GENERAL GC DATA VALIDATION SUMMARY FOR DATA PACKAGE:
B09332-TMA-615 (923-E418)

9413225.1561

MEMORANDUM

FEB 1994 RECEIVED TQO

TO: 200-UP-2 Project QA Record February 16, 1994

FR: Michael Higgins, Golder Associates Inc.

RE: GENERAL GC DATA VALIDATION SUMMARY FOR DATA PACKAGE B09355-TMA-615 (923-E418)

INTRODUCTION

This memorandum presents the results of data validation on data package B09355-TMA-615 prepared by Thermo Analytical Inc. (TMA). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSIS
B09355	09/20/93	SOIL	SEE NOTE 1
B09356	09/20/93	SOIL	
B09357	09/20/93	SOIL	
B09359	09/20/93	SOIL	
B09360	09/20/93	SOIL	
B09361	09/20/93	SOIL	
B09362	09/20/93	SOIL	

Notes: 1 All samples were analyzed for extractable fuel hydrocarbons (kerosene range).

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 provide the following information as indicated below:

Attachment 1. Glossary of Data Reporting Qualifiers
Attachment 2. Summary of Data Qualifications
Attachment 3. Qualified Data Summary and annotated Laboratory Reports
Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation
Attachment 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

Precision. Goals for precision were met.

Accuracy. Goals for accuracy were met.

Sample Result Verification. All sample results were supported in the raw data.

Detection Limits. Detection limit goals were met for all sample results as specified in the referenced analytical method.

9413225.1562

Completeness. The data package was complete for all requested analyses. A total of seven (7) samples were validated in this data package with a total of 7 determinations reported, all of which were deemed valid. This results in a completeness of 100 percent which meets normal work plan objectives.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

No minor deficiencies were identified during data validation which required qualification of data.

REFERENCES

WHC 1993a, Validation of 200-UP-2 Data, Statement of Work, Analytical Laboratory Data Validation, Task Order S-94-18, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.

WHC 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993. Westinghouse Hanford Company, Richland, Washington.

9413225.1563

ATTACHMENT 1

GLOSSARY OF DATA REPORTING QUALIFIERS

9413225.1564

GLOSSARY OF ORGANIC DATA REPORTING QUALIFIERS

B - Indicates the constituent was analyzed for and detected in the associated laboratory blank. This qualifier is applied by the laboratory. During the process of data validation this qualifier may be replaced by other appropriate qualifiers as defined by the validation procedures. The associated data should be considered usable for decision making purposes.

U - Indicates the constituent was analyzed for and not detected. The concentration reported is the sample quantitation limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.

UJ - Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration reported may not accurately reflect the sample quantitation limit. The associated data should be considered usable for decision making purposes.

J - Indicates the constituent was analyzed for and detected. This qualifier may be applied by the laboratory to indicate a concentration which is less than the contract required quantitation limit (CRQL) but greater than the instrument detection limit (IDL). During data validation this qualifier may be applied to indicate a minor quality control deficiency. However in either case, the associated data should be considered usable for decision making purposes.

NJ - Indicates presumptive evidence of a constituent at an estimated value. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.

N - Indicates presumptive evidence of a constituent. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.

JN - Indicates a tentatively identified compound (TIC) whose concentration and identification have been determined to be valid as a result of data validation. The associated data should be considered usable for decision making purposes.

UR - Indicates the constituent was analyzed for and not detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

R - Indicates the constituent was analyzed for and detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

9413225.1565

ATTACHMENT 2

SUMMARY OF DATA QUALIFICATIONS

9413225.1566

DATA QUALIFICATION SUMMARY - FORM B-7

SDG: NA	VALIDATOR: MCH	DATE: 940215	PAGE 1 OF 1
COMMENTS: B09355-TMA-615			
PARAMETER	QUALIFIER	SAMPLES AFFECTED	REASON
	NONE		

9413225.1567

ATTACHMENT 3

QUALIFIED DATA SUMMARY AND ANNOTATED LABORATORY REPORTS

9413225.1568

Validated Data Summary, Data Package: B09355-TMA-615

	Samp#	B09355		B09356		B09357		B09359		B09360		B09361	
	Date	9-20-93		9-20-93		9-20-93		9-20-93		9-20-93		9-20-93	
	Location	219-W19-97		219-W19-95		219-W19-95		219-W19-95		219-W19-95		219-W19-95	
	Depth	167.5 - 170		169 - 171.5		169 - 171.5		---		---		181 - 182	
	Type	---		---		DUPLICATE		FLD BLANK		EQ BLANK		---	
Parameter	Units	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
KEROSENE	MG/KG	5.000	U	5.000	U	5.000	U	5.000	U	5.000	U	5.000	U

