START

TEST REQUEST FORM

Sample/Specimen No: O-124 Cost Code/Work Order No. ED332

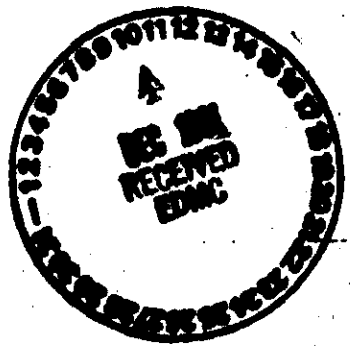
Requested By: Org. 81232 Person J. Lindberg Date 3-12-90

Test Requested	No. of Samples	Test Lab Information (Instruction Used)
Sieve Anal	1	ETAL-07
Hydro	1	ETAL-07
SpG	1	ETAL-10
NA	NA	NA

Remarks Field Sample 1100-3-E-5

Received By: RG Alexander Date 3-9-90

Approved By: RG Alexander Date 3-9-90



9212144

SIEVE ANALYSIS DATA SHEET

Sample ID O-124 Page 1 of 1

Tested By R.G. ALEXANDER Date 3-13-90

Procedure ETAL-07 Rev 1 Date Issued 11-15-89

EQUIPMENT ITEM	CALIBRATION NO.	DATE DUE
Balance	3304	3-25-90
Thermometer	0007	8-16-90
N/A	N/A	N/A

Sample Description SANDY GRAVEL Sieve Time 10 (min)

reduced by ☒ splitting ☒ quartering ☐ stockpile

BEFORE TEST WT. (B) N/A AFTER TEST WT. (A) N/A $\frac{B-A}{B} \times 100$ = N/A % LOSS

Sieve ID Number	Sieve Size	Sample Weight	Cumulative Wt. Retained (g)	% Retained	Cumulative % Retained	Cumulative % Pass	% Pass
N/A	2	4583.54	∅	∅	∅	100	100
	1 1/2		391.72	8.5	8.5	91.5	91.5
	1		450.53	9.8	9.8	90.2	96.2
	3/4		1019.99	22.3	22.3	77.7	77.7
	1/2		1430.96	31.2	31.2	68.8	68.8
	3/8		1626.26	35.5	35.5	64.5	64.5
	#4		1967.41	42.9	42.9	57.1	57.1
	#10		2195.56	47.9	47.9	52.1	52.1
	#40	114.86	34.22	29.8	29.8	70.2	36.6
	#60		61.07	53.2	53.2	46.8	24.4
	#100		77.11	67.1	67.1	32.9	17.1
	#200		87.22	75.9	75.9	24.1	12.6

Finess Modules (FM) N/A (See ASTM C 136-83, Section 8.2)

