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ATTACHMENT 78  
Page 1 of 26

VOLATILE ORGANICS DATA VALIDATION SUMMARY FOR DATA PACKAGE:  
B098Y7-TMA-628 (923-E418 628VOA.UP2)

9453549D

MEMORANDUM

TO: 200 UP-2 Project QA Record

April 21, 1994

FR: Thomas Stapp, Golder Associates Inc. *TS*

RE: VOLATILES DATA VALIDATION SUMMARY FOR DATA PACKAGE B098Y7-TMA-628 (923-E418 628VOA.UP2)

INTRODUCTION

This memo presents the results of data validation on data package B098Y7-TMA-628 prepared by TMA laboratory. A list of samples validated along with the analyses reported and the methods of analysis is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSES
B098Y7	10/07/93	SOIL	SEE NOTE 1
B098Y9	10/08/93	SOIL	
Notes:			
1. Indicates the samples were analyzed for target compound list (TCL) volatile organics.			

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

This section presents a summary of the data quality in terms of the referenced validation criteria.

**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.

**Completeness.** The data package was complete for all requested analyses. A total of two (2) samples were validated in this data package with a total of sixty-six (66) determinations reported, all of which were deemed valid. This results in a completeness of 100 percent which meets the work plan completeness objective of 90 percent.

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*TS* 001

**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.

**TENTATIVELY IDENTIFIED COMPOUND EVALUATION**

Tentatively identified compounds (TICs) reported by the laboratory were evaluated during validation and qualified as follows:

- An unknown hydrocarbon detected in sample B098Y9 has been qualified as presumptive and valid (JN).

**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.

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Revised   
4-21-94

ATTACHMENT 1

GLOSSARY OF DATA REPORTING QUALIFIERS

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## GLOSSARY OF ORGANIC DATA REPORTING QUALIFIERS

- 9113225.0937
- 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.
  - UJN - Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected (U) due to associated blank contamination.
  - 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.

Revised  
9/11/19  
[Signature]

ATTACHMENT 2  
SUMMARY OF DATA QUALIFICATIONS

9413225.0938

DATA QUALIFICATION SUMMARY - FORM B-7

SDG: B098Y7-TMA-628	REVIEWER: T. STAPP	DATE: 3-14-94	PAGE <u>1</u> OF <u>1</u>
COMMENTS: VOLATILE ORGANICS			
COMPOUND/ ANALYTE	QUALIFIER	SAMPLES AFFECTED	REASON
NO QUALIFICATIONS REQUIRED			

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4-21-94 L006

ATTACHMENT 3

QUALIFIED DATA SUMMARY and ANNOTATED LABORATORY REPORTS

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Validated Data Summary, Data Package: B098Y7-TMA-628

Parameter	Sampl#	B098Y7		B098Y9	
	Date	10-7-93		10-8-93	
	Location	---		---	
	Depth	---		---	
	Type	---		TRIP BLK	
	Comments	---		---	
	Units	Result	Q	Result	Q
CHLOROMETHANE	UG/KG	11.000	U	10.000	U
BROMOMETHANE	UG/KG	11.000	U	10.000	U
VINYL CHLORIDE	UG/KG	11.000	U	10.000	U
CHLOROETHANE	UG/KG	11.000	U	10.000	U
METHYLENE CHLORIDE	UG/KG	11.000	U	10.000	U
ACETONE	UG/KG	11.000	U	10.000	U
CARBON DISULFIDE	UG/KG	11.000	U	10.000	U
1,1-DICHLOROETHENE	UG/KG	11.000	U	10.000	U
1,1-DICHLOROETHANE	UG/KG	11.000	U	10.000	U
1,2-DICHLOROETHENE (TOTAL)	UG/KG	11.000	U	10.000	U
CHLOROFORM	UG/KG	11.000	U	10.000	U
1,2-DICHLOROETHANE	UG/KG	11.000	U	10.000	U
2-BUTANONE	UG/KG	11.000	U	10.000	U
1,1,1-TRICHLOROETHANE	UG/KG	11.000	U	10.000	U
CARBON TETRACHLORIDE	UG/KG	11.000	U	10.000	U
BROMODICHLOROMETHANE	UG/KG	11.000	U	10.000	U
1,2-DICHLOROPROPANE	UG/KG	11.000	U	10.000	U
CIS-1,3-DICHLOROPROPENE	UG/KG	11.000	U	10.000	U
TRICHLOROETHENE	UG/KG	11.000	U	10.000	U
DIBROMOCHLOROMETHANE	UG/KG	11.000	U	10.000	U
1,1,2-TRICHLOROETHANE	UG/KG	11.000	U	10.000	U
BENZENE	UG/KG	11.000	U	10.000	U
TRANS-1,3-DICHLOROPROPENE	UG/KG	11.000	U	10.000	U
BROMOFORM	UG/KG	11.000	U	10.000	U
4-METHYL-2-PENTANONE	UG/KG	11.000	U	10.000	U
2-HEXANONE	UG/KG	11.000	U	10.000	U
TETRACHLOROETHENE	UG/KG	11.000	U	10.000	U
1,1,2,2-TETRACHLOROETHANE	UG/KG	11.000	U	10.000	U
TOLUENE	UG/KG	11.000	U	10.000	U
CHLOROBENZENE	UG/KG	11.000	U	10.000	U
ETHYLBENZENE	UG/KG	11.000	U	10.000	U
STYRENE	UG/KG	11.000	U	10.000	U
XYLENES (TOTAL)	UG/KG	11.000	U	10.000	U

