.0	67%
2.5	58%
1.25	50%
0.830	44%
0.315	40%
0.160	33%
0.080	28%

M.C.(%):	12%
----------	-----

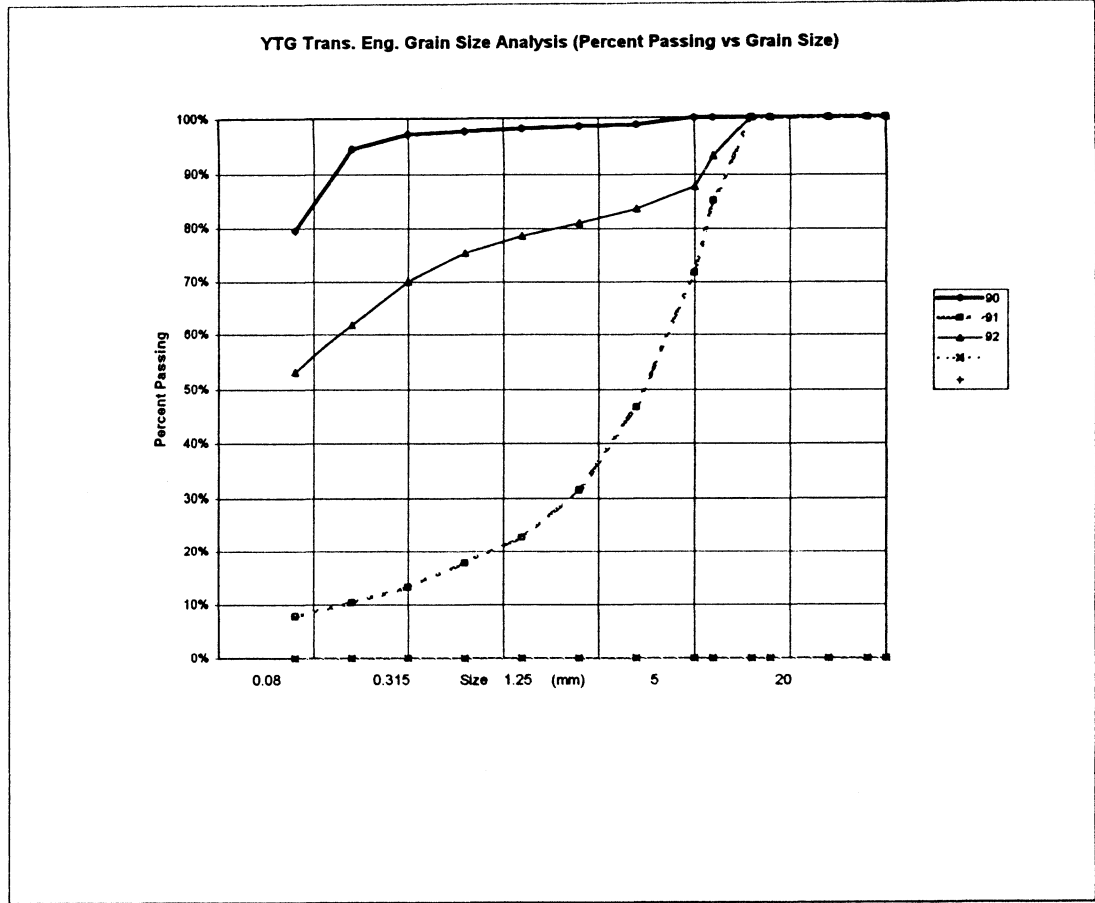
LIMITS	
LIQUID:	0.0
PLASTIC:	0.0
P.I.:	0.0

% GRAVEL:	33
% SAND:	39
% FINES:	28

CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199		ENGINEERING CAPITAL		HOLE No.: 509-370	
CLIENT: SHAKWAK SEG 13		KM 1799-1822 A/H			
PROJECT LOCATION: B-40-L Nodwell		1818+100 10M RT			
DRILL UNIT: 1818+100 10M RT		G.C.		DATE COMP 99-04-20	
LOGGED BY:					
=====		=====		=====	
FIELD NO: 90	FIELD No. 91	FIELD No: 92			
LAB NO: 94	LAB No. 95	LAB No: 98			
DEPTH: 0.8-1.0	DEPTH: 1.6-2.0	DEPTH: 4.0-4.5			
TYPE: AUGER	TYPE: AUGER	TYPE: AUGER			
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	100%
20.0	100%	20.0	100%	20.0	100%
12.5	100%	12.5	85%	12.5	93%
10.0	100%	10.0	72%	10.0	88%
5.0	99%	5.0	47%	5.0	84%
2.5	98%	2.5	31%	2.5	81%
1.25	98%	1.25	23%	1.25	79%
0.630	98%	0.630	18%	0.630	75%
0.315	97%	0.315	13%	0.315	70%
0.160	94%	0.160	10%	0.160	62%
0.080	80%	0.080	8%	0.080	53%
M.C.(%): 42%	M.C.(%): 12%	M.C.(%): 44%			
LIMITS	LIMITS	LIMITS			
LIQUID: 0.0	LIQUID: 0.0	LIQUID: 0.0			
PLASTIC: 0.0	PLASTIC: 0.0	PLASTIC: 0.0			
P.I.: 0.0	P.I.: 0.0	P.I.: 0.0			
% GRAVEL: 1	% GRAVEL: 53	% GRAVEL: 16			
% SAND: 19	% SAND: 39	% SAND: 30			
% FINES: 80	% FINES: 8	% FINES: 53			
CLASSIFICATION: SILT WITH SAND (ML)	CLASSIFICATION: POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	CLASSIFICATION: SANDY SILT WITH GRAVEL (ML)			

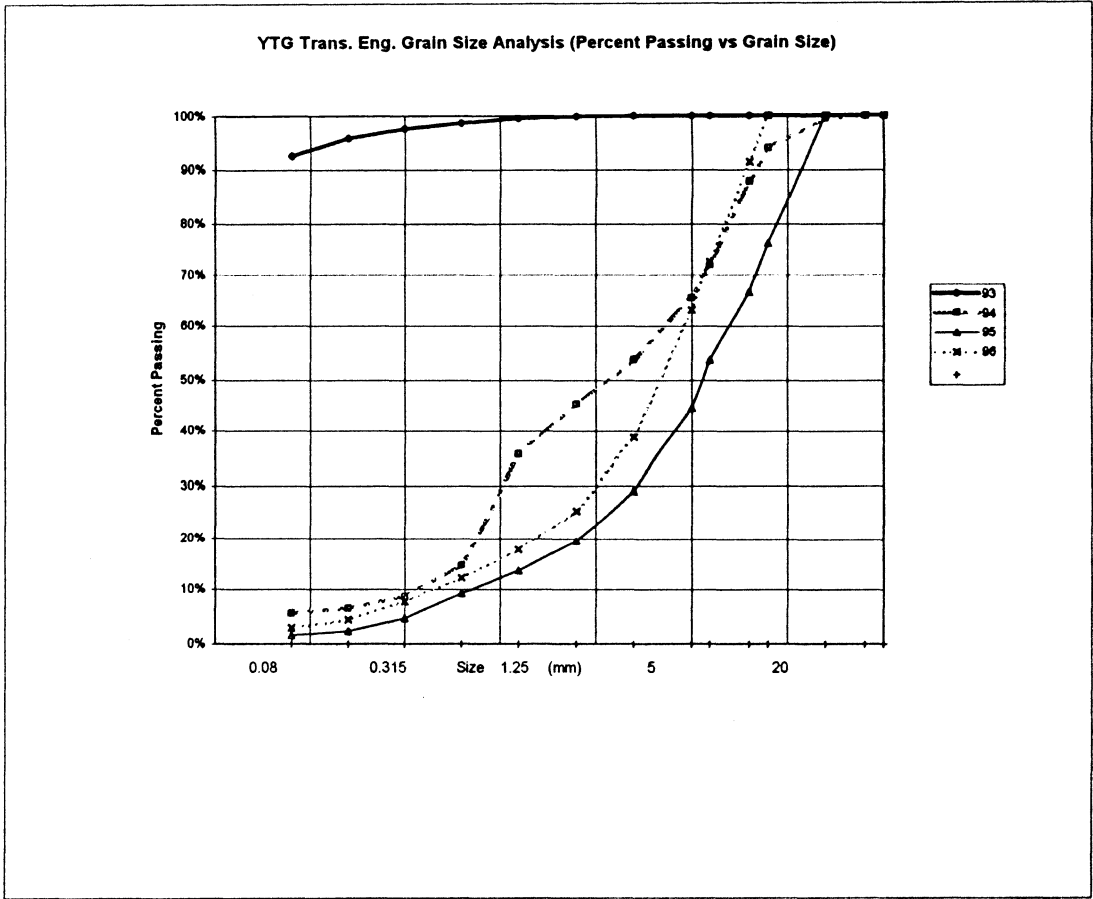


PROJECT NUMBER: 091-202101-0329-199		HOLE No.: 509-371	
CLIENT: ENGINEERING CAPITAL			
PROJECT NAME: SHAKWAK SEG 13			
PROJECT LOCATION: KM 1799-1822 A/H			
DRILL UNIT: B-40-L Nodwell			
HOLE LOCATION: 1818+110 15M LT		DATE COMP 99-04-20	
LOGGED BY: G.C.			

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
93	97	0.7-1.0	AUGER	94	98	1.4-1.8	AUGER	95	99	2.5-3.0	AUGER	96	100	4.0-4.5	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	99%	50.0	100%	50.0	100%
25.0	100%	25.0	94%	25.0	78%	25.0	100%
20.0	100%	20.0	88%	20.0	67%	20.0	91%
12.5	100%	12.5	72%	12.5	54%	12.5	73%
10.0	100%	10.0	66%	10.0	44%	10.0	63%
5.0	100%	5.0	54%	5.0	29%	5.0	39%
2.5	100%	2.5	45%	2.5	19%	2.5	25%
1.25	99%	1.25	36%	1.25	14%	1.25	18%
0.630	99%	0.630	15%	0.630	9%	0.630	12%
0.315	98%	0.315	9%	0.315	5%	0.315	8%
0.160	96%	0.160	6%	0.160	2%	0.160	4%
0.080	92%	0.080	6%	0.080	2%	0.080	3%

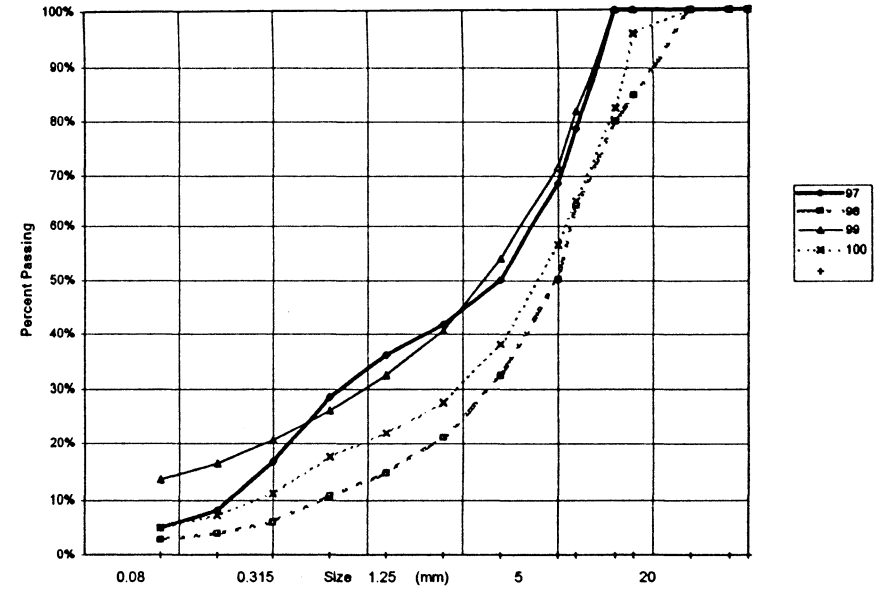
M.C.(%):	37%	M.C.(%):	8%	M.C.(%):	7%	M.C.(%):	6%
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	46	% GRAVEL:	71	% GRAVEL:	61
% SAND:	7	% SAND:	48	% SAND:	27	% SAND:	36
% FINES:	92	% FINES:	6	% FINES:	2	% FINES:	3
CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)	CLASSIFICATION:	WELL-GRADED GRAVEL WITH SAND (GW)



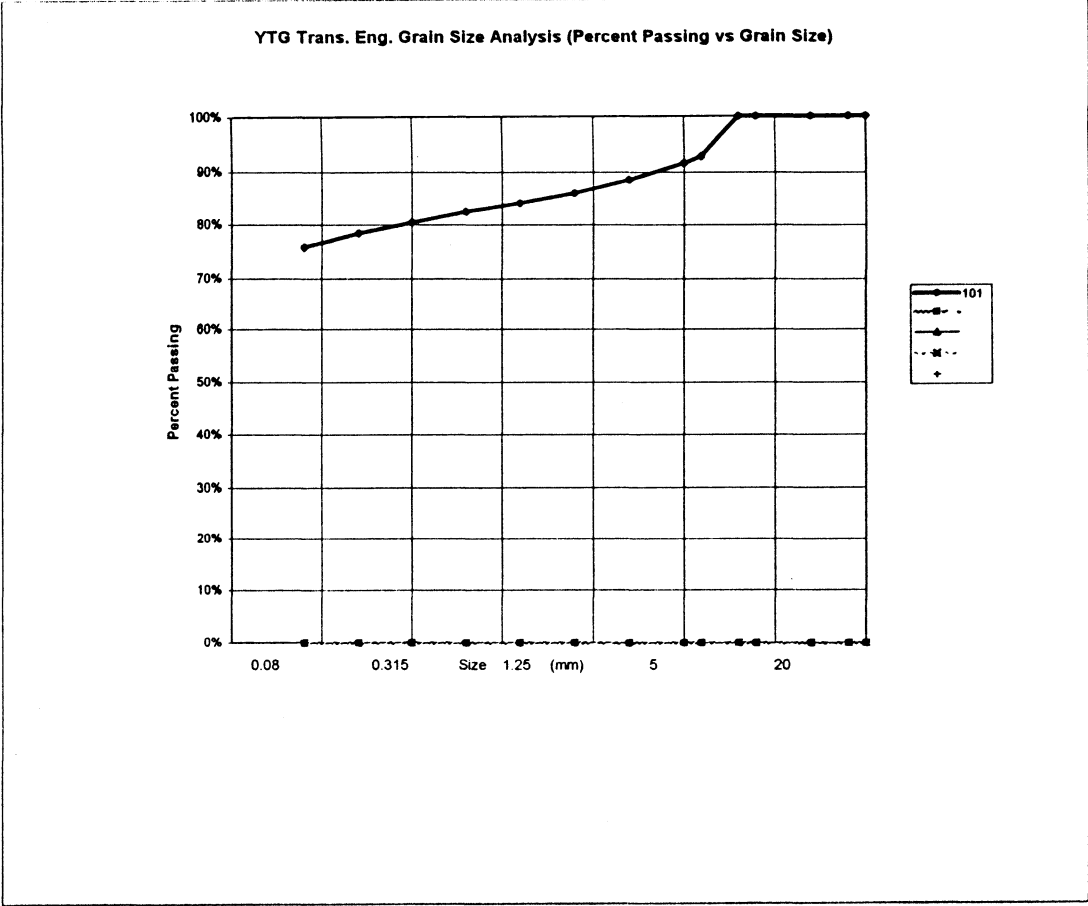
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-372
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1818+000 10M LT
 LOGGED BY: G.C. DATE COMP 99-04-20

FIELD NO: 97		FIELD No. 98		FIELD No: 99		FIELD No: 100	
LAB NO: 101		LAB No. 102		LAB No: 103		LAB No: 104	
DEPTH: 0.8-1.0		DEPTH 1.8-2.0		DEPTH: 2.8-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	85%	25.0	100%	25.0	96%
20.0	100%	20.0	80%	20.0	100%	20.0	83%
12.5	79%	12.5	64%	12.5	82%	12.5	65%
10.0	69%	10.0	50%	10.0	72%	10.0	56%
5.0	50%	5.0	32%	5.0	54%	5.0	38%
2.5	42%	2.5	21%	2.5	41%	2.5	28%
1.25	36%	1.25	15%	1.25	32%	1.25	22%
0.630	29%	0.630	11%	0.630	26%	0.630	18%
0.315	17%	0.315	6%	0.315	21%	0.315	11%
0.160	8%	0.160	4%	0.160	16%	0.160	7%
0.080	5%	0.080	3%	0.080	14%	0.080	5%
M.C.(%)	3%	M.C.(%)	5%	M.C.(%)	6%	M.C.(%)	5%
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	50	% GRAVEL:	68	% GRAVEL:	48	% GRAVEL:	62
% SAND:	45	% SAND:	30	% SAND:	40	% SAND:	33
% FINES:	5	% FINES:	3	% FINES:	14	% FINES:	5
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		POORLY GRADED GRAVEL WITH SAND (GP)		SILTY GRAVEL WITH SAND (GM)		WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)	

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



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-373
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1709-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1817+900 10M RT		
LOGGED BY:	G.C.	DATE COMP	99-04-20
=====			
FIELD NO:	101		
LAB NO:	105		
DEPTH:	2.5-3.0		
TYPE:	AUGER		
SIEVE SIZE	PERCENT PASSING		
100.0	100%		
80.0	100%		
50.0	100%		
25.0	100%		
20.0	100%		
12.5	93%		
10.0	92%		
5.0	89%		
2.5	86%		
1.25	84%		
0.830	82%		
0.315	80%		
0.160	78%		
0.080	76%		
M.C.(%):	32%		
LIMITS			
LIQUID:	0.0		
PLASTIC:	0.0		
P.I.:	0.0		
% GRAVEL:	11		
% SAND:	13		
% FINES:	76		
CLASSIFICATION:			
	SILT WITH SAND (ML)		



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-374
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1817+895 40M RT
 LOGGED BY: G.C. DATE COMP 99-04-20

FIELD NO: 102
 LAB NO: 108
 DEPTH: 1.7-2.0
 TYPE: 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	100%
0.315	99%
0.160	97%
0.080	94%

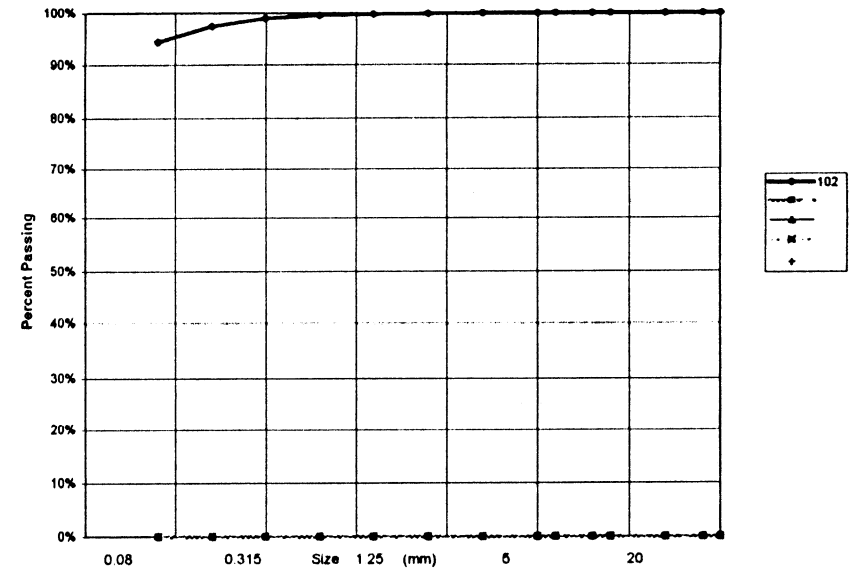
M.C. (%): 61%

LIMITS
 LIQUID: 0.0
 PLASTIC: 0.0
 P.I.: 0.0

% GRAVEL: 0
 % SAND: 6
 % FINES: 94

CLASSIFICATION:
 SILT (ML)

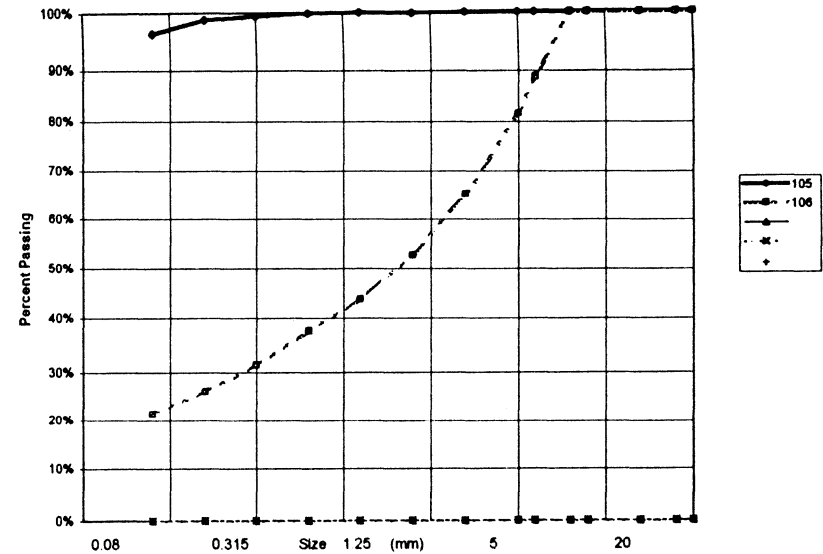
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-376
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1817+930 40M RT
 LOGGED BY: G.C. DATE COMP 99-04-20

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	100%	20.0	100%
12.5	100%	12.5	89%
10.0	100%	10.0	82%
5.0	100%	5.0	65%
2.5	100%	2.5	53%
1.25	100%	1.25	44%
0.630	100%	0.630	37%
0.315	99%	0.315	31%
0.160	99%	0.160	26%
0.080	96%	0.080	21%
M.C.(%): 37%		M.C.(%): 8%	
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	35
% SAND:	4	% SAND:	44
% FINES:	96	% FINES:	21
CLASSIFICATION: SILT (ML)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	

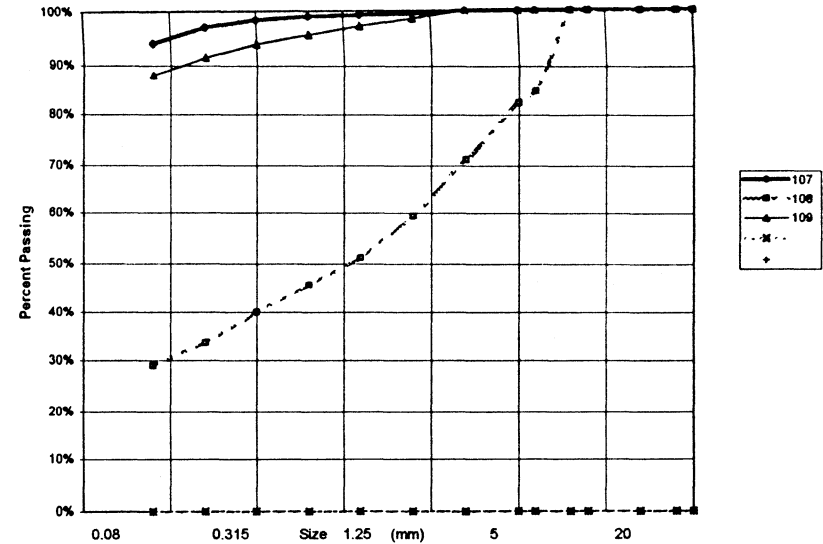
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-377
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1817+875 20M RT
 LOGGED BY: G.C. DATE COMP 99-04-20

FIELD No. 107		FIELD No. 108		FIELD No. 109	
LAB NO:	111	LAB No.:	112	LAB No.:	113
DEPTH:	2.5-3.0	DEPTH:	3.6-4.0	DEPTH:	4.0-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	100%
20.0	100%	20.0	100%	20.0	100%
12.5	100%	12.5	85%	12.5	100%
10.0	100%	10.0	82%	10.0	100%
5.0	100%	5.0	71%	5.0	100%
2.5	99%	2.5	59%	2.5	98%
1.25	99%	1.25	51%	1.25	97%
0.630	99%	0.630	46%	0.630	96%
0.315	98%	0.315	40%	0.315	94%
0.160	97%	0.160	34%	0.160	91%
0.080	94%	0.080	29%	0.080	88%
M.C.(%)	53%	M.C.(%)	16%	M.C.(%)	48%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	29	% GRAVEL:	0
% SAND:	6	% SAND:	42	% SAND:	12
% FINES:	94	% FINES:	29	% FINES:	88
CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	SILT (ML)

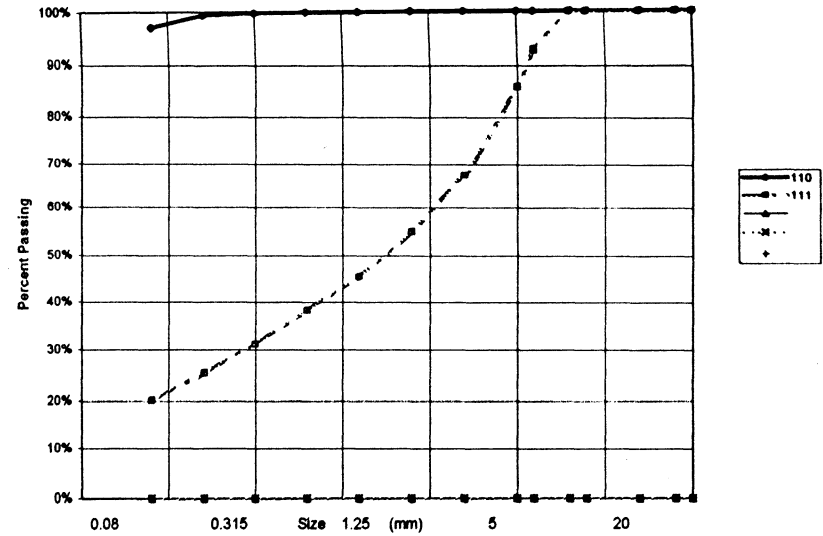
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-378
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1817+700 20M RT
 LOGGED BY: G.C. DATE COMP 99-04-20

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	100%	20.0	100%
12.5	100%	12.5	93%
10.0	100%	10.0	86%
5.0	100%	5.0	67%
2.5	100%	2.5	55%
1.25	100%	1.25	45%
0.630	100%	0.630	38%
0.315	100%	0.315	31%
0.160	99%	0.160	25%
0.080	97%	0.080	20%
M.C.(%):	42%	M.C.(%):	9%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	33
% SAND:	3	% SAND:	47
% FINES:	97	% FINES:	20
CLASSIFICATION:		CLASSIFICATION:	
SILT (ML)		SILTY SAND WITH GRAVEL (SM)	

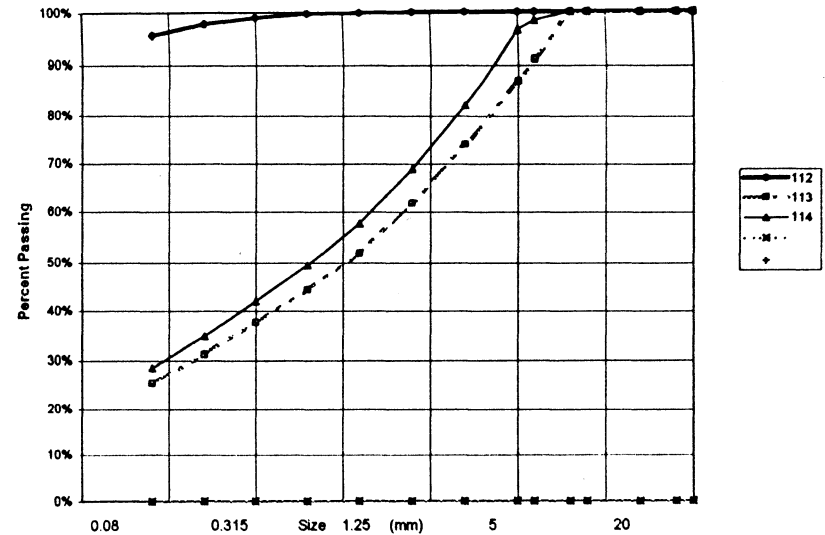
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 091-202101-0328-199 HOLE No.: 509-378
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1817+800 20M RT
 LOGGED BY: G.C. DATE COMP 99-04-20

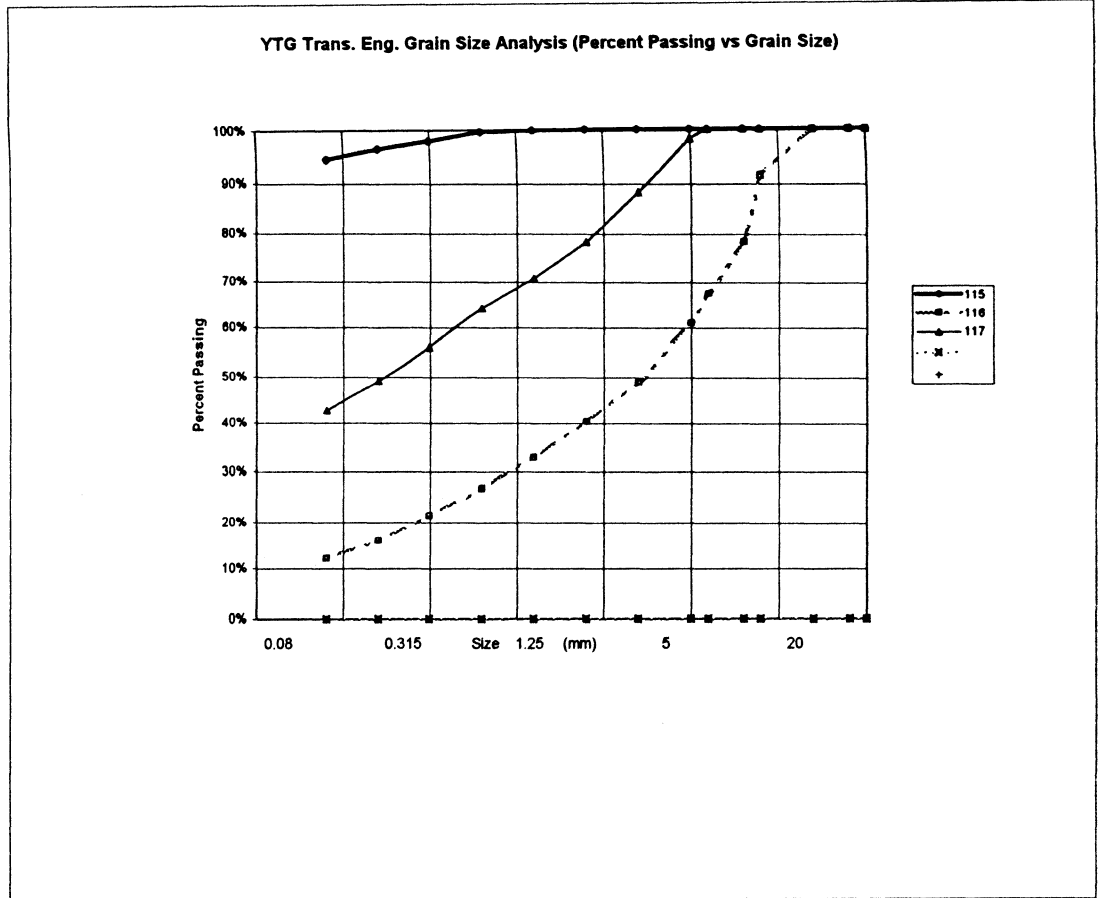
FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
112	118	1.2-1.6	AUGER	113	117	2.5-3.0	AUGER	114	118	3.5-3.8	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	100%	25.0	100%	25.0	100%	25.0	100%
20.0	100%	20.0	100%	20.0	100%	20.0	100%	20.0	100%	20.0	100%
12.5	100%	12.5	91%	12.5	91%	12.5	98%	12.5	98%	12.5	98%
10.0	100%	10.0	87%	10.0	87%	10.0	97%	10.0	97%	10.0	97%
5.0	100%	5.0	74%	5.0	74%	5.0	82%	5.0	82%	5.0	82%
2.5	100%	2.5	62%	2.5	62%	2.5	69%	2.5	69%	2.5	69%
1.25	100%	1.25	52%	1.25	52%	1.25	58%	1.25	58%	1.25	58%
0.630	100%	0.630	44%	0.630	44%	0.630	49%	0.630	49%	0.630	49%
0.315	98%	0.315	38%	0.315	38%	0.315	42%	0.315	42%	0.315	42%
0.180	98%	0.180	31%	0.180	31%	0.180	35%	0.180	35%	0.180	35%
0.080	96%	0.080	26%	0.080	26%	0.080	29%	0.080	29%	0.080	29%
M.C.(%):	38%	M.C.(%):	10%	M.C.(%):	12%	M.C.(%):		M.C.(%):		M.C.(%):	
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	26	% GRAVEL:	18	% GRAVEL:		% GRAVEL:		% GRAVEL:	
% SAND:	4	% SAND:	48	% SAND:	53	% SAND:		% SAND:		% SAND:	
% FINES:	96	% FINES:	26	% FINES:	29	% FINES:		% FINES:		% FINES:	
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILT (ML)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-380
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1817+500 25M RT
 LOGGED BY: G.C. DATE COMP 99-04-20

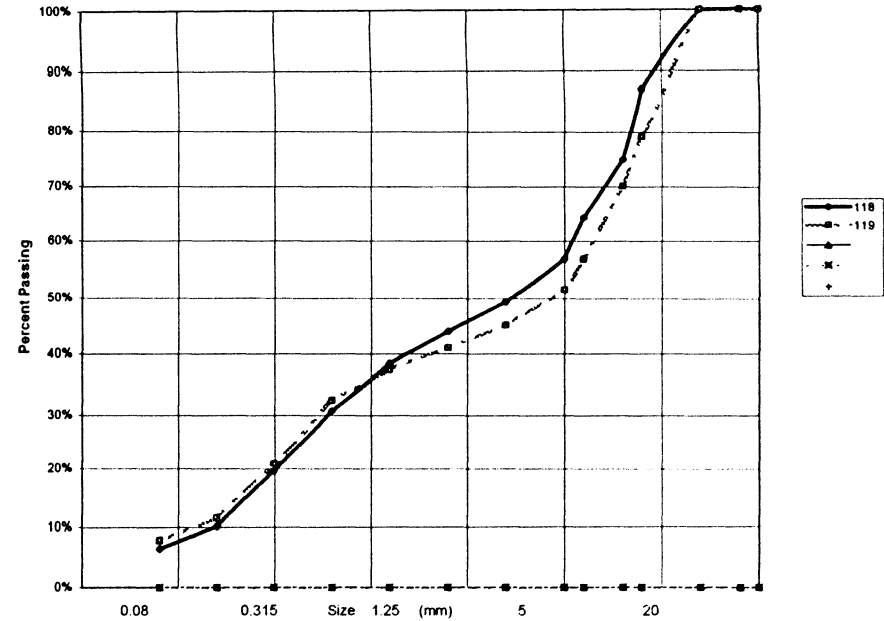
FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
115	119	1.1-1.5	AUGER	116	120	2.0-2.4	AUGER	117	121	3.0-3.2	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	92%	25.0	92%	25.0	100%	25.0	100%	25.0	100%
20.0	100%	20.0	78%	20.0	78%	20.0	100%	20.0	100%	20.0	100%
12.5	100%	12.5	68%	12.5	68%	12.5	100%	12.5	100%	12.5	100%
10.0	100%	10.0	61%	10.0	61%	10.0	98%	10.0	98%	10.0	98%
5.0	100%	5.0	49%	5.0	49%	5.0	88%	5.0	88%	5.0	88%
2.5	100%	2.5	40%	2.5	40%	2.5	78%	2.5	78%	2.5	78%
1.25	100%	1.25	33%	1.25	33%	1.25	71%	1.25	71%	1.25	71%
0.630	100%	0.630	27%	0.630	27%	0.630	64%	0.630	64%	0.630	64%
0.315	98%	0.315	21%	0.315	21%	0.315	58%	0.315	58%	0.315	58%
0.160	97%	0.160	16%	0.160	16%	0.160	49%	0.160	49%	0.160	49%
0.080	94%	0.080	12%	0.080	12%	0.080	43%	0.080	43%	0.080	43%
M.C.(%):	42%	M.C.(%):	6%	M.C.(%):	16%	M.C.(%):		M.C.(%):		M.C.(%):	
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	51	% GRAVEL:	12	% GRAVEL:		% GRAVEL:		% GRAVEL:	
% SAND:	6	% SAND:	37	% SAND:	46	% SAND:		% SAND:		% SAND:	
% FINES:	94	% FINES:	12	% FINES:	43	% FINES:		% FINES:		% FINES:	
CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	SILTY SAND (SM)	CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-381
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1817+370 center line
 LOGGED BY: G.C. DATE COMP 99-04-21

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	87%	25.0	79%
20.0	75%	20.0	70%
12.5	64%	12.5	57%
10.0	57%	10.0	51%
5.0	49%	5.0	45%
2.5	44%	2.5	41%
1.25	38%	1.25	38%
0.630	31%	0.630	33%
0.315	20%	0.315	21%
0.160	10%	0.160	12%
0.080	7%	0.080	8%
M.C. (%)	6%	M.C. (%)	8%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	51	% GRAVEL:	55
% SAND:	43	% SAND:	37
% FINES:	7	% FINES:	8
CLASSIFICATION:		CLASSIFICATION:	
POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)		POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	

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



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-382
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1817+365 40m RT		
LOGGED BY:	G.C.	DATE COMP	99-04-21

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH	TYPE
120	124	1.8-2.2	AUGER	121	125	3.4-4.0	AUGER

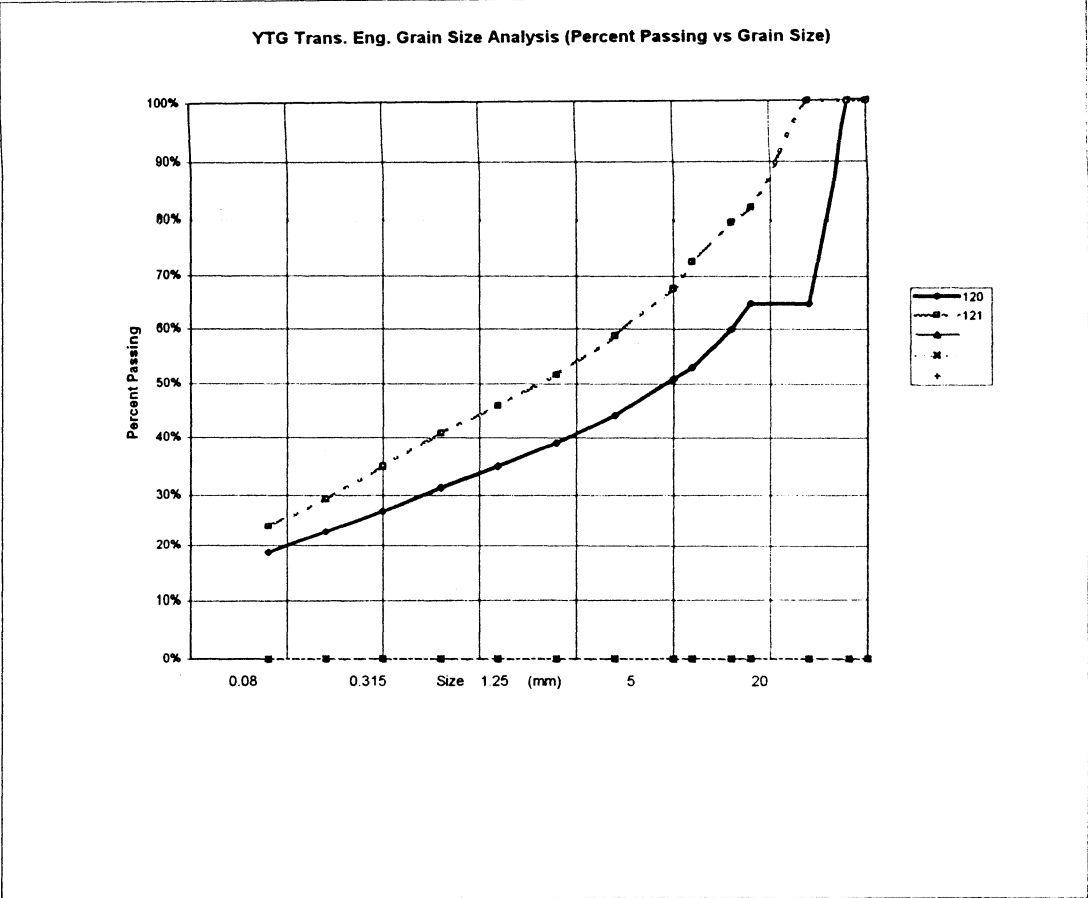
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	65%	50.0	100%
25.0	65%	25.0	82%
20.0	60%	20.0	80%
12.5	53%	12.5	73%
10.0	51%	10.0	68%
5.0	44%	5.0	59%
2.5	39%	2.5	52%
1.25	35%	1.25	46%
0.630	31%	0.630	41%
0.315	27%	0.315	35%
0.160	23%	0.160	29%
0.080	19%	0.080	24%

M.C.(%):	8%	M.C.(%):	7%
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LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	56	% GRAVEL:	41
% SAND:	25	% SAND:	35
% FINES:	19	% FINES:	24

CLASSIFICATION:	CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-383
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1817+275 30m RT		
LOGGED BY:	G.C.	DATE COMP	99-04-21

FIELD NO:	122	FIELD No:	123
LAB NO:	126	LAB No:	127
DEPTH:	1.2-1.5	DEPTH	1.8-2.2
TYPE:	AUGER	TYPE	AUGER

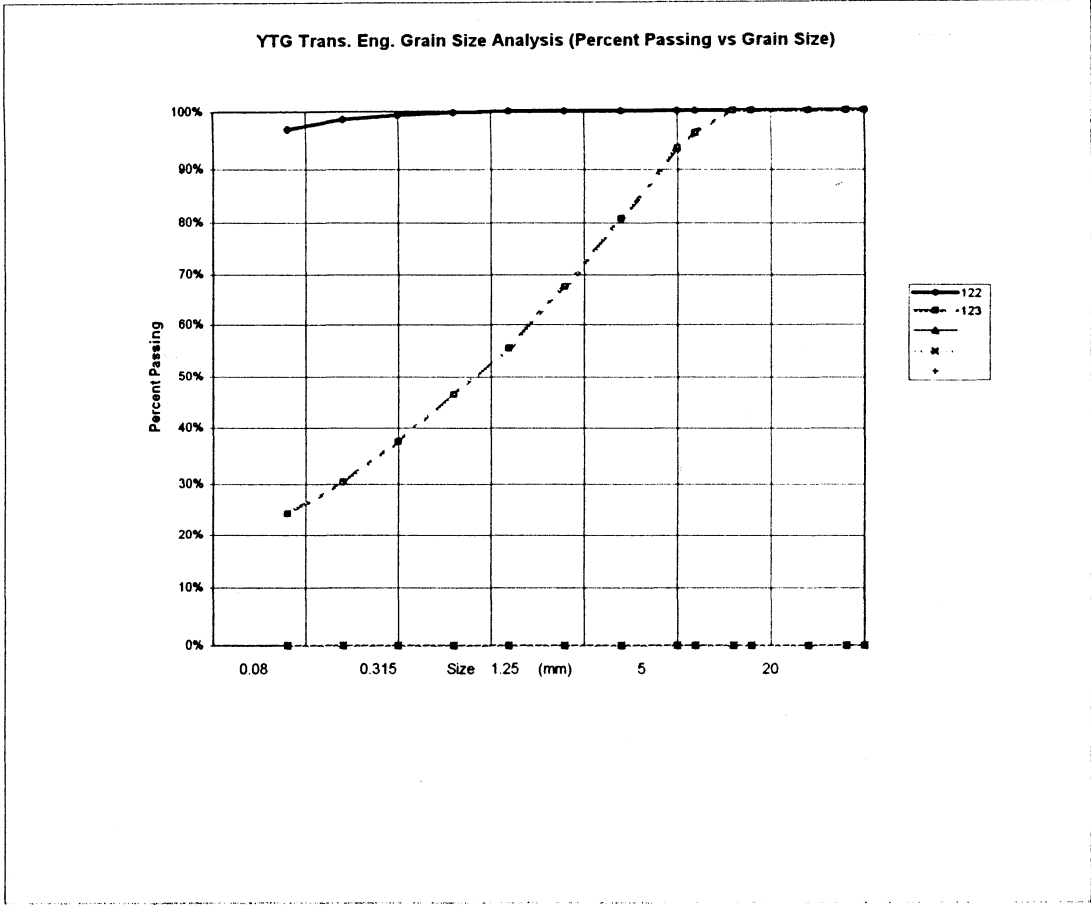
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	100%	20.0	100%
12.5	100%	12.5	96%
10.0	100%	10.0	93%
5.0	100%	5.0	81%
2.5	100%	2.5	68%
1.25	100%	1.25	56%
0.630	100%	0.630	46%
0.315	99%	0.315	37%
0.160	99%	0.160	30%
0.080	97%	0.080	24%

M.C. (%):	39%	M.C. (%):	12%
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LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	0	% GRAVEL:	19
% SAND:	3	% SAND:	56
% FINES:	97	% FINES:	24

CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)
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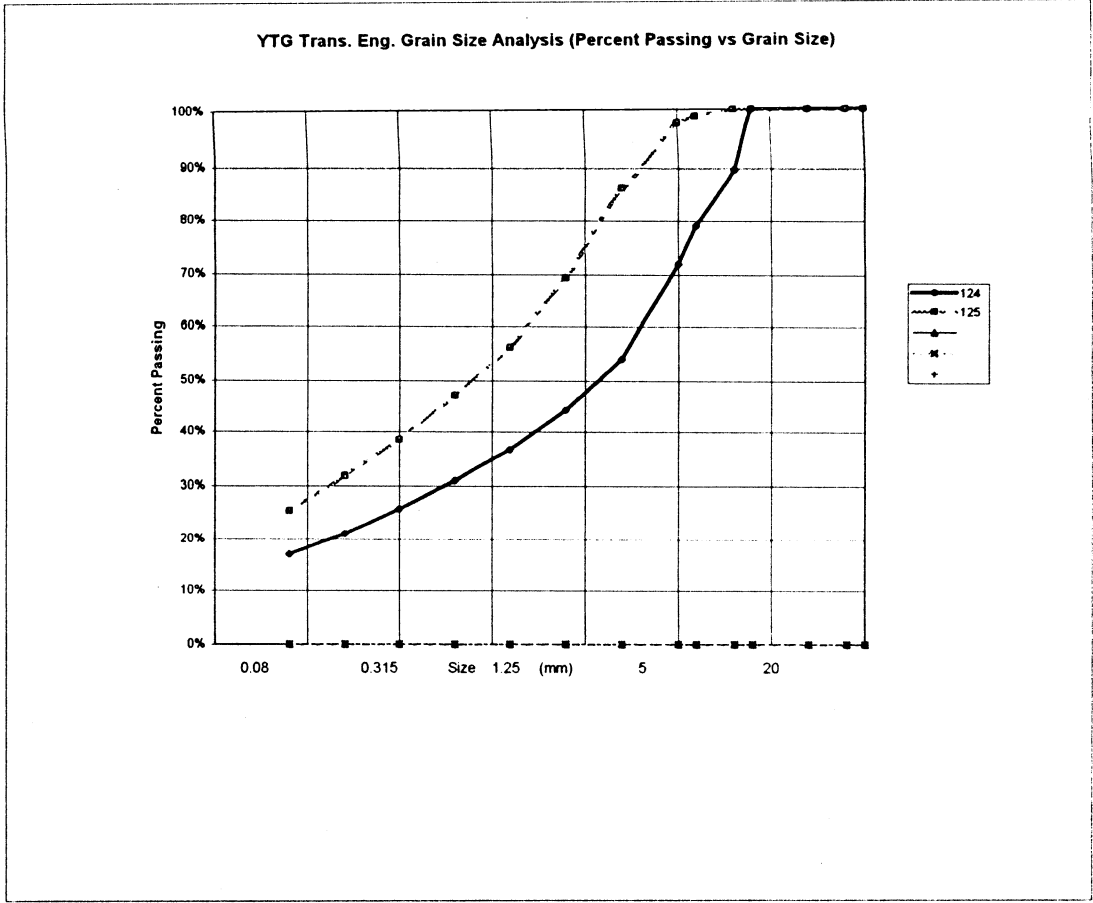


PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-384
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1817+175 25m RT		
LOGGED BY:	G.C.	DATE COMP	99-04-21

FIELD NO:	124	FIELD No:	125
LAB NO:	128	LAB No:	129
DEPTH:	1.6-2.0	DEPTH	2.5-3.0
TYPE:	AUGER	TYPE	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	90%	20.0	100%
12.5	79%	12.5	99%
10.0	72%	10.0	97%
5.0	54%	5.0	86%
2.5	44%	2.5	69%
1.25	36%	1.25	56%
0.630	31%	0.630	47%
0.315	26%	0.315	38%
0.160	21%	0.160	32%
0.080	17%	0.080	25%

M.C. (%):	8%	M.C. (%):	9%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	46	% GRAVEL:	14
% SAND:	37	% SAND:	61
% FINES:	17	% FINES:	25
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND (SM)	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-385
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1817+150 30m RT		
LOGGED BY:	G.C.	DATE COMP	99-04-21

FIELD NO:	126	FIELD No:	127
LAB NO:	130	LAB No:	131
DEPTH:	1.0-1.5	DEPTH	2.0-2.2
TYPE:	AUGER	TYPE	AUGER

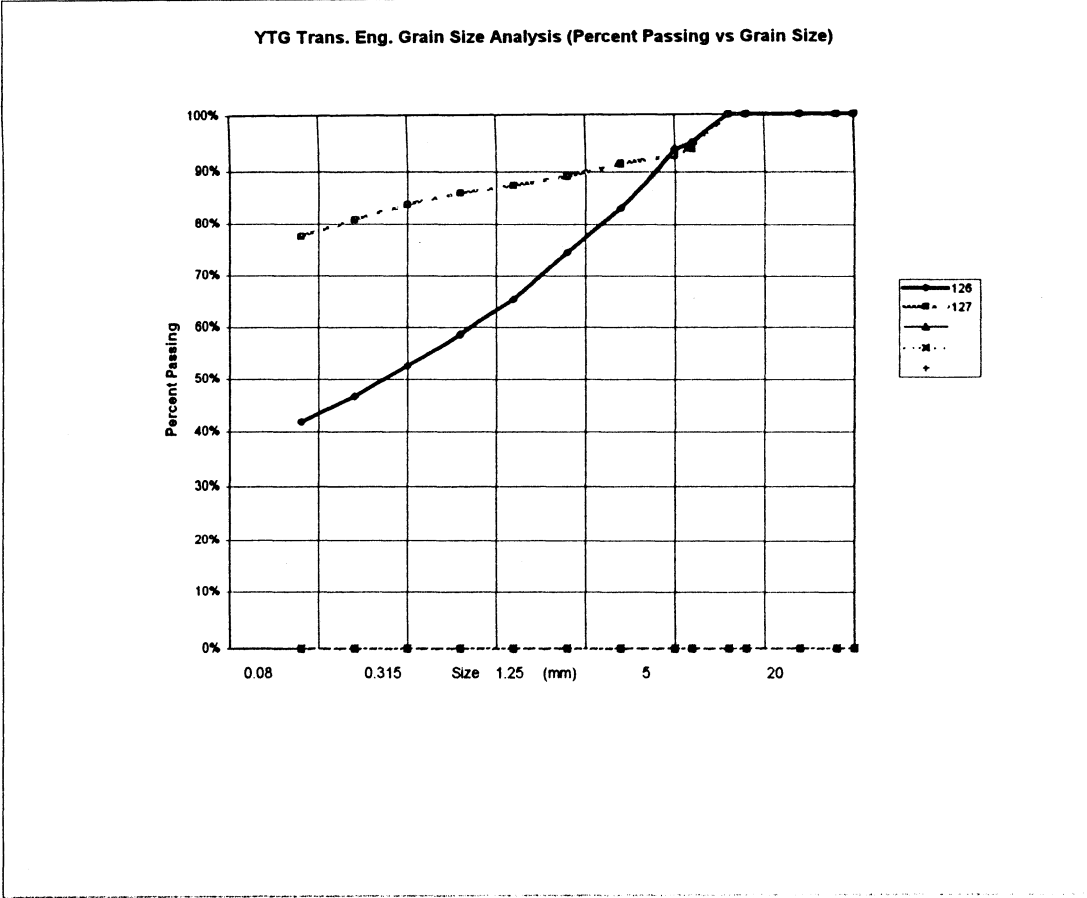
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	100%	20.0	100%
12.5	95%	12.5	94%
10.0	94%	10.0	93%
5.0	83%	5.0	91%
2.5	75%	2.5	89%
1.25	65%	1.25	88%
0.630	59%	0.630	86%
0.315	53%	0.315	84%
0.160	47%	0.160	81%
0.080	42%	0.080	78%

M.C.(%):	21%	M.C.(%):	28%
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LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

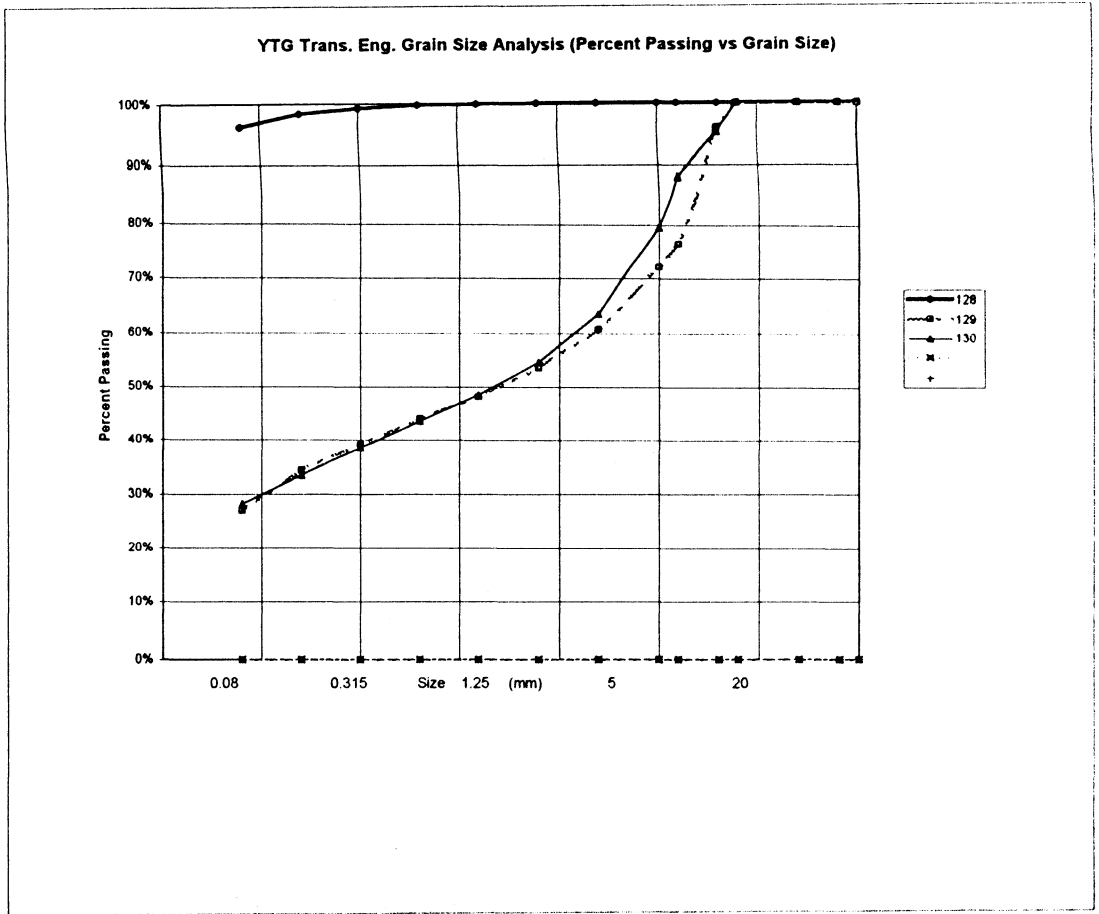
% GRAVEL:	17	% GRAVEL:	9
% SAND:	41	% SAND:	14
% FINES:	42	% FINES:	78

CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	SILT WITH SAND (ML)
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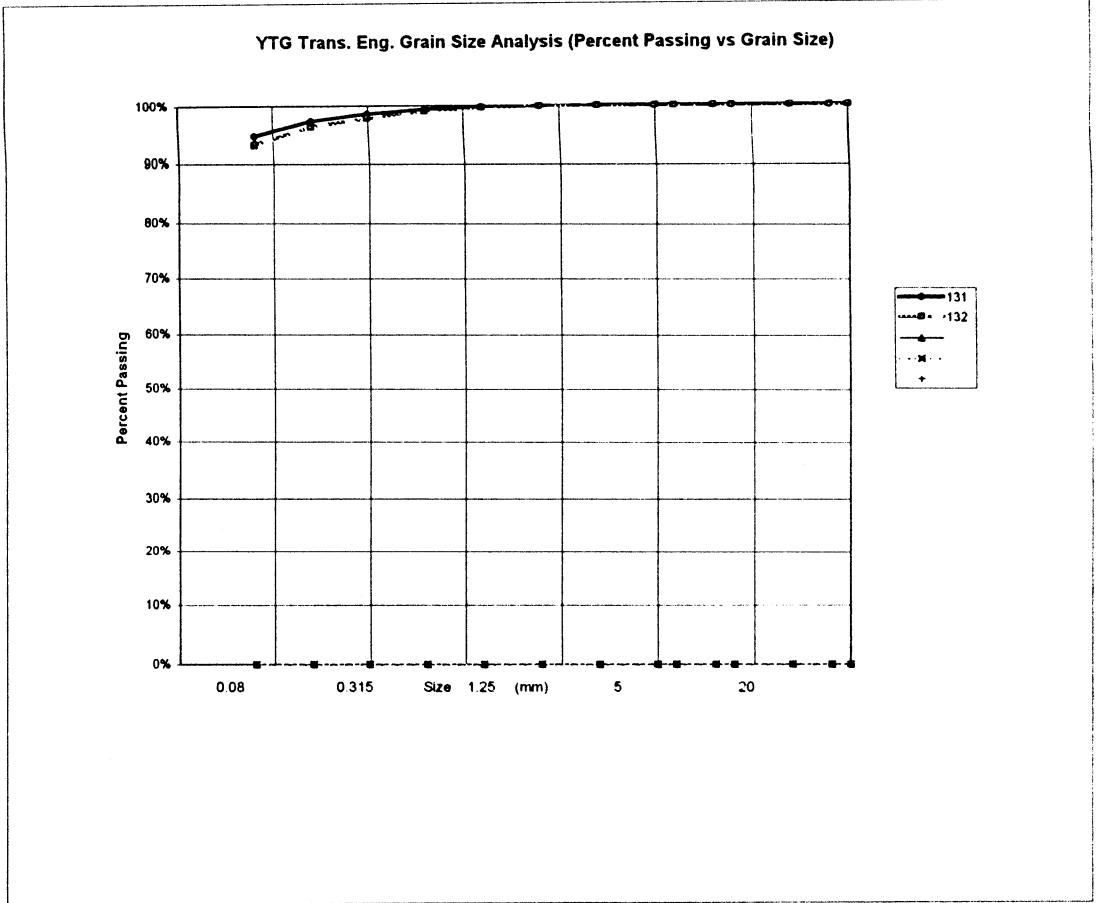
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-386
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1817+050 25m RT
 LOGGED BY: G.C. DATE COMP 99-04-22

