ATTACHMENT D
SAMPLE LOGBOOK

SAMPLE LOGBOOK

Date (dd/mmm/yy): 16 Oct 90 CFA 680

Field Team Members:

V. Daniel J. Howard
S. Branch L. Jensen
D. Hood
R. Gonzalez
J. Empey

Weather: Cool & Sunny 60°

Narrative (description of field sampling activities with time and location, description of sampling point, and samples collected.):

Begin Backhoeing 12:30. The soil was removed and placed in Dumptruck until backfilling process begin. The reason for putting the soil directly into trucks was because their was not enough space to operate properly with the room provided with the soil present. The tank CFA 680 was small so it didn't take long to pull the tank. The 1st Voc reading was 5 ppm and the 2nd Voc reading at 3 ft was 7 ppm and the 3rd was 11.7 ppm. This reading from the Microtip PhotoVac indicated that the soil was clean. The samples was pulled and the field VOC reading taken and the hole backfilled with the truck load of soil.

RECORDED BY: V. Daniel (Signature) QA CHECK BY: K. Mudry (Signature)

SAMPLE LOGBOOK

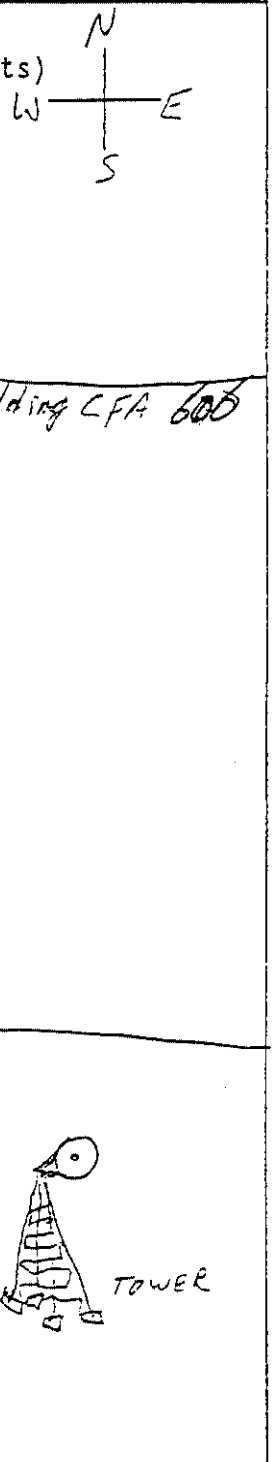
Field Voc readings with MicroTip

UC30001T2 => 2.8 ppm
UC30101T2 => 2.9 ppm
UC30201T2 => 6.3 ppm
UC30202T2 => 7.0 ppm
UC30301T2 => 4.7 ppm
UC30401T2 => 5.3 ppm

RECORDED BY: Vincent Daniel QA CHECK BY: [illegible]

SAMPLE LOGBOOK

MAP OF SAMPLING LOCATION:
(include location of sampling points and reference points)



Note: CFA 680 contained gasoline 55 gallon in (capacity)

RECORDED BY: [signature] QA CHECK BY: [signature]

SAMPLE LOGSHEET

DATE(DD/MMM/YY): 16 Oct 90 LOCATION: CEA 680

SAMPLE TYPE: (0) Normal (1) Equip. Blank (PRIOR) (2) Trip Blank (3) Replicate (4) Split (5) Equip. Blank (POST) (6) Spike (7) Other _____

ID NO.:	CODE	ID NO.:	CODE	ID NO.:	CODE
UC3000T2					
UC3010T2					
UC3020T2					
UC3020T2					
UC3030T2					
UC3040T2					

SPECIFIC SAMPLING POINT(S)/LOCATIONS AND DEPTH: POINT (LOCATION) Excavation FROM DEPTH 1 TO 5 ft (UNITS) BELOW SURFACE

SAMPLE METHOD: CODE: (0)
(0) Grab (1) Spatial Comp. (2) Time Comp. (3) Other _____

S. . DESCRIPTION: CODE (01)

SOIL/ROCK	SEDIMENT/SLUDGE	LIQUIDS
(00) Surf. Soil	(05) Pond/Impoundment	(08) Pond/Impoundment
(01) Sub. Surf. Soil	(06) Drum/Tank	(09) Drum/Tank
(02) Basalt	(07) Other	(10) Plant Discharge
(03) Sediment Interbed	AIR/GAS	(11) Spring/Seep
(04) Other	(15) Soil Gas	(12) Perched Aquifer
	(16) Other	(13) Regional Aquifer
Other: _____		(14) Other

(list field measurements of the samples)

FIELD MEASUREMENTS: See page 1/4

		Units	Instr. Make/Model	Instr. No.:
pH:				
temperature:				

SAMPLING AND ANALYSIS PLAN FOLLOWED: NO (___) YES (✓) IF NO EXPLAIN DEVIATIONS:

REC D BY: [signature] QA CHECK BY: [signature]

SAMPLE LOGSHEET

SAMPLE ID NUMBER	CONTAINER		ANALYSIS	PRESERVATIVE
	VOLUME	TYPE		TYPE/VOLUME
WC30001T2	250ml	WMG	TPH, BTEX	4°C
WC30101T2				
WC30201T2				
WC30202T2				
WC30301T2				
WC30401T2				

RECORDED BY: [signature] QA CHECK BY: K M Leski

ATTACHMENT E
LABORATORY ANALYTICAL RESULTS

ORIGINAL

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Form ARF-AL
Page 1 of 1
Part 1 of 1

CFA-680+ CFA-641 U

RECEIVED
JAN 3 1991
Environmental Restoration Program
ERDC

Date 12/20/90
Agency Identification Number S90-0907
Account No. 03018

EG&G Idaho, Inc.
P.O. Box 1625
MS 1406
Idaho Falls, ID 83402
Attention: Vincent Daniel

Unqualified Data ☑
Unvalidated Data ☑
FOR EG&G INTERNAL USE ONLY
Date: 1-3-91
FAX
Telephone (207) 525-5650

Sampling Collection and Shipment

Sampling Site UST Excavation Date of Collection August 16, 1990

Date Samples Received at DataChem October 18, 1990

Analysis

Method of Analysis HEADSPACE-GC

Date(s) of Analysis October 23, 1990

Analytical Results

Field Sample Number	DataChem Lab Number	Sample Type	TPH-Gasoline µg/g	Benzene µg/g	Ethyl Benzene µg/g	Toluene µg/g	Xylene µg/g			
UC14001T2	EJ 5615	SOIL	ND*	ND*	ND*	ND*	ND*			
UC14101T2	EJ 5616	SOIL	ND*	ND*	ND*	ND*	ND*			
UC14201T2	EJ 5617	SOIL	ND*	ND*	ND*	ND*	ND*			
UC14202T2	EJ 5618	SOIL	ND*	ND*	ND*	ND*	ND*			
UC14301T2	EJ 5619	SOIL	ND*	ND*	ND*	ND*	ND*			
UC14401T2	EJ 5620	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30001T2	EJ 5621	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30101T2	EJ 5622	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30201T2	EJ 5623	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30202T2	EJ 5624	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30301T2	EJ 5625	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30401T2	EJ 5626	SOIL	ND*	ND*	ND*	ND*	ND*			
*Limit of Detection			.10	.05	.05	.05	.1			

* See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** Parameter not analyzed(See comment on last page).
( ) Parameter between LOD and LOQ.

Thomas N. Bosch
Analyst:

Terry Roth
Reviewer: Kerry Roth

Terry P. Vayo
Laboratory Supervisor: Terry P. Vayo

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

Sample Log Sheet

Tank ID No. CFA 680 Date (dd/mmm/yy) 22/MAY/89
Tank Owner (Name and Number) Dixie Lambert Time: 09:00
Tank Capacity and Dimensions _____

Description of Sample Location (including access port diameter): North side of Bldg 680 - inside cement manhole

Type of Waste (suspected) Gasoline

Collection Technique:

(✓) peristaltic pump ( ) coliwassa
( ) bacon bomb ( ) other _____

Description of Sample: Yellowish orange - contains some darker material on bottom mixed with oil

( ) composite (✓) grab Sample depth below surface _____ in.

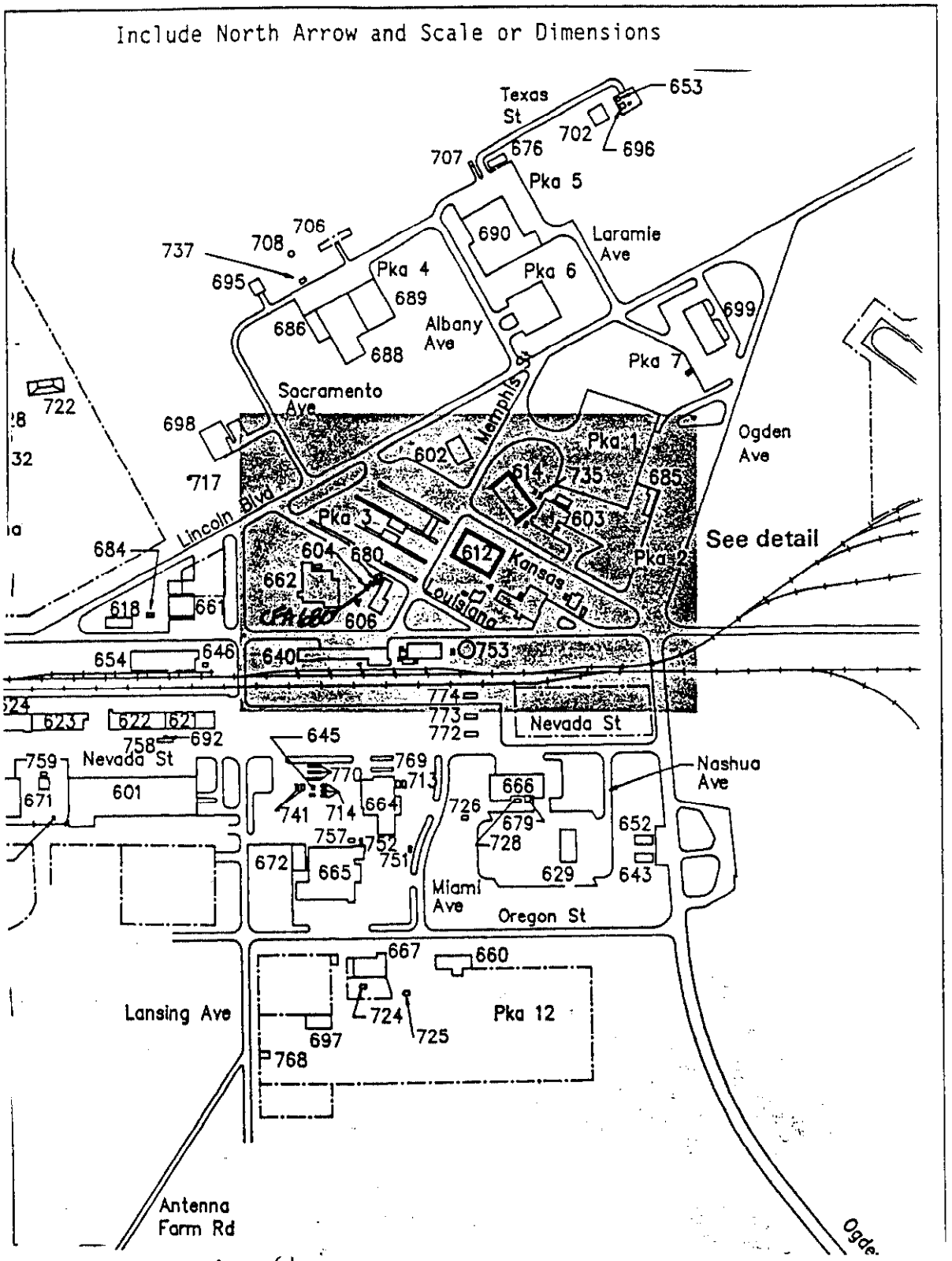
Field Measurements:	Reading	Units (if applicable)
HNU		
LEL Meter	25%	
Radioactivity	Bkgrd.	
Background Radioactivity		
Other:		

Sludge Depth _____ in. Liquid Level Depth 14 in.

