START

TEST REQUEST FORM

Sample/Specimen No. O-120 Cost Code/Work Order No. ED332

Requested By: Org. 8132 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
N/A	N/A	N/A

Remarks FIELD SAMPLE HRL-C-1

Received By: R.G ALEXANDER Date 3-9-90

Approved By: R.G ALEXANDER Date 3-9-90

SIEVE ANALYSIS DATA SHEET

Sample ID O-120 Page 1 of 1

Tested By R.G ALEXANDER Date 3-12-90

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

EQUIPMENT ITEM	CALIBRATION NO.	DATE DUE
Balance	3304	3-25-90
Thermometer	0007	8-16-90
	0062	2-9-91

Sample Description SILTY SAND Sieve Time _____ (min)

reduced by ☒ splitting ☒ quartering ☐ stockpile

(B) (A)

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

Sieve ID Number	Sieve Size	Sample Weight	Cumulative Wt. Retained (g)	% Retained	Cumulative % Retained	Cumulative % Pass	% Pass
N/A	2	2174.15	Ø	Ø	Ø	100	100
	1 1/2		Ø	Ø	Ø	100	100
	1		96.47	4.4	4.4	95.6	95.6
	3/4		159.39	7.3	7.3	92.7	92.7
	1/2		314.74	14.5	14.5	85.5	85.5
	3/8		398.03	18.3	18.3	81.7	81.7
	#4		573.36	26.4	26.4	73.6	73.6
	#10		708.92	32.6	32.6	67.4	67.4
	#40	83.08	23.60	28.4	28.4	71.6	48.3
	#60		39.09	47.1	47.1	52.9	35.7
	#100		47.66	57.4	57.4	42.6	28.7
	#200		54.89	66.1	66.1	33.9	22.8