FIELD NO: 128		FIELD No. 129		FIELD No: 130	
LAB NO: 132		LAB No. 133		LAB No: 134	
DEPTH: 1.5-2.0		DEPTH 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	100%
20.0	100%	20.0	96%	20.0	95%
12.5	100%	12.5	77%	12.5	88%
10.0	100%	10.0	72%	10.0	80%
5.0	100%	5.0	61%	5.0	64%
2.5	100%	2.5	53%	2.5	54%
1.25	100%	1.25	48%	1.25	48%
0.630	100%	0.630	44%	0.630	44%
0.315	99%	0.315	39%	0.315	38%
0.160	98%	0.160	34%	0.160	33%
0.080	96%	0.080	27%	0.080	28%
M.C. (%)	44%	M.C. (%)	11%	M.C. (%)	12%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	39	% GRAVEL:	36
% SAND:	4	% SAND:	34	% SAND:	36
% FINES:	96	% FINES:	27	% FINES:	28
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILT (ML)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	



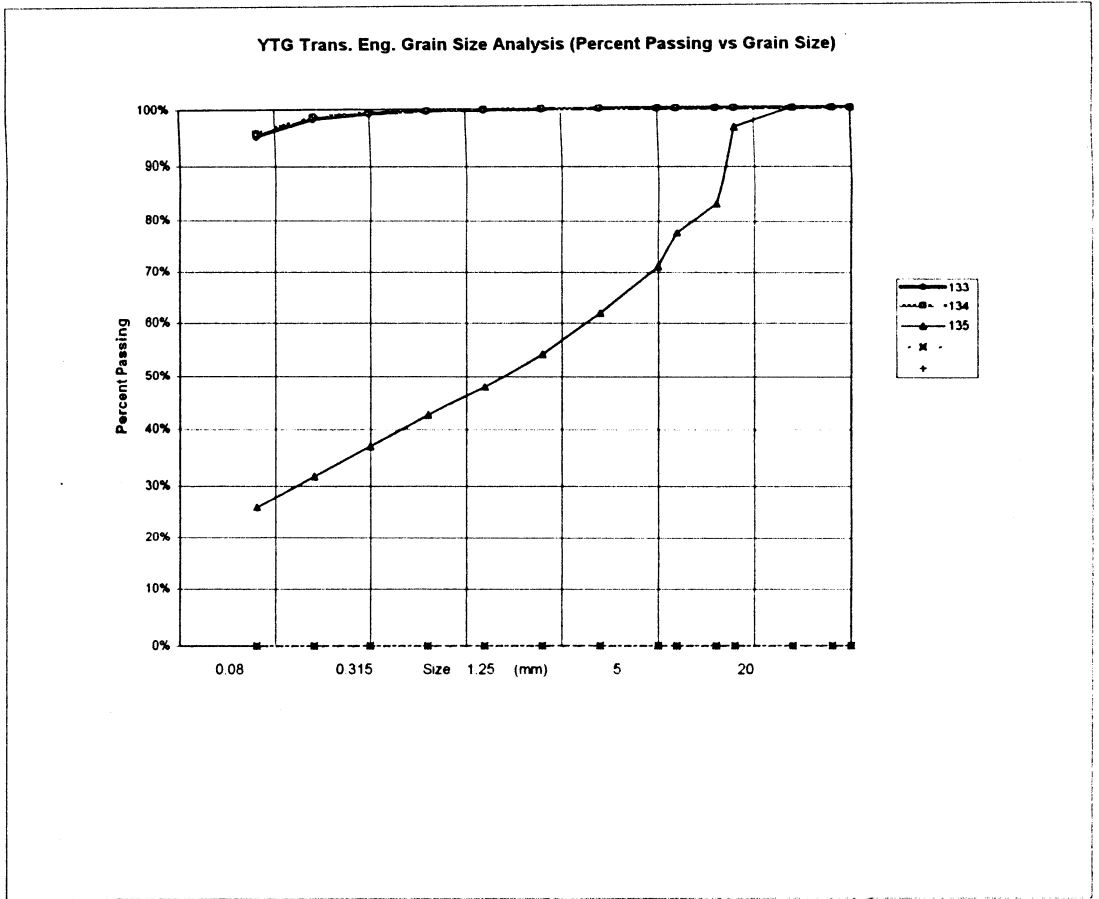
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-387
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1816+950 15m RT
 LOGGED BY: G.C. DATE COMP 99-04-22

FIELD NO: 131		FIELD No. 132	
LAB NO: 135		LAB No. 136	
DEPTH: 2.6-3.0		DEPTH: 4.0-4.4	
TYPE: AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	100%	20.0	100%
12.5	100%	12.5	100%
10.0	100%	10.0	100%
5.0	100%	5.0	100%
2.5	100%	2.5	100%
1.25	100%	1.25	100%
0.630	99%	0.630	99%
0.315	98%	0.315	98%
0.160	97%	0.160	96%
0.080	95%	0.080	93%
M.C. (%): 122%		M.C. (%): 76%	
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	0
% SAND:	5	% SAND:	7
% FINES:	95	% FINES:	93
CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILT (ML)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-388
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1816+900 25m RT
 LOGGED BY: G.C. DATE COMP 99-04-22

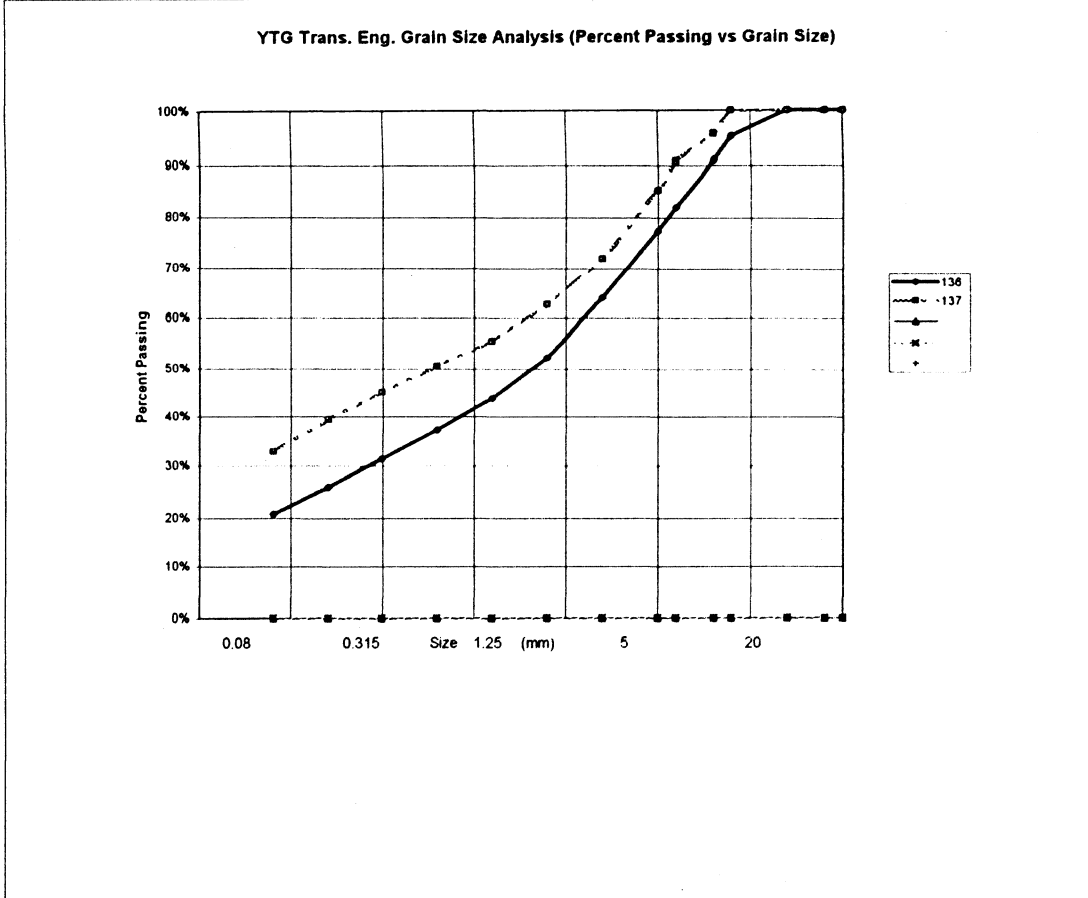
FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
133	137	1.8-2.2	AUGER	134	138	2.8-3.2	AUGER	135	139	4.0-4.3	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	100%	25.0	96%	25.0	96%	25.0	96%
20.0	100%	20.0	100%	20.0	100%	20.0	83%	20.0	83%	20.0	83%
12.5	100%	12.5	100%	12.5	100%	12.5	78%	12.5	78%	12.5	78%
10.0	100%	10.0	100%	10.0	100%	10.0	71%	10.0	71%	10.0	71%
5.0	100%	5.0	100%	5.0	100%	5.0	62%	5.0	62%	5.0	62%
2.5	100%	2.5	100%	2.5	100%	2.5	54%	2.5	54%	2.5	54%
1.25	100%	1.25	100%	1.25	100%	1.25	48%	1.25	48%	1.25	48%
0.630	100%	0.630	100%	0.630	100%	0.630	43%	0.630	43%	0.630	43%
0.315	99%	0.315	99%	0.315	99%	0.315	37%	0.315	37%	0.315	37%
0.160	98%	0.160	99%	0.160	99%	0.160	32%	0.160	32%	0.160	32%
0.080	95%	0.080	96%	0.080	96%	0.080	26%	0.080	26%	0.080	26%
M.C. (%)	68%	M.C. (%)	75%	M.C. (%)	10%	M.C. (%)		M.C. (%)		M.C. (%)	
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	0	% GRAVEL:	38	% GRAVEL:	38	% GRAVEL:	38	% GRAVEL:	38
% SAND:	5	% SAND:	4	% SAND:	36	% SAND:	36	% SAND:	36	% SAND:	36
% FINES:	95	% FINES:	96	% FINES:	28	% FINES:	28	% FINES:	28	% FINES:	28
CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-389
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1816+800 15m RT		
LOGGED BY:	G.C.	DATE COMP	99-04-22
=====			
FIELD NO:	136	FIELD No.	137
LAB NO:	140	LAB No.	141
DEPTH:	2.8-3.0	DEPTH	3.6-4.0
TYPE:	AUGER	TYPE	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	95%	25.0	100%
20.0	91%	20.0	96%
12.5	82%	12.5	91%
10.0	77%	10.0	85%
5.0	64%	5.0	72%
2.5	52%	2.5	63%
1.25	44%	1.25	56%
0.630	37%	0.630	51%
0.315	31%	0.315	45%
0.160	26%	0.160	39%
0.080	21%	0.080	33%

M.C. (%):	11%	M.C. (%):	18%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	36	% GRAVEL:	28
% SAND:	43	% SAND:	39
% FINES:	21	% FINES:	33
CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	

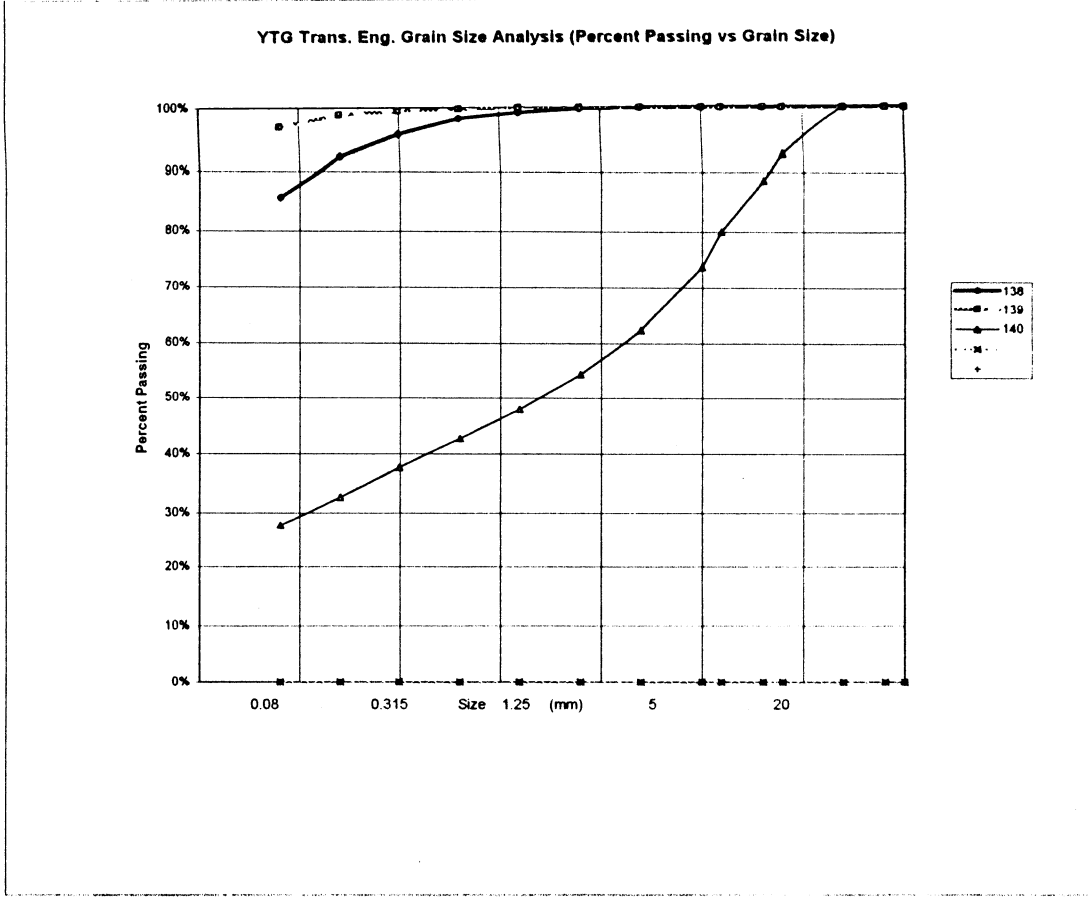


PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-390
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1818+725 center line		
LOGGED BY:	G.C.	DATE COMP	99-04-22

FIELD NO:	LAB NO:	DEPTH:	TYPE:
138	142	1.4-1.6	AUGER
139	143	2.6-3.0	AUGER
140	144	3.8-4.0	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	93%
20.0	100%	20.0	100%	20.0	89%
12.5	100%	12.5	100%	12.5	80%
10.0	100%	10.0	100%	10.0	74%
5.0	100%	5.0	100%	5.0	62%
2.5	100%	2.5	100%	2.5	54%
1.25	99%	1.25	100%	1.25	48%
0.630	98%	0.630	100%	0.630	43%
0.315	96%	0.315	99%	0.315	38%
0.160	92%	0.160	99%	0.160	33%
0.080	86%	0.080	97%	0.080	28%

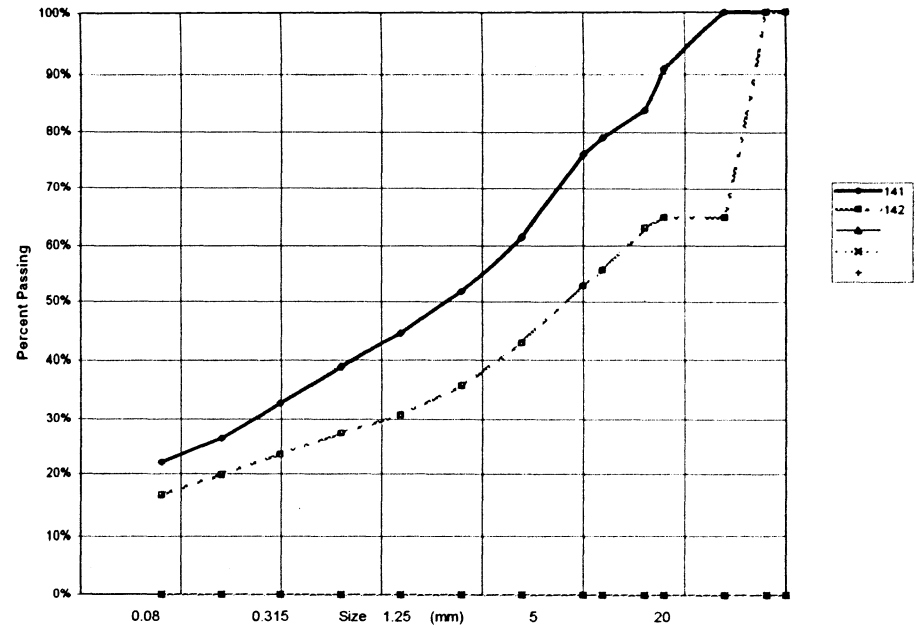
M.C. (%):	68%	M.C. (%):	69%	M.C. (%):	13%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	0	% GRAVEL:	38
% SAND:	14	% SAND:	3	% SAND:	34
% FINES:	86	% FINES:	97	% FINES:	28
CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-391
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1816+600 10m RT
 LOGGED BY: G.C. DATE COMP 99-04-22

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	65%
25.0	91%	25.0	65%
20.0	84%	20.0	63%
12.5	79%	12.5	56%
10.0	76%	10.0	53%
5.0	61%	5.0	43%
2.5	52%	2.5	36%
1.25	44%	1.25	31%
0.630	39%	0.630	27%
0.315	33%	0.315	23%
0.160	26%	0.160	20%
0.080	22%	0.080	16%
M.C.(%):	15%	M.C.(%):	8%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	39	% GRAVEL:	57
% SAND:	39	% SAND:	26
% FINES:	22	% FINES:	16
CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)	

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



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-392
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1816+500 10m RT		
LOGGED BY:	G.C.	DATE COMP	99-04-22

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
143	147	2.5-3.0	AUGER	144	148	4.0-4.4	AUGER	145	149	4.6-5.0	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	78%
20.0	100%	20.0	100%	20.0	75%
12.5	100%	12.5	94%	12.5	61%
10.0	100%	10.0	87%	10.0	56%
5.0	100%	5.0	68%	5.0	42%
2.5	100%	2.5	57%	2.5	35%
1.25	100%	1.25	49%	1.25	29%
0.630	99%	0.630	44%	0.630	25%
0.315	96%	0.315	38%	0.315	21%
0.160	94%	0.160	33%	0.160	17%
0.080	90%	0.080	29%	0.080	14%

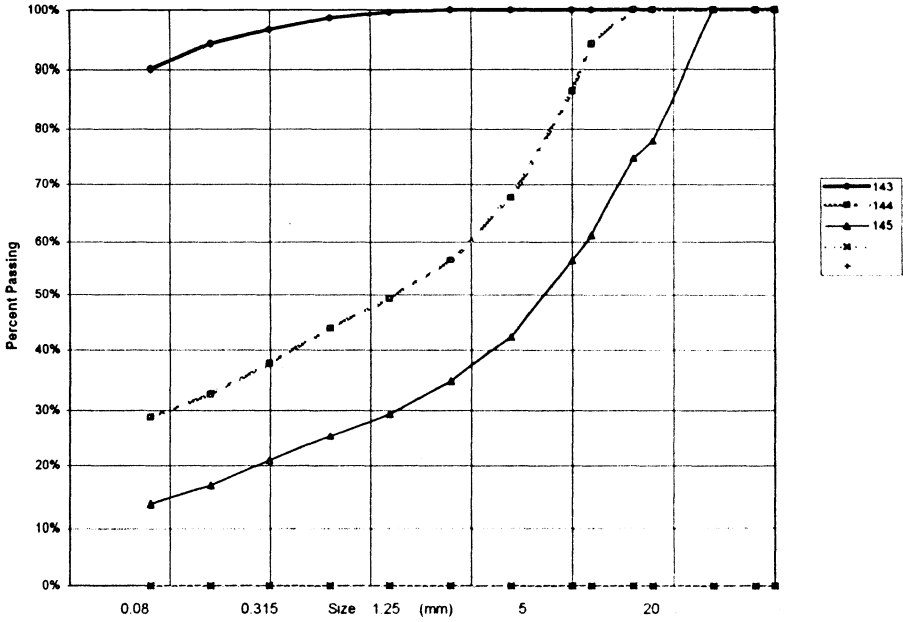
M.C.(%):	127%	M.C.(%):	20%	M.C.(%):	8%
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LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0

% GRAVEL:	0	% GRAVEL:	32	% GRAVEL:	58
% SAND:	10	% SAND:	39	% SAND:	29
% FINES:	90	% FINES:	29	% FINES:	14

CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
SILT (ML)	SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)

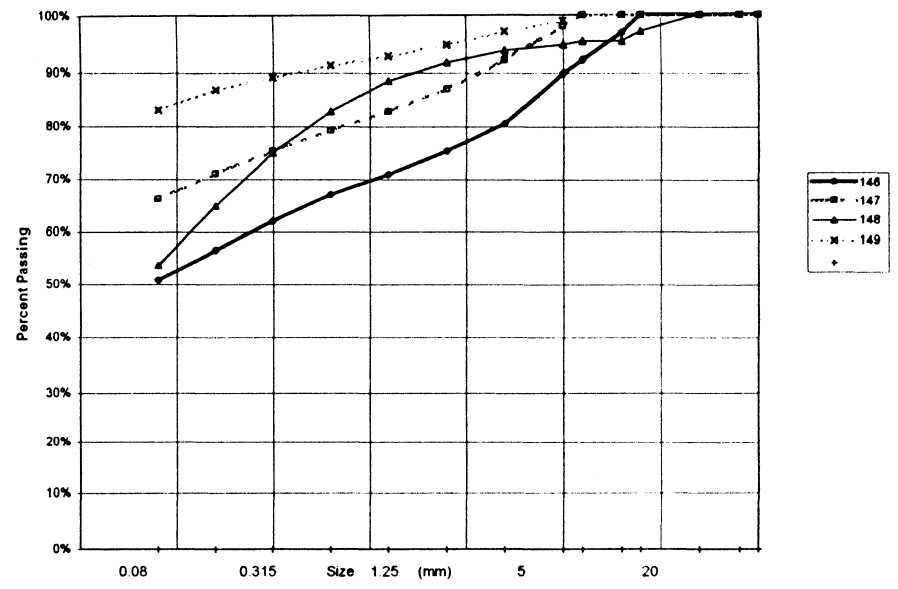
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-393
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1816+300 15m RT	DATE COMP	99-04-22
LOGGED BY:	G.C.		

FIELD NO: 146		FIELD No. 147		FIELD No: 148		FIELD No: 149	
LAB NO: 150		LAB No. 151		LAB No: 152		LAB No: 153	
DEPTH: 1.0-1.5		DEPTH 1.8-2.2		DEPTH: 3.0-3.5		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	97%	25.0	100%
20.0	97%	20.0	100%	20.0	95%	20.0	100%
12.5	92%	12.5	100%	12.5	95%	12.5	100%
10.0	90%	10.0	98%	10.0	95%	10.0	99%
5.0	81%	5.0	92%	5.0	94%	5.0	97%
2.5	75%	2.5	87%	2.5	92%	2.5	95%
1.25	71%	1.25	83%	1.25	89%	1.25	93%
0.630	67%	0.630	79%	0.630	83%	0.630	91%
0.315	62%	0.315	75%	0.315	75%	0.315	89%
0.160	57%	0.160	71%	0.160	65%	0.160	87%
0.080	51%	0.080	66%	0.080	54%	0.080	83%
M.C.(%):	23%	M.C.(%):	33%	M.C.(%):	17%	M.C.(%):	43%
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	19	% GRAVEL:	8	% GRAVEL:	6	% GRAVEL:	3
% SAND:	30	% SAND:	26	% SAND:	40	% SAND:	14
% FINES:	51	% FINES:	66	% FINES:	54	% FINES:	83
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SANDY SILT WITH GRAVEL (ML)		SANDY SILT (ML)		SANDY SILT (ML)		SILT WITH SAND (ML)	

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-394
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1816+250 5m RT
 LOGGED BY: G.C. DATE COMP 99-04-22

FIELD NO: 149a
 LAB NO: 154
 DEPTH: 2.5-3.0
 TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	83%
20.0	67%
12.5	57%
10.0	52%
5.0	42%
2.5	37%
1.25	34%
0.630	31%
0.315	25%
0.160	20%
0.080	16%

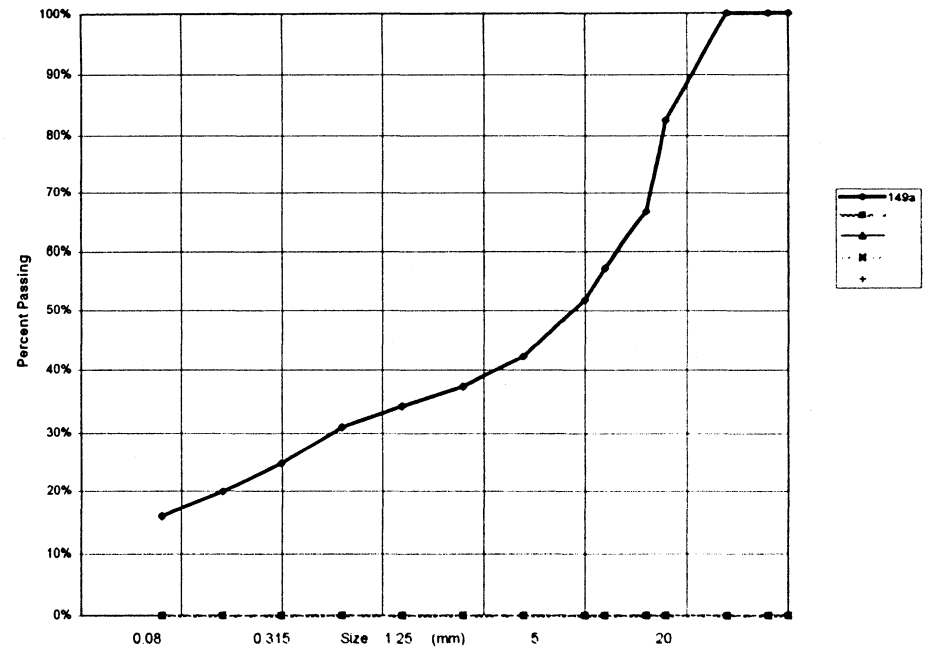
M.C.(%): 21%

LIMITS
 LIQUID: 0.0
 PLASTIC: 0.0
 P.I.: 0.0

% GRAVEL: 58
 % SAND: 26
 % FINES: 16

CLASSIFICATION:
 SILTY GRAVEL WITH SAND (GM)

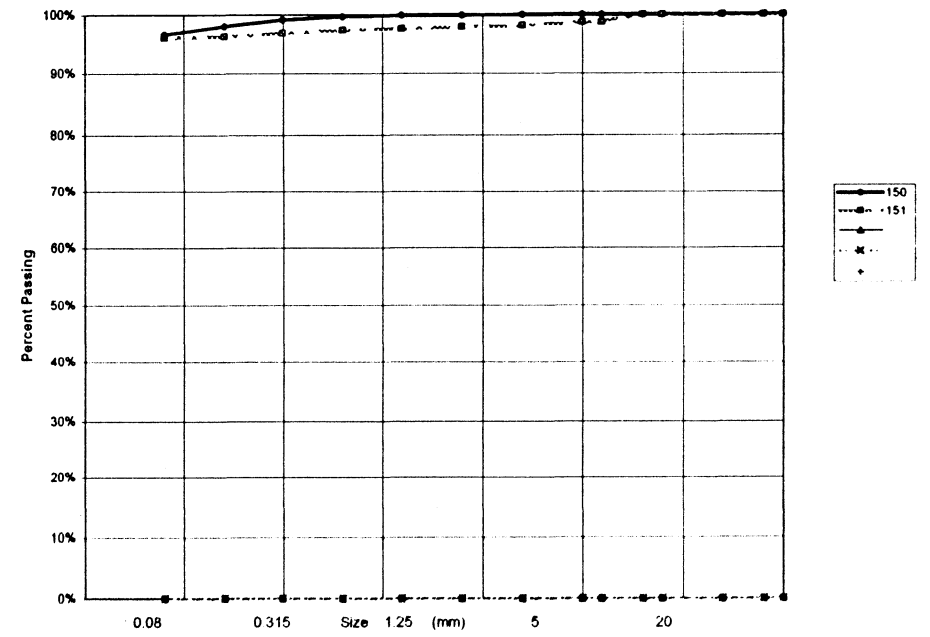
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 508-395
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1816+150 center line
 LOGGED BY: G.C. DATE COMP 99-04-22

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	100%	20.0	100%
12.5	100%	12.5	99%
10.0	100%	10.0	99%
5.0	100%	5.0	98%
2.5	100%	2.5	98%
1.25	100%	1.25	98%
0.630	100%	0.630	97%
0.315	99%	0.315	97%
0.160	98%	0.160	96%
0.080	97%	0.080	96%
M.C. (%)	44%	M.C. (%)	28%
LIMITS			
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	2
% SAND:	3	% SAND:	2
% FINES:	97	% FINES:	96
CLASSIFICATION:		CLASSIFICATION:	
SILT (ML)		SILT (ML)	

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



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-398
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1816+000 15M RT		
LOGGED BY:	G.C.	DATE COMP	89-04-22

FIELD NO:	152	FIELD No.	153
LAB NO:	157	LAB No.	158
DEPTH:	1.2-1.6	DEPTH	2.5-3.0
TYPE:	AUGER	TYPE	AUGER

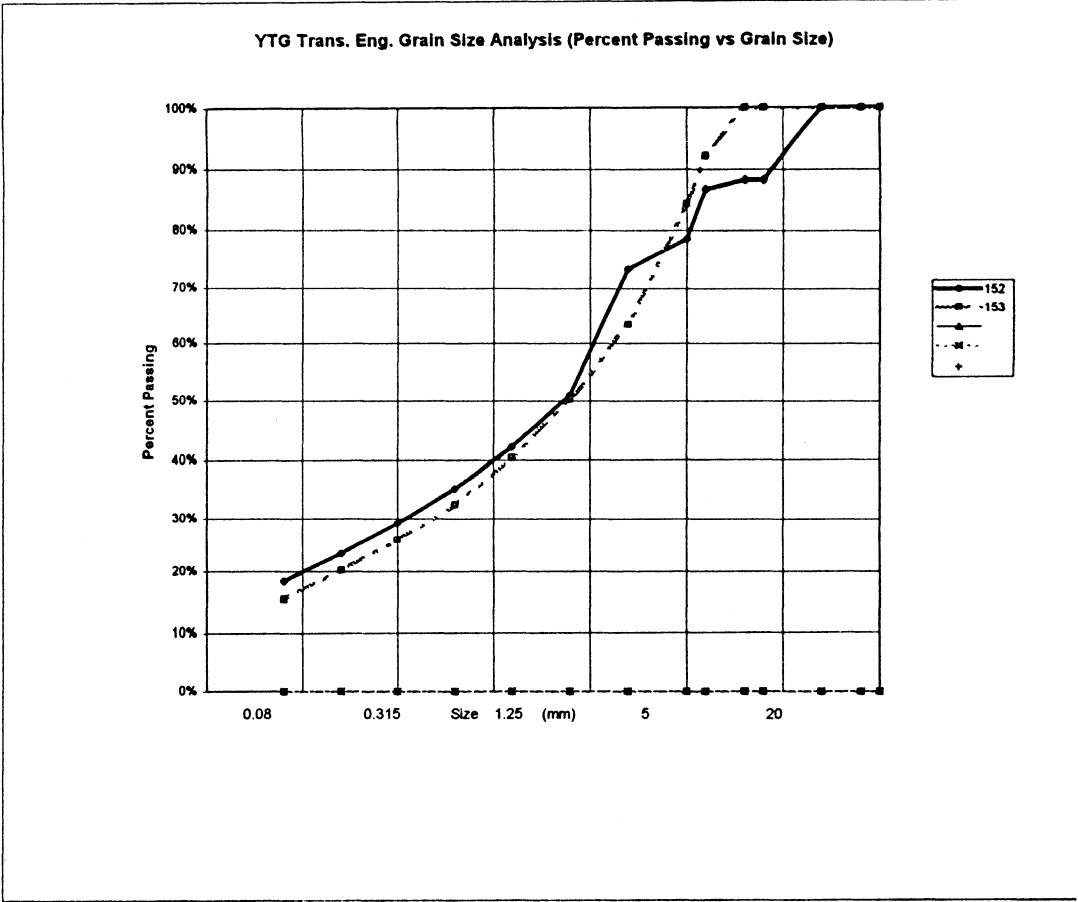
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	88%	25.0	100%
20.0	88%	20.0	100%
12.5	87%	12.5	92%
10.0	79%	10.0	85%
5.0	73%	5.0	63%
2.5	51%	2.5	50%
1.25	42%	1.25	40%
0.630	35%	0.630	33%
0.315	29%	0.315	26%
0.160	23%	0.160	20%
0.080	18%	0.080	15%

M.C.(%):	11%	M.C.(%):	7%
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LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	27	% GRAVEL:	37
% SAND:	55	% SAND:	48
% FINES:	18	% FINES:	15

CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-397
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1815+900 center line
 LOGGED BY: G.C. DATE COMP 99-04-23

FIELD NO: 154	FIELD No. 155
LAB NO: 159	LAB No. 160
DEPTH: 1.6-2.0	DEPTH 2.2-2.5
TYPE: AUGER	TYPE AUGER

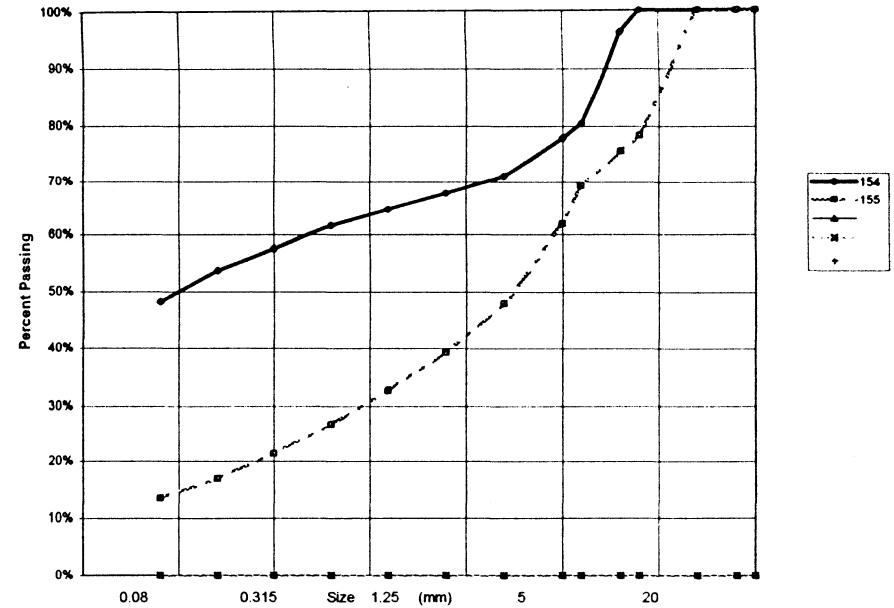
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	78%
20.0	96%	20.0	76%
12.5	80%	12.5	69%
10.0	78%	10.0	62%
5.0	71%	5.0	48%
2.5	68%	2.5	39%
1.25	65%	1.25	33%
0.630	62%	0.630	27%
0.315	58%	0.315	21%
0.160	54%	0.160	17%
0.080	48%	0.080	13%

M.C.(%):	30%	M.C.(%):	7%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	29	% GRAVEL:	52
% SAND:	23	% SAND:	35
% FINES:	48	% FINES:	13

CLASSIFICATION:	CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)

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



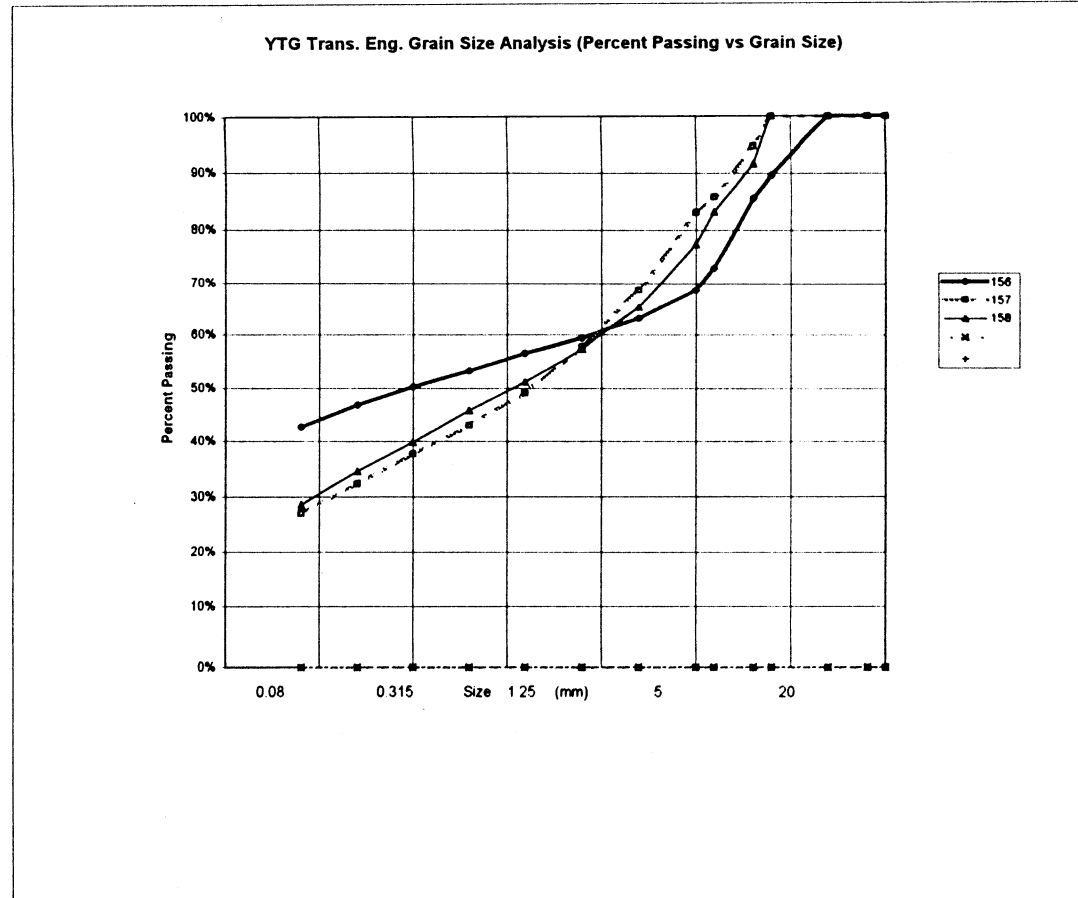
PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	509-398
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1815+800 center line		
LOGGED BY:	G.C.	DATE COMP	99-04-23

FIELD NO:	LAB NO:	DEPTH:	TYPE:
156	161	1.8-2.0	AUGER
157	162	2.6-3.0	AUGER
158	163	3.8-4.2	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	90%	25.0	100%	25.0	100%
20.0	86%	20.0	95%	20.0	92%
12.5	73%	12.5	86%	12.5	83%
10.0	69%	10.0	83%	10.0	77%
5.0	63%	5.0	69%	5.0	65%
2.5	59%	2.5	58%	2.5	58%
1.25	57%	1.25	49%	1.25	51%
0.630	53%	0.630	43%	0.630	46%
0.315	50%	0.315	38%	0.315	40%
0.160	47%	0.160	32%	0.160	34%
0.080	43%	0.080	27%	0.080	29%

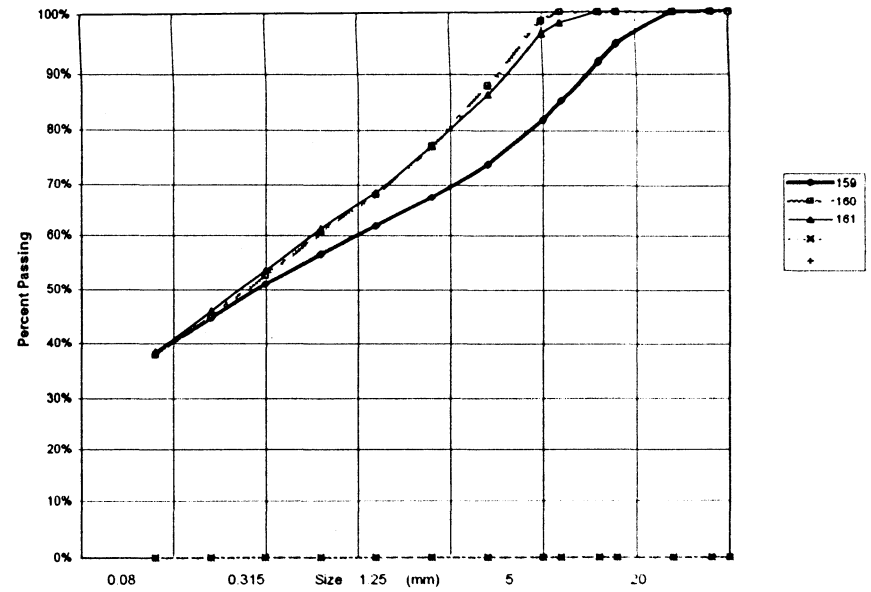
M.C. (%):	25%	M.C. (%):	11%	M.C. (%):	9%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	37	% GRAVEL:	31	% GRAVEL:	35
% SAND:	21	% SAND:	42	% SAND:	37
% FINES:	43	% FINES:	27	% FINES:	29

CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)	SILTY SAND WITH GRAVEL (SM)	SILTY SAND WITH GRAVEL (SM)



PROJECT NUMBER: 091-202101-0329-199		HOLE No: 509-399	
CLIENT: ENGINEERING CAPITAL			
PROJECT NAME: SHAKWAK SEG 13			
PROJECT LOCATION: KM 1799-1822 A/H			
DRILL UNIT: B-40-L Nodwell			
HOLE LOCATION: 1815+700 center line		DATE COMP 99-04-23	
LOGGED BY: G.C.			
FIELD NO: 159	FIELD No: 160	FIELD No: 161	
LAB NO: 164	LAB No: 165	LAB No: 166	
DEPTH: 0.8-1.2	DEPTH: 2.0-2.2	DEPTH: 3.0-3.2	
TYPE: AUGER	TYPE: AUGER	TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	95%	25.0	100%
20.0	92%	20.0	100%
12.5	86%	12.5	100%
10.0	82%	10.0	98%
5.0	74%	5.0	88%
2.5	68%	2.5	77%
1.25	62%	1.25	68%
0.630	57%	0.630	61%
0.315	51%	0.315	53%
0.160	45%	0.160	45%
0.080	38%	0.080	38%
M.C.(%): 10%	M.C.(%): 12%	M.C.(%): 12%	
LIMITS	LIMITS	LIMITS	
LIQUID: 0.0	LIQUID: 0.0	LIQUID: 0.0	
PLASTIC: 0.0	PLASTIC: 0.0	PLASTIC: 0.0	
P.I.: 0.0	P.I.: 0.0	P.I.: 0.0	
% GRAVEL: 26	% GRAVEL: 12	% GRAVEL: 13	
% SAND: 38	% SAND: 50	% SAND: 48	
% FINES: 38	% FINES: 38	% FINES: 38	
CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION: SILTY SAND (SM)	CLASSIFICATION: SILTY SAND (SM)	

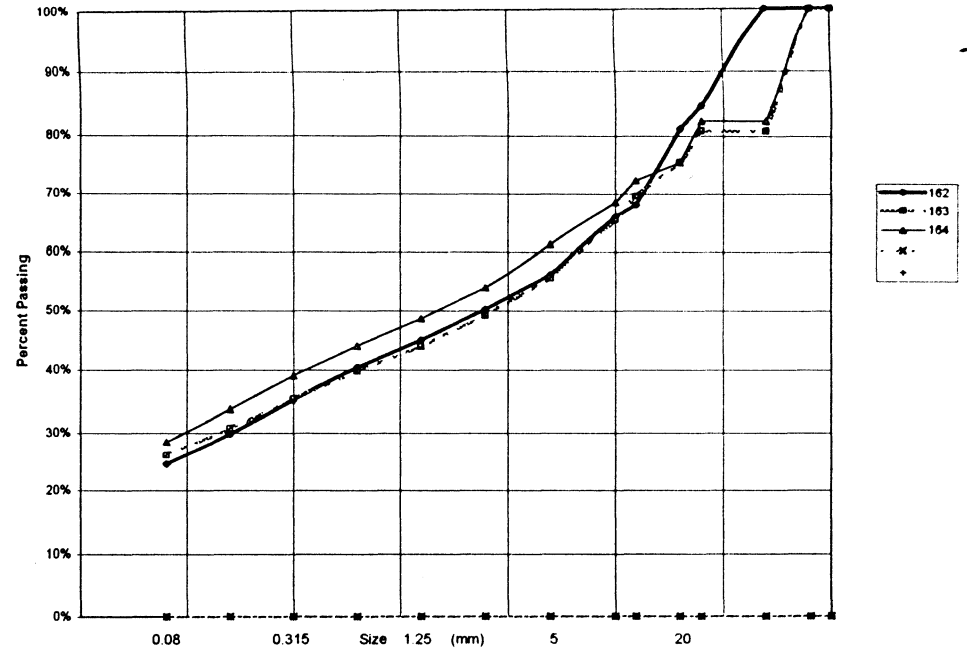
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 509-400
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1815+600 center line
 LOGGED BY: G.C. DATE COMP 99-04-23

FIELD NO: 162		FIELD No. 163		FIELD No: 164	
LAB NO: 167		LAB No. 168		LAB No: 169	
DEPTH: 1.0-1.4		DEPTH 2.0-2.4		DEPTH: 2.8-3.2	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	81%	50.0	82%
25.0	85%	25.0	81%	25.0	82%
20.0	81%	20.0	76%	20.0	75%
12.5	68%	12.5	70%	12.5	72%
10.0	66%	10.0	65%	10.0	68%
5.0	56%	5.0	56%	5.0	61%
2.5	50%	2.5	49%	2.5	54%
1.25	45%	1.25	44%	1.25	49%
0.630	40%	0.630	40%	0.630	44%
0.315	35%	0.315	35%	0.315	39%
0.160	30%	0.160	31%	0.160	34%
0.080	25%	0.080	26%	0.080	28%
M.C.(%):	3%	M.C.(%):	10%	M.C.(%):	10%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	44	% GRAVEL:	44	% GRAVEL:	39
% SAND:	32	% SAND:	30	% SAND:	33
% FINES:	25	% FINES:	26	% FINES:	28
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

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



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-401
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1815+500 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-04-23

FIELD NO: 165 FIELD No. 166
 LAB NO: 170 LAB No. 171
 DEPTH: 1.8-2.2 DEPTH 3.0-3.2
 TYPE: AUGER TYPE AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	97%
20.0	100%	20.0	94%
12.5	92%	12.5	91%
10.0	88%	10.0	89%
5.0	79%	5.0	81%
2.5	72%	2.5	74%
1.25	65%	1.25	68%
0.630	60%	0.630	63%
0.315	53%	0.315	57%
0.160	46%	0.160	49%
0.080	40%	0.080	42%

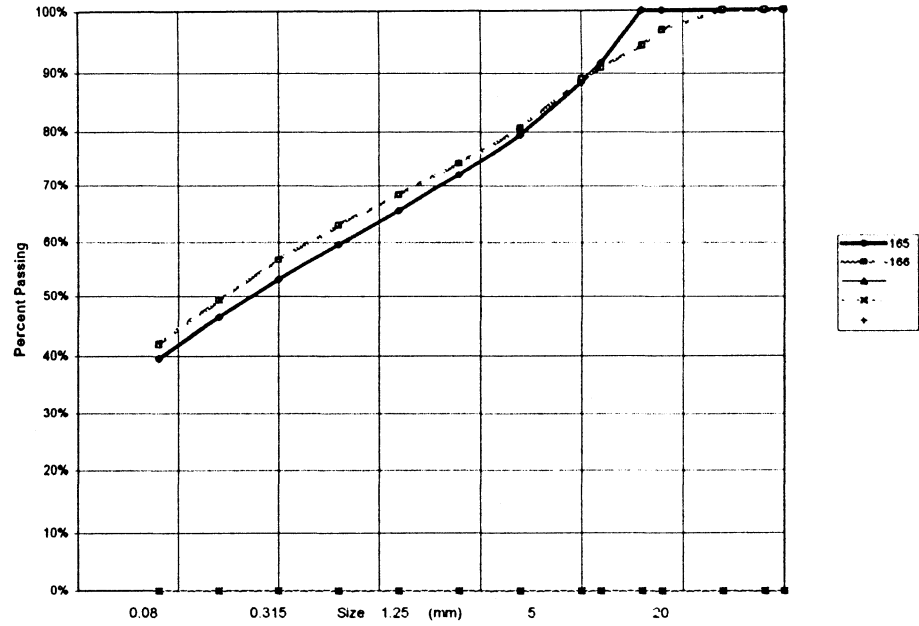
M.C. (%): 13% M.C. (%): 13%

LIMITS
 LIQUID: 0.0 LIQUID: 0.0
 PLASTIC: 0.0 PLASTIC: 0.0
 P.I.: 0.0 P.I.: 0.0

% GRAVEL: 21 % GRAVEL: 19
 % SAND: 40 % SAND: 39
 % FINES: 40 % FINES: 42

CLASSIFICATION: CLASSIFICATION:
 SILTY SAND WITH GRAVEL (SM) SILTY SAND WITH GRAVEL (SM)

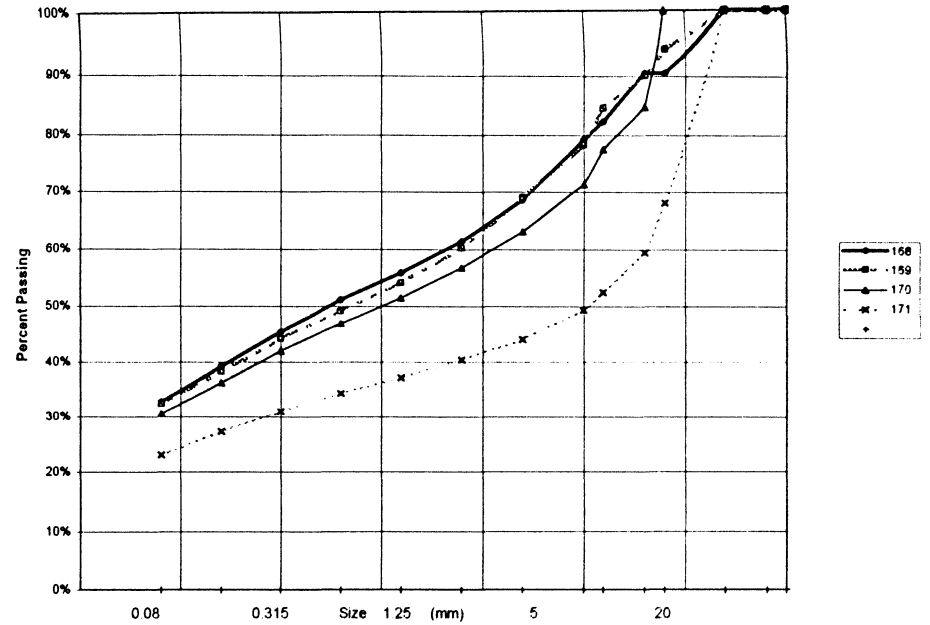
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-402
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1815+400 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-23

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
168	172	0.6-1.0	AUGER	169	173	1.6-2.0	AUGER	170	174	2.6-3.0	AUGER	171	175	3.6-4.0	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	91%	25.0	95%	25.0	95%	25.0	100%	25.0	85%	25.0	100%	25.0	68%	25.0	68%
20.0	91%	20.0	90%	20.0	90%	20.0	85%	20.0	85%	20.0	85%	20.0	59%	20.0	59%
12.5	82%	12.5	85%	12.5	85%	12.5	78%	12.5	78%	12.5	78%	12.5	52%	12.5	52%
10.0	79%	10.0	78%	10.0	78%	10.0	71%	10.0	71%	10.0	71%	10.0	49%	10.0	49%
5.0	69%	5.0	69%	5.0	63%	5.0	63%	5.0	63%	5.0	63%	5.0	44%	5.0	44%
2.5	61%	2.5	60%	2.5	57%	2.5	57%	2.5	57%	2.5	57%	2.5	40%	2.5	40%
1.25	56%	1.25	54%	1.25	51%	1.25	51%	1.25	51%	1.25	51%	1.25	37%	1.25	37%
0.630	51%	0.630	49%	0.630	47%	0.630	47%	0.630	47%	0.630	47%	0.630	34%	0.630	34%
0.315	45%	0.315	44%	0.315	42%	0.315	42%	0.315	42%	0.315	42%	0.315	31%	0.315	31%
0.160	39%	0.160	38%	0.160	36%	0.160	36%	0.160	36%	0.160	36%	0.160	27%	0.160	27%
0.080	33%	0.080	32%	0.080	30%	0.080	30%	0.080	30%	0.080	30%	0.080	23%	0.080	23%
M.C. (%)	6%	M.C. (%)	6%	M.C. (%)	6%	M.C. (%)	6%	M.C. (%)	5%	M.C. (%)	5%	M.C. (%)	5%	M.C. (%)	5%
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	31	% GRAVEL:	31	% GRAVEL:	37	% GRAVEL:	37	% GRAVEL:	56	% GRAVEL:	56	% GRAVEL:	56	% GRAVEL:	56
% SAND:	36	% SAND:	36	% SAND:	33	% SAND:	33	% SAND:	21	% SAND:	21	% SAND:	21	% SAND:	21
% FINES:	33	% FINES:	32	% FINES:	30	% FINES:	30	% FINES:	23	% FINES:	23	% FINES:	23	% FINES:	23
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

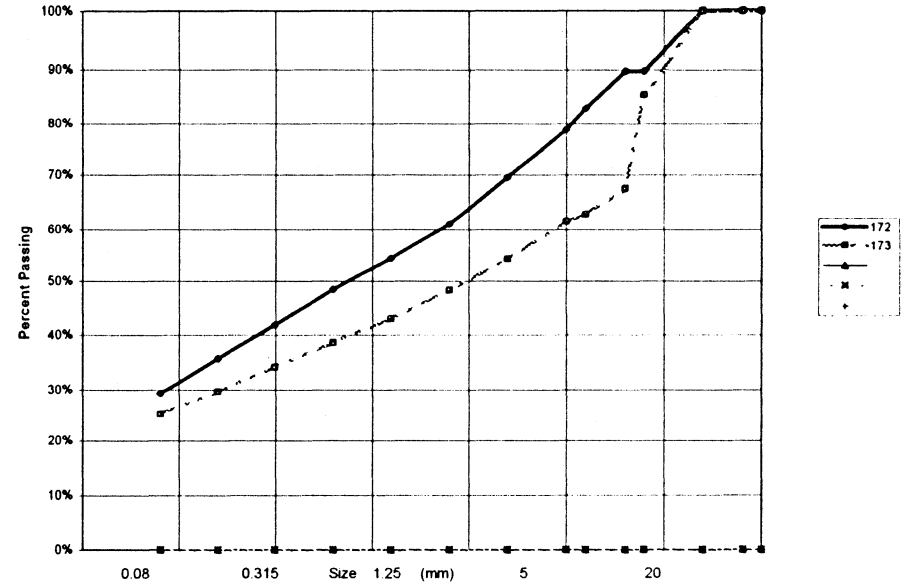
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-403
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1815+200 CENTRELINE
 LOGGED BY: G. C. DATE COMP 1999-04-23

=====		=====	
FIELD NO: 172	FIELD No. 173		
LAB NO: 176	LAB No. 177		
DEPTH: 0.6-1.0	DEPTH 2.0-2.5		
TYPE: AUGER	TYPE AUGER		
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	90%	25.0	85%
20.0	90%	20.0	67%
12.5	83%	12.5	63%
10.0	79%	10.0	62%
5.0	70%	5.0	54%
2.5	61%	2.5	48%
1.25	54%	1.25	43%
0.630	48%	0.630	39%
0.315	42%	0.315	34%
0.160	36%	0.160	30%
0.080	29%	0.080	25%
M.C.(%): 4%	M.C.(%): 4%		
LIMITS	LIMITS		
LIQUID: 0.0	LIQUID: 0.0		
PLASTIC: 0.0	PLASTIC: 0.0		
P.I.: 0.0	P.I.: 0.0		
% GRAVEL: 30	% GRAVEL: 46		
% SAND: 40	% SAND: 29		
% FINES: 29	% FINES: 25		
CLASSIFICATION:	CLASSIFICATION:		
SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)		

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



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-404
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1815+120 10M RT
 LOGGED BY: G.C. DATE COMP 1999-04-23

FIELD NO: 174
 LAB NO: 178
 DEPTH: 2.8-3.2
 TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	96%
20.0	87%
12.5	68%
10.0	62%
5.0	45%
2.5	35%
1.25	27%
0.630	22%
0.315	17%
0.160	13%
0.080	10%

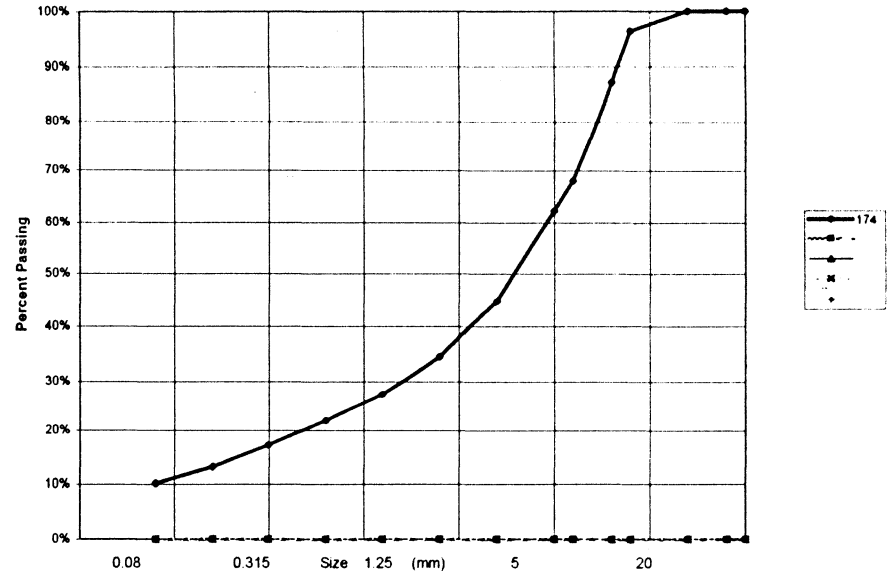
M.C. (%): 16%

LIMITS
 LIQUID: 0.0
 PLASTIC: 0.0
 P.I.: 0.0

% GRAVEL: 55
 % SAND: 35
 % FINES: 10

CLASSIFICATION:
 POORLY GRADED GRAVEL WITH
 SILT & SAND (GP-GM)

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



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-405
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1814+950 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-23

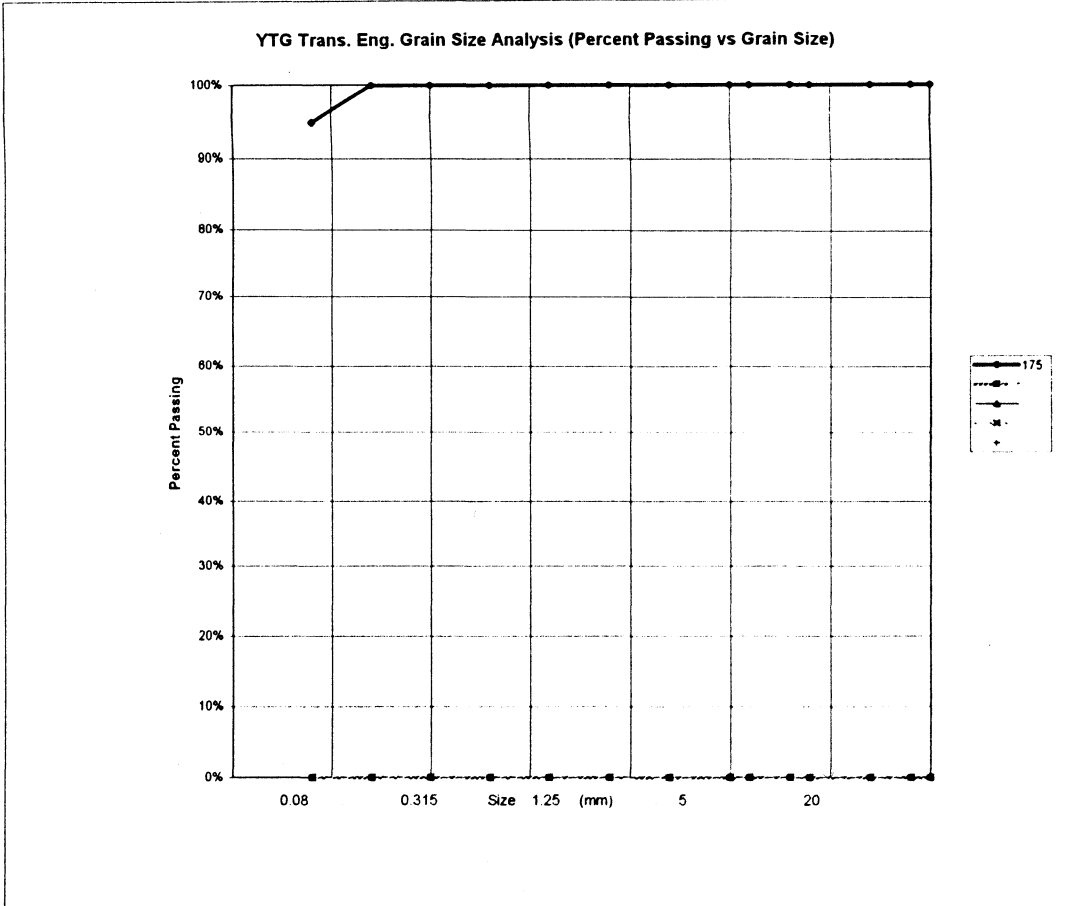
SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	100%
20.0	100%
12.5	100%
10.0	100%
5.0	100%
2.5	100%
1.25	100%
0.630	100%
0.315	100%
0.160	100%
0.080	95%

M.C.(%)	184%
---------	------

LIMITS	
LIQUID:	0.0
PLASTIC:	0.0
P.I.:	0.0

% GRAVEL:	0
% SAND:	5
% FINES:	95

CLASSIFICATION:	
SILT (ML)	



PROJECT NUMBER:	092-202101-0329-199	HOLE No.:	511-406
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799 - 1822 A/H		
DRILL UNIT:	B-40-L NODWELL		
HOLE LOCATION:	1814+850 5M RT	DATE COMP	1999-04-26
LOGGED BY:	G.C.		

