EPA SAMPLE NO.

AEP111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA

SAS No.: NA SDG No.: HPS005S

Matrix: (soil/water) SOIL

Lab Sample ID: 9905249-02

Sample wt/vol: 6.1 (g/mL) G

Lab File ID: 1J430

Level: (low/med)

LOW

Date Received: 05/08/99

% Moisture: not dec. 19

Date Analyzed: 05/21/99

CAS NO.

ID: 0.53 (mm)

GC Column: DB-624

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (ml)

108-88-3------toluene 100-41-4------ethylbenzene 1330-20-7-----xylenes (total)

71-43-2-----benzene

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

COMPOUND

2.0 U 2.0 U 2.0 U -3.0 U

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

œ: SAIC00999

Report Date: June 01, 1999

Page 1 of 1

Sample ID	: AEP111
Lab ID	: 9905249-0
Matrix	: Soil
Date Collected	: 05/07/99
Date Received	: 05/08/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Anal	st Date	Time	Batch	M
General Chemistr	y											
Total Rec. Petro.	Hydrocarbons	119 =	F08	12.2	24.7	mg/kg	1.0	AAT	05/21/99	1500	149518	1
Evaporative Loss	@ 105 C	19.0		1.00	1.00	wt%	1.0	LIB	05/17/99	1000	149277	2

M = Method	Method-Description	
M 1	EPA 418.1 Modified	
M 2	EPA 3550	

#### Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit,

I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

Data reported in mass/mass units is reported as 'dry weight'.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

<sup>\*</sup> indicates that a quality control analyte recovery is outside of specified acceptance criteria.

EPA SAMPLE NO.

AF	P21	7	
		-	

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA

Case No.: NA SAS No.: NA SDG No.: HPS005S

Matrix: (soil/water) SOIL Lab Sample ID: 9905249-03

Sample wt/vol: 4.0 (g/mL) G Lab File ID: 1J431

Level: (low/med) LOW . Date Received: 05/08/99

% Moisture: not dec. 22 Date Analyzed: 05/21/99

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_(ml) Soil Aliquot Volume: \_\_\_\_(uL)

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

71-43-2benzene	3.2	U	U
108-88-3toluene	3.2	U	1
100-41-4ethylbenzene	3.2	U	
1330-20-7xylenes (total)	4.9	U	1

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: June 01, 1999

Page 1 of 1

Sample ID	: AEP211
Lab ID	: 9905249-03
Matrix	: Soil
Date Collected	: 05/07/99
Date Received	: 05/08/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistr Total Rec. Petro. 1		59.5 = F08	12.7	25.6	mg/kg	1.0	AAT	05/21/99	1500	149518	. 1
Evaporative Loss		22.0	1.00	1.00	wt%			05/17/99			

M = Method	Method-Description	
MI	EPA 418.1 Modified	
M 2	EPA 3550	

#### Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

Data reported in mass/mass units is reported as 'dry weight'.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Jan 9 W

Reviewed By

<sup>\*</sup> indicates that a quality control analyte recovery is outside of specified acceptance criteria.

EPA SAMPLE NO.

AEP311

Lab Name: GEMERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS005S

Matrix: (soil/water) SOIL

Lab Sample ID: 9905249-04

Sample wt/vol: 6.0 (g/mL) G

Lab File ID: 1J510

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: not dec. 18

Date Analyzed: 05/21/99

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_(ml)

Soil Aliquot Volume: \_\_\_\_(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG Q

71-43-2benzene 108-88-3toluene 100-41-4ethylbenzene 1330-20-7xylenes (total)	2.0 U 2.0 U 2.0 U 3.0 U	U
--	----------------------------------	---

FORM I VOA

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: June 01, 1999

Page 1 of 1

Sample ID	: AEP311
Lab ID	: 9905249-04
Matrix	: Soil
Date Collected	: 05/07/99
Date Received	: 05/08/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistr Total Rec. Petro. I	5 ( July 19 - 5 August 205	1.61 U	12.1	24.4	mg/kg	10	A A TT	05/21/99	1500	140611	0 1
Evaporarive Loss		18.0	1.00	1.00	wt%		LIB	05/17/99	02.02	9000000	7 7

M = Method	Method-Description	
M1	EPA 418.1 Modified	 
M 2	EPA 3550	

#### Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

Data reported in mass/mass units is reported as 'dry weight'.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Just 9. Wh

Reviewed By

81

<sup>\*</sup> indicates that a quality control analyte recovery is outside of specified acceptance criteria.

EPA SAMPLE NO.

AEP411

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA SAS No.: NA

SDG No.: HPS005S

Matrix: (soil/water) SOIL

Lab Sample ID: 9905249-05

Sample wt/vol:

5.9 (g/mL) G

Lab File ID: 1J433

Level: (low/med)

LOW

Date Received: 05/08/99

% Moisture: not dec. 21

Date Analyzed: 05/21/99

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (ml)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/KG

71-43-2----benzene 2.2 U 108-88-3-----toluene 2.2 U ~ 2.2 U 100-41-4----ethylbenzene 1330-20-7-----xylenes (total) 3.2 U

FORM I VOA

OLMO3.0

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Turnpike

Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: June 01, 1999

Page 1 of 1

 Sample ID
 : AEP411

 Lab ID
 : 9905249-05

 Matrix
 : Soil

 Date Collected
 : 05/07/99

 Date Received
 : 05/08/99

 Priority
 : Routine

 Collector
 : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analy	yst Date	Time	Batch	M
General Chemistr	у						<u> </u>				
Total Rec. Petro. I	Hydrocarbons	66.1 = F03	12.5	25.3	mg/kg	1.0	AAT	05/21/99	1500	149518	1
Evaporative Loss	@ 105 C	21.0	1.00	1.00	wt%	1.0	LIB	05/17/99	1000	149277	2

M = Method	Method-Description	
M 1	EPA 418.1 Modified	
M 2	EPA 3550	

#### Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

Data reported in mass/mass units is reported as 'dry weight'.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valeric Davis at (843) 769-7391.

Jul 9. Gd

Reviewed By

indicates that a quality control analyte recovery is outside of specified acceptance criteria.

EPA SAMPLE NO.

AEP511 .

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS005S

Matrix: (soil/water) SOIL

Lab Sample ID: 9905249-07

Sample wt/vol: 3.9 (g/mL) G

Lab File ID: 1J514

Level: (low/med) LOW

Date Received: 05/09/99

% Moisture: not dec. 8

CAS NO.

Date Analyzed: 05/21/99

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_(ml)

Soil Aliquot Volume: (uL)

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

Q

Annual Committee and Colored Committee and Colored Col		
71-43-2benzene	2.8	
108-88-3toluene	2.8	U
100-41-4ethylbenzene	2.8	U
1330-20-7xylenes (total)	1.2	J

FORM I VOA

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: \$AIC00999

Report Date: June 01, 1999

Page 1 of 1

Sample ID	: AEP511
Lab ID	: 9905249-0
Matrix	: Soil
Date Collected	: 05/08/99
Date Received	: 05/09/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistr	у .	10700 414									
Total Rec. Petro.	Hydrocarbons	105 = F 08	10.8	21.7	mg/kg	1.0	AAT	05/21/99	1500	149518	. 1
Evaporative Loss	@ 105 C	8.00	1.00	1.00	w1%	1.0	GJ	05/17/99	1725	149340	2

M = Method	Method-Description	No
MI	EPA 418.1 Modified	-,
M 2	EPA 3550	

#### Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

Data reported in mass/mass units is reported as 'dry weight'.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Jack A. God

Reviewed By

<sup>\*</sup> indicates that a quality control analyte recovery is outside of specified acceptance criteria.

Sinox Applications Incurational Conputer Office Constant

Preserve. Do 34 OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS COC NO .: APXOS Analyze ily 95315.51 LABORATORY NAME: General Engineering Laboratory PHONE NO: (843) 556-817! LABORATORY ADDRESS: Charleston, SC 29407 Cooler Temperature: N. 2040 Savage Road FEDEX NUMBER: OVA No. of Bottles/ Visis: TOTAL NUMBER OF CONTAINERS: REQUESTED PARAMETERS Samples AEDFII AEDOII AEDDI CHAIN OF CUSTODY RECORD Cooler ID: DOT 1 cos Methane ---2/1/22 5.20 Date/Time Dissolved Iron Date/Time Date/Time ebillus esallu2 \* 1 :--1 otestiv HAT ... 17 ... 2. X3T8 RELINQUISHED BY: COMPANY NAME: COMPANY NAME: COMPANY NAME: Matrix Laura Lumley RECEIVED BY: REQEIVED BY: Time Collected 1343 444 255 1450 1017 155 (Printed Name) (423) 481-4600 Date/Time イナシ PROJECT NUMBER: 01-0331-04-1829-100 515199 Date Collected 515/99 5/5/99 6/5/69 6/2/60 5/4/99 800 Oak Ridge Turnpile, Oak Ridge, TN 37831 PROJECT NAME: HAAF-Pilot Study PROJECT MANAGER: Patty Stoll Sumley Kiene Jumber RELINQUISHED BY: RELINDUISHED BY COMPANY NAME: COMPANY MAME: COMPANY NAME: Downs 74 トル VED71 EDDI Sampler (Signature Sample 1D RECENTED BY:

The state of the s Science Applications International Corporation

800 Oak Ridge Tumpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD 99053367 10/2

COC NO.: HPJUL

3 OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS Preserve LABORATORY NAME: General Engineering Laboratory Hold PHONE NO: (843) 556-8171 LABORATORY ADDRESS: Charleston, SC 29407 Cooler Temperature: 2040 Savage Road FEDEX NUMBER: OVA No. of Bortles/ Vials: N 11/11 2 4 TOTAL NUMBER OF CONTAINERS: REQUESTED PARAMETERS SVEE **154 - GKO** Cooler ID: 77 DOT cos .... 5/1/99 15:20 noti baviossiQ Date/Time Date/Time Date/Time epilius etailu2 . \* etartil --; HAT 9905024 BTEX water RELINQUISHED BY: water COMPANY NAME: COMPANY NAME: COMPANY NAME: RECEIVED BY: RECEIVED BY: DALKO LAM PC がかっていた 1525 28 1359 638 450 1525 0/5 105 1150 十十七 1101 10% (Printed Name) 25 36 Date Time R Date/Time PROJECT NUMBER: 01-0331-04-1829-100 65/a/S 500 6/11/89 Date Collected 200 16/99 12999 5/10/99 5/6/99 55/9/5 PROJECT NAME: HAAF-Pilot Study PROJECT MANAGER: Patty Stoll 3 12 almul Sorus RELINDUISHED BY: RELINQUISHER-BY: NY MAME: COMPANY NAME: COMPANY NAME: AFDRIZ Sampler (Signature) AEN 411 FDGI APC BI AED CII AEDA11 AED LI AED 51 EDUI RECEMPED, BY: auco ö 000

SECTION ME: HAAE BILL Stude	AE Dilot Cond.			_				1				١				
	AL-FIRST STRUK			1		1		FOUE	TED PA	REQUESTED PARAMETERS	ERS		H		LABORATORY NAME:	LABORATORY NAME: General Engineering Laboratory
PROJECT NUMBER: 01-0331-04-1829-100	01-0331-04-1829-	100				_									LABORATORY ADDRESS:	ADDRESS:
PROJECT MANAGER: Patty Stoll	Patty Stoll													· •lelV		Road : 29407
Sampler (Signature)	<u> </u>	(Printed Name)	100			-								\eelf108		PHONE NO: (843) 556-8171
Sample ID	Date Collected	Time Collected	1 8	X3T8	HQT Nitrate	Sulfate	l latoT	ısdžeM	200					to old	OVA	OBSERVATIONS, COMMENTS. SPECIAL INSTRUCTIONS
AE0311	5/6/99	5241	5 Sx:1	-		23.2	** ,**	3 · ·	37,		4.5			7	5 V	Preserve 4
AED211	15/10/59	134	5   1	7	بن		9.5.	ä	****	* C	15,	/ = 1		N		Hele
3. KEDIII	5/n/39	川石	0		: : : :		7 mg/s	in.	10.7	13	:: <u>:</u>	4		17		
AED 511	15/18/99	1514	+	1	类	; i)	: ::::::::::::::::::::::::::::::::::::	Ŋ.	4.4	1:	Đ.	7		N		
5-1ED:M11	5/16/99	JAD (	9	=	~				•	ž,	•		4	1		
AED HII	5/1/30	(1310	_	Ž	7	, e	<i>3</i> 5°	•	.2	64	GF.			17	-	
AED 513	66/01/5	151	14			1.	** ½		*	7.3	27-			17		
AEDKIL	5/6/99	1319	7	_		**		×	,				*	7	- \	
9- AEDFII	5/6/99	1114		_		1.54 1.74	3	નહેં	* *					7		>
AE JOIL	5/6/6	935	0	A	75	3,74	12.	716	_	*	4.					4nd vze
AE JOIL	5/w/99	02	- 🗦	<b>.</b>	44	'L'a	4.7	**	1	4.	<b>A.</b>			_		
			-1	-/- -/-	9	.48	9	7	0	N.	×C					
					<u>}</u> }-#:	X.	0).	1	181	1,3			- 	1	<del>-;</del> -	
RELINGUISHEP-BY:	Date C	Date/Time	RESEIVED BY	70		60,	Date/Time		TAL NUI	TOTAL NUMBER OF CONTAINERS:	F CONT	AINER	S: 7	6	Cooler Temperature:	ature:
COMPANY NAME:	7777		COMPANY NAME:	<u>.</u>		54	17/19		Cooler ID:	#	772	N			FEDEX NUMBER:	ER:
REGRIVED KY: LU CA	S Syl	Date/Time	RELINQUISHED BY:	ا ي		Pa .	Date/Time	-		-						
COMPANY NAME:	11/1/2	0/2/	COMPANY NAME:													•
RELINGUISHED BY:	Con Spile	SS	RECEIVED BY:			Da	Date/Time									
COMPANY NAME:		1	COMPANY NAME:					_								

As Employee-Duned Company

13 OBSERVATIONS, COMMENTS. SPECIAL INSTRUCTIONS COC NO .: 476/12 97:15492 LABORATORY NAME: General Engineering Laboratory 3,0 PHONE NO: (843) 556-8171 LABORATORY ADDRESS: 2040 Savage Road Charleston, SC 29407 Cooler Temperature: FEDEX NUMBER: OVA 7 No. of Bottles/ Visls: 3 N 4 N TOTAL NUMBER OF CONTAINERS: REQUESTED PARAMETERS NOC CHAIN OF CUSTODY RECORD 19H-6RO -DBO Cooler ID: 201 COS not baylossid Date/Time Date/Time Date/Time 5/8/59 15:00 epilius etellu2 - 4 Olfrate 2 HAT 1 X3T8 RELINQUISHED BY: COMPANY NAME: COMPANY NAME: COMPANY NAME: Matrix Danco Lum ley RECEIVED BY: R RECEIVED BY Time Collected 1405 1715 1650 000 1024 Printed Name) 83/8/5 800 Ost Ridge Tumplie, Ost Ridge, TN 37831 1423/ 481-4600 0.30 Date/Time Date/Time 100 PROJECT NUMBER: 01-0331-04-1829-100 19/5/29 55/2 Date Collected 55/2/5 54189 19/5/99 PROJECT NAME: HAAF-Pilot Study PROJECT MANAGER: Patty Stoll auso & worker James (1) lors RELINGUISHED BY: RELINGUISHED BY: COMPANY NAME: COMPANY NAME: COMPANYNAME Sampler (Signature AEVZII REDEWED BY; AEPIII AEP 211 AEP31

al

OBSERVATIONS, COMMENTS. SPECIAL INSTRUCTIONS 99050599 COC NO .: AP&/10 LABORATORY NAME: General Engineering Laboratory 300 PHONE NO: (843) 556-8171 LABORATORY ADDRESS: Charleston, SC 29407 Cooler Temperature: 2040 Savage Road FEDEX NUMBER: OVA SCREENING No. of Bottles/ Vials: 3 Niv 74 TOTAL NUMBER OF CONTAINERS: 0219-HOL DIL OKA - HAT JOURS REQUESTED PARAMETERS N CHAIN OF CUSTODY RECORD 2 Cooler ID: 201 \* ... cos Methane N Dissolved Iron Date/Time Date/Time Date/Time 13,00 5/6/24 ebillu Sulfate 1. etertil HqT 兴 X3TB RELINQUISHED BY: COMPANY NAME: COMPANY NAME: COMPANY NAME: Matrix Light 500 R RECEIVED BY: Laura Lumley RECEIVED BY: Time Collected 1200 1540 1615 1450 555 (Printed Name) 800 Out Ridge Tumpile, Out Ridge, TN 37831 (423) 481-4600 Date/Finde 1070 070 Date/Time Date/Time 24/29 PROJECT NUMBER: 01-0331-04-1829-100 Data Collected 56/4 514/99 66/8/5 5/4/99 66/8/15 PROJECT NAME: HAAF-Pilot Study PROJECT MANAGER: Patty Stoll Saw Jumber Minor Man SHED/BY: RELINGUISHER BY: COMPANY NAME: COMPANY NAME: AEVW12 COMPANY NAME: ampler (Signature) **REPS12** Paddy 18761 RECEIVED BY: RETATOR

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524990

99052523

36 4

Hunter Army Airfield UST CAP-Part B Report Addendum #1 (August 2000) Former Building 728, Facility ID #9-025049

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### SOIL ANALYTICAL RESULTS VAPOR TEST WELLS

**MAY 1999** 

Hunter Army Airfield UST CAP-Part B Report Addendum #1 (August 2000) Former Building 728, Facility ID #9-025049

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EPA SAMPLE NO.

AEV111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA

SAS No.: NA SDG No.: HPS002S

Matrix: (soil/water) SOIL

Lab Sample ID: 9905236-03

Sample wt/vol:

5.8 (g/mL) G

Lab File ID: 2J315

Level: (low/med) LOW

Date Received: 05/07/99

% Moisture: not dec. 13

CAS NO.

Date Analyzed: 05/19/99

GC Column: DB-624

ID: 0.25 (mm)

COMPOUND

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (ml)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

71-43-2----benzene 108-88-3-----toluene 100-41-4----ethylbenzene 1330-20-7-----xylenes (total) J 601

FORM I VOA

EPA SAMPLE NC. AEV111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

SDG No.: HPS002S SAS No.: NA Lab Code: NA Case No.: NA

Lab Sample ID: 9905236-03 Matrix: (soil/water) SOIL

Lab File ID: 8T219 30.0 (g/mL) G Sample wt/vol:

LOW DATA VALIDATION Date Received: 05/07/99 Level: (low/med)

decanted: (ŷ/N) N Date Extracted: 05/10/99 % Moisture: 13

Date Analyzed: 05/12/99 1.00 (mL) Concentrated Extract Volume:

Dilution Factor: 1.0 Injection Volume: 1.0(uL)

GPC Cleanup: (Y/N) N pH: 7.0

88-74-4----2-nitroaniline

208-96-8-----acenaphthylene

83-32-9----acenaphthene

131-11-3-----dimethylphthalate

606-20-2----2,6-dinitrotoluene

CAS NO.	7.7.7.	NTRATION UNITS: or ug/Kg) UG/KG (	2
100 05 0	whomal	383 นี้	_
108-95-2	bis(2-chloroethyl)ethe		
111-44-4	2-chlorophenol_	383 0	
70-0/-0	1,3-dichlorobenzene	383 U	
341-/3-1	1,4-dichlorobenzene	383 0	
100-46-7	1 2 dighterohenzene	383 U	
32-20-1	1,2-dichlorobenzene 2,2'-Oxybis(1-chloropro		
108-60-1	2	383 U	
95-48-/	2-methylphenol		
621-64-7	N-nitroso-di-n-propyla:	383 Ŭ	
106-44-5	m,p-cresol	383 Ŭ	
	hexachloroethane	383 U	
	nitrobenzene	383 U	
	isophorone	383 U	
88-75-5	2-nitrophenol	383 U	
105-67-9	2,4-dimethylphenol		
111-91-1	bis(2-chloroethoxy) met	hane 383 U	
120-83-2	2,4-dichlorophenol	383 U	
120-82-1	1,2,4-trichlorobenzene	383 U	
91-20-3	naphthalene	383 U	
	4-chloroaniline	383 U	
87-68-3	hexachlorobutadiene	383 U	
59-50-7	4-chloro-3-methylpheno	1 383 U	
91-57-6	2-methylnaphthalene	383 0	
77-47-4	hexachlorocyclopentadi	ene 383 U	
88-06-2	2,4,6-trichlorophenol	383 0	
95-95-4	2,4,5-trichlorophenol_	958 U	
91-58-7	2-chloronaphthalene	383 U	
	3-nitroaniline	958 U	

FORM I SV-1

OLM03.0

958 U

383 U

383 U

383 U

383 U

EPA SAMPLE NO.

AEV11 | XB

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS002S

Matrix: (soil/water) SOIL Lab Sample ID: 9905236-03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8T219

Level: (low/med) LOW DATA WALLDATE Received: 05/07/99

% Moisture: 13 decanted: (Y/N) Nary Date Extracted:05/10/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/12/99

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q

CAS NO.	COMPOUND (ug/L or ug/l	100/110	V
51-28-5	2,4-dinitrophenol	050	
132-64-9	dibenzofuran	958 383	
	2,4-dinitrotoluene	383	
84-66-2	diethylphthalate		
100-02-7	4-nitrophenol	383	
86-73-7	fluorene	958	
7005-72-2	4-chlorophenylphenylether	383	
F34-F9 1	4-Cniorophenyiphenyiether	383	U
100 01 6	4,6-dinitro-2-methylphenol	958	
101 55 3	4-nicroaniline	383	
110 74 1	4-bromophenylphenylether	383	
110-/4-1	hexachlorobenzene	383	
05 01 0	pentachlorophenol	958	
120 12 2	pnenanthrene	383	
120-12-/	anthracene	383	U
205 44 2	di-n-butylphthalate	383	U
206-44-0	fluoranthene	383	
129-00-0	pyrene butylbenzylphthalate	383	
85-68-/	butylbenzylphthalate	383	
30-33-3	benzo(a)anthracene	383	
91-94-1	3,3'-dichlorobenzidine	383	
218-01-9	chrysene	383	
117-81-7	bis(2-ethylhexyl)phthalate	383	
117-84-0	di-n-octylphthalate	383	U
205-99-2	benzo(b)fluoranthene	89.4	
207-08-9	benzo(k)fluoranthene	383	U
50-32-8	benzo(a)pyrene	383	
193-39-5	indeno(1,2,3-cd)pyrene	383	
53-70-3	dibenz(a,h)anthracene	383	Ü
191-24-2	benzo(g,h,i)pervlene	383	
122-39-4	diphenylamine	383	U
20 21 2	Carbazole	383	U

FORM I SV-2

FORM 1 Science Applications07-MAY-1999 SA SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET AEV111 Lab Name: GENERAL ENGINEERING LABOR Contract: NA SDG No.: HPS002S Case No.: NA SAS No.: NA Lab Code: NA Lab Sample ID: 9905236-03 Matrix: (soil/water) SOIL 30.5 (g/mL). G. ... Lab File ID: 073F7301 Sample wt/vol: Date Received: 05/07/99 Level: (low/med) LOW Date Extracted:05/14/99 decanted: (Y/N) N % Moisture: 13 Date Analyzed: 05/21/99 Concentrated Extract Volume: 1.00(mL) Dilution Factor: 40.0 Injection Volume: 1.0(uL) pH: 7.0 GPC Cleanup: (Y/N) N CONCENTRATION UNITS:

FORM I SV

#### VOLATILE ORGANICS ANALYSIS DATA SHEET AEV111 Lab Name: GENERAL ENGINEERING LABOR Contract: NA Case No.: NA SAS No.: NA SDG No.: HPS002S Lab Code: NA Lab Sample ID: 9905236-03 Matrix: (soil/water) SOIL Lab File ID: 1I5010 Sample wt/vol: 10.0 (g/mL) G DATA VALIDATION Date Received: 05/07/99 Level: (low/med) LOW Date Analyzed: 05/14/99 % Moisture: not dec. 13 Dilution Factor: 1000.0 GC Column: J&W DB-624(FID) ID: 0.53 (mm) Soil Aliquot Volume: \_\_\_\_(uL) Soil Extract Volume: \_\_\_\_(uL) CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG CAS NO. COMPOUND

-----Gasoline Range Organics\_

EPA SAMPLE NO.

J GDI

331000

FORM I VOA

EPA SAMPLE NO.

AEV211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS005S1

Matrix: (soil/water) SOIL

Lab Sample ID: 9905249-01

Sample wt/vol:

Lab File ID: 1J429 5.9 (g/mL) G

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: not dec. 10

Date Analyzed: 05/21/99

Dilution Factor: 1.0

Soil Extract Volume: (ml)

GC Column: DB-624 ID: 0.53 (mm)

Soil Aliquot Volume:

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q ·

74-87-3	chloromethane		JU
	bromomethane	1.9	J - 1
75-01-4	vinyl chloride	1.9	J
	chloroethane	1.9	J
	methylene chloride		7 4
	acetone	89.6	J GO
75-15-0	carbon disulfide	1.6	J GO
75-35-4	1,1-dichloroethene	1.9	U
75-34-3	1,1-dichloroethane		J G
67-66-3	chloroform	1.9	JU
	1,2-dichloroethane	1.9	JU
78-93-3	2-butanone	4.7	J R COI
	1,1,1-trichloroethane	1.9	1 11
	carbon tetrachloride	1.9 0	7 1
	bromodichloromethane	1.9 0	ן ד
78-87-5	1,2-dichloropropane	1.9	7
10061-01-5	cis-1,3-dichloropropene	1.9 0	J
79-01-6	trichloroethene	1.9	1 1
124-48-1	dibromochloromethane	1.9	J 11.
	1,1,2-trichloroethane	1.9	7 N
71-43-2	benzene	6.9	J 60
	trans-1,3-dichloropropene	1.9 7	J
	bromoform		J
108-10-1	4-methyl-2-pentanone	4.7	ן ד
591-78-6	2-hexanone		J   [.
127-18-4	tetrachloroethene		J W
79-34-5	1,1,2,2-tetrachloroethane		J WJK
	toluene	1.0	J GO
	chlorobenzene		JUCA
100-41-4	ethylbenzene	78.3	J Ge
100-42-5	styrene		U
1330-20-7	xylenes (total)	148	J 60
540-59-0	1,2-dichloroethylene (total)	4.1	JG

FORM I VOA

EPA SAMPLE NO.

AEV211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

SAS No.: NA SDG No.: HPS005S1 Case No.: NA Lab Code: NA

Lab Sample ID: 9905249-01 Matrix: (soil/water) SOIL

30.5 Natary to IDATION Lab File ID: 4V215 Sample wt/vol:

Level: (low/med) Date Received: 05/08/99

Date Extracted:05/21/99 decanted: (Y/N) N % Moisture: 10

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/25/99

Dilution Factor: 4.0 Injection Volume: 1.0(uL)

GPC Cleanup: (Y/N) N pH: 7.0

CAS	NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108	-95-2	phenol	1460	ט ס

		7/ 1/1/1/1/1	-	_
108-95-2	phenol	1460	U	
111-44-4	bis(2-chloroethyl)ether	1460		
95-57-8	2-chlorophenol	1460	U	
541-73-1	1 3-dichlorohenzene	1460	U	
106-46-7	1,4-dichlorobenzene 1,2-dichlorobenzene 2,2'-Oxybis(1-chloropropane) 2-methylphenol	1460	U	
95-50-1	1,2-dichlorobenzene	1460		
108-60-1	2.2'-0xybis(1-chloropropane)	1460	U	
95-48-7	2-methylphenol	1460		
621-64-7	N-nitroso-di-n-propylamine	1460		
106-44-5	3,4-methylphenol	1460	U	
67-72-1	hexachloroethane	1460		
	nitrobenzene	1460		
78-59-1	isophorone	1460	U	
88-75-5	2-nitrophenol	1460		
105-67-9	2-nitrophenol2,4-dimethylphenolbis(2-chloroethoxy)methane	1460		
111-91-1	bis(2-chloroethoxy)methane	1460		
120-83-2	2.4-dichlorophenol	1460		
120-82-1	1.2.4-trichlorobenzene	1460		
91-20-3	naphthalene	183		
106-47-8	4-chloroaniline	1460	U	
87-68-3	hexachlorobutadiene	1460		
	4-chloro-3-methylphenol	1460		
91-57-6	2-methylnaphthalene	846	J	
77-47-4	hexachlorocyclopentadiene	1460		
88-06-2	2,4,6-trichlorophenol	1460		
95-95-4	2,4,5-trichlorophenol	1460		
91-58-7	2-chloronaphthalene	1460		
99-09-2	3-nitroaniline	3640		
88-74-4	2-nitroaniline	3640		
131-11-3	dimethylphthalate	1460		П
606-20-2	2,6-dinitrotoluene	1460		1
208-96-8	acenaphthylene	1460		
83-32-9	acenaphthene	1460		
05.52-5	-acenaphichene	7400	-	
				_

FORM I SV-1

OLMO3.0

EPA SAMPLE NO.

AEV211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS005S1

Matrix: (soil/water) SOIL Lab Sample ID: 9905249-01

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 4V215

Level: (low/med) LOW [..... Date Received: 05/08/99

% Moisture: 10 decanted: (Y/N) N Date Extracted: 05/21/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/25/99

Injection Volume: 1.0(uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

(ug/L or ug/kg) UG/kG Q

CAS NO.	COMPOUND (ug/L or ug/	kg/ oo/ko	×	
	2 4 dimitrophonol	2910	Ü	Ī
51-28-5	2,4-dinitrophenol	1460	U	
132-64-9	dibenzofuran	1460		
121-14-2	2,4-dinitrotoluene	1460		
84-66-2	diethylphthalate	1460		
100-02-7	4-nitrophenol	304	J	
86-73-7	fluorene		Ü	
7005-72-3	4-chlorophenylphenylether		Ü	
534-52-1	4,6-dinitro-2-methylphenol	1460	10000	
100-01-6	4-nitroaniline			
122-39-4	diphenylamine	1460		
101-55-3	4-bromophenylphenylether	1460		
118-74-1	hexachlorobenzene	1460		
87-86-5	pentachlorophenol	2910	U	
85-01-8	phenanthrene	1650		_
120-12-7	anthracene	416		
84-74-2	di-n-butylphthalate		U	
206-44-0	fluoranthene	1710		_
129-00-0		1570		
85-68-7	butylbenzylphthalate	1460		
56-55-3	benzo (a) anthracene	657		
91-94-1	3,3'-dichlorobenzidine	2910		
218-01-9	chrysene	631		
117-81-7	bis(2-ethylhexyl)phthalate	1460		
117-84-0	di-n-octylphthalate	1460	U	
77/-04-0	benzo(b) fluoranthene	211	J	
203-33-2	benzo(k) fluoranthene	1460		
20/-00-3	hongo (2) nimene	367		
50-32-8	benzo(a)pyrene	384		
193-39-5	indeno(1,2,3-cd)pyrene	1460		
53-70-3	dibenz (a, h) anthracene	396		
191-24-2	benzo(g,h,i)perylene	1460	_	
86-74-8	Carbazole	7400	0	

FORM I SV-2

Science Applications08-MAY-1999 SA FORM 1 Science SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET AEV211 Lab Name: GENERAL ENGINEERING LABOR Contract: NA SDG No.: HPS005S1 Case No.: NA SAS No.: NA Lab Code: NA Lab Sample ID: 9905249-01 Matrix: (soil/water) SOIL 30.1 (g/mi)/GLIDATION Lab File ID: 028F2801 Sample wt/vol: COPY Date Received: 05/08/99 LOW Level: (low/med) decanted: (Y/N) N Date Extracted:05/19/99 % Moisture: 10 Date Analyzed: 05/22/99 Concentrated Extract Volume: 1.00(mL) Dilution Factor: 40.0 Injection Volume: 1.0(uL) GPC Cleanup: (Y/N) N pH: 7.0. CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG CAS NO. COMPOUND

------Diesel Range Organics

FORM I SV

187 B

= F08

EPA SAMPLE NO.

Δ	EV211	
-	W 4 4 4 4	

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA

SAS No.: NA

SDG No.: HPS005S1

Matrix: (soil/water) SOIL

Lab Sample ID: 9905249-01

Sample wt/vol:

10.0 (g/mL) G

Lab File ID: 1J305

Level: (low/med) LOW Date Received: 05/08/99

% Moisture: not dec. 10

DATA VALIDATIONDate Analyzed: 05/19/99

GC Column: J&W DB-624 (FID) ID: 0.53 (mm)

Soil Extract Volume: \_\_\_\_(uL)

Dilution Factor: 1000.0

Soil Aliquot Volume: \_\_\_\_(uL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/KG

-----Gasoline Range Organics\_

349000

J GOI

FORM I VOA

EPA SAMPLE NO.

AEVW11

(uL)

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS005S1

Matrix: (soil/water) SOIL

Lab Sample ID: 9905249-06

Sample wt/vol:

5.5 (g/mL) G

(mm)

Lab File ID: 1J513

Level: (low/med) LOW

Date Received: 05/09/99

% Moisture: not dec. 9

Date Analyzed: 05/21/99

GC Column: DB-624 ID: 0.53

Dilution Factor: 1.0

Soil Extract Volume: (ml)

Soil Aliquot Volume:

CONCENTRATION UNITS: 0 4 (ug/L or ug/Kg) UG/KG

CAS NO. COMPOUND

74-87-3----chloromethane 2.0 U 74-83-9-----bromomethane 2.0 U \* 2.0 U 2.0 U 2.0 U 75-01-4-----vinyl chloride 75-00-3-----chloroethane 75-09-2----methylene chloride J G01 67-64-1----acetone 155 75-15-0----carbon disulfide J GOI 0.83 J 75-35-4-----1,1-dichloroethene 2.0 U 75-34-3-----1,1-dichloroethane J GOI 3.4 67-66-3-----chloroform 2.0 U 107-06-2----1,2-dichloroethane 2.0 U 78-93-3----2-butanone R COI, COY 71-55-6-----1,1,1-trichloroethane\_ 56-23-5-----carbon tetrachloride\_ 75-27-4-----bromodichloromethane 78-87-5-----1,2-dichloropropane\_ 10061-01-5----cis-1,3-dichloropropene\_ 79-01-6-----trichloroethene 124-48-1-----dibromochloromethane 2.0 U 2.0 U 79-00-5-----1,1,2-trichloroethane\_ J. GOI 71-43-2-----benzene 21.9 10061-02-6----trans-1,3-dichloropropene 2.0 0 75-25-2-----bromoform 2.0 U 108-10-1----4-methyl-2-pentanone 5.0 U 591-78-6----2-hexanone 5.0 U 127-18-4-----tetrachloroethene 2.0 U 79-34-5-----1,1,2,2-tetrachloroethane 2.0 U US KOI 108-88-3-----toluene 2.0 U U 108-90-7-----chlorobenzene 2.0 U 721 226 ED 2.0 U 100-41-4----ethylbenzene J A03 100-42-5-----styrene 1330-20-7------xylenes (total) 540-59-0-----1,2-dichloroethylene (total) 1160 AZ4 ED J ADT 10.2 J GPI

FORM I VOA

OLMO3.0

EPA SAMPLE NO.

AEVW11

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS005S1

Matrix: (soil/water) SOIL Lab Sample ID: 9905249-06

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 4V216

Level: (low/med) LOW Land Date Received: 05/09/99

% Moisture: 9 decanted: (Y/N) N Date Extracted:05/21/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/25/99

Injection Volume: 1.0(uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND (ug/L or ug/F	rg/ UG/RG	Q
	-11	1440	U
108-95-2	pnenoi	1440	
111-44-4	bis(2-chloroethyl)ether	1440	
95-57-8	2-chlorophenol	1440	
541-73-1	1,3-dichlorobenzene		
106-46-7	1,4-dichlorobenzene	1440	
95-50-1	1,2-dichlorobenzene	1440	
108-60-1	2,2'-Oxybis(1-chloropropane)	1440	
95-48-7	2-methylphenol	1440	
621-64-7	1,2-dichlorobenzene 2,2'-Oxybis(1-chloropropane) 2-methylphenol N-nitroso-di-n-propylamine	1440	
106-44-5	3,4-methylphenol	1440	
67-72-1	hexachloroethane	1440	
98-95-3	nitrobenzene	1440	
78-59-1	isophorone	1440	
88-75-5	2-nitrophenol	1440	
105-67-9	2,4-dimethylphenol	1440	U
111-91-1	bis(2-chloroethoxy) methane	1440	U
120-83-2	2.4-dichlorophenol	1440	U
120-82-1	2,4-dichlorophenol	1440	U
91-20-3	naphthalene	390	J
106-47-8	4-chloroaniline	1440	U
87-68-3	hexachlorobutadiene	1440	U
59-50-7	4-chloro-3-methylphenol	1440	U
91-57-6	2-methylnaphthalene	1110	J
77-47-4	hexachlorocyclopentadiene	1440	
88-06-2	2 4 6-trichlorophenol	1440	
95-95-4	2,4,6-trichlorophenol	1440	
91-59-7	2-chloropaphthalene	1440	
99-09-2	3-nitroaniline	3600	
	2-nitroaniline	3600	
00-/%- <del>%</del>	dimethylphthalate	1440	
T2T-TT-2	dimethylphthalate	1440	
000-20-2	Z, 6-dinicrocoluene	1440	
208-96-8	acenaphthylene	1440	
83-32-9	acenaphthene	1440	0

FORM I SV-1

EPA SAMPLE NO.

AEVW11

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS005S1

Matrix: (soil/water) SOIL Lab Sample ID: 9905249-06

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 4V216

Level: (low/med) LOW \_\_\_\_\_ Date Received: 05/09/99

% Moisture: 9 decanted: (Y/N) N Date Extracted:05/21/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/25/99

Injection Volume: 1.0(uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND (ug/L or ug/Kg	J) UG/KG	Q
E1 20 E	2,4-dinitrophenol	2880	U
177-61-9	dibenzofuran	1440	200
	2,4-dinitrotoluene	1440	
24-66-2	diethylphthalate	1440	100
100-00-2	4-nitrophenol	1440	
06 73 7	fluorene	256	
	4-chlorophenylphenylether	1440	
F34 F3-1	4,6-dinitro-2-methylphenol	2880	
100-01-6	4-nitroaniline	1440	
	diphenylamine	1440	U
101-55-3	4-bromophenylphenylether	1440	U
118-74-1	hexachlorobenzene	1440	Ū
	pentachlorophenol	2880	U
	phenanthrene	982	and the second
	anthracene	200	
24-74-2	di-n-butylphthalate	1440	
	fluoranthene	666	
129-00-0		710	
05-69-7	butylbenzylphthalate	1440	
E G - E E - 3	benzo (a) anthracene	1440	1.00
01-04-1	3,3'-dichlorobenzidine	2880	
210-01-0	chrysene	218	The state of the s
117 01 7	bis(2-ethylhexyl)phthalate	1440	1
117-01-7	di-n-octylphthalate	1440	
11/-04-0	benzo(b) fluoranthene	1440	1,000
	benzo(k) fluoranthene	1440	(2.00)
	benzo(a) pyrene	104	1
102 20 5	indeno(1,2,3-cd)pyrene	1440	1.00
T33-33-3	dibong (2, h) anthracene	1440	A COST
33-70-3	dibenz (a, h) anthracene	1440	.7
TAT-74-7	benzo(g,h,i)perylene	1440	

FORM I SV-2

Science Applications09-MAY-1999 SA FORM 1 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET AEVW11 Lab Name: GENERAL ENGINEERING LABOR Contract: NA SDG No.: HPS005S1 SAS No.: NA Case No.: NA Lab Code: NA Lab Sample ID: 9905249-06 Matrix: (soil/water) SOIL Lab File ID: 029F2901 30.1 (g/mL) G Sample wt/vol: Date Received: 05/09/99 Level: (low/med) LOW Date Extracted:05/19/99 decanted: (Y/N) N/ % Moisture: 9 Date Analyzed: 05/22/99 Concentrated Extract Volume: 1.00 (mL) Dilution Factor: 50.0 Injection Volume: 1.0 (uL) GPC Cleanup: (Y/N) N pH: 7.0 CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG Q COMPOUND CAS NO. 323 B ------Diesel Range Organics\_

FORM I SV

1A VOLATILE ORGANICS ANALY	SIS DATA SHEET
	AEVW11
Lab Name: GENERAL ENGINEERING LABOR	Contract: NA
Lab Code: NA Case No.: NA	SAS No.: NA SDG No.: HPS005S1
Matrix: (soil/water) SOIL	Lab Sample ID: 9905249-06
Sample wt/vol: 10.0 (g/mL) G	Lab File ID: 1J306
Level: (low/med) LOW	Date Received: 05/09/99
	A VALIDATION Analyzed: 05/19/99
GC Column: J&W DB-624(FID) ID: 0.53	(mm) Dilution Factor: 1000.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG Q
Granline Ren	775000 T.C.M

FORM I VOA

# DATA VALIDATION COPY

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike

Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg, 728

cc: SAIC00999

Report Date: May 21, 1999

: Client

Page 1 of 1

 Sample ID
 : AEVW11

 Lab ID
 : 9905249-06

 Matrix
 : Soil

 Date Collected
 : 05/08/99

 Date Received
 : 05/09/99

 Priority
 : Routine

Collector

Parameter Oualifier DL Result RL Units DF Analyst Date Time Batch M General Chemistry Evaporative Loss @ 105 C 9.00 1.00 1.00 w1% 1.0 LIB 05/17/99 1000 149277 1 TOTAL ORGANIC CARBON (TOC) 8940 43.1 100 1.0 LS mg/kg 05/20/99 1632 149522 2

M = Method	Method-Description	
м1	EPA 3550	
M 2	SW846 9060 modified	

#### Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

Data reported in mass/mass units is reported as 'dry weight'.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Jack M. WI

Reviewed By

indicates that a quality control analyte recovery is outside of specified acceptance criteria.

