AR TARGET SHEET

The following document was too large to scan as one unit, therefore it has been broken down into sections.

DOCUMENT # BOBMY4-TMA-760

EDMC # 45 610

SECTION 1 OF 2

START 9613501.0972

BOBMY4-TMA-760 514

0045610 1/2 TMA 967 2

RECORD COPY

JUN 1994 RECEIVED SDLA

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY & ORGANICS
Case No. 05-036
(TMA/ARLI W.O. No. A4-05-036)

METALS & NITRATE/NITRITE
Case No. N4-05-048
(TMA/Skinner & Sherman W.O. Nos. S4-05-116,
S4-05-117 & S4-05-118)

TOTAL ORGANIC CARBON &
TOTAL ORGANIC HALOGENS
Case No. N4-05-048
(TMA/ERG W.O. E4-05-112)

OCT 1996 RECEIVED EDMC

June 21, 1994

TMA Master Work Order N4-05-048

9613501.0973

MEMO TO FILE

July 22, 1996

TO: B0BMY4-TMA-760

FROM: Mickey Seamans

SUBJECT: SUMMARY VALIDATION

The Validation Summary Document for 100-FR-3, Round 5 Groundwater Sampling for the following data packages is filed in B0BMY4-TMA-760:

B0BMQ5-ORK-004
B0BMQ9-ORK-003
B0BMY4-TMA-760
B0BMY8-TMA-779
W0055-ITC-060
W0062-ITC-062
W0068-ITC-079
W0082-ITC-096

9613501.0974

000002

PAGE 1 TMA/Norcal CHAIN OF CUSTODY ORD # N4-05-048

RCVD: 05/11/94 DUE: 06/15/94 05/11/94 16:26:09 KEEP: 06/15/95 DISP: S

DASH	SAMPLE IDENTIFICATION			STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY						
01A-W	BOBMY4		UNFILTERED	ARLI	WH018	WH019	WH020	WH043	WH114	WH121	WH122
					WH128	WH131	WH132	WH140			
01D-W	BOBMY4	MS	UNFILTERED	ARLI	WH018	WH019	WH020	WH043	WH114	WH140	
01E-W	BOBMY4	MSD	UNFILTERED	ARLI	WH018	WH019	WH020				
01F-W	BOBMY4	DUP	UNFILTERED	ARLI	WH043	WH114	WH121	WH122	WH128	WH131	WH132
					WH140						
03A-W	BOBMY6			ARLI	WH014						

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	5/11/94	Arli	5/11/94	Mal McCrath	5/12/94

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Date Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 199-F5-6	SAF No.: 94-087
Ice Chest No.: ER-1A	Field Logbook No.: EFL-1055	Method of Shipment: EMERY 1402137803
Shipped To: TMA	Offsite Property No.: W44-0-0518-39	Bill of Lading/Air Bill No.
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE 1 of 2 c LCS 5/6/94 1355		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	G P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	2	1
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	125ml	500ml	4000ml	1000ml
SAMPLE ANALYSIS	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
B0BMY4	W	05/06/94	1045	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
~~B0BMY5~~	W	~~05/06/94~~	~~1045~~															
~~B0BMY6~~	W	~~05/06/94~~	~~1045~~															

3 KOL 5/6/94

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K.D. Lee K.D. Lee	5/6/94 1315	L Sweeney L Sweeney	5/6/94 1315
Relinquished By	Date/Time	Received By	Date/Time
L Sweeney L Sweeney	5/10/94 1010	J. SANTIAGO	5-11-94 12-1
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

Matrix*

S	=	Soil
SE	=	Sediment
SO	=	Solid
SL	=	Sludge
W	=	Water
O	=	Oil
A	=	Air
DS	=	Drum Solids
DL	=	Drum Liquids
T	=	Tissue
WI	=	Wipe
L	=	Liquid
V	=	Vegetation
X	=	Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

8000024

9615550975

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: K.A. Lee	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 199-F5-6	SAF No.: 94-087
Ice Chest No.: EF-1A	Field Logbook No.: EFL-1055	Method of Shipment: EMERY
Shipped To: TMA	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Preservative	N/A	HNO3<2				HClpH<2										
Type of Container	Gs	G				Gs										
No. of Container(s)	1	1				3										
Volume	1000ml	1000ml				40ml										
SAMPLE ANALYSIS	TRITIUM C-14	ICP METALS+ ARSENIC LEAD,Se Tl,Hg (CLP)FI FILTERD				VOA (CLP) TRIP										

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBMY4	W	05/06/94	1045	X													
BOBMY5	W	05/06/94	1045		X												
BOBMY6	W	05/06/94	1045						X								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Kirby A. Lee Kirby A. Lee	5/6/94 1315	L Sweeney L Sweeney	5/6/94 1315
Relinquished By	Date/Time	Received By	Date/Time
L Sweeney L Sweeney	5/10/94 1010	J. SANTIAGO	5-11-94
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

0C00028

SAMPLE LOG-IN SHEET WHC

LAB NAME : TMA/ARU

PAGE : 1 OF 1

RECEIVED BY (PRINT NAME): PAYAM SHAHI

LOG-IN-DATE : 5/12/94

RECEIVED BY (SIGNATURE): [signature]

ICE CHEST NO. BR-1A

REMARKS:

1. Custody Seal(s) — Present / Absent* — Intact / Broken
2. Custody Seal Nos: N/A
3. Chain of Custody Records — Present / Absent*
4. Traffic Reports or Packing List — Present / Absent*
5. Airbill — Airbill Sticker Present / Absent*
6. Airbill No.: 9552162303
7. Sample Tags — Present / Absent*
8. Sample Tag Numbers — Listed / Not Listed on Chain of Custody
9. Sample Condition: — Intact / Broken* / Leaking
10. Does information on custody records, traffic reports, and sample tags agree? — Yes / No*
11. Date Recieved at Lab: 5/12/94
12. Temp of Ice chest 3 °C
13. Time Recieved: 9:30AM

SAMPLE TRANSFER

Fraction: N/A

Area #: N/A

By: N/A

On: N/A

EPA SAMPLE #	CORRESPONDING SAMPLE TAG #	CORRESPONDING ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC
	B0B5M44		Good
	B0B5M46		

Contact SWO and attach record of resolution

Reviewed By:

Date:

Logbook No.: N/A

Logbook Page No.: N/A

FORM DC-1

000004

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USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER 9552162373

9552162373

RECIPIENT'S COPY

1 Date 5-11-94

From (Your Name) Please Print: SAMPLE CONTROL
Your Phone Number (Very Important): (510) 235-2633
Company: TMA/NORCAL
Department/Floor No.:
Street Address: 2030 WRIGHT AVE
City: RICHMOND State: CA ZIP Required: 94804

2 To (Recipient's Name) Please Print: CAROLE HARRIS
Recipient's Phone Number (Very Important): (818) 357-3244
Company: TMA EARLI
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 160 TAYLOR ST.
City: MONROVIA State: CA. ZIP Required: 91016

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on Invoice.): 2340-6406

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY*
* Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 [ ] GOVT LETTER
41 [ ] GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**
† Saturday delivery may be available. Call for details.
*Declared Value Limit $500.
**Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [X] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845, ____ X ____ kg. 904 III
[ ] DESCRIPTION
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	73	
Total	Total	Total

DIM SHIPMENT (Chargeable Weight) [ ] ____ lbs.
L x W x H

Received At
1 [X] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 4 [ ] B.S.C. 5 [ ] Station

7 Release Signature:

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

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9613501.0979

000005

TMA/ARLI
Thermo Analytical Inc.

RADIATION DOSE RATE SURVEY FORM

Date 5/12/94 COMPANY TMA/NORCAL (WHC) OTHER ORD # 9552162373

Surveyor's Name MARK S. MCCRAY

Model No. HP-210 / ESP-1 Model No. AC-3-7 / ESP-1

Serial Nos. 710289 / 02619 Serial Nos. 407726 / 02628

Calibration Date 11/17/94 Calibration Date 3/15/94

Instrument Calibration Factor 0.217 Instrument Calibration Factor 0.188

Sample	Location	HP-210 CPM	HP-210 Factor	HP-210 DPM	AC-3-7 CPM	AC-3-7 Factor	AC-3-7 DPM	Spillage or Breakage?	Activity, nCi/mL or nCi/g
Background		33.0			2.0				
Consistency		7,270	0.2806		5,030	0.1849			
Smears: ER-1A		44.0			0			NONE	
Reported WHC (4) samples each <50 pCi/gram									

Comments: VICTOREEN 450 P Shows 20 μR/h. MSM 5/12/94

All OK ✓ Approved MSM

Not OK Date 5/12/94

FORM SOP-075.1

"quality environmental services"

GENERAL CHEMISTRY RESULTS

CASE NO. 05-036

Sample #:

B0BMY4

CASE NARRATIVE

The holding time for pH analysis exceeded. Careful review of the QC analysis indicates that the data is reliable.

No other problems were encountered during sample analysis. All QC results were acceptable.

Maureen Parrish 6/17/94

Maureen Parrish

TMA Inc. REPORT Work Order # A4-05-036

Received: 05/11/94 Results by Sample

SAMPLE ID B0BMY4 FRACTION 01J TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 05/06/94 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	9.4	mg/L	0.4
Fluoride	300.0	0.1	mg/L	0.1
Phosphate	300.0	<0.4	mg/L	0.4
pH	9040	7.8	pH	0.1
Sulfate	300.0	46	mg/L	2
Elect. Conductivity	120.1	379	umho/cm	6

FORM I

TMA Inc. REPORT Work Order # A4-05-036

Received: 05/11/94

Results by Sample

SAMPLE ID B0BMY4 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 05/06/94 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	108	mg/L	2

FORM I

TMA Inc. REPORT Work Order # A4-05-036

Received: 05/11/94

Results by Sample

SAMPLE ID B0BMY4 FRACTION 010 TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 05/06/94 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	238	mg/L	5

FORM I

TMA Inc. REPORT Work Order # A4-05-036

Received: 05/11/94 Results by Sample

SAMPLE ID B0BMY4 FRACTION 01Q TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 05/06/94 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

TMA Inc. REPORT Work Order # A4-05-036

Received: 05/11/94

Results by Sample

SAMPLE ID B0BMY4 FRACTION 01T TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 05/06/94 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 05-036

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : May 11, 1994

1.0 DESCRIPTION OF CASE :

Two water samples were analyzed for TCL Organics- Volatiles, Semivolatiles, and Pesticides/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision OLM01.8.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX	pH
B0BMY4	A4-05-036-01A	SV	WATER	
B0BMY4 MS	A4-05-036-01B	SV	WATER	
B0BMY4 MSD	A4-05-036-01C	SV	WATER	
B0BMY4	A4-05-036-01D	P	WATER	
B0BMY4 MS	A4-05-036-01E	P	WATER	
B0BMY4 MSD	A4-05-036-01F	P	WATER	
B0BMY4	A4-05-036-01G	V	WATER	0
B0BMY4 MS	A4-05-036-01H	V	WATER	0
B0BMY4 MSD	A4-05-036-01I	V	WATER	0
B0BMY6	A4-05-036-02A	V	WATER	0

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

The samples were analyzed 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 are injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

The samples were extracted and analyzed within the CLP SOW holding times.

In sample B0BMY4MSD, the matrix spiking compounds 4-Nitrophenol and Pentachlorophenol were "E" qualified, since the detected concentrations exceeded the calibration range of the instrument. In addition, the recoveries for 4-Nitrophenol exceeded the QC limits in both the MS and MSD samples, while 2,4-Dinitrotoluene and Pentachlorophenol exceeded the QC limits solely in the MSD sample. In accordance with the protocol, no further action was required.

All of the other 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 05/24/94 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by single injection into a dual column system.

On the DB-5 column, the %RPD for Methoxychlor in INDAM04 slightly exceeded the 25% limit. In addition, the retention time for the surrogate DCB was outside of the retention time window in the instrument blank PIBLK13; therefore, PIBLK13 was omitted from the sequence. However, it is important to note that these discrepancies did not directly affect this particular work order - they occurred as a result of the poor sample matrix in an unrelated work order that was analyzed on the same sequence.

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

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.

SAMPLE NOTES :

LOW LEVEL WATER :

The samples were extracted and analyzed within the CLP SOW holding times.

The TCX surrogate recoveries for all of the samples were below the advisory QC limits on the DB-5 column. On the DB-608 column, only the MS and MSD samples had TCX recoveries that were slightly below the advisory limits. In accordance with the protocol, no further action was required.

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

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 6/17/94
CLP Program Manager

Maureen Parrish

Maureen Parrish 6/17/94
Program Manager

9613501.0989

000112

EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01G

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D14

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	1	J
67-64-1	Acetone	10	U
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	1	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
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	U
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

9613501.0990

000113

EPA SAMPLE NO.

B0BMY4

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01G

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D14

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613501.0991

000114
EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B0BMY6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D11

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0BMY6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D11

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40517I03

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/13/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/17/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U

9613501.0994

000117

EPA SAMPLE NO.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40517I03

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/13/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/17/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J
218-01-9	Chrysene	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

9613501.0995

000118

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40517I03

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/13/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/17/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN KETONE	5.67	2	BJ

9613501.0996

000119

EPA SAMPLE NO.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/11/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/13/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/25/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

9613501.0997

 *** T M A *** REPORT Work Order # S4-05-117

Received: 05/12/94 06/10/94 09:25:23

REPORT TMA/NORCAL
TO 2030 Wright Avenue
Richmond, CA 94804

ATTEN Dan Steurmer

CLIENT HANFORD NOR SAMPLES 2
COMPANY TMA/NORCAL Hanford
FACILITY Richmond, CA

PREPARED BY Thermo Analytical, Inc.
300 Second Avenue
P.O. Box 521
Waltham, MA 02254

ATTEN Client Services
PHONE (617) 890-7200

CERTIFIED BY

CONTACT DP

WORK ID N4-05-048
TAKEN By Client
TRANS Fedex
TYPE 1 waters
P.O. # N4-05-048
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 BOBMY4
01 BOBMY4D
01 BOBMY4S
02 LCSW

TEST CODES and NAMES used on this workorder

NO3NO2 Nitrate/Nitrite

001

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200

9613501.0998

 *** T M A *** REPORT Work Order # S4-05-117

Received: 05/12/94 Results by Sample

SAMPLE ID BOBMY4 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 05/06/94 10:45:00 Category WATER

NO3NO2 5.71
mg N/L

SAMPLE ID BOBMY4D SAMPLE # 01 FRACTIONS: B
Date & Time Collected 05/06/94 10:45:00 Category WATER

NO3NO2 5.60
mg N/L

SAMPLE ID BOBMY4S SAMPLE # 01 FRACTIONS: C
Date & Time Collected 05/06/94 10:45:00 Category WATER

NO3NO2 7.71
mg N/L

SAMPLE ID LCSW SAMPLE # 02 FRACTIONS: A
Date & Time Collected not specified Category WATER

NO3NO2 2.03
mg N/L

TMA 002
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613501.0999

 *** T M A *** REPORT Work Order # S4-05-117

Received: 05/12/94 06/10/94 09:25:23

TMA/NORCAL Hanford

Q U A L I T Y C O N T R O L

MATRIX SPIKE

Sample ID	Sample Result	Spike Added	Spike Result	% Recovery
S405117-01	5.71 mg/L	2.00 mg/L	7.71 mg/L	100.0

DUPLICATE

Sample ID	Sample Result	Duplicate Result	Relative % Difference
S405117-01	5.71 mg/L	5.60 mg/L	1.9

QUALITY CONTROL SAMPLES

Sample ID	True Value	Found Value	Percent Recovery
LCS	2.00 mg/L	2.03 mg/L	101.5
Prep blank	--	<0.10 mg/L	--

TMA 003
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

9613501.1000

Received: 05/12/94 Test Methodology

TEST CODE NO3NO2 NAME Nitrate/Nitrite

USEPA Methods for Chemical Analysis of Water and Wastes
(EPA-600/4-79-020), Method 353.2 (modified) -- Colorimetric, Automated
Cadmium Reduction

TMA 004
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617)890-7200
1-800-4 LAB TEST FAX(617) 890-2883

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder SI-05-117 Client Hanford WCS Number/Type of Samples 1 water
Protocol CLP Turnaround 33 days Cooler Temp: 2-2 °C or N/A Cooler Yes/No
Custodian: D. Matthews Shipper & # Fedex SDG/Batch#
Custody Seal: Present/Absent/Intact/Not Client Case# WU-05-018
Purchase Order/Contract# WU-05048 Client Contact D. Sanchez
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#
Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 5/12/94
List any date with paperwork/shipment problems & specify the problem:

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	BOBM04	water	5/12/94	1.87	W03W02 (D/S)	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Complete
DRM 5/12/94

These samples are from a site known to have Radioactive Contamination: Yes ✓ No
These samples have detectable amounts of Radioactive Material: Yes No ✓

Subcontract: Yes/No, To: Date:

Reviewed Date

* EPA/CLP required

Rev 1.7

Page: 57

025

9613501.1002

TMA
Thermo Analytical Inc.

TMA
525 Avis Drive, Suite 7
Ann Arbor, MI 48108

(313) 662-3104
(313) 662-3344 (Fax)

RECORD COPY

Federal Express Airbill 4253072051

June 15, 1994

Quality Control Narrative

Scope
This report contains one Delivery Order. One water sample was received by TMA/ERG from TMA/NORCAL on May 12,1994. The sample cooler temperature was 4 deg.C. These samples were analyzed for Total Organic Halides and Total Organic Carbon based on USEPA methods. Samples received with Work Order N4-05-048 are enclosed in this package. The TMA/ERG Work Order No. is E3-05-112.

Methodology: The samples were prepared, analyzed and reported in accordance with the Westinghouse Hanford Program Statement of Work MBH-SVV-069262 March 5, 1992. The following is a list of methodologies used:

Analyte	Method/Description
Total Organic Carbon	USEPA Method 9060 (TMA SOP WC022)
Total Organic Halides	USEPA Method 9022 (TMA SOP NUC 03)

Instrument ID Numbers	Serial Numbers
OI Model 700 TOC Analyzer	H224069
NA Multi Channel Analyzer	Not Applicable

Discussion
The TOX and TOC samples were prepared according to protocol. The quality control requirements have been met for these analyses without exception. If there are any questions concerning this package please do not hesitate to call.

Respectfully submitted,

TMA/Environmental Research Group

Mark B. Ruwe

Mark B. Ruwe
QA Officer

JUN 1994
RECEIVED
SDLA

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME:	Thermo Analytical Inc.	LAB SAMPLE ID:	B0BMY4
CASE NO.:	N4-05-048	Work ID:	100-FR-3
Matrix:	WATER		
Receipt Date:	12-May-94		
Units:	MG/L	% Solids:	NA

Analyte	Concentration	Detection Limit	Analysis Date
TOTAL ORGANIC CARBON	<1.0	1.0	23-May-94
ORGANIC CHLORIDE	<0.01	0.01	24-May-94
ORGANIC BROMIDE	<0.01	0.01	24-May-94
ORGANIC IODIDE	<0.01	0.01	24-May-94

COMMENTS:

9615501.1004

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

7552162362

7552162362

RECIPIENT'S COPY

1 Date 6-11-94

From (Your Name) Please Print: SAMPLE CONTROL
Your Phone Number (Very Important):
Company:
Department/Floor No.:
Street Address:
City:
State:
ZIP Required:

2 To (Recipient's Name) Please Print: SAMPLE CONTROL
Recipient's Phone Number (Very Important): (313) 662-
Company: THERMO ANALYTICAL - ERG
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 525 AVIS DRIVE, SUITE 7
City: ANN ARBOR
State: MI
ZIP Required: 48108

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): 2340-6406

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address:
City:
State:
ZIP Required:

3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [X] OTHER PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon; No Saturday delivery†)
51 [ ] OTHER PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY**
**Economy Rate Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only)
46 [ ] GOVT. LETTER
45 [ ] GOVT PACKAGE

Freight Service (Per package over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas
**Declared Value Limit $500. Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 [X] DELIVER WEEKDAY

Saturday Service
31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
4 [ ] DANGEROUS GOODS (Extra charge)
6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN1845, ____ x ____ kg. 904 lb
[ ] DANGEROUS GOODS
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	10	
Total 1	Total 10	Total

DIM SHIPMENT (Chargeable Weight)
[ ] _____ lbs.
L x W x H

Received At
1 [X] Regular Stop 3 [ ] Drop Box
2 [ ] On-Call Stop 4 [ ] B.S.C. 5 [ ] Station

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 3/94
PART #137204 FXEM 4/94
FORMAT #158
158
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THERMO ANALYTICAL, INC./ERG
525 Avis Drive, Suite 7
Ann Arbor, Michigan 48108

Phone: (313) 662-3104

TMA/NORCAL
2030 WRIGHT AVE.
P.O. BOX 4040
RICHMOND, CA 94804-0040
Attn: DOLORES SANCHEZ

Order #: E4-05-112
Date: 05/25/94 11:06
Work ID: N4-05-048
Date Received: 05/12/94
Date Completed: 05/25/94

Purchase Order: N4-05-048-SU-EA
Invoice Number:

Client Code: TMA_NORCAL

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
01	B0BMY4	02	BOBMY4

SR=See attached report ND=Nondetected, detection limit is in () <=Compound or element was not detected at or above specified detection limit in () N/A=Not applicable *=Average of duplicate runs.

Certified By

Order # E4-05-112
05/25/94 11:06

THERMO ANALYTICAL, INC./ERG
TEST RESULTS BY SAMPLE

Sample: 01A B0BMY4 Collected: Category: WATER

Test Description	Result	Limit	Units	Analyzed	By
TOTAL ORGANIC CARBON	<1		mg/L	05/23/94	JB

Sample: 01B B0BMY4 MS Collected: Category: WATER

Test Description	Result	Limit	Units	Analyzed	By
TOTAL ORGANIC CARBON	19		mg/L	05/23/94	JB

Sample: 01C B0BMY4 DUP Collected: Category: WATER

Test Description	Result	Limit	Units	Analyzed	By
TOTAL ORGANIC CARBON	<1		mg/L	05/23/94	JB

Sample: 02C BOBMY4 DUP Collected: Category: WATER

Test Description	Result	Limit	Units	Analyzed	By
CHAIN-OF-CUSTODY	05/12/94		none		WAO
QC REPORT LEVEL 3	05/23/94		none		MR

Order # E4-05-112
05/25/94 11:06

THERMO ANALYTICAL, INC./ERG
TEST RESULTS BY SAMPLE

Sample Description: BOBMY4 Lab No: 02A
Test Description: HALOSCAN-T, NO FLUORINE Category: WATER Test Code: HT3

PARAMETER	RESULT
Organic Chloride	<0.01
Organic Bromide	<0.01
Organic Iodide	<0.01

Notes and Definitions for this Report:

DATE RUN 05/24/94
ANALYST FF
UNITS mg/L

Sample Description: BOBMY4 MS Lab No: 02B
Test Description: HALOSCAN-T, NO FLUORINE Category: WATER Test Code: HT3

PARAMETER	RESULT
Organic Chloride	0.48
Organic Bromide	0.073
Organic Iodide	<0.01

Notes and Definitions for this Report:

DATE RUN 05/24/94
ANALYST FF
UNITS mg/L

Sample Description: BOBMY4 DUP Lab No: 02C
Test Description: HALOSCAN-T, NO FLUORINE Category: WATER Test Code: HT3

PARAMETER	RESULT
Organic Chloride	0.44
Organic Bromide	0.061
Organic Iodide	<0.01

Notes and Definitions for this Report:

DATE RUN 05/24/94
ANALYST FF

TMA
Thermo Analytical Inc.

Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

9613501_1008

RECORD COPY

JUN 1994
RECEIVED
SDLA

June 10, 1994

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Stuermer

Quality Control Narrative

Scope
One (1) water sample was submitted to TMA/Skinner & Sherman Laboratories, Inc. on May 12, 1994 from TMA/Norcal. The sample was analyzed for the USEPA CLP metals and cyanide. The analysis was performed under TMA/Skinner and Sherman work order S405116.

Methodology
The sample was prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program ILM02.

Discussion
All quality control requirements were met for the samples with no exceptions.

Please feel free to call if there are any questions concerning the data package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

Steven Provencal

Steven R. Provencal
Lead Chemist

KDO 8/12/96

9613501.1009

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B0BMY4

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D2-0039

Lab Code: SKINER Case No.: N4-05-048SAS No.: SDG No.: B0BMY4

Matrix (soil/water): WATER Lab Sample ID: 05116-01S

Level (low/med): LOW Date Received: 05/12/94

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.9	U		P
7440-36-0	Antimony	14.7	U		P
7440-38-2	Arsenic	1.5	U		P
7440-39-3	Barium	29.6	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	55700			P
7440-47-3	Chromium	47.3			P
7440-48-4	Cobalt	2.1	U		P
7440-50-8	Copper	3.6	U		P
7439-89-6	Iron	83.1	B		P
7439-92-1	Lead	1.6	B		P
7439-95-4	Magnesium	8220			P
7439-96-5	Manganese	2.6	B		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	6.5	U		P
7440-09-7	Potassium	2700	B		P
7782-49-2	Selenium	2.1	U		P
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	7900			P
7440-28-0	Thallium	2.2	U		P
7440-62-2	Vanadium	2.2	U		P
7440-66-6	Zinc	7.1	U		P
	Cyanide	10.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

TMA/Skinner & Sherman Laboratories
Sample Login Sheet

Workorder 54-05-116 Client Hanford NCR Number/Type of Samples 1 water
Protocol CLP Turnaround 33 days Cooler Temp: 2.2 °C or N/A Cooler Yes/No
Custodian: D. Martinez Shipper & # Fedex SDG/Batch# NA
Custody Seal: Present/Absent/Intact/Not Client Case# NU-05-048
Purchase Order/Contract# NU-05048 Client Contact D Sanchez
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA,#

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 5/12/94
List any date with paperwork/shipment problems & specify the problem:

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	BOBM44	water	5/12/94	2.2	CLP metals/O.S	
2						
3						
4						
5						
6						
7						
8						
9					Complete	
10						
11						
12						
13				DRM	5/16/94	
14						
15						
16						
17						
18						
19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No ____
These samples have detectable amounts of Radioactive Material: Yes ____ No ✓

Subcontract: Yes/No, To: ____ Date: ____

Reviewed ____ Date ____

* EPA/CLP required

Rev 1.7

9613501.1011

TMA
Thermo Analytical Inc.

Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

RECORD COPY

JUN 1994
RECEIVED
SDLA

June 10, 1994

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Stuermer

Quality Control Narrative

Scope
One (1) water sample was submitted to TMA/Skinner & Sherman Laboratories, Inc. on May 12, 1994 from TMA/Norcal. The sample was analyzed for the USEPA CLP metals. The analysis was performed under TMA/Skinner and Sherman work order S405118.

Methodology
The sample was prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program ILM02.

Discussion
All quality control requirements were met for the samples with the following exceptions:

The laboratory duplicate for lead exceeded the control limit requirement.

Please feel free to call if there are any questions concerning the data package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

Steven Provencal

Steven R. Provencal
Lead Chemist

i 8/2/96

9613501.1012

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

BOBMY5

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D2-0039

Lab Code: SKINER Case No.: N4-05-048SAS No.: SDG No.: BOBMY5

Matrix (soil/water): WATER Lab Sample ID: 05118-01S

Level (low/med): LOW Date Received: 05/12/94

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.9	U		P
7440-36-0	Antimony	14.7	U		P
7440-38-2	Arsenic	1.5	U		P
7440-39-3	Barium	29.5	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	55700			P
7440-47-3	Chromium	43.8			P
7440-48-4	Cobalt	2.1	U		P
7440-50-8	Copper	3.6	U		P
7439-89-6	Iron	31.8	B		P
7439-92-1	Lead	1.5	U	*	P
7439-95-4	Magnesium	8090			P
7439-96-5	Manganese	1.9	B		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	6.5	U		P
7440-09-7	Potassium	2620	B		P
7782-49-2	Selenium	2.1	U		P
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	7910			P
7440-28-0	Thallium	2.2	U		P
7440-62-2	Vanadium	2.2	U		P
7440-66-6	Zinc	7.1	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

002

TMA/Skinner & Sherman Laboratories

9615501.1015

Sample Login Sheet

Workorder S-105-118 Client Hanford WM Number/Type of Samples water
Protocol CLP Turnaround 33 days Cooler Temp: 22 °C, or N/A Cooler Yes/No
Custodian: D. Mounsey Shipper & # Fedex SDG/Batch# NA
Custody Seal: Present/Absent/Intact/Not Client Case# WU-05-048
Purchase Order/Contract# WU-05-048 Client Contact D. Sanchez
Tag#: Present/Absent/NA/(See COC) Chain of Custody: Present/Absent/NA #

Sample Containers - Intact/Broken Comment:
Client Comment? Yes/No
Sample labels agree with Chain of Custody Information? Yes/No (Comment)
Client paperwork agrees with samples and Chain of Custody? Yes/No (Comment)
Shipment Dates: 5/12/94
List any date with paperwork/shipment problems & specify the problem:

	Client ID	Matrix	Received	pH*	Test(s) & QC	Holding Times
1	BOB M15	water	5/12/94	1.94	CLP metals (D,S)	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

These samples are from a site known to have Radioactive Contamination: Yes ✓ No ____
These samples have detectable amounts of Radioactive Material: Yes ____ No ✓

Subcontract: Yes/No, To: ____ Date: ____

Reviewed ____ Date ____

157

* EPA/CLP required

Rev 1.7

9613501.1014

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P. O. Box 4040
Richmond, CA 94804-0040
(510) 235-2633 Fax No. (510) 235-0438

JUN 1994
RECEIVED
SDLA

RECORD COPY

June 24, 1994

Ref: TMA/Norcal N4-05-050-7377

Ms. Briana Colley
Westinghouse Hanford Company
345 Hills Street
Richland, WA 99352

Dear Ms. Colley:

Enclosed is the data report for the single water sample delivered under Field Logbook No. EFL-1055 received May 11, 1994. Results are given for gross alpha, gross beta, tritium, carbon-14, strontium-90, technetium-99, isotopic uranium, plutonium-238 and 239/240, americium-241, and gamma scan analyses.

The data package is paginated 1 through 366.

Please call if you have any questions concerning this data.

Sincerely,

N. Joseph Verville

N. Joseph Verville
Nuclear Program Manager
TMA/Norcal

NJV/ss

Enclosure: Data Package

TMA/Norcal

Report N4-05-050-7377
Sample Delivery Group 7377

Westinghouse Hanford Company
P.O. MBH-SVV-069262

Case Narrative

June 24, 1994

1.0 GENERAL

TMA/Norcal Sample Delivery Group 7377 is comprised of the single water sample delivered under Field Logbook No. EFL-1055. There were no unique ID's to identify the Chain-of-Custody documents, however, the project designation was 100-FR-3.

Five 1000 mL plastic bottles containing the sample were received for analyses.

2.0 ANALYSIS NOTES

2.1 Gross Alpha Analyses

The gross alpha recovery for laboratory control sample 7377-002 was 72%, slightly less than the 3 sigma protocol limits of 73-125%. The result for the reagent blank was satisfactory and the duplicate analysis was good match to the original analysis, therefore, the samples were not reanalyzed.

2.2 Gross Beta Analyses

No problems were encountered by the laboratory with the analyses.

2.3 Tritium Analyses

No problems were encountered by the laboratory with the analyses.

2.4 Carbon-14 Analyses

No problems were encountered by the laboratory with the analyses.

2.5 Strontium-90 Analyses

There was insufficient sample to take a full 1.0 L aliquot for the duplicate analysis. The MDA was less than the RDL despite the lesser aliquot.

2.6 Technetium-99 Analyses

No problems were encountered by the laboratory with the analyses.

2.7 Isotopic Uranium Analyses

The uranium-233/34 and 238 MDA's for the laboratory control sample 7377-002 were greater than the RDL's, Since the isotopic uranium activity in the LCS was 20 times the RDL, the slightly elevated MDA's do not affect the validity of the data.

2.8 Plutonium-238, 239/240 Analyses

No problems were encountered by the laboratory with the analyses.

TMA/Norcal
Report N4-05-050-7377
Sample Delivery Group 7377

Westinghouse Hanford Company
P.O. MBH-SVV-069262

Case Narrative **June 24, 1994**

2.0 ANALYSIS NOTES (cont'd)

2.9 Americium-241 Analyses

No problems were encountered by the laboratory with the analyses.

2.10 Gamma Scan Analysis

The iron-59, cobalt-58, europium-152, and europium-155 MDA's in laboratory control sample 7377-002 were greater than their respective RDL's due to the combination of high detector backgrounds and low counting efficiencies. The iron-59 MDA is high due to its short half-life.

9613501.1017

TMA NORCAL

SAMPLE DELIVERY GROUP 7377

DATA SHEET

N405050-01

B0BMY4

SDG 7377 | Client Westinghouse Hanford
Contact N. Joseph Verville | Contract MBH-SVV-069262

Lab sample id N405050-01 | Client sample id B0BMY4
Dept sample id 7377-001 | Location/Matrix 199-F5-6 LIQUID
Received 05/11/94 | Collected 05/06/94
Chain of custody id EFL-1055

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	Alpha	4.7	2.1	2	3		80A
Gross Beta	Beta	18	2.0	2	4		80B
Tritium	10028-17-8	1400	220	300	400		H
Carbon 14	14762-75-5	49	36	60	100	U	C
Strontium 90	10098-97-2	2.4	22	0.4	2		Y
Technetium 99	14133-76-7	1.4	1.5	4	5	U	TC
Uranium 233/234		2.2	0.50	0.2	0.2		U
Uranium 235	15117-96-1	0.092	0.093	0.2	0.2	U	U
Uranium 238		1.8	0.45	0.1	0.2		U
Plutonium 238	13981-16-3	-0.001	0.008	0.02	0.05	U	PU
Plutonium 239/240		0	0.002	0.008	0.05	U	PU
Americium 241	14596-10-2	0.009	0.013	0.02	0.05	U	AM
GAMMA SCAN ANALYTES							
Sodium 22	13966-32-0	U		10		U	GAM
Potassium 40	13966-00-2	U		200		U	GAM
Manganese 54	13966-31-9	U		10		U	GAM
Iron 59	14596-12-4	U		40	30	U	GAM
Cobalt 58	13981-38-9	U		20	20	U	GAM
Cobalt 60	10198-40-0	U		20	20	U	GAM
Niobium 94	14681-63-1	U		10		U	GAM
Ruthenium 103	13968-53-1	U		20		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		20		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		70		U	GAM
Europium 152	14683-23-9	U		30	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.30
Report date 06/24/94

TMA NORCAL

SAMPLE DELIVERY GROUP 7377

N405050-01

DATA SHEET, cont

B0BMY4

SDG	7377	Client	Westinghouse Hanford
Contact	N. Joseph Verville	Contract	MBH-SVV-069262
Lab sample id	N405050-01	Client sample id	B0BMY4
Dept sample id	7377-001	Location/Matrix	199-F5-6 LIQUID
Received	05/11/94	Collected	05/06/94
		Chain of custody id	EFL-1055

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Europium 155	14391-16-3	U		40	40	U	GAM
Radium 226	13982-63-3	U		20		U	GAM
Radium 228	15262-20-1	U		60		U	GAM
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		60		U	GAM

Lab id	TMAN
Protocol	WHC-HASM
Version	Ver 1.0
Form	DVD-DS
Version	2.30
Report date	06/24/94

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 199-F5-6	SAF No.: 94-087
Ice Chest No.: EF-1A	Field Logbook No.: EFL-1055	Method of Shipment: EMERY
Shipped To: TMA	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Preservative	N/A	HNO3<2				HCl pH<2
Type of Container	Gs	G				Gs
No. of Container(s)	1	1				3
Volume	1000ml	1000ml				40ml
SAMPLE ANALYSIS	TRITIUM C-14	ICP METALS+ ARSENIC LEAD,Se Tl,Hg (CLP)FI FILTERD				VOA (CLP) TRIP

Sample No.	Matrix*	Date Sampled	Time Sampled															
60BMY4	W	05/06/94	1045	X														
60BMY5	W	05/06/94	1045		X													
60BMY6	W	05/06/94	1045						X									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
Kirby D. Lee Kirby D. Lee	5/6/94 1315	L Sweeney L Sweeney	5/6/94 1315
L Sweeney L Sweeney	5/10/94 1010	J. SANTIAGO	5-11-94

SPECIAL INSTRUCTIONS

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION: Received By | Title | Date/Time

FINAL SAMPLE DISPOSITION: Disposal Method | Disposed By | Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

OVERNIGHT DELIVERY 9613501.1020

Signature Security Service

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0518-39

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Eng. & Tech	Geosciences	Geochem. & Hydrochem.

The following items are to be shipped from ☐ Contractor ☐ Vendor

Routing Emery ☐ Contractor ☐ Vendor

Shipped to
TMA/NORCAL
2030 Wright Ave.
Richmond, CA 94804

Off-site Custodian

Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 105 lbs.	Sample #: 30 BM Y4 ~~50~~ AJS 30 BM Y5 30 BM Y6 Cooler ID: CR-1A Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
~~1~~ lbs.	~~Sample #:~~ ~~Cooler ID:~~ AJS 5/10/94 ~~Polycooler with groundwater samples packed in wet ice and vermiculite~~	N/A

☐ Classified ☒ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 area.