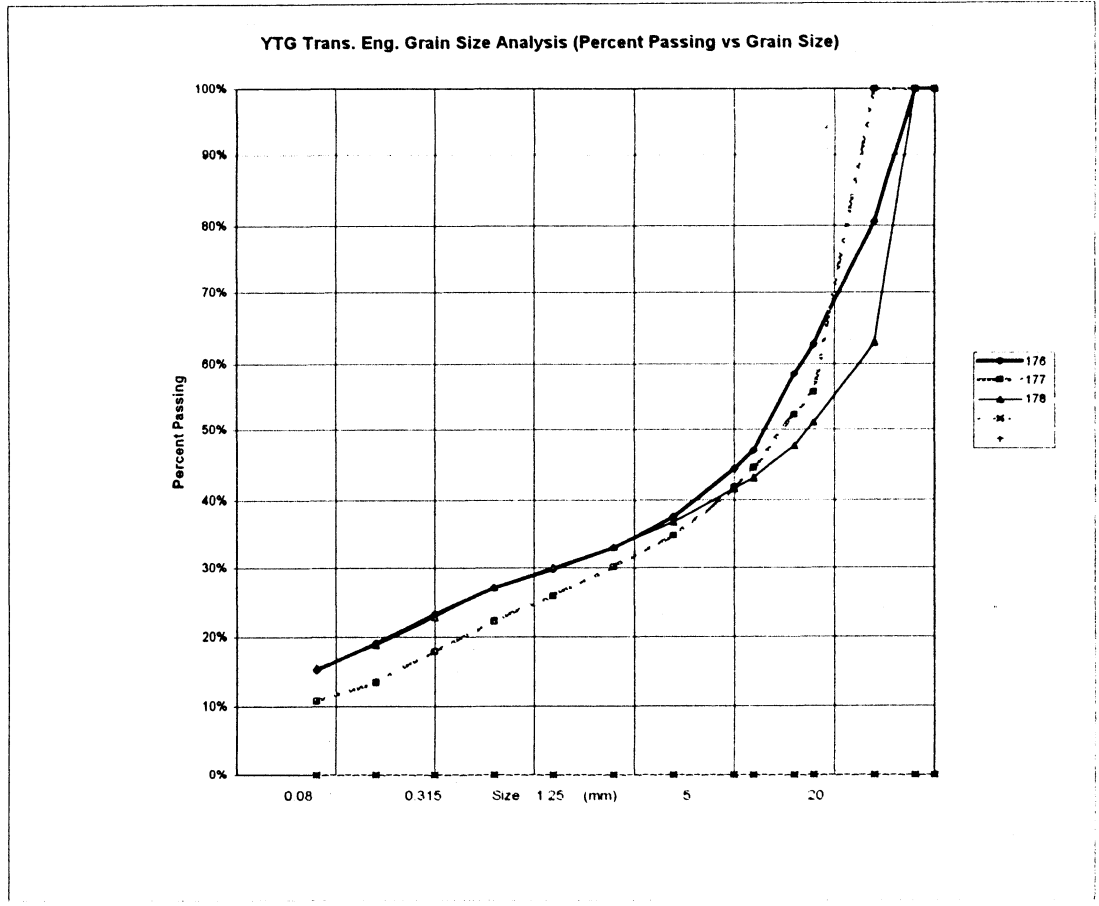
FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
176	192	1.2-1.5	AUGER	177	193	2.5-3.0	AUGER	178	194	3.6-4.0	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	81%	50.0	100%	50.0	63%
25.0	63%	25.0	56%	25.0	51%
20.0	58%	20.0	52%	20.0	48%
12.5	47%	12.5	44%	12.5	43%
10.0	44%	10.0	42%	10.0	41%
5.0	38%	5.0	35%	5.0	37%
2.5	33%	2.5	30%	2.5	33%
1.25	30%	1.25	26%	1.25	30%
0.630	27%	0.630	22%	0.630	27%
0.315	23%	0.315	18%	0.315	23%
0.160	19%	0.160	13%	0.160	19%
0.080	15%	0.080	11%	0.080	15%

M.C. (%):	4%	M.C. (%):	4%	M.C. (%):	4%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0

% GRAVEL:	62	% GRAVEL:	65	% GRAVEL:	63
% SAND:	23	% SAND:	24	% SAND:	21
% FINES:	15	% FINES:	11	% FINES:	15

CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)	SILTY GRAVEL WITH SAND (GM)



PROJECT NUMBER:	092-202101-0329-199	HOLE No.:	511-407
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799 - 1822 A/H		
DRILL UNIT:	B-40-L NODWELL		
HOLE LOCATION:	1814*750 10M RT	DATE COMP	1999-04-26
LOGGED BY:	G.C.		

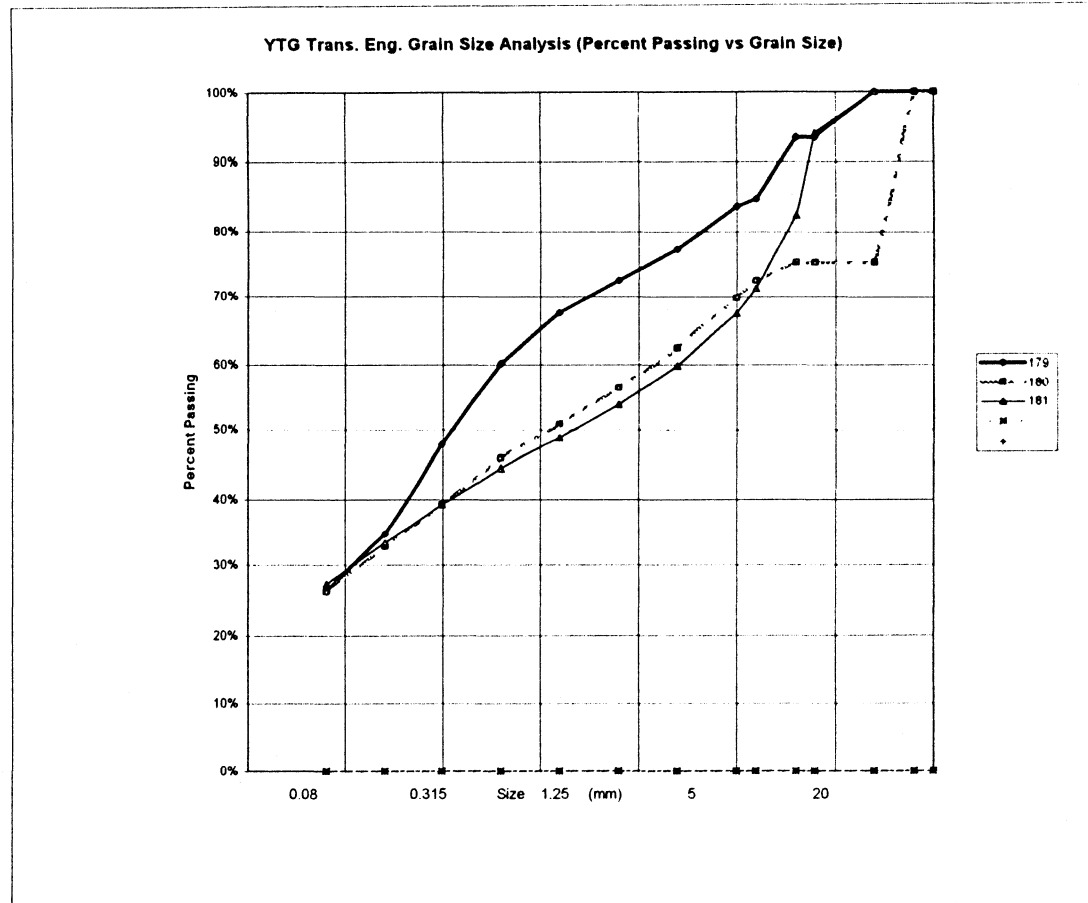
FIELD NO:	179	FIELD No:	180	FIELD No:	181
LAB NO:	195	LAB No:	196	LAB No:	197
DEPTH:	1.5-2.0	DEPTH:	2.6-3.0	DEPTH:	4.0-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	75%	50.0	100%
25.0	93%	25.0	75%	25.0	94%
20.0	83%	20.0	75%	20.0	82%
12.5	85%	12.5	72%	12.5	71%
10.0	84%	10.0	70%	10.0	67%
5.0	77%	5.0	62%	5.0	80%
2.5	73%	2.5	56%	2.5	54%
1.25	67%	1.25	51%	1.25	49%
0.630	60%	0.630	46%	0.630	44%
0.315	48%	0.315	39%	0.315	39%
0.160	35%	0.160	33%	0.160	33%
0.080	26%	0.080	26%	0.080	27%

M.C. (%):	8%	M.C. (%):	7%	M.C. (%):	5%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0

% GRAVEL:	23	% GRAVEL:	38	% GRAVEL:	40
% SAND:	51	% SAND:	36	% SAND:	33
% FINES:	26	% FINES:	26	% FINES:	27

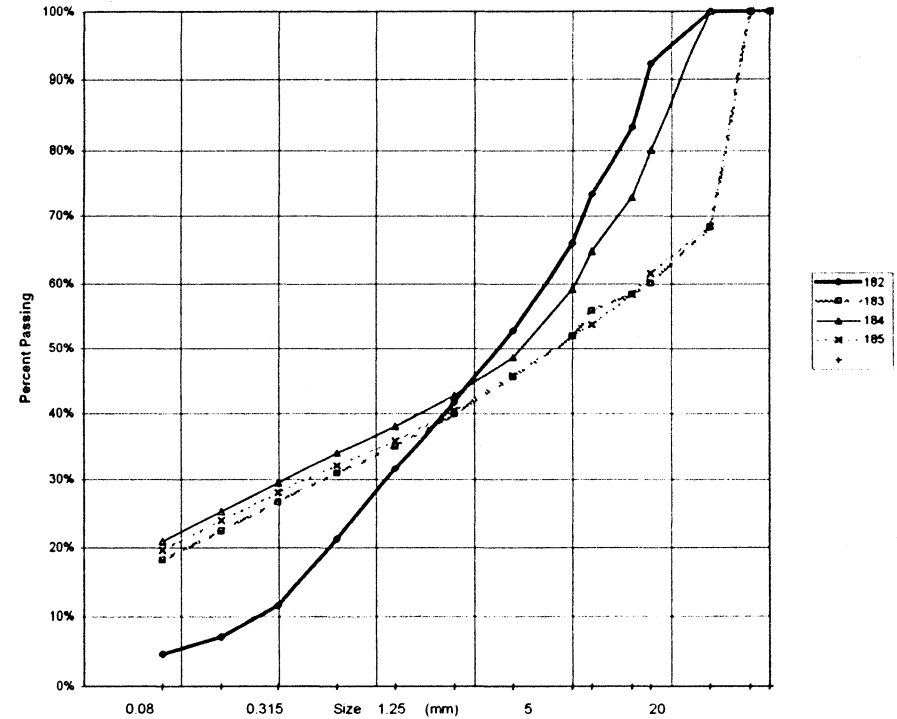
CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-408
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1814+625 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-27

FIELD NO: 182		FIELD No. 183		FIELD No: 184		FIELD No: 185	
LAB NO: 198		LAB No. 199		LAB No: 200		LAB No: 201	
DEPTH: 0.6-1.0		DEPTH 1.5-2.0		DEPTH: 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	68%	50.0	100%	50.0	68%
25.0	92%	25.0	60%	25.0	80%	25.0	61%
20.0	83%	20.0	58%	20.0	73%	20.0	58%
12.5	73%	12.5	56%	12.5	65%	12.5	54%
10.0	66%	10.0	52%	10.0	59%	10.0	52%
5.0	53%	5.0	45%	5.0	49%	5.0	46%
2.5	42%	2.5	40%	2.5	43%	2.5	40%
1.25	32%	1.25	35%	1.25	38%	1.25	36%
0.630	21%	0.630	31%	0.630	34%	0.630	32%
0.315	11%	0.315	27%	0.315	29%	0.315	28%
0.160	7%	0.160	22%	0.160	25%	0.160	24%
0.080	5%	0.080	18%	0.080	21%	0.080	20%
M.C.(%)	2%	M.C.(%)	4%	M.C.(%)	4%	M.C.(%)	4%
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	47	% GRAVEL:	55	% GRAVEL:	51	% GRAVEL:	54
% SAND:	48	% SAND:	27	% SAND:	28	% SAND:	26
% FINES:	5	% FINES:	18	% FINES:	21	% FINES:	20
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
WELL-GRADED SAND WITH GRAVEL (SW)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

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



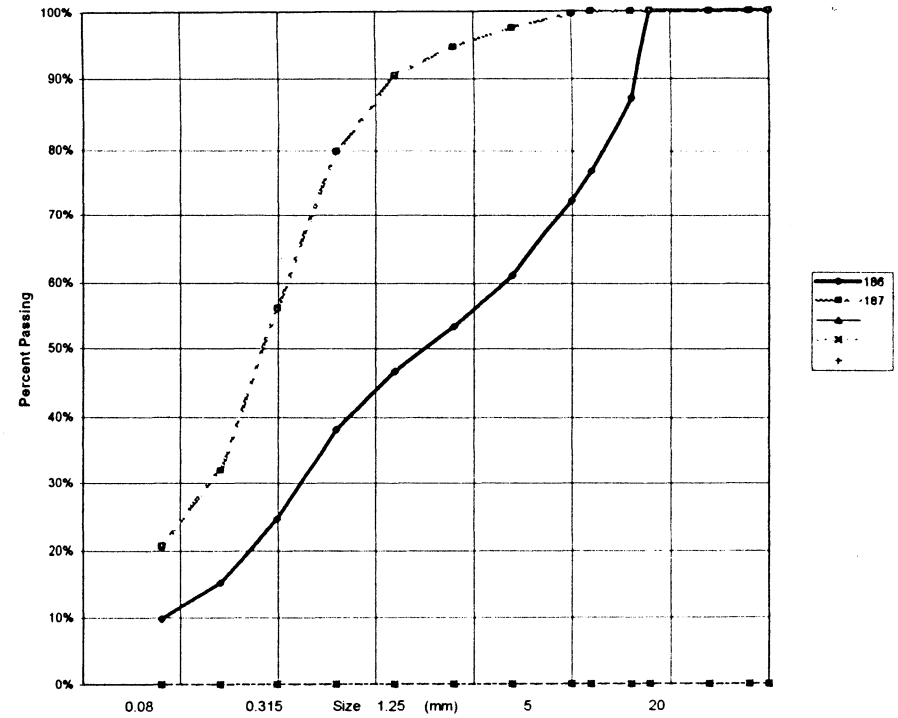
PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-409
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1789 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1814+550 20M LT
 LOGGED BY: G.C. DATE COMP 1999-04-27

FIELD NO.	LAB NO.	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH	TYPE
188	202	2.0-2.5	AUGER	187	203	3.5-4.5	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	87%	20.0	100%
12.5	77%	12.5	100%
10.0	72%	10.0	100%
5.0	61%	5.0	97%
2.5	53%	2.5	95%
1.25	47%	1.25	90%
0.630	38%	0.630	80%
0.315	25%	0.315	56%
0.160	15%	0.160	32%
0.080	10%	0.080	21%

M.C. (%)	13%	M.C. (%)	32%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	39	% GRAVEL:	3
% SAND:	51	% SAND:	77
% FINES:	10	% FINES:	21
CLASSIFICATION:		CLASSIFICATION:	
WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)		SILTY SAND (SM)	

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



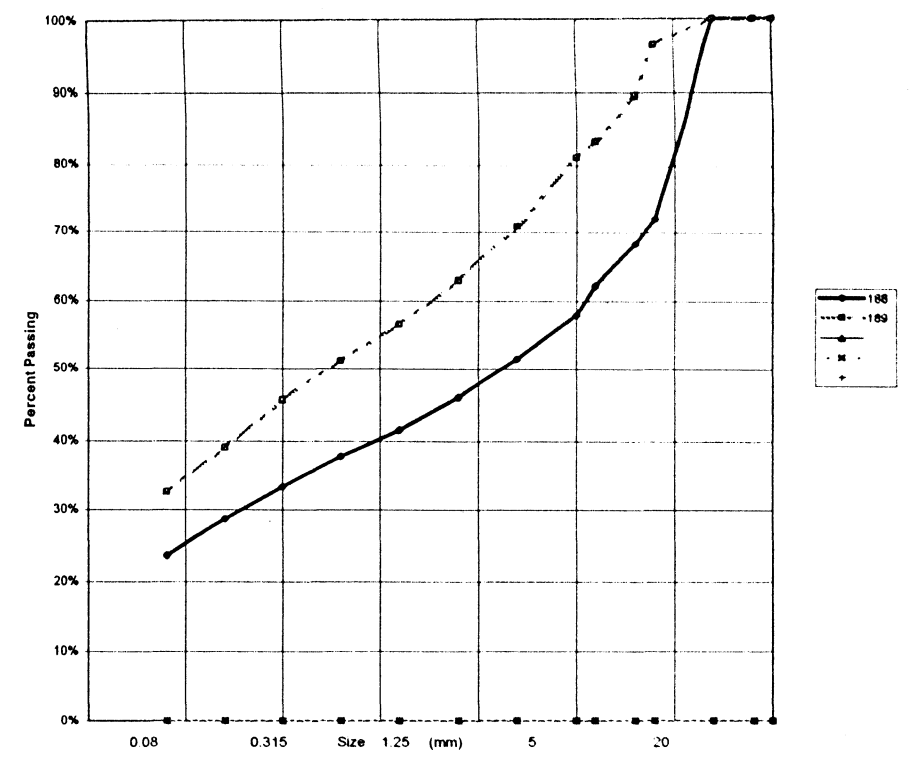
PROJECT NUMBER:	092-202101-0329-199	HOLE No.:	511-410
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799 - 1822 A/H		
DRILL UNIT:	B-40-L NODWELL		
HOLE LOCATION:	1814+400 15M RT		
LOGGED BY:	G.C.	DATE COMP	1999-04-27

FIELD NO:	188	FIELD No.	189
LAB NO:	204	LAB No.	205
DEPTH:	0.6-1.0	DEPTH	2.5-3.0
TYPE:	AUGER	TYPE	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	72%	25.0	96%
20.0	68%	20.0	90%
12.5	62%	12.5	84%
10.0	58%	10.0	81%
5.0	51%	5.0	71%
2.5	46%	2.5	63%
1.25	42%	1.25	56%
0.630	38%	0.630	51%
0.315	33%	0.315	45%
0.160	29%	0.160	39%
0.080	24%	0.080	33%

M.C. (%):	4%	M.C. (%):	5%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	49	% GRAVEL:	29
% SAND:	28	% SAND:	38
% FINES:	24	% FINES:	33
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)	

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



PROJECT NUMBER:	092-202101-0329-199	HOLE No.:	511-411
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799 - 1822 A/H		
DRILL UNIT:	B-40-L NODWELL		
HOLE LOCATION:	1814+375 CENTRELINE	DATE COMP	1999-04-27
LOGGED BY:	G.C.		

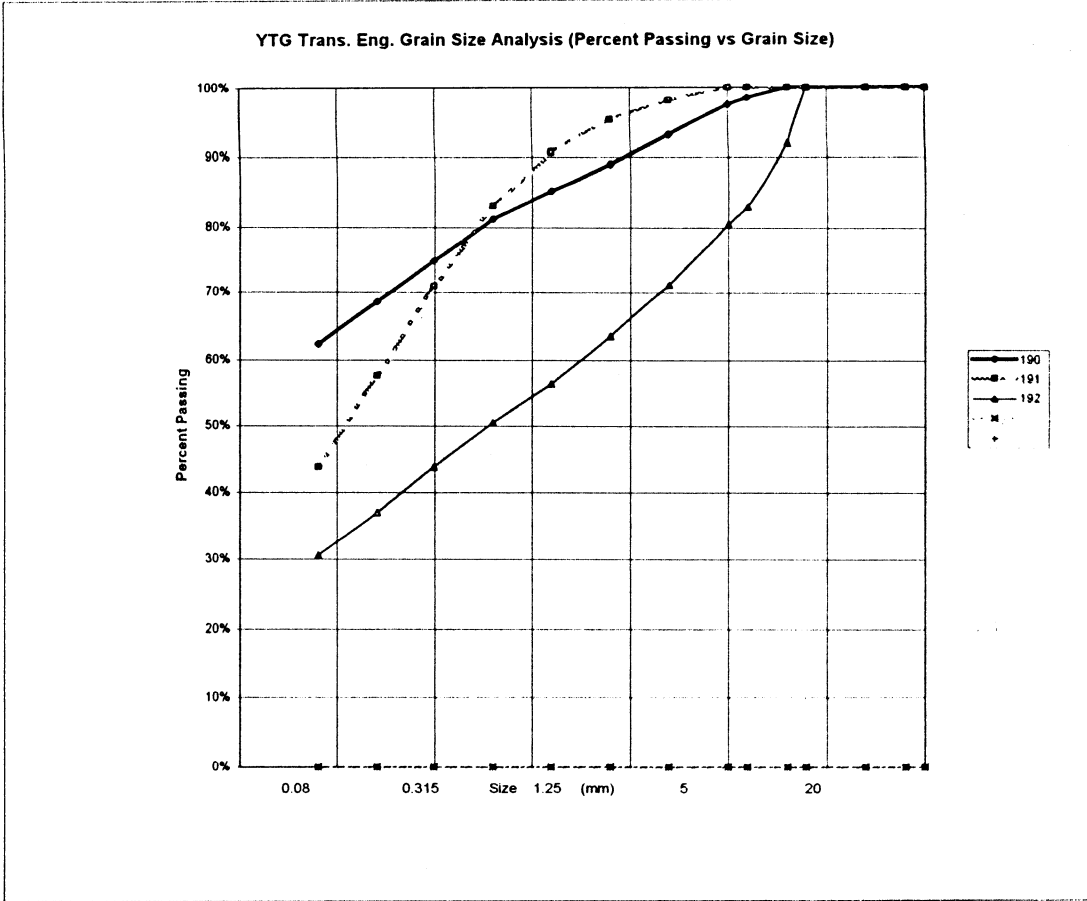
FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
190	206	1.4-1.8	AUGER	191	207	2.0-2.4	AUGER	192	208	3.0-3.5	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	100%
20.0	100%	20.0	100%	20.0	92%
12.5	98%	12.5	100%	12.5	83%
10.0	97%	10.0	100%	10.0	80%
5.0	93%	5.0	98%	5.0	71%
2.5	89%	2.5	95%	2.5	64%
1.25	85%	1.25	91%	1.25	56%
0.630	81%	0.630	83%	0.630	50%
0.315	75%	0.315	71%	0.315	44%
0.160	68%	0.160	58%	0.160	37%
0.080	62%	0.080	44%	0.080	31%

M.C. (%)	LIMITS	LIMITS	LIMITS
21%	LIQUID: 0.0	LIQUID: 0.0	LIQUID: 0.0
	PLASTIC: 0.0	PLASTIC: 0.0	PLASTIC: 0.0
	P.I.: 0.0	P.I.: 0.0	P.I.: 0.0

% GRAVEL:	% SAND:	% FINES:	% GRAVEL:	% SAND:	% FINES:	% GRAVEL:	% SAND:	% FINES:
7	31	62	2	54	44	29	41	31

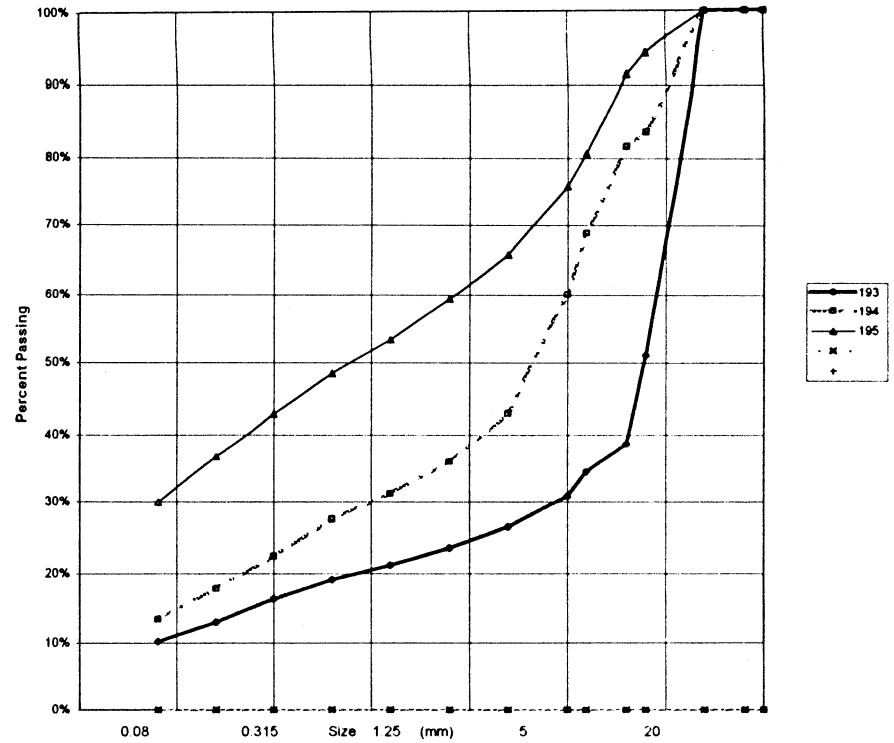
CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
SANDY SILT (ML)	SILTY SAND (SM)	SILTY SAND WITH GRAVEL (SM)



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-412
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1814+275 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-27

FIELD NO: 193		FIELD No. 194		FIELD No: 195	
LAB NO: 209		LAB No. 210		LAB No: 211	
DEPTH: 1.5-2.0		DEPTH 2.5-3.0		DEPTH: 4.0-4.4	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	51%	25.0	84%	25.0	94%
20.0	39%	20.0	82%	20.0	91%
12.5	34%	12.5	69%	12.5	81%
10.0	31%	10.0	60%	10.0	76%
5.0	26%	5.0	43%	5.0	66%
2.5	24%	2.5	36%	2.5	59%
1.25	21%	1.25	31%	1.25	53%
0.630	19%	0.630	27%	0.630	48%
0.315	16%	0.315	22%	0.315	43%
0.160	13%	0.160	18%	0.160	37%
0.080	10%	0.080	13%	0.080	30%
M.C.(%): 3%		M.C.(%): 3%		M.C.(%): 5%	
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	74	% GRAVEL:	57	% GRAVEL:	34
% SAND:	16	% SAND:	30	% SAND:	36
% FINES:	10	% FINES:	13	% FINES:	30
CLASSIFICATION: WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	

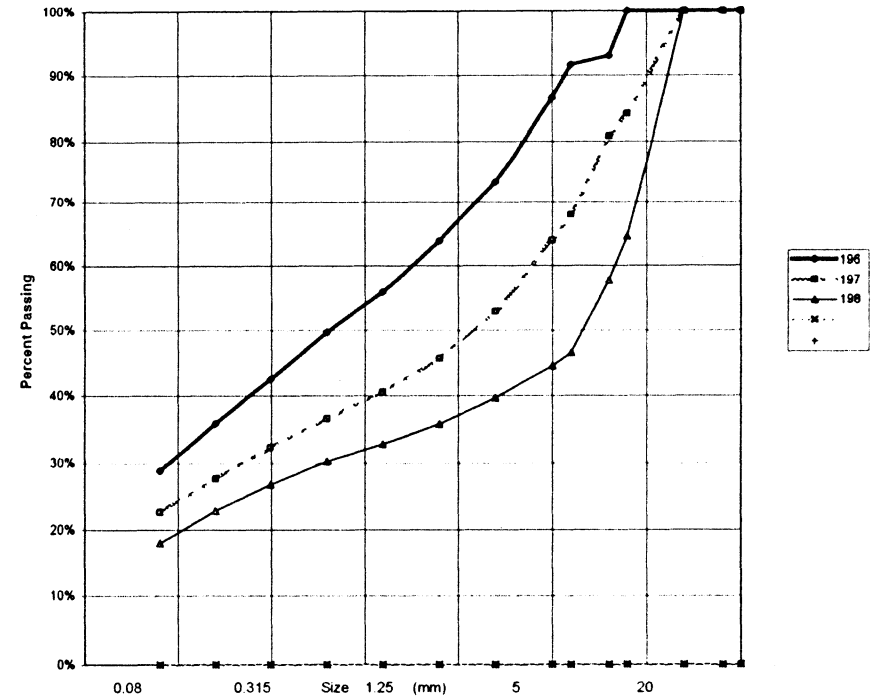
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-413
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1814+175 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-27

FIELD NO: 196		FIELD No. 197		FIELD No: 198	
LAB NO: 212		LAB No. 213		LAB No: 214	
DEPTH: 1.0-1.5		DEPTH 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	84%	25.0	64%
20.0	93%	20.0	81%	20.0	58%
12.5	92%	12.5	68%	12.5	47%
10.0	87%	10.0	64%	10.0	44%
5.0	73%	5.0	53%	5.0	40%
2.5	64%	2.5	46%	2.5	36%
1.25	56%	1.25	40%	1.25	33%
0.630	50%	0.630	36%	0.630	30%
0.315	42%	0.315	32%	0.315	27%
0.160	36%	0.160	28%	0.160	23%
0.080	29%	0.080	23%	0.080	18%
M.C.(%)	6%	M.C.(%)	5%	M.C.(%)	4%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	27	% GRAVEL:	47	% GRAVEL:	00
% SAND:	45	% SAND:	30	% SAND:	22
% FINES:	29	% FINES:	23	% FINES:	18
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

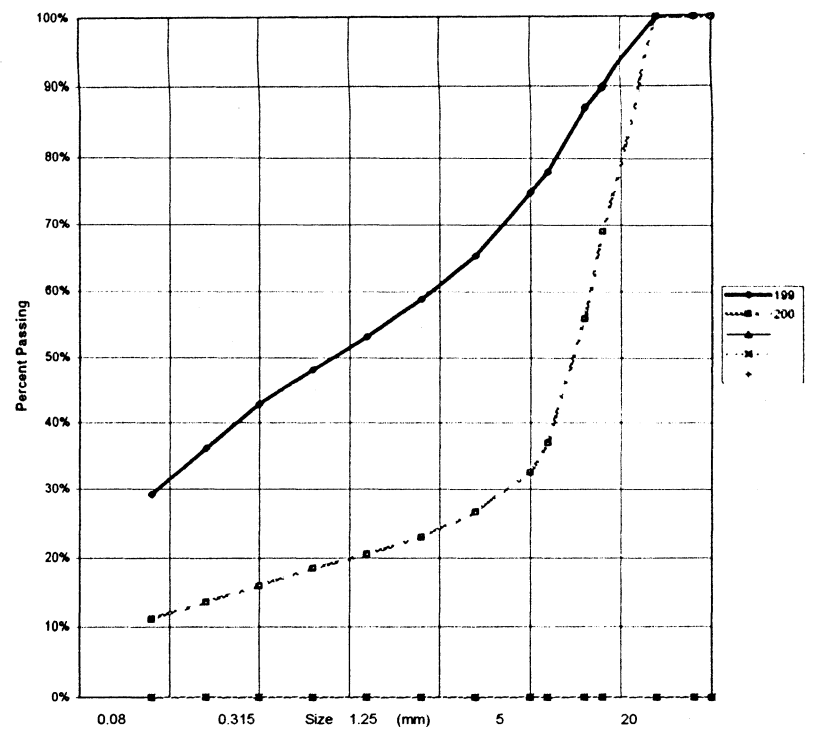
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-414
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1814+075 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-27

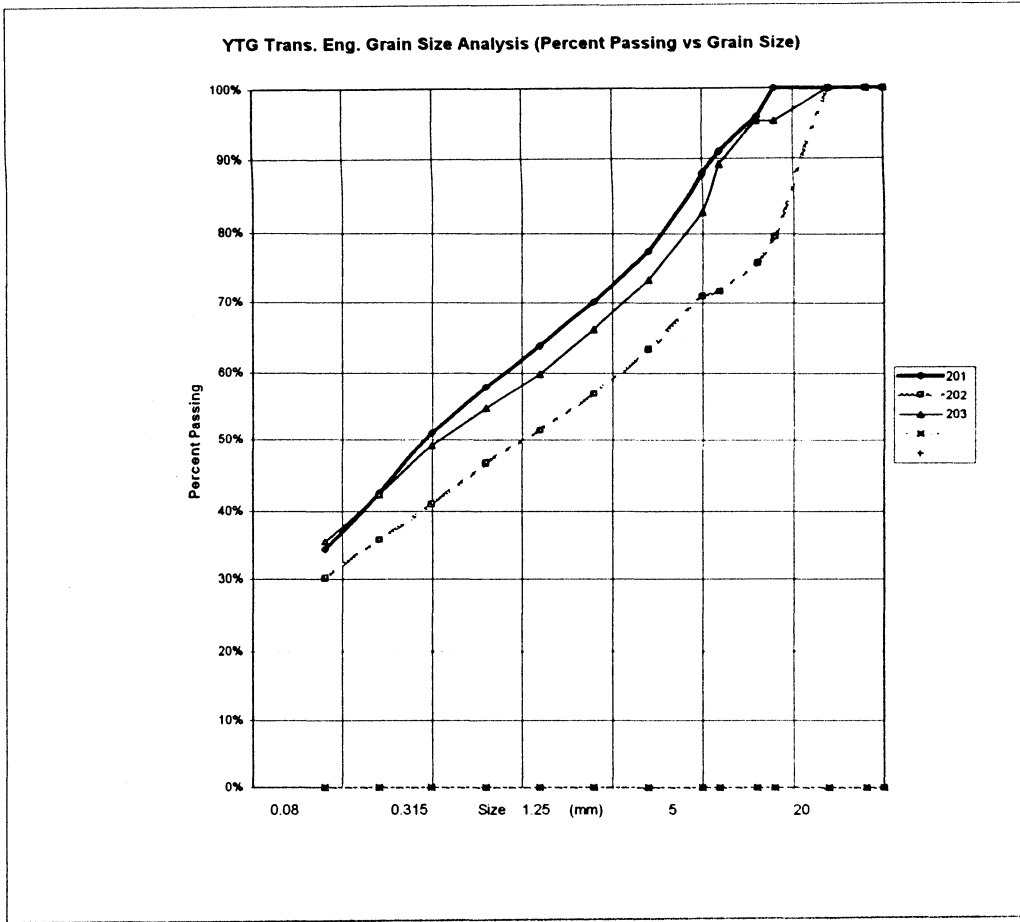
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	90%	25.0	69%
20.0	87%	20.0	56%
12.5	78%	12.5	37%
10.0	75%	10.0	33%
5.0	65%	5.0	27%
2.5	54%	2.5	23%
1.25	53%	1.25	20%
0.630	48%	0.630	19%
0.315	43%	0.315	16%
0.160	36%	0.160	13%
0.080	29%	0.080	11%
M.C. (%)	5%	M.C. (%)	2%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	35	% GRAVEL:	73
% SAND:	36	% SAND:	16
% FINES:	29	% FINES:	11
CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	POORLY GRADED GRAVEL WITH SILT & SAND (GP-GM)

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



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-415
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1813+975 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-27

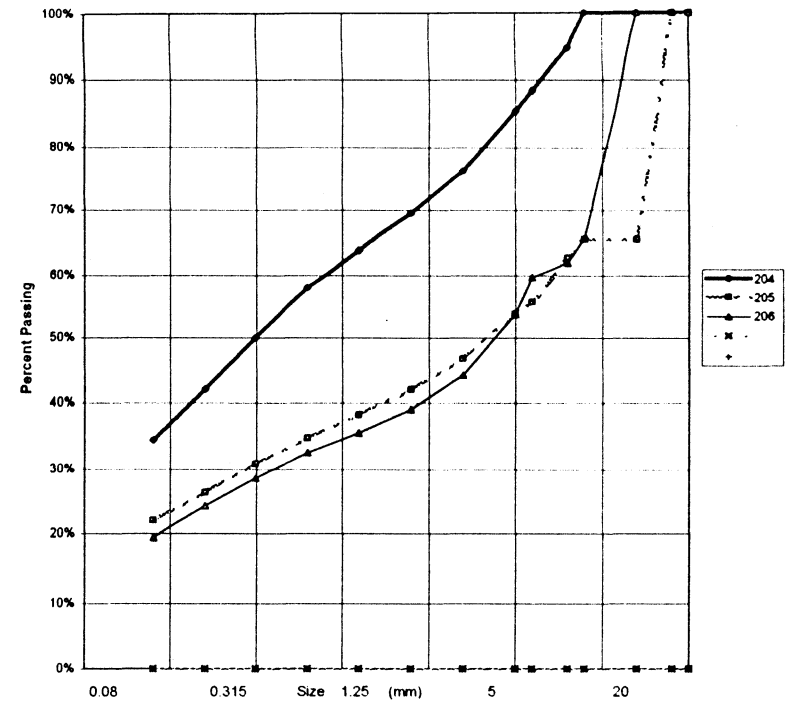
FIELD NO: 201		FIELD No. 202		FIELD No: 203	
LAB NO: 217		LAB No. 218		LAB No: 219	
DEPTH: 1.0-1.5		DEPTH 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	80%	25.0	95%
20.0	96%	20.0	76%	20.0	95%
12.5	91%	12.5	72%	12.5	89%
10.0	88%	10.0	71%	10.0	83%
5.0	77%	5.0	63%	5.0	73%
2.5	70%	2.5	57%	2.5	66%
1.25	64%	1.25	51%	1.25	60%
0.630	58%	0.630	47%	0.630	55%
0.315	51%	0.315	41%	0.315	49%
0.160	43%	0.160	36%	0.160	42%
0.080	34%	0.080	30%	0.080	35%
M.C.(%):	7%	M.C.(%):	8%	M.C.(%):	8%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	23	% GRAVEL:	37	% GRAVEL:	27
% SAND:	43	% SAND:	33	% SAND:	38
% FINES:	34	% FINES:	30	% FINES:	35
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-416
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1813+875 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-27

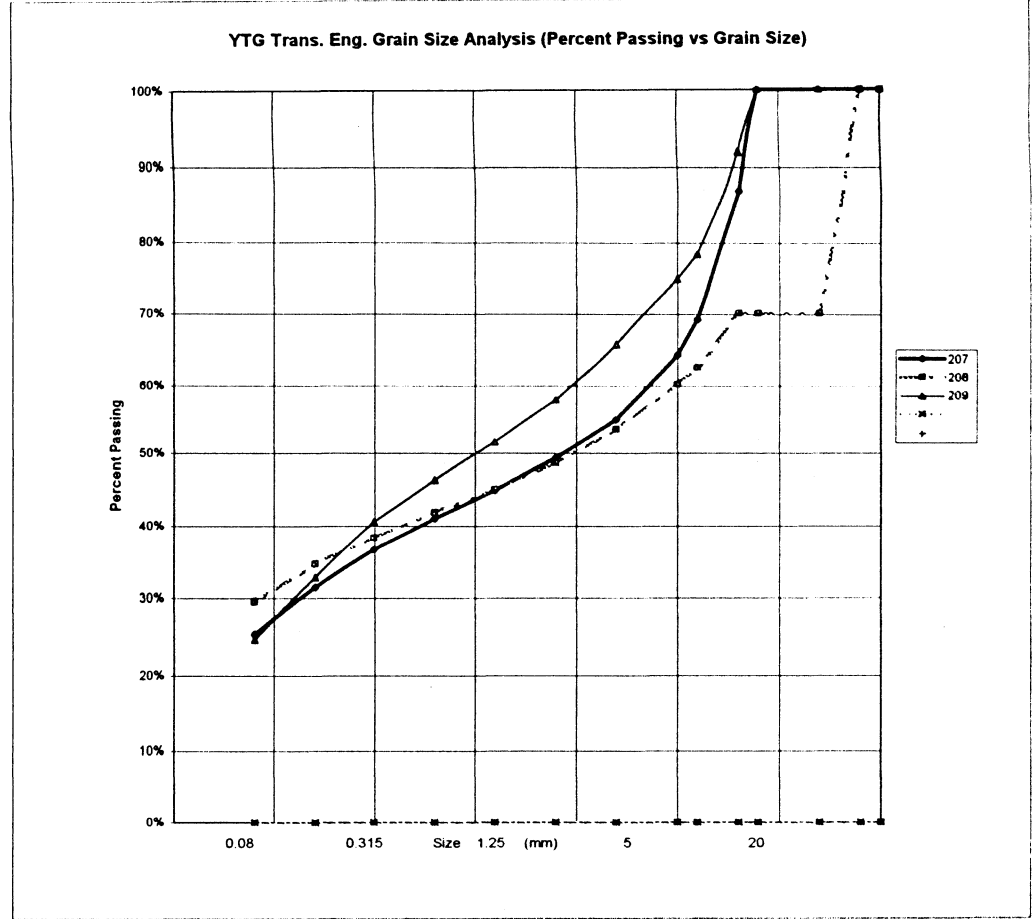
FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
204	220	1.0-1.5	AUGER	205	221	2.5-3.0	AUGER	206	222	4.0-4.5	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	65%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	65%	25.0	65%	25.0	65%	25.0	65%	25.0	65%
20.0	94%	20.0	63%	20.0	62%	20.0	62%	20.0	62%	20.0	62%
12.5	88%	12.5	56%	12.5	60%	12.5	60%	12.5	60%	12.5	60%
10.0	86%	10.0	54%	10.0	54%	10.0	54%	10.0	54%	10.0	54%
5.0	76%	5.0	47%	5.0	44%	5.0	44%	5.0	44%	5.0	44%
2.5	69%	2.5	42%	2.5	38%	2.5	38%	2.5	38%	2.5	38%
1.25	64%	1.25	38%	1.25	36%	1.25	36%	1.25	36%	1.25	36%
0.630	58%	0.630	35%	0.630	33%	0.630	33%	0.630	33%	0.630	33%
0.315	50%	0.315	31%	0.315	29%	0.315	29%	0.315	29%	0.315	29%
0.160	42%	0.160	26%	0.160	24%	0.160	24%	0.160	24%	0.160	24%
0.080	35%	0.080	22%	0.080	19%	0.080	19%	0.080	19%	0.080	19%
M.C.(%):	6%	M.C.(%):	5%	M.C.(%):	4%	M.C.(%):	4%	M.C.(%):	4%	M.C.(%):	4%
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	24	% GRAVEL:	53	% GRAVEL:	56	% GRAVEL:	56	% GRAVEL:	56	% GRAVEL:	56
% SAND:	42	% SAND:	25	% SAND:	25	% SAND:	25	% SAND:	25	% SAND:	25
% FINES:	35	% FINES:	22	% FINES:	19	% FINES:	19	% FINES:	19	% FINES:	19
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

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

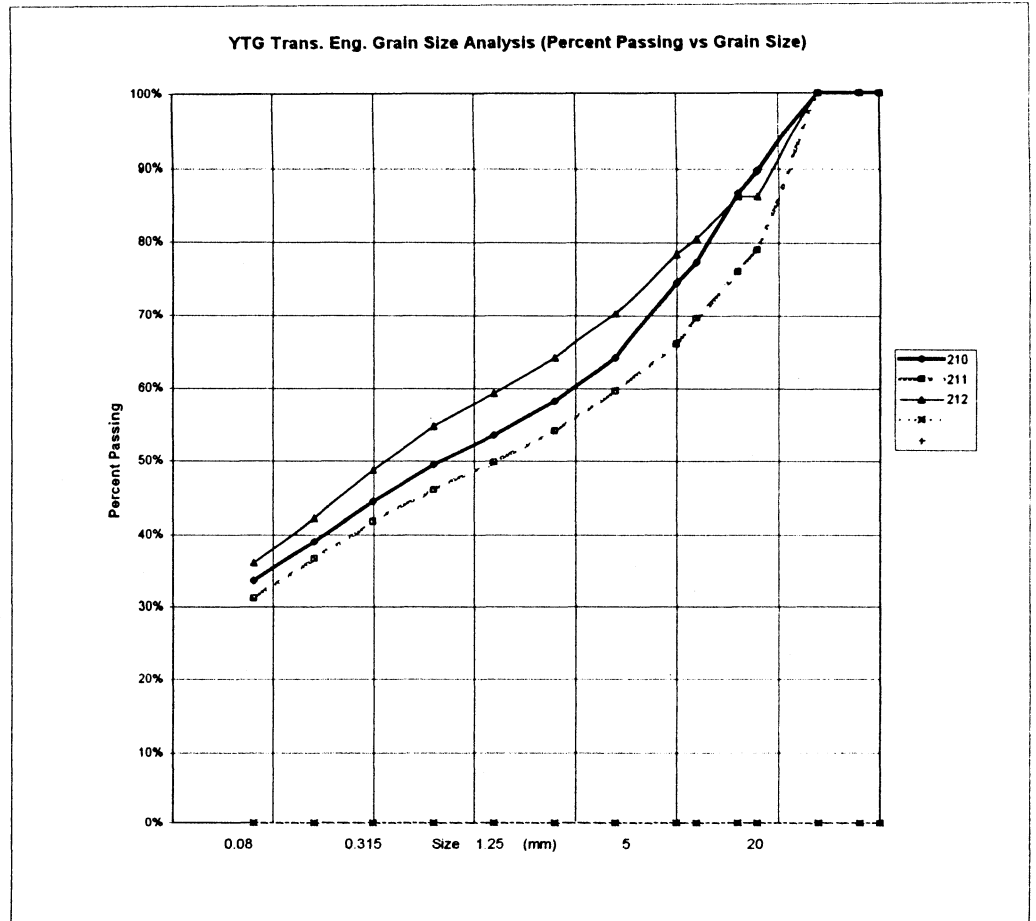


PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-417
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1813+825 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-27

FIELD NO:	207	FIELD No.	208	FIELD No:	209
LAB NO:	223	LAB No.	224	LAB No:	225
DEPTH:	1.0-1.5	DEPTH	2.5-3.0	DEPTH:	4.0-4.5
TYPE:	AUGER	TYPE	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	70%	50.0	100%
25.0	100%	25.0	70%	25.0	100%
20.0	87%	20.0	70%	20.0	92%
12.5	89%	12.5	63%	12.5	79%
10.0	85%	10.0	60%	10.0	75%
5.0	55%	5.0	54%	5.0	66%
2.5	49%	2.5	49%	2.5	58%
1.25	45%	1.25	45%	1.25	52%
0.630	41%	0.630	42%	0.630	46%
0.315	37%	0.315	38%	0.315	41%
0.160	31%	0.160	35%	0.160	33%
0.080	26%	0.080	30%	0.080	25%
M.C. (%):	5%	M.C. (%):	6%	M.C. (%):	7%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	45	% GRAVEL:	46	% GRAVEL:	34
% SAND:	29	% SAND:	24	% SAND:	41
% FINES:	26	% FINES:	30	% FINES:	25
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)	

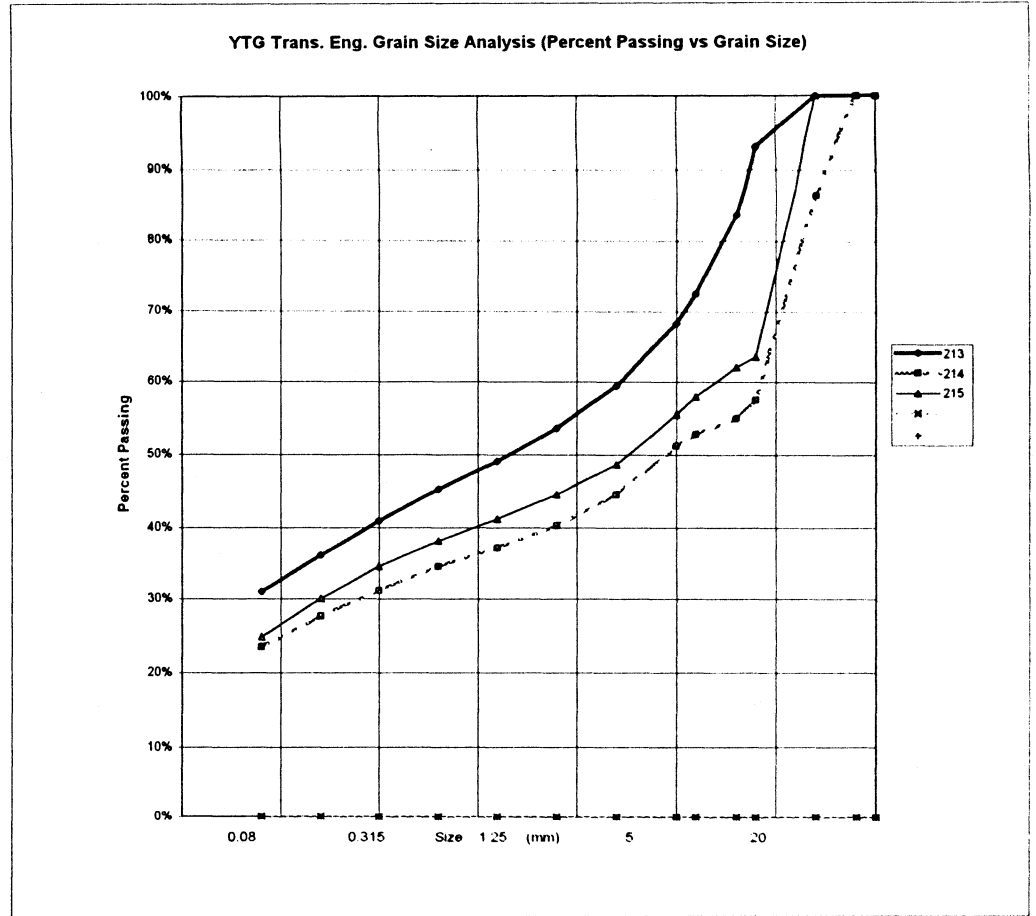


PROJECT NUMBER: 092-202101-0329-199		HOLE No.: 511-418	
CLIENT: ENGINEERING CAPITAL			
PROJECT NAME: SHAKWAK SEG 13			
PROJECT LOCATION: KM 1799 - 1822 A/H			
DRILL UNIT: B-40-L NODWELL			
HOLE LOCATION: 1813+725 CENTRELINE		DATE COMP 1999-04-27	
LOGGED BY: G.C.			
=====		=====	
FIELD NO: 210	FIELD No. 211	FIELD No: 212	
LAB NO: 226	LAB No. 227	LAB No: 228	
DEPTH: 1.3-1.5	DEPTH 2.6-3.0	DEPTH: 4.0-4.5	
TYPE: AUGER	TYPE AUGER	TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	90%	25.0	79%
20.0	87%	20.0	76%
12.5	77%	12.5	70%
10.0	75%	10.0	68%
5.0	64%	5.0	60%
2.5	58%	2.5	54%
1.25	54%	1.25	50%
0.630	50%	0.630	46%
0.315	44%	0.315	42%
0.160	39%	0.160	37%
0.080	34%	0.080	31%
M.C.(%): 8%	M.C.(%): 8%	M.C.(%): 9%	
LIMITS	LIMITS	LIMITS	
LIQUID: 0.0	LIQUID: 0.0	LIQUID: 0.0	
PLASTIC: 0.0	PLASTIC: 0.0	PLASTIC: 0.0	
P.I.: 0.0	P.I.: 0.0	P.I.: 0.0	
% GRAVEL: 36	% GRAVEL: 40	% GRAVEL: 30	
% SAND: 31	% SAND: 28	% SAND: 34	
% FINES: 34	% FINES: 31	% FINES: 36	
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	



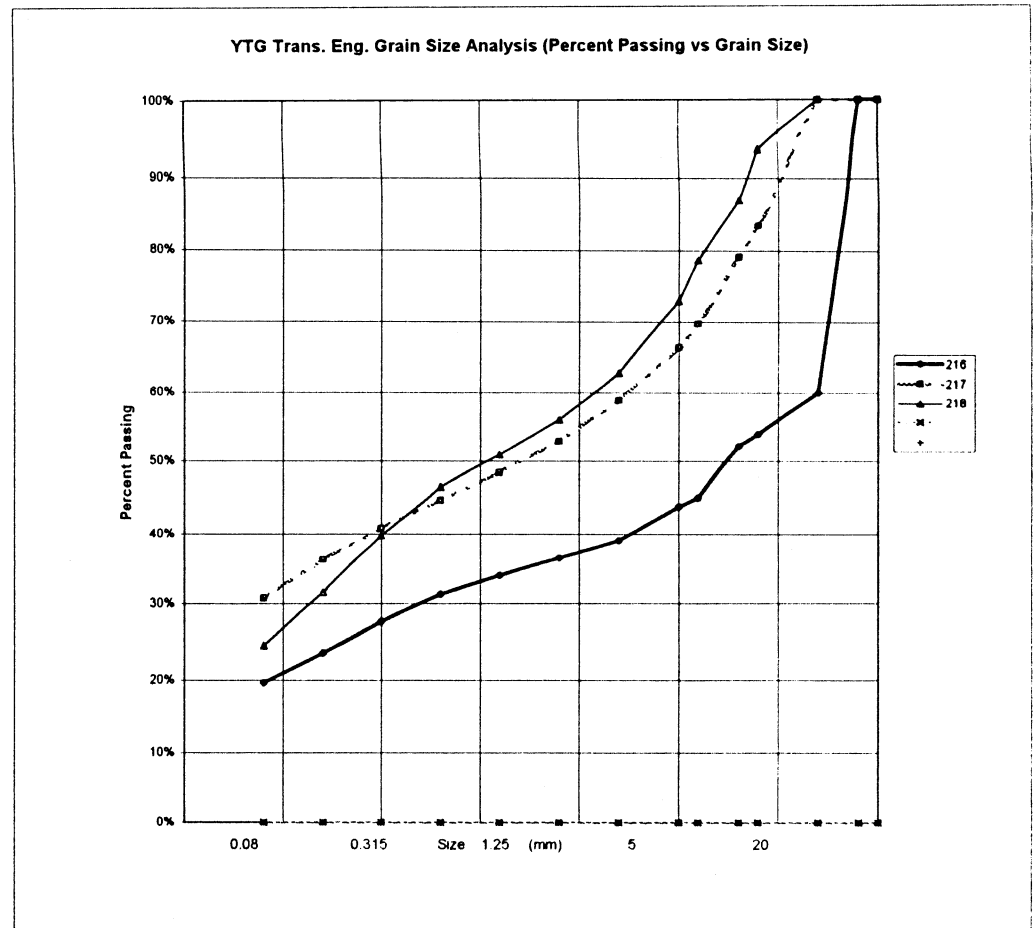
PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-419
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1813+625 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-27