Secure Application Immediated Corporation

800 Oak Ridge Tumphe, Oak Ridge, TN 37831   1423  481-4600		CHAI	CHAIN OF CUSTODY RECORD	STODY	RECO	RD			COC NO.	COC NO.: 470/7
PROJECT NAME: HAAF-Pilot Study				EQUEST	REQUESTED PARAMETERS	TERS			LABORATORY NAME	NAME:
PROJECT NUMBER: 01-0331-04-1829-100					020				General Engineering Labor:	General Engineering Laboratory
PROJECT MANAGER: Patty Stoll					त - मव् ०			1-1-11		Road
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PROJECT NAME: HAAF-Pilot Study	AF-Pilot Study						RE	QUEST	ED PAI	REQUESTED PARAMETERS	RS				LABORATORY NAME:	RY NAM	
PROJECT NUMBER: 01-0331-04-1829-100	1-0331-04-1829-	100									G				General Engineering Laboratory	gineering	Laboratory
PROJECT MANAGER: Patty Stall	Patty Stoll				_					74	ज्य प्रस्त	0>		:elaiV	LABORATORY ADDRESS: 2040 Savage Road Charleston, SC 29407	ge Road , SC 294	RESS:
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OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS COC NO.: HPDDD Preserve General Engineering Laboratory Hold PHONE NO: (843) 556-8171 LABORATORY ADDRESS: 2040 Savage Road Charleston, SC 29407 LABORATORY NAME: Cooler Temperature: FEDEX NUMBER: OVA No. of Bottles/ Visls: TOTAL NUMBER OF CONTAINERS: REQUESTED PARAMETERS CHAIN OF CUSTODY RECORD SVCC ٠. 174 · GRO 201 Cooler 1D: COS 99052367 1962 Methana 2 15/7/99 15:20 Date/Time Date/Time Date/Time Sulfate Offitate HAT =; 9905 2134 X3TEX water RELINQUISHED BY: saler COMPANY NAME: COMPANY NAME: COMPANY NAME: Janua Lum 12 N. REDEIVED BY: RECEIVED BY: いるとなった。 Time Collected 1525 988 638 450 1525 745 1150 016 105 101 800 Oak Ridge Tumpile, Oak Ridge, TN 37831 (423) 481-4500 107 36 Ri Date/Time PROJECT NUMBER: 01-0331-04-1829-100 A A Equipme Oral Company Date Collected 5/19/3 5/n/3 661 66/a/5 65 5/1/99 6/17/ bb/9/5 65/115 5/10/69 PROJECT NAME: HAAF-Pilot Study PROJECT MANAGER: Patty Stoll in almost and un n socition 100 RELINGUISHED/BY: (RELINQUISHED BY: COMPANY NAME: COMPANY MAME: COMPANY NAME: Sampler (Signature) MEDGI 1 AFO BI AED 51 AED LII A ED WI RECEMPED, BY:

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# GEOTECHNICAL SOIL DATA MAY 1999

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CATLIN Engineers and Scientists Geotechnical Laboratories

Laboratory Manager

Project : SAIC	Job#	: 99095Y	
and the second of the second	Date of Testing	TO THE REAL PROPERTY.	-
Location of Project : HAAF	Tested by:	FB/CA	
	Boring #		_
Description of Soil : Gray Tan Clay	Sample #	AEJ331	-
	Sample Depth	4-6'	_
Sample Type (Undisturbed or Remolded)	% Sample Compaction		%
Standard Proctor:	Sample Dry Density		pci
Maximim Dry Density:pcf	Sample Moisture Content:		-%
Optimum Moisture Content:%	Sample Wet Density		_ _pci
Sample Permeation:	Sample Dimensions		7
De-Aired Water	Before	After	1
% Saturation:100 %	Length (cm) 7.90	7.80	1
Cell Pressure: 76.5 psi	Diameter (cm) 4 80	4.65	1

Diameter (cm)

Weight (g)

Water Content (%)

4.80

18.5

268.8

4.65

23.5

266,9

#### **Constant Head Calculation:**

Lower Pressure:

Upper Pressure:

Gradient:

psi

psi

71.5

70

13.36

# $K = [V(t_1,t_2) LR_T]/[P_BAt] (cm/sec)$

 $V(t_1,t_2)$  = Volume of flow from  $t_1$  to  $t_2$  (cm<sup>2</sup>) Length of Sample = 7.90 cm A = Area of Sample 18.1 cm<sup>2</sup> =  $t_2 - t_1$  (sec) P<sub>B</sub> = Bias Pressure = psi x 70.37 cm/psi (cm - H2O) 1.5 R<sub>T</sub> = Temperature correction

t <sub>2</sub> (min)	t <sub>1</sub> (min)	(t <sub>2</sub> - t <sub>1</sub> )*60 (sec)	(cm²)	[LR <sub>T</sub> ]/[P <sub>B</sub> A]	K (cm/sec)
85	65	1200	0.15	3.85E-03	4.81E-07
105	85	1200	0.2	3.85E-03	6.42E-07
155	105	3000	0.35	3.85E-03	4.49E-07
175	155	1200	0.2	3.85E-03	6.42E-07

5.54E-07 cm/sec

Project: SAIC	Job#:	99095Y
	Date of Testing:	5/22-5/28
Location of Project : HAAF	Tested by:	FB/CA
	Boring #:	
Description of Soil : Gray Clay	Sample #:	AEJ531
	Sample Depth :	5'-7'
Sample Type ( <u>Undisturbed</u> or Remolded)	% Sample Compaction:	%
Standard Proctor:	Sample Dry Density:	po
Maximim Dry Density: pcf	Sample Moisture Content:	%
Optimum Moisture Content:%	Sample Wet Density:	po
Sample Permeation:	Sample Dimensions	
De-Aired Water	Before	After
% Saturation: 100 %	Length (cm) 8.50	4.70
Cell Pressure: 46,5 psi	Diameter (cm) 4.60	8.20
Lower Pressure: 41.5 psi	Water Content (%) 20.0	20.2

#### Constant Head Calculation:

40

12.42

Upper Pressure:

Gradient:

#### $K = [V(t_1,t_2) LR_T]/[P_BAt] (cm/sec)$

 $V(t_1,t_2)$  = Volume of flow from  $t_1$  to  $t_2$  (cm²) L = Length of Sample = 8.50 cm A = Area of Sample = 16.62 cm² t =  $t_2$  -  $t_1$  (sec)  $P_B$  = Bias Pressure = 1.5 psi x 70.37 cm/psi (cm - H2O) 105.56 cm  $R_T$  = Temperature correction = 0.931

Weight (g)

290.3

291.4

t <sub>2</sub> (min)	t <sub>1</sub> (min)	(t <sub>2</sub> - t <sub>1</sub> ) (min)	V (cm <sup>2</sup> )	[LR <sub>T</sub> ]/[P <sub>B</sub> A] (cm²)	K (cm/sec)
5	2	3	0.1	4.51E-03	1.50E-04
10	5	5	0.3	4.51E-03	2.71E-04
15	10	5	0.25	4.51E-03	2.26E-04
40	15	25	0.85	4.51E-03	1.53E-04

 $K_{avg} = 2.00E-04$  cm/sec

Project : SAIC	Job #: 9909	5Y
	Date of Testing: 5/26-6/	1
Location of Project : HAAF	Tested by: FB/0	CA
	Boring #:	
Description of Soil : Gray Clay	Sample #: AEJC	31
	Sample Depth : 5'-	7'
Sample Type ( <u>Undisturbed</u> or Remolded)	% Sample Compaction:	%
Standard Proctor:	Sample Dry Density:	pcf
Maximim Dry Density: pcf	Sample Moisture Content:	%
Optimum Moisture Content:%	Sample Wet Density:	pcf

#### Sample Permeation:

1	De-Aired Wa	ater
% Saturation:	96	%
Cell Pressure:	96.5	psi
Lower Pressure:	91.5	psi
Upper Pressure:	90	psi
Gradient:	12.87	

Sample Dimensions				
	Before	After		
Length (cm)	8.20	7.95		
Diameter (cm)	4.80	7.75		
Water Content (%)	22.9	24.2		
Weight (g)	287.1	283.8		

#### Constant Head Calculation:

### $K = [V(t_1,t_2) LR_T]/[P_BAt] (cm/sec)$

t <sub>2</sub> (min)	t <sub>1</sub> (min)	(t <sub>2</sub> - t <sub>1</sub> )*60 (sec)	V (cm²)	[LR <sub>T</sub> ]/[P <sub>B</sub> A]	K (cm/sec)
5	0	300	1.3	4.00E-03	1.73E-05
10	5	300	1.2	4.00E-03	1.60E-05
15	10	300	1.4	4.00E-03	1.87E-05
20	15	300	1.4	4.00E-03	1.87E-05

 $K_{avg} = 1.77E-05$  cm/sec

Project : SAIC	Job#:	99095Y	
	Date of Testing:	5/22-5/28	
Location of Project : HAAF	Tested by:	FB/CA	•
	Boring #:		
Description of Soil : Gray Sand	Sample #:	AEJD31	
	Sample Depth :	5'-7'	
Sample Type (Undisturbed or Remolded)	% Sample Compaction:		%
Standard Proctor:	Sample Dry Density:		pc
Maximim Dry Density:pcf	Sample Moisture Content:		%
Optimum Moisture Content:%	Sample Wet Density:		рс
Sample Permeation:	Sample Dimensions		
De-Aired Water	Before	After	
% Saturation: 100 %	Length (cm) 7.50	7.20	

Diameter (cm)

Weight (g)

Water Content (%)

#### **Constant Head Calculation:**

66.5

61.5

60

14.07

psi

psi

Cell Pressure:

Lower Pressure:

Upper Pressure:

Gradient:

## $K = [V(t_1,t_2) LR_T]/[P_BAt] (cm/sec)$

<b>t</b> <sub>2</sub> (min)	t <sub>1</sub> (min)	(t <sub>2</sub> - t <sub>1</sub> )*60 (sec)	V (cm²)	[LR <sub>T</sub> ]/[P <sub>B</sub> A]	K (cm/sec)
10	5	300	0.9	3.98E-03	1.19E-05
15	10	300	0.8	3.98E-03	1.06E-05
20	15	300	1	3.98E-03	1.33E-05
25	20	300	0.8	3.98E-03	1.06E-05

 $K_{avg} = 1.16E-05$  cm/sec

4.60

21.2

238.3

4.60

26.7

242.5

Project : SAIC		Job#:	99095Y	
		Date of Testing:	5/22-5/28	
Location of Project : HAA	E	Tested by:	FB/CA	
		Boring #:		
Description of Soil : Yello	ow Orange Gray Clay	Sample #:	AEVW31	
		Sample Depth :	1.8'-3.8'	
Sample Type (Undisturbed or Rem	olded)	% Sample Compaction:		%
Standard Proctor:		Sample Dry Density:		pc
Maximim Dry Density:	pcf	Sample Moisture Content:		%
Optimum Moisture Content:	%	Sample Wet Density:		рс
Sample Bernandian				1

#### Sample Permeation:

	De-Aired W	ater
% Saturation:	100	%
Cell Pressure:	86	psi
Lower Pressure:	81	psi
Upper Pressure:	80	psi
Gradient:	8.38	
	8.38	

Sample	Dimensions	
	Before	After
Length (cm)	8.40	7.30
Diameter (cm)	4.80	4.70
Water Content (%)	11.0	34.7
Weight (g)	333.6	340.1

#### **Constant Head Calculation:**

#### $K = [V(t_1,t_2) LR_T]/[P_BAt] (cm/sec)$

t <sub>2</sub> (min)	t <sub>1</sub> (min)	(t <sub>2</sub> - t <sub>1</sub> )*60 (sec)	V (cm²)	[LR <sub>T</sub> ]/[P <sub>B</sub> A] (cm²)	K (cm/sec)
5	0	300	1.2	6.14E-03	2.46E-05
10	5	300	1.6	6.14E-03	3.28E-05
15	10	300	1.4	6.14E-03	2.87E-05
20	15	300	0.9	6.14E-03	1.84E-05

 $K_{avg} = 2.61E-05$  cm/sec

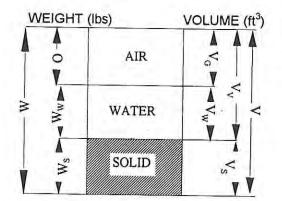
PROJECT: SAIC

LOCATION OF PROJECT: HAAF

DESCRIPTION OF SOIL: Gray Tan Clay

TESTED BY: AJ/CA

JOB NO.: 99095Y
SAMPLE NO.: AEJ331
DEPTH OF SAMPLE: 4'-6'.
DATE OF TESTING: 5/19/99



$$W = 0.64572$$
  
 $W_W = W - W_S = 0.10072$   
 $W_S = Y_d^*V = 0.5450$ 

$$V = 0.00499$$

$$V_W = W_W/Y_W = 0.0016$$

$$V_S = W_S/G_S*Y_W = 0.0033$$

$$V_G = V - (V_S + V_W) = 0.00008$$

$$V_V = V_G + V_W = 0.0017$$

MEASUREMENTS OF TUBE/CAN

HEIGHT= 7.8 cm DIAMETER= 4.8 cm

WT. OF TUBE/CAN + WET SOIL= 405.20 g WEIGHT OF TUBE/CAN= 112.3 g

# CALCULATED VOLUME OF TUBE/CAN V= 141.15 cm<sup>3</sup>

V= 141.15 cm<sup>3</sup> 0.00499 ft<sup>3</sup> WEIGHT OF WET SOIL= 292.90 g W = 0.64572 lb

Wet Density, Ym = W/V

Dry Density, $Y_d = W_s / V$ or	
double check	$Y_d = Y_m / (1+ w)$
$Y_d = W_s / V$	$Y_m = 129.53 \text{ lbs/ft}^3$
Y <sub>d</sub> = 109.32 lbs/ft <sup>3</sup>	$Y_d = 109.32 \text{ lbs/ft}^3$

Void Ratio,  $e = V_V/V_S$ e = 0.5133

Porosity,  $n = V_V/V$ n = 0.34

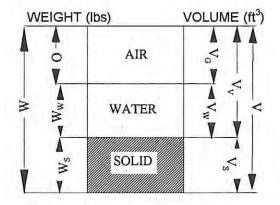
Specific Gravity = 2.65

PROJECT: SAIC

LOCATION OF PROJECT: HAAF DESCRIPTION OF SOIL: Gray Clay

TESTED BY: AJ/CA

JOB NO.: 99095Y
SAMPLE NO.: AEJ531
DEPTH OF SAMPLE:5'-7'.
DATE OF TESTING: 5/19/99



$$W = 0.69724$$

$$W_W = W - W_S = 0.09331$$

$$W_S = Y_d^*V = 0.6039$$

$$V = 0.00568$$

$$V_W = W_W/Y_W = 0.0015$$

$$V_S = W_S/G_S^*Y_W = 0.0037$$

$$V_G = V - (V_S + V_W) = 0.00053$$

$$V_V = V_G + V_W = 0.0020$$

#### MEASUREMENTS OF TUBE/CAN

HEIGHT= 8.7 cm

DIAMETER= 4.85 cm

WT. OF TUBE/CAN + WET SOIL= 438,80 g WEIGHT OF TUBE/CAN= 122.53 g

WEIGHT OF WET SOIL= 316.27 g W = 0.69724 lb

#### CALCULATED VOLUME OF TUBE/CAN

V= 160.73 cm<sup>3</sup> 0.00568 ft<sup>3</sup>

MOISTURE CONTENT

 $M_{CWS} = 27.37$  g  $M_{C} = 11.23$  g  $M_{CDS} = 25.21$  g  $M_{S} = 13.98$  g  $M_{W} = 2.16$  g W = 15.5 %

Wet Density, Ym = W / V

vvot Density, 1 m	
Dry Density, $Y_d = W_s / V$ or	$Y_d = Y_m / (1 + w)$
double check	$Y_d = Y_m / (1 + w)$
$Y_d = W_s / V$	$Y_m = 122.82 \text{ lbs/ft}^3$
Y <sub>d</sub> = 106.38 lbs/ft <sup>3</sup>	$Y_d = 106.38 \text{ lbs/ft}^3$

Void Ratio,  $e = V_V/V_S$ e = 0.5551

Porosity,  $n = V_V/V$ n = 0.36

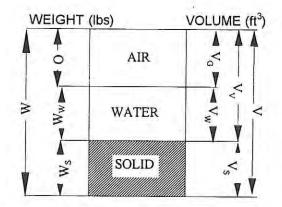
Specific Gravity = 2.65

PROJECT: SAIC

LOCATION OF PROJECT: HAAF DESCRIPTION OF SOIL: Gray Clay

TESTED BY: AJ/CA

JOB NO.: 99095Y
SAMPLE NO.: AEJC31
DEPTH OF SAMPLE:5'-7'.
DATE OF TESTING: 5/19/99



$$W = 0.67174$$

$$W_W = W - W_S = 0.10486$$

$$W_S = Y_d^*V = 0.5669$$

$$V = 0.00537$$

$$V_W = W_W/Y_W = 0.0017$$

$$V_S = W_S/G_S^*Y_W = 0.0034$$

$$V_G = V - (V_S + V_W) = 0.00026$$

$$V_V = V_G + V_W = 0.0019$$

MEASUREMENTS OF TUBE/CAN

HEIGHT= 8.4 cm

DIAMETER= 4.8 cm

WT. OF TUBE/CAN + WET SOIL= 423.70 g WEIGHT OF TUBE/CAN= 119 g

WEIGHT OF WET SOIL= 304.70 g

W = 0.67174 lb

CALCULATED VOLUME OF TUBE/CAN

V= 152.00 cm<sup>3</sup> 0.00537 ft<sup>3</sup>

Wet Density,  $Y_m = W / V$ 

Dry Density, $Y_d = W_s / V$ or	$Y_d = Y_m / (1 + w)$
double check	$Y_d = Y_m / (1 + w)$
$Y_d = W_s / V$	$Y_m = 125.12 \text{ lbs/ft}^3$
Y <sub>d</sub> = 105.59 lbs/ft <sup>3</sup>	$Y_d = 105.59 \text{ lbs/ft}^3$

Void Ratio,  $e = V_V/V_S$ e = 0.5668

Porosity,  $n = V_V/V$ n = 0.36

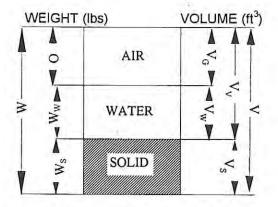
Specific Gravity = 2.65

PROJECT: SAIC

LOCATION OF PROJECT: HAAF DESCRIPTION OF SOIL: Gray Sand

TESTED BY: AJ/CA

JOB NO.: 99095Y
SAMPLE NO.: AEJD31
DEPTH OF SAMPLE:5'-7'.
DATE OF TESTING: 5/19/99



$$W = 0.76874$$

$$W_W = W - W_S = 0.13957$$

$$W_S = Y_d^*V = 0.6292$$

$$V = 0.00614$$

$$V_W = W_W/Y_W = 0.0022$$

$$V_S = W_S/G_S^*Y_W = 0.0038$$

$$V_G = V - (V_S + V_W) = 0.00010$$

$$V_V = V_G + V_W = 0.0023$$

MEASUREMENTS OF TUBE/CAN

HEIGHT= 9.6 cm

DIAMETER= 4.8 cm

WT. OF TUBE/CAN + WET SOIL= 484.40 g
WEIGHT OF TUBE/CAN= 135.7 g
WEIGHT OF WET SOIL= 348.70 g

W = 0.76874 lb

CALCULATED VOLUME OF TUBE/CAN

V= 173.72 cm<sup>3</sup> 0.00614 ft<sup>3</sup>

MOISTURE CONTENT

 $M_{CWS} = 31.77 \text{ g}$   $M_{C} = 11.28 \text{ g}$   $M_{CDS} = 28.05 \text{ g}$   $M_{S} = 16.77 \text{ g}$   $M_{W} = 3.72 \text{ g}$  W = 22.2 %

Wet Density, Ym = W / V

Dry Density, $Y_d = W_s / V$ or	$Y_d = Y_m / (1+w)$
double check	$Y_d = Y_m / (1 + w)$
$Y_d = W_s / V$	$Y_m = 125.29 \text{ lbs/ft}^3$
Y <sub>d</sub> = 102.54 lbs/ft <sup>3</sup>	Y <sub>d</sub> = 102.54 lbs/ft <sup>3</sup>

Void Ratio,  $e = V_V/V_S$ e = 0.6134

Porosity,  $n = V_V/V$ n = 0.38 Specific Gravity = 2.65

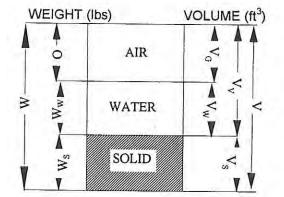
PROJECT: SAIC

LOCATION OF PROJECT: HAAF

DESCRIPTION OF SOIL: Yellow Orange Gray Sand

TESTED BY: AJ/CA

JOB NO.: 99095Y
SAMPLE NO.: AEVW31
DEPTH OF SAMPLE: 1.8'-3.8'.
DATE OF TESTING: 5/19/99



W = 0.68333  $W_W = W - W_S = 0.07182$  $W_S = Y_d * V = 0.6115$ 

V = 0.00548  $V_W = W_W/Y_W = 0.0012$   $V_S = W_S/G_S*Y_W = 0.0037$  $V_G = V - (V_S + V_W) = 0.00063$ 

 $V_V = V_G + V_W = 0.0018$ 

MEASUREMENTS OF TUBE/CAN

HEIGHT= 8.4 cm

DIAMETER= 4.85 cm

WT. OF TUBE/CAN + WET SOIL= 430.50 g

WEIGHT OF TUBE/CAN= 120.54 g

WEIGHT OF WET SOIL= 309.96 g W = 0.68333 lb

CALCULATED VOLUME OF TUBE/CAN

V= 155.19 cm<sup>3</sup> 0.00548 ft<sup>3</sup>

MOISTURE CONTENT

 $M_{CWS} = 27.56$  g  $M_{C} = 10.91$  g  $M_{CDS} = 25.81$  g  $M_{S} = 14.90$  g

 $M_W = 1.75 g w = 11.7 \%$ 

Wet Density, Ym = W / V

Dry Density, Yd = Ws / V or	$Y_d = Y_m / (1+w)$
double check	$Y_d = Y_m / (1 + w)$
$Y_d = W_s / V$	$Y_m = 124.67 \text{ lbs/ft}^3$
Y <sub>d</sub> = 111.57 lbs/ft <sup>3</sup>	Y <sub>d</sub> = 111.57 lbs/ft <sup>3</sup>

Void Ratio,  $e = V_V/V_S$ e = 0.4829

Porosity,  $n = V_V/V$ n = 0.33

Specific Gravity = 2.65

#### ATTERBERG LIMITS DETEMINATION (ASTM D4318-93)

Project: SAIC

Location of project: HUNTER ARMY AIR FIELD

Description Of Soil: Gray Clay

Tested By: AJ

Job No.: 99095Y Sample No.: AEJC31 Depth of Sample: 5' - 7'

Date of Testing: 5/21/99

#### **Liquid Limit Dermination**

Can No.	A6	A44	A27	A20	A12	
Wt of Soil + can, Mcws	18.98	19.20	19.01	19.39	16.30	
Wt. of dry soil + can, Mcds	17.36	17.54	17.34	17.67	15.20	
Wt. of can, Mc	11.31	11.23	10.92	11,24	11.20	
Wt. of dry soil, Ms	6.05	6.31	6.42	6.43	4.00	0.00
Wt. of moisture	1.62	1.66	1.67	1.72	1.10	0.00
Water content, w%	26.78	26.31	26.01	26.75	27.50	#DIV/0!
No. of blows, N	20	18	25	37	34	

#### Plastic Limit Determination

Can no.	A59	A51	C7			
Wt. of wet soil + can, Mcws	4.50	4.78	3.04			
Wt. of dry soil +can, Mcds	4.47	4.71	2.93			
Wt. of can, Mc	4.07	4.10	2.41			
Wt. of dry soil, Ms	0.40	0.61	0.52	0	0	0
Wt. of moisture, Mw	0.03	0.07	0.11	0	0	0
Water content, W% = Wp	7.50	11.48	21.15	#DIV/0!	#DIV/0!	#DIV/0!

LIQUID LIMIT = 25.8

PLASTIC LIMIT = 13.38

PLASTICITY INDEX = 12.42

CLASSIFICATION CL

#### ATTERBERG LIMITS DETEMINATION (ASTM D4318-93)

Project: SAIC

Location of project: HUNTER ARMY AIR FIELD

Description Of Soil: Gray/Tan Clay

Tested By: AJ

Job No.: 99095Y Sample No.: AEJ331 Depth of Sample: 4' - 6'

Date of Testing: 5/21/99

#### **Liquid Limit Dermination**

Can No.	A54	A51	A22	A15	A4	
Wt of Soil + can, Mcws	17.83	17.72	17.70	14.60	20.90	
Wt. of dry soil + can, Mcds	16.28	16.13	16.03	13.64	19.39	
Wt. of can, Mc	11.16	11.27	11.28	11.23	15.34	
Wt. of dry soil, Ms	5.12	4.86	4.75	2.41	4.05	0.00
Wt. of moisture	1.55	1.59	1.67	0.96	1.51	0.00
Water content, w%	30.27	32.72	35.16	39.83	37.28	#DIV/0!
No. of blows, N	24	39	29	17	32	

#### **Plastic Limit Determination**

Can no.	A28	C8	A17			
Wt. of wet soil + can, Mcws	4.57	3.02	4.69			
Wt. of dry soil +can, Mcds	4.46	2.90	4.57			
Wt. of can, Mc	4.10	2.39	4.07			
Wt. of dry soil, Ms	0.36	0.51	0.50	0	0	0
Wt. of moisture, Mw	0.11	0.12	0.12	0	0	0
Water content, W% = Wp	30.56	23.53	24.00	#DIV/0!	#DIV/0!	#DIV/0!

 LIQUID LIMIT =
 37

 PLASTIC LIMIT =
 26.00

 PLASTICITY INDEX =
 11.00

 CLASSIFICATION
 ML

#### ATTERBERG LIMITS DETEMINATION (ASTM D4318-93)

Project: SAIC

Location of project: HAAF

Description Of Soil: Gray Clay

Tested By: FB

Job No.: 99095Y

Sample No.: AEJ531 Depth of Sample: 5'-7'

Date of Testing: 6/15/99

#### Liquid Limit Dermination

Can No.	A12	A26	A17	A10	A27	
Wt of Soil + can, Mcws	24.85	20.82	18.00	19.82	16.10	
Wt. of dry soil + can, Mcds	22.85	19.88	17.00	19.12	15.30	
Wt. of can, Mc	15.25	15.28	11.20	15.35	10.90	Local in
Wt. of dry soil, Ms	7.60	4.60	5.80	3.77	4.40	0.00
Wt. of moisture	2.00	0.94	1.00	0.70	0.80	0.00
Water content, w%	26.32	20.43	17.24	18.57	18.18	#DIV/0!
No. of blows, N	2	11	17	28	38	

#### **Plastic Limit Determination**

Can no.	C5	A51	C8			
Wt. of wet soil + can, Mcws	7.23	7.36	5.58	75		
Wt. of dry soil +can, Mcds	6.77	6.85	5.00			
Wt. of can, Mc	4.30	4.12	1.90			
Wt. of dry soil, Ms	2.47	2.73	3.10	0	0	0
Wt. of moisture, Mw	0.46	0.51	0.58	0	0	0
Water content, W% = Wp	18.62	18.68	18.71	#DIV/0!	#DIV/0!	#DIV/0!

LIQUID LIMIT = 19
PLASTIC LIMIT = 18.70
PLASTICITY INDEX = 0.30
CLASSIFICATION ML

Project: SAIC	Job No.:99095Y
Project Location: Hunter AAF	Sample No.: AEJ531
Sample Description: Gray Clay	Sample Depth: 5'-7'
	Boring No.:
Tested By: FB/AJ	Date of Testing: 5/21/99

Mcws	Mcds	Mc : A38	Mw	Ms	w%	Mws	Ms
16.72	16.70	14.94	0.02	1.76	1.1	200.48	198.23

Sieve No.	Diam. (mm)	Wt. retained	% retained	E % retained	% passing
3	76.2	0	0.00	0.00	100.00
2	50.8	0	0.00	0.00	100.00
1 1/2	25.4	0	0.00	0.00	100.00
3/4	19.05	0	0.00	0.00	100.00
3/8	9.51	0	0.00	0.00	100.00
4	4.76	0	0.00	0.00	100.00
10	2.00	0	0.00	0.00	100.00
20	0.841	0.06	0.03	0.03	99.97
40	0.42	0.56	0.28	0.31	99.69
60	0.25	6.02	3.04	3.35	96.65
140	0.106	128.77	64.96	68.31	31.69
200	0.074	6.24	3.15	71.46	28.54
pan	( = 4. · · · )	0.23	0,12	71.57	28.43
total		141.88			

Project: SAIC	Job No.:99095Y
Project Location: Hunter AAF	Sample No.: AEJC31
Sample Description: Gray Clay	Sample Depth: 5-7'
	Boring No.:
Tested By: FB/AJ	Date of Testing: 5/21/99

Mcws	Mcds	Mc: A17	Mw	Ms	w%	Mws	Ms
15.41	15.40	11.17	0.01	4.23	0.2	200.21	199.74

Sieve No.	Diam. (mm)	Wt. retained	% retained	E % retained	% passing
3	76.2	0	0.00	0.00	100.00
2	50.8	0	0.00	0.00	100.00
1 1/2	25.4	0	0.00	0.00	100.00
3/4	3/4 19.05		0.00	0.00	100.00
3/8	9.51	0	0.00	0.00	100.00
4	4.76	0	0.00	0.00	100.00
10	2.00	0.06	0.03	0.03	99.97
20	0.841	0.04	0.02	0.05	99.95
40	0.42	1.01	0.51	0.56	99.44
60	0.25	5.73	2.87	3.42	96.58
140	0.106	111.16	55.65	59.08	40.92
200	0.074	5.47	2.74	61.82	38.18
pan		0.22	0.11	61.93	38.07
total		123.69			

Project: SAIC	Job No.:99095Y
Project Location: Hunter AAF	Sample No.: AEVW31
Sample Description: Yellow/Orange/Gray Sand	Sample Depth: 1.8-3.8'
	Boring No.:
Tested By: FB/AJ	Date of Testing: 5/21/99

Mcws	Mcds	Mc : A6	Mw	Ms	w%	Mws	Ms
19.53	19.50	15.37	0.03	4.13	0.7	200.43	198.98

Sieve No.	Diam. (mm)	Wt. retained	% retained	E % retained	% passing
3	76.2	0	0.00	0.00	100.00
2	50.8	0	0.00	0.00	100.00
1 1/2	25.4	0	0.00	0.00	100.00
3/4	19.05	0	0.00	0.00	100.00
3/8	9.51	0	0.00	0.00	100.00
4	4.76	0.25	0.13	0.13	99.87
10	2.00	2	1.01	1.13	98.87
20	0.841	8.19	4.12	5.25	94.75
40	0.42	27.38	13.76	19.01	80.99
60	0.25	54.74	27.51	46.52	53.48
140	0.106	90.27	45.37	91.88	8.12
200	0.074	4.25	2.14	94.02	5.98
pan	-	0.15	0.08	94.09	5.91
total		187.23			

Project: SAIC	Job No.:99095Y
Project Location: Hunter AAF	Sample No.: AEJD31
Sample Description: Gray Sand	Sample Depth: 5-7'
	Boring No.:
Tested By: FB/AJ	Date of Testing: 5/21/99

Mcws	Mcds	Mc : A11	Mw	Ms	w%	Mws	Ms
15.06	15.00	10.90	0.06	4.10	1.5	200.24	197.35

Sieve No.	Diam. (mm)	Wt. retained	% retained	E % retained	% passing
3	76.2	0	0.00	0.00	100.00
2	50.8	0	0.00	0.00	100.00
1 1/2	25.4	0	0.00	0.00	100.00
3/4	19.05	0	0.00	0.00	100.00
3/8	9.51	0	0.00	0.00	100.00
4	4.76	0	0.00	0.00	100.00
10	2.00	0	0.00	0.00	100.00
20	0.841	0.04	0.02	0.02	99.98
40	0.42	0.42	0.21	0.23	99.77
60	0.25	4.6	2.33	2.56	97.44
140	0.106	173.57	87.95	90.51	9.49
200	0.074	3.57	1.81	92.32	7.68
pan		0.17	0.09	92.41	7.59
total		182.37			

Project: SAIC	Job No.:99095Y		
Project Location: Hunter AAF	Sample No.: AEJ331		
Sample Description: Gray/Tan Clay	Sample Depth: 4-6'		
	Boring No.:		
Tested By: FB/AJ	Date of Testing: 5/21/99		

Mcws	Mcds	Mc : A42	Mw	Ms	w%	Mws	Ms
17.96	17.90	15.08	0.06	2.82	2.1	200.27	196.10

Sieve No.	Diam. (mm)	Wt. retained	% retained	E % retained	% passing
3	76.2	0	0.00	0.00	100.00
2	50.8	0	0.00	0.00	100.00
1 1/2	25.4	0	0.00	0.00	100.00
3/4	19.05	0	0.00	0.00	100.00
3/8	9.51	0	0.00	0.00	100.00
4	4.76	0	0.00	0.00	100.00
10	2.00	0.14	0.07	0.07	99.93
20	0.841	0.03	0.02	0.09	99.91
40	0.42	0.14	0.07	0.16	99.84
60	0.25	0.95	0.48	0.64	99.36
140	0.106	137.05	69.89	70.53	29.47
200	0.074	7.72	3.94	74.47	25.53
pan		0.05	0.03	74.49	25.51
total		146.08			

Hunter Army Airfield UST CAP-Part B Report Addendum #1 (August 2000) Former Building 728, Facility ID #9-025049

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#### APPENDIX VI

# ALTERNATE CONCENTRATION LIMIT (ACL) AND ALTERNATE THRESHOLD LEVEL (ATL) CALCULATIONS

Hunter Army Airfield UST CAP-Part B Report Addendum #1 (August 2000) Former Building 728, Facility ID #9-025049

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#### 1.0 Alternate Concentration Limits

Benzene, benzo(a)anthracene, benzo(a)pyrene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)perylene were identified as chemicals of potential concern (COPCs) for groundwater at the site. The closest receptor is an underground storm drain located approximately 65 feet from the MW8 (i.e., center of the source area), thus the dilution attenuation factor (DAF) for lateral migration of benzene in groundwater from the source to the receptor was calculated to be 1.1.

Polyaromatic hydrocarbon (PAH) constituents are much less mobile in the environment than benzene, and the DAF for naphthalene is at least 500 times that of the DAF for benzene. A conservative approach for estimating the DAF for PAH constituents was to use a DAF that was 10 times that of the DAF for benzene. Thus, the DAF for PAH constituents used in the alternate concentration limit (ACL) calculations was 11. The compound-specific regulatory levels or risk-based screening values were used in conjunction with the DAF to develop constituent-specific ACLs, which are presented in Table VI-A. As indicated in Table VI-A, the maximum concentration of each constituent observed during CAP-Part B Site Investigation is adjacent to the calculated ACL. Benzene is the only constituent in groundwater in the pilot study area of the former Northern Fuel Battery, where the concentrations exceed its ACL. Benzo(a)anthracene and chrysene exceeded their respective ACLs in MW56 which is located outside the pilot study area near Former Building 728.

Table VI-A. Alternate Concentration Limits for Contaminants in Groundwater

	Regulatory Level Storm Drain		n Drain	Maximum Observe CAP-Part B Benzer Concentration	
Contaminant	(µg/L)	DAF <sup>1</sup>	$ACL^2$	(µg/L)	
Benzene	71.28 a	1.1	78	2400 (MW63)	
Benzo(a)anthracene	0.0311 a	11	0.34	0.41 (MW56)	
Benzo(a)pyrene	0.0311 a	1.1	0.34	0.2 (MW56)	
Benzo(k)fluoranthene	0.0311 a	11	0.34	0.12 (MW56)	
Chrysene	0.0311 a	11	0.34	0.54 (MW56)	
Indeno(1,2,3-cd)pyrene	0.0311 a	11	0.34	0.075 (MW56)	

DAF = Predicted Benzene Concentration at the Source ÷ Predicted Benzene Concentration at the Receptor = 3250 ÷ 2880 ≈ 1.1 at the storm drain

Bold values exceed the calculated ACL.

MW56 is located south of former Building 728 and is outside of the pilot study area.

#### 2.0 Alternate Threshold Levels

Benzene, ethylbenzene, toluene, and xylenes were selected as COPCs for soil. The free product and soil contamination is located at the soil/water interface, thus leaching to groundwater by percolating rain water was not modeled. The nearest preferential pathway is an underground storm drain, which is located approximately 65 feet north of MW8. Thus, the dilution attenuation for benzene from the source (i.e., free product area surrounding MW8) to the underground storm drain was considered in the alternate threshold level (ATL) calculations. As discussed in Section 1.0 above, the DAF for the lateral migration of BTEX compounds was determined to be 1.1. The ATLs for soil are presented in Table VI-B along with the maximum observed concentrations for each constituent.

ACL = Regulatory Level × DAF

In-Stream Water Quality Standard

b Risk-based screening criteria

The ATL for benzene can be calculated using the following steps:

• Step 1 – calculate the fractional organic carbon (fcs) content of the contaminated soil:

$$f_{cs} = 0.002$$
 (EPA default value)

 Step 2 – calculate the dilution attenuation factor for lateral migration of groundwater (DAF<sub>w</sub>) based on the predicted maximum contaminant concentration at the source and the predicted maximum contaminant concentration at the receptor:

$$DAF_{w} = \frac{C_{\text{source max, w}}}{C_{\text{receptor max, w}}} = \frac{3.25 \text{ mg/L}}{2.88 \text{ mg/L}} = 1.1 \text{ (dimensionless)}$$

where:  $C_{\text{source max, w}} = AT123D$  predicted maximum groundwater concentration at the source  $C_{\text{receptor max,w}} = AT123D$  predicted maximum groundwater concentration at the receptor location

• Step 3 – calculate the alternate threshold level:

$$ATL = (K_{oc}) (f_{cs}) (C_{std}) (DAF_w)$$

where: K<sub>oc</sub> = organic carbon partitioning coefficient (GA UST CAP-Part A Guidance, Appendix I, Table 1)

 $f_{es}$  = fractional organic carbon content (calculated in step 1)

 $C_{std}$  = applicable water quality standard

DAF<sub>w</sub> = dilution attenuation factor for the lateral migration of groundwater

Constituent	K <sub>oc</sub> (mL/g)	$\mathbf{f}_{\mathbf{cs}}$	C <sub>std</sub> (mg/L)	DAF <sub>1</sub>	Calculated ATL (mg/kg)
Benzene	81	0.002	0.07128 <sup>a</sup>	1.1	0.012
Toluene	133	0.002	200 a	1.1	58.5
Ethylbenzene	176	0.002	28.718 a	1,1	11.1
Xylenes	639	0.002	10 <sup>b</sup>	1.1	14

In-Stream Water Quality Standard.

b Maximum Contaminant Level, the constituent does not have an IWQS.

IWQS for benzo(k)fluoranthene used.

Calculated ATL for xylenes is less than its STL, thus the STL will be used for this constituent.

Table VI-B. Alternate Threshold Levels for Contaminated Soil

	ATL	Maximum Observed Concentration (mg/kg)			
Constituent	(mg/kg)	CAP-Part B	Pilot Study Baseline		
Benzene	0.012	<60 (MW59)	0.625 (D10)		
Toluene	58.5	1100 (MW62)	9.76 (D10)		
Ethylbenzene	11.1	500 (MW59)	4.52 (D10)		
Xylenes	20	1500 (MW59)	23.2 (D10)		

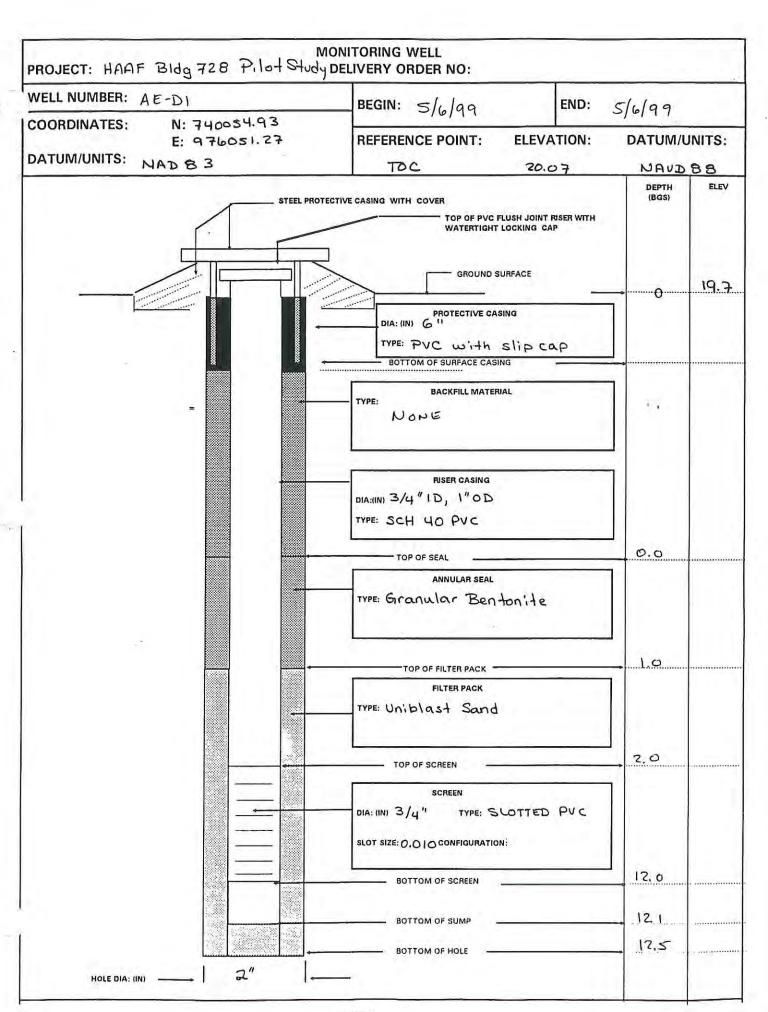
Bold values exceed the calculated ATL.