Field Observations (include weather observations): Sunny, Calm

Recorded by: P. Permann Checked by: Linda Wallace

FIELD SKETCH OF TANK LOCATION



Recorded by: PJ Kermann Checked By: _____

TABLE OF CONTENTS

Tank I.D. number	Sampling Location	Date Sampled	Sample Logsheet (Pg #)
CFA 641	CFA	19 May 89	0005
CFA UNK-1	CFA	19 May 89	0010
CFA 640-E	CFA	19 May 89	0015
CFA 725	CFA	19 May 89	0020
CFA 667N	CFA	19 May 89	0025
CFA 667S	CFA	19 May 89	0030
CFA 680	CFA	22 May 89	0035
CFA 674B	CFA	22 May 89	0040
CFA 674S	CFA	22 May 89	0045
CFA 656	CFA	22 May 89	0050
CFA 727	CFA	22 May 89	0055
CFA 740	CFA	22 May 89	0060
CFA 681	CFA	22 May 89	0065
* CFA UNK-4	CFA	22 May 89	0070
CFA 746	CFA	22 May 89	0075
WMO 703	WMO	23 May 89	0080
WMO 705	WMO	23 May 89	0085
WMO 704S	WMO	23 May 89	0090
WMO 704N	WMO	23 May 89	0095
EBR 707	EBRI	23 May 89	0100
EBR 706	EBRI	23 May 89	0105
EBR 708	EBRI	23 May 89	0110
ARA III 611	ARA II	23 May 89	0115
ARA II 606	ARA II	23 May 89	0120
ARA I 629 (743)	ARA I	23 May 89	0125
ARA III 735/736	ARA III	24 May 89	0130
ARA II 719	ARA II	24 May 89	0135
* CFA UNK4	CFA	24 May 89	0140
CFA 674W	CFA	21 Jun 89	0145
PBF 608	PBF Substation	27 Jun 89	0150
CFA 674W SS	CFA	30 JUN 89	0160
CFA 674W TS	CFA	06 JUL 89	0165
CFA 605W	CFA (W. of 605)	~~06 JUL~~ 29 JUN 89	0155

TANK SAMPLING & DISPOSAL CHECKLIST [1]

TANK NUMBER CFA 1680

Tank Content Sampling

Content Sampling Required: YES ____ NO ____ DATE 6-26-90

Doc. #	Received
1) Hazardous Waste Manifest (Hazardous Waste Only)	
2) Waste Profile Sheet-669 Report (Hazardous Waste Only)	X
3) Gamma Analysis (Hazardous Waste Only)	
4) Product Removal/Disposal Documentation	X
5) Product Disposal Recommendations/Suggestions	
6) Sample Analysis Validation	
7) Chain of Custody Documentation	
8) Sample Analysis Results	X
9) Sample Logbook (copy)	X

Tank Removal Sampling

Removal Sampling Complete: YES ____ NO ____ DATE 10-16-90

Doc. #	Received
10) Hazardous Waste Manifest (Hazardous Waste Only)	
11) Waste Profile Sheet-669 Report(Hazardous Waste Only)	
12) Gamma Analysis (Hazardous Waste Only)	
13) Analysis of Results / Recommendation	
14) Sample Analysis Validation	
15) Chain of Custody Documentation	
16) Sample Analysis Results	X
17) Sample Logbook (copy)	X

Sludge Sampling

Sludge Sampling Complete: YES ____ NO ____ DATE _____

Doc. #	Received
18) Hazardous Waste Manifest (Hazardous Waste Only)	
19) Waste Profile Sheet-669 Report(Hazardous Waste Only)	
20) Gamma Analysis (Hazardous Waste Only)	
21) Product Removal/Disposal Documentation	
22) Product Disposal Recommendations/Suggestions	
23) Sample Analysis Validation	
24) Chain of Custody Documentation	
25) Sample Analysis Results	
26) Sample Logbook (copy)	

[1] Revised 2/7/91

UST PRODUCT REMOVAL FORM

Tank # CFA 680 Date 8-21-90

Location and Building # Next to 606, East of Cafeteria

Tank Contents Gasoline

Amount of Product Removed (Gallons) ~110 gallons in a 55 gallon tank (?)

Removal Company (Print) H+M Oil

Drivers Name JIM Amos Drivers Signature Jim Amos

Comments (Map, Description, Weather, etc.) Needed ground cables to pump

- Looks like 110 gallons. Truck level was not measured prior to pumping.
Will know tank size when removed.

Witness (Print) Martha J Gatt Signature [illegible]

Tank Project Manager (Print) _____ Signature _____

cc: C. L. Nash, MS 8101
UST Project Files

EG&G Idaho Inc
FORM EG&G 669
(Rev. 06-87)

GENERATOR'S HAZARDOUS WASTE MATERIAL PROFILE SHEET

Waste Profile Sheet Code [ ]
Facility: _____

A. General Information

Generator Name: Department of Energy (DOE-ID) Charge No. _____

Facility Address: DOE
P.O. Box 1625
Idaho Falls, Idaho 83415 Organization No. _____

Technical Contact: [illegible] Title: [illegible] Phone: [illegible]

Name of Waste: [illegible] of Fuel [illegible]

Process Generating Waste: Fuel Storage Storage

B. Physical Characteristics of Waste

Color

Physical state @ 70°F: ☐ Solid ☒ Liquid ☐ Semi-solid ☐ Powder

Layers: ☐ Multilayered ☐ Bi-layered ☒ Single phased

Free Liquids: ☐ Yes ☐ No Volume _____ %

pH: ☐ <2 ☐ 2—4 ☐ 4.1—6.9 ☐ 7 ☐ 7.1—10 ☒ N/A ☐ 10.1—12.5 ☐ >12.5 ☐ Exact _____

Specific Gravity: ☐ 0.8 ☐ 0.8—1.0 ☐ 1.1—1.2 ☒ Exact 0.81 g/ml ☐ 1.3—1.4 ☐ 1.5—1.7 ☐ >1.7

Flash Point: ☐ 70°F ☐ 70°F—100°F ☐ 101°F—139°F ☐ 140°F—200°F ☐ No Flash ☐ >200°F ☒ Exact 33°C ☒ Closed Cup ☐ Open Cup

C. Incineration Information

Not Analyzed

_____ Btus Heat of Combustion

_____ % Ash Content

_____ % Halogen Content

D. Chemical Composition (Totals must add to 100% or attach analysis sheet) Loaded Resin 100 %

Loaded Resin	100 %
	%
	%
	%
	%
	%
	%
	%
	%
	%

E. Metals ☐ Total (ppm) ☒ EPA Extraction Procedure (mg/L)

Arsenic (As)	[illegible]	Selenium (Se)	[illegible]
Barium (Ba)	[illegible]	Silver (Ag)	[illegible]
Cadmium (Cd)	[illegible]	Copper (Cu)	[illegible]
Chromium (Cr)	[illegible]	Nickel (Ni)	[illegible]
Mercury (Hg)	[illegible]	Zinc (Zn)	13.713
Lead (Pb)	7.700	Thallium (Tl)	[illegible]
Chromium-Hex (Cr+6)	N/A		

F. PCB Not Analyzed ppm

☐ Oil ☐ Transformers ☐ Capacitors ☐ Debris

G. Reactivity Characteristics: ☐ None Not Analyzed

☐ Pyrophoric ☐ Shock-sensitive ☐ Water-reactive

☐ Explosive ☐ Chemically unstable ☐ Cyanide or sulfides

H. ☐ New waste stream

If new stream, provide representative sample in one-liter (quart) glass or plastic container.

☐ Sample sent.

I. Present volume to be shipped to HWSF

_____ Drums
_____ Gallons
_____ Pounds

J. _____ Anticipated volume per year.

☐ Drums ☐ Cu. feet
☐ Gallons ☐ Cu. yards
☐ Pounds ☐ Tons

K. ☐ Radioactive

☒ Nonradioactive

If radioactive, attach spectral analysis.

☐ Spectral analysis attached.

Principal Nuclide(s): Not Analyzed Activity (Ci):

Total Activity: _____ Ci

Specific Activity: _____ Ci/g

L. Special handling, procedures, comments: The sample exhibited detectable radioactivity of loaded resin.

I hereby certify that all information submitted in this and all attached documents is complete and accurate, and that all known or suspected hazards have been disclosed.

Authorized Signature	Title	Date
[signature]	[illegible]	5-26-90

Copies 1 & 2 — Waste Management Copy 3 — Generator Retain

Idaho National Engineering Laboratory

EG&G Idaho, Inc.
Environmental Chemistry Unit
P.O. Box 1625, MS 4123
Idaho Falls, ID 83415

This report of analysis (ROA) presents the analytical results for the analyses you requested. Sample identification, sampling information, and laboratory analysis information are listed in a column for each sample. Analytical results are listed by analytical parameter below the sample identification information. Acronyms and abbreviations used are defined at the end of the report. A letter and/or letter number flag immediately to the right of a parameter, method, PQL and units, result, or any other entry indicates an amplifying comment also provided at the end of the report.

REPORT OF ANALYSIS
INEL Tank Closure Program

Prepared for:

Michael J. Nolan
Tank Closure Program Manager
Environmental Restoration Program
EG&G Idaho, Inc.
P.O. Box 1625, MS 8105
Idaho Falls, ID 83415

Report Identification:

ROA Number:	890073-I
Date:	06/26/90
Charge No.:	3RIF08400
Page:	1

Analysis Results Summary for Tank CFA 680

Cancellation:
-ROA 890073-F, 06/07/90

This report provides results for the following:
-Ignitability
-Total metals
-Toxicity Extraction Procedure (EP) and metal analyses of the extract. Results reported in this ROA supercede those reported on 06/07/90, ROA 890073-F and 890073-C, 04/11/90. An error in data reduction caused the reported EP Toxicity metals concentrations for the sample to be understated by a factor of 1000. (Values reported for ignitability and total metals are unchanged from the previous report.)

Summary: EP Toxicity - The sample does exhibit the characteristics of EP Toxicity for metals.

Total metals results are normally reported in units of mg/kg for nonaqueous liquids, so total concentrations were multiplied by the liquid phase density to convert to units of ug/L for comparison to the EP Toxicity regulatory limits.

Several analytes have a reported < value (the sample specific PQL), which indicates that the analytes were not detected in this sample at levels exceeding the PQLs. The listed values are near to or exceed the maximum regulatory limits for the analytes; however, since the analytes were not detected in the total metals analysis, it is unlikely that the actual sample concentrations would exceed the regulatory limits.

Ignitability - Sample CFA680LL01 does exhibit the hazardous characteristic of Ignitability.