FIELD NO: 213		FIELD No. 214		FIELD No: 215	
LAB NO: 229		LAB No. 230		LAB No: 231	
DEPTH: 1.0-1.5		DEPTH: 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE: AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	87%	50.0	100%
25.0	93%	25.0	57%	25.0	63%
20.0	84%	20.0	55%	20.0	62%
12.5	73%	12.5	53%	12.5	58%
10.0	68%	10.0	51%	10.0	55%
5.0	59%	5.0	44%	5.0	49%
2.5	54%	2.5	40%	2.5	44%
1.25	49%	1.25	37%	1.25	41%
0.630	45%	0.630	35%	0.630	38%
0.315	41%	0.315	31%	0.315	34%
0.160	36%	0.160	28%	0.160	30%
0.080	31%	0.080	24%	0.080	25%
M.C. (%)	7%	M.C. (%)	5%	M.C. (%)	5%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	41	% GRAVEL:	56	% GRAVEL:	51
% SAND:	28	% SAND:	21	% SAND:	24
% FINES:	31	% FINES:	24	% FINES:	25
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-420
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1813+525 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-27

FIELD NO.	LAB NO.	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH:	TYPE:
216	232	0.8-1.0	AUGER	217	233	2.5-3.0	AUGER	218	234	4.0-4.5	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	60%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	54%	25.0	84%	25.0	93%	25.0	93%	25.0	93%	25.0	93%
20.0	52%	20.0	79%	20.0	87%	20.0	87%	20.0	87%	20.0	87%
12.5	45%	12.5	70%	12.5	79%	12.5	79%	12.5	79%	12.5	79%
10.0	44%	10.0	66%	10.0	73%	10.0	73%	10.0	73%	10.0	73%
5.0	39%	5.0	59%	5.0	63%	5.0	63%	5.0	63%	5.0	63%
2.5	36%	2.5	53%	2.5	56%	2.5	56%	2.5	56%	2.5	56%
1.25	34%	1.25	48%	1.25	51%	1.25	51%	1.25	51%	1.25	51%
0.630	31%	0.630	45%	0.630	47%	0.630	47%	0.630	47%	0.630	47%
0.315	28%	0.315	41%	0.315	40%	0.315	40%	0.315	40%	0.315	40%
0.160	24%	0.160	36%	0.160	32%	0.160	32%	0.160	32%	0.160	32%
0.080	20%	0.080	31%	0.080	25%	0.080	25%	0.080	25%	0.080	25%
M.C. (%)	6%	M.C. (%)	8%	M.C. (%)	7%	M.C. (%)	7%	M.C. (%)	7%	M.C. (%)	7%
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	61	% GRAVEL:	41	% GRAVEL:	37	% GRAVEL:	37	% GRAVEL:	37	% GRAVEL:	37
% SAND:	19	% SAND:	28	% SAND:	38	% SAND:	38	% SAND:	38	% SAND:	38
% FINES:	20	% FINES:	31	% FINES:	25	% FINES:	25	% FINES:	25	% FINES:	25
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



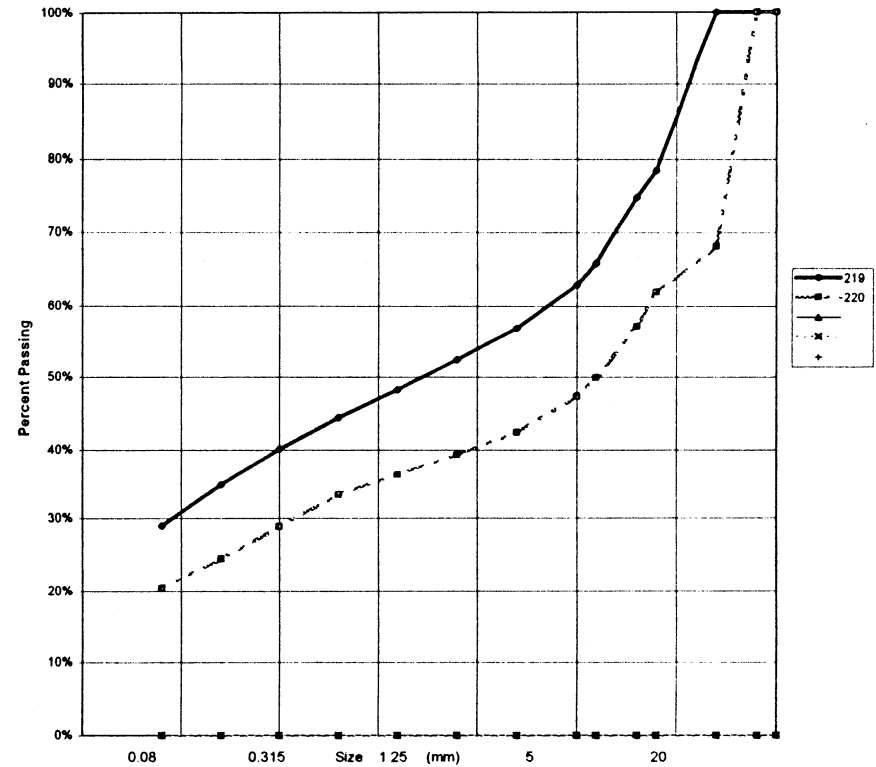
PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-421
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1813+450 CENTRELINE
 LOGGED BY: G.C. DATE COMP 1999-04-27

FIELD NO:	219	FIELD No.	220
LAB NO:	235	LAB No.	236
DEPTH:	2.0-3.0	DEPTH	4.0-4.5
TYPE:	AUGER	TYPE	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	68%
25.0	78%	25.0	62%
20.0	75%	20.0	57%
12.5	66%	12.5	50%
10.0	63%	10.0	47%
5.0	57%	5.0	43%
2.5	52%	2.5	39%
1.25	48%	1.25	36%
0.630	45%	0.630	33%
0.315	40%	0.315	29%
0.160	35%	0.160	25%
0.080	29%	0.080	20%

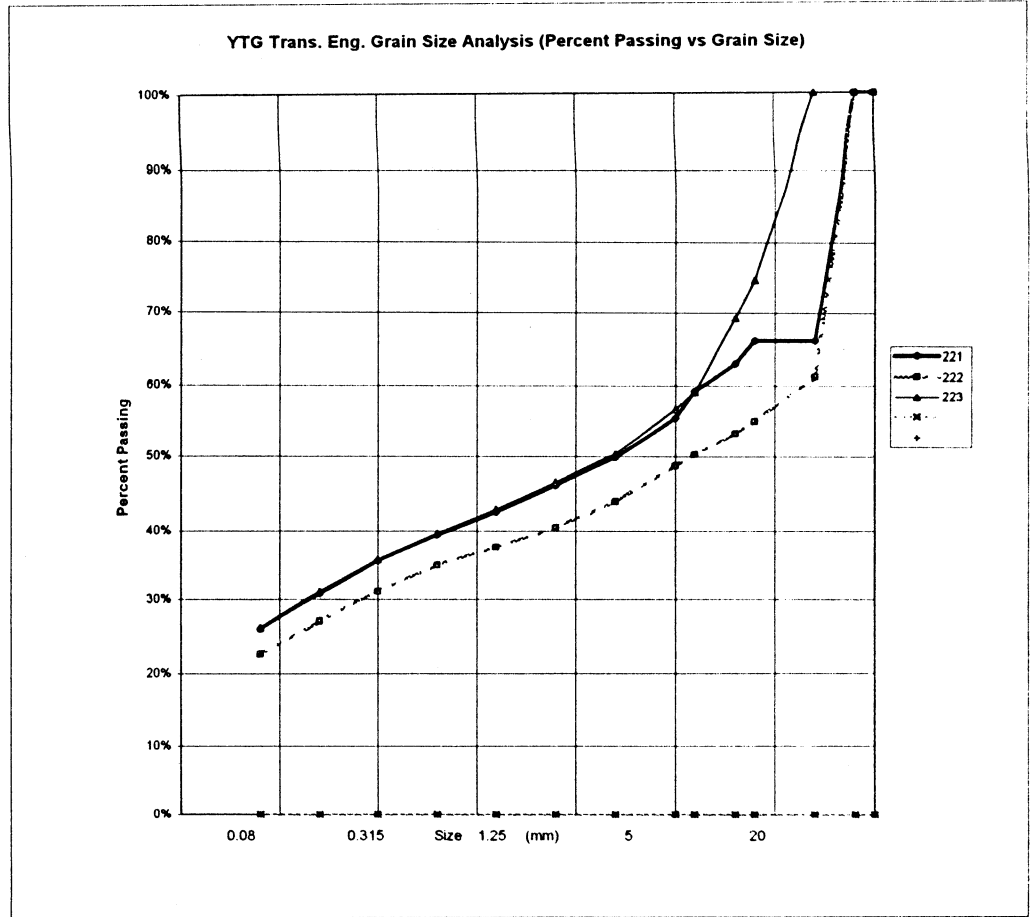
M.C. (%):	6%	M.C. (%):	9%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	43	% GRAVEL:	57
% SAND:	28	% SAND:	22
% FINES:	29	% FINES:	20
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

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



PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-422
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1813+375 CENTRELINE
 G.C.
 LOGGED BY: DATE COMP 1999-04-27

FIELD NO. 221		FIELD No. 222		FIELD No. 223	
LAB NO. 237		LAB No. 238		LAB No. 239	
DEPTH: 1.4-1.8		DEPTH 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	66%	50.0	61%	50.0	100%
25.0	66%	25.0	55%	25.0	75%
20.0	63%	20.0	53%	20.0	69%
12.5	59%	12.5	50%	12.5	59%
10.0	55%	10.0	49%	10.0	57%
5.0	50%	5.0	44%	5.0	50%
2.5	46%	2.5	40%	2.5	46%
1.25	43%	1.25	38%	1.25	43%
0.630	39%	0.630	35%	0.630	40%
0.315	36%	0.315	31%	0.315	36%
0.160	31%	0.160	27%	0.160	31%
0.080	26%	0.080	23%	0.080	26%
M.C. (%):	8%	M.C. (%):	6%	M.C. (%):	6%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	50	% GRAVEL:	56	% GRAVEL:	50
% SAND:	24	% SAND:	21	% SAND:	24
% FINES:	26	% FINES:	23	% FINES:	26
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	



PROJECT NUMBER:	092-202101-0329-199	HOLE No.:	511-423
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799 - 1822 A/H		
DRILL UNIT:	B-40-L NODWELL		
HOLE LOCATION:	1813+275 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	1999-04-28

FIELD NO:	224	FIELD No:	225
LAB NO:	240	LAB No:	241
DEPTH:	1.0-1.5	DEPTH	1.6-2.0
TYPE:	AUGER	TYPE	AUGER

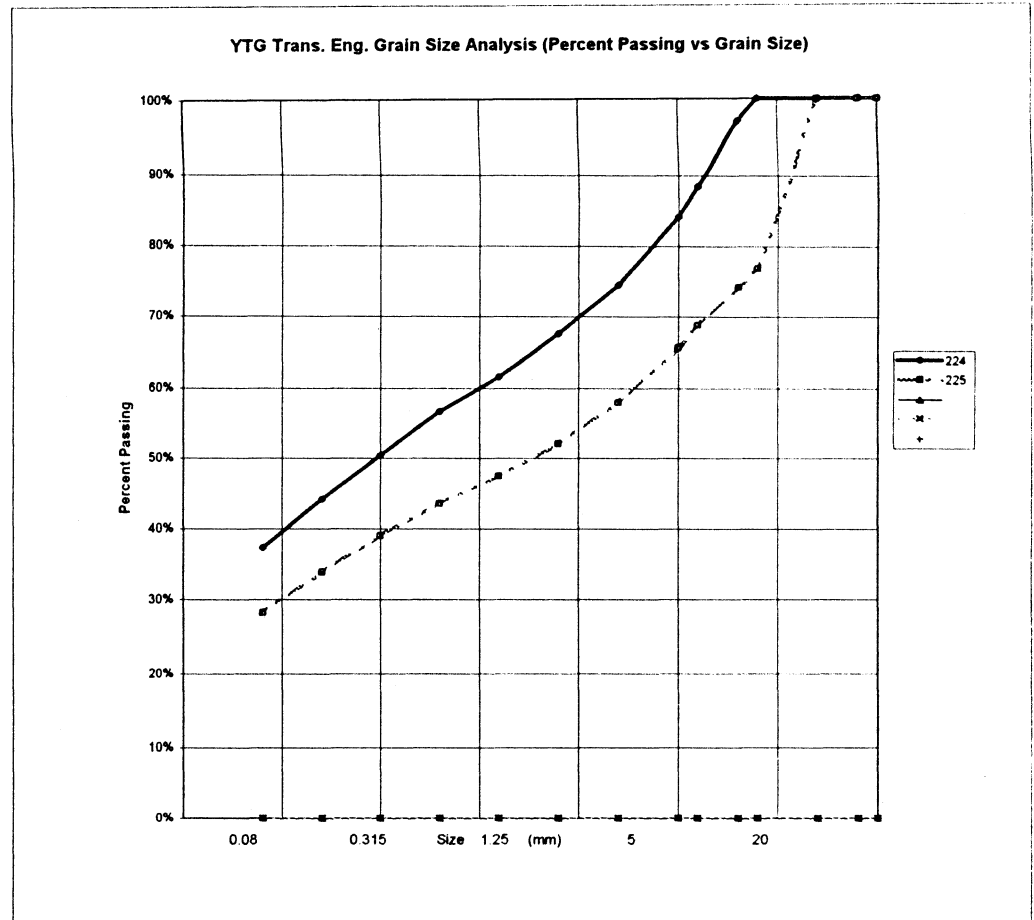
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	77%
20.0	97%	20.0	74%
12.5	88%	12.5	69%
10.0	84%	10.0	66%
5.0	74%	5.0	58%
2.5	68%	2.5	52%
1.25	62%	1.25	47%
0.630	57%	0.630	43%
0.315	50%	0.315	39%
0.160	44%	0.160	34%
0.080	37%	0.080	28%

M.C. (%):	10%	M.C. (%):	8%
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LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

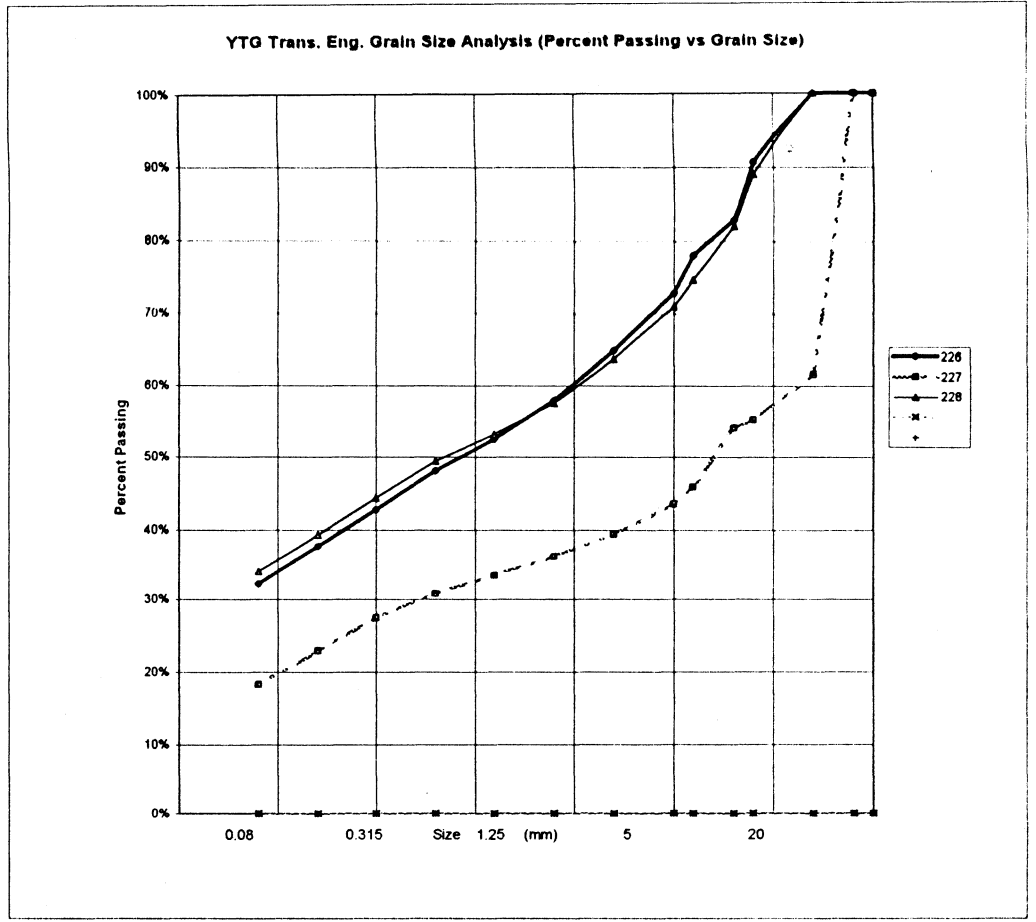
% GRAVEL:	26	% GRAVEL:	42
% SAND:	37	% SAND:	30
% FINES:	37	% FINES:	28

CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)
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PROJECT NUMBER: 092-202101-0329-199 HOLE No.: 511-424
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799 - 1822 A/H
 DRILL UNIT: B-40-L NODWELL
 HOLE LOCATION: 1813+150 CENTRELINE
 G.C.
 LOGGED BY: DATE COMP 1999-04-28

FIELD NO: 226		FIELD No. 227		FIELD No: 228	
LAB NO: 242		LAB No. 243		LAB No: 244	
DEPTH: 1.0-1.4		DEPTH: 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE: AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	62%	50.0	100%
25.0	91%	25.0	55%	25.0	89%
20.0	83%	20.0	54%	20.0	82%
12.5	78%	12.5	46%	12.5	75%
10.0	73%	10.0	44%	10.0	71%
5.0	65%	5.0	39%	5.0	64%
2.5	58%	2.5	36%	2.5	58%
1.25	53%	1.25	33%	1.25	53%
0.630	48%	0.630	31%	0.630	49%
0.315	43%	0.315	27%	0.315	44%
0.160	38%	0.160	23%	0.160	39%
0.080	32%	0.080	18%	0.080	34%
M.C.(%): 7%		M.C.(%): 5%		M.C.(%): 6%	
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	35	% GRAVEL:	61	% GRAVEL:	36
% SAND:	33	% SAND:	21	% SAND:	30
% FINES:	32	% FINES:	18	% FINES:	34
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	

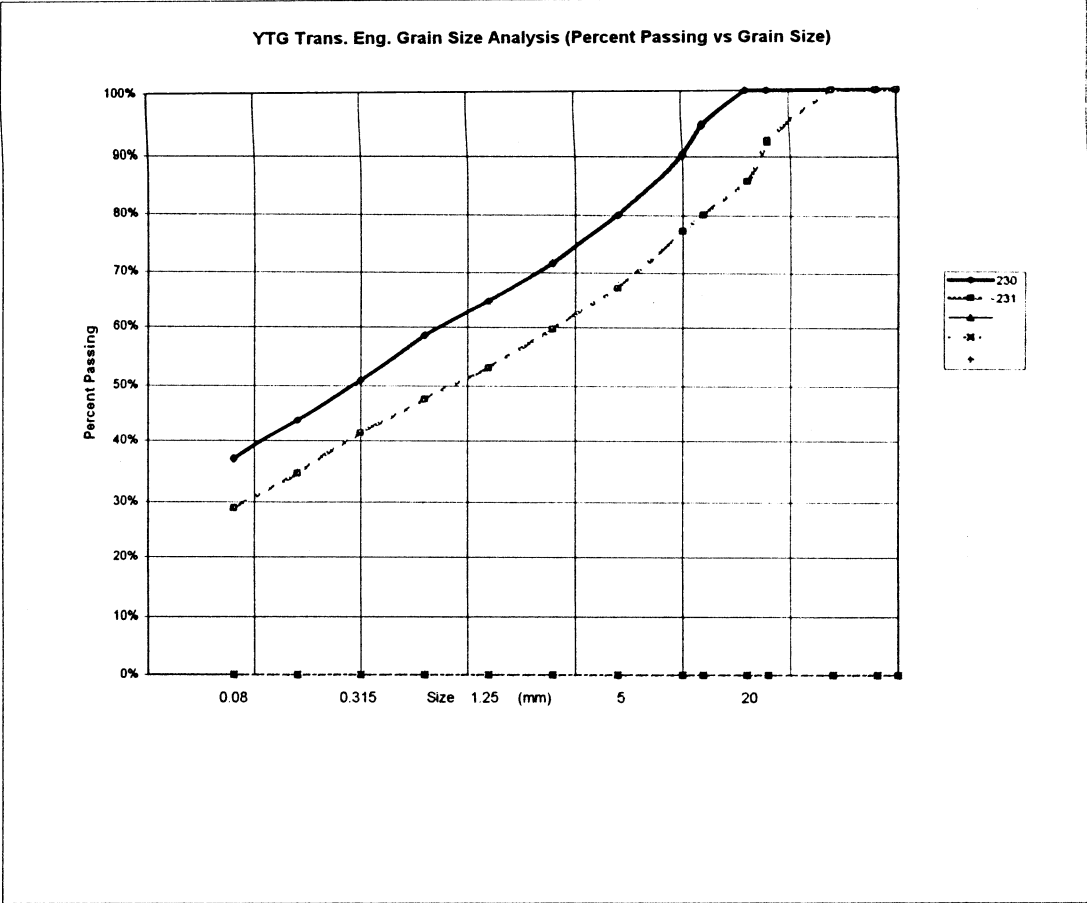


PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	512-426
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1812+925 center line		
LOGGED BY:	G.C.	DATE COMP	99-04-28

FIELD NO:	230	FIELD No:	231
LAB NO:	246	LAB No:	247
DEPTH:	1.6-2.0	DEPTH:	2.5-3.0
TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	92%
20.0	100%	20.0	86%
12.5	94%	12.5	80%
10.0	90%	10.0	77%
5.0	80%	5.0	67%
2.5	72%	2.5	60%
1.25	65%	1.25	53%
0.630	58%	0.630	48%
0.315	51%	0.315	42%
0.160	44%	0.160	35%
0.080	37%	0.080	29%

M.C.(%):	19%	M.C.(%):	14%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	20	% GRAVEL:	33
% SAND:	43	% SAND:	38
% FINES:	37	% FINES:	29
CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	

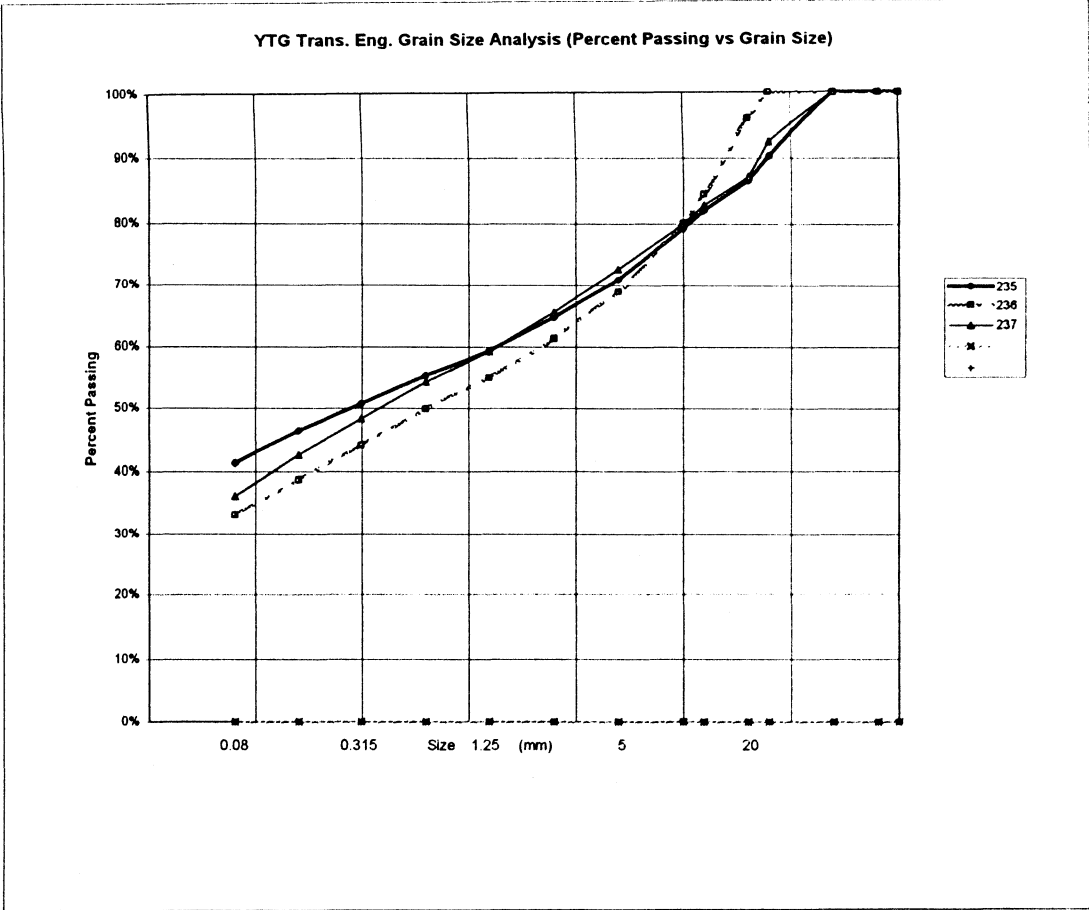


PROJECT NUMBER:	091-202101-0329-199	HOLE No.	512-428
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1812+725 center line		
LOGGED BY:	G.C.	DATE COMP	99-04-28

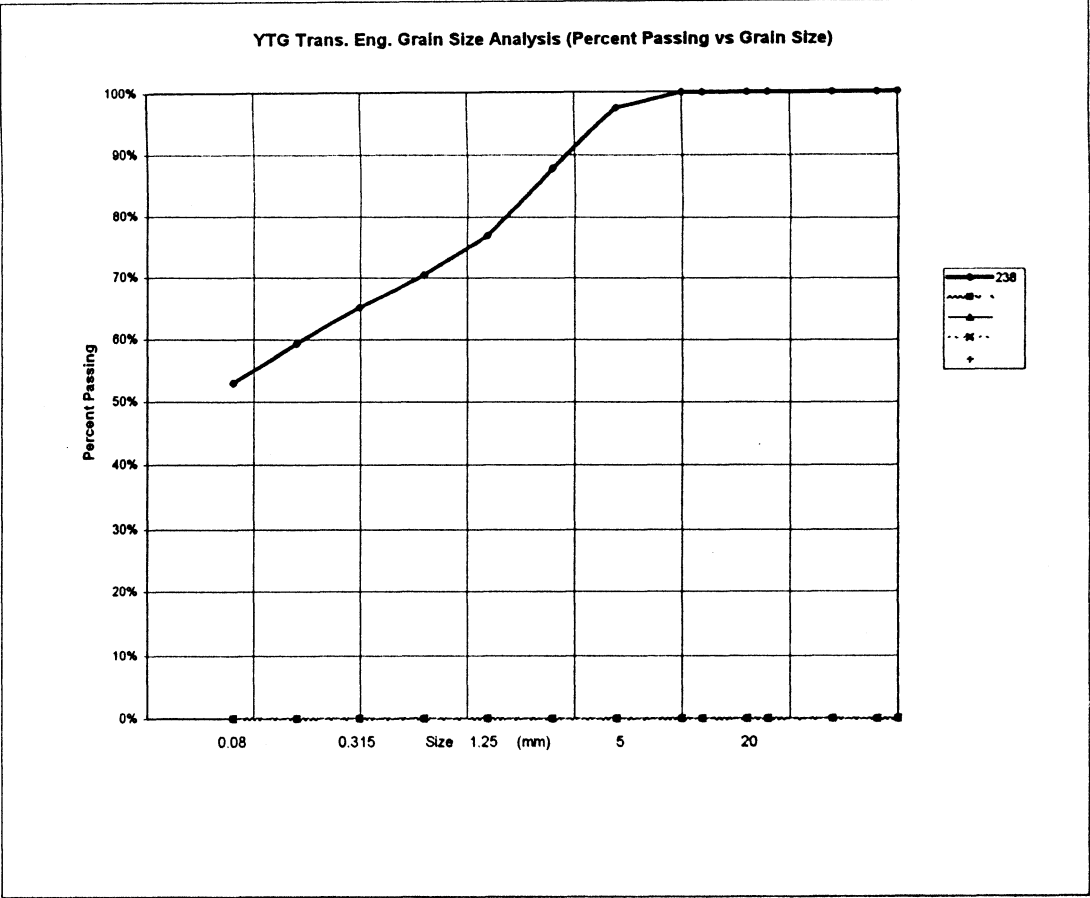
FIELD NO:	235	FIELD No.	236	FIELD No:	237
LAB NO:	251	LAB No.	252	LAB No:	253
DEPTH:	1.2-1.5	DEPTH	1.5-2.0	DEPTH:	2.6-3.0
TYPE:	AUGER	TYPE	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	90%	25.0	100%	25.0	92%
20.0	87%	20.0	96%	20.0	87%
12.5	82%	12.5	85%	12.5	83%
10.0	79%	10.0	80%	10.0	80%
5.0	71%	5.0	69%	5.0	73%
2.5	65%	2.5	61%	2.5	65%
1.25	59%	1.25	55%	1.25	59%
0.630	55%	0.630	50%	0.630	54%
0.315	51%	0.315	44%	0.315	48%
0.160	46%	0.160	39%	0.160	42%
0.080	41%	0.080	33%	0.080	36%

M.C.(%):	27%	M.C.(%):	18%	M.C.(%):	13%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	29	% GRAVEL:	31	% GRAVEL:	27
% SAND:	30	% SAND:	36	% SAND:	36
% FINES:	41	% FINES:	33	% FINES:	36
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	512-429
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1812+575 center line		
LOGGED BY:	G.C.	DATE COMP	99-04-28
=====			
FIELD NO:	238		
LAB NO:	254		
DEPTH:	1.5-2.0		
TYPE:	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	97%		
2.5	88%		
1.25	77%		
0.630	70%		
0.315	65%		
0.160	59%		
0.080	53%		
M.C.(%):	186%		
LIMITS			
LIQUID:	0.0		
PLASTIC:	0.0		
P.I.:	0.0		
% GRAVEL:	3		
% SAND:	44		
% FINES:	53		
CLASSIFICATION:			
SANDY SILT (ML)			



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	512-430
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1812+500 center line		
LOGGED BY:	G.C.	DATE COMP	99-04-28

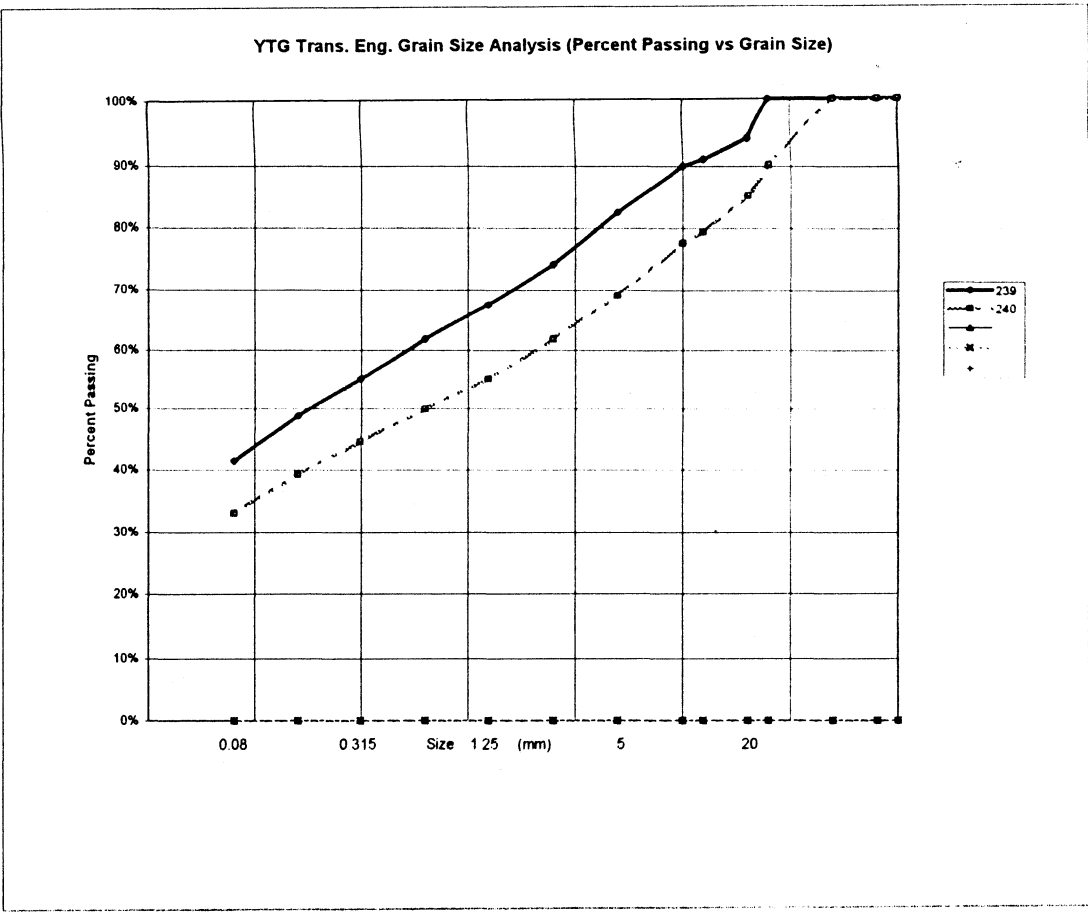
FIELD NO:	239	FIELD No.	240
LAB NO:	255	LAB No.	256
DEPTH:	1.0-1.5	DEPTH	2.5-3.0
TYPE:	AUGER	TYPE	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	90%
20.0	94%	20.0	85%
12.5	91%	12.5	79%
10.0	90%	10.0	78%
5.0	83%	5.0	69%
2.5	74%	2.5	62%
1.25	67%	1.25	55%
0.630	62%	0.630	50%
0.315	55%	0.315	45%
0.160	49%	0.160	39%
0.080	41%	0.080	33%

M.C. (%):	12%	M.C. (%):	11%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	17	% GRAVEL:	31
% SAND:	41	% SAND:	36
% FINES:	41	% FINES:	33

CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	512-431
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1812+425 center line		
LOGGED BY:	G.C.	DATE COMP	99-04-28

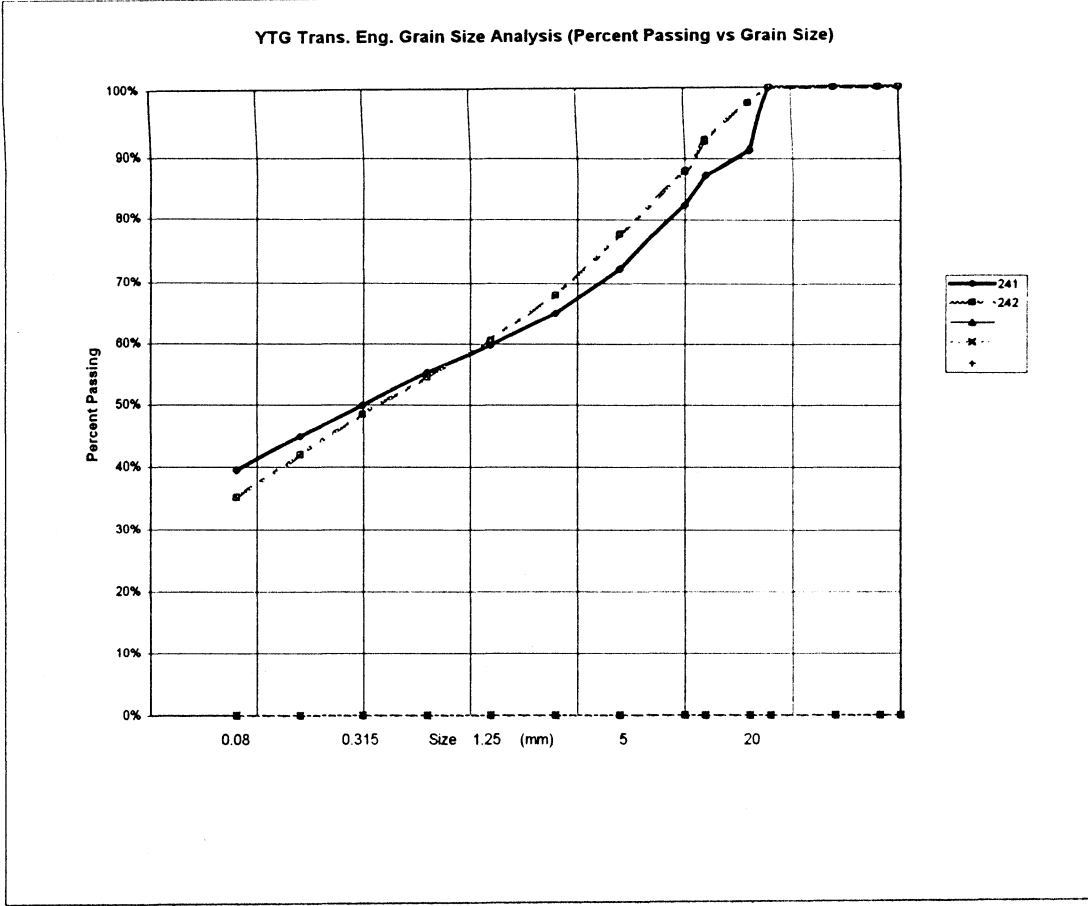
FIELD NO:	241	FIELD No.	242
LAB NO:	257	LAB No.	258
DEPTH:	1.0-1.5	DEPTH	2.5-3.0
TYPE:	AUGER	TYPE	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	91%	20.0	97%
12.5	88%	12.5	92%
10.0	82%	10.0	88%
5.0	72%	5.0	78%
2.5	65%	2.5	68%
1.25	60%	1.25	61%
0.630	55%	0.630	55%
0.315	50%	0.315	48%
0.160	45%	0.160	42%
0.080	39%	0.080	35%

M.C. (%):	16%	M.C. (%):	11%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
PI	0.0	PI	0.0

% GRAVEL:	28	% GRAVEL:	22
% SAND:	33	% SAND:	42
% FINES:	39	% FINES:	35

CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-432
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1812+325 center line
 LOGGED BY: G. C. DATE COMP 99-04-28

FIELD NO: 243
 LAB NO: 259
 DEPTH: 1.0-1.5
 TYPE: 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	91%
5.0	81%
2.5	70%
1.25	63%
0.630	58%
0.315	52%
0.160	46%
0.080	39%

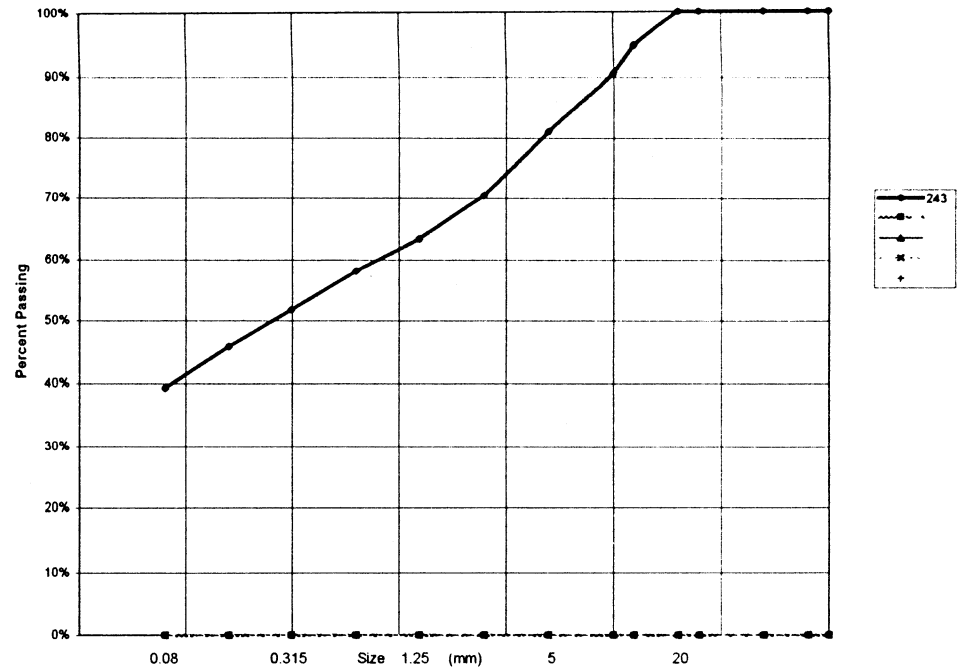
M.C. (%): 14%

LIMITS
 LIQUID: 0.0
 PLASTIC: 0.0
 P.I.: 0.0

% GRAVEL: 19
 % SAND: 42
 % FINES: 39

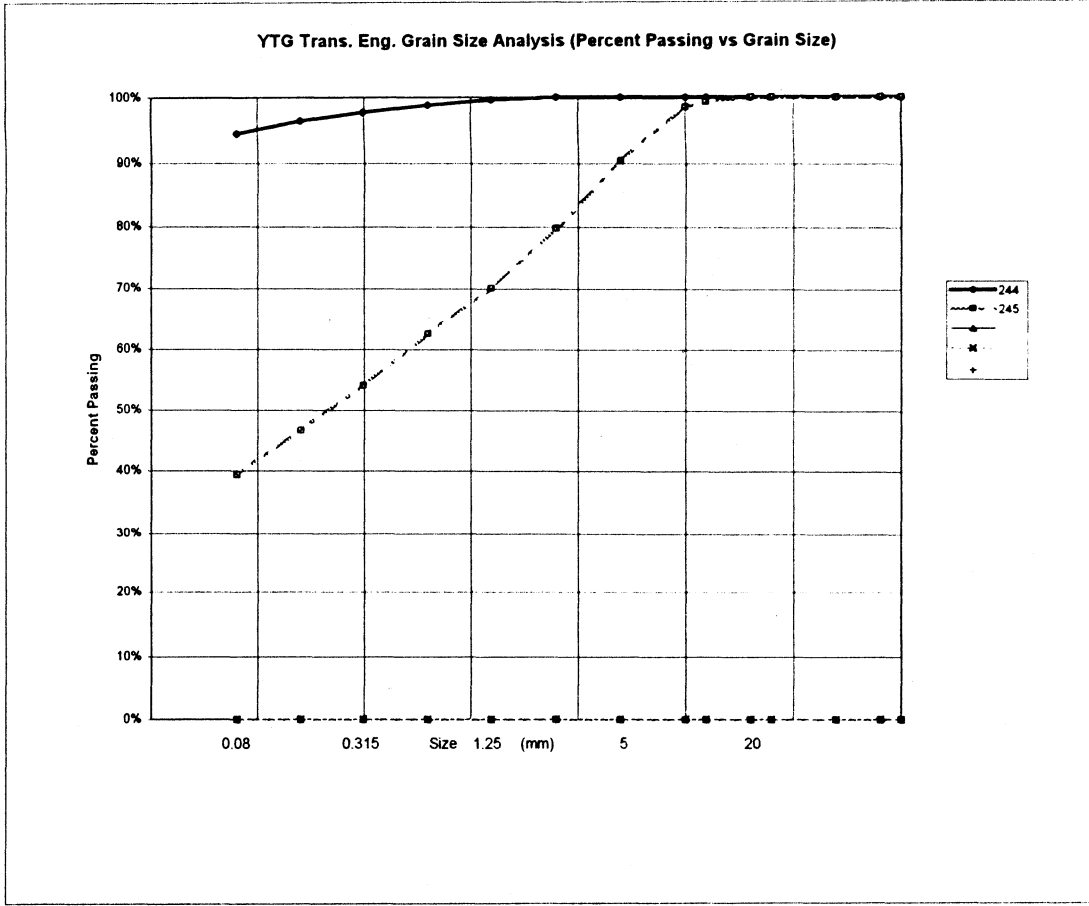
CLASSIFICATION:
 SILTY SAND WITH GRAVEL (SM)

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

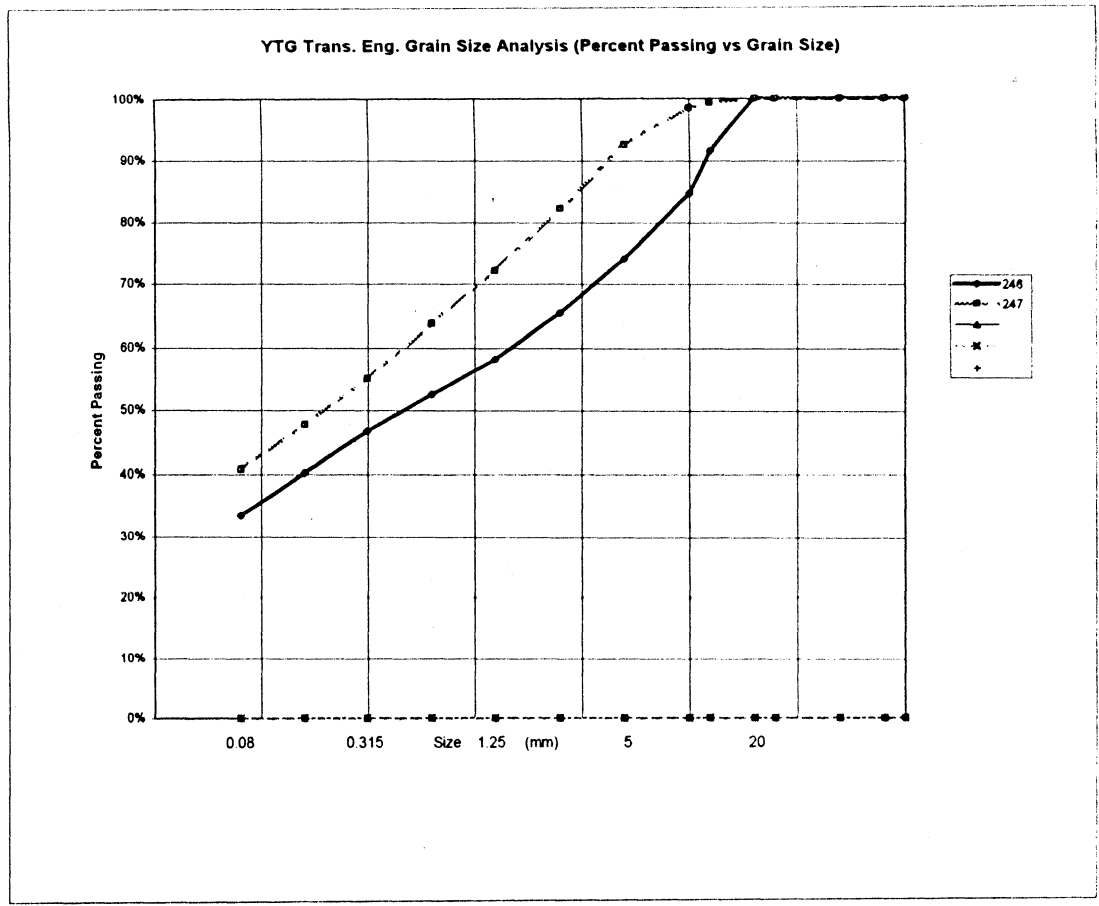


PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-433
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1812+225 center line
 LOGGED BY: G.C. DATE COMP 99-04-28

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	100%	20.0	100%
12.5	100%	12.5	99%
10.0	100%	10.0	98%
5.0	100%	5.0	90%
2.5	100%	2.5	80%
1.25	100%	1.25	70%
0.630	99%	0.630	62%
0.315	98%	0.315	54%
0.160	96%	0.160	47%
0.080	94%	0.080	39%
M.C. (%):	65%	M.C. (%):	13%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	10
% SAND:	6	% SAND:	51
% FINES:	94	% FINES:	39
CLASSIFICATION:	SILT (ML)	CLASSIFICATION:	SILTY SAND (SM)

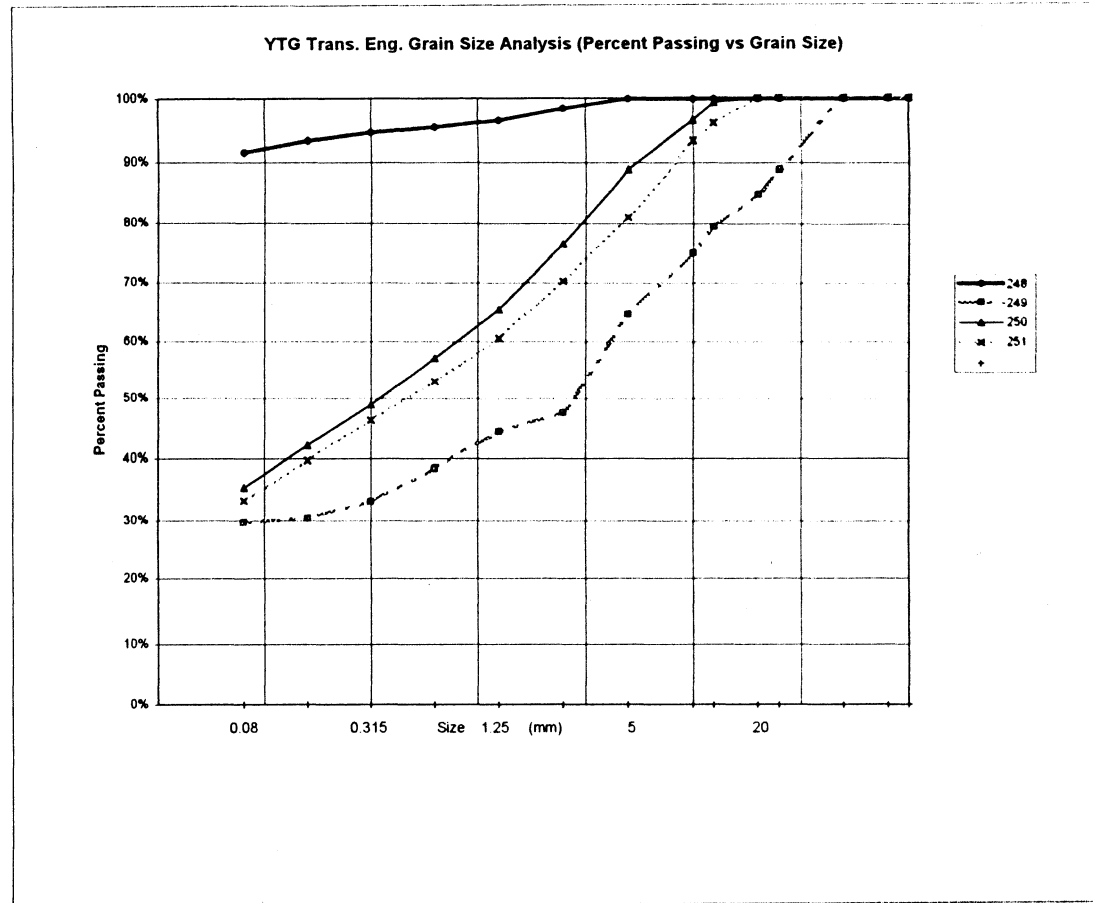


PROJECT NUMBER: 091-202101-0329-199		HOLE No.: 512-434	
CLIENT: ENGINEERING CAPITAL			
PROJECT NAME: SHAKWAK SEG 13			
PROJECT LOCATION: KM 1799-1822 A/H			
DRILL UNIT: B-40-L Nodwell			
HOLE LOCATION: 1812+125 center line			
LOGGED BY: G.C.		DATE COMP 99-04-28	
-----		-----	
FIELD NO: 246	FIELD No. 247		
LAB NO: 262	LAB No. 263		
DEPTH: 1.5-2.0	DEPTH 2.6-2.8		
TYPE: AUGER	TYPE AUGER		
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	100%	20.0	100%
12.5	92%	12.5	99%
10.0	85%	10.0	98%
5.0	74%	5.0	93%
2.5	65%	2.5	82%
1.25	58%	1.25	72%
0.630	53%	0.630	64%
0.315	47%	0.315	55%
0.160	40%	0.160	48%
0.080	34%	0.080	41%
M.C.(%): 11%	M.C.(%): 12%		
LIMITS	LIMITS		
LIQUID: 0.0	LIQUID: 0.0		
PLASTIC: 0.0	PLASTIC: 0.0		
P.I.: 0.0	P.I.: 0.0		
% GRAVEL: 26	% GRAVEL: 7		
% SAND: 40	% SAND: 52		
% FINES: 34	% FINES: 41		
CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION: SILTY SAND (SM)		



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-435
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1812+025 center line
 LOGGED BY: G.C. DATE COMP 99-04-28

FIELD NO: 248		FIELD No. 249		FIELD No: 250		FIELD No: 251	
LAB NO: 264		LAB No. 265		LAB No: 266		LAB No: 267	
DEPTH: 1.3-1.5		DEPTH 1.8-2.0		DEPTH: 2.5-3.0		DEPTH: 3.6-3.8	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	89%	25.0	100%	25.0	100%
20.0	100%	20.0	85%	20.0	100%	20.0	100%
12.5	100%	12.5	79%	12.5	99%	12.5	96%
10.0	100%	10.0	75%	10.0	96%	10.0	93%
5.0	100%	5.0	65%	5.0	89%	5.0	81%
2.5	98%	2.5	47%	2.5	76%	2.5	70%
1.25	96%	1.25	44%	1.25	65%	1.25	61%
0.630	95%	0.630	38%	0.630	57%	0.630	53%
0.315	94%	0.315	33%	0.315	49%	0.315	46%
0.160	93%	0.160	30%	0.160	42%	0.160	40%
0.080	91%	0.080	30%	0.080	35%	0.080	33%
M.C. (%): 189%		M.C. (%): 11%		M.C. (%): 12%		M.C. (%): 11%	
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	0	% GRAVEL:	35	% GRAVEL:	11	% GRAVEL:	19
% SAND:	8	% SAND:	35	% SAND:	53	% SAND:	48
% FINES:	91	% FINES:	30	% FINES:	35	% FINES:	33
CLASSIFICATION: SILT (ML)		CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)		CLASSIFICATION: SILTY SAND (SM)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-436
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B.40-L Nodwell
 HOLE LOCATION: 1811+955 5m LT
 LOGGED BY: G.C. DATE COMP 99-04-28

FIELD NO: 252
 LAB NO: 268
 DEPTH: 1.3-1.5
 TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	89%
20.0	65%
12.5	63%
10.0	62%
5.0	55%
2.5	47%
1.25	41%
0.630	37%
0.315	32%
0.160	28%
0.080	23%

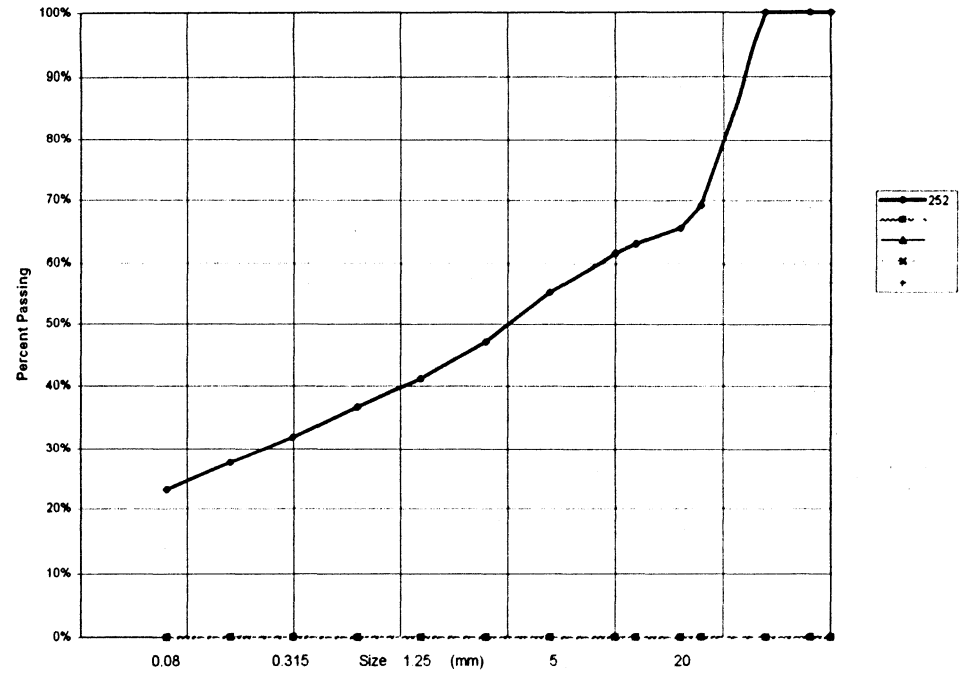
M.C.(%): 5%

LIMITS
 LIQUID: 0.0
 PLASTIC: 0.0
 P.I.: 0.0

% GRAVEL: 45
 % SAND: 32
 % FINES: 23

CLASSIFICATION:
 SILTY GRAVEL WITH SAND (GM)

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



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	512-440
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1811+900 center line		
LOGGED BY:	G.C.	DATE COMP	99-04-30