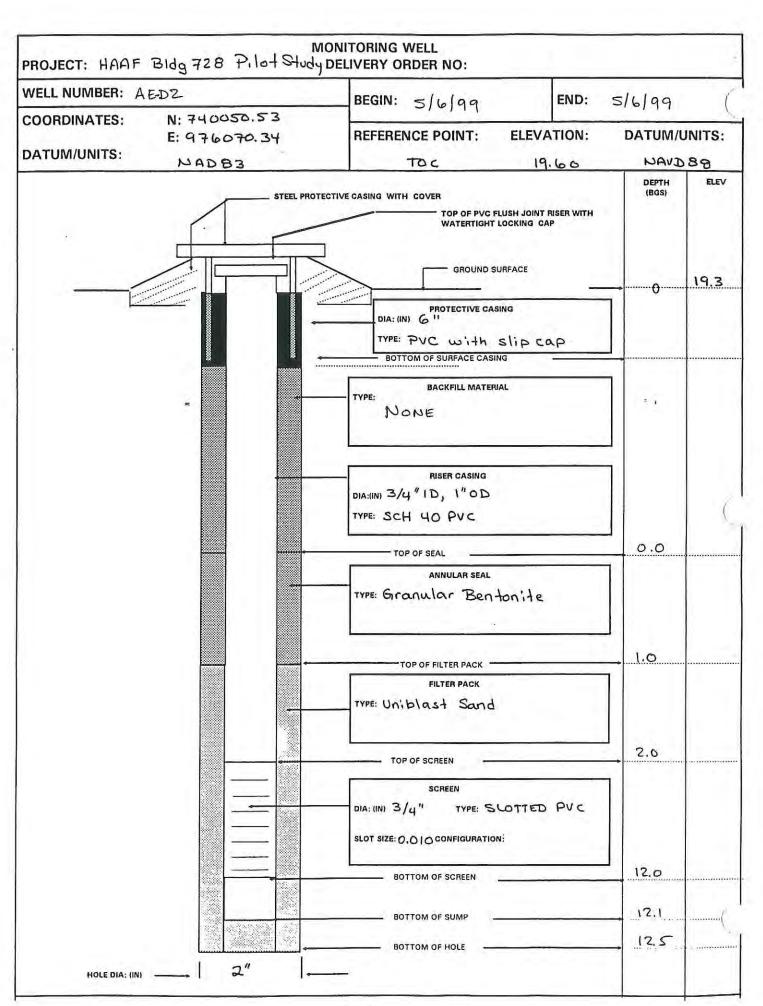
MW59, MW62, and D10 are located within the free product area associated with the Former Northern Fuel Battery.

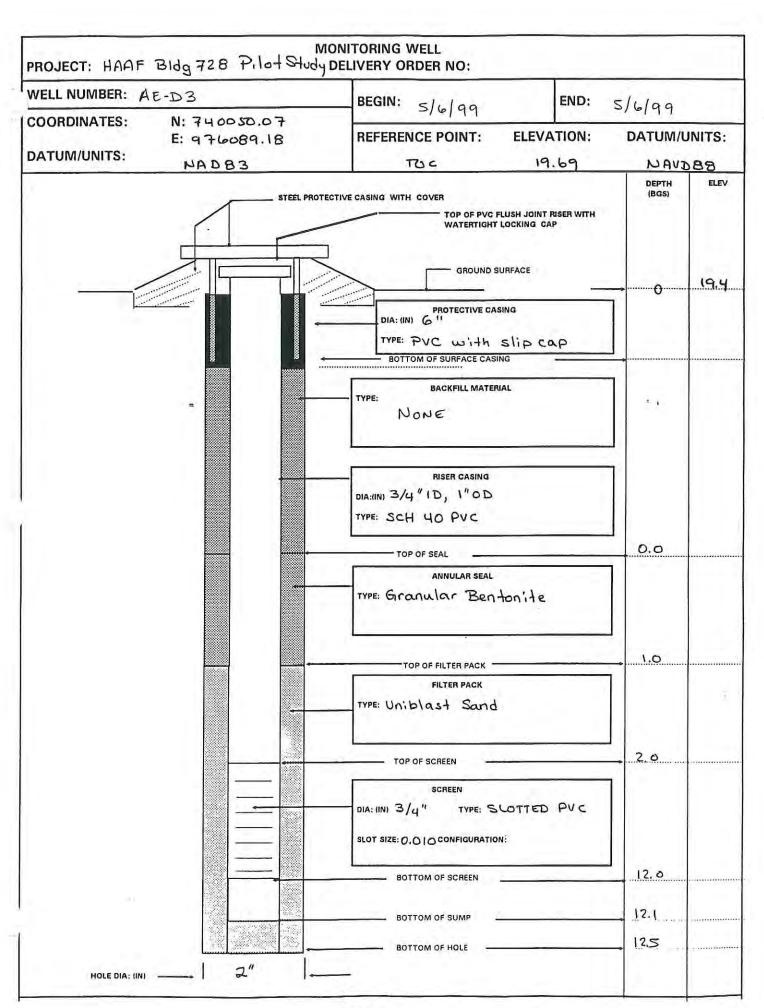
# APPENDIX VII MONITORING WELL DETAILS

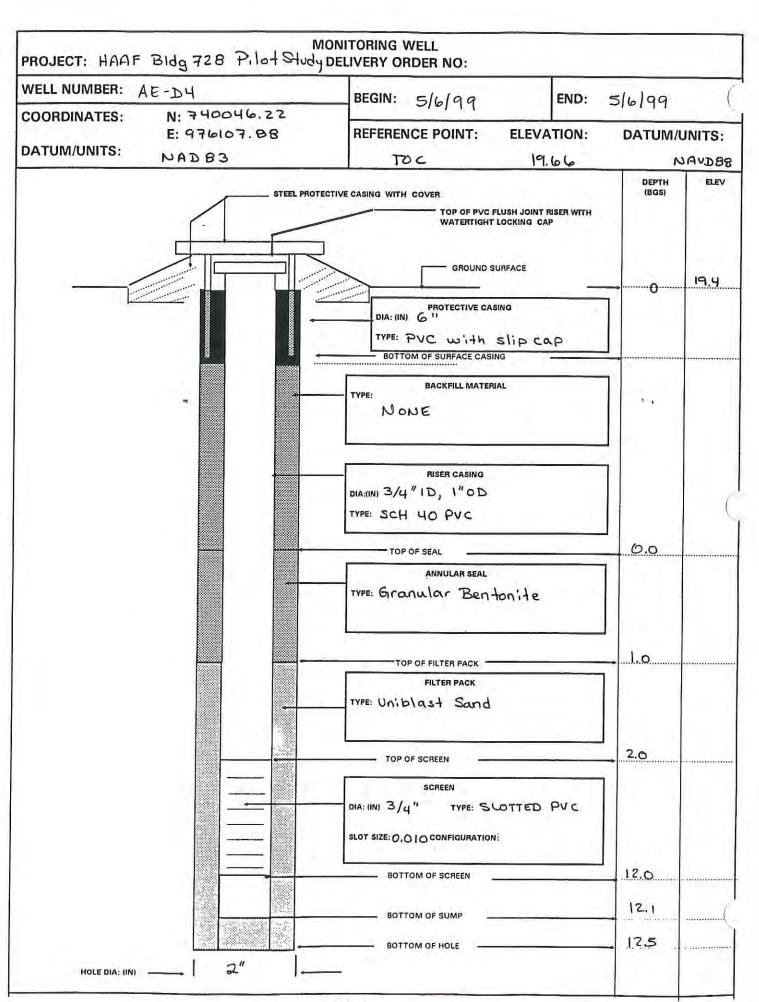
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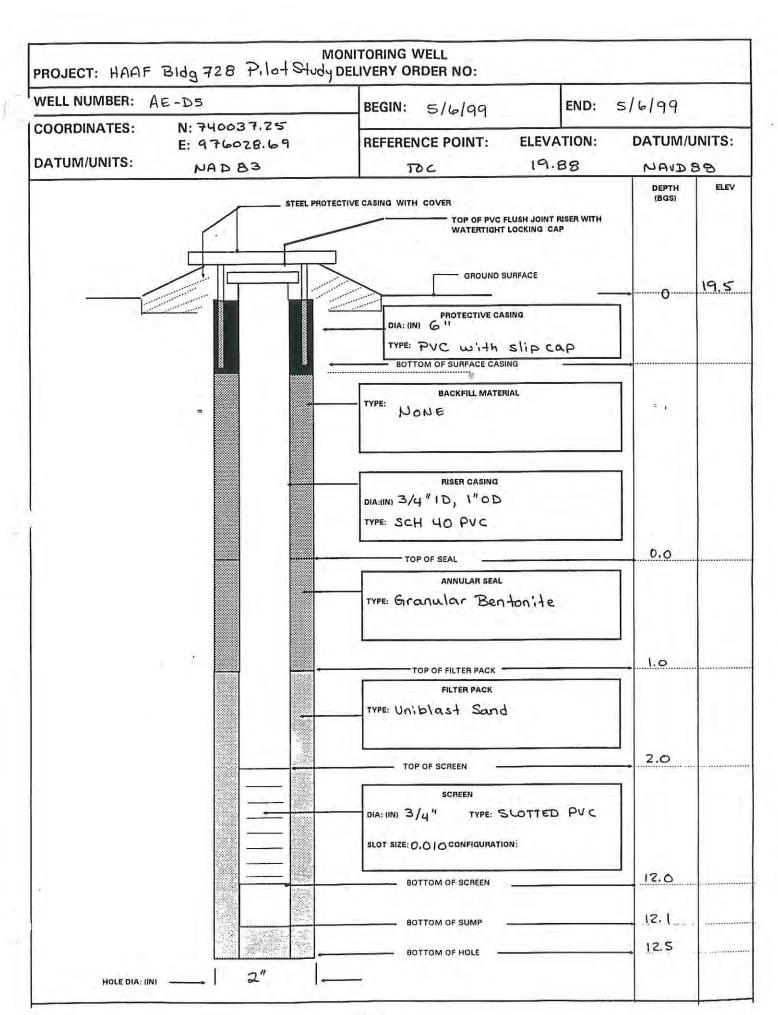
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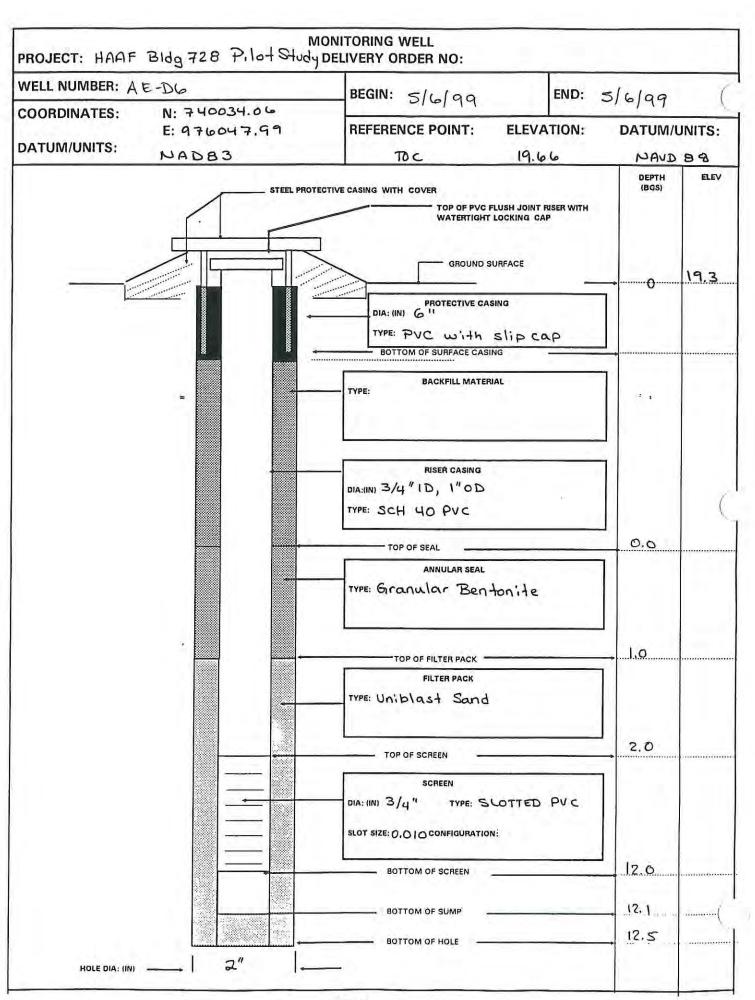