EG&G Idaho, Environmental Chemistry, ROA 890073-I

Pag

Sampling Site:		CFA
Tank ID:		CFA 680
Sample Type:	Blank	Liquid
Customer Sample ID:		CFA680LL01
Sampling Date:		05/22/89
Date Received:		05/22/89
Lab Sample ID:	PB	9M1A0903
Date Digested:	02/17/90	02/17/90
Date Analyzed:	03/02/90	03/02/90
Mercury Date Digested:	03/07/90	03/07/90
Mercury Date Analyzed:	03/09/90	03/09/90
Remarks:	Lab Blank	

Parameter	Method	PQL and Units	Result	Result
Metals AA - ICP				Comment M15
Arsenic	EPA SW-846 6010	25.0 mg/kg	< 25.0	< 24.4
Barium	EPA SW-846 6010	20.0 mg/kg	< 20.0	< 19.5 S6
Cadmium	EPA SW-846 6010	0.50 mg/kg	< 0.50	< 0.49
Chromium	EPA SW-846 6010	1.0 mg/kg	< 1.0	< 0.98
Copper	EPA SW-846 6010	2.5 mg/kg	< 2.5	< 2.4
'	EPA SW-846 6010	15.0 mg/kg	< 15.0	70.8 S6
Mercury	EPA SW-846 7470	0.020 mg/kg	< 0.020	< 0.020
Nickel	EPA SW-846 6010	4.0 mg/kg	< 4.0	< 3.9
Selenium	EPA SW-846 6010	30.0 mg/kg	< 30.0	< 29.3
Silver	EPA SW-846 6010	1.0 mg/kg	< 1.0	< 0.98
Thallium	EPA SW-846 6010	50.0 mg/kg	< 50.0	< 48.8
Zinc	EPA SW-846 6010	2.0 mg/kg	79.0	16.9 B

EG&G Idaho, Environmental Chemistry, ROA 890073-I

Pag

Sampling Site:	CFA
Tank ID:	CFA 680
Sample Type:	Liquid
Customer Sample ID:	CFA680LL01
Sampling Date:	05/22/89
Date Received:	05/22/89
Lab Sample ID:	9MIA0903
Date Digested:	02/17/90
Date Analyzed:	03/02/90
Mercury Date Digested:	03/07/90
Mercury Date Analyzed:	03/09/90
Remarks:	

Hazardous Waste Characterization as prescribed by Resource Conservation and Recovery Act (PL 94-580)

Parameter	Method	Units	Result		Regulatory Definition (comment RD2)
EP Toxicity	EPA SW-846 1310		Comments EP8,EP9,EP10		
Metals AA-ICP					(max. conc.)
Arsenic	EPA SW-846 6010	ug/L	< 19900		5000
Barium	EPA SW-846 6010	ug/L	< 15900		100000
Cadmium	EPA SW-846 6010	ug/L	< 400		1000
mium, Total	EPA SW-846 6010	ug/L	< 800		5000
Lead	EPA SW-846 6010	ug/L	57700	EP9	5000
Mercury	EPA SW-846 7470	ug/L	< 16.0		200
Selenium	EPA SW-846 6010	ug/L	< 23900		1000
Silver	EPA SW-846 6010	ug/L	< 800		5000
Organic Compounds in Extract	NA				
Corrosivity (pH)	NA				
					(min. temp.)
Ignitability	EPA SW-846 1010	20 C	23 C	HI1	60
Reactivity	NA				

Legend:

BPQL = Below practical quantitation level. See PQL definition for further explanation of practical quantitation level.

NA = Not Analyzed.

PQL = Practical quantitation level. This is the lowest concentration reliably measurable (i.e., 33% maximum uncertainty in precision and accuracy at the one standard deviation confidence level) for normal samples during routine laboratory operations.

< = Less than. The value reported immediately following the less than symbol is the practical quantitation level (PQL) for the analyte. See the PQL definition for further explanation of the PQL. The reported PQL is adjusted for differences in sample weight, sample volume, sample moisture content, and analysis dilutions whenever those parameters differ from that specified for the standard analytical procedure.

Comments:

B The presence of this element/compound in the associated laboratory method blank indicates the analyte found in the sample may be partially or completely a result of laboratory contamination.

EP8 The reported < value (the sample specific PQL) indicates that the analyte was not detected in this sample phase at levels exceeding the PQL. The listed value is near to or exceeds the maximum regulatory limit; however, since the analyte was not detected in the total metals analysis, it is unlikely that the actual sample concentration would exceed the regulatory limit.

EP9 The sample does exhibit the characteristics of EP Toxicity for metals for this phase (i.e., metal concentrations exceed the regulatory maximum concentration).

J Total metals results are normally reported in units of mg/kg for nonaqueous liquids, so total concentrations were multiplied by the liquid phase density to convert to units of ug/L for comparison comparison to the EP Toxicity regulatory limits.

HI1 The sample does exhibit the hazardous characteristic of Ignitability.

M15 The nonaqueous liquid was digested using SW-846 Method 3030 (a sulfuric acid reflux). Reported values for barium may be biased low by up to 80%, as indicatd by QC data, due to precipitation as barium sulfate. Mercury analysis was performed on a portion of the Method 3030 digestate.

RD2 Source of the regulatory definitions is the Resource Conservation and Recovery Act.

S6 Reported concentrations are highly uncertain and may underestimate true values by at least a factor of two. The sample composition caused severe chemical interferences with the analysis (i.e., 0 - 50 % matrix spike recoveries).

Technical and Quality Review:

Shelly J. Sailer
Inorganic Technical Leader

Technical and Quality Review:

Not required

Michael J. Connolly, Ph. D.
Organic Technical Leader

Quality Assurance Review:

Nancy Roberts
Quality Assurance Officer

Release Authorization:

Joseph T. Bennett, Ph. D.
Laboratory Manager

EG&G Idaho Inc
FORM EG&G 369
(Rev. 06-87)

GENERATOR'S HAZARDOUS WASTE MATERIAL PROFILE SHEET

Waste Profile Sheet Code [ ]
Facility: _____

A. General Information

Generator Name: Department of Energy (DOE-ID) Charge No. _____

Facility Address: INEL Organization No. _____
PO Box 1625
Idaho Falls Idaho 83415

Technical Contact: [illegible] Title: [illegible] Phone: 526-8232

Name of Waste: [illegible] 680

Process Generating Waste: Tank Closure Program

B. Physical Characteristics of Waste

Color

Physical state @ 70°F
- ☐ Solid
- ☒ Liquid
- ☐ Semi-solid
- ☐ Powder

Layers
- ☐ Multilayered
- ☐ Bi-layered
- ☒ Single phased

Free Liquids ☐ Yes ☐ No
Volume _____ %

pH:
- ☐ <2
- ☐ 2—4
- ☐ 4.1—6.9
- ☐ 7
- ☐ 7.1—10
- ☐ 10.1—12.5
- ☐ >12.5
- ☐ Exact _____
- ☒ N/A

Specific Gravity
- ☐ 0.8
- ☐ 0.8—1.0
- ☐ 1.1—1.2
- ☐ Exact _____
- ☐ 1.3—1.4
- ☐ 1.5—1.7
- ☐ >1.7
- ☐ Not Analyzed

Flash Point
- ☐ 70°F
- ☐ 70°F—100°F
- ☐ 101°F—139°F
- ☐ 140°F—200°F
- ☐ No Flash
- ☐ >200°F
- ☐ Exact 23°C
- ☒ Closed Cup
- ☐ Open Cup

C. Incineration Information

Not Analyzed

_____ Btus
Heat of Combustion

_____ %
Ash Content

_____ %
Halogen Content

D. Chemical Composition (Totals must add to 100% or attach analysis sheet)

[illegible]	100%
	%
	%
	%
	%
	%
	%
	%
	%
	%

E. Metals ☐ Total (ppm) ☒ EPA Extraction Procedure (mg/L)

Arsenic (As)	[illegible]	Selenium (Se)	[illegible]
Barium (Ba)	[illegible]	Silver (Ag)	[illegible]
Cadmium (Cd)	[illegible]	Copper (Cu)	[illegible]
Chromium (Cr)	[illegible]	Nickel (Ni)	[illegible]
Mercury (Hg)	[illegible]	Zinc (Zn)	0.0135
Lead (Pb)	0.0577	Thallium (Tl)	[illegible]
Chromium-Hex (Cr+6)	N/A		

F.
PCB Not Analyzed ppm
☐ Oil ☐ Transformers ☐ Capacitors ☐ Debris

G. Reactivity Characteristics: ☐ None Not Analyzed
☐ Pyrophoric ☐ Shock-sensitive ☐ Water-reactive
☐ Explosive ☐ Chemically unstable ☐ Cyanide or sulfides

H. ☐ New waste stream
If new stream, provide representative sample in one-liter (quart) glass or plastic container.
☐ Sample sent.

I. Present volume to be shipped to HWSF
_____ Drums
_____ Gallons
_____ Pounds

J. _____ Anticipated volume per year.
☐ Drums ☐ Cu. feet
☐ Gallons ☐ Cu. yards
☐ Pounds ☐ Tons

K. ☐ Radioactive
☒ Nonradioactive
If radioactive, attach spectral analysis.
☐ Spectral analysis attached.

Principal Nuclide(s):	Activity (Ci):

Total Activity: _____ Ci
Specific Activity: _____ Ci/g

L. Special handling, procedures, comments: The sample exhibited detectable levels of 2-methylnaphthalene, Anthracene, Chrysene, Fluorene, Naphthalene, Phenanthrene, Pyrene, Benzene, Anthracene, Toluene and Xylene. (Gasoline)

I hereby certify that all information submitted in this and all attached documents is complete and accurate, and that all known or suspected hazards have been disclosed.

Authorized Signature	Title	Date
[illegible]	Specialist	4-20-90

Copies 1 & 2 — Waste Management Copy 3 — Generator Retain

EG&G Idaho, Inc.
Environmental Chemistry
P.O. Box 1625, MS 4123
Idaho Falls, ID 83415

This report of analysis (ROA) presents the analytical results for the analyses you requested. Sample identification, sampling information, and laboratory analysis information are listed in a column for each sample. Analytical results are listed by analytical parameter below the sample identification information. Acronyms, abbreviations, and symbols used are defined at the end of the report. A letter and/or letter number flag immediately to the right of a parameter, method, PQL and units, result, or any other entry indicates an amplifying comment also provided at the end of the report.

REPORT OF ANALYSIS
INEL Tank Closure Program

Prepared for:

W.A. Rhoades
Tank Closure Program Manager
Environmental Restoration Program
EG&G Idaho, Inc.
P.O. Box 1625, MS 8101
Idaho Falls, ID 83415

Report Identification:

ROA Number:	268
Date:	01/05/90
Charge No.:	3R1F08400
Page:	1

Analysis Results Summary for Tank CFA 680

This report provides results for the following:

- Volatile Organic Compounds
- Semivolatile Organic Compounds

Due to the sample matrix (a liquid with numerous particles), the aliquots analyzed for Volatile Organic Compounds and Semivolatile Organic Compounds were measured gravimetrically rather than volumetrically. For this reason, the concentrations are reported in ug/kg, rather than ug/L. The concentrations in terms of ug/L would be slightly higher than the ug/kg reported.

Customer Sample ID:	LAB BLANK	CFA680LL01
Sample Type:		Liquid
Date Sampled:	/ /	05/22/89
Date Received:	/ /	05/22/89
Lab Sample ID:	SBLK0903	9MIA0903
Date Extracted:	11/09/89	11/09/89
Date Analyzed:	12/07/89	12/07/89

Parameter	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg
Semi-volatile Organic Compounds EPA Method 8270						
1,2,4,5-Tetrachlorobenzene	< 9900	< 99000				
1,2,4-Trichlorobenzene	< 9900	< 99000				
1,2-Dichlorobenzene	< 9900	< 99000				
1,3-Dichlorobenzene	< 9900	< 99000				
1,4-Dichlorobenzene	< 9900	< 99000				
1-Chloronaphthalene	< 9900	< 99000				
1-Naphthylamine	< 9900	< 99000				
2,3,4,6-Tetrachlorophenol	< 9900	< 99000				
2,4,5-Trichlorophenol	< 9900	< 99000				
2,4,6-Trichlorophenol	< 9900	< 99000				
2,4-Dichlorophenol	< 9900	< 99000				
2,4-Dimethylphenol	< 9900	< 99000				
2,4-Dinitrophenol	< 49500	< 495000				
2,4-Dinitrotoluene	< 9900	< 99000				
2,6-Dinitrotoluene	< 9900	< 99000				
2-Chloronaphthalene	< 9900	< 99000				
2- phenol	< 9900	< 99000				
2-. naphthalene	< 9900	2905375				
2-Methylphenol	< 9900	< 99000				
2-Naphthylamine	< 9900	< 99000				
2-Nitroaniline	< 49500	< 495000				
2-Nitrophenol	< 9900	< 99000				
2-Picoline	< 49500	< 495000				
3,3'-Dichlorobenzidine	< 19500	< 195000				
3-Methylcholanthrene	< 9900	< 99000				
3-Nitroaniline	< 49500	< 495000				
4,6-Dinitro-2-methyl phenol	< 49500	< 495000				
4-Aminobiphenyl	< 19500	< 195000				
4-Bromophenyl phenyl ether	< 9900	< 99000				
4-Chloro-3-methylphenol	< 19500	< 195000				
4-Chloroaniline	< 19500	< 195000				
4-Chlorophenyl phenyl ether	< 9900	< 99000				
4-Methylphenol	< 9900	< 99000				
4-Nitroaniline	< 49500	< 495000				
4-Nitrophenol	< 49500	< 495000				
7,12-Dimethylbenz(A)anthracene	< 9900	< 99000				
A,A-Dimethylphenethylamine	< 19500	< 195000				
Acenaphthene	< 9900	< 99000				
Acenaphthylene	< 9900	< 99000				
Acetophenone	< 9900	< 99000				
Aldrin	< 19500	< 195000				

