13 ... 13...

TEST REQUEST FORM

Test Requested	No. of Samples	Test Lab Information (Instruction Used)
Moisture		ETAL-14
LEVE ANALYSIA	\	ETAL- 07
Hyprometer		ETAL-07 (IF REQUIRED)
NA	N/A	NA

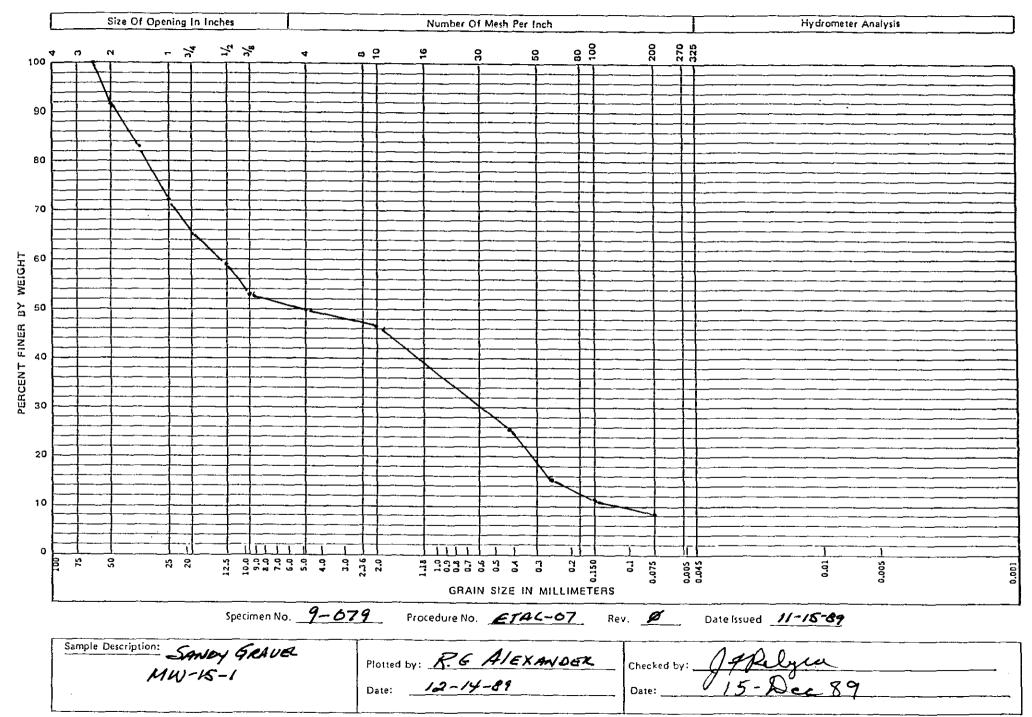


			SIEVE ANAL	YSIS DATA			
	Sampl	e ID <u>9-</u>	079		Page	of	
{	Tes	sted By E	& Alexand	ਦਾ [ate 12-13-8	1	
			TAL-07 Re			1_152.50	
	Pr	ocedure	are or Re	v <u>у</u> <u>г</u>	ate Issued <u>/</u>	1-13-11	
}		ROTITEME	NT ITEM CAI	IBRATION N	IO. DATE D	UE	
		Balance	NI TIBIA OIL	3304	900 7	2-20-69 0	LA 12-18-0
		Thermome		0006	2-6-9	10	
]	N/A	<u> </u>	NIA	N/A		
Sampl	—— ∩ee∏ el	rintion =	SANDY GRA	E	Gi mi		
Jampi					— Sieve Tir		nin)
		ьу 🔀 :	plitting	(A)	stockp	lle	
BEF	(B) ORE TI	est wt.	AFTER TE	ST WT. 2/A	$\frac{B-A}{B}X \ 100 = 4$	//////////////////////////////////////	
Sieve ID	Sieve	Sample	Cumulative Wt.	% Retained	Cumulative %	Cumulative 2	% Pass
Number	Size	Weight	Retained (g)		Retained	Pass	
N/A	2	4796,93	397.02	8.3	8.3	91.7	91.7
	11/2	1	793.94	16.6	16-6	83.4	83.4
	1		1324.07	27.6	27.6	72.4	72.4
	3/4		1780.81	37.1	37.1	42.9	62.9
	1/2		1964.08	46.9	40.9	59.1	59.1
	3/8		7258.65	47.1	47.1	52.9	52.9
	#4	•	2399.02	50.0	50.0	50.0	50.0
 	#10	4796.93	2563.47	53.4	53.4	46.6	46.6
	#40	152,31	68.16	44.8	44,8	55.2	15.7
	#60		103.18	67.7	67.7	32.3	15.1
	#100		116.21	75,6	75.6	24.4	11.4
4	# 200	4	124.70	81.9	81.9	18.1	8.4
	Finess !	Modules (FM	(i)	(See ASTM C 1	36-83, Section	8.2)	
MATERI	ALS FII	NER THAN	NO. 200 SIE	VE BY WASH			
C=Percen	tage of	Material Pa	ssing a 200 Siev	e 1/47.	Remark		· · · / ·
D=Origina	al Dry We	eight of San	nple	N/A g	WASH	FINE GRI	DING
E=Dry We	ight of :	Sample Afte	r Drying	N/A E			
	C = <	X <ם/(D-E) x	100				
AI	L DATA	ARE ACC	URATELY ANI	COMPLETE	LY RECORDE	THE TES	3T
l l		/\ _	AINED AND U	SED CALIBR			9
Ch	recked	ву	Kelyen_		Date		? /
_		V	- · · · · ·			-6400-204(2-87)	

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GRAIN SIZE ANALYSIS PLOT



SOIL MOISTURE DATA SHEET

PROCEDURE NO. <u>ETAL-14</u> REV. NO. <u>\$\psi\$</u>

THERMOMETER NO. 2006 CALIBRATION DUE DATE 2-6-90

SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATER
9-079	5462.05	5374.99	578.06	4883.99	4796.93	1.82
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· · · · · · · · · · · · · · · · · · ·						
				:		
			ļ 			

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 12-14-89

CHAIN OF CUSTODY

Company Contact: JonLINDBE	ERG.	Telephone	6-5005
Sample Collected by: Anderson	1 Lindberg	Date: <u>Dec. 11, 1</u>	189 Time: Kariable
Sample Locations: Horn Rapids 4	andfill, 1100	EM-1, MW-	15
Ice Chest No.: NA	Field	d Logbook & Page N	o.: pages 15-20
Remarks: <u>Samples collected</u>	at MW-15 fr	om 11/21/89 to	12/1/89
Bill of Lading No.: NA	Off	Site Property No.:	NA
Method of Shipment: Hand Car	ry		
Method of Shipment: Hand Car Shipped to: Jerry Alexande	× 2101-M	Physical Testin	g Laboratory
•	Sample Identif	ication	'
MW-15-1 Plastic Bag			
MW-15-2 Plastic Bag.	<u>.</u>		
MW-15- 4 Plastic Bags	<u>.</u> .		
MW -15- 5 Plastic Bag	· -		
MW-15-6 Plastic Bag	<u>-</u>		
MW-15-7 Flastic Bag	- -		
MW-15- 9 Plastic Bag	.		
MW-15- 10 Plastic Bac			
MW-15- 11 Plasticipa			
MW -15-12 Plastich			
Mb/ 15 13 90 tinely	ra 12-1/-89		
CHAIN OF POSSESSION Job Lindber	9		
Relinguished by:	Received by:	and-	Date/Time: /2-/2-89/4630
Refinquished by:	Received by:		Date/Time:
Relinquished by:	Received by:		Date/Time:
Relinquished by:	Received by:		Date/Time:
			FVR\071889-E

SAMPLING ANALYSIS REQUEST

	ld Section		 -1 -8 5	75	
ollector <u>V</u>	Veekes Anders	n Date Sam	pled <u>//-22-</u> 2	7 Time Yaru	ab apurs
ffiliation	of Sampler (1)es.	ting house	Golder		
ddress R	chland, WA number street	_J /			
	number street	: cit	y	state	zip
elephone <u>(5</u>	09) 376-5005	Company Conta	et JONLin	ndberg	
ABORATORY AMPLE UMBER	COLLECTOR'S SAMPLE NO.	TYPE OF SAMPLE*	FIELD	INFORMATION*	*
	MW-1 to MW-5	Soil	Retained	in plastic	bags
				,	•
	4				
		· · · · · · · · · · · · · · · · · · ·			
nalysis Requ	uested Sieve/	Hydrometer	- Analysis	ASTM-	-D-42
and M	uested <u>Sieve/</u> oisture As	†m-D-22	<u>ls</u> '		
and M	oisture As	†m-D-22	<u>ls</u> '		
cund M	oisture As	tm-D-22 e <u>Please</u> se	port any		
pecial Handi	ling and/or Storag	tm-D-22 e <u>Please</u> se moisture	port any		
pecial Handi	oisture As	tm-D-22 e <u>Please</u> se moisture	port any		
pecial Handi	oisture As ling and/or Storag may affect BORATORY SECTION**	tm-D-22 e <u>Please</u> se moisture	port any	breaks ii	
pecial Handle	oisture As ling and/or Storag may affect BORATORY SECTION**	tm-D-22 e <u>Please</u> se moisture	port any	breaks ii	
pecial Handlegs that ART II: LAE eceived by _ malysis Requ	ling and/or Storag may affect BORATORY SECTION**	†M-D-22 e <u>Please</u> se moisture Titi	port any	breaks ii	
pecial Handlegs that ART II: LAE eceived by _ nalysis Requi	oisture As ling and/or Storag may affect BORATORY SECTION**	TM-D-22 e <u>Please</u> se moisture Titl oil, sludge, et	port any	breaks ii	plasi

Figure 9-19. Example of hazardous waste sample analysis sheet.

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Revision 0
Date September 1986

RADIATION RELEASE	RADIATION RELEASE
Bldg. Hora Ralick Date 1-21.89	
Released By MI (ballance)	Blog. Total
Operational Health Physics Remarks	Released By Sperational Health Physics
5' Saulle	Remarks
54-39 0-022 (09/88)	10' Saup lb - 15 243000 22 (09/88)
RADIATION RELEASE	
Bldg. How Kaped Date 11-77-89	RADIATION RELEASE
Released By Maland	Bldg. How Rapids Date 11-27-89
Operational Health Physics	Released By Maseland
Remarks	Operational Health Physics Remarks Sample & Zo
24.3000-022 (49/88)	
MW 12-7	YNW - 3-59-000000 (09/88)
	· · · · · · · · · · · · · · · · · · ·

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TEST REQUEST FORM

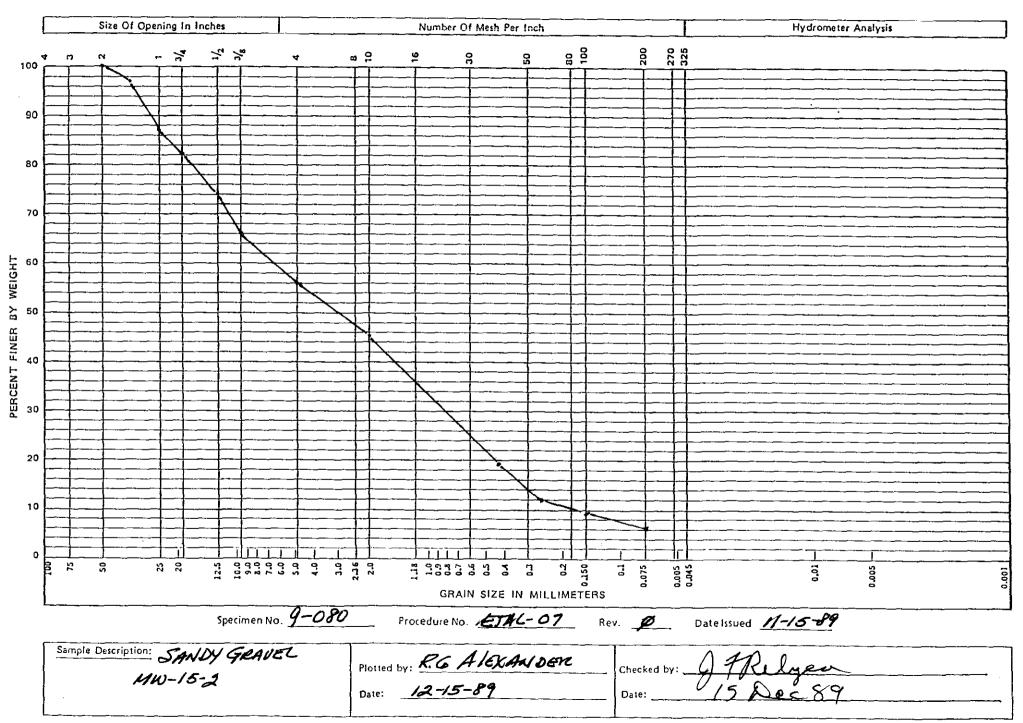
Sample/Specimen No	9-080	Cost Code/Work Order N	10. ED 332
Requested By: Org	. <u>80232</u>	Person J. LINDBERG	Date 12 - 13 - 89
	No. of	Tost Lah	Information
Test Requested	Samples		ction Used)
MOISTURE		ETAL-14	
SIEVE ALLYES	[ETAL-07	
Hydrometer	1	ETAL-07 (IF	<i>(</i> २६०)
4)4	NIA	N/A	
	•		
Remarks FIELD	SAMPUE	Received By: Re Ale	KANDER Date 12-12-09
MW-15-2		Approved By: RG ALGO	Auros- Date 12-13-89

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GRAIN SIZE ANALYSIS PLOT



SOIL MOISTURE DATA SHEET

PROCEDURE NO. ETHC-14 REV. NO. _______

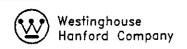
THERMOMETER NO. <u>0006</u> CALIBRATION DUE DATE <u>2-6-90</u>

		,				
SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATE
9-080	5518.09	5417.03	589.39	4928.70	4827.64	2.09/
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			1			
			-		.=	<u> </u>
			ļ			<u>-</u>
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/_						
					·	

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 12-14-89



0

CHAIN OF CUSTODY

Company Contact:	ALONY AND A		Telephone	
Sample Collected by:	nderson & Lind	berg	Date: <u>Dec. //, /</u>	989 Time: Kariable
Sample Locations: Hor	n Rapids Landfill	, 1100	-EM-1, MW-	15 WHC-N-306-2
ice Chest No.:	1	Fiel	id Logbook & Page 1	WHC-N-306-2 No.: pages 15-20
Remarks: <u>Samples</u> C	idlected at mw-	15 Si	rom 11/2/89 to	12/1/89
Bill of Lading No.:	IA	Off	Site Property No.:	NA
	<i>il</i>			
Method of Shipment: Shipped to: Jerry A	-lexander 210	1dg. 1-M	Physical Testin	ng Laboratory
•	Sample	e identi	fication	'
MW-15-1 Pla MW-15-2 Pl	STIC BAGS	-		
MW-15-3 Pla		-		
MW-15-4 Pla		•		
MW -15- 5 PI	150	•		
MW-15-6 P	٠, ٠	•		
MW-15-7 P		•		
	astic Bags	•		
	astic Bags	•		
	Plastic Dags	-		
	lastic Bags	•		
My 12 4	12-11-12 hara 12-11	-89		
CHAIN OF POSSESSION	JWLindberg	. • 1		
Relinquished by:	Received Received	by:	lend-	Date/Time: /2 -/z - 84/6630
Relinquished by:	Received	by:		Date/Time:
Relinquished by:	Received	d by:		Date/Time:
Relinquished by:	Received	i by:		Date/Time:
		····		FVR\071889-E

SAMPLING ANALYSIS REQUEST

iddress Re	hland Ul	A	tinghouse	city		state		zip
elephone <u>(50</u>				•	E JONL	,		
ABORATORY AMPLE UMBER	COLLEC SAMPLE	TOR'S NO.	TYPE OF SAMPLE*			LD INFORMAT	ION**	
	MW-1 to	MW-5	<u>Soil</u>		Re taine	d in plas	stic bas	<u>95</u>
	e 		•	-			 	
nalvete Pagu	stad S		م مراجعة المراجعة ا	 	Analys	: A<1	'm_D_	
nalysis Requ						is 155	'm-D-	<u>.42</u>
and Mo	isture	. As	ŤM-D-	22/	۵ .			<u> </u>
cand Mo	isture	. As	TM-D-	22/	۵ .			<u> </u>
cand Mo	isture Ing and/or may a	Storage	TM-D-	22/	۵ .			<u> </u>
pecial Handlings that	isture Ing and/or may a	Storage	ŤM-D- ₽ Please moistur	22/	ort an		s in pl	<u> </u>
nalysis Requirements of the pecial Handle Ha	isture ing and/or may a	Storage	ŤM-D- ₽ Please moistur	22/ (cp	ort an	y break:	s in pl	<u> </u>