FIELD NO:	253
LAB NO:	269
DEPTH:	1.6-2.0
TYPE:	AUGER

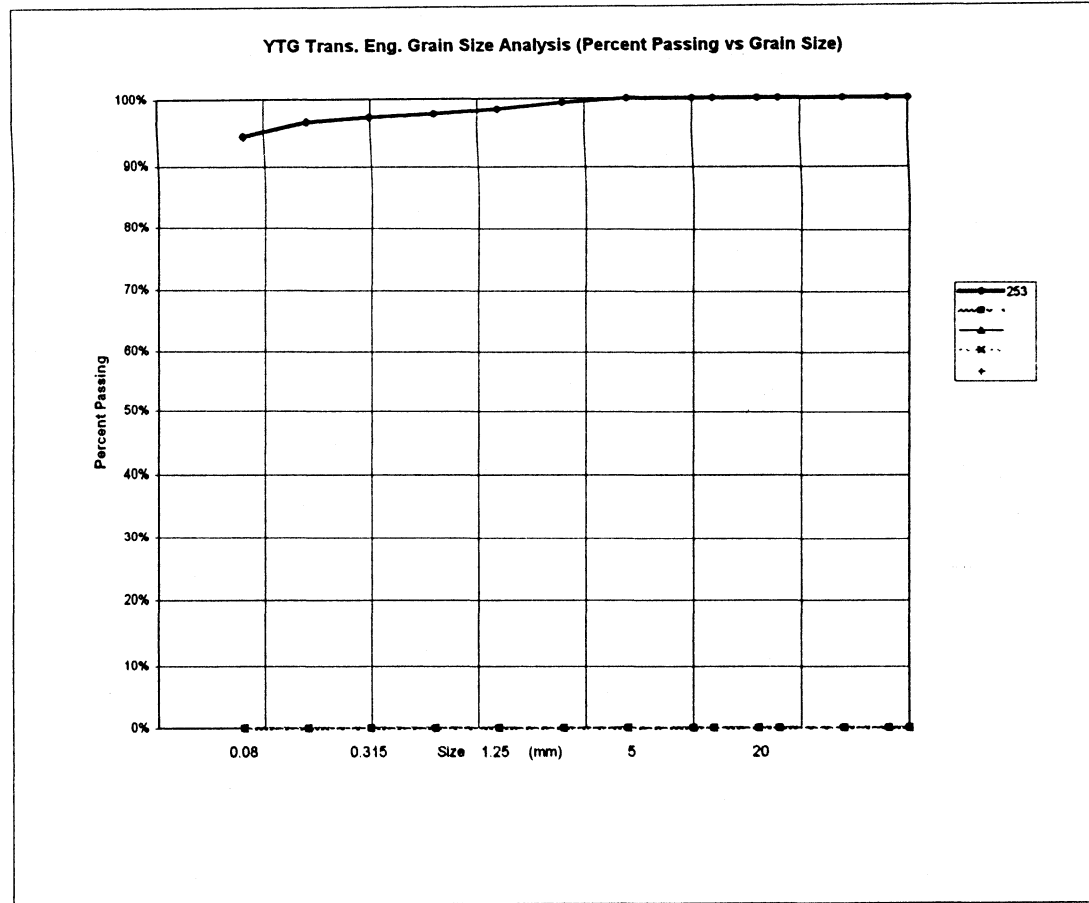
SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	100%
20.0	100%
12.5	100%
10.0	100%
5.0	100%
2.5	99%
1.25	98%
0.630	98%
0.315	97%
0.160	96%
0.080	94%

M.C.(%)	67%
---------	-----

LIMITS	
LIQUID:	0.0
PLASTIC:	0.0
P.I.:	0.0

% GRAVEL:	0
% SAND:	6
% FINES:	94

CLASSIFICATION:	
SILT (ML)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-441
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1811+800 center line
 LOGGED BY: G.C. DATE COMP 99-04-30

FIELD NO:	254	FIELD No.	255
LAB NO:	270	LAB No.	271
DEPTH:	2.0-2.4	DEPTH	3.6-4.0
TYPE:	AUGER	TYPE	AUGER

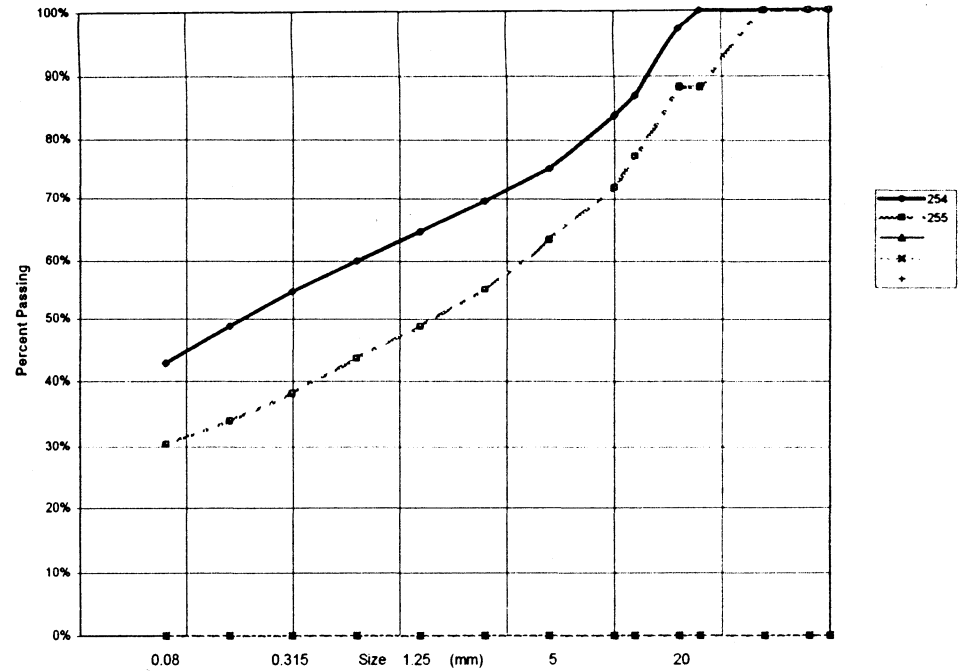
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	88%
20.0	97%	20.0	88%
12.5	87%	12.5	77%
10.0	84%	10.0	72%
5.0	75%	5.0	63%
2.5	70%	2.5	55%
1.25	65%	1.25	49%
0.630	60%	0.630	44%
0.315	55%	0.315	38%
0.160	49%	0.160	34%
0.080	43%	0.080	30%

M.C.(%):	15%	M.C.(%):	10%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	25	% GRAVEL:	37
% SAND:	32	% SAND:	33
% FINES:	43	% FINES:	30

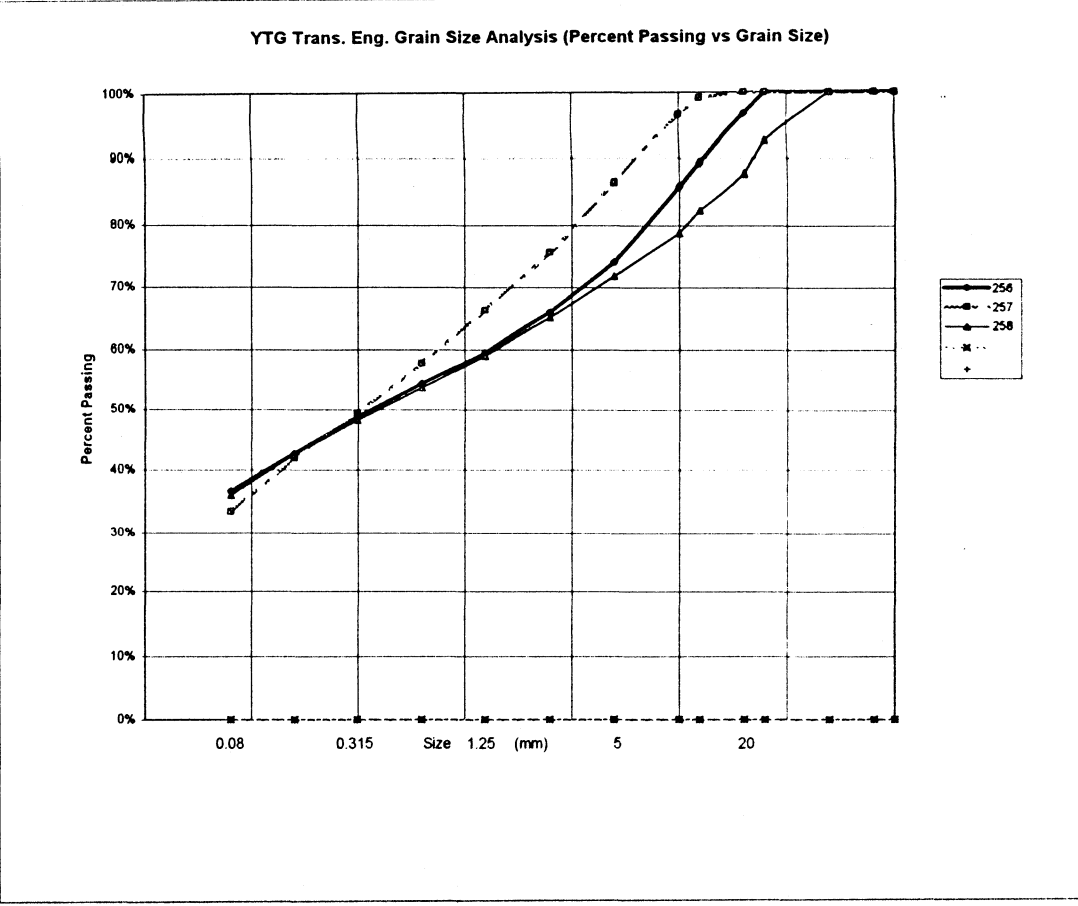
CLASSIFICATION:	CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)

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

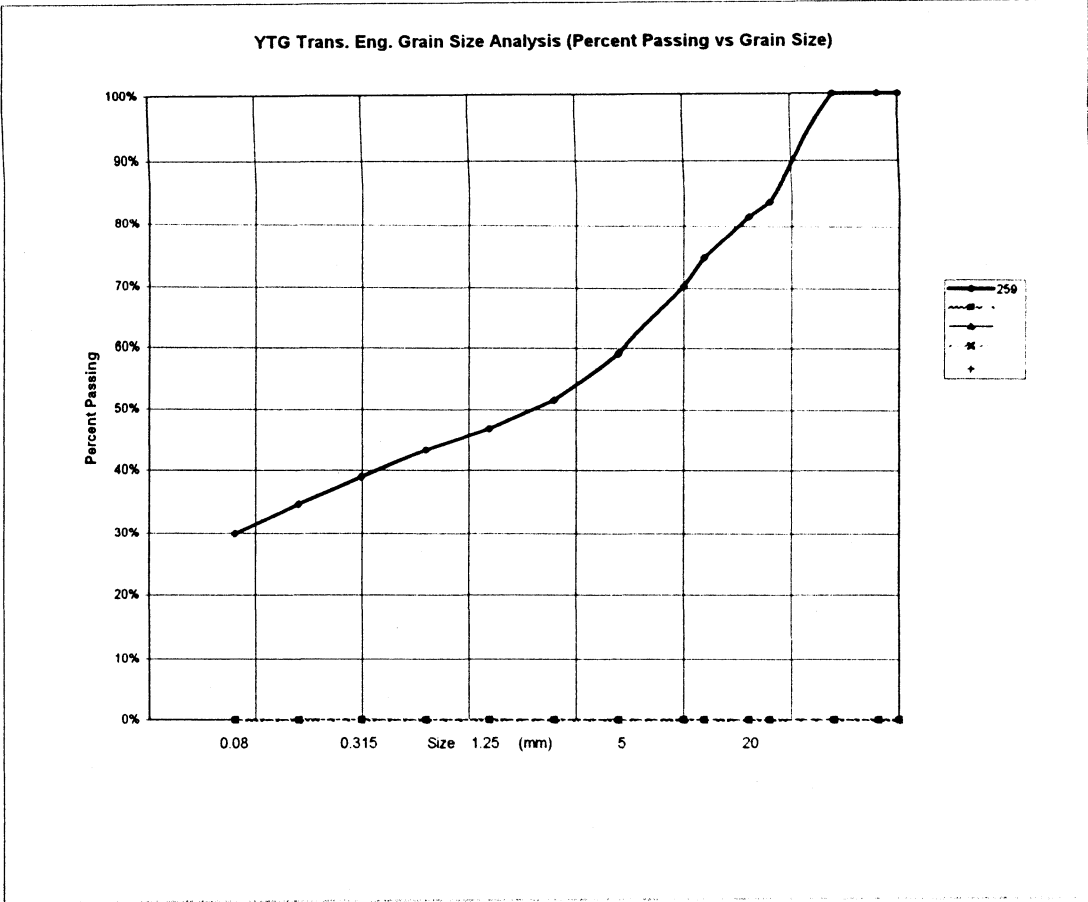


PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-442
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1811+700 center line
 LOGGED BY: G.C. DATE COMP 99-04-30

FIELD NO:	256	FIELD No:	257	FIELD No:	258
LAB NO:	272	LAB No:	273	LAB No:	274
DEPTH:	1.0-1.5	DEPTH:	2.0-2.2	DEPTH:	2.8-3.0
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	92%
20.0	97%	20.0	100%	20.0	88%
12.5	89%	12.5	99%	12.5	82%
10.0	86%	10.0	96%	10.0	79%
5.0	74%	5.0	87%	5.0	72%
2.5	66%	2.5	76%	2.5	65%
1.25	60%	1.25	66%	1.25	59%
0.630	54%	0.630	58%	0.630	54%
0.315	49%	0.315	49%	0.315	48%
0.160	43%	0.160	42%	0.160	42%
0.080	37%	0.080	34%	0.080	36%
M.C.(%):	7%	M.C.(%):	9%	M.C.(%):	8%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	26	% GRAVEL:	13	% GRAVEL:	28
% SAND:	37	% SAND:	53	% SAND:	36
% FINES:	37	% FINES:	34	% FINES:	36
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND (SM)		SILTY SAND WITH GRAVEL (SM)	



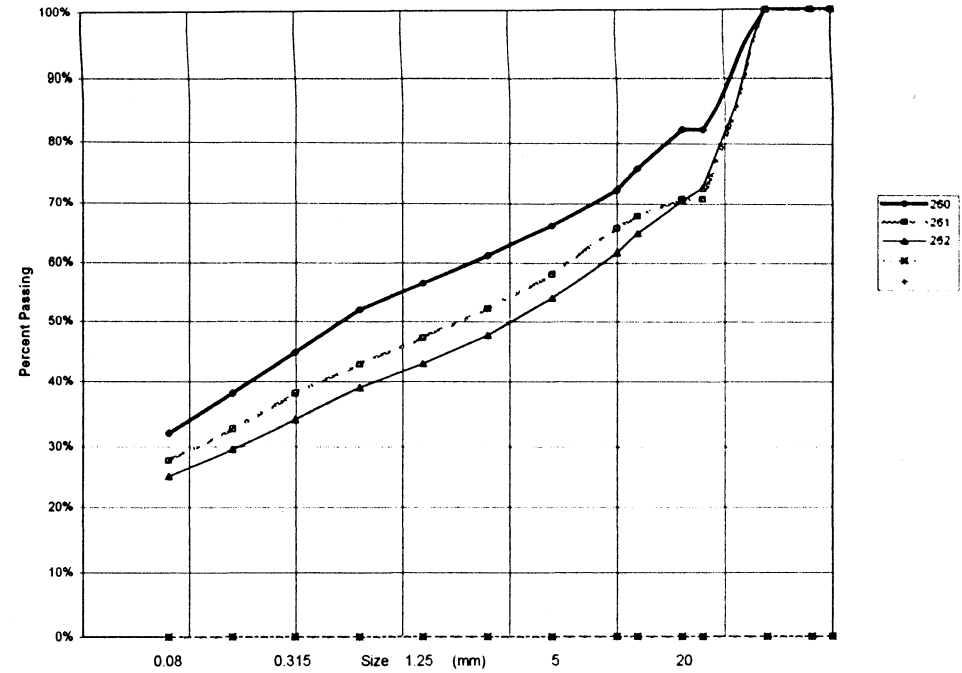
PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	512-443
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1811+575 center line		
LOGGED BY:	G.C.	DATE COMP	99-04-30
=====			
FIELD NO:	259		
LAB NO:	275		
DEPTH:	0.8-1.0		
TYPE:	AUGER		
SIEVE SIZE	PERCENT PASSING		
100.0	100%		
80.0	100%		
50.0	100%		
25.0	84%		
20.0	82%		
12.5	75%		
10.0	70%		
5.0	59%		
2.5	52%		
1.25	47%		
0.630	43%		
0.315	39%		
0.160	35%		
0.080	30%		
M.C. (%)	11%		
LIMITS			
LIQUID:	0.0		
PLASTIC:	0.0		
P.I.:	0.0		
% GRAVEL:	41		
% SAND:	29		
% FINES:	30		
CLASSIFICATION:			
SILTY GRAVEL WITH SAND (GM)			



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-444
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1811+492 center line
 LOGGED BY: G.C. DATE COMP 99-04-30

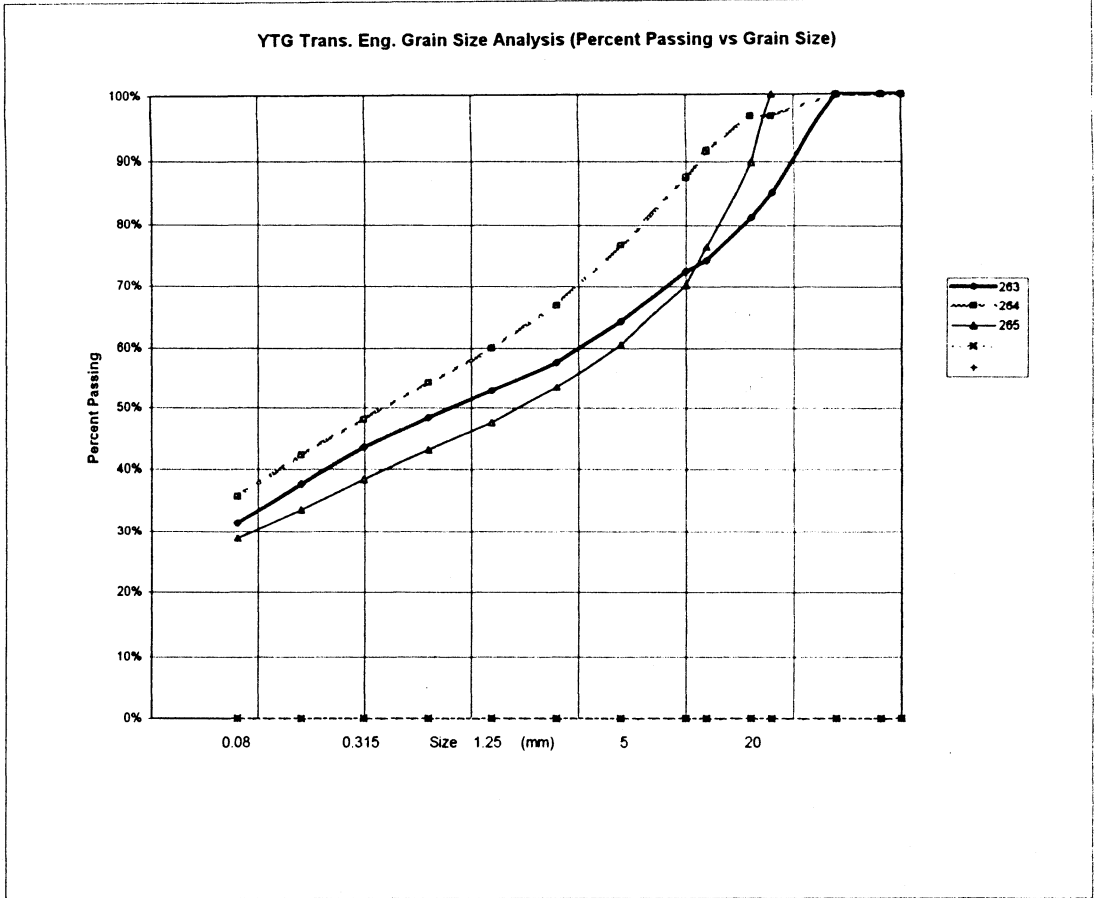
FIELD NO:	260	FIELD No:	261	FIELD No:	262
LAB NO:	276	LAB No:	277	LAB No:	278
DEPTH:	0.8-1.0	DEPTH:	1.8-2.0	DEPTH:	2.8-3.0
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	82%	25.0	71%	25.0	73%
20.0	82%	20.0	71%	20.0	71%
12.5	78%	12.5	68%	12.5	65%
10.0	72%	10.0	66%	10.0	62%
5.0	66%	5.0	58%	5.0	54%
2.5	61%	2.5	52%	2.5	48%
1.25	57%	1.25	47%	1.25	43%
0.630	52%	0.630	43%	0.630	39%
0.315	45%	0.315	38%	0.315	34%
0.160	38%	0.160	33%	0.160	29%
0.080	32%	0.080	28%	0.080	25%
M.C. (%):	8%	M.C. (%):	8%	M.C. (%):	8%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	34	% GRAVEL:	42	% GRAVEL:	46
% SAND:	34	% SAND:	30	% SAND:	29
% FINES:	32	% FINES:	28	% FINES:	25
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-445
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1811+400 center line
 LOGGED BY: G.C. DATE COMP 99-04-30

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
263	279	1.4-1.6	AUGER	264	280	2.6-3.0	AUGER	265	281	3.6-4.0	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	85%	25.0	96%	25.0	96%	25.0	100%	25.0	100%	25.0	100%
20.0	81%	20.0	96%	20.0	96%	20.0	90%	20.0	90%	20.0	90%
12.5	74%	12.5	91%	12.5	91%	12.5	77%	12.5	77%	12.5	77%
10.0	72%	10.0	88%	10.0	88%	10.0	70%	10.0	70%	10.0	70%
5.0	64%	5.0	77%	5.0	77%	5.0	61%	5.0	61%	5.0	61%
2.5	58%	2.5	67%	2.5	67%	2.5	54%	2.5	54%	2.5	54%
1.25	53%	1.25	60%	1.25	60%	1.25	48%	1.25	48%	1.25	48%
0.630	48%	0.630	54%	0.630	54%	0.630	43%	0.630	43%	0.630	43%
0.315	43%	0.315	48%	0.315	48%	0.315	38%	0.315	38%	0.315	38%
0.160	38%	0.160	42%	0.160	42%	0.160	34%	0.160	34%	0.160	34%
0.080	31%	0.080	36%	0.080	36%	0.080	29%	0.080	29%	0.080	29%
M.C.(%):	18%	M.C.(%):	12%	M.C.(%):	9%	M.C.(%):		M.C.(%):		M.C.(%):	
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	36	% GRAVEL:	23	% GRAVEL:	39	% GRAVEL:	39	% GRAVEL:	39	% GRAVEL:	39
% SAND:	33	% SAND:	41	% SAND:	32	% SAND:	32	% SAND:	32	% SAND:	32
% FINES:	31	% FINES:	36	% FINES:	29	% FINES:	29	% FINES:	29	% FINES:	29
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	



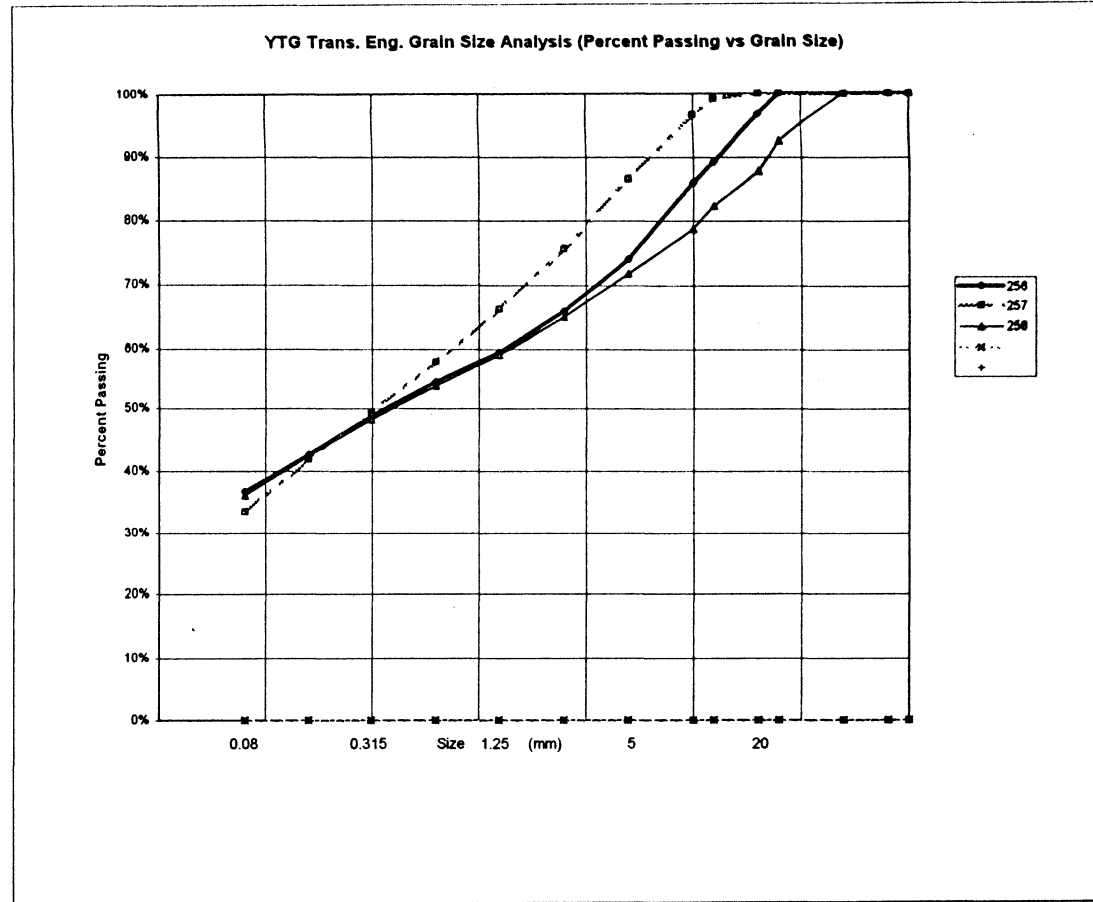
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-442
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1811+700 center line
 LOGGED BY: G.C. DATE COMP 99-04-30

FIELD NO:	256	FIELD No:	257	FIELD No:	258
LAB NO:	272	LAB No:	273	LAB No:	274
DEPTH:	1.0-1.5	DEPTH:	2.0-2.2	DEPTH:	2.8-3.0
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	92%
20.0	97%	20.0	100%	20.0	88%
12.5	89%	12.5	99%	12.5	82%
10.0	86%	10.0	96%	10.0	79%
5.0	74%	5.0	87%	5.0	72%
2.5	66%	2.5	76%	2.5	65%
1.25	60%	1.25	66%	1.25	59%
0.630	54%	0.630	58%	0.630	54%
0.315	49%	0.315	49%	0.315	48%
0.160	43%	0.160	42%	0.160	42%
0.080	37%	0.080	34%	0.080	36%

M.C.(%):	7%	M.C.(%):	9%	M.C.(%):	8%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	26	% GRAVEL:	13	% GRAVEL:	28
% SAND:	37	% SAND:	53	% SAND:	36
% FINES:	37	% FINES:	34	% FINES:	36

CLASSIFICATION:	CLASSIFICATION:	CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)	SILTY SAND (SM)	SILTY SAND WITH GRAVEL (SM)



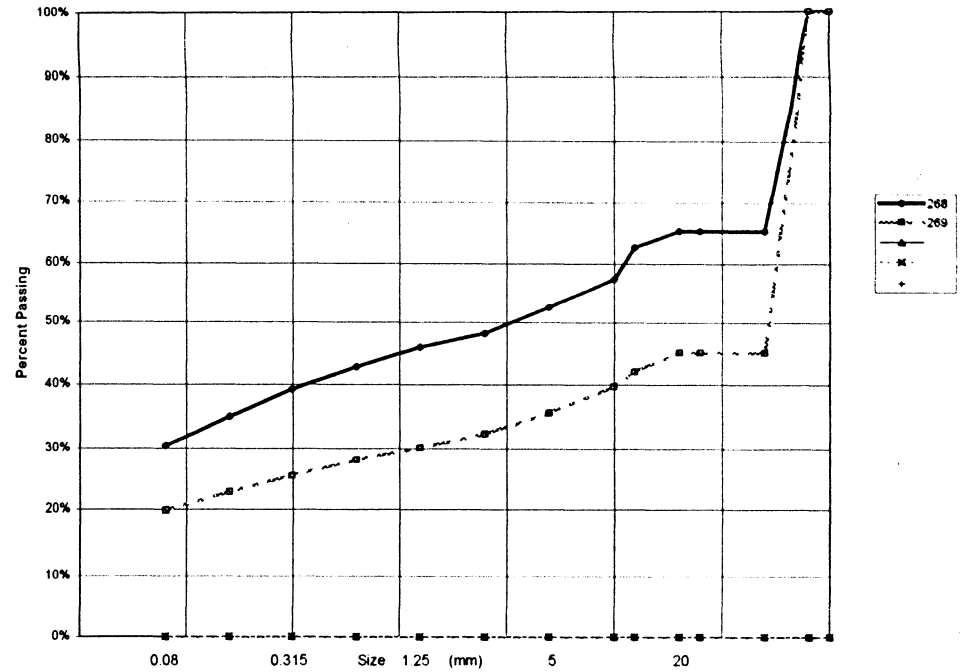
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-447
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1811+160 center line
 LOGGED BY: G.C. DATE COMP 99-04-30

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH	TYPE
268	284	2.0-2.2	AUGER	269	285	2.8-3.0	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	65%	50.0	45%
25.0	65%	25.0	45%
20.0	65%	20.0	45%
12.5	63%	12.5	42%
10.0	58%	10.0	40%
5.0	53%	5.0	36%
2.5	48%	2.5	32%
1.25	46%	1.25	30%
0.630	43%	0.630	28%
0.315	39%	0.315	25%
0.160	35%	0.160	23%
0.080	30%	0.080	20%

M.C.(%):	13%	M.C.(%):	11%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	47	% GRAVEL:	64
% SAND:	22	% SAND:	16
% FINES:	30	% FINES:	20
CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 512-448
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1811+050 center line
 LOGGED BY: G.C. DATE COMP 99-04-30

FIELD NO:	270	FIELD No.	271
LAB NO:	286	LAB No.	287
DEPTH:	1.0-1.5	DEPTH	2.5-3.0
TYPE:	AUGER	TYPE	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	80%	50.0	100%
25.0	55%	25.0	78%
20.0	53%	20.0	68%
12.5	52%	12.5	63%
10.0	49%	10.0	59%
5.0	44%	5.0	63%
2.5	40%	2.5	42%
1.25	37%	1.25	37%
0.630	35%	0.630	34%
0.315	31%	0.315	30%
0.160	28%	0.160	26%
0.080	24%	0.080	21%

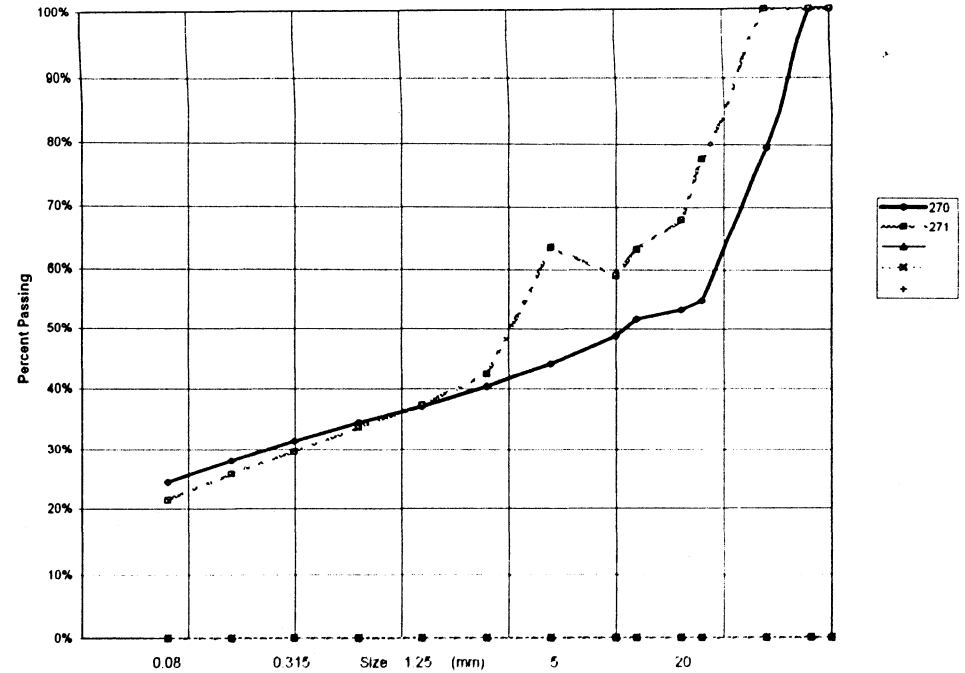
M.C. (%): 9% M.C. (%): 7%

LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	56	% GRAVEL:	37
% SAND:	20	% SAND:	42
% FINES:	24	% FINES:	21

CLASSIFICATION: SILTY GRAVEL WITH SAND (GM) CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513+449
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1810+950 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-03

FIELD NO:	272	FIELD No.	273
LAB NO:	288	LAB No.	289
DEPTH:	1.6-2.0	DEPTH	2.6-3.0
TYPE:	AUGER	TYPE	AUGER

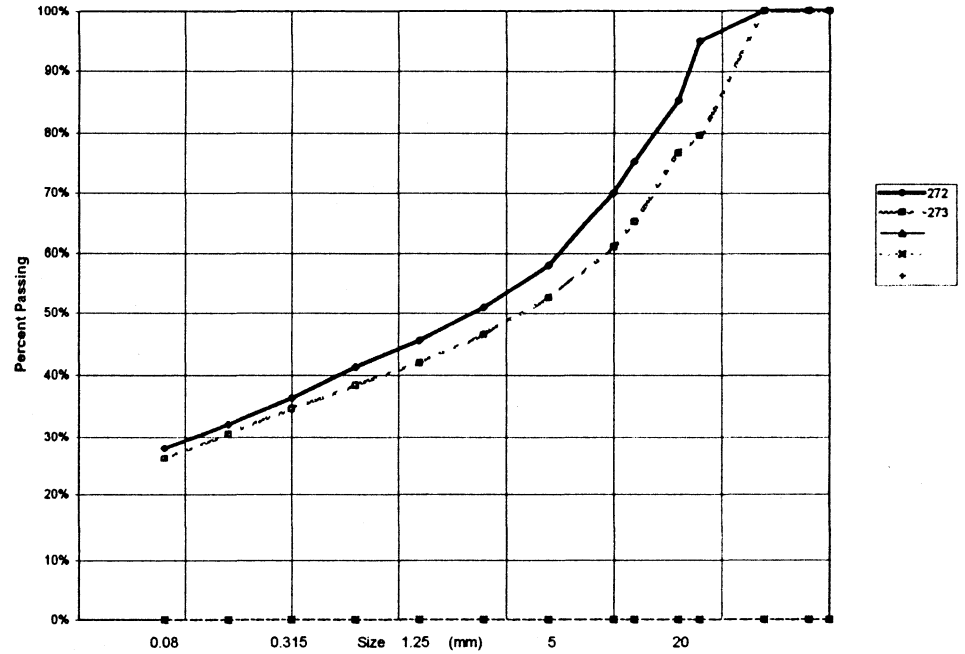
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	95%	25.0	80%
20.0	85%	20.0	77%
12.5	75%	12.5	65%
10.0	70%	10.0	61%
5.0	58%	5.0	53%
2.5	51%	2.5	46%
1.25	46%	1.25	42%
0.630	41%	0.630	38%
0.315	36%	0.315	35%
0.160	32%	0.160	31%
0.080	26%	0.080	26%

M.C. (%):	11%	M.C. (%):	9%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	42	% GRAVEL:	47
% SAND:	30	% SAND:	27
% FINES:	28	% FINES:	26

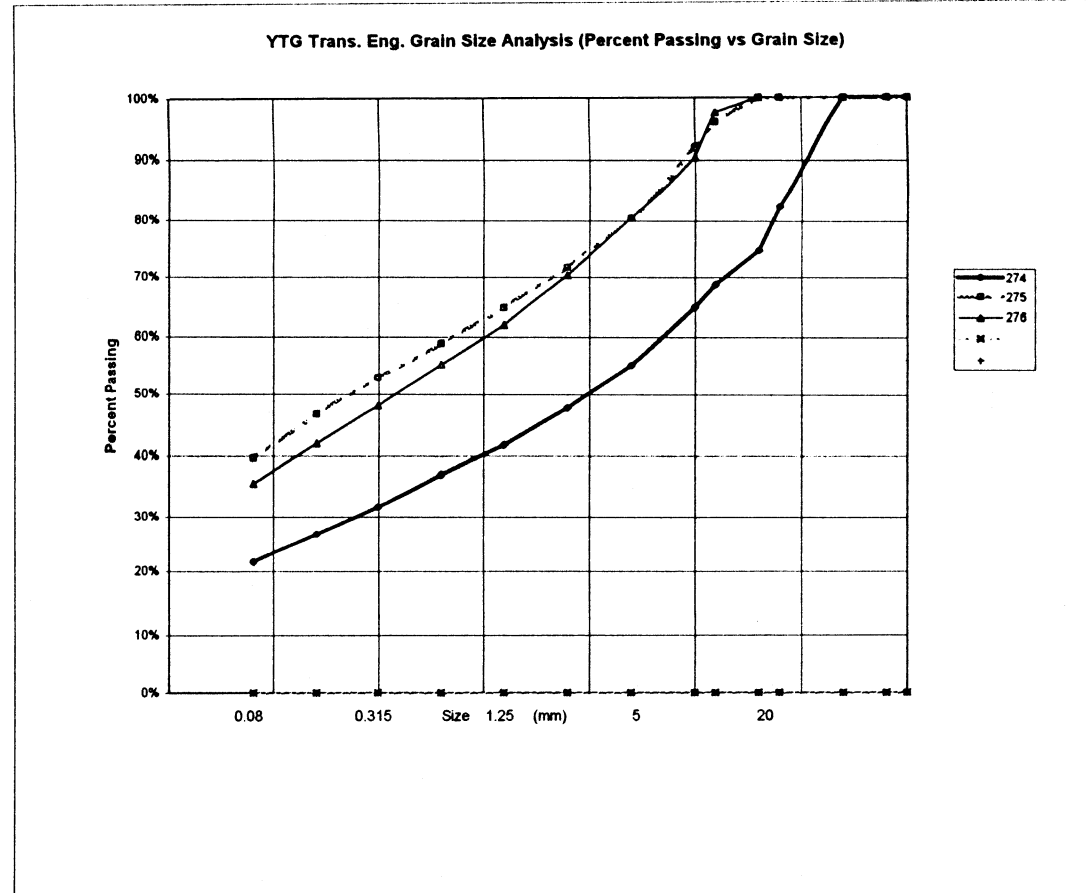
CLASSIFICATION:	CLASSIFICATION:
SILTY GRAVEL WITH SAND (GM)	SILTY GRAVEL WITH SAND (GM)

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

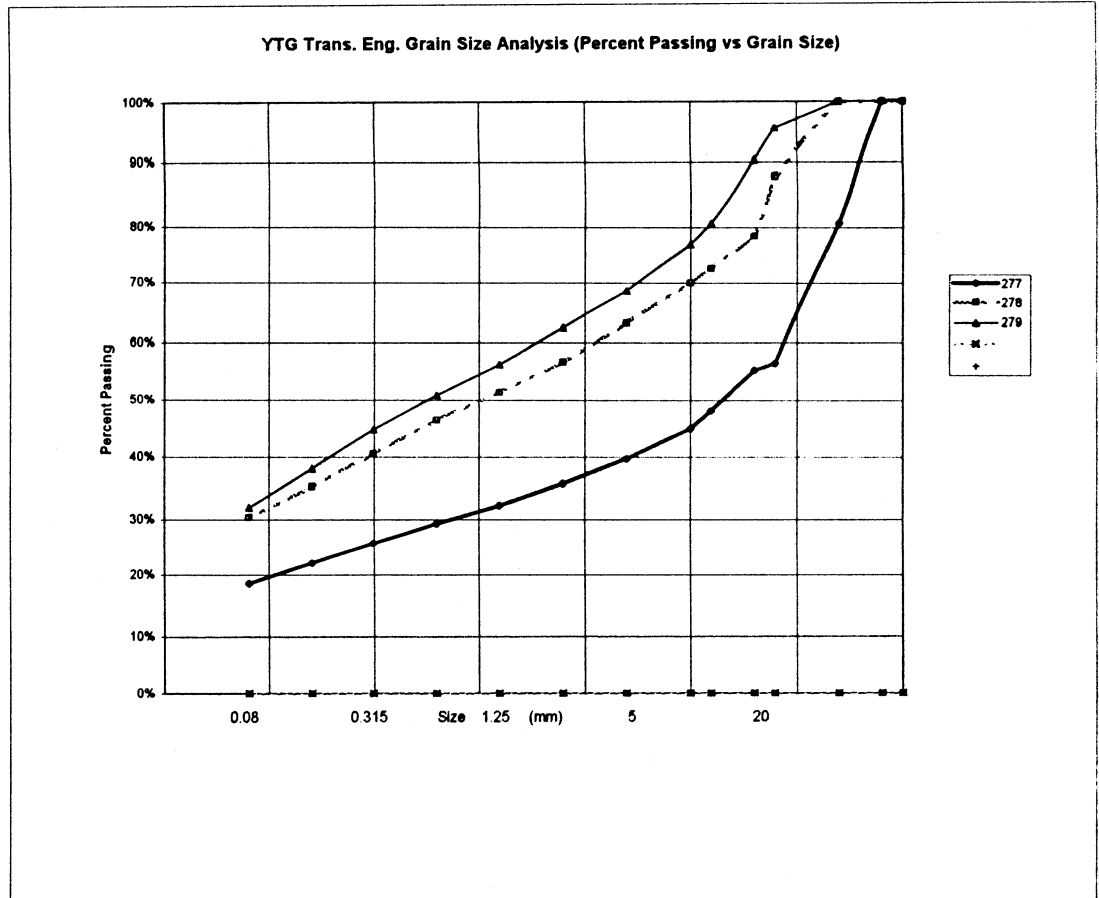


PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-450
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1810+850 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-03

FIELD NO: 274		FIELD No. 275		FIELD No: 276	
LAB NO: 290		LAB No. 291		LAB No: 292	
DEPTH: 1.4-1.6		DEPTH 2.0-2.2		DEPTH: 2.8-3.0	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	83%	25.0	100%	25.0	100%
20.0	75%	20.0	100%	20.0	100%
12.5	69%	12.5	96%	12.5	97%
10.0	65%	10.0	92%	10.0	90%
5.0	55%	5.0	80%	5.0	81%
2.5	48%	2.5	72%	2.5	70%
1.25	42%	1.25	65%	1.25	62%
0.630	37%	0.630	59%	0.630	55%
0.315	32%	0.315	53%	0.315	48%
0.160	27%	0.160	47%	0.160	42%
0.080	22%	0.080	40%	0.080	36%
M.C.(%):	9%	M.C.(%):	14%	M.C.(%):	11%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	45	% GRAVEL:	20	% GRAVEL:	19
% SAND:	34	% SAND:	41	% SAND:	45
% FINES:	22	% FINES:	40	% FINES:	38
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199		HOLE No.: 513-451	
CLIENT: ENGINEERING CAPITAL			
PROJECT NAME: SHAKWAK SEG 13			
PROJECT LOCATION: KM 1799-1822 A/H			
DRILL UNIT: B-40-L Nodwell			
HOLE LOCATION: 1810+750 CENTRELINE		DATE COMP 99-05-03	
LOGGED BY: G.C.			
-----		-----	
FIELD NO: 277	FIELD No. 278	FIELD No: 279	
LAB NO: 293	LAB No. 294	LAB No: 295	
DEPTH: 0.8-1.0	DEPTH 2.5-3.0	DEPTH: 4.0-4.5	
TYPE: AUGER	TYPE AUGER	TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	81%	50.0	100%
25.0	57%	25.0	88%
20.0	56%	20.0	90%
12.5	48%	12.5	81%
10.0	45%	10.0	77%
5.0	40%	5.0	69%
2.5	36%	2.5	62%
1.25	32%	1.25	56%
0.630	29%	0.630	51%
0.315	26%	0.315	45%
0.160	22%	0.160	38%
0.080	18%	0.080	32%
M.C.(%): 6%	M.C.(%): 6%	M.C.(%): 7%	
LIMITS	LIMITS	LIMITS	
LIQUID: 0.0	LIQUID: 0.0	LIQUID: 0.0	
PLASTIC: 0.0	PLASTIC: 0.0	PLASTIC: 0.0	
P.I.: 0.0	P.I.: 0.0	P.I.: 0.0	
% GRAVEL: 60	% GRAVEL: 37	% GRAVEL: 31	
% SAND: 21	% SAND: 33	% SAND: 37	
% FINES: 18	% FINES: 30	% FINES: 32	
CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION: SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	

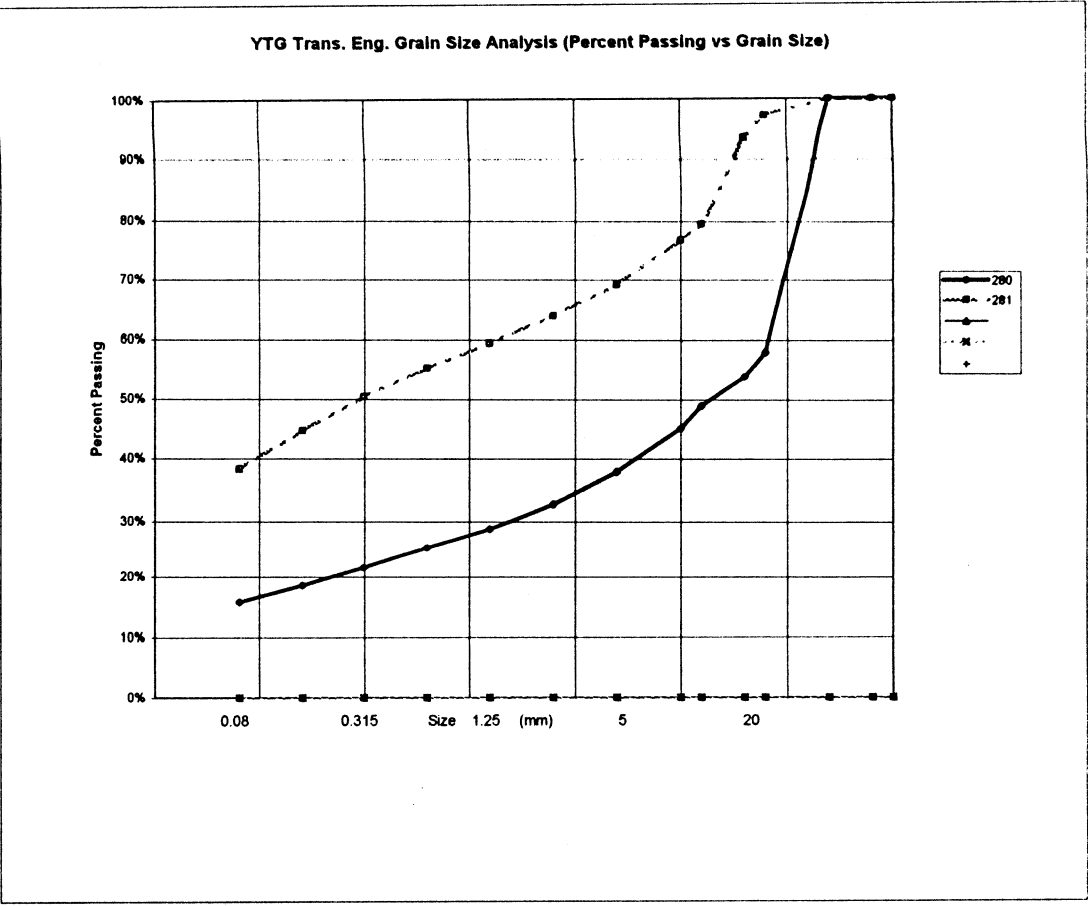


PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-452
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1810+625 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-05-03

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH	TYPE
280	296	1.0-1.5	AUGER	281	297	2.5-3.0	AUGER

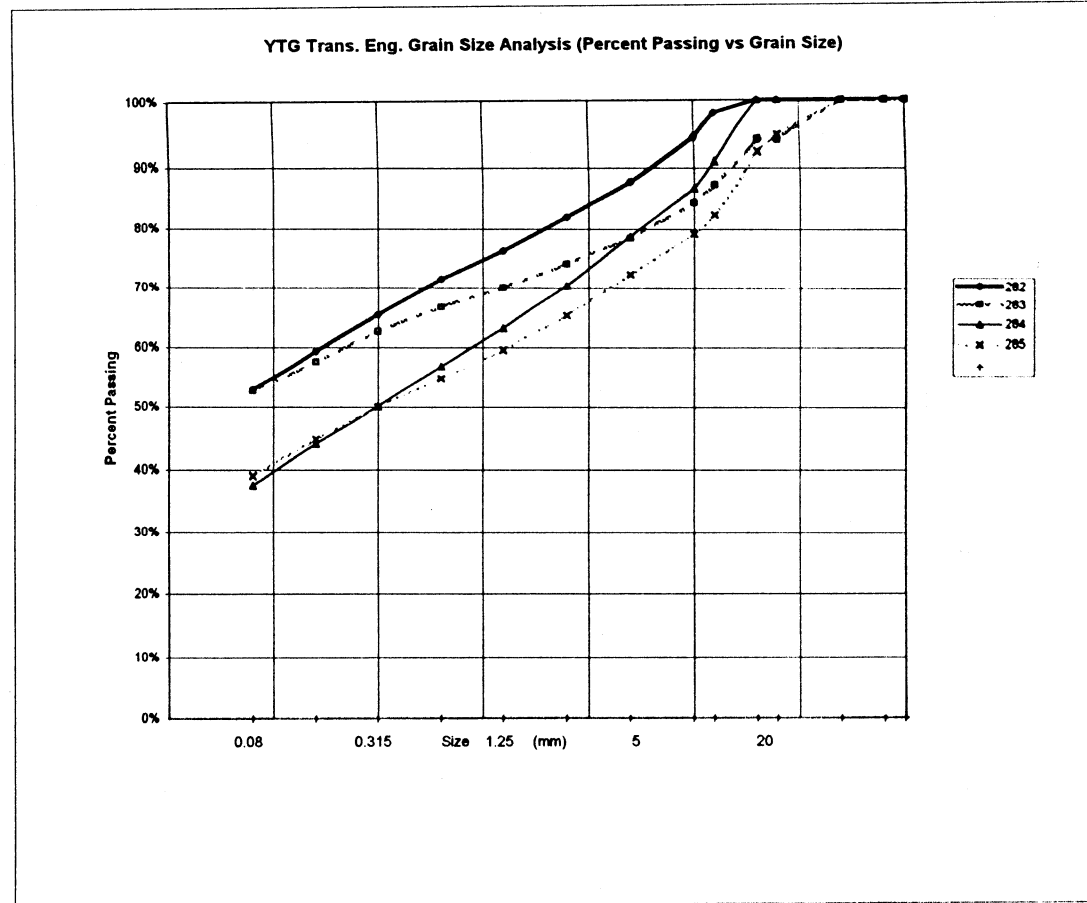
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	58%	25.0	97%
20.0	54%	20.0	93%
12.5	49%	12.5	80%
10.0	45%	10.0	77%
5.0	38%	5.0	69%
2.5	33%	2.5	64%
1.25	29%	1.25	59%
0.630	25%	0.630	55%
0.315	22%	0.315	50%
0.160	19%	0.160	45%
0.080	16%	0.080	38%

M.C.(%):	11%	M.C.(%):	9%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	62	% GRAVEL:	31
% SAND:	22	% SAND:	31
% FINES:	16	% FINES:	38
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)	

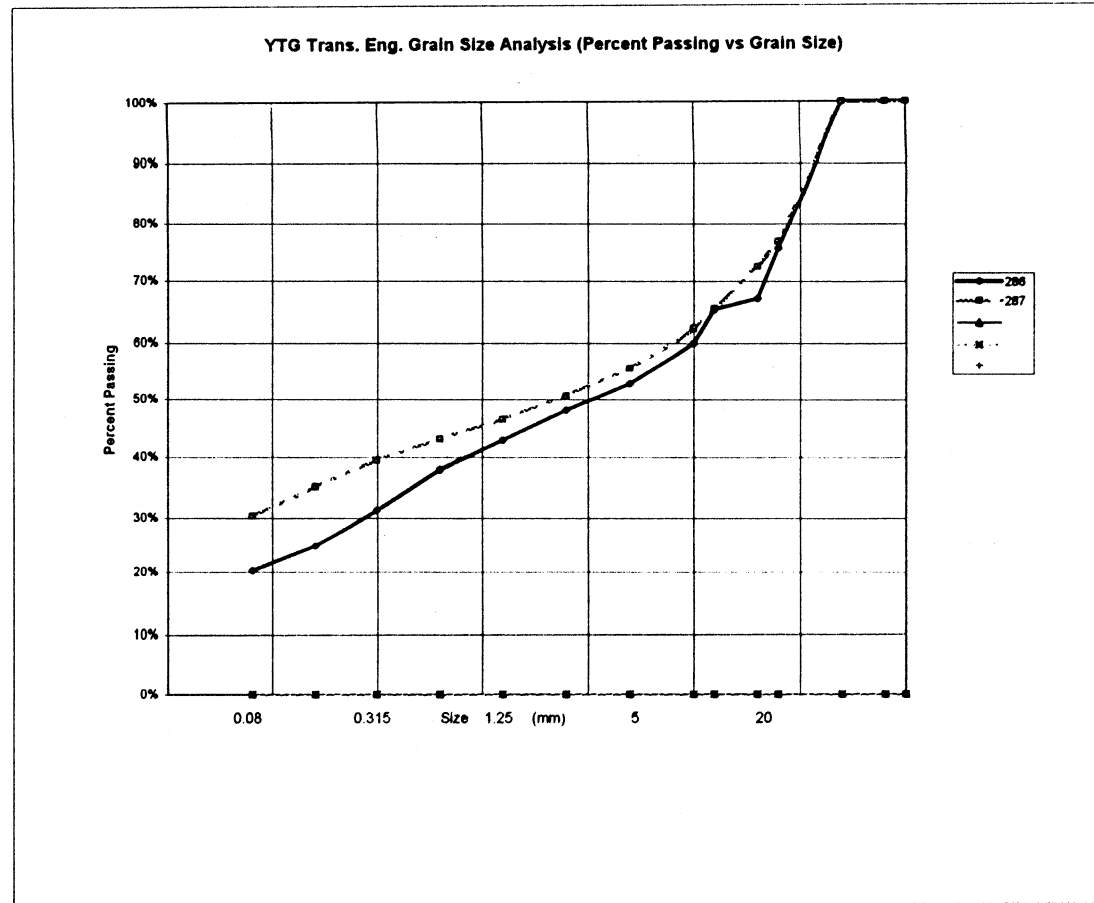


PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-453
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1810+550 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-03

FIELD NO: 282		FIELD No: 283		FIELD No: 284		FIELD No: 285	
LAB NO: 298		LAB No: 299		LAB No: 300		LAB No: 301	
DEPTH: 0.8-1.0		DEPTH: 1.8-2.0		DEPTH: 2.8-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE: AUGER		TYPE: AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	94%	25.0	100%	25.0	95%
20.0	100%	20.0	94%	20.0	100%	20.0	92%
12.5	98%	12.5	87%	12.5	91%	12.5	82%
10.0	94%	10.0	84%	10.0	87%	10.0	79%
5.0	88%	5.0	79%	5.0	79%	5.0	72%
2.5	82%	2.5	74%	2.5	70%	2.5	65%
1.25	76%	1.25	70%	1.25	63%	1.25	60%
0.630	71%	0.630	67%	0.630	57%	0.630	55%
0.315	65%	0.315	63%	0.315	50%	0.315	50%
0.160	59%	0.160	58%	0.160	44%	0.160	45%
0.080	53%	0.080	53%	0.080	38%	0.080	38%
M.C.(%): 9%		M.C.(%): 11%		M.C.(%): 8%		M.C.(%): 9%	
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	12	% GRAVEL:	21	% GRAVEL:	21	% GRAVEL:	28
% SAND:	35	% SAND:	26	% SAND:	41	% SAND:	33
% FINES:	53	% FINES:	53	% FINES:	38	% FINES:	39
CLASSIFICATION: SANDY SILT (ML)		CLASSIFICATION: SANDY SILT WITH GRAVEL (ML)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)		CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	

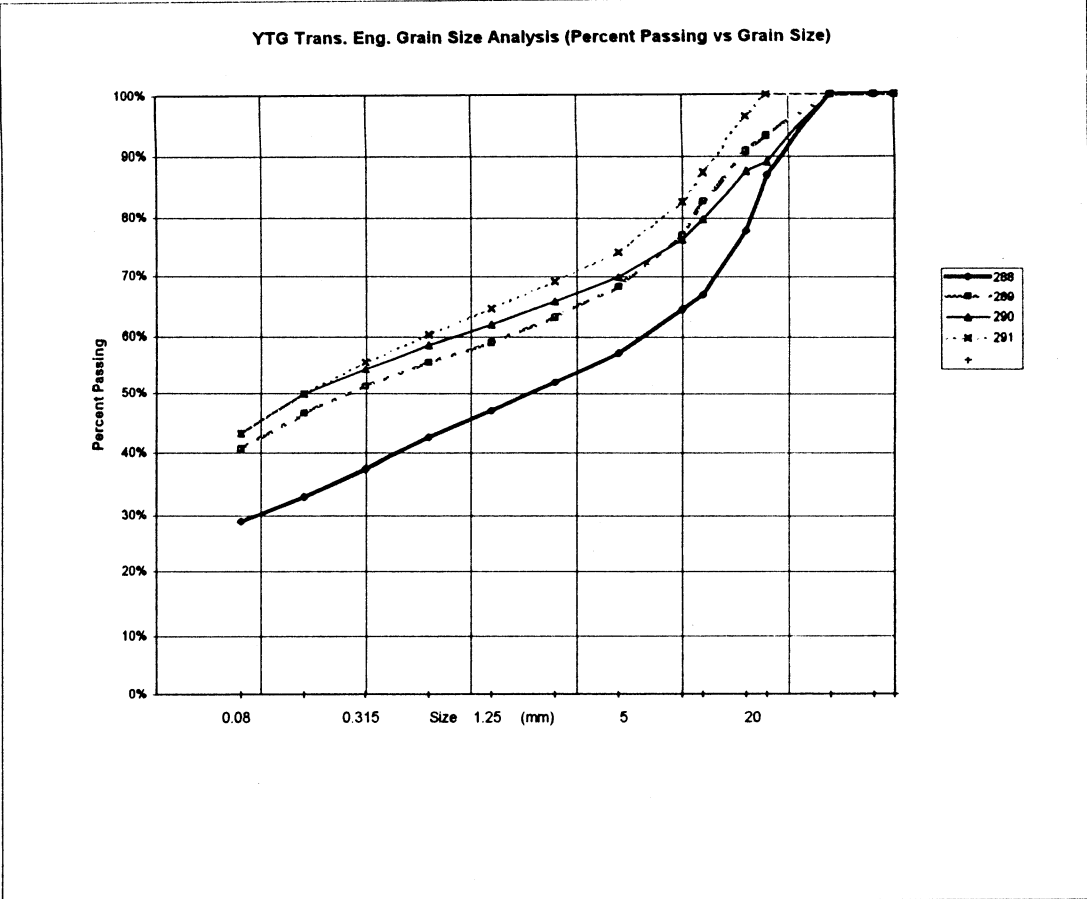


PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-454
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1810+475 CENTRELIN	DATE COMP	99-05-03
LOGGED BY:	G.C.		
=====			
FIELD NO:	288	FIELD No.	287
LAB NO:	302	LAB No.	303
DEPTH:	0.8-1.0	DEPTH	2.2-3.0
TYPE:	AUGER	TYPE	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	76%	25.0	77%
20.0	67%	20.0	73%
12.5	65%	12.5	65%
10.0	60%	10.0	62%
5.0	53%	5.0	56%
2.5	48%	2.5	51%
1.25	43%	1.25	47%
0.630	38%	0.630	43%
0.315	31%	0.315	39%
0.160	25%	0.160	35%
0.080	20%	0.080	30%
M.C. (%):	8%	M.C. (%):	9%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	47	% GRAVEL:	44
% SAND:	33	% SAND:	25
% FINES:	20	% FINES:	30
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-455
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1810+375 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-03