Customer Sample ID:	LAB BLANK	CFA680LL01				
Parameter	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg
emi-volatile Organic Compounds EPA Method 8270						
Alpha-BHC	< 19500	< 195000				
Alpha-endosulfan	< 19500	< 195000				
Aniline	< 9900	< 99000				
Anthracene	< 9900	< 99000				
BIS(2-Chloroethoxy)methane	< 9900	< 99000				
BIS(2-Chloroethyl) Ether	< 9900	< 99000				
BIS(2-Chloroisopropyl)ether	< 9900	< 99000				
BIS(2-ethylhexyl)phthalate	41535	< 99000				
Benzidine	< 49500	< 495000				
Benzo(G,H,I)perylene	< 9900	< 99000				
Benzo(a)anthracene	< 9900	< 99000				
Benzo(a)pyrene	< 9900	< 99000				
Benzo(b)fluoranthene	< 9900	< 99000				
Benzo(k)fluoranthene	< 9900	< 99000				
Benzoic Acid	< 49500	< 495000				
Benzyl Alcohol	< 19500	< 195000				
Beta-BHC	< 19500	< 195000				
Beta-endosulfan	< 19500	< 195000				
Butylbenzylphthalate	< 9900	< 99000				
Chrysene	< 9900	< 99000				
Delta-BHC	< 19500	< 195000				
Di-n-[illegible] phthalate	< 9900	< 99000				
Di-n [illegible]hthalate	< 9900	< 99000				
Diben[illegible]H)anthracene	< 9900	< 99000				
Dibenzofuran	< 9900	< 99000				
Dieldrin	< 19500	< 195000				
Diethyl Phthalate	< 9900	< 99000				
Dimethyl Phthalate	< 9900	< 99000				
Dimethylaminoazobenzene	< 9900	< 99000				
Diphenylamine	< 9900	< 99000				
Endosulfan sulfate	< 19500	< 195000				
Endrin	< 19500	< 195000				
Endrin ketone	< 19500	< 195000				
Ethylmethanesulfonate	< 19500	< 195000				
Fluoranthene	< 9900	< 99000				
Fluorene	< 9900	< 99000				
Gamma-BHC	< 19500	< 195000				
Heptachlor	< 19500	< 195000				
Heptachlor epoxide	< 19500	< 195000				
Hexachlorobenzene	< 9900	< 99000				
Hexachlorobutadiene	< 9900	< 99000				
Hexachlorocyclopentadiene	< 9900	< 99000				
Hexachloroethane	< 9900	< 99000				
Indeno(1,2,3-CD)pyrene	< 9900	< 99000				
Isophorone	< 9900	< 99000				
Methoxychlor	< 19500	< 195000				
Methylmethanesulfonate	< 9900	< 99000				

Continued

Customer Sample ID:	LAB BLANK	CFA680LL01				
Parameter	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg
Semi-volatile Organic Compounds EPA Method 8270						
N-Nitrosodibutylamine	< 9900	< 99000				
N-nitroso-di-propylamine	< 9900	< 99000				
N-nitrosodimethylamine	< 9900	< 99000				
N-nitrosodiphenylamine	< 9900	< 99000				
Naphthalene	< 9900	2478710				
Nitrobenzene	< 9900	< 99000				
P,P'-DDD	< 19500	< 195000				
P,P'-DDE	< 19500	< 195000				
P,P'-DDT	< 19500	< 195000				
Pentachlorobenzene	< 9900	< 99000				
Pentachloronitrobenzene	< 19500	< 195000				
Pentachlorophenol	< 49500	< 495000				
Phenacetin	< 19500	< 195000				
Phenanthrene	< 9900	8115 J				
Phenol	< 9900	< 99000				
Pronamide	< 9900	< 99000				
Pyrene	< 9900	< 99000				

Customer Sample ID:	LAB BLANK	CFA680LL01
Sample Type:		Liquid
Date Sampled:	/ /	05/22/89
Date Received:	/ /	05/22/89
Lab Sample ID:	V8LK0903	9MIA0903
Date Extracted:	12/12/89	12/12/89
Date Analyzed:	12/12/89	12/12/89

Parameter	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg
Volatile Organic Compounds EPA Method 8240						
1,1,1-Trichloroethane	< 250000	< 185185				
1,1,2,2-Tetrachloroethane	< 250000	< 185185				
1,1,2-Trichloroethane	< 250000	< 185185				
1,1-Dichloroethane	< 250000	< 185185				
1,1-Dichloroethene	< 250000	< 185185				
1,2,3-Trichloropropane	< 250000	< 185185				
1,2-Dichlorobenzene	< 500000	< 370370				
1,2-Dichloroethane	< 250000	< 185185				
1,2-Dichloroethene (total)	< 250000	< 185185				
1,2-Dichloropropane	< 250000	< 185185				
1,3-Dichlorobenzene	< 500000	< 370370				
1,4-Dichloro-2-butene	< 5000000	< 3703704				
1,4-Dichlorobenzene	< 500000	< 370370				
2-Butanone	< 5000000	< 3703704				
2-Chloroethyl vinyl ether	< 500000	< 370370				
2-[illegible]ne	< 2500000	< 1851852				
4-[illegible]-2-Pentanone	< 2500000	< 1851852				
Acetone	< 5000000	< 3703704				
Acrolein	< 2500000	< 1851852				
Acrylonitrile	< 5000000	< 3703704				
Benzene	< 250000	1284444				
Bromodichloromethane	< 250000	< 185185				
Bromoform	< 250000	< 185185				
Bromomethane	< 500000	< 370370				
Carbon Tetrachloride	< 250000	< 185185				
Carbon disulfide	< 250000	< 185185				
Chlorobenzene	< 250000	< 185185				
Chloroethane	< 500000	< 370370				
Chloroform	< 250000	< 185185				
Chloromethane	< 500000	< 370370				
Cis-1,3-Dichloropropene	< 250000	< 185185				
Dibromochloromethane	< 250000	< 185185				
Dibromomethane	< 1000000	< 740741				
Dichlorodifluoromethane	< 1000000	< 740741				
Ethyl Methacrylate	< 250000	< 185185				
Ethylbenzene	< 250000	22125185				
Iodomethane	< 1000000	< 740741				
Methylene chloride	< 250000	45185 J				
Styrene	< 250000	< 185185				
Tetrachloroethene	< 250000	< 185185				
Toluene	< 250000	45406296				

Continued

Customer Sample ID: LAB BLANK CFA680LL01

Parameter	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg	Results ug/Kg
Volatile Organic Compounds EPA Method 8240						
Trans-1,3-Dichloropropene	< 250000	< 185185				
Trichloroethene	< 250000	< 185185				
Trichlorofluoromethane	< 500000	< 370370				
Vinyl Acetate	< 2500000	< 1851852				
Vinyl chloride	< 500000	< 370370				
Xylene (meta & para)	< 250000	80731852				
Xylene (ortho)	< 250000	35608519				

Pag

Legend:

PQL = Practical quantitation level. This is the lowest concentration reliably measurable (i.e., 33% maximum uncertainty in precision and accuracy at the one standard deviation confidence level) for normal samples during routine laboratory operations.

< = Less than. The value reported immediately following the less than symbol is the practical quantitation level (PQL) for the analyte. See the PQL definition for further explanation of the PQL. The reported PQL is adjusted for differences in sample weight, sample volume, sample moisture content, and analysis dilutions whenever those parameters differ from that specified for the standard analytical procedure.

Comments:

J Indicates an estimated value for target compounds (i.e., specific compounds for which the procedure was calibrated). The concentration is below the PQL, but the compound was detected in the sample. In the case of compounds which are not target compounds (i.e., tentatively identified compounds), the method is not calibrated to quantitatively measure their abundances. An estimated calibration factor is assumed to quantify these compounds, therefore the reported concentrations are estimated.

M16 Due to the sample matrix (a liquid with numerous particles), the aliquot analyzed for Volatile Organic Compounds was measured gravimetrically rather than volumetrically. For this reason, the concentration is reported in ug/kg, rather than ug/L. The concentration in terms of ug/L would be slightly higher than the ug/kg reported.

M17 Due to the sample matrix (a liquid with numerous particles), the aliquot analyzed for Semivolatile Organic Compounds was measured gravimetrically rather than volumetrically. For this reason, the concentration is reported in ug/kg, rather than ug/L. The concentration in terms of ug/L would be slightly higher than the ug/kg reported.

Technical and Quality Review:

Not required gtB

Shelly J. Spiler
Inorganic Technical Leader

Technical and Quality Review:

Michael Connolly

Michael J. Connolly, Ph.D.
Organic Technical Leader

Quality Assurance Review:

Joseph T. Bennett for

Nancy Roberts
Quality Assurance Officer

Release Authorization:

Joseph T. Bennett

Joseph T. Bennett, Ph.D.
Laboratory Manager

FIELD LOGSHEET

08939

Pg 1 of 1

Date (dd/mmm/yy): 22/MAY/89

Sample Team Members:

P. Permann
L. Wallace
D. Rhoades

Visitors/Organization

Parley Williams (IH)

Narrative (include time and location): CFA680

0830 - Arrive - Parley takes LEL reading - Liquid is drawn up into LEL tube - reads 25%
0840 Dusty returns from surveying tanks with HP.
0850 - Take level measurement - tank feels like it has some sludge in the bottom - DIRT shows up on dip stick.
0900 - Take samples CFA680LL01 and CFA680LL02.
0910 - Move SITES
Orange liquid with some dark sludge and water on bottom.
Tubing taped to end of dipstick with duct Tape.

* All tanks surveyed by HP previous to commencing sampling for 5/22/89.

Recorded by: P Permann Checked by: Linda Wallace

~~0033~~

→ CFA 688. Near Cafeteria. Supposed to be 55 gallon. Pumped ~110.

→ CFA 674B - Rad area exclusion zone. says that there is only 1.5 ~~gallons~~ inches in a 1000 gal tank. ~2 gallons

will not worry about emptying this tank

PBF 608 - inside gate at substation. ~180 gallons

CFA 707 start at ~11:45 980 gallons.
1/2" left in tank

CFA 681 - inside locked gate. Only 2.5" in a 500 gallon tank will get when we do 605 or just use absorbant

TFN 755 meter reads 900 gallons
added ~500 gallons gasoline and pumped air into tank ~4:00 PM

meter reads 1400, started to pump back into tanker at 4:30 and at 6:00

~900 gallons

1075.

75
5
375

TFA 616 55 gallons
had to pump out a 5/8" ~~hose~~ hose

870 220 575
980 110
180 55
1000
4020 385 575
385 575 22
575 960 1007.50
4990 96.25
143.75
2 375.00
1870 1622.50
980
180
1000 105.
4030
2

4030
.25
96.25
143.75
375.00
112.50

1870 #2 33
220 gas
110 gas
980 #2
180 #2
3360
55 gas
3415
1000 #5
4415
575 H_2O
4990
3
1870
220
110
980
180
55
1000
575
4990
96.25
4
4 385
25
10
143.75
4 575
17
15
=

8-27-90

TAN - they are going to pull 602-e.

Preparations for collecting Waste Profile Samples. Tanks to be sampled and sample recipients

PML	USPCI
✓ TSF 604	TSF 604
~~LOFT 764~~	WMO 7045
– WMO 7045	CFA 640E
✓ CFA 640E	CFA UNK 4
– CFA UNK 4	CFA 725
– CFA 725	

Already sampled by P. Head

IRA 609
IET 1715
IET 1705
IET 723

Collected TAN/LOFT 764 at 10:00 AM.

