

TEST REQUEST FORM

Sample/Specimen No. 0-118 Cost Code/Work Order No. ED 332

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

Test Requested	No. of Samples	Test Lab Information (Instruction Used)
<u>SIEVE ANAL.</u>	<u>1</u>	<u>ETAL-07</u>
<u>HYDRO</u>	<u>1</u>	<u>ETAL-07 (E-F-REV) RGA</u>
<u>SP G</u>	<u>1</u>	<u>ETAL-10</u>
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

Remarks FIELD SAMPLE
HRL-H-2

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

Approved By: RG ALEXANDER Date 3-9-90



9212113331

SIEVE ANALYSIS DATA SHEET

Sample ID G-118 Page 1 of 1

Tested By RG ALEXANDER Date 3-12-90

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

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

Sample Description SANDY GRAVEL Sieve Time 10 (min)

reduced by splitting quartering stockpile

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

Sieve ID Number	Sieve Size	Sample Weight	Cumulative Wt. Retained (g)	% Retained	Cumulative % Retained	Cumulative % Pass	% Pass
<u>N/A</u>	<u>2</u>	<u>3768.03</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>100</u>	<u>100</u>
	<u>1 1/2</u>		<u>254.45</u>	<u>6.8</u>	<u>6.8</u>	<u>93.2</u>	<u>93.2</u>
	<u>1</u>		<u>584.46</u>	<u>15.5</u>	<u>15.5</u>	<u>84.5</u>	<u>84.5</u>
	<u>3/4</u>		<u>882.44</u>	<u>23.4</u>	<u>23.4</u>	<u>76.6</u>	<u>76.6</u>
	<u>1/2</u>		<u>1280.34</u>	<u>34.0</u>	<u>34.0</u>	<u>66.0</u>	<u>66.0</u>
	<u>3/8</u>		<u>1486.38</u>	<u>39.4</u>	<u>39.4</u>	<u>60.6</u>	<u>60.6</u>
	<u>#4</u>		<u>1757.56</u>	<u>46.6</u>	<u>46.6</u>	<u>53.4</u>	<u>53.4</u>
	<u>#10</u>		<u>1997.00</u>	<u>53.0</u>	<u>53.0</u>	<u>47.0</u>	<u>47.0</u>
	<u>#40</u>	<u>100.32</u>	<u>51.33</u>	<u>51.2</u>	<u>51.2</u>	<u>48.8</u>	<u>22.9</u>
	<u>#60</u>		<u>83.59</u>	<u>83.3</u>	<u>83.3</u>	<u>16.7</u>	<u>7.8</u>
	<u>#100</u>		<u>90.30</u>	<u>90.0</u>	<u>90.0</u>	<u>10.0</u>	<u>4.7</u>
	<u>#200</u>		<u>93.01</u>	<u>92.7</u>	<u>92.7</u>	<u>7.3</u>	<u>3.4</u>

Fines Modules (FM) N/A (See ASTM C 136-B3, Section B.2)

MATERIALS FINER THAN NO. 200 SIEVE BY WASHING

C=Percentage of Material Passing a 200 Sieve 7.3 %
 D=Original Dry Weight of Sample 100.32g
 E=Dry Weight of Sample After Washing/Sieve 93.01 g
 $C = \frac{D-E}{D} \times 100$