NINE - 70

Revision 0 Date <u>September 1986</u> Released By ## April 1995 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 1996 | 19

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TEST REQUEST FORM

Sample/Specimen N	0.9-081	Cost Code/Work Order No. ED 332
Requested By: Or	g. <i>\$0232</i>	Person J. LINDBERG Date 12-13-89
Test Requested	No. of Samples	Test Lab Information (Instruction Used)
MOISTURE SIEVE AWAYSIS		ETAL-H
Hydrometer	<u> </u>	ETAL-07 (IF REQ)
NA	NA	NA
Remarks FIRD &	SAMPLE	Received By: R.6 Alexanossate 12-12-8
		Approved By: R6 Alexander Date 12-13-89

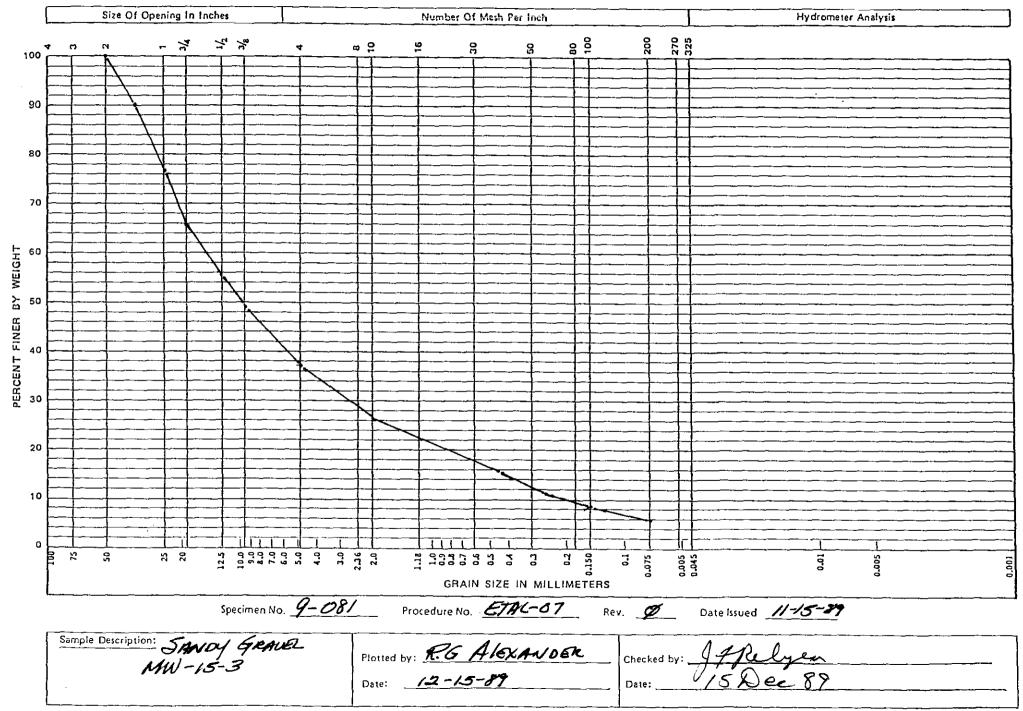
			SIEVE ANAL	YSIS DAT	A SHEET	_	
		e ID <u></u> 9-			Page _/		
	Tes	ted By	P. 6 ALEXAN	10er I	ate 12-18-	89	
	Pro	cedure_	E746-67 Re	v <u>ø</u> 1	ate Issued <u>"</u>	1-15-89	
		EQUIPME	NT ITEM CAL	IBRATION N	O. DATE D		
	-	Thermomet	ter	0006	2-6-9		
	-	NA		NIA			
Sampl	e Desc	ription_	SANDY GRAV	iet	— Sieve Tir	ne <u>/0</u> (r	nin)
	reduced	by 😿 s	plitting	quartering	□ stockp	lle	
BEF	(B) ORE TE	est wt. <u>#</u>	AFTER TE	ST WT.	$\frac{B-A}{B} \times 100 = 2$	VA % LOSS	
Sleve ID Number	Sleve Size	Sample Weight	Cumulative Wt. Retained (g)	% Retained	Cumulative %	Cumulative 7	% Pass
N/A	2	4833.75	Ø	Ø	Ø	100	100
	1/2		500.00	10.3	10.3	89.7	89.7
	1		1/32.39	23.4	23.4	76.6	76.6
	3/4		1652.16	34.2	34.2	45.8	65.8
	1/2		2149.17	44.5	44.5	55.5	55.5
	3/8		2470.14	51.1	51.1	48.9	48.9
	#4	1	3031.09	62.7	62.7	37.8	37.5
	#10	4833.73	<i>355</i> 5.33	73.6	73.6	26.4	26.4
	#40	128.84	54.72	42.5	42.5	57.5	15,2
	#60		73.64	56.7	56-7	43.5	11.4
	# 100		87.46	67.9	67.9	32.1	8.5
Ŋ	#Z00	†	/6/-33	78.6	78.4	21.4	5.7
	Finess l	Modules (FM	() N/A	See ASTM C 1	36-83. Section	B.2)	
MATERL	ALS FIN	VER THAN	NO. 200 SIE	VE BY WASE		· ·	
		Material Pas	sing a 200 Siev	e NA	Remark WASA	ES FINE GR	AO MH
_	•	Sample After	-	1/1/2 m			
L-DIJ We	_	(D-E)/D> X		ZW/FE			····
OF	ERATO		AINED AND U		LY RECORDED ATED INSTRU		

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GRAIN SIZE ANALYSIS PLOT



SOIL MOISTURE DATA SHEET

PROCEDURE NO. <u>ETAL-14</u> REV. NO. <u>Ø</u>

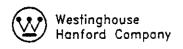
THERMOMETER NO. <u>0006</u> CALIBRATION DUE DATE <u>3-6-90</u>

SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATER
9-081	5536.No	5422.21	588.48	4947.68	4833.73	2.36/
 		<u> </u>				
<u></u>						
						
						<u> </u>
			K			
						<u> </u>
<u></u>	_					
		<u> </u>				
						
· · · · · · · · · · · · · · · · · · ·						
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			l	l		·

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. MEXIMOER

DATE 12-14-89



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CHAIN OF CUSTODY

Company Contact: JonLINDB	erg	Telephone <u>6-</u>	5005
Sample Collected by: Anderson	Lindberg Date	Dec. 11, 1989	Time: Kariable
Sample Locations: Horn Rapids 4	andfill, 1100-Em-	, MW-15	
Ice Chest No.: NA	Field Logbo	ok & Page No.:_ _	UHC-N-306-2 Zages 15-20
Remarks: <u>Samples collected</u>		•	
Bill of Lading No.:	Off Site Pro	operty No.: NA	1
Method of Shipment: Hand Car	ry		
Method of Shipment: Hand Car Shipped to: Jerry Alexande	X 2101-M Physi	ical Testing La	boratory
MW-15-1 Plastic Bag	Sample Identification		,
MW-15-2 Plastic Bas	} 2		
MW-15-3 Plastic Bag	, <u>5 </u>		
MW-15- 4 Plastic Bag.	5		
MW-15- 5 Plastic Bac	15		
MW-15-6 Plastic Bac	<u> </u>		
MW-15-7 Hastic Bay	<u>45</u>		
MW-15- 9 Plastic Bac	•		
MW-15- 10 Plastic Ba			· · · · · · · · · · · · · · · · · · ·
MW-15- 11 Plasticing			
Mb) -15-12 Plastics			
-11 -15 -13 to Jindh	org 12-11-89		
CHAIN OF POSSESSION	י פי		
Relinguished by:	Received by		Date/Time: /2-/2-84/4634
Refinquished by:	Received by:		Date/Time:
Relinquished by:	Received by:		Date/Time:
Relinquished by:	Received by:		Date/Time:
			FVR\071889-1

SAMPLING ANALYSIS REQUEST

ollector _	Weekes Ander	on Date Sa	impled <u>//-28-8</u>	7 Time <u>Varua</u>	a D Cours
ffiliation	of Sampler <u>Wes</u>	stinghouse/	Golder		
idress/	Nichland WA number street	•			
			ty	state	zip
lephone (509) 376-5005	Company Cont	act JON Lin	<u>dberg</u>	
BORATORY MPLE MBER	COLLECTOR'S SAMPLE NO.		FIELD	INFORMATION*	*
	MW-1 to MW-5	<u>Soil</u>	Retained	in plastic	bags
•				·	<u> </u>
alysis Re	quested Sieve/	Mudromet	er Analysis	ASTM-	-D-42
and 1	quested <u>Sieve</u> /	TM-D-2	2 <i>l</i> <u>L</u>		
ecial Hand	Moisture As	stm-D-2 ge <u>Please</u> s	eport any		
ecial Hand	Moisture As	stm-D-2 ge <u>Please</u> s	eport any		
ecial Hand	Moisture As dling and/or Storag + may affect	ge <u>Please</u> r moisture	eport any		
ecial Hand	Moisture As dling and/or Storag + may affect ABORATORY SECTION***	ge <u>Please</u> r moisture	eport any		
ectal Hand	Moisture As dling and/or Storag t may affect ABORATORY SECTION**	ge <u>Please</u> r moisture	eport any	breaks in	

Figure 9-19. Example of hazardous waste sample analysis sheet.

NINE - 70

Revision 0
Date September 1986

RADIATION RELEASE	
1 1 2 1 11 71 60	RADIATION RELEASE
Bidg. Hora Kafiels Date _ 21.89	Bldg. HOVA Japiels Date 11-21-89
Released By MA Charles	
Operational Health Physics	Released By // (All All All All All All All All All Al
Remarks	,
5 Saufle	Remarks
54-36 0-022 (09/88)	10 Janolo
(114)	mw-15-00022 (19/00)
RADIATION RELEASE	جي ديني دين الله الله الله الله الله الله الله الل
11 0 - 6 11 2 - 12	RADIATION RELEASE
Bidg. How Kaped Date 11-77-89	11 1 1 1 1 1 1 2 2 2 2
Released By Moland	Bldg. Hom Rafiels Date 11-27-89
Operational Health Physics	Released By MI (Beland
Remarks	Operational Health Physics
15 Sample	Remarks Saurell & 10'
33000-022 (02/88)	
11100 12 3	1 3 54 500 to 2 (09/88)
0	
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C	
F.,	

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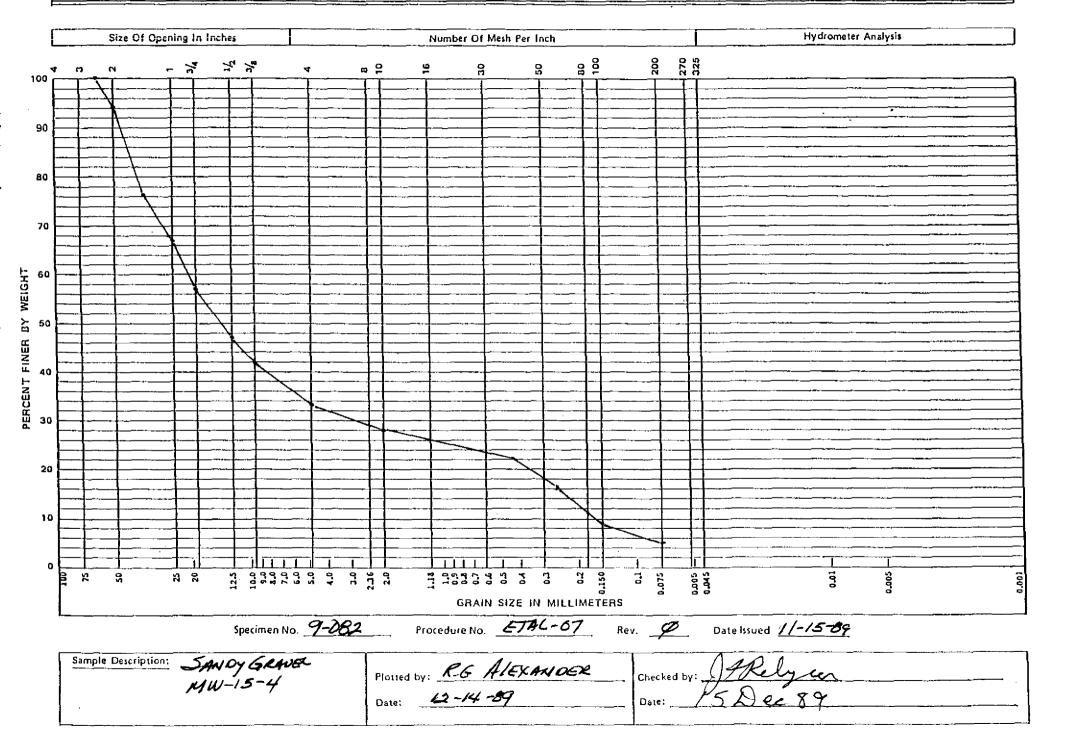
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TEST REQUEST FORM

Sample/Specimen No	9-082	Cost Code/Work Order No. ED 332
Requested By: Org	.80Z3Z	Person S. LINDEERC Date 12-13-89
Test Requested	No. of Samples	Test Lab Information (Instruction Used)
MOISTURE	1	ETAL-14
SIEVE ANALYSIS		ETAL-07
HYDROMETER	1	ETAL- D7 (IF REQ)
N/h	N/A	NIA
	•	
Remarks FIELD S	IMPLE	Received By: R.G A GXANOR Date 12-12-6
		Approved By: R& Alexander Date 12-13-6

A-6400-204(2-67)

GRAIN SIZE ANALYSIS PLOT



SOIL MOISTURE DATA SHEET

PROCEDURE NO. ETAL-14 REV. NO. B

THERMOMETER NO. DOOG CALIBRATION DUE DATE 2-6-90

SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATE
9-082	5251.52	5167.55	584.72	4Kd66-80	4582.83	1.83
		· · · · · · · · · · · · · · · · · · ·	_			
	<u> </u>					
/					 	_

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

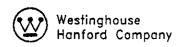
12-14-89

RADIATION RELEASE

Bidg. Horn Rafted Date 1-27-89

Released By March Date 1-77-89

Remarks Sample 270'



 \mathcal{I}

CHAIN OF CUSTODY

Company Contact: JonLINDB	erg	Telephone 6-5005
Sample Collected by: Anderson	<i>ALindbera</i> Date	: Dec. 11, 1989 Time: Variable
Sample Locations: Horn Rapids 4	andfill, 1100-EM-	1, MW-15 WHC-N-306-2
Ice Chest No.: NA	Field Logbo	whc-N-36-2 bok & Page No.: page 5 15-20
Remarks: <u>Samples</u> collected		
Bill of Lading No.: NA	Off Site Pr	operty No.: NA
Method of Shipment: Hand Car	cy	
Method of Shipment: Hand Car Shipped to: Jerry Alexande	2 2101-M Phys	ical Testing Laboratory
MW-15-1 Plastic Bag	Sample Identification	
MW-15-2 Plastic Ba		
MW-15-3 Plastic Bag	<u> </u>	
MW-15-4 Plastic Bag.	5	
MW -15- 5 Plastic Bac	<u> </u>	
MW-15-6 Plastic Bag		
MN-15-7 Flastic Bas	1	
MW-15- 9 Plastic Back		
MW-15- 10 Plastic Ba		
MW-15-11 Plastices MW-15-12 Plastices		
	2-1/-89	
CHAIN OF POSSESSION Julindhe	g	
Relinquished by:	Received by:	Date/Time: /2-12-84/163
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
		FVR\071889-

<u></u>	chland WA number street 09) 376-5005		•	state Ibero	zip
LABORATORY SAMPLE NUMBER	COLLECTOR'S SAMPLE NO.	TYPE OF SAMPLE*	FIELD	INFORMATION==	
	MW-1 to MW-5	<u>Soil</u>	Retained !	in plastic	bag s
		·•			
Analysis Requ	uested <u>Sieve/</u> oisture As	Hydromete TM-D-2	r Analysis	ASTM-	D-42
cand M	oisture AS	tm-D-2:	port any l		
special Handi	ling and/or Storag	†M-D-2: le <u>Please se</u> moisture	port any l		
special Handi	oisture AS	†M-D-2: le <u>Please se</u> moisture	port any l		