Product Level in Emptied UST's 8-27

TAN 779 1-1½"
TAN 1702 >1' product. This tank was emptied in Oct 1989.

8-28-90

- collected sludge from TAN604
- collected samples from LOFT

Letter to Greg.

Company procedures Manual 7.3
How to set up a TAA.

Call Dixie about a TAA.

Send date packages in triplicate to Donna Kirschner 3904 6-9873

890
445

8-29-90

TRA 667e - H+M oil will pump out the fuel/H_2O mix. G. Andrews agreed to this 8-28-90.

~495 gallons pump time = 45 mins and 12:33

1/2 - 3/4" left in tank.

TAN 1702 1-1 1/2 feet in a 3,000 gal tank.

~395 gallons

TAN 755 ⇒ meter reads 90 gallons, 4" of product in tank

added contents of truck, ~1,000 gallons total. (900 gal fuel, 100 gal #5 in tank)

Blew air through for 1 hour.

~1/3" black liquid on bottom

gauge reads 70 gallons

8-30-90

Give
- ~~Call~~ Waste Engineering ~~Develop~~ a call about a mixed waste treatment plan

Andrea ~~[illegible]~~ Walterman 6-8097

2 letters to Greg Andrews

1 on 1702
1 on 1714 / fire foam

Sulfamic acid

CLC-521

Boiler scale remover ~15 gallons
cardboard barrel.

1 open
1 closed

8-30-90

Sampling for Waste profiling

WMO 7045

behind SBR/WMO 601 (to the south)

- there are two tanks which have not been emptied in this location. Both contain liquid, but the one to the north appears to have sand in it. The tank to be sampled is listed as WMO 7045 and the South tank has more liquid (~ 10") and no sand. The South tank was sampled at 1:30. MJG.

⇒ CFA 725

Southwest of Building CFA 610

- there is one tank which has not been emptied. The tank contained a dark liquid (~ 10"). The tank was sampled at 12:45. MJG

Staff Meeting w/ TMP

- find out about disposal of 1714

777B Lyle Sloan #6
coordinate w/ boilers.

723 Brine tank.

- Learn about Borax Tanks
Glen Rodman.

- JRC tank Must have #
- interpret Results.

Tuesday 9-4-90

Borax #7 inside gate, west to Underground reactor. 500 gallon tank w/ ~ 8" of fuel contaminated water

Borax #5, A+B
- tanks are exposed to the top, A has holes in the top of the tank.

Borax #5 A >2' of fuel contaminated water
Borax #5 B empty.

Glenn Rodman 6-8077

has key to gate.

9-5-90

Research Petroset
talk to Jim Caudall

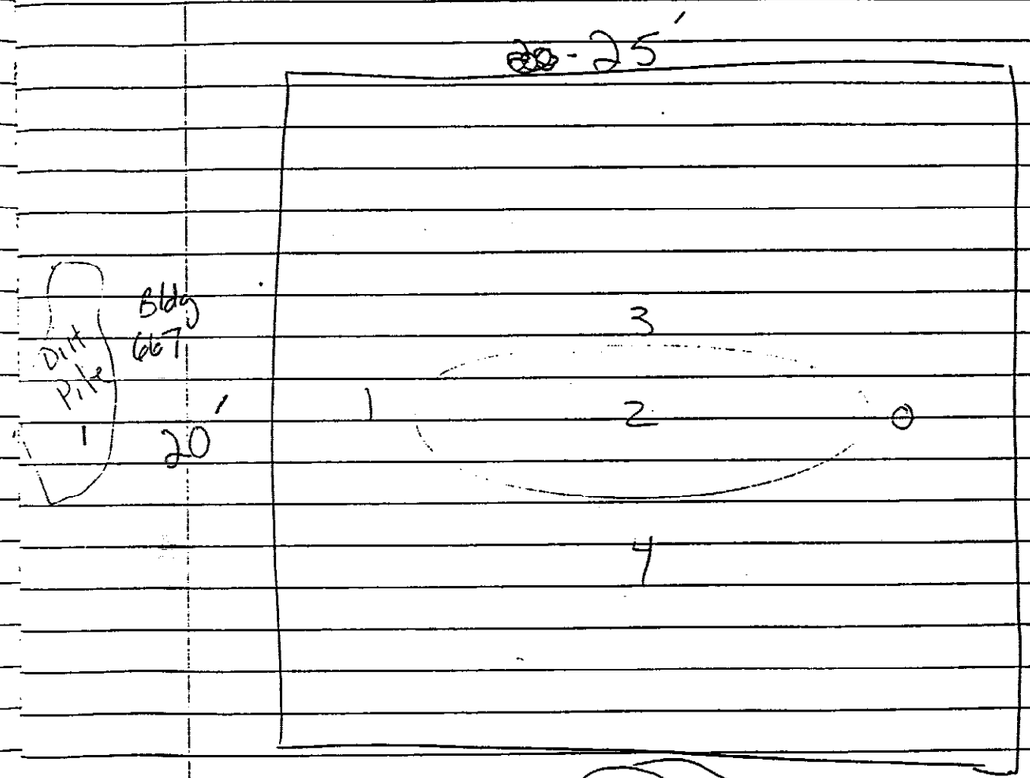
Smitty 6-7893

Asbestos problems

Dirt Pile 2

5 SEP 90

TRA 667e Sample Labels UR140 →



13' deep. Dirt Pile 3

No visible contamination
tank integrity is fine

8-20-90

Last week worked on tank closures

Monday, 8-20 ⇒ verbally trained Unwin
Observed pumping of water from 1706

tomorrow's tank work

meet Jim + Joe at 7:00, CFA

✓ (1) take Jim to EBR 706 ~ 1850 gallons diesel
→ (2) take Joe to WMO 705
CFA 680 - ~~right behind RCSI~~ cafe
TRA 616 - behind Cafeteria

FAN-755 send Joe North ⇒ arrange to call Dave Heard when he gets to the gate.

back to Jim.

✓ CFA 727 ⇒ ~~behind~~ in front of lead storag bldg, Nebraska st.
✓ CFA 681 ⇒ behind 633
✓ CFA 674B ⇒ photo lab Rad
status ? CFA 605 ⇒
✓ PBF 608 ⇒ by substation

CFA 605 located in field W of 605
X from Portland ave. fill pipe, 2
Manhole covers

Call TRA
- 8:00 date to pump 616
- what about 667 ?

WMO 705 at WMO 601
COCA EBR #10

8-20 3:00PM Ken Thurman and Randy Sayer Signed SWP (extended. Ron (at Tuck's desk) OK'd the activity

8-21-90

met Jim at 7:30. No Joe, he was sick.

EBR-706
- couldn't get into EBR until 8:15
- Pumped 706 Used Dusty's photo's to find tank

~ 1870 gallons

WMO 705 Gasoline Tank, supposed to be 50 gallon.
~ 220 gallons (?) I will know size when we pull it.

ORIGINAL

DATA CHEM LABORATORIES

ANALYTICAL REPORT

Form ARF-AL
Page 1 of 1
Part 1 of 1

CFA-680+ CFA-641 U

RECEIVED JAN 3 1991 Environmental Restoration Program ERDC

Date 12/20/90
Agency Identification Number S90-0907
Account No. 03018

EG&G Idaho, Inc.
P.O. Box 1625
MS 1406
Idaho Falls, ID 83402
Attention: Vincent Daniel

Unqualified Data ☑
Unvalidated Data ☑
FOR EG&G INTERNAL USE ONLY
Date: 1-3-91

FAX
Telephone (207) 525-5650

Sampling Collection and Shipment

Sampling Site UST Excavation Date of Collection August 16, 1990

Date Samples Received at DataChem October 18, 1990

Analysis

Method of Analysis HEADSPACE-GC

Date(s) of Analysis October 23, 1990

Analytical Results

Field Sample Number	DataChem Lab Number	Sample Type	TPH-Gasoline µg/g	Benzene µg/g	Ethyl Benzene µg/g	Toluene µg/g	Xylene µg/g			
UC14001T2	EJ 5615	SOIL	ND*	ND*	ND*	ND*	ND*			
UC14101T2	EJ 5616	SOIL	ND*	ND*	ND*	ND*	ND*			
UC14201T2	EJ 5617	SOIL	ND*	ND*	ND*	ND*	ND*			
UC14202T2	EJ 5618	SOIL	ND*	ND*	ND*	ND*	ND*			
UC14301T2	EJ 5619	SOIL	ND*	ND*	ND*	ND*	ND*			
UC14401T2	EJ 5620	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30001T2	EJ 5621	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30101T2	EJ 5622	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30201T2	EJ 5623	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30202T2	EJ 5624	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30301T2	EJ 5625	SOIL	ND*	ND*	ND*	ND*	ND*			
UC30401T2	EJ 5626	SOIL	ND*	ND*	ND*	ND*	ND*			
Limit of Detection			.0	.05	.05	.05				

* See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
** Parameter not analyzed(See comment on last page).
( ) Parameter between LOD and LOQ.

Analyst: Thomas N. Bosch

Reviewer: Kerry Roth

Laboratory Supervisor: Terry P. Vayo

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
A Sorenson Company

SAMPLE LOGSHEET

DATE(DD/MMM/YY): 16 Oct 90 LOCATION: CFA 680

SAMPLE TYPE: (0) Normal (1) Equip. Blank (PRIOR) (2) Trip Blank (3) Replicate (4) Split (5) Equip. Blank (POST) (6) Spike (7) Other _____

ID NO.:	CODE	ID NO.:	CODE	ID NO.:	CODE
UC30001T2					
UC30101T2					
UC30201T2					
UC30202T2					
UC30301T2					
UC30401T2					

SPECIFIC SAMPLING POINT(S)/LOCATIONS AND DEPTH:

POINT (LOCATION)	DEPTH FROM	TO	(UNITS)
Excavation	1	5	ft

BELOW SURFACE

SAMPLE METHOD: CODE: (0)
Grab (1) Spatial Comp. (2) Time Comp. (3) Other _____

SAMPLE DESCRIPTION: CODE (01)

SOIL/ROCK	SEDIMENT/SLUDGE	LIQUIDS
(00) Surf. Soil	(05) Pond/Impoundment	(08) Pond/Impoundment
(01) Sub. Surf. Soil	(06) Drum/Tank	(09) Drum/Tank
(02) Basalt	(07) Other	(10) Plant Discharge
(03) Sediment Interbed	AIR/GAS	(11) Spring/Seep
(04) Other	(15) Soil Gas	(12) Perched Aquifer
	(16) Other	(13) Regional Aquifer
Other: _____		(14) Other

(list field measurements of the samples)

FIELD MEASUREMENTS:

	Units	Instr. Make/Model	Instr. No.:
pH:	See page 1/4		
temperature:			

SAMPLING AND ANALYSIS PLAN FOLLOWED: NO (___) YES (✓) IF NO EXPLAIN DEVIATIONS:

RECORDED BY: [signature] QA CHECK BY: [signature]

SAMPLE LOGSHEET

SAMPLE ID NUMBER	CONTAINER		ANALYSIS	PRESERVATIVE
	VOLUME	TYPE		TYPE/VOLUME
UC30001T2	250ml	WMG	TPH, BTEX	4°C
UC30101T2				
UC30201T2				
UC30202T2				
UC30301T2				
UC30401T2				

RECORDED BY: [signature] QA CHECK BY: KM [signature]

SAMPLE LOGBOOK

Date (dd/mmm/yy): 16 Oct 90 CFA 680

Field Team Members:

V. Daniel J. Howard
S. Branch L. Jensen
D. Hood
R. Gonzalez
J. Emery

Weather: Cool & Sunny 60°F

Narrative (description of field sampling activities with time and location, description of sampling point, and samples collected.):

Begin Backhoe at 12:30. The soil was removed and placed in Dumptruck until backfilling process begin. The reason for putting the soil directly into trucks was because their was not enough space to operate properly with the room provided with the soil present. The tank CFA 680 was small so it didn't take long to pull the tank. The 1st VOC reading was 5ppm and the 2nd VOC reading at 3 ft was 7ppm and the 3rd was 11.7ppm. This reading from the Microtip PhotoVac indicated that the soil was clean. The samples was pulled and the field VOC reading taken and the hole backfilled with ½ truck load of soil.