9413225.1570

Validated Data Summary, Data Package: B09355-TMA-615

	Sample#	B09362	
	Date	9-21-93	
	Location	219-W19-97	
	Depth	175.7 - 177	
	Type	---	
Parameter	Units	Result	Q
KEROSENE	MG/KG	5.000	U

Verified
-540217
009

TMA Inc. REPORT Work Order # A3-09-078

Received: 09/27/93

Results by Sample

SAMPLE ID B09355 FRACTION 01G TEST CODE 8015MS NAME EPA 8015M EXTRACT.

Date & Time Collected 09/20/93 Category

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: SOIL
Date Analyzed: 10/10/93
Dilution factor: 1.00
Concentration Units: mg/Kg

Compound	Sample Result	PQL
Kerosene Range	ND	5
C10 - C16 Jet Fuel Range	NA	NA
C9 - C22 Diesel Range	NA	NA
Hydraulic Range	NA	NA

ND = Not detected at the specified limits

Form I

Verified 9/10/10

9413225.1571

TMA Inc. REPORT Work Order # A3-09-078

Received: 09/27/93

Results by Sample

SAMPLE ID 809356 FRACTION 02G TEST CODE 8015MS NAME EPA 8015M EXTRACT.

Date & Time Collected 09/20/93 Category

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: SOIL
Date Analyzed: 10/10/93
Dilution factor: 1.00
Concentration Units: mg/kg

Compound	Sample Result	PQL
Kerosene-Range	ND	5
C10 - C16 Jet Fuel Range	NA	NA
C9 - C22 Diesel Range	NA	NA
Hydraulic Range	NA	NA

ND = Not detected at the specified limits

Form I

Verified 9/40210

TMA Inc. REPORT Work Order # A3-09-078

Received: 09/27/93

Results by Sample

SAMPLE ID B09357 FRACTION 04D TEST CODE 8015MS NAME EPA 8015M EXTRACT.

Date & Time Collected 09/20/93 Category

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: SOIL
Date Analyzed: 10/10/93
Dilution factor: 1.00
Concentration Units: mg/Kg

Compound	Sample Result	PQL
Kerosene Range	ND	5
C10 - C16 Jet Fuel Range	NA	NA
C9 - C22 Diesel Range	NA	NA
Hydraulic Range	NA	NA

ND = Not detected at the specified limits

Form I

Verified 9/10/10

TMA Inc. REPORT Work Order # A3-000521

Received: 09/27/93

Results by Sample

SAMPLE ID 809359 FRACTION 06D TEST CODE 8015MS NAME EPA 8015M EXTRACT.

Date & Time Collected 09/20/93 Category

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: SOIL
Date Analyzed: 10/10/93
Dilution factor: 1.00
Concentration Units: mg/Kg

Compound	Sample Result	PQL
Kerosene Range	ND	5
C10 - C16 Jet Fuel Range	NA	NA
C9 - C22 Diesel Range	NA	NA
Hydraulic Range	NA	NA

ND = Not detected at the specified limits

Form I

Verified 9/10/10

TMA Inc. REPORT Work Order # A3-09-078

Received: 09/27/93

Results by Sample

SAMPLE ID 809360 FRACTION 07D TEST CODE 8015MS NAME EPA 8015M EXTRACT.

Date & Time Collected 09/20/93 Category

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: SOIL
Date Analyzed: 10/11/93
Dilution factor: 1.00
Concentration Units: mg/Kg

Compound	Sample Result	PQL
Kerosene Range	ND	5
C10 - C16 Jet Fuel Range	NA	NA
C9 - C22 Diesel Range	NA	NA
Hydraulic Range	NA	NA

ND = Not detected at the specified limits

Form I

Verified 9/10/10

000525

TMA Inc. REPORT Work Order # A3-09-078

Received: 09/27/93

Results by Sample

SAMPLE ID 809361 FRACTION 08B TEST CODE 8015MS NAME EPA 8015M EXTRACT.