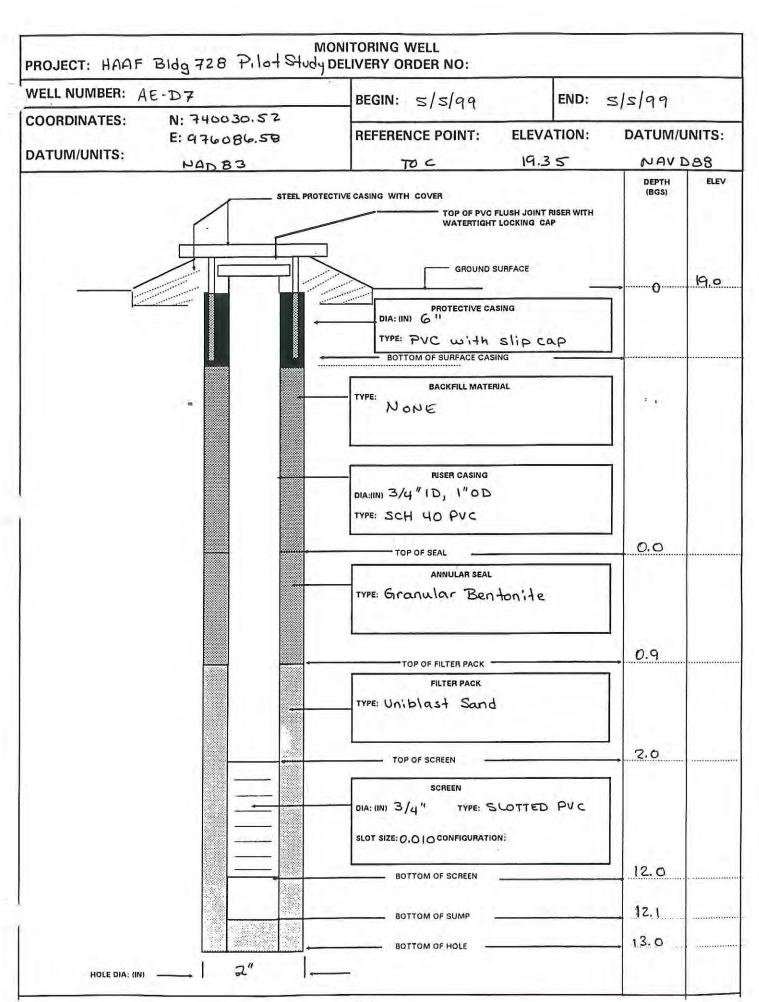


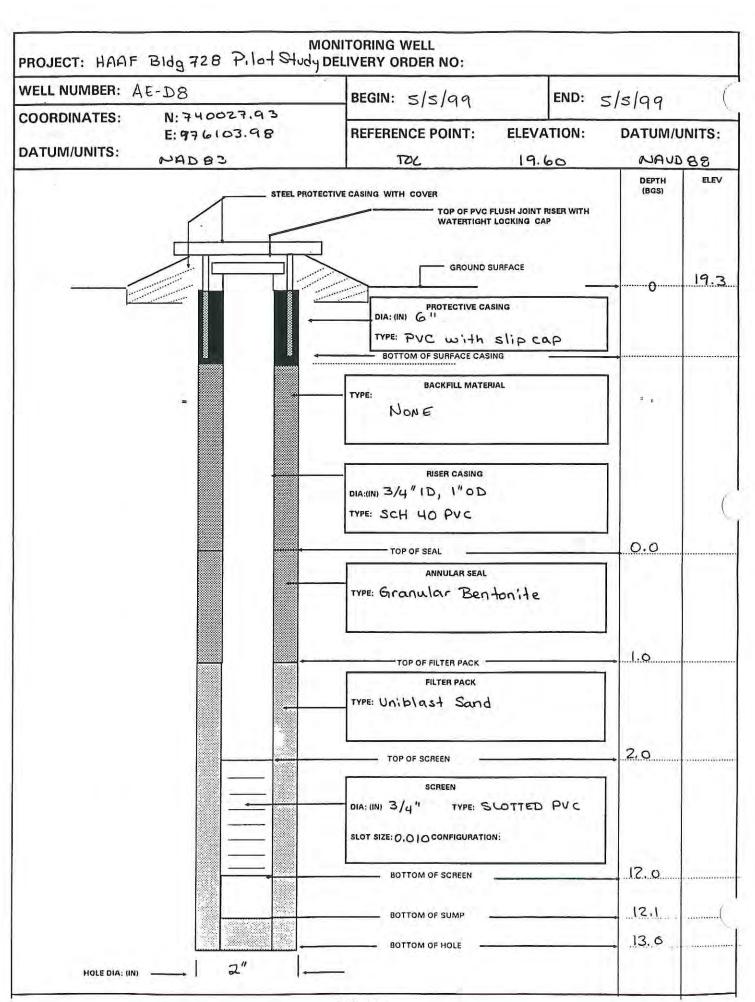


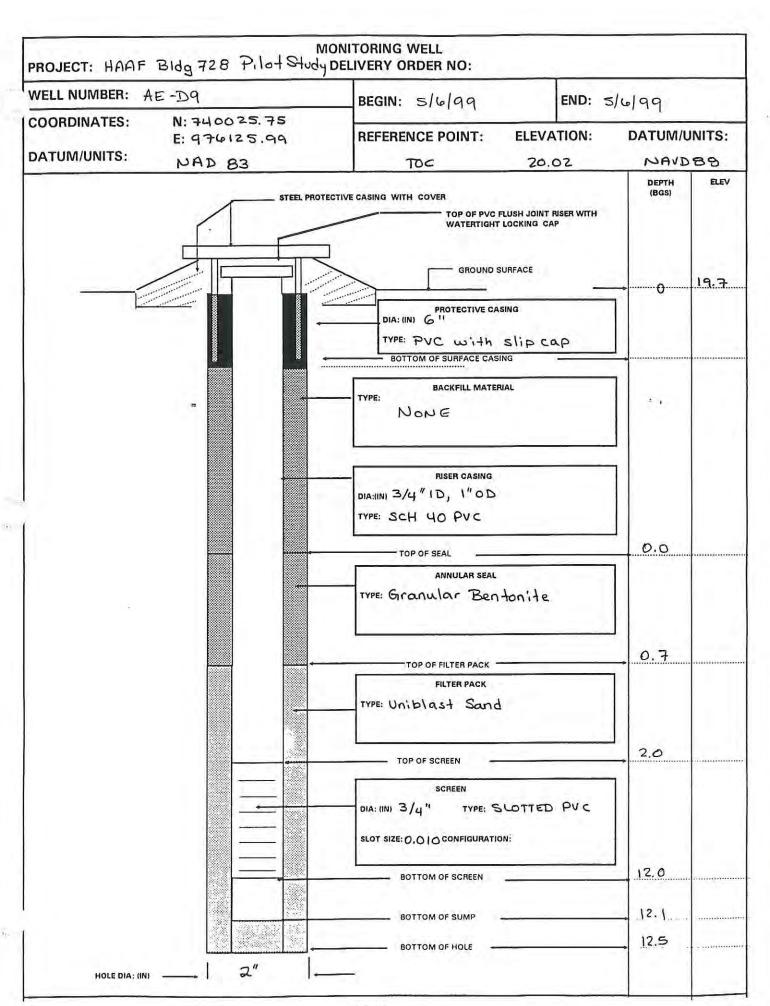


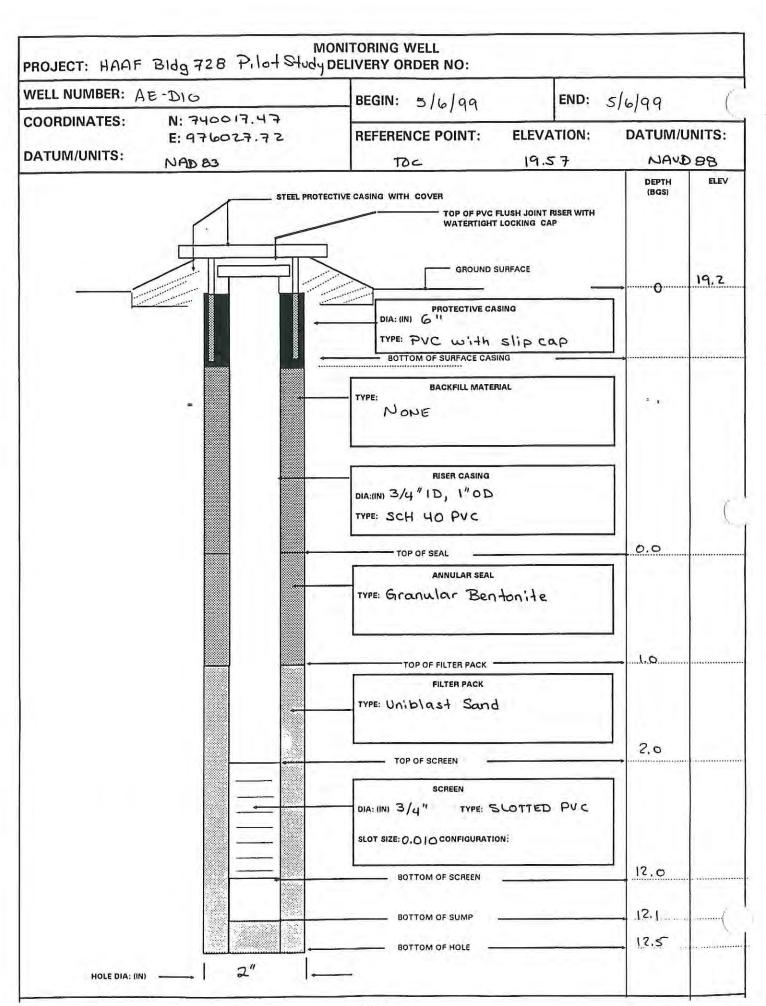


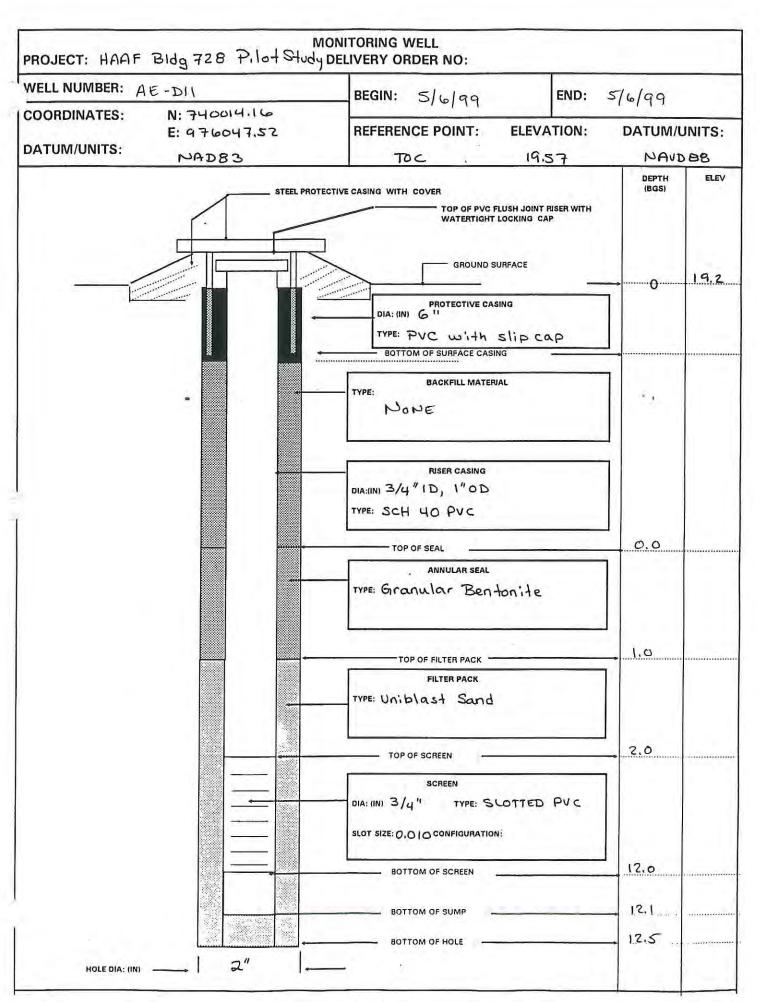


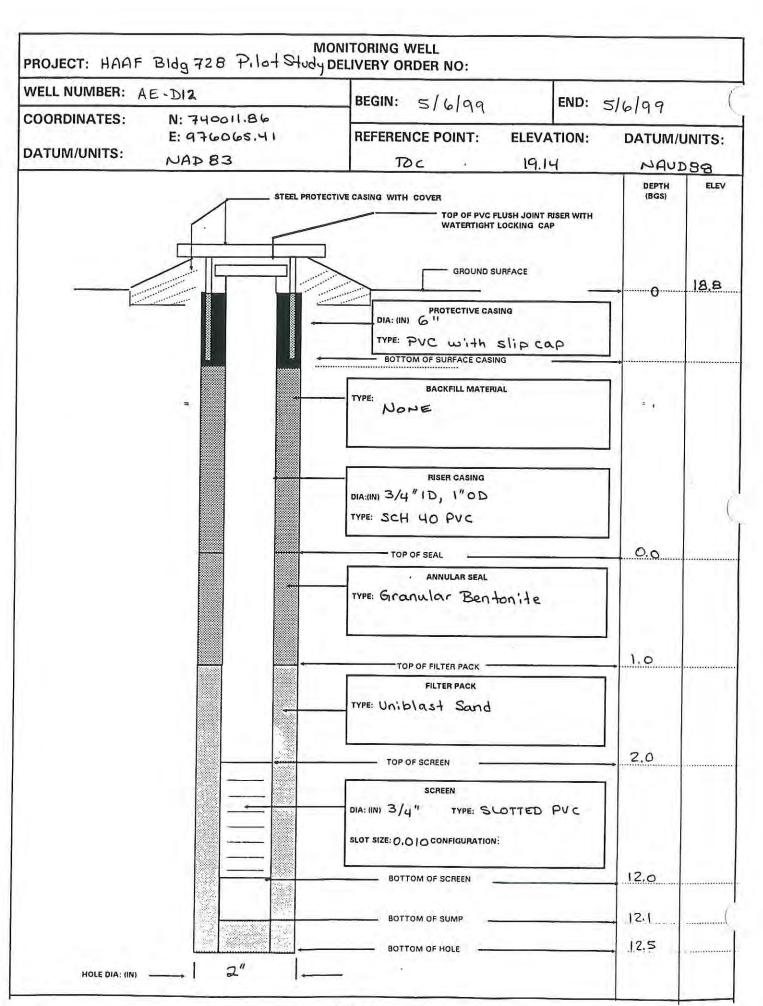


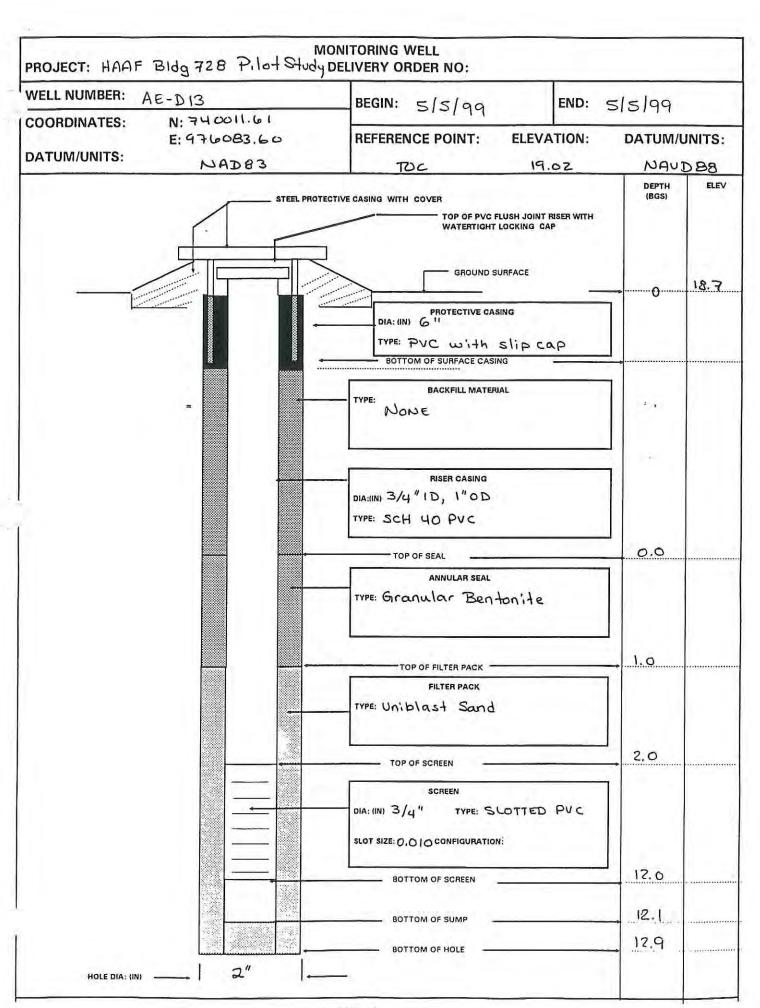


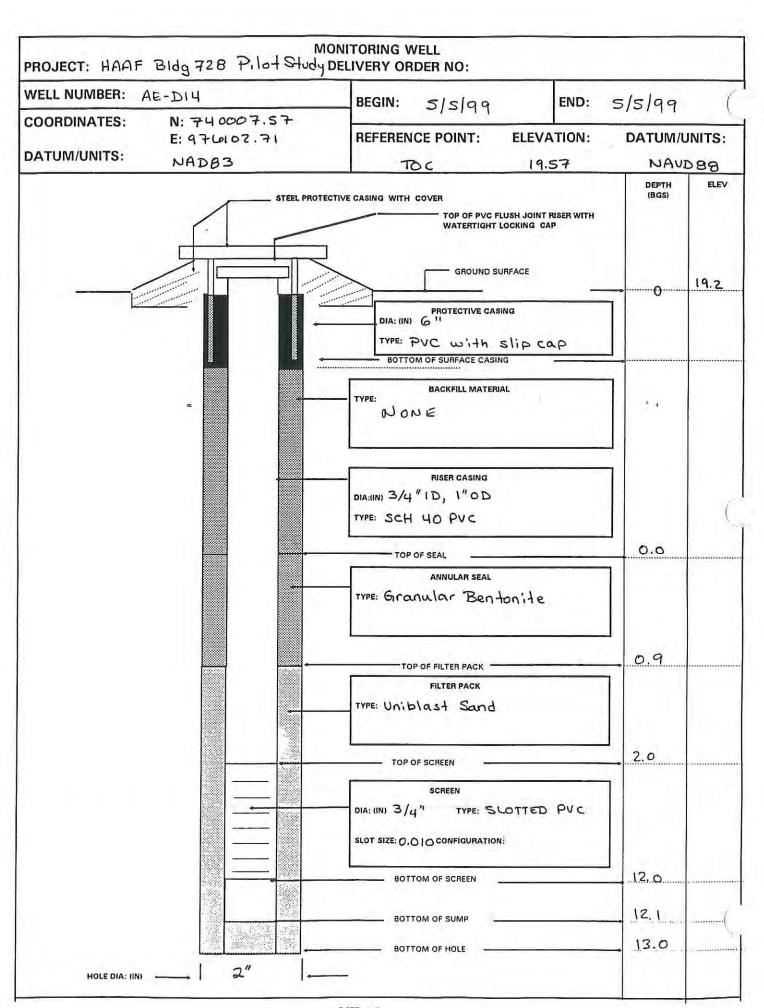


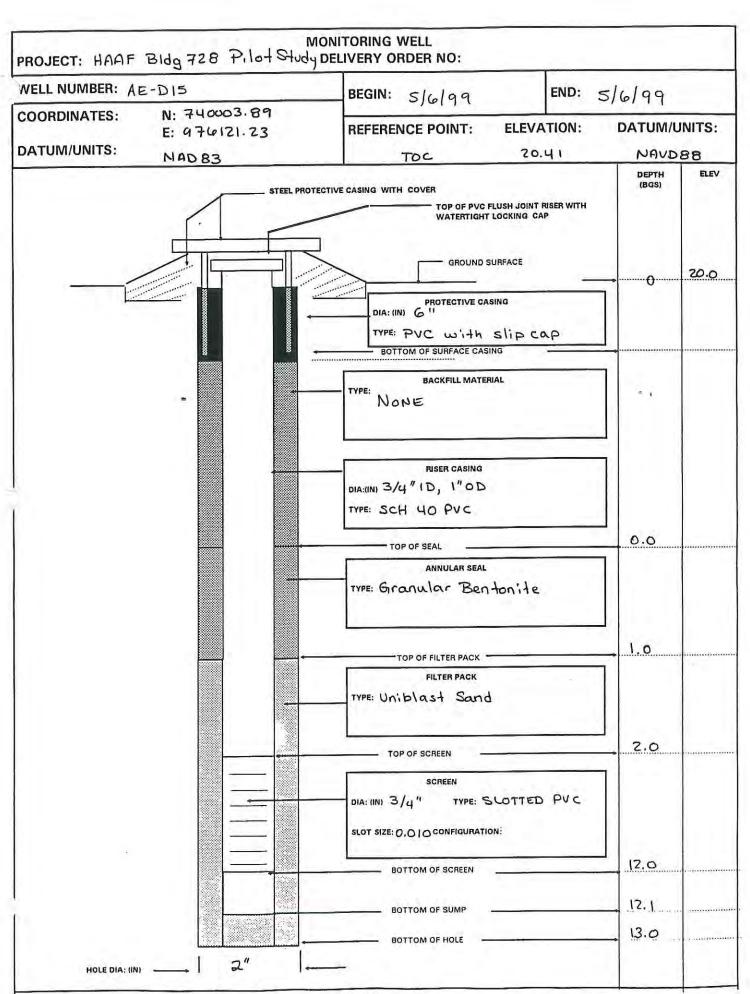


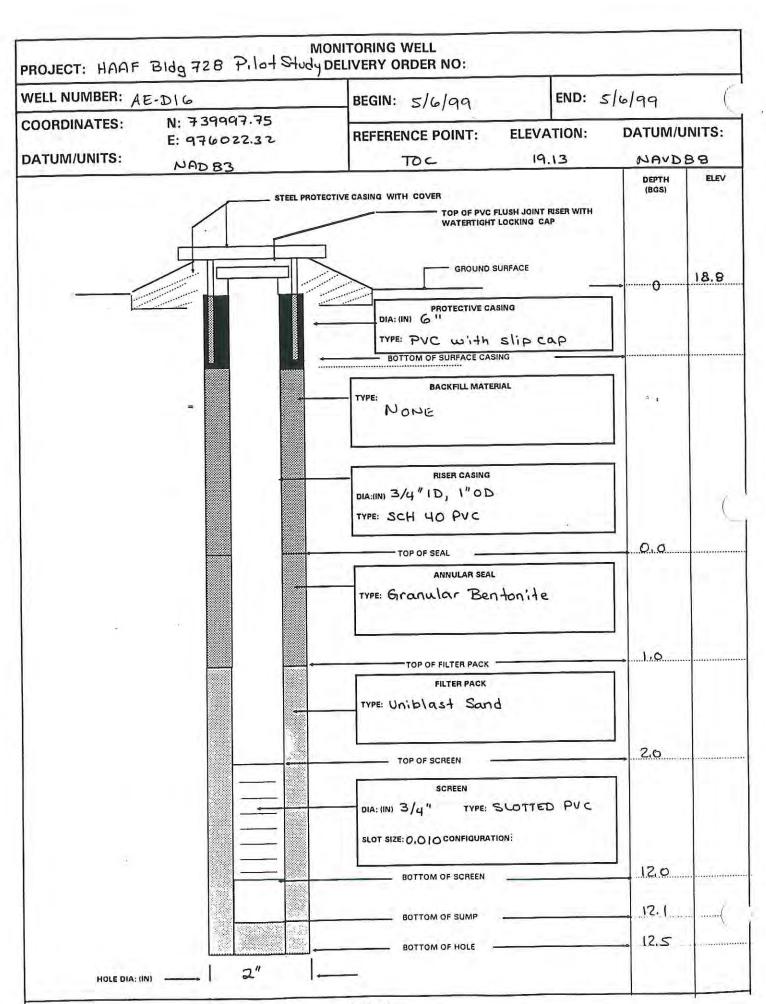


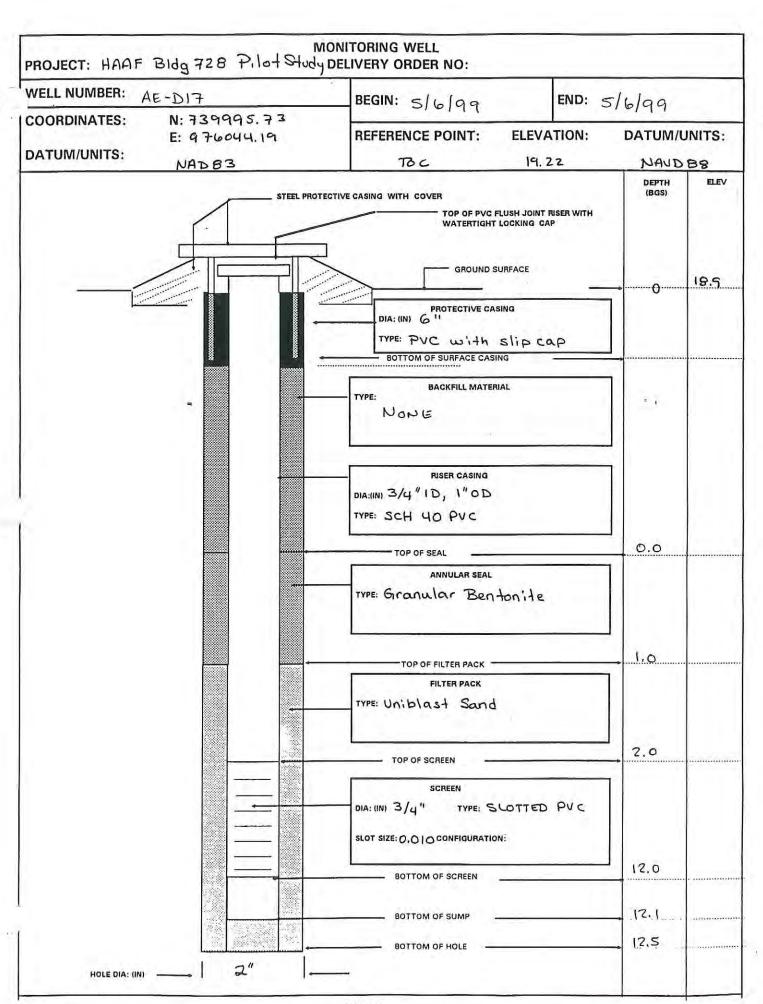


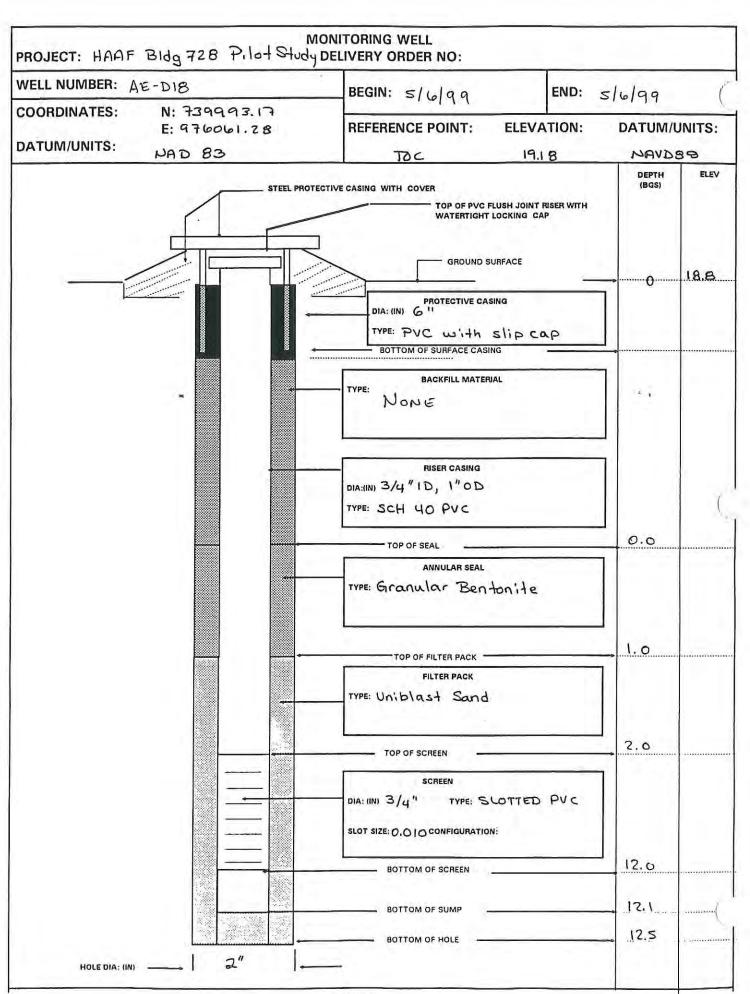


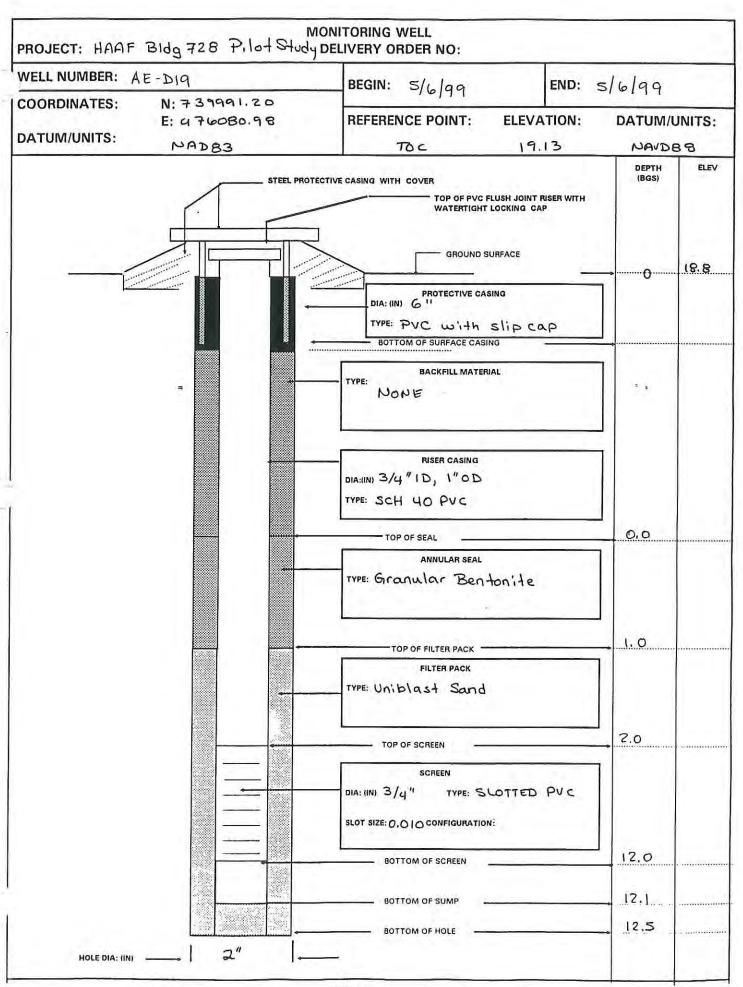


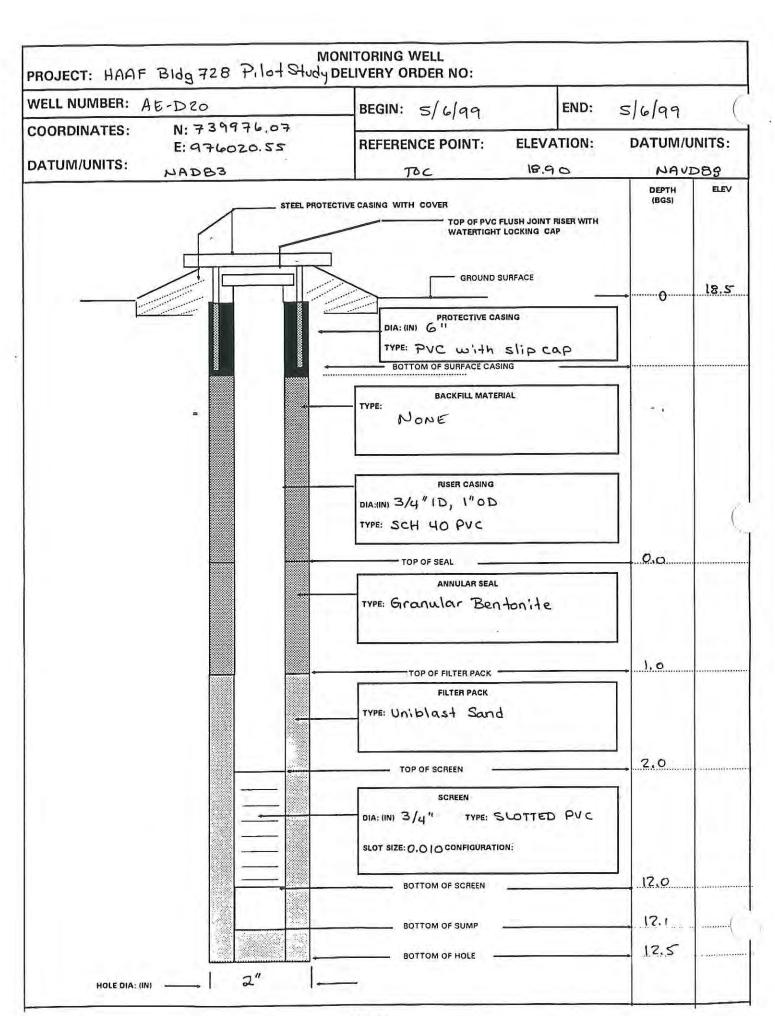


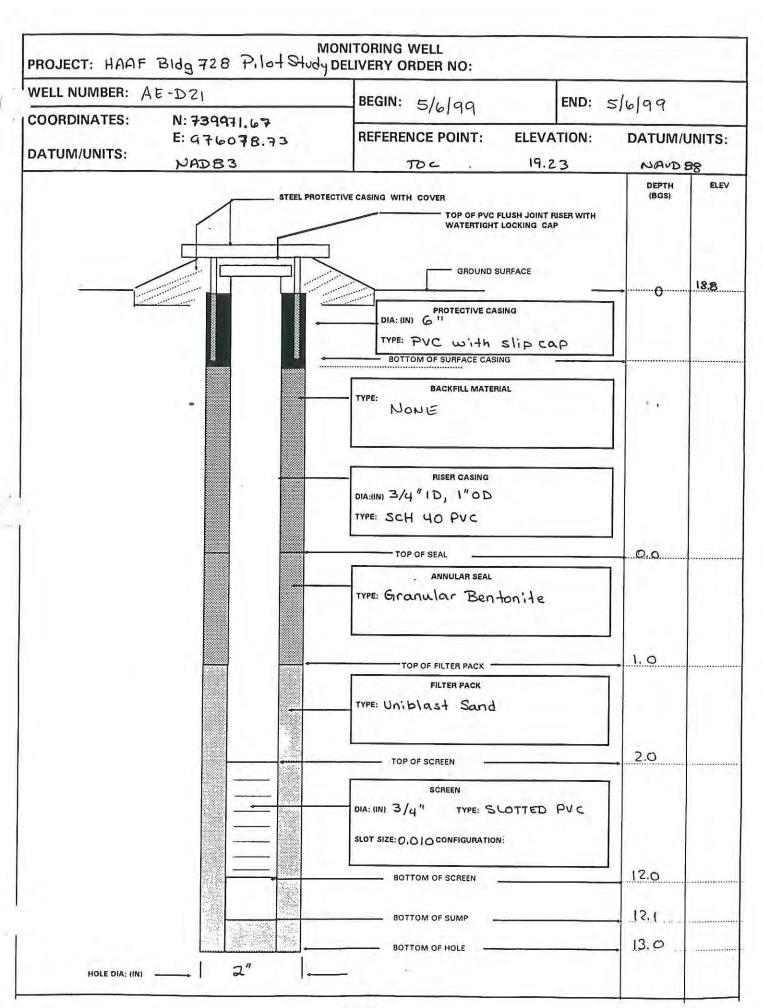


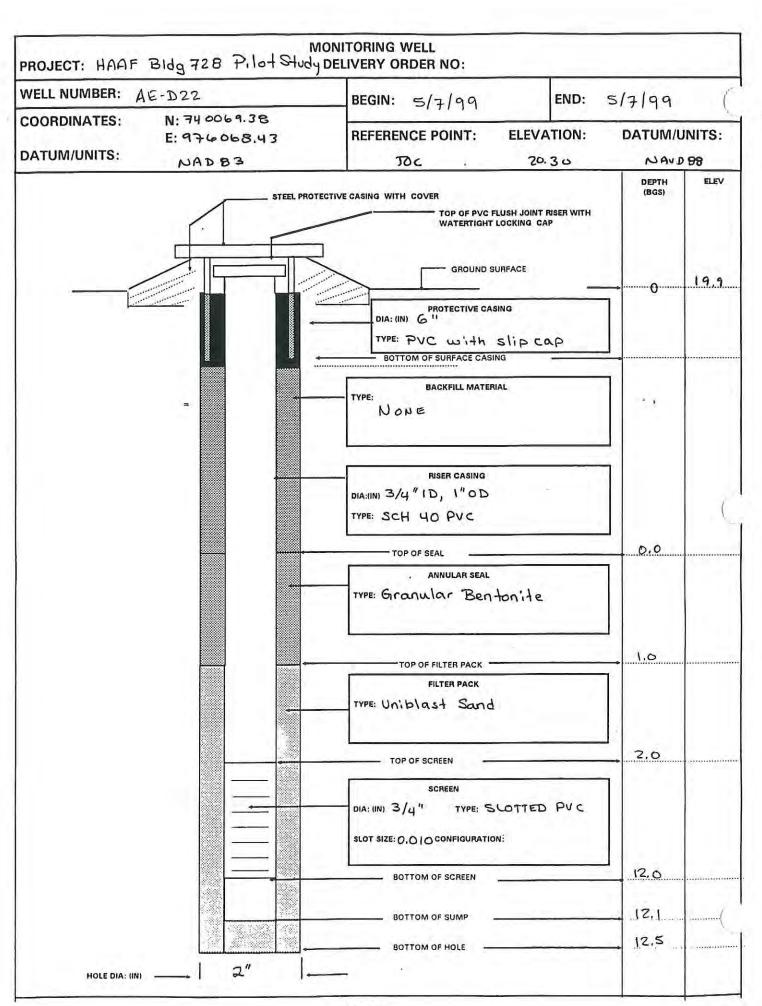


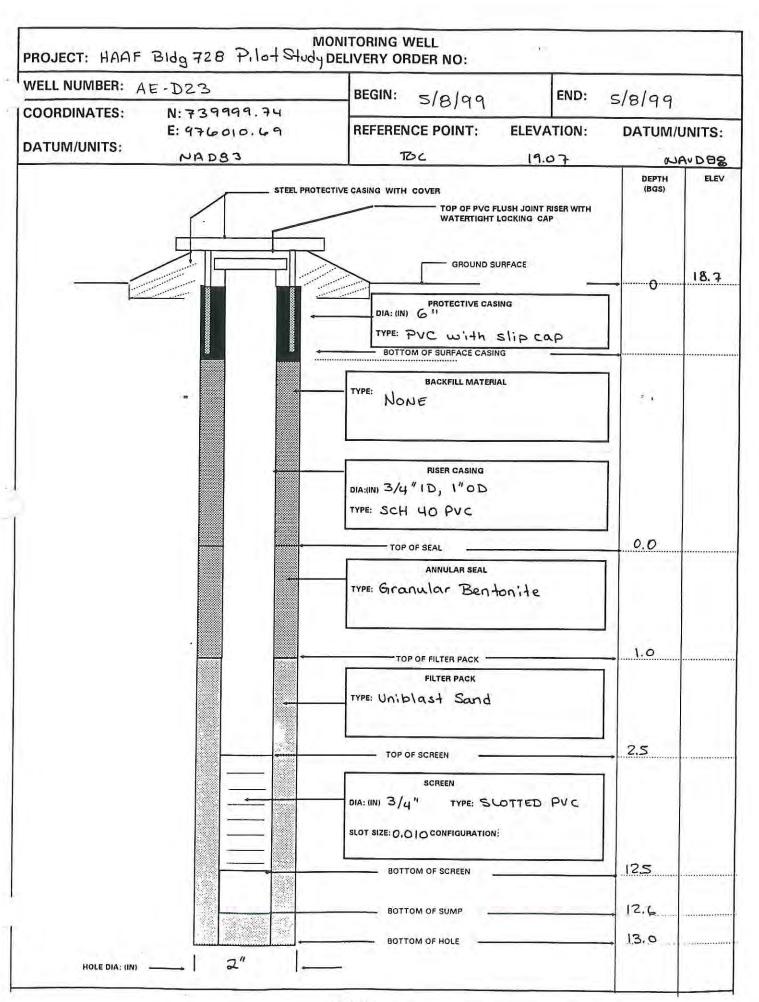


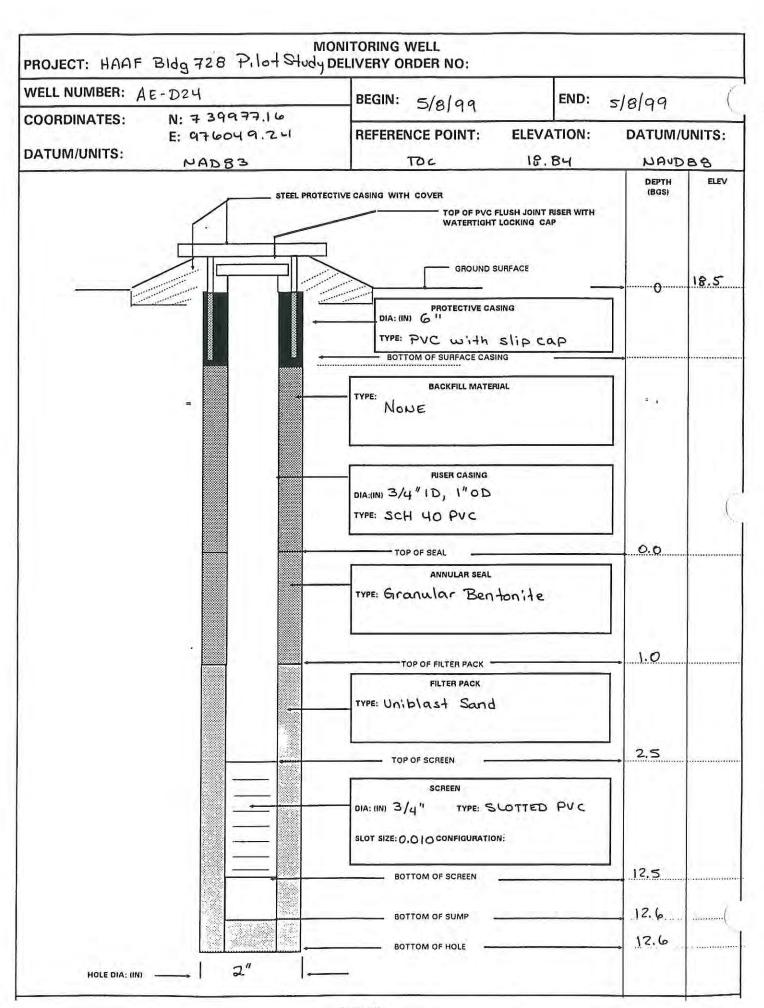


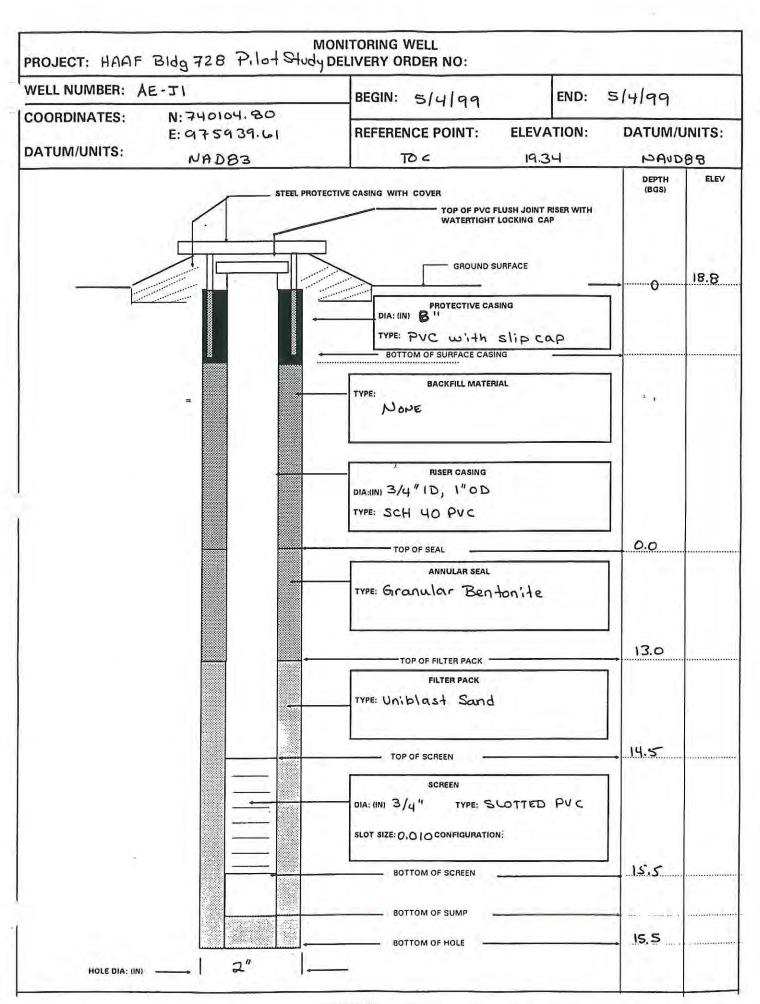


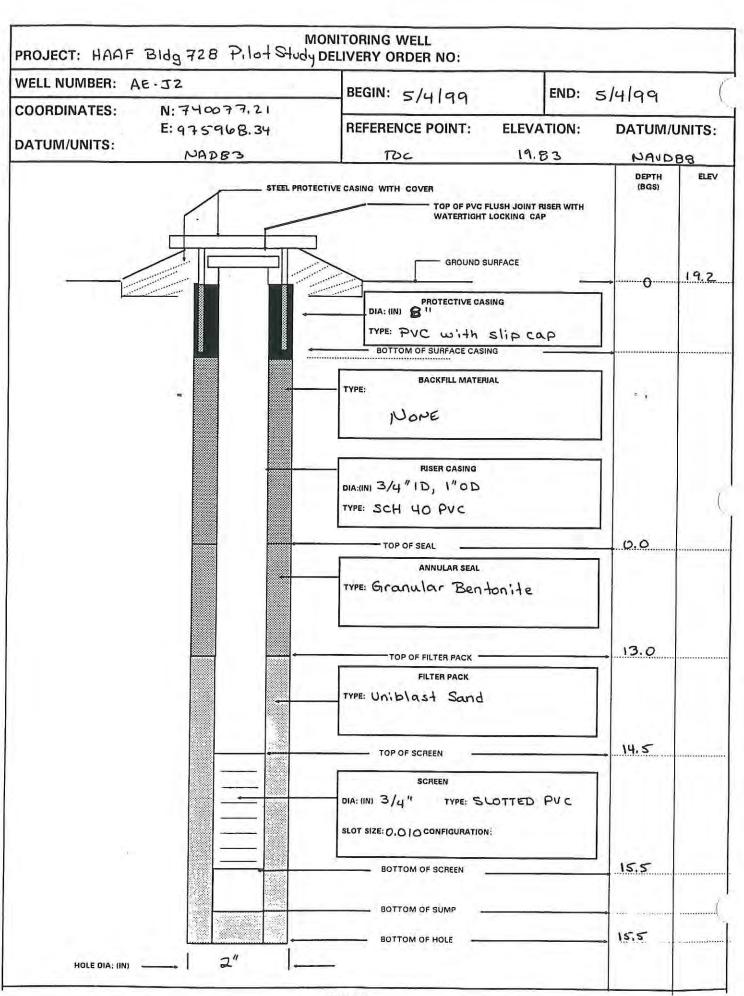


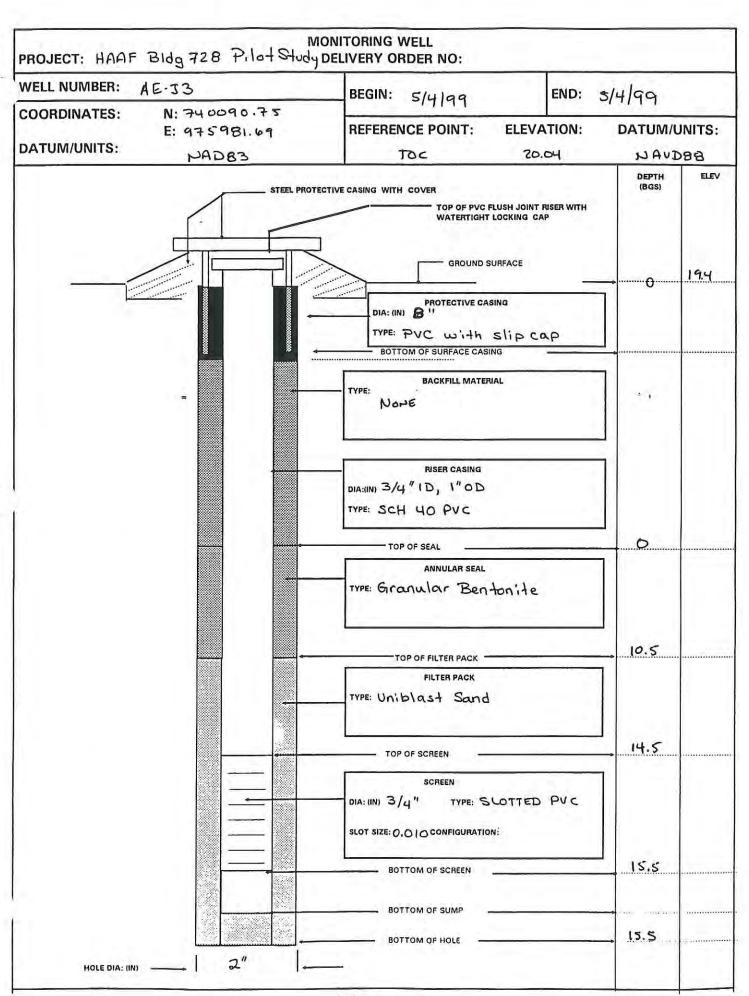


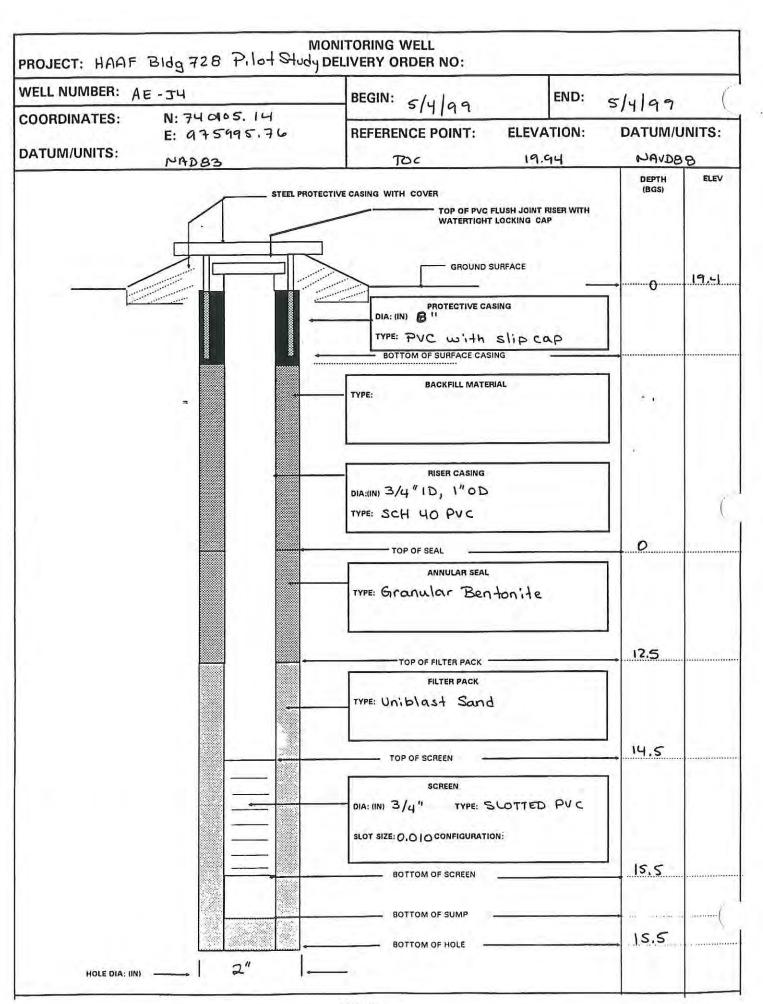


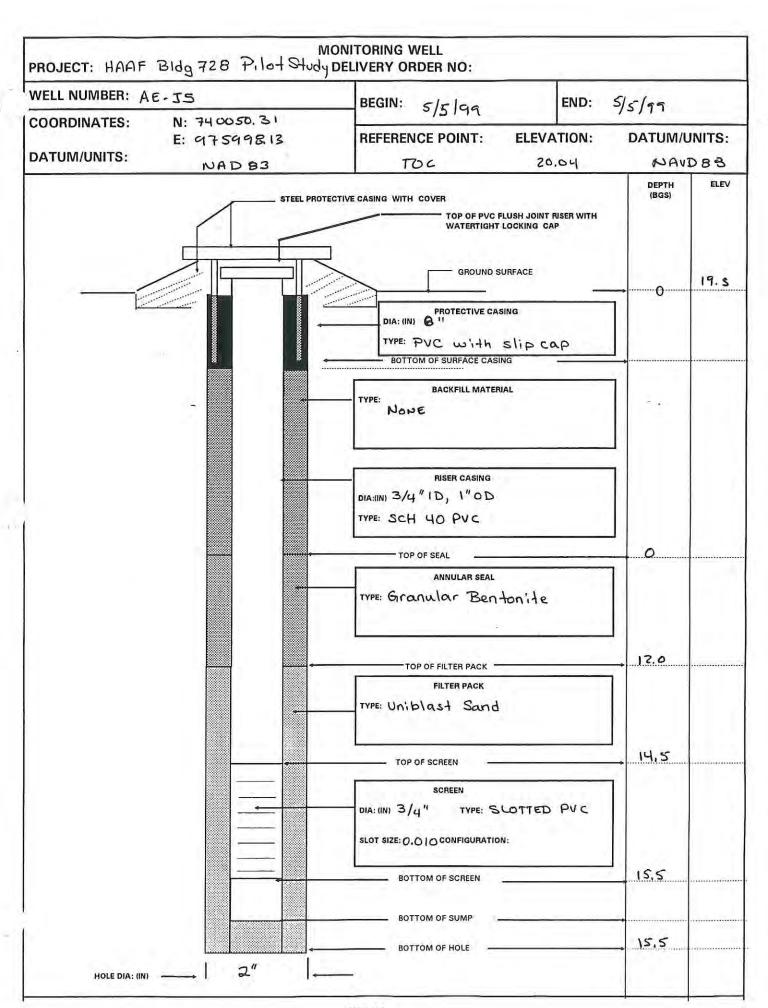


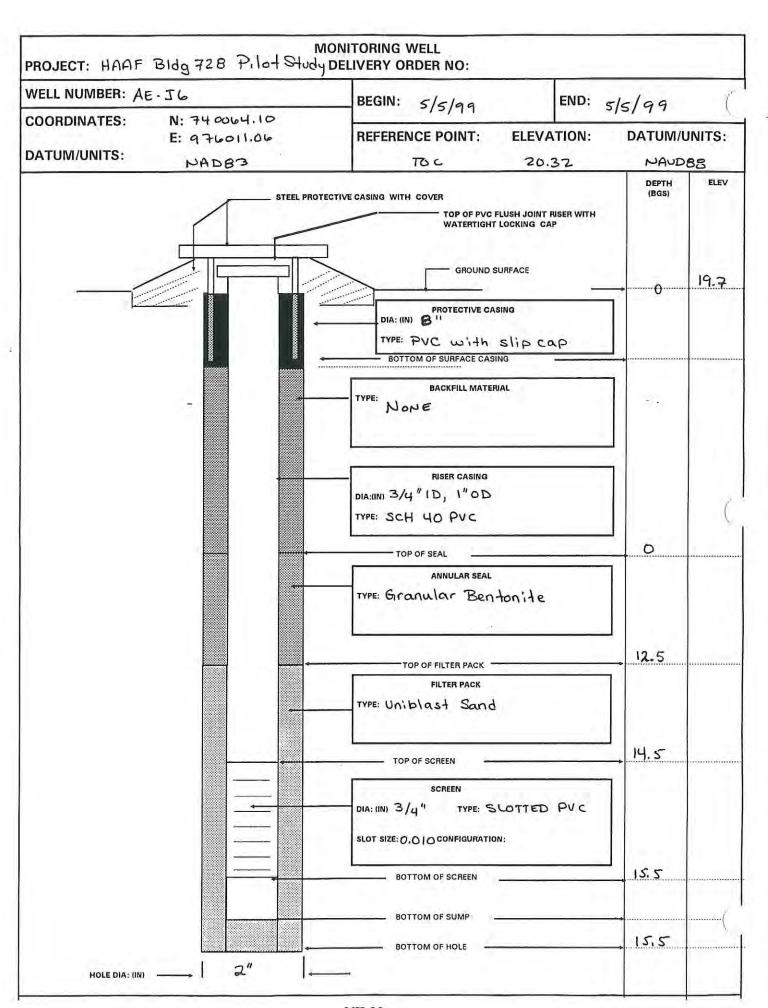


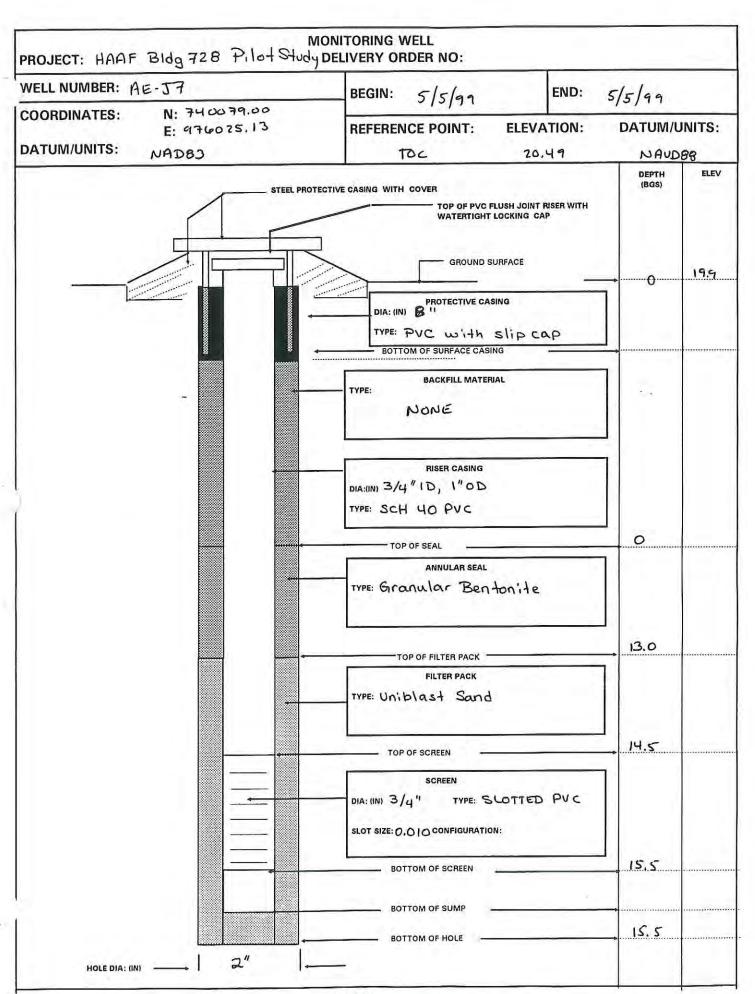


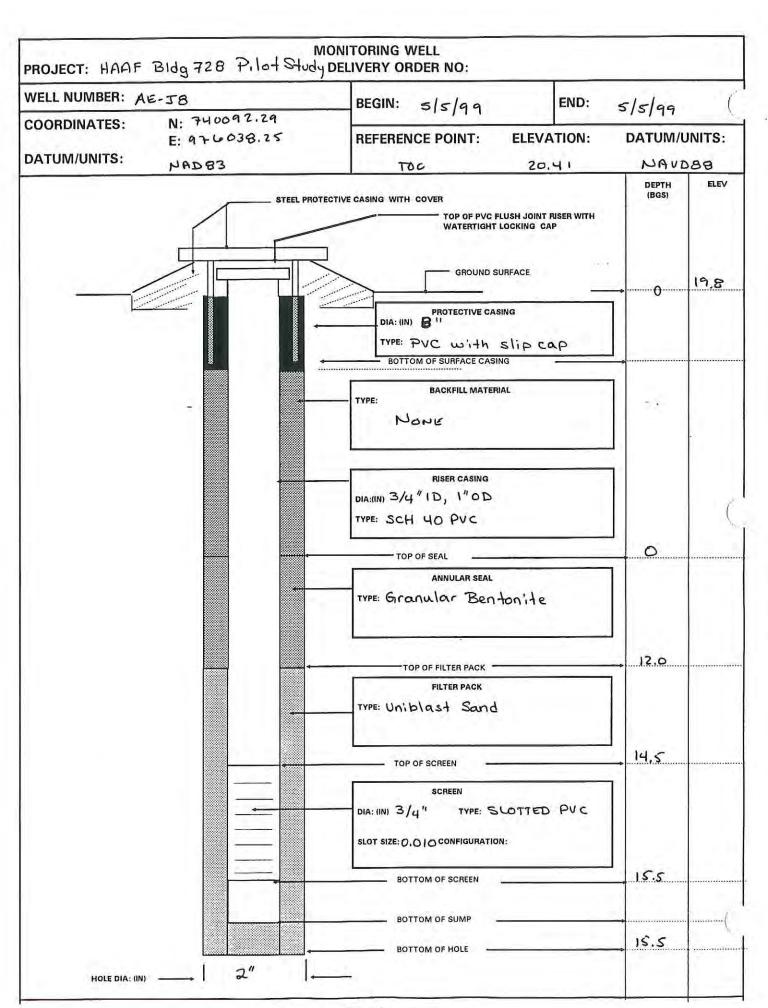


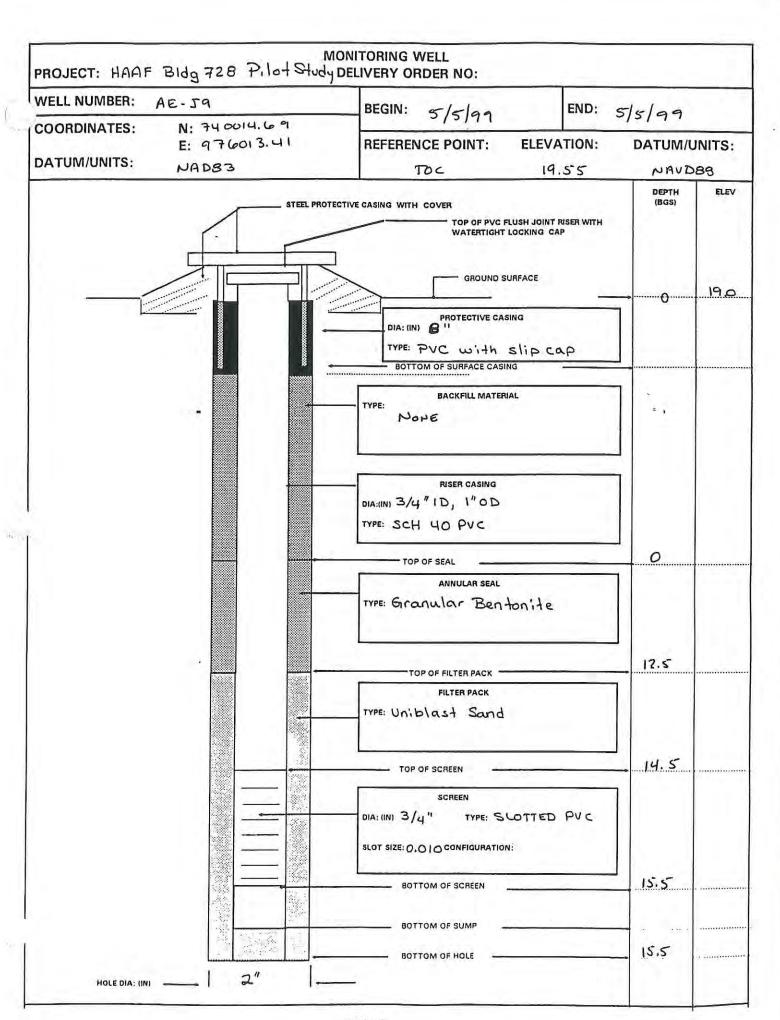


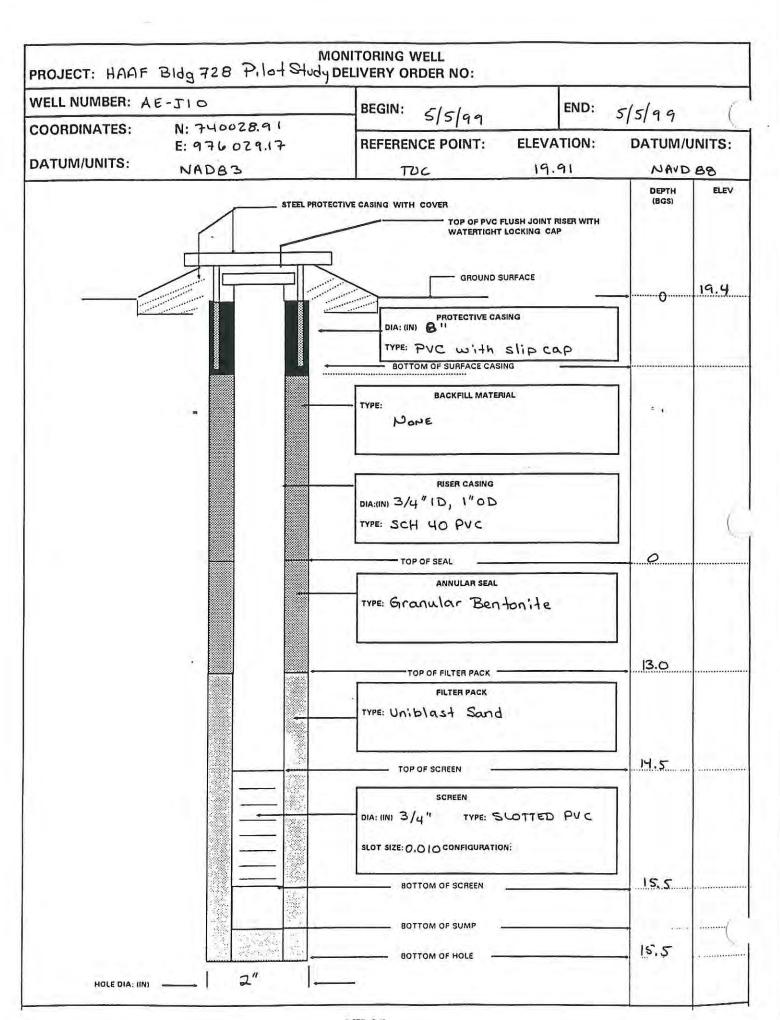


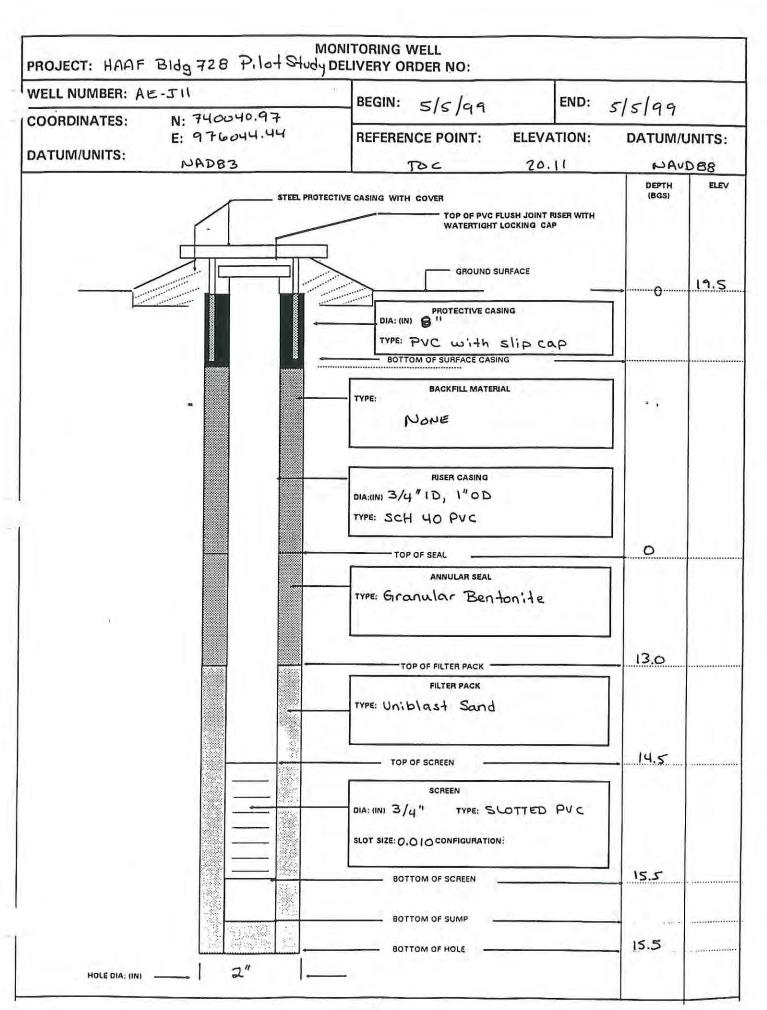


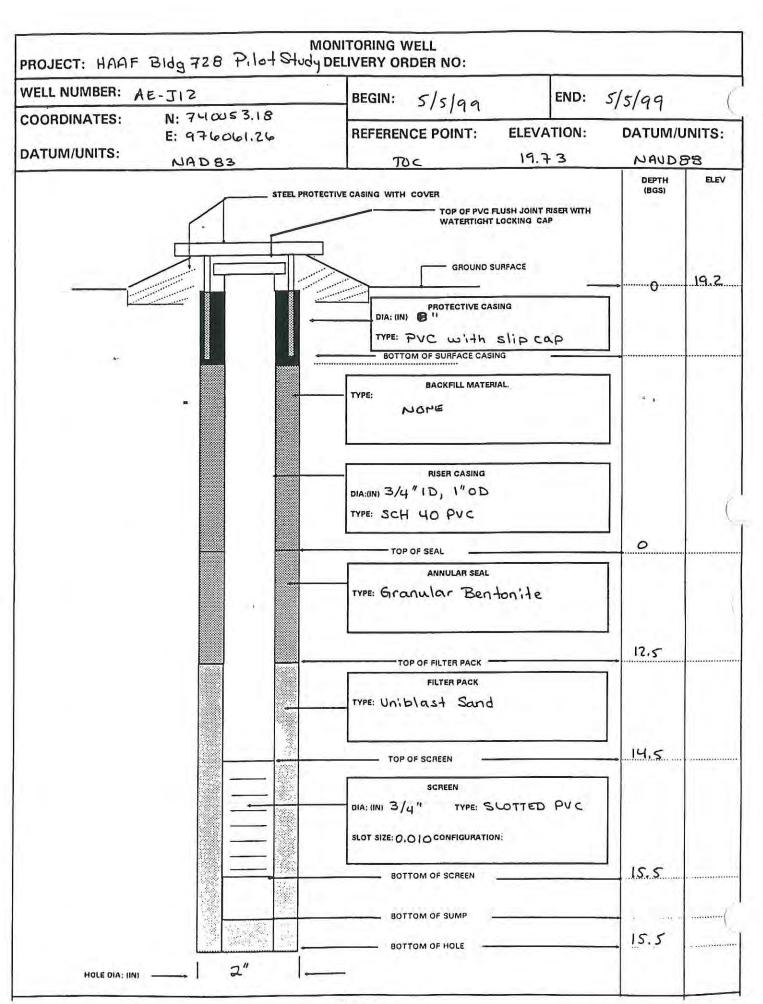


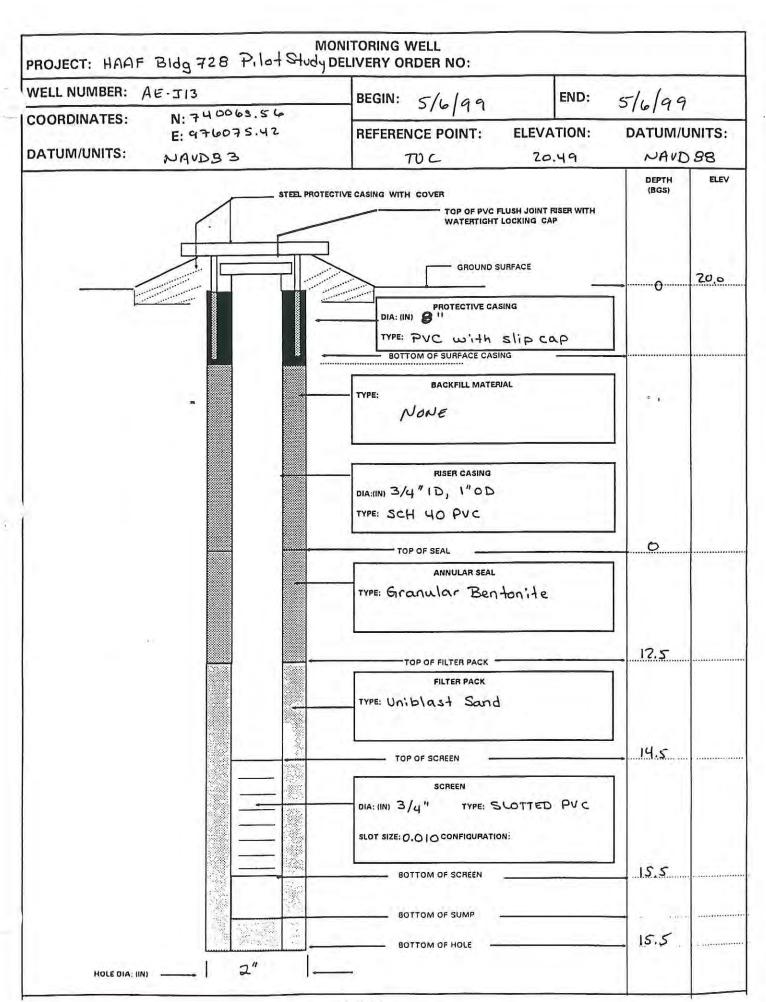


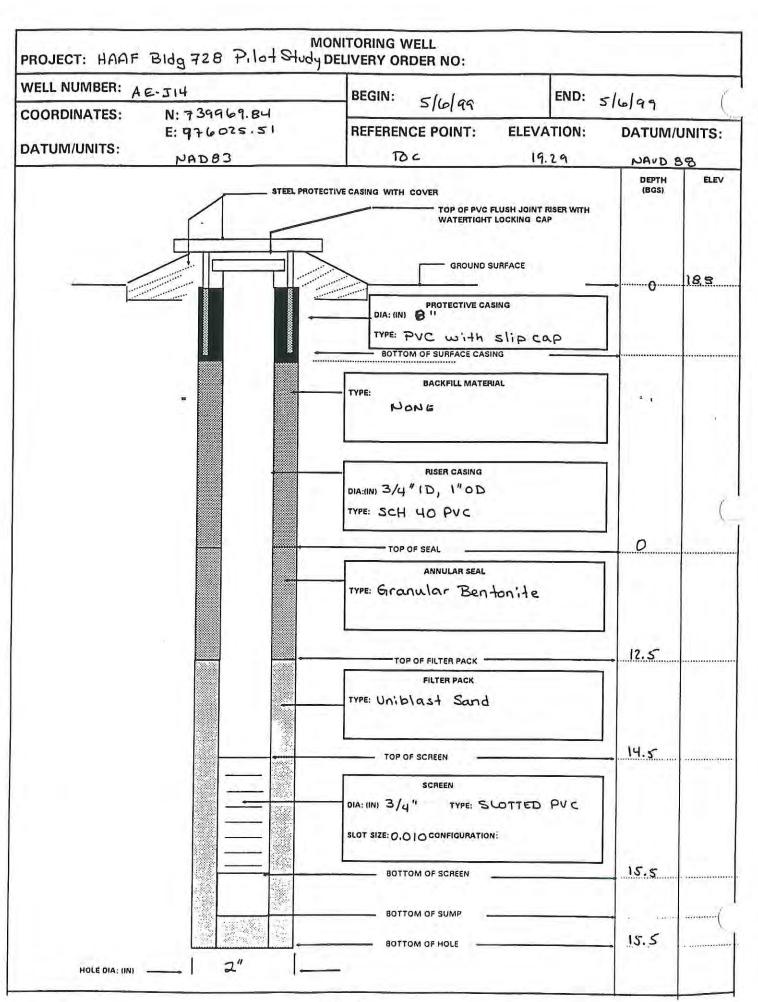


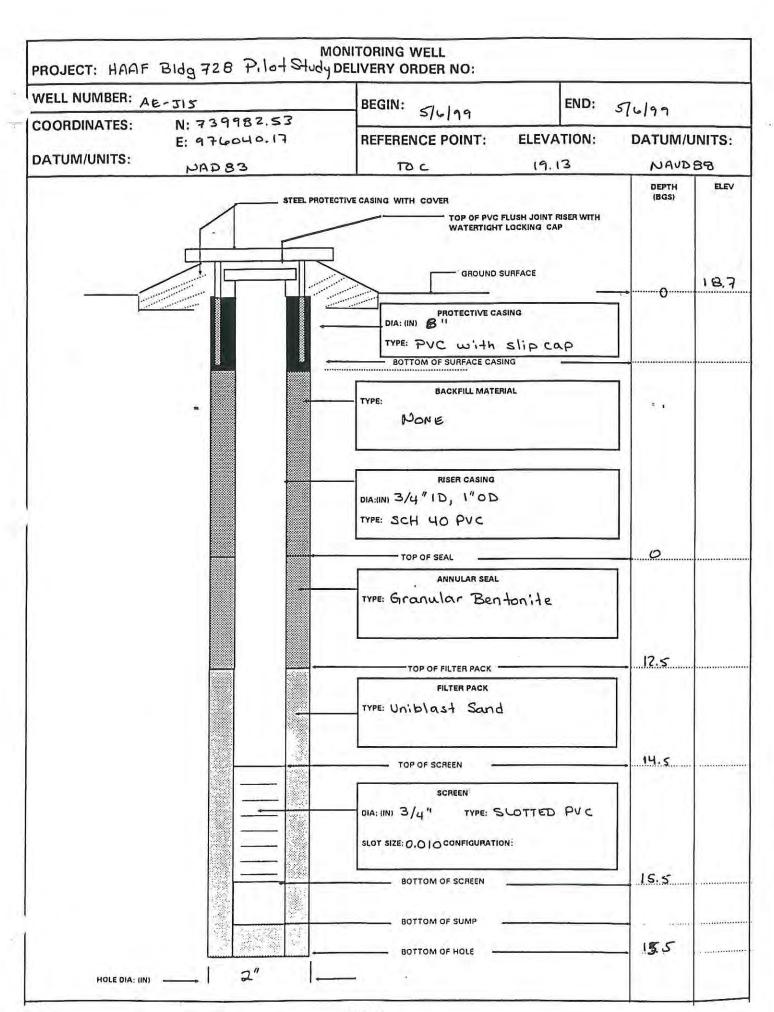


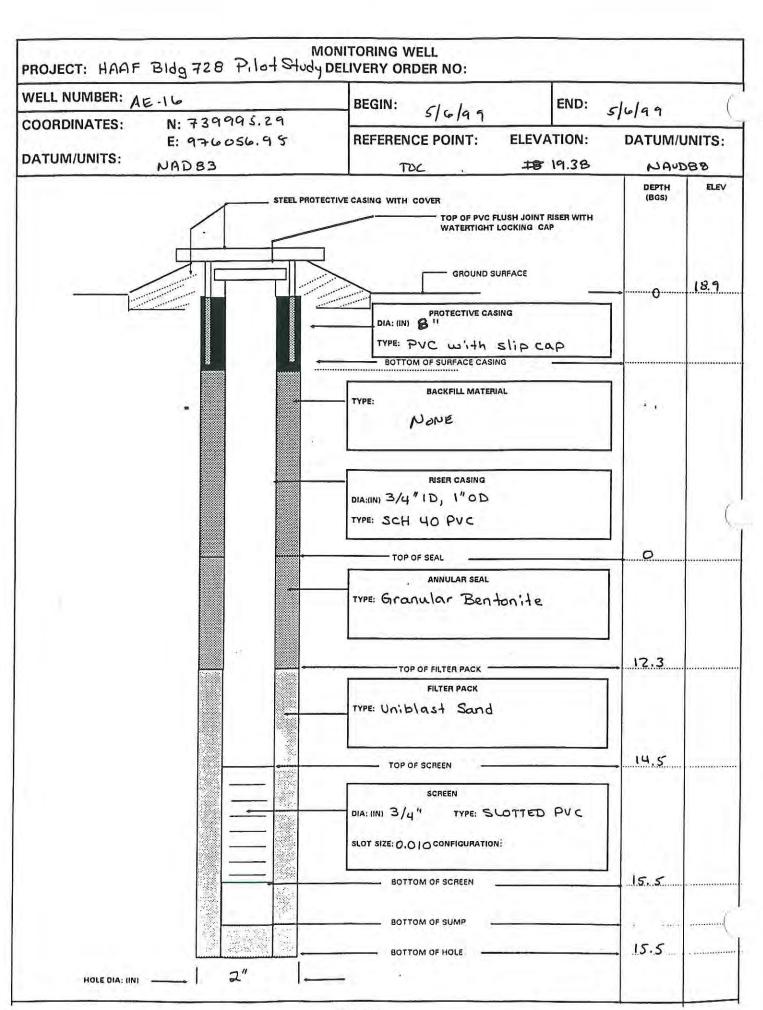


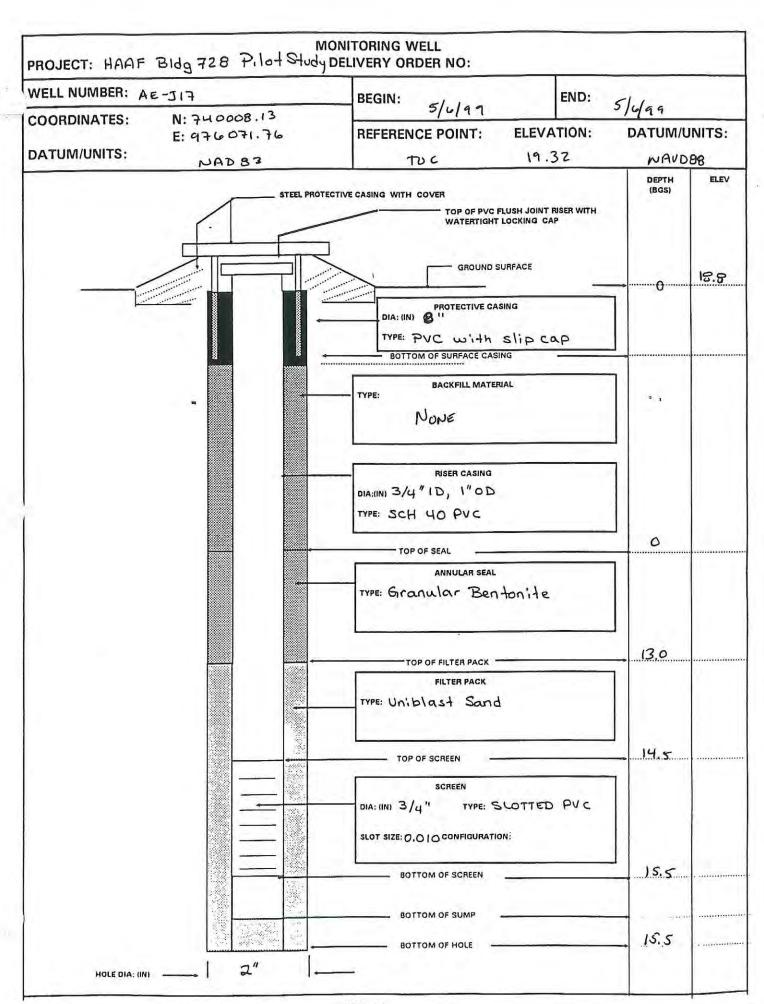


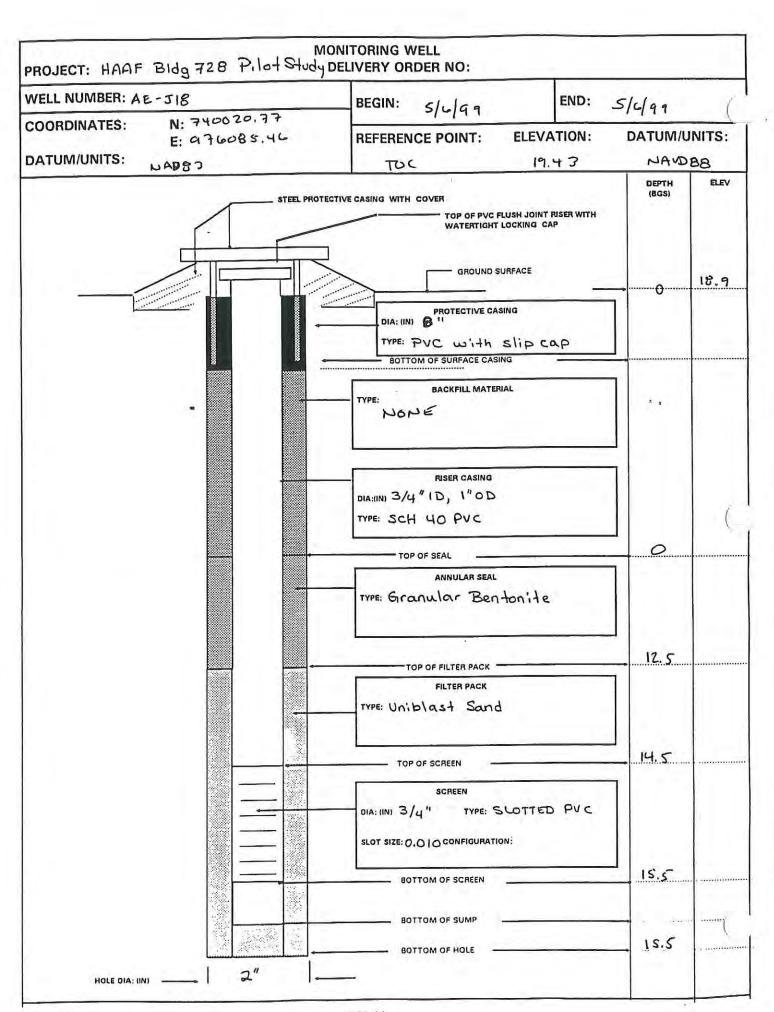


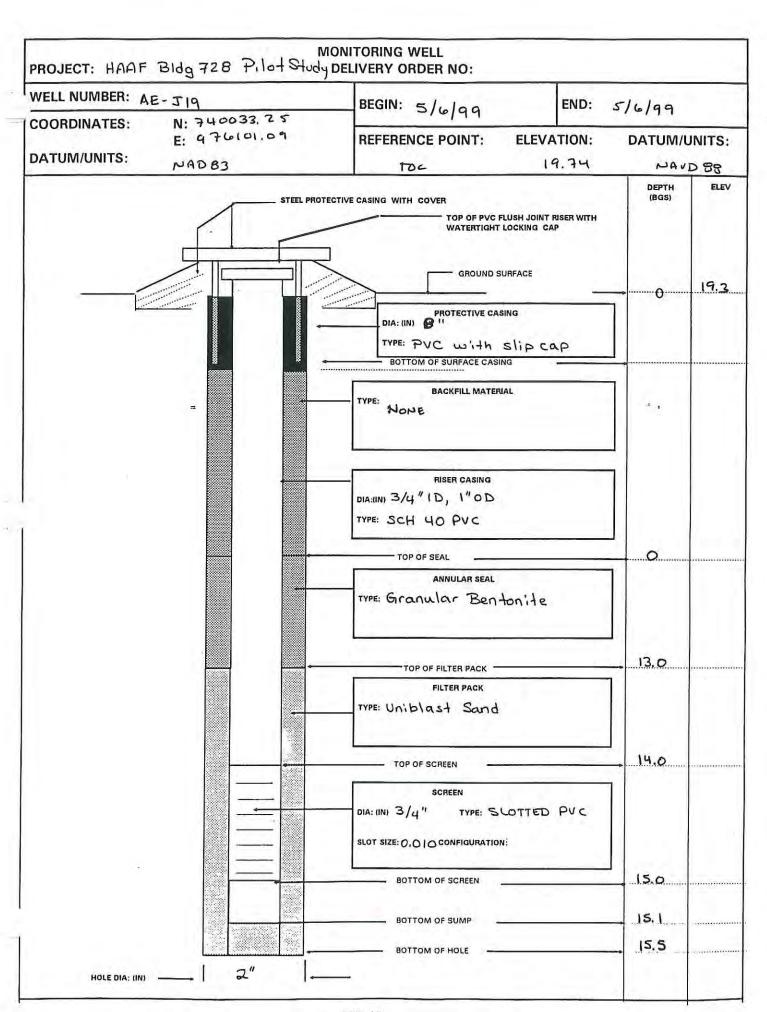


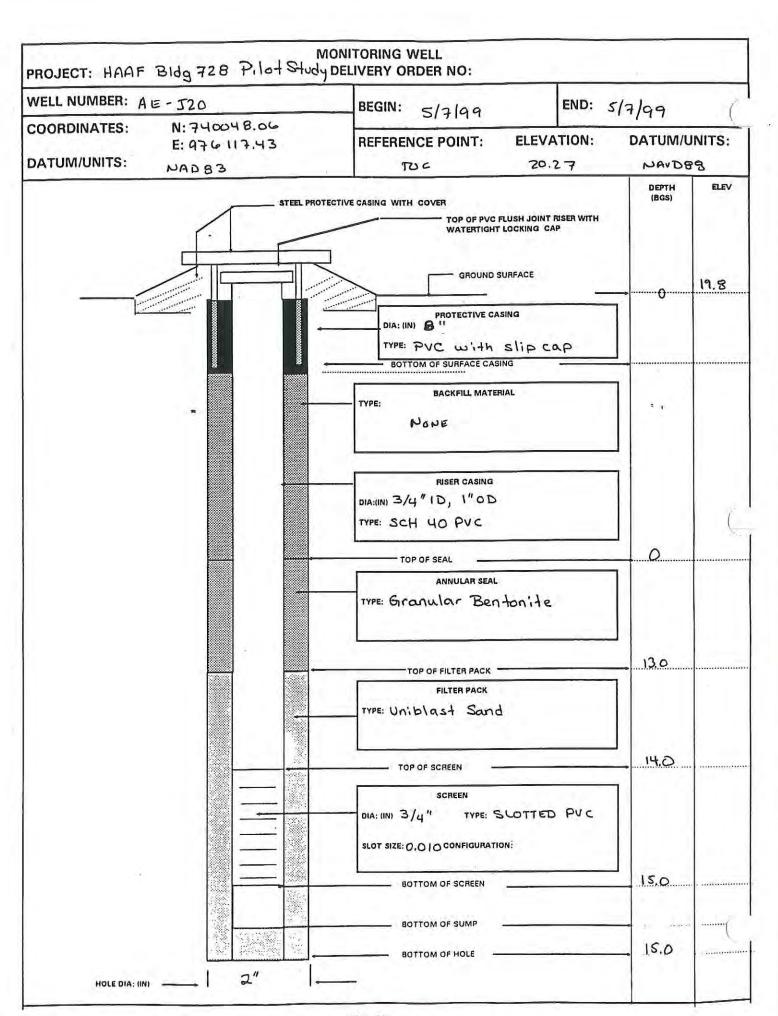


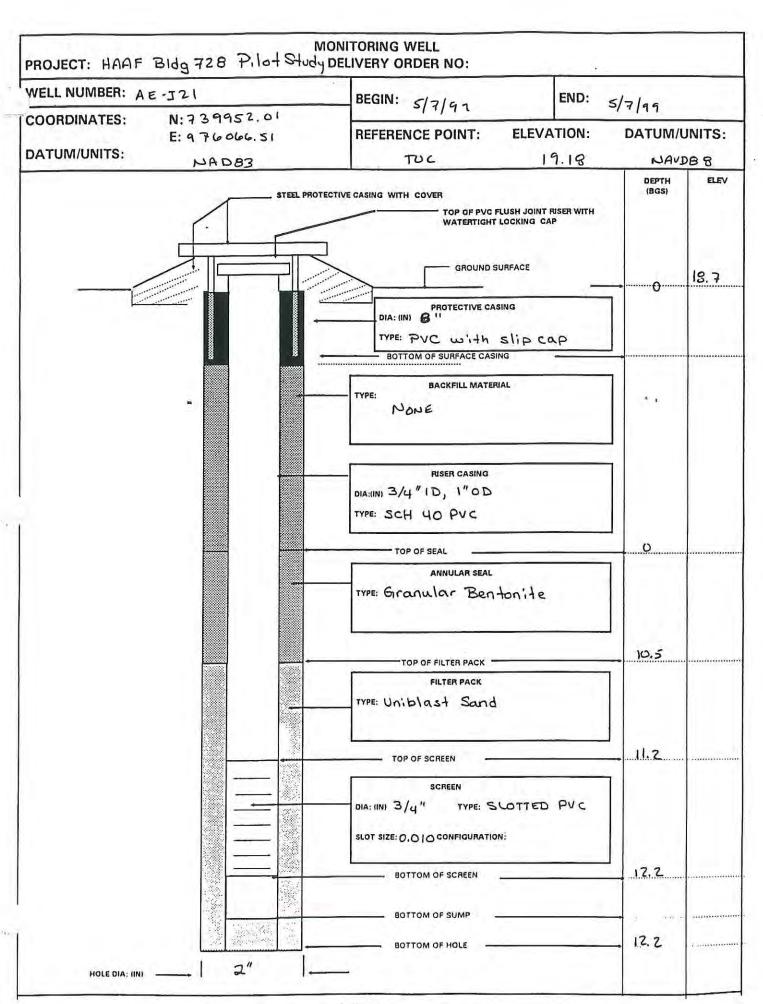


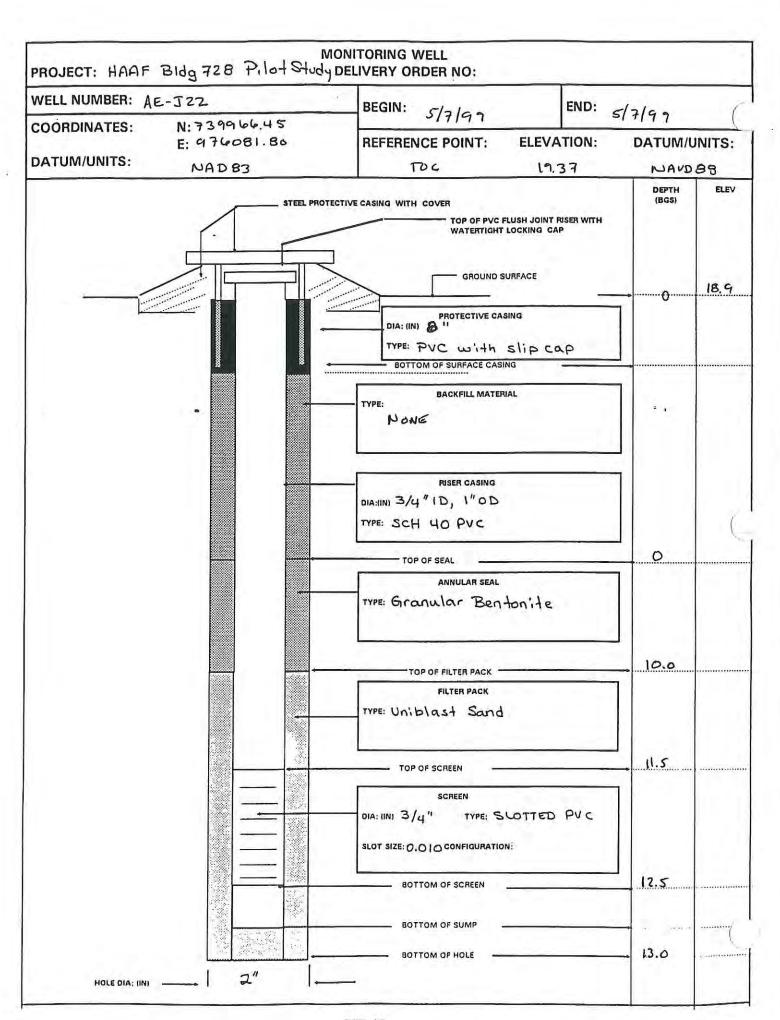


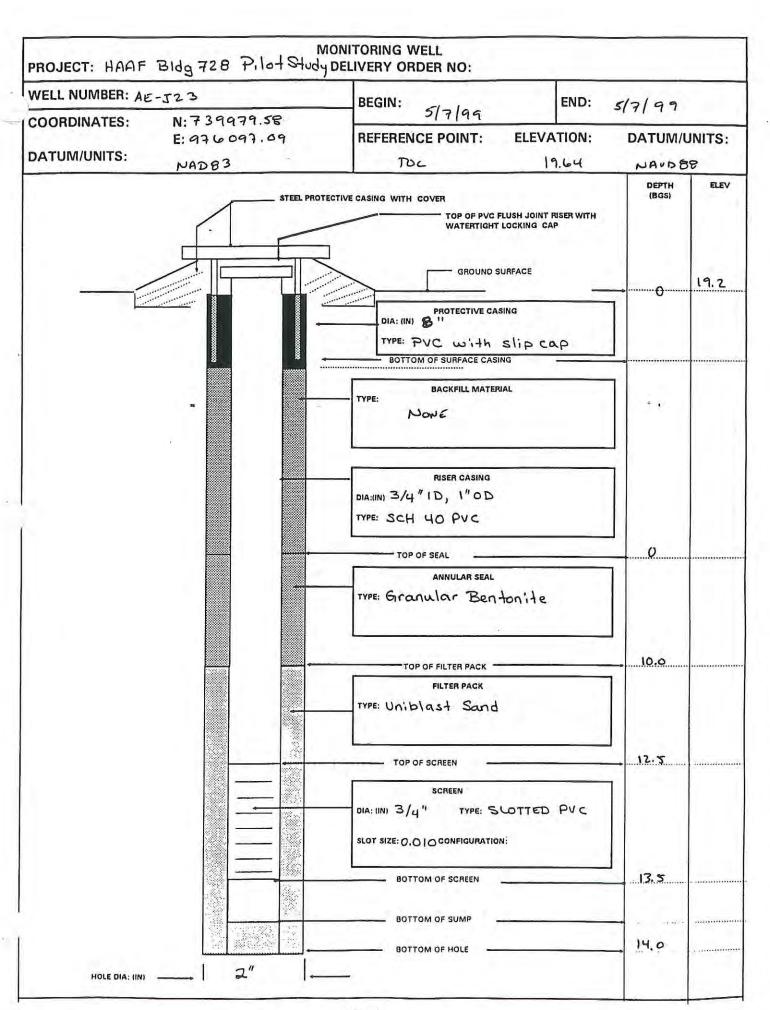


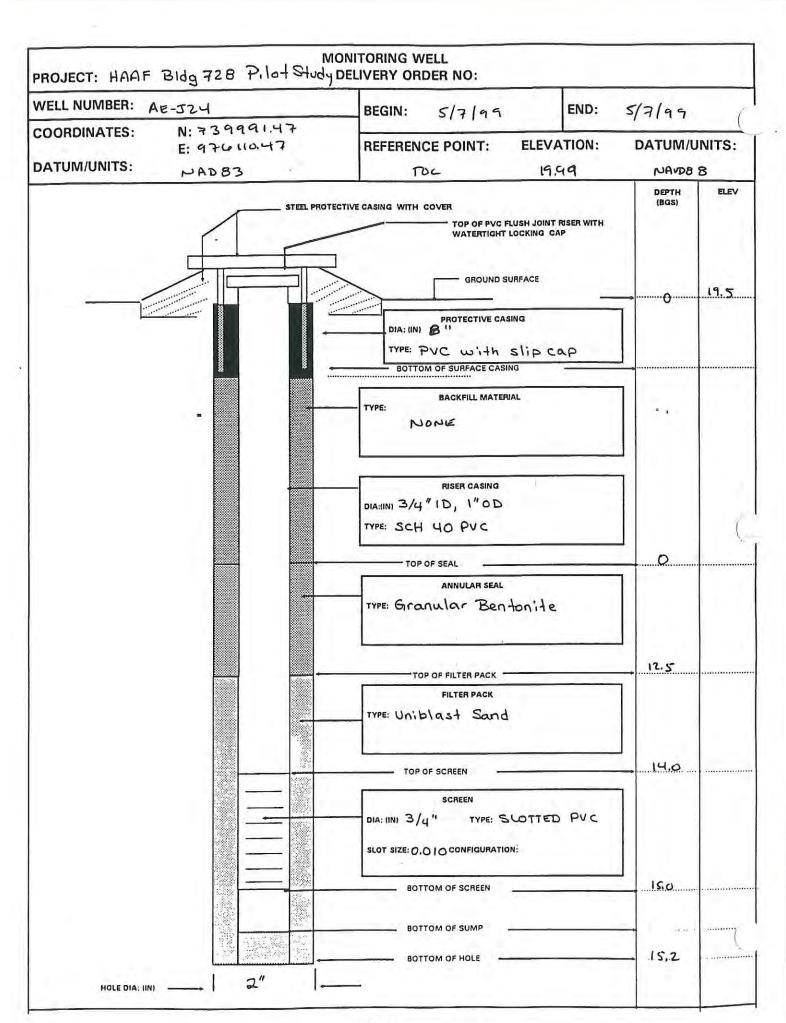


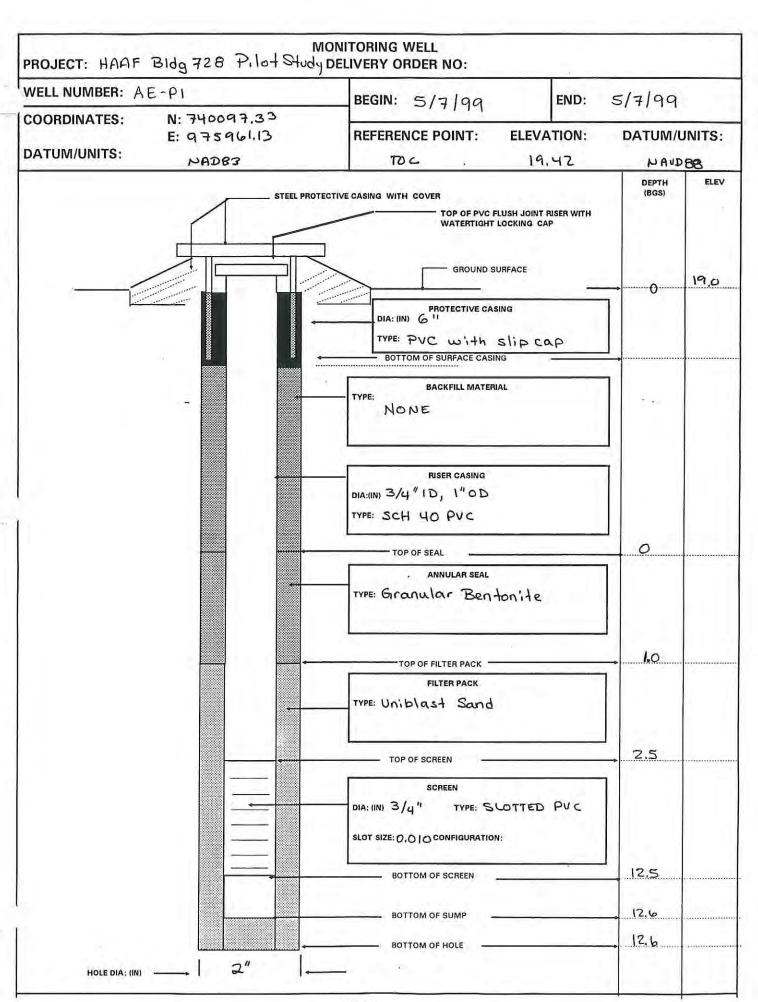


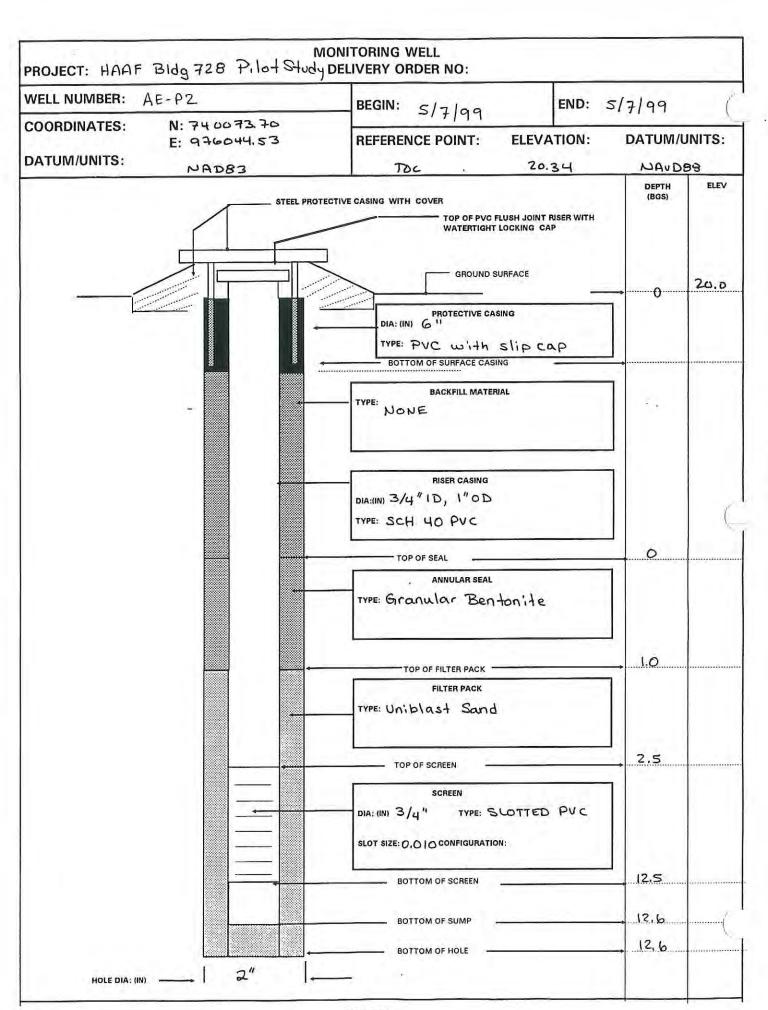


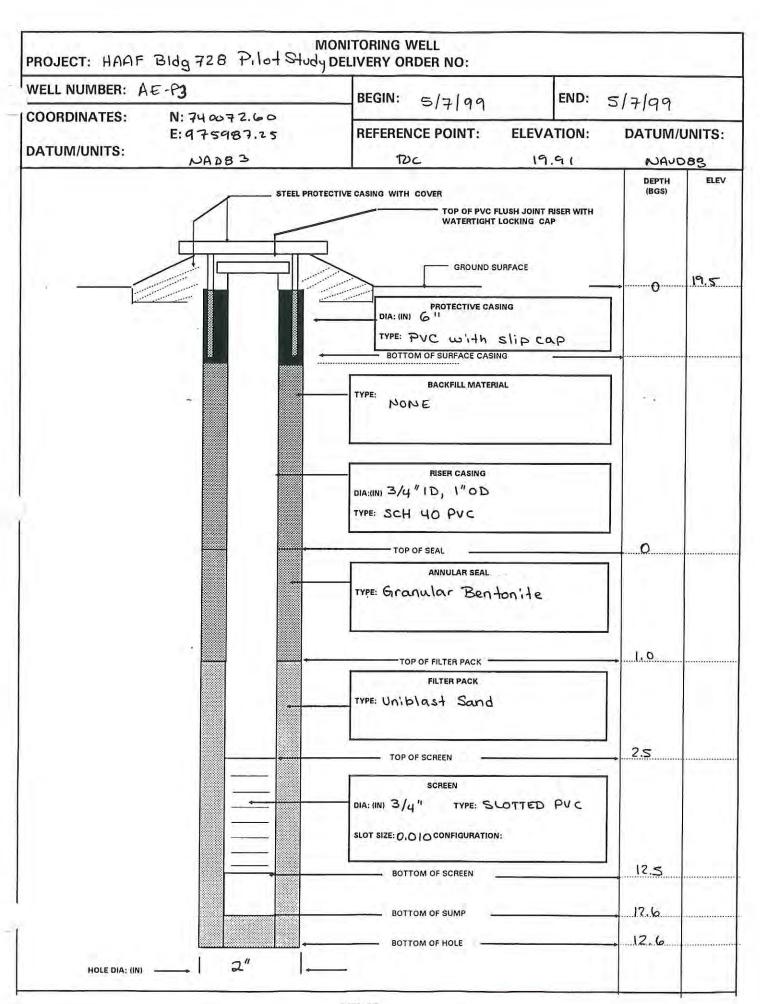


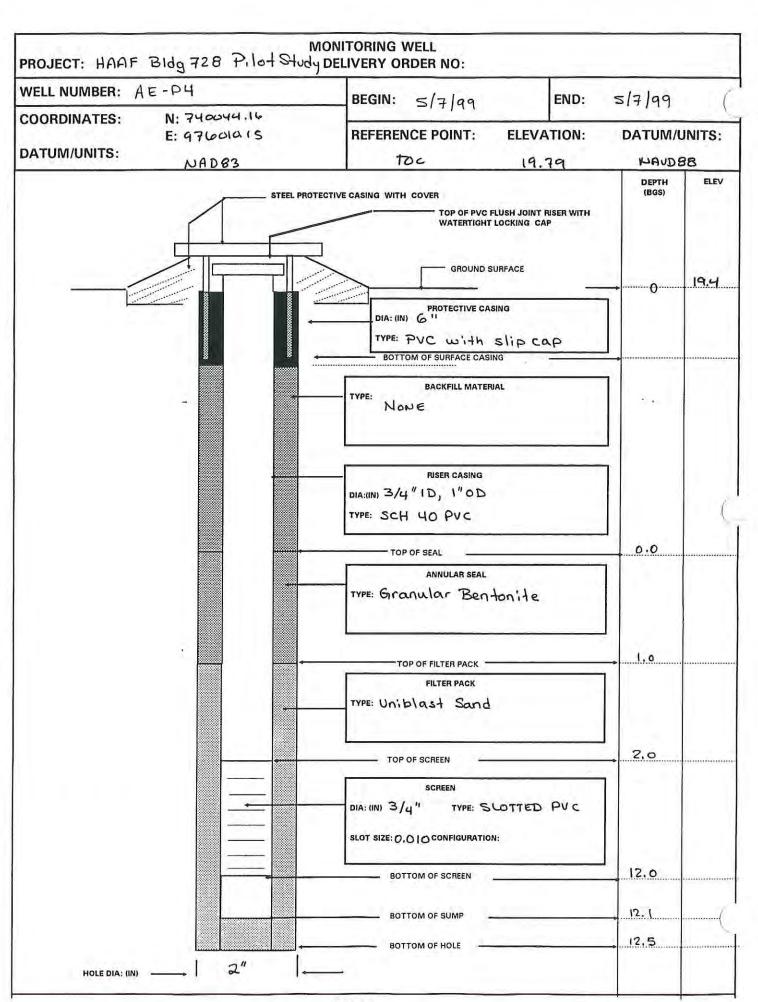


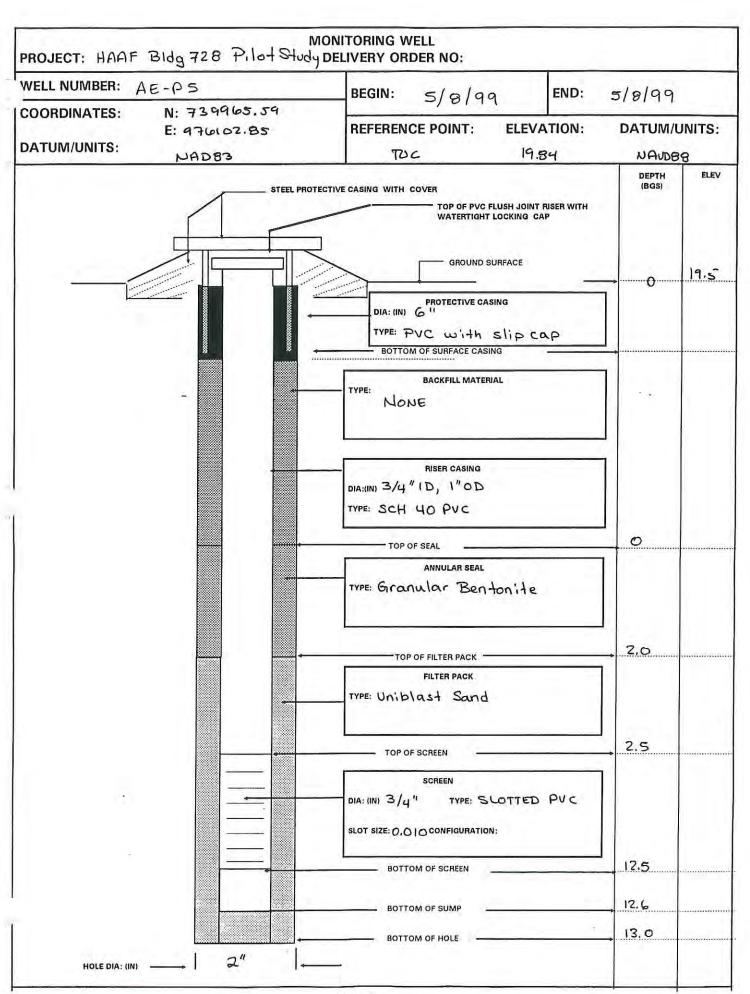


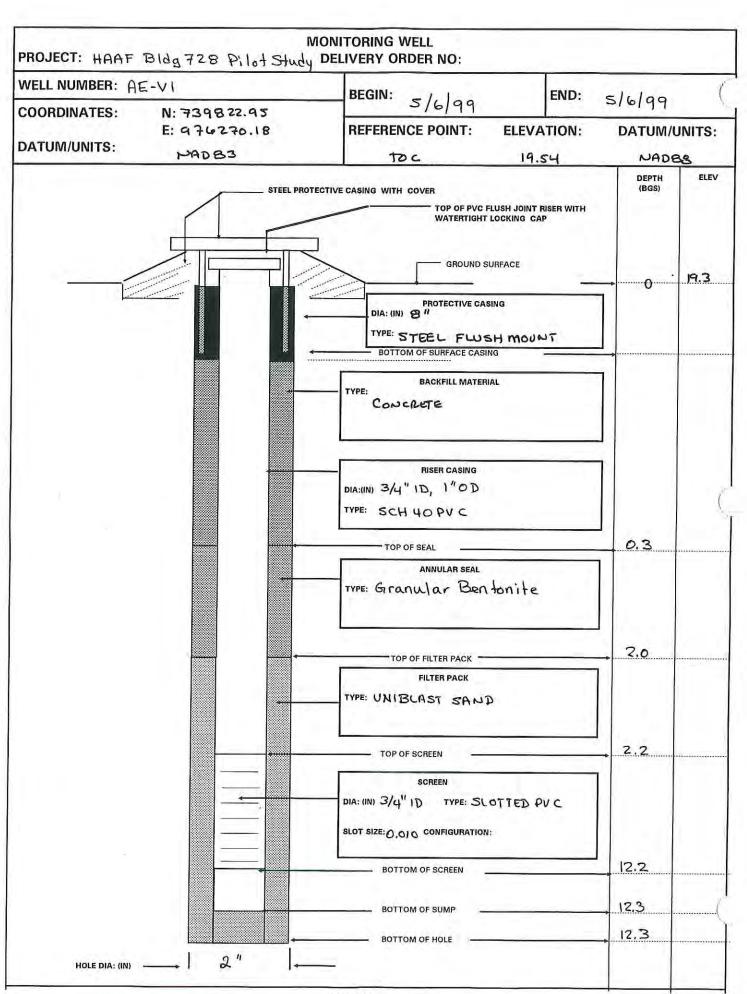


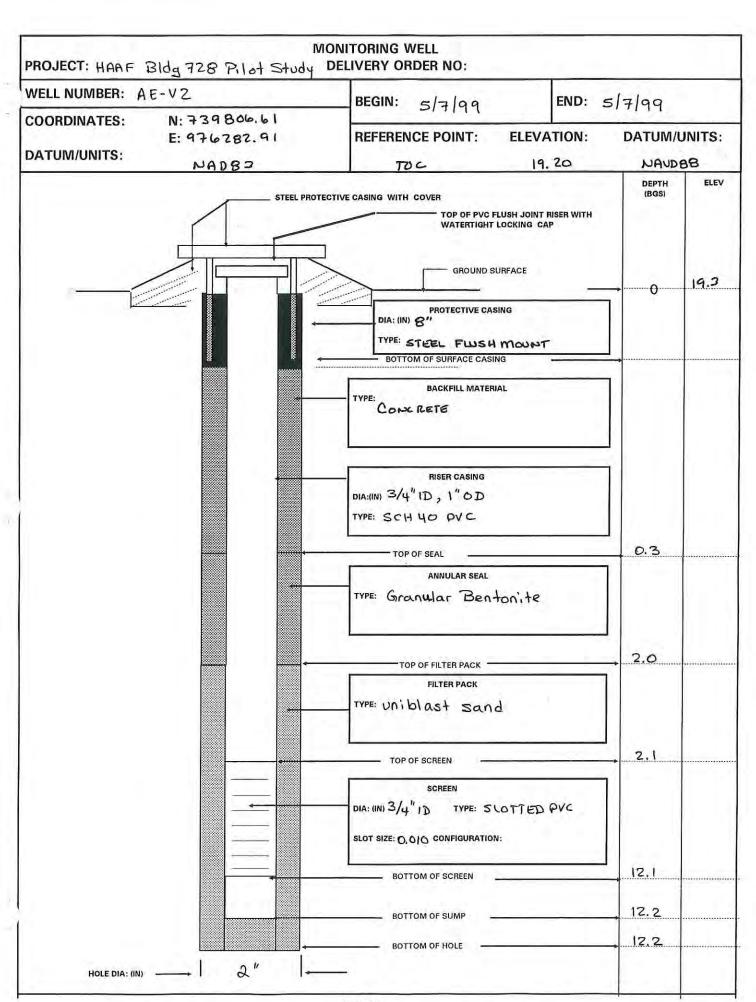


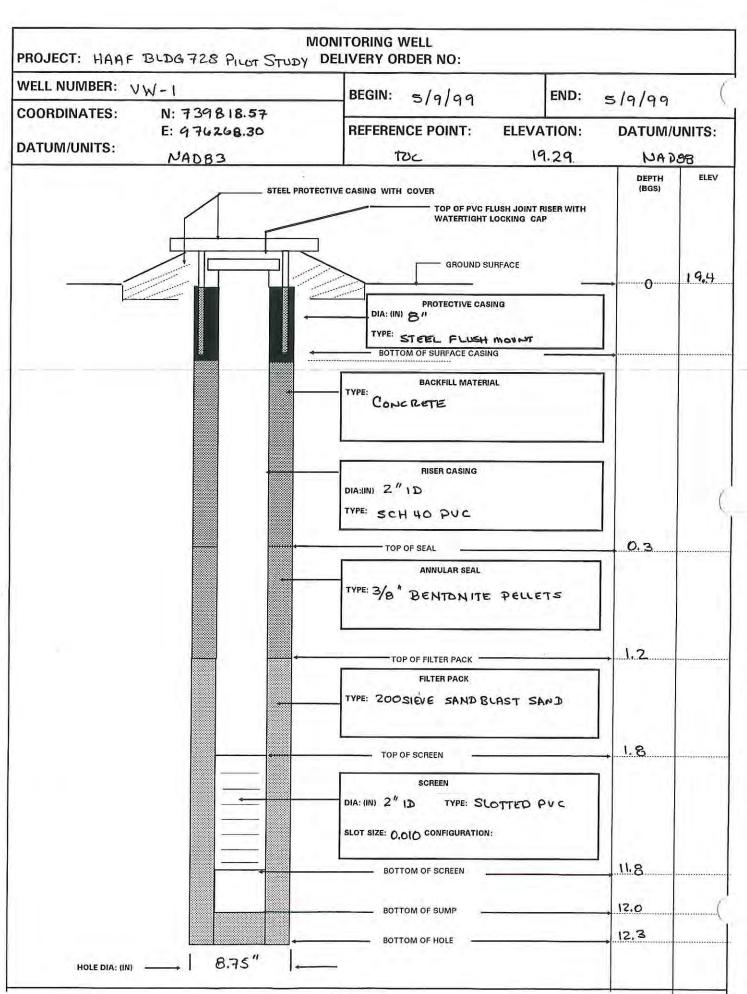


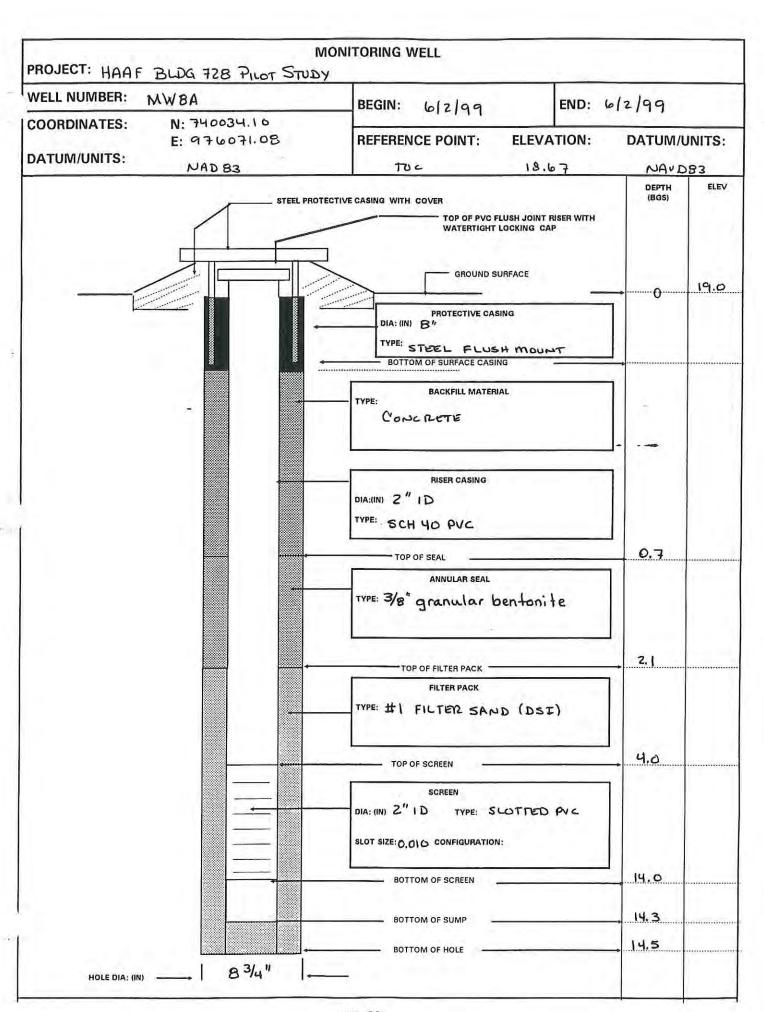


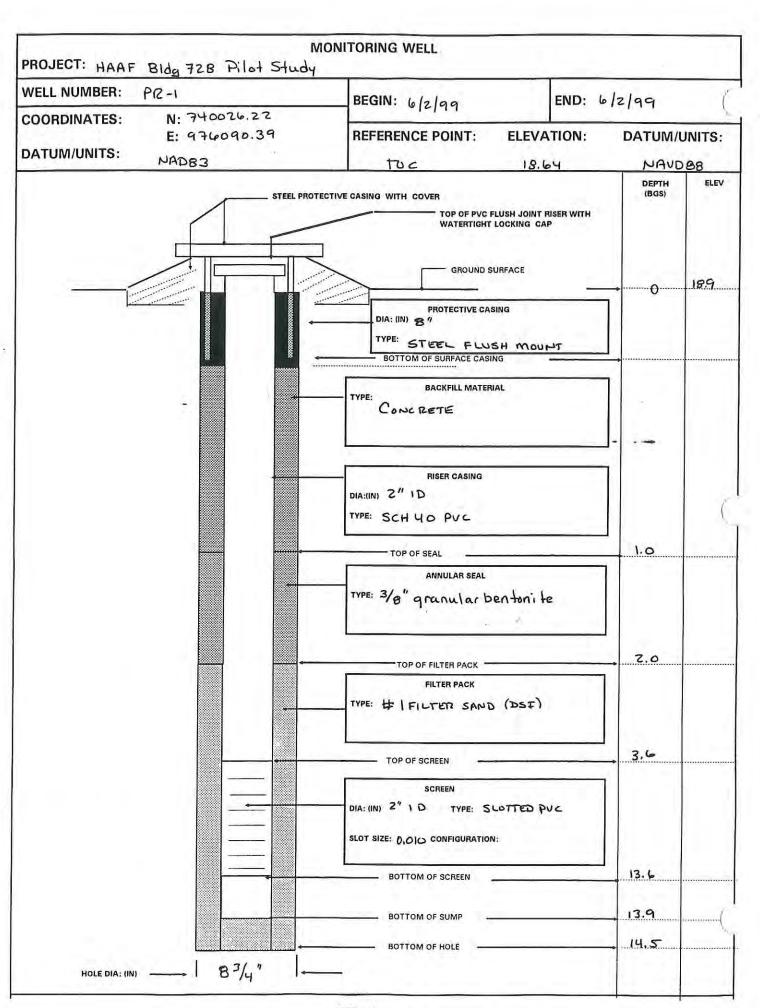


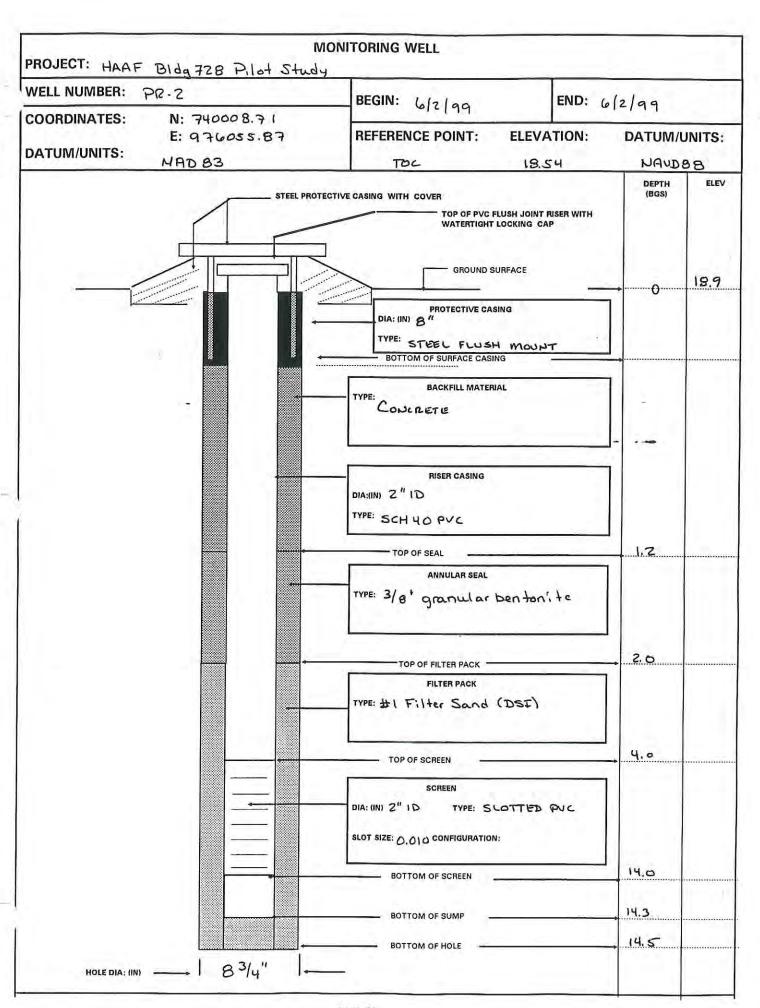


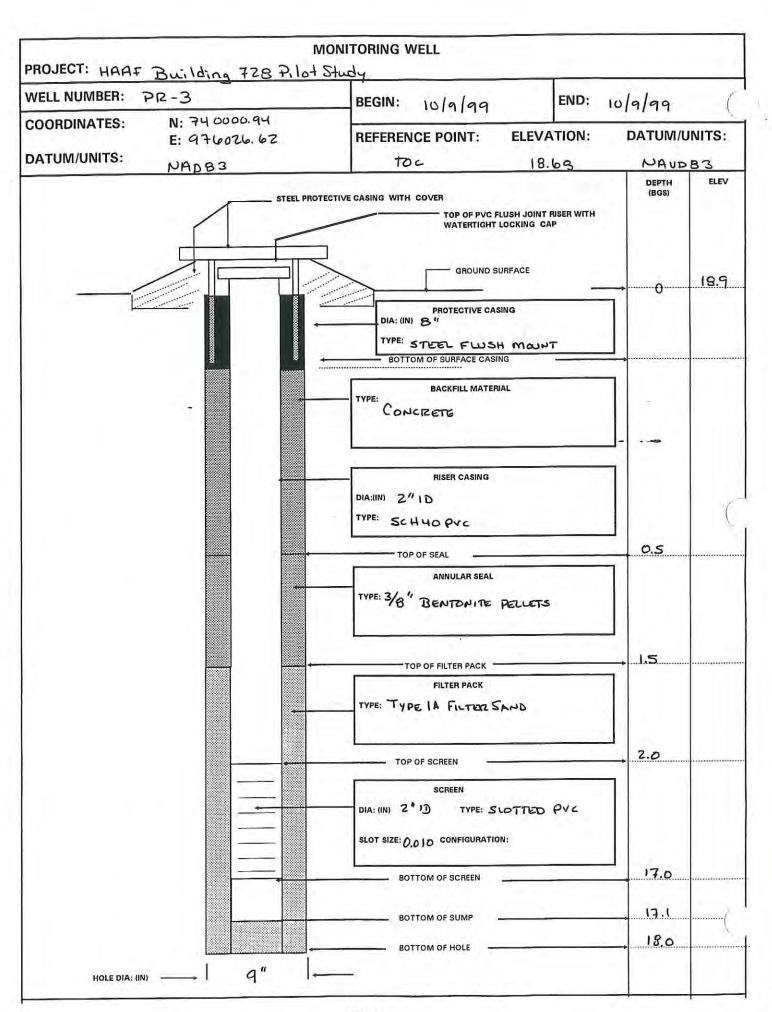


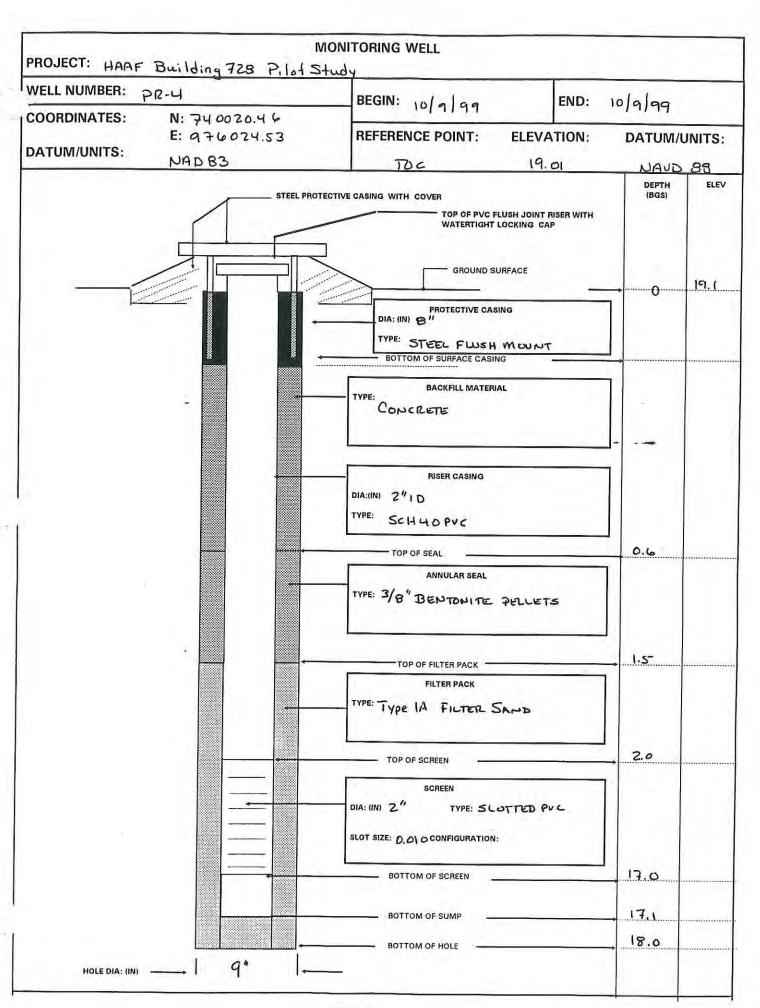


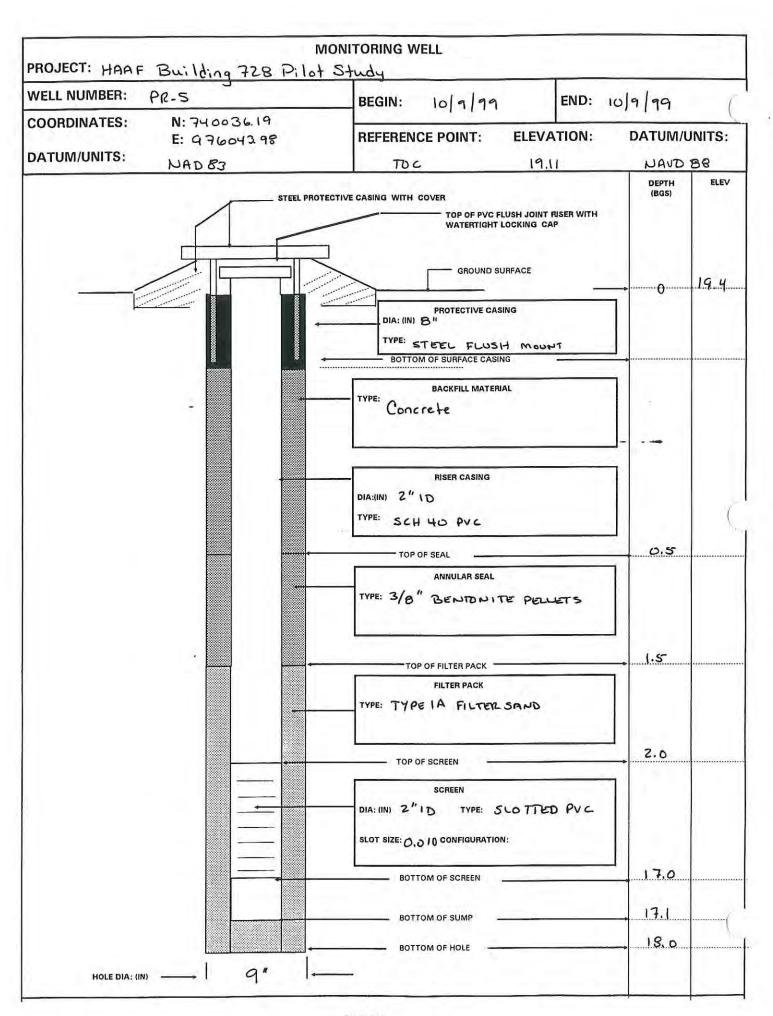












# APPENDIX VIII GROUNDWATER LABORATORY RESULTS

Hunter Army Airfield UST CAP-Part B Report Addendum #1 (August 2000) Former Building 728, Facility ID #9-025049

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## GROUNDWATER ANALYTICAL RESULTS BASELINE SAMPLING

**MAY 1999** 

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### VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

	AE0612
DG	No.: HPS010W
ID:	9905399-07
:	7K117

Matrix: (soil/water) WATER

Case No.: NA SAS No.: NA

Lab Sample

Sample wt/vol: 5.000 (g/ml) ML

Lab Code: NA

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab File ID

Level: (low/med) LOW

Date Received: 05/12/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 05/24/99

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_(uL)

Soil Aliquot Volume: \_\_\_\_(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

Q

71-43-2-----benzene 108-88-3-----toluene 100-41-4-----ethylbenzene 1330-20-7-----xylenes (total)

5 HOL 2.1 2.0 U 2.0 U 3.0 U

FORM I VOA

OLMO3.0

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals COG No.: HPS007W Client ID: AE0612 Sample ID: 9905340-08 SAS No .: Contract: SAIC00999 Lab Code: GEL Case No.: Level: LOW Date Received: 5/11/99 WATER Matrix: % Solids: 0.00 Analytical Instrument ID Run DL Concentration Units CAS No. Analyte 8.4 TJA61 Trace2 ICPAES 990526-1 79500 7439-89-6 Iron µg/L Texture: Color Before: Clarity Before: Artifacts: Clarity After: Color After: Comments:

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS007WF

Method Type: Total Metals

Sample ID: 9905340-09 Client ID: AE0612F Contract: SAIC00999 Lab Code: SAS No .: GEL Case No.: Matrix: WATER Date Received: 5/11/99 Level: LOW % Solids: 0.00 Analytical Analyte CAS No. Concentration DL Run Units Qual M Instrument ID 7439-89-6 Iron 77300 8.4 TJA61 Trace2 ICPAES 990526-1 µg/L Color Before: Clarity Before: Texture: Color After: Clarity After: Artifacts: Comments:

CATA VALIDATION CONTY

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 2

Sample ID	: AE0612
Lab ID	: 9905340-08
Matrix	: Water
Date Collected	: 05/10/99
Date Received	: 05/11/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst Date	Time	Batch	M
General Chemistr ALKALINITY CARBON DIOXI		157 == 286 ==	0.500 0.500	1.00	mg/l mg/l	1.0	ЈВК 05/14/99 ЉК 05/14/99	1530	14909 14895	1 2
SULFIDES SULFATE TOTAL DISSOL' NITRATE/NITRI	J VED SOLIDS	0.0230 U FOI, F 3.58 = 382 = 0.0200 DUFO	0.0380 5.04	0.100 0.200 10.0 0.0500	mg/l mg/l mg/l mg/l		RWS 05/12/99 TSM2 05/14/99	0027	14890	14 4
		mcG 7-6-99								

Method-Description
EPA 310.1
SM 18th ed. 4500-CO2
EPA 376.2
EPA 300.0
EPA 160.1
EPA 353.1

#### Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

\* indicates that a quality control analyte recovery is outside of specified acceptance criteria.



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Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 28, 1999

: Client

Page 1 of 1

Sample ID : AE0612 Lab ID : 9905336-07 Matrix : Water Date Collected : 05/10/99 Date Received : 05/11/99 Priority : Routine Collector

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst Date	Time	Batch M
General Chemistr Total Rec. Petro, 1		0.677	J	0.277	1.00	mg/l	1.0	AAT 05/26/99	9 1030	149963 1

M = Method	Method-Description	
M 1	EPA 418 1	

#### Notes:

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This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct

any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

<sup>\*</sup> indicates that a quality control analyte recovery is outside of specified acceptance criteria.

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AE1112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

LOW

Lab Code: NA

Case No.: NA

SAS No.: NA

SDG No.: HPS010W

Matrix: (soil/water) WATER

Lab Sample ID: 9905399-03

Sample wt/vol:

5.000 (g/ml) ML

Lab File ID: 7K120

Level: (low/med)

Date Received: 05/12/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 05/24/99

GC Column: DB-624

ID: 0.53 (mm)

Dilution Factor: 5.0

Soil Extract Volume: \_\_\_\_(uL)

Soil Aliquot Volume: \_\_\_\_ (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

Q

71-43-2-----benzene 256
108-88-3-----toluene 21.1
100-41-4-----ethylbenzene 32.1
1330-20-7-----xylenes (total) 197

FORM I VOA

OLM03.0

FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

A	E1	1	1	2	
-	-	_	-	•	

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA

SAS No.: NA

SDG No.: HPS010W

Matrix: (soil/water)

Lab Sample ID: 9905399-03

Sample wt/vol:

1.000 (g/mL) ML

Lab File ID: 038B3801

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_

Date Extracted:05/19/99

Concentrated Extract Volume:

1.00 (mL)

Date Analyzed: 05/19/99

Injection Volume: 1.0(uL)

Dilution Factor: 60.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

74-82-8-----Methane

4680 B

J DO8, FO8

FORM I VOA

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals COG No.: HPS007W Client ID: AE1112 Sample ID: 9905340-12 SAS No.: Contract: SAIC00999 Lab Code: GEL Case No.: Date Received: 5/11/99 Level: LOW WATER Matrix: 0.00 % Solids: Analytical DL Instrument ID Run Units Qual M CAS No. Analyte Concentration 8.4 TJA61 Trace2 ICPAES 7439-89-6 Iron  $\mu g/L$ 990526-1 2870 Texture: Color Before: Clarity Before: Artifacts: Clarity After: Color After: Comments:

22

:

Form 1: Inorganic Analyses Data Sheet SDG No.: HPS007WF Method Type: Total Metals Sample ID: 9905340-13 Client ID: AE1112F Contract: SAIC00999 Case No.: SAS No .: Lab Code: GEL WATER Matrix: Date Received: 5/11/99 Level: LOW % Solids: 0.00 Analytical CAS No. Analyte Concentration Units C Qual DL Instrument ID Run 7439-89-6 'Iron 2680 8.4 TJA61 Trace2 ICPAES µg/L 990526-1 Color Before: Clarity Before: Texture: Color After: Clarity After: Artifacts:

Comments:

1

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Contact:

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Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 2

Samp	le ID	: AE1112
Lab I	D	: 9905340-12
Matri	x	: Water
Date	Collected	: 05/10/99
Date	Received	: 05/11/99
Priori	ty	: Routine
Colle	ctor	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistr	¬v											
CARBON DIOXI	The state of the s	95.0	=	0.500	1.00	mg/l	1.0	JBK	05/14/99	1530	14895	1 1
SULFIDES	100,000	0.900	=	0.0450	0.500	mg/l	5.0	<b>JBK</b>	05/13/99	0630	14895	4 2
SULFATE		4.70	=	0.0380	0.200	mg/l	1.0	RWS	05/12/99	0121	14890	4 3
TOTAL DISSOL	VED SOLIDS	55.0	=	5.04	10.0	mg/l	1.0	TSM2	05/14/99	1010	14910	7 4
NITRATE/NITRI	TE :	0.0200		ol,F06 0.00860	0.0500	mg/l	1.0	THL	05/18/99	1613	14942	5 5

M = Method	Method-Description	
M I	SM 18th ed. 4500-CO2	
M 2	EPA 376.2	
M 3	EPA 300.0	
M 4	EPA 160.1	
M 5	EPA 353.1	

#### Notes:

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cc: SAIC00999

Report Date: May 28, 1999

Page 1 of 1

Sample ID : AE1112 Lab ID : 9905336-10 Matrix : Water Date Collected : 05/10/99 Date Received : 05/11/99 Priority : Routine Collector : Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Anal	yst Date	Time	Batch	M
General Chemistry Total Rec. Petro. H		0.354	5	0.277	1.00	mg/l	1.0	AAT	05/26/99	1030	149963	3 1

M = Method	Method-Description	
M 1	EPA 418.1	

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<sup>&</sup>quot; indicates that a quality control analyte recovery is outside of specified acceptance criteria.

#### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

COMPOUND

CAS NO.

DUPLICATE EPA SAMPLE NO.

Q

Lab Name: GENERAL EN	GINEERING LABOR Contract	AE1114	
Lab Code: NA	Case No.: NA SAS No.	.: NA SDG No.: HPS010W	
Matrix: (soil/water)	WATER	Lab Sample ID: 9905399-09	
Sample wt/vol:	5.000 (g/ml) ML	Lab File ID: 7K125	
Level: (low/med)	LOW	Date Received: 05/12/99	
% Moisture: not dec.	-	Date Analyzed: 05/24/99	
GC Column: DB-624	ID: 0.53 (mm)	Dilution Factor: 5.0	

GC Column: DB-624 ID: 0.53 (mm) Soil Extract Volume: \_\_\_\_(uL) Soil Aliquot Volume: \_\_\_\_(uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

71-43-2-----benzene 276 23.4 40.1 230

FORM I VOA

OLMO3.0

Form 1: Inorganic Analyses Data Sheet DUPLICATE Method Type: Total Metals SDG No.: HPS007W Client ID: AEIII84 KA 6111 Sample ID: 9905340-05 Lab Code: SAS No .: GEL Case No .: Contract: SAIC00999 Date Received: 5/11/99 Level: LOW Matrix: WATER % Solids: 0.00 Analytical DL Instrument ID Run CAS No. Concentration Units Analyte 7439-89-6 ·Iron 8.4 TJA61 Trace2 ICPAES 990526-1 µg/L Color Before: Texture: Clarity Before: Artifacts: Color After: Clarity After:

Comments:

18

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DUPLICATE

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 1

Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistry SULFIDES		6.96	5 0.180	2.00	mg/l	20.	лвк	05/13/99	0630	148954	. 1
SULFATE		4.53		0.200	mg/l		-	05/12/99		148904	2
NITRATE/NITRITE	1	0.0300	1 Fol, Fol 0.00860	0.0500	mg/l	1.0	THL	05/18/99	1613	149425	3

M = Method	Method-Description
MI	EPA 376.2
M 2	EPA 300.0
M 3	EPA 353.1

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Reviewed By

Coin Sein Tier



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Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Project Description:

Ms. Leslie Barbour

Remdial Design and Pilot Smdy, Former Bldg. 728

DUPLICATE

cc: SAIC00999

Report Date: May 28, 1999

Page 1 of 1

Parameter	Qualifier	Result	DL	RL	Units	DF Analyst Date	Time Batch M
General Chemistry Total Rec. Petro. Hy		0.283	0.277	1.00	mg/l	1.0 AAT 05/26/99	9 1030 149963 1

M = Method	Method-Description	
MI	EPA 418.1	

# Notes:

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Reviewed By

indicates that a quality control analyte recovery is outside of specified acceptance criteria.

#### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

7.7	2601	2	
A	500T	. 4	

1330

Lab Name: GENERAL ENGINEERING LABOR Contract: NA SDG No.: HPS010W SAS No.: NA Lab Code: NA Case No.: NA Lab Sample ID: 9905399-05 Matrix: (soil/water) WATER Lab File ID: 7K122 Sample wt/vol: 5.000 (g/ml) ML Date Received: 05/12/99 Level: (low/med) LOW Date Analyzed: 05/24/99 % Moisture: not dec. Dilution Factor: 20.0 GC Column: DB-624 ID: 0.53 (mm) Soil Aliquot Volume: (uL) Soil Extract Volume: (uL) CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L 0 CAS NO. COMPOUND 1610 71-43-2-----benzene 108-88-3-----toluene 122 100-41-4-----ethylbenzene 1330-20-7-----xylenes (total) 300

FORM I VOA

OLM03.0

FORM 1 SAIC SAMPLE NO. VOLATILE ORGANICS ANALYSIS DATA SHEET AE6012 Lab Name: GENERAL ENGINEERING LABOR Contract: NA Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS010W Matrix: (soil/water) Lab Sample ID: 9905399-05 Sample wt/vol: 1.000 (g/mL) ML Lab File ID: 015B1501 Level: (low/med) LOW Date Received: 05/08/99 % Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_\_ Date Extracted: 05/19/99 Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/21/99 Injection Volume: 1.0(uL) Dilution Factor: 200.0 GPC Cleanup: (Y/N) N pH: 7.0 CONCENTRATION UNITS: CAS NO.

COMPOUND

74-82-8-----Methane J DO8, FO8 19600 B

(ug/L or ug/Kg) UG/L

AOV I MACA