MATERIALS FINER THAN NO. 200 SIEVE BY WASHING

C=Percentage of Material Passing a 200 Sieve 24.1 %

D=Original Dry Weight of Sample 114.86 g

E=Dry Weight of Sample After Washing/Sieve 87.22 g

C = <(D-E)/D> X 100

Remarks

SMALL FIELD SAMPLE

Pan 27

ALL DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WAS TRAINED AND USED CALIBRATED INSTRUMENTS

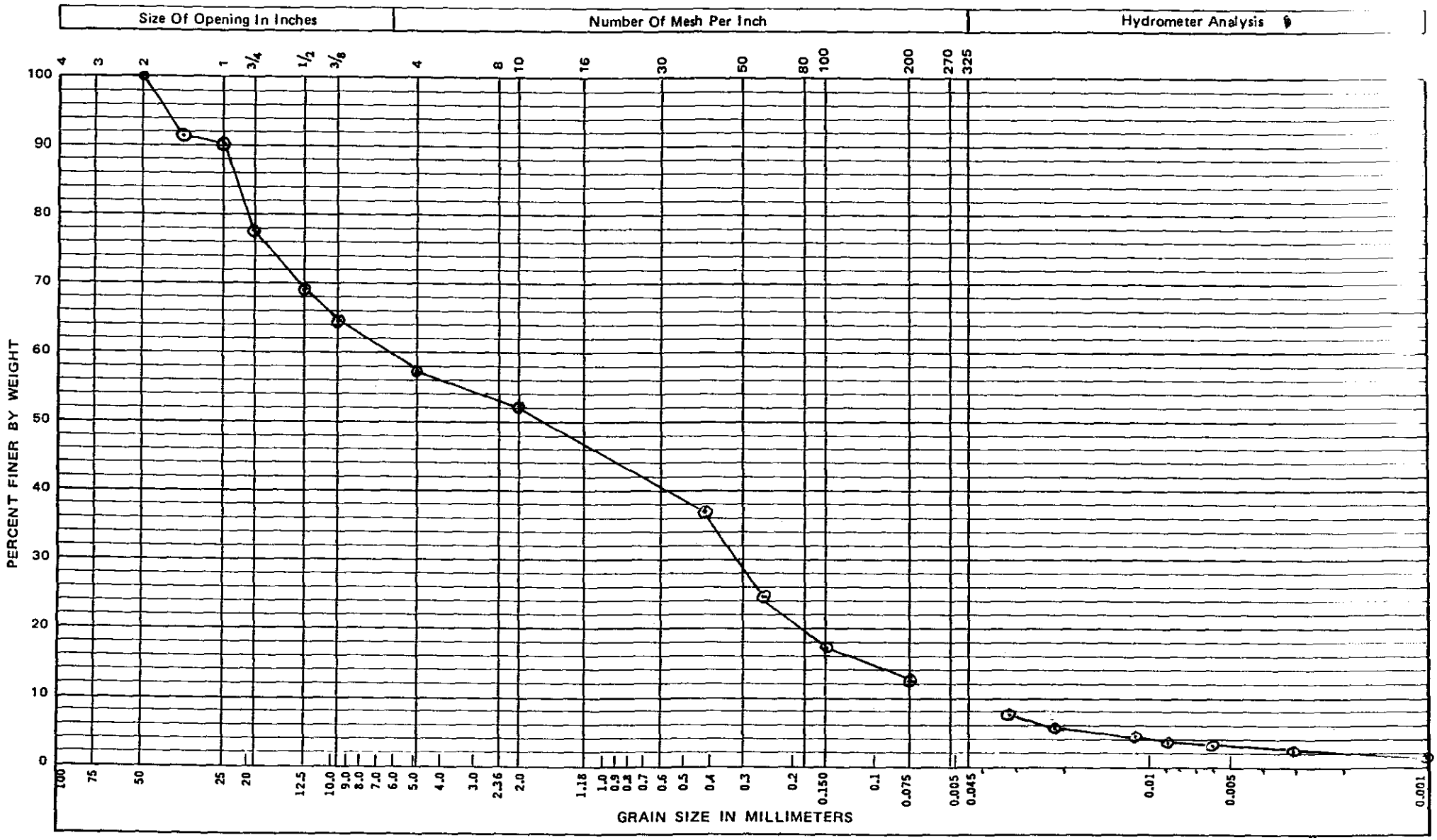
Checked By HC Benny Date 3-14-90

A-8400-204(2-87)

9211145

9 2 1 2 [illegible] 1 2 4 5

GRAIN SIZE ANALYSIS PLOT



Specimen No. O-124 Procedure No. ETAL-07 Rev. 1 Date Issued 11-15-89

Sample Description: SANDY GRAVEL

1100-3-E-5

Plotted by: R.G. ALEXANDER

Date: 3-13-90

Checked by: HC Benny

Date: 3-14-90

SOIL MOISTURE DATA SHEET

PROCEDURE NO. ETAL-14 REV. NO. 0

THERMOMETER NO. 0007 CALIBRATION DUE DATE 8-16-90

SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATER
0-124	4853.87	4704.17	120.63	4733.24	4583.54	3.27

ALL REQUIRED DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WAS APPROPRIATELY TRAINED AND TEST PROCEDURES FOLLOWED TO PRODUCE THE ABOVE DATA