Date & Time Collected 09/20/93 Category

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: SOIL
Date Analyzed: 10/11/93
Dilution factor: 1.00
Concentration Units: mg/Kg

Compound	Sample Result	PQL
Kerosene Range	ND	5
C10 - C16 Jet Fuel Range	NA	NA
C9 - C22 Diesel Range	NA	NA
Hydraulic Range	NA	NA

ND = Not detected at the specified limits

Form I

Verified 9/40210

TMA Inc. REPORT Work Order # A3-09-078

Received: 09/27/93

Results by Sample

SAMPLE ID 809362 FRACTION OSD TEST CODE 8015MS NAME EPA 8015M EXTRACT.

Date & Time Collected 09/21/93 Category

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: SOIL
Date Analyzed: 10/10/93
Dilution factor: 1.00
Concentration Units: mg/Kg

Compound	Sample Result	PQL
Kerosene Range	ND	5
C10 - C16 Jet Fuel Range	NA	NA
C9 - C22 Diesel Range	NA	NA
Hydraulic Range	NA	NA

ND = Not detected at the specified limits

Form I

Verified GHOZIO

ATTACHMENT 4

LABORATORY NARRATIVE AND CHAIN-OF-CUSTODY DOCUMENTATION

94/3225.1578

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 09-078

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : September 27, 1993

1.0 DESCRIPTION OF CASE :

Eight soil samples were analyzed for TCL Organics- Volatiles and Semivolatiles according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision OLM01.8. The Total Petroleum Hydrocarbons in the Kerosene range (K) were analyzed according to the SW-846 Method 8015M.

9413225.1579

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX
B09355	A3-09-078-01A	V	SOIL
B09355	A3-09-078-01B	SV	SOIL
B09355 MS	A3-09-078-01C	SV	SOIL
B09355 MSD	A3-09-078-01D	SV	SOIL
B09355	A3-09-078-01G	K	SOIL
B09356	A3-09-078-02A	V	SOIL
B09356 MS	A3-09-078-02B	V	SOIL
B09356 MSD	A3-09-078-02C	V	SOIL
B09356	A3-09-078-02D	SV	SOIL
B09356	A3-09-078-02G	K	SOIL
B098Y6	A3-09-078-03A	V	SOIL
B09357	A3-09-078-04A	V	SOIL
B09357	A3-09-078-04B	SV	SOIL
B09357	A3-09-078-04D	K	SOIL
B09357 MS	A3-09-078-04E	K	SOIL
B09357 MSD	A3-09-078-04F	K	SOIL
B09362	A3-09-078-05A	V	SOIL
B09362	A3-09-078-05B	SV	SOIL
B09362	A3-09-078-05D	K	SOIL
B09359	A3-09-078-06A	V	SOIL
B09359	A3-09-078-06B	SV	SOIL
B09359	A3-09-078-06D	K	SOIL
B09360	A3-09-078-07A	V	SOIL
B09360	A3-09-078-07B	SV	SOIL
B09360	A3-09-078-07D	K	SOIL
B09361	A3-09-078-08B	SV,K	SOIL
B09361	A3-09-078-08D	V	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

A 250 mL Volatile container for sample B09361 was broken at TMA/ARLI. As per WHC ROD-93-0215, TMA/ARLI was instructed to use the Kerosene aliquot of that sample for the Volatile analysis. Both Kerosene and Semivolatiles will be analyzed for by utilizing the 250 mL bottle designated for the Semivolatiles analysis.

All of the other sample containers were received intact and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heated purge within the CLP SOW holding times.

All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All BFB tunes were injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the contract required holding times.

No TCL analytes were detected in the samples, with the exception of trace amounts of Di-n-butylphthalate ranging from 290 to 410 ppb.

All of the QC results were within the limits specified by the EPA CLP SOW.

3.2.3 TOTAL PETROLEUM HYDROCARBONS "KEROSENE RANGE" COMMENTS :

SEQUENCE NOTES :

The sequence was started on 10/05/93 and was analyzed according to the SW-846 Method 8015M. The initial calibration consisted of 5 different levels of the Kerosene standard that ranged from 200ppm to 2000ppm. The continuing calibration at the 1000ppm level was injected amongst a series of samples, in

9413225.1580

order to verify the instrument stability. The %RSD in the initial calibration and the %D in the continuing calibration were below their 20% and 15% limits, respectively.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the SW-846 holding time. Approximately 20g of each sample was extracted and concentrated to a final volume of 5 mL. The samples were then analyzed by GC/FID for total petroleum hydrocarbons in the Kerosene range by Method 8015M. There were no total petroleum hydrocarbons detected in the samples.