RECORDED BY: V. Daniel (Signature) QA CHECK BY: K. Mudr (Signature)

SAMPLE LOGBOOK

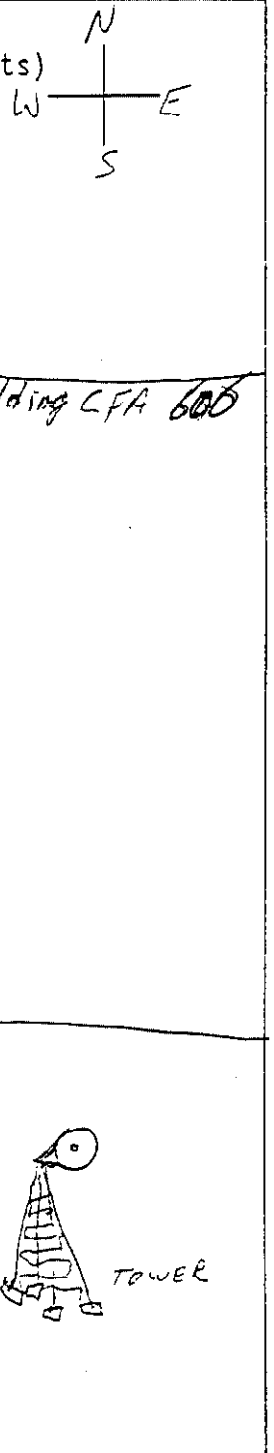
Field Voc readings with Micro Tip

UC30001T2 => 2.8 ppm
UC30101T2 => 2.9 ppm
UC30201T2 => 6.3 ppm
UC30202T2 => 7.0 ppm
UC30301T2 => 4.7 ppm
UC30401T2 => 5.3 ppm

RECORDED BY: Vincent Hamel QA CHECK BY: [illegible]

SAMPLE LOGBOOK

MAP OF SAMPLING LOCATION:
(include location of sampling points and reference points)



Note: CFA 680 contained gasoline 55 gallon in (capacity)

RECORDED BY: [signature] QA CHECK BY: [signature]

REMOVAL AND DISPOSITION CHECKLIST [1]

TANK NUMBER CFA 680

Doc. #	Received
1) SWR Traveler Documentation	X
Tank Cut Down Complete: YES X NO ____ DATE 11/28/90	
2) Tank Disposition Form	X
3) Certificate of Destruction	X
4) Tank Removal Photographs	X
5) Tank Disposal Photographs	X
6) Tank Replaced YES ____ NO X	
Replacement Tank Number	____

[1] Revised 2/1/91

TANK MANAGEMENT PROGRAM
REMOVAL PROCEDURES FOR UST

TANK NUMBER CFA-680

LOCATION WEST SF 680

TRAVELER

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FORM EG&G-40A
(Rev. 10-82)

S	X	L	T	R	O	1	O	4

ECORD THIS NUMBER ON TIME CARD

SXUIRO563

Date Req'd. 11/30/90

TRAVELER

REMOVE UST CF-680

PACKAGE CONTENTS	REV./CHANGE
1. DRAWINGS No	
2. BILL OF MATERIAL No	
3. SKETCHES No	
4. SPECIFICATIONS No	
5. PROCEDURES YES	
6. OTHER 1 PS. SEQUENCE, GPR MAP, PHOTO	

ENTERED BY L Smith DATE

ADDITIONS TO SWR PACKAGE

REV./CHANGE NO.	ENTERED BY	DATE

TRAVELER

WORK SHARING

NOT REVIEWED FOR PUBLICATION

CF 680

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TRAVELER

1. PURPOSE AND SCOPE

1.1 This procedure provides instruction for abandonment and removal of underground storage tanks. It covers the process from the point of content removal, excavation, site sampling to tank destruction and disposal.

1.2 This is a non-mandatory procedure. It provides standardized instructions for performing tank abandonment and removal in accordance with Part 280 of Title 40 of the Code of Federal Regulations.

2. PROCEDURE

2.1 Prerequisites

All key personnel must have read and signed the Health and Safety Plan for Management of Underground Storage Tanks at the INEL and the following steps must be signed and dated as required.

2.1.1 Record the following:

A. Tank Number CFA-680
B. Tank location W. CF 680
C. Tank Capacity
D. Tank Type Construction STEEL
E. Estimated Tank Weight
F. Job Site Supervisor DAVE HOLD
G. Area landlord L. L. GOODWIN
H. Site Work Release Coordinator JERRY BURRENSHAW
I. Safety Engineer JIM SOUTHWICK
J. Health Physics JB
K. Additional Comments ROUND COVERT BEHIND 680 AND DIG REMOVED RELEASE POLE GUID WIRE TO GET MACHINE IN GRASS DAMAGED & BRASSTEADER WILL REPLACE

2.1.2 Job-site supervisor will brief all personnel involved relative to procedures and safety issues. This will be done each day of the excavation and for each individual that comes onto the job site.

D. W. 10/16/90
JSS / date

2.1.3 The Safe Work Permit will be reviewed and inspected by the saftey engineer each morning before the start of work.

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2.1.4 All electrical power to the tank system shall be turned off, locked out, and tagged.

N. A.

Electrician / date

2.1.5 The Job-Site Supervisor shall verify that the following materials and equipment are available (if applicable).

Backhoe
Dump Truck
Crane (capacity to be based on tank size), slings, shackles, and etc. with current load test.
Air compressor
Pumps for tank-product removal, air driven, including hoses
Containers for product (55 gallon drums)
Electrical generator
Jackhammer
Metal Nibbler
Shovels
Two - 20# Dry chemical Fire Extinguisher
Barricades with appropriate signs and safety rope.
Explosion meter, calibrated
Oxygen meter, calibrated
Tape measure, at least 50 feet in length
Dry Ice (CO_2)
Absorbent material (kitty litter)
Bucket (5 gallon)
Rags
Class D personal protective equipment (minimum of coveralls, safety shoes, safety glasses, gloves, hard hat)
Flashlight

2.1.6 Barricades shall be placed around the work area and excavated soils until completion of field work.

2.2 TANK REMOVAL

Each step shall be initialed and dated as required.

2.2.1 Tank contents shall be removed to a maximum of 2 inch depth and an absorbent added.

JSS / 10/16/90 date

2.2.2 MC (F) shall plug or cap all tank openings. Lines exposed into a building shall be caped or closed by valve.

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Fitter / date

2.2.3 If the tank is a petroleum storage tank petroleum vapors shall be removed by adding dry ice (CO_2) to the tank at a ratio of at least 15 pounds of dry ice per 1000 gallons of tank capacity.

N.A. NO VAPORS

JSS / date

NOTE: If the tank is being removed the same day (only if the LEL reading is within limits), the vent line will also be removed, and a cap or plug with a 1/8 inch vent hole will be installed as directed by the JSS.

Avoid skin contact with dry ice because it may produce burns. In addition, as the dry ice is vaporized, flammable vapors will flow out of the tank and may surround the area, so all normal safety precautions regarding flammable vapors must be observed. All construction vehicles should be turned off. All sources of possible ignition shall be removed. **NO SMOKING ALLOWED AT ANY TIME.**

2.2.4 The Safety Engineer will check the area with an explosion meter after the petroleum vapors are removed.

Tank Reading = 0 Area Reading = 0

Buttenshaw 10-16-90

Safety Engineer / date

2.3 TANK EXCAVATION

The tank shall be excavated and removed utilizing the following instructions.

2.3.1 Safety Engineer or Area Fire Protection Engineer shall inspect the site. The Health Physics shall inspect the site also if the Safety Engineer thinks it is necessary.

Buttenshaw 10-16-90

Safety Engineer / date

2.3.2 Remove any cover material, such as asphalt and concrete and excavate to expose the top of the tank. Remove any manholes above the tank (if applicable).

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JSS / 10/26/90 date

2.3.5 Environmental Technology shall take readings of soil as it is removed with a Photoionization detector for volatile readings. If soil contamination is above acceptable levels, soil will be placed in dump trucks and taken to the INEL CFA landfill. Contaminated soils with tank-product, as determined by the Environmental Technology, shall be land farmed at the landfill for about 30 days. Soil that shows no signs of tank-product contamination may be used as back fill after the tank has been removed. Soil sampling and analysis shall be in accordance with the Tank Management Sampling and Analysis Plan for Petroleum tanks.

2.3.6 MC (F) shall remove any remaining connecting piping, pumps, etc., in such a manner that any residual liquids are captured in a catch basin or bucket. If piping cannot be removed because of access (under a building or pavement) the piping must be capped at both ends and all other equipment also capped. FIXED SPRINKLER IN CPW.D

Fitter / 10-17-90 date

2.3.7 MC (E) shall remove any electrical wiring and conduits that are connected to the tank system as they are exposed.

Electrician / date

2.3.8 Excavate the rest of the tank placing the excavated material into separate piles (product contaminated and non-contaminated). If possible, the excavation on both sides and ends of the tank shall be sloped per 29 CFR 1926.652.

JSS / 10/16/90 date

2.3.9 The safety engineer shall check the excavation area for oxygen deficiency and LEL before any personnel enter the excavation area. The Health Physics shall check the area for Rad. contaminated material and if any is found the area will be roped and barricaded till further investigation can be provided.

Oxygen = .0 Vapor = 0

Safety Engineer / 10-11-90 date

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2.3.10 The tank shall be rigged for removal using the tank lifting lugs. If the lifting lugs are in poor shape or the tank does not have any lugs, two tunnels will be made under the tank and slings installed for lifting as required by the DOE Hoisting and Rigging Manual or by chocking the appropriate lifting devices on the tank. If special rigging is required, the HEO supervisor will be called to the site to supervise the lifting operation.

2.3.11 The tank shall be lifted out of the excavation with a crane and placed on blocks per American Petroleum Institute recommendations as directed by the JSS.

2.3.12 The tank shall be inspected/for signs of leaks and photographed as directed by the JSS. Photographs will be made part of this removal procedure for the files.

2.3.13 HP - The tank shall also be inspected by an HP and Green tagged before removing from the site. Mixed waste tanks will be handled per specific instructions on a case-by-case basis.

Rutten Law 10-16-90

Health Physics / date

2.3.14 The tank shall be labeled (marking paint will be used if the designated label will not stay attached) with the following information, - Contents, Date of Removal, and "Not for Reuse" and any other information required. The labels will be a minimum of 6 inches in diameter and visible from all four sides.

2.3.15 The tank shall then be placed securely (tie downs) on a truck. MSDS forms and shipping papers will be completed by JSS. The truck driver's (EO) copy will be given to him to have in his possession during transporting of the tank to the designated area.

2.3.16 The Area Landlord shall be notified with tank numbers and locations for temporary storage of tanks.

2.4 SITE REMEDIATION/BACKFILL

2.4.1 Contaminated soils shall be spread on a 10-mil visqueen liner. Photoionization detector (PID) meter for volatile substances, should be used to measure the contaminate levels at representative points on the mass of the excavated soil.

2.4.2 If in the judgement of Environmental Technology or Health Physics contaminate levels measured by the field detectors

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(PID) are excessive or warrant further evaluation, composite samples should be taken from representative points in the excavated soil and analyzed for the appropriate potential contaminants in order to determine the disposal method to be used.

2.4.3 If contamination of the soil is evident, further excavation should be initiated to remove the contamination. This will be monitored by the Environmental Technology for the removal of the contaminated soil.

2.4.4 Once the limits of excavation have been decided, Environmental Technology will analyze and refer to the Sampling and Analysis Plan for further instructions.

2.4.5 The excavation may be back filled with clean fill and clean removed soil to grade. Fill materials will be approved by area landlord and in accordance with the support requirements of the planned use of the restored site (i.e., traffic or lawn).