Bill of lading # 1402157803

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No.	Date
[illegible]	157992	5/10/94

Location of Property (Area & Bldg.)	Contact	Phone
	PH Butcher	(509) 376-5045

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
5/10/94	WM1239 PD3AA	NA

Originated By	Date	Authorized By	Date
P. H. Butcher		A. Sagson	5/10/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	5/10/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[illegible]	00074			
Date 5-10-94				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

9613501.1021

EMERY WORLDWIDE — A CF Company

SIGNATURE AND TALLY RECORD

60029-46 (8/89) Litho USA

DATE: 05-10-94 SHIPMENT NO.: 140213780 3
SHIPPER: WESTINGHOUSE SHIPPING DEPT (509) 376-6665
REFERENCE NO.: N94-0-0518#39

SHIPPER NAME AND ADDRESS	CONSIGNEE NAME AND ADDRESS
WESTINGHOUSE SHIPPING DEPT (509) 376-6665 U.S. DEPARTMENT OF ENERGY C/O WESTINGHOUSE HANFORD COMPANY 2355 STEVENS DRIVE 1163 BUILDING PO BOX 1970 RICHLAND WA 99352	TMA/NORCAL 2030 WRIGHT AVE. RICHMOND CA 94804

Pieces	Weight	Description/Marks	Emery Authorization No.
1	105 LBS	COOLER ID: ER-1A WATER SAMPLES-5	

EACH PERSON HANDLING OR TAKING CUSTODY OF THIS SHIPMENT MUST SIGN AND COMPLETE THE INFORMATION BELOW

Name of Person/Company	Transship Point/Destination	Signature of Person Accepting Custody	Time/Date
SHIPPING DEPT CR NELSON WESTINGHOUSE HANFORD CO	RICHLAND WA		
2.			
3.			5/11/94
4.			
5. K MAHONEY	EWW/OAK	K Mahoney	10:15 5-11-94
6. Leonardo F. Pinto	TMA NORCAL		11:3 5-11-94
7.			
8.			

SPECIAL HANDLING INSTRUCTIONS

CONSIGNEE COPY

9613501.1022

VALIDATION SUMMARY

9613501.1023

Los Alamos Technical Associates, Inc.

8633 Gage Blvd. / Kennewick, WA 99336 / Telephone (509) 783-4369 / FAX (509) 783-9661

September 7, 1994

Janette Duncan
CH2M Hill
450 Hills
Richland, WA 99352

Dear Janette,

Attached is the data validation report for analytical results for 100-FR-3 Groundwater Operable Unit (SGD BOBMY4-TMA-760). The package was received by Los Alamos Technical Associates on July 29, 1994. Validation of this package began on August 8, and was completed on September 7, 1994.

If you have any questions, please let me know.

Sincerely,

Janet M. Jones

Janet M. Jones
Senior Environmental Engineer

cc: Joan Kessner, Bechtel
Chris Haecker, LATA
VW402.56 file

SEP 1994
RECEIVED
TQO

RECEIVED
SEP 9 1994
VALIDATION DOCUMENTATION
SDLA

9613501.1024

DATA VALIDATION REPORT
for
100-FR-3 Groundwater Operable Unit
SDG BOBMY4-TMA-760
LATA VW402.56

SEP 1994
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TQO

Westinghouse Hanford Company
P.O. Box 1970
Richland, Washington 99352

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VALIDATION DOCUMENTATION
SDLA

September 7, 1994

9613501.1025

DATA VALIDATION REPORT
for
100-FR-3 Groundwater Operable Unit
SDG BOBMY4-TMA-760
LATA VW402.56

Westinghouse Hanford Company
P.O. Box 1970
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September 7, 1994

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100-FR-3 Groundwater Operable Unit
Data Validation Narrative

INTRODUCTION

All samples in Sample Delivery Group (SDG) BOBMY4-TMA-760 were validated at level "D" as defined in the Data Validation Procedures for Chemical Analysis (WHC-SD-EN-SPP-002) and/or Data Validation Procedures for Radiochemical Analyses (WHC-SD-EN-SPP-001).

The data package was received by Los Alamos Technical Associates (LATA) on July 29, 1994. Validation began on August 8, 1994 and was completed on September 7, 1994.

The chemical analyses were performed by TMA. Samples requiring radiochemical analyses were performed by TMA.

ANALYSES REQUESTED

Three (3) water samples numbered BOBMY4, BOBMY5 and BOBMY6 were collected on May 6, 1994 by WHC and transferred to TMA for analysis. The following determinations were conducted the samples in this SDG:

ANALYSIS		METHOD	SAMPLE
Volatile Organics		Method CLP	BOBMY4, BOBMY6
Semivolatile Organics		Method CLP	BOBMY4
Pesticides/PCBs		Method CLP	BOBMY4
Metals:	ICP	Method CLP	BOBMY4, BOBMY5
	Arsenic	Method CLP	BOBMY4, BOBMY5
	Lead	Method CLP	BOBMY4, BOBMY5
	Selenium	Method CLP	BOBMY4, BOBMY5
	Thallium	Method CLP	BOBMY4, BOBMY5
	Mercury	Method CLP	BOBMY4, BOBMY5
Cyanide		Method CLP	BOBMY4
Anions (F, Cl, SO_4 & PO_4)		Method 300.0	BOBMY4
Conductivity		Method 9050	BOBMY4
pH		Method 9040	BOBMY4
Nitrate+Nitrite		Method 353.1	BOBMY4
Alkalinity		Method 310.1	BOBMY4
Total Dissolved Solids		Method 160.1	BOBMY4
Sulfides		Method 9030	BOBMY4
Ammonia		Method 350.3	BOBMY4
Chemical Oxygen Demand		Method 410.1	BOBMY4

ANALYSES REQUESTED (continued)

ANALYSIS	METHOD	SAMPLE
Total Organic Carbon	Method 9060	BOBMY4
Total Organic Halides	Method 9022	BOBMY4
Gross Alpha/Beta	Method ITAS-RD-3214	BOBMY4
Gamma Spectrometry	Method ITAS-RD-3219	BOBMY4
Uranium-235/238	Method ITAS-RD-3234	BOBMY4
Plutonium 239/240	Method ITAS-RD-3209	BOBMY4
Americium-241	Method ITAS-RD-3302/3206	BOBMY4
Strontium-90	Method ITAS-RD-3204	BOBMY4
Technetium-99	Method LAB SPECIFIED	BOBMY4
Tritium	Method LAB SPECIFIED	BOBMY4
Carbon-14	Method LAB SPECIFIED	BOBMY4

DATA QUALITY OBJECTIVES

The data quality objectives for 100-FR-3 Groundwater Operable Unit are specified in the *Remedial Investigation/Feasibility Study Work Plan for the 100-FR-3 Operable Unit* (DOE/RL-91-53, Rev. 0). Precision, accuracy, and detection limit requirements for the project have been derived from the Third Edition of SW-846 (EPA, 1992). Maximum holding times are listed in the 3rd Edition, Final Update I of SW-846 (EPA, July 1992).

The primary objective of the data validation effort was to ensure these data quality objectives were met, and that the data are usable and defensible. This was accomplished through a detailed examination of the data package to recreate the analytical process and verify that proper and acceptable analytical techniques had been applied. The data package was checked for correct submission of required deliverables, correct transcription of raw data to the summary forms, and for proper calculation of a number of parameters.

Precision: Goals for precision were met with the exception of those items discussed under "**MINOR DEFICIENCIES**".

Accuracy: Goals for accuracy were met.

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

Detection Limits: Detection limits goals were met for all sample results as specified in the DOE/RL-91-53.

Completeness: The data package was 99% complete for all requested analyses.

Data qualifiers are assigned to any results that have been determined to be deficient. These are discussed below.

MAJOR DEFICIENCIES (REJECTED DATA)

The following major deficiencies resulted in the qualification of the results as unusable.

- The phosphate (by IC) result for sample BOBMY4 wasqualified as unusable (UR) because the holding time was exceeded by more than two times.

MINOR DEFICIENCIES

The following minor deficiencies were discovered. These minor shortcomings are not expected to significantly affect the overall quality of the data.

VOLATILES

- No deficiencies were observed.

SEMIVOLATILES

- A TIC was reported in the method blank as an unknown ketone. The unknown ketone was also found in BOBMY4 at a level <5x the blank. The result was qualified as non-detect (U).

- The %D values for 2-Nitroaniline, Hexachlorobenzene, and 4-Nitrophenol exceeded the QC limit. The results for these analytes were qualified as estimated (UJ).

PESTICIDES/PCBS

- No deficiencies were observed.

METALS

- The duplicate criteria for lead was not met. B0BMY4 was qualified as estimated (BJ).

- The ICB/CCB checks for arsenic in sample B0BMY5 and iron and manganese in samples B0BMY4 and B0BMY5 were outside of the acceptance criteria. The results for iron and manganese were qualified as non-detect (U). The result for arsenic in sample B0BMY5 was qualified as estimated (UJ).

MINOR DEFICIENCIES (continued)

RADIOCHEMISTRY

- The RPD value of the strontium-90 analysis was not within acceptable values. The sample result for sample B0BMY4 was less than 5x the RDL. The difference between the sample result and the duplicate result was greater than the RDL. The strontium-90 result was qualified as estimated (J).

COMMENTS

VOLATILES

- The mass spectra for chloroform and methylene chloride in sample BOBMY4 did not contain all of the major ions found in the reference spectra. The sample has the correct molecular ions and retention times, therefore no action was taken.

SEMIVOLATILES

- The matrix spike recovery for 4-nitrophenol, pentachlorophenol and 2,4-dinitrotoluene were outside the upper acceptance limit. No action was taken since the results were non-detect.

PESTICIDES/PCBS

- The reported DDT and endrin breakdowns do not match the raw data. No action was taken since recalculated results were within QC limits.

- The %RSD criteria was exceeded for delta-BHC, heptachlor, endosulfan I and 4,4'-DDE. No action was taken since all these compounds in BOBMY4 were non-detect.

- The surrogate recovery for TCX on the primary column was outside acceptance criteria for BOBMY4. No action was taken since surrogate recoveries were acceptable on the secondary column.

RADIOCHEMISTRY

- Thorium 228 was detected in the reagent blank, but not in the sample. No action was taken.

RADIOCHEMISTRY

- Thorium 228 was detected in the reagent blank, but not in the sample. No action was taken.

REFERENCES

EPA July 1992, *Test Methods for Evaluating Solid Waste (SW-846)*, Third Edition; U.S. Environmental Protection Agency, Washington, D.C.

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

WHC 1993, *Data Validation Procedures for Radiochemical Analyses*, WHC-SD-EN-SPP-001, Rev. 1, Westinghouse Hanford Company, Richland, Washington.

DOE 1992, *Remedial Investigation/Feasibility Study Work Plan for the 100-FR-3 Operable Unit*, DOE/RL-91-53, Rev. 0, Department of Energy, Hanford Site, Richland, Washington.

DATA VALIDATION APPLIED QUALIFIERS

Qualifiers which may be applied by data validators in compliance with the procedures herein are as follows.

U- Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ- Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during data validation, the associated quantitation limit is an estimate.

J- Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision making purposes.

BJ- Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R- Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency the data are unusable.

UR- Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data are unusable due to an identified QC deficiency.

JN- Indicates a tentatively identified compound (TIC) that has been determined to be valid in terms of identification and quantitation.

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 non-detect (U) due to associated blank contamination.

NJ- Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific application (i.e., usable for decision making purposes).

N- Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (i.e., usable for decision making purposes).

LABORATORY APPLIED QUALIFIERS

Qualifiers which may be applied by the laboratory in compliance with applicable requirements are as follows.

Organic Data Qualifiers

U- Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

J- Indicates an estimated value. This flag is used when estimating concentrations of tentatively identified compounds (TICs) or when the presence of a TCL compound is confirmed at a concentration of less than the CRQL but greater than the IDL.

N- Indicates presumptive evidence of a compound. This flag is used only by the laboratory for TIC results when the identification is based on a mass spectral library search.

P- This flag is used for pesticide/Aroclor target analytes when there is greater than 25% difference for detected values between the quantitation and confirmation GC columns. The lower of the two concentrations is reported on the report form and the result is flagged with a "P".

C- This flag applies to pesticide results where the identification has been confirmed by GC/MS. This flag should not be used by the laboratory if GC/MS confirmation was attempted but unsuccessful, in which case, the laboratory should use an "X" flag as defined below. The "X" flag is then defined in the SDG narrative.

B- This flag applies to results in which the analyte was detected in both the sample and the associated blank. The combination of the "B" flag with the "U" flag ("BU" or "UB") is expressly prohibited in the analytical SOW.

E- This flag identifies compounds whose concentrations exceed the calibrated range of the GC/MS instrument.

D- This flag identifies compounds identified in an analysis at a secondary dilution factor.

A- Indicates a TIC which is a suspected aldol-condensate product.

X- This is a non-specific flag used to properly define the results. If used, this flag must be properly defined within the body of the SDG.

LABORATORY APPLIED QUALIFIERS

Inorganic Qualifiers

U- Indicates the analyte was analyzed for but not detected in the sample.

B- Indicates the analyte concentration is less than the CRDL but greater than the IDL.

E- Indicates the value reported is estimated due to the presence of interference.

M- Indicates duplicate injection precision criteria were not met during graphite furnace (GFAA) analysis.

N- Indicates spiked sample recovery was not within the control limits.

S- Indicates the reported value was determined by the Method of Standard Additions (MSA).

W- Indicates post-digestion spike for GFAA analysis is outside control limits and the sample absorbance is less than 50% of the spike absorbance.

*- Indicates duplicate analysis was not within control limits.

+- Indicates the correlation coefficient (r) for the MSA was less than 0.995.

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Data Qualification Summary

VOLATILES QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
NONE	N/A	NONE	N/A	N/A

SEMIVOLATILES QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
unknown ketone	U	BOBMY4	BLANK	Blank contamination.
2-nitroaniline	UJ	BOBMY4	OTHER	Continuing calibration %D exceeded acceptance criteria.
hexachlorobenzene	UJ	BOBMY4	OTHER	Continuing calibration %D exceeded acceptance criteria.
4-nitrophenol	UJ	BOBMY4	OTHER	Continuing calibration %D exceeded acceptance criteria.

PESTICIDES/PCBS QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
NONE	N/A	NONE	N/A	N/A

INORGANICS QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Arsenic	UJ	BOBMY5	BLANKS	Calibration blank contamination.
Iron	U	BOBMY4, BOBMY5	BLANKS	Calibration blank contamination.
Lead	BJ	BOBMY4	PRECISION	Duplicate criteria not met
Manganese	U	BOBMY4, BOBMY5	BLANKS	Calibration blank contamination.

GENERAL CHEMISTRY QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
pH	J	BOBMY4	HOLD TIME	Hold time exceeded.
Phosphate by IC	UR	BOBMY4	HOLD TIME	Hold time exceeded by> two times.

RADIOCHEMISTRY QUALIFICATION SUMMARY

ANALYTE	QUALIFIER	SAMPLES AFFECTED	DQO	REASON
Strontium-90	J	BOBMY4	PRECISION	Duplicate RPD outside acceptance criteria.

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checked by:
date:

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Data Summary Tables

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE#:VW402.56		HEIS #:	B0BMY4		B0BMY6	
		Date:	6-May-94		6-May-94	
		Matrix:	WATER		WATER	
Constituent	CAS #	Units	Results	Q		
Chloromethane	74-87-3	µg/L	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U
Methylene Chloride	75-09-2	µg/L	1	J	10	U
Acetone	67-64-1	µg/L	10	U	10	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U
1,2-Dichloroethene	540-59-0	µg/L	10	U	10	U
Chloroform	67-66-3	µg/L	1	J	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U
cis-1,3-Dichlorpropene	10061-01-5	µg/L	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U
4-Methyl-2-pentanone	108-10-1	µg/L	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U

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date: 9/7/94

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TMA760

checked by: JM
date: 9/7/94

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SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.56		HEIS #:	B0BMY4	
		Date:	6-May-94	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
Phenol	108-95-2	µg/L	10	U
bis(2-Chloroethyl) ether	111-44-4	µg/L	10	U
2-Chlorophenol	95-57-8	µg/L	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	U
2-Methylphenol	95-48-7	µg/L	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	U
4-Methylphenol	106-44-5	µg/L	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	U
Hexachloroethane	97-72-1	µg/L	10	U
Nitrobenzene	98-95-3	µg/L	10	U
Isophorone	78-59-1	µg/L	10	U
2-Nitrophenol	88-75-5	µg/L	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	U
bis(2-Chloroethoxy) methane	111-91-1	µg/L	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	U
Naphthalene	91-20-3	µg/L	10	U
4-Chloroaniline	106-47-8	µg/L	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	U
4-Chloro-3-Methylphenol	59-50-7	µg/L	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	U
2-Nitroaniline	88-74-4	µg/L	25	U
Dimethylphthalate	131-11-3	µg/L	10	U
Acenaphthylene	208-96-8	µg/L	10	U
3-Nitroaniline	99-09-2	µg/L	25	U
Acenaphthene	83-32-9	µg/L	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	U
4-Nitrophenol	100-02-7	µg/L	25	U
Dibenzofuran	132-64-9	µg/L	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	U
2,6-Dinitrotoluene	606-20-2	µg/L	10	U
Diethylphthalate	84-66-2	µg/L	10	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	10	U
Fluorene	86-73-7	µg/L	10	U
4-Nitroaniline	100-01-6	µg/L	25	U
4,6-Dinitro-2-methylphenol	534-52-1	µg/L	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	U
4-Bromophenyl-phenylether	101-55-3	µg/L	10	U
Hexachlorobenzene	118-74-1	µg/L	10	

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date: 8/25/94

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checked by: JM
date: 8/29/94

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.56		HEIS #:	B0BMY4	
		Date:	6-May-94	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
Pentachlorophenol	87-86-5	µg/L	25	U
Phenanthrene	85-01-8	µg/L	10	U
Anthracene	120-12-7	µg/L	10	U
Carbazole	86-74-8	µg/L	10	U
Di-n-butylphthalate	84-74-2	µg/L	10	U
Fluoranthene	206-44-0	µg/L	10	U
Pyrene	129-00-0	µg/L	10	U
Butylbenzylphthalate	85-68-7	µg/L	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	U
Benzo(a) anthracene	56-55-3	µg/L	10	U
bis(2-ethylhexyl) phthalate	117-81-7	µg/L	2	J
Chrysene	218-01-9	µg/L	10	U
Di-n-octylphthalate	117-84-0	µg/L	10	U
Benzo(b) fluoranthene	205-99-2	µg/L	10	U
Benzo(k) fluoranthene	207-08-9	µg/L	10	U
Benzo(a) pyrene	50-32-8	µg/L	10	U
Indeno(1,2,3-cd) pyrene	193-39-5	µg/L	10	U
Dibenz(a,h) Anthracene	53-70-3	µg/L	10	U
Benzo(g,h,i) Perylene	191-24-2	µg/L	10	U
UNKNOWN KETONE	1	ug/L	2	[illegible]

entered by: C.S.
date: 8/25/94

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date: 8/29/9

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PESTICIDE/PCB DATA SUMMARY TABLE

FILE #:VW402.56		HEIS #:	B0BMY4	
		Date:	6-May-94	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
alpha-BHC	319-84-6	µg/L	0.050	U
beta-BHC	319-85-7	µg/L	0.050	U
delta-BHC	319-86-8	µg/L	0.050	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.050	U
Heptachlor	76-44-8	µg/L	0.050	U
Aldrin	309-00-2	µg/L	0.050	U
Heptachlor Epoxide	1024-57-3	µg/L	0.050	U
Endosulfan I	959-98-8	µg/L	0.050	U
Dieldrin	60-57-1	µg/L	0.10	U
4,4'-DDE	72-55-9	µg/L	0.10	U
Endrin	72-20-8	µg/L	0.10	U
Endosulfan II	33213-65-9	µg/L	0.10	U
4,4'-DDD	72-54-8	µg/L	0.10	U
Endosulfan Sulfate	1031-07-8	µg/L	0.10	U
4,4'-DDT	50-29-3	µg/L	0.10	U
Methoxychlor	72-43-5	µg/L	0.50	U
Endrin Ketone	53494-70-5	µg/L	0.10	U
Endrin Aldehyde	7421-93-4	µg/L	0.10	U
alpha-Chlordane	5103-71-9	µg/L	0.050	U
gamma-Chlordane	5103-74-2	µg/L	0.050	U
Toxaphene	8001-35-2	µg/L	5.0	U
Aroclor-1016	12674-11-2	µg/L	1.0	U
Aroclor-1221	11104-28-2	µg/L	2.0	U
Aroclor-1232	11141-16-5	µg/L	1.0	U
Aroclor-1242	53469-21-9	µg/L	1.0	U
Aroclor-1248	12672-29-6	µg/L	1.0	U
Aroclor-1254	11097-69-1	µg/L	1.0	U
Aroclor-1260	11096-82-5	µg/L	1.0	U

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TMA 760

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date: 9/7/94

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METALS DATA SUMMARY

FILE #:VW402.56		HEIS #:	B0BMY4		B0BMY5	
		Date:	6-May-94		6-May-94	
		Matrix:	WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q
Aluminum	7429-90-5	ug/L	20.9	U	20.9	U
Antimony	7440-36-0	ug/L	14.7	U	14.7	U
Arsenic	7440-38-2	ug/L	1.5	U	1.5	UJ
Barium	7440-39-3	ug/L	29.6	B	29.5	B
Beryllium	7440-41-7	ug/L	0.40	U	0.40	U
Cadmium	7440-43-9	ug/L	1.1	U	1.1	U
Calcium	7440-70-2	ug/L	55700		55700	
Chromium	7440-47-3	ug/L	47.3		43.8	
Cobalt	7440-48-4	ug/L	2.1	U	2.1	U
Copper	7440-50-8	ug/L	3.6	U	3.6	U
Iron	7439-89-6	ug/L	83.1	U	31.8	U
Lead	7439-92-1	ug/L	1.6	BJ	1.5	U
Magnesium	7439-95-4	ug/L	8220		8090	
Manganese	7439-96-5	ug/L	2.6	U	1.9	U
Mercury	7439-97-6	ug/L	0.2	U	0.2	U
Nickel	7440-02-0	ug/L	6.5	U	6.5	U
Potassium	7440-09-7	ug/L	2700	B	2620	B
Selenium	7782-49-2	ug/L	2.1	U	2.1	U
Silver	7440-22-4	ug/L	3.6	U	3.6	U
Sodium	7440-23-5	ug/L	7900		7910	
Thallium	7440-28-0	ug/L	2.2	U	2.2	U
Vanadium	7440-62-2	ug/L	2.2	U	2.2	U
Zinc	7440-66-6	ug/L	7.1	U	7.1	U
Cyanide	CYANIDE	ug/L	10	U		

entered by: JHS
date: 9/28/94

Shaded areas indicate
changes by the validator
TMA760

checked by: [illegible]
date: 9-25-94

9613501.1043

GENERAL CHEMISTRY DATA SUMMARY TABLE

FILE #: VW 402.56		HEIS #:	B0BMY4	
		Date:	6-May-94	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
Chloride by IC	16887-00-6	mg/L	9.4	
Fluoride by IC	16984-48-8	mg/L	0.1	
Phosphate by IC	14265-44-2	mg/L	0.4	*UR*
Nitrate-Nitrite	NO3+NO2-N	mg/L	5.71	
pH	207	pH UNITS	7.8	*J*
Sulfate by IC	14808-79-8	mg/L	46	
Electric Conductivity	CONDUCTIVITY	UMHOS/CM	379	
Chemical Oxygen Demand	COD	mg/L	30	
Ammonia Nitrogen	766-41-7	mg/L	0.05	
Sulfide	18496-25-8	mg/L	< 1	
Total Dissolved Solids	TDS	mg/L	238	
Alkalinity	ALKALINITY	mg/L	108	
Total Organic Carbon	TOC	mg/L	1.0	

shaded areas indicate changes
by the validator tma760

entered by: [illegible]
date: 9-24-94

checked by: [illegible]
date: 9/24/9

9613501.1044

RADIOCHEMICAL DATA SUMMARY TABLE

FILE #:VW402.56		HEIS #:	B0BMY4		
		Date:	6-May-94		
		Matrix:	WATER		
Constituent	CAS #	Units	Results	Q	MDA
Gross Alpha	Alpha	ug/L	4.7		2
Gross Beta	Beta	ug/L	18		2
Tritium	10028-17-8	ug/L	1400		300
Carbon-14	14762-75-5	ug/L	49	U	60
Strontium-90	10098-97-2	ug/L	2.4	J	0.4
Technetium-99	14133-76-7	ug/L	1.4	U	4
Uranium-233/234	U-233/234	ug/L	2.2		0.2
Uranium-235	15117-96-1	ug/L	0.092	U	0.2
Uranium-238	U-238	ug/L	1.8		0.1
Plutonium-238	13981-16-3	ug/L	-0.001	U	0.02
Plutonium-239/240	PU-239/240	ug/L	0	U	0.008
Americium-241	14596-10-2	ug/L	0.009	U	0.02
GAMMA SCAN					
Sodium-22	13966-32-0	ug/L	U	U	10
Potassium-40	13966-00-2	ug/L	U	U	200
Manganese-54	13966-31-9	ug/L	U	U	10
Iron-59	14596-12-4	ug/L	U	U	40
Cobalt-58	13891-38-9	ug/L	U	U	20
Cobalt-60	10198-40-0	ug/L	U	U	20
Niobium-94	14681-63-1	ug/L	U	U	10
Ruthenium-103	13968-53-1	ug/L	U	U	20
Ruthenium-106	13967-48-1	ug/L	U	U	100
Tin-113	13966-06-8	ug/L	U	U	20
Cesium-134	13967-70-9	ug/L	U	U	10
Cesium-137	10045-97-3	ug/L	U	U	10
Cerium-144	14762-78-8	ug/L	U	U	70
Europium-152	14683-23-9	ug/L	U	U	30
Europium-154	15585-10-1	ug/L	U	U	20
Europium-155	14391-16-3	ug/L	U	U	40
Radium-226	13982-63-3	ug/L	U	U	20
Radium-228	15262-20-1	ug/L	U	U	60
Thorium-228	14274-82-9	ug/L	U	U	20
Thorium-232	7440-29-1	ug/L	U	U	60

entered by: [illegible]
date: 4 10-3-94
[illegible] 10-3-94

shaded areas indicate changes by the validator
TMA 760

checked by:
date:

000019 PKR 10/4/

9613501.1045

Sample Results (Form I's)

9613501.1046

000112
EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01G

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D14

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	1	J
67-64-1	Acetone	10	U
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	1	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
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	U
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

FORM I VOA

~~3/90~~ CMD 9/9/9

000021 8-10-94

9613501.1047

000113

EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01G

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D14

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

BM 8-10-94

~~3/90~~ cm 9/8/9

FORM I VOA-TIC

000022

9613501.1048

000114

EPA SAMPLE NO.

B0BMY6

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D11

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

BM 8-10-94

~~3/90~~

FORM I VOA

000023

9613501.1049

000115

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0BMY6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D11

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
==========	==========	========	==========	=====

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8-10-94
CMS
9/8/9

9613501.1050

000116

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40517I03

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/13/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/17/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	~~U~~ UJ
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U

CMO 9/9/

FORM I SV-1

~~3/90~~

000025

9613501.1051

000117
EPA SAMPLE NO.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40517I03

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/13/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/17/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q	
100-02-7	4-Nitrophenol	25	~~U~~	UJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	~~U~~	UJ
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J	
218-01-9	Chrysene	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	U	
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

BM 8-10-94 CMS 9/8/94

FORM I SV-2

~~3/90~~

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40517I03

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/13/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/17/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN KETONE	5.67	2	~~BJ~~ U

BH 6-10-94 CM 9/8/

FORM I SV-TIC

3/90

9613501.1053

000119

EPA SAMPLE NO.

B0BMY4

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/11/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/13/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/25/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

BM 8-10-94 CMD 9/81

FORM I PEST

9613501.1054

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B0BMY4

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D2-0039

Lab Code: SKINER Case No.: N4-05-048SAS No.: SDG No.: B0BMY4

Matrix (soil/water): WATER Lab Sample ID: 05116-01S

Level (low/med): LOW Date Received: 05/12/94

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	Val Q
7429-90-5	Aluminum	20.9	U		P	
7440-36-0	Antimony	14.7	U		P	
7440-38-2	Arsenic	1.5	~~U~~	~~UJ~~ u	P	
7440-39-3	Barium	29.6	B		P	
7440-41-7	Beryllium	0.40	U		P	
7440-43-9	Cadmium	1.1	U		P	
7440-70-2	Calcium	55700			P	
7440-47-3	Chromium	47.3			P	
7440-48-4	Cobalt	2.1	U		P	
7440-50-8	Copper	3.6	~~U~~	~~U~~ u	P	
7439-89-6	Iron	83.1	~~B~~	~~U~~	P	u
7439-92-1	Lead	1.6	~~B~~	~~U~~	P	BJ
7439-95-4	Magnesium	8220			P	
7439-96-5	Manganese	2.6	~~B~~	~~U~~	P	u
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	6.5	~~U~~	~~U~~ u	P	
7440-09-7	Potassium	2700	B		P	
7782-49-2	Selenium	2.1	U		P	
7440-22-4	Silver	3.6	U		P	
7440-23-5	Sodium	7900			P	
7440-28-0	Thallium	2.2	~~U~~	~~UJ~~ u	P	
7440-62-2	Vanadium	2.2	U		P	9-30-94
7440-66-6	Zinc	7.1	U		P	
	Cyanide	10.0	U		CA	

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

9/28/94

Comments:

~~002~~

FORM I - IN ~~ILM02.1~~

9613501.1055

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: BOBMY5

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D2-0039

Lab Code: SKINER Case No.: N4-05-048SAS No.: SDG No.: BOBMY5

Matrix (soil/water): WATER Lab Sample ID: 05118-01S

Level (low/med): LOW Date Received: 05/12/94

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.9	U		P
7440-36-0	Antimony	14.7	U		P
7440-38-2	Arsenic	1.5	~~U~~		P
7440-39-3	Barium	29.5	B		P
7440-41-7	Beryllium	0.40	U		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	55700			P
7440-47-3	Chromium	43.8			P
7440-48-4	Cobalt	2.1	U		P
7440-50-8	Copper	3.6	U		P
7439-89-6	Iron	31.8	~~B~~		P
7439-92-1	Lead	1.5	U	*	P
7439-95-4	Magnesium	8090			P
7439-96-5	Manganese	1.9	~~B~~		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	6.5	U		P
7440-09-7	Potassium	2620	B		P
7782-49-2	Selenium	2.1	U		P
7440-22-4	Silver	3.6	U		P
7440-23-5	Sodium	7910			P
7440-28-0	Thallium	2.2	~~U~~		P
7440-62-2	Vanadium	2.2	U		P
7440-66-6	Zinc	7.1	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

~~002~~

9613501.1056

Received: 05/12/94

*** T M A *** REPORT Work Order # S4-05-117

Results by Sample

SAMPLE ID BOBMY4 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 05/06/94 10:45:00 Category WATER

NO3NO2 5.71
mg N/L

SAMPLE ID BOBMY4D SAMPLE # 01 FRACTIONS: B
Date & Time Collected 05/06/94 10:45:00 Category WATER

NO3NO2 5.60
mg N/L

SAMPLE ID BOBMY4S SAMPLE # 01 FRACTIONS: C
Date & Time Collected 05/06/94 10:45:00 Category WATER

NO3NO2 7.71
mg N/L

SAMPLE ID LCSW SAMPLE # 02 FRACTIONS: A
Date & Time Collected not specified Category WATER

NO3NO2 2.03
mg N/L

BM 8-18-94

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

TMA 002
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc. 300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-720
1-800-4 LAB TEST FAX (617) 890-3883

TMA Inc. REPORT Work Order # A4-05-036

Received: 05/11/94 Results by Sample

SAMPLE ID B0BMY4 FRACTION 01M TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 05/06/94 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Alkalinity	310.1	108	mg/L	2

FORM I

TMA Inc. REPORT Work Order # A4-05-036

Received: 05/11/94

Results by Sample

SAMPLE ID B0BMY4 FRACTION 010 TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 05/06/94 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Tot. Dissolved Solids	160.1	238	mg/L	5

FORM I

BM
8-18-94

9613501.1059

FORM 1
INORGANIC ANALYSIS DATA SHEET

LAB NAME:	Thermo Analytical Inc.	LAB SAMPLE ID:	B0BMY4
CASE NO.:	N4-05-048	Work ID:	100-FR-3
Matrix:	WATER		
Receipt Date:	12-May-94		
Units:	MG/L	% Solids:	NA

Analyte	Concentration	Detection Limit	Analysis Date	
TOTAL ORGANIC CARBON	<1.0	1.0	23-May-94	
ORGANIC CHLORIDE	<0.01	0.01	24-May-94	UJ BM 9-7
ORGANIC BROMIDE	<0.01	0.01	24-May-94	UJ
ORGANIC IODIDE	<0.01	0.01	24-May-94	UJ

COMMENTS:

BM 8-18-94

~~003~~ CMC 9-8-

000035

TMA Inc. REPORT Work Order # A4-05-036

Received: 05/11/94

Results by Sample

SAMPLE ID B0BMY4 FRACTION 01T TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 05/06/94 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Ammonia Nitrogen	350.3	<0.05	mg/L	0.05
COD	410.1	<30	mg/L	30

FORM I

BH 8-18-94

TMA Inc. REPORT Work Order # A4-05-036

Received: 05/11/94

Results by Sample

SAMPLE ID B0BMY4 FRACTION 01Q TEST CODE WCCLPL NAME Anions & Wet Chem.

Date & Time Collected 05/06/94 Category

ANIONS AND WET CHEMISTRY - LIQUIDS

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Sulfide	9030	<1	mg/L	1

FORM I

9613501.1062

TMA NORCAL

SAMPLE DELIVERY GROUP 7377

DATA SHEET

N405050-01

B0BMY4

SDG 7377 — Client Westinghouse Hanford
Contact N. Joseph Verville — Contract MBH-SVV-069262

Lab sample id N405050-01 — Client sample id B0BMY4
Dept sample id 7377-001 — Location/Matrix 199-F5-6 LIQUID
Received 05/11/94 — Collected 05/06/94
Chain of custody id EFL-1055

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Gross Alpha	Alpha	4.7	2.1	2	3		B0A
Gross Beta	Beta	18	2.0	2	4		B0B
Tritium	10028-17-8	1400	220	300	400		H
Carbon 14	14762-75-5	49	36	60	100	U	C
Strontium 90	10098-97-2	2.4	22	0.4	2		Y
Technetium 99	14133-76-7	1.4	1.5	4	5	U	TC
Uranium 233/234		2.2	0.50	0.2	0.2		U
Uranium 235	15117-96-1	0.092	0.093	0.2	0.2	U	U
Uranium 238		1.8	0.45	0.1	0.2		U
Plutonium 238	13981-16-3	-0.001	0.008	0.02	0.05	U	PU
Plutonium 239/240		0	0.002	0.008	0.05	U	PU
Americium 241	14596-10-2	0.009	0.013	0.02	0.05	U	AM
GAMMA SCAN ANALYTES							
Sodium 22	13966-32-0	U		10		U	GAM
Potassium 40	13966-00-2	U		200		U	GAM
Manganese 54	13966-31-9	U		10		U	GAM
Iron 59	14596-12-4	U		40	30	U	GAM
Cobalt 58	13981-38-9	U		20	20	U	GAM
Cobalt 60	10198-40-0	U		20	20	U	GAM
Niobium 94	14681-63-1	U		10		U	GAM
Ruthenium 103	13968-53-1	U		20		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Tin 113	13966-06-8	U		20		U	GAM
Cesium 134	13967-70-9	U		10		U	GAM
Cesium 137	10045-97-3	U		10	20	U	GAM
Cerium 144	14762-78-8	U		70		U	GAM
Europium 152	14683-23-9	U		30	40	U	GAM
Europium 154	15585-10-1	U		20	40	U	GAM

No qualifier [illegible] 8/10/94

~~J~~ NO qualifier [illegible] 9-24-97

~~J~~ NO qualifier [illegible] 10-3-94 [illegible] 10-3-94

[illegible] 8/11/94

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.30
Report date 06/24/94

9613501.1063

TMA NORCAL

SAMPLE DELIVERY GROUP 7377

N405050-01

DATA SHEET, cont

B0BMY4

SDG 7377 Client Westinghouse Hanford
Contact N. Joseph Verville Contract MBH-SVV-069262

Lab sample id N405050-01 Client sample id B0BMY4
Dept sample id 7377-001 Location/Matrix 199-F5-6 LIQUID
Received 05/11/94 Collected 05/06/94
Chain of custody id EFL-1055

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Europium 155	14391-16-3	U		40	40	U	GAM
Radium 226	13982-63-3	U		20		U	GAM
Radium 228	15262-20-1	U		60		U	GAM
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	7440-29-1	U		60		U	GAM

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DS
Version 2.30
Report date 06/24/94

9613501.1064

Checklists

LATA GC/MS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	(D)	E

PROJECT: 100-FR-3		SDG: BOBMY4-TMA-760
VALIDATOR: B MORRIS	LATA NO.: VW4025 6	DATE: 8-10-94
SAF NO.:	LAB: TMA	CASE: 05-036
QAPP REFERENCE:		SAP REFERENCE:

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED

☒ CLP Volatiles	☐ SW-846 8240 (cap column)	☐ SW-846 8260 (pac column)	☐ CLP Semivolatiles	☐ SW-846 8270 (cap column)	☐ SW-846 8270 (pac column)
☐	☐	☐	☐	☐	☐

SAMPLES/MATRIX BOBMY4 (WATER)
BOBMY6 (WATER)

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 *(see HOLDING TIME SUMMARY form)*

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

Comments: DS 5-6 DS = Date Sampled
DR 5-11 DR = Date Received MW
DA 5-16 DA = Date Analyzed 9-2-94

MM 9/8/94

Peer Review MW 9-2-94

3. INSTRUMENT TUNING AND CALIBRATION *(see CALIBRATION DATA SUMMARY form)*

Is the GC/MS tuning/performance check acceptable? . . . . . Yes No N/A

★ **VOA:** Verify the calculation of the mass abundance percentages for the 95/96, 176/177 and 174/176 ratios.

★ **SVOA:** Verify the calculation of the mass abundance percentages for the 199/198 and 443/442 ratios.

Are initial calibrations acceptable? . . . . . Yes No N/A

★ Verify the RRF and %RSD values and recalculate the individual and average RRF values and RSD values for two TCL compounds for Volatiles (V) and Semivolatiles (S).

★

Relative Response Factor

$$RRF = \frac{A_x C_{is}}{A_{is} C_x}$$

where:

A_x (V/S) = area of the characteristic ion measured for the sample
A_{is} (V/S) = area of the characteristic ion measured for the internal standard
C_x (V/S) = concentration [(VOA ng) (SVOA ng/µL)] of the compound of interest
C_{is} (V/S) = concentration [(VOA ng) (SVOA ng/µL)] of the associated internal standard

★

Relative Standard Deviation

$$\%RSD = \frac{STDEV}{MEAN} \times 100$$

where:

MEAN = mean of the initial five relative response factors
STDEV = standard deviation of the initial five RRFs per compound

$$= \sqrt{\sum_{i=1}^{n} \frac{(RRF_i - RRF)^2}{n-1}}$$

Are continuing calibrations acceptable? . . . . . Yes No N/A

★ Verify that the RRF and %D values are within the required limits and recalculate the individual RRF and %D values for at least two TCL compounds for Volatiles (V) and Semivolatiles (S).