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 33.9 %

D=Original Dry Weight of Sample 83.08 g

E=Dry Weight of Sample After Washing/Sieve 54.89 g

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

Remarks

SMALL FIELD SAMPLE

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

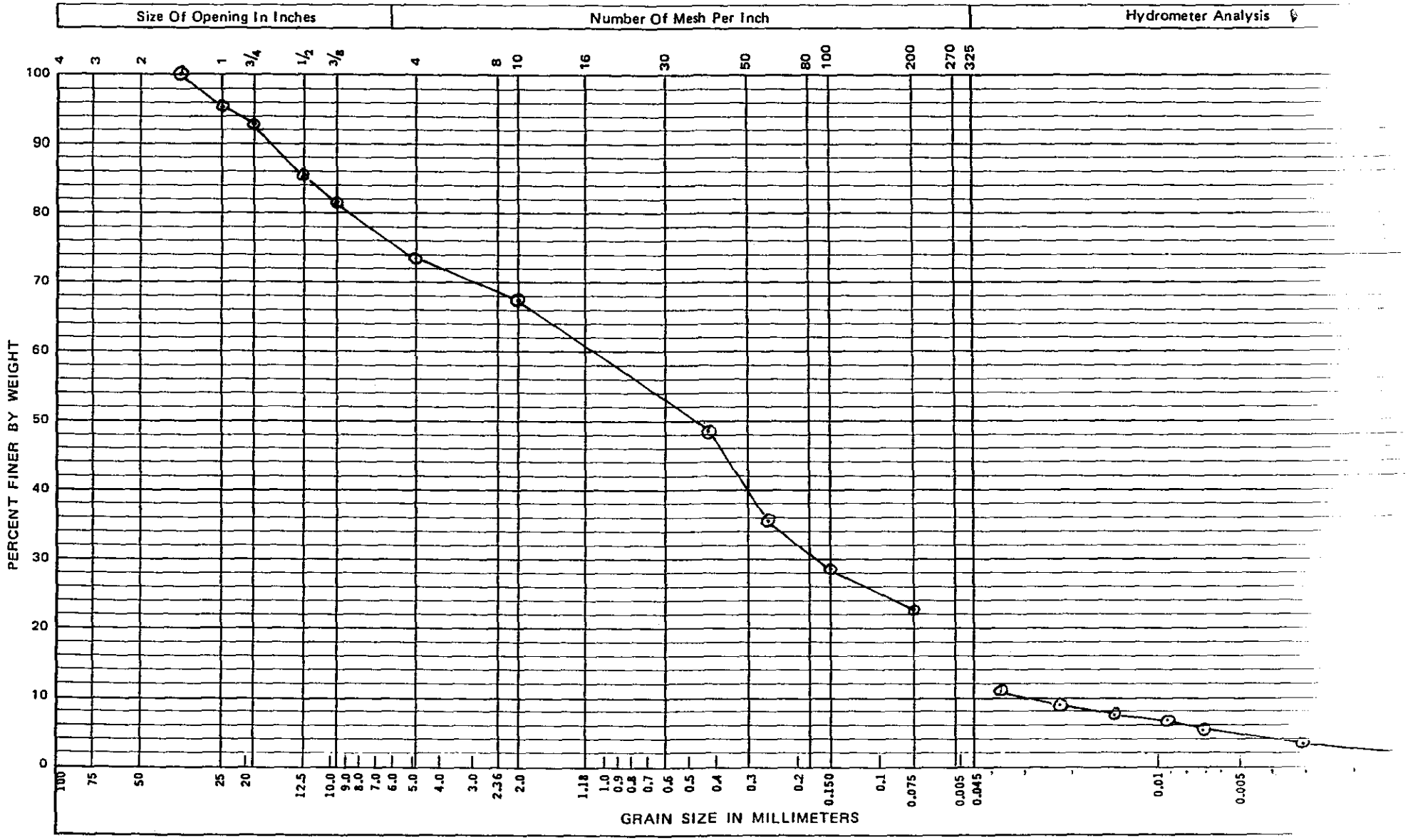
Checked By HL Benny Date 3-14-90

A-6400-204(2-87)

9211264

9212 0965

GRAIN SIZE ANALYSIS PLOT



Specimen No. D-120 Procedure No. ETAL-07 Rev. 1 Date Issued 11-15-89

Sample Description:	Plotted by:	Checked by:
SICTY SAND HRL-C-1	R.G ALEXANDER	H.L Benny
	Date: 3-13-90	Date: 3-14-90

SOIL MOISTURE DATA SHEET

PROCEDURE NO. ETAC-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
0-120	2393.43	2297.25	123.10	2270.33	2174.15	4.42

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-120 Page 1 of 1

Test Operator R.G ALEXANDER 3-13-90

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

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	40.02	.__	.__
	Pycnometer No.	2554		
	Wt. Pycnometer, g	135.72	.__	.__
W_a	Wt. Pycnometer + Wetting Agent, g	387.20	.__	.__
W_b	Wt. Pycnometer + Wetting Agent + Soil, g	411.31	.__	.__
	Temperature, T_x at W_b, °C	24.2 C		
G_w	Specific Gravity of Wetting Agent at T_x	1.00	_.__	_.__
G_t	Specific Gravity of Soil at T_x	2.53	_.__	_.__
G_s	Specific Gravity of Soil at 20°C	2.53	_.__	_.__

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

γ_w = Unit Weight Of Water (g/cc)

*$G_s = K \cdot G_t$

K values found in ASTM D854-58, Table 1

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

Average Specific Gravity At 20°c	2.53

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 J T Relyea Date 3-16-90

A-6400-235 (9-86)

9212-0367

HYDROMETER ANALYSIS DATA SHEET

Sample ID 0-120 Page 1 of 1

Tested By H.C Benny Date 3-13-90

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

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 2.53

% Passing No. 10 Sieve 67.4 (%)

Hygroscopic Correction Factor Ø

WEIGHT OF SAMPLE

Wt. Container + Soil NA (g)

Wt. Container NA (g)

Wt. Soil 83.08 (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 B

W= 123.26

* Considerable foam, reading approx (1½")

Considerable floating Organics

Pan 28

Date	Clock time	Elapsed time (min)	Hydrometer reading	Hydrometer with composite correction	Temp. (°C)	Soil in suspension (%)	Particle diameter (mm)
3-13-90	0547	2.0	~18	13	23.8	10.8	0.035
	0550	5.0	~16	11	23.7	9.1	0.022
	0600 ~~0560~~ Was 3-13-90	15.0	14	9	23.6	7.4	0.013
	0615	30.0	13	8	23.4	6.6	0.009
	0645	60.0	11	6	22.8	5.0	0.007
↓	0955	250.00	9	4	23.1	3.3	0.003
3-14-90	0545	1,440.0	7	2	23.4	1.7	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 3-16-90

A-6400-205 (1.87

9211258

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

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

Company Contact JW 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)

9211369

Westinghouse
Hanford Company

CHAIN OF CUSTODY

Company Contact: J.W. Lindberg Telephone 6-5005

Sample Collected by: JW Lindberg & Steve Clark Date: March 9 Time: 10:00-10:30 AM

Sample Locations: Horn Rapids Landfill, sample #s refer to grid nodes

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

Remarks: Procedure EII-5.2 soil sampling was used, standard steel spade was used to collect soil at depth of 0 to 0.3 ft.

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

Method of Shipment: Hand carry

Shipped to: Jerry Alexander 2101-M Soil Testing Lab

Sample Identification	
HRL-H2-Surface Soil Sample	plastic bags, green duct tape label
HRL-D4-Surface Soil Sample	" " " " " "
HRL-C1-Surface Soil Sample	" " " " " "
HRL-M-4-Surface Soil Sample	" " " " " "
HRL-R-7-Surface Soil Sample	" " " " " "
HRL-T-6-AH-172 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

9212270

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. Mabry
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)