NINE - 70

Revision 0 Date September 1986

TEST REQUEST FORM

Sample/Specimen No. 9-083	Cost Code/Work Order No. ED 332
Requested By: Org. 8023a	Person J. LINDBERG Date 12-18-89
No. of Test Requested Samples	Test Lab Information (Instruction Used)
MOISTURE 1	ETAL-14
SIEVE ANALYSIS 1	ETAL- 07
HORNETER	ETAL- 07 (IPPEQUIRED)
N/A N/A	N/A
•	
Remarks FIELD SAMPLE MW- 15-5	Received By: R.G. Alexander Date 12-12-8 Approved By: R.G. Alexander Date 12-18-8

			SIEVE ANAL	YSIS DAT	A SHEET		
	Sampl	e ID <u>9-0</u>	83		Page	of	
	Tes	sted By R	G. AIEXAN	Dec I	ate 12-18-8	9	
	Pre	ocedure <u>E</u>	721-07 Re	v <u>9</u> 1	Date Issued <u> 1</u>	1-15-89	
		EQUIPME	NT ITEM CAL	IBRATION N			
	ļ ,	Balance		3304	12-28-8 7-6-90	<u> </u>	
		Thermome	cer	0006 N/A	NIA		
C. w. w.			AMOY GRAVE	(
Samp					- Sieve Tir	-	nin)
	reduced (B)	LDY LA	splitting	(A)	_ □ stockp		
BEF	FORE TE	est wt.	/ AFTER TE	ST WT.	$\frac{B-A}{B}X 100 = 2$	V/4 % LOSS	
Sleve ID Number	Sieve Size	Sample Weight	Cumulative Wt. Retained (g)	% Retained	Cumulative %	Cumulative 7	% Pass
N/A	2	4642.65	496.32	10.7	10.7	89.3	89.3
	1/2		994.55	21.4	21.4	78.6	78.6
	1		1412.56	30.4	30.4	69.6	69.6
	3/4		1700.87	36.6	36.6	63.4	63.4
	1/2		2112.61	45,5	45.5	54.5	54.5
<u> </u>	3/8		2334.97	50.3	50.3	49.7	49.7
	#4	1	28 35.46	61.1	61.1	38.9	38.9
	#10	464265	3147.17	67.8	67.8	32.2	32.2
	#40	126.36	28.99	22.9	22.9	77.1	24.8
	#60		45.81	34.5	54-3	63.7	26.5
	#100		65.85	52./	52.1	47.9	15.4
<u> </u>	#200	\ b	83.14	45.8	45.8	34.2	11,0
	Finess l	Modules (FM	(1)	See ASTM C 1	36-83, Section	8.2)	
			NO. 200 SIE			L	
	_		ssing a 200 Slev		Remark	CS FINE GRA	40 mbb
-	=	eight of San	_	N/A g			
E=Dry We	_	Sample Afte :(D-E)/D> X		7// g			
			URATELY AND)	TY PECORDET	D. THE TES	
ŗ			AINED AND U				"
Ch	ecked	By_HL	Serry		Date	1/3/90	-
					A	-6400-204(2-87)	

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SPECIFIC GRAVITY OF SOILS DATA SHEET

EQUIPMENT ITEM NO. DATE DUE Balance 3304 $3-25-90$ Oven Thermometer 007 $8-/6-90$ Thermometer 002 $2-9-91$ Pycnometer 2554 N/A Wetting Agent 2554 N/A Wetting Agent 1 2 DETERMINATION NO. 1 2 Wt. Container + Oven Dry Soil, \pm 0.01g N/A N/A Wt. Container + Oven Dry Soil, \pm 0.01g N/A N/A Wt. Container + Oven Dry Soil, \pm 0.01g N/A N/A Wt. Oven Dry Soil, \pm 0.01g N/A N/A Wt. Oven Dry Soil, \pm 0.01g 1 1 Wt. Pycnometer No. 2554 1 Wt. Pycnometer + Wetting Agent, \pm 387 -21 1 Wt. Pycnometer + Wetting Agent \pm 50il, \pm 4/2 -1 1 Wt. Specific Gravity of Wetting Agent at \pm 1.00 1 1 Wt. Specific Gravity of Soil at \pm 20°C 2 2 2 Wt. Pycnometer + Wetting Agent at \pm 1.00 2 2 2 2		<u>-28-90</u>		EXANDER	Operator R.G. Ale	Test	
Balance 3304 3-25-90 Oven Thermometer 0007 8-/6-90 Thermometer 0002 2-9-9/ Pycnometer 2554 \times //A Wetting Agent \times 0' \times 0' \times 0' \times 1 DETERMINATION NO. 1 2 DETERMINATION NO. 1 2 Drying Container No. \times 1/A \times 1/A \times 1/A \times 2 Wt. Container + Oven Dry Soil, \pm 0.01g \times 1/A \times 2 Wt. Container + 0.01g \times 1/A \times 2 Wt. Container, \pm 0.01g \times 1/A \times 2 Wt. Pycnometer No. 2554 Wt. Pycnometer No. 2554 Wt. Pycnometer, g 135.12 \times 2 W ₃ Wt. Pycnometer + Wetting Agent, g 387.29 \times 2 W ₄ Wt. Pycnometer + Wetting Agent + Soil, g \times 4/12.15 \times 2 Temperature, T_x at W_b , T_x 0 G ₅ Specific Gravity of Soil at T_x 1.00 \times 2 G ₆ Specific Gravity of Soil at T_x 2.48 \times 3 G ₇ Specific Gravity of Soil at T_x 4 G ₈ Specific Gravity of Soil at T_x 5 G ₉ Specific Gravity of Soil at T_x 6 G ₁ Specific Gravity of Soil at T_x 7 C ₁ T_x 8 Unit Weight Of Water (g/cc) Average Specific Gravity At 20°c							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		DATE DUE	<u>).</u>	. <u>N</u>	EQUIPMENT ITEM		
Thermometer $OOOZ$ $Z-9-9/1$ Pycnometer $Z554$ N/A Wetting Agent $OOOZ$ $Z-9-9/1$ Wetting Agent $OOOZ$ $Z-9-9/1$ DETERMINATION NO. 1 2 Drying Container No. N/A		3-25-90	<i>‡</i>	330	ance	Baia	
Pycnometer 2554 N/A Wetting Agent DETERMINATION NO. 1 2 DETERMINATION NO. 1 2 N/A N/A N/A WIL Container + Oven Dry Soil, \pm 0.01g N/A N/A <td col<="" td=""><td><u> </u></td><td>8-16-90</td><td></td><td>000</td><td>en Thermometer</td><td>Ove</td></td>	<td><u> </u></td> <td>8-16-90</td> <td></td> <td>000</td> <td>en Thermometer</td> <td>Ove</td>	<u> </u>	8-16-90		000	en Thermometer	Ove
Wetting Agent $\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	_		2	000	ermometer	The	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	<u></u>	N/A	/	255	nometer	Рус	
Drying Container No. N/A N				ζ	ing Agent <u>"O" WATER</u>	Wetti	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	3	2	1	NO.	DETERMINATION NO		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	NIA	N/A	N/A		Drying Container No.		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	·- [·-	·	N/A	oil, ± 0.01g	Wt. Container + Oven Dry Soil,		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	۸ .	·	N/A		Wt. Container, ± 0.01g	•	
		·	40.00		Wt. Oven Dry Soil, g	w,	
			2554		Pycnometer No.		
$W_b \text{Wt. Pycnometer + Wetting Agent + Soil, g} \qquad $	- · ·	·	135.12				
Temperature, T_x at W_b , o C G_w Specific Gravity of Wetting Agent at T_x G_t Specific Gravity of Soil at T_x G_t Specific Gravity of Soil at T_x G_t Specific Gravity of Soil at T_x $G_t = \frac{G_{w^*} Y_{w^*} W_0}{W_0 + (W_0 - W_0)}$ $Y_w = \text{Unit Weight Of Water (g/cc)}$ Average Specific Gravity At 20° C	٠.	·	387.01	lgent, g	Wt. Pycnometer + Wetting Ag	W _a	
$G_{w} \text{Specific Gravity of Wetting Agent at T}_{x} \qquad \qquad$		·	412 ·LS	lgent + Soil, g	Wt. Pycnometer + Wetting Ag	W _b	
$G_{t} \text{Specific Gravity of Soil at } T_{x} \qquad \qquad \underbrace{2 \cdot 48}_{- \cdot - \cdot -} G_{s} \text{Specific Gravity of Soil at } 20^{\circ}\text{C} \qquad \qquad \underbrace{2 \cdot 47}_{- \cdot -} G_{t} = \frac{G_{w} * Y_{w} * W_{o}}{W_{o} + (W_{o} - W_{b})}$ $Y_{w} = \text{Unit Weight Of Water } (g/cc) \qquad \qquad A \text{Verage Specific Gravity At } 20^{\circ}\text{C}$			25.6.		Temperature, T _x at W _b , °C		
$G_{t} = \frac{G_{w} Y_{w} W_{o}}{W_{o} + (W_{a} - W_{b})}$ $Y_{w} = \text{Unit Weight Of Water (g/cc)}$ $G_{t} = \frac{G_{w} Y_{w} W_{o}}{W_{o} + (W_{a} - W_{b})}$ $Y_{w} = \text{Unit Weight Of Water (g/cc)}$ $A \text{Verage Specific Gravity At 20°c}$			1.00	gent at T _x	Specific Gravity of Wetting Age	G _w	
$G_t = \frac{G_{w^*} Y_{w^*} W_0}{W_0 + (W_0 - W_0)}$ $Y_w = \text{Unit Weight Of Water (g/cc)}$ $G_s = \text{K.G}_t$ $A \text{Verage Specific Gravity At 20°c}$	·		2.68		Specific Gravity of Soil at T _x	G,	
γ _w = Unit Weight Of Water (g/cc) *G _s = K•G _t . Average Specific Gravity At 20°c	1	A	2.47	c	Specific Gravity of Soil at 20°C	G,	
C values found in ASTM D854-58, Table 1	2.	ic Gravity At 20°c	Average Speci		Unit Weight Of Water (g/cc)	Yw =	
				ole 1	ues found in ASTM D854-58, Table	K valu	
*NOTE G _s = G _t When Test Run at 20 °c				°c	E G, = G, When Test Run at 20 °c	NOT	

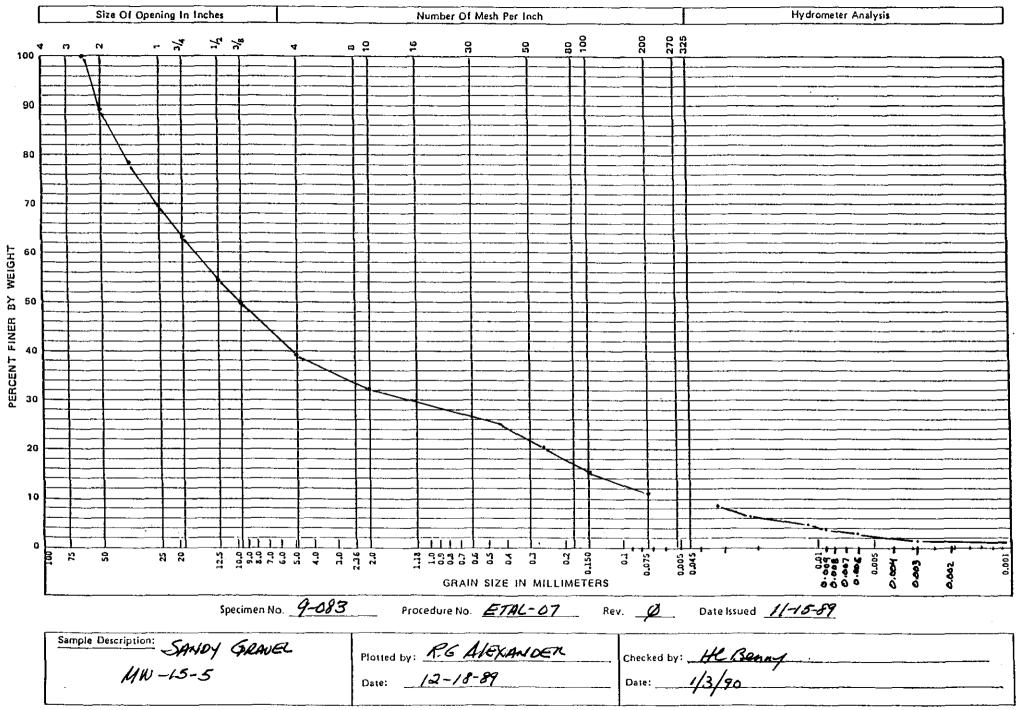
Date	Clock time	Elapsed time (min)	Hydrometer reading	Hydrometer with composite correction	Temp. (°C)	Soil in suspension (%)	Particle diameter (mm)
2-28-90	1150	2.0	25	19	25.1	8.2	0.032
	1153	5.0	20	14	25.1	6.0	0.021
	1203	15.0	17	11 60	24.4	4.8	0.012
	1218	30.0	1.5	9	24.1	3.9	0.009
	1248	60.0	13	7	23.5	3.0	0.006
	1558	250 00	10	4	22.8	1.7	0.003
3-1-90	1148	1,440.0	9	3	22.7	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.

ļ	ALL REQUIRED DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WAS APPROPRIATELY
Ì	TRAINED AND UTILIZED CALIBRATED TEST INSTRUMENTS AS INDICATED ABOVE. APPROVED TEST PROCEDURES WERE
ļ	FOLLOWED TO PRODUCE THE ABOVE DATA.
ì	1/2-1-1

Checked By R-G Mexande Date 3-5-90

9 2 GRAIN SIZE ANALYSIS PLOT



SOIL MOISTURE DATA SHEET

PROCEDURE NO. <u>ETAL-14</u> REV. NO. <u>S</u>

THERMOMETER NO. <u>0006</u> CALIBRATION DUE DATE <u>26-96</u>

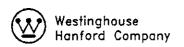
SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATER
9-083	5282,53	5220.71	578.06	4704.47	4642.65	1.33
-						
		<u> </u>				
						·
			\times			
				<u> </u>		
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						$\overline{}$

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 12-18-89



CHAIN OF CUSTODY

Company Contact: JONLINDBE	<u> </u>		Telephone	6-5005
Sample Collected by: Anderson	1Lindle	erg.	Date: Dec. 11, 198	39 Time: Kariable
Sample Locations: Horn Rapids L	andfill,	1100	-EM-1, MW-15	10 H c = 4/- 30/ 2
Ice Chest No.: NA		Fiel	ld Logbook & Page No.	pages 15-20
Remarks: <u>Samples collected</u>	at MW-1	5 √	rom 11/21/89 to 1:	2/1/89 :
Bill of Lading No.: NA		Off	Site Property No.:	VA
_				
Method of Shipment: Hand Car Shipped to: Jerry Alexande	r 2/0/	dg. -M	Physical Testing	Laboratory
MW-15-1 Plastic Bag	Sample	ldenti	fication	,
MW-15-2 Plastic Bag	2			•
MW-15-3 Plastic Bag	5			
MW-15-4 Plastic Bags	<u> </u>			·
MW-15- 5 Plastic Bag	5			
MW-15-6 Plastic Bag	5			
MW-15-7 Flastic Bag	5			
MW-15- 9 Plastic Bag	•			
MW-15- 10 Plastic Bas				
MW-15- 11 Plasticipa				
MW -15-12 Plastich	,			
0	Vra 12-11-6	79		
CHAIN OF POSSESSION	3			
Relinguished by:	Received RG	M.	and-	Date/Time: /2-/2-84/6630
Relinquished by:	Received	by:		Date/Time:
Relinquished by:	Received	by:		Date/Time:
Relinquished by:	Received	by:		Date/Time:
				FVR\071889-B

SAMPLING ANALYSIS REQUEST

		estinghouse,	GDIGET	 	····
lddress	chland UA number str	eet c	ity	State	zip
elephone <u>(</u>	09) 376-500	5 Company Cont	- -		
ABORATORY AMPLE UMBER	COLLECTOR'S SAMPLE NO.	S TYPE OF		INFORMATION*	**
	MW-1 to MW		-	in plastic	
nalysis Requ	uested <u>Sieve</u>	e/Hydromet 15TM-D-2	er Analysis	ASTM-	-D-42
ecial Hand	oisture /	rage <u>Please</u>	eport any		
ecial Hand	ling and/or Sto	orage <u>Please</u> s ct moisture	eport any		
and Monecial Handi	oisture /	15 TM-D-2 orage <u>Please</u> s ct moisture	eport any		
ectal Hand	ling and/or Sto may affe	15 TM-D-2 orage <u>Please</u> s ct moisture	eport any	breaks i	

Figure 9-19. Example of hazardous waste sample analysis sheet.