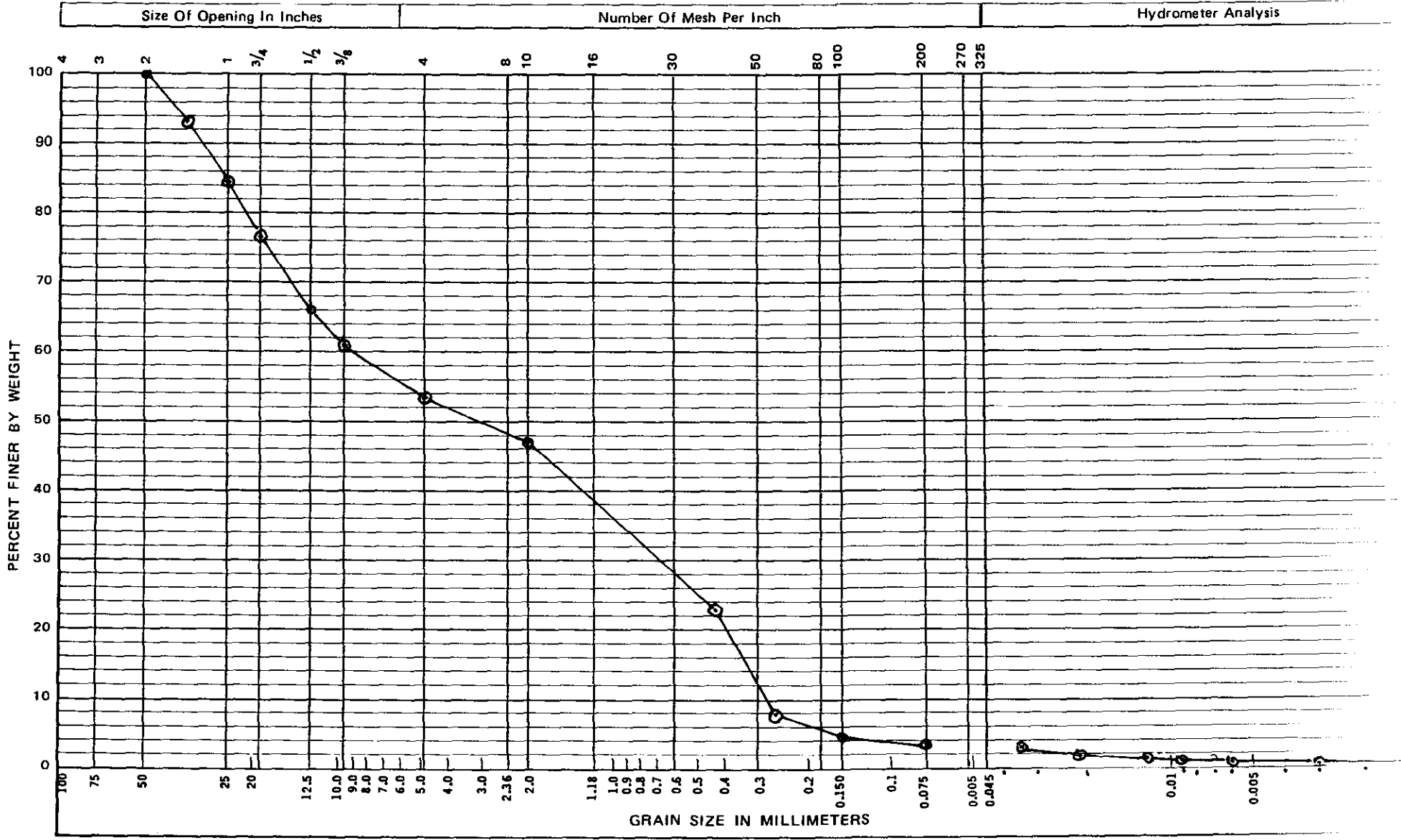
Remarks
SMALL FIELD SAMPLE
Pan 15

ALL DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WAS TRAINED AND USED CALIBRATED INSTRUMENTS
 Checked By HLBenny Date 3-14-91

9212 11192

9 2 1 2 - 1 1 0 7 9 3

GRAIN SIZE ANALYSIS PLOT



Specimen No 0-118 Procedure No ETAL-07 Rev. 1 Date Issued 11-15-89

Sample Description: SANDY GRAVEL
HRL-H-2

Plotted by: R.G. ALEXANDER
Date: 3-13-90

Checked by: HLBenny
Date: 3-14-90

SPECIFIC GRAVITY OF SOILS DATA SHEET

Specimen/Sample No. 0-118 Page 1 of 1

Test Operator <u>R.G ALEXANDER</u>	Date <u>3-12-90</u>
<u>EQUIPMENT ITEM</u>	<u>NO.</u>
<u>DATE DUE</u>	
Balance	<u>3304</u>
Oven Thermometer	<u>0007</u>
Thermometer	<u>0002</u>
Pycnometer	<u>2554</u>
	<u>3-25-90</u>
	<u>8-16-90</u>
	<u>2-9-91</u>
	<u>N/A</u>

Wetting Agent "0" WATER

DETERMINATION NO.		1	2	3
	Drying Container No.	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
	Wt. Container + Oven Dry Soil, ± 0.01g	<u>N/A</u>		
	Wt. Container, ± 0.01g	<u>N/A</u>		
W_o	Wt. Oven Dry Soil, g	<u>40.00</u>		
	Pycnometer No.	<u>2554</u>		
	Wt. Pycnometer, g	<u>135.72</u>		
W_a	Wt. Pycnometer + Wetting Agent, g	387.10 ^{387.10} 387.10 ³⁻¹⁴⁻⁹⁰		
W_b	Wt. Pycnometer + Wetting Agent + Soil, g	<u>412.75</u>		
	Temperature, T_x at W_b , °C	<u>23.40</u>		
G_w	Specific Gravity of Wetting Agent at T_x	<u>1.00</u>		
G_t	Specific Gravity of Soil at T_x	<u>2.79</u>		
G_s	Specific Gravity of Soil at 20°C	<u>2.78</u>	↓	↓

$$G_t = \frac{G_w \cdot Y_w \cdot W_o}{W_o + (W_a - W_b)}$$

Y_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	<u>2.78</u>
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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 HLC Benny Date 3-14-90

9212110335

HYDROMETER ANALYSIS DATA SHEET

Sample ID 0-118

Page 1 of 1

Tested By <u>HL Benny</u>	Date <u>3-12-90</u>	
Procedure <u>ETAL-07 Rev 1</u>	Date Issued <u>11-15-89</u>	
<u>EQUIPMENT ITEM</u>	<u>NO.</u>	<u>CALIBRATION DUE DATE</u>
Hydrometer	<u>1000</u>	<u>2-16-91</u>
Balance	<u>3304</u>	<u>3-25-90</u>
Thermometer/Thermocouple	<u>0002</u>	<u>2-9-91</u>