Sample B09357 was spiked with approximately 245 ug/Kg of Kerosene. The spike recoveries were between 90% and 92%, whereas the blank spike had a recovery of 82%.

All of the QC results were within the limits specified by the SW-846 Method 8015M.

9413225.1581

We certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth 12/2/93
CLP Program Manager

for Wida Ang 12/2/93
Organics Supervisor

W3-09-137

Westinghouse Hanford Company

CHAIN OF CUSTODY

000002A

Custody Form Initiator L E ROGERS

Company Contact L E ROGERS

Telephone 376-7690

Project Designation/Sampling Locations 200-UP-2

Collection Date 9-20-93

Ice Chest No. 580

Field Logbook No. EFL-1091

Bill of Lading/Airbill No. 997332836

Offsite Property No. W93-0-0764-23

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA

Possible Sample Hazards/Remarks Keep samples at 4C (SOIL) NONE NOTED

Sample Identification

1) B09355

1,250ml P:CLP;TAL Metals,Hg,Ti
1,250ml Gs:VOA CLP
1,250ml aG:Semi-VOA CLP
1,125ml G:Anions F,Cl,SO4 (EPA 300.0)
1,125ml P/G:Anions NO2,NO3 (EPA 353.2)
1,125ml G:Cyanide CLP
1,125ml Gw:Kerosene (8015M)
1,1000ml P/G:Gross alpha/beta (EP-10), Gamma Spec to include,Cs-134,Cs-137,Co-60,Eu-152, Eu-154,Eu-155,K-40,Ru-106,Na-22 (RC-30), Total Uranium (EA-01C) U-235,U-234,U-238 (EP-70, EP-71, EP-5) Np-237,(RC-101A, RC-622, EP-5) Pu-238,Pu-239/240 (EP-80, EP-81, EP-5) I-129 (RC-25, RC-605) Sr-90 (RC-306, RC-303, RC-309, RC-304) Tc-99 (RC-24, RC-604) Am-241,Cm-244 (EP-80, EP-90, EP-91, EP-92, EP-93, EP-5) Se-79

2) B09356

1,250ml P:CLP;TAL Metals,Hg,Ti
1,250ml Gs:VOA CLP
1,250ml aG:Semi-VOA CLP
1,125ml G:Anions F,Cl,SO4 (EPA 300.0)
1,125ml P/G:Anions NO2,NO3 (EPA 353.2)
1,125ml G:Cyanide CLP
1,125ml Gw:Kerosene (8015M)
1,1000ml P/G:Gross alpha/beta (EP-10), Gamma Spec to include,Cs-134,Cs-137,Co-60,Eu-152, Eu-154,Eu-155,K-40,Ru-106,Na-22 (RC-30), Total Uranium (EA-01C) U-235,U-234,U-238 (EP-70, EP-71, EP-5) Np-237,(RC-101A, RC-622, EP-5) Pu-238,Pu-239/240 (EP-80, EP-81, EP-5) I-129 (RC-25, RC-605) Sr-90 (RC-306, RC-303, RC-309, RC-304) Tc-99 (RC-24, RC-604) Am-241,Cm-244 (EP-80, EP-90, EP-91, EP-92, EP-93, EP-5) Se-79

3)

1,250ml P:CLP;TAL Metals,Hg,Ti
1,250ml Gs:VOA CLP
1,250ml aG:Semi-VOA CLP
1,125ml G:Anions F,Cl,SO4 (EPA 300.0)
1,125ml P/G:Anions NO2,NO3 (EPA 353.2)
1,125ml G:Cyanide CLP
1,125ml Gw:Kerosene (8015M)
1,1000ml P/G:Gross alpha/beta (EP-10), Gamma Spec to include,Cs-134,Cs-137,Co-60,Eu-152, Eu-154,Eu-155,K-40,Ru-106,Na-22 (RC-30), Total Uranium (EA-01C) U-235,U-234,U-238 (EP-70, EP-71, EP-5) Np-237,(RC-101A, RC-622, EP-5) Pu-238,Pu-239/240 (EP-80, EP-81, EP-5) I-129 (RC-25, RC-605) Sr-90 (RC-306, RC-303, RC-309, RC-304) Tc-99 (RC-24, RC-604) Am-241,Cm-244 (EP-80, EP-90, EP-91, EP-92, EP-93, EP-5) Se-79