Form 1: Inorganic Analyses Data Sheet

"DG No.: IIPS007W

Method Type: Total Metals

Client ID: AE6012 Sample ID: 9905340-06 Contract: SAIC00999 Lab Code: GEL Case No.: SAS No .: Level: LOW Matrix: WATER Date Received: 5/11/99 % Solids: 0.00 Analytical CAS No. Instrument ID Analyte Concentration Units Qual M DL Run TJA61 Trace2 ICPAES 7439-89-6 Iron 23300 8.4 µg/L 990526-1 Texture: Color Before: Clarity Before: Artifacts: Color After: Clarity After: Comments:

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS007WF

Method Type: Total Metals

Sample ID: 9905340-07 Client ID: AE6012F

Contract: SAIC00999 Lab Code: GEL Case No.:

Matrix: WATER Date Received: 5/11/99 Level: LOW

% Solids: 0.00

Analytical Run DL Instrument ID Analyte Concentration Units Qual M CAS No. TJA61 Trace2 ICPAES 990526-1 8.4 µg/L 7439-89-6 Iron 23100

Color Before:

Clarity Before:

Texture:

SAS No .:

Color After:

Clarity After:

Artifacts:

Comments:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 2

 Sample ID
 : AE6012

 Lab ID
 : 9905340-06

 Matrix
 : Water

 Date Collected
 : 05/10/99

 Date Received
 : 05/11/99

 Priority
 : Routine

 Collector
 : Client

	Result		DL	RL	Units	DF	Analy	st Date	Time	Batch	M
	143	-	0.500	1.00	mg/l	1.0	JBK	05/14/99	1300	149096	1
FREE	222	=	0.500	1.00	mg/l	1.0	JBK	05/14/99	1530	148951	2
	0.257	=	0.00900	0.100	mg/l	1.0	JBK	05/13/99	0630	148954	3
U	0.00	u	0.0380	0.200	mg/l	1.0	RWS	05/12/99	0014	148904	. 4
SOLIDS	204	= ,	5.04	10.0	mg/l	1.0	TSM2	05/14/99	1010	149107	5
1	mcc		1,1060.00860	0.0500	mg/l	1.0	THL	05/18/99	1613	149425	6
	SOLIDS	FREE 222 0.257 U 0.00 SOLIDS 204 J 0.0300	0.257 = U 0.00 U SOLIDS 204 = ,	FREE 222 = 0.500 0.257 = 0.00900 U 0.00 U 0.0380 SOLIDS 204 = 5.04 J 0.0300 JU Fol, Fol 0.00860	TREE 222 = 0.500 1.00 0.257 = 0.00900 0.100 0.00 U 0.0380 0.200 SOLIDS 204 = 5.04 10.0 J 0.0300 JU Foly Fol 60.00860 0.0500	TREE 222 = 0.500 1.00 mg/l 0.257 = 0.00900 0.100 mg/l U 0.00 U 0.0380 0.200 mg/l SOLIDS 204 = 5.04 10.0 mg/l J 0.0300 JU fol, fol 0.00860 0.0500 mg/l	FREE 222 = 0.500 1.00 mg/l 1.0 0.257 = 0.00900 0.100 mg/l 1.0 U 0.00 U 0.0380 0.200 mg/l 1.0 SOLIDS 204 = 5.04 10.0 mg/l 1.0 J 0.0300 JU foly fold 0.00860 0.0500 mg/l 1.0	FREE 222 = 0.500 1.00 mg/l 1.0 JBK 0.257 = 0.00900 0.100 mg/l 1.0 JBK U 0.00 U 0.0380 0.200 mg/l 1.0 RWS SOLIDS 204 = 5.04 10.0 mg/l 1.0 TSM2 J 0.0300 JU fol, fo6 0.00860 0.0500 mg/l 1.0 THL	FREE 222 = 0.500 1.00 mg/l 1.0 JBK 05/14/99 0.257 = 0.00900 0.100 mg/l 1.0 JBK 05/13/99 U 0.00 U 0.0380 0.200 mg/l 1.0 RWS 05/12/99 SOLIDS 204 = 5.04 10.0 mg/l 1.0 TSM2 05/14/99 J 0.0300 JU Foly Folg 0.00860 0.0500 mg/l 1.0 THL 05/18/99	FREE 222 = 0.500 1.00 mg/l 1.0 JBK 05/14/99 1530 0.257 = 0.00900 0.100 mg/l 1.0 JBK 05/13/99 0630 U 0.00 U 0.0380 0.200 mg/l 1.0 RWS 05/12/99 0014 SOLIDS 204 = 5.04 10.0 mg/l 1.0 TSM2 05/14/99 1010 J 0.0300 JU fol/fol0.00860 0.0500 mg/l 1.0 THL 05/18/99 1613	FREE 222 = 0.500 1.00 mg/l 1.0 JBK 05/14/99 1530 148951 0.257 = 0.00900 0.100 mg/l 1.0 JBK 05/13/99 0630 148954 U 0.00 U 0.0380 0.200 mg/l 1.0 RWS 05/12/99 0014 148904 SOLIDS 204 = 5.04 10.0 mg/l 1.0 TSM2 05/14/99 1010 149107 J 0.0300 JU folyfol0.00860 0.0500 mg/l 1.0 THL 05/18/99 1613 149425

M = Method		Method-Description		
M 1	Transfer of the second	EPA 310.1		
M 2		SM 18th ed. 4500-CO2		
M 3		EPA 376.2		
M 4		EPA 300.0		
M 5		EPA 160.1		
M 6		EPA 353.1		
A STATE OF THE STA				

#### Mater

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit,

\* indicates that a quality control analyte recovery is outside of specified acceptance criteria.



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P.O. Box 2502

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Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 28, 1999

: AE6012

: Water

: 05/10/99

: 05/11/99

: Routine

: Client

: 9905336-12

Page 1 of 1

· 1111

Sample ID
Lab ID
Matrix
Date Collected
Date Received
Priority
Collector

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	st Date	Time	Batch	м
General Chemistry Total Rec. Petro, F	Contraction of the second	2.26	=	0.277	1.00	mg/l	1.0	AAT	05/26/99	1030	149963	3 1

M = Method	Method-Description	
M 1	EPA 418.1	

#### Notes:

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ND indicates that the analyte was not detected at a concentration greater than the detection limit.

I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct

any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

<sup>\*</sup> indicates that a quality control analyte recovery is outside of specified acceptance criteria.

#### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A	E6112	

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA

SAS No.: NA

SDG No.: HPS010W

Matrix: (soil/water) WATER

Lab Sample ID: 9905399-04

Sample wt/vol:

5.000 (g/ml) ML

Lab File ID: 7K121

Level: (low/med)

LOW

Date Received: 05/12/99

% Moisture: not dec.

Date Analyzed: 05/24/99

GC Column: DB-624

ID: 0.53 (mm)

Dilution Factor: 10.0

Soil Extract Volume: \_\_\_\_(uL)

Soil Aliquot Volume: \_\_\_\_ (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

71-43-2-----benzene 612 108-88-3-----toluene 15.0 100-41-4----ethylbenzene 121 1330-20-7-----xylenes (total) 465

FORM I VOA

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## FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS010W

Matrix: (soil/water)

Lab Sample ID: 9905399-04

Sample wt/vol:

1.000 (g/mL) ML

Lab File ID: 007B0701

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: \_\_\_\_ decanted: (Y/N)\_\_\_

Date Extracted:05/19/99

Concentrated Extract Volume:

1.00 (mL)

Date Analyzed: 05/21/99

Injection Volume: 1.0(uL)

Dilution Factor: 250.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

Q

CAS NO.

COMPOUND

J 008, FP8

74-82-8-----Methane

12900 B

FORM I VOA

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals SDG No.: HPS007W Client ID: AE6112 Sample ID: 9905340-01 Case No.: SAS No .: Lab Code: GEL Contract: SAIC00999 Level: LOW WATER Date Received: 5/11/99 Matrix: 0.00 % Solids: Analytical Run Instrument ID DL Concentration Units Qual CAS No. Analyte 8.4 TJA61 Trace2 ICPAES 990526-1 20500 7439-89-6 Iron µg/L Texture: Clarity Before: Color Before: Artifacts: Clarity After: Color After: Comments:

16

\*

Form 1: Inorganic Analyses Data Sheet SDG No.: HPS007WF Method Type: Total Metals Sample ID: 9905340-02 -Client ID: AE6112F Contract: SAIC00999 Lab Code: GEL Case No.: SAS No.: Matrix: WATER Date Received: 5/11/99 Level: LOW % Solids: 0.00 Analytical CAS No. Analyte Concentration Units Qual DL Instrument ID Run 7439-89-6 Iron 22000 8.4 TJA61 Trace2 ICPAES 990526-1 Color Before: Clarity Before: Texture: Color After: Clarity After: Artifacts:

Comments:

[]/-:

Science Applications International Corp.