Verified 4-21-94

Rev 1-21-94

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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B098Y7

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10014 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A310014-01A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 31020R08

Level: (low/med) LOW Date Received: 10/11/93

% Moisture: not dec. 8 Date Analyzed: 10/20/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B098Y9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10014 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A310014-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 31020R03

Level: (low/med) LOW Date Received: 10/11/93

% Moisture: not dec. 0 Date Analyzed: 10/20/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	10	U
67-64-1	-----Acetone	10	<del>U</del>
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	10	U
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	<del>U</del>
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	10	U
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	<del>U</del>
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	10	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (total)	10	U

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1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B098Y9

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 10014 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A310014-02A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 31020R03

Level: (low/med) LOW Date Received: 10/11/93

% Moisture: not dec. 0 Date Analyzed: 10/20/93

GC Column: PACK ID: 2.00 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	28.08	10	<input checked="" type="checkbox"/>

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ATTACHMENT 4

LABORATORY NARRATIVE and CHAIN-OF-CUSTODY DOCUMENTATION

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CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 10-014

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : October 11, 1993

1.0 DESCRIPTION OF CASE :

Two soil samples were analyzed for TCL Organics - Volatiles, Semivolatiles, and Pesticide/PCBs 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.

2.0 SAMPLE LIST :

<u>WESTINGHOUSE ID</u>	<u>LAB ID</u>	<u>ANALYSIS REQUESTED</u>	<u>MATRIX</u>
B098Y7	A3-10-014-01A	V	SOIL
B098Y7	A3-10-014-01B	SV	SOIL
B098Y7 MS	A3-10-014-01C	SV	SOIL
B098Y7 MSD	A3-10-014-01D	SV	SOIL
B098Y7	A3-10-014-01H	K	SOIL
B098Y7 MS	A3-10-014-01I	K	SOIL
B098Y7 MSD	A3-10-014-01J	K	SOIL
B098Y7	A3-10-014-01K	P	SOIL
B098Y7 MS	A3-10-014-01L	P	SOIL
B098Y7 MSD	A3-10-014-01M	P	SOIL
B098Y9	A3-10-014-02A	V	SOIL
B098Y9 MS	A3-10-014-02B	V	SOIL
B098Y9 MSD	A3-10-014-02C	V	SOIL

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received intact and properly documented.

On October 23, 1993, the Westinghouse Hanford Company cancelled the analysis of samples B098Y7 and B098Y9, despite the fact that the Volatile samples had already been analyzed, and the samples were extracted for Semivolatiles, Pesticides, and Extractable Hydrocarbons. On November 3, 1993, TMA/ARLI, in accordance with ROD-93-0241, reinitiated the analyses and reporting of the aforementioned samples.

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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.

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

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 11/02/93 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by a single injection into a dual column system.

During the analysis sequence, the Autosampler malfunctioned, and after the injection of the PIBLKs and the PEMs, the sequence was continued. The %RSD for all of the analytes were within the QC limits on both of the GC columns, with the exception of alpha- and delta-BHC on the DB-508 column, which were slightly above 20% but less than the 30% limit.

Several Aroclor standards were injected throughout the sequence in order to confirm the presence of Aroclors in the samples. Although the retention times for some peaks exceeded their retention time window, the identification of each Aroclor was based primarily on the pattern recognition for each peak in the chromatogram.

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

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The chromatograms are presented in the manner consistent with the capabilities of the Nelson 2700 Turbochrome Data System which normalizes the largest peak to scale.

LOW LEVEL SOIL :

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

The TCX surrogate recoveries on the DB-608 column for samples B098Y7MS and B098Y7MSD were slightly below the advisory QC limits. However, the TCX recoveries on the DB-1701 column were higher for all of the samples in comparison to the DB-608 column, due to the interference peaks that coeluted with TCX on the DB-1701 column, therefore yielding higher recoveries. The %D between the two GC columns, for TCX in the spiked and unspiked samples, were greater than the 25% limit. The DCB recoveries on the two GC columns were comparable for all of the samples.