SER 9-21-93

9413225.1582

[] Field Transfer of Custody

Chain of Possession

(Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
9-23-93 Lorene E. Rogers 1440	K. Blum Kermit Blum	9-27-93 *
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/Fiscal on 9-25-93 opened 9-27-93 KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

-021

0000020

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator L E ROGERS

Company Contact L E ROGERS

Telephone 376-7690

Project Designation/Sampling Locations 200-UP-2

Collection Date 9-20-93

Ice Chest No. 161

Field Logbook No. EFL-1091

Bill of Lading/Airbill No. 997332836

Offsite Property No. W93-0-0764-23

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA

Possible Sample Hazards/Remarks Keep samples at 4C (SOIL) NONE NOTED

Sample Identification

1) B09359

- 1,250ml P:CLP;TAL Metals,Hg,Ti
- 1,250ml Gs:VOA CLP
- 1,250ml aG:Semi-VOA CLP
- 1,125ml G:Anions F,Cl,SO4 (EPA 300.0)
- 1,125ml P/G:Anions NO2,NO3 (EPA 353.2)
- 1,125ml G:Cyanide CLP
- 1,125ml Gw:Kerosene (8015M)
- 1,1000ml P/G:Gross alpha/beta (EP-10), Gamma Spec to include,Cs-134,Cs-137,Co-60,Eu-152, Eu-154,Eu-155,K-40,Ru-106,Na-22 (RC-30), Total Uranium (EA-01C) U-235,U-234,U-238 (EP-70, EP-71, EP-5) Np-237,(RC-101A, RC-622, EP-5) Pu-238,Pu-239/240 (EP-80, EP-81, EP-5) I-129 (RC-25, RC-605) Sr-90 (RC-306, RC-303, RC-309, RC-304) Tc-99 (RC-24, RC-604) Am-241,Cm-244 (EP-80, EP-90, EP-91, EP-92, EP-93, EP-5) Se-79

2) B09360

- 1,250ml P:CLP;TAL Metals,Hg,Ti
- 1,250ml Gs:VOA CLP
- 1,250ml aG:Semi-VOA CLP
- 1,125ml G:Anions F,Cl,SO4 (EPA 300.0)
- 1,125ml P/G:Anions NO2,NO3 (EPA 353.2)
- 1,125ml G:Cyanide CLP
- 1,125ml Gw:Kerosene (8015M)
- 1,1000ml P/G:Gross alpha/beta (EP-10), Gamma Spec to include,Cs-134,Cs-137,Co-60,Eu-152, Eu-154,Eu-155,K-40,Ru-106,Na-22 (RC-30), Total Uranium (EA-01C) U-235,U-234,U-238 (EP-70, EP-71, EP-5) Np-237,(RC-101A, RC-622, EP-5) Pu-238,Pu-239/240 (EP-80, EP-81, EP-5) I-129 (RC-25, RC-605) Sr-90 (RC-306, RC-303, RC-309, RC-304) Tc-99 (RC-24, RC-604) Am-241,Cm-244 (EP-80, EP-90, EP-91, EP-92, EP-93, EP-5) Se-79

3) B09361

- 1,250ml P:CLP;TAL Metals,Hg,Ti
- 1,250ml Gs:VOA CLP
- 1,250ml aG:Semi-VOA CLP
- 1,125ml G:Anions F,Cl,SO4 (EPA 300.0)
- 1,125ml P/G:Anions NO2,NO3 (EPA 353.2)
- 1,125ml G:Cyanide CLP
- 1,125ml Gw:Kerosene (8015M)
- 1,1000ml P/G:Gross alpha/beta (EP-10), Gamma Spec to include,Cs-134,Cs-137,Co-60,Eu-152, Eu-154,Eu-155,K-40,Ru-106,Na-22 (RC-30), Total Uranium (EA-01C) U-235,U-234,U-238 (EP-70, EP-71, EP-5) Np-237,(RC-101A, RC-622, EP-5) Pu-238,Pu-239/240 (EP-80, EP-81, EP-5) I-129 (RC-25, RC-605) Sr-90 (RC-306, RC-303, RC-309, RC-304) Tc-99 (RC-24, RC-604) Am-241,Cm-244 (EP-80, EP-90, EP-91, EP-92, EP-93, EP-5) Se-79