★

Percent Difference

$$\%D = \frac{(RRF_i - RRF_s)}{RRF_i} \times 100$$

where:

RRF_i (V/S) = initial calibration average relative response factor
RRF_s (V/S) = continuing calibration average relative response factor

Comments: _____

CMS 9/8/94

LATA GC/MS DATA VALIDATION CHECKLIST

4. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

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

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

Comments:

5. ACCURACY *(see ACCURACY DATA SUMMARY form)*

Were surrogates/System Monitoring Compounds analyzed? . . . . . Yes No N/A

Are all surrogate/System Monitoring Compound recoveries acceptable? . . . . . Yes No N/A

★

Surrogate Recovery

$$\%R = \left(\frac{Q_d}{Q_a}\right) \times 100$$

where:
Q_d (V/S) = quantity of surrogate determined (analysis result)
Q_a (V/S) = quantity of surrogate added (true value)

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

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

★

Spike Recovery

$$MS\%R = \frac{MS - OS}{SA} \times 100 \quad \text{or} \quad MSD\%R = \frac{MSD - OS}{SA} \times 100$$

where:
MS/MSD (V/S) = spiked sample result
OS (V/S) = sample result
SA (V/S) = spike added

Comments:

CMS 7/8/

LATA GC/MS DATA VALIDATION CHECKLIST

6. PRECISION *(see PRECISION DATA SUMMARY form)*

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

★

Relative Percent Difference

$$RPD = \frac{|MS - MSD|}{\left(\frac{MS + MSD}{2}\right)} \times 100$$

where =
MS = MS recovery
MSD = MSD recovery

Comments:

7. FIELD QC SAMPLES

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified? Yes No N/A

Are field/trip blank results 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

Are performance audit sample results acceptable? . . . . . Yes No N/A

Comments: N/A is the answer MJ 9-24-94

B03MY4 and B03MY6 are splits

The other split samples are not identified by the sampling summary. Comparison is not possible MJ 9-24-94

8. 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:

CMP 9/8/9-

LATA GC/MS DATA VALIDATION CHECKLIST

9. COMPOUND IDENTIFICATION AND QUANTITATION

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

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

★

Results Calculations for VOA water (VW) samples

$$\text{Concentration } (\mu g/L) = \frac{(A_x VW)\,(I_s VW)\,(D_f VW)}{(A_{is} VW)\,(RRFVW)\,(V_o VW)}$$

where:

$A_x VW$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VW$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VW$ = amount of internal standard added (ng)
RRFVW = relative response factor (ambient temperature purge of the calibration standard)
$V_o VW$ = volume of water purged (ml)
$D_f VW$ = dilution factor

★

Results Calculations for VOA soil/sediment (VLS) samples (low level)

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x VLS)\,(I_s VLS)}{(A_{is} VLS)\,(RRFVLS)\,(W_s VLS)\,(SVLS)}$$

where:

$A_x VLS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VLS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VLS$ = amount of internal standard added (ng)
RRFVLS = relative response factor (ambient temperature purge of the calibration standard)
$W_s VLS$ = weight of sample added (g)
SVLS = dry weight conversion factor [(100 - %moisture)/100]

★

Results Calculations for VOA soil/sediment (VMS) samples (medium level)

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x VMS)\,(I_s VMS)\,(V_t VMS)\,(1000)\,(D_f VMS)}{(A_{is} VMS)\,(RRFVMS)\,(V_a VMS)\,(W_s VMS)\,(SVMS)}$$

where:

$A_x VMS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VMS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VMS$ = amount of internal standard added (ng)
RRFVMS = relative response factor (ambient temperature purge of the calibration standard)
$W_s VMS$ = weight of sample extracted (g)
$D_f VMS$ = dilution factor
SVMS = dry weight conversion factor [(100 - %moisture)/100]
$V_t VMS$ = total volume methanol extract (ml)
$V_a VMS$ = volume of the aliquot (ml)

0009/81

LATA GC/MS DATA VALIDATION CHECKLIST

9. COMPOUND IDENTIFICATION AND QUANTITATION (continued)

★

Results Calculations for SVOA water (SW) samples

$$\text{Concentration } (\mu g/L) = \frac{(A_xSW)\ (I_sSW)\ (V_tSW)\ (D_fSW)}{(A_{is}SW)\ (RRFSW)\ (V_oSW)\ (V_iSW)}$$

where:

A_xSW = area of the quantitation ion (EICP) for the compound of interest
$A_{is}SW$ = area of the quantitation ion (EICP) for the specified internal standard
I_sSW = amount of internal standard added (ng)
RRFSW = relative response factor for the daily calibration standard
V_oSW = volume of water extracted (ml)
V_iSW = volume of extract injected (µL)
V_tSW = volume of concentrated extract (µL)
D_fSW = dilution factor

★

Results Calculations for SVOA soil/sediment (SS) samples

$$\text{Concentration } (\mu g/Kg) = \frac{(A_xSS)\ (I_sSS)\ (V_tSS)\ (D_fSS)}{(A_{is}SS)\ (RRFSS)\ (V_iSS)\ (W_sSS)\ (SSS)}$$

where:

A_xSS = area of the quantitation ion (EICP) for the compound of interest
$A_{is}SS$ = area of the quantitation ion (EICP) for the specified internal standard
I_sSS = amount of internal standard added (ng)
RRFSS = relative response factor for the daily calibration standard
W_sSS = weight of sample extracted (g)
D_fSS = dilution factor
SSS = dry weight conversion factor [(100 - %moisture)/100]
V_tSS = total volume of concentrated extract (µL)
V_iSS = volume of the extract injected (µL)

Comments: The Mass Spectra ID of Methylene Chloride and Chloroform are missing peaks contained in the ref. Spectra. The Spectra contain the Molecular ions and the retention times match. NO qualification.

10. 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

Comments:

CMS 9/8

LATA GC/MS DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES:

MINOR DEFICIENCIES:

COMMENTS: ~~The mass spec identification does not contain~~ all The mass spectra of chloroform and methylene chloride in B0BMY4 did not contain all of the major ions found in the reference spectra. The sample had the correct molecular ions and retention times, therefore no action was taken.

B0B3MY4 and B0B3MY6 were identified as split samples.

CMS 9/8/94

HOLDING TIME SUMMARY

SDG: BOB MY4 - TMA - 760	VALIDATOR: B. MORRIS	DATE: 8-10-94	PAGE 1 OF 1
COMMENTS: GC/MS			

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
BOBMY4	VOA	5-6-94	-	5-16-94	-	10	NONE
BOBMY6	VOA	"	-	"		10	NONE

000048

PNO-DVF-017, R1

9415501.1072

RELATIVE RESPONSE FACTOR

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760
Sample ID: INIT. CAL.

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	Response for Analyte of Interest AxV	Concentration of Internal Standard CisV	Area of Internal Standard AisV	Concentration of Analyte of Interest CxV	RRF
chloromethane rrf10	3605.00	50.00	54691.00	10.00	0.330
rrf20	6428.00	50.00	52163.00	20.00	0.308
rrf50	20843.00	50.00	53233.00	50.00	0.392
rrf100	28977.00	50.00	50361.00	100.00	0.288
rrf200	70979.00	50.00	55040.00	200.00	0.322
acetone rrf10	3069.00	50.00	54691.00	10.00	0.281
rrf20	3822.00	50.00	52163.00	20.00	0.183
rrf50	11129.00	50.00	53233.00	50.00	0.209
rrf100	19152.00	50.00	50361.00	100.00	0.190
rrf200	40443.00	50.00	55040.00	200.00	0.184

96150147 3

000099

RELATIVE STANDARD DEVIATION

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760 Date: 10-Aug-94
Sample ID: INIT CAL Validator: B. MORRIS

Constituent: CHLOROMETH

RRF1	MEAN	STDEV	RSD
0.33	0.328	0.0392	11.9
0.308			
0.392			
0.288			
0.322			

RELATIVE STANDARD DEVIATION

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760 Date: 10-Aug-94
Sample ID: INIT CAL Validator: B. MORRIS

Constituent: ACETONE

RRF2	MEAN	STDEV	RSD
0.281	0.209	0.0414	19.8
0.183			
0.209			
0.19			
0.184			

000050

PERCENT DIFFERENCE

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760
Sample ID: CONT CAL

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	Initial Calibration Average RRF RRFiV	Continuing Calibration Average RRF RRFsV	%D
BENZENE	0.934	0.95	1.7%
VINYL CHLORIDE	0.568	0.649	14.3%
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!

000051

SURROGATE RECOVERY

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4MS

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	quantity of surrogate determined QdV	quantity of surrogate added QaV	%RV
d8-Toluene	51.86	50.00	103.7%
1,1-dichloroethane	54.86	50.00	109.7%
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!

000052

96 2501 1076

PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (MS/MSD)

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4MS/MSD

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	MS Result MSV	MSD Result MSDV	Sample Result OSV	Spike Added SAV	MSV %R	MSDV %R	RPDV
BENZENE	44.40	44.10	0.00	50.00	88.8%	88.2%	0.7%
TOLUENE	42.60	41.90	0.00	50.00	85.2%	83.8%	1.7%
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!

96135011077

000053

RESULTS CALCULATIONS FOR VOA WATER SAMPLES

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	Area of the Quant Ion for the Constituent of Interest	Area of the Quant Ion for the Internal Standard	Amount of Internal Standard added (ng)	Relative Response Factor	Volume of Water Purged (ml)	Dilution Factor	Conc (µg/L)
	AxVW	AisVW	IsVW	RRFVW	VoVW	DfVW	
Methylene chlor	2263.00	54458.00	50.00	1.50	1.00	1.00	1.390
Chloroform	4859.00	54458.00	50.00	4.44	1.00	1.00	1.005
							#DIV/0!
							#DIV/0!
							#DIV/0!
							#DIV/0!
							#DIV/0!
							#DIV/0!
							#DIV/0!
							#DIV/0!

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LATA GC/MS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

PROJECT: 100-FR-3		SDG: BOBMY4-TMA-760
VALIDATOR: B. MORRIS	LATA NO.: WW402-56	DATE: 8-10-94
SAF NO.:	LAB: TMA	CASE: 05-036
QAPP REFERENCE:		SAP REFERENCE:

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED

☐ CLP Volatiles	☐ SW-846 8240 (cap column)	☐ SW-846 8260 (pac column)	☒ CLP Semivolatiles	☐ SW-846 8270 (cap column)	☐ SW-846 8270 (pac column)
☐	☐	☐	☐	☐	☐

SAMPLES/MATRIX

BOBMY4 (WATER)

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 *(see HOLDING TIME SUMMARY form)*

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

Comments: DS 5-6 Date Sampled = DS
DR 5-11 Date Received = DR
DE 5-13 Date Extracted = DE MW 9-2-94
DA 5-17 Date Analyzed = DA

Peer Review MW 9-2-94

LATA GC/MS DATA VALIDATION CHECKLIST

3. INSTRUMENT TUNING AND CALIBRATION *(see CALIBRATION DATA SUMMARY form)*

Is the GC/MS tuning/performance check acceptable? . . . . . Yes No N/A

★ **VOA:** Verify the calculation of the mass abundance percentages for the 95/96, 176/177 and 174/176 ratios.

★ **SVOA:** Verify the calculation of the mass abundance percentages for the 199/198 and 443/442 ratios.

Are initial calibrations acceptable? . . . . . Yes No N/A

★ Verify the RRF and %RSD values and recalculate the individual and average RRF values and RSD values for two TCL compounds for Volatiles (V) and Semivolatiles (S).

★

Relative Response Factor

$$RRF = \frac{A_x C_{is}}{A_{is} C_x}$$

where:

A_x (V/S) = area of the characteristic ion measured for the sample
A_{is} (V/S) = area of the characteristic ion measured for the internal standard
C_x (V/S) = concentration [(VOA ng) (SVOA ng/µL)] of the compound of interest
C_{is} (V/S) = concentration [(VOA ng) (SVOA ng/µL)] of the associated internal standard

★

Relative Standard Deviation

$$\%RSD = \frac{STDEV}{MEAN} \times 100$$

where:

MEAN = mean of the initial five relative response factors
STDEV = standard deviation of the initial five RRFs per compound

$$= \sqrt{\sum_{i=1}^{n} \frac{(RRF - \overline{RRF})^2}{n-1}}$$

Are continuing calibrations acceptable? . . . . . Yes No N/A

★ Verify that the RRF and %D values are within the required limits and recalculate the individual RRF and %D values for at least two TCL compounds for Volatiles (V) and Semivolatiles (S).

★

Percent Difference

$$\%D = \frac{(RRF_i - RRF_s)}{RRF_i} \times 100$$

where:

RRF_i (V/S) = initial calibration average relative response factor
RRF_s (V/S) = continuing calibration average relative response factor

Comments: 2-Nitroaniline, 4-Nitrophenol, Hexachlorobenzene, ~~2,4,6-Tribromophenol~~ BM
exceeded %D Cont. Calibration Criteria. Qualify (J/UJ)

CMP 9/8/94

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LATA GC/MS DATA VALIDATION CHECKLIST

4. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

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

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

Comments: TIC → unknown Ketone MJ 9-24-94

5. ACCURACY *(see ACCURACY DATA SUMMARY form)*

Were surrogates/System Monitoring Compounds analyzed? . . . . . Yes No N/A

Are all surrogate/System Monitoring Compound recoveries acceptable? . . . . . Yes No N/A

★

Surrogate Recovery

$$\%R = \left(\frac{Q_d}{Q_a}\right) \times 100$$

where:
Q_d (V/S) = quantity of surrogate determined (analysis result)
Q_a (V/S) = quantity of surrogate added (true value)

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

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

★

Spike Recovery

$$MS\%R = \frac{MS - OS}{SA} \times 100 \quad \text{or} \quad MSD\%R = \frac{MSD - OS}{SA} \times 100$$

where:
MS/MSD (V/S) = spiked sample result
OS (V/S) = sample result
SA (V/S) = spike added

Comments: The MS recovery for 4-nitrophenol is outside QC limits
The MSD recovery for Pentachlorophenol, 2,4-dinitrotoluene and 4-Nitrophenol are outside QC limits. NO Action Required

CMS 9/8

LATA GC/MS DATA VALIDATION CHECKLIST

6. PRECISION *(see PRECISION DATA SUMMARY form)*

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

★

Relative Percent Difference

$$RPD = \frac{|MS - MSD|}{\left(\frac{MS + MSD}{2}\right)} \times 100$$

where =
MS = MS recovery
MSD = MSD recovery

Comments:

7. FIELD QC SAMPLES

BM 9-19-94

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified? Yes No N/A

Are field/trip blank results 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

Are performance audit sample results acceptable? . . . . . Yes No N/A

Comments:

N/A is the answer.
MW 9-24-94

8. 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:

CMC 9/8/94

9. COMPOUND IDENTIFICATION AND QUANTITATION

BMB-10

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

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

★

Results Calculations for VOA water (VW) samples

$$\text{Concentration } (\mu g/L) = \frac{(A_x VW)\,(I_s VW)\,(D_f VW)}{(A_{is} VW)\,(RRFVW)\,(V_o VW)}$$

where:

$A_x VW$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VW$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VW$ = amount of internal standard added (ng)
RRFVW = relative response factor (ambient temperature purge of the calibration standard)
$V_o VW$ = volume of water purged (ml)
$D_f VW$ = dilution factor

★

Results Calculations for VOA soil/sediment (VLS) samples (low level)

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x VLS)\,(I_s VLS)}{(A_{is} VLS)\,(RRFVLS)\,(W_s VLS)\,(SVLS)}$$

where:

$A_x VLS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VLS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VLS$ = amount of internal standard added (ng)
RRFVLS = relative response factor (ambient temperature purge of the calibration standard)
$W_s VLS$ = weight of sample added (g)
SVLS = dry weight conversion factor [(100 - %moisture)/100]

★

Results Calculations for VOA soil/sediment (VMS) samples (medium level)

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x VMS)\,(I_s VMS)\,(V_t VMS)\,(1000)\,(D_f VMS)}{(A_{is} VMS)\,(RRFVMS)\,(V_a VMS)\,(W_s VMS)\,(SVMS)}$$

where:

$A_x VMS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} VMS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s VMS$ = amount of internal standard added (ng)
RRFVMS = relative response factor (ambient temperature purge of the calibration standard)
$W_s VMS$ = weight of sample extracted (g)
$D_f VMS$ = dilution factor
SVMS = dry weight conversion factor [(100 - %moisture)/100]
$V_t VMS$ = total volume methanol extract (ml)
$V_a VMS$ = volume of the aliquot (ml)

9. COMPOUND IDENTIFICATION AND QUANTITATION (continued)

★

Results Calculations for SVOA water (SW) samples

$$\text{Concentration } (\mu g/L) = \frac{(A_x SW)\ (I_s SW)\ (V_t SW)\ (D_f SW)}{(A_{is} SW)\ (RRFSW)\ (V_o SW)\ (V_i SW)}$$

where:

$A_x SW$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} SW$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s SW$ = amount of internal standard added (ng)
RRFSW = relative response factor for the daily calibration standard
$V_o SW$ = volume of water extracted (ml)
$V_i SW$ = volume of extract injected (µL)
$V_t SW$ = volume of concentrated extract (µL)
$D_f SW$ = dilution factor

★

Results Calculations for SVOA soil/sediment (SS) samples

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x SS)\ (I_s SS)\ (V_t SS)\ (D_f SS)}{(A_{is} SS)\ (RRFSS)\ (V_i SS)\ (W_s SS)\ (SSS)}$$

where:

$A_x SS$ = area of the quantitation ion (EICP) for the compound of interest
$A_{is} SS$ = area of the quantitation ion (EICP) for the specified internal standard
$I_s SS$ = amount of internal standard added (ng)
RRFSS = relative response factor for the daily calibration standard
$W_s SS$ = weight of sample extracted (g)
$D_f SS$ = dilution factor
SSS = dry weight conversion factor [(100 - %moisture)/100]
$V_t SS$ = total volume of concentrated extract (µL)
$V_i SS$ = volume of the extract injected (µL)

Comments:

10. 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

Comments: Found TIC -> Unknown Ketone

CMS 9/8/9

LATA GC/MS DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES:

MINOR DEFICIENCIES: A TIC was reported in the method blank as an unknown Ketone. The unknown Ketone was also found in BOBM44 at a level <5x the blank. The results are qualified as undetected.

The %D values for 2-Nitroaniline, hexachlorobenzene and 4-nitrophenol exceeded the QC limit. The sample results are qualified as estimated.

COMMENTS: The matrix spike recovery of 4-Nitrophenol was outside of the QC limits in BOBM44. No action taken due to undetected sample results. The matrix spike duplicate recoveries for 4-Nitrophenol, pentachlorophenol and 2,4-Dinitrotoluene were outside of the QC limits in BOBM44. No Action taken due to undetected sample results. ~~Sample~~ BOBM44 was identified as a Split Sample.

CMO 9/8/9

HOLDING TIME SUMMARY

SDG: BOBMY4 - TMA - 760	VALIDATOR: B. MORRIS	DATE: 8-10-94	PAGE 1 OF 1
COMMENTS: GC/MS			

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
BOBMY4	Semi Volatile	5-6-94	5-13-94	5-17-94	7	11	NONE

PNO-DVF-017, R1

CALIBRATION DATA SUMMARY

SDG: BOBM44- TMA-760	VALIDATOR: B. Morris	DATE: 8-10-94	PAGE 1 OF 1
COMMENTS: GC/MS			

CALIB. TYPE:	INITIAL	CONT.	INSTRUMENT:			
CALIB. DATE	COMPOUND		RF/CF	RSD/%D/%R	SAMPLES AFFECTED	QUALIFIER
5-12-94	2-Nitroaniline			25.1	BOBM4~~54~~ 64	UJ
	Hexachlorobenzene			25.5	↓	UJ
	4-Nitrophenol			33.5	↓	UJ

PNO-DVF-017, R1

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BLANK AND SAMPLE DATA SUMMARY

SDG: BOBM44- TMA - 760	VALIDATOR: B. MORRIS	DATE: 8-10-94	PAGE 1 OF 1

COMMENTS: GC/MS

FIELD SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
Method BLANK	UNKNOWN KETONE	2	J	5.67	µg/L	10	20	BOBM44	U

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ACCURACY DATA SUMMARY

SDG: BOBMY4- TMA- 760	VALIDATOR: B. MORRIS	DATE: 8-10-94	PAGE 1 OF 1
COMMENTS: GC/MS			

FIELD SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER
BOBMY4	4-Nitrophenol	MS → 103 MSD → 108	BOBMY4	NONE
	Pentachlorophenol	108	↓	↓
	2,4-Dinitrotoluene	97		

PNO-DVF-017, R1

990000

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RELATIVE RESPONSE FACTOR

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760
Sample ID: INIT. CAL.

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	Response for Analyte of Interest AxV	Concentration of Internal Standard CisV	Area of Internal Standard AisV	Concentration of Analyte of Interest CxV	RRF
PHENOL rrf20	34452.00	20.00	38412.00	10.00	1.794
rrf50	92160.00	20.00	39498.00	25.00	1.867
rrf80	148606.00	20.00	41618.00	40.00	1.785
rrf120	196208.00	20.00	41010.00	60.00	1.595
rrf160	254632.00	20.00	40212.00	80.00	1.583
2-Chlorophen rrf20	25154.00	20.00	38412.00	10.00	1.310
rrf50	66954.00	20.00	39498.00	25.00	1.356
rrf80	112618.00	20.00	41618.00	40.00	1.353
rrf120	156156.00	20.00	41010.00	60.00	1.269
rrf160	209057.00	20.00	40212.00	80.00	1.300

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RELATIVE STANDARD DEVIATION

Analysis GC/MS VOA
SDG: BOBMY4-TMA-760 Date: 10-Aug-94
Sample ID: BOBMY4 Validator: B. MORRIS

RRF1 Constituent: PHENOL

RRF1	MEAN	STDEV	RSD
1.794	1.725	0.1281	7.4
1.867			
1.785			
1.595			
1.583			

RELATIVE STANDARD DEVIATION

Analysis GC/MS VOA
SDG: BOBMY4-TMA-760 Date: 10-Aug-94
Sample ID: BOBMY4 Validator: B. MORRIS

RRF2 Constituent: 2-CHLOROPHEN

RRF2	MEAN	STDEV	RSD
1.31	1.318	0.0369	2.8
1.356			
1.353			
1.269			
1.3			

RELATIVE STANDARD DEVIATION

Analysis GC/MS SVOA
SDG: BOBMY4-TMA-760 Date: 10-Aug-94
Sample ID: Validator: B. MORRIS

RRF3 Constituent:

RRF3	MEAN	STDEV	RSD
	#DIV/0!	#DIV/0!	#DIV/0!

RELATIVE STANDARD DEVIATION

Analysis GC/MS SVOA
SDG: BOBMY4-TMA-760 Date: 10-Aug-94
Sample ID: Validator: B. MORRIS

RRF4 Constituent:

RRF4	MEAN	STDEV	RSD
	#DIV/0!	#DIV/0!	#DIV/0!

PERCENT DIFFERENCE

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760
Sample ID: CONT. CAL.

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	Initial Calibration Average RRF RRFiV	Continuing Calibration Average RRF RRFsV	%D
2-NITROANILINE	0.407	0.305	25.1%
HEXACHLOROBENZENE	0.282	0.354	25.5%
2,4,6-tribromophenol	0.168	0.214	27.4%
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!

PERCENT DIFFERENCE

Analysis: GC/MS SVOA
SDG: BOBMY4-TMA-760
Sample ID:

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	Initial Calibration Average RRF RRFiS	Continuing Calibration Average RRF RRFsS	%D
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!

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SURROGATE RECOVERY

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760
Sample ID: SBLK0513C

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	quantity of surrogate determined QdV	quantity of surrogate added QaV	%RV
PHENOL	72.90	75.00	97.2%
TERPHENYL	55.64	50.00	111.3%
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!

020000

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PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (MS/MSD)

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	MS Result MSV	MSD Result MSDV	Sample Result OSV	Spike Added SAV	MSV %R	MSDV %R	RPDV
PHENOL	70.10	70.70	0.00	75.00	93.5%	94.3%	0.9%
2-CHLOROPHE	64.20	64.80	0.00	75.00	85.6%	86.4%	0.9%
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!

RESULTS CALCULATIONS FOR VOA WATER SAMPLES

Analysis: GC/MS VOA
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	Area of the Quant Ion for the Constituent of Interest	Area of the Quant Ion for the Internal Standard	Amount of Internal Standard added (ng)	Relative Response Factor	Volume of Water Purged (ml)	Dilution Factor	Conc (µg/L)
	AxVW	AisVW	IsVW	RRFVW	VoVW	DfVW	
bis(2-ethylhexyl)phth	3726.00	43658.00	20.00	1.04	1.00	1.00	1.64
							#DIV/0!
							#DIV/0!
							#DIV/0!
							#DIV/0!
							#DIV/0!
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							#DIV/0!
							#DIV/0!

LATA PESTICIDE/PCB DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

PROJECT: 100-FR-3		SDG: BOBMY4-TMA-760
VALIDATOR: B. Morris	LATA NO.: VW40~~R~~ 56	DATE: 8-10-94
SAF NO.:	LAB: TMA	CASE: 05-036
QAPP REFERENCE:		SAP REFERENCE:

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED					
☒ CLP 3/90	☐ SW-846 8080	☐ SW-846 8081	☐	☐	☐

SAMPLES/MATRIX BOBMY4 (WATER)

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 *(see HOLDING TIME SUMMARY form)*

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

Comments: DS 5-6 DS = Date Sampled
BM ~~DRE~~
DR 5-11 DR = Date Received
DE 5-13 DE = Date Extracted 9-2-94
DA 5-25 DA = Date Analyzed

Peer Review MW 9-2-94

CMD 9/8/94

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS *(see CALIBRATION DATA SUMMARY form)*

3.1 INSTRUMENT PERFORMANCE (METHOD 8080 AND 8081)

Are DDT retention times acceptable . . . . . Yes No N/A

Are DBC retention times acceptable? . . . . . Yes No N/A

★

DBC Retention Time Percent Difference

$$\%D = \frac{(RT_i - RT_s)}{RT_i} \times 100$$

where:
RT_i = absolute retention time of DBC (initial standard)
RT_s = absolute retention time of DBC (subsequent standards/samples)

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

★ Recalculate the retention time windows for at least two pesticide compounds. For CLP, see the table in Section 8.4 for retention time windows from the mean retention time value. For SW-846, calculate the mean plus or minus three times the standard deviation as described in Method 8000A.

Are DDT and endrin breakdowns acceptable? . . . . . Yes No N/A

★

Percent Breakdown

$$\%breakdown = \frac{TDA}{TPA} \times 100$$

where:
(TDA) total degradation peak area = the total peak areas of DDE + DDD or endrin aldehyde + endrin ketone
(TPA) total peak area = the total of all associated peak areas for DDE, DDE + DDT or endrin aldehyde, endrin ketone + endrin

For confirmation by GC/MS; is the GC/MS tuning/performance check acceptable (use GC/MS checklist)? . . . . . Yes No N/A

Comments: USE 3/90 SOW

3.2 CALIBRATIONS (METHOD 8080 AND 8081)

Are all EVAL standard calibration factors and %RSD values acceptable? . . . . . Yes No N/A

Are all quantitation column calibration factor %RSD values acceptable? . . . . . Yes No N/A

★

Relative Standard Deviation

$$\%RSD = \frac{STDEV}{MEAN} \times 100$$

where:
MEAN = mean of the initial five response (calibration) factors
STDEV = standard deviation of the initial five RFs/CFs per compound

$$= \sqrt{\sum_{i=1}^{n} \frac{(RF_i - \overline{RF})^2}{n-1}}$$

Were the analytical sequence requirements met? . . . . . Yes No N/A

Are all continuing calibration %D values acceptable? . . . . . Yes No N/A

★ Recalculate at least two of the %D values from the raw data and compare to the reported results.

★

Percent Difference

$$\%D = \frac{(RF_i - RF_s)}{RF_i} \times 100$$

where:
RF_i = initial calibration response (calibration) factor
RF_s = continuing calibration response (calibration) factor

Comments: use 3/90 SOW

3.3 INSTRUMENT PERFORMANCE AND INITIAL CALIBRATION (3/90 SOW)

Was the initial calibration sequence performed? . . . . . Yes No N/A

Was the resolution acceptable in the resolution check mix? . . . . . Yes No N/A

Is resolution acceptable in the PEM, INDA and INDB? . . . . . Yes No N/A

★

Resolution

$$\text{resolution} = \frac{P_v}{P_h} \times 100$$

where:
P_v = the peak height of the valley of the larger peak
P_h = the peak height of the smaller peak being resolved

Are DDT and Endrin breakdowns acceptable? . . . . . Yes No N/A

Are all retention times in PEMs and calibration mixes acceptable? . . . . . Yes No N/A

Are all RPD values in the PEMs acceptable? . . . . . Yes No N/A

Are all %RSD values acceptable? . . . . . Yes No N/A

Comments: DDT and Endrin breakdowns are acceptable, but tabulated % do ~~not~~ not match the RAW data.
The % RSD criteria was exceeded for δ-BHC, Heptachlor, Endosulfan I 4,4'-DDE, qualify positive results as estimated.

3.4 CALIBRATION VERIFICATION (3/90 SOW)

Were the analytical sequence requirements met? . . . . . Yes No N/A

Is resolution acceptable in the PEMs? . . . . . Yes No N/A

Are initial calibrations acceptable? . . . . . Yes No N/A

Are all retention times acceptable in the PEMs, INDA and INDB mixes? . . . . . Yes No N/A

Are all RPD values in the PEMs acceptable? . . . . . Yes No N/A

Are the DDT and endrin breakdowns acceptable? . . . . . Yes No N/A

Was GPC cleanup performed? . . . . . Yes ~~No~~ N/A

Is the GPC calibration check acceptable? . . . . . Yes ~~No~~ N/A

Was Florisil cleanup performed? . . . . . Yes No N/A

Is the Florisil performance check acceptable? . . . . . Yes No N/A

Comments:

LATA PESTICIDE/PCB DATA VALIDATION CHECKLIST

4. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

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

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

Comments:

5. ACCURACY *(see ACCURACY DATA SUMMARY form)*

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

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

★

Surrogate Recovery

$$\%R = \left(\frac{Q_d}{Q_a}\right) \times 100$$

where:
Q_d = quantity of surrogate determined (analysis result)
Q_a = quantity of surrogate added (true value)

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

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

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

Are all LCS results acceptable? . . . . . Yes No N/A

★

Spike Recovery

$$\%R = \frac{MS - OS}{SA} \times 100$$

where:
MS or MSD = spiked sample result
OS = sample result
SA = spike added

Comments: SURROGATES: Primary column has results for TCX outside QC limits for the methodblank sample, MS and MSD. Secondary column has results for TCX outside QC limits for the MS and MSD. No qualification since the Secondary column had acceptable recoveries.

LATA PESTICIDE/PCB DATA VALIDATION CHECKLIST

6. PRECISION *(see PRECISION DATA SUMMARY form)*

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

★

Relative Percent Difference

$$RPD = \frac{|MS - MSD|}{\left(\frac{MS + MSD}{2}\right)} \times 100$$

where:
MS = MS recovery
MSD = MSD recovery

Comments:

7. FIELD QC SAMPLES

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified? . . . . . Yes No N/A

Are field/trip blank results 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

Are performance audit sample results acceptable? . . . . . Yes No N/A

Comments:

BOBMY4 is a split N/A is true answer RW 9-24-94

The other split sample is not identified in the sampling summary. Comparison is not possible RW 9-24-94

8. SYSTEM PERFORMANCE

Is chromatographic performance acceptable? . . . . . Yes No N/A

Are all positive results resolved acceptably? . . . . . Yes No N/A

Comments:

9. COMPOUND IDENTIFICATION AND QUANTITATION

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

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

★ Recalculate the valid detected results of at least two samples.

★

External Standard Calibration, Aqueous (EW) Samples

$$\text{Concentration } (\mu g/L) = \frac{(A_xEW)(AEW)(V_tEW)(DEW)}{(A_sEW)(V_iEW)(V_sEW)}$$

where:

A_xEW = response for sample (area counts/peak height)
AEW = amount of standard (ng)
A_sEW = response for external standard (area counts/peak height)
V_iEW = volume of extract injected (µL)
DEW = dilution factor
V_tEW = volume of total extract (µL)
V_sEW = volume of sample extracted (ml)

★

External Standard Calibration, Nonaqueous (ES) Samples

$$\text{Concentration } (\mu g/Kg) = \frac{(A_xES)(AES)(V_tES)(DES)}{(A_sES)(V_iES)(WES)(SES)}$$

where:

A_xES = response for sample (area counts/peak height)
AES = amount of standard (ng)
A_sES = response for external standard (area counts/peak height)
V_iES = volume of extract injected (µL)
DES = dilution factor
V_tES = volume of total extract (µL)
WES = weight of sample (g)
SES = dry weight conversion factor [(100 - %moisture)/100]

Comments: ALL NON-DETECT

MS 9/8/94

9. COMPOUND IDENTIFICATION AND QUANTITATION (continued)

★

Internal Standard Calibration, Aqueous (IW) Samples

$$\text{Concentration } (\mu g/L) = \frac{(A_x IW)(C_{is} IW)(DIW)}{(A_{is} IW)(RFIW)(V_s IW)}$$

where:
$A_x IW$ = response for sample (area counts/peak height)
$C_{is} IW$ = amount of internal standard added (ng)
$A_{is} IW$ = response for internal standard (area counts/peak height)
DIW = dilution factor
RFIW = response factor for the analyte
$V_s IW$ = volume of sample extracted (ml)

★

Internal Standard Calibration, Nonaqueous (IS) Samples

$$\text{Concentration } (\mu g/Kg) = \frac{(A_x IS)(C_{is} IS)(DIS)}{(A_{is} IS)(RFIS)(W_s IS)(SIS)}$$

where:
$A_x IS$ = response for sample (area counts/peak height)
$C_{is} IS$ = amount of internal standard added (ng)
$A_{is} IS$ = response for internal standard (area counts/peak height)
DIS = dilution factor
RFIS = response factor for the analyte
$W_s IS$ = weight of sample extracted (g)
SIS = dry weight conversion factor [(100 - %moisture)/100]

Comments:

10. 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

Comments:

CMS 9/8/

LATA PESTICIDE/PCB DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES:

BM 8-10-94

~~**MINOR DEFICIENCIES:**~~ COMMENTS: The reported DDT and Endrin breakdowns do not match the raw data. No action was taken since recalculated results were within the QC Limits.

The % RSD Criteria was exceeded for delta-BHC, Heptachlor, Endosulfan I, and 4,4'-DDE. There was BM no action taken because all compounds in BOBMY4 ~~because~~ BM were non-detect.

The Surrogate recovery of TCX on the Primary Column was BM outside QC limits for BOBMY4. There was no action taken BM due to acceptable Surrogate recovery on the Secondary Column.

COMMENTS: BOBMY4 was identified as a Split Sample.

HOLDING TIME SUMMARY

SDG: BOBMY4 - TMA - 760	VALIDATOR: B. MORRIS	DATE: 8-10-94	PAGE 1 OF 1

COMMENTS: PESTICIDES/PCBS

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
BOBMY4	PEST/PCB	5-6-94	5-13-94	5-25-94	7	19	NONE

280082

CALIBRATION DATA SUMMARY

SDG: BOBM44 - TMA - 760	VALIDATOR: B. Morris	DATE: 8-10-94	PAGE 1 OF 1
COMMENTS: PESTICIDES/PCBS			

CALIB. TYPE:	INITIAL	CONT	INSTRUMENT:

CALIB. DATE	COMPOUND	RF/CF	RSD/%D/%R	SAMPLES AFFECTED	QUALIFIER
5-25-94	delta - BHC		13.4	BOBM44	NONE
	Heptachlor		14.9		
	Endosulfan I		11.9		
	4,4'-DDE		16.6		

PNO-DVF-019, R1

000383

96150411107

ACCURACY DATA SUMMARY

SDG: BOBM44-TM4-760	VALIDATOR: B. MORRIS	DATE: 8-10-94	PAGE 1 OF 1

COMMENTS: PESTICIDES/PCBS

FIELD SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER
BOBM44	TCX	58 %	BOBM44	NONE

000084

96150108

PERCENT BREAKDOWN

Analysis: Pesticides/PCBs
SDG: BOBMY4-TMA-760

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	Total Degradation Peak Area of DDE+DDD or endrin aldehyde +endrin ketone TDA	Total Peak Area of DDE, DDE+DDT or endrin aldehyde, endrin ketone+endrin TPA	% Breakdown
4, 4' -DDT PEM01	7823.00	319073.00	2.5%
ENDRIN PEMO3	14870.00	208667.00	7.1%
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!

000085

RELATIVE STANDARD DEVIATION

Analysis: Pesticides/PCBs
SDG: BOBMY4-TMA-760 Date: 10-Aug-94
Standard ID: INIT. CAL. Validator: B. MORRIS

RF1 Constituent: ENDRIN

	MEAN	STDEV	RSD
429 390 384	401.000	24.4336	6.1

RELATIVE STANDARD DEVIATION

Analysis: Pesticides/PCBs
SDG: BOBMY4-TMA-760 Date: 10-Aug-94
Standard ID: Validator: B. MORRIS

RF2 Constituent: alpha-BHC

	MEAN	STDEV	RSD
458 448 543	483.000	52.2015	10.8

RELATIVE STANDARD DEVIATION

Analysis: Pesticides/PCBs
SDG: BOBMY4-TMA-760 Date: 10-Aug-94
Standard ID: Validator: B. MORRIS

RF3 Constituent: DDT

	MEAN	STDEV	RSD
368 346 352	355.333	11.3725	3.2

RELATIVE STANDARD DEVIATION

Analysis: Pesticides/PCBs
SDG: BOBMY4-TMA-760 Date: 10-Aug-94
Standard ID: Validator: B. MORRIS

RF4 Constituent:

	MEAN	STDEV	RSD
	#DIV/0!	#DIV/0!	#DIV/0!