NIME - 70

Revision 0 Date <u>September 1986</u>

RADIATION RELEASE	RADIATION RELEASE
eleased By March Capalaire	Bldg. Horn Japich Date 11-21-89
Operational Health Physics	Released By
Remarks	Remarks
5 Saufle 54-35 0-022 (09/88)	10 Daus 6 MW - 15 = 2000, 82 (09/88)
RADIATION RELEASE	
Bldg. Horn Kaper Date 11-77-84	RADIATION RELEASE
Released By	Bidg. Han Ropids Date 11-27-89
Operational Health Physics	Released By Operational Health Physics
Remarks	Remarks Sample p 20'
15 Samples (3000-022 (30/88)	MW-15_59-600 (09/88)
RADIATION RELEASE	
Bidg. 1-10m Rayleds Date 11-27-84 Released By M. Colon &	RADIATION RELEASE Bldg. Horn Raggels gate 11-78-89
Operational Health Physics	Released By Manager Ma
Remarks	Remarks Ober Clona Alexandria
54-3000-022 (09/88)	30 Daufle 54-3000-022 (09/88)
PADIATION DE LA CA	
RADIATION RELEASE	
Bldg. /on kyciols Date 11- 78-87	
Released by Operational Health Physics	
· · · · · · · · · · · · · · · · · · ·	

TEST REQUEST FORM

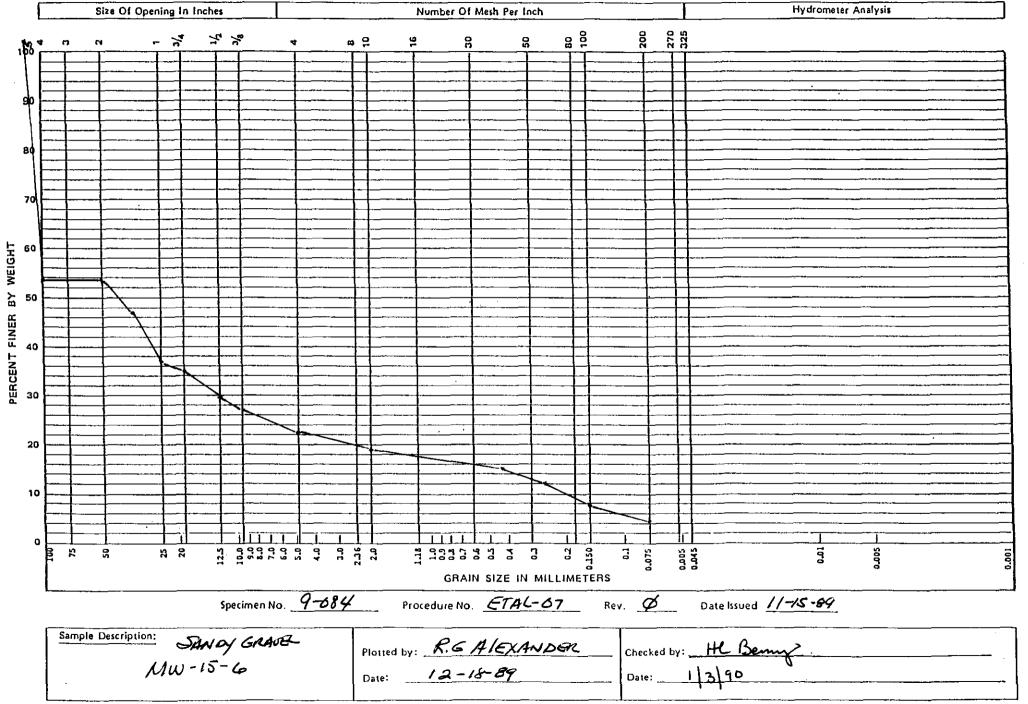
Sample/Specimen No	.9-084	Cost Code/Work Order No. ED332
Requested By: Org	.80Z3Z	Person J. LINDBERG Date 12-18-69
Test Requested	No. of Samples	Test Lab Information (Instruction Used)
SIEVE ANALYSIS		ETAL-07
HYDROMETER	1	ETAL-07 (IF RED)
N/A	NIA	N/A
N/A	N/A	N/A
	•	
Remarks Fiers	SAMPLE	Received By: RG Alexander Date 12-12-8 Approved By: RG Alexander Date 12-18-89

*****			SIEVE ANAL	YSIS DATA	A SHEET		
		e ID 9-			Page	of/	
	Tes	ted By K	?6 Alexan	der d	ate /2 -/8-	89	
	Pro	ocedure <u> &</u>	77K-07 Re	v <u>ø</u> 1	ate Issued_/	1-15-69	
		EQUIPME Balance	NT ITEM CAL	IBRATION N	O. DATE D		
		Thermome	ter	006 N/A	2-6-		
Sampl	e Desc	ription_	SANOY GRAV	<i>E</i>	— Sieve Tir	ne <u>/0</u> (n	ain)
	reduced	by 🔭 s	plitting [quartering	□ stockp	ile	
BEF	(B) ORE TE	est wt. 🗹	/A AFTER TE	ST WT. NA	$\frac{B-A}{B} \times 100 = A$	Z/A % LOSS	
Sieve ID Number	Sieve Size	Sample Weight	Cumulative Wt. Retained (g)	% Retained	Cumulative % Retained	Cumulative 7 Pass	% Pass
NIA	4	4468.65	2068,17	44.3	46.3	53.7	53.7
	1/2		2382.64	53.3	53.3	44.7	46.7
			2796.36	62.6	62.6	37.4	37.4
	3/4		29.19.02	65.3	<i>65.</i> 3	84-7	34.7
	1/2		3146.42	70.4	70.4	29.6	29.6
	3/8		3258.34	72.9	72.9	27.1	27.1
	#4	7	3461.60	77.5	77.5	22.6	22.5
	# 10	4468.65	3607.22	80.7	86.7	19.3	19.3
	#40	126.47	25.64	<i>\$</i> 6.3	79.7	79.7	15.4
	#40		47.24	37.4	62.5	62.5	12.1
	#100		75 20	<i>59</i>	46.5	40.5	7.8
À	#200	*	97.90	77.4	22.6	22.6	4.4
	Finess l	Modules (FM	1)((See ASTM C 1	36-83, Section	8.2)	
MATERI	ALS FI	VER THAN	NO. 200 SIE	VE BY WASE			
	-		ssing a 200 Slev		Remar (1) 44	KS ROCK IN (DU ALTE
_	=	eight of San	-	N/AE		. WASH F	
E=Dry We	_	Sample Afte (D-E)/D> X		<i>∠</i> ¥/ <i>B</i> _g	GRADA	JG,	
AI	L DATA	ARE ACC	URATELY ANI	COMPLETE	LY RECORDE	O. THE TES	T
			AINED AND U	SED CALIBR			
Ch	recked	БУ <u></u>	Berny		Date	1/3/90] .

 \Box

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SOIL MOISTURE DATA SHEET

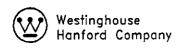
PROCEDURE NO. ETAL-14 REV. NO. #

THERMOMETER NO. <u>0006</u> CALIBRATION DUE DATE <u>2-6-90</u>

SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATER
9-084	5222.05	5057.13	588.48	4633.57	4468.65	3.69
<u> </u>						
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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. 6 ALEXANDER DATE 12-18-89



CHAIN OF CUSTODY

Company Contact: JonLINDBE	RG		Telephon	6-5005
Sample Collected by: Anderson	Lindle	berg	Date: <u>Dec. //,</u>	1989 Time: Kariable
Sample Locations: Horn Rapids L. Ice Chest No.: NA	•	Fiel	d Logbook & Page	WHC-N-306-2.
Remarks: <u>Samples collected</u> a				
Bill of Lading No.: NA		Off	Site Property No :	NA
Method of Shipment: Hand Care Shipped to: Jerry Alexander	r 2101	dg. -M	Physical Test	ing Laboratory
MW-15-1 Plastic Bags	Sample	Identi	fication	,
MW-15-2 Plastic Bag	ــــــــــــــــــــــــــــــــــــــ			
MW-15-3 Plastic Bags	5			
MW-15-4 Plastic Bags		•		
MW -15- 5 Plastic Bag				
MW-15-6 Plastic Bag. MW-15-7 Flastic Bag	<u> </u>	•		-
			·	
MW-15- 9 Plastic Bag				
MW-15- 10 Plastic Bag		•		
		•		(* † * * * * * * * * * * * * * * * * * *
CHAIN OF POSSESSION Ju Lindber	70 12-1/-	19 .	<u>. </u>	
Relinquished by:	Received Received	Me	land	Date/Time: /2-/2-84/6630
Refinquished by:	Received	by:		Date/Time:
Relinquished by:	Received	by:		Date/Time:
Relinquished by:	Received	by:		Date/Time:
				FVR\071889-P

SAMPLING ANALYSIS REQUEST

	Part I: Field Section
`•	Collector Anderson Lindberg Date Sampled & 4/30/19 Time Variable hours
	Affiliation of Sampler Golder WHC
•	Address Richland WA
	number street city state zip
	Telephone (509) 376 - 5005 Company Contact ON LINDBERG
	LABORATORY SAMPLE COLLECTOR'S TYPE OF NUMBER SAMPLE NO. SAMPLE* FIELD INFORMATION**
	mw-676 MW-7 Soil Plastic bags
	MW-870 MW-11 Soil Plastic bags
	Analysis Requested Siève Hydrometer Analysis ASTM-D-422
includings	Atterberg Limits (ASTM D-4318) on MW-11.
· · · · · · · · · · · · · · · · · · ·	
. '	Special Handling and/or Storage <u>None</u>
	PART II: LABORATORY SECTION**
	Received by Title Date
	Analysis Required
	* Indicate whether sample is soil, sludge, etc. **Use back of page for additional information relative to sample location.
	Figure 9-19. Example of hazardous waste sample analysis sheet.

NIME - 70

Revision 0 Date September 1986

RADIATION RELEASE	RADIATION RELEASE
ldg. Hora Rafiels Date 11-71-89	Bldg. Horn fasich Date 11-21-89
Operational Health Physics	Released By Maral Market Sperational Health Physics
demarks	Remarks
5 Saufle 54-39)-022 (09/88)	10 Daus lo
(1/00-12-1	MW-15 5000 22 (09/88)
RADIATION RELEASE	RADIATION RELEASE
Bldg. Home Kaped Date 11-72-89	
Released By Operational Health Physics	Bldg. How Rapids Date 11-27-89
Remarks	Released By Operational Health Physics
15 / Samp Co	Remarks Sample & 20'
MW-(3000-0225/88)	11W-13_59 600 ×2 (09/88)
RADIATION RELEASE	DADIATION DELEASE
Bldg. 1-low Kasticls Date 11-27-84	RADIATION RELEASE
Released By M (Ale Caux) Operational Health Physics	Released By Market Date 11-78-89
Remarks	Operational Health Physics
- Sample 6 75 ft.	Remarks 30 Dankle
MW-15-54-3000-022 (09/88)	54-3000-022 (09/88)
RADIATION RELEASE	
Bldg. /on fucials Date 11- 78-89	
Releasedly Market and	
Operational Health Physics	

54-3000-022 (09/88)

OI

0

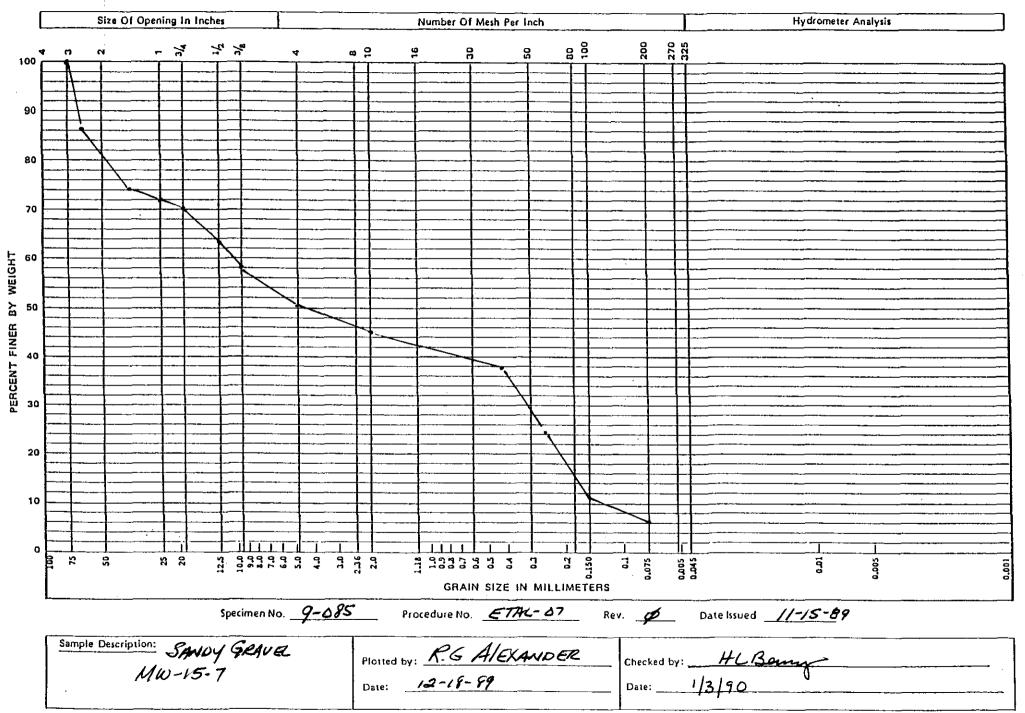
Remark

TEST REQUEST FORM

Sample/Specimen No.	9-085	Cost Code/Work Order No. ED 332
Requested By: Org.	80232	Person J. LIND BERG Date 12-18-89
Test Requested	No. of Samples	Test Lab Information (Instruction Used)
SLEVE ANALYSIS		ETAL-07
1-MDROMETER	\	ETAL- 07 (IF RED)
N/A	N/A	A\/A
N/A	N/A	NIA
	•	
Remarks FIELD SA	mpus	Received By: R.GAIFRANDER Date 12-12-8
		Approved By: R. & ALEMANDER Date 12-18-8

			SIEVE ANAL	YSIS DATA			
		e ID <u>9</u> -			Page	of	
	Tes	ted By	RG ALEXA	DEC D	ate_12-18-	89	
	Pro	ocedure_	27AL-07 Re	v <u>é</u> i	ate Issued <u> /</u>	1-15-189	
			NT ITEM CAL	IBRATION N	O. DATE D		
	-	Balance Thermome	ter	0004	2-6- N/		
	-	₩/	<u> </u>	N/A		<u> </u>	
Sampl	e Desc	ription	SANDY GI	Javas	Sieve Tir	ne <u>lO</u> (n	ain)
	reduced	ру 💢	splitting	quartering	□ stockp	lle	
BEF	(B) ORE TE	ST WT. N	AFTER TE	st wt. N/	$\frac{B-A}{B}X \ 100 = \angle$	M % LOSS	·
Sieve ID Number	Sieve Size	Sample Weight	Cumulative Wt. Retained (g)	% Retained	Cumulative %	Cumulative 74 Pass	% Pass
N/A	21/2	4547.5	621.30	13.7	13.7	84.3	86.3
	1/2		1166.64	25.7	25.7	74.3	74.3
	1		1277.86	28.1	Z8.1	71.9	71.9
	3/4		1341.41	29.9	299	70.1	70.1
	1/2		1658.12	36.5	36.5	63.5	63.5
	3/8		1892.11	41.6	41.6	58,4	58.4
	#1	7	2248.14	49.4	49.4	50.6	50-4
	#10	4547.5	2506.65	SS , 1	5S,1	44,9	44.9
	#40	158.40	25,14	15.9	15.9	84.1	37.8
	#60		74.09	46.8	46.8	53.2	23.9
	# 100		118.64	74.9	74.9	25.1	N. 3
Ť	# 2∞	4	137.21	866	86.6	13.4	6.0
	Finess l	dodules (Fi	(c) <u>N/A</u>	(See ASTM C 1	36-83, Section	8.2)	
MATERI	als fi	VER THAN	NO. 200 SIE	VE BY WASE			
			ssing a 200 Siev	4	Remar	es Fine Gri	ADING
_	_	elght of Sar	_	<u> </u>			
E=Dry We	_	Sample Afte (D-E)/D> 3		NAE			
AT			URATELY ANI) ርሰ ለ ው፤ ፑጥፑ	TA BECOEDE	O. THE TES	
OF	PERATO	R WAS TH	AINED AND U		ATED INSTRU	MENTS	`
Ch	ecked	Ву_#	emy		Date	1/3/90	
			V			-6400-204(2-87)	

9 2 1 2 3 1 8 GRAIN SIZE ANALYSIS PLOT



SOIL MOISTURE DATA SHEET

PROCEDURE NO. ETAL-14 REV. NO. G

THERMOMETER NO. OOG CALIBRATION DUE DATE 2-6-90

SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATER
9-085	5512.78	5132.29	584.72	4928.06	4547.57	8.37
					/	