[] Field Transfer of Custody — Chain of Possession — (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
Lorne E. Rogers 9-23-93 1440	Kermit Blum K. Blum	9-27-93 *
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA / Norca 9-25-93 ; opened 9-27-93 . KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

9413225.1583

000002

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator: L E ROGERS

Company Contact: L E ROGERS

Telephone: 376-7690

Project Designation/Sampling Locations: 200-UP-2

Collection Date: 9-20-93

Ice Chest No.: 630

Field Logbook No.: EFL-1091

Bill of Lading/Airbill No.: 9973332836

Offsite Property No.: W93-0-0764-23

Method of Shipment: OVERNIGHT AIR SERVICE

Shipped to: TMA

Possible Sample Hazards/Remarks: Keep samples at 4C (SOIL) NONE NOTED

Sample Identification

1) B09357

1,250ml P:CLP;TAL Metals,Hg,Ti
1,250ml Gs:VOA CLP
1,250ml aG:Semi-VOA CLP
1,125ml G:Anions F,Cl,SO4 (EPA 300.0)
1,125ml P/G:Anions NO2,NO3 (EPA 353.2)
1,125ml G:Cyanide CLP
1,125ml GW:Kerosene (8015M)
1,1000ml P/G:Gross alpha/beta (EP-10), Gamma Spec to include,Cs-134,Cs-137,Co-60,Eu-152, Eu-154,Eu-155,K-40,Ru-106,Na-22 (RC-30), Total Uranium (EA-01C) U-235,U-234,U-238 (EP-70, EP-71, EP-5) Np-237,(RC-101A, RC-622, EP-5) Pu-238,Pu-239/240 (EP-80, EP-81, EP-5) I-129 (RC-25, RC-605) Sr-90 (RC-306, RC-303, RC-309, RC-304) Tc-99 (RC-24, RC-604) Am-241,Cm-244 (EP-80, EP-90, EP-91, EP-92, EP-93, EP-5) Se-79

2) B09362

1,250ml P:CLP;TAL Metals,Hg,Ti
1,250ml Gs:VOA CLP
1,250ml aG:Semi-VOA CLP
1,125ml G:Anions F,Cl,SO4 (EPA 300.0)
1,125ml P/G:Anions NO2,NO3 (EPA 353.2)
1,125ml G:Cyanide CLP
1,125ml GW:Kerosene (8015M)
1,1000ml P/G:Gross alpha/beta (EP-10), Gamma Spec to include,Cs-134,Cs-137,Co-60,Eu-152, Eu-154,Eu-155,K-40,Ru-106,Na-22 (RC-30), Total Uranium (EA-01C) U-235,U-234,U-238 (EP-70, EP-71, EP-5) Np-237,(RC-101A, RC-622, EP-5) Pu-238,Pu-239/240 (EP-80, EP-81, EP-5) I-129 (RC-25, RC-605) Sr-90 (RC-306, RC-303, RC-309, RC-304) Tc-99 (RC-24, RC-604) Am-241,Cm-244 (EP-80, EP-90, EP-91, EP-92, EP-93, EP-5) Se-79

9413225.1584

3)

1,250ml P:CLP;TAL Metals,Hg,Ti
1,250ml Gs:VOA CLP
1,250ml aG:Semi-VOA CLP
1,125ml G:Anions F,Cl,SO4 (EPA 300.0)
1,125ml P/G:Anions NO2,NO3 (EPA 353.2)
1,125ml G:Cyanide CLP
1,125ml GW:Kerosene (8015M)
1,1000ml P/G:Gross alpha/beta (EP-10), Gamma Spec to include,Cs-134,Cs-137,Co-60,Eu-152, Eu-154,Eu-155,K-40,Ru-106,Na-22 (RC-30), Total Uranium (EA-01C) U-235,U-234,U-238 (EP-70, EP-71, EP-5) Np-237,(RC-101A, RC-622, EP-5) Pu-238,Pu-239/240 (EP-80, EP-81, EP-5) I-129 (RC-25, RC-605) Sr-90 (RC-306, RC-303, RC-309, RC-304) Tc-99 (RC-24, RC-604) Am-241,Cm-244 (EP-80, EP-90, EP-91, EP-92, EP-93, EP-5) Se-79

JER 9-21-93

[] Field Transfer of Custody — Chain of Possession (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
Karen L. Rogers 9-23-93 1440	Kermit Blum K. Blum	9-27-93 *
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