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Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 2

Sample ID	: AE6112
Lab ID	: 9905340-01
Matrix	: Water
Date Collected	: 05/10/99
Date Received	: 05/11/99
Priority	: Routine
Collector	: Client

46.9 = 115 =	0.500 0.500	1.00	mg/l	1.0	*	05/14/99	1300	149096	1
	4.100			9070	*	05/14/99	1300	149096	1
115=	0.500	1.00							
		*.44	mg/l	1.0	JBK	05/14/99	1530	148951	2
0.592	0.00900	0.100	mg/l	1.0	JBK	05/13/99	0630	148954	3
1.13 =	0.0380	0.200	mg/l	1.0	RWS	05/11/99	2307	148904	4
122 =	5.04	10.0	mg/l	1.0	TSM2	05/14/99	1010	149107	5
	0.00860	0.0500	mg/l	1.0	THL	05/18/99	1613	149425	6
	122 = 0.0200 \$u Fol, Ful	122 = 5.04 0.0200 Du Folfu6 0.00860	122 = 5.04 10.0 0.0200 5 u Fal, Ful 0.00860 0.0500	122 = 5.04 10.0 mg/l 0.0200 5 u 50/506 0.00860 0.0500 mg/l	122 = 5.04 10.0 mg/l 1.0 0.0200 5 u folf-06 0.00860 0.0500 mg/l 1.0	122 = 5.04 10.0 mg/l 1.0 TSM2 0.0200 \$\int \text{Fol} \text{Fol} \text{Fol} \text{6 0.00860} 0.0500 mg/l 1.0 THL	122 = 5.04 10.0 mg/l 1.0 TSM2 05/14/99 0.0200 \$\int \text{Fol} \text{Fol} \text{Fol} \text{60.00860} 0.0500 mg/l 1.0 THL 05/18/99	122 = 5.04 10.0 mg/l 1.0 TSM2 05/14/99 1010	122 = 5.04 10.0 mg/l 1.0 TSM2 05/14/99 1010 149107 0.0200 \$\int \text{Fol}f06 0.00860 0.0500 mg/l 1.0 THL 05/18/99 1613 149425

M = Method	Method-Description	
М1	EPA 310.1	
M 2	SM 18th ed. 4500-CO2	
M 3	EPA 376.2	1
M 4	EPA 300.0	
M 5	EPA 160.1	
M 6	EPA 353.1	

#### Notes:

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I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

\* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

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P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 28, 1999

Page 1 of 1

Sample ID	: AE6112
Lab ID	: 9905336-02
Matrix	: Water
Date Collected	: 05/10/99
Date Received	: 05/11/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analys	st Date	Time	Batch	M
General Chemistry Total Rec. Petro. H		0.886 J AØ5	0.277	1.00	mg/l	1.0	AAT	05/26/99	1030	149963	1

M = Method	Method-Description	
M1	EPA 418.1	

#### Notes:

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This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

BUNDUM BUNDUM PRODUCE

a indicates that a quality control analyte recovery is outside of specified acceptance criteria.

VOLATILE ORGANICS ANALYSIS DATA SHEET

AE6312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA SAS No.: NA SDG No.: HPS010W Lab Code: NA Case No.: NA Lab Sample ID: 9905399-10 Matrix: (soil/water) WATER Lab File ID: 7K126 Sample wt/vol: 5.000 (g/ml) ML Date Received: 05/12/99 Level: (low/med) LOW Date Analyzed: 05/24/99 % Moisture: not dec. GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 20.0 Soil Aliquot Volume: Soil Extract Volume: (uL) (uL) CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/L 0

FORM I VOA

OLM03.0

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## FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO

AE6312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA SAS No.: NA SDG No.: HPS010W

Matrix: (soil/water)

Lab Sample ID: 9905399-10

Sample wt/vol:

1.000 (g/mL) ML

Lab File ID: 052B5201

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_

Date Extracted:05/19/99

Concentrated Extract Volume: 1.00(mL)

Date Analyzed: 05/19/99

Injection Volume: 1.0(uL)

Dilution Factor: 200.0

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/L

74-82-8-----Methane

19500 B

J DOS, FD8

FORM I VOA

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS007W

Method Type: Total Metals

Sample ID: 9905340-03	3			C	lient ID: Al	E6312		
Contract: SAIC00999  Matrix: WATER	Lab Co	ode: eceived:	GEL 5/11/99		ase No.: evel: LOW	SAS	No.:	
% Solids: 0.00							Analytical	_
AS No. Analyte	Concentration	Units	C Qu	al M	DL	Instrument ID	Run	
139-89-6 Iron	11200	µg/L	=	P	8.4	TJA61 Trace2 ICPAES	990526-1	
Color Before:		Clari	ty Before:			Texture:		
Color After:		Clari	ty After:			Artifacts:		

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals SDG No.: HPS007WF Client ID: AE6312F Sample ID: 9905340-04 SAS No .: Contract: SAIC00999 Lab Code: GEL Case No .: Level: LOW WATER Date Received: 5/11/99 Matrix: % Solids: 0.00 Analytical CAS No. Analyte Concentration Qual DL Instrument ID Run Units TJA61 Trace2 ICPAES 8.4 990526-1 7439-89-6 Iron 10800 µg/L Texture: Color Before: Clarity Before: Color After: Clarity After: Artifacts: Comments:

Science Applications International Corp.

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Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 2

: AE6312		
: 9905340-03		
: Water		
: 05/10/99		
: 05/11/99		
: Routine		
; Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry	,										=:15
ALKALINTTY		65.3	0.500	1.00	mg/l	1.0	JBK 0	5/14/99	1300	149096	1
CARBON DIOXII	DE, FREE	189 =	0.500	1.00	mg/l	1.0	JBK 0	5/14/99	1530	148951	2
SULFIDES	1	0.305	0.0450	0.500	mg/l	5.0	JBK 0	5/13/99	0630	148954	. 3
SULFATE		0.837 =	0.0380	0.200	mg/l	1.0	RWS 0	5/11/99	2347	148904	4
TOTAL DISSOLV	ED SOLIDS	117 =	5.04	10.0	mg/I	1.0	TSM20	5/14/99	1010	149107	5
NTTRATE/NTTRIT	TE )	0.0300 Du	Ful, FO 6 0.00860	0.0500	mg/I	1.0	THL 0	5/18/99	1613	149425	6
		A C 699									

M = Method	Method-Description	
M 1	EPA 310.1	
M 2	SM 18th ed. 4500-CO2	
M 3	EPA 376.2	
M 4	· EPA 300.0	
M 5	EPA 160.1	
M 6	EPA 353.1	
A COLUMN TO THE		

## Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

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" indicates that a quality control analyte recovery is outside of specified acceptance criteria.

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Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Turnpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 28, 1999

Page 1 of 1

Sample ID	: AE6312
Lab ID	: 9905336-11
Matrix	: Water
Date Collected	: 05/10/99
Date Received	: 05/11/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst Date	Time	Batch M
General Chemistry Total Rec. Petro. H		2.12	2	0.277	1.00	mg/l	1.0	AAT 05/26/99	1030	149963 1

M = Method	Method-Description	
M 1	EPA 418.1	

## Notes:

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I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

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indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

INTERNATION REPORTS IN THE REPORT OF THE THE REPORT OF THE

1A VOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO.

Lab Name: GENERAL EN	GINEERING LABOR	Contract: NA	AE6412
	Case No.: NA		: HPS010W
Matrix: (soil/water)	WATER	Lab Sample ID: 99	05399-01
Sample wt/vol:	5.000 (g/ml) ML	Lab File ID: 7	(119
Level: (low/med)	LOW	Date Received: 05	12/99
% Moisture: not dec.		Date Analyzed: 05	/24/99
GC Column: DB-624	ID: 0.53 (mm)	Dilution Factor:	5.0
Soil Extract Volume:	(uL)	Soil Aliquot Volu	me:(uL
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q

71-43-2-----benzene\_ 107 108-88-3------toluene 100-41-4-----ethylbenzene 1330-20-7-----xylenes (total) 170 73.3 706

FORM I VOA

OLM03.0

# FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

	37.30	
A	6412	

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA

SAS No.: NA

SDG No.: HPS010W

Matrix: (soil/water)

Lab Sample ID: 9905399-01

Sample wt/vol: 1.000 (g/mL) ML

Lab File ID:

037B3701

Level: (low/med) LOW

Date Received: 05/08/99

4250 B

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_

Date Extracted:05/19/99

Concentrated Extract Volume:

1.00 (mL)

Date Analyzed: 05/19/99

Injection Volume:

1.0(uL)

Dilution Factor: 60.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

Q

74-82-8------Methane

J 008 FOE

FORM I VOA

Form 1: Inorganic Analyses Data Sheet SDG No.: HPS010W Method Type: Total Metals Sample ID: 9905399-01 Client ID: AE6412 Contract: \$AIC00999 Lab Code: GEL SAS No.: Case No.: WATER Matrix: Date Received: 5/12/99 Level: LOW % Solids: 0.00 Analytical CAS No. Analyte Instrument ID Concentration Units Qual M DL Run 7439-89-6 8.4 TJA61 Trace2 ICPAES 2340 µg∕L 990526-1 Color Before: Clarity Before: Texture: Color After: Clarity After: Artifacts: Comments:

> DATA VALLE TICH COPY

VIII-41 131

Form 1: Inorganic Analyses Data Sheet SDG No.: HPS010W Method Type: Total Metals Sample ID: 9905399-02 Client ID: AE6412F Contract: SAIC00999 SAS No.: Lab Code: GEL Case No.: WATER Matrix: Date Received: 5/12/99 Level: LOW % Solids: 0.00 Analytical CAS No. Analyte Concentration Run Units Instrument ID 7439-89-6 Iron 2190 8.4 TJA61 Trace2 ICPAES 990526-1 µg/L Color Before: Clarity Before: Texture: Color After: Clarity After: Artifacts: Comments:

Pira.

Science Applications International Corp.

P.O. Box 2502

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Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: June 03, 1999

Page 1 of 2

: AE6412
: 9905399-01
: Water
: 05/10/99
: 05/12/99
: Routine
: Client

Parameter Qualif	ier	Result	DL	RL	Units	DF	Analyst Date	Time	Batch M
General Chemistry  ALKALINITY  CARBON DIOXIDE, FREE  SULFIDES  SULFATE  TOTAL DISSOLVED SOLIDS  NITRATE/NITRITE	3	61.2 = 256 = 2.06 = 2.63 = 78.0 = 0.0200 <i>U</i> Foli, F	0.500 0.500 0.0900 0.0380 5.04	1.00 1.00 1.00 0.200 10.0 0.0500	mg/l mg/l mg/l mg/l	1.0 10. 1.0	JBK 05/14/5 JBK 05/14/5 JBK 05/14/5 RWS 05/21/5 TSM2 05/14/5 THL 05/18/6	9 1600 9 1600 9 0310 9 1016	149346 2 149311 3 149576 4 149108 5

M = Method	Method-Description	
M I M 2	EPA 310.1 SM 18th ed. 4500-CO2	
M 3 M 4	EPA 376.2 EPA 300.0	i
M 5 M 6	EPA 160.1 EPA 353.1	Ü., j

## Notes:

The qualifiers in this report are defined as follows:

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U indicates that the analyte was not detected at a concentration greater than the detection limit.

indicates that a quality control analyte recovery is outside of specified acceptance criteria.



\*9905399-01\*

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Turnpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 28, 1999

Page 1 of 1

 Sample ID
 : AE6412

 Lab ID
 : 9905336-01

 Matrix
 : Water

 Date Collected
 : 05/10/99

 Date Received
 : 05/11/99

 Priority
 : Routine

 Collector
 : Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	st Date	Time	Batch M
General Chemistry Total Rec. Petro, Hy		0.461	T	0.277	1.00	mg/l	1.0	AAT	05/26/99	1030	149963 1

M = Method	Method-Description	<del></del>
MI	FPA 418 1	

## Notes:

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indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

EPA SAMPLE NO. 1A VOLATILE ORGANICS ANALYSIS DATA SHEET AED112 Lab Name: GENERAL ENGINEERING LABOR Contract: NA Lab Code: NA SAS No.: NA Case No.: NA SDG No.: HPS010W Matrix: (soil/water) WATER Lab Sample ID: 9905399-11 Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 7K127 Level: (low/med) LOW Date Received: 05/12/99 \* Moisture: not dec. Date Analyzed: 05/24/99 GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 20.0 Soil Extract Volume: \_\_\_\_(uL) Soil Aliquot Volume: \_\_\_\_ (uL) CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q 71-43-2-----benzene 1460

108-88-3-----toluene

100-41-4----ethylbenzene 1330-20-7-----xylenes (total)

FORM I VOA

OLM03.0

111

284 725

## FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

AED112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA SAS No.: NA SDG No.: HPS010W

Matrix: (soil/water)

Lab Sample ID: 9905399-11

Sample wt/vol:

1.000 (g/mL) ML

Lab File ID: 053B5301

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: \_\_\_\_ decanted: (Y/N)

Date Extracted:05/19/99

Concentrated Extract Volume: 1.00(mL)

Date Analyzed: 05/19/99

Injection Volume: 1.0(uL)

Dilution Factor: 400.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO. COMPOUND

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

74-82-8-----Methane

29800 B

J DO8, FO8

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals G No.: HPS007W Client ID: AED112 Sample ID: 9905340-14 SAS No .: Lab Code: GEL Case No .: Contract: SAIC00999 Level: LOW Date Received: 5/11/99 WATER Matrix: 0.00 % Solids: Analytical Instrument ID Run Concentration Units Qual CAS No. Analyte TJA61 Trace2 ICPAES 990526-1 8.4 51800 7439-89-6 Iron µg/L Texture: Clarity Before: Color Before: Artifacts: Clarity After: Color After: Comments:

VIII-47

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS007WF

Method Type: Total Metals

Sample ID: 9905340-15

Client ID: AED112F

Contract: SAIC00999

Lab Code: GEL Case No.: SAS No.:

Matrix: WATER Date Received: 5/11/99 Level: LOW

% Solids: 0.00

CAS No. Analyte Concentration Units C Qual M DL Instrument ID Run

7439-89-6 Iron 49400 µg/L P 8.4 TJA61 Trace2 ICPAES 990526-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Science Applications International Corp.

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Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 2

Cample III	: AED112
Sample ID Lab ID	: 9905340-14
Matrix	: Water
Date Collected	: 05/10/99
Date Received	: 05/11/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst Date	Time	Batch M
General Chemistry		7 da sa	200				*D*/ 05/14/00	1200	149096 I
ALKALINITY		169 =	0.500	1.00	mg/l	1.0	JBK 05/14/99		
CARBON DIOXID	F FREE	195 =	0.500	1.00	mg/l	1.0	JBK 05/14/99	1530	148951 2
SULFIDES	Lirius	0.0330 5	0.00900	0.100	mg/l	1.0	JBK 05/13/99	0630	148954 3
SULFATE	1	0.132 U FOI, FOG	0.0380	0.200	mg/l	1.0	RWS 05/12/99	0134	148904 4
TOTAL DISSOLVI	en sor ins	280 =	5.04	10.0	mg/l	1.0	TSM2 05/14/99	1010	149107 5
NITRATE/NITRIT		0.0200 TU Fol, FO 6		0.0500	mg/l	1.0	THL 05/18/99	1613	149425 6
		76-99							

M = Method	Method-Description	
MI	EPA 310.1	
M 2	SM 18th ed. 4500-CO2	
M 3	EPA 376.2	
M 4	EPA 300.0	
M 5	EPA 160.1	
M 6	EPA 353.1	
IVI O		

#### Notes:

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I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

\* indicates that a quality control analyte recovery is outside of specified acceptance criteria.



Science Applications International Corp.

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800 Oak Ridge Turnpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 28, 1999

: AED112

Page 1 of 1

Sample ID
Lab ID
Matrix
Date Collected

: 9905336-03 : Water

Date Collected Date Received Priority : 05/10/99 : 05/11/99 : Routine

Collector

: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst Date	Time	Batch M
General Chemistr Total Rec. Petro. I		1.43	-	0.277	1.00	mg/l	1.0	AAT 05/26/99	1030	149963 1

M = Method	Method-Description	
M 1	EPA 418.1	

## Notes:

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any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

I BERTATA AN HIR IKI ILIT KA KA KITA ILIY IK DI.

<sup>\*</sup> indicates that a quality control analyte recovery is outside of specified acceptance criteria.

# 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

100111101	outlier remains	o biliti bibbi	1		
Lab Name: GENERAL EN	GINEERING LABOR	Contract: NA	A	ED312	
		SAS No.: NA SDO	No.: 1	HPS010V	1
Matrix: (soil/water)	WATER	Lab Sample II	9905	399-13	
Sample wt/vol:	5.000 (g/ml) ML	Lab File ID:	7K12	9	
Level: (low/med)	LOW	Date Received	: 05/1	2/99	
% Moisture: not dec.		Date Analyzed	: 05/2	4/99	
GC Column: DB-624 ID: 0.53 (mm)		Dilution Factor: 25.0			
Soil Extract Volume:	(uL)	Soil Aliquot	Volume	:	(uL)
CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/		Q	
71-43-2 108-88-3 100-41-4	benzene toluene ethylbenzene		2580 853 521	E	D MO7

FORM I VOA

OLM03.0

# FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

AED312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA

SAS No.: NA

SDG No.: HPS010W

Matrix: (soil/water)

Lab Sample ID: 9905399-13

Sample wt/vol:

1.000 (g/mL) ML

Lab File ID: 059B5901

Level: (low/med) LOW

% Moisture: \_\_\_\_ decanted: (Y/N)\_\_\_

Date Received: 05/08/99

Concentrated Extract Volume: 1.00(mL)

Date Extracted: 05/19/99

Injection Volume: 1.0(uL)

Date Analyzed: 05/19/99

Dilution Factor: 500.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

Q

74-82-8-----Methane

26900 B

J DO8, FOE

FORM I VOA

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS007W

Method Type: Total Metals

Client ID: AED312 Sample ID: 9905340-20 SAS No .: Case No .: Lab Code: GEL Contract: SAJC00999 Date Received: 5/11/99 Level: LOW WATER Matrix: % Solids: 0.00 Analytical Run Qual DL Instrument ID Concentration Units Analyte CAS No. TJA61 Trace2 ICPAES 8.4 990526-1 7439-89-6 Iron 74300 Texture: Clarity Before: Color Before: Artifacts: Clarity After: Color After: Comments:

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS007WF

Method Type: Total Metals

Sample ID: 9905340-21

Client ID: AED312F

Contract: SAJC00999

Lab Code:

GEL

Case No.:

SAS No .:

Matrix: WATER

TER Date Rece

Date Received: 5/11/99

Level: LOW

% Solids: 0.00

CAS No. Analyte Concentration Units C Qual M DL Instrument ID Run

7439-89-6 Iron 45200 µg/L — P 8.4 TJA61 Trace2 ICPAES 990516-1

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

Science Applications International Corp.

P.O. Box 2502

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Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 2

 Sample ID
 : AED312

 Lab ID
 : 9905340-20

 Matrix
 : Water

 Date Collected
 : 05/10/99

 Date Received
 : 05/11/99

 Priority
 : Routine

 Collector
 : Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst Date	Time	Batch M
General Chemistry	y				2.4			*D** 05/14/00	1200	149096 1
ALKALINTTY		51.0		0.500	1.00	mg/l	1.0	JBK 05/14/99		
CARBON DIOXI	DE. FREE	151	=	0.500	1.00	mg/I	1.0	JBK 05/14/99	1530	148951 2
SULFIDES	J	0.0260	UFOI, F	0.00900	0.100	mg/l	1.0	JBK 05/13/99	0630	148954 3
SULFATE	U	0.00		0.0380	0.200	mg/l	1.0	RWS 05/12/99	0214	148904 4
TOTAL DISSOLY	ZED SOLIDS	192	=	5.04	10.0	mg/l	1.0	TSM2 05/14/99	1010	149107 5
NITRATE/NITRI		0.0500	LU FOI,	F07 0.00860	0.0500	mg/l	1.0	THL 05/18/99	1613	149425 6

M = Method	Method-Description	
M 1	EPA 310.1	
M 2	SM 18th ed. 4500-CO2	
M 3	EPA 376.2	
M 4	EPA 300.0	
M 5	EPA 160.1	
M 6	EPA 353.1	

#### Notes:

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Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 28, 1999

Page 1 of 1

 Sample ID
 : AED312

 Lab ID
 : 9905336-06

 Matrix
 : Water

 Date Collected
 : 05/10/99

 Date Received
 : 05/11/99

 Priority
 : Routine

 Collector
 : Client

Parameter Qualifier		Result		DL	RL	Units	DF Analyst Date			Time Batch M		
General Chemistr	y									- "		
Total Rec. Petro. l	Hydrocarbons	2.70	=	0.277	1.00	mg/l	1.0	AAT	05/26/99	1030	149963 1	

M = Method	Method-Description	
M 1	EPA 418.1	

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Reviewed By

<sup>\*</sup> indicates that a quality control analyte recovery is outside of specified acceptance criteria.

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VOLATILE	ORGANICS ANALYS	IS DATA SHEET
Lab Name: GENERAL EN	GINEERING LABOR	Contract: NA AED412
Lab Code: NA	Case No.: NA	SAS No.: NA SDG No.: HPS010W
Matrix: (soil/water)	WATER	Lab Sample ID: 9905399-08
Sample wt/vol:	5.000 (g/ml) ML	Lab File ID: 7K124
Level: (low/med)	LOW	Date Received: 05/12/99
% Moisture: not dec.		Date Analyzed: 05/24/99
GC Column: DB-624	ID: 0.53 (mm)	Dilution Factor: 5.0
Soil Extract Volume:	(uL)	Soil Aliquot Volume:(u
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q
108-88-3	benzene toluene ethylbenzene xylenes (total	288 76.4 89.5 211

FORM I VOA

OLMO3.0

## FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

AED412
--------

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS010W

Matrix: (soil/water)

Lab Sample ID: 9905399-08

Sample wt/vol: 1.000 (g/mL) ML

Lab File ID: 051B5101

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: decanted: (Y/N)\_\_\_

Date Extracted:05/19/99

Concentrated Extract Volume: 1.00(mL)

Date Analyzed: 05/19/99

Injection Volume: 1.0(uL)

Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/L

74-82-8-----Methane

15000 B

J D08, F08

FORM I VOA

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS007W

Method Type: Total Metals

Client ID: AED412 Sample ID: 9905340-10 Contract: SAIC00999 Lab Code: GEL Case No.: SAS No .: Matrix: WATER Date Received: 5/11/99 Level: LOW % Solids: 0.00 Analytical CAS No. Analyte Concentration Units Qual M DL Instrument ID Run 7439-89-6 Iron 8.4 58800 TJA61 Trace2 ICPAES 990526-1 µg/L Color Before: Texture: Clarity Before: Color After: Clarity After: Artifacts: Comments:

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS007WF

Method Type: Total Metals

Sample ID: 9905340-11

Contract: SAIC00999

Lab Code:

Client ID: AED412F Case No.:

SAS No .:

Matrix:

WATER

% Solids: 0.00

Date Received: 5/11/99

Level: LOW

Analytical CAS No. Analyte Concentration Units Instrument ID Run 7439-89-6 Iron 49100 TJA61 Trace2 ICPAES 990526-1

Color Before:

Clarity Before:

GEL

Texture:

Color After:

Clarity After.

1

Artifacts:

Comments:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 2

Sample ID	: AED412				
Lab ID	: 9905340-10				
Matrix	: Water				
Date Collected	: 05/10/99				
Date Received	: 05/11/99				
Priority	: Routine				
Collector	: Client				

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistr	у											
ALKALINITY		79.6	=	0.500	1.00	mg/l	1.0	JBK	05/21/99	0800	149604	. 1
CARBON DIOXI	DE, FREE	155	=	0.500	1.00	mg/l	1.0	JBK	05/14/99	1530	148951	2
SULFIDES	Ĵ	0.0440	5	0.00900	0.100	mg/l	1.0	JBK	05/13/99	0630	148954	. 3
SULFATE		0.432	=	0.0380	0.200	mg/l	1.0	RWS	05/12/99	0108	148904	. 4
TOTAL DISSOLY	VED SOLIDS	168	=	5.04	10.0	mg/l	1.0	TSM2	05/14/99	1010	149107	5
NITRATE/NITRI	TE J	0.0300 mcG 7-6-79	JUF	ol, Fol 0.00860	0.0500	mg/l	1.0	THL	05/18/99	1613	149425	6

M = Method	Method-Description	
MI	EPA 310.1	
M 2	SM 18th ed. 4500-CO2	
M 3	EPA 376.2	
M 4	EPA 300.0	
M 5	EPA 160.1	
M 6	EPA 353.1	

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Science Applications International Corp.

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Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 28, 1999

Page | of 1

Sample ID	: AED412
Lab ID	: 9905336-04
Matrix	: Water
Date Collected	: 05/10/99
Date Received	: 05/11/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst Date	Time	Batch M
General Chemistry Total Rec. Petro. I		1.49	_	0.277	1.00	mg/l	1.0	AAT 05/26/9	9 1030	149963 1

M = Method		
M1	Method-Description EPA 418.1	

#### Notes:

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Reviewed By

## 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

DUPLICATE EPA SAMPLE NO.

			AED414
Lab Name: GENERAL EN	GINEERING LABOR	Contract: NA	
Lab Code: NA	Case No.: NA	SAS No.: NA SDG	No.: HPS010W
Matrix: (soil/water)	WATER	Lab Sample ID	: 9905399-06
Sample wt/vol:	5.000 (g/ml) ML	Lab File ID:	7K123
Level: (low/med)	LOW	Date Received	: 05/12/99
% Moisture: not dec.		Date Analyzed	: 05/24/99
GC Column: DB-624	ID: 0.53 (mm)	Dilution Fact	or: 5.0
Soil Extract Volume:	(uL)	Soil Aliquot	Volume:(uL
CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/	7
71-43-2 108-88-3 100-41-4 1330-20-7		)	292 74.6 89.9 202

## FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

DUPLICATE SAIC SAMPLE NO.

AED414

Lab Name: GENERAL ENGINEERING LABOR Contra	ct: NA
--	--------

Lab Code: NA

Case No.: NA

SAS No.: NA

SDG No.: HPS010W

Matrix: (soil/water)

Lab Sample ID: 9905399-06

Sample wt/vol:

1,000 (g/mL) ML

Lab File ID: 04984901

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_

Date Extracted:05/19/99

Concentrated Extract Volume: 1.00(mL)

Date Analyzed: 05/19/99

Injection Volume: 1.0(uL)

Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

Q

CAS NO.

COMPOUND

17600 B

J 008, FOE

74-82-8-----Methane

FORM I VOA

Form 1: Inorganic Analyses Data Sheet DUPLICATE Method Type: Total Metals SDG No.: HPS007W Client ID: AED414 Sample.ID: 9905340-18 GEL SAS No .: Contract: SAIC00999 Lab Code: Case No.: Level: LOW WATER Date Received: 5/11/99 Matrix: % Solids: 0.00 Analytical DL Instrument ID Run CAS No. Concentration Units Analyte 8.4 TJA61 Trace2 ICPAES 7439-89-6 Iron 58400 µg/L 990526-1 Texture: Color Before: Clarity Before: Artifacts: Color After: Clarity After: Comments:

25

Form 1: Inorganic Analyses Data Sheet

GEL

SDG No.: HPS007WF

Method Type: Total Metals

DUPLICATE

Sample ID: 9905340-19

Analyte

Client ID: AED414F

Contract: SAIC00999

Lab Code:

Case No.:

SAS No .:

Analytical

Run

990526-1

Matrix: WATER

ATER Date Received: 5/11/99

Concentration

56800

Level: LOW

8.4

% Solids: 0.00

Clarity Before:

Units

Texture:

Instrument ID

TJA61 Trace2 ICPAES

Color Before: Color After:

:

7439-89-6 Iron

Clarity After:

Artifacts:

Comments:

CAS No.

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike

Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

DUPLICATE

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 2

 Sample ID
 : AED414

 Lab ID
 : 9905340-18

 Matrix
 : Water

 Date Collected
 : 05/10/99

 Date Received
 : 05/11/99

 Priority
 : Routine

 Collector
 : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistry											
ALKALINITY		77.5 =	0.500	1.00	mg/l	1.0	JBK	05/14/99	1300	149096	1
CARBON DIOXID	E, FREE	200 =	0.500	1.00	mg/l	1.0	JBK	05/14/99	1530	148951	2
SULFIDES	J	0.0250 UFOI, FOL	0.00900	0.100	mg/l	1.0	JBK	05/13/99	0630	148954	3
SULFATE		0.480 =	0.0380	0.200	mg/l	1.0	RWS	05/12/99	0201	148904	4
TOTAL DISSOLV	ED SOLIDS	184 =	5.04	10.0	mg/l	1.0	TSM2	05/14/99	1010	149107	5
NITRATE/NITRIT	E 1	0.0300 \$4 Fol, FOL 2.6-19	ζ 0.00860	0.0500	mg/l	1.0	THL	05/18/99	1613	149425	6

M = Method	Method-Description
M 1	EPA 310.1
M 2	SM 18th ed. 4500-CO2
M 3	EPA 376.2
M 4	EPA 300.0
M 5	EPA 160.1
M 6	EPA 353.1

#### Notes:

The qualifiers in this report are defined as follows:

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I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit,

" indicates that a quality control analyte recovery is outside of specified acceptance criteria.



Science Applications International Corp.

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Contact:

Ms. Leslie Barbour

Project Description:

cc: SAIC00999

Remdial Design and Pilot Study, Former Bldg. 728

DUPLICATE

Page 1 of 1

Sample ID

Lab ID

: AED414 : 9905336-05

Report Date: May 28, 1999

Marrix

: Water

Date Collected

: 05/10/99

Date Received Priority : 05/11/99

Collector

: Routine : Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst Date	Time	Batch	M
General Chemisto Total Rec. Petro.		1.81	_	0.277	1.00	mg/l	1.0	AAT 05/26/99	1030	149963	1

M = Method	Method-Description				
M 1	EPA 418.1				

## Notes:

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This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

WANA A DA GAMA P''

indicates that a quality control analyte recovery is outside of specified acceptance criteria.

## 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1	
AEDMIZ	· C
MUDITA	1

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA

SAS No.: NA

SDG No.: HPS010W

Matrix: (soil/water) WATER

Lab Sample ID: 9905399-12

Sample wt/vol:

5.000 (g/ml) ML

Lab File ID: 7K131

Level: (low/med) LOW

Date Received: 05/12/99

% Moisture: not dec.

Date Analyzed: 05/24/99

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_(uL)

Soil Aliquot Volume:

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

71-43-2benzene 108-88-3toluene 100-41-4ethylbenzene 1330-20-7xylenes (total)	251 239 8.3 784 706 23401610	PD	Goz
---	---------------------------------------	----	-----

MAP 6/27/99

FORM I VOA

OLM03.0

4

## FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

AEDMIZ )	イル

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS010W

Matrix: (soil/water)

Lab Sample ID: 9905399-12

Sample wt/vol: 1.000 (g/mL) ML

Lab File ID: 054B5401

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_

Date Extracted: 05/19/99

Concentrated Extract Volume: 1.00(mL). Date Analyzed: 05/19/99

Injection Volume: 1.0(uL)

Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

Q

74-82-8-----Methane

10800 B

FORM I VOA

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS007W

Method Type: Total Metals

Sample ID: 9905340-16

Client ID: AEDMX 12 KA 49

Contract: SAIC00999

Lab Code:

Case No.:

SAS No .:

Matrix: WATER

Analyte

Date Received: 5/11/99

Level: LOW

% Solids: 0.00

Analytical

Run

7439-89-6 Iron

CAS No.

Concentration Units 88800 μg/L

P

8.4

Instrument ID
TJA61 Trace2 ICPAES

990526-1

Color Before:

Clarity Before:

GEL

Texture:

Color After:

1

Clarity After:

Artifacts:

Comments:

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS007WF

Method Type: Total Metals

Sample ID: 9905340-17

Contract: SAIC00999

Lab Code: GEL Case No.: SAS No.:

Matrix: WATER

Date Received: 5/11/99

Level: LOW

Date Received: 5/1/99

% Solids: 0.00

CAS No. Analyte Concentration Units C Qual M DL Instrument ID Run

7439-89-6 Iron 49300 µg/L = P 8.4 TJA61 Trace2 ICPAES 990526-1

Color Before:

Clarity Before:

Texture:

Color After:

:

Clarity After:

Artifacts:

Comments:

Science Applications International Corp.

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Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 27, 1999

Page 1 of 2

Sample ID	: AEDMISH / US AG
Lab ID	: 9905340-16
Matrix	: Water
Date Collected	: 05/10/99
Date Received	: 05/11/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	yst Date	Time	Batch	M
General Chemistry												
ALKALINITY		63.2	=	0.500	1.00	mg/l	1.0	JВK	05/14/99	1300	149096	5 1
CARBON DIOXIDI	E, FREE	333	=	0.500	1.00	mg/l	1.0	JBK	05/14/99	1530	148951	1 2
SULFIDES	1	0.0530	7	0.00900	0.100	mg/l	1.0	лвк	05/13/99	0630	148954	1 3
SULFATE		34.0	=	0.0380	0.200	mg/l	1.0	RWS	05/12/99	0148	148904	4 4
TOTAL DISSOLVE	D SOLIDS	346	=	5.04	10.0	mg/l	1.0	TSM:	2 05/14/99	1010	149107	1 5
NITRATE/NITRITE	. 1	0.0400 mcG	-	61,F060.00860	0.0500	mg/l	1.0	THL	05/18/99	1613	149425	6
		7-6-99										

M = Method	Method-Description
M 1	EPA 310.1
M 2	SM 18th ed. 4500-CO2
M 3	EPA 376.2
M 4	EPA 300.0
M 5	EPA 160.1
M 6	EPA 353.1

## Notes:

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\* indicates that a quality control analyte recovery is outside of specified acceptance criteria.



Science Applications International Corp.

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Contact:

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Project Description:

Remdial Design and Pilot Study, Former Bldg, 723

cc: SAIC00999

Report Date: May 28, 1999

Page 1 of 1

Sample ID	: AEDM12
Lab ID	: 9905336-08
Maurix	: Water
Date Collected	: 05/10/99
Date Received	: 05/11/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	st Date	Time	Batch M
General Chemistr	•										
Total Rec. Petro. I	Hydrocarbons	2.84	-	0.277	1.00	mg/l	1.0	AAT	05/26/99	1030	149963 1

M = Method	Method-Description	
M 1	EPA 418.1	<del></del>

## Notes:

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This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

HE WALL IN THE RELEASE OF MELLON LINE.

## 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

COMPOUND

CAS NO.

EPA SAMPLE NO.

		2.0	
EF	11	2	
	ΞF	EP11	EP112

0

Lab Name: GENERAL ENGINEERING LABOR Contract: NA SDG No.: HPS004W Lab Code: NA Case No.: NA SAS No.: NA Lab Sample ID: 9905244-01 Matrix: (soil/water) WATER Lab File ID: 8J510 Sample wt/vol: 5.000 (g/ml) ML Date Received: 05/08/99 (low/med) LOW Level: Date Analyzed: 05/21/99 % Moisture: not dec. Dilution Factor: 50.0 ID: 0.25 (mm) GC Column: DB-624 Soil Aliquot Volume: \_\_\_\_(uL)

Soil Extract Volume: \_\_\_\_\_(uL) Soil Aliquot Volume: \_\_\_\_\_(ul)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

FORM I VOA

OLM03.0

## FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

AEP112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA

SDG No.: HPS004W

Matrix: (soil/water)

Lab Sample ID: 9905244-01

Sample wt/vol:

1.000 (g/mL) ML

Lab File ID: 011B1101

Level: (low/med)

LOW

Date Received: 05/08/99

% Moisture: \_\_\_\_\_ decanted: (Y/N)

Date Extracted: 05/19/99

Concentrated Extract Volume:

1.00 (mL)

Date Analyzed: 05/19/99

Injection Volume: 1.0(uL)

Dilution Factor: 100.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

5480 B

J DD8, F08

74-82-8-----Methane

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals SDG No.: HPS004W Client ID: AEP112 Sample ID: 9905244-01 SAS No .: Case No .: GEL Lab Code: Contract: SAIC00999 Level: LOW . Date Received: 5/8/99 WATER Matrix: % Solids: 0.00 Analytical Run DL Instrument ID Analyte Concentration Units CAS No. 990517-1 TJA61 Trace2 ICPAES 8.4 26400 μg/L 7439-89-6 Iron Texture: Clarity Before: Color Before: Artifacts: Clarity After: Color After: Comments:

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals SDG No.: HPS004W Client ID: AEP112F Sample ID: 9905244-02 Contract: SAIC00999 Lab Code: GEL Case No.: SAS No .: Date Received: 5/8/99 Level: LOW WATER Matrix: % Solids: 0.00 Analytical Instrument ID Run DL Analyte Concentration Units Qual CAS No. TJA61 Trace2 ICPAES 990517-1 3880 8.4 7439-89-6 Iron Texture: Color Before: Clarity Before: Artifacts: Color After: Clarity After: Comments:

MCITACILAN ATAD
Y9CO

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 26, 1999

Page 1 of 1

Exemple 1	: AEP112
Sample ID	37777475
Lab ID	: 9905244-01
Matrix	: Water
Date Collected	: 05/07/99
Date Received	: 05/08/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistry	,									0/93.2	o Verra	
CARBON DIOXII		800	=	0.500	1.00	mg/l	1.0	JBK	05/14/99	1530	148951	i
SULFIDES			=	0.0450	0.500	mg/l	5.0	JBK	05/13/99	0630	148954	. 2
SULFATE		e.Te	=	0.0380	0.200	mg/l	1.0	RWS	05/10/99	1348	148743	3
NITRATE/NITRI	TE U	7.70	u	0.00860	0.0500	mg/l	1.0	THL	05/17/99	1818	149309	) 4

		_
M = Method	Method-Description	
MI	SM 18th ed. 4500-CO2	
M 2	EPA 376.2	
м 3	EPA 300.0	
M 4	EPA 353.1	

#### Notes:

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Gent 9. Cul

Reviewed By

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Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 26, 1999

Page 1 of 1

Sample ID	: AEP112
Lab ID	: 9905244-1
Matrix	: Water
Date Collected	: 05/07/99
Date Received	: 05/08/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistry Total Rec. Petro. H		2.44	=	0.277	1.00	mg/l	1.0	AAT	05/21/99	2100	149713	1

M = Method	Method-Description		
M 1	EPA 418.1		

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Reviewed By

THE REPORT OF THE PROPERTY OF

\*9905244-17\*

<sup>&</sup>quot; indicates that a quality control analyte recovery is outside of specified acceptance criteria.

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: GENERAL EN	GINEERING LABOR	Contract: NA AEP212
	Case No.: NA	SAS No.: NA SDG No.: HPS004W
Matrix: (soil/water)	WATER	Lab Sample ID: 9905244-03
Sample wt/vol:	5.000 (g/ml) ML	Lab File ID: 8J440
Level: (low/med)	LOW	Date Received: 05/08/99
% Moisture: not dec.		Date Analyzed: 05/21/99
GC Column: DB-624	ID: 0.25 (mm)	Dilution Factor: 50.0
Soil Extract Volume:	(uL)	Soil Aliquot Volume:(uL
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q
71-43-2 108-88-3 100-41-4 1330-20-7		2510 2070 447 1) 1980 = =

FORM I VOA

OLMO3.0

## FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

AEP212

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA

SAS No.: NA SDG No.: HPS004W

Matrix: (soil/water)

Lab Sample ID: 9905244-03

Sample wt/vol: 1.000 (g/mL) ML

Lab File ID: 031B3101

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: decanted: (Y/N)\_\_\_

Date Extracted:05/19/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/19/99

Injection Volume: 1.0(uL)

Dilution Factor: 300.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

Q

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/L

J DO8, F08

74-82-8-----Methane

17700 B

FORM I VOA

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals SDG No.: HPS004W Client ID: AEP212 Sample ID: 9905244-03 GEL SAS No.: Lab Code: Case No.: Contract: SAIC00999 Level: LOW WATER Date Received: 5/8/99 Matrix: % Solids: 0.00 Analytical DL Instrument ID Run Concentration Qual CAS No. Analyte Units 14400 8.4 TJA61 Trace2 ICPAES 990517-1 7439-89-6 Iron µg/L Clarity Before: Texture: Color Before: Artifacts: Color After: Clarity After: Comments:

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals SDG No.: HPS004W Client ID: AEP212F Sample ID: 9905244-04 SAS No .: Case No.: Contract: SAIC00999 Lab Code: GEL Level: LOW Date Received: 5/8/99 WATER Matrix: % Solids: 0.00 Analytical Run DL Instrument ID Qual Units Concentration Analyte CAS No. TJA61 Trace2 ICPAES 990517-1 8.4 10500 µg/L 7439-89-6 ·Iron Texture: Clarity Before: Color Before: Artifacts: Clarity After: Color After:

Comments:

204

Science Applications International Corp.

P.O. Box 2502

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Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

Report Date: May 26, 1999

Page 1 of 2

DATA VALIBATION

COPY

cc: SAIC00999

Sample ID : AEP212

Lab ID Matrix : 9905244-03 : Water

Madix

: 05/07/99

Date Collected Date Received

: 05/08/99

Priority

: Routine

Collector

: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistr	у											
ALKALINITY		39.0	=	0.500	1.00	mg/l	1.0	JBK	05/14/99	1300	149096	1
CARBON DIOXI	DE, FREE	236	=	0.500	1.00	mg/l	1.0	JBK	05/14/99	1530	148951	2
SULFIDES	A PARTY OF THE PAR	0.536	=	0.00900	0.100	mg/l	1.0	JBK	05/13/99	0630	148954	. 3
SULFATE		0.518	=	0.0380	0.200	mg/l	1.0	RWS	05/10/99	1428	148743	4
NITRATE/NITRI	TE	0.110	=	0.00860	0.0500	mg/l	1.0	THL	05/17/99	1818	149309	5

M = Method	. Method-Description	
M 1	EPA 310.1	
M 2	SM 18th ed. 4500-CO2	*
M 3	EPA 376.2	
M 4	EPA 300.0	
M 5	EPA 353.1	

# Notes:

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Contact:

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Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: May 26, 1999

Page 1 of 1

 Sample ID
 : AEP212

 Lab ID
 : 9905244-16

 Matrix
 : Water

 Date Collected
 : 05/07/99

 Date Received
 : 05/08/99

Priority
Collector

: Routine : Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analys	t Date	Time	Batch	M
General Chemisto Total Rec. Petro.	•	4.80	=	0.277	1.00	mg/l	1.0	AAT (	05/21/99	2100	14971	3 1

M = Method	Method-Description	
MI	EPA 418.1	

#### Notes:

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Reviewed By

40005744 16A

# 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

DUPLICATE EPA SAMPLE NO.