			\times			
			<u> </u>			
						<u> </u>
			<u> </u>			
			<u> </u>			

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 12-18-89



CHAIN OF CUSTODY

Company Contact: JonLINDBE	RS	Telep	phone 6-50	05
Sample Collected by: Anderson	ELindbera	Date: 	. <i>11,1989</i> Tim	ne: Kariable
Sample Locations: Horn Rapids L	andfill, 1100	D-EM-I, M	W-15	
Ice Chest No.: NA	Fie	eld Logbook & F	wh age No.: <u>Rag</u>	45 15-20
Remarks: <u>Samples collected</u>			•	
Bill of Lading No.: NA	Of	f Site Property	No.: <i>NA</i>	
Method of Shipment: Hand Care	<u>^y </u>			·
Shipped to: Jerry Alexander	r 2101-M	Physical T	estino Labor	atoru
	Sample Ident	ification		7
MW-15-1 Plastic Bag	5	**************************************		
MW-15-2 Plastic Bag	<u>.</u>		•	
MW-15-3 Plastic Bags	5	-		
MW-15- 5 Plastic Bag		-		
MW-15-6 Plastic Bag	5			,
MW-15-7 Plastic Bag	<u> </u>	701111	***************************************	
MW-15- 9 Plastic Bag				
MW-15- 10 Plastic Bag	***************************************			
MW-15-11 Plastic Bo	15			
MW -15- 12 Plastic B	45			
Mb 15 13 Williams	ra 12-11-89			
CHAIN OF POSSESSION SE LINGBER	9 '			
Relinguished by:	Received by:	dend		e/Time: -/2-84/4630
Relinquished by:	Received by:		Dat	e/Time:
Relinquished by:	Received by:		Dat	e/Time:
Relinquished by:	Received by:	· · · · · · · · · · · · · · · · · · ·	Dat	e/Time:
		······································		FVR\071889-B

SAMPLING ANALYSIS REQUEST

ATTILIALIO	on of Sampler <u>Gold</u>	ter/wh		
Address	number street	· ·	ity	state
Telephone	(509) 376 - 500		/	NDBERG
LABORATORY				
SAMPLE NUMBER	COLLECTOR'S SAMPLE NO.	TYPE OF SAMPLE*	FIEL	D INFORMATION**
	mw-676 MW-7	Soil	Plastic	,
	M(1)-870 M(1)-11	Soil	Plastic	beas
1 44 4	equested <u>Siève</u>			
Atterben		D-4318)	+ Analysi. on Mw-11	
Affer ben Special Har	dling and/or Storag	D-4318) none		
Affer ben Special Har	g Limits (ASTM	D-4318) none		
Affer ben Special Har	ABORATORY SECTION**	D-4318) none		
Special Har	ABORATORY SECTION**	D-4318)	on Mw-//	Date

Figure 9-19. Example of hazardous waste sample analysis sheet.

NIME - 70

Revision 0
Date September 1986

RADIATION RELEASE	RADIATION RELEASE
ldg. Hora Rapids Date 11-21.89	Bidg. Horn Papiels Date 11-21-89
Department Physics	Released By Al Calan Carational Health Physics
Remarks	Remarks
54-390-022 (09/88)	10 Dauple - 15 502000 22 (09/88)
RADIATION RELEASE	RADIATION RELEASE
Bidg. Horr Kaper Date 11-77-89	Bidg. Han Rapids Date 11-27-89
Operational Health Physics	Released By MI Cale I Sur Department of the Physics
Remarks	Remarks Saugh & ZO
MW-(3000-022 (9/88)	MW-13_59-6000 (09/88)
RADIATION RELEASE	RADIATION RELEASE
Released By MA Careland	Bldg. Horno Rowerst Date 11-78-89
Operational Health Physics	Released By Market Operational Health Physics
Sample 6 25 11. 54-3000-022 (09/88)	Remarks 20 Danfle
MW B 534-3000-022 (09/88)	54-3000-022 (09/88)
RADIATION RELEASE	
Bildg. North Regards Date 11- 78-89	
Released by Maclando Aperational Health Physics	

Remark

TEST REQUEST FORM

Sample/Specimen No.	9-077	Cost Code/Work Order No. ED 332
Requested By: Org.	80232	Person J. L. 408 ekc Date 11-30-89
Test Requested	No. of Samples	Test Lab Information (Instruction Used)
SIEVE ANALYSIS		ETAL-67 SCALP ON #4 SIRVE
W/A	NA	
~/A	NA	N/A
N/A	N/A	NIA
	•	
Remarks FIELD SA	Imple	Received By: RG ALEXANDER Date 11-29-8
MW-15-8		Approved By: R6 Alexander Date 11-30-8

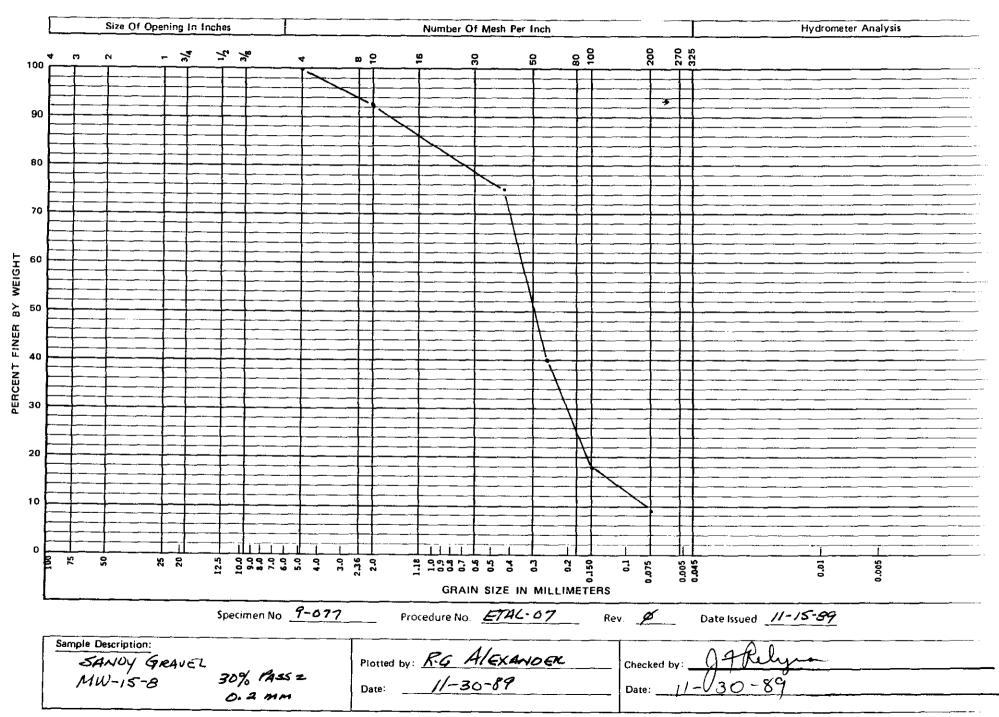
SIEVE ANALYSIS DATA SHEET							
Sample ID 9-077 Page / of _/_							
Tested By R. G AIEXANDER Date 11-30-89							
Procedure ETAL-07 Rev Date Issued 11-15-89							
EQUIPMENT ITEM CALIBRATION NO. DATE DUE							
Balance 3304 12-28-89 Thermometer 0006 2-6-90							
Thermometer 0006 2-6-90 N/A N/A							
					- Sieve Tir		min)
					☐ stockp		
BEFO	ORE TE	ST WT. 49	S// AFTER TE	(A) ST WT. <u>M/4</u>	$\frac{B-A}{B}X 100 = -4$	∾/4 % Loss	
Sieve ID Number	Sieve Size	-	Cumulative Wt. Retained (g)	% Retained	Cumulative %	Cumulative : Pass	% Pass
N/A		1				1	
	V	495.11	4	———	4		-
	* 4	1	Ø	Ø	ø	100	100
	#10		39.64	7.48.0			92.0
	+40		123.15	24.9	24.9	75.1	75.1
	# 60		297.22	60.0	60.0	40.0	40.0
	*100		406.42	82.1	82.1	17.9	17.9
V	#260	*	449.54	90.8	90.8	9.2	9.2
NA	PAN	495,11	N/A	4/1	N/4	4/4	N/A
1	Finess M	fodules (FM) N/A	(See ASTM C 1	36-83, Section	3.2)	
MATERIA	LS FIN	IER THAN	NO. 200 SIE	VE BY WASH	IING	•	-
=Percent	age of M	Material Pas	sing a 200 Siev	e <u>4/4</u> %	Remark		
)=Original	Dr y We	ight of San	ple	N/A g	WASH	= 49.2 %	
E=Dry Wel	_	Sample Afte		N/A g	-4	= 50.8 %	
	C = <((D-E)/D> X	100			***************************************	
					LY RECORDED		ST
UP	LKATUI	π was tr	ацувц AND U	SED CALIBR	ATED INSTRU	MENTS	

A-6400-204(2-67)

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GRAIN SIZE ANALYSIS PLOT



SAMPLING ANALYSIS REQUEST

Part I: Field Section	
Collector Steve Anderson Mulindherg Date Sample	i <u>11/29/89</u> Time hours
Affiliation of Sampler Golder Assoc WI	4-
1///	
number street ;,,, City	state zip
Telephone () 65005 Company Contact	Ju) Lindberg
LABORATORY SAMPLE COLLECTOR'S TYPE OF NUMBER SAMPLE NO. SAMPLE*	FIELD INFORMATION**
	n double plastic bags
Analysis Requested Sieve analysis on (-)	#4 to(+) 200. Report
To Silt Vand To gravel (+#4). Draw curve	, report 30% passing.
Special Handling and/or Storage	
PART II: LABORATORY SECTION**	· ·
Received by Title _	Date
Analysis Required	
* Indicate whether sample is soil, sludge, etc. **Use back of page for additional information re	elative to sample location.

Figure 9-19. Example of hazardous waste sample analysis sheet.

NINE - 70

Revision 0 Date September 1986



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9

CHAIN OF CUSTODY

Company Contact: JONLINDBE	RG	Telephone 6-5005
Sample Collected by: Steve Anderso	n/JonLindberg Date	11/29/89 Time: log
Sample Locations: MW-15		
Ice Chest No.: \mathcal{N}	Field Logbo	ok & Page No.:
Remarks: Quick-Turn-A	ound sieve an	alysis for determination
of filter pack and e	creen slot size	
Bill of Lading No.: NA	Off Site Pro	operty No.: NA
Method of Shipment: Hand Can	<u>ej</u>	<u> </u>
Shipped to: Verry Alexan	ter 2101-m	Physical Testing Lab
	Sample Identification	1
MW-15-8 Plastic bag	w/ ducktape sea	
——— PADI	TION BÉILEACE	
	ATION RÉLEASE	• • • • • • • • • • • • • • • • • • • •
Blog. Home Vani	ds Date 11-29-8	9
Released By	asolan O	
	perational Health Physics	
Remarks	M-12~ 8	
	il .	
	54-3000-022 (09/88)
-		
CHAIN OF POSSESSION		
Retinguished by:	Received by:	Date/Time:
Mulberg	K.G ALEXAND	CR 11/29/89/3:15
Relipquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
		FVR\071889-E

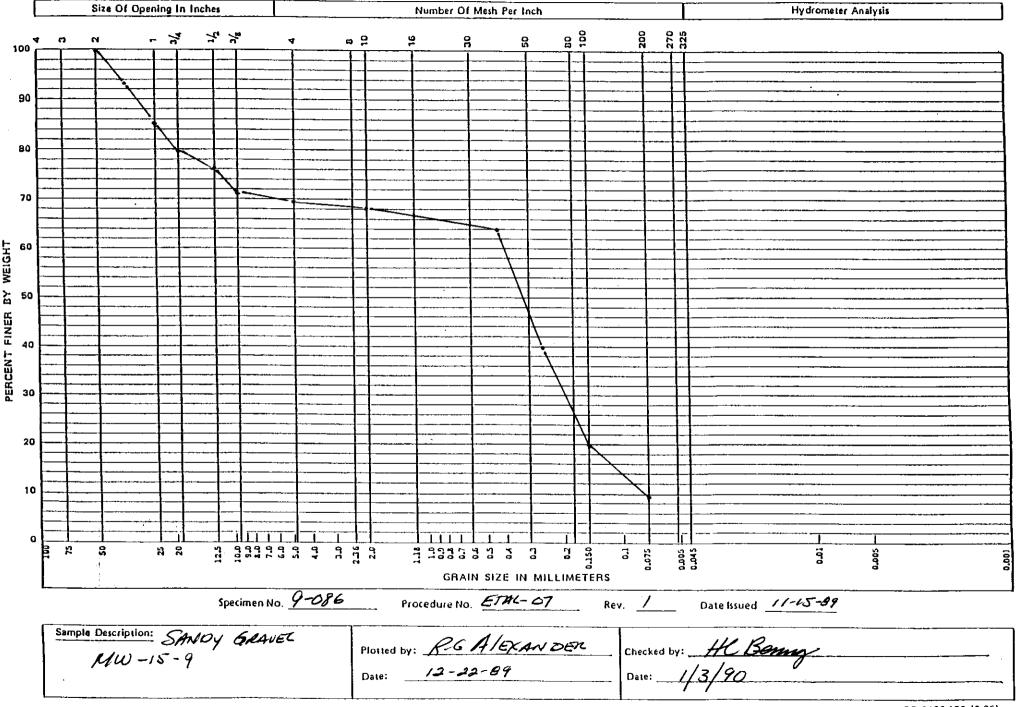
TEST REQUEST FORM

Sample/Specimen No	. 9-086	Cost Code/Work Order No. ED332
Requested By: Org	.80232	Person J. Lino Berg Date 12-20-89
Test Requested SIEVE ANALYSIS	No. of Samples	Test Lab Information (Instruction Used)
HYDRONETOR	1	ETAL- 07 (IF RED)
N/A	NA NA	N/A
Remarks Figus SA MW-15-9	∝ρι∈ ————————————————————————————————————	Received By: R.C. ALEXANDER Date 12-12-99 Approved By: RG ALEXANDER Date 12-20-69

	SIEVE ANALYSIS DATA SHEET								
	Sample ID 9-064 Page 1 of 1								
Tested By R.6 ALEXANDER Date 12-20-89									
	Procedure ETAL-07 Rev Date Issued 11-15-89								
	EQUIPMENT ITEM CALIBRATION NO. DATE DUE Balance 3304 12-28-69 Thermometer 0006 2-6-90 N/A N/A N/A								
Sa	mpl						— Sieve Ti		nin)
		(-)		_		(A)	stockr		
	BEF	(B) ORE TE	est	WT.N	AFTER TE	ST WT. ~/A	$\frac{B-A}{B} \times 100 = \frac{A}{B}$	√A % Loss	·
Siev		Sieve Size		nple ght	Cumulative Wt Retained (g)	. % Retained	Cumulative %	Cumulative 7	% Pass
14/	A	2	384	7.79	Ø	Ø	Ø	100	100
1		1/2		1	273.67	7.1	7.1	92.9	92.9
		Ī			565.71	14.7	14.7	85.3	85.3
		3/4			790.05	20.5	26.5	79.5	79.5
		1/2			914.15	23.8	238	76-2	76.2
		3/8			111.02	28.9	289	71.1	71.1
		#4	1		1167.84	30.4 At	30.4	69.6	69.6
		#10	38	47.79	1229.78	32.0	320	68.0	68.0
		#40		5.76	951	5.4	5.4	94.6	64.3
		#60			24.7-73.58	41.9	41.9	58.1	39.5
	"	#100			124.64	70.9	70.9	29,1	19.8
7		#200			151.67	84.3	86.3	13.7	9.3
		Finess h	lodul	es (FM	- 774		36-83, Section	8.2)	
MAT	MATERIALS FINER THAN NO. 200 SIEVE BY WASHING								
C=Pe	C=Percentage of Material Passing a 200 Sleve NA 7. Remarks Wash Fine Graping								
D=Or	lgina	l Dry We	ight	of San	aple	N/A g	Nopola	PINE YEM	5776
E=Dr	E=Dry Weight of Sample After Drying \(\times / \psi \) g $C = <(D-E)/D> \(X \) 100$								
Г									 _
							LY RECORDED ATED INSTRU		T
		ecked					Date	1/3/90]
Ĺ	A-840D-2D4(2-57)								

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9 2 2 3 0 GRAIN SIZE ANALYSIS PLOT