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

3.2.4 TOTAL PETROLEUM HYDROCARBONS "KEROSENE RANGE" COMMENTS :

SEQUENCE NOTES :

The sequence was started on 12/01/93, with the injection of a continuing calibration, and was analyzed according to the SW-846 Method 8015M. The instrument calibration was performed on 11/18/93 with the injection of 5 different levels of the Kerosene standard. The %RSD for the initial calibration, and the %D for the continuing calibration were all within their respective QC limits as specified by the SW-846 Method 8015M. respectively.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted within the SW-846 holding time. However, the sample extracts were analyzed 10 days outside of the holding time due to laboratory miscommunication. The laboratory has taken the appropriate steps to ensure that this will not happen again. No Kerosene was detected in the samples.

Sample B098Y7 was spiked with Kerosene. The matrix spike recovery in B098Y7MS was 61%, and 59% in sample B098Y7MSD. A blank spike, KLCS1014S, was prepared and analyzed at the same time, and had a 70% recovery.

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

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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*  
Nicole Roth 12/14/93  
CLP Program Manager

*Maureen Parrish*  
Maureen Parrish 12/14/93  
Program Manager

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91725099

Westinghouse  
Hanford Company

CHAIN OF CUSTODY

UUUUUU  
3-18-94

Custody Form Initiator L E ROGERS

Company Contact L E ROGERS

Telephone 376-7690

Project Designation/Sampling Locations 200-UP-2

Collection Date 10-7-93

Ice Chest No. SML-54B

Field Logbook No. EFL-1091

Bill of Lading/Airbill No. \_\_\_\_\_

Offsite Property No. \_\_\_\_\_

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA

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

Sample Identification

- 1) GER 10-7-93 BO88Y7
- 1,250ml P:CLP; TAL Metals, Hg, Ti
  - 1,250ml aGs: 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) 1,250ml aGs PCB/Pest
- 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) GER 10-7-93
- 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

9413225.0950

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

Relinquished by: <u>10-8-93</u> <u>Greg E. Pappert 1122</u>	Received by: <u>JG HOGAN</u> <u>JG HOGAN</u>	Date/Time: <u>10-8-93</u> / <u>1122</u>
Relinquished by: <u>JG HOGAN</u> <u>JG HOGAN 10-8-93 1135</u>	Received by: <u>H. NORCAL</u> <u>H. NORCAL TMA/NORCAL</u>	Date/Time: <u>10-11-93</u> 8:00
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
------------------	--------------	------------

Comments:

Rec'd SATURDAY 10-9-92  
OPENED 10/11/93

3-18-94

Custody Form Initiator L E ROGERS

Company Contact L E ROGERS

Telephone 376-7690

Project Designation/Sampling Locations 200-UP-2

Collection Date 10-8-93

Ice Chest No. SML-54B

Field Logbook No. EFL-1091

Bill of Lading/Airbill No. \_\_\_\_\_

Offsite Property No. \_\_\_\_\_

Method of Shipment OVERNIGHT AIR SERVICE

Shipped to TMA

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

Sample Identification

- 1) B09049
- ~~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,S04 (EPA 300.0)~~
  - ~~1,125ml P/G:Anions NO2,NO3 (EPA 353.2)~~
  - ~~1,125ml G:Cyanide CLP~~
  - ~~1,125ml Gw:Kerosene (8015H)~~
  - ~~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) ~~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,S04 (EPA 300.0)~~
  - ~~1,125ml P/G:Anions NO2,NO3 (EPA 353.2)~~
  - ~~1,125ml G:Cyanide CLP~~
  - ~~1,125ml Gw:Kerosene (8015H)~~
  - ~~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) SEP 10-8-93
- ~~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,S04 (EPA 300.0)~~
  - ~~1,125ml P/G:Anions NO2,NO3 (EPA 353.2)~~
  - ~~1,125ml G:Cyanide CLP~~
  - ~~1,125ml Gw:Kerosene (8015H)~~
  - ~~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~~

9443225.0951

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

Relinquished by: <u>L E ROGERS</u> 10-8-93 1120	Received by: <u>JG HOGAN</u>	Date/Time: <u>10-8-93 / 1120</u>
Relinquished by: <u>JG HOGAN</u> 10-8-93/1135	Received by: <u>H. NARCISO</u>	Date/Time: <u>10-11-93 / 8:00</u>
Relinquished by: _____	Received by: _____	Date/Time: _____
Relinquished by: _____	Received by: _____	Date/Time: _____

Final Sample Disposition

Disposal Method: _____	Disposed by: _____	Date/Time: _____
Comments: _____		

Rec'd 10-9-93 TMA/NORCAL OPENED 10/11/93

**HANFORD ANALYTICAL SERVICES MANAGEMENT**

**RECORD OF DISPOSITION**

ROD-93-0241  
Record of Disposition No.