TEST OPERATOR: R.G ALEXANDER DATE 3-13-90

SPECIFIC GRAVITY OF SOILS DATA SHEET

Specimen/Sample No. O-124 Page 1 of 1

Test Operator _____

EQUIPMENT ITEM	NO.	DATE DUE
Balance	3304	3-25-90
Oven Thermometer	0007	8-16-90
Thermometer	0002	2-9-91
Pycnometer	2554	NA

Wetting Agent "Q" WATER

	DETERMINATION NO.	1	2	3
	Drying Container No.	N/A	N/A	N/A
	Wt. Container + Oven Dry Soil, ± 0.01g	N/A		
	Wt. Container, ± 0.01g	N/A		
W_o	Wt. Oven Dry Soil, g	40.00		
	Pycnometer No.	2554		
	Wt. Pycnometer, g	135.72		
W_a	Wt. Pycnometer + Wetting Agent, g	387.10		
W_b	Wt. Pycnometer + Wetting Agent + Soil, g	412.56		
	Temperature, T_x at W_b, °C	24.4C		
G_w	Specific Gravity of Wetting Agent at T_x	1.00		
G_t	Specific Gravity of Soil at T_x	2.75		
G_s	Specific Gravity of Soil at 20°C	2.74		

$$G_t = \frac{G_{w^*}\gamma_{w^*}W_o}{W_o + (W_a - W_b)}$$

γ_w = Unit Weight Of Water (g/cc)

*$G_s = K \cdot G_t$

K values found in ASTM D854-58, Table 1

Average Specific Gravity At 20°c	2.74

*NOTE $G_s = G_t$ When Test Run at 20 °c

ALL REQUIRED DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WAS APPROPRIATELY TRAINED AND UTILIZED CALIBRATED TEST INSTRUMENTS AS INDICATED ABOVE. APPROVED TEST PROCEDURES WERE FOLLOWED TO PRODUCE THE ABOVE DATA.

Checked By HC Beaney Date 3-13-90

A-6400-235 (9-86)

9211143

HYDROMETER ANALYSIS DATA SHEET

Sample ID 0-124 Page 1 of 1

Tested By HCBenny Date 3-13-90

Procedure ETA-07 Rev 1 Date Issued 11/15/90

EQUIPMENT ITEM	NO.	CALIBRATION DUE DATE
Hydrometer	1000	2-16-91
Balance	3304	3-25-90
Thermometer/Thermocouple	0002	2-9-91

Specific gravity of Sample 2.74

% Passing No. 10 Sieve 52.1 (%)

Hygroscopic Correction Factor Ø

WEIGHT OF SAMPLE

Wt. Container + Soil NA (g)

Wt. Container NA (g)

Wt. Soil 114.86 (g)

COMPOSITE CORRECTION

1st Reading 5 at 23.2 °C

2nd Reading NA at NA °C

HYGROSCOPIC MOISTURE CONTENT

Wt. Container + Air Dry Soil NA (g)

Wt. Container + Oven Dry Soil NA (g)

Wt. Container NA (g)

Water Content NA (%)

REMARKS

Tube K

* Considerable Foam on top, approx. reading (~1/2")

W = 220.46

Date	Clock time	Elapsed time (min)	Hydrometer reading	Hydrometer with composite correction	Temp. (°C)	Soil in suspension (%)	Particle diameter (mm)
3-13-90	0730	2.0	~22 *	17	23.5	~~7.8~~	0.032
	0733	5.0	~18 *	13	23.5	5.8	0.021
	0743	15.0	15	10	23.3	4.4	0.012
	0758	30.0	13	8	23.4	~~3.4~~ 3.6	0.009
	0828	60.0	~~13~~ 12 1146 3-13-90	7	23.8	3.1	0.006
↓	1138	250.00	10	5	23.2	2.2	0.003
3-14-90	0728	1,440.0	8	3	23.2	1.3	0.001

Formulas and Tables used to calculate percent Soil in suspension, particle diameter and hygroscopic correction factor are found in ASTM D422.