Specific gravity of Sample 2.78

% Passing No. 10 Sieve 47.0 (%)

Hygroscopic Correction Factor ∅

HYGROSCOPIC MOISTURE CONTENT

Wt. Container + Air Dry Soil NA (g)

Wt. Container + Oven Dry Soil NA (g)

Wt. Container NA (g)

Water Content NA (%)

WEIGHT OF SAMPLE

Wt. Container + Soil N/A (g)

Wt. Container N/A (g)

Wt. Soil 100.32 (g)

REMARKS

Tube J

W = 213.45

COMPOSITE CORRECTION

1st Reading 5 at 23.2 °C

2nd Reading NA at NA °C

Date	Clock time	Elapsed time (min)	Hydrometer reading	Hydrometer with composite correction	Temp. (°C)	Soil in suspension (%)	Particle diameter (mm)
<u>3-13-90</u>	<u>0712</u>	<u>2.0</u>	<u>12</u>	<u>7</u>	<u>23.1</u>	<u>3.2</u>	<u>0.034</u>
	<u>0715</u>	<u>5.0</u>	<u>9</u>	<u>4</u>	<u>23.3</u>	<u>1.8</u>	<u>0.022</u>
	<u>0725</u>	<u>15.0</u>	<u>8</u>	<u>3</u>	<u>23.5</u>	<u>1.4</u>	<u>0.013</u>
	<u>0745 0740</u>	<u>30.0</u>	<u>7</u>	<u>2</u>	<u>23.7</u>	<u>0.9</u>	<u>0.009</u>
	<u>0810</u>	<u>60.0</u>	<u>7</u>	<u>2</u>	<u>23.3</u>	<u>0.9</u>	<u>0.006</u>
<u>∇</u>	<u>1120</u>	<u>250.00</u>	<u>6</u>	<u>1</u>	<u>23.2</u>	<u>0.5</u>	<u>0.003</u>
	<u>0710</u>	<u>1,440.0</u>	<u>6</u>	<u>1</u>	<u>23.3</u>	<u>0.5</u>	<u>0.001</u>

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

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Checked By R.G. Alexander

Date 3-14-90

9212117736



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-U-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

<u>HRL-H2-Surface Soil Sample</u>	<u>plastic bags, green duct tape label</u>
<u>HRL-D4-Surface Soil Sample</u>	" " " " " "
<u>HRL-G1-Surface Soil Sample</u>	" " " " " "
<u>HRL-M4-Surface Soil Sample</u>	" " " " " "
<u>HRL-R7-Surface Soil Sample</u>	" " " " " "
<u>HRL-T6-AH-172 Surface Soil sample</u>	" " " " " "

CHAIN OF POSSESSION

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

Relinquished by: _____ Received by: _____ Date/Time: _____

Relinquished by: _____ Received by: _____ Date/Time: _____

Relinquished by: _____ Received by: _____ Date/Time: _____

921210037



Westinghouse
Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector JW Lindberg & Steve Clark Date Sampled 3-9-90 Time 10:00 AM
 Company Contact JW Lindberg Telephone (509) 376-5005 12:00 hours

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-AA-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.

CONDITIONAL RADIATION RELEASE

Instructions: sample # HAL-H-2
outside surfaces of
plastic bag → $LD B_{\gamma}/LD$
Direct / smear

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

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: sample # HRL-C-1
outside surfaces of plastic
bag → $LD B_{\gamma}/LD$
Direct / smear

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

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: sample # HRL-R-7
outside surfaces of
plastic bag → $LD B_{\gamma}/LD$
Direct / smear

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

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: sample # 1100-3-E-5
outside surfaces of
plastic bag → $LD B_{\gamma}/LD$
Direct & smear

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

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: sample # 1100-3-H-5
→ outside surfaces
of plastic → $LD B_{\gamma}/LD$
covering Direct / smear

Date: 3-9-90 By: A.P. Mitzel
Radiation Monitoring

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: sample # HRL-D-4
outside surfaces of
plastic bag → $LD B_{\gamma}/LD$
Direct & smear

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

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: sample # HRL-M-4
outside surfaces of plastic
bag → $LD B_{\gamma}/LD$
smear & Direct

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

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: sample # HRL-T-6-AH-12
outside surfaces of
plastic bag → $LD B_{\gamma}/LD$
Direct & smear

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

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: sample # 1100-3-F-8
→ outside surfaces of
plastic bag → $LD B_{\gamma}/LD$
smear & Direct

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

BL-6700-133 (10-77)

CONDITIONAL RADIATION RELEASE

Instructions: sample # 1100-3-H-8
outside surfaces of plastic
bag → $LD B_{\gamma}/LD$
Direct / smear

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

BL-6700-133 (10-77)