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
288	304	1.0-1.5	AUGER	289	305	2.0-2.2	AUGER	290	306	2.8-3.0	AUGER	291	307	4.0-4.5	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	87%	25.0	93%	25.0	89%	25.0	88%	25.0	88%	25.0	88%	25.0	88%	25.0	88%
20.0	78%	20.0	91%	20.0	88%	20.0	88%	20.0	88%	20.0	88%	20.0	88%	20.0	88%
12.5	67%	12.5	83%	12.5	80%	12.5	80%	12.5	80%	12.5	80%	12.5	80%	12.5	80%
10.0	64%	10.0	77%	10.0	76%	10.0	76%	10.0	76%	10.0	76%	10.0	76%	10.0	76%
5.0	57%	5.0	68%	5.0	70%	5.0	70%	5.0	70%	5.0	70%	5.0	70%	5.0	70%
2.5	52%	2.5	63%	2.5	66%	2.5	66%	2.5	66%	2.5	66%	2.5	66%	2.5	66%
1.25	47%	1.25	59%	1.25	62%	1.25	62%	1.25	62%	1.25	62%	1.25	62%	1.25	62%
0.630	42%	0.630	56%	0.630	59%	0.630	59%	0.630	59%	0.630	59%	0.630	59%	0.630	59%
0.315	37%	0.315	51%	0.315	54%	0.315	54%	0.315	54%	0.315	54%	0.315	54%	0.315	54%
0.160	33%	0.160	47%	0.160	50%	0.160	50%	0.160	50%	0.160	50%	0.160	50%	0.160	50%
0.080	29%	0.080	41%	0.080	43%	0.080	43%	0.080	43%	0.080	43%	0.080	43%	0.080	43%
M.C.(%)	11%	M.C.(%)	12%	M.C.(%)	12%	M.C.(%)	11%	M.C.(%)	11%	M.C.(%)	11%	M.C.(%)	11%	M.C.(%)	11%
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	43	% GRAVEL:	32	% GRAVEL:	30	% GRAVEL:	26	% GRAVEL:	26	% GRAVEL:	26	% GRAVEL:	26	% GRAVEL:	26
% SAND:	29	% SAND:	28	% SAND:	27	% SAND:	31	% SAND:	31	% SAND:	31	% SAND:	31	% SAND:	31
% FINES:	29	% FINES:	41	% FINES:	43	% FINES:	43	% FINES:	43	% FINES:	43	% FINES:	43	% FINES:	43
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	

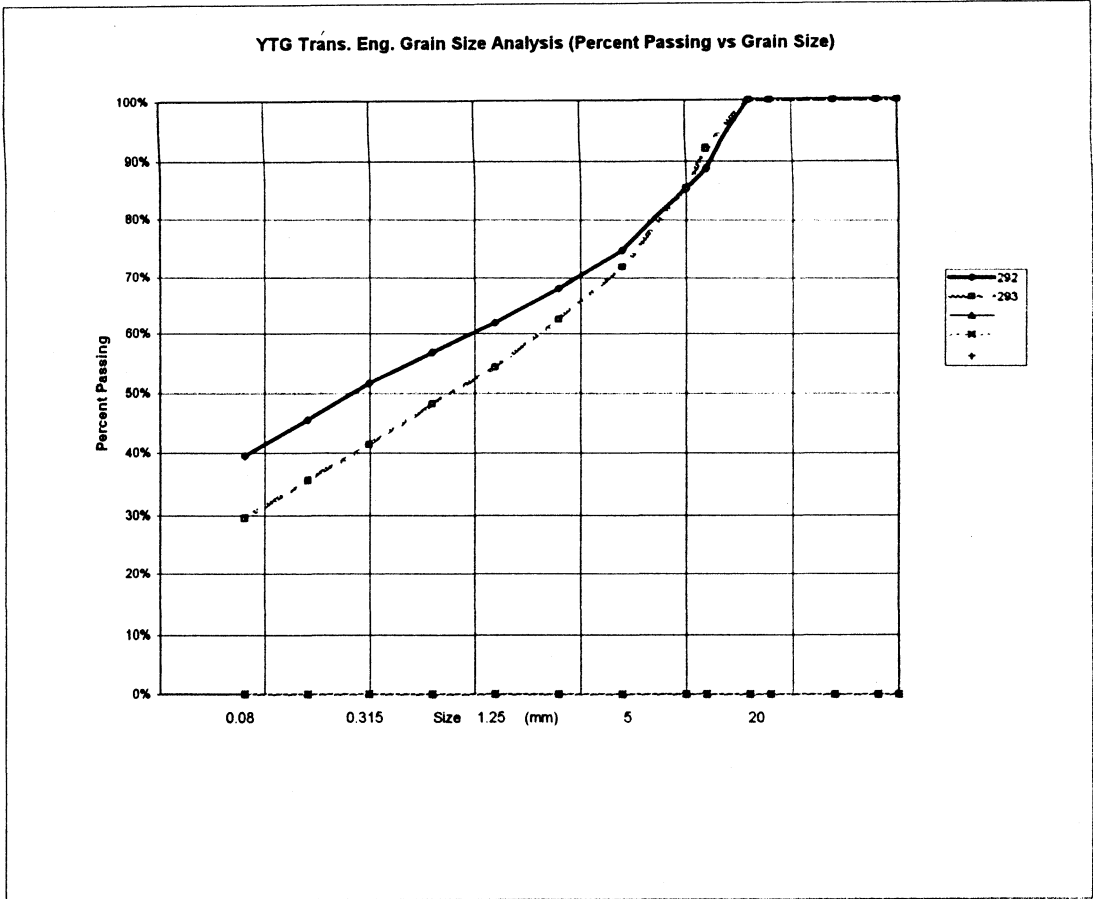


PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-458
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1810+275 CENTRELIN
 G.C.
 LOGGED BY: DATE COMP 99-05-03

FIELD NO:	292	FIELD No.	293
LAB NO:	308	LAB No.	309
DEPTH:	1.0-1.5	DEPTH	2.0-2.2
TYPE:	AUGER	TYPE	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	100%	20.0	100%
12.5	89%	12.5	92%
10.0	86%	10.0	86%
5.0	75%	5.0	72%
2.5	68%	2.5	63%
1.25	62%	1.25	54%
0.630	57%	0.630	48%
0.315	52%	0.315	41%
0.160	46%	0.160	35%
0.080	39%	0.080	30%

M.C. (%):	14%	M.C. (%):	11%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	25	% GRAVEL:	28
% SAND:	35	% SAND:	42
% FINES:	39	% FINES:	30
CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	

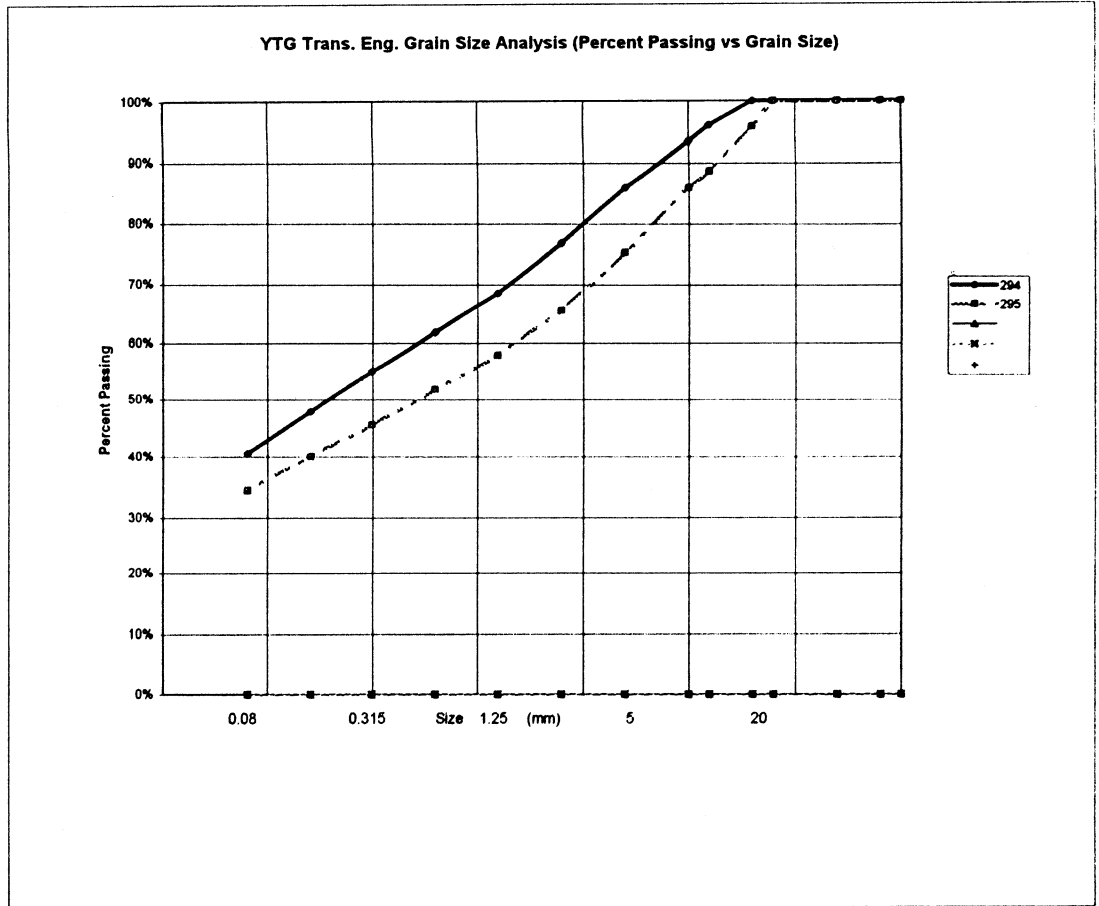


PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-457
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1810+200 CENTRELINE	DATE COMP	99-05-03
LOGGED BY:	G.C.		

FIELD NO:	294	FIELD No.	295
LAB NO:	310	LAB No.	311
DEPTH:	1.0-1.5	DEPTH	1.8-2.0
TYPE:	AUGER	TYPE	AUGER

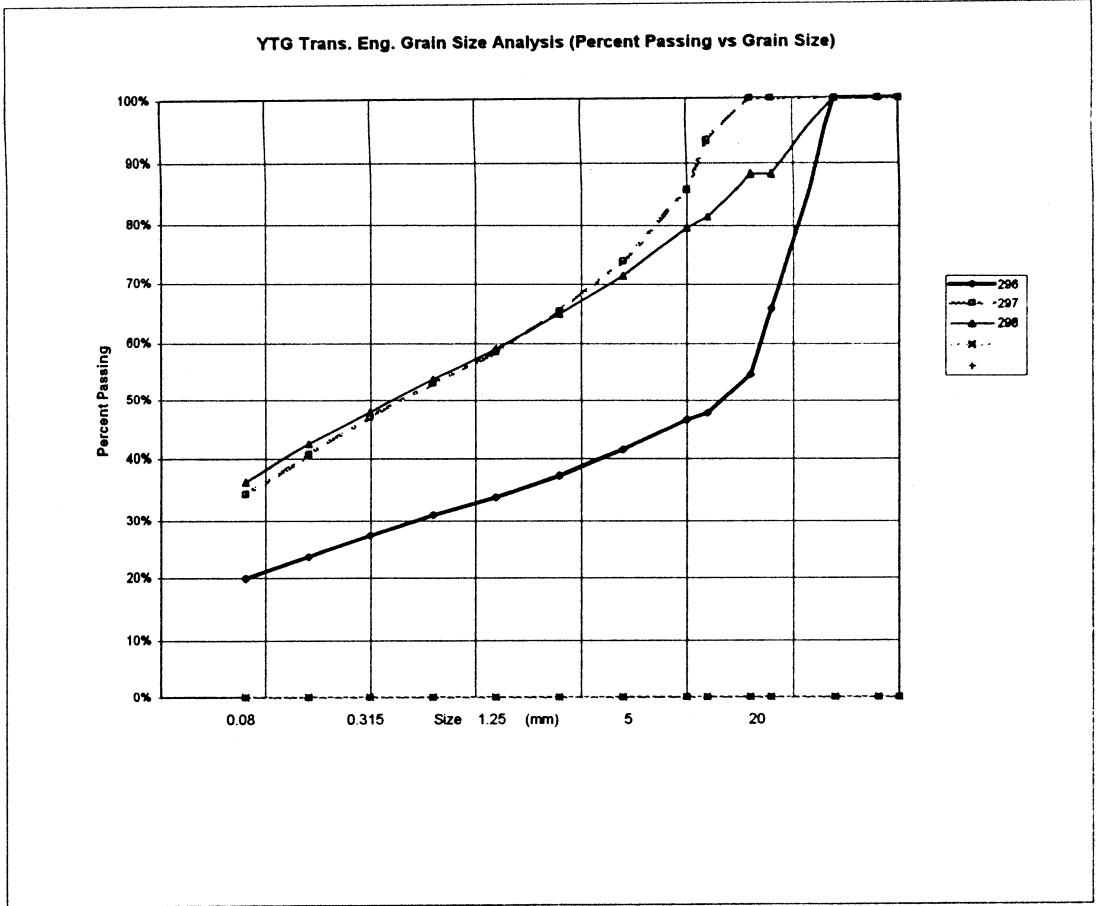
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	100%	20.0	98%
12.5	98%	12.5	89%
10.0	93%	10.0	86%
5.0	86%	5.0	75%
2.5	77%	2.5	65%
1.25	69%	1.25	58%
0.630	62%	0.630	52%
0.315	55%	0.315	46%
0.160	48%	0.160	40%
0.080	41%	0.080	34%

M.C.(%):	9%	M.C.(%):	9%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	14	% GRAVEL:	25
% SAND:	46	% SAND:	41
% FINES:	41	% FINES:	34
CLASSIFICATION:	SILTY SAND (SM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-458
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1810+050 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-03

FIELD NO: 296		FIELD No. 297		FIELD No: 298	
LAB NO: 312		LAB No. 313		LAB No: 314	
DEPTH: 1.0-1.5		DEPTH 1.8-2.0		DEPTH: 3.6-4.0	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	66%	25.0	100%	25.0	88%
20.0	55%	20.0	100%	20.0	88%
12.5	48%	12.5	93%	12.5	82%
10.0	47%	10.0	86%	10.0	80%
5.0	41%	5.0	74%	5.0	71%
2.5	37%	2.5	65%	2.5	65%
1.25	34%	1.25	59%	1.25	59%
0.630	31%	0.630	53%	0.630	54%
0.315	27%	0.315	47%	0.315	48%
0.160	23%	0.160	41%	0.160	42%
0.080	20%	0.080	35%	0.080	36%
M.C.(%):	6%	M.C.(%):	9%	M.C.(%):	10%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	59	% GRAVEL:	26	% GRAVEL:	29
% SAND:	22	% SAND:	39	% SAND:	35
% FINES:	20	% FINES:	35	% FINES:	36
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-459
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1809+950 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-05-03

FIELD NO:	299	FIELD No.	300
LAB NO:	315	LAB No.	316
DEPTH:	1.0-1.5	DEPTH	2.5-3.0
TYPE:	AUGER	TYPE	AUGER

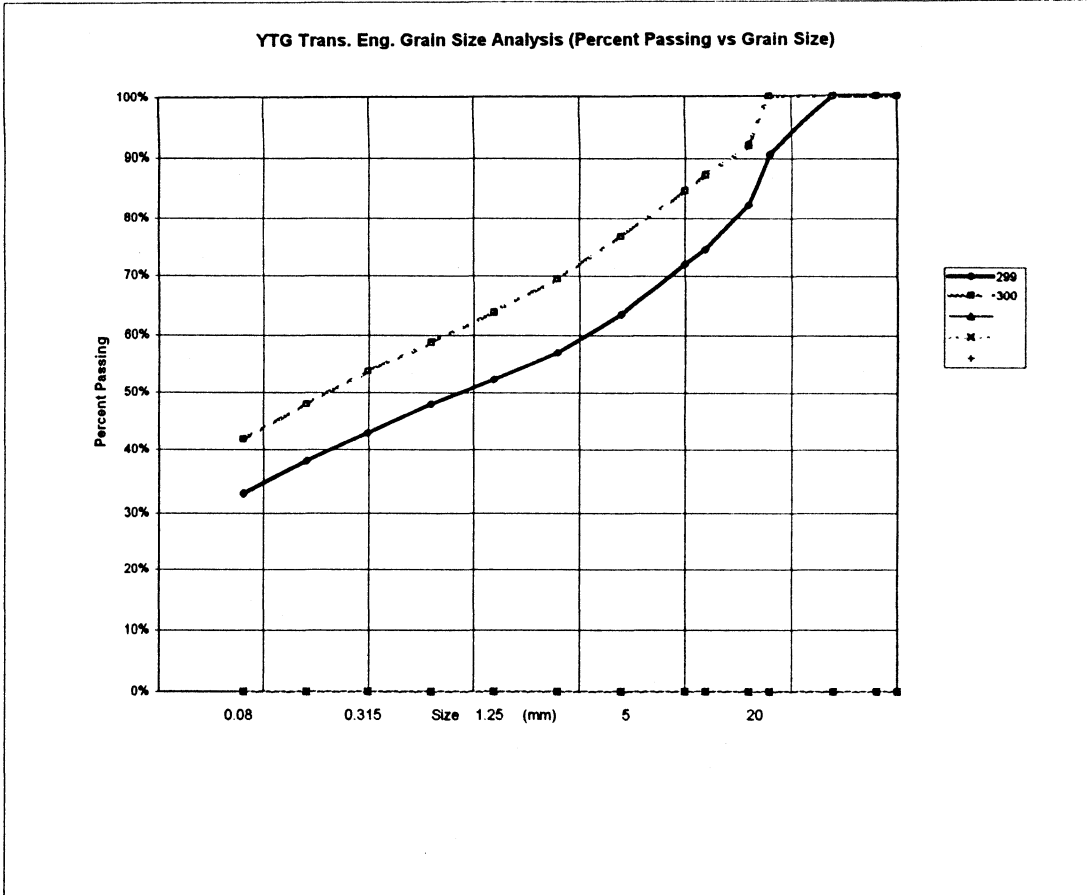
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	91%	25.0	100%
20.0	82%	20.0	92%
12.5	75%	12.5	87%
10.0	72%	10.0	85%
5.0	63%	5.0	77%
2.5	57%	2.5	70%
1.25	52%	1.25	64%
0.630	48%	0.630	59%
0.315	43%	0.315	54%
0.160	38%	0.160	48%
0.080	33%	0.080	42%

M.C. (%):	11%	M.C. (%):	13%
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LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	37	% GRAVEL:	23
% SAND:	30	% SAND:	35
% FINES:	33	% FINES:	42

CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)
-----------------	-----------------------------	-----------------	-----------------------------

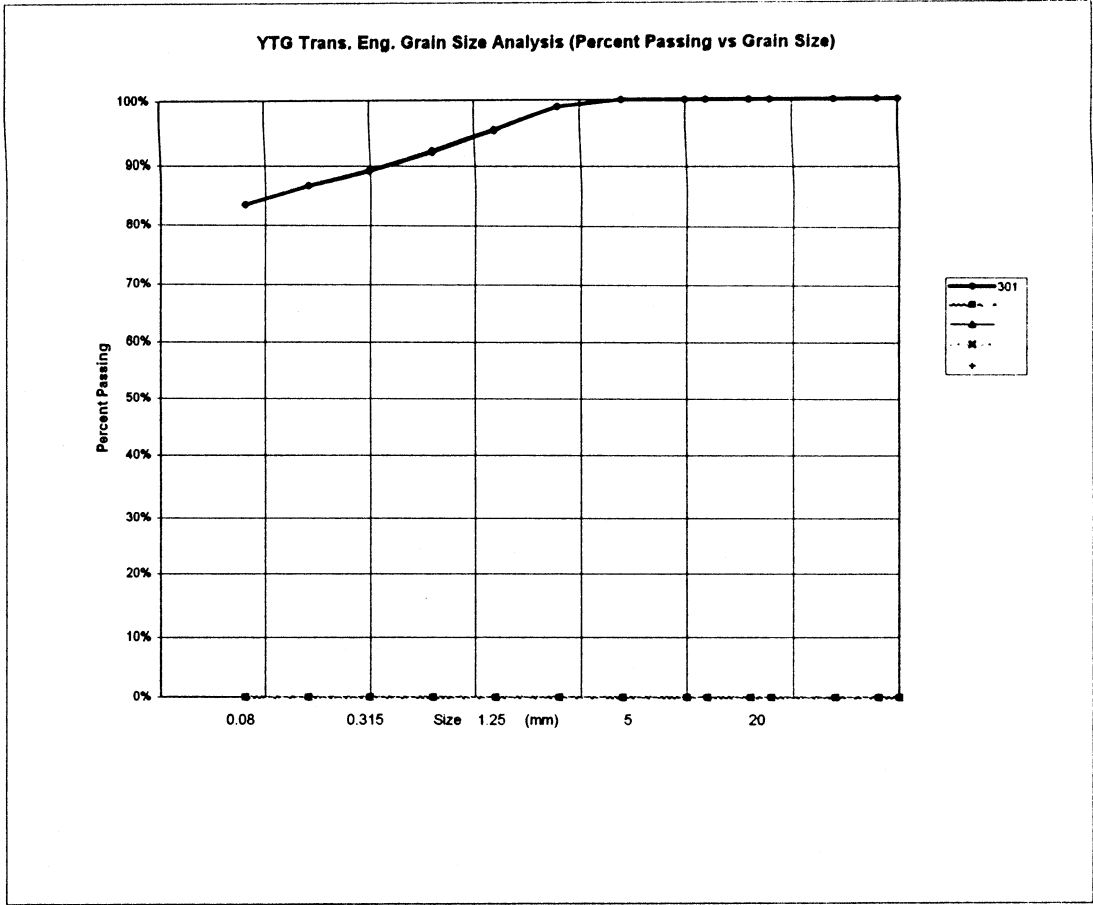


PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-460
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1809+825 CENTRELINE
 LOGGED BY: G.C. DATE COMP 09-05-03

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	99%
1.25	95%
0.630	92%
0.315	89%
0.160	87%
0.080	84%

M.C.(%)	74%
LIMITS	
LIQUID:	0.0
PLASTIC:	0.0
P.I.:	0.0
% GRAVEL:	0
% SAND:	16
% FINES:	84

CLASSIFICATION:
SILT WITH SAND (ML)

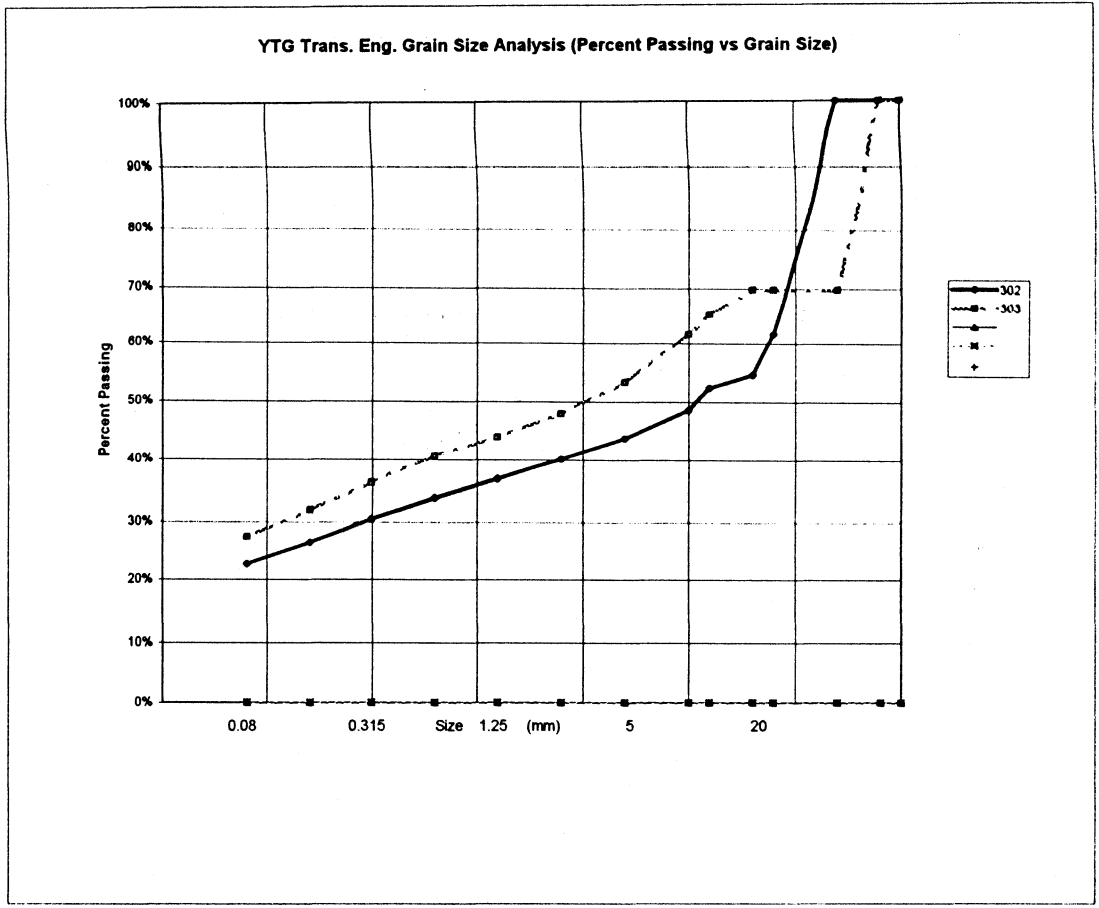


PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-461
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1809+740 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-04

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH	TYPE
302	318	1.0-1.4	AUGER	303	319	2.5-3.0	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	70%
25.0	62%	25.0	70%
20.0	55%	20.0	70%
12.5	52%	12.5	65%
10.0	49%	10.0	62%
5.0	44%	5.0	53%
2.5	40%	2.5	48%
1.25	37%	1.25	44%
0.630	34%	0.630	41%
0.315	30%	0.315	38%
0.160	26%	0.160	32%
0.080	23%	0.080	27%

M.C.(%):	4%	M.C.(%):	6%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	56	% GRAVEL:	47
% SAND:	21	% SAND:	26
% FINES:	23	% FINES:	27
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

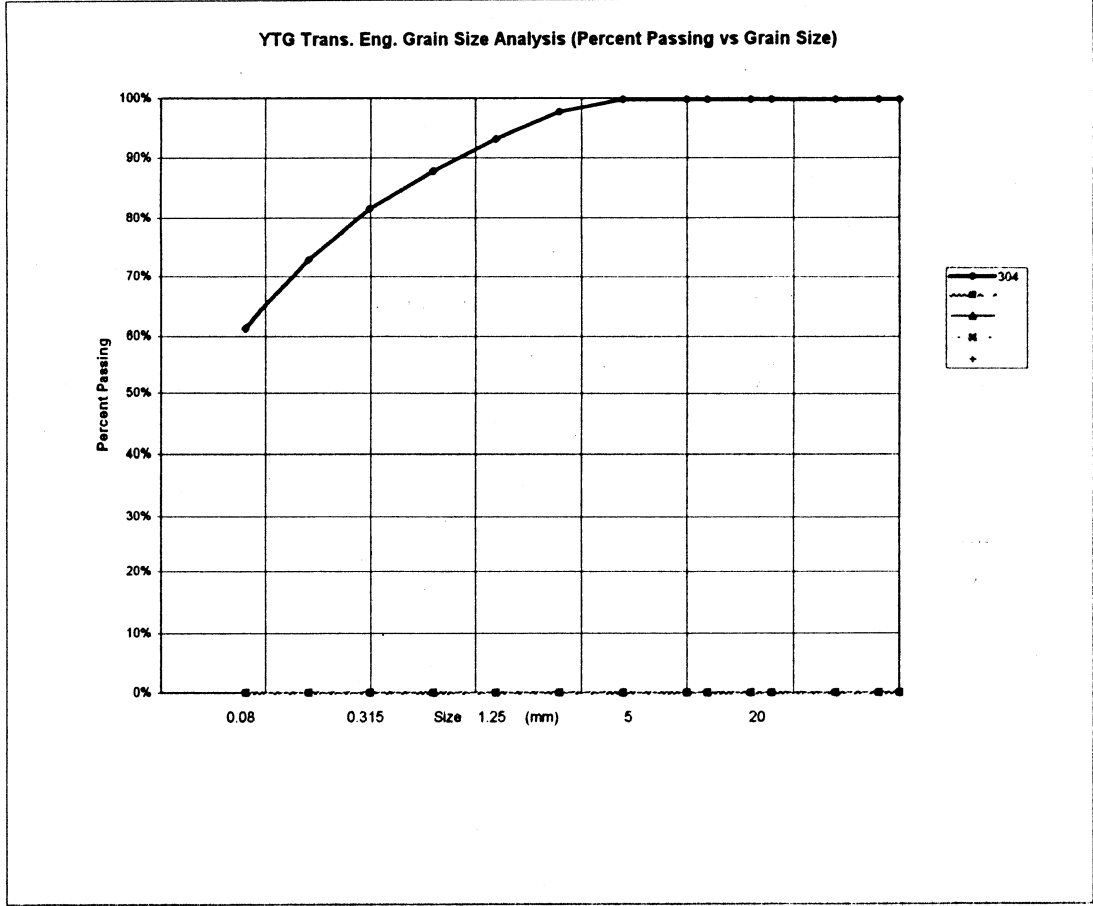


PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-462
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1809+670 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-04

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	98%
1.25	93%
0.630	88%
0.315	81%
0.160	73%
0.080	61%

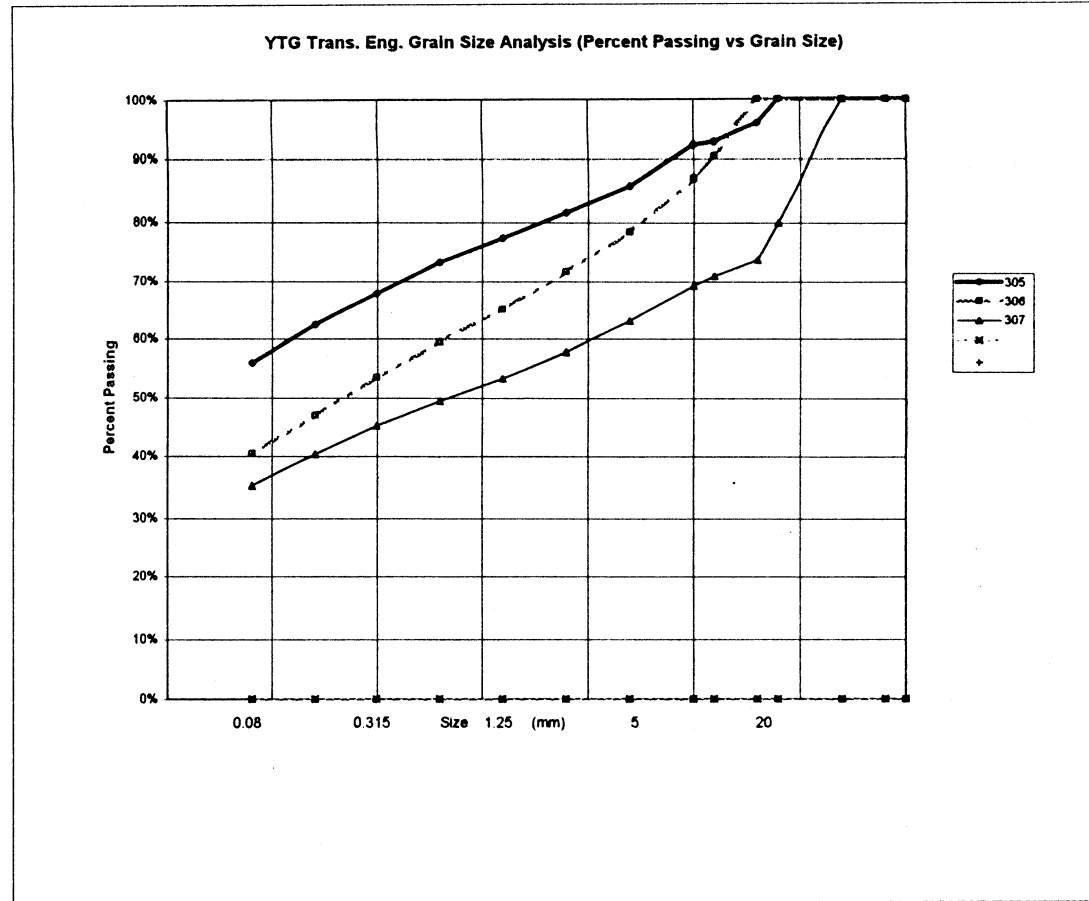
M.C. (%)	282%
LIMITS	
LIQUID:	0.0
PLASTIC:	0.0
P.I.:	0.0
% GRAVEL:	0
% SAND:	39
% FINES:	61

CLASSIFICATION:
SANDY SILT (ML)



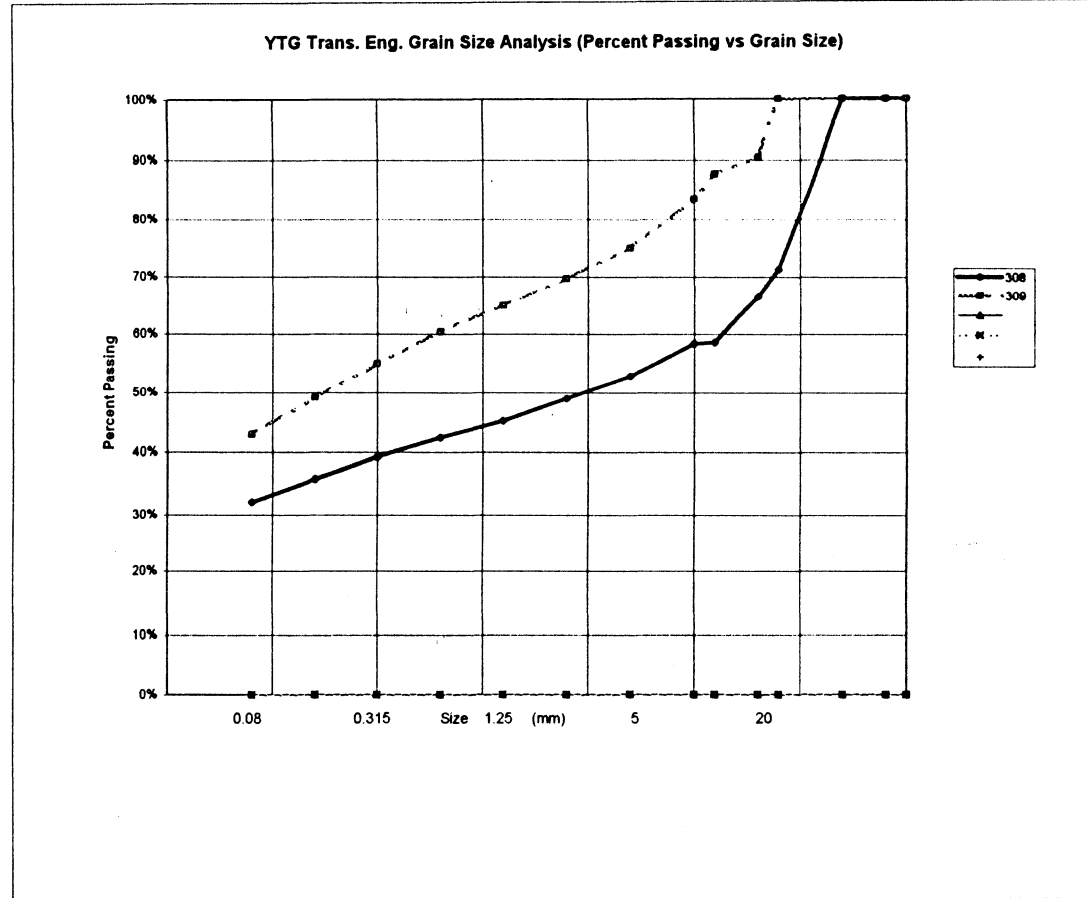
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-483
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1809+575 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-04

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
305	321	0.8-1.0	AUGER	306	322	1.8-2.0	AUGER	307	323	2.8-3.0	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	100%	25.0	80%	25.0	80%	25.0	80%
20.0	96%	20.0	100%	20.0	100%	20.0	74%	20.0	74%	20.0	74%
12.5	93%	12.5	90%	12.5	90%	12.5	71%	12.5	71%	12.5	71%
10.0	92%	10.0	87%	10.0	87%	10.0	69%	10.0	69%	10.0	69%
5.0	86%	5.0	78%	5.0	78%	5.0	63%	5.0	63%	5.0	63%
2.5	82%	2.5	72%	2.5	72%	2.5	58%	2.5	58%	2.5	58%
1.25	77%	1.25	65%	1.25	65%	1.25	53%	1.25	53%	1.25	53%
0.630	73%	0.630	60%	0.630	60%	0.630	50%	0.630	50%	0.630	50%
0.315	68%	0.315	54%	0.315	54%	0.315	45%	0.315	45%	0.315	45%
0.160	62%	0.160	47%	0.160	47%	0.160	40%	0.160	40%	0.160	40%
0.080	56%	0.080	40%	0.080	40%	0.080	35%	0.080	35%	0.080	35%
M.C. (%)	13%	M.C. (%)	13%	M.C. (%)	8%	M.C. (%)	8%	M.C. (%)	8%	M.C. (%)	8%
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	14	% GRAVEL:	22	% GRAVEL:	37	% GRAVEL:	37	% GRAVEL:	37	% GRAVEL:	37
% SAND:	30	% SAND:	38	% SAND:	28	% SAND:	28	% SAND:	28	% SAND:	28
% FINES:	56	% FINES:	40	% FINES:	35	% FINES:	35	% FINES:	35	% FINES:	35
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SANDY SILT (ML)		SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	



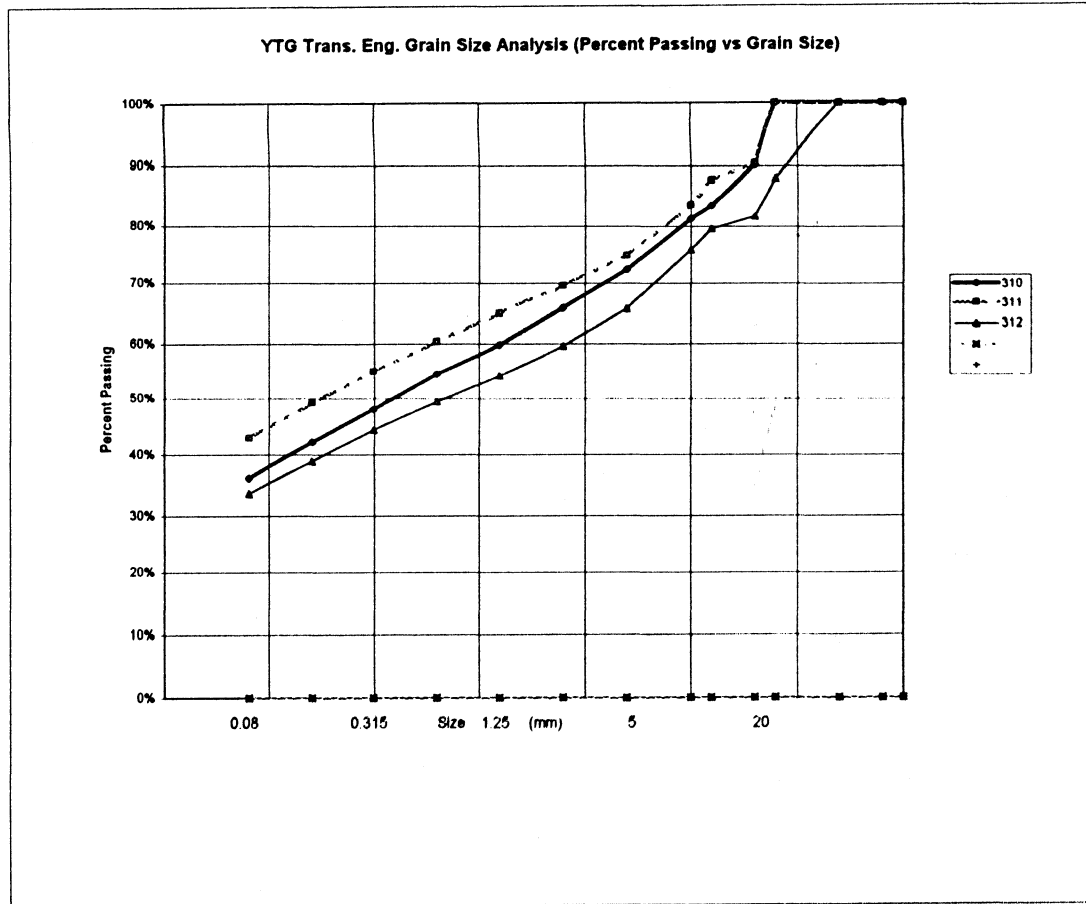
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-464
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1809+475 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-04

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	71%	25.0	100%
20.0	66%	20.0	90%
12.5	59%	12.5	88%
10.0	58%	10.0	84%
5.0	53%	5.0	75%
2.5	49%	2.5	70%
1.25	45%	1.25	65%
0.630	42%	0.630	60%
0.315	39%	0.315	55%
0.160	36%	0.160	49%
0.080	32%	0.080	43%
M.C.(%): 20%		M.C.(%): 18%	
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	47	% GRAVEL:	25
% SAND:	21	% SAND:	32
% FINES:	32	% FINES:	43
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-465
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1809+425 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-08

FIELD NO: 310		FIELD No. 311		FIELD No: 312	
LAB NO:	326	LAB No.	327	LAB No:	328
DEPTH:	1.0-1.5	DEPTH:	2.5-3.0	DEPTH:	4.0-4.5
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	100%	25.0	88%
20.0	80%	20.0	90%	20.0	82%
12.5	84%	12.5	88%	12.5	80%
10.0	81%	10.0	84%	10.0	76%
5.0	72%	5.0	75%	5.0	66%
2.5	66%	2.5	70%	2.5	60%
1.25	60%	1.25	65%	1.25	54%
0.830	55%	0.830	60%	0.830	49%
0.315	48%	0.315	55%	0.315	44%
0.160	42%	0.160	49%	0.160	39%
0.080	36%	0.080	43%	0.080	33%
M.C.(%):	7%	M.C.(%):	18%	M.C.(%):	10%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	28	% GRAVEL:	25	% GRAVEL:	34
% SAND:	36	% SAND:	32	% SAND:	32
% FINES:	36	% FINES:	43	% FINES:	33
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)	

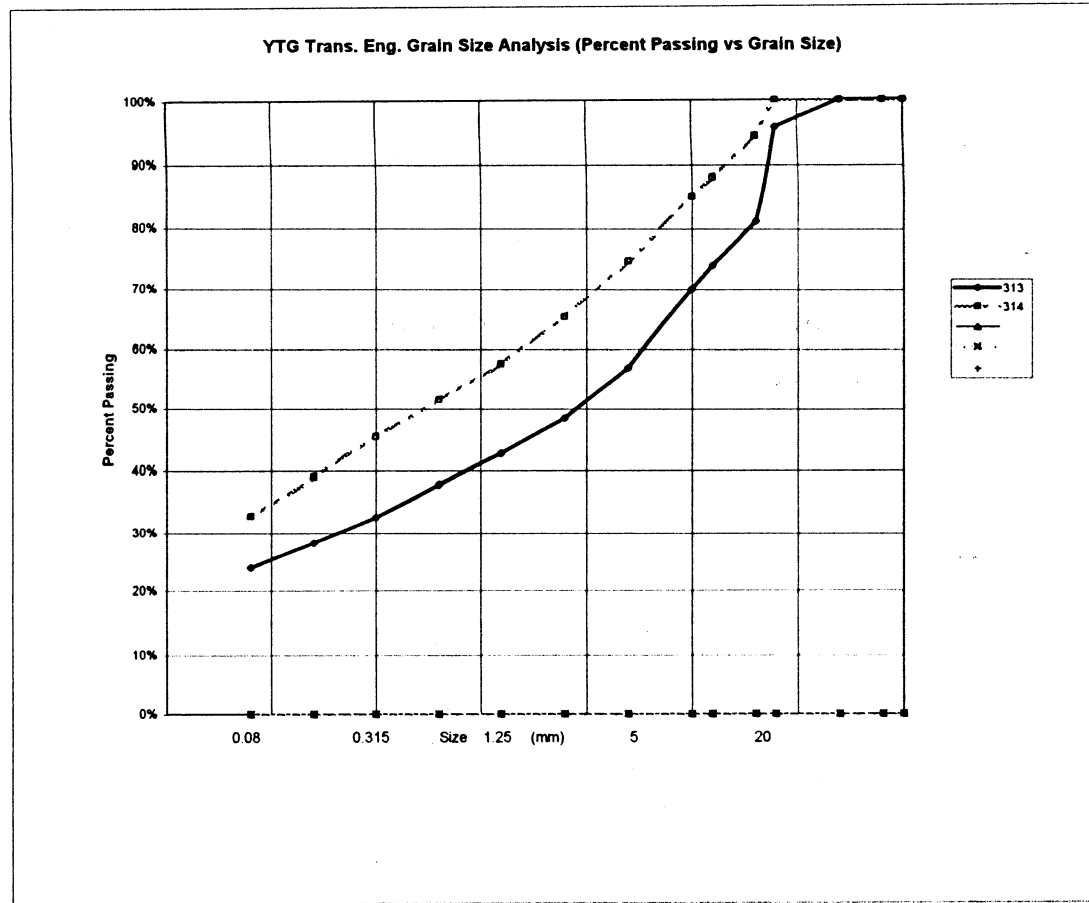


PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-486
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1809+325 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-05-25 ⁰⁴

FIELD NO:	313	FIELD No.	314
LAB NO:	329	LAB No.	330
DEPTH:	1.8-2.0	DEPTH	2.8-3.0
TYPE:	AUGER	TYPE	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	95%	25.0	100%
20.0	81%	20.0	94%
12.5	74%	12.5	88%
10.0	70%	10.0	85%
5.0	57%	5.0	75%
2.5	49%	2.5	65%
1.25	43%	1.25	58%
0.630	38%	0.630	52%
0.315	33%	0.315	45%
0.160	28%	0.160	39%
0.080	24%	0.080	33%

M.C.(%):	11%	M.C.(%):	12%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	43	% GRAVEL:	25
% SAND:	33	% SAND:	42
% FINES:	24	% FINES:	33
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-467
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1809+285 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-05-03

FIELD NO:	315
LAB NO:	331
DEPTH:	2.6-3.0
TYPE:	AUGER

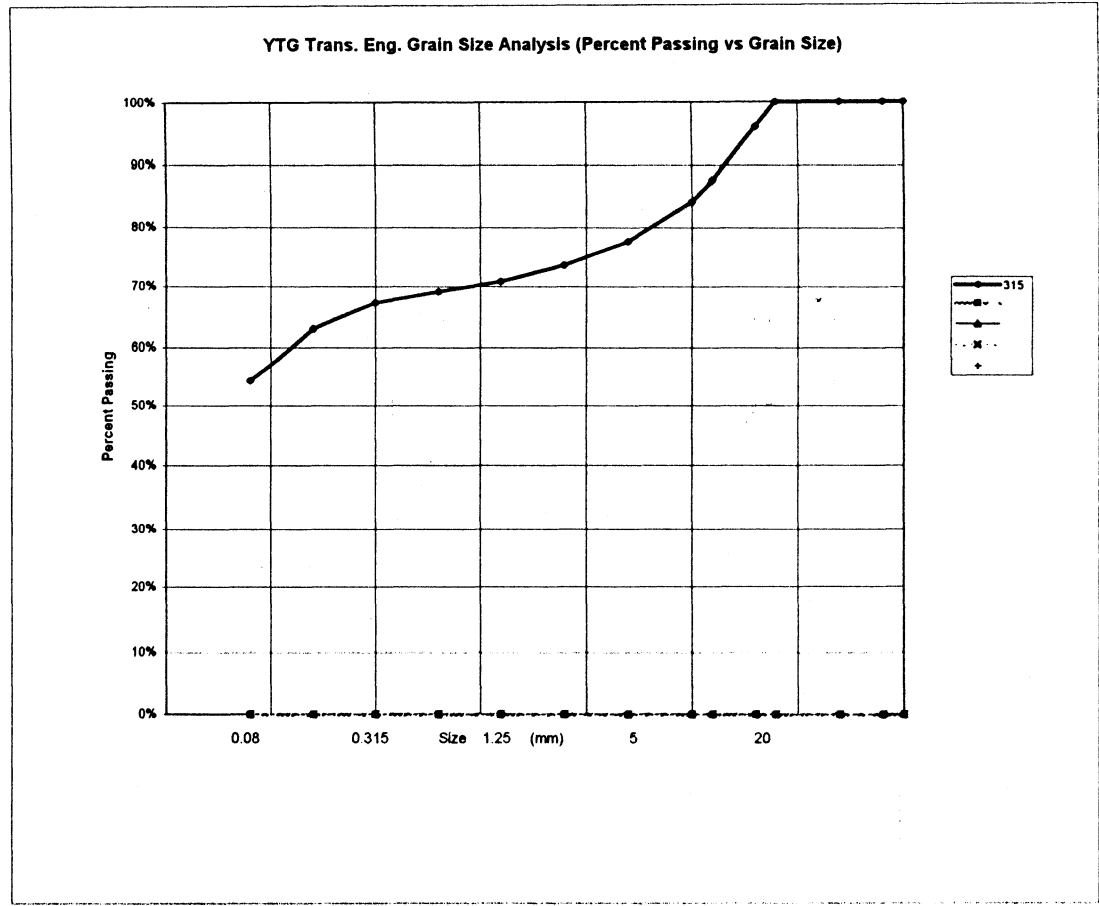
SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	100%
20.0	96%
12.5	86%
10.0	84%
5.0	78%
2.5	74%
1.25	71%
0.630	69%
0.315	67%
0.160	63%
0.080	54%

M.C. (%):	27%
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LIMITS	
LIQUID:	0.0
PLASTIC:	0.0
P.I.:	0.0

% GRAVEL:	22
% SAND:	23
% FINES:	54

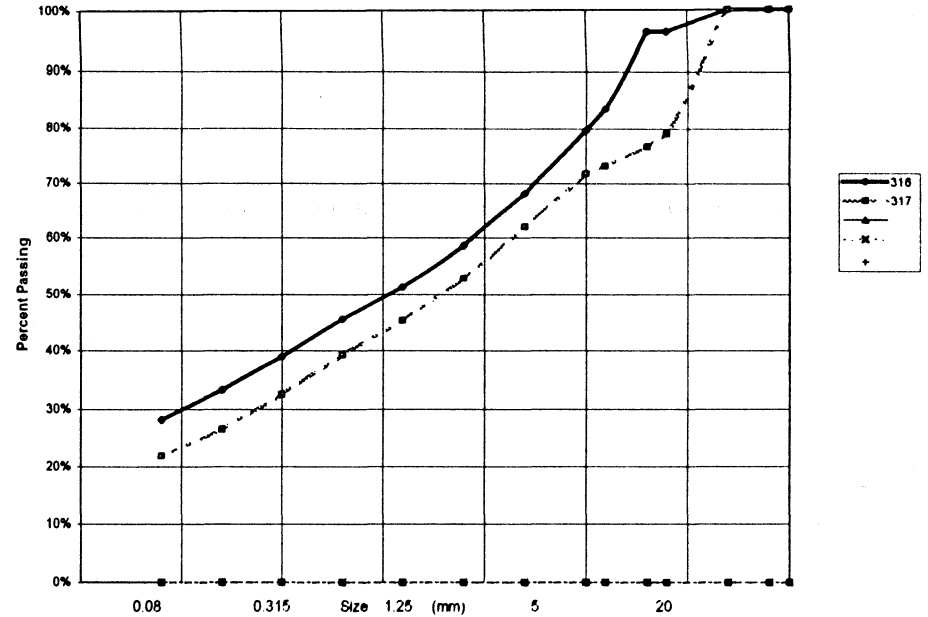
CLASSIFICATION:	SANDY SILT WITH GRAVEL (ML)
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PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-468
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1809+200 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-08

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	96%	25.0	79%
20.0	96%	20.0	77%
12.5	84%	12.5	73%
10.0	80%	10.0	72%
5.0	68%	5.0	62%
2.5	59%	2.5	53%
1.25	51%	1.25	45%
0.630	45%	0.630	39%
0.315	39%	0.315	32%
0.160	33%	0.160	27%
0.080	28%	0.080	22%
M.C. (%)	10%	M.C. (%)	8%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	32	% GRAVEL:	38
% SAND:	40	% SAND:	40
% FINES:	28	% FINES:	22
CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	

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

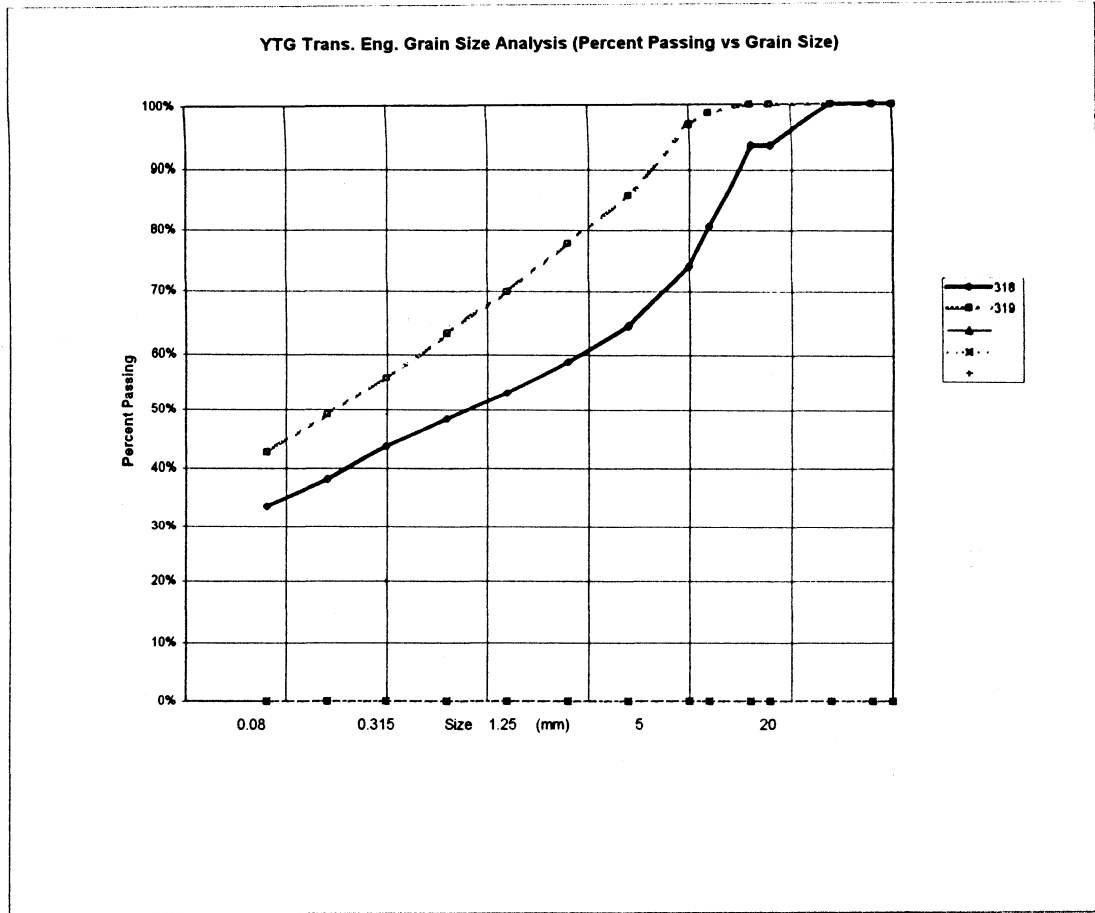


PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-469
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1809+100 CENTRELIN	DATE COMP	99-05-05
LOGGED BY:	G.C.		