AEP214

Lab Name: GENERAL ENGINEERING LABOR Contract: NA SDG No .: HPS004W Case No.: NA SAS No.: NA Lab Code: NA Lab Sample ID: 9905244-05 Matrix: (soil/water) WATER Lab File ID: 8J441 5.000 (g/ml) ML Sample wt/vol: Date Received: 05/08/99 Level: (low/med) LOW Date Analyzed: 05/21/99 % Moisture: not dec. Dilution Factor: 50.0 GC Column: DB-624 ID: 0.25 (mm) Soil Aliquot Volume: \_\_\_\_(uL) Soil Extract Volume: (uL) CONCENTRATION UNITS: Q (ug/L or ug/Kg) UG/L CAS NO. COMPOUND 2100 71-43-2-----benzene 1420 = 108-88-3-----toluene = 309 100-41-4----ethylbenzene 1340 1330-20-7-----xylenes (total)\_

FORM I VOA

OLMO3.0

# FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

DUPLICATE SAIC SAMPLE NO.

- 1

Lab Name: GENERAL ENGINEERING LABOR Contract: NA SDG No.: HPS004W SAS No.: NA Lab Code: NA Case No.: NA Lab Sample ID: 9905244-05 Matrix: (soil/water) Sample wt/vol: 1.000 (g/mL) Lab File ID: 032B3201 LOW Date Received: 05/08/99 Level: (low/med) Date Extracted: 05/19/99 decanted: (Y/N) % Moisture: Date Analyzed: 05/19/99 Concentrated Extract Volume: 1.00(mL) Dilution Factor: 200.0 Injection Volume: 1.0(uL) GPC Cleanup: (Y/N) N pH: 7.0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q CAS NO. COMPOUND

J DOS, FOS 15800 B 74-82-8------Methane

FORM I VOA

VIII-88

173

Form 1: Inorganic Analyses Data Sheet DUPUCATE Method Type: Total Metals SDG No.: HPS004W Client ID: AEP214 Sample ID: 9905244-05 SAS No.: GEL Lab Code: Case No .: Contract: SAIC00999 Level: LOW WATER Date Received: 5/8/99 Matrix: % Solids: 0.00 Analytical Run Qual DL Instrument ID Concentration Units CAS No. Analyte TJA61 Trace2 ICPAES 990517-1 8.4 7439-89-6 Iron 18800 µg/L Texture: Clarity Before: Color Before: Artifacts: Color After: Clarity After: Comments:

Form 1: Inorganic Analyses Data Sheet DUPLICATE Method Type: Total Metals SDG No.: HPS004W Client ID: AEP214F Sample ID: 9905244-06 SAS No .: Case No.: GEL Contract: SAIC00999 Lab Code: Date Received: 5/8/99 Level: LOW WATER Matrix: % Solids: 0.00 Analytical Run C Qual DL Instrument ID Concentration Units CAS No. Analyte TJA61 Trace2 ICPAES 990517-1 8.4 7439-89-6 Iron 8230 µg/L Texture: Clarity Before: Color Before: Artifacts: Clarity After: Color After: Comments:

DUPLICATE

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

Page 1 of 1

cc: SAIC00999

Report Date: May 26, 1999

 Sample ID
 : AEP214

 Lab ID
 : 9905244-05

 Matrix
 : Water

 Date Collected
 : 05/07/99

 Date Received
 : 05/08/99

 Priority
 : Routine

 Collector
 : Client

207 =	0.500	1.00	mg/l	1.0	JBK	05/14/99	1530	148951
0.945 =	0.0450	0.500	mg/l	5.0	JBK	05/13/99	0630	148954
0.391 =	0.0380	0.200	mg/l	1.0	RWS	05/10/99	1442	148743
0.0100 J	0.00860	0.0500	mg/l	1.0	THL	05/17/99	1818	149309
	0.945 = 0.391 =	0.945 = 0.0450 0.391 = 0.0380	0.945 = 0.0450 0.500 0.391 = 0.0380 0.200	0.945 = 0.0450 0.500 mg/l 0.391 = 0.0380 0.200 mg/l	0.945 = 0.0450 0.500 mg/l 5.0 0.391 = 0.0380 0.200 mg/l 1.0	0.945 = 0.0450 0.500 mg/l 5.0 JBK 0.391 = 0.0380 0.200 mg/l 1.0 RWS	0.945 = 0.0450 0.500 mg/l 5.0 JBK 05/13/99 0.391 = 0.0380 0.200 mg/l 1.0 RWS 05/10/99	0.945 = 0.0450 0.500 mg/l 5.0 JBK 05/13/99 0630 0.391 = 0.0380 0.200 mg/l 1.0 RWS 05/10/99 1442

		-
M = Method	Method-Description	
M 1	SM 18th ed. 4500-CO2	
M 2	EPA 376.2	
М 3	EPA 300.0	
M 4	EPA 353.1	

#### Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

\* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Jail 1 1

Reviewed By

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

DUPLICATE

MOSTA VILLATION VILLA

cc: SAIC00999

Report Date: May 26, 1999

Page 1 of 1

Sample ID	: AEP214
Lab ID	: 9905244-14
Matrix	: Water
Date Collected	: 05/07/99
Date Received	: 05/08/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst Date	Time	Batch	M	_
General Chemistr Total Rec. Petro.		4.01	0.277	1.00	mg/l	1.0	AAT 05/21/99	2100	14971	3 1	

M = Method	Method-Description	
M 1	EPA 418.1	

### Notes:

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I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

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This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

-11 4452000

indicates that a quality control analyte recovery is outside of specified acceptance criteria.

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AEP312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS004W

Matrix: (soil/water) WATER

Lab Sample ID: 9905244-07

Sample wt/vol: 5.000 (g/ml) ML

Lab File ID: 8J442

Level: (low/med) LOW Date Received: 05/08/99

% Moisture: not dec.

Date Analyzed: 05/21/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 50.0

Soil Aliquot Volume: \_\_\_\_(uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND

(ug/L or ug/Kg) UG/L Q

71-43-2benzene	2600	=
108-88-3toluene	4250	= =
100-41-4ethylbenzene	578	=
1330-20-7xylenes (total)	3360	=

### FUKM I VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

AEP312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA

Case No.: NA

SAS No.: NA

SDG No.: HPS004W

Matrix: (soil/water)

Lab Sample ID: 9905244-07

Sample wt/vol:

1.000 (g/mL) ML

Lab File ID: 033B3301

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: \_\_\_ decanted: (Y/N)

Date Extracted:05/19/99

Concentrated Extract Volume:

1.00(mL)

Date Analyzed: 05/19/99

Injection Volume:

1.0(uL)

Dilution Factor: 100.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

Q

9820 B

J 008, F08

FORM I VOA

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS004W

Method Type: Total Metals

Sample ID: 9905244-07 Client ID: AEP312

Contract: SAIC00999 Lab Code: GEL Case No.: SAS No.:

Matrix: WATER Date Received: 5/8/99 Level: LOW

% Solids: 0.00

Analytical Run M DL Instrument ID Units C Qual Concentration CAS No. Analyte TJA61 Trace2 ICPAES 990517-1 8.4 79500 µg/L 7439-89-6 Iron

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals SDG No.: HPS004W Sample ID: 9905244-08 Client ID: AEP312F SAS No.: Case No .: GEL Lab Code: Contract: SAIC00999 Level: LOW Date Received: 5/8/99 WATER Matrix: 0.00 % Solids: Analytical Run Instrument ID M DL Concentration Units Qual Analyte CAS No. 990517-1 8.4 TJA61 Trace2 ICPAES 3560 µg/L 7439-89-6 Iron Texture: Clarity Before: Color Before: Artifacts: Clarity After: Color After: Comments:

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike

Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

DATA VALIDATION CORY

cc: SAIC00999

Report Date: May 26, 1999

- Page 1 of 2

Sample ID : AEP312
Lab ID : 9905244-07
Matrix : Water
Date Collected : 05/07/99
Date Received : 05/08/99
Priority : Routine
Collector : Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistry	1											
ALKALINTTY		8.42	=	0.500	1.00	Πgm	1.0	JBK	05/14/99	1300	149096	5 1
CARBON DIOXI	DE ERFE	161		0.500	1.00	mg/l	1.0	JBK	05/14/99	1530	148951	2
SULFIDES	JE, ( KEE	0.365		0.0450	0.500	mg/l	5.0	JBK	05/13/99	0630	148954	1 3
SULFATE		0.657		0.0380	0.200	mg/l	1.0	RWS	05/10/99	1455	148743	3 4
NITRATE/NITRI	TE U	0.00		0.00860	0.0500	mg/I	1.0	THL	05/17/99	1818	149309	) 5

M = Method	Method-Description	
MI	EPA 310.1	
M 2	SM 18th ed. 4500-CO2	
	EPA 376.2	
M 3 M 4	EPA 300.0	
M 5	EPA 353.1	

### Notes:

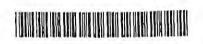
The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

I indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

indicates that a quality control analyte recovery is outside of specified acceptance criteria.



Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

¥ - ( ·

cc: SAIC00999

Report Date: May 26, 1999

Page 1 of 1

Sample ID	: AEP312
Lab ID	: 9905244-15
Matrix	: Water
Date Collected	: 05/07/99
Date Received	: 05/08/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch
General Chemistr Total Rec. Petro. 1		3.12	0.277	1.00	mg/l	1.0	AAT 0	5/21/99	2100	149713

M = Method	Method-Description	
M 1	EPA 418.1	

### Notes:

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This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

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### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

AEP412

Lab Name: GENERAL ENGINEERING LABOR Contract: NA SDG No.: HPS004W Lab Code: NA Case No.: NA SAS No.: NA Lab Sample ID: 9905244-09 Matrix: (soil/water) WATER Lab File ID: 8J443 5.000 (g/ml) ML Sample wt/vol: Date Received: 05/08/99 Level: (low/med) LOW Date Analyzed: 05/21/99 % Moisture: not dec. Dilution Factor: 50.0 GC Column: DB-624 ID: 0.25 (mm)

Soil Extract Volume:\_\_\_\_\_(uL) Soil Aliquot Volume: \_\_\_\_\_(uL)

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

71-43-2-----benzene 823 = 108-88-3-----toluene 1950 = 100-41-4----ethylbenzene 237 1330-20-7----xylenes (total) 1510 = 1

FORM I VOA

OLM03.0

### FORM 1 VOLATILE ORGANICS ANALYSIS DATA SHEET

SAIC SAMPLE NO.

AEP412

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS004W

Matrix: (soil/water)

Lab Sample ID: 9905244-09

Sample wt/vol: 1.000 (g/mL) ML

Lab File ID: 034B3401

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_

Date Extracted: 05/19/99

Concentrated Extract Volume:

1.00 (mL)

Date Analyzed: 05/19/99

Injection Volume: 1.0(uL)

Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

74-82-8-----Methane

19500 B

FORM I VOA

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals TOG No.: HPS004W Client ID: AEP412 Sample ID: 9905244-09 SAS No .: Case No.: GEL Lab Code: Contract: SAIC00999 Level: LOW Date Received: 5/8/99 WATER Matrix: 0.00 % Solids: Analytical Instrument ID Run DL Units Qual Concentration Analyte CAS No. 990517-1 TJA61 Trace2 ICPAES 8.4 µg/L 48900 7439-89-6 Iron Texture: Clarity Before: Color Before: Artifacts: Clarity After: Color After: Comments:

Form 1: Inorganic Analyses Data Sheet Method Type: Total Metals SDG No.: HPS004W Client ID: AEP412F Sample ID: 9905244-10 SAS No .: Case No.: Lab Code: GEL Contract: SAIC00999 Date Received: 5/8/99 Level: LOW ' WATER Matrix: % Solids: 0.00 Analytical Run Instrument ID Units Qual DL Concentration Analyte CAS No. TJA61 Trace2 ICPAES 990517-1 8.4 7439-89-6 Iron 48300 µg/L Texture: Clarity Before: Color Before: Artifacts: Clarity After: Color After: Comments:

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description: Remdial De

cc: SAIC00999

Remdial Design and Pilot Study, Former Bldg. 728

Report Date: May 26, 1999

Page 1 of 1

 Sample ID
 : AEP412

 Lab ID
 : 9905244-09

 Matrix
 : Water

 Date Collected
 : 05/07/99

 Date Received
 : 05/08/99

Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analy	st Date	Time	Batch	M
General Chemistry	у							77-0			
CARBON DIOXI	DE, FREE	106 =	0.500	1.00	mg/l	1.0	JBK	05/14/99	1530	148951	1
SULFIDES	1	0.335 J	0.0450	0.500	mg/l	5.0	JBK	05/13/99	0630	148954	2
SULFATE	1	0.198 5	0.0380	0.200	mg/l	1.0	RWS	05/11/99	2227	148904	. 3
NITRATENITRE	TE U	0.00 U	0.00860	0.0500	mg/l	1.0	THL	05/17/99	1818	149309	4

M = Method	Method-Description	
M 1	SM 18th ed. 4500-CO2	
M 2	EPA 376.2	
M 3	EPA 300.0	
M 4	EPA 353.1	

### Notes:

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\* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

I MANTE LOCALISM SHARE COOL HOLD WITH THE COOL SHARE THE COOL

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

DATA VALIDATION COPY

c: SAIC00999

Report Date: May 26, 1999

Page 1 of 1

 Sample ID
 : AEP412

 Lab ID
 : 9905244-18

 Matrix
 : Water

 Date Collected
 : 05/07/99

 Date Received
 : 05/08/99

 Priority
 : Routine

 Collector
 : Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst Date	Time	Batch	M	
General Chemistr Total Rec. Petro. I		2.77	2	0.277	1.00	mg/l	1.0	AAT 05/21/99	2100	149713	1	

M = Method	Method-Description	
M1	EPA 418.1	,

### Notes:

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This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

JANU 144 JAN 1610 DAN 1611 JAN 161 HOLD HOLD JAN 18

\*9905244-18\*

# 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AEP512 -

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA

SAS No.: NA SDG No.: HPS006W

Matrix: (soil/water) WATER

Lab Sample ID: 9905252-02

5.000 (g/ml) ML

Lab File ID: 8J607

Sample wt/vol:

Level: (low/med) LOW Date Received: 05/09/99

% Moisture: not dec.

Date Analyzed: 05/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 5.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: \_\_\_\_(uL)

CAS NO. COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q

71-43-2benzene 108-88-3toluene 100-41-4ethylbenzene 1330-20-7xylenes (total)	7.2 10.0 208	J U	(:
---	--------------------	--------	----

FORM I VOA

OLM03.0

Form 1: Inorganic Analyses Data Sheet

SDG No.: HPS006W

Method Type: Total Metals

Client ID: AEP512 Sample ID: 9905252-02 SAS No .: Lab Code: GEL Case No.: Contract: SAIC00999 Date Received: 5/9/99 Level: LOW WATER Matrix: % Solids: 0.00 Analytical Run Instrument ID DL CAS No. Analyte Concentration Units Qual M 8.4 TJA61 Trace2 ICPAES 990524-1 80600 7439-89-6 Iron µg/L Texture: Clarity Before: Color Before: Artifacts: Clarity After: Color After: Comments:

Form 1: Inorganic Analyses Data Sheet

3 No.: HPS006W

Method Type: Total Metals

Sample ID: 9905252-03

Client ID: AEP512F

Contract: SAIC00999

Lab Code: GEL

Case No.:

SAS No.:

Matrix: WATER

Analyte

Date Received: 5/9/99

Level: LOW

% Solids: 0.00

 Concentration
 Units
 C
 Qual
 M
 DL
 Instrument ID
 Analytical Run

 57000
 μg/L
 P
 8.4
 TJA61 Trace2 ICPAES
 990524-1

Color Before:

7439-89-6 Iron

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

CAS No.

Client:

Science Applications International Corp.

P.O. Box 2502

800 Oak Ridge Tumpike Oak Ridge, Tennessee 37831

Contact:

Ms. Leslie Barbour

Project Description:

Remdial Design and Pilot Study, Former Bldg. 728

cc: SAIC00999

Report Date: June 01, 1999

Page 1 of 2

 Sample ID
 : AEP512

 Lab ID
 : 9905252-02

 Matrix
 : Water

 Date Collected
 : 05/08/99

 Date Received
 : 05/09/99

 Priority
 : Routine

 Collector
 : Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analy	yst Date	Time	Batch	M
General Chemistry												
ALKALINITY		65.3	=	0.500	1.00	mg/l	1.0	JBK	05/14/99	1300	149096	1
CARBON DIOXII	E. FREE	80.5	=	0.500	1.00	mg/l	1.0	ßК	05/14/99	1530	148951	2
SULFIDES	U	-0.0150	u	0.0450	0.500	mg/l	5.0	JBK	05/13/99	0630	148954	3
Total Rec. Petro. H	lydrocarbons	2.98	=	0.277	1.00	mg/l	1.0	AAT	05/24/99	1100	149857	4
SULFATE		3310	=	7.60	40.0	mg/l	200	RWS	05/10/99	1533	148743	5
NITRATE/NITRIT	ne .	0.0500	U FOI	FO 6 0.00860	0.0500	mg/l	1.0	THL	05/18/99	1613	149425	6

M = Method		Method-Description	
M 1		EPA 310.1	
M 2		SM 18th ed. 4500-CO2	
M 3		EPA 376.2	
M 4		EPA 418.1	
M 5		EPA 300.0	
M 6	21	EPA 353.1	

### Notes:

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\* indicates that a quality control analyte recovery is outside of specified acceptance criteria.



Serve Application Lemanson Corporation
Serve Application Lemanson Corporation
Serve Application Lemanson Corporation
Serve Application Lemanson Corporation
Serve Application Lemanson Lose Ridge, IN 37831 (423) 481-4600

OBSERVATIONS, COMMENTS. SPECIAL INSTRUCTIONS сос NO.: HDM: 49 300 LABORATORY NAME: General Engineering Laboratory PHONE NO: (843) 556-8171 LABORATORY ADDRESS: 2040 Savage Road Charleston, SC 29407 Cooler Temperature: FEDEX NUMBER: OVA No. of Bottles/ Vials: 1 N N 1 TOTAL NUMBER OF CONTAINERS: 552 REQUESTED PARAMETERS CHAIN OF CUSTODY RECORD Cooler ID: 1 7015 NK 201 COS Methane Dissolved Iron Date/Time Date/Time Date/Time not lato T Sulfide etellu2 \* ... etettiN HdT N **X3T8** RELINQUISHED BY: COMPANY NAME: COMPANY NAME: COMPANY NAME: water Matrix Laura Lumley RECEIVED BY: REÇEIVED BY; Time Collected 1830 1320 1720 1059 1730 345 889 (Printed Name) 10,20 5/8/89 多多 Date/Time PROJECT NUMBER: 01-0331-04-1829-100 Date Collected 66 12 4199 199 66/t/ 66/t/> 5/7/99 PROJECT NAME: MAAF-Pilot Study PROJECT MANAGER: Patty Stoll 1 11 RELINAUISHED BY: RELINQUISHROBY: COMPANY NAME: COMPANY NAME: COMPANY NAME: puna 4EP212 Sampler (Signature) EP412 AEP 112 RECENTED, ع 7

An Emplayer Owned Company

9905244% CHAIN OF CUSTODY RECORD

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1 CAN															General Enginee	General Engineering Laboratory
PROJECT NUMBER: 01-0331-04-1829-100	1-0331-04-1829-	100									_	_			LABORATORY ADDRESS:	ADDRESS:
PROJECT MANAGER: Patty Stoll	Patty Stoll								1,	hai		_		:slaiV	2040 Savage Road Charleston, SC 29407	oad 29407
Sampler (Signature)	- C	(Printed Name)					nost be			C				\ealtro8	PHONE NO: (843) 556-8171	131 556-8171
James Jum	Der to	aura Firm	m ley		eta	eset ebit	oul la	then:	0	10 KC				10 ,	OVA	OBSERVATIONS, COMMENTS.
Sample ID	Date Collected	Time Collected	Matrix	178 197	υiN	-		CO.	ОТ	1				ON	SCREENING	SPECIAL INSTRUCTIONS
4EP112	9917199	7600	waster	N	_	_	_	7	15		112			2		
487212	5/7/99	1720		7		F. 1		7	7	14.7 N	90 <sub>4</sub>			17		
4E7214	66/2/5	1720		7	-	-	1	1 7	***					0		
4EP312	66/2/5	1430		7		-	-	17	, "	•			3.0	11		
4EP412	66/6/5	1730		N	-	-	_	7						ζ,		
AEV212	517199							φ		7				2		
AEV112	86/2/5	845				*.				7				7		
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RELINGUISHED BY:	Da	1	RECEIVED BY:			Dat	Date/Time	TOT	AL NU	MBER (	OF CON	TOTAL NUMBER OF CONTAINERS: $S$	s:5(	5	Cooler Temperature:	ature: 3ºC
awa Jum	Jen 5/4	18/92 7.	Nouek			5/8/%	w.	ပိ	Cooler ID:						FEDEX NUMBER	ER:
COMPANY NAME:	10	-	COMPANY NAME:				15:00	Q	71	915#	<u>9</u>					
RECEIVED BY: 1430	Mar See	Date/Time RELI	RELINQUISHED BY:			Dat	Date/Time									
	1	-	COMPANY NAME:							•						
RELINGUISHED BY:	3,00	Date Time RECI	RECEIVED BY:			Dat	Date/Time									
C. NY NAME:	1		COMPANY NAME.			1	ř									(

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800 Oat Ridge Tumplie, Oak Ridge, TN 37831 (423) 481-4600

9905336%

CHAIN OF CUSTODY RECORD

七1 夕dH :: 0N 202

OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS General Engineering Laboratory PHONE NO: (843) 556-8171 LABORATORY ADDRESS: 2040 Savage Road Charleston, SC 29407 LABORATORY NAME: Cooler Temperature: FEDEX NUMBER: OVA No. of Bottles/ Vials: NN NNN N TOTAL NUMBER OF CONTAINERS: /L REQUESTED PARAMETERS Cooler ID: TOC COS ... Methane 5/11/99 Date/Time Date/Time Date/Time not letoT ebilluz Sulfate W. etertiN **2121212** NV i i 2 HdT ... X3T8 RELINQUISHED BY: COMPANY NAME: CO000 COMPANY NAME: COMPANY NAME: Matrix RECEIVED BY: RECEIVED BY Lewra Lum Time Collected 1210 1525 730 1337 1350 1337 1120 (Printed Name) Date/Time Date/Time 5/11/95 Date/Time 1400 16/11/5 1650 och/ PROJECT NUMBER: 01-0331-04-1829-100 10/89 5/10/99 (Pate Collected 21/01/5 5/10/2 5/10/39 5/10/59 5/18/89 PROJECT NAME: HAAF-Pilot Study PROJECT MANAGER: Patty Stoll PRELINGUISHED OF COMPANY NAME: AELINOUISHER BY: AE 06 12 COMPANY NAME: COMPANY NAME: AED 312 AEDHIM 4ED 112 AE 10412 Sampler (Signature) AE6112 AED412 Janling BECEIVED PX / Value

OBSERVATIONS, COMMENTS. SPECIAL INSTRUCTIONS 9905050% COC NO.: APO/10 LABORATORY NAME: General Engineering Laboratory 300 PHONE NO: (843) 556-8171 LABORATORY ADDRESS: Charleston, SC 29407 Cooler Temperature: 2040 Savage Road FEDEX NUMBER: OVA No. of Bottles/ Vials: 5 Niv 77 TOTAL NUMBER OF CONTAINERS: **P**50 201 ONT HOLD JOINS REQUESTED PARAMETERS N CHAIN OF CUSTODY RECORD 7 990525273 524990 Cooler ID: Ţ, ... not bevlossio Date/Time Date/Time Date/Time 13,00 5/4/24 ebilius erailuz etantiv Hdl **X**3T8 RELINQUISHED BY: COMPANY NAME: COMPANY NAME: COMPANY NAME: wher Matrix 50:1 RECEIVED BY: Laura Lumley RÉCEIVED BY: Time Collected 1200 1540 155C 1615 1470 (Printed Name) 070 800 Oat Ridge Tumpile, Oak Ridge, TN 37831 (423) 481-4500 0601 Date/Time 2/4/49 PROJECT NUMBER: 01-0331-04-1829-100 5/18/99 196/8/ 8/8/99 5/4/99 5/18/99 PROJECT NAME: HAAF-Pilot Study PROJECT MANAGER: Patty Stoll Sauce Jumber 17 leva RELINQUISHER, BY: COMPANY NAME: NY NAME: COMPANY NAME: AEVW12 Sampler (Signature) REPS12 HPODDGH LEDG1 JE VIVII RECEIVED BY RELANGUI

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Science Applications International Corporation

800 Oat Ridge Turnplie, Oat Ridge, TN 37831 (423) 481-4500

9-40180> 99053399

SI 4)CH :: ON 202 CHAIN OF CUSTODY RECORD

3 9 MIN OBSERVATIONS, COMMENTS. SPECIAL INSTRUCTIONS General Engineering Laboratory 7-De PHONE NO: (843) 556-8171 Cooler Temperature: 30 LABORATORY ADDRESS: 2040 Savage Road Charleston, SC 29407 LABORATORY NAME: FEDEX NUMBER: OVA No. of Bottles/ Vials: N N 1.7 17 I TOTAL NUMBER OF CONTAINERS: REQUESTED PARAMETERS Phenols et01 N N Cooler ID: DOT \*\*\* cos Methane Dissolved Iron Date/Time Date/Time 16,50 Date/Time 15/11/99 not late? .. Sullide Sulfate etartiV HdT N 1 X3T8 10VO/ RELINQUISHED BY: COMPANY NAME: COMPANY NAME: COMPANY NAME: when Matrix RECEIVED BY: RESEIVED BY Laure Lumber Time Collected 936 1355 9.35 1155 1904 (Printed Name) 16,50 2151 Daje/Time 5/11/89 Date/Time 5/11/99 5/11/99 1400 Date/Time 300 M PROJECT NUMBER: 01-0331-04-1829-100 Date Collected 66/01/5 66/01/5 5/10/20 65/01/5 5/10/13 PROJECT MAME: HAAF-Pilot Study 5/10/15 PROJECT MANAGER: Patty Stoll TO THE BY CO Forme Som COMPANY NAME: RELINQUISHED BY: COMPANY NAME: HDW002 COMPANY NAME: RECEIVED BY: Sampler (Signature) AEGO 12 AE6312 JEDM 12 AE 1116 10-AE 1112

Science Applications International Corporation

300 Oak Ridge Tumpike, Oak Ridge, TN 37831 (423) 481-4600

9905340% CHAIN OF CUSTODY RECORD

COC NO .: APOLIG

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PROJECT NUMBER: 01-0331-04-1829-100	1829-100								LABORA	LABORATORY ADDRESS:	RESS:
PROJECT MANAGER: Patty Stoll						0.1				2040 Savage Road Charleston, SC 29407	107
Sampler (Signatura)	(Printed Name)	1		uo	noil be	رامثاء		-0P	PHONE I	PHONE NO: (843) 556-8171	556-8171
Sample ID Date Collected	Laurahu	AUCALLM PL	HqT HqT	Sulfate Sulfide of letoT	vloselQ	100 100 14 Kp			OVA SCREENING		OBSERVATIONS, COMMENTS. SPECIAL INSTRUCTIONS
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AE 1112 1/3				- - -		30 I			-		
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RELINGUISHER BY:	Date/Time	RECEIVED BY:		Date/Time		OTAL NUN	TOTAL NUMBER OF CONTAINERS:	IRS: 40	Cooler 1	Cooler Temperature:	: 3°
King & Yumber	12/11/34	r. Nau	101	8/11/99		Cooler ID:			FEDEX	FEDEX NUMBER:	
T.C.	HOP	COMPANY NAME:		16,50		H)	#4H2				
RECEIVED BY:	Date/Time	RELINQUISHED BY:		Date/Time	Time						
COMPANY NAME:	1400	COMPANY NAME:					•				-
RELINOUISHED BY CELL	Date/Time	RESEIVED BY	WH	Date/Time	ate/Time						
C SAVY NAME:	1650	COMPANY NAME:			250						(

COC NO.: ADDZC OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS LABORATORY NAME: General Engineering Laboratory 3 PHONE NO: (843) 556-8171 LABORATORY ADDRESS: 2040 Savage Road Charleston, SC 29407 Cooler Temperature: FEDEX NUMBER: OVA No. of Bottles/ Vials: TOTAL NUMBER OF CONTAINERS: REQUESTED PARAMETERS CHAIN OF CUSTODY'RECORD 990534013 Alkalinity Cooler 15: 201 cos Methane 16,50 S/11/9.9 16.50 Date/Time Date/Time 5/11/99 Sulfate otentil HAT X3T8 COMPANY NAME: RELINQUISHED BY: COMPANY NAME: COMPANY NAME: water Matrix SALLING REPEIVED BY Laura Lumby RECEIVED BY Time Collected 1255 1756 1525 ニかん 734 (Printed Name) 6,50 800 Oak Ridge Tumpite, Oak Ridge, TN 37831 (423) 481-4500 Date/Time Date/Time 17/1/2 200 1700 PROJECT NUMBER: 01-0331-04-1829-100 Cat Collected 5/10/29 5/10/69 5/10/99 6/1 5/10/9G 5/10/5 PROJECT NAME: HAAF-Pilot Study PROJECT MANAGER: Patty Stoll co M RECEIVED BY: near ンサヤン MELINDUISHED BY COMPANY NAME: RELINGUISHED BY COMPANY NAME: RELIVERO COMPANY NAME AELOO12 AEDGIZ Sampler (Signature) AE6 112 AE6312 AE III april B

9 V

800 Oat Ridge Tumpile, Oak Ridge, TN 37831 (423) 481-4600

49053993 1012

CHAIN OF CUSTODY RECORD

COC NO .: 4/PG 2

OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS LABORATORY NAME: General Engineering Laboratory PHONE NO: (843) 556-8171 Cooler Temperature: 3 LABORATORY ADDRESS: 2040 Savage Road Charleston, SC 29407 FEDEX NUMBER: OVA I I I No. of Bottles/ Vials: I 1 3 I I I I TOTAL NUMBER OF CONTAINERS: REQUESTED PARAMETERS HC VQC Cooler ID: LOC 10 cos enadteN £3/1/8: S/18/99 Date/Time Date/Time P.D. シメン epiling Sulfate 3 Hdl N NN N X3TB N RELINQUISHED BY: COMPANY NAME: COMPANY NAME: COMPANY NAME: 18tel Matrix REGEIVED BY Laura Lumley 1750 930 1512 Time Collected 1355 1337 1337 986 1120 936 1155 1525 1640 (Printed Name) 53/11/5 Date/Time 5/12/99 Date/Time ッカバ Date/Time PROJECT MUMBER: 01-0331-04-1829-100 5/10/99 10/99 15/10/39 5/10/20 Data Collected 5/1999 5/10/99 5/10/59 5/10/99 5/10/199 5/10/99 2/10/99 66/01/5 2/10/99 PROJECT NAME: HAAF-Pilot Study PROJECT MANAGER: Patty Stoll 5 RELINGUISHED BY: E DH12 4DW GOZ COMPANY NAME: RELINIGUISHED BY: 4E DO12 COMPANY NAME: NYMAME AE DUIL AE BOIZ 0.80 4E 1112 4E 6112 Sampler (Signature) AE6412 RECEIVED BY:

# GROUNDWATER ANALYTICAL RESULTS VAPOR TEST WELLS

**MAY 1999** 

Hunter Army Airfield UST CAP-Part B Report Addendum #1 (August 2000) Former Building 728, Facility ID #9-025049

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### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AEV112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS004W1

Matrix: (soil/water) WATER Lab Sample ID: 9905244-12

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 8J414

Level: (low/med) LOW Date Received: 05/08/99

% Moisture: not dec. Date Analyzed: 05/20/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_(uL) Soil Aliquot Volume: \_\_\_\_(uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)		Q	T.
	chloromethane	2.0 2.0 2.0	U	U
	bromomethane	2.0	υ	11.
	vinyl chloride	2.0	U *	4
75-00-3	chloroethane	1.9	J	5
75-09-2	methylene chloride	2.0	U	2-00
67-64-1	acetone	70.6	В	5 F 08
75-15-0	carbon disulfide	5.0	U	0
75-35-4	1,1-dichloroethene		U	2=
75-34-3	1,1-dichloroethane	10.7		3 60
	chloroform	2.0	U	U
107-06-2	1,2-dichloroethane	2.0	U	11
78-93-3	2-butanone	5.0	U	11
71-55-6	1,1,1-trichloroethane	2.0	U	11
56-23-5	carbon tetrachloride	2.0	U	11
75-27-4	bromodichloromethane	5.0 2.0	U	11
78-87-5	1,2-dichloropropane	2.0	U	11
10061-01-5-	cis-1,3-dichloropropene	2.0		11
	trichloroethene	2.0		П
124-48-1	dibromochloromethane	2.0	U	11
	1,1,2-trichloroethane	2.0	U	1
71-43-2		43.7		=
	trans-1,3-dichloropropene	2.0	U	U
	bromoform	2.0	U	U
108-10-1	4-methyl-2-pentanone	8.6		=
591-78-6	2-hexanone	5.0	Ū	U
	tetrachloroethene	2.0	U	1
79-34-5	1,1,2,2-tetrachloroethane	2.0	U	*
108-88-3	toluene	1.8	J	J
	chlorobenzene	2.0	U	U
	ethylbenzene	32.2		=
	styrene	2.0	U	U
	xylenes (total)	32.6		=
540-59-0	1, 2-dichloroethylene (total)	26.6		=

FORM I VOA

OLMO3.0

### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AEV112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA

SDG No.: HPS004W

Matrix: (soil/water) GROUNDH20

Lab Sample ID: 9905244-19

Sample wt/vol:

980.0 (g/mL) ML

Lab File ID: 8U123

Level: (low/med) LOW

Date Received: 05/08/99

% Moisture: decanted: (Y/N)\_\_\_

Date Extracted:05/11/99

Concentrated Extract Volume: 1.00(mL)

Date Analyzed: 05/18/99

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	CONCENTRATION UN (ug/L or ug/Kg)		
108-95-2	phenol	10.2 U	2 /2
	bis(2-chloroethyl)ether	10.2 U	RG
95-57-8	2-chlorophenol	10.2 U	RG
541-73-1	1,3-dichlorobenzene	10.2 U	00
106-46-7	1,4-dichlorobenzene	10.2 U	Ĭ
	1,2-dichlorobenzene	10.2 U	30
108-60-1	2,2'-Oxybis(1-chloropropane)	10.2 U	4
	2-methylphenol	10.2 U	RG
	N-nitroso-di-n-propylamine	10.2 U	U
	3,4-methylphenol	10.2 U	RG
	hexachloroethane	10.2 U	200
	nitrobenzene	10.2 U	Ĭ
78-59-1	isophorone	10.2 U	1
	2-nitrophenol	10.2 U	R G
	2,4-dimethylphenol	10.2 U	RG
111-91-1	bis(2-chloroethoxy)methane	10.2 U	5
	2,4-dichlorophenol	10.2 U	RG
	1,2,4-trichlorobenzene	10.2 U	11
	naphthalene	117	=
106-47-8	4-chloroaniline	20.4 U	-10
	hexachlorobutadiene	10.2 U	U
	4-chloro-3-methylphenol	10.2 U	RG
	2-methylnaphthalene	46.3	
	hexachlorocyclopentadiene	10.2 U	- 5
	2,4,6-trichlorophenol	10.2 U	RG
	2,4,5-trichlorophenol	10.2 U	RG
	2-chloronaphthalene	10.2 U	11
	3-nitroaniline	25.5 U	ĭ
	2-nitroaniline	25.5 U	
	dimethylphthalate	10.2 U	
	2,6-dinitrotoluene	10.2 U	
	acenaphthylene	10.2 U	1
	acenaphthene	74.6	-

FORM I SV-1

OLM03.0

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AEV112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS004W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9905244-19

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: 8U123

Level: (low/med) LOW Date Received: 05/08/99

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_ Date Extracted:05/11/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/18/99

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND (ug/L or ug/kg)	00/2	-1
51-28-5	2,4-dinitrophenol	20.4 U	RG
132-64-9	dibenzofuran	10.2 U	U
121-14-2	2,4-dinitrotoluene	10.2 U	1
84-66-2	diethylphthalate	10.2 U	1
100-02-7	4-nitrophenol	20.4 U	RG
86-73-7	fluorene	10.2 U	1,0
	4-chlorophenylphenylether	10.2 U	U
534-52-1	4,6-dinitro-2-methylphenol	10.2 U	RG
100-01-6	4-nitroaniline	25.5 U	10
101-55-3	4-bromophenylphenylether	10.2 0	1
118-74-1	hexachlorobenzene	10.2 U	1
87-86-5	pentachlorophenol	10.2 U	RG
85-01-8	phenanthrene	10.2 U	11
120-12-7	anthracene	39.9	01
	di-n-butylphthalate	10.2 U	U
206-44-0	fluoranthene	10.2 U	1
129-00-0	nyrana	10.2 U	
85-68-7	butylbenzylphthalate	10.2 U	L
56-55-3	benzo(a) anthracene	14.8	=
91-94-1	3,3'-dichlorobenzidine	51.0 0	- 1
219-01-9	chrysene	10.2 U	10
117-01-7	bis(2-ethylhexyl)phthalate	10.2 U	M
117-84-0	di-n-octylphthalate	10.2 U	11
11/-04-0	benzo(b) fluoranthene	10.2 U	11
203-33-2	benzo(k) fluoranthene	10.2 U	11
20/-00-3	benzo(k) liuoranthene		11
102 20 5	benzo(a)pyrene	10.2 U	
193-39-5	indeno(1,2,3-cd)pyrene	10.2 U	11
53-/0-3	dibenz(a,h)anthracene	10.2 U	11
191-24-2	benzo(g,h,i)perylene	10.2 U	$\Pi$
122-39-4	diphenylamine	10.2 U	
86-74-8	Carbazole	10.2 U	

FORM I SV-2

OLM03.0

### IA VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

et: NA	AEV212	1
o.: NA SDG	No.: HPS004W1	
Lab Sample ID:	9905244-11	
Lab File ID:	8J415	
Date Received:	05/08/99	

Sample wt/vol: 5.000 (g/ml) ML Level: (low/med) LOW

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Case No.: NA

COMPOUND

% Moisture: not dec. \_\_\_\_\_ GC Column: DB-624 ID: 0.25 (mm)

Soil Extract Volume: (uL)

CAS NO.

Matrix: (soil/water) WATER

Lab Code: NA

Dilution Factor: 1.0

Date Analyzed: 05/20/99

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

Soil Aliquot Volume: \_\_\_\_(uL)

74-87-3chloromethane	2.0	U	U
74-83-9bromomethane	2.0	U	The second
75-01-4vinyl chloride	2.0	U "	1
75-00-3chloroethane	3.3		- 2
75-09-2methylene chloride	3.3 2.0	U	
57-64-1acetone	63.2	В	5 FO8, (
75-15-0carbon disulfide	5.0	U	U
/5-35-41,1-dichloroethene	2.0		U
5-34-31.1-dichloroethane	11.1	17	=
57-66-3chloroform	2.0	Ū	U
.07-06-21,2-dichloroethane	2.0		ii.
8-93-32-butanone	10.8	-	=
1-55-61,1,1-trichloroethane	2.0	TT	- 1
66-23-5carbon tetrachloride	2.0		10
5-27-4bromodichloromethane	5.0		
8-87-51,2-dichloropropane	2.0		
.0061-01-5cis-1,3-dichloropropene	2.0		11
9-01-6trichloroethene	2.0		
24-48-1dibromochloromethane	2.0		1
9-00-51,1,2-trichloroethane	2.0		1
1-43-2benzene	39.5		-
0061-02-6trans-1,3-dichloropropene	2.0		- 77
5-25-2bromoform	2.0		1
08-10-14-methyl-2-pentanone		U	=
91-78-62-hexanone	11.8	**	-
27-18-4tetrachloroethene	5.0		0
2.7-16-4tetrachioroethene	2.0		11.
9-34-51,1,2,2-tetrachloroethane 08-88-3toluene	2.0	U	V
08-88-3toluene	3.1		.=
08-90-7chlorobenzene	2.0	U	U
00-41-4ethylbenzene	79.8		=
00-42-5styrene	2.0	U	U
330-20-7xylenes (total)	79.2		=
40-59-01,2-dichloroethylene (total)	40.8	1	=

SAS No.: NA

FORM I VOA

OLMO3.0

### 18 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AEV212

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HPS004W

Matrix: (soil/water) GROUNDH20

Lab Sample ID: 9905244-20

Sample wt/vol: 980.0 (g/mL) ML

Lab File ID: 8U124

Level: (low/med) LOW

CONCENTRATION UNITS:

Date Received: 05/08/99

Capte Analyzed: 05/18/99

Concentrated Extract Volume: 1.00(mL) Injection Volume: 1.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
108-95-2	phenol	10.2 U	R
111-44-4	bis(2-chloroethyl)ether	10.2 U	Ü
95-57-8	2-chlorophenol	10.2 U	R
541-73-1	1,3-dichlorobenzene	10.2 U	
106-46-7	1.4-dichlorobenzene	10.2 U	
95-50-1	1,2-dichlorobenzene	10.2 U	
108-60-1	2.2'-Oxybis(1-chloropropane)	10.2 U	
95-48-7	2-methylphenol	10.2 U	RO
621-64-7	N-nitroso-di-n-propylamine	10.2 U	U
106-44-5	3,4-methylphenol	10.2 U	RO
67-72-1	hexachloroethane	10.2 U	12
98-95-3	nitrobenzene	10.2 U	1
78-59-1	isophorone	10.2 U	N.
88-75-5	2-nitrophenol	10.2 U	RO
105-67-9	2,4-dimethylphenol	10.2 U	RO
111-91-1	bis(2-chloroethoxy)methane	10.2 U	U
120-83-2	2,4-dichlorophenol	10.2 U	RO
120-82-1	1.2.4-trichlorobenzene	10.2 U	U
91-20-3	naphthalene	33.5	=
106-47-8	4-chloroaniline	20.4 U	- u
87-68-3	hexachlorobutadiene	10.2 U	U
59-50-7	4-chloro-3-methylphenol	10.2 U	RO
91-57-6	2-methylnaphthalene	11.2	R
77-47-4	hexachlorocyclopentadiene	10.2 U	U
88-06-2	2.4.6-trichlorophenol	10.2 U	RO
95-95-4	2,4,5-trichlorophenol	10.2 U	RO
91-58-7	2-chloronaphthalene	10.2 U	11
99-09-2	3-nitroaniline	25.5 U	l i
88-74-4	2-nitroaniline	25.5 U	
	dimethylphthalate	10.2 U	- 11
506-20-2	2,6-dinitrotoluene	10.2 U	
208-96-8	acenaphthylene	10.2 U	
33-32-9	acenaphthene	7.0 J	5

FORM I SV-1

OLM03.0