2.5 TANK DESTRUCTION AND DISPOSAL

At the designated area the tank will be unloaded and placed on blocks per American Petroleum Institute recommendations as directed by the JSS.

2.5.1 The Safety Engineer will take an LEL reading prior to any cutting or nibbling of tanks.

Tank Reading = 1.1% LEL Area Reading = 1.1% LEL

11-28-90

Safety Engineer / date

2.5.2 Tanks will be cut open, cleaned, and cut into sections that can be loaded and shipped to a metal reclaimer. The sizes of sections will depend on the size of tank and method of shipping, this decision will be determined by shipper, receiver and JSS. 1/8/91

2.5.3 Residual liquid and debris in petroleum tanks shall be removed using absorbent material. The material shall be double bagged (wearing personal protective clothing class D with plastic booties, gloves, coveralls, and respirators if directed by the safety engineer), drummed, and labeled of contents. HP shall inspect the inside of all tanks for radioactivity and green tag for disposal.

2.5.4 Samples of the absorbed material will be removed by Environmental Technology and depending on analysis, will be

TRAVELER

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disposed of properly.

2.6 ABANDONMENT IN PLACE

Abandonment in place is done only if logistics of the tank will not permit removal.

2.6.1 Verify that there has not been a release of material from the tank system into the surrounding subsurface environment.

Note: If contamination is evident from the sampling program abandonment in place may not be permitted.

2.6.2 Prior to initiation of field work, any electric power connected to the tank or its associated equipment must be deactivated.

Note: Wiring shall be properly dismantled at the circuit breaker. All piping will be capped and proper lock-out/tag-out procedures will be followed.

2.6.3 Flushing, cleaning and removal of tank content should be performed as close as possible to the time of actual excavation and filling of the tank with inert material.

2.6.4 Using available access points, the piping should be drained and flushed with water into the tank (every effort should be made to access the tank system without excavation or other piping work prior to removal of all vapors). Residuals contained in the tank must be removed and the tank interior flushed/rinsed with water; all residuals and rinses must be disposed of at a permitted waste-water treatment or disposal facility.

2.6.5 If the tank has contained hazardous substances, wastes and/or heavy residual sludge, it may be necessary to more effectively remove all the residual material that may have adhered to the internal wall surfaces with the appropriate chemical cleaning method, "triple rinse" with water or both. If a chemical cleaning method is used, be sure it is compatible with the material that was stored in the tank. An accumulation of heavy solidified material on tank surfaces may require the entry of trained and properly equipped personnel to scrape and remove the material; special care should be taken to observe all the appropriate safety and health precautions for tank entry. Safety engineering will establish tank entry requirements.

2.6.6 After the residuals, cleaning materials, and/or water rinse are removed from the tank, all flammable vapors must be removed from the tank by displacement with inert gas. The

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vapors in the tank should be made inert by adding solid carbon dioxide (dry ice) in the amount of 1.5 pounds per 100 gallons of tank capacity. The dry ice should be crushed and distributed evenly over the greatest possible area to ensure rapid evaporation. All available tank openings should be open to the atmosphere during this procedure to ensure rapid dissipation of the dry ice. Even for substances not believed to be flammable in nature, as an extra safety precaution, both the water rinse and the dry ice procedure are recommended; however, exceptions may be considered on a case-by-case basis.

Note: Avoid skin contact with dry ice because it may produce burns. In addition, as the dry ice vaporizes, flammable vapors will flow out of the tank and may surround the area, so all normal safety precautions regarding flammable vapors must be observed. Post " No Smoking" signs in the area. Construction vehicles should be parked at a safe distance (~50 ft) and turned off.

2.6.7 To evaluate the effectiveness of the dry ice procedure, an explosion meter should be used to determine if the resultant vapor mixture exceeds 10 percent of the lower explosive limit (LEL). Readings shall be taken throughout the tank depth, wherever access is possible. If the vapors within the tank depth exceed 10 percent LEL, the displacement procedure should be repeated and followed by a recheck of the LEL. If, after two dry ice procedures, the LEL is still unacceptable, a more thorough cleaning or recleaning, such as with steam, is recommended.

2.8.8 Steam for cleaning may be introduced into the tank or container through a pipe inserted through an opening and bonded to the container or by connecting a steam hose directly to one of the vessel nozzles. The rate of steam supplied should be sufficient to exceed the boiling point of water, 212°F (100°C). The vessel must be steamed long enough to vaporize the residues from all portions of the walls (shell and heads). When testing the atmosphere in the vessel with an OVA or PID, the sample should be drawn through a drying tube which is filled with calcium chloride or another drying agent to ensure that water vapor does not enter the instrument. If a drying agent is not available, the container must be allowed to cool until the excess water vapor has condensed.

2.6.9 The excavation shall be completed to access the tank. As accessible, any ancillary equipment associated with the tank (i.e.,fill and gauge risers, pumping systems, vent piping), should be dismantled and removed being certain to protect against any unexpected drainage of liquids. Depending on

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the nature and configuration of the particular installation, the ancillary piping should either be removed in its entirety (preferred method), or capped at appropriate locations. Any piping that will remain capped underground shall be verified to be free of all residual liquids, then be inerted with nitrogen, carbon dioxide, or other approved methods. The caps shall be welded onto all openings only after assurances that all vapors have been dispelled. Lines located inside a building that lead to the abandoned tank shall be capped and permanently tagged. The tag should read:

ABANDONED LINE
DO NOT USE
TANK ABANDONED_____(DATE)_____
TANK CONTAINED_____(PRODUCT)_____

The fill (drop) tube shall then be removed and the fill, gauge, and product lines disconnected. the vent line shall remain connected until the tank is filled.

2.6.11 After the tank has been satisfactorily inerted (LEL is at acceptable levels), one or more large holes should be cut in the tank top. This can be accomplished with several blows from a backhoe. Several holes should also be driven in the tank bottom with a 3/4 inch or 1 inch rod.

2.6.12 A suitable, solid inert material or an approved foam fill material should then be introduced through the hole in the top of the tank. Sand, and earth, or concrete/grout slurries are acceptable inert material. Sand will flow readily and is generally available. Any kind of sand is suitable if it is free of rocks, which might limit the leveling-out of the tank. The sand may be introduced dry as long as it flows in freely. When the cone nears the tank top, the sand can be washed into the tank with a nominal amount of water and paddled to cause it to flow to the ends. The use of large amounts of water should be avoided.

2.6.13 Sand and earth mixtures may be used in the following manner: (1) fill the tank with sand to approximately 80 percent of the calculated capacity; (2) mix soil and water to make a free-flowing mud; and (3) pour the mixture into the tank opening and puddle until the tank is full and overflows the fill opening.

2.6.14 The vent line should then be disconnected and capped and the site plan should be updated to show that the tank was abandoned in place, including the date of abandonment. A permanent record of the tank location, the date of abandonment, and the method of conditioning the tank for

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abandonment shall be kept in the tank file.

2.7 TEMPORARILY OUT OF SERVICE

Tanks not in use but not filled with inert material will be considered temporarily out of service. To prevent misuse while a tank is temporarily out of service, the following steps will be taken.

2.7.1 Remove all product from the tank and the piping.

2.7.2 Cap all the fill lines, gauging lines and pump lines.

2.7.3 Leave the vent lines open so the tank may breath.

2.7.4 Cut off electrical power to the system and secure against tampering by covering the access boxes with a light cap of cement.

2.7.5 Install locks on all openings, and ensure that the area around the tank is in a safe condition. Paint out all product color code markings.

2.7.6 Document the closure date and tank condition. Set up a periodic inspection program.

2.7.7 For tanks where an explosive atmosphere may exist, oxygen shall be removed. This can be accomplished by inserting dry ice, carbon dioxide (CO_2), using about 15 lbs. for each thousand gallons of volume.

3. DEFINITIONS

JSS - The Underground Storage Tank Job Site Supervisor is responsible for the actual tank removal and adherence to this procedure. The JSS has the authority to make on-site decisions as required to perform this work in a safe and expeditious manner. The JSS will coordinate the schedule of manpower and equipment with the Tank Removal Project Manager and the Sit Work Release manager.

Safety Engineer - The Safety Engineer will have the responsibility to insure a safe work environment as required by the procedure. The safety engineer will provide equipment necessary to verify oxygen level and explosion level as stated in this procedure. the safety engineer will coordinate with Heath Physics in establishing safe work guidelines.

MC - Maintenance crafts which include Heavy Equipment Operator (HEO), Equipment Operator (EO), Fitter (F), Electrician (E), and Yardmen (Y).

PID - Photoionization Detector is used by Environmental Technology

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to measure the amount of contamination in the sample in parts per million and referance to the EPA standards.

4. REFERENCES

4.1 EPA 40 DFR 280 Underground Storage Tanks; Technical Requirements; Final Rules, September 23, 1989.

4.2 EG&G Safety Manual.

4.3 Health and Safety Plan for the Management of Underground Storage Tanks at the INEL.

4.4 DOE Hoisting and Rigging Manual.

4.5 American Petroleum Institute Recommended Practice 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks."

4.6 American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks."

4.7 Sampling and Analysis Plan for the closure and removal of underground storage tanks.

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EG&G Idaho, Inc.

FORM EG&G 17
(Rev. 10-87)

SAFE WORK PERMIT ☒
SPECIAL SAFE WORK PERMIT ☒

(See Instructions and Standard Safety Procedures on back of this form)
NOTE: SSWPs require Area Safety Manager & Facility Manager Signatures

SECTION I—TO BE COMPLETED BY JOB SUPERVISOR

SWR/Contract Number: 3XLTR505 Job Location (Inc. Bldg. No.): CFA 641 System(s) Involved:

Job Description (Detailed): 1st Remnant

① Date and shift work is to: Begin: 10/10/90 (Date) Night ☐ Day ☒ Eve. ☐ End 10/12/90 (Date) Night ☐ Day ☒ Eve. ☐

Area Inspection Made? No ☐ Yes ☒ By: (Job Supervisor)

Associated Hazards
Radiation ☐ Contamination ☐ Other ☒ Excavation

Initial*	Names of Workers	Craft	② Safety Training Current?	For Radiological Work Only: ③ Prior Exposure Month	⑤ Dosimeter Readings Current	④ Allowable Per Day	⑤ Final
	Dave Hoon		✓				
	Doug Longhas		✓				
	Terry Coldard		✓				

☐ See continuation sheet for additional names

*Each worker is to initial in the space next to name after reading the instructions of the completed form.

JOB SUPERVISOR OR DESIGNATED ALTERNATE:
Reviewed job and associated hazards with workers. Approved job to be performed within listed requirements. Ensured all necessary safety training for workers is current.