SOIL MOISTURE DATA SHEET

PROCEDURE NO. ETAL-14 REV. NO. ______

THERMOMETER NO. OOO C CALIBRATION DUE DATE 2-6-90

SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATER
9-086	4940.49	4437, 18	589-39	4351.10	38 47.79	13.1
					/	
						
-						
						
			\times			
	_					
						·
		/		1		
				<u> </u>		

						$\overline{}$
/					·	

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 12-21-89



O

CHAIN OF CUSTODY

Company Contact: JonLine	BERG	Telephone _	-5005
Sample Collected by: Anderse	PS // /		<u> </u>
Sample Locations: Horn Rapid	,		
Ice Chest No.: NA	Field Lo	gbook & Page No.:	pages 15-20
Remarks: <u>Samples collected</u>	f at MW-15 from	11/21/89 to 12	1,/89
Bill of Lading No.: NA	Off Site	Property No.:	1A
Method of Shipment: Hand	Carry		
Method of Shipment: Hand C Shipped to: Jerry Alexan	der 2101-M Ph	ysical Testing F	aboratory
MW-15-1 Plastic 3	Sample Identificati	on	,
MW-15-2 Plastic	2000		
MW-15-3 Plastic &	295		
MW-15-4 Plastic B	aq5		
MW -15- 5 Plastic	<u> </u>		
MW-15-6 Plastic	<u> </u>		
MW-15-7 Flastic	_ ()		
MW-15- 9 Plastic			
MW-15-10 Plastic			
MW-15-11 Plastic	10.95		
MW -15-12 Plastic			
() Jas Link	1 hara 12-11-89		
CHAIN OF POSSESSION	Received by:		Data /Times
Relinquished by:	Received by	l-	Date/Time: /2-/2-84/6630
Relinquished by:	Received by:		Date/Time:
Relinquished by:	Received by:	-	Date/Time:
Relinquished by:	Received by:		Date/Time:
			FVR\071889-

SAMPLING ANALYSIS REQUEST

Affiliation of Sam	pler Golder	WHC	 		
Address Niche	street :	city		state	
Telephone (509) 37	16 - 500 5 Comp	any Contac	: <u>Lud</u>	NDBERG	
		E OF PLE*	FIELD	INFORMATION	**
mb)-	6ts MW-7 5	oil .	Plastic	bags	
Analysis Requested	Siève/Hydro	ometer			<i>1-</i> D
	Siève/Hydro	ometer	Analysis		<i>1 -</i> D
Analysis Requested	Siève/Hydro s (ASTM D-4	ometer 318) ou	Analysis) -D
Analysis Requested Atterberg Limit Special Handling ar	Siève/Hydro s (ASTM D-4 nd/or Storage <u>no</u>	ometer 318) ou	Analysis) -D
Analysis Requested Atterberg Limit	Siève/Hydros (ASTM D-4 de	meter 318) ou	Analysi's Mw-11.		7 -D

Figure 9-19. Example of hazardous waste sample analysis sheet.

NINE - 70

Revision 0
Date September 1986

RADIATION RELEASE	RADIATION RELEASE
sidg. Hora Rapids Date 11-21.89	Bldg. HOVA Japich Date 11-21-89
MA Charley MA	Released By M. Golman
Operational Health Physics	operational Health Physics
Remarks	Remarks
54-3c 0-022 (09/88)	6 2000 82 (09/88)
	MW-13-
RADIATION RELEASE	RADIATION RELEASE
Bldg. Horn Kaped Date 11-27-89	
Released By Operational Health Physics	Bldg. Horn Rapids Date 11-27-89
Remarks	Released By Operational Health Physics
15 Mand a	Remarks Scruple \$ 70'
3000-022 (10/88)	54,000 22 (09/88)
	11100-15-7
RADIATION RELEASE	RADIATION RELEASE
Bldg. I-low Partids Date 11-27-84	1 1 1 1/20 000
Released By MA Cope Cand	Bldg. // W/ Karan Date //- 78-89
Operational Health Physics Remarks	Operational Health Physics
Januale @ 75 U.	Remarks
54-3000-022 (09/88)	30 Dauflet 54-3000-022 (09/88)
MO 15 0	
RADIATION RELEASE	RADIATION RELEASE
Bldg. /on kyurds Date 11- 28-89	\mathcal{A}
Releasedly Mallard	Bldg. Harn Dayseila Date 11-79-89
Operational Health Physics	Released By /// / Operational Health Physics
35 Sangle	Remarks
M47-15 54-3000-022 (09/88)	45 Saugh
and the second s	54-3000-022 (09/88)
RADIATION RELEASE	
Bldg. Horn Rapids Date 11-30-89	
Released By Jy)	
Operational Health Physics Remarks 15-10	

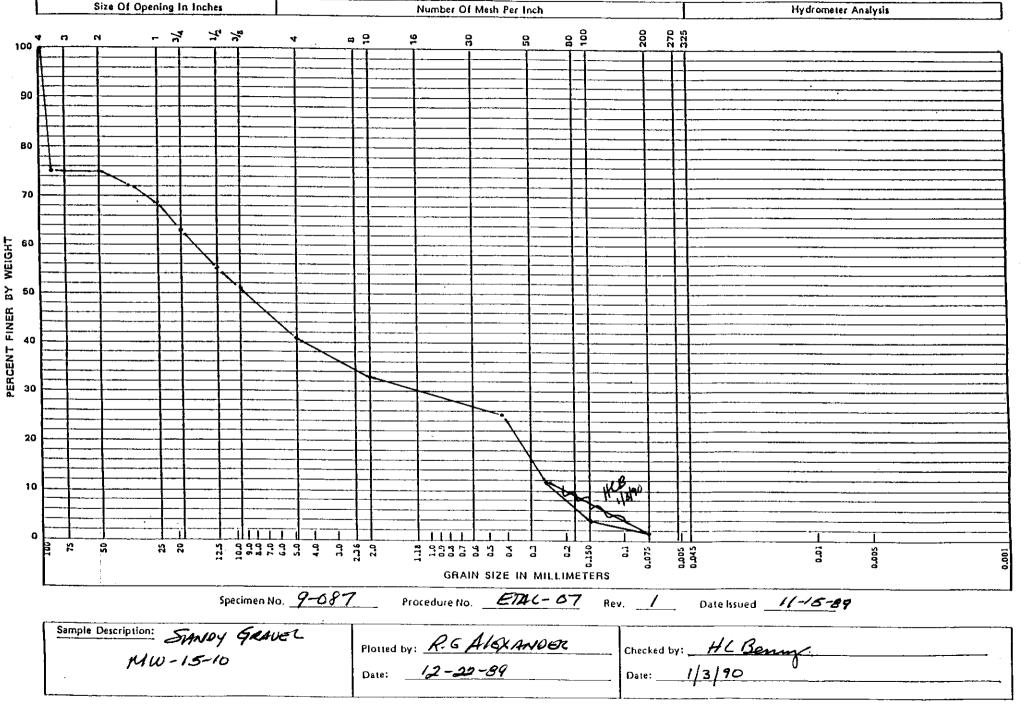
54-3000-022 (09/88)

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TEST REQUEST FORM

Sample/Specimen No. 9	-087	Cost Code/Work Order No. ED 332
Requested By: Org. 8	0732	Person J. LINDBERG Date 12-20-89
Test Requested	No. of Samples	Test Lab Information (Instruction Used)
SLEVE ANDLYSIS	1	ETAL-07
HYDROMETER		ETAL-07 (IR REQ
N/A	N/A	N/A
N/A	N/ A	N/A-
Remarks FIELD SAME	>Œ	Received By: RG ALEXANDEL Date 12-12-14
MW-12-10		Approved By: R-G ALEYANDER Date 12-20-01
		

A-8400-204(2-67)



SOIL MOISTURE DATA SHEET

PROCEDURE NO. <u>E74C-14</u> REV. NO. <u>Ø</u>

THERMOMETER NO. <u>0006</u> CALIBRATION DUE DATE <u>2-6-90</u>

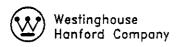
SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATER
9-081	5543.74	5753.49	588.48	4955.26	4665.01	4.22
						1
						
	****		\times			
		· · · · · · · · · · · · · · · · · · ·				
				· · · · · · · · · · · · · · · · · · ·		
						$\overline{}$
			!			

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 10-21-89



CHAIN OF CUSTODY

Company Contact: JoNLINDB	erg	Telephone _	-5005
Sample Collected by: Anderson	*Lindberg 1	oate: <i>Dec. 11, 198</i>	9 Time: Variable
Sample Locations: Horn Rapids	landfill, 1100-En	n-1, MW-15	
ice Chest No.: NA	Field Lo	gbook & Page No.:_	pages 15-20
Remarks: <u>Samples collected</u>			* -
Bill of Lading No.: NA	Off Site	Property No.:	14
Method of Shipment: Hand Car Shipped to: Jerry Alexand	Bldg. er 2101-M Ph	usical Testing A	aboratory
	Sample Identificati	on .	/
MW-15-1 Plastic Ba	<u> </u>		
MW-15-2 Plastic Ba	<u> </u>		
MW-15-3 Plastic Bac	<u></u> ک		
MW-15-4 Plastic Bag	<u> </u>		
MW-15- 5 Plasticish	<u>45</u>		W
MW-15-6 Plastic Ba	9.5		
MW-15-7 Flastic Ba	<u>a5</u>		
MW-15- 9 Plastic Ba	? 1		
MW-15- 10 Plastic Ba	9.5 		
MW-15-11 Plastica	14.5		
Mh) -15-12 Plastic#			
MW 15 12 90 tinel			
CHAIN OF POSSESSION	.rq		
Relinguishes by:	Received by:		Data /Times.
All Lindlera	Received by	l-	Date/Time: /2-/2-89/1430
Refinquished by:	Received by:		Date/Time:
Relinquished by:	Received by:		Date/Time:
Relinquished by:	Received by:		Date/Time:
			FVR\071889-I

SAMPLING ANALYSIS REQUEST

	Part I: Field Section	· · · · · · · · · · · · · · · · · · ·
	Collector Anderson Lindberg Date Sampled & 11/30/19 Time	Varible hours
	Affiliation of Sampler Golder with	· · · · · · · · · · · · · · · · · · ·
	Address Richland, WA	
	Telephone (509) 376 - 5005 Company Contact ON LINDBE	'
	•	<u>cka</u>
	LABORATORY SAMPLE COLLECTOR'S TYPE OF	
	NUMBER SAMPLE NO. SAMPLE* FIELD INFORM	ATION**
	MW-676 MW-7 Soil Plastic bags	
	mw-sto Mw-11 Soil Plastic bags	
	Analysis Requested Siève/Hydrometer Analysis As	TM-D-42
12. 3		Part Part
dings	17 Atterday Cimits (75 177 D=+318) on 1110-11.	
	Special Handling and/or Storage	
	•	
	PART II: LABORATORY SECTION**	
	Received by Title Da	ate
	Analysis Required	
	•	
	* Indicate whether sample is soil, sludge, etc.	•
	**Use back of page for additional information relative to sample	location.
		·
	Figure C-10 Evample of barandous waste assults and	
	Figure 9-19. Example of hazardous waste sample analysis s	sneet.
	NINE - 70	

Revision 0 Date <u>September 1986</u>

RADIATION RELEASE	RADIATION RELEASE
Bldg. Hara Rafiels Date 11-21-89	Bldg. Horn fapich Date 11-21-89
MA Chalass	
Operational Health Physics	Released By Mark Sperational Health Physics
Remarks	Remarks
54-39 0-022 (09/88)	10 Sauple 54 3000, 22 (09/88)
	MM-13-2
RADIATION RELEASE	RADIATION RELEASE
Bldg. How Kaped Date 11-77-84	
Released By	Bldg. Horn Ropids Date 11-27-89
Operational Health Physics	Released By Operational Health Physics
Remarks	Remarks Sample & 20'
3000-022 (0/88)	54,000 022 (09/88)
	111W-12
RADIATION RELEASE	RADIATION RELEASE
Bldg. 1-10m Rayleds Date 11-27-89	Λ
Released By Mr Colland	Bldg 011 KCLAND Date 1 - 78-89
Operational Health Physics	Released By Market Sperational Health Physics
Remarks	Remarks
54-3000-022 (09/88)	30 Dauflet 54-3000-022 (09/88)
MV 15 5	34-3000-022 (03/00)
RADIATION RELEASE	RADIATION RELEASE
Bidg. /on kyeros Date 11- 28-89	A = A
Released by Marchand	Bldg. Hart Japan Date 11-79-89
Operational Health Physics Remark	Released By
35 Sample	Remarks
MW-15>54-3000-022 (09/88)	
	54-3000-022 (09/88)
RADIATION RELEASE	
Bldg. Horn Rapids Date //-30-89	
Released By Operational Health Physics	
Remarks 15-10	

54-3000-022 (09/88)

TEST REQUEST FORM

Sample/Specimen N	0.9-088	Cost Code/Work Order No. ED 332
Requested By: Or	g. <u>86232</u>	Person J. LIND 8584 Date 12-27-89
Test Requested	No. of Samples	Test Lab Information (Instruction Used)
SIEVE AMACYSIS	1	ETAL- 07
HYDROMETER		ETAL-07 (IF RED
ATTERBERG		ETAL-18
_ 4/4	~/A	NIA
Remarks Field Sa	mpce	Received By: RG ALEXANDER Date 12-12-69
μω-15-11		Approved By: RGALEXMOR Date 12-27-8

SIEVE ANALYSIS DATA SHEET												
Sample ID 9-088 Page 1 of 1												
Tested By R. G. Alexauser Date 17-27-89												
Procedure ETAL-OT Rev 1 Date Issued 11-15-89												
	Procedure Rev Date Issued 11-13 57											
EQUIPMENT ITEM CALIBRATION NO. DATE DUE												
Balance 3304 8-25-90												
			Iner	mome				<u> </u>				
Sample Description 5/LTY SANO Sieve Time (min)												
L		reduced	bу_	X :	plitting [quartering	atockp	ile				
		(B)			/A LEMED ME	(A)	B-A	u/A & TABB				
	BEF	ORE TE	52T (WT	AFTER TE	51 W1. 1341	B X 100 = 1	A/T- % TO33				
Sle	ve ID	Sieve	Sar	nple	Cumulative Wt.	% Retained	Cumulative %	Cumulative 7	% Pass			
Nur	nber	Size	Weig	ght	Retained (g)		Retained	Pass				
N	/4	2"	109	7.57	Ø	Ø	ø	100	100			
		1/2			ø	ø	ø	100	100			
		l			75.63	7.2	7.2	92.8	92.8			
		3/4			84.70	8-1	8.1	91.9	91.9			
<u> </u>		1/2			109.75	10.5	10.5	89.5	89.5			
		3/8			117.42	11.2	11.2	88.8	88.8			
		#4			/35.78	13.0	/3.0	87. o	87.0			
		#10	104	7.57	151-78	14.5	14.5	855	85.5			
		#40	12	9.86	3.40	2.6	3.6	97.4	83.3			
		#60			5.46	4.2	4.2	95.8	81.9			
		0 4			7.35	5.7	5.7	94.3	80.6			
1		[≠] 200	12	9.86	28.60	22.0	<i>22.</i> 0	780	66.7			
		Finess h	lodul	es (FM)N/A (36-83, Section	8.2)				
MA	TERL	ALS FIN	VER '	THAN	NO. 200 SIE	VE BY WASE	IING					
C=Percentage of Material Passing a 200 Sieve A/A 7 Remarks												
B=Original Dry Weight of Sample N/ng WASH Fine GRADING												
E=Dry Weight of Sample After Drying $\sqrt{A_g}$												
$C = \langle (D-E)/D \rangle X 100$												
ALL DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST												
					AINED AND U	SED CALIBR.		, ,				
Checked By HCRenny Date 1/4/90												
				A-6400-204(2-57)								

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SPECIFIC GRAVITY OF SOILS DATA SHEET