ALL REQUIRED DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WAS APPROPRIATELY TRAINED AND UTILIZED CALIBRATED TEST INSTRUMENTS AS INDICATED ABOVE. APPROVED TEST PROCEDURES WERE FOLLOWED TO PRODUCE THE ABOVE DATA.

Checked By R.G Alexander Date 3-14-90

A-6400-205 (1.87)

9212-119

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector J.W. Lindberg & Steve Clark Date Sampled 3-9-90 Time 10:00 AM 12:00 hours

Company Contact J.W. Lindberg Telephone (509) 376-5005

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
HRL-H-2	1 plastic bag set	soil	ASTM-D-422 Grain Size Analysis
HRL-D-4	"	"	"
HRL-C-1	"	"	"
HRL-M-4	"	"	"
HRL-R-7	"	"	"
HRL-T-6-AH-172	"	"	"
1100-3-E-5	"	"	"
1100-3-F-8	"	"	"
1100-3-H-5	"	"	"
1100-3-H-8	"	"	"
1100-2-D-3	"	"	"
1100-2-F-4	"	"	"
1100-2-H-1	"	"	"
1100-2-HH-1	"	"	"

Field Information** Run hydrometer on all samples listed hereon

Special Handling and/or Storage NA

PART II: LABORATORY SECTION

Received by _____ Title _____ Date _____

Analysis Required _____

*Indicate whether sample is soil, sludge, water, etc.

**Use back of page for additional information relative to sample location.

A-6000-406 (07/89)

9212150

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Company Contact: JW Lindberg Telephone 6-5005

Sample Collected by: JW Lindberg Date: 3-9-90 Time: 10:35-11:15 AM

Sample Locations: 1100-3 pit

Ice Chest No.: NA Field Logbook & Page No.: WHC-N-306, p.68

Remarks: EII-5.2 with steel spade

Bill of Lading No.: NA Off Site Property No.: NA

Method of Shipment: Hand Carry

Shipped to: Jerry Alexander 210H Bldg Soil Testing Lab

Sample Identification	
1100-3-E-5 Surface Soil Sample	Plastic Bags sealed with duct Tape
1100-3-F-8 Surface Soil Sample	"
1100-3-H-5 Surface Soil Sample	"
1100-3-H-8-Surface Soil Sample	"

CHAIN OF POSSESSION

Relinquished by:	Received by:	Date/Time:
JW Lindberg JW Lindberg	R.G. Alexander R.G. Alexander	3-9-90 / 1300
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

FVR\071889-B

9212151

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-H-2 outside surfaces of plastic bag → <D B;γ/<D Direct / smear

Date: 3-9-90 By: D. M.
Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-D-4 outside surfaces of plastic bag → <D B;γ/<D Direct & smear

Date: 3-9-90 By: D. M.
Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-C-1 outside surfaces of plastic bag → <D B;γ/<D Direct/ smear

Date: 3-9-90 By: D. M.
Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-M-4 outside surfaces of plastic bag → <D B;γ/<D smear & Direct

Date: 3-9-90 By: D. M.
Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: SAMPLE # HRL-R-7 outside surfaces of plastic bag → <D B;γ/<D Direct / smear

Date: 3-9-90 By: D. M.
Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # HRL-T-6-AH-12 outside surfaces of plastic bag → <D B;γ/<D Direct & smear

Date: 3-9-90 By: D. M.
Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # 1100-3-E-5 outside surfaces of plastic bag → <D B;γ/<D Direct & smear

Date: 3-9-90 By: D. M.
Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: SAMPLE # 1100-3-F-8 → outside surfaces of plastic bag → <D B;γ/<D smear & Direct

Date: D. M. By: 3-9-90
Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: SAmple # 1100-3-H-5 → outside surfaces of plastic → <D B;γ/<D covering Direct/ smear

Date: 3-9-90 By: D. P. Midyett
Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: Sample # 1100-3-H-8 outside surfaces of plastic bag → <D B;γ/<D Direct / smear

Date: 3-9-90 By: D. M.
Radiation Monitoring

BL-6700-133 (10-77)