SURROGATE RECOVERY

Analysis: Pesticides/PCBs
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	quantity of surrogate determined Qd	quantity of surrogate added Qa	%R
TCX	131.00	250.00	52.4%
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!

96 350 1 11

000087

PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (MS/MSD)

Analysis: Pesticides/PCBs
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4MS

Date: 10-Aug-94
Validator: B. MORRIS

Constituent	MS Result MS	MSD Result MSD	Sample Result OS	Spike Added SA	MS %R	MSD %R	RPD
ALDRIN	0.31	0.33	0.00	0.50	62.6%	65.2%	4.1%
ENDRIN	0.86	0.89	0.00	1.00	86.0%	89.1%	3.5%
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!
					#DIV/0!	#DIV/0!	#DIV/0!

LATA INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

PROJECT: 100-FR-3	SDG: BOBMY4-TMA-760	
VALIDATOR: B. MORRIS	LATA NO.: VW40256	DATE: 8-18-94
SAF NO.:	LAB: TMA	CASE:
QAPP REFERENCE:	SAP REFERENCE:	

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED (N) Analysis done in 40 CFR List Chem. Prep 4-24-94

☒ CLP/ICP	☐ CLP/GFAA	☒ CLP/Hg	☒ CLP/CN	☐	☐
☐ SW-846/ICP	☐ SW-846/GFAA	☐ SW-846/Hg	☐ SW-846/CN	☐	☐

SAMPLES/MATRIX
BOBMY4 (WATER)
BOBMY5 (WATER)

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 *(see HOLDING TIME SUMMARY form)*

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

Comments: ICP BOBMY4 DS 5-6 Hg CN
DR 5-12 DA 5-19 DA 5-17
DA ~~6-9 3-6~~ DA 6-9
BOBMY5
ICP Hg
6-9 5-19

DS = Date Sampled
DA = Date Analyzed
DR = Date Received

Per Review MC 9-2-94

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS *(see CALIBRATION DATA SUMMARY form)*

Were initial calibrations performed on all instruments? . . . . . Yes No N/A

Are initial calibrations acceptable? . . . . . Yes No N/A

★ Recalculate the correlation coefficient (r) of the standard curves for atomic absorption and cyanide analyses.

Correlation Coefficient (r)

$$r = \frac{N \sum x_i y_i - \sum x_i \sum y_i^{1/2}}{[N \sum x_i^2 - (\sum x_i)^2]^{1/2} \; [N \sum y_i^2 - (\sum y_i)^2]^{1/2}}$$

Are ICP interference checks acceptable? . . . . . Yes No N/A

Were ICV and CCV checks performed on all instruments? . . . . . Yes No N/A

Are ICV and CCV checks acceptable? . . . . . Yes No N/A

★ Recalculate at least one ICV and CCV recovery for each method.

★

ICV/CCV Recovery

$$\%R = \frac{\text{observed value}}{\text{true value}} \times 100$$

Comments:

4. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

Were ICB and CCB checks performed for all applicable analyses? . . . . . Yes No N/A

Are ICB and CCB results acceptable? . . . . . Yes No N/A

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

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

Comments: ~~As, Fe, Pb, Mn and Ni failed the ICB/CCB checks. SEE Data Summary. BM 8-18-94~~

As, Fe and Mn are out (CCB) in BOBMY5.

Fe and Mn are out (CCB) in BOBMY4.

5. ACCURACY *(see ACCURACY DATA SUMMARY form)*

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

Are all spike sample recoveries acceptable? . . . . . Yes No N/A

Were laboratory control samples (LCS) analyzed? . . . . . Yes No N/A

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

★

Spike Recovery

$$\%R = \frac{SSR - SR}{SA} \times 100$$

where:
SSR = spiked sample result
SR = sample result
SA = spike added

Comments:

6. PRECISION *(see PRECISION DATA SUMMARY form)*

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

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

★

Relative Percent Difference

$$RPD = \frac{|OS - D|}{\left(\frac{OS + D}{2}\right)} \times 100$$

where:
OS = sample concentration (original sample/MS)
D = duplicate concentration (duplicate sample/MSD)

9-28-94

Comments: Pb outside ± CRDL criteria
qualify hits estimated
the only "hit" is BOBMY4
non-detects do not need qualification
for precision (dupes). 9-30-94

6. PRECISION (continued) *(see PRECISION DATA SUMMARY form)*

Were ICP serial dilution samples analyzed? . . . . . Yes No N/A

Are all ICP serial dilution %D values acceptable? . . . . . Yes No N/A

★

Percent Difference

$$\%D = \frac{|I - S|}{I} \times 100$$

where:
I = analyte concentration before dilution
S = analyte concentration after serial dilution

Comments:

7. FIELD QC SAMPLES

BMB 8-18-94

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified? Yes No N/A

Are field/trip blank results 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

Are performance audit sample results acceptable? . . . . . Yes No N/A

Comments:

LATA INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

8. FURNACE AA QUALITY CONTROL

Were duplicate injections performed as required? . . . . . Yes No N/A

Are all duplicate injection %RSD values acceptable? . . . . . Yes No N/A

Were analytical spikes performed as required? . . . . . Yes No N/A

Are all analytical spike recoveries acceptable? . . . . . Yes No N/A

Was MSA performed as required? . . . . . Yes No N/A

Are all MSA results acceptable? . . . . . Yes No N/A

Comments: MW 9-24-9.

All answers are N/A

9. 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

Are results calculated properly? . . . . . Yes No N/A

★

Inorganics Analysis Results Calculation, water sample

Concentration (µg/L) = CONCW × DFW

where:

CONCW = concentration off calibration curve (µg/L)

DFW = dilution factor (if any)

★

Inorganics Analysis Results Calculation, soil sample

$$\text{Concentration (mg/Kg)} = \frac{\text{CONCS} \times \text{DFS} \times \text{VOL}}{\text{WS} \times \text{SS}}$$

where:

CONCS = concentration off calibration curve (mg/L)

DFS = dilution factor (if any)

VOL = volume of final extract (ml)

WS = weight of sample (g)

SS = dry weight conversion factor [(100 − %moisture) × 100]

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

Comments: CN' was done with WET CHEMISTRY.

LATA INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES:

NONE.

MINOR DEFICIENCIES:

The ICB/CCB checks for Arsenic, Iron, lead, Manganese, thallium and nickel were outside acceptance criteria. BM 8-18-94

The Continuing Calibrations Blanks for iron and manganese were outside acceptable limits in BOBMY4 and BOBMY5. The Sample results are qualified as undetected.

The contical Blank for As was outside acceptance criteria in BOBMY5. The Sample is qualified as estimated (UJ).

The duplicate criteria for lead was not met. Qualify BOBMY4 estimated (BJ)

JJJ 9-28-94

COMMENTS: NONE.

BLANK AND SAMPLE DATA SUMMARY

SDG: BOBMY4-TMA-760	VALIDATOR: B. Morris	DATE: 8-18-94	PAGE 1 OF 1

COMMENTS: INORGANIC ANALYSES

FIELD SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
BOBMY4	Fe	83.1 ug/L	B ~~U~~	NA	ug/L	84	168	BOBMY4	U
BOBMY4	Mn	2.6 "	B		"	~~+398.5~~ 8.5	17	BOBMY4	U
BOBMY5	Fe	31.8 "	B		"	84	168	BOBMY5	U
BOBMY5	Mn	1.9 "	B		"	8.5	17	BOBMY5	U
BOBMY5	As	1.5 "	U		"	-9	-18	BOBMY5	UJ

PNO-DVF-014, R1

0000 45 2

96150120

PRECISION DATA SUMMARY

SDG: BOBMY4-TMA-760	VALIDATOR: JONES	DATE: 9-28-94

COMMENTS:

COMPOUND	SAMPLE ID	SERIAL DILUTION %D (>10%)	DUPLICATE RPD (>20% or >CRDL)	SAMPLES AFFECTED	QUALIFIER
Lead	BOBMY5D	n/a	3.4637 (CRDL 3.0)	B0BMY4	BJ

96150011121

00009951

9613501.1122

WESTINGHOUSE/HANFORD

6

DUPLICATES

SAMPLE NUMBER:

BOBMY5D

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D2-0039

Lab Code: SKINER Case No.: N4-05-048SAS No.: SDG No.: BOBMY5

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		20.9000	U	22.9900	B	200.0		P
Antimony		14.7000	U	14.7000	U			P
Arsenic		1.5000	U	1.5000	U			P
Barium		29.4600	B	29.8500	B	1.3		P
Beryllium		0.4000	U	0.4000	U			P
Cadmium		1.1000	U	1.1000	U			P
Calcium		55742.0000		56303.0000		1.0		P
Chromium	10.0	43.8000		48.5200		10.2		P
Cobalt		2.1000	U	2.1000	U			P
Copper		3.6000	U	3.6000	U			P
Iron		31.8200	B	32.7200	B	2.8		P
Lead	3.0	1.5000	U	3.4637		200.0	*	P
Magnesium	5000.0	8092.3000		8184.3000		1.1		P
Manganese		1.8800	B	2.1500	B	13.4		P
Mercury		0.2000	U	0.2000	U			AV
Nickel		6.5000	U	6.5000	U			P
Potassium		2616.9000	B	2734.3000	B	4.4		P
Selenium		2.1000	U	2.1000	U			P
Silver		3.6000	U	3.6000	U			P
Sodium	5000.0	7913.2000		7974.4000		0.8		P
Thallium		2.2000	U	2.2000	U			P
Vanadium		2.2000	U	2.2000	U			P
Zinc		7.1000	U	7.1000	U			P
Cyanide								NR

SJ RCR # 4

Lead is outside the ± CRDL criteria even though the original sample result is non-detect.

9/28/94

9/29/94

~~012~~

0000 95C

~~0000 95a~~

9/29/94

FORM VI - IN

ILM02.1

9615501.1123

Analysis Report Thu 06-09-94 06:15:10 PM page 1

Method: CLP1APO Sample Name: STDB:CCB Operator: LP
Run Time: 06/09/94 18:11:51
Comment: CCB#2
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3082	Ca3179
Units	ppb	ppb	ppb	ppb	ppb	ppm	ppm
Avge	-1.7726	-1.3253	-.62910	-1.2407	-.34116	-.04191	-.07206
SDev	1.7431	1.7327	.30707	.7267	.66010	.00323	.00150
%RSD	98.336	130.73	48.810	58.572	193.49	7.7021	2.0841
#1	-3.5102	-2.6988	-.65495	-1.2303	-1.0755	-.04005	-.07343
#2	-.02411	.62127	-.92243	-.51922	-.15071	-.04005	-.07046
#3	-1.7834	-1.8985	-.30993	-1.9725	.20279	-.04564	-.07230
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	10.000	10.000	3.0000	5.0000		.20000	5.0000
Low	-10.000	-10.000	-3.0000	-5.0000		-.20000	-5.0000

Elem	Cu3247	Fe2714	Mg2790	Mn2576	V_2924	2068II	2068 I
Units	ppm	ppm	ppm	ppm	ppm	ppb	ppb
Avge	-.00190	-.03014	-.02431	.00004	-.00043	-.51219	.00143
SDev	.00033	.00343	.00287	.00007	.00007	1.43776	2.0544
%RSD	17.433	11.369	11.790	173.21	16.450	280.71	143970.
#1	-.00190	-.03060	-.02554	.00008	-.00039	-1.3162	-.59347
#2	-.00157	-.02651	-.02104	.00008	-.00039	-1.3681	2.2877
#3	-.00223	-.03332	-.02636	-.00004	-.00051	1.1477	-1.6899
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	NOCHECK
High	.02500	.10000	5.0000	.04000	.05000		
Low	-.02500	-.10000	-5.0000	-.04000	-.05000		

Elem	1960II	1960 I	2203II	2203 I
Units	ppb	ppb	ppb	ppb
Avge	-.45757	-2.8092	-.16492	-1.5589
SDev	1.32105	2.4940	.33088	.2614
%RSD	288.71	88.780	200.63	16.771
#1	.88954	-5.4764	-.20876	-1.5487
#2	-.51135	-.53499	-.47170	-1.8252
#3	-1.7509	-2.4163	.18569	-1.3027
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High				
Low				

CMS 9/8/

~~081~~

000096

9613501.1124

Analysis Report Fri 06-03-94 09:23:58 AM page 1

Method: CLP01AF2 Sample Name: STDB:CCB Operator: JST
Run Time: 06/03/94 09:21:23
Comment: CCB#1
Mode: CONC Corr. Factor: 1

Elem	Al3082	Sb2068	As1936	Ba4934	Be3130	Cd2265	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.03396	-.00391	.00088	.00073	-.00025	.00078	.06578
SDev	.00857	.00936	.00422	.00034	.00015	.00000	.00296
%RSD	25.238	239.68	477.83	43.331	58.620	.03150	4.4921
#1	.04197	-.00440	.00245	.00118	-.00008	.00078	.06903
#2	.02492	-.01301	-.00390	.00059	-.00034	.00078	.06503
#3	.03499	.00569	.00410	.00059	-.00034	.00078	.06327
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.20000	.06000	.01560	.20000	.00500	.00500	5.0000
Low	-.20000	-.06000	-.01560	-.20000	-.00500	-.00500	-5.0000

Elem	Cr2677	Co2286	Cu3247	Fe2599	Pb2203	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00189	.00064	.00425	.01681	-.00332	.02664	.00175
SDev	.00094	.00111	.00177	.00220	.00713	.00264	.00023
%RSD	50.011	173.24	41.621	13.110	214.75	9.8966	13.321
#1	.00094	.00000	.00580	.01883	-.00926	.02968	.00188
#2	.00189	.00193	.00232	.01715	-.00529	.02512	.00148
#3	.00283	-.00000	.00464	.01446	.00459	.02512	.00188
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.01000	.05000	.02500	.10000	.01110	5.0000	.01500
Low	-.01000	-.05000	-.02500	-.10000	-.01110	-5.0000	-.01500

Elem	Ni2316	K 7664	Ag3280	Na5889	V 2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00163	-.01007	.00125	.00630	.00124	.00082
SDev	.00047	.05165	.00078	.01079	.00160	.00194
%RSD	28.868	513.16	62.676	171.43	129.08	235.36
#1	.00190	.03355	.00210	.01709	.00216	.00194
#2	.00108	.00336	.00108	-.00450	-.00061	-.00141
#3	.00190	-.06710	.00057	.00630	.00217	.00194
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.04000	5.0000	.01000	5.0000	.05000	.02000
Low	-.04000	-5.0000	-.01000	-5.0000	-.05000	-.02000

~~047~~ CWS 9/9/94

LINEAR REGRESSION ANALYSIS

Analysis: Inorganic (metals/CN)
Constituent: MERCURY
SDG: BOBMY4-TMA-760

Calibration Date: 19-May-94

Date: 18-Aug-94
Validator: B. MORRIS

Concentration	Absorbance
0.00	13.000
0.20	1008.000
0.50	2015.000
1.00	3412.000
2.00	6418.000
5.00	16958.000

r 0.9993	r^2 0.9986
slope 0.0003	x intercept -0.0369
1/slope 3342.8786	y intercept 130.3083

LINEAR REGRESSION ANALYSIS

Analysis: Inorganic (metals/CN)
Constituent: CYANIDE
SDG: BOBMY4-TMA-760

Calibration Date: 17-May-94

Date: 18-Aug-94
Validator: B. MORRIS

Concentration	Absorbance
0.00	1.350
10.00	12.310
40.00	40.230
100.00	95.770
200.00	203.100
400.00	399.300

r 0.9999	r^2 0.9997
slope 1.0023	x intercept -0.6356
1/slope 0.9977	y intercept 0.6700

PERCENT RECOVERY (ICV/CCV)

Analysis: Inorganic (metals/CN)
SDG: BOBMY4-TMA-760

Date: 18-Aug-94
Validator: B. MORRIS

Constituent	Observed Value	True Value	%R
	O	A	
ALUMINUM	2036.7	2000.0	101.8%
ALUMINUM	24812.0	25000.0	99.2%
MERCURY	5.9	5.0	117.3%
MERCURY	2.1	2.0	104.5%
CYANIDE	98.5	94.0	104.8%
CYANIDE	201.8	200.0	100.9%
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
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			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!

96150 1126

000099

MATRIX SPIKE RECOVERY (MS)

Analysis: Inorganic (metals/CN)
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4

Date: 18-Aug-94
Validator: B. MORRIS

Constituent	Spike Sample Result SSR	Sample Result SR	Spike Added SA	%R
ALUMINUM	1994.6	0.0	2000.0	99.7%
ARSENIC	2017.3	0.0	2000.0	100.9%
CYANIDE	462.2	0.0	500.0	92.4%
MERCURY	1.1	0.0	1.0	111.1%

PERCENT RECOVERY (LCS)

Analysis: ICP
SDG: BOBMY4-TMA-760

Date: 18-Aug-94
Validator: B. MORRIS

Constituent	Observed value	True value	%R
	OLCS	ALCS	
ALUMINUM	1944.5	2000.0	97.2%
ARSENIC	49.0	50.0	98.0%

000101

RELATIVE PERCENT DIFFERENCE

Analysis: Inorganic (metals/CN)
SDG: BOBMY4-TMA-760
Sample ID: BOBMY5

Date: 18-Aug-94
Validator: B. MORRIS

Constituent	Original (Sample) concentration OS	Duplicate concentration D	RPD
BARIUM	29.46	29.85	1.3%
THALLIUM	0.00	0.00	UNDETECTED
CYANIDE	0.00	0.00	UNDETECTED
MERCURY	0.00	0.00	UNDETECTED

No Pb spike
MW 9-24-94

001102

96150.1129

PERCENT DIFFERENCE (ICP SERIAL DILUTION)

Analysis: ICP
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4

Date: 18-Aug-94
Validator: B. MORRIS

Constituent	Analyte Concentration before Dilution	Analyte Concentration after Serial Dilution	%D
	I	S	
BARIUM	29.65	29.46	0.6%
ARSENIC	0	0	UNDETECTED
CYANIDE	0	0	UNDETECTED
MERCURY	0	0	UNDETECTED

000103

INORGANICS RESULTS CALCULATION, WATER

Analysis: Inorganic (metals/CN)
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4

Date: 18-Aug-94
Validator: B. MORRIS

Constituent	Concentration from curve CONCW	Dilution Factor DFW	Concentration (µg/L)
CALCIUM	55726.00	1	55726.0
LEAD	1.62	1	1.6
MERCURY	0.00	0	UNDETECTED
CYANIDE	0.00	0	UNDETECTED

9613501.1132

LATA GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E

PROJECT: 100-FR-3		SDG: B0BM44-TMA-260
VALIDATOR: B. MORRIS	LATA NO: VW401.56	DATE: 8-17-94
SAF NO.:	LAB: TMA	CASE:
QAPP REFERENCE:		SAP REFERENCE:

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED

☒ Alkalinity 310.1	☐ Chloride 325.3	☒ pH 9040/150.1	☒ TOC 9060/415.1	☒ TDS 160.1 ☐ TSS 160.2	☐ ~~Cyanide~~ BM
☒ Anions 300.0	☐ Chromium+6 7196	☐ Phenols 9065/420.1	☒ TOX 9020/9022	☐ Sulfate 375.4	☐
☒ Ammonia 350.3	☒ COD 410.1	☒ ~~Phosphorus 365.2~~ MB 9-28-94	☐ TKN 351.3	☒ Sulfide 9030/376.1	☐
☐ BOD 405.1	☒ Nitrate+Nitrite 353.2	☐ Oil & Grease 413.1	☐ TPH 9070/418.1	☒ Conductivity 9050	☐

SAMPLES/MATRIX B0BM44 (WATER)

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 *(see HOLDING TIME SUMMARY form)*

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

Comments: DJ 5-6-94 Holding time for ~~TOX was~~ Exceeded.
DR 5-11-94 pH. no okay BM 8-18-94
Phosphate by IC exceeded HT > 2 times. Results are qualified as unusable (UR) MW 9-24-94

CMO 9/8/94

LATA GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

3. INSTRUMENT CALIBRATION *(see CALIBRATION DATA SUMMARY form)*

Was initial calibration performed for all applicable analyses? . . . . . Yes No N/A

Are initial calibration results acceptable? . . . . . Yes No N/A

Was a calibration check performed for all applicable analyses? . . . . . Yes No N/A

Are calibration check results acceptable? . . . . . Yes No N/A

★ For methods requiring a calibration curve (three standards and a blank) use the following equation for correlation coefficient (r).

Correlation Coefficient (r)

$$r = \frac{N \sum x_i y_i - \sum x_i \sum y_i^{1/2}}{[N \sum x_i^2 - (\sum x_i)^2]^{1/2} \; [N \sum y_i^2 - (\sum y_i)^2]^{1/2}}$$

★ For methods requiring ICV/CCV or a calibration check standard, calculate recovery as follows:

Recovery

$$\%R = \frac{\text{observed value}}{\text{true value}} \times 100$$

Comments:

LATA GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

4. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

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

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

Comments:

5. ACCURACY *(see ACCURACY DATA SUMMARY form)*

Were spike samples analyzed at the required frequency? . . . . . Yes No N/A

Are all spike recoveries acceptable? . . . . . Yes No N/A

★

Spike Recovery

$$\%R = \frac{SSR - SR}{SA} \times 100$$

where:
SSR = spiked sample result
SR = sample result
SA = spike added

Were LCS analyses performed at the required frequency? . . . . . Yes No N/A

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

★

Recovery

$$\%R = \frac{\text{observed value}}{\text{true value}} \times 100$$

Comments:

CMS 9/8/

LATA GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

6. PRECISION *(see PRECISION DATA SUMMARY form)*

Were laboratory duplicate samples analyzed at the required frequency? . . . . . Yes No N/A

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

★

Relative Percent Difference

$$RPD = \frac{|OS - D|}{\left(\frac{OS + D}{2}\right)} \times 100$$

where:
OS = sample concentration (original sample/MS)
D = duplicate concentration (duplicate sample/MSD)

Comments:

7. FIELD QC SAMPLES

Were field QC samples (field/trip blanks, duplicates, splits, performance audit) identified? Yes No N/A

Are field/trip blank results 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

Are performance audit sample results acceptable? . . . . . Yes No N/A

Comments:

BOBMY4 is an ID'd Split Sample. N/A is the
The other split sample is not IDed in the sampling summary. Comparison is not possible. MW 9-21-94
MW 9-24-94

CWD 9/8/94

9613501.1136

LATA GC/MS DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES:

Phosphate by IC exceeded holding time by >2 times.
The result for BOBMY4 is qualified as unusable. (UR)
MW 9-24-94

BM 8-18-94

MINOR DEFICIENCIES: The holding times for ~~TOX and~~ pH ~~were~~ WAS exceeded.
The sample results are qualified as estimated (UJ/J).

COMMENTS: BOBMY4 was identified as a split sample.

CMO 9/8/94

HOLDING TIME SUMMARY

SDG: BOBMY4-TMA-760	VALIDATOR: B. Morris	DATE: 8-17-94	PAGE 1 OF 1

COMMENTS: GENERAL CHEMISTRY ANALYSES

FIELD SAMPLE ID	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
BOBMY4	Anions	5-6-94		5-14		8	NONE
	Alkalinity			5-16		10	NONE
	Ammonia			5-18		12	NONE
	COD			6-2		~~17~~ 27	NONE
	Nitrate/nitrite			5-27		21	NONE
	pH			5-12		6	~~NONE~~ BM J/UJ
	TOC			5-23		17	NONE
	~~TOX~~			~~5-24~~		~~18~~	~~J/UJ~~
	TDS			5-13		7	NONE
	Sulfide			5-13		7	NONE
	Conductivity			5-20		14	NONE
BOBMY4	Anions	5-6-94		5-14		8	UR phosphate result only

8-17-94 BM

PNO-DVF-013, R1

000110

96301136

LINEAR REGRESSION ANALYSIS

Analysis: General Chemistry
Constituent: CHLORIDE
SDG: BOBMY4-TMA-760

Calibration Date: 28-Apr-94

Date: 17-Aug-94
Validator: B. MORRIS

Concentration	Absorbance
0.00	0.000
0.31	730.000
0.63	1625.000
1.25	3331.000
2.50	6434.000
5.00	15029.000

r 0.9975	r^2 0.9949
slope 0.0003	x intercept 0.1091
1/slope 3005.4496	y intercept -303.3173

LINEAR REGRESSION ANALYSIS

Analysis: General Chemistry
Constituent: NO2/NO3
SDG: BOBMY4-TMA-760

Calibration Date: 27-May-94

Date: 17-Aug-94
Validator: B. MORRIS

Concentration	Absorbance
0.00	2.000
0.10	14.000
1.00	159.000
2.00	314.000
5.00	772.000

r 1.0000	r^2 0.9999
slope 0.0065	x intercept -0.0145
1/slope 154.2984	y intercept 2.2569

000111

96/05/01 1:38

LINEAR REGRESSION ANALYSIS

Analysis: General Chemistry
Constituent: TOC
SDG: BOBMY4-TMA-760

Calibration Date: 23-May-94

Date: 17-Aug-94
Validator: B. MORRIS

Concentration	Absorbance
0.00	0.000
1.00	0.988
5.00	4.760
10.00	8.510
25.00	22.800
50.00	49.100

r 0.9991	r^2 0.9983
slope 1.0216	x intercept 0.4968
1/slope 0.9789	y intercept -0.4610

LINEAR REGRESSION ANALYSIS

Analysis: General Chemistry
Constituent:
SDG: BOBMY4-TMA-760

Calibration Date:

Date: 17-Aug-94
Validator: B. MORRIS

Concentration	Absorbance

r #DIV/0!	r^2 #DIV/0!
slope #DIV/0!	x intercept #DIV/0!
1/slope #DIV/0!	y intercept #DIV/0!

TMA760W2.XLS

PERCENT RECOVERY (ICV/CCV)

Analysis: General Chemistry
SDG: BOBMY4-TMA-760

Date: 17-Aug-94
Validator: B. MORRIS

Constituent	Observed Value O	True Value A	%R
NO2/NO3	1.07	1.00	106.9%
NO2/NO3	2.03	2.00	101.4%
BROMIDE	9.86	10.00	98.6%
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
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			#DIV/0!
			#DIV/0!

MATRIX SPIKE RECOVERY (MS)

Analysis: General Chemistry
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4MS

Date: 17-Aug-94
Validator: B. MORRIS

Constituent	Spike Sample Result SSR	Sample Result SR	Spike Added SA	%R
SULFIDE	14.9	0.0	16.0	93%
AMMONIA N	1.0	0.0	1.0	102%
CHLORIDE	19.1	9.4	10.0	97%
TOC	19.0	0.0	20.0	95%
TOX	0.55	0.00	0.57	96.7%
				#DIV/0!
				#DIV/0!
				#DIV/0!
				#DIV/0!
				#DIV/0!
				#DIV/0!
				#DIV/0!
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				#DIV/0!

PERCENT RECOVERY (LCS)

Analysis: General Chemistry
SDG: BOBMY4-TMA-760

Date: 17-Aug-94
Validator: B. MORRIS

Constituent	Observed value	True value	%R
	OLCS	ALCS	
CHLORIDE	29.40	30.00	98.0%
ALKALINITY	198.00	200.00	99.0%
CONDUCTIVITY	147.00	147.00	100.0%
COD	180.00	200.00	90.0%
SULFIDE	15.00	16.00	93.8%
AMMONIA N	7.84	7.91	99.1%
TDS	188.00	186.00	101.1%
PHOSPHATE	139.00	148.00	93.9%

RELATIVE PERCENT DIFFERENCE

Analysis: General Chemistry
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4

Date: 17-Aug-94
Validator: B. MORRIS

Constituent	Original (Sample) concentration OS	Duplicate concentration D	RPD
CHLORIDE	9.4	9.6	2.1%
PHOSPHATE	0.0	0.0	ND
TDS	238.0	244.0	2.5%
CONDUCTIVITY	379.0	382.0	0.8%
ALKALINITY	108.00	108.00	0.0%
SULFIDE	0.00	0.00	ND
AMMONIA N	0.00	0.00	ND
COD	0.00	0.00	ND

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000116

GENERAL CHEMISTRY RESULTS CALCULATION, WATER

Analysis: General Chemistry
SDG: BOBMY4-TMA-760
Sample ID: BOBMY4MS

Date: 17-Aug-94
Validator: B. MORRIS

Constituent	Concentration from curve CONCW	Dilution Factor DfW	Concentration (µg/L)
SULFATE	46.43	1	46.4
ALKALINITY	108.30	1	108.3
AMMONIA N	0.02	1	0.0
COD	0.00	1	0.0
CONDUCTANCE	381.67	1	381.7
Nitrate/Nitrite	5710.00	1	5710.0

00117

9613501.1145

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	(D)	E

PROJECT: 100 -FR-3		SDG: BOBMY4 -TMA -760
VALIDATOR: A. Freier	LATA NO.: VW402.56	DATE: 8/9/94
SAF NO.: 94-087	LAB: TMA	CASE: N4-05-050-7377
QAPP REFERENCE:		SAP REFERENCE:

If there is no QAPP or SAP reference, contact the WHC Technical Representative.
If the document(s) are not provided, default to the Method acceptance criteria.

ANALYSES PERFORMED

☒ Gross Alpha ☒ Gross Beta	☐ Strontium-89 ☒ Strontium-90	☒ Technetium-99	☒ Isotopic Anal. Alpha Spec.	☒ Gamma Spectroscopy	☐ Iodine-129
☐ Total Uranium (KPA)	☐ Radium-226 ☐ Radium-228	☒ (LSC) Liquid Scintillation	☐	☐	☐

SAMPLES/MATRIX

BOBMY4 - Water

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification forms present? ..... (Yes) No N/A

Compliance screening form present? ..... (Yes) No N/A

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

Were all analyses requested reported? ..... (Yes) No N/A

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

Comments:

2. CHAIN-OF-CUSTODY/HOLDING TIMES

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

Are samples preserved correctly? ..... (Yes) No N/A

Was the pH of the sample checked prior to analysis? ..... (Yes) No N/A

Comments:

Peer Review MO 9-2-94

CMO 9/8/9

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

3. INITIAL CALIBRATION

Instruments/detectors calibrated within one year of sample analysis? . . . . . Yes (No) N/A

Initial calibration acceptable? . . . . . (Yes) No N/A

Standards NIST traceable? . . . . . (Yes) No N/A

Standards Expired? . . . . . Yes (No) N/A

Comments: The instrument was not calibrated within one year of the sample analysis but the continuing calibration requirements were sufficiently met to allow acceptance of the data.

4. CONTINUING CALIBRATION

Background checked at proper frequency? . . . . . (Yes) No N/A

Background check acceptable? . . . . . (Yes) No N/A

Efficiency checked at proper frequency? . . . . . Yes (No) N/A

Efficiency check acceptable? . . . . . (Yes) No N/A

Calibration check standards NIST traceable? . . . . . (Yes) No N/A

Calibration check standards expired? . . . . . Yes (No) N/A

Comments: ~~The efficiency~~ frequency check criteria was not met for the ~~[illegible]~~ ~~analysis of the sample and the C.C. - qualify as estimated~~ MW 9-29-94

No qualifiers necessary for data due to efficiency MW 9-29-94

5. BLANKS *(see BLANK AND SAMPLE DATA SUMMARY form)*

Method blank analyzed? . . . . . (Yes) No N/A

Method blank results acceptable? . . . . . (Yes) No N/A

Analytes detected in method blank? . . . . . (Yes) No N/A

Transcription/Calculation Errors? . . . . . Yes (No) N/A

Comments: Thorium 228 detected in reagent blank - no qualifier. Th 228 is not a required (SOW) nuclide by contract. Th 228 is a natural product; its presence in a blank is no significant. Qualification is unnecessary MW 9-24-94

CMS 9/8/94

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

6. MATRIX SPIKES *(see ACCURACY DATA SUMMARY form)*

Matrix spike analyzed? . . . . . Yes No N/A

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

Spike source traceable? . . . . . Yes No N/A

Spike source expired? . . . . . Yes No N/A

Transcription/Calculation Errors? . . . . . Yes No N/A

★

Spike Recovery

$$\%R = \frac{SSR - SR}{SA} \times 100$$

where:
SSR = spiked sample result
SR = sample result
SA = spike added

Comments:

7. LABORATORY CONTROL SAMPLES *(see ACCURACY DATA SUMMARY form)*

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

LCS recoveries acceptable? . . . . . Yes ~~No~~ N/A 8/11/94 AJ

LCS traceable? . . . . . Yes No N/A

Transcription/Calculation Errors? . . . . . Yes No N/A

★

Recovery

$$\%R = \frac{\text{observed value}}{\text{true value}} \times 100$$

Comments: AJ 8/11/94

~~Gross α – LCS recovery 72% – doesn't meet criteria – J qualification~~
~~Pu 238 – LCS activity not between 5 and 30 times RDL – U qualification~~

CMS 9/8/94

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

10. FIELD QC SAMPLES

Field blank(s) identified? . . . . . Yes (No) N/A

Field blank results acceptable? . . . . . Yes No (N/A)

Analytes detected in field blank(s)? . . . . . Yes No (N/A)

Field duplicate sample(s) identified? . . . . . Yes (No) N/A

Field duplicate RPD values acceptable? . . . . . Yes No (N/A)

Field split sample(s) identified? . . . . . (Yes) No N/A

Field split RPD values acceptable? . . . . . Yes No (N/A)

Performance audit sample(s) identified? . . . . . Yes (No) N/A

Performance audit sample results acceptable? . . . . . Yes No (N/A)

Comments: Sample BCBMY4 is a field split sample. The other split sample is not identified in the sampling summary. Comparison is not possible. MW 9-24-97

11. DETECTION LIMITS (LEVELS D & E)

MDA's meet required detection limits? . . . . . (Yes) No N/A

Transcription/calculation errors? . . . . . (Yes) No N/A

★

$$\frac{\text{Minimum Detectable Activity (MDA)}}{\dfrac{4.66 \times \sqrt{(B.2)(T.2)}}{2.22(E.2)(I.2)(R.2)(D.2)(V.2)(Y.2)(T.2)}}$$

where:

- B.2 = background counts per minute (cpm) or the reported standard deviation of the background (S) cpm
- T.2 = counting time for associated sample
- 2.22 = conversion dpm/pCi
- E.2 = detector efficiency
- I.2 = ingrowth correction factor (if applicable or 1)
- R.2 = carrier recovery factor (if applicable or 1)
- D.2 = decay factor (if applicable or 1)
- Y.2 = chemical yield factor (if applicable or 1)
- V.2 = sample volume in liters or grams

3-19-97 JJ

Comments: ~~U235 calc result .0723 pCi/L reported .092 pCi/L~~
~~MDA calc .1 pCi/L reported .2 pCi/L~~

CWO 9/

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

Results Calculation Equations

Gross α/β and Tritium

$$\frac{(A.3 - B.3) \times C.3}{(2.22)(E.3)(V.3)}$$

where:

A.3 = gross counts per minute
B.3 = background counts per minute
C.3 = activity of α fraction in β channel*
2.22 = conversion factor, dpm/pCi
E.3 = detector efficiency
V.3 = sample volume, liters or grams
*if for calculation of gross β, otherwise substitute 1

Strontium (total)

$$\frac{A.4 - B.4}{(2.22)(E.4)(I.4)(D.4)(R.4)(V.4)}$$

where:

A.4 = gross counts per minute
B.4 = background counts per minute
2.22 = conversion factor, dpm/pCi
E.4 = detector efficiency
I.4 = ingrowth correction factor
R.4 = carrier recovery factor
D.4 = strontium decay factor
V.4 = sample volume, liters or grams

Strontium-90 (corrected for Sr-89)

$$\frac{A.5 - B.5}{(2.22)(Y.5)(E.5)(I.5)(D.5)(R.5)(V.5)}$$

where:

A.5 = gross counts per minute
B.5 = background counts per minute
Y.5 = yttrium-90 yield factor
2.22 = conversion factor, dpm/pCi
E.5 = detector efficiency
I.5 = ingrowth correction factor
R.5 = strontium-89 yield factor
D.5 = strontium decay factor
V.5 = sample volume, liters or grams

CMO 9/8/94

Results Calculation Equations, continued

Technetium-99

$$\frac{A.6 - B.6}{(2.22)(E.6)(R.6)(V.6)}$$

where:

A.6 = gross counts per minute
B.6 = background counts per minute
2.22 = conversion factor, dpm/pCi
E.6 = detector efficiency
R.6 = carrier recovery factor
V.6 = sample volume, liters or grams

Alpha Spec Isotopes

$$\frac{A.7 - B.7}{(2.22)(E.7)(R.7)(V.7)}$$

where:

A.7 = gross counts per minute for isotope
B.7 = background counts per minute for detector
2.22 = conversion factor, dpm/pCi
E.7 = detector efficiency
R.7 = tracer recovery factor
V.7 = sample amount, liters or grams

Gamma Spec Isotopes

$$\frac{A.8}{(2.22)(B.8)(D.8)(E.8)(V.8)(T.8)}$$

where:

A.8 = peak area for isotope
D.8 = decay factor for isotope
2.22 = conversion factor, dpm/pCi
B.8 = abundance factor for isotope
E.8 = efficiency factor for isotope
V.8 = sample amount, liters or grams
T.8 = live time (minutes)