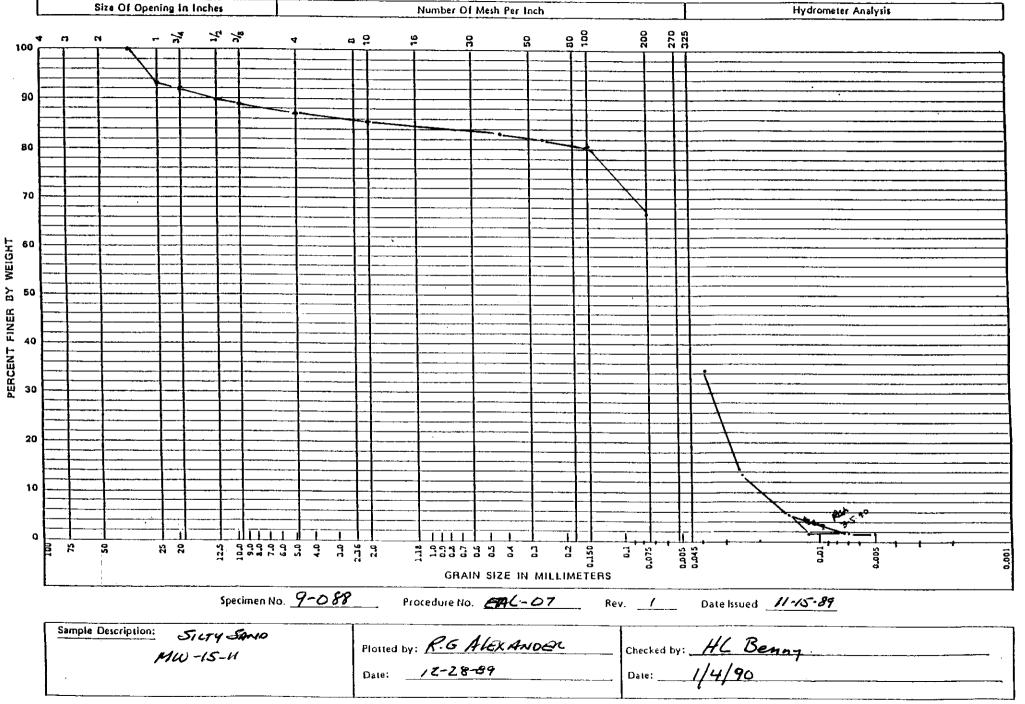
EQUIPMENT ITEM	NO					
lance		D. DATE DUE				
	3304		3-2	25-90		
ren Thermometer	0007			6-90		
ermometer	0002	······································		1-91		
cnometer	2554		~	14		
ting Agent "Q" WATER						
DETERMINATION NO		1		2		3
Drying Container No.		N/A		N/A		/A
Wt. Container + Oven Dry Soil,	± 0.01g	N/A ·		_		
Wt. Container, ± 0.01g		4/4 .			١,	•
Wt. Oven Dry Soil, g			20	·		·
Pycnometer No.		2554				
Wt. Pycnometer, g			72	·		·
Wt. Pycnometer + Wetting Age	nt, g	887	26	·		·
Wt.Pycnometer + Wetting Age	nt + Soil, g	401	2 2	·		·
Temperature, T _x at W _b , ℃	·	23.8	z .			
Specific Gravity of Wetting Age	nt at T _x	1	ಶ			
Specific Gravity of Soil at T _x		2.3	<u>3 L</u>			
Specific Gravity of Soil at 20°C	. }	2.3	30	4	1	
-	E VOLCANIC ASH					
· -		Averag	e Specific G	ravity At 20°c		<u>2.30</u>
ues found in ASTM D854-58, Table	1	<u> </u>				
<u>TE</u> G _s = G _t When Test Run at 20 °c						
NED AND UTILIZED CALIBRATED TO FOLLOWED TO PRODUCE THE AB	EST INSTRUMENTS AS I		E. APPROV	ED TEST PROCEDUI		
	DETERMINATION NO Drying Container No. Wt. Container + Oven Dry Soil, Wt. Container, ± 0.01g Wt. Oven Dry Soil, g Pycnometer No. Wt. Pycnometer, g Wt. Pycnometer + Wetting Age Wt. Pycnometer + Wetting Age Temperature, T _x at W _b , °C Specific Gravity of Wetting Age Specific Gravity of Soil at T _x Specific Gravity of Soil at 20°C X- WHITE \[\begin{align*} \text{W} & \text{W} & \text{W} & \text{W} & \text{W} & \text{T} & \	DETERMINATION NO. Drying Container No. Wt. Container + Oven Dry Soil, \pm 0.01g Wt. Container, \pm 0.01g Wt. Oven Dry Soil, g Pycnometer No. Wt. Pycnometer, g Wt. Pycnometer + Wetting Agent, g Wt. Pycnometer + Wetting Agent + Soil, g Temperature, T_x at W_b , °C Specific Gravity of Wetting Agent at T_x Specific Gravity of Soil at T_x Specific G	DETERMINATION NO. Drying Container No. Wt. Container + Oven Dry Soil, \pm 0.01g Wt. Container, \pm 0.01g Wt. Container, \pm 0.01g Wt. Oven Dry Soil, g Pycnometer No. Wt. Pycnometer, g Wt. Pycnometer + Wetting Agent, g Wt. Pycnometer + Wetting Agent, s Wt. Pycnometer + Wetting Agent + Soil, g Wt. Pycnometer + Wetting Agent at T _x Specific Gravity of Wetting Agent at T _x Specific Gravity of Soil at T _x Specific Gravity of Soil at 20°C WHITE VOLCANIC ASH Unit Weight Of Water (g/cc) = K. G _t Unit Weight Of Water (g/cc) = K. G _t Unit Weight Of Water (g/cc) = K. G _t Unit Weight Of Water (g/cc) = K. G _t Unit Weight Of Water (g/cc) EQUIRED DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TOWED AND UTILIZED CALIBRATED TEST INSTRUMENTS AS INDICATED ABOVE	DETERMINATION NO. Drying Container No. Wt. Container + Oven Dry Soil, \pm 0.01g Wt. Container, \pm 0.01g Wt. Container, \pm 0.01g Wt. Oven Dry Soil, g Pycnometer No. Wt. Pycnometer, g Wt. Pycnometer + Wetting Agent, g Wt. Pycnometer + Wetting Agent, s Wt. Pycnometer + Wetting Agent + Soil, g Wt. Pycnometer + Wetting Agent at Tx Specific Gravity of Wetting Agent at Tx Specific Gravity of Soil at Tx Specific Gravity of Soil at Tx Specific Gravity of Soil at 20°C Where Volcanic Ash Unit Weight Of Water (g/cc) EVALUATE VOLCANIC ASH TE Gx = Gx When Test Run at 20 °C EQUIRED DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERAL NED AND UTILIZED CALIBRATED TEST INSTRUMENTS AS INDICATED ABOVE. APPROVE FOLLOWED TO PRODUCE THE ABOVE DATA.	DETERMINATION NO. 1 2 Drying Container No. N/A N/A N/A Wt. Container + Oven Dry Soil, \pm 0.01g N/A	DETERMINATION NO. Drying Container No. Wt. Container + Oven Dry Soil, ± 0.01g Wt. Container, ± 0.01g Wt. Container, ± 0.01g Wt. Oven Dry Soil, g Pycnometer No. Wt. Pycnometer, g Wt. Pycnometer, g Wt. Pycnometer + Wetting Agent, g Wt. Pycnometer + Wetting Agent, g Wt. Pycnometer + Wetting Agent + Soil, g Wt. Pycnometer + Wetting Agent + Soil, g Wt. Pycnometer, T, at W _b , *C Specific Gravity of Wetting Agent at T, Specific Gravity of Soil at T, Specific Gravity of Soil at 20°C ** White Volcanic Ash Gw*Yw*W Wo + (Wn - Wh) ** Unit Weight Of Water (g/cc) = K.Gt Uses found in ASTM D854-58, Table 1 TE G ₁ = G ₁ When Test Run at 20 °c ** Cequired DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WAS APPROPRIATELY VED AND UTILIZED CALIBRATED TEST INSTRUMENTS AS INDICATED ABOVE. APPROVED TEST PROCEDURES EFOLLOWED TO PRODUCE THE ABOVE DATA.

Date 3-5-90

FOLLOWED TO PRODUCE THE ABOVE DATA.

Checked By_RG

LO



SOIL MOISTURE DATA SHEET

PROCEDURE NO. ETAL -14 REV. NO.

THERMOMETER NO. 0006 CALIBRATION DUE DATE 2-6-90

<u> </u>						
SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATER
9-088	2018.85	1636.05	581.48	1430,37	1047.57	36.5
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			1			

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: PG ALEXANDER DATE 1-3-90

Westinhouse Hanford Company		CHAIN OF	CUSTODY
Company Contact R. G. AIEX A	woer.	Telephor	ne 3-4590
Company Contact <u>R. G. Alex A</u> Sample Collected by <u>WESTES/ANDERS D</u>	N/LINDBERG	Date 12-11-99	Time VARIABUE
Sample Locations HORN Ropios LA	NOCIU MH	OD-EM-I, MW.	-15
ce Chest No. N/A		Field Logbook and Pag	e No. PAGES 15-20
Remarks SAMPLES BLUELTED FR	om 11-21-89	TO 12-1-89 AT A	NW-15
Bill of Lading No		Offsite Property No	w/A
Method of Shipment			
Shipped to J. LINDBERG 450 A	HILLS		
	Sample Idei	•	
MW-15-11 PLASTIC BA	6		
			
			
	· ·····		
<u></u>			
·			
	Chain of P	ossession	
Relinquised by:	Received by:		Date/Time:
RG ATEXANDER	Just S. I.	T.	12-13-89/ 1500 hs
	Received by:	(GAI)	Date/Time:
XIII Indit	Level Am	T.M.	12/14/89 142345.
Relinguised by:	Received by:		Date/Time:
Relinquised by: (GA1)	THE WAR	, JwLindberg	12/19/89 0845 hrs.
Relinguised by: 1 Julindberal	Referred by:		Date/Time:
12/20/89	RG Slepano	L RG Alexandes	
7 -7-901			A-6000-407 (07/

	Westingh Hanford	ouse Company
--	---------------------	-----------------

CHAIN OF CUSTODY

Company Contact: JonLINDB	erg			Telephone	6-5005
Sample Collected by: Anderson	KLind	berg	Date: <u>_</u>	Dec. 11,1	989 Time: Variable
Sample Locations: Horn Rapids		_			
A					WHC-N-306-2
Remarks: <u>Samples collected</u>	at mw-	15 Fr	om 11/2	4/89 to	12/1/89
Bill of Lading No.: NA		Off	Site Prop	erty No.:	NA
Walland of Shipmonts Hand Car					
Shipped to: Jerry Alexande	2 2/0	ldg. 1-M	Physica	1 Testin	ng Laboratory
MW-15-1 Plastic Bas	Sample	Identit	fication	•	,
MW-15-2 Plastic Bo	4	•			
MW-15-3 Plastic Bag	5				
MW-15- 4 Plastic Bag	5				
MW-15- 5 Plastic Ba		_			
MW-15-6 Plastic Bas					
MW-15-7 Plastic Ba		•			
MW-15- 9 Plastic Bas	<u> </u>	-			
MW-15- 10 Plastic Ba		•			·
MW-15-11 Plastica	1	-			
MW -15-12 Plastic		-			
	079 12-1/-	80	••		
ملامن أدين	(9	97 .		<u></u>	
CHAIN OF FUSSESSION	_				
Relinquished by:	Received	by.	, 1		Date/Time:
Two in other ca	X.4	sy.	and -	-	12-12-84/6630
Refinquished by:	Received	by:			Date/Time:
Relinquished by:	Received	by:			Date/Time:
Relinquished by:	Received	by:			Date/Time:
					FVR\071889-

MW-15 SAMPLING ANALYSIS REQUEST

	Part I: Field Section		40.60
•	Collector Anderson Lindber	Date Sampled	2019 Time Variable hours
	Affiliation of Sampler Golde		
•	Address tichland WA	•	
	numoer street : Telephone (599) 376 - 5005 0	,	state zip
		ompany contact CBO	LINDBERG
		TYPE OF SAMPLE* FI	ELD INFORMATION**
	mw-675 Mw-7		e bags
		Soil Plastic	bags
		•	
	Analysis Requested Siève /	drometer Analys	15 ASTM-D-422
خوشان با عون	Atterberg Limits (ASTM)	1-4318) an muz-	//
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
•7		•	
/	Special Handling and/or Storage	none	
			· ·
	PART II: LABORATORY SECTION**		
	Received by	Title	Date
	Analysis Required		
	* Indicate whether sample is soil	, sludge, etc.	•
	**Use back of page for additional	information relative	to sample location.

Figure 9-19. Example of hazardous waste sample analysis sheet.

NINE - 70

Revision 0 Date September 1986

RADIATION RELEASE	RADIATION RELEASE
Bidg. Hora Rafiels Date 11-21-89	Bldg. Horn faciols Date 11-21-89
Released By M. Goland	Released By Maland
Operational Health Physics	operational Health Physics
Remarks	Remarks
S4-39 0-022 (09/88)	10 Sauple 54 3000.42 (09/88)
1100 10 1	mw-15-2
RADIATION RELEASE	
Bldg. Horn Raped Date 11-22-89	RADIATION RELEASE
	Bldg. Horn Ropids Date 11-27-89
Released By Operational Health Physics	Released By M Operational Health Physics
Remarks	0 0 701
15 Samp Ce 23000-022 (19/88)	Remarks Saufell & 20
かんしているこう	VIU - 54-000-2 (09/88)
RADIATION RELEASE	RADIATION RELEASE
Bldg. I-won Kaylids Date 11-27-84	Bldg. Hora Rosens Date 11-78-89
Released By M. Caland	MACTA-CO
Operational Health Physics Remarks	Operational Health Physics
Sand 6 75-11	Remarks
54-3000-022 (09/88)	30 Dangle 54-3000-022 (09/88)
1100 15 3	34-3000-022 (03/00)
RADIATION RELEASE	DADIATION DELEGACE
Bidg. /on kyrich Date 11- 28-89	RADIATION RELEASE
Releasedly Mil selfans	Bldg. 4011 Page 11- 29-89
Operational Health Physics	Released By
Remark	Remarks
M6-15- 54-3000-022 (09/88)	15 Saugle
_/10-13 -/3333333333	54-3000-022 (09/88)
RADIATION RELEASE	
2	RADIATION RELEASE
Released By 24)	WW. 299 11/4/15 10/12/70
Operational Health Physics	Released By Date
Remarks	Operational Health Physics
	Remarks MW-15-11
54-3000-022 (09/88)	
The second section of the second section is a second section of the second section of the second section is a second section of the second section of the second section is a second section of the second section of the second section is a second section of the section of the second section of the section of the second section of the secti	54-3000-022 (09/88)

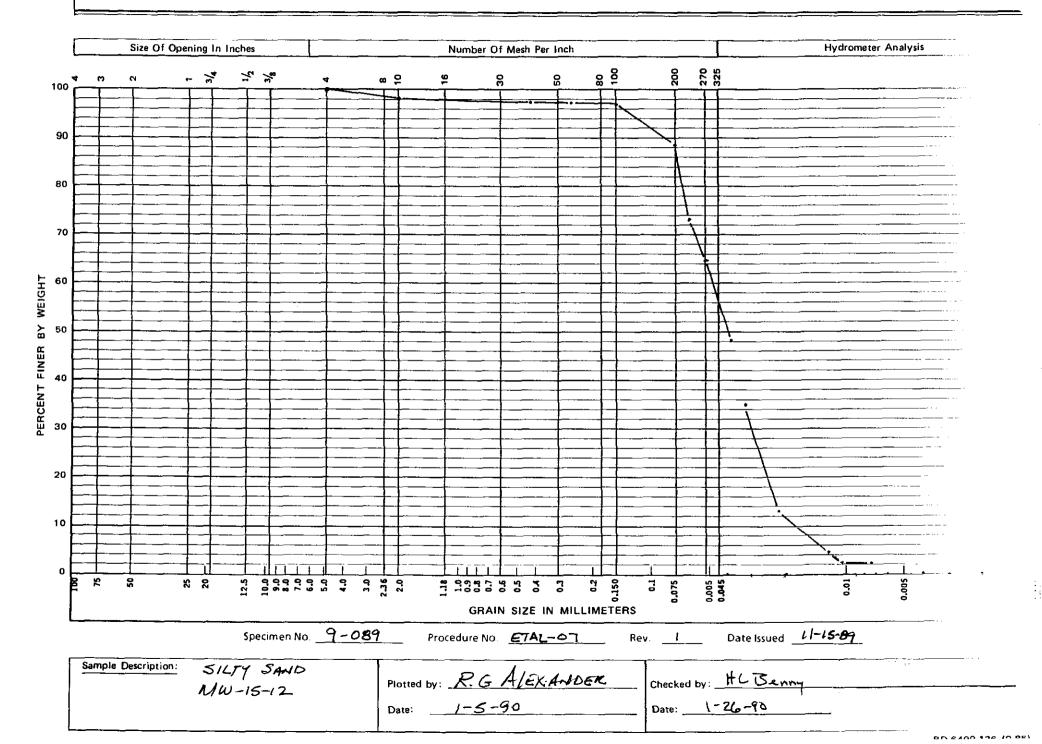
TEST REQUEST FORM

Sample/Specimen No. 9-089	Cost Code/Work Order No. ED 332
Requested By: Org.80232	Person J. LINDBERG Date 1-3-90
No. of Test Requested Samples Sieve Analysis El	Test Lab Information (Instruction Used) ETAL-07
Hyprometer 1	ETAL-07 (IF REQ)
ATTERBERGLINGS 1	ETAL-09 ETAL-18
Remarks FIELD SAMPLE MW-15-12	Received By: R.G. Alexander Date 12-12-89 Approved By: R.G. Alexander Date 1-3-90