* Received @ TMA/NORCAL on 9-25-93; opened 9-27-93 KB

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

ATTACHMENT 5

DATA VALIDATION SUPPORTING DOCUMENTATION

9413225.1585

GENERAL GC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

PROJECT: 200-UP-2		DATA PACKAGE: B09355-TMA-0615	
VALIDATOR: M. HIGGINS	LAB: TMA		DATE: 940210
CASE: NA		SDG: NA	

ANALYSES PERFORMED					
☐ 8010	☒ 8015	☐ 8020	☐ 8021	8140	8141
☐ 8150	☐ 8151	☐ WTPH-HCID	☐ WTPH-G	☐ WTPH-D	☐
☐	☐	☐	☐	☐	☐

SAMPLES/MATRIX: SEIEN (7)/SOIL	
B09355	B09361
B09356	B09362
B09357	
B09359	
B09360	

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Is technical verification documentation present? . . . . . (Yes) No N/A

Is a case narrative present? . . . . . (Yes) No N/A

Comments:

2. HOLDING TIMES

Are sample holding times acceptable? . . . . . (Yes) No N/A

Comments:

9413225.1586

GENERAL GC DATA VALIDATION CHECKLIST

3. INSTRUMENT CALIBRATION

3.1 INITIAL CALIBRATION

Was an initial calibration performed? . . . . . Yes No N/A

Are %RSD values for calibration or response factors acceptable? . . . . . Yes No N/A

Comments:

3.2 CONTINUING CALIBRATION

Was a continuing calibration check performed? . . . . . Yes No N/A

Are %D values for calibration or response factors acceptable? . Yes No N/A

Comments:

4. BLANKS

Were laboratory blanks analyzed? . . . . . Yes No N/A

Are laboratory blank results acceptable? . . . . . Yes No N/A

Were field/trip blanks analyzed? . . . . . Yes No N/A

Are field/trip blank results acceptable? . . . . . Yes No N/A

Comments:

5. ACCURACY

Were surrogates analyzed? . . . . . Yes No N/A

Are surrogate recoveries acceptable? . . . . . Yes No N/A

Were MS/MSD samples analyzed? . . . . . Yes No N/A

Are MS/MSD recoveries acceptable? . . . . . Yes No N/A

Were LCS samples analyzed? . . . . . Yes No N/A

Are LCS recoveries acceptable? . . . . . Yes No N/A

9413225.1587

GENERAL GC DATA VALIDATION CHECKLIST

Comments: Surrogate should be analyzed using this method. HOWEVER qualification per Section 6.6.1 was not performed and data was not qualified because ① LCS was performed and acceptable ② Matrix Spike (in Duplicate) was performed and acceptable (although criteria was not provided by the laboratory

6. PRECISION

Are MS/MSD sample RPD values acceptable? . . . . . Yes No N/A

Are field duplicate RPD values acceptable? . . . . . Yes No N/A

Are field split RPD values acceptable? . . . . . Yes No N/A

Comments: RPD was on order 1%, However no criteria (control limits) was provided by the laboratory for evaluation. 2/14/94 No qualification of the data was made.

7. COMPOUND IDENTIFICATION AND QUANTITATION

Is compound identification acceptable? . . . . . Yes No N/A

Is compound quantitation acceptable? . . . . . Yes No N/A

Comments:

8. REPORTED RESULTS AND DETECTION LIMITS

Are results reported for all requested analyses? . . . . . Yes No N/A

Are all results supported in the raw data? . . . . . Yes No N/A

Do results meet the CRQLs? . . . . . Yes No N/A

Comments:

9413225.1588

HOLDING TIME SUMMARY

SDG: NA	VALIDATOR: M. HIGGINS	DATE 940210	PAGE 1 OF 1
COMMENTS: B09355-TMA Ø615			

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B09355	8015M	09/20/93	10/02/93	10/10/93	≤ 14 DAYS	≤ 40 DAYS	NONE
B09356	↓	↓	↓	↓	↓	↓	↓
B09357	↓	↓	↓	↓	↓	↓	↓
B09362	↓	↓	↓	↓	↓	↓	↓
B09359	↓	↓	↓	↓	↓	↓	↓
B09360	↓	↓	↓	↓	↓	↓	↓
B09361	↓	↓	↓	↓	↓	↓	↓

028

9413225.1589