CMO 9/8/04

CALCULATION SUMMARY

SDG: BCBMY4 - TMA - 760	VALIDATOR: A. Freier	DATE: 8/11/94	PAGE 1 OF 8

COMMENTS: RADIOCHEMICAL ANALYSES

Matrix Spike BCBMY4
%Recovery

Tritium: $\frac{5800 - 1400}{4140} \times 100 = 106\%$

reported 106

CALCULATION SUMMARY

SDG: BOBMY4-TMA-760	VALIDATOR: A. Freier	DATE: 8/11/94	PAGE 2 OF 8

COMMENTS: RADIOCHEMICAL ANALYSES

% Recovery BOBMY4

LCS

Gross Alpha $\frac{54}{74.7} \times 100 = 72\%$

Gross Beta

80/83.0 x100 = 96%

~~Tritium~~ Strontium 90

10/12.5 x 100 = 80%

Tritium

5500/5220 x100 = 105%

Technitium 99

230/255 x100 = 90%

Uranium 233/234

4.3/4.86 x100 = 88%

Uranium 235

4.0/3.72 x100 = 108%

Uranium 238

4.6/4.83 x100 = 95%

Plutonium 239/240

1.2/1.13 x100 = 106%

Americuim 241

1.1/1.12 x100 = 98%

Cobalt 60 1790/1800 x100 = 100%

Cesium 137 ~~1673~~ 1630/1600 = 99%

Carbon 14 4400/4300 x100 = 102%

CALCULATION SUMMARY

SDG: BOBM44-TMA-760	VALIDATOR: A. Freier	DATE: 8/11/94	PAGE 3 OF 8

COMMENTS: RADIOCHEMICAL ANALYSES

Chemical recovery BOBM44 % yield

Sr 90 84%

Tc 99 10522.36 / 22591.63 × 100 = 46.6%

Am 241 $\frac{.9672951 - .00271}{(.4096)(4.85)}$ = .486

49% reported

Pu $\frac{9.82504 - 0}{(.4103)(40.30)}$ = .5941

reported .59%

Uranium $\frac{1.63372 - .00851}{(.2668)(10.42)}$ = .5846

reported .59%

CALCULATION SUMMARY

SDG: BCB0MV4-TMA-760	VALIDATOR: A. Fr[illegible]	DATE: 8/11/94	PAGE 4 OF 8

COMMENTS: RADIOCHEMICAL ANALYSES

Relative Percent Difference:

Gross Alpha: $\frac{|4.7 - 2.3|}{\left(\frac{4.7+2.3}{2}\right)} \times 100 = 69\%$

Gross Beta: $\frac{|18 - 19|}{\left(\frac{18+19}{2}\right)} \times 100 = 5\%$

Tritium $\frac{|1400 - 1600|}{\left(\frac{1400+1600}{2}\right)} \times 100 = 13\%$

Sr-90 $\frac{|2.4 - 6.5|}{\left(\frac{2.4+6.5}{2}\right)} \times 100 = 92\%$

Uranium 233/234 $\frac{|2.2 - 1.9|}{\left(\frac{2.2+1.9}{2}\right)} \times 100 = 15\%$

Uranium 238 $\frac{|1.8 - 1.5|}{\left(\frac{1.8+1.5}{2}\right)} \times 100 = 18\%$

CALCULATION SUMMARY

SDG: BOBMY4-TMA-760	VALIDATOR: A Freier	DATE: 8/11/94	PAGE 5 OF 8

COMMENTS: RADIOCHEMICAL ANALYSES

MDA:

Gross α

$$\frac{4.65\sqrt{(.049)(100)} + 3}{(2.22)(.093)(.3)(100)} = 2.14$$

Gross β

$$\frac{4.65\sqrt{(1170)(100)} + 3}{(2.22)(.409)(.3)(100)} = 1.96$$

Sr-90

$$\frac{(4.65\sqrt{(.494)(112.45)} + 3)\ 1.859}{(2.22)(.9973)(.8440)(1)(1)(112.45)} = .33$$

Tc-99

$$\frac{4.65\sqrt{(.55)(100)} + 2.71}{(2.22)(.4273)(1)(.4658)(.2)(100)} = 4.24$$

Uranium 238

$$\frac{4.65\sqrt{(0)(1518)} + .3}{(2.22)(.2668)(1)(1)(.5883)(1518)} = .06$$

U235

$$\frac{4.65\sqrt{(.00128)(1518)} + .3}{(2.22)(.2668)(1)(1)(.5883)(151.8)} = .1$$

U 233/234

$$\frac{4.65\sqrt{(.01233)(151.8)} + 3}{(2.22)(.2668)(1)(1)(.5853)(151.8)} = .2$$

Am 241

$$\frac{4.65\sqrt{(873.57)(.00968)} + 3}{(2.22)(.4096)(.4862)(.9999)(2)(873.57)} = .02$$

CALCULATION SUMMARY

SDG: BOBMVA-TMA-760	VALIDATOR: A Freier	DATE: 5/11/94	PAGE 6 OF 8

COMMENTS: RADIOCHEMICAL ANALYSES

MDA:

Pu 239 $\cancel{\dfrac{0}{(2.22)(.4103)(.5941)(2)(1)}}$ $.009 = \dfrac{4.65\sqrt{(.00155)(877.35)}+3}{(2.22)(.4103)(.5941)(2)(1)(877.35)}$

Pu 238 $\dfrac{4.65\sqrt{(.00968)(877.35)}+3}{(2.22)(.4103)(.5941)(2)(.9992)(877.35)} = .02$

~~Results:~~

C_{14} $\dfrac{4.65\sqrt{(8.83)(150)}+3}{(2.22)(.209)(.03)(.99998)(1.396)(150)} = 59$

Tritium $\dfrac{4.65\sqrt{(3.08)(50)}+3}{(.209)(2.22)(.01)(.99651)(1)(50)} = 265$

9613501.1157

CALCULATION SUMMARY

SDG: BOB MY4- TMA-760	VALIDATOR: A. Freier	DATE: 8/11/94	PAGE 1 OF 8

COMMENTS: RADIOCHEMICAL ANALYSES

Results:

AF 8/11/94

Gross α $\frac{[(.370)-(.049)-[(.006)(4.920)]]1.005}{(2.22)(.3)(.093)}$ = ~~α~~ 4.7 pCi/L

Gross β $\frac{[(6.09)-(1.17)-[(.306)(.292)]]1.021}{(2.22)(.409)(.3)}$ = 18.1 pCi/L

Tritium $\frac{9.52-3.08}{(2.22)(.209)(.01)}$ = 1.388 pCi/L

C14 $\frac{.96}{(1.396)(.99998)(.99851)(.03)(2.22)(.209)}$ = 49 pCi/L

Sr-90 $\frac{(2.365)(1.8590)}{(2.22)(.8440)(.9973)(1)(1)}$ = 2.35 pCi/L

Tc-99 .12 /(2.22)(1.01)(.4658)(.2)(.4273) = 1.36 pCi/L

~~Pu238~~ AF 8/11/94 ~~$\frac{(.0079786)-.0096}{(2.22)(.4103)(.5941)(.2)(.9992)}$ = -0.002 pCi/L~~

~~Am241~~ AF 8/11/94 ~~$\frac{.0086356}{(2.22)(.4096)(.4862)(.2)(.9999)}$ = .009 pCi/L~~

~~U238~~ AF 8/11/94 ~~$\frac{.6389}{(2.22)(.2668)(.5853)(1)(1)}$ = 2.0 pCi/L~~

CALCULATION SUMMARY

SDG: BOBMY4-TMA-760	VALIDATOR: A. Freier	DATE: 8/11/94 PAGE 8 OF 8

COMMENTS: RADIOCHEMICAL ANALYSES

Results

U238 $\frac{(97 \div 151.80)}{(2.22)(.5853)(1)(.2668)(1)}$ = 1.84 pCi/L

U235 $\frac{(4 \div 151.80)}{(2.22)(.5853)(1)(.2668)(.8260)}$ = .092 pCi/L

U 233/234 $\frac{(116 \div 151.8)}{(2.22)(.5853)(1)(.2668)(.9)}$ = 2.2 pCi/L

Pu 238 $\frac{-1 \div 877.35}{(2.22)(.5941)(2)(.4103)(1)}$ = -.001 pCi/L

Am 241 $\frac{7 \div 873.57}{(2.22)(.4862)(2)(.4096)(1)}$ = 9.06 pCi/L

LATA RADIOCHEMISTRY DATA VALIDATION CHECKLIST

VALIDATION SUMMARY

MAJOR DEFICIENCIES:

MINOR DEFICIENCIES: AJ 8/11/94

* ~~The efficiency check criteria was not met for the data analysis of the sample and the GG.~~ The sample result is qualified as ~~estimated (J)~~ No qualifier for both. MW 9-24-94
* The RPD value of the Strontium 90 analysis is not within acceptable values. The result is qualified as estimated (J).
* ~~The geometry of the standard used in determining the % yield of Tc-99 were not the same geometry used in analyzing the sample. The sample result is qualified as estimated (UJ)~~ Tc 99 results accepted MW 10-3-94 AJ 8/11/94

~~The sample result is less than 5 times the RDL, however the RPD is greater than the RDL.~~ AJ 8/11/94

* ~~The % RPD for the gross alpha for sample BCBMY4 is greater than 40%.~~

COMMENTS:

* Thorium 228 was detected in the reagent blank. It was not detected in the sample. No qualifiers are assigned to the sample. AJ 8/11/94
* ~~The LCS activity of Pu 238 was not between 5 and 3 times the RDL.~~
* Sample BCBMY4 is a field split sample. AJ 8/11/94
* ~~The calculated result and MDA values for the U235 differ from the reported values. Value The values were corrected on form 1~~ AJ 8/11/94
* ~~The calculated result for Th228 differ from the reported value. The values were corrected on form 1.~~

9613501.1160

N405050-04

TMA NORCAL

SAMPLE DELIVERY GROUP 7377

DUPLICATE

BOBMY4

SDG 7377
Contact N. Joseph Verville
Client Westinghouse Hanford
Contract MBH-SVV-069262

DUPLICATE
Lab sample id N405050-04
Dept sample id 7377-004

ORIGINAL
Lab sample id N405050-01
Dept sample id 7377-001
Received 05/11/94

Client sample id BOBMY4
Location/Matrix 199-F5-6 LIQUID
Collected 05/06/94
Chain of custody id EFL-1055

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	PROT LIMIT
Gross Alpha	2.3	1.1	1	3	J	80A	4.7	2.1	2		69	111	
Gross Beta	19	1.4	1	4		80B	18	2.0	2		5	38	
Tritium	1600	220	300	400		H	1400	220	300		13	38	
Carbon 14	39	48	80	100	U	C	49	36	60	U	-		
Strontium 90	6.5	0.69	0.8	2		Y	2.4	22	0.4		92	742	
Technetium 99	-0.76	2.0	4	5	U	TC	1.4	1.5	4	U	-		
Uranium 233/234	1.9	0.43	0.2	0.2		U	2.2	0.50	0.2		15	50	
Uranium 235	0.18	0.12	0.2	0.2	U	U	0.092	0.093	0.2	U	-		
Uranium 238	1.5	0.38	0.1	0.2		U	1.8	0.45	0.1		18	55	
Plutonium 238	-0.002	0.012	0.03	0.05	U	PU	-0.001	0.008	0.02	U	-		
Plutonium 239/240	0	0.002	0.01	0.05	U	PU	0	0.002	0.008	U	-		
Americium 241	0.004	0.012	0.02	0.05	U	AM	0.009	0.013	0.02	U	-		
GAMMA SCAN ANALYTES													
Sodium 22	U		10		U	GAM	U		10	U	-		
Potassium 40	U		200		U	GAM	U		200	U	-		
Manganese 54	U		10		U	GAM	U		10	U	-		
Iron 59	U		40	30	U	GAM	U		40	U	-		
Cobalt 58	U		10	20	U	GAM	U		20	U	-		
Cobalt 60	U		10	20	U	GAM	U		20	U	-		
Niobium 94	U		10		U	GAM	U		10	U	-		
Ruthenium 103	U		20		U	GAM	U		20	U	-		
Ruthenium 106	U		100		U	GAM	U		100	U	-		
Tin 113	U		20		U	GAM	U		20	U	-		
Cesium 134	U		10		U	GAM	U		10	U	-		
Cesium 137	U		10	20	U	GAM	U		10	U	-		
Cerium 144	U		60		U	GAM	U		70	U	-		
Europium 152	U		20	40	U	GAM	U		30	U	-		
Europium 154	U		20	40	U	GAM	U		20	U	-		

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DUP
Version 2.30
Report date 06/24/94

9613501.1161

N405050-04

TMA NORCAL

SAMPLE DELIVERY GROUP 7377

DUPLICATE, cont.

BOBMY4

SDG 7377
Contact N. Joseph Verville

Client Westinghouse Hanford
Contract MBH-SVV-069262

DUPLICATE
Lab sample id N405050-04
Dept sample id 7377-004

ORIGINAL
Lab sample id N405050-01
Dept sample id 7377-001
Received 05/11/94

Client sample id BOBMY4
Location/Matrix 199-F5-6 LIQUID
Collected 05/06/94
Chain of custody id EFL-1055

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ PROT TOT LIMIT
Europium 155	U		30	40	U	GAM	U		40	U	-	
Radium 226	U		30		U	GAM	U		20	U	-	
Radium 228	U		50		U	GAM	U		60	U	-	
Thorium 228	U		20		U	GAM	U		20	U	-	
Thorium 232	U		50		U	GAM	U		60	U	-	

QC 19358-65,19808 REP #1
QC 19358-19365 REP #1

8/11/94

Lab id TMAN
Protocol WHC-HASM
Version Ver 1.0
Form DVD-DUP
Version 2.30
Report date 06/24/94

Validator	Date	SDG
A. Freier	08/11/94	BOBMY4-TMA-760

DATA VALIDATION SUMMARY

Analyte	Qualifier	Sample	Reason
Sr-90	J	BOBMY4	sample result is less than 5 times the RDL, however the RPD is greater than the RDL.
Tc-99	UJ	BOBMY4	The geometry of the standard used in determining the %yield different than the geometry used for the sample.
Gross beta	J	BOBMY4	The efficiency frequency criteria was not met.
Gross alpha	J	BOBMY4	The %RPD was greater than 20%.

MW 10-3-94

MW 9-24-94

AF 9/7/94

a/c check not done daily
No qual if in necessary

9613501.1163

Laboratory Case Narratives

9613501.1164

TMA Inc. REPORT Work Order # A4-05-036

Received: 05/11/94 06/17/94 08:02:43

000007

REPORT TO: Westinghouse Hanford Company
345 Hills
Richland, WA 99352

ATTEN: Ms. Briana Colley

CLIENT: WHC SAMPLES: 3
COMPANY: Westinghouse Hanford Company
FACILITY:

WORK ID: SAF # 94-087 CLP
TAKEN: By Westinghouse
TRANS: By Fed Ex
TYPE: Liquid
P.O. #: N4-05-048-SU-AR
INVOICE: under separate cover

PREPARED BY: Thermo Analytical, Inc.
160 Taylor Street
Monrovia, CA 91016

ATTEN: Ms. Carole Harris
PHONE: 818-357-3247

Maureen Parrish
CERTIFIED BY

CONTACT: MKP CIH

This report is for the sole and exclusive use of the client to whom it is addressed and represents only those samples herein described. Samples not destroyed in testing are retained a maximum of 30 days unless otherwise requested.

SAMPLE IDENTIFICATION

01	B0BMY4
01	B0BMY4 MS
01	B0BMY4 MSD
01	B0BMY4
01	B0BMY4 MS
01	B0BMY4 MSD
01	B0BMY4
01	B0BMY4 MS
01	B0BMY4 MSD
01	B0BMY4
01	B0BMY4 MS
01	B0BMY4 Duplicate
01	B0BMY4
01	B0BMY4 Duplicate
01	B0BMY4
01	B0BMY4 Duplicate
01	B0BMY4
01	B0BMY4 MS
01	B0BMY4 Duplicate
01	B0BMY4
01	B0BMY4 MS
01	B0BMY4 Duplicate
02	B0BMY6 Trip Blank
03	Lab Blank
03	LCS

TEST CODES and NAMES used on this workorder

BNCLPW	CLP Semivol. Water
COD	COD Water
COND	Conductivity-Water
PECLPL	CLP Pesticides Liq.
TDS	Dissolved Solids
WCCLPL	Anions & Wet Chem.
WCLCS	Lab Control Sample Summary
WCL_L	Chloride - WH120
WCQCD	Quality Control Summary
WCQCS	Quality Control Summary
WF_L	Fluoride in Water
WNH3_L	Ammonia in Water
WPH_L	pH of Liquid
WPO4_L	Phosphate in Liquids
WSO4_L	Sulfate (in Waters)
WSULFI	Sulfide
W_ALK	Alkalinity
W_TDS	Dissolved Solids

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 05-036

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : May 11, 1994

1.0 DESCRIPTION OF CASE :

Two water samples were analyzed for TCL Organics- Volatiles, Semivolatiles, and Pesticides/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision OLM01.8.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX	pH
B0BMY4	A4-05-036-01A	SV	WATER	
B0BMY4 MS	A4-05-036-01B	SV	WATER	
B0BMY4 MSD	A4-05-036-01C	SV	WATER	
B0BMY4	A4-05-036-01D	P	WATER	
B0BMY4 MS	A4-05-036-01E	P	WATER	
B0BMY4 MSD	A4-05-036-01F	P	WATER	
B0BMY4	A4-05-036-01G	V	WATER	0
B0BMY4 MS	A4-05-036-01H	V	WATER	0
B0BMY4 MSD	A4-05-036-01I	V	WATER	0
B0BMY6	A4-05-036-02A	V	WATER	0

3.0 COMMENTS :

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

The samples were analyzed 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 are injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL WATER :

The samples were extracted and analyzed within the CLP SOW holding times.

In sample B0BMY4MSD, the matrix spiking compounds 4-Nitrophenol and Pentachlorophenol were "E" qualified, since the detected concentrations exceeded the calibration range of the instrument. In addition, the recoveries for 4-Nitrophenol exceeded the QC limits in both the MS and MSD samples, while 2,4-Dinitrotoluene and Pentachlorophenol exceeded the QC limits solely in the MSD sample. In accordance with the protocol, no further action was required.

All of the other 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 05/24/94 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by single injection into a dual column system.

On the DB-5 column, the %RPD for Methoxychlor in INDAM04 slightly exceeded the 25% limit. In addition, the retention time for the surrogate DCB was outside of the retention time window in the instrument blank PIBLK13; therefore, PIBLK13 was omitted from the sequence. However, it is important to note that these discrepancies did not directly affect this particular work order - they occurred as a result of the poor sample matrix in an unrelated work order that was analyzed on the same sequence.

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

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.

SAMPLE NOTES :

LOW LEVEL WATER :

The samples were extracted and analyzed within the CLP SOW holding times.

The TCX surrogate recoveries for all of the samples were below the advisory QC limits on the DB-5 column. On the DB-608 column, only the MS and MSD samples had TCX recoveries that were slightly below the advisory limits. In accordance with the protocol, no further action was required.

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

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 6/17/94
CLP Program Manager

Maureen Parrish

Maureen Parrish 6/17/94
Program Manager

WESTINGHOUSE/HANFORD

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D2-0039

Lab Code: SKINER Case No.: N4-05-048 SAS No.: SDG No.: BOBMY5

SOW No.: ILM02.1

SAMPLE NUMBER:	Lab Sample ID.
BOBMY5	05118-01S
BOBMY5D	05118-01S2
BOBMY5S	05118-01DS

Were ICP interelement corrections applied? Yes/No YES
Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I 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 contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Steven Provencal Name: Steven R. Provencal

Date: 6/10/94 Title: Lead Chemist

CWS 9/81

~~001~~

9613501.1169

TMA
Thermo Analytical Inc.

Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

RECORD COPY

JUN 1994
RECEIVED
SDLA

June 10, 1994

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Stuermer

Quality Control Narrative

Scope
One (1) water sample was submitted to TMA/Skinner & Sherman Laboratories, Inc. on May 12, 1994 from TMA/Norcal. The sample was analyzed for the USEPA CLP metals. The analysis was performed under TMA/Skinner and Sherman work order S405118.

Methodology
The sample was prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program ILM02.

Discussion
All quality control requirements were met for the samples with the following exceptions:

The laboratory duplicate for lead exceeded the control limit requirement.

Please feel free to call if there are any questions concerning the data package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

Steven Provencal

Steven R. Provencal
Lead Chemist

961501.1170

TMA
Thermo Analytical Inc.

Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

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JUN 1994
RECEIVED
SDLA

June 10, 1994

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Stuermer

Quality Control Narrative

Scope
One (1) water sample was submitted to TMA/Skinner & Sherman Laboratories, Inc. on May 12, 1994 from TMA/Norcal. The sample was analyzed for the USEPA CLP metals and cyanide. The analysis was performed under TMA/Skinner and Sherman work order S405116.

Methodology
The sample was prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program ILM02.

Discussion
All quality control requirements were met for the samples with no exceptions.

Please feel free to call if there are any questions concerning the data package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

Steven Provencal

Steven R. Provencal
Lead Chemist

WESTINGHOUSE/HANFORD

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D2-0039

Lab Code: SKINER Case No.: N4-35-048 SAS No.: SDG No.: B0BMY4

SOW No.: ILM02.1

SAMPLE NUMBER:	Lab Sample ID.
B0BMY4	05116-01S
B0BMY4D	05116-01S2
B0BMY4S	05116-01DS

Were ICP interelement corrections applied? Yes/No YES
Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I 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 contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Steven Provencal Name: Steven R. Provencal

Date: 6/10/94 Title: Lead Chemist

GENERAL CHEMISTRY RESULTS

CASE NO. 05-036

Sample #:

B0BMY4

CASE NARRATIVE

The holding time for pH analysis exceeded. Careful review of the QC analysis indicates that the data is reliable.

No other problems were encountered during sample analysis. All QC results were acceptable.

Maureen Parrish 6/17/94

Maureen Parrish

COVER PAGE - CLASSICALS ANALYSIS DATA PACKAGE

Lab Name: Thermo Analytical Inc. Work Order No. E4-05-112

Episode No. N4-05-048 SOW No. MBH-SVV-069262 SOW /Rev.Date March 5, 1992

CLIENT Sample No.	Lab Sample ID
B0BMY4	E4-05-112-01A,02A
B0BMY4 MS	E4-05-112-01B,02B
B0BMY4 DUP	E4-05-112-01C,02C

COMMENTS: Narrative Report is attached. Yes X No ___

I 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 in the narrative report. Release of the data contained in this hardcopy data package(and in the data submitted on magnetic media, if data is submitted on magnetic media), has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mark B. Ruwe Name: Mark B. Ruwe

Date: June 15, 1994 Title: QA Officer

~~002~~ CMW 9/8/

9613501.1174

TMA
Thermo Analytical Inc.

TMA
525 Avis Drive, Suite 7
Ann Arbor, MI 48108

(313) 662-3104
(313) 662-3344 (Fax)

Federal Express Airbill 4253072051

June 15, 1994

Quality Control Narrative

Scope
This report contains one Delivery Order. One water sample was received by TMA/ERG from TMA/NORCAL on May 12,1994. The sample cooler temperature was 4 deg.C. These samples were analyzed for Total Organic Halides and Total Organic Carbon based on USEPA methods. Samples received with Work Order N4-05-048 are enclosed in this package. The TMA/ERG Work Order No. is E3-05-112.

Methodology: The samples were prepared, analyzed and reported in accordance with the Westinghouse Hanford Program Statement of Work MBH-SVV-069262 March 5, 1992. The following is a list of methodologies used:

Analyte	Method/Description
Total Organic Carbon	USEPA Method 9060 (TMA SOP WC022)
Total Organic Halides	USEPA Method 9022 (TMA SOP NUC 03)

Instrument ID Numbers	Serial Numbers
OI Model 700 TOC Analyzer	H224069
NA Multi Channel Analyzer	Not Applicable

Discussion
The TOX and TOC samples were prepared according to protocol. The quality control requirements have been met for these analyses without exception. If there are any questions concerning this package please do not hesitate to call.

Respectfully submitted,

TMA/Environmental Research Group

Mark B. Ruwe

Mark B. Ruwe
QA Officer

JUN 1994
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SDLA

~~001~~ CMG 9/8/94
000149

9613501.1175

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
P. O. Box 4040
Richmond, CA 94804-0040
(510) 235-2633 Fax No. (510) 235-0438

JUN 1994
RECEIVED
SDLA

RECORD COPY

June 24, 1994

Ref: TMA/Norcal N4-05-050-7377

Ms. Briana Colley
Westinghouse Hanford Company
345 Hills Street
Richland, WA 99352

Dear Ms. Colley:

Enclosed is the data report for the single water sample delivered under Field Logbook No. EFL-1055 received May 11, 1994. Results are given for gross alpha, gross beta, tritium, carbon-14, strontium-90, technetium-99, isotopic uranium, plutonium-238 and 239/240, americium-241, and gamma scan analyses.

The data package is paginated 1 through 366.

Please call if you have any questions concerning this data.

Sincerely,

N. Joseph Verville

N. Joseph Verville
Nuclear Program Manager
TMA/Norcal

NJV/ss

Enclosure: Data Package

TMA/Norcal

Report N4-05-050-7377
Sample Delivery Group 7377

Westinghouse Hanford Company
P.O. MBH-SVV-069262

Case Narrative

June 24, 1994

1.0 GENERAL

TMA/Norcal Sample Delivery Group 7377 is comprised of the single water sample delivered under Field Logbook No. EFL-1055. There were no unique ID's to identify the Chain-of-Custody documents, however, the project designation was 100-FR-3.

Five 1000 mL plastic bottles containing the sample were received for analyses.

2.0 ANALYSIS NOTES

2.1 Gross Alpha Analyses

The gross alpha recovery for laboratory control sample 7377-002 was 72%, slightly less than the 3 sigma protocol limits of 73-125%. The result for the reagent blank was satisfactory and the duplicate analysis was good match to the original analysis, therefore, the samples were not reanalyzed.

2.2 Gross Beta Analyses

No problems were encountered by the laboratory with the analyses.

2.3 Tritium Analyses

No problems were encountered by the laboratory with the analyses.

2.4 Carbon-14 Analyses

No problems were encountered by the laboratory with the analyses.

2.5 Strontium-90 Analyses

There was insufficient sample to take a full 1.0 L aliquot for the duplicate analysis. The MDA was less than the RDL despite the lesser aliquot.

2.6 Technetium-99 Analyses

No problems were encountered by the laboratory with the analyses.

2.7 Isotopic Uranium Analyses

The uranium-233/34 and 238 MDA's for the laboratory control sample 7377-002 were greater than the RDL's, Since the isotopic uranium activity in the LCS was 20 times the RDL, the slightly elevated MDA's do not affect the validity of the data.

2.8 Plutonium-238, 239/240 Analyses

No problems were encountered by the laboratory with the analyses.

TMA/Norcal
Report N4-05-050-7377
Sample Delivery Group 7377

Westinghouse Hanford Company
P.O. MBH-SVV-069262

Case Narrative **June 24, 1994**

2.0 ANALYSIS NOTES (cont'd)

2.9 Americium-241 Analyses
No problems were encountered by the laboratory with the analyses.

2.10 Gamma Scan Analysis
The iron-59, cobalt-58, europium-152, and europium-155 MDA's in laboratory control sample 7377-002 were greater than their respective RDL's due to the combination of high detector backgrounds and low counting efficiencies. The iron-59 MDA is high due to its short half-life.

9613501.1178

Chain-of-Custody Information

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 199-F5-6	SAF No.: 94-087
Ice Chest No.: ER-1A	Field Logbook No.: EFL-1055	Method of Shipment: EMERY 1402137803
Shipped To: TMA	Offsite Property No.: W44-0-0518-39	Bill of Lading/Air Bill No.:
Possible Sample Hazards/Remarks		
Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE Ref 2c LCS 5/6/94 1353		

Preservative	HCL/2pH	COOL 4	pH 5-9	COOL 4	H2SO4<2	COOL 4	COOL 4	ZnAc *1	H2SO4<2	HNO3<2	NaOH>12	HCl<2*2	H2SO4<2	HNO3<2	HClpH<2
Type of Container	Gs	aG	aG	P	G/P	G/P	G/P	G P	G	G	P	aGs	aGs	G/P	G/P
No. of Container(s)	3	3	3	1	1	1	1	1	1	1	1	1	1	2	1
Volume	40ml	1000ml	1000ml	1000ml	500ml	250ml	500ml	500ml	1000ml	1000ml	1000ml	125ml	500ml	4000ml	1000ml
SAMPLE ANALYSIS	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA (CLP)	SEMIVOA (CLP)	PCB/ PEST (CLP)	ANIONS (IC)SO4 F,Cl, PO4 COND,pH	NO2/NO3	ALK	TDS	SULFIDE	AMMONIA COD	ICP METALS+ ARSENIC LEAD Se,Tl, Hg (CLP)	CYANIDE (CLP)	TOC	TOX	*3	Tc-99
B0BMY4	W	05/06/94	1045	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
~~B0BMY5~~	W	~~05/06/94~~	~~1045~~															
~~B0BMY6~~	W	~~05/06/94~~	~~1045~~															

3 KDL 5/6/94

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
K.D. Lee K.D. Lee	5/6/94 1315	L Sweeney L Sweeney	5/6/94 1315
Relinquished By	Date/Time	Received By	Date/Time
L Sweeney L Sweeney	5/10/94 1010	J. SANTIAGO	5-11-94 12-1
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

*1 = or NaOH Ph>9 *2 = pH>/= to 12 *3 = GROSS ALPHA,BETA(ITAS-RD-3214), GAMMA SPEC(ITAS-RD-3219), U-235/238(ITAS-RD-3234), Pu-239/240(ITAS-RD-3209), Am-241(ITAS-RD-3302 or ITAS-RD-3206), Sr-90(ITAS-RD-3204). NOTE: LOWEST HOLDING TIME = 7 days

Matrix*

- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [ ] Priorty [X] Normal

Collector: K.D. Lee	Company Contact: PH BUTCHER	Telephone No.: 509-376-4388
Project Designation: 100-FR-3	Sampling Location: 199-F5-6	SAF No.: 94-087
Ice Chest No.: EF-1A	Field Logbook No.: EFL-1055	Method of Shipment: EMERY
Shipped To: TMA	Offsite Property No.	Bill of Lading/Air Bill No.

Possible Sample Hazards/Remarks

Special Handling and/or Storage: COOL TO 4 DEGREES CENTIGRADE

Preservative	N/A	HNO3<2				HClpH<2										
Type of Container	Gs	G				Gs										
No. of Container(s)	1	1				3										
Volume	1000ml	1000ml				40ml										
SAMPLE ANALYSIS	TRITIUM C-14	ICP METALS+ ARSENIC LEAD,Se Tl,Hg (CLP)FI FILTERD				VOA (CLP) TRIP										

Sample No.	Matrix*	Date Sampled	Time Sampled														
BOBMY4	W	05/06/94	1045	X													
BOBMY5	W	05/06/94	1045		X												
BOBMY6	W	05/06/94	1045														

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Kelly D. Lee K.D. Lee	5/6/94 1315	L Sweeney L Sweeney	5/6/94 1315
Relinquished By	Date/Time	Received By	Date/Time
L Sweeney L Sweeney	5/10/94 1010	J. SANTIAGO	5-11-94 2:11
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Matrix*
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original- Sample Yellow - Sampler

BC-6000-828 (12/92)

OVERNIGHT DELIVERY 9613501.1181

Signature Security Service

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
WHC		W94-0-0518-39

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Eng. & Tech	Geosciences	Geochem. & Hydrochem.

The following items are to be shipped from ☐ Contractor ☐ Vendor

Routing Emery ☐ Contractor ☐ Vendor

Shipped to	Off-site Custodian
TMA/NORCAL 2030 Wright Ave. Richmond, CA 94804	
	Full Title

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 105 lbs.	Sample #: 00 MY4 ~~00~~ 00 BM Y5 00 BM Y6 AJS 5/10/94 Cooler ID: CR-1A Polycooler with groundwater samples packed in wet ice and vermiculite	N/A
~~1~~ ~~lbs.~~	~~Sample #:~~ ~~Cooler ID:~~ AJS 5/10/94 ~~Polycooler with groundwater samples packed in wet ice and vermiculite~~	N/A

☐ Classified ☑ Unclassified ☐ Shipped Under DOE Contract ☐ Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property

Sampling supports RI/FS work in the 100 area.

Bill of lading # 4021572803

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date
[illegible]	15-992	5/10/94

Location of Property (Area & Bldg.)	Contact	Phone
	M. Butcher	(509) 376-8048

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
5/10/94	WU1020 DD3AA	NA

Originated By	Date	Authorized By	Date
P. M. Butcher		AJS [illegible]	5/10/94

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[illegible]	5/10/94

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[illegible]	COC 74			
Date 5-10-94				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

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~~54-3000-479 (09/89)~~

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EMERY WORLDWIDE — A CF Company

SIGNATURE AND TALLY RECORD

60029-46 (8/89) Litho USA

DATE: 05-18-94 SHIPMENT NO.: 140213780 3
SHIP: WESTINGHOUSE SHIPPING DEPT (509) 376-6665
REFERENCE NO.: W94-0-0518039

SHIPPER NAME AND ADDRESS	CONSIGNEE NAME AND ADDRESS
WESTINGHOUSE SHIPPING DEPT (509) 376-6665 U.S. DEPARTMENT OF ENERGY C/O WESTINGHOUSE HANFORD COMPANY 2355 STEVENS DRIVE 1163 BUILDING PO BOX 1970 RICHLAND WA 99352	TNA/NORCAL 2030 WRIGHT AVE. RICHMOND CA 94804

Pieces	Weight	Description/Marks	Emery Authorization No.
1	105 LBS	COOLER ID: ER-1A WATER SAMPLES	

EACH PERSON HANDLING OR TAKING CUSTODY OF THIS SHIPMENT MUST SIGN AND COMPLETE THE INFORMATION BELOW

Name of Person/Company	Transship Point/Destination	Signature of Person Accepting Custody	Time/Date
SHIPPING DEPT CR NELSON WESTINGHOUSE HANFORD CO	RICHLAND WA		
2.			
3.			
4.			
5. K MAHONEY	ELKW/OAK		
6. Leonardo E Vinte	TNA NORCAL		
7.			
8.			

SPECIAL HANDLING INSTRUCTIONS

CONSIGNEE COPY

9613501.1183

VEDD Printout

VALIDATION ELECTRONIC DELIVERABLE SDG BOBMY4-TMA-760

Sunday, October 02, 1994

HEIS-SN	Form	FormNr	LabCode	ConstID	Media	Value	ConcFlag	Qual	CountErr	Units
B0BMY4	NCLP	NA	TMA	88-74-4	SW			UJ		
B0BMY4	NCLP	NA	TMA	100-02-7	SW			UJ		
B0BMY4	NCLP	NA	TMA	118-74-1	SW			UJ		
B0BMY4	NCLP	NA	TMA	1	SW			U		
B0BMY5	NCLP	NA	TMA	7440-38-2	SW			UJ		
B0BMY4	NCLP	NA	TMA	7439-89-6	SW			U		
B0BMY5	NCLP	NA	TMA	7439-89-6	SW			U		
B0BMY4	NCLP	NA	TMA	7439-96-5	SW			U		
B0BMY5	NCLP	NA	TMA	7439-96-5	SW			U		
B0BMY4	NCLP	NA	TMA	207	SW			J		
B0BMY4	NCLP	NA	TMA	BETA	SW			J		
B0BMY4	NCLP	NA	TMA	10098-97-2	SW			J		

Entered by: Jm

Checked by: 10/3/94

0001559

96135501.1185

END OF PACKAGE

9613501.1186

Los Alamos Technical Associates, Inc.

8633 Gage Blvd. / Kennewick, WA 99336 / Telephone (509) 783-4369 / FAX (509) 783-9661

September 27, 1994

Jeanette Duncan
CH2M Hill
450 Hills
Richland, WA 99352

Dear Jeanette,

Attached is the data validation summary report for the 100-FR-3 Groundwater Sampling Project.

If you have any questions, please let me know.

Sincerely,

Janet M Jones for

Donald J. Smith
Project Manager

cc: Chris Haecker, LATA
VW402

SEP 1994
RECEIVED

SEP 1994
RECEIVED
Validation
Log In

9613501.1187

Los Alamos Technical Associates, Inc.

8633 Gage Blvd. / Kennewick, WA 99336 / Telephone (509) 783-4369 / FAX (509) 783-9661

September 27, 1994

Jeanette Duncan
CH2M Hill
450 Hills
Richland, WA 99352

Dear Jeanette,

Attached is the data validation summary report for the 100-FR-3 Groundwater Sampling Project.

If you have any questions, please let me know.

Sincerely,

Janet M Jones for

Donald J. Smith
Project Manager

cc: Chris Haecker, LATA
VW402

SEP 1994
RECEIVED

SEP 1994
RECEIVED
Validation
Log In

9613501.1188

BHI-00108
Rev. 00

Validation Summary Report for the 100-FR-3 Round 5 Groundwater

Prepared for

Bechtel Hanford Inc.
Richland, Washington

Prepared by

Los Alamos Technical Associates, Inc.
Kennewick, Washington

September 26, 1994

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9613501.1189

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9613501.1190

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1.0 INTRODUCTION

This report presents a summary of data validation results on groundwater samples collected for the 100-FR-3 Round 5 Groundwater Project.

The analyses performed for this project consisted of:

- Volatiles;
- Semivolatiles;
- Pesticides/PCBs;
- Metals: ICP + arsenic, lead, selenium, thallium, and mercury (filtered and unfiltered);
- General chemistry parameters: selected anions (fluoride, chloride, sulfate, phosphate), conductivity, pH, total dissolved solids, alkalinity, sulfide, ammonia, cyanide, total organic carbon, total organic halides, hydrazine, and nitrate+nitrite;
- Radiochemistry: gross alpha, gross beta, uranium-235/238, plutonium-239/240, americium-241, strontium-90, tritium, technetium-99, carbon-14, and gamma spectroscopy.

The sample analyses were conducted by the ORTEK, IT and TMA analytical laboratories.

As required by WHC contract number MVV-SVV-243789, data validation was conducted using Westinghouse data validation procedures (WHC 1993), in which 20% of the sample results were verified for transcription errors against the raw data and validated, with analytical results qualified accordingly. At the completion of validation and verification of each data package, a data validation summary was prepared and transmitted with the original documentation to Hanford Analytical Services (HAS) for inclusion in the project QA record. Tables 2.1, 3.1, 4.1, 5.1, 6.1 and 7.1 provide a summary and explanation of all qualifiers applied to the validated metals, chemistry, and radiochemistry results, respectively. Table 1.2 provides information concerning the data packages which were validated and verified.

Eight sections, including this introduction, comprise this report. Sections 2 through 7 provide summaries of the validation of volatile organics, semivolatilte organics, pesticides/PCBs, metals, general chemistry, and radiochemistry parameters, respectively. Section 8 provides a list of references used to prepare this report. Appendixes A through L of this report include validated data summary tables and laboratory report forms.