⑥ Signature: Dave Hoon

SECTION II—TO BE COMPLETED BY HEALTH PHYSICS REPRESENTATIVE ⑦ ☐ Not Applicable (must be signed below when checked)

⑧ **RADIATION** Gamma ☒ Beta ☒ Neutron ☐

Current General Working Field: 21 mrem/hr
Highest Current Local Level: 700 mrem/hr
Expected General Working Field: 0 mrem/hr
Location: 700

CONTAMINATION
Current General Level: 200 dpm/100 cm²
Beta-Gamma ☒ Highest Current Level: 200 dpm/100 cm²
Alpha ☒ Expected General Level: 0 dpm/100 cm²

⑨ Zone I ☐ Zone II ☐ Zone III ☐

REQUIREMENTS

⑩ **MONITORING OF AREAS**
- At Start of Job
- ☒ Intermittent
- Continuous
- On Completion of Job

⑪ **DOSIMETRY**
- Gamma (DRD)
- Audible/Digital
- Neutron
- TLD (badge)
- Extremity TLD

RESPIRATORY PROTECTION
- Full-Face Canister/Cartridge (type)
- Supplied-Air (type)
- Other

ANTI-Cs
- Gloves (latex)
- Gloves (surgeon)
- Cotton Liner
- Shoe Covers (scuffs)
- Booties (plastic)
- Boots (rubber)
- Other

- Coveralls (cloth)
- Coveralls (Tyvek)
- Wet Suit
- Hood (cloth)
- Hood (Tyvek)
- TAPE OPENINGS SHUT

Special Instructions: H.P. to monitor 10-11-90 10-12-90

Health Physics Representative Signature: Butenoha

SECTION III—TO BE COMPLETED BY AREA SAFETY REPRESENTATIVE ⑦ ☐ Not Applicable (must be signed below when checked)

DESCRIPTION OF HAZARD
- ⑫ Acid or Caustic
- ⑬ Electrical
- ⑭ Welding / Burning
- ⑮ Hazardous/Inert Atmosphere
- ⑯ Elevated Work
- ⑰ Tank or Confined Space Entry (not reactor)
- ⑱ High Temperature/Pressure Fluids
- ⑲ Hoisting and Rigging
- ⑳ Toxic Materials (Incl. Asbestos)
- ㉑ Excavation
- Other (state):

㉒ PROTECTIVE EQUIPMENT
- Safety-toe Shoes
- Toe Guards
- Gloves (cotton)
- Gloves (rubberized)
- Gloves (leather)
- Gloves (neoprene)
- Gloves (SolVex)
- Gloves (PVA)
- Safety Belt
- Life-Line
- Inspect indicating layer on purification system
- Other

- Safety Glasses
- Chemical Goggles
- Face Shield
- Hard Hat
- Hearing Protection
- Coveralls (impermeable)
- Coveralls (non-Anti-C)
- Suit (acid)
- Suit (thermal)
- BACK-UP MAN

SYSTEM/AREA REQUIREMENTS
- ㉓ Electrical or Valve Danger Tag and Lockout (equipment isolation)
- ㉔ Rope Off and Post Area
- ㉕ Fire Watch
- ㉖ Additional Ventilation required
- No Smoking
- Other

INDUSTRIAL RESPIRATORY PROTECTION REQUIREMENTS
- Half Face
- Full Face Canister/Cartridge (type)
- Other

Special Instructions: Equipment Inspection - 4 ft or more drop
1/2 tol angle of repose or shoring - 5ft or more

Safety Representative Signature:

SECTION IV— TO BE COMPLETED BY AREA SUPERVISOR

The applicable Sections of this S/SWP have been filled out and approvals indicated by Signatures. All affected systems and equipment are in readiness for the work to safely proceed.

Special Instructions:

⑥ ㉗ Signature: 24HT Hi-Sal

SECTION V— TO BE COMPLETED BY THE JOB SUPERVISOR OR THE DESIGNATED ALTERNATE

Good radiological and housekeeping practices have been followed, and the work area has been returned to an as-found or better condition. Final dosimeter readings have been recorded in Section I.

IMMEDIATELY RETURN COMPLETED FORM TO HP OFFICE Signature:

EG&G Idaho, Inc.

FORM EG&G 17-A
(Rev. 09-86)

SAFE WORK PERMIT CONTINUATION SHEET ☐
SPECIAL SAFE WORK PERMIT CONTINUATION SHEET ☐

NOTE: SSWPs require Branch level signature.

SWR/Contract Number: 3YLTR505

SWP Number: 196825

Initial*	Names of Workers	Craft	② Safety Training Current?	For Radiological Work Only: ③ Prior Exposure Month	Dosimeter Readings: ⑤ Current	④ Allowable Per Day	⑤ Final
	[illegible]		✓				
[illegible]	[illegible]		✓				
	[illegible]		✓				
B	[illegible]	[illegible]	✓		[illegible]	[illegible]	
[illegible]	[illegible]		✓				
	[illegible]		✓				
	[illegible]		✓				

* Each worker is to initial in the space next to name after reading the instructions of the completed form.

Remarks/Observations:

CPA #12

TANK DISPOSITION FORM

TANK # CPA 680

DATE TANK CUT DOWN 11-2-90

TANK PARTS/SHIPPED PARTS

2 ends
2 sides
4 ft

DESCRIPTION OF ASSOCIATED PIPING/SHIPPED

NOTE: If not shipped, record disposal location.

DATE SHIPPED 12-18-90

VENDOR HAULER [signature]
Signature

COMPANY Pacific Steel / Hider Fuel

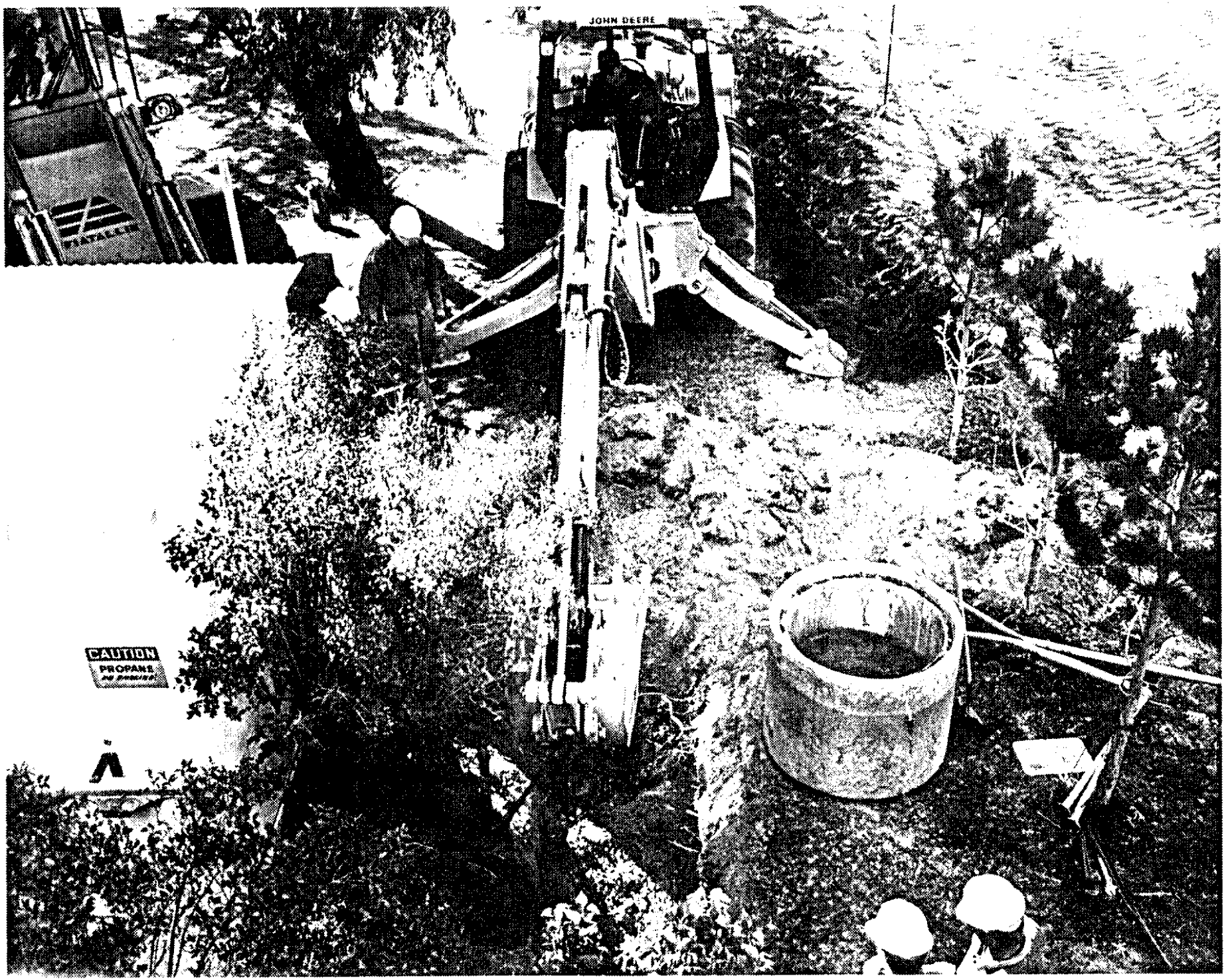
DESTINATION 395 Payne
Idaho Falls, Idaho

INVENTORY RECONCILIATION CHECKLIST [1]

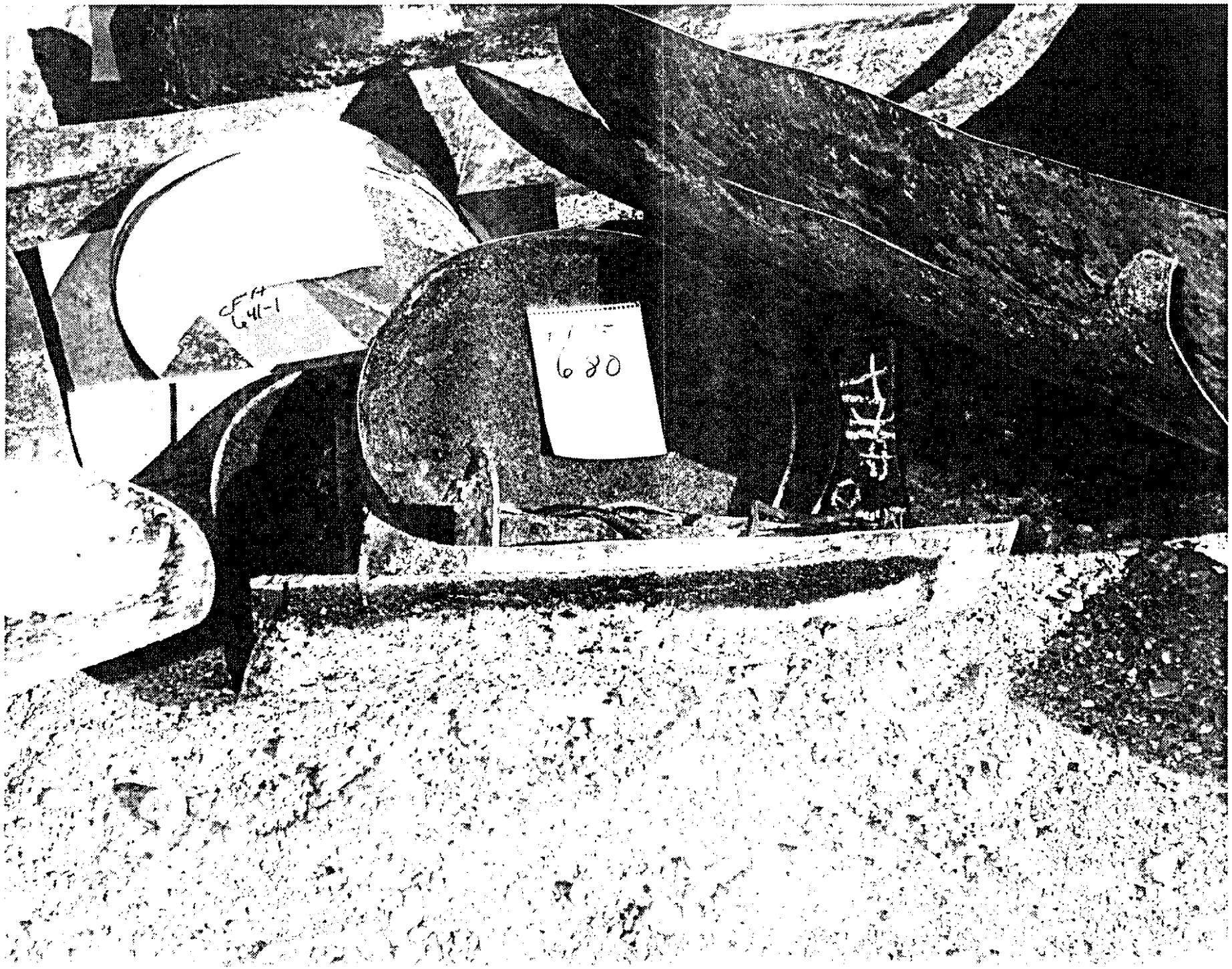
TANK NUMBER CFA 650

Doc. #	Received
1) Inventory Control Records	_____
2) Vapor Monitoring Reports	_____

[1] Revised 2/1/91


JOHN DEERE
CAUTION
PROPANE

CFA
680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