						· · · · · · · · · · · · · · · · · · ·	
SIEVE ANALYSIS DATA SHEET							
			089		Page		
	ī	ested By_	RG Alexan	DEK I	ate 1-3-5	٥	
1	Tested By RG Alexander Date 1-3-90						
	Procedure ETAL-07 Rev Date Issued 11-15-39						
	EQUIPMENT ITEM CALIBRATION NO. DATE DUE						
		Balance	THE CAL	3304	3-Z5	-9 s	
			Balance 3304 3-25-93 Thermometer 0006 2-6-90				
	Ì	N/A	A N/A				
San	 nple De	scription_	SILTY SAND		- Sieve Tir	ne 10 (n	nin)
			splitting [,
	/1	٠.		/ / \			
E	BEFORE	TEST WT.	A AFTER TE	ST WT. MA	$\frac{B-A}{B}X \ 100 = -$	VA % LOSS	
Sieve	ID Sie	ve Sample	Cumulative Wt.	% Retained	Cumulative %	Cumulative %	% Pass
Numb	er Siz	_	Retained (g)		Retained	Pass	
/^		1		1		1	
N/A						 	
				<u> </u>			}
 -	4	1	1	<u> </u>	1	Y	1
	#4	Ø	Ø	ø	Ø	100	100
	* 10	125.14	2.05	1.6	1.6	98.4	98.4
	#40	>	2.99	2.4	2.4	97.6	97.6
	+60)	5.34	2.7	2.7	97.3	97.3
	# 10	၁	3-76	3,0	3.0	97.0	97.0
	#20	o	14.56	11.6	11.6	88.4	88.4
	#23	0	33.72	26.9	26.9	73.1	73.1
	+ 270	>	44.35	35.4	35.4	44.6	64.6
4	#400	2 1	64.83	5/.8	51.8	48.2	48.2
		ıs Modules (Fi	. /-	(See ASTM C 1	36-83, Section	<u> </u>	L,
MATI	ERIALS I	FINER THAN	NO. 200 SIE	VE BY WASE	IING	-	
			assing a 200 Siev		Remar		
		Weight of Sa		175.14 ₀	WASA	f GRADING	
E=Drv	Weight o	of Sample Aft	er Washing/Sieve	1456			
3	E=Dry Weight of Sample After Washing/Sieve $/4.5L_g$ $C = \langle (D-E)/D \rangle \times 100$						
			RAINED AND U				S.I.
		ed By #C		CLD VAIIDIN		2/2/90	İ
		¥ — —				-6400-204(2-87)	
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GRAIN SIZE ANALYSIS PLOT



SOIL MOISTURE DATA SHEET

PROCEDURE NO. ETHC-14 REV. NO. 9

THERMOMETER NO. 2006 CALIBRATION DUE DATE 2-6-96

SAMPLE NO.	WET WT. + CAN	DRY WT. + CAN	CAN WT.	WET WT. SOIL	DRY WT. SOIL	% WATER
9-689	1743.16			1431.68	1075.70	33.09
					/	
					-	
			X			
			-			
						_
	/					

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

R-G Alexander DATE 1-4-90 TEST OPERATOR:

		I	HYDROMETER A	NALYSIS DATA SH	IEET		
Sample II	9-0	89			Page <u> </u> of <u> </u>		
		Tested By Ha	- Benny	Date Z- 23-90			
		Procedure ETA	4-07 Rev [Date Issued//-/5-8	39		
		EQUIPM	<u>IENT ITEM</u>	NO.	CALIBRATION DUE DATE		
		Hydrometer		ETAL - 1000			
		Balance		TAL - 3304			
		<u>Thermomete</u>	r/Thermocouple /	FTAL - 000Z	2-4-41		
			.30 (SEE 9-08)	a) HYGROS	SCOPIC MOISTURE C	ONTENT	
			78.4 (%)		Air Dry Soil		a)
Hygrosc	opic Corre	ection Factor	Ψ		Oven Dry Soil		
		VEIGHT OF SAM	PI F		· NA		
144 G	<u>*'</u> tainer +		<u> </u>		NA_	· ·	
		2011		water Content		(70)
Wt. Con			<u>NA</u> (9)		REMARKS		
Wt. Soil			<u>50.0</u> (g)	Tube B			
	CON	APOSITE CORRE	CTION		ped when rea	dines sa	
1st Read	lina	6 at	23,8°c				
			°c	w= 5a 81			
ZIIU Nec	sung	70.1		Pan 45			····
				Assume "	a" = 1.11, K=1	D.D1447	
Date	Clock time	Elapsed time (min)	Hydrometer reading	Hydrometer wi composite correc		Soil in suspension (%)	Particle diamete (mm)
2-23-40	14:50	2.0	22	16	24.9	35,0.	8838
2-23-90	14:53	5.0	12	6	24.9	13.1.	0.022
2-23-90	15:03	15.0	8	20		4.4.	0.014
	15:18	30.0	7	1	24.8	2.2.	8.007
7 - 7.3 - 90	15:40	60.0	7		74.7	2 2.	0007

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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NA

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Checked By R.G. Alexand

250 00

1,440.0

2-23-90

NA

18:58

NA

Date 3-6-90

NA

24.4

NA

NA

NA

HYDRAULIC CONDUCTIVITY OF SOILS DATA SHEET Test Operator R. G. A /GXANDER Date 1-4-40<u>NO.</u> EQUIPMENT ITEM DATE DUE 3-25-90 Balance 0006 Oven Thermometer Thermometer Thermocouple Temperature Controller Pressure_Gauge Pressure Transducer Pressure Transducer Back Pressure Gauge Pressure Transducer Pressure Transducer Calipers Load Frame Data Logger NA NA N/A Immediate (User) Calibration Performed. (Documentation To Be Attached) Sample Preparation PARTICLE SIZE WEIGHT (Sieve Mesh Range) ____ To ____*N/A*___ _____ То _____ _ To _ ... To __ To . _ To _ __ To __ Total OTHER COMPONENTS

Total 100 %

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Checked By HLBENNY Date 1-26-90

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SAMPLE PREPARATION

Determine Weight of Samples in Container

Container No.	4
Wt. of Sample + Container, g	1743.16
Wt. of Container, g	311.48
Wt. of Sample, g	1431.68

Determine the Water Content of the "Air Dry" Sample

Container No.	4
Wt. Container & Wet Soil (A), g	1743.16
Wt. Container & Dry Soil (B), g	1387.18
Wt. of Water, g	35S.98
Wt. of Container (C), g	311.48
Wt. of Dry Soil, Ws, g	1075.70
Water Content (W), %	33.09

$$W = (\frac{A - B}{B \cdot C}) 100$$

SAMPLE COMPONENT	SPECIFIC GRAVITY, G	LABORATORY NOTEBOOK DATA LOCATION
W/A.	H/A	4/18
N/A	N/A	NA
N/A	N/A	NIA

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Checked By HLBenny

Date 1-26-90

SAMPLE COMPACTION

Compaction Method

Static DA

Tamping 4

STATIC Load Applied, g/ La	yer 1		A	11	NH
or	2			12	
TAMPING No. Tamps per Layer/	3			13	}
Layer Length, cm	4			14	
	5			15	
	6			16	
Total No. of Louisian MA	7			17	
Total No. of Layers	8			18	T
IN 4" LOCITE TUBE	9			19	
	10	1		20	1
Tamper Foot Diameter cm		N	A		
Tamper Applied Load, g		N]	
Sample Diameter, (d), cm		9.5	4		
Sample Length, (L), cm		7. 3	6]	
Sample Mold or Permeameter Weight & Compacted Sample	e, g	959	7.7/		
Sample Mold or Permeameter Weight, g		88	.86		
Weight of Compacted Sample, (E), g		870	.85]	
Weight of Container & Uncompacted Wet Sample, (A), g		1748	3.16		
Weight of Container & Uncompacted Dry Sample, (B), g		1387	118		
Weight of Water, g		355	. 98		
Weight of Container, (C), g		311.	48		
Weight of Dry Soil, (WS), g		1075	.70		
Water Content, %		33.	09		
Compacted Bulk Density of Sample, (γm) , g/cc		1,6	5		
Compacted Sample Dry Density, (γd), g/cc		/. 2	4		

$$\gamma_{\text{m}} = \frac{E}{(\pi) (d/2)^{2}(L)}$$

$$\gamma_{\text{d}} = \left(\frac{\gamma_{\text{m}}}{w + 100}\right) 100$$

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 HL BENNY

Date 1-26-90

HYDRAULIC CONDUCTIVITY DATA SHEET

Sample ID. 9-089 Page 4 of 5

DATE		TIME				VOLUM	E DETERMI	NANTS			
Year <u>90</u> (Mo/Day)	System Down (Hr: Min)	System Up (Hr: Min)	Time Change (Hr: Min)	EffI Temp (°C)	uent Weight (±0.1g)	Cont Tare (±0.1q)	ainer Tare & Ef- fluent(±0.1g)	System Temp (°C)	Pres Pore H ₂ 0 (pai)	sure Back H ₂ O (psi)	Operator Initials
1-10		12:45				150.58			185.0	NIA	RLA
1-10	14:15	570P	1:30	22	560.40	150.58	710.98	22	195.0	WIA	RGA
1-11		0930				150.58	RLA 74.37		195.0	NIA	RGA
1-11	1100	1105	1.30	22	560.99	150.58	711.87	22	195.0	NIA	RGA
1-11	1205	1210	1:00	22	374.34	150.38	529.72	22	195.0	NIA	REA
1-11	1310	1315	1:00	22	360. ZO	150.38	510.58	22	195.0	NIA	RGA
1-12	_	ರಾಶಿಂಧ				150.58			104.1	NIA	RGA
1-12	1200	STOP	3:00	۵۱,	535.74) 50. 58	686.32	<u> 21</u>	104.1	NIA	RGA
1-15	1	0800				150.58			164.1	MIA	RLA
1-15	1100	1112.	3:00	2 t	488.29	150.58	638.87	<u> </u>	104.1	NSA	REA
1-15	1445	STOP	3/30	72	558.68	150.58	709.26	22	104.1	N/A	Ren
1-16		0730				IS0. 58			104.1	NA	RGA
1-16	10:00	10:65	2:30 au	27.	390,47	129.58	541.05	22	104.1	N/A	RGA
1-16	12:35	STOP	2:30	22	381.72	150.58	532.34	22	104.1	NIA	REA
1-17	_	0800			-	150.58	526.82		104.1	4/4	REA
1-17	10:30	10:35	2:30	22_	375.24	150.58	525.82	22	104.1	NIA	RGA
1-17	15:35	13;40	3:30	77	452.54	150.58	603.12	22	164.1	N/A	RCA
1-17	16:40	STOP	3; 00	2.2	419.09	156.5B	569.67	22	104.1	N/A	RLA
1-18		0730	-	<u> </u>		130.56			104.1	N/A	RGA
1-18	1130	435	4:00	ZI	560.00	150.58	710.58	21	104.1	N/A	Rek
1-18	14:35	STOP	3:00	21	421.64	156.58	572.22	21	1.401	NIA	RGA
1-18		200	TE	9-							Rob
										···	
										···	
			ľ								

ALL REQUIRED DATA ARE ACCURATELY AND COMPLETELY RECORDED. THE TEST OPERATOR WA	۰S
APPROPRIATELY TRAINED AND UTILIZED CALIBRATED TEST INSTRUMENTS AS INDICATED ABOVE	Ξ.
APPROVED TEST PROCEDURES WERE FOLLOWED TO PRODUCE THE ABOVE DATA.	

Checked By HC Berry Date 2/2/90

HYDRAULIC CONDUCTIVITY DATA SHEET

Sample 1D	9-089
Our and the No	FTAL -09

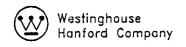
Page <u>5</u> of <u>5</u>

Date issued <u>11-/5-89</u>

Date	Hydraulic			Effluent	Operator	
YearO (Mo/Day)	Conductivity (cm/sec)	Gradient (cm/cm)	(Sample Number)	Lab. Notebook Location	Description	Initials
1-10.	S. JART	1657				RCA
1-10	548210-5	24-50			CLEAR	RGA
1-11	START	TEST				RGA
1-11	5.46 × 10-5	26.50		-	CLEAR	Ross
1-11	5.49 ×10 5	26.50			CLEAR	REH
1-11	5.26 x 10-5	26.50			CLEAR	RGA
1-12	START	4521				RH
1-12	4.89 ×10-	14.14			CLEAR	RCA
1-15	START	7 € 5~		_		RL
1-15	4.45 x 10 5	14.14			CLEAR	Rus
1-15	4.37 X10-5	14.14		-	CLEAR	RGA
1-16	START	TEST		_	-	Atter
1-16	4.27 x 10-5	14.14		-	CLEAR	REA
-[16	4.19 10-5	14.14		-	CLEAR	RGA
1-17	START	TEST		_		RGA
1-17	4.11410-5	14.14			CLERR	RGA
1-17	4,134105	14.14		_	CLEAR	RGA
1-17	382 × 10-5	14.14			CLEAR	REA
1-18	START	1634			Clear	RUL
1-18	3.83. X10 5	14.14	_	<u> </u>	CLERK	RGA
1-18	3.84×10-2	14.14		-	CLEAR	RGH
	STOP	4621,				
 -	3.8 ±	0.2 × 10-5	CH/SEC			
	 					
	ļ					

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Checked By	Date	



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CHAIN OF CUSTODY

Company Contact: JonLINDBE	RS Telep	hone 6-5005
Sample Collected by: Anderson	<u> 3 Lindberg</u> Date: <u>Dec</u>	11,1989 Time: Kariable
Sample Locations: Horn Rapids L	andfill, 1100-EM-1, M	W-15
Ice Chest No.: NA	Field Logbook & P	whc-N-306-2 age No.: pages 15-20
Remarks: <u>Samples collected</u>		
Bill of Lading No.: NA	Off Site Property N	ło.: <i>NA</i>
Method of Shipment: Hand Car	^v	
Method of Shipment: Hand Car. Shipped to: Jerry Alexande	A 2101-M Physical To	estino Laboratory
	Sample Identification	
MW-15-1 Plastic Bag		
MW-15-2 Plastic Bog	<u> </u>	
MW-15-3 Plastic Bag.	<u> </u>	
MW-15-4 Plastic Bags	<u> </u>	
MW -15- 5 Plastic Bag		·····
MW-15-6 Plastic Bag	5	<u> </u>
MW-15-7 Flastic Bag	<u> </u>	
MW-15- 9 Plastic Bag		
MW-15- 10 Plastic Bac		
MW-15- 11 Plasticipa		
MW -15-12 Plastich	<u> </u>	
MH 15-12 Whillie		
(its lindher	19	
CHAIN OF POSSESSION		
Relinquished by:	Received by	Date/Time: /2-/z-84/6630
Refinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
		FVR\071889-F

Part I: Fiel	d Section				
Collector And	derson Lindbe	erq Date S	ampled <u>/2-/-8</u>	9 Time 085:	5 hours
Affiliation o	of Sampler <u>Gold</u>	Ter/WHC			
Address Ric	hland WA	r			
	umper street			state	zip
Telephone (50	9 376-5009	Company Cont	tact Von L	indberg	
LABORATORY SAMPLE NUMBER	COLLECTOR'S SAMPLE NO.	TYPE OF SAMPLE*		D INFORMATION*	
	MW-12	201	/exan	Tube (split.	Spoon)
		<u></u>			
		•			· · · · · · · · · · · · · · · · · · ·
					.
Analysis Requi	ested <u>Permea</u> Limits (Kli	bility, ute and Dirl	Siève/Hydi	ometer And	alysis, M D-4318
		•	, , , , , , , , , , , , , , , , , , ,		
Special Handli	ing and/or Storag	je			
					<u>;</u>
					
PART II: LABO	PRATORY SECTION**				; ;
Received by		Ti	tle	Date	
	red				
* Indicate whe	ther sample is s	oil, sludge,	etc. on relative to	Sample locati	on

Figure 9-19. Example of hazardous waste sample analysis sheet.

NINE - 70

Revision 0 Date September 1986 RADIATION RELEASE

Bidg. FOR Rapula Date 12-1-89

Released By Maland
Operational Health Physics

Remarks 5/64. April Apr