1.1 OBJECTIVES AND SCOPE

The objectives of this project were to validate 20% of the samples against defined laboratory performance (calibrations, blanks, spikes, duplicates and control samples) and verify all sample results by calculation and comparison to reported values. In addition, this report provides a summary of the data in terms of defined laboratory performance criteria and project-specific data quality objectives to assure the data is acceptable for use in the 100-FR-3 Groundwater Monitoring Project. For purposes of this report, the validated results were reviewed against the following data quality indicators:

- Precision of laboratory and field duplicate measurements;
- Accuracy in terms of laboratory spikes, control samples, laboratory and field blanks and proper reporting;
- Representativeness in terms of field duplicate analyses;
- Completeness in terms of compliance with holding times, the percentage of valid measurements versus the total number of measurements performed and correctness of results; and
- Comparability in terms for split samples and reporting units.

Table 1.3 summarizes the qualifiers applied to each analysis data quality category.

1.2 SAMPLES AND ANALYSES VALIDATED

Table 1.2 provides a cross-reference list of all samples validated including data package tracking numbers, HEIS sample ID numbers, sample dates, sample type and analyses performed.

Table 1-1. Glossary of Data Reporting Qualifiers.

U- Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ- Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a QC deficiency identified during data validation, the associated quantitation limit is an estimate.

J- Indicates the compound or analyte was analyzed for and detected. The associated concentration is an estimate, but the data are usable for decision making purposes.

BJ- Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R- Indicates the compound or analyte was analyzed for, detected, and due to an identified QC deficiency the data are unusable.

UR- Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data are unusable due to an identified QC deficiency.

JN- Indicates a tentatively identified compound (TIC) that has been determined to be valid in terms of identification and quantitation.

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.

NJ- Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific application (i.e., usable for decision making purposes).

N- Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (i.e., usable for decision making purposes).

Data Package ID	Sample ID	Sample Date	Sample Type/ Well Number	Analysis
B0BMQ5-ORK-004	B0BMP3	17-May-94	INVESTIGATIVE/ 1-F1-2	GENERAL CHEMISTRY
B0BMQ5-ORK-004	B0BMP7	18-May-94	INVESTIGATIVE/ 1-F5-1	GENERAL CHEMISTRY
B0BMQ5-ORK-004	B0BMQ1	3-Jun-94	INVESTIGATIVE/ 1-F5-3	GENERAL CHEMISTRY
B0BMQ5-ORK-004	B0BMQ5	1-Jun-94	INVESTIGATIVE/ 1-F5-4	GENERAL CHEMISTRY
B0BMQ5-ORK-004	B0BMV9	6-Jun-94	INVESTIGATIVE/ 1-F7-2	GENERAL CHEMISTRY
B0BMQ5-ORK-004	B0BMX1	19-May-94	INVESTIGATIVE/ 1-F8-3	GENERAL CHEMISTRY
B0BMQ5-ORK-004	B0BMX5	23-May-94	INVESTIGATIVE/ 1-F8-4	GENERAL CHEMISTRY
B0BMQ5-ORK-004	B0BMY3	18-May-94	DUPLICATE/ 1-F5-1	GENERAL CHEMISTRY
B0BMQ5-ORK-004	B0BMZ1	18-May-94	SPLIT/ 1-F5-1	GENERAL CHEMISTRY
B0BMQ5-ORK-004	B0BMZ7	20-May-94	EQUIPMENT BLANK/ NA	GENERAL CHEMISTRY
B0BMQ5-ORK-004	B0BN01	25-May-94	EQUIPMENT BLANK/ NA	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMQ9	6-May-94	INVESTIGATIVE/ 1-F5-6	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMR3	11-May-94	INVESTIGATIVE/ 1-F5-42	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMR7	11-May-94	INVESTIGATIVE/ 1-F5-43A	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMS1	11-May-94	INVESTIGATIVE/ 1-F5-44	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMS5	10-May-94	INVESTIGATIVE/ 1-F5-45	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMS9	10-May-94	INVESTIGATIVE/ 1-F5-46	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMT3	12-May-94	INVESTIGATIVE/ 1-F5-47	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMT7	9-May-94	INVESTIGATIVE/ 1-F5-48	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMV1	12-May-94	INVESTIGATIVE/ 1-F6-1	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMV5	10-May-94	INVESTIGATIVE/ 1-F7-1	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMW7	9-May-94	INVESTIGATIVE/ 1-F8-2	GENERAL CHEMISTRY
B0BMQ9-ORK-003	B0BMX9	6-May-1994 ANALYSES CANCELLED	DUPLICATE/ 1-F8-6	GENERAL CHEMISTRY

Table 1.2 100-FR-3 Round 5 Groundwater Data Validation, List of Samples Validated

Data Package ID	Sample ID	Sample Date	Sample Type/ Well Number	Analysis
B0BMQ9-ORK-003	B0BMY7	6-May-94	SPLIT/ 1-F5-1	GENERAL CHEMISTRY
B0BMY4-TMA-760	B0BMY4	6-May-94	SPLIT/ 1-F5-6	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
B0BMY4-TMA-760	B0BMY5	6-May-94	SPLIT/ 1-F5-6	METALS
B0BMY4-TMA-760	B0BMY6	6-May-94	SPLIT/ 1-F5-6	VOA
B0BMY8-TMA-779	B0BMY8	18-May-94	SPLIT/ 1-F5-1	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
B0BMY8-TMA-779	B0BMY9	18-May-94	SPLIT/ 1-F5-1	METALS
B0BMY8-TMA-779	B0BMZ0	18-May-94	SPLIT/ 1-F5-1	VOA
W0055-ITC-060	B0BMQ6	6-May-94	INVESTIGATIVE/ 1-F5-6	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0055-ITC-060	B0BMQ7	6-May-94	INVESTIGATIVE/ 1-F5-6	METALS
W0055-ITC-060	B0BMQ8	6-May-94	INVESTIGATIVE/ 1-F5-6	VOA
W0055-ITC-060	B0BMR4	11-May-94	INVESTIGATIVE/ 1-F5-43A	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0055-ITC-060	B0BMR5	11-May-94	INVESTIGATIVE/ 1-F5-43A	METALS
W0055-ITC-060	B0BMR6	11-May-94	INVESTIGATIVE/ 1-F5-43A	VOA
W0055-ITC-060	B0BMS2	5/10/1994 METALS/SULFIDE CANCELLED	INVESTIGATIVE/ 1-F5-45	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0055-ITC-060	B0BMS3	10-May-94	INVESTIGATIVE/ 1-F5-45	METALS
W0055-ITC-060	B0BMS4	10-May-94	INVESTIGATIVE/ 1-F5-45	VOA
W0055-ITC-060	B0BMS6	10-May-94	INVESTIGATIVE/ 1-F5-46	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0055-ITC-060	B0BMS7	10-May-94	INVESTIGATIVE/ 1-F5-46	METALS
W0055-ITC-060	B0BMT4	9-May-94	INVESTIGATIVE/ 1-F5-48	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0055-ITC-060	B0BMT5	9-May-94	INVESTIGATIVE/ 1-F5-48	METALS
W0055-ITC-060	B0BMT6	9-May-94	INVESTIGATIVE/ 1-F5-48	VOA
W0055-ITC-060	B0BMW4	9-May-94	INVESTIGATIVE/ 1-F8-2	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0055-ITC-060	B0BMW5	9-May-94	INVESTIGATIVE/ 1-F8-2	METALS

Table 1.2 100-FR-3 Round 5 Groundwater Data Validation, List of Samples Validated

Data Package ID	Sample ID	Sample Date	Sample Type/ Well Number	Analysis
W0055-ITC-060	B0BMW6	9-May-94	INVESTIGATIVE/ 1-F8-2	VOA
W0055-ITC-060	B0BMX6	6-May-94	INVESTIGATIVE/ 1-F8-6	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0055-ITC-060	B0BMX7	6-May-94	DUPLICATE/ 1-F8-6	METALS
W0055-ITC-060	B0BMX8	6-May-94	DUPLICATE/ 1-F8-6	VOA
W0062-ITC-062	B0BMP4	18-May-94	INVESTIGATIVE/ 1-F5-1	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0062-ITC-062	B0BMP5	18-May-94	INVESTIGATIVE/ 1-F5-1	METALS
W0062-ITC-062	B0BMP6	18-May-94	INVESTIGATIVE/ 1-F5-1	VOA
W0062-ITC-062	B0BMR0	11-May-94	INVESTIGATIVE/ 1-F5-42	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0062-ITC-062	B0BMR1	11-May-94	INVESTIGATIVE/ 1-F5-42	METALS
W0062-ITC-062	B0BMR2	11-May-94	INVESTIGATIVE/ 1-F5-42	VOA
W0062-ITC-062	B0BMR8	11-May-94	INVESTIGATIVE/ 1-F5-44	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0062-ITC-062	B0BMR9	11-May-94	INVESTIGATIVE/ 1-F5-44	METALS
W0062-ITC-062	B0BMS0	11-May-94	INVESTIGATIVE/ 1-F5-44	VOA
W0062-ITC-062	B0BMT0	12-May-94	INVESTIGATIVE/ 1-F5-47	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0062-ITC-062	B0BMT1	12-May-94	INVESTIGATIVE/ 1-F5-47	METALS
W0062-ITC-062	B0BMT2	12-May-94	INVESTIGATIVE/ 1-F5-47	VOA
W0062-ITC-062	B0BMT8	12-May-94	INVESTIGATIVE/ 1-F6-1	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0062-ITC-062	B0BMT9	12-May-94	INVESTIGATIVE/ 1-F6-1	METALS
W0062-ITC-062	B0BMV0	12-May-94	INVESTIGATIVE/ 1-F6-1	VOA
W0062-ITC-062	B0BMV2	10-May-94	INVESTIGATIVE/ 1-F7-1	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0062-ITC-062	B0BMV3	10-May-94	INVESTIGATIVE/ 1-F7-1	METALS
W0062-ITC-062	B0BMV4	10-May-94	INVESTIGATIVE/ 1-F7-1	VOA
W0062-ITC-062	B0BMW0	19-May-94	INVESTIGATIVE/ 1-F7-3	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0062-ITC-062	B0BMW1	19-May-94	INVESTIGATIVE/ 1-F7-3	METALS

Table 1.2 100-FR-3 Round 5 Groundwater Data Validation, List of Samples Validated

Data Package ID	Sample ID	Sample Date	Sample Type/ Well Number	Analysis
W0062-ITC-062	B0BMW2	19-May-94	INVESTIGATIVE/ 1-F7-3	VOA
W0068-ITC-079	B0BMP0	17-May-94	INVESTIGATIVE/ 1-F1-2	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0068-ITC-079	B0BMP1	17-May-94	INVESTIGATIVE/ 1-F1-2	METALS
W0068-ITC-079	B0BMP2	17-May-94	INVESTIGATIVE/ 1-F1-2	VOA
W0068-ITC-079	B0BMW8	19-May-94	INVESTIGATIVE/ 1-F8-3	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0068-ITC-079	B0BMW9	19-May-94	INVESTIGATIVE/ 1-F8-3	METALS
W0068-ITC-079	B0BMX0	19-May-94	INVESTIGATIVE/ 1-F8-3	VOA
W0068-ITC-079	B0BMX2	23-May-94	INVESTIGATIVE/ 1-F8-4	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0068-ITC-079	B0BMX3	23-May-94	INVESTIGATIVE/ 1-F8-4	METALS
W0068-ITC-079	B0BMX4	23-May-94	INVESTIGATIVE/ 1-F8-4	VOA
W0068-ITC-079	B0BMY0	18-May-94	DUPLICATE/ 1-F5-F	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0068-ITC-079	B0BMY1	18-May-94	DUPLICATE/ 1-F5-1	METALS
W0068-ITC-079	B0BMY2	18-May-94	DUPLICATE/ 1-F5-1	VOA
W0068-ITC-079	B0BMZ2	20-May-94	EQUIPMENT BLANK/ NA	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0068-ITC-079	B0BMZ3	20-May-94	EQUIPMENT BLANK/ NA	METALS
W0068-ITC-079	B0BMZ6	20-May-94	EQUIPMENT BLANK/ NA	VOA
W0068-ITC-079	B0BMZ8	25-May-94	EQUIPMENT BLANK/ NA	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0068-ITC-079	B0BMZ9	25-May-94	EQUIPMENT BLANK/ NA	METALS
W0068-ITC-079	B0BN00	25-May-94	EQUIPMENT BLANK/ NA	VOA
W0082-ITC-096	B0BMP8	3-Jun-94	INVESTIGATIVE/ 1-F5-3	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0082-ITC-096	B0BMP9	3-Jun-94	INVESTIGATIVE/ 1-F5-3	METALS
W0082-ITC-096	B0BMQ0	3-Jun-94	INVESTIGATIVE/ 1-F5-3	VOA
W0082-ITC-096	B0BMQ2	1-Jun-94	INVESTIGATIVE/ 1-F5-4	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0082-ITC-096	B0BMQ3	1-Jun-94	INVESTIGATIVE/ 1-F5-4	METALS

Table 1.2 100-FR-3 Round 5 Groundwater Data Validation, List of Samples Validated

Data Package ID	Sample ID	Sample Date	Sample Type/ Well Number	Analysis
W0082-ITC-096	B0BMQ4	1-Jun-94	INVESTIGATIVE/ 1-F5-4	VOA
W0082-ITC-096	B0BMV6	6-Jun-94	INVESTIGATIVE/ 1-F7-2	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0082-ITC-096	B0BMV7	6-Jun-94	INVESTIGATIVE/ 1-F7-2	METALS
W0082-ITC-096	B0BMV8	6-Jun-94	INVESTIGATIVE/ 1-F7-2	VOA
W0082-ITC-096	B0C1G5	2-Jun-94	INVESTIGATIVE/ 1-F1-2	VOA, SVOA, PEST/PCB, METALS. GENERAL CHEMISTRY, RADIOCHEMISTRY
W0082-ITC-096	BOBMN8	6-Jun-94	METHOD BLANK/ 1-F7-2	VOA
W0082-ITC-096	BOBMN9	6-Jun-94	METHOD BLANK/ 1-F7-2	VOA

Table 1.2 100-FR-3 Round 5 Groundwater Data Validation, List of Samples Validated

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SDG	VW#		Number of Determinations	Number of Determinations Rejected	% Rejected	% Complete
BOBMY4-TMA-760	40256	General Chemistry	16	0	0%	100%
W0062-ITC-062	40266	General Chemistry	98	0	0%	100%
W0062-ITC-062	40267	General Chemistry	98	7	7%	93%
BOBMY4-TMA-779	40271	General Chemistry	16	1	6%	94%
WOO68-ITC-079	40272	General Chemistry	84	7	8%	92%
W0082-ITC-096	40276	General Chemistry	44	3	7%	93%
BOBMY4-TMA-760	40256	Inorganics	47	0	0%	100%
W0062-ITC-062	40266	Inorganics	329	0	0%	100%
W0055-ITC-060	40267	Inorganics	306	0	0%	100%
BOBMY8-TMA-779	40271	Inorganics	47	0	0%	100%
W0068-ITC-079	40272	Inorganics	282	0	0%	100%
WOO82-ITC-096	40276	Inorganics	164	0	0%	100%
BOBMY4-TMA-760	40256	Pesticides/PCBs	28	0	0%	100%
W0062-ITC-062	40266	Pesticides/PCBs	196	0	0%	100%
W0055-ITC-060	40267	Pesticides/PCBs	196	0	0%	100%
BOBMY8-TMA-779	40271	Pesticides/PCBs	28	0	0%	100%
W0068-ITC-079	40272	Pesticides/PCBs	168	0	0%	100%
W0082-ITC-096	40276	Pesticides/PCBs	112	0	0%	100%
BOBMY4-TMA-760	40256	Radiochemistry	32	0	0%	100%
WOO62-ITC-062	40266	Radiochemistry	133	0	0%	100%
W0055-ITC-060	40267	Radiochemistry	147	0	0%	100%
BOBMY8-TMA-779	40271	Radiochemistry	32	0	0%	100%
WOO68-ITC-079	40272	Radiochemistry	114	0	0%	100%
W0082-ITC-096	40276	Radiochemistry	57	0	0%	100%
BOBMY4-TMA-760	40256	Semivolatiles	65	0	0%	100%
WOO62-ITC-062	40266	Semivolatiles	448	0	0%	100%
W0055-ITC-060	40267	Semivolatiles	445	0	0%	100%
BOBMY8-TMA-779	40271	Semivolatiles	65	0	0%	100%
W0068-ITC-079	40272	Semivolatiles	390	0	0%	100%
W0082-ITC-096	40276	Semivolatiles	256	0	0%	100%
BOBMY4-TMA-760	40256	Volatiles	66	0	0%	100%
WOO62-ITC-062	40266	Volatiles	462	0	0%	100%
W0055-ITC-060	40267	Volatiles	462	0	0%	100%
BOBMY8-TMA-779	40271	Volatiles	66	0	0%	100%
W0068-ITC-079	40272	Volatiles	495	0	0%	100%
W0082-ITC-096	40276	Volatiles	297	0	0%	100%
BOBMQ9-ORK-003	40261	General Chemistry	13	0	0%	100%
BOBMQ5-ORK-004	40265	General Chemistry	11	0	0%	100%
100FR-3		OVERALL	6325	18	0.3%	99.7%

Table 1.3 Data Quality Objectives

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2.0 VOLATILE ORGANIC DATA VALIDATION SUMMARY

2.1 SUMMARY

This section presents a summary of the volatile organic data validation results and review against the Work Plan (DOE-RL 1992). Where appropriate, major deficiencies are identified which required qualification of data as unusable (R for detects, UR for non-detects) and minor deficiencies are identified which resulted in qualification of associated data as estimated (J for detected values, and UJ for non-detected values) or non-detect (U) due to blank contamination. Table 1.2 shows the data package identification, HEIS sample ID numbers, sample collection date, sample type, and analyses performed.

Precision

- Goals for precision were met.

Accuracy

- Goals for accuracy were met.

Representativeness

- Field duplicate RPD values were acceptable with the exception of acetone. The field duplicate results are summarized in Appendix M.

Completeness

- Overall 1848 determinations were reported. Out of the 1848 results reported, zero (0) results were determined to be unusable. All volatile organic results were deemed valid. This results in a completeness of 100% for precision and accuracy, which meets the program requirement of 90%.

Comparability

- All results were reported in common units (µg/L) facilitating comparison of the data.

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100-FR-3 Qualification Summary

Volatile Organic Blanks

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0062-ITC-062	40266	acetone	MINOR	10U	BOBMP4, BOBMR0, BOBMR8, BOBMT0, BOBMT2, BOBMT8, BOBMV0, BOBMW2, BOBMV2, BOBMW0	The method blank was positive with sample results <10X the associated blank value and <CRQL.
W0062-ITC-062	40266	acetone	MINOR	U	BOBMR2, BOBMV4, BOBMP6, BOBMS0	The method blank was positive with sample results <10X the associated blank value.
W0062-ITC-062	40266	methylene chloride	MINOR	10U	BOBMR2, BOBMR8, BOBMS0, BOBMT0, BOBMT8, BOBMV0, BOBMV4	The method blank was positive with sample results <10X the associated blank value and <CRQL.
W0062-ITC-062	40266	methylene chloride	MINOR	U	BOBMV2	The method blank was positive with sample results <10X the associated blank value.
W0055-ITC-060	40267	2-butanone	MINOR	10U	BOBMS4	The method blank positive result <CRDL.
W0055-ITC-060	40267	2-hexanone	MINOR	10U	BOBMX8	The method blank positive result <CRDL.
W0055-ITC-060	40267	acetone	MINOR	10U	BOBMX6, BOBMW4, BOBMR4, BOBMS6	The method blank positive result <CRDL.
W0055-ITC-060	40267	acetone	MINOR	U	BOBMQ6, BOBMQ8, BOBMS4, BOBMS8, BOBMT6, BOBMR6, BOBMS2, BOBMT4, BOBMW6	The method blank positive result >CRDL and <10X blank.
W0055-ITC-060	40267	methylene chloride	MINOR	10U	BOBMS2, BOBMS3, BOBMS4, BOBMR4, BOBMR5, BOBMR6, BOBMX6, BOBMX7, BOBMX8, BOBMQ6, BOBMQ7, BOBMQ8, BOBMS6, BOBMS7, BOBMS8, BOBMT4, BOBMT5, BOBMT6, BOBMW4, BOBMW5, BOBMW6	The method blank positive result <CRDL.
W0068-ITC-079	40272	acetone	MINOR	U	BOBMZ8, BOBNO0	The method blank was positive with sample results <10x the associated blank value.
W0068-ITC-079	40272	methylene chloride	MINOR	10U	BOBMZ8, BOBN00	The method blank was positive with sample results <10X the associated blank value and <CRQL.
W0082-ITC-096	40276	acetone	MINOR	10U/U	BOBMQ2, BOBMQ4, BOBMV6, BOBMV8, BOBMN8, BOBMN9, BOBMP8, BOBMQ0	The method blank was positive with sample results <10X the associate blank value.
W0082-ITC-096	40276	chloroform	MINOR	10U	BOBMQ2, BOBMQ4, BOBMV6, BOBMV8, BOBMN8, BOBMN9, BOBMP8, BOBMQ0	The method blank was positive with sample results <10X the associated blank value and <CRQL.
W0082-ITC-096	40276	methylene chloride	MINOR	U	BOBMQ2, BOBMQ4, BOBMV6, BOBMV8, BOBMN8, BOBMN9, BOBMP8, BOBMQ0	The method blank was positive with sample results <10X the associated blank value.

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100-FR-3 Qualification Summary

Volatile Organic
Calibration

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0068-ITC-079	40272	1,1,1-trichloroethane	MINOR	UJ	BOBMZ8, BOBN00	Continuing calibration %D exceeded acceptance criteria.
W0068-ITC-079	40272	1,1,2,2-tetrachloroethane	MINOR	UJ	BOBMZ6, BOBMZ2, BOBMX4, BOBMX2, BOBMP2, BOBMP0	Continuing calibration %D exceeded acceptance criteria.
W0068-ITC-079	40272	carbon tetrachloride	MINOR	UJ	BOBMZ8, BOBN00	Continuing calibration %D exceeded acceptance criteria.
W0068-ITC-079	40272	vinyl chloride	MINOR	UJ	BOBMW8, BOBMX0, BOBMY0, BOBMY2, BOBMZ6, BOBMZ2, BOBMX4, BOBMX2, BOBMP2, BOBMP0	Continuing calibration %D exceeded acceptance criteria.
W0082-ITC-096	40276	1,1,1-trichloroethane	MINOR	UJ	BOBMQ2, BOBMQ4, BOBMV6, BOBMV8, BOBMN8, BOBMN9, BOBMP8, BOBMQ0	Continuing calibration %D exceeded acceptance criteria.
W0082-ITC-096	40276	carbon tetrachloride	MINOR	UJ	BOBMQ2, BOBMQ4, BOBMV6, BOBMV8, BOBMN8, BOBMN9, BOBMP8, BOBMQ0	Continuing calibration %D exceeded acceptance criteria.

Volatile Organic
Hold Time

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0068-ITC-079	40272	All reported analytes	MINOR	J/UJ	BOBMP0,BOBMP2	Hold time exceeded by <2 times.

Volatile Organic
Other

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0068-ITC-079	40272	acetone	MINOR	5J	BOBMP0	The value was incorrectly reported as non-detect.

Volatile Organic
Tentatively Identivied Compounds (TICs)

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0055-ITC-060	40267	unknown @ RT 9.15	MINOR	JN	BOBMX8	Identified as a valid result based upon data validation procedures
W0062-ITC-062	40266	unknown @ RT 2.00	MINOR	JN	BOBMP4, BOBMW0	Identified as a valid result based upon data validation procedures
W0062-ITC-062	40266	unknown Alkane @ RT 16.27	MINOR	JN	BOBMW0	Identified as a valid result based upon data validation procedures
W0082-ITC-096	40276	unknown Alkane @ RT 4.70	MINOR	JN	BOBMN9	Identified as a valid result based upon data validation procedures

TABLE 2.1

3.0 SEMIVOLATILE ORGANIC DATA VALIDATION SUMMARY

3.1 SUMMARY

This section presents a summary of the semivolatile organic data validation results and review against the Work Plan (DOE-RL 1992). Where appropriate, major deficiencies are identified which required qualification of data as unusable (R for detects, UR for non-detects) and minor deficiencies are identified which resulted in qualification of associated data as estimated (J for detected values, and UJ for non-detected values) or non-detect (U) due to blank contamination. Table 1.2 shows the data package identification, HEIS sample ID numbers, sample collection date, sample type, and analyses performed.

Precision

- Goals for precision were met with the exception of 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, hexachloroethane, hexachlorobutadiene, and hexachlorocyclopentadiene.

Accuracy

- Goals for accuracy were met with the exception of 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, hexachloroethane, hexachlorobutadiene, hexachlorocyclopentadiene, 2,4-dinitrophenol, 2-nitrophenol, and 4-nitrophenol.

Representativeness

- Field duplicate RPD values were acceptable. The field duplicate results are summarized in Appendix M.

Completeness

- Overall 1679 determinations were reported. Out of the 1679 results reported, no results were determined to be unusable. All semivolatile organic results were deemed valid. This results in a completeness of 100% for precision and accuracy, which meets the program requirement of 90%.

- The holding time was not met for sample BOBMP0.

Comparability

- All results were reported in common units (µg/L) facilitating comparison of the data.

9613501.1206

100-FR-3 Qualification Summary

Semivolatile Organic
Accuracy

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
BOBMY8-TMA-779	40271	1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, hexachloroethane, hexachlorobutadiene, hexachlorocyclopentadiene	MINOR	UJ	BOBMY8	The MSD recovery was less than the control limit.
W0068-ITC-079	40272	2,4-dinitrophenol	MINOR	UJ	BOBMW8, BOBMY0, BOBMP0, BOBMX2, BOBMZ2, BOBMZ8	The MS/MSD recoveries were >80%.
W0068-ITC-079	40272	2-nitrophenol	MINOR	UJ	BOBMW8, BOBMY0, BOBMP0, BOBMX2, BOBMZ2, BOBMZ8	The MS/MSD recoveries were >80%.
W0068-ITC-079	40272	4-nitrophenol	MINOR	UJ	BOBMW8, BOBMY0, BOBMP0, BOBMX2, BOBMZ2, BOBMZ8	The MS/MSD recoveries were >80%.

Semivolatile Organic
Blanks

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
BOBMY4-TMA-760	40256	unknown ketone	MINOR	U	BOBMY4	The method blank was positive with sample results <10X the associated blank value.

Semivolatile Organic
Calibration

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
BOBMY4-TMA-760	40256	2-nitroaniline	MINOR	UJ	BOBMY4	Continuing calibration %D exceeded acceptance criteria.
BOBMY4-TMA-760	40256	4-nitrophenol	MINOR	UJ	BOBMY4	Continuing calibration %D exceeded acceptance criteria.
BOBMY4-TMA-760	40256	hexachlorobenzene	MINOR	UJ	BOBMY4	Continuing calibration %D exceeded acceptance criteria.
W0055-ITC-060	40267	benzo(k)fluoranthene	MINOR	UJ	BOBMS2, BOBMS3, BOBMS4, BOBMR4, BOBMR5, BOBMR6, BOBMX6, BOBMX7, BOBMX8, BOBMQ6, BOBMQ7, BOBMQ8, BOBMS6, BOBMS7, BOBMS8, BOBMT4, BOBMT5, BOBMT6, BOBMW4, BOBMW5, BOBMW6	% RSD > 20.5.
W0055-ITC-060	40267	chrysene	MINOR	UJ	BOBMS2, BOBMS3, BOBMS4, BOBMR4, BOBMR5, BOBMR6, BOBMX6, BOBMX7, BOBMX8, BOBMQ6, BOBMQ7, BOBMQ8, BOBMS6, BOBMS7, BOBMS8, BOBMT4, BOBMT5, BOBMT6, BOBMW4, BOBMW5, BOBMW6	% RSD > 20.5.

TABLE 3.1

9613501.1207

100-FR-3 Qualification Summary

Semivolatile Organic
Calibration (cont.)

W0055-ITC-060	40267	fluoranthene	MINOR	UJ	BOBMS2, BOBMS3, BOBMS4, BOBMR4, BOBMR5, BOBMR6, BOBMX6, BOBMX7, BOBMX8, BOBMQ6, BOBMQ7, BOBMQ8, BOBMS6, BOBMS7, BOBMS8, BOBMT4, BOBMT5, BOBMT6, BOBMW4, BOBMW5, BOBMW6	%D > 25.
W0068-ITC-079	40272	4-methlyphenol	MINOR	UJ	BOBMW8, BOBMY0, BOBMP0, BOBMX2, BOBMZ2, BOBMZ8	Initial calibration RSD exceeded acceptance criteria.
W0068-ITC-079	40272	chrysene	MINOR	UJ	BOBMW8, BOBMY0, BOBMP0, BOBMX2, BOBMZ2,	Continuing calibration %D exceeded acceptance criteria.
W0068-ITC-079	40272	N-nitroso-di-n-propylamine	MINOR	UJ	BOBMZ8	Continuing calibration %D exceeded acceptance criteria.
W0068-ITC-079	40272	pyrene	MINOR	UJ	BOBMW8, BOBMY0, BOBMP0, BOBMX2, BOBMZ2,	Continuing calibration %D exceeded acceptance criteria.
W0082-ITC-096	40276	hexachlorobenzene	MINOR	UJ	BOBMP8, BOBMQ2, BOBMV6, BOCIG5	Continuing calibration %D exceeded acceptance criteria.

Semivolatile Organic
Hold Time

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0055-ITC-060	40267	All reported analytes	MINOR	UJ	BOBMX6, BOBMQ6	Hold time exceeded.

Semivolatile Organic
Precision

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
BOBMY8-TMA-779	40271	1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, hexachloroethane, hexachlorobutadiene, hexachlorocyclopentadiene	MINOR	UJ	BOBMY8	Duplicate criteria not met.

Semivolatile Organic
Tentatively Identified Compounds (TICs)

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0055-ITC-060	40267	trichloro-1-propene @ RT 5.40, 5.42	MINOR	JN	BOBMT4 BOBMS2	Identified as a valid result based upon data validation procedures
W0055-ITC-060	40267	unknown @ RT 17.37	MINOR	JN	BOBMR4	Identified as a valid result based upon data validation procedures
W0055-ITC-060	40267	unknown @ RT 6.25	MINOR	JN	BOBMT4	Identified as a valid result based upon data validation procedures
W0068-ITC-079	40272	unknown @ RT 11.92, 14.63 and 19.35	MINOR	JN	BOBMW8	Identified as a valid result based upon data validation procedures
BOBMY4-TMA-760	40256	unknown keytone @ RT 5.67	MINOR	UJN	BOBMY4	Identified as a valid result based upon data validation procedures
W0062-ITC-062	40256	unknown @ RT 6.15	MINOR	JN	BOBMT0	Identified as a valid result based upon data validation procedures

TABLE 3.1

4.0 PESTICIDES/PCBs DATA VALIDATION SUMMARY

4.1 SUMMARY

This section presents a summary of the pesticides/PCBs data validation results and review against the Work Plan (DOE-RL 1992). Where appropriate, major deficiencies are identified which required qualification of data as unusable (R for detects, UR for non-detects) and minor deficiencies are identified which resulted in qualification of associated data as estimated (J for detected values, and UJ for non-detected values) or non-detect (U) due to blank contamination. Table 1.2 shows the data package identification, HEIS sample ID numbers, sample collection date, sample type, and analyses performed.

Precision

- Goals for precision were met.

Accuracy

- Goals for accuracy were met.

Representativeness

- Field duplicate RPD values were acceptable. The field duplicate results are summarized in Appendix M.

Completeness

- Overall 728 determinations were reported. Out of the 728 results reported, there were no results determined to be unusable. All results for pesticides/PCBs were deemed valid. This results in a completeness of 100% for precision and accuracy, which meets the program requirement of 90%.

Comparability

- All results were reported in common units (µg/L) facilitating comparison of the data.

100-FR-3 Qualification Summary

Pesticides/PCBs
Calibration

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0068-ITC-079	40272	4,4'-DDD	MINOR	UJ	BOBMW8, BOBMX2, BOBMY0, BOBMZ2, BOBMZ8, BOBMP0	Initial calibration RSD exceeded acceptance criteria.
W0068-ITC-079	40272	dieldrin	MINOR	UJ	BOBMZ8	Initial calibration RSD exceeded acceptance criteria.
W0068-ITC-079	40272	endrin ketone	MINOR	UJ	BOBMZ8	Initial calibration RSD exceeded acceptance criteria.
W0068-ITC-079	40272	heptachlor	MINOR	UJ	BOBMW8, BOBMX2, BOBMY0, BOBMZ2, BOBMZ8, BOBMP0	Initial calibration RSD exceeded acceptance criteria.
W0068-ITC-079	40272	heptachlor epoxide	MINOR	UJ	BOBMW8, BOBMX2, BOBMY0, BOBMZ2, BOBMZ8, BOBMP0	Initial calibration RSD exceeded acceptance criteria.

Pesticides/PCBs
Hold Time

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0055-ITC-060	40267	All reported analytes	MINOR	UJ	BOBMX6, BOBMQ6	Hold time exceeded.
W0068-ITC-079	40272	All reported analytes	MINOR	UJ	BOBMP0	Hold time exceeded.

TABLE 4.1

5.0 METALS DATA VALIDATION SUMMARY

5.1 SUMMARY

This section presents a summary of the metals data validation results and review against the Work Plan (DOE-RL 1988). Where appropriate, major deficiencies are identified which required qualification of data as unusable (R for detects, UR for non-detects) and minor deficiencies are identified which resulted in qualification of associated data as estimated (J for detected values greater than the CRDL, BJ for detected values less than the CRDL but greater than the IDL, and UJ for non-detected values) or non-detect (U) due to blank contamination. Table 1.2 shows the data package identification, HEIS sample ID numbers, sample collection date, sample type, and analyses performed.

Precision

- Laboratory duplicate RPD results were acceptable with the exception of minor exceedances for iron, aluminum, barium, lead, manganese, calcium, magnesium, and sodium.

- Laboratory graphite furnace atomic absorption (GFAA) duplicate injections were acceptable for results greater than the IDL.

Accuracy

- Matrix spike recoveries were acceptable with the exception of lead, selenium, and aluminum.

- Graphite furnace AA anlytical spike recoveries were acceptable with the exception of lead, selenium, and thallium.

- Laboratory control standard recoveries were acceptable.

Representativeness

- Field duplicate RPD values were acceptable with the exception of chromium, calcium, iron, manganese, and nickel. The field duplicate results are summarized in Appendix M.

Completeness

- Overall 1175 determinations were reported. Out of the 1175 results reported, there were no results determined to be unusable. All inorganic results were deemed valid. This results in a completeness of 100% for precision and accuracy, which meets the program requirement of 90%.

Comparability

- All results were reported in common units (µg/L) facilitating comparison of the data.

9613501.1212

100-FR-3 Qualification Summary

Inorganics
Accuracy

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0062-ITC-062	40266	lead	MINOR	BJ/UJ	BOBMT0, BOBMT1, BOBMT8, BOBMT9, BOBMW0, BOBMW1, BOBMV2	The analytical spike recovery was outside the limit of 85 - 115%.
W0062-ITC-062	40266	selenium	MINOR	BJ/UJ	BOBMV3, BOBMR0, BOBMR1, BOBMR8, BOBMR9, BOBMT0, BOBMT1, BOBMP4, BOBMP5, BOBMW0, BOBMW1	The analytical spike recovery was outside the limit of 85 - 115%.
W0062-ITC-062	40266	selenium	MINOR	BJ/UJ	BOBMV3, BOBMR1, BOBMR9, BOBMT1, BOBMT9, BOBMP5, BOBMW1	The MS recovery was <75%.
W0055-ITC-060	40267	lead	MINOR	BJ	BOBMQ7	The analytical spike recovery was outside the limit of 85 - 115%.
W0055-ITC-060	40267	selenium	MINOR	BJ	BOBMT5, BOBMQ6	The analytical spike recovery was outside the limit of 85 - 115%.
W0055-ITC-060	40267	selenium	MINOR	UJ	BOBMR5, BOBMS3, BOBMS6, BOBMS7	The analytical spike recovery was outside the limit of 85 - 115%.
W0055-ITC-060	40267	thallium	MINOR	UJ	BOBMQ6	The analytical spike recovery was outside the limit of 85 - 115%.
BOBMY8-TMA-779	40271	aluminum	MINOR	J	BOBMY9	The MS recovery was <75%.
W0068-ITC-079	40272	selenium	MINOR	BJ	BOBMP1	The analytical spike recovery was outside the limit of 85 - 115%.
W0068-ITC-079	40272	thallium	MINOR	UJ	BOBMP0, BOBMP1, BOBMX2, BOBMX3	The analytical spike recovery was outside the limit of 85 - 115%.
W0082-ITC-096	40276	lead	MINOR	J/UJ	BOBMQ2, BOBMQ3, BOBMP8, BOBMP9, BOBMV6, BOBMV7	The MS/MSD recoveries were between 30 and 75%.
W0082-ITC-096	40276	selenium	MINOR	J	BOBMV6	The analytical spike recovery was outside the limit of 85 - 115%.

Inorganics
Blanks

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
BOBMY4-TMA-760	40256	arsenic	MINOR	UJ	BOBMY5	The calibration and/or preparation blank was positive with sample results <10x the blank.
BOBMY4-TMA-760	40256	iron	MINOR	U	BOBMY4, BOBMY5	The calibration and/or preparation blank was positive with sample results <10x the blank.
BOBMY4-TMA-760	40256	manganese	MINOR	U	BOBMY4, BOBMY5	The calibration and/or preparation blank was positive with sample results <10x the blank.
W0062-ITC-062	40266	copper	MINOR	BJ/J	BOBMV3, BOBMT1, BOBMP5	The negative preparation and/or calibration blanks had absolute values >IDL but <CRDL.
W0062-ITC-062	40266	copper	MINOR	UJ	BOBMV2, BOBMR0, BOBMR1, BOBMR8, BOBMR9, BOBMT0, BOBMT8, BOBMT9, BOBMP4, BOBMW0, BOBMW1	The negative preparation and/or calibration blanks had absolute values >IDL but <CRDL.
W0062-ITC-062	40266	iron	MINOR	U	BOBMR8, BOBMT9, BOBMW1	The calibration and/or preparation blank was positive with sample results <10x the blank.