FIELD NO:	PERCENT PASSING	FIELD No.	PERCENT PASSING
318		319	
LAB NO: 334		LAB No. 335	
DEPTH: 1.8-2.0		DEPTH 3.0-4.0	
TYPE: AUGER		TYPE AUGER	

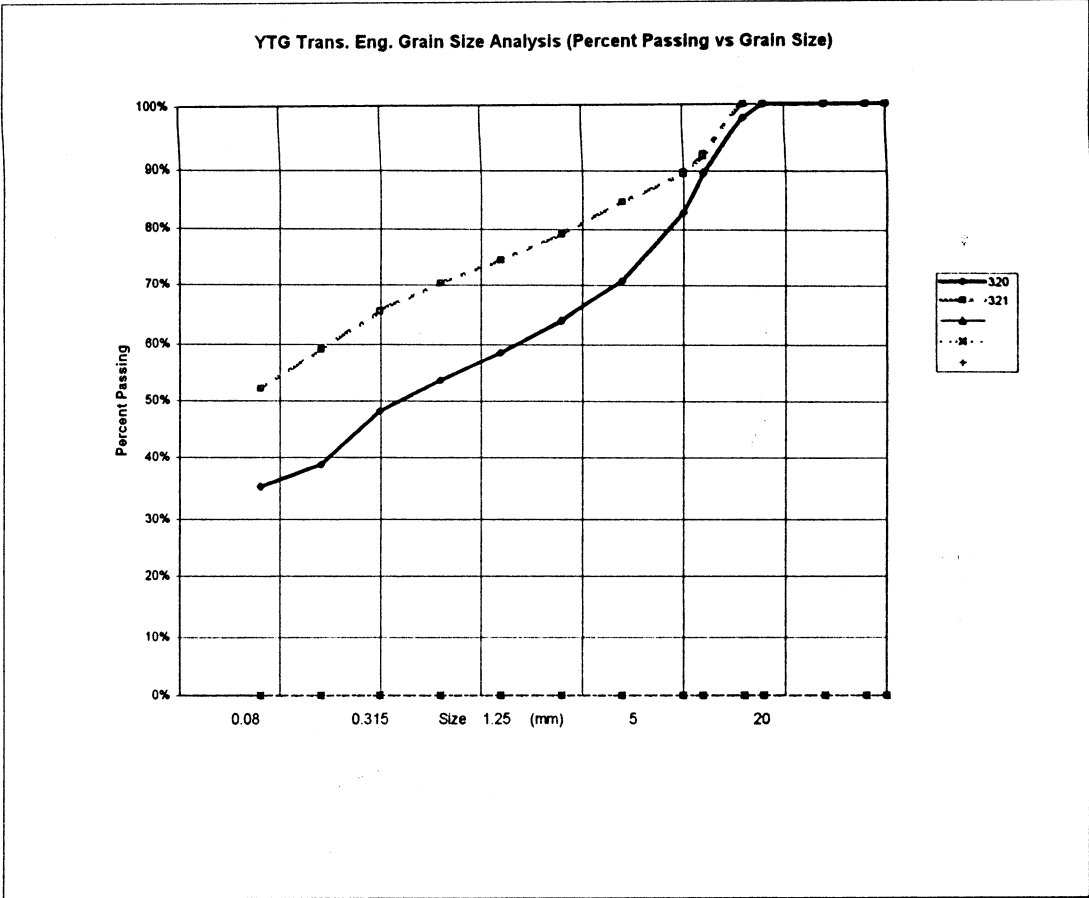
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	94%	25.0	100%
20.0	94%	20.0	100%
12.5	81%	12.5	99%
10.0	74%	10.0	97%
5.0	64%	5.0	86%
2.5	59%	2.5	78%
1.25	53%	1.25	70%
0.630	48%	0.630	63%
0.315	44%	0.315	56%
0.160	38%	0.160	49%
0.080	34%	0.080	43%

M.C.(%):	17%	M.C.(%):	14%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	36	% GRAVEL:	14
% SAND:	31	% SAND:	43
% FINES:	34	% FINES:	43
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND (SM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-470
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1809+025 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-04

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	100%
20.0	98%	20.0	100%
12.5	90%	12.5	92%
10.0	83%	10.0	90%
5.0	71%	5.0	85%
2.5	64%	2.5	79%
1.25	59%	1.25	74%
0.630	54%	0.630	70%
0.315	48%	0.315	65%
0.160	39%	0.160	59%
0.080	35%	0.080	52%
M.C.(%):	14%	M.C.(%):	17%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	29	% GRAVEL:	15
% SAND:	36	% SAND:	33
% FINES:	35	% FINES:	52
CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SANDY SILT WITH GRAVEL (ML)	



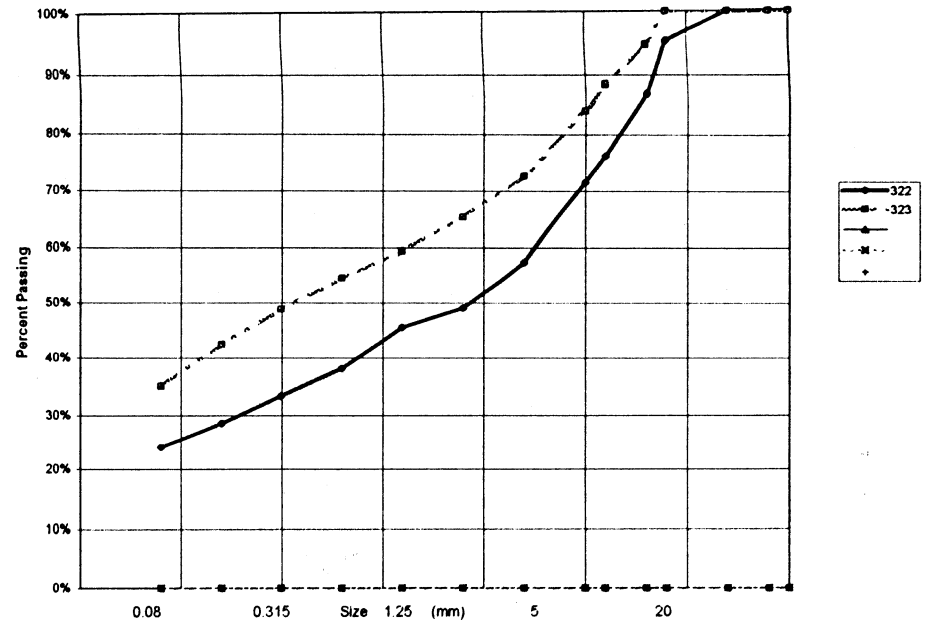
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-471
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1808+950 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-04

FIELD NO:	322	FIELD No.	323
LAB NO:	338	LAB No.	339
DEPTH:	1.3-1.5	DEPTH	2.8-3.0
TYPE:	AUGER	TYPE	AUGER

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	95%	25.0	100%
20.0	87%	20.0	94%
12.5	76%	12.5	89%
10.0	72%	10.0	84%
5.0	58%	5.0	73%
2.5	49%	2.5	65%
1.25	45%	1.25	58%
0.630	38%	0.630	55%
0.315	33%	0.315	49%
0.160	29%	0.160	43%
0.080	24%	0.080	35%

M.C. (%):	10%	M.C. (%):	13%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	42	% GRAVEL:	27
% SAND:	33	% SAND:	38
% FINES:	24	% FINES:	35
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)	

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-472
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1808+850 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-04

FIELD NO: 324
 LAB NO: 340
 DEPTH: 1.8-2.0
 TYPE: AUGER

SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	90%
20.0	88%
12.5	86%
10.0	82%
5.0	71%
2.5	63%
1.25	57%
0.630	52%
0.315	46%
0.160	41%
0.080	36%

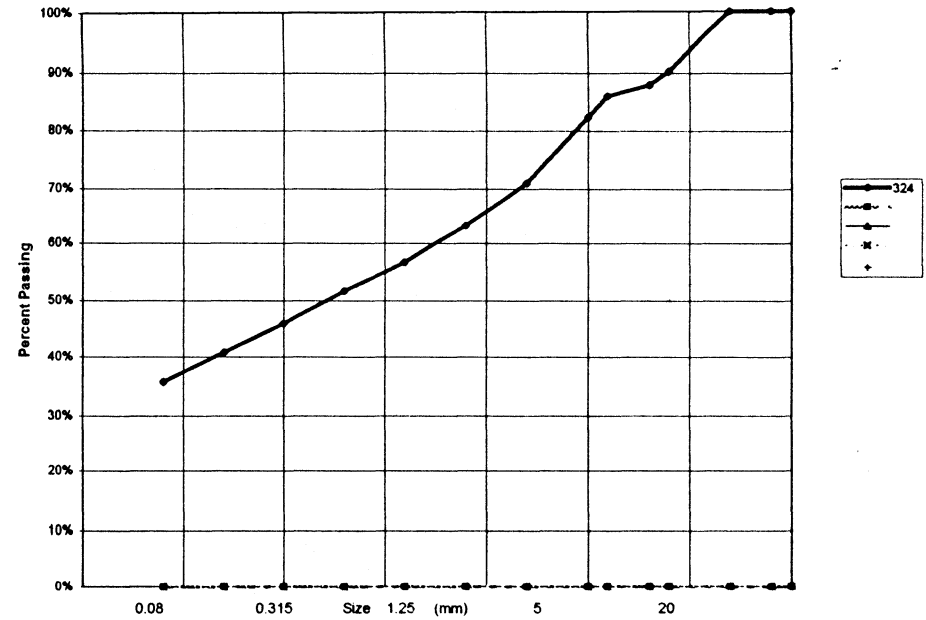
M.C.(%): 14%

LIMITS
 LIQUID: 0.0
 PLASTIC: 0.0
 P.I.: 0.0

% GRAVEL: 29
 % SAND: 35
 % FINES: 36

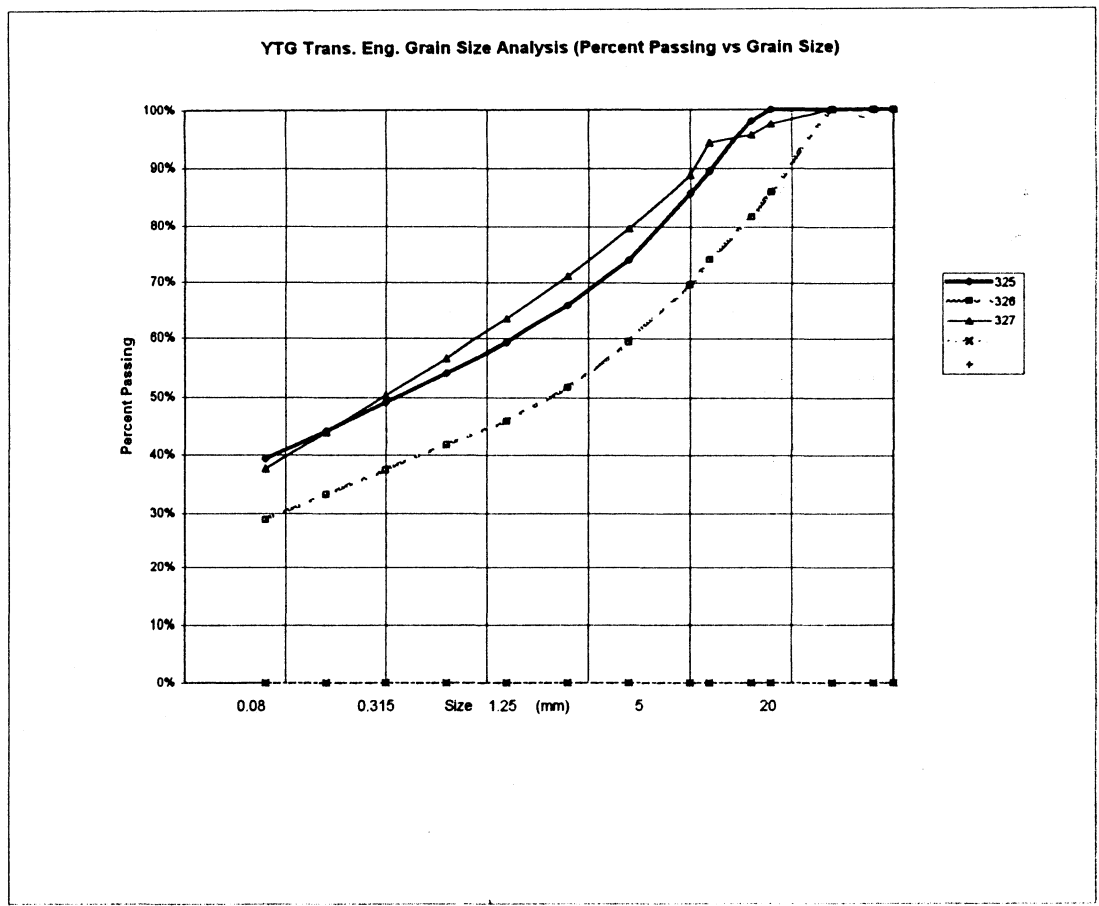
CLASSIFICATION:
 SILTY SAND WITH GRAVEL (SM)

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-482
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nadwell
 HOLE LOCATION: 1808+750 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-05

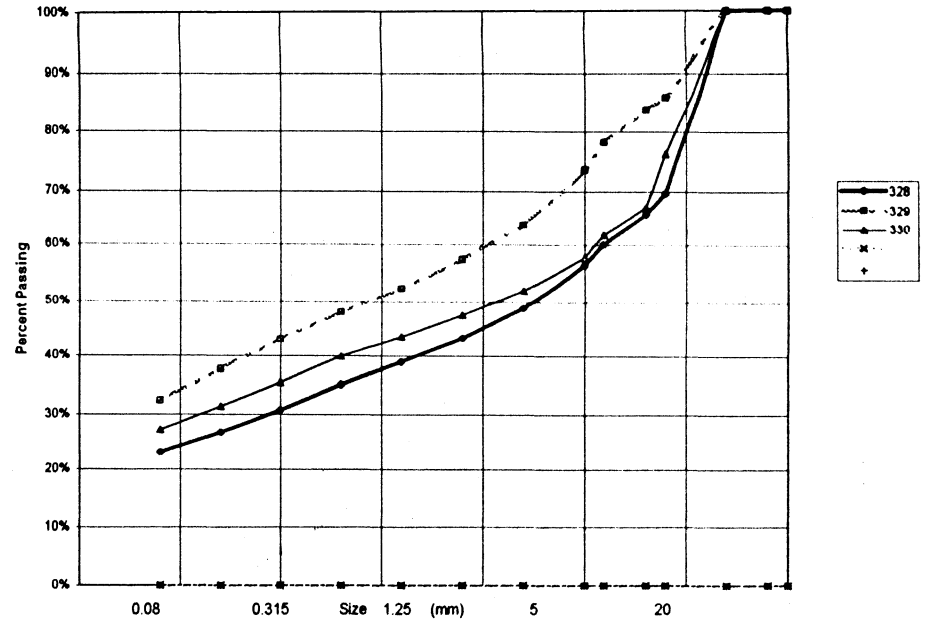
FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
325	341	1.2-1.5	AUGER	326	342	2.8-3.0	AUGER	327	343	3.6-4.0	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	86%	25.0	97%	25.0	95%	25.0	97%	25.0	95%
20.0	98%	20.0	82%	20.0	95%	20.0	94%	20.0	95%	20.0	94%
12.5	90%	12.5	74%	12.5	94%	12.5	94%	12.5	94%	12.5	94%
10.0	86%	10.0	70%	10.0	89%	10.0	89%	10.0	89%	10.0	89%
5.0	74%	5.0	59%	5.0	80%	5.0	80%	5.0	80%	5.0	80%
2.5	66%	2.5	52%	2.5	71%	2.5	71%	2.5	71%	2.5	71%
1.25	59%	1.25	46%	1.25	63%	1.25	63%	1.25	63%	1.25	63%
0.630	54%	0.630	42%	0.630	57%	0.630	57%	0.630	57%	0.630	57%
0.315	49%	0.315	37%	0.315	50%	0.315	50%	0.315	50%	0.315	50%
0.160	44%	0.160	33%	0.160	44%	0.160	44%	0.160	44%	0.160	44%
0.080	39%	0.080	29%	0.080	38%	0.080	38%	0.080	38%	0.080	38%
M.C.(%)	15%	M.C.(%)	13%	M.C.(%)	14%	M.C.(%)	14%	M.C.(%)	14%	M.C.(%)	14%
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	26	% GRAVEL:	41	% GRAVEL:	20	% GRAVEL:	20	% GRAVEL:	20	% GRAVEL:	20
% SAND:	35	% SAND:	31	% SAND:	42	% SAND:	42	% SAND:	42	% SAND:	42
% FINES:	39	% FINES:	29	% FINES:	38	% FINES:	38	% FINES:	38	% FINES:	38
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-483
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1808+673 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-06

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
328	344	1.3-1.5	AUGER	329	345	2.8-3.0	AUGER	330	346	3.8-4.0	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	70%	25.0	86%	25.0	86%	25.0	76%	25.0	76%	25.0	76%
20.0	66%	20.0	84%	20.0	84%	20.0	67%	20.0	67%	20.0	67%
12.5	60%	12.5	78%	12.5	78%	12.5	62%	12.5	62%	12.5	62%
10.0	57%	10.0	73%	10.0	73%	10.0	58%	10.0	58%	10.0	58%
5.0	49%	5.0	64%	5.0	64%	5.0	52%	5.0	52%	5.0	52%
2.5	43%	2.5	58%	2.5	58%	2.5	47%	2.5	47%	2.5	47%
1.25	39%	1.25	52%	1.25	52%	1.25	43%	1.25	43%	1.25	43%
0.630	35%	0.630	48%	0.630	48%	0.630	40%	0.630	40%	0.630	40%
0.315	31%	0.315	43%	0.315	43%	0.315	35%	0.315	35%	0.315	35%
0.160	27%	0.160	38%	0.160	38%	0.160	31%	0.160	31%	0.160	31%
0.080	23%	0.080	32%	0.080	32%	0.080	27%	0.080	27%	0.080	27%
M.C. (%)	5%	M.C. (%)	8%	M.C. (%)	7%	M.C. (%)	7%	M.C. (%)	7%	M.C. (%)	7%
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	51	% GRAVEL:	36	% GRAVEL:	48	% GRAVEL:	48	% GRAVEL:	48	% GRAVEL:	48
% SAND:	26	% SAND:	32	% SAND:	25	% SAND:	25	% SAND:	25	% SAND:	25
% FINES:	23	% FINES:	32	% FINES:	27	% FINES:	27	% FINES:	27	% FINES:	27
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

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



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-484
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1808+575 CENTRELINE	DATE COMP	99-05-25
LOGGED BY:	G.C.		

FIELD NO:	331	FIELD No.	332
LAB NO:	347	LAB No.	348
DEPTH:	1.8-2.0	DEPTH	2.8-3.0
TYPE:	AUGER	TYPE	AUGER

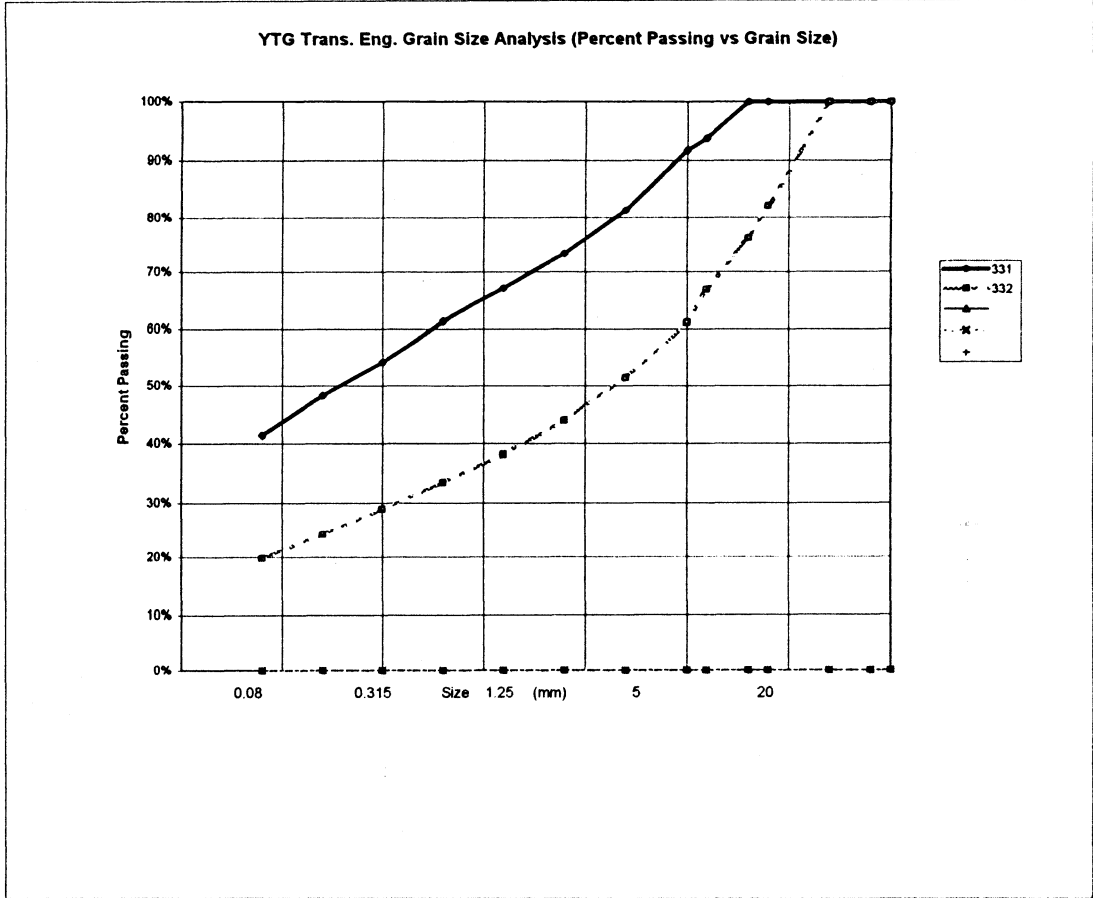
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	82%
20.0	100%	20.0	76%
12.5	94%	12.5	67%
10.0	92%	10.0	61%
5.0	81%	5.0	51%
2.5	73%	2.5	44%
1.25	67%	1.25	38%
0.630	61%	0.630	33%
0.315	54%	0.315	29%
0.160	48%	0.160	24%
0.080	41%	0.080	20%

M.C. (%):	14%	M.C. (%):	10%
-----------	-----	-----------	-----

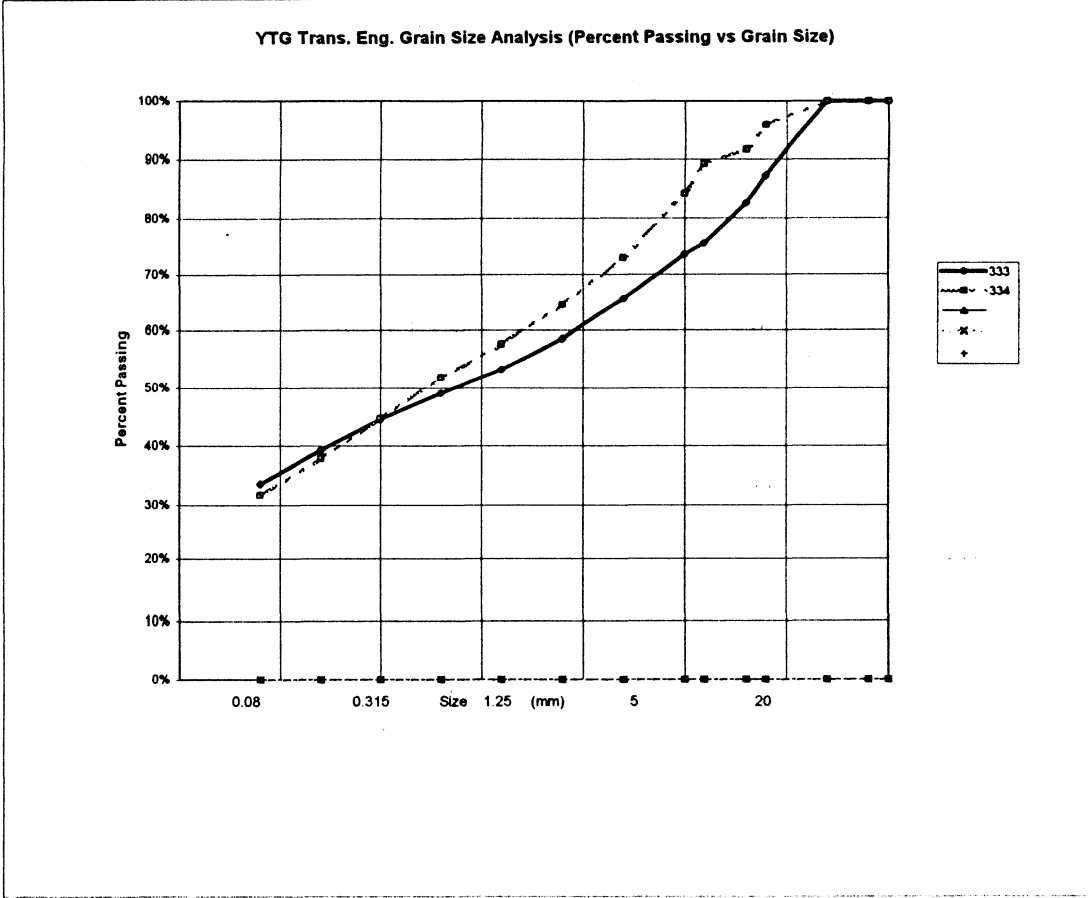
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	19	% GRAVEL:	49
% SAND:	40	% SAND:	32
% FINES:	41	% FINES:	20

CLASSIFICATION:	CLASSIFICATION:
SILTY SAND WITH GRAVEL (SM)	SILTY GRAVEL WITH SAND (GM)



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-485
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1808+510 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-05-05 ^{of}
=====			
FIELD NO:	333	FIELD No.	334
LAB NO:	349	LAB No.	350
DEPTH:	1.6-2.0	DEPTH	2.6-3.0
TYPE:	AUGER	TYPE	AUGER
=====			
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	87%	25.0	96%
20.0	83%	20.0	92%
12.5	75%	12.5	89%
10.0	73%	10.0	84%
5.0	65%	5.0	73%
2.5	59%	2.5	64%
1.25	53%	1.25	58%
0.630	49%	0.630	52%
0.315	44%	0.315	45%
0.160	39%	0.160	38%
0.080	34%	0.080	32%
=====			
M.C. (%):	13%	M.C. (%):	11%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	35	% GRAVEL:	27
% SAND:	32	% SAND:	41
% FINES:	34	% FINES:	32
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-486
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1789-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1808+420 CENTRELINE	DATE COMP	99-05-05
LOGGED BY:	G.C.		

FIELD NO:	335
LAB NO:	351
DEPTH:	1.2-1.5
TYPE:	AUGER

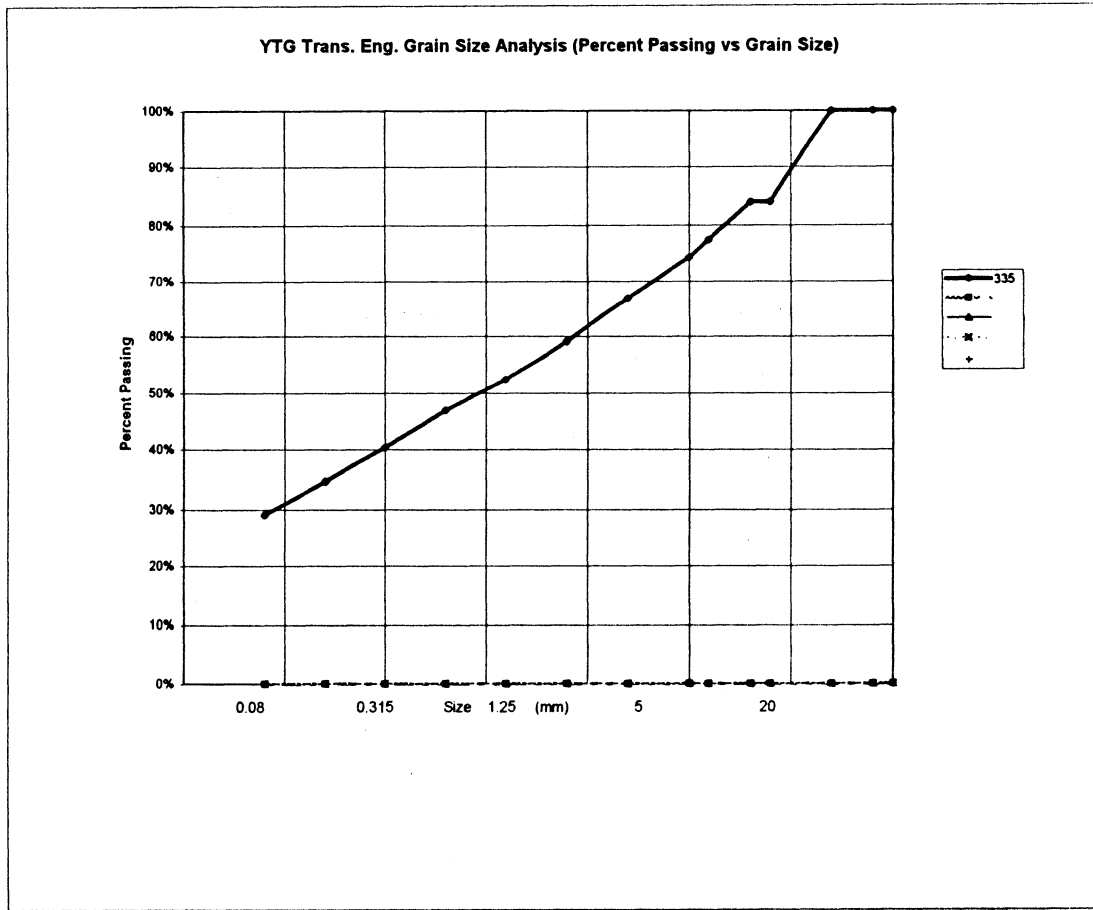
SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	84%
20.0	84%
12.5	77%
10.0	74%
5.0	67%
2.5	59%
1.25	53%
0.630	47%
0.315	40%
0.160	35%
0.080	29%

M.C. (%)	9%
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LIMITS	
LIQUID:	0.0
PLASTIC:	0.0
P.I.:	0.0

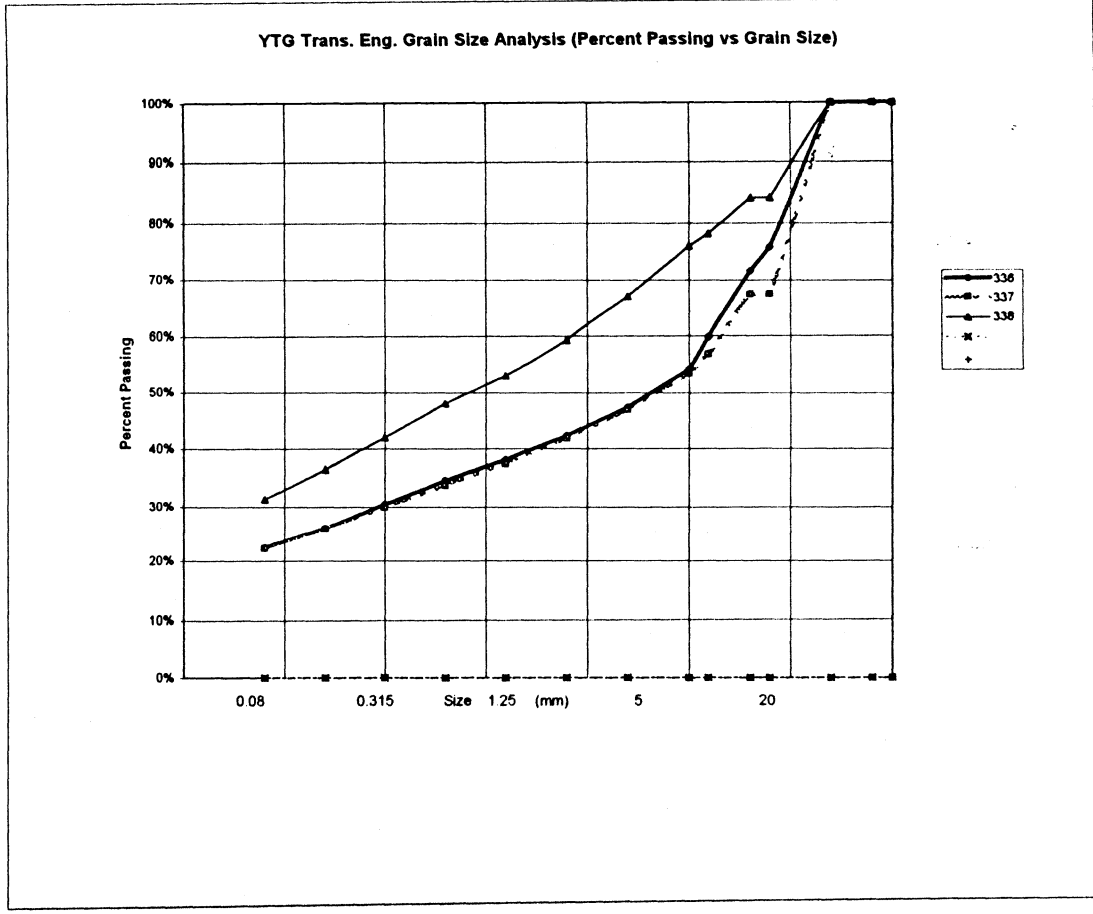
% GRAVEL:	33
% SAND:	38
% FINES:	29

CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)	



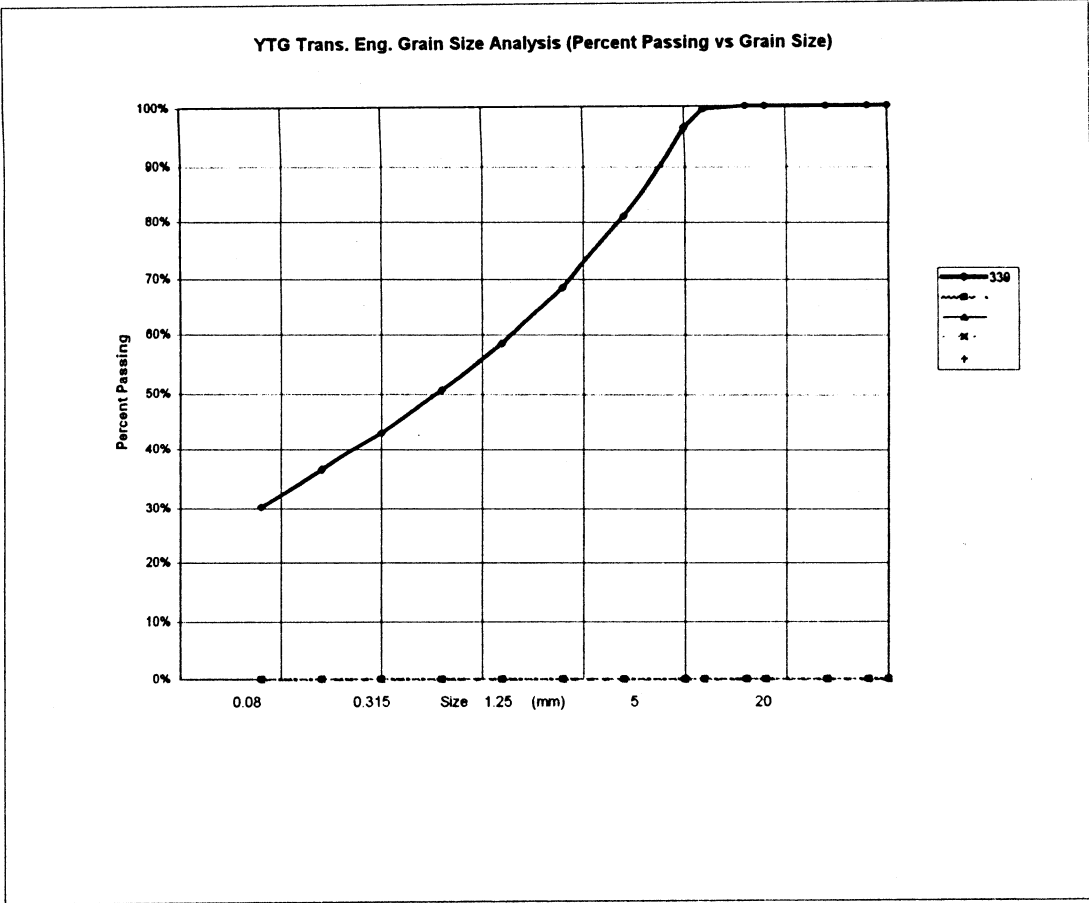
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-487
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1808+300 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-05

FIELD NO: 336		FIELD No. 337		FIELD No: 338	
LAB NO: 352		LAB No. 353		LAB No: 354	
DEPTH: 1.2-1.5		DEPTH 2.5-3.0		DEPTH: 3.8-4.0	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	76%	25.0	67%	25.0	84%
20.0	72%	20.0	67%	20.0	84%
12.5	60%	12.5	57%	12.5	78%
10.0	54%	10.0	54%	10.0	76%
5.0	47%	5.0	47%	5.0	67%
2.5	42%	2.5	42%	2.5	59%
1.25	38%	1.25	37%	1.25	53%
0.630	35%	0.630	34%	0.630	48%
0.315	31%	0.315	30%	0.315	42%
0.160	26%	0.160	26%	0.160	36%
0.080	22%	0.080	22%	0.080	31%
M.C.(%): 5%		M.C.(%): 7%		M.C.(%): 7%	
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	53	% GRAVEL:	53	% GRAVEL:	33
% SAND:	25	% SAND:	25	% SAND:	38
% FINES:	22	% FINES:	22	% FINES:	31
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-473
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1808+220 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-05

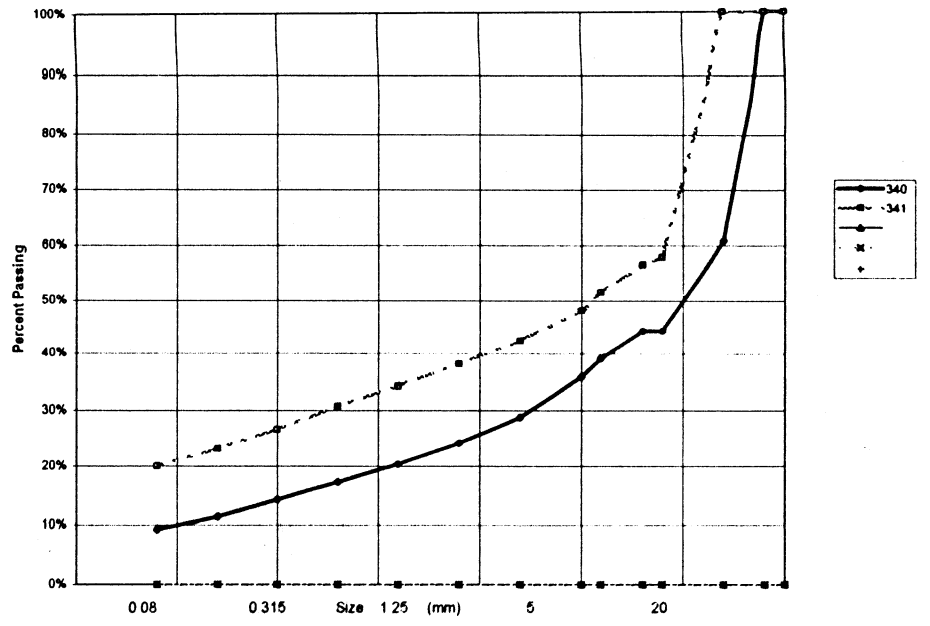
SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	100%
20.0	100%
12.5	99%
10.0	96%
5.0	81%
2.5	69%
1.25	58%
0.630	51%
0.315	43%
0.160	37%
0.080	30%
M.C. (%): 12%	
LIMITS	
LIQUID:	0.0
PLASTIC:	0.0
P.I.:	0.0
% GRAVEL:	19
% SAND:	51
% FINES:	30
CLASSIFICATION: SILTY SAND WITH GRAVEL (SM)	



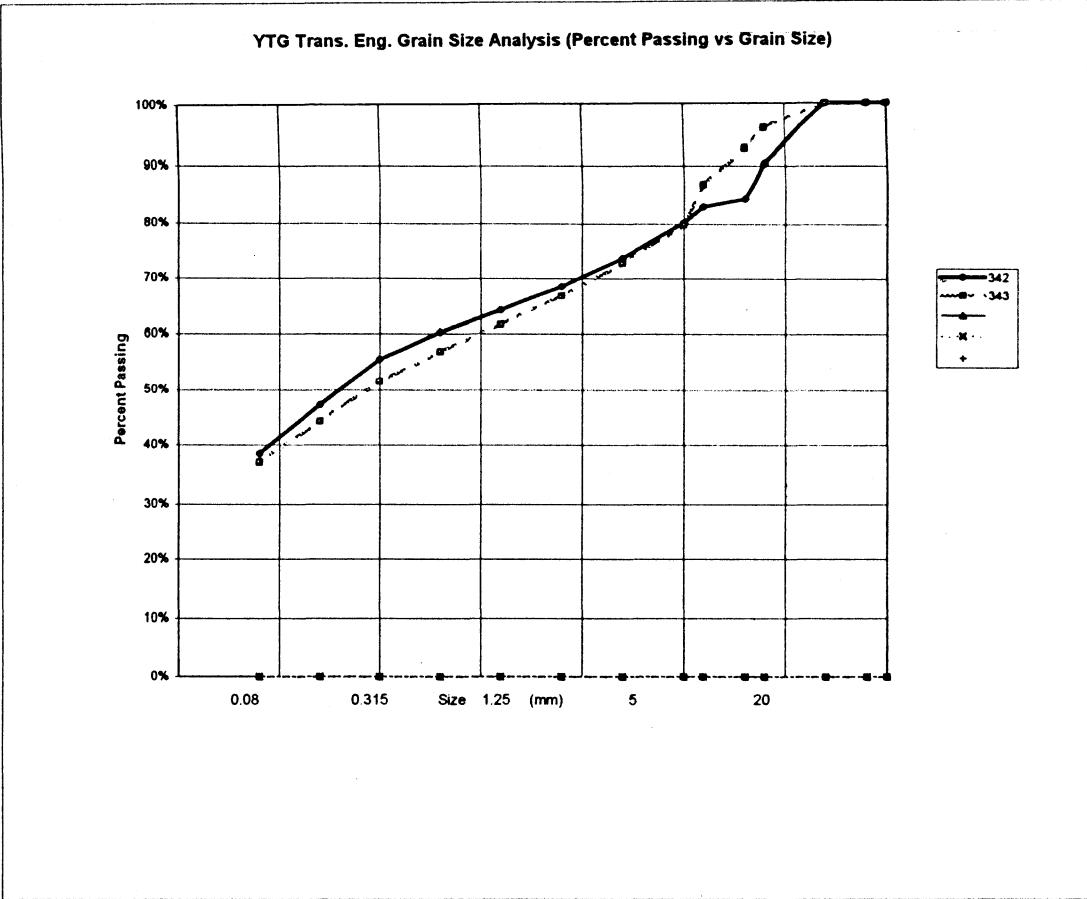
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-474
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1808+125 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-05

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	61%	50.0	100%
25.0	44%	25.0	58%
20.0	44%	20.0	57%
12.5	39%	12.5	52%
10.0	36%	10.0	48%
5.0	29%	5.0	42%
2.5	24%	2.5	38%
1.25	20%	1.25	34%
0.630	17%	0.630	31%
0.315	14%	0.315	27%
0.160	11%	0.160	23%
0.080	9%	0.080	20%
M.C. (%):	6%	M.C. (%):	7%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	71	% GRAVEL:	58
% SAND:	20	% SAND:	22
% FINES:	9	% FINES:	20
CLASSIFICATION:		CLASSIFICATION:	
WELL-GRADED GRAVEL WITH SILT & SAND (GW-GM)		SILTY GRAVEL WITH SAND (GM)	

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



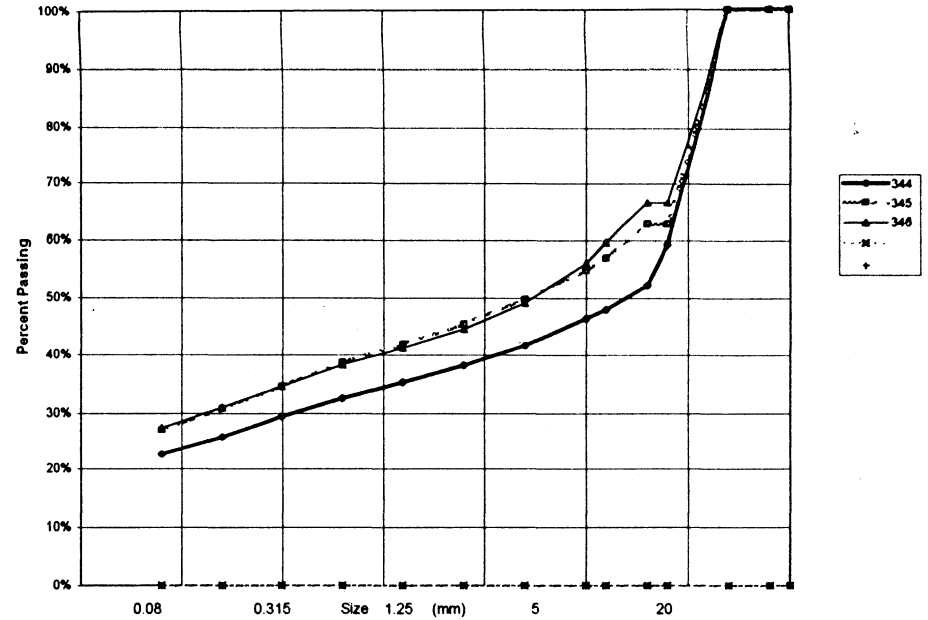
PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-475
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1808+040 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-05-05
=====			
FIELD NO:	342	FIELD No.	343
LAB NO:	358	LAB No.	359
DEPTH:	1.5-2.0	DEPTH	2.6-3.0
TYPE:	AUGER	TYPE	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	90%	25.0	96%
20.0	85%	20.0	93%
12.5	83%	12.5	87%
10.0	80%	10.0	80%
5.0	74%	5.0	73%
2.5	68%	2.5	67%
1.25	64%	1.25	62%
0.630	60%	0.630	57%
0.315	56%	0.315	52%
0.160	47%	0.160	44%
0.080	38%	0.080	37%
M.C. (%):	17%	M.C. (%):	17%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	26	% GRAVEL:	27
% SAND:	35	% SAND:	36
% FINES:	38	% FINES:	37
CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-476
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1807+975 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-05

FIELD NO: 344		FIELD No. 345		FIELD No: 346	
LAB NO: 380		LAB No. 361		LAB No: 362	
DEPTH: 1.0-1.2		DEPTH 2.5-3.0		DEPTH: 3.8-4.0	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	59%	25.0	63%	25.0	67%
20.0	52%	20.0	63%	20.0	67%
12.5	48%	12.5	57%	12.5	60%
10.0	47%	10.0	55%	10.0	56%
5.0	42%	5.0	50%	5.0	49%
2.5	38%	2.5	45%	2.5	45%
1.25	35%	1.25	42%	1.25	41%
0.630	33%	0.630	39%	0.630	38%
0.315	29%	0.315	35%	0.315	35%
0.160	26%	0.160	31%	0.160	31%
0.080	22%	0.080	27%	0.080	27%
M.C.(%):	5%	M.C.(%):	8%	M.C.(%):	7%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	58	% GRAVEL:	50	% GRAVEL:	51
% SAND:	19	% SAND:	23	% SAND:	22
% FINES:	22	% FINES:	27	% FINES:	27
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

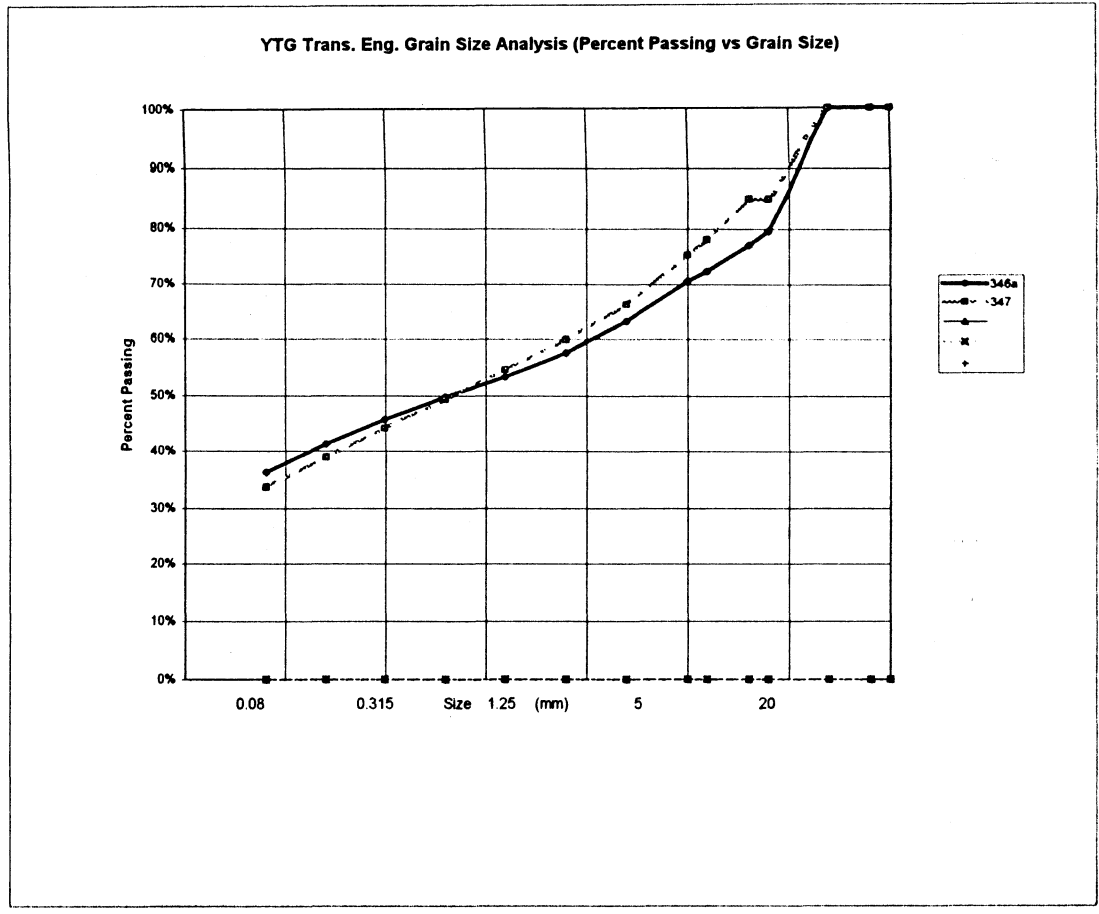
YTG Trans. Eng. Grain Size Analysis (Percent Passing vs Grain Size)



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-477
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1807+875 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-05-05
=====			
FIELD NO:	346a	FIELD No.	347
LAB NO:	363	LAB No.	364
DEPTH:	1.2-1.5	DEPTH	2.8-3.0
TYPE:	AUGER	TYPE	AUGER

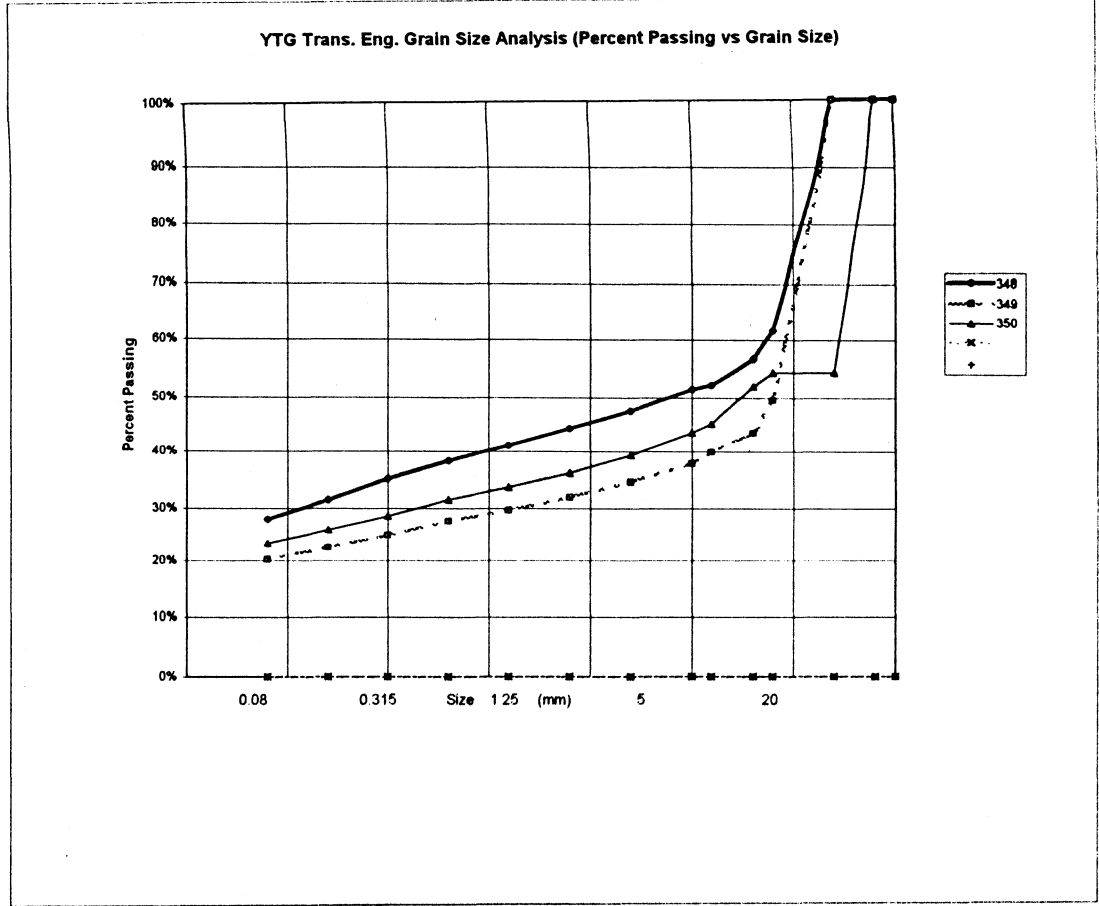
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	80%	25.0	85%
20.0	77%	20.0	85%
12.5	72%	12.5	78%
10.0	71%	10.0	75%
5.0	63%	5.0	66%
2.5	58%	2.5	60%
1.25	53%	1.25	55%
0.630	50%	0.630	49%
0.315	46%	0.315	44%
0.160	41%	0.160	39%
0.080	36%	0.080	34%

M.C.(%):	10%	M.C.(%):	11%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	37	% GRAVEL:	34
% SAND:	27	% SAND:	33
% FINES:	36	% FINES:	34
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-478
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1807+775 10 M RHS
 LOGGED BY: G.C. DATE COMP 99-05-05

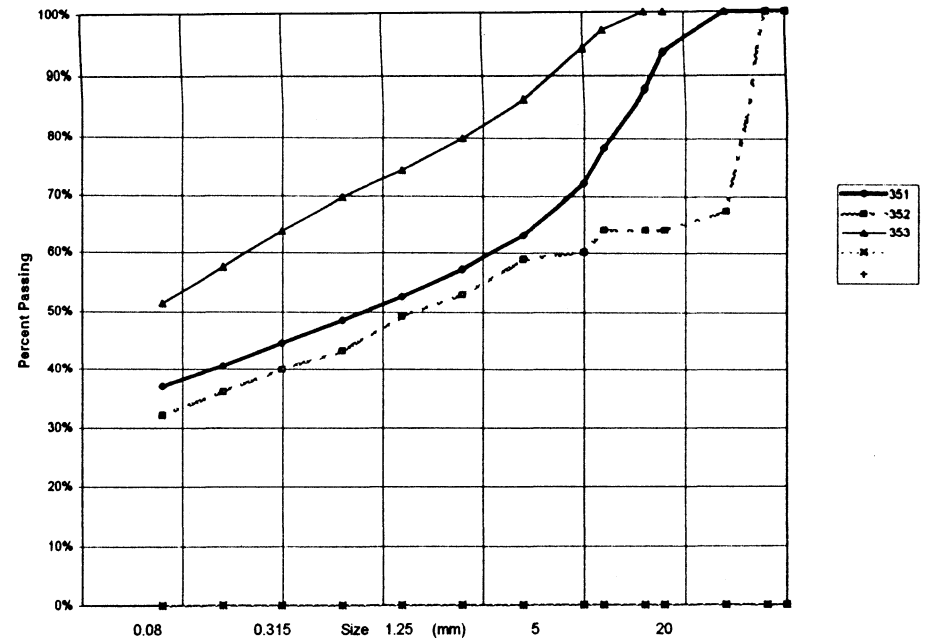
FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
348	365	1.0-1.5	AUGER	349	366	2.5-3.0	AUGER	350	367	3.8-4.0	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	55%	50.0	55%	50.0	55%
25.0	62%	25.0	50%	25.0	50%	25.0	55%	25.0	55%	25.0	55%
20.0	57%	20.0	44%	20.0	44%	20.0	52%	20.0	52%	20.0	52%
12.5	52%	12.5	40%	12.5	40%	12.5	45%	12.5	45%	12.5	45%
10.0	52%	10.0	38%	10.0	38%	10.0	43%	10.0	43%	10.0	43%
5.0	48%	5.0	34%	5.0	34%	5.0	39%	5.0	39%	5.0	39%
2.5	44%	2.5	32%	2.5	32%	2.5	36%	2.5	36%	2.5	36%
1.25	41%	1.25	30%	1.25	30%	1.25	34%	1.25	34%	1.25	34%
0.630	38%	0.630	28%	0.630	28%	0.630	31%	0.630	31%	0.630	31%
0.315	35%	0.315	25%	0.315	25%	0.315	29%	0.315	29%	0.315	29%
0.160	32%	0.160	23%	0.160	23%	0.160	26%	0.160	26%	0.160	26%
0.080	28%	0.080	20%	0.080	20%	0.080	23%	0.080	23%	0.080	23%
M.C. (%)	6%	M.C. (%)	6%	M.C. (%)	6%	M.C. (%)	6%	M.C. (%)	6%	M.C. (%)	6%
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	52	% GRAVEL:	66	% GRAVEL:	61	% GRAVEL:	61	% GRAVEL:	61	% GRAVEL:	61
% SAND:	20	% SAND:	14	% SAND:	18	% SAND:	18	% SAND:	18	% SAND:	18
% FINES:	28	% FINES:	20	% FINES:	23	% FINES:	23	% FINES:	23	% FINES:	23
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-479
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1807+675 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-05