DATE: November 4, 1993

LABORATORY: TMA

PROJECT TITLE/NO.: 200-UP-2 / 93-263

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS: B098Y7, B098Y9

**DESCRIPTION OF EVENT:**

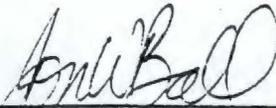
On October 25th, HASM received direction regarding samples B098Y7 and B098Y9 taken 4-6' from the surface. The entire suite of analyses listed on SAF 93-263 were requested for sample B098Y7 and VOA's were requested for the trip blank (sample B098Y9). HASM was informed that samples taken from the 4-6' depth should only have radiochemistry analyses requested since they are apart of a sitewide background study. TMA was subsequently informed to cancel all non-radchem analyses for sample B098Y7 and cancel the VOA analysis for B098Y9. On November 3rd, HASM was informed that all of the requested analyses on the Chain of Custody should be performed for samples B098Y7 and B098Y9. Due to the delay, two analyses (CN and Hg) exceeded holding time limits.

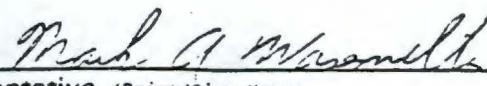
9413225-0952

**DISPOSITION OF SAMPLES:**

With the customer's consent, TMA was instructed to proceed with all the analyses listed on the Chain of Custody, including CN and Hg which exceeded holding times. The customer understands that data obtained for CN and Hg may be for information only.

**APPROVAL SIGNATURES:**

Jon W. Ball  11-4-93  
 HASM Project Coordinator (Print/Sign Name) Date

Mark Wasemiller  11/12/93  
 Technical Representative (Print/Sign Name) Date

N/A \_\_\_\_\_  
 Quality Assurance (Print/Sign Name) Date

ATTACHMENT 5 .

DATA VALIDATION SUPPORTING DOCUMENTATION

9443225.0953

ORGANIC DATA VALIDATION CHECKLIST

B	C	D	<u>E</u>
DATA PACKAGE: BC9847-TMA-628			
LAB: TMA		DATE: 3-10-94	
SDG:			
ANALYSES PERFORMED			
<input type="checkbox"/> SW-846 8260 (packed column)	<input type="checkbox"/> CLP Semivolatiles	<input type="checkbox"/> SW-846 8270 (cap column)	<input type="checkbox"/> SW-846 (packed column)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BC9849 / SCIL			

ISSUES AND CASE NARRATIVE

Documentation present? Note 1  Yes No N/A  
 Yes No N/A  
 performed by WHC.

Acceptable?  Yes No N/A  
 Missing Time Summary page. B-1

CHECKLIST

.....  Yes No N/A  
 ..... Yes  No N/A  
 .....  Yes No N/A  
 exceeds the upper  
 and results as estimated (7%)  
 e B-2. ~~4-21-94~~  
 have no RSD criteria for  
 0 qualifiers will be applied.  
 .....  Yes No N/A  
 .....  Yes No N/A  
 ..... Yes No  N/A  
 ..... Yes No  N/A  
 ment and trip blanks  
 e set, but have  
 evaluated in the

? .....  Yes No N/A  
 acceptable?  Yes No N/A  
 .....  Yes No N/A  
 .....  Yes No N/A

4021

022  
 Revised AS  
 4-21-94

GC/MS ORGANIC DATA VALIDATION CHECKLIST

6. PRECISION

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

Are field duplicate RPD values acceptable? Note ① . . . . . Yes No  N/A

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

Comments: ① Field QC for duplicates and split samples were not identified in this sample set but the information has been requested. Field QC data will be evaluated in the final data Summary.

7. SYSTEM PERFORMANCE

Were internal standards analyzed? . . . . .  Yes No N/A

Are internal standard areas acceptable? . . . . .  Yes No N/A

Are internal standard retention times acceptable? . . . . .  Yes No N/A

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. COMPOUND IDENTIFICATION AND QUANTITATION

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

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

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. REPORTED RESULTS AND QUANTITATION 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

Has the laboratory properly identified and coded all TIC? . . .  Yes No N/A Note ①

Comments: ① The TIC for Sample B09849 has been qualified as presumptive and estimated (N/A) according to WHC data validation requirements. (IN)

3-18-94

9113225.0955



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9473225-0957

Revised  
4-21-94  
-025  
FS