TABLE 5.1

9613501.1213

100-BR-3 Qualification Summary

Inorganics
Blanks (cont.)

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0062-ITC-062	40266	iron	MINOR	UJ	BOBMV3, BOBMR9, BOBMT0, BOBMT1, BOBMV2, BOBMR0, BOBMR1, BOBMT8	The negative preparation and/or calibration blanks had absolute values >IDL but <CRDL.
W0062-ITC-062	40266	potassium	MINOR	BJ/J	BOBMR0, BOBMR9, BOBMT0, BOBMP4, BOBMP5	The negative preparation and/or calibration blanks had absolute values >IDL but <CRDL.
W0062-ITC-062	40266	potassium	MINOR	UJ	BOBMR1, BOBMR8	The negative preparation and/or calibration blanks had absolute values >IDL but <CRDL.
W0062-ITC-062	40266	zinc	MINOR	U	BOBMV2, BOBMR0, BOBMR1, BOBMR8, BOBMR9, BOBMT0, BOBMT9, BOBMP5,	The calibration and/or preparation blank was positive with sample results <10x the blank.
W0055-ITC-060	40267	iron	MINOR	U	BOBMQ7, BOBMR4, BOBMS3, BOBMS6, BOBMS7, BOBMT4, BOBMT5, BOBMX6, BOBMX7, BOBMR5	The calibration and/or preparation blank was positive with sample results <10x the blank.
BOBMY8-TMA-779	40271	chromium copper iron barium	MINOR	U	BOBMY9	The calibration and/or preparation blank was positive with sample results <10x the blank.
BOBMY8-TMA-779	40271	chromium copper iron manganese barium	MINOR	U	BOBMY8	The calibration and/or preparation blank was positive with sample results <10x the blank.
W0068-ITC-079	40272	aluminum	MINOR	BJ	BOBMY0, BOBMY1	The negative preparation and/or calibration blanks had absolute values >IDL but <CRDL.
W0068-ITC-079	40272	calcium	MINOR	U	BOBMZ2, BOBMZ3, BOBMZ8, BOBMZ9	The calibration and/or preparation blank was positive with sample results <10x the blank.
W0068-ITC-079	40272	copper	MINOR	UJ	BOBMW8, BOBMW9, BOBMY0, BOBMY1	The negative preparation and/or calibration blanks had absolute values >IDL but <CRDL.
W0068-ITC-079	40272	iron	MINOR	U	BOBMW9, BOBMY0, BOBMY1, BOBMP0, BOBMP1, BOBMX2, BOBMX3, BOBMZ2, BOBMZ3	The calibration and/or preparation blank was positive with sample results <10x the blank.
W0068-ITC-079	40272	lead	MINOR	U	BOBMP0, BOBMP1, BOBMX2, BOBMX3, BOBMZ3	The calibration and/or preparation blank was positive with sample results <10x the blank.
W0068-ITC-079	40272	potassium	MINOR	UJ	BOBMY0, BOBMY1	The negative preparation and/or calibration blanks had absolute values >IDL but <CRDL.
W0068-ITC-079	40272	sodium	MINOR	U	BOBMZ8, BOBMZ9	The calibration and/or preparation blank was positive with sample results <10x the blank.
W0068-ITC-079	40272	zinc	MINOR	U	BOBMW8, BOBMY0,	The calibration and/or preparation blank was positive with sample results <10x the blank.
W0082-ITC-096	40276	iron	MINOR	U	BOBMQ2, BOBMQ3, BOBMP8, BOBMP9, BOBMV6, BOBMV7	The calibration and/or preparation blank was positive with sample results <10x the blank.

TABLE 5.1

9613501.1214

100-FR-3 Qualification Summary

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0082-ITC-096	40276	lead	MINOR	U	BOBMQ2, BOBMP9, BOBMV6	The calibration and/or preparation blank was positive with sample results <10x the blank.
W0082-ITC-096	40276	zinc	MINOR	U	BOBMQ2, BOBMQ3, BOBMP8, BOBMP9, BOBMV6, BOBMV7	The calibration and/or preparation blank was positive with sample results <10x the blank.

Inorganics
Precision

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0055-ITC-060	40267	iron	MINOR	J	BOBMQ6, BOBMW5	Duplicate criteria not met.
BOBMY8-TMA-779	40271	aluminum manganese barium	MINOR	BJ/J	BOBMY9	Duplicate criteria not met.
BOBMY8-TMA-779	40271	calcium magnesium	MINOR	BJ/J	BOBMY9	Duplicate criteria not met.
BOBMY8-TMA-779	40271	calcium magnesium sodium	MINOR	BJ/J	BOBMY8	Serial dilution >10% difference.
BOBMY4-TMA-760	40256	lead	MINOR	BJ	BOBMY4	Duplicate criteria not met.

Table 5.1

RELATIVE PERCENT DIFFERENCE FOR FIELD QC

Validator: MC Webb
Date: 9-26-94

Constituent	Laboratory: ORK BOBMY3	Laboratory: ORK BOBM97	RPD
Hydrazine	1.00	1.00	0.0%

96-350-1215

RELATIVE PERCENT DIFFERENCE FOR FIELD QC

Validator: MC Webb
Date: 9-26-94

Constituent	Laboratory: ITC BOBMY0	Laboratory: ITC BOBMP4	RPD
VOA	Undetected	Undetected	NC
SVOA	Undetected	Undetected	NC
Pesticide/PCB	Undetected	Undetected	NC

Constituent	Laboratory: ITC BOBMY2	Laboratory: ITC BOBMP6	RPD
VOA	Undetected	Undetected	NC

Table 5.2

RELATIVE PERCENT DIFFERENCE FOR FIELD QC

Validator: MC Webb
Date: 9-26-94

Constituent		Laboratory: ITC BOBMY0	Laboratory: ITC BOBMP4	
Aluminum	200	67.10	40.00	NC
Antimony	60	50.00	50.00	0.0%
Arsenic	10	2.00	2.00	0.0%
Barium	200	22.80	23.00	0.9%
Beryllium	5	1.00	1.00	0.0%
Cadmium	5	5.00	5.00	0.0%
Calcium	5000	26100.00	26200.00	0.4%
Chromium	10	53.50	10.00	137.0%
Cobalt	50	10.00	10.00	0.0%
Copper	25	10.00	10.00	0.0%
Iron	100	246.00	182.00	< CRDL
Lead	3	2.00	2.00	0.0%
Magnesium	5000	4420.00	4520.00	2.2%
Manganese	15	4.80	5.30	9.9%
Mercury	0.2	0.20	0.20	0.0%
Nickel	40	20.00	20.00	0.0%
Potassium	5000	1000.00	1540.00	NC
Selenium	5	2.00	2.00	0.0%
Silver	10	5.00	5.00	0.0%
Sodium	5000	3040.00	3050.00	0.3%
Thallium	10	2.00	2.00	0.0%
Vanadium	50	10.00	10.00	0.0%
Zinc	20	6.50	5.00	NC
Cyanide		10.00	10.00	0.0%

Table 5.2

RELATIVE PERCENT DIFFERENCE FOR FIELD QC

Validator: MC Webb
Date: 9-26-94

Constituent		Laboratory: ITC BOBMY1	Laboratory: ITC BOBMP5	
Aluminum	200	73.40	3200.00	NC
Antimony	60	50.00	50.00	NC
Arsenic	10	2.00	2.00	NC
Barium	200	21.10	25.70	NC
Beryllium	5	10.00	1.00	NC
Cadmium	5	5.00	5.00	NC
Calcium	5000	245000.00	31800.00	155.5%
Chromium	10	45.80	1710.00	189.6%
Cobalt	50	10.00	10.70	NC
Copper	25	10.00	20.40	NC
Iron	100	132.00	5530.00	187.0%
Lead	3	2.00	2.00	NC
Magnesium	5000	4040.00	4500.00	NC
Manganese	15	3.30	111.00	188.3%
Mercury	0.2	0.20	0.20	NC
Nickel	40	20.00	625.00	187.6%
Potassium	5000	1000.00	1360.00	NC
Selenium	5	2.00	2.00	NC
Silver	10	5.00	5.00	NC
Sodium	5000	2730.00	3070.00	NC
Thallium	10	2.00	2.00	NC
Vanadium	50	10.00	10.00	NC
Zinc	20	5.00	11.30	NC

Table 5.2

RELATIVE PERCENT DIFFERENCE FOR FIELD QC

Validator: MC Webb
Date: 9-26-94

Constituent	Laboratory: ITC BOBMY0	Laboratory: ITC BOBMP4	RPD
Chloride by IC	1.40	0.40	NC
Fluoride by IC	0.40	1.60	NC
Phosphate by IC	1.00	1.00	0.0%
Sulfate by IC	17.00	16.00	6.1%
Sulfide	5.00	6.00	18.2%
Nitrite+Nitrate	0.63	0.57	10.0%
TOC	1.00	1.00	0.0%
pH	7.44	7.55	1.5%
Alkalinity	78.00	70.00	10.8%
Ammonia	0.10	0.10	0.0%
COD	1.00	1.00	0.0%
Conductivity	202.00	199.00	1.5%
TDS	136.00	166.00	19.9%
TOX	48.00	37.00	25.9%

Table 5.2

RELATIVE PERCENT DIFFERENCE FOR FIELD QC

Validator: MC Webb
Date: 9-26-94

Constituent	Laboratory: ITC BOBMY0	Laboratory: ITC BOBMP4	RPD
Alpha	1.37	Undetected	NC
Beta	36.20	31.70	13.3%
Tritium	Undetected	Undetected	NC
C14	Undetected	Undetected	NC
Sr90	17.40	15.90	9.0%
U234	7.66	Undetected	*
U235	0.13	Undetected	*
U238	5.91	Undetected	*
Pu238	Undetected	Undetected	NC
Pu239/40	Undetected	Undetected	NC
Am241	Undetected	Undetected	NC
Tc99	Undetected	2.12	NC
Gamma nuclides	Undetected	Undetected	NC

* The Uiso results for BOBMY0 are REJECTED

96-350-1220

Table 5.2

6.0 GENERAL CHEMISTRY DATA VALIDATION SUMMARY

6.1 SUMMARY

This section presents a summary of the general chemistry data validation results and review against the work plan (DOE-RL 1993). Where appropriate, major deficiencies are identified which required qualification of the data as unusable (R for detects, UR for non-detects) and minor deficiencies are identified which resulted in qualification of associated data as estimated (J for detected values, UJ for non-detected values) or non-detect (U) due to blank contamination. Table 1.2 shows the data package identification, HEIS sample ID numbers, sample collection date, sample type, and analyses performed.

Precision

- Laboratory duplicate RPD results were acceptable for all analyses with the exception of TOX.

Accuracy

- Laboratory control sample recoveries were acceptable for all data packages with the exception of alkalinity and COD.
- Matrix spike recoveries were acceptable for all data packages with the exception of TOX.

Representativeness

- Field duplicates for general chemistry were acceptable with the exception of TOX, Chloride, Sulfide, Nitrate + Nitrite, Alkalinity, Fluoride, Hydrazine, and TDS.

Completeness

- Overall 380 determinations were reported. Out of the 380 results reported, 18 results were determined to be unusable leaving 362 results which were deemed valid. This results in a completeness of 95% for precision and accuracy, which meets the program requirement of 90%.

Comparability

- All results were reported in common units for each type of analysis, facilitating comparison of results.

9613501.1222

100-FR-3 Qualification Summary

General Chemistry
Accuracy

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0055-ITC-060	40267	alkalinity	MINOR	J	BOBMS2, BOBMS3, BOBMS4, BOBMR4, BOBMR5, BOBMR6, BOBMX6, BOBMX7, BOBMX8, BOBMQ6, BOBMQ7, BOBMQ8, BOBMS6, BOBMS7, BOBMS8, BOBMT4, BOBMT5, BOBMT6, BOBMW4, BOBMW5, BOBMW6	No LCS or blank spike was analyzed.
W0055-ITC-060	40267	COD	MINOR	J/UJ	BOBMR4, BOBMW4, BOBMS2, BOBMT4, BOBMS6, BOBMQ6, BOBMX6	No LCS or blank spike was analyzed.
W0068-ITC-079	40272	Total Organic Halogens	MINOR	J	BOBMY0, BOBMZ8	The MS/MSD recoveries were >125% .
W0082-ITC-096	40276	Total Organic Halogens	MINOR	J/UJ	BOBMQ2, BOBMV6, BOBMP8	The MS/MSD recoveries were between 30 and 75%.

General Chemistry
Hold Time

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
BOBMY4-TMA-760	40256	phosphate-IC	MAJOR	UR	BOBMY4	Hold time exceeded by >2 times with sample results non-detect.
BOBMY4-TMA-760	40256	pH	MINOR	J	BOBMY4	Hold time exceeded.
W0062-ITC-062	40266	phosphate-IC	MAJOR	UR	BOBMP4, BOBMP5, BOBMP6, BOBMV2, BOBMV3, BOBMV4, BOBMR0, BOBMR1, BOBMR2, BOBMR8, BOBMR9, BOBMS0, BOBMT8, BOBMT9, BOBMV0, BOBMT0, BOBMT1, BOBMT2, BOBMW0, BOBMW1, BOBMW2	Hold time exceeded by >2 times with sample results non-detect.
W0062-ITC-062	40266	pH	MINOR	J	BOBMP4, BOBMP5, BOBMP6, BOBMV2, BOBMV3, BOBMV4, BOBMR0, BOBMR1, BOBMR2, BOBMR8, BOBMR9, BOBMS0, BOBMT8, BOBMT9, BOBMV0, BOBMT0, BOBMT1, BOBMT2, BOBMW0, BOBMW1, BOBMW2	Hold time exceeded.
W0062-ITC-062	40266	TDS	MINOR	J	BOBMP4	Hold time exceeded by <2 times.

TABLE 6.1

9613501.1223

100-FR-3 Qualification Summary

General Chemistry
Hold Time (cont.)

W0055-ITC-060	40267	phosphate-IC	MAJOR	UR	BOBMS2, BOBMS3, BOBMS4, BOBMR4, BOBMR5, BOBMR6, BOBMX6, BOBMX7, BOBMX8, BOBMQ6, BOBMQ7, BOBMQ8, BOBMS6, BOBMS7, BOBMS8, BOBMT4, BOBMT5, BOBMT6, BOBMW4, BOBMW5, BOBMW6	Hold time exceeded by >2 times with sample results non-detect.
W0055-ITC-060	40267	pH	MINOR	J	BOBMS2, BOBMS3, BOBMS4, BOBMR4, BOBMR5, BOBMR6, BOBMX6, BOBMX7, BOBMX8, BOBMQ6, BOBMQ7, BOBMQ8, BOBMS6, BOBMS7, BOBMS8, BOBMT4, BOBMT5, BOBMT6, BOBMW4, BOBMW5, BOBMW6	Hold time exceeded.
BOBMY8-TMA-779	40271	phosphate-IC	MAJOR	UR	BOBMY8	Hold time exceeded by >2 times with sample results non-detect.
BOBMY8-TMA-779	40271	pH	MINOR	J	BOBMY8	Hold time exceeded.
W0068-ITC-079	40272	phosphate-IC	MAJOR	UR	BOBMW8, BOBMYO, BOBMZ2, BOBMP0, BOBMX2, BOBMZ8	Hold time exceeded by >2 times with sample results non-detect.
W0068-ITC-079	40272	pH	MINOR	J	BOBMZ2, BOBMP0, BOBMX2, BOBMZ8, BOBMY0, BOBMW8	Hold time exceeded by <2 times.
W0068-ITC-079	40272	sulfide	MINOR	J	BOBMP0	Hold time exceeded by <2 times.
W0068-ITC-079	40272	TDS	MINOR	J	BOBMP0, BOBMY0	Hold time exceeded.
W0082-ITC-096	40276	phosphate-IC	MAJOR	UR	BOBMQ2, BOBMV6, BOBMP8	Hold time exceeded by >2 times with sample results non-detect.
W0082-ITC-096	40276	pH	MINOR	J	BOBMQ2, BOBMV6, BOBMP8	Hold time exceeded.

TABLE 6.1

9613501.1224

100-FR-3 Qualification Summary

General Chemistry
Other

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0055-ITC-060	40267	alkalinity	MINOR	J	BOBMS2, BOBMS3, BOBMS4, BOBMR4, BOBMR5, BOBMR6, BOBMX6, BOBMX7, BOBMX8, BOBMQ6, BOBMQ7, BOBMQ8, BOBMS6, BOBMS7, BOBMS8, BOBMT4, BOBMT5, BOBMT6, BOBMW4, BOBMW5, BOBMW6	No initial check of titrant normality was performed.
W0055-ITC-060	40267	TDS	MINOR	J	BOBMS2, BOBMS3, BOBMS4, BOBMR4, BOBMR5, BOBMR6, BOBMX6, BOBMX7, BOBMX8, BOBMQ6, BOBMQ7, BOBMQ8, BOBMS6, BOBMS7, BOBMS8, BOBMT4, BOBMT5, BOBMT6, BOBMW4, BOBMW5, BOBMW6	No analytical balance check was performed.
W0068-ITC-079	40272	TDS	MINOR	J	BOBMW8, BOBMYO, BOBMZ2, BOBMP0, BOBMX2, BOBMZ8	No analytical balance check was performed.

General Chemistry
Precision

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0055-ITC-060	40267	Total Organic Halogens	MINOR	J	BOBMX6	Duplicate criteria not met.

TABLE 6.1

7.0 RADIOCHEMISTRY DATA VALIDATION SUMMARY

7.1 SUMMARY

This section presents a summary of the radiochemistry data validation results and review against the work plan (DOE-RL 1994). Where appropriate, major deficiencies are identified which required qualification of the data as unusable (R for detects, UR for non-detects) and minor deficiencies are identified which resulted in qualification of associated data as estimated (J for detected values, UJ for non-detected values). Table 1.2 shows the data package identification, HEIS sample ID numbers, sample collection date, sample type, and analyses performed.

Precision

- Laboratory duplicate RPD results were acceptable for data packages with the exception of strontium-90, uranium-234, uranium-235, and uranium-238.

Accuracy

- Chemical recoveries were acceptable for samples with the exception of uranium-234, uranium-235, and uranium-238.

- Laboratory control sample recoveries were acceptable for all results with the exception of uranium-234, uranium-235, and uranium-238.

Representativeness

- Field duplicate precision was acceptable with the exception of strontium-90, U-234, and U-238.

Completeness

- Overall, 515 water samples were validated for radiochemistry with 515 results reported. Out of the 515 results reported, zero (0) results were determined to be unusable leaving 515 results which were deemed valid. This results in a completeness of 100% which meets the work plan objective of 90% for precision and accuracy (DOE-RL 1993).

Comparability

- All results were reported in common units [picocuries per liter (PCi/L, or micrograms per liter (µg/L)] facilitating comparison of results.

9613501.1236

100-FR-3 Qualification Summary

Radiochemistry
Accuracy

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
W0055-ITC-060	40267	uranium-235	MINOR	J	BOBMS2, BOBMS6, BOBMW4	The LCS recovery was outside the limit of 75 - 125%.
W0055-ITC-060	40267	uranium-235	MINOR	UJ	BOBMQ6, BOBMX6, BOBMT4, BOBMR4	The LCS recovery was outside the limit of 75 - 125%.
W0068-ITC-079	40272	uranium-235	MINOR	J/UJ	BOBMW8, BOBMP0, BOBMX2, BOBMZ2, BOBMZ8	The LCS recovery was outside the limit of 75 - 125%.
W0082-ITC-096	40276	uranium-234	MINOR	J	BOBMV6, BOBMP8 reanalysis results	The LCS recovery was outside the limit of 75 - 125%.
W0082-ITC-096	40276	uranium-235	MINOR	UJ	BOBMQ2	The LCS recovery was outside the limit of 75 - 125%.

Radiochemistry
Blanks

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
BOBMY8-TMA-779	40271	technetium-99	MINOR	U	BOBMY8	The method blank was positive with sample results <5X the associated blank value.
W0068-ITC-079	40272	technetium-99	MINOR	U	BOBMW8	The method blank was positive with sample results <5X the associated blank value.

Radiochemistry
Precision

SDG	VW#	ANALYTE	TYPE	QUALIFIER	SAMPLES AFFECTED	REASON
BOBMY4-TMA-760	40256	strontium-90	MINOR	J	BOBMY4	Duplicate criteria not met.
W0068-ITC-079	40272	uranium-234 uranium-235 uranium-238	MINOR	J/UJ	BOBMW8, BOBMP0, BOBMX2, BOBMZ2, BOBMZ8	No duplicate performed in batch.

Table 7.1

8.0 REFERENCES

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

WHC 1993, *Data Validation Procedures for Radiochemical Analyses*, WHC-SD-EN-SPP-001, Rev. 1, Westinghouse Hanford Company, Richland, Washington.

DOE 1992, *Remedial Investigation/Feasibility Study for the 100-FR-3 Operable Unit*, DOE/RL 91-53, Rev. 1, Department of Energy-Hanford, Richland, Washington.

APPENDIX A

VOLATILE ORGANIC VALIDATED DATA SUMMARY TABLES

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE#:VW402.56		HEIS #:	B0BMY4		B0BMY6	
		Date:	6-May-94		6-May-94	
		Matrix:	WATER		WATER	
Constituent	CAS #	Units	Results	Q		
Chloromethane	74-87-3	µg/L	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U
Methylene Chloride	75-09-2	µg/L	1	J	10	U
Acetone	67-64-1	µg/L	10	U	10	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U
1,2-Dichloroethene	540-59-0	µg/L	10	U	10	U
Chloroform	67-66-3	µg/L	1	J	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U
cis-1,3-Dichlorpropene	10061-01-5	µg/L	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U
4-Methyl-2-pentanone	108-10-1	µg/L	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U

entered by: [illegible]
date: 6-26-94

shaded areas indicate changes by the validator
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checked by: [illegible]
date: 7/26/94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMP4		B0BMP6		B0BMR0		B0BMR2	
		Date:	18-May-94		18-May-94		11-May-94		11-May-94	
		Matrix:	WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	10	U	1	J	10	U	10	U
Acetone	67-64-1	µg/L	10	U	10	U	10	U	14	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U	10	U	2	J
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U	10	U
4-Methyyl-2-Pentanone	110-75-8	µg/L	10	U	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U	10	U

entered by: BM
date: 9-17-94

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by validator ITC062

checked by: BM
date: 9-17-94
KMO 9-20-94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMR8		B0BMS0		B0BMT0		B0BMT2	
		Date:	11-May-94		11-May-94		12-May-94		12-May-94	
		Matrix:	WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	10	U	10	U	10	U	1	J
Acetone	67-64-1	µg/L	10	U	14	U	10	U	10	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	2	J	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	2	J	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U	10	U
4-Methyyl-2-Pentanone	110-75-8	µg/L	10	U	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U	10	U

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date: 9-17-94

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date: 9-17-94

9-20-94

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VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMT8		B0BMV0		B0BMV2		B0BMV4	
		Date:	12-May-94		12-May-94		10-May-94		10-May-94	
		Matrix:	WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	*10*	*U*	*10*	*U*	10	*U*	*10*	*U*
Acetone	67-64-1	µg/L	*10*	*U*	*10*	*U*	*10*	*U*	14	*U*
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U	31	
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U	10	U	2	J
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	20		1	J	10	U	36	
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U	10	U
1,2-Dichloropropane –	78-87-5	µg/L	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	20		10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U	10	U
4-Methyyl-2-Pentanone	110-75-8	µg/L	10	U	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U	4	J
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U	10	U

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date: 9-17-94

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checked by: BM
date: 9-17-
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VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMW0		B0BMW2	
		Date:	19-May-94		12-May-94	
		Matrix:	WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U
Methylene Chloride	75-09-2	µg/L	10	U	1	J
Acetone	67-64-1	µg/L	10	U	10	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U
Trichloroethene	79-01-6	µg/L	3	J	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U
4-Methyyl-2-Pentanone	110-75-8	µg/L	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U

entered by: BM
date: 9-17-94

shaded areas show changes
by validator ITC062

checked by: BM
date: 9-17-94

[redacted] 9-20-94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMQ6		B0BMQ8		B0BMX6	
		Date:	6-May-94		6-May-94		6-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	***10***	***U***	***10***	***U***	***10***	***U***
Acetone	67-64-1	µg/L	16	***U***	13	***U***	***10***	***U***
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	1	J	10	U	1	J
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	2	J	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U
4-Methyyl-2-Pentanone	108-10-1	µg/L	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U

entered by: [illegible]
date: 9-26-94

shaded areas indicate changesby validator
40267TBL.XLS

checked by: BM
date: 9-26-94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMR4		B0BMR6	
		Date:	11-May-94		11-May-94	
		Matrix:	WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U
Methylene Chloride	75-09-2	µg/L	***10***	***U***	***10***	***U***
Acetone	67-64-1	µg/L	***10***	***U***	17	***U***
Carbon Disulfide	75-15-0	µg/L	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	2	J
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	7	J	6	J
Bromodichloromethane	75-27-4	µg/L	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U
4-Methyyl-2-Pentanone	108-10-1	µg/L	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	1	J	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U

entered by: [illegible]
date: 9-26-94

shaded areas indicate changesby validator
40267TBL.XLS

checked by: BM
date: 9-26-94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMX8		B0BMS2		B0BMS4	
		Date:	6-May-94		10-May-94		10-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	***10***	***U***	***10***	***U***	***10***	***U***
Acetone	67-64-1	µg/L	56	B	12	***U***	26	***U***
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	8	J	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	6	J	1	J	***10***	***U***
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	4	J	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U
4-Methyyl-2-Pentanone	108-10-1	µg/L	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	***10***	***U***	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U

entered by: ~~
date: 9-26-94

shaded areas indicate changesby validator
40267TBL.XLS

checked by: BM
date: 9-26-94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMS6		B0BMS8		B0BMT4	
		Date:	10-May-94		10-May-94		9-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	***10***	***U***	***10***	***U***	***10***	***U***
Acetone	67-64-1	µg/L	***10***	***U***	14	***U***	15	***U***
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	7	J	10	U	1	J
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	2	J	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	2	J	10	U	2	J
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U
4-Methyyl-2-Pentanone	108-10-1	µg/L	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U

entered by: [illegible]
date: 9-26-94

shaded areas indicate changesby validator
40267TBL.XLS

checked by: BM
date: 9-26-94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMT6		B0BMW4		B0BMW6	
		Date:	9-May-94		9-May-94		9-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	***10***	***U***	***10***	***U***	***10***	***U***
Acetone	67-64-1	µg/L	13	***U***	***10***	***U***	12	***U***
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	J	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	4	J	10	U	3	J
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U
4-Methyyl-2-Pentanone	108-10-1	µg/L	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U

entered by: [illegible]
date: 9-26-94

shaded areas indicate changesby validator
40267TBL.XLS

checked by: BM
date: 9-26-94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.71		HEIS #:	BOBMY8		BOBMZ0	
		Date:	18-May-94		18-May-94	
Constituent		Matrix:	WATER		WATER	
	CAS #	Units	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U
Methylene Chloride	75-09-2	µg/L	10	U	10	U
Acetone	67-64-1	µg/L	10	U	10	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U
cis-1,3-Dichloropropene	0061-01-5	µg/L	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U
trans-1,3-Dichloropropene	0061-02-6	µg/L	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U
4-Methyl-2-pentanone	108-10-1	µg/L	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U

entered by: CMS
date: 9/7/94

shaded areas show changes by validator
TMA779.XLS

checked by: date:

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.72		HEIS #:	BOBMP0		BOBMP2		BOBMW8	
		Date:	17-May-94		17-May-94		19-May-94	
Constituent		Matrix:	WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	UJ	10	UJ	10	U
Bromomethane	74-83-9	µg/L	10	UJ	10	UJ	10	U
Vinyl Chloride	75-01-4	µg/L	10	UJ	10	UJ	10	UJ
Chloroethane	75-00-3	µg/L	10	UJ	10	UJ	10	U
Methylene Chloride	75-09-2	µg/L	10	UJ	1	J	2	J
Acetone	67-64-1	µg/L	5	J	12	J	11	
Carbon Disulfide	75-15-0	µg/L	10	UJ	10	UJ	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	UJ	10	UJ	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	UJ	10	UJ	10	U
1,2-Dichloroethene (total)	40-59-0	µg/L	10	UJ	10	UJ	10	U
Chloroform	67-66-3	µg/L	10	UJ	10	UJ	10	U
1,2-Dichloroethane	07-06-2	µg/L	10	UJ	10	UJ	10	U
2-Butanone	78-93-3	µg/L	10	UJ	10	UJ	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	UJ	10	UJ	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	UJ	10	UJ	10	U
Bromodichloromethane	75-27-4	µg/L	10	UJ	10	UJ	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	UJ	10	UJ	10	U
cis-1,3-Dichloropropene	61-01-5	µg/L	10	UJ	10	UJ	10	U
Trichloroethene	79-01-6	µg/L	10	UJ	10	UJ	10	U
Dibromochloromethane	24-48-1	µg/L	10	UJ	10	UJ	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	UJ	10	UJ	10	U
Benzene	71-43-2	µg/L	10	UJ	10	UJ	10	U
trans-1,3-Dichloropropene	61-02-6	µg/L	10	UJ	10	UJ	10	U
Bromoform	75-25-2	µg/L	10	UJ	10	UJ	10	U
4-Methyl-2-pentanone	08-10-1	µg/L	10	UJ	10	UJ	10	U
2-Hexanone	91-78-6	µg/L	10	UJ	10	UJ	10	U
Tetrachloroethene	27-18-4	µg/L	10	UJ	10	UJ	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	UJ	10	UJ	10	U
Toluene	08-88-3	µg/L	10	UJ	10	UJ	10	U
Chlorobenzene	08-90-7	µg/L	10	UJ	10	UJ	10	U
Ethylbenzene	00-41-4	µg/L	10	UJ	10	UJ	10	U
Styrene	00-42-5	µg/L	10	UJ	10	UJ	10	U
Xylene (Total)	30-20-7	µg/L	10	UJ	10	UJ	10	U

entered by: BM
date: 9.15.94

shaded areas show changes by validator
ITC079.XLS

checked by: [illegible]
date: 7-14-94

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.72		HEIS #:	B0BMX0		B0BMX2		B0BMX4	
		Date:	19-May-94		23-May-94		23-May-94	
Constituent		Matrix:	WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	UJ	10	UJ	10	UJ
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	2	J	10	U	1	J
Acetone	67-64-1	µg/L	18		10		14	
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethene (total)	40-59-0	µg/L	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethane	07-06-2	µg/L	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U
cis-1,3-Dichloropropene	61-01-5	µg/L	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	2	J	10	U
Dibromochloromethane	24-48-1	µg/L	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U
trans-1,3-Dichloropropene	61-02-6	µg/L	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U
4-Methyl-2-pentanone	08-10-1	µg/L	10	U	10	U	10	U
2-Hexanone	91-78-6	µg/L	10	U	10	U	10	U
Tetrachloroethene	27-18-4	µg/L	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	UJ	10	UJ
Toluene	08-88-3	µg/L	10	U	10	U	10	U
Chlorobenzene	08-90-7	µg/L	10	U	10	U	10	U
Ethylbenzene	00-41-4	µg/L	10	U	10	U	10	U
Styrene	00-42-5	µg/L	10	U	10	U	10	U
Xylene (Total)	30-20-7	µg/L	10	U	10	U	10	U

entered by: BM
date: 9-15-94

shaded areas show changes by validator
ITC079.XLS

checked by: [illegible]
date: 4-19-

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.72		HEIS #:	B0BMY0		B0BMZ6		B0BMY2	
		Date:	18-May-94		20-May-94		18-May-94	
Constituent		Matrix:	WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	UJ	10	UJ	10	UJ
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	3	J	1	J	3	J
Acetone	67-64-1	µg/L	17		12		15	
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethene (total)	40-59-0	µg/L	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethane	07-06-2	µg/L	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	U	10	U
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	U	10	U
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U
cis-1,3-Dichloropropene	61-01-5	µg/L	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	10	U
Dibromochloromethane	24-48-1	µg/L	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U
trans-1,3-Dichloropropene	61-02-6	µg/L	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U
4-Methyl-2-pentanone	08-10-1	µg/L	10	U	10	U	10	U
2-Hexanone	91-78-6	µg/L	10	U	10	U	10	U
Tetrachloroethene	27-18-4	µg/L	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	UJ	10	U
Toluene	08-88-3	µg/L	10	U	10	U	10	U
Chlorobenzene	08-90-7	µg/L	10	U	10	U	10	U
Ethylbenzene	00-41-4	µg/L	10	U	10	U	10	U
Styrene	00-42-5	µg/L	10	U	10	U	10	U
Xylene (Total)	30-20-7	µg/L	10	U	10	U	10	U

entered by: BM
date: 9-15-94

shaded areas show changes by validator
ITC079.XLS

checked by: [illegible]
date: 9-14-9

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.72		HEIS #:	B0BMZ2		B0BMZ8		B0BNO0	
		Date:	20-May-94		25-May-94		25-May-94	
Constituent		Matrix:	WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	UJ	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	1	J	10	U	10	U
Acetone	67-64-1	µg/L	7	J	14	U	14	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	U	10	UJ	10	UJ
Carbon Tetrachloride	56-23-5	µg/L	10	U	10	UJ	10	UJ
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U
cis-1,3-Dichloropropene	0061-01-5	µg/L	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U
trans-1,3-Dichloropropene	0061-02-6	µg/L	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U
4-Methyl-2-pentanone	108-10-1	µg/L	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	UJ	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U
Xylene (Total)	1330-20-7	µg/L	10	U	10	U	10	U

entered by: ~~
date: 9-26-94

shaded areas show changes by validator
40272TBL.XLS

checked by: BM
date: 9-26-94

9612501.1244

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #: VW402.76		HEIS #:	B0BMN8		B0BMN9		B0BMP8		B0BMQ0		B0BMQ2	
		Date:	6-Jun-94		6-Jun-94		3-Jun-94		3-Jun-94		1-Jun-94	
Constituent		Matrix:	WATER		WATER		WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	28	U	27	U	23	U	27	U	27	U
Acetone	67-64-1	µg/L	23	U	34	U	10	U	15	U	15	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Carbon Tetrachloride	56-23-5	µg/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	061-01-5	µg/L	10	U	10	U	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	10	U	10	U	10	U	2	J
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	061-02-6	µg/L	10	U	10	U	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U	10	U	10	U
4-Methyl-2-pentanone	108-10-1	µg/L	10	U	10	U	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	10	U	10	U	10	U	10	U
Chlorobenzene	108-90-7	µg/L	10	U	10	U	10	U	10	U	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U	10	U	10	U
Xylene (Total)	330-20-7	µg/L	10	U	10	U	10	U	10	U	10	U

shaded areas indicate changes by validator
40276TBL.XLS

entered by: [illegible] date: 9/26/94

checked by: [illegible] date: 9/26/[illegible]

96125011245

VOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.76		HEIS #:	B0BMQ4		B0BMV6		B0BMV8	
		Date:	1-Jun-94		6-Jun-94		6-Jun-94	
Constituent		Matrix:	WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q
Chloromethane	74-87-3	µg/L	10	U	10	U	10	U
Bromomethane	74-83-9	µg/L	10	U	10	U	10	U
Vinyl Chloride	75-01-4	µg/L	10	U	10	U	10	U
Chloroethane	75-00-3	µg/L	10	U	10	U	10	U
Methylene Chloride	75-09-2	µg/L	24	U	23	U	24	U
Acetone	67-64-1	µg/L	20	U	10	U	24	U
Carbon Disulfide	75-15-0	µg/L	10	U	10	U	10	U
1,1-Dichloroethene	75-35-4	µg/L	10	U	1	J	10	J
1,1-Dichloroethane	75-34-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethene (total)	540-59-0	µg/L	10	U	10	U	10	U
Chloroform	67-66-3	µg/L	10	U	10	U	10	U
1,2-Dichloroethane	107-06-2	µg/L	10	U	10	U	10	U
2-Butanone	78-93-3	µg/L	10	U	10	U	10	U
1,1,1-Trichloroethane	71-55-6	µg/L	10	UJ	10	UJ	10	UJ
Carbon Tetrachloride	56-23-5	µg/L	10	UJ	10	UJ	10	UJ
Bromodichloromethane	75-27-4	µg/L	10	U	10	U	10	U
1,2-Dichloropropane	78-87-5	µg/L	10	U	10	U	10	U
cis-1,3-Dichloropropene	061-01-5	µg/L	10	U	10	U	10	U
Trichloroethene	79-01-6	µg/L	10	U	6	J	10	U
Dibromochloromethane	124-48-1	µg/L	10	U	10	U	10	U
1,1,2-Trichloroethane	79-00-5	µg/L	10	U	10	U	10	U
Benzene	71-43-2	µg/L	10	U	2	J	10	U
trans-1,3-Dichloropropene	061-02-6	µg/L	10	U	10	U	10	U
Bromoform	75-25-2	µg/L	10	U	10	U	10	U
4-Methyl-2-pentanone	108-10-1	µg/L	10	U	10	U	10	U
2-Hexanone	591-78-6	µg/L	10	U	10	U	10	U
Tetrachloroethene	127-18-4	µg/L	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	10	U	10	U	10	U
Toluene	108-88-3	µg/L	10	U	2	J	10	U
Chlorobenzene	108-90-7	µg/L	10	U	2	J	10	U
Ethylbenzene	100-41-4	µg/L	10	U	10	U	10	U
Styrene	100-42-5	µg/L	10	U	10	U	10	U
Xylene (Total)	330-20-7	µg/L	10	U	10	U	10	U

entered by: [illegible] date: 9-26-94

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40276TBL.XLS

checked by: [illegible] date: 9/26/94

APPENDIX B

VOLATILE ORGANIC VALIDATED LABORATORY REPORT FORMS

9613501.1247

Rev. 00

000112

EPA SAMPLE NO.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01G

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D14

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	1	J
67-64-1	Acetone	10	U
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	1	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
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	U
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