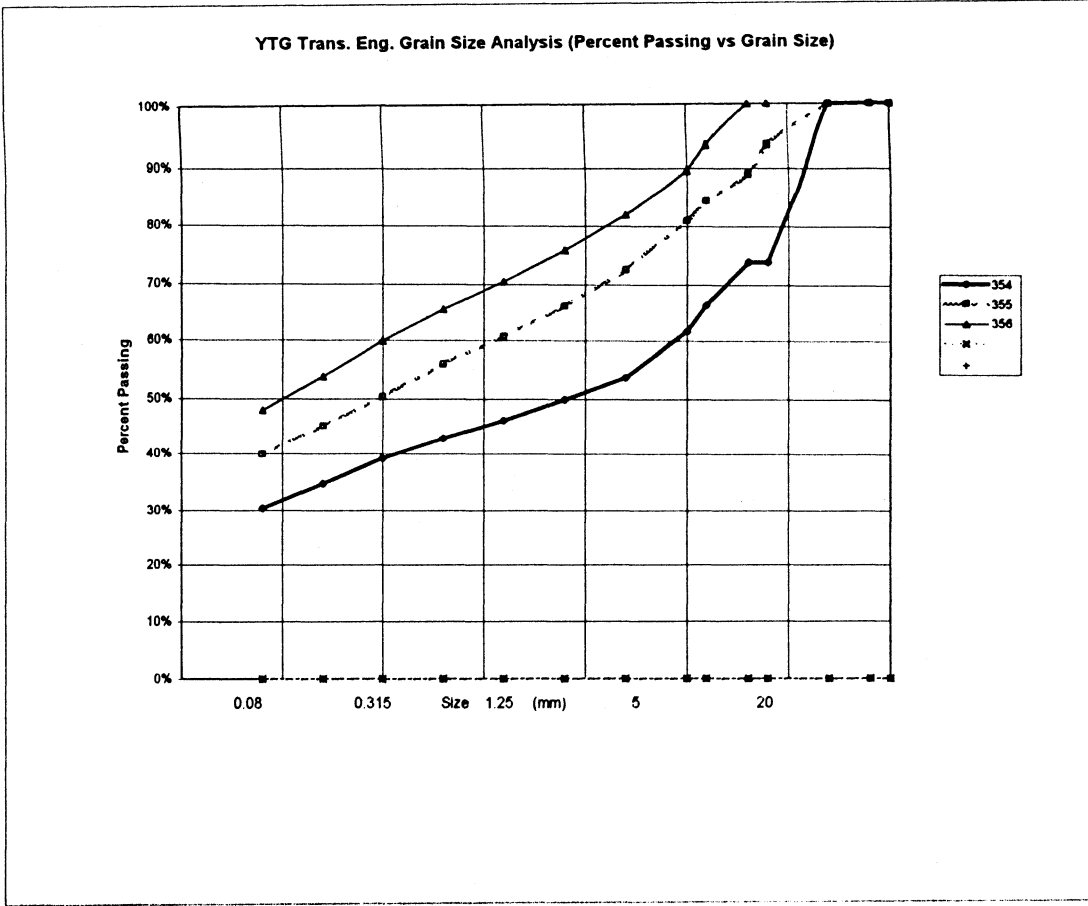
FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:	FIELD No:	LAB No:	DEPTH:	TYPE:
351	368	1.0-1.5	AUGER	352	369	2.5-3.0	AUGER	353	370	3.8-4.0	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	67%	50.0	100%	50.0	100%	50.0	100%
25.0	93%	25.0	64%	25.0	100%	25.0	100%	25.0	100%	25.0	100%
20.0	88%	20.0	64%	20.0	100%	20.0	100%	20.0	100%	20.0	100%
12.5	78%	12.5	64%	12.5	97%	12.5	97%	12.5	97%	12.5	97%
10.0	72%	10.0	60%	10.0	94%	10.0	94%	10.0	94%	10.0	94%
5.0	63%	5.0	59%	5.0	87%	5.0	87%	5.0	87%	5.0	87%
2.5	57%	2.5	53%	2.5	80%	2.5	80%	2.5	80%	2.5	80%
1.25	53%	1.25	49%	1.25	74%	1.25	74%	1.25	74%	1.25	74%
0.630	49%	0.630	43%	0.630	70%	0.630	70%	0.630	70%	0.630	70%
0.315	45%	0.315	40%	0.315	64%	0.315	64%	0.315	64%	0.315	64%
0.160	41%	0.160	38%	0.160	58%	0.160	58%	0.160	58%	0.160	58%
0.080	37%	0.080	32%	0.080	51%	0.080	51%	0.080	51%	0.080	51%
M.C.(%):	13%	M.C.(%):	9%	M.C.(%):	11%	M.C.(%):	11%	M.C.(%):	11%	M.C.(%):	11%
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	37	% GRAVEL:	41	% GRAVEL:	13	% GRAVEL:	13	% GRAVEL:	13	% GRAVEL:	13
% SAND:	26	% SAND:	27	% SAND:	35	% SAND:	35	% SAND:	35	% SAND:	35
% FINES:	37	% FINES:	32	% FINES:	51	% FINES:	51	% FINES:	51	% FINES:	51
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SANDY SILT (ML)		SANDY SILT (ML)		SANDY SILT (ML)		SANDY SILT (ML)	

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



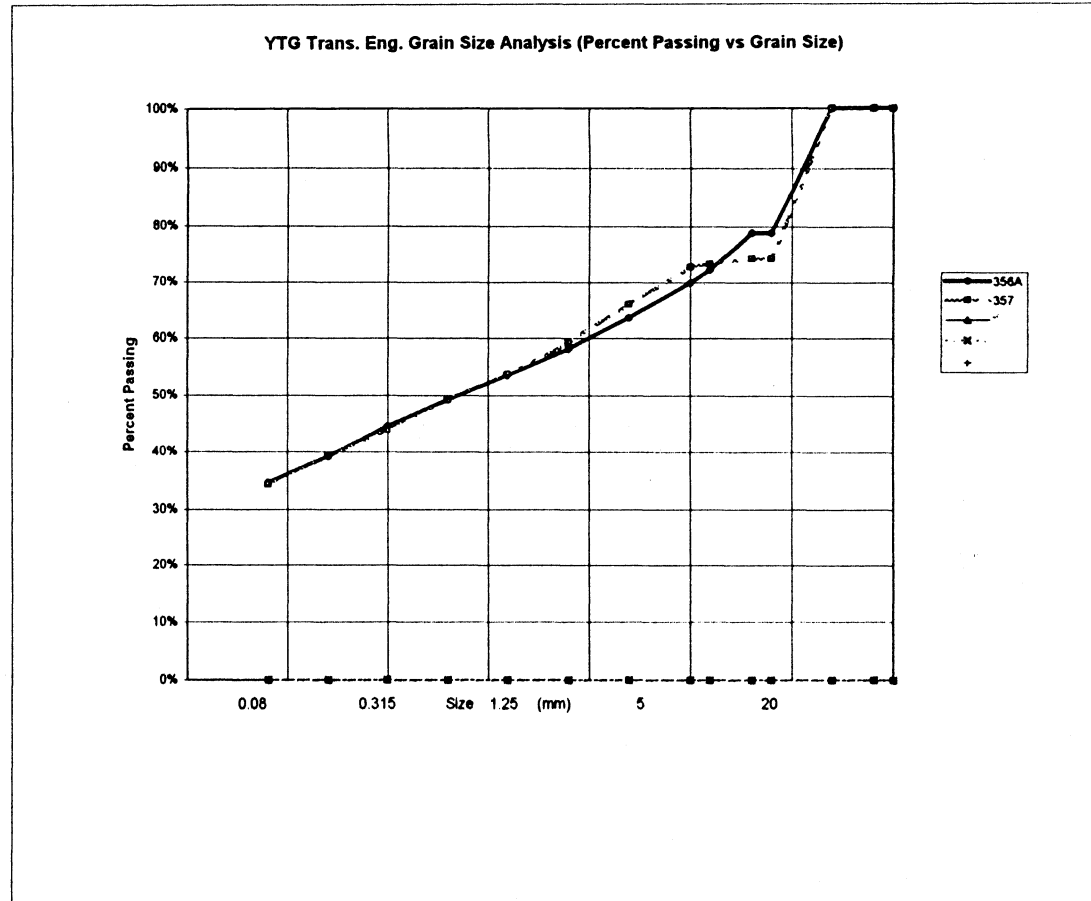
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-480
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1807+575 15M RHS
 LOGGED BY: G.C. DATE COMP 99-05-05

FIELD NO:	LAB NO:	DEPTH:	TYPE:	PERCENT PASSING	SIEVE SIZE	FIELD No:	LAB No:	DEPTH:	TYPE:	PERCENT PASSING	SIEVE SIZE	FIELD No:	LAB No:	DEPTH:	TYPE:	PERCENT PASSING	SIEVE SIZE
354	371	1.3-1.5	AUGER			355	372	2.5-3.0	AUGER			356	373	3.5-4.0	AUGER		
100.0	100%	100.0	100%	100%	100.0	100.0	100%	100%	100%	100%	100.0	100%	100%	100%	100%	100%	100.0
80.0	100%	80.0	100%	100%	80.0	80.0	100%	100%	100%	100%	80.0	100%	80.0	100%	100%	100%	80.0
50.0	100%	50.0	100%	100%	50.0	50.0	100%	100%	100%	100%	50.0	100%	50.0	100%	100%	100%	50.0
25.0	74%	25.0	93%	100%	25.0	25.0	89%	100%	100%	100%	25.0	93%	25.0	100%	100%	100%	25.0
20.0	74%	20.0	89%	100%	20.0	20.0	89%	100%	100%	100%	20.0	100%	20.0	100%	100%	100%	20.0
12.5	66%	12.5	85%	93%	12.5	12.5	81%	90%	90%	90%	12.5	93%	12.5	90%	90%	90%	12.5
10.0	62%	10.0	81%	90%	10.0	10.0	81%	90%	90%	90%	10.0	90%	10.0	90%	90%	90%	10.0
5.0	54%	5.0	73%	82%	5.0	5.0	66%	76%	76%	76%	5.0	82%	5.0	76%	76%	76%	5.0
2.5	50%	2.5	66%	76%	2.5	2.5	66%	76%	76%	76%	2.5	76%	2.5	76%	76%	76%	2.5
1.25	46%	1.25	61%	70%	1.25	1.25	61%	70%	70%	70%	1.25	70%	1.25	70%	70%	70%	1.25
0.630	43%	0.630	56%	65%	0.630	0.630	56%	65%	65%	65%	0.630	65%	0.630	65%	65%	65%	0.630
0.315	39%	0.315	50%	60%	0.315	0.315	50%	60%	60%	60%	0.315	60%	0.315	60%	60%	60%	0.315
0.160	35%	0.160	45%	54%	0.160	0.160	45%	54%	54%	54%	0.160	54%	0.160	54%	54%	54%	0.160
0.080	30%	0.080	40%	48%	0.080	0.080	40%	48%	48%	48%	0.080	48%	0.080	48%	48%	48%	0.080
M.C.(%)	5%	M.C.(%)	11%	M.C.(%)	11%	M.C.(%)	11%	M.C.(%)	11%	M.C.(%)	11%	M.C.(%)	11%	M.C.(%)	11%	M.C.(%)	11%
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	46	% GRAVEL:	27	% GRAVEL:	18	% GRAVEL:	27	% GRAVEL:	18	% GRAVEL:	27	% GRAVEL:	18	% GRAVEL:	27	% GRAVEL:	18
% SAND:	23	% SAND:	33	% SAND:	34	% SAND:	33	% SAND:	34	% SAND:	33	% SAND:	34	% SAND:	33	% SAND:	34
% FINES:	30	% FINES:	40	% FINES:	48	% FINES:	40	% FINES:	48	% FINES:	40	% FINES:	48	% FINES:	40	% FINES:	48
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



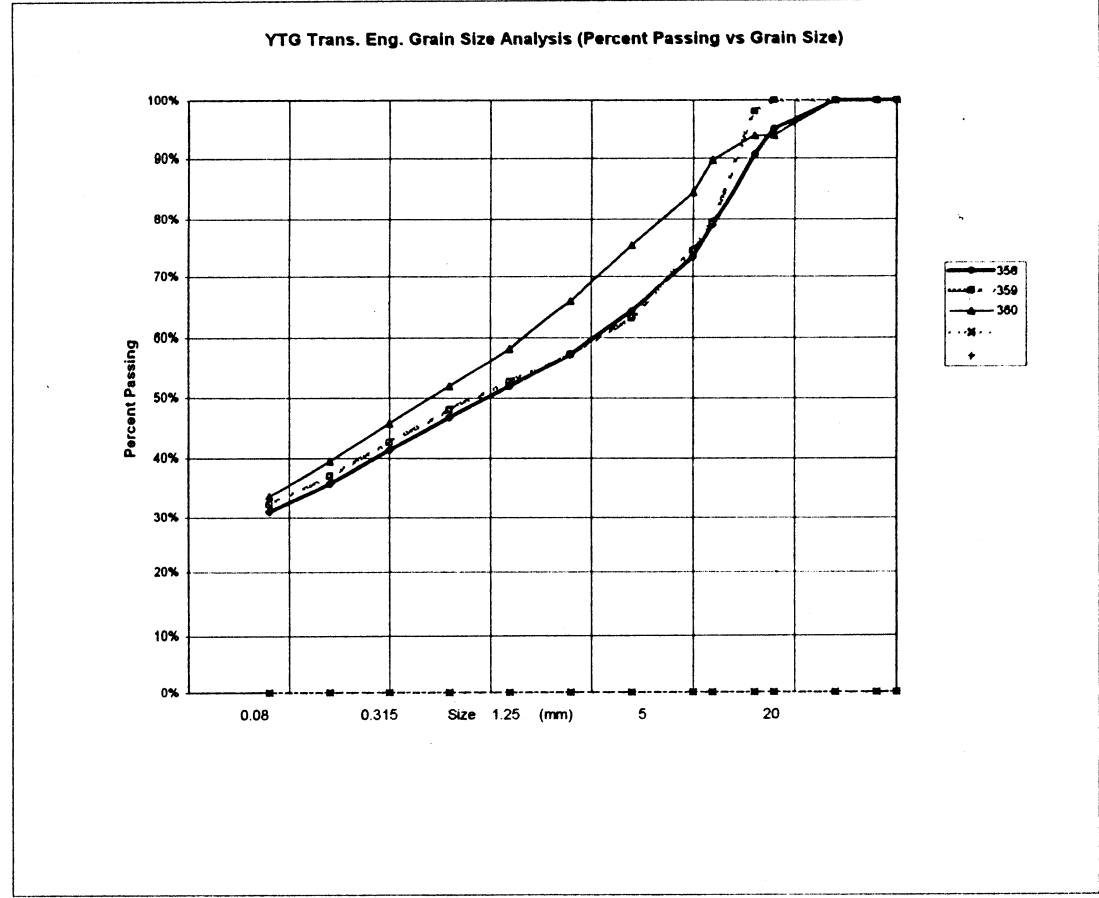
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-481
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1807+475 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-05

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	79%	25.0	74%
20.0	79%	20.0	74%
12.5	72%	12.5	73%
10.0	70%	10.0	73%
5.0	63%	5.0	66%
2.5	58%	2.5	58%
1.25	54%	1.25	54%
0.630	49%	0.630	49%
0.315	44%	0.315	44%
0.160	39%	0.160	39%
0.080	34%	0.080	34%
M.C.(%):	10%	M.C.(%):	13%
LIMITS			
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	37	% GRAVEL:	34
% SAND:	29	% SAND:	32
% FINES:	34	% FINES:	34
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	



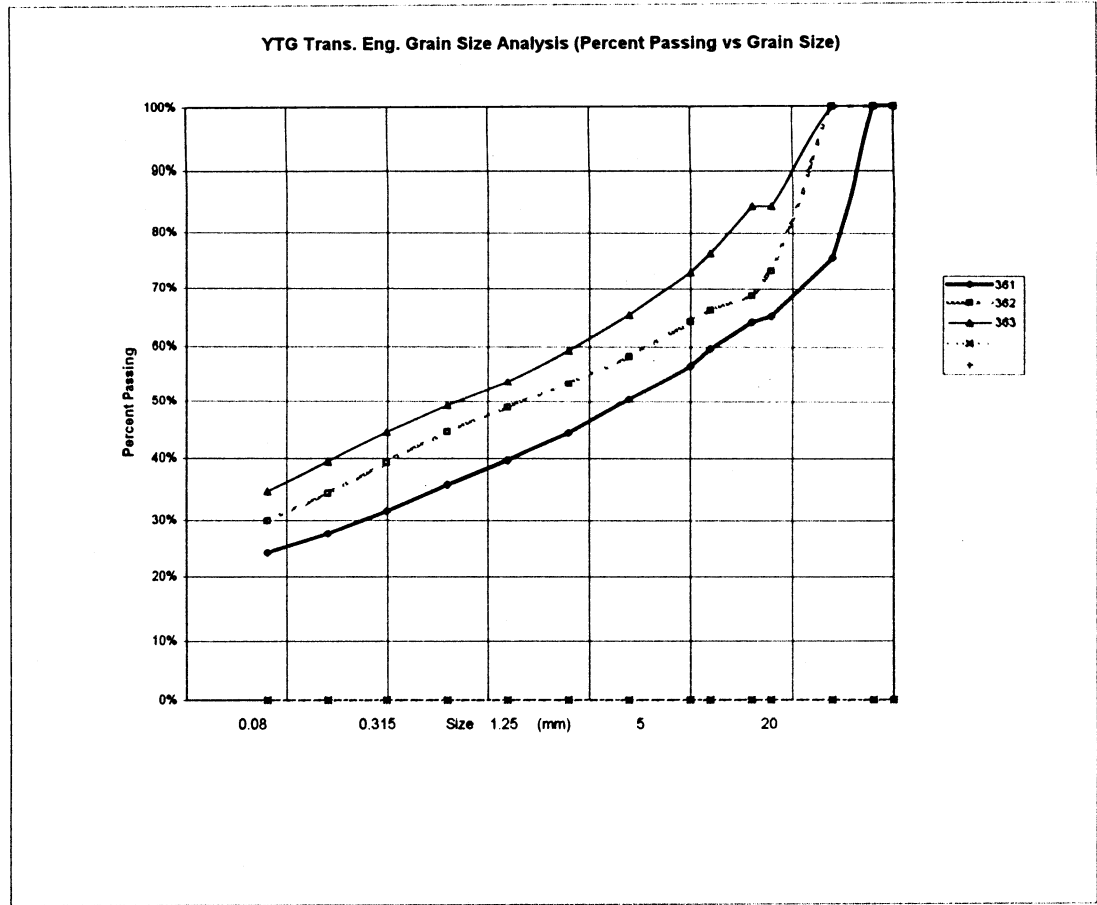
PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-488
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1807+340 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-05

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH:	TYPE:
358	378	1.0-1.5	AUGER	359	377	2.5-3.0	AUGER	360	378	3.8-4.0	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	95%	25.0	100%	25.0	100%	25.0	94%	25.0	94%	25.0	94%
20.0	91%	20.0	98%	20.0	98%	20.0	94%	20.0	94%	20.0	94%
12.5	79%	12.5	79%	12.5	79%	12.5	90%	12.5	90%	12.5	90%
10.0	73%	10.0	74%	10.0	74%	10.0	85%	10.0	85%	10.0	85%
5.0	64%	5.0	63%	5.0	63%	5.0	75%	5.0	75%	5.0	75%
2.5	57%	2.5	57%	2.5	57%	2.5	66%	2.5	66%	2.5	66%
1.25	52%	1.25	53%	1.25	53%	1.25	58%	1.25	58%	1.25	58%
0.630	47%	0.630	48%	0.630	48%	0.630	52%	0.630	52%	0.630	52%
0.315	41%	0.315	43%	0.315	43%	0.315	48%	0.315	48%	0.315	48%
0.160	36%	0.160	37%	0.160	37%	0.160	40%	0.160	40%	0.160	40%
0.080	31%	0.080	32%	0.080	32%	0.080	34%	0.080	34%	0.080	34%
M.C. (%)	5%	M.C. (%)	8%	M.C. (%)	11%	M.C. (%)		M.C. (%)		M.C. (%)	
LIMITS		LIMITS		LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	36	% GRAVEL:	37	% GRAVEL:	25	% GRAVEL:		% GRAVEL:		% GRAVEL:	
% SAND:	33	% SAND:	31	% SAND:	42	% SAND:		% SAND:		% SAND:	
% FINES:	31	% FINES:	32	% FINES:	34	% FINES:		% FINES:		% FINES:	
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	

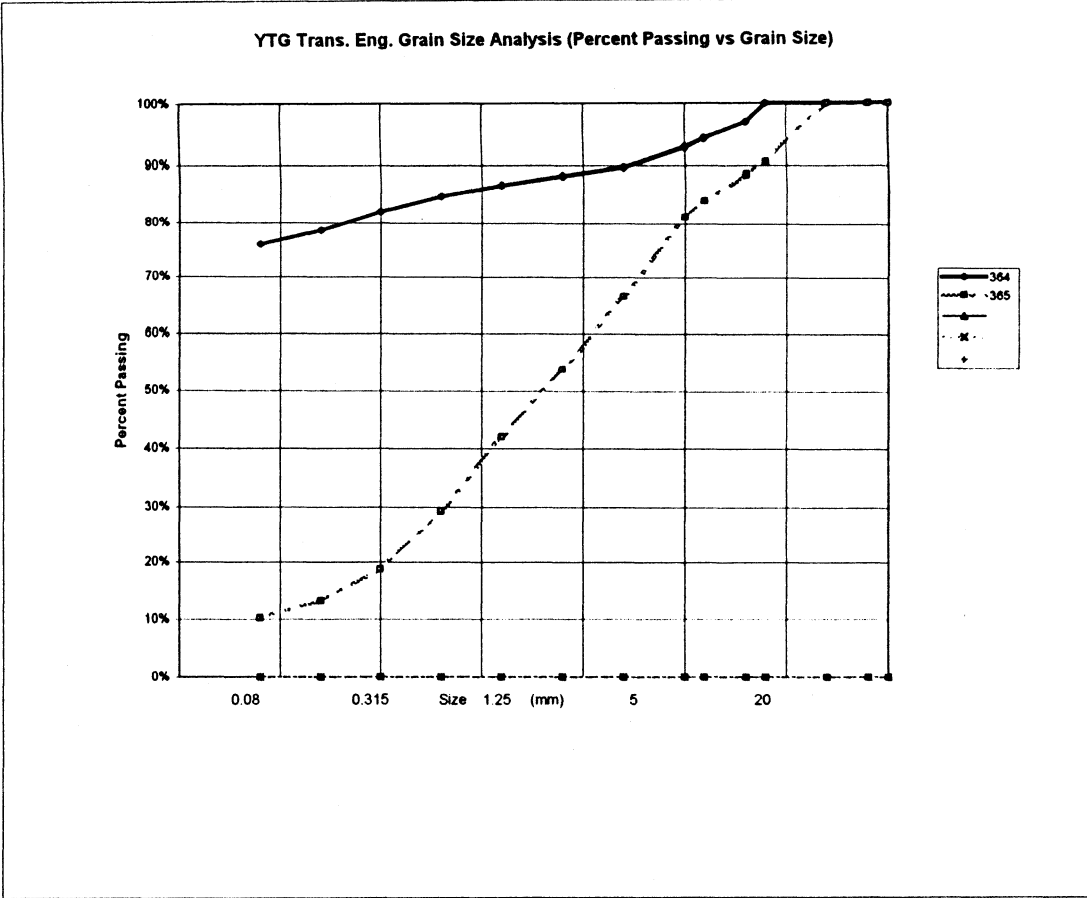


PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-489
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1807+275 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-05-05

FIELD NO: 361		FIELD No. 362		FIELD No: 363	
LAB NO: 379		LAB No. 380		LAB No: 381	
DEPTH: 1.3-1.5		DEPTH 2.5-3.0		DEPTH: 4.0-4.5	
TYPE: AUGER		TYPE AUGER		TYPE: AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	76%	50.0	100%	50.0	100%
25.0	65%	25.0	73%	25.0	85%
20.0	64%	20.0	69%	20.0	85%
12.5	60%	12.5	66%	12.5	78%
10.0	57%	10.0	64%	10.0	73%
5.0	50%	5.0	58%	5.0	65%
2.5	44%	2.5	53%	2.5	59%
1.25	40%	1.25	49%	1.25	54%
0.630	36%	0.630	45%	0.630	49%
0.315	31%	0.315	39%	0.315	44%
0.160	28%	0.160	35%	0.160	40%
0.080	24%	0.080	30%	0.080	35%
M.C.(%):	3%	M.C.(%):	6%	M.C.(%):	8%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	50	% GRAVEL:	42	% GRAVEL:	35
% SAND:	26	% SAND:	28	% SAND:	30
% FINES:	24	% FINES:	30	% FINES:	35
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-490
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1807+150 CENTRELIN	DATE COMP	99-05-05
LOGGED BY:	G.C.		
=====			
FIELD NO:	364	FIELD No:	365
LAB NO:	382	LAB No:	383
DEPTH:	1.0-1.5	DEPTH:	2.5-3.0
TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	90%
20.0	97%	20.0	89%
12.5	94%	12.5	84%
10.0	93%	10.0	81%
5.0	90%	5.0	66%
2.5	88%	2.5	54%
1.25	87%	1.25	42%
0.630	85%	0.630	29%
0.315	82%	0.315	19%
0.160	79%	0.160	13%
0.080	76%	0.080	10%
M.C. (%):	23%	M.C. (%):	7%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	10	% GRAVEL:	34
% SAND:	14	% SAND:	56
% FINES:	76	% FINES:	10
CLASSIFICATION:		CLASSIFICATION:	
SILT WITH SAND (ML)		WELL-GRADED SAND WITH SILT & GRAVEL (SW-SM)	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-491
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1806+875 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-05-05

FIELD NO:	366	FIELD No.	377
LAB NO:	384	LAB No.	385
DEPTH:	2.2-2.4	DEPTH	2.8-3.0
TYPE:	AUGER	TYPE	AUGER

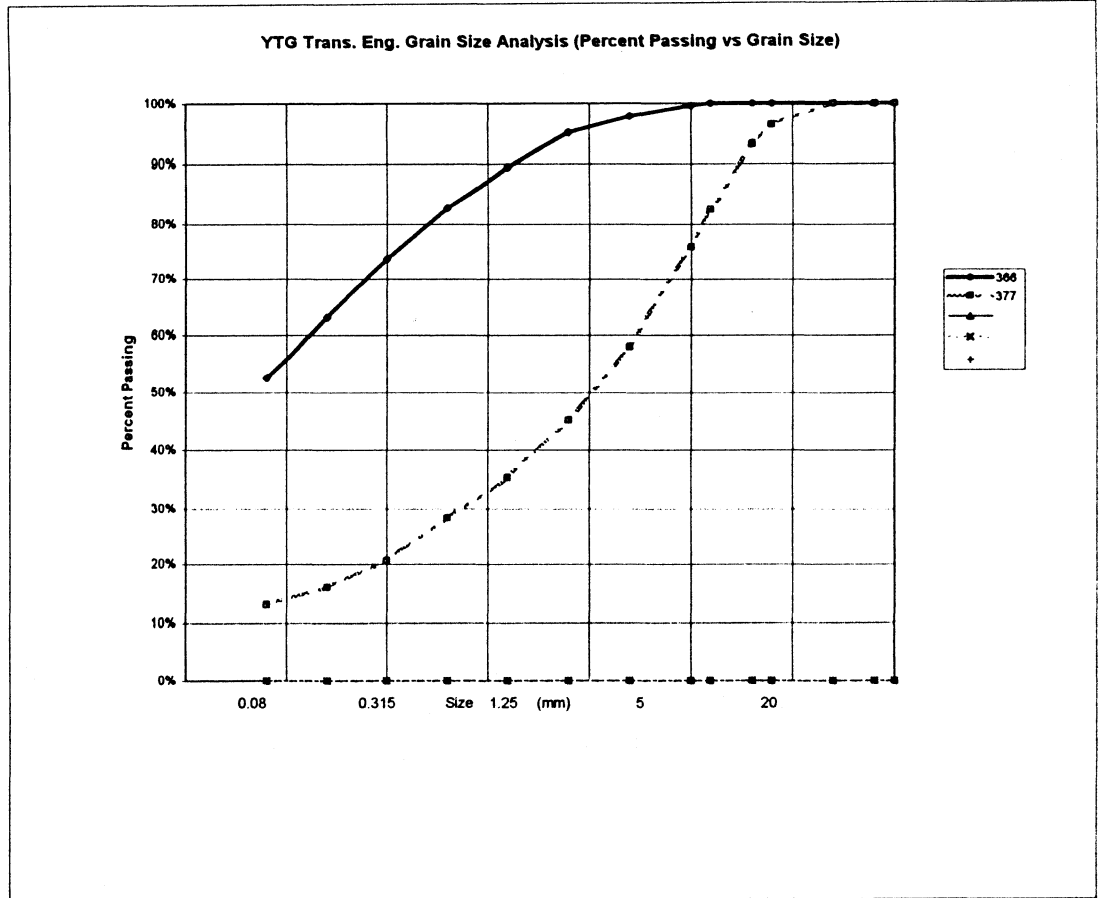
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	100%	25.0	96%
20.0	100%	20.0	93%
12.5	100%	12.5	83%
10.0	100%	10.0	76%
5.0	98%	5.0	58%
2.5	95%	2.5	45%
1.25	89%	1.25	35%
0.630	83%	0.630	28%
0.315	74%	0.315	21%
0.160	63%	0.160	18%
0.080	53%	0.080	13%

M.C.(%):	22%	M.C.(%):	9%
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LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

% GRAVEL:	2	% GRAVEL:	42
% SAND:	45	% SAND:	45
% FINES:	53	% FINES:	13

CLASSIFICATION:		CLASSIFICATION:	
SANDY SILT (ML)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER:	091-202101-0329-199	HOLE No.:	513-492
CLIENT:	ENGINEERING CAPITAL		
PROJECT NAME:	SHAKWAK SEG 13		
PROJECT LOCATION:	KM 1799-1822 A/H		
DRILL UNIT:	B-40-L Nodwell		
HOLE LOCATION:	1806+825 CENTRELINE		
LOGGED BY:	G.C.	DATE COMP	99-05-06

FIELD NO:	378	FIELD No.:	379
LAB NO:	386	LAB No.:	387
DEPTH:	1.0-1.5	DEPTH:	2.6-2.8
TYPE:	AUGER	TYPE:	AUGER

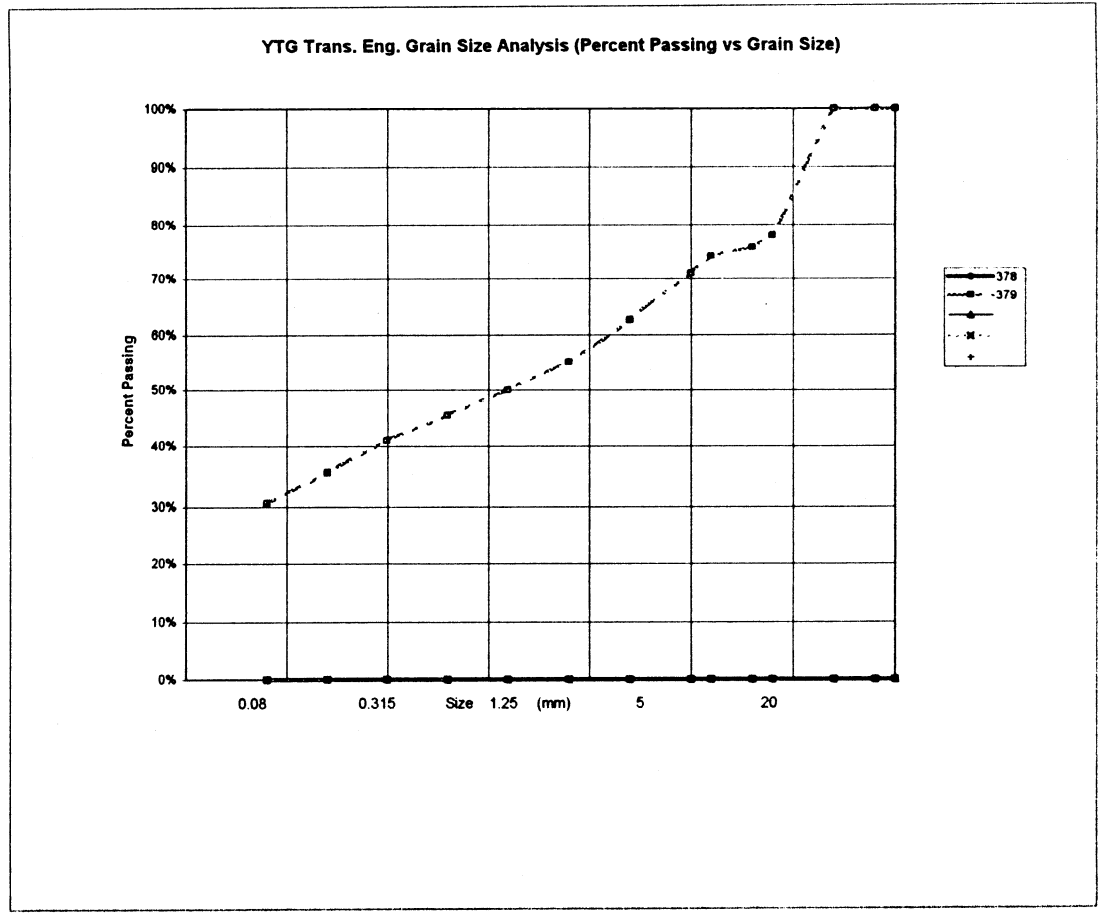
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	#DIV/0!	100.0	100%
80.0	#DIV/0!	80.0	100%
50.0	#DIV/0!	50.0	100%
25.0	#DIV/0!	25.0	78%
20.0	#DIV/0!	20.0	76%
12.5	#DIV/0!	12.5	74%
10.0	#DIV/0!	10.0	71%
5.0	#DIV/0!	5.0	62%
2.5	#DIV/0!	2.5	55%
1.25	#DIV/0!	1.25	50%
0.630	#DIV/0!	0.630	45%
0.315	#DIV/0!	0.315	41%
0.160	#DIV/0!	0.160	36%
0.080	#DIV/0!	0.080	31%

M.C.(%):	5%	M.C.(%):	8%
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LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0

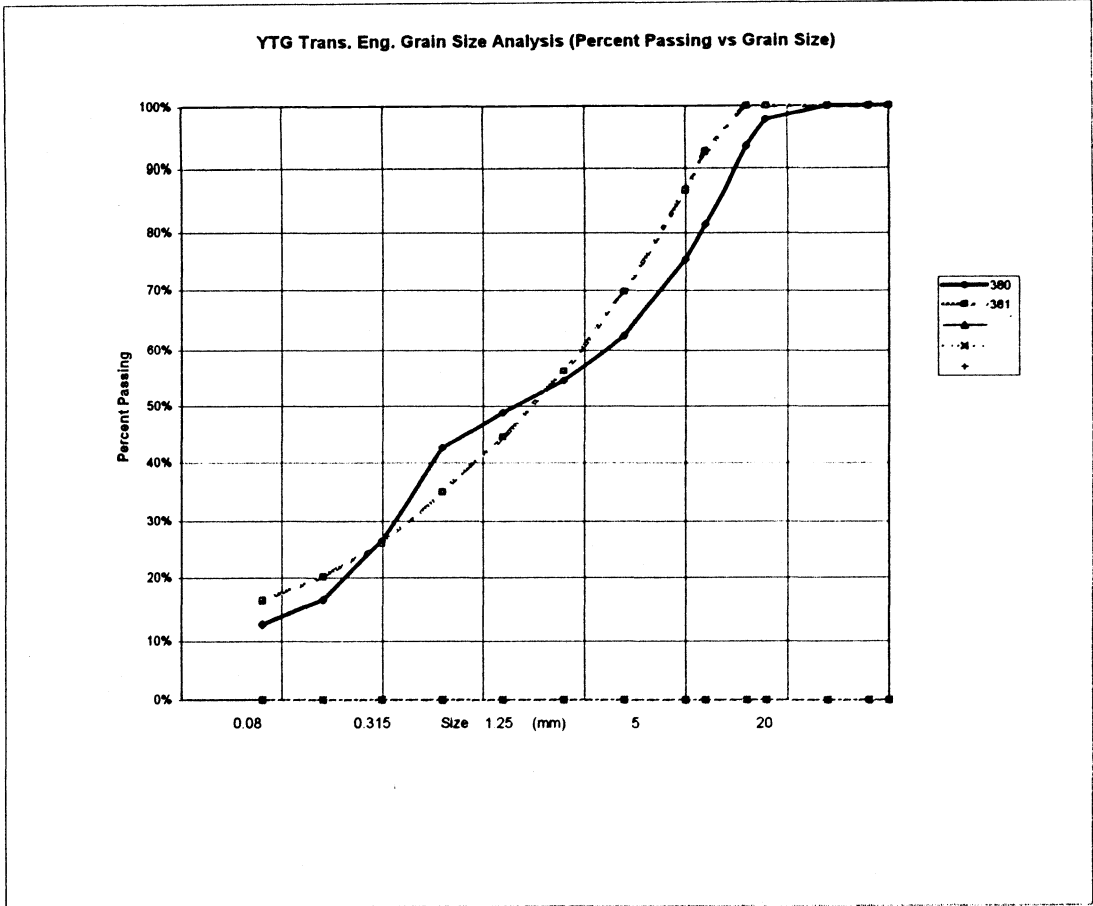
% GRAVEL:	#DIV/0!	% GRAVEL:	38
% SAND:	#DIV/0!	% SAND:	32
% FINES:	#DIV/0!	% FINES:	31

CLASSIFICATION:	CLASSIFICATION:
LOST SAMPLE	SILTY GRAVEL WITH SAND (GM)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-483
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1806+725 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-06

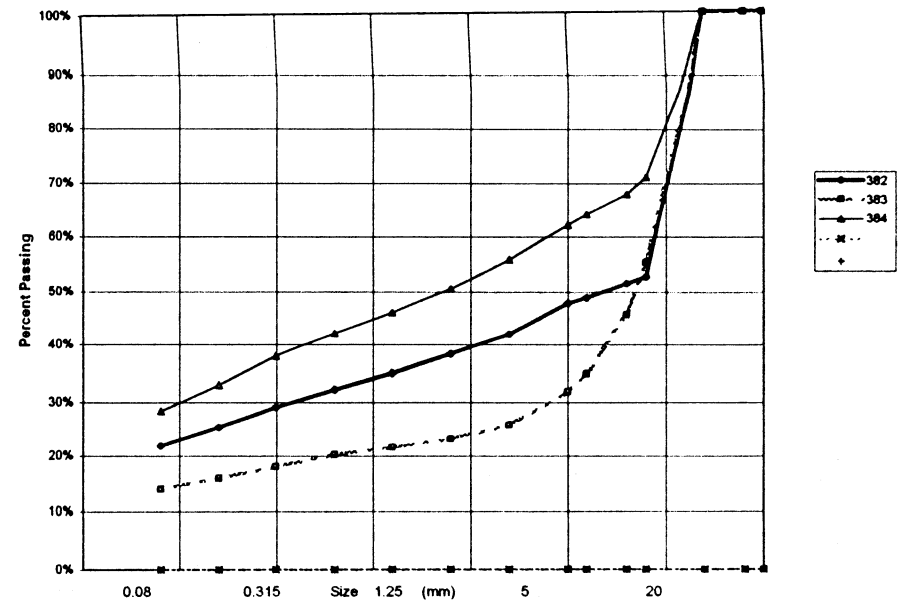
FIELD NO: 380		FIELD No. 381	
LAB NO: 388		LAB No. 389	
DEPTH: 2.0-2.2		DEPTH 2.8-3.0	
TYPE: AUGER		TYPE AUGER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	98%	25.0	100%
20.0	93%	20.0	100%
12.5	81%	12.5	92%
10.0	75%	10.0	87%
5.0	62%	5.0	70%
2.5	54%	2.5	58%
1.25	49%	1.25	45%
0.630	43%	0.630	35%
0.315	28%	0.315	28%
0.160	16%	0.160	20%
0.080	13%	0.080	16%
M.C.(%): 11%		M.C.(%): 9%	
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	38	% GRAVEL:	30
% SAND:	50	% SAND:	54
% FINES:	13	% FINES:	16
CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY SAND WITH GRAVEL (SM)	



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-494
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1806+600 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-06

FIELD NO:	LAB NO:	DEPTH:	TYPE:	PERCENT PASSING	SIEVE SIZE
382	390	1.0-1.5	AUGER	100%	100.0
383	391	2.5-3.0	AUGER	100%	100.0
384	392	3.8-4.0	AUGER	100%	100.0
				71%	25.0
				68%	20.0
				84%	12.5
				62%	10.0
				56%	5.0
				51%	2.5
				46%	1.25
				42%	0.630
				38%	0.315
				33%	0.160
				28%	0.080
M.C. (%)	3%	M.C. (%)	3%	M.C. (%)	5%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	58	% GRAVEL:	74	% GRAVEL:	44
% SAND:	20	% SAND:	12	% SAND:	28
% FINES:	22	% FINES:	14	% FINES:	28
CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)	CLASSIFICATION:	SILTY GRAVEL (GM)	CLASSIFICATION:	SILTY GRAVEL WITH SAND (GM)

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-495
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1806+475 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-06

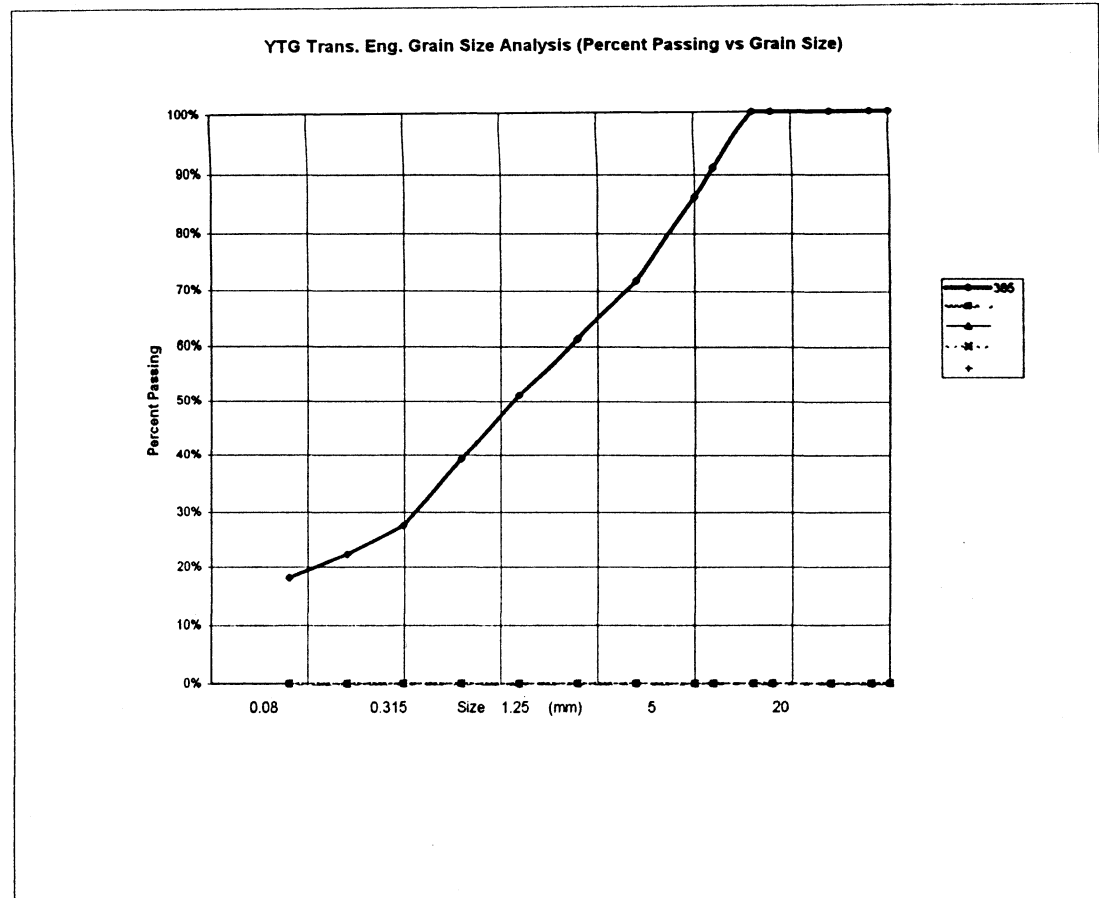
SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	100%
20.0	100%
12.5	91%
10.0	86%
5.0	72%
2.5	61%
1.25	51%
0.630	39%
0.315	28%
0.160	22%
0.080	18%

M.C.(%)	12%
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LIMITS	
LIQUID:	0.0
PLASTIC:	0.0
P.I.:	0.0

% GRAVEL:	28
% SAND:	54
% FINES:	18

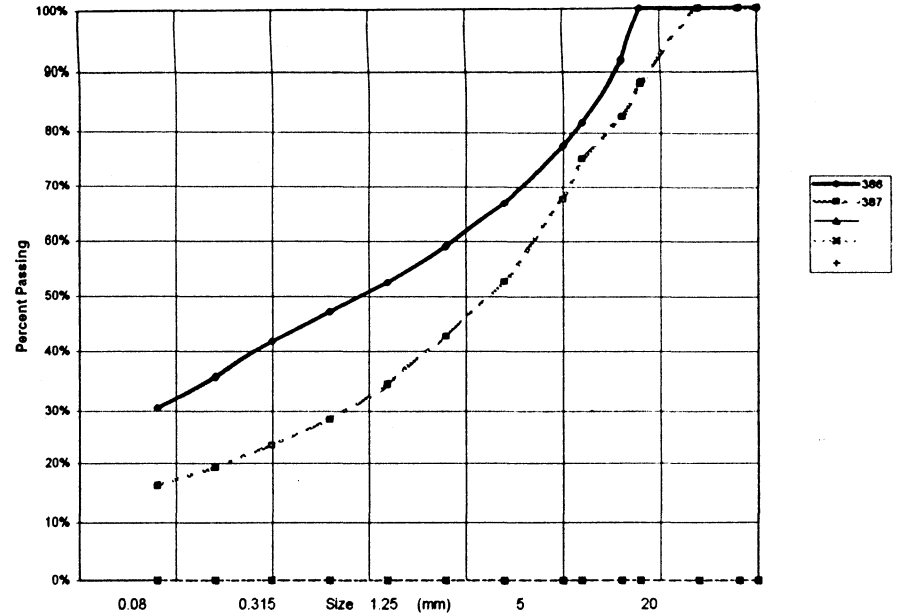
CLASSIFICATION:
 SILTY SAND WITH GRAVEL (SM)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-496
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1806+325 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-06

FIELD NO:	LAB NO:	DEPTH:	TYPE:	FIELD No.	LAB No.	DEPTH	TYPE
386	494	1.6-2.0	AUGER	387	395	1.8-2.0	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%	50.0	100%
25.0	100%	25.0	88%	25.0	88%	25.0	88%
20.0	92%	20.0	83%	20.0	83%	20.0	83%
12.5	82%	12.5	75%	12.5	75%	12.5	75%
10.0	78%	10.0	68%	10.0	68%	10.0	68%
5.0	67%	5.0	53%	5.0	53%	5.0	53%
2.5	59%	2.5	43%	2.5	43%	2.5	43%
1.25	53%	1.25	35%	1.25	35%	1.25	35%
0.630	47%	0.630	28%	0.630	28%	0.630	28%
0.315	42%	0.315	23%	0.315	23%	0.315	23%
0.160	36%	0.160	19%	0.160	19%	0.160	19%
0.080	31%	0.080	16%	0.080	16%	0.080	16%
M.C.(%):	10%	M.C.(%):	7%	M.C.(%):	7%	M.C.(%):	7%
LIMITS		LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	33	% GRAVEL:	47	% GRAVEL:	47	% GRAVEL:	47
% SAND:	36	% SAND:	37	% SAND:	37	% SAND:	37
% FINES:	31	% FINES:	18	% FINES:	18	% FINES:	18
CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)		SILTY GRAVEL WITH SAND (GM)	

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-497
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1806+225 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-05

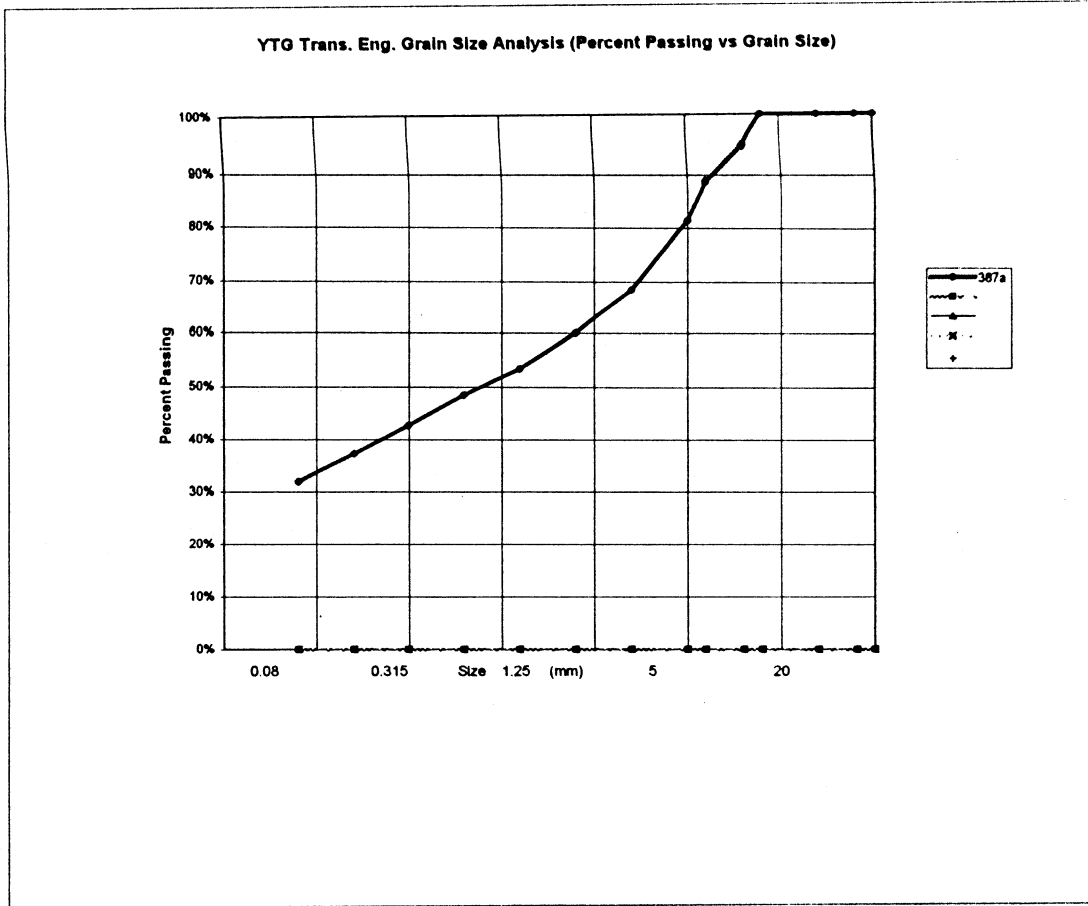
SIEVE SIZE	PERCENT PASSING
100.0	100%
80.0	100%
50.0	100%
25.0	100%
20.0	95%
12.5	89%
10.0	81%
5.0	68%
2.5	60%
1.25	54%
0.630	48%
0.315	43%
0.160	37%
0.080	32%

M.C.(%)	10%
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LIMITS	
LIQUID	0.0
PLASTIC	0.0
P.I.	0.0

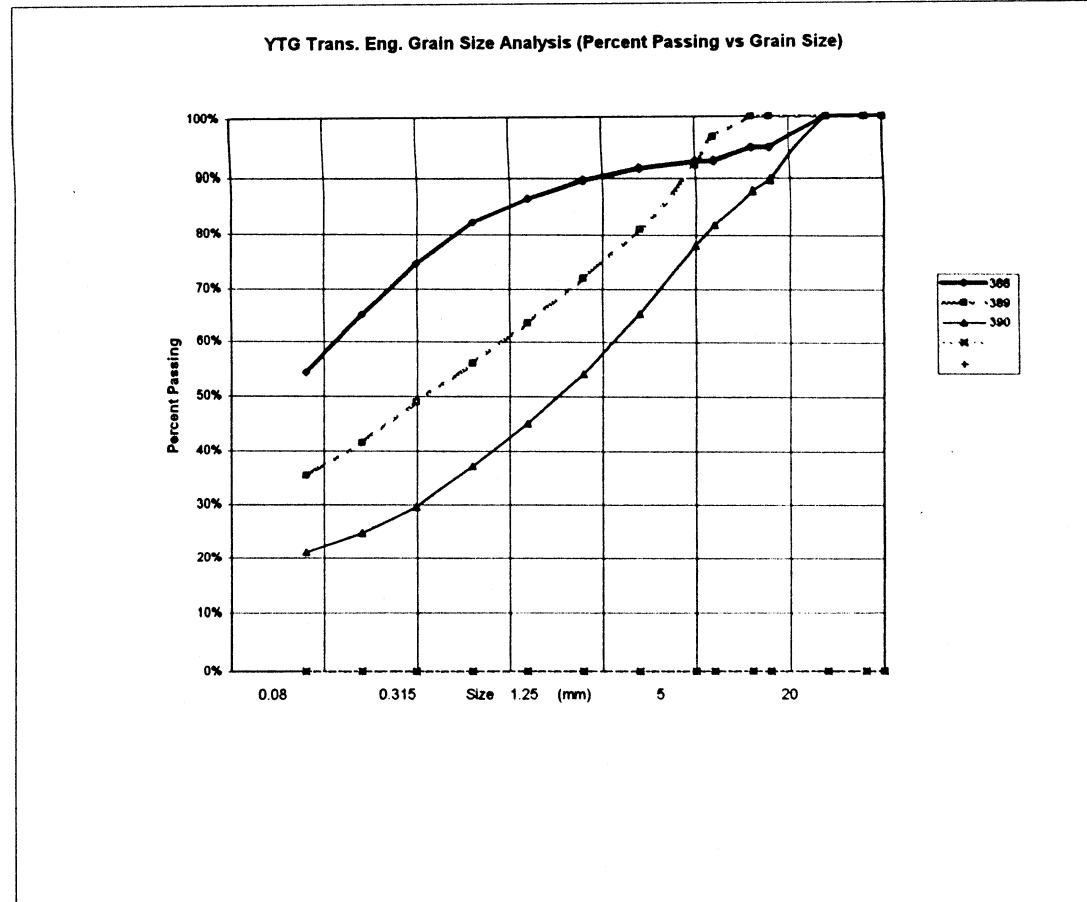
% GRAVEL	32
% SAND	37
% FINES	32

CLASSIFICATION:
 SILTY SAND WITH GRAVEL (SM)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-498
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 AH
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1806+075 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-06

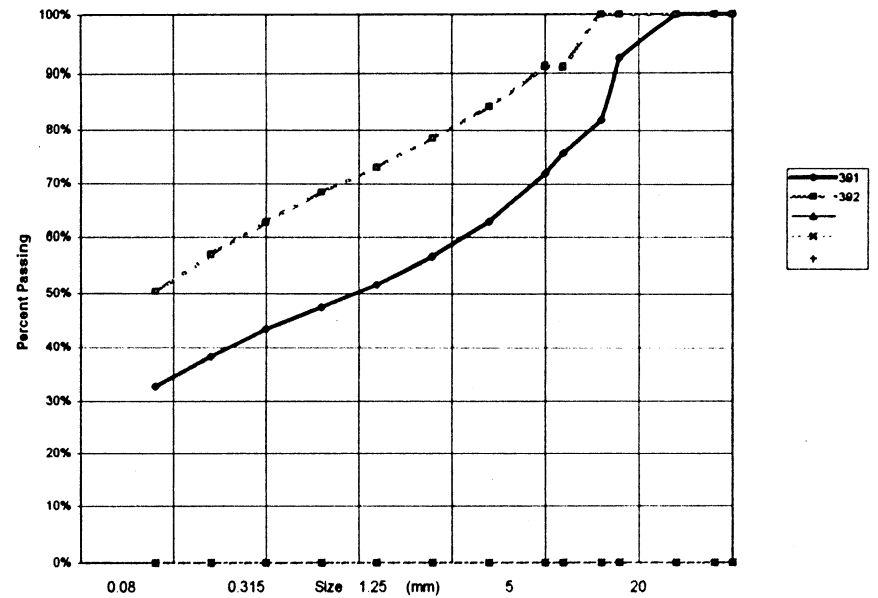
FIELD NO:	388	FIELD No:	389	FIELD No:	390
LAB NO:	397	LAB No:	398	LAB No:	399
DEPTH:	1.0-1.4	DEPTH:	2.5-3.0	DEPTH:	3.6-4.0
TYPE:	AUGER	TYPE:	AUGER	TYPE:	AUGER
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%	100.0	100%
80.0	100%	80.0	100%	80.0	100%
50.0	100%	50.0	100%	50.0	100%
25.0	94%	25.0	100%	25.0	90%
20.0	94%	20.0	100%	20.0	88%
12.5	92%	12.5	96%	12.5	82%
10.0	92%	10.0	92%	10.0	78%
5.0	91%	5.0	81%	5.0	65%
2.5	90%	2.5	72%	2.5	54%
1.25	87%	1.25	64%	1.25	45%
0.630	82%	0.630	56%	0.630	37%
0.315	75%	0.315	49%	0.315	30%
0.180	65%	0.180	41%	0.180	25%
0.080	54%	0.080	35%	0.080	21%
M.C.(%):	17%	M.C.(%):	10%	M.C.(%):	8%
LIMITS		LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0	P.I.:	0.0
% GRAVEL:	9	% GRAVEL:	19	% GRAVEL:	35
% SAND:	37	% SAND:	46	% SAND:	44
% FINES:	54	% FINES:	35	% FINES:	21
CLASSIFICATION:	SANDY SILT (ML)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)	CLASSIFICATION:	SILTY SAND WITH GRAVEL (SM)



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-499
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1805+900 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-06

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	92%	25.0	100%
20.0	82%	20.0	100%
12.5	76%	12.5	91%
10.0	72%	10.0	91%
5.0	63%	5.0	84%
2.5	57%	2.5	78%
1.25	52%	1.25	73%
0.630	47%	0.630	68%
0.315	43%	0.315	63%
0.160	38%	0.160	57%
0.080	33%	0.080	50%
M.C. (%)	17%	M.C. (%)	17%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	37	% GRAVEL:	18
% SAND:	30	% SAND:	34
% FINES:	33	% FINES:	50
CLASSIFICATION:		CLASSIFICATION:	
SILTY GRAVEL WITH SAND (GM)		SANDY SILT WITH GRAVEL (ML)	

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



PROJECT NUMBER: 091-202101-0329-199 HOLE No.: 513-500
 CLIENT: ENGINEERING CAPITAL
 PROJECT NAME: SHAKWAK SEG 13
 PROJECT LOCATION: KM 1799-1822 A/H
 DRILL UNIT: B-40-L Nodwell
 HOLE LOCATION: 1805+800 CENTRELINE
 LOGGED BY: G.C. DATE COMP 99-05-06

SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
100.0	100%	100.0	100%
80.0	100%	80.0	100%
50.0	100%	50.0	100%
25.0	90%	25.0	88%
20.0	87%	20.0	85%
12.5	81%	12.5	76%
10.0	78%	10.0	70%
5.0	73%	5.0	55%
2.5	69%	2.5	46%
1.25	65%	1.25	38%
0.630	61%	0.630	32%
0.315	56%	0.315	25%
0.160	49%	0.160	21%
0.080	42%	0.080	18%
M.C. (%):	14%	M.C. (%):	8%
LIMITS		LIMITS	
LIQUID:	0.0	LIQUID:	0.0
PLASTIC:	0.0	PLASTIC:	0.0
P.I.:	0.0	P.I.:	0.0
% GRAVEL:	27	% GRAVEL:	45
% SAND:	31	% SAND:	38
% FINES:	42	% FINES:	18
CLASSIFICATION:		CLASSIFICATION:	
SILTY SAND WITH GRAVEL (SM)		SILTY GRAVEL WITH SAND (GM)	

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