9613501.1248

000113
EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01G

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D14

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

BM 8.10.94
cma 9/8/9

9613501.1249

000114
EPA SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

B0BMY6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D11

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

BM 8-10-94

FORM I VOA

OKD 9/8/94

9613501.1250

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B0BMY6

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40516D11

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

BM
8-10-94
CMS
9/8/94

9613501.1251

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9595

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9595

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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	~~BJU~~
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	U
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	U
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

FORM I VOA 3/90

8-22-94 (WJC)

9613501.1252

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9595

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9595

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (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/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	2.00	7	J

IN
BM 9-30-94

FORM I VOA-TIC 3/90

MCO 9-20-94

9613601.1253

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9608

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9608

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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	1 X10	~~B~~ J
67-64-1	Acetone	10	B U
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	U
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	U
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

BM 9-30-9 NO Qual MEMCHECK BM 9-17-1X

FORM I VOA 3/90

8-22-00 (WJC)

9613601.1254

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9608

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9608

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94

~~000033~~

9613601.1255

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8919

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8919

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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	~~5~~ 10	~~B~~ U
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	U
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	U
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

FORM I VOA 3/90

8-22-94 WJC

9613501.1256

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8919

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8919

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

8-22-94 (USC)

3/90

9613501.1257

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8945

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX16

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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	~~5~~ 10	~~B~~ U
67-64-1	Acetone	14	~~B~~ U
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	2	J
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	U
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

8-22-94 WJC

9613601.1258

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BOBMR2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8945

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX16

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

8-22-94 (WJC)

9613501.1259

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8931

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX15

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	~~8~~ 10	~~B~~ U
67-64-1	Acetone	~~8~~ 10	~~B~~ U
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	U
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	U
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

FORM I VOA 3/90

8-22-94 WJC

9613601.1260

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8931

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX15

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613501.1261

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8946

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX17

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	~~8~~ 10	~~B~~ U
67-64-1	Acetone	14	~~B~~ U
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	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	2	J
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	U
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

9613501.1262

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMS0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8946

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX17

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-625 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

8-22-94 WTC

3/90

9613601.1263

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9058

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX19

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	~~5~~ 10	~~B~~ U
67-64-1	Acetone	~~9~~ 10	~~B~~ U
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	U
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	U
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

8-22-94 (WE) ~~000042~~

9613501.1264

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9058

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX19

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

8-22-94 (Voc) 3/90

9613601.1265

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9073

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9073

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	1 ~~X10~~	~~B~~ J
67-64-1	Acetone	~~B~~10	~~BJ~~ U
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	U
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	U
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

No qualifiers Mock Bn 9-30-94

FORM I VOA 3/90

8-22-94

9613601.1266 1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9073

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9073

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613601.1267

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9046

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX18

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	~~5~~ 10	~~BJ~~ U
67-64-1	Acetone	~~8~~ 10	~~BJ~~ U
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	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	20	
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	U
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

FORM I VOA 3/90

8-22-94 WJC

~~000040~~

9613501.1268

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9046

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX18

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

8-22 3/90

9613601.1269

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9072

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX20

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	~~8~~ 10	~~B~~ U
67-64-1	Acetone	~~8~~ 10	~~B~~ U
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	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	1	J
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	U
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

8-22-94 WJC

9613501.1270

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9072

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX20

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94 WSC

~~000345~~

9613501.1271

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8882

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX07

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	~~B~~ U
67-64-1	Acetone	~~5~~ 10	~~B~~ U
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	U
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	20	
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	U
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

FORM I VOA

8-22-94 (WJC)

9613601.1272

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8882

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX07

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94 000080

VBJC

9613601.1273

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8901

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX10

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	~~80~~ 810	~~B~~ U
67-64-1	Acetone	14	~~B~~ U
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	31	
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	36	
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	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	4	J
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

9613601.1274

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8901

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX10

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

3/90

8-22-94 WJC

9613501.1275

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9572

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9572

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	~~5~~ 10	~~B~~ U
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	U
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	3	J
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	U
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

FORM I VOA

8-22-94 (WJC)

~~000054~~

9613601.1276

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9572

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9572

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	UNKNOWN	2.00	8	J	JN
2.	UNKNOWN ALKANE	16.27	11	J	JN

BM 9-30-94

FORM I VOA-TIC 3/90

8-22-94

9613501.1277

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9586

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9586

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	1	J
67-64-1	Acetone	~~8~~10	~~B~~ U
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	U
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	U
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

FORM I VOA

8-22-94 WJJ

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9613601.1278

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9586

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9586

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/25/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

8-22-94

3/90

9613501.1279

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8780

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP11

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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 ~~2~~	~~B~~ ~~104~~ U
67-64-1	Acetone	16	~~B~~ U
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	1	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
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	U
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

BM 9-30-94

FORM I VOA 3/90

BM 8-26-94

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9613501.1280

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMQ6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8780

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP11

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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BM 8.26.94 3/90

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9613601.1281

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8812

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP15

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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 2	~~BJ~~ U BM 9-30-94
67-64-1	Acetone	13	~~B~~ U
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	2	J
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	U
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

BM 8-26-94

9613501.1282

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMQ8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8812

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP15

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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3/90

9613501.1283

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8796R

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8796R

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/17/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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 ~~1~~	~~BJ 10U~~ U BM 9.30.94
67-64-1	Acetone	10 ~~7~~	~~BJ 10U~~ U
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	1	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
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	U
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

FORM I VOA 3/90

BM 8-26-94

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9613501.1284

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMX6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8796R

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8796R

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/17/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

BM
8-26-94

3/90

9613601.1285 1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 537 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8904

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX12

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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 8	~~B 10/09~~ U BM
67-64-1	Acetone	10 8	~~B 10/09~~ U 9-30-94
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	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	7	J
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	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	1	J
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

BM 8-26-94

9613501.1286
1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 537 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8904

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX12

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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JM 9/29/94

9613601.1287 1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 537 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8917

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX13

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	108	~~B~~ U BM 9-30-94
67-64-1	Acetone	17	~~B~~ U
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	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	6	J
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	U
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

9613501.1288 1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMR6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 537 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8917

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEX13

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: not dec. ____ Date Analyzed: 05/24/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

BM 8-26-94

9613601.1289

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8813

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP16

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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	~~BJ~~ 104 BM 9-30-94
67-64-1	Acetone	56	B
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	6	J
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	U
591-78-6	2-Hexanone	1	~~BJ~~ 104
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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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMX8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8813

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP16

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (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/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.15	5	J

JN BM 9-30-94

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BM 8-26-94

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9613501.1291 1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8822

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP18

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	102	~~B~~ ~~104~~ U BM 9-30-9
67-64-1	Acetone	12	~~B~~ U
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	8	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	1	J
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	4	J
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	U
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

BM 8-26-94

9613601.1292 1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMS2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8822

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP18

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613601.1293 1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8896

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AES07

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/19/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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 ~~8~~	~~BJ 10~~ U BM 9-30-9
67-64-1	Acetone	26	~~B~~ U
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 10 U
78-93-3	2-Butanone	3	~~BJ 4~~
71-55-6	1,1,1-Trichloroethane	10	U BM
56-23-5	Carbon Tetrachloride	10	U 8-26-94
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	U
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

FORM I VOA BM 8-26-94 3/90

9613501.1294 1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMS4

Lab Name: ITAS-KNOXVILLE , Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8896

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AES07

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/19/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8841

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP19

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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 2	~~BJ 10~~ U BM
67-64-1	Acetone	10 5	~~BJ 10~~ U 9-30-94
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	7	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
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	2	J
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	U
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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9613501.1296 1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMS6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8841

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP19

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8897

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8897

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/17/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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 ~~BDL~~	~~B~~ U BM 9-30-9
67-64-1	Acetone	14	~~B~~ U
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	2	J
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	U
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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BM 8-26-94

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9613601.1298 1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMS8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8897

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8897

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/17/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613501.1299 1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8854

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP20

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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 B	~~B~~ U BM 9-30-94
67-64-1	Acetone	15	~~B~~ U
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	1	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
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	2	J
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	U
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

BM 8-26-94

9613501.1300 1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8854

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AEP20

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/16/94

GC Column: DB-624 ID: 0.250 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8898

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8898

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/18/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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 ~~B~~	~~B~~ U BM 9-30-94
67-64-1	Acetone	13	~~B~~ U
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	4	J
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	U
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

BM 8-26-94

9613501.1302 1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8898

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8898

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/18/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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BM 8.26.94

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9613501.1303 1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8867

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8867

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/17/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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 X	~~BJ 104~~ B M 9-30
67-64-1	Acetone	10 T	~~BJ 104~~
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	U
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	U
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

FORM I VOA 3/90

BM 8-26-94

9613601.1304 1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8867

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8867

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/17/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613601.1305 1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8899

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8899

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/18/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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 ~~B~~	~~B~~ U BM 9-30-94
67-64-1	Acetone	12	~~B~~ U
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	3	J
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	U
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

BM 8-26-94

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9613601.1306 1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8899

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA8899

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: not dec. ____ Date Analyzed: 05/18/94

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

BM 3/90

9613501.1307

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9702

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9702

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
74-87-3	Chloromethane	10	U	4J
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	5 ~~10~~	~~U~~ 5	5
75-15-0	Carbon Disulfide	10	U	4J
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	U	
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	U	
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	

FORM I VOA

3/90

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9613501.1308

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9702

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9702

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

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9613501.1309

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9716

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9716

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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	1	J
67-64-1	Acetone	12	
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	U
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	U
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

J
J
J

BM 8-30-17

9613501.1310

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9716

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9716

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9609

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9609

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/27/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	~~U~~ UJ
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	11	
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	U
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	U
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

BM 5-30-96

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9613501.1312

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9609

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9609

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/27/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9622

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9622

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/27/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	~~U~~ UJ
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	18	
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	U
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	U
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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9613601.1314

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMX0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9622

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9622

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/27/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9718

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9718

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	~~U~~	UJ
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	10	U	
67-64-1	Acetone	10		
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	U	
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	2	J	
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	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	10	~~U~~	UJ
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	

FORM I VOA

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9613501.1316

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMX2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9718

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9718

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9733

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9733

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	~~U~~	UJ
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1	J	
67-64-1	Acetone	14		
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	U	
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	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	10	~~U~~	UJ
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	

FORM I VOA

BM
8-30-94

9613601.1318

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMX4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9733

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9733

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

BM 8-30-94

9613501.1319

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMY0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9623

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9623

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/27/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	~~U~~	uJ
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	3	J	
67-64-1	Acetone	17		
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	U	
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	U	
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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9613501.1320

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMY0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9623

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9623

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/27/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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8-30-94

9613601.1321

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMZ6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9752

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9752

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	~~U~~ UJ
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	12	
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	U
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	U
591-78-6	2-Hexanone	10	U BM 9-17-94
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	~~U~~ UJ
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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9613601.1322

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMZ6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9752

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9752

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613601.1323

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMY2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9636

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9636

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/27/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	~~U~~	UJ
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	3	J	
67-64-1	Acetone	15		
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	U	
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	U	
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	

By 8-30-94

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9613501.1324

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMY2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9636

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9636

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: not dec. ____ Date Analyzed: 05/27/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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9613501.1325

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMZ2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9735

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9735

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	~~U~~	UJ
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1	J	
67-64-1	Acetone	7	J	
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	U	
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	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	10	~~U~~	UJ
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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9613501.1326

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMZ2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9735

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9735

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: not dec. ____ Date Analyzed: 06/01/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMZ8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 602 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9923

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9923

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: not dec. ____ Date Analyzed: 06/03/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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 ~~2~~	~~BJ~~ ~~104~~ U
67-64-1	Acetone	14	~~B~~ U BM 9-30-9
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	U
71-55-6	1,1,1-Trichloroethane	10	~~U~~ UJ
56-23-5	Carbon Tetrachloride	10	~~U~~ UJ
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~~ U UJ BM
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U BM 8-30-94
75-25-2	Bromoform	10	U 9-30-94
108-10-1	4-Methyl-2-Pentanone	10	U
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

FORM I VOA 3/90

BM 8-30-94

9613601.1328

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMZ8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 602 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9923

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9923

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: not dec. ____ Date Analyzed: 06/03/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

BM 8-30-94

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9613601.1329

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBN00

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 602 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9952

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9952

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: not dec. ____ Date Analyzed: 06/03/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	BM 8-30-94
75-09-2	Methylene Chloride	10 ~~2~~	~~BJ~~	10U
67-64-1	Acetone	14	~~B~~	U
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	U	
71-55-6	1,1,1-Trichloroethane	10	~~U~~	UJ
56-23-5	Carbon Tetrachloride	10	~~U~~	UJ
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	U	
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	

FORM I VOA

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9613501.1330

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBN00

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 602 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9952

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AA9952

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: not dec. ____ Date Analyzed: 06/03/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

BM 8-30-94

000108

9613601.1331

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0BMY8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405066-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40526R08

Level: (low/med) LOW Date Received: 05/24/94

% Moisture: not dec. ____ Date Analyzed: 05/26/94

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

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	U
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	U
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	U
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

000139

CMP 9/8/94

FORM I VOA

8-26-94 (WJC)

[redacted]

9613601.1332
1E

EPA SAMPLE NO.

B0BMY8

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405066-01A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40526R08

Level: (low/med) LOW Date Received: 05/24/94

% Moisture: not dec. ____ Date Analyzed: 05/26/94

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

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-26-94

CMD 9/8/94

FORM I VOA-TIC

9613601.1333

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

000110
EPA SAMPLE NO.

B0BMZ0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405066-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40526R07

Level: (low/med) LOW Date Received: 05/24/94

% Moisture: not dec. ____ Date Analyzed: 05/26/94

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

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	U
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	U
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	U
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

000141

FORM I VOA

8-26-94 ~~3/90~~ CMD 9/8/94

9613501.1334

000111

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B0BMZ0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405066-02A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 40526R07

Level: (low/med) LOW Date Received: 05/24/94

% Moisture: not dec. ____ Date Analyzed: 05/26/94

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

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

000142

8-26-94
WJC

CMS 9/8/94
~~3/90~~

FORM I VOA-TIC

9613601.1335

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9613501.1336

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMN8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0462

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0462

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	28	~~B~~ u
67-64-1	Acetone	23	~~B~~ u
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 ~~A~~	~~B~~ u
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	~~U~~ uJ
56-23-5	Carbon Tetrachloride	10	~~U~~ uJ
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	U
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

FORM I VOA

3/90

6-31-94

9613601.1337

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMN8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0462

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0462

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

3/90

8-31-94

9613601.1338

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMN9

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0463

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0463

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	27	~~B~~ U
67-64-1	Acetone	34	~~B~~ U
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~~	~~B~~ U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	~~U~~ UJ
56-23-5	Carbon Tetrachloride	10	~~U~~ UJ
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	U
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

FORM I VOA 3/90

6-31-94

9613501.1339

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMN9

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0463

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0463

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (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/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	4.70	8	J

JN
BM
9-30-9

8-31-94

9613601.1340

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0445

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0445

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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	23	~~B~~ U
67-64-1	Acetone	10	~~B~~ U
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 ~~3~~	~~B~~ U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	~~U~~ U
56-23-5	Carbon Tetrachloride	10	~~U~~ 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	U
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

8-31-94 WSC

~~000088~~

9613601.1341

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0445

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0445

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0464

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0464

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND		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	27	~~B~~
67-64-1	Acetone	15	~~B~~
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 ~~4~~	~~BJ~~
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
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	U
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

9613501.1343

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMQ0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0464

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0464

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

8-31-94

9613501.1344

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 621 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0308

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0308

Level: (low/med) LOW Date Received: 06/07/94

% Moisture: not dec. ____ Date Analyzed: 06/15/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	27	~~B~~ U
67-64-1	Acetone	15	~~B~~ U
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 ~~A~~	~~B~~ U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	~~U~~ UJ
56-23-5	Carbon Tetrachloride	10	~~U~~ UJ
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	2	J
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	U
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

9613601.1345

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMQ2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 621 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0308

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0308

Level: (low/med) LOW Date Received: 06/07/94

% Moisture: not dec. ____ Date Analyzed: 06/15/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 621 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0321

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0321

Level: (low/med) LOW Date Received: 06/07/94

% Moisture: not dec. ____ Date Analyzed: 06/15/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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	24	~~B~~ U
67-64-1	Acetone	20	~~B~~ U
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 ~~4~~	~~B~~ U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	~~U~~ UJ
56-23-5	Carbon Tetrachloride	10	~~U~~ UJ
75-27-4	Bromodichloromethane	10	~~U~~ ~~UJ~~ U
78-87-5	1,2-Dichloropropane	10	U 8-31-94
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	U
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

8-31-94

9613601.1347

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMQ4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 621 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0321

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0321

Level: (low/med) LOW Date Received: 06/07/94

% Moisture: not dec. ____ Date Analyzed: 06/15/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-31-94

9613601.1348

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0433

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0433

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND			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		23	~~B~~ U
67-64-1	Acetone	9.25-u	10 ~~8~~	~~BJ~~ U
75-15-0	Carbon Disulfide		10	U
75-35-4	1,1-Dichloroethene		1	J
75-34-3	1,1-Dichloroethane		10	U
540-59-0	1,2-Dichloroethene (total)		10	U
67-66-3	Chloroform		10 ~~4~~	~~BJ~~ U
107-06-2	1,2-Dichloroethane		10	U
78-93-3	2-Butanone		10	U
71-55-6	1,1,1-Trichloroethane		10	~~U~~ UJ
56-23-5	Carbon Tetrachloride		10	~~U~~ UJ
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		6	J
124-48-1	Dibromochloromethane		10	U
79-00-5	1,1,2-Trichloroethane		10	U
71-43-2	Benzene		2	J
10061-02-6	trans-1,3-Dichloropropene		10	U
75-25-2	Bromoform		10	U
108-10-1	4-Methyl-2-Pentanone		10	U
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		2	J
108-90-7	Chlorobenzene		2	J
100-41-4	Ethylbenzene		10	U
100-42-5	Styrene		10	U
1330-20-7	Xylene (total)		10	U

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9613501.1349

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0433

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0433

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0461

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0461

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	24	~~B~~ U
67-64-1	Acetone	24	~~B~~ U
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 ~~A~~	~~B~~ U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	~~U~~ UJ
56-23-5	Carbon Tetrachloride	10	~~U~~ UJ
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	U
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

FORM I VOA 3/90

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9613601.1351

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0461

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0461

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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9613501.1352

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

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Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0465

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0465

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____(uL)

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

CAS NO.	COMPOUND		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	27	~~B~~ U
67-64-1	Acetone	27	~~B~~ U
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 ~~5~~	~~BJ~~ U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	~~U~~ UJ
56-23-5	Carbon Tetrachloride	10	~~U~~ UJ
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	U
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.

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Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0465

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: AB0465

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: not dec. ____ Date Analyzed: 06/16/94

GC Column: DB624 ID: 0.530 (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/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	4.70	8	J

9613601.1354

APPENDIX C

SEMIVOLATILE ORGANIC VALIDATED DATA SUMMARY TABLES

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.56		HEIS #:	B0BMY4	
		Date:	6-May-94	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
Phenol	108-95-2	µg/L	10	U
bis(2-Chloroethyl) ether	111-44-4	µg/L	10	U
2-Chlorophenol	95-57-8	µg/L	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	U
2-Methylphenol	95-48-7	µg/L	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	U
4-Methylphenol	106-44-5	µg/L	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	U
Hexachloroethane	97-72-1	µg/L	10	U
Nitrobenzene	98-95-3	µg/L	10	U
Isophorone	78-59-1	µg/L	10	U
2-Nitrophenol	88-75-5	µg/L	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	U
bis(2-Chloroethoxy) methane	111-91-1	µg/L	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	U
Naphthalene	91-20-3	µg/L	10	U
4-Chloroaniline	106-47-8	µg/L	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	U
4-Chloro-3-Methylphenol	59-50-7	µg/L	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	U
2-Nitroaniline	88-74-4	µg/L	25	UJ
Dimethylphthalate	131-11-3	µg/L	10	U
Acenaphthylene	208-96-8	µg/L	10	U
3-Nitroaniline	99-09-2	µg/L	25	U
Acenaphthene	83-32-9	µg/L	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	U
4-Nitrophenol	100-02-7	µg/L	25	UJ
Dibenzofuran	132-64-9	µg/L	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	U
2,6-Dinitrotoluene	606-20-2	µg/L	10	U
Diethylphthalate	84-66-2	µg/L	10	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	10	U
Fluorene	86-73-7	µg/L	10	U
4-Nitroaniline	100-01-6	µg/L	25	U
4,6-Dinitro-2-methylphenol	534-52-1	µg/L	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	U
4-Bromophenyl-phenylether	101-55-3	µg/L	10	U
Hexachlorobenzene	118-74-1	µg/L	10	UJ

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date: 9-26-94

shaded areas indicate changes by the validator TMA760

checked by: [illegible]
date: 9/26/94

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.56		HEIS #:	B0BMY4	
		Date:	6-May-94	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
Pentachlorophenol	87-86-5	µg/L	25	U
Phenanthrene	85-01-8	µg/L	10	U
Anthracene	120-12-7	µg/L	10	U
Carbazole	86-74-8	µg/L	10	U
Di-n-butylphthalate	84-74-2	µg/L	10	U
Fluoranthene	206-44-0	µg/L	10	U
Pyrene	129-00-0	µg/L	10	U
Butylbenzylphthalate	85-68-7	µg/L	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	U
Benzo(a) anthracene	56-55-3	µg/L	10	U
bis(2-ethylhexyl) phthalate	117-81-7	µg/L	2	J
Chrysene	218-01-9	µg/L	10	U
Di-n-octylphthalate	117-84-0	µg/L	10	U
Benzo(b) fluoranthene	205-99-2	µg/L	10	U
Benzo(k) fluoranthene	207-08-9	µg/L	10	U
Benzo(a) pyrene	50-32-8	µg/L	10	U
Indeno(1,2,3-cd) pyrene	193-39-5	µg/L	10	U
Dibenz(a,h) Anthracene	53-70-3	µg/L	10	U
Benzo(g,h,i) Perylene	191-24-2	µg/L	10	U
UNKNOWN KETONE	1	ug/L	2	U

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date: 5-26-94

shaded areas indicate changes by the validator TMA760

checked by: [illegible]
date: 9/26/94

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SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMP4		B0BMR0		B0BMR8		B0BMT0		B0BMT8	
		Date:	18-May-94		11-May-94		11-May-94		12-May-94		12-May-94	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Phenol	108-95-2	µg/L	10	U	10	U	10	U	10	U	10	U
bis (2-Chloroethyl) ether	111-44-4	µg/L	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	95-57-8	µg/L	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	U	10	U	10	U	10	U	10	U
2-Methylphenol	95-48-7	µg/L	10	U	10	U	10	U	10	U	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	106-44-5	µg/L	10	U	10	U	10	U	10	U	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	U	10	U	10	U	10	U	10	U
Hexachloroethane	97-72-1	µg/L	10	U	10	U	10	U	10	U	10	U
Nitrobenzene	98-95-3	µg/L	10	U	10	U	10	U	10	U	10	U
Isophorone	78-59-1	µg/L	10	U	10	U	10	U	10	U	10	U
2-Nitrophenol	88-75-5	µg/L	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	U	10	U	10	U	10	U	10	U
bis (2-chloroethoxy) methane	111-91-1	µg/L	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	U	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	U	10	U	10	U	10	U	10	U
Naphthalene	91-20-3	µg/L	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline	106-47-8	µg/L	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	59-50-7	µg/L	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	U	10	U	10	U	10	U	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	U	25	U	25	U	25	U	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	88-74-4	µg/L	25	U	25	U	25	U	25	U	25	U
Dimethylphthalate	131-11-3	µg/L	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	208-96-8	µg/L	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	121-14-2	µg/L	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	99-09-2	µg/L	25	U	25	U	25	U	25	U	25	U
Acenaphthene	83-32-9	µg/L	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	U	25	U	25	U	25	U	25	U
Dibenzofuran	132-64-9	µg/L	25	U	25	U	25	U	25	U	25	U
Dibenzofuran	132-64-9	µg/L	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	U	10	U	10	U	10	U	10	U
Diethylphthalate	84-66-2	µg/L	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	10	U	10	U	10	U	10	U	10	U
Fluorene	86-73-7	µg/L	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	100-01-6	µg/L	25	U	25	U	25	U	25	U	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	25	U	25	U	25	U	25	U	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	U	10	U	10	U	10	U	10	U
4-Bromophyl-phenylether	101-55-3	µg/L	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	118-74-1	µg/L	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	87-86-5	µg/L	25	U	25	U	25	U	25	U	25	U
Phenanthrene	85-01-8	µg/L	10	U	10	U	10	U	10	U	10	U
Anthracene	120-12-7	µg/L	10	U	10	U	10	U	10	U	10	U
Carbazole	85-74-8	µg/L	10	U	10	U	10	U	10	U	10	U
Di-n-Butylphthalate	84-74-2	µg/L	10	U	10	U	10	U	10	U	10	U
Fluroanthene	206-44-0	µg/L	10	U	10	U	10	U	10	U	10	U
Pyrene	129-00-0	µg/L	10	U	10	U	10	U	10	U	10	U
Butylebenzylphthalate	85-68-7	µg/L	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	U	10	U	10	U	10	U	10	U
Benzo (a) Anthracene	56-55-3	µg/L	10	U	10	U	10	U	10	U	10	U
Chrysene	218-01-9	µg/L	10	U	10	U	10	U	10	U	10	U
bis (2-Ethylhexyl) Phthalate	117-81-7	µg/L	10	U	5	J	10	U	10	U	10	U
Di-n-Octyle Phthalate	117-81-7	µg/L	10	U	10	U	10	U	10	U	10	U
Benzo (b) Fluoranthene	205-99-2	µg/L	10	U	10	U	10	U	10	U	10	U
Benzo (k) Fluoranthene	207-08-9	µg/L	10	U	10	U	10	U	10	U	10	U
Benzo (k) Pyrene	50-32-8	µg/L	10	U	10	U	10	U	10	U	10	U
Indeno (1,2,3-cd) Pyrene	193-39-5	µg/L	10	U	10	U	10	U	10	U	10	U
Dibenze (a,h) Anthracene	53-70-3	µg/L	10	U	10	U	10	U	10	U	10	U
Benzo (g,h,i) Perylene	191-247-2	µg/L	10	U	10	U	10	U	10	U	10	U

entered by: BM date: 9-17-94 shaded areas indicate changes by the validator ITC062 checked by: BM date: 9-17-94

9-20-94

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMV2		B0BMW0	
		Date:	6-May-94		19-May-94	
		Matrix:	WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q
Phenol	108-95-2	µg/L	10	U	10	U
bis (2-Chloroethyl) ether	111-44-4	µg/L	10	U	10	U
2-Chlorophenol	95-57-8	µg/L	10	U	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	U	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	U	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	U	10	U
2-Methylphenol	95-48-7	µg/L	10	U	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	U	10	U
4-Methylphenol	106-44-5	µg/L	10	U	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	U	10	U
Hexachloroethane	97-72-1	µg/L	10	U	10	U
Nitrobenzene	98-95-3	µg/L	10	U	10	U
Isophorone	78-59-1	µg/L	10	U	10	U
2-Nitrophenol	88-75-5	µg/L	10	U	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	U	10	U
bis (2-chloroethoxy) methane	111-91-1	µg/L	10	U	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	U	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	U	10	U
Naphthalene	91-20-3	µg/L	10	U	10	U
4-Chloroaniline	106-47-8	µg/L	10	U	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	U	10	U
4-Chloro-3-methylphenol	59-50-7	µg/L	10	U	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	U	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	U	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	U	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	U	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	U	10	U
2-Nitroaniline	88-74-4	µg/L	25	U	25	U
Dimethylphthalate	131-11-3	µg/L	10	U	10	U
Acenaphthylene	208-96-8	µg/L	10	U	10	U
2,6-Dinitrotoluene	121-14-2	µg/L	10	U	10	U
3-Nitroaniline	99-09-2	µg/L	25	U	25	U
Acenaphthene	83-32-9	µg/L	10	U	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	U	25	U
Dibenzofuran	132-64-9	µg/L	25	U	25	U
Dibenzofuran	132-64-9	µg/L	10	U	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	U	10	U
Diethylphthalate	84-66-2	µg/L	10	U	10	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	10	U	10	U
Fluorene	86-73-7	µg/L	10	U	10	U
4-Nitroaniline	100-01-6	µg/L	25	U	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	25	U	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	U	10	U
4-Bromophyl-phenylether	101-55-3	µg/L	10	U	10	U
Hexachlorobenzene	118-74-1	µg/L	10	U	10	U
Pentachlorophenol	87-86-5	µg/L	25	U	25	U
Phenanthrene	85-01-8	µg/L	10	U	10	U
Anthracene	120-12-7	µg/L	10	U	10	U
Carbazole	85-74-8	µg/L	10	U	10	U
Di-n-Butylphthalate	84-74-2	µg/L	10	U	10	U
Fluroanthene	206-44-0	µg/L	10	U	10	U
Pyrene	129-00-0	µg/L	10	U	10	U
Butylebenzylphthalate	85-68-7	µg/L	10	U	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	U	10	U
Benzo (a) Anthracene	56-55-3	µg/L	10	U	10	U
Chrysene	218-01-9	µg/L	10	U	10	U
bis (2-Ethylhexyl) Phthalate	117-81-7	µg/L	2	J	10	U
Di-n-Octyle Phthalate	117-81-7	µg/L	10	U	10	U
Benzo (b) Fluoranthene	205-99-2	µg/L	10	U	10	U
Benzo (k) Fluoranthene	207-08-9	µg/L	10	U	10	U
Benzo (k) Pyrene	50-32-8	µg/L	10	U	10	U
Indeno (1,2,3-cd) Pyrene	193-39-5	µg/L	10	U	10	U
Dibenze (a,h) Anthracene	53-70-3	µg/L	10	U	10	U
Benzo (g,h,i) Perylene	191-247-2	µg/L	10	U	10	U

entered by: BM date: 9-17-94 shaded areas indicate changes by the validator ITC062 checked by: BM date: 9-17-94
9-20-94

[redacted]

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMQ6		B0BMX6		B0BMS2	
		Date:	6-May-94		6-May-94		10-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
Phenol	108-95-2	µg/L	10	UJ	10	UJ	10	U
bis (2-Chloroethyl) ether	111-44-4	µg/L	10	UJ	10	UJ	10	U
2-Chlorophenol	95-57-8	µg/L	10	UJ	10	UJ	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	UJ	10	UJ	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	UJ	10	UJ	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	UJ	10	UJ	10	U
2-Methylphenol	95-48-7	µg/L	10	UJ	10	UJ	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	UJ	10	UJ	10	U
4-Methylphenol	106-44-5	µg/L	10	UJ	10	UJ	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	UJ	10	UJ	10	U
Hexachloroethane	67-72-1	µg/L	10	UJ	10	UJ	10	U
Nitrobenzene	98-95-3	µg/L	10	UJ	10	UJ	10	U
Isophorone	78-59-1	µg/L	10	UJ	10	UJ	10	U
2-Nitrophenol	88-75-5	µg/L	10	UJ	10	UJ	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	UJ	10	UJ	10	U
bis (2-chloroethoxy) methane	111-91-1	µg/L	10	UJ	10	UJ	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	UJ	10	UJ	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	UJ	10	UJ	10	U
Naphthalene	91-20-3	µg/L	10	UJ	10	UJ	10	U
4-Chloroaniline	106-47-8	µg/L	10	UJ	10	UJ	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	UJ	10	UJ	10	U
4-Chloro-3-methylphenol	59-50-7	µg/L	10	UJ	10	UJ	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	UJ	10	UJ	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	UJ	10	UJ	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	UJ	10	UJ	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	UJ	25	UJ	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	UJ	10	UJ	10	U
2-Nitroaniline	88-74-4	µg/L	25	UJ	25	UJ	25	U
Dimethylphthalate	131-11-3	µg/L	10	UJ	10	UJ	10	U
Acenaphthylene	208-96-8	µg/L	10	UJ	10	UJ	10	U
2,6-Dinitrotoluene	606-20-2	µg/L	10	UJ	10	UJ	10	U
3-Nitroaniline	99-09-2	µg/L	25	UJ	25	UJ	25	U
Acenaphthene	83-32-9	µg/L	10	UJ	10	UJ	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	UJ	25	UJ	25	U
4-Nitrophenol	100-02-7	µg/L	25	UJ	25	UJ	25	U
Dibenzofuran	132-64-9	µg/L	10	UJ	10	UJ	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	UJ	10	UJ	10	U
Diethylphthalate	84-66-2	µg/L	10	UJ	10	UJ	10	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	10	UJ	10	UJ	10	U
Fluorene	86-73-7	µg/L	10	UJ	10	UJ	10	U
4-Nitroaniline	100-01-6	µg/L	25	UJ	25	UJ	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	25	UJ	25	UJ	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	UJ	10	UJ	10	U
4-Bromophyl-phenylether	101-55-3	µg/L	10	UJ	10	UJ	10	U
Hexachlorobenzene	118-74-1	µg/L	10	UJ	10	UJ	10	U
Pentachlorophenol	87-86-5	µg/L	25	UJ	25	UJ	25	U

shaded areas indicate changes by the validator

ITC060.XLS

entered by: BM
date: 10-3-94

checked by:
date: 6-94

000167

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMQ6		B0BMX6		B0BMS2	
		Date:	6-May-94		6-May-94		10-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
Phenanthrene	85-01-8	µg/L	10	UJ	10	UJ	10	U
Anthracene	120-12-7	µg/L	10	UJ	10	UJ	10	U
Carbazole	86-74-8	µg/L	10	UJ	10	UJ	10	U
Di-n-Butylphthalate	84-74-2	µg/L	10	UJ	10	UJ	10	U
Fluroanthene	206-44-0	µg/L	10	UJ	10	UJ	10	UJ
Pyrene	129-00-0	µg/L	10	UJ	10	UJ	10	U
Butylebenzylphthalate	85-68-7	µg/L	10	UJ	10	UJ	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	UJ	10	UJ	10	U
Benzo (a) Anthracene	56-55-3	µg/L	10	UJ	10	UJ	10	U
Chrysene	218-01-9	µg/L	10	UJ	10	UJ	10	UJ
bis (2-Ethylhexyl) Phthalate	117-81-7	µg/L	10	UJ	10	UJ	10	U
Di-n-Octyle Phthalate	117-84-0	µg/L	10	UJ	10	UJ	10	U
Benzo (b) Fluoranthene	205-99-2	µg/L	10	UJ	10	UJ	10	U
Benzo (k) Fluoranthene	207-08-9	µg/L	10	UJ	10	UJ	10	UJ
Benzo (a) Pyrene	50-32-8	µg/L	10	UJ	10	UJ	10	U
Indeno (1,2,3-cd) Pyrene	193-39-5	µg/L	10	UJ	10	UJ	10	U
Dibenze (a,h) Anthracene	53-70-3	µg/L	10	UJ	10	UJ	10	U
Benzo (g,h,i) Perylene	191-247-2	µg/L	10	UJ	10	UJ	10	U

shaded areas indicate changes by the validator
ITC060.XLS

entered by: BM
date: 10-3-94

checked by: WJC
date: 10-4-94

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMS6		B0BMT4		B0BMW4	
		Date:	10-May-94		9-May-94		9-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
Phenol	108-95-2	µg/L	10	U	10	U	10	U
bis (2-Chloroethyl) ether	111-44-4	µg/L	10	U	10	U	10	U
2-Chlorophenol	95-57-8	µg/L	10	U	10	U	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	U	10	U	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	U	10	U	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	U	10	U	10	U
2-Methylphenol	95-48-7	µg/L	10	U	10	U	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	U	10	U	10	U
4-Methylphenol	106-44-5	µg/L	10	U	10	U	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	U	10	U	10	U
Hexachloroethane	67-72-1	µg/L	10	U	10	U	10	U
Nitrobenzene	98-95-3	µg/L	10	U	10	U	10	U
Isophorone	78-59-1	µg/L	10	U	10	U	10	U
2-Nitrophenol	88-75-5	µg/L	10	U	10	U	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	U	10	U	10	U
bis (2-chloroethoxy) methane	111-91-1	µg/L	10	U	10	U	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	U	10	U	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	U	10	U	10	U
Naphthalene	91-20-3	µg/L	10	U	10	U	10	U
4-Chloroaniline	106-47-8	µg/L	10	U	10	U	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	U	10	U	10	U
4-Chloro-3-methylphenol	59-50-7	µg/L	10	U	10	U	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	U	10	U	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	U	10	U	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	U	10	U	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	U	25	U	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	U	10	U	10	U
2-Nitroaniline	88-74-4	µg/L	25	U	25	U	25	U
Dimethylphthalate	131-11-3	µg/L	10	U	10	U	10	U
Acenaphthylene	208-96-8	µg/L	10	U	10	U	10	U
2,6-Dinitrotoluene	606-20-2	µg/L	10	U	10	U	10	U
3-Nitroaniline	99-09-2	µg/L	25	U	25	U	25	U
Acenaphthene	83-32-9	µg/L	10	U	10	U	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	U	25	U	25	U
4-Nitrophenol	100-02-7	µg/L	25	U	25	U	25	U
Dibenzofuran	132-64-9	µg/L	10	U	10	U	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	U	10	U	10	U
Diethylphthalate	84-66-2	µg/L	10	U	10	U	10	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	10	U	10	U	10	U
Fluorene	86-73-7	µg/L	10	U	10	U	10	U
4-Nitroaniline	100-01-6	µg/L	25	U	25	U	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	25	U	25	U	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	U	10	U	10	U
4-Bromophyl-phenylether	101-55-3	µg/L	10	U	10	U	10	U
Hexachlorobenzene	118-74-1	µg/L	10	U	10	U	10	U
Pentachlorophenol	87-86-5	µg/L	25	U	25	U	25	U

shaded areas indicate changes by the validator
40267TBL.XLS

entered by: [illegible]
date: 9-26-94

checked by: BM
date: 9-26-94

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMS6		B0BMT4		B0BMW4	
		Date:	6-May-94		6-May-94		10-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
Phenanthrene	85-01-8	µg/L	10	U	10	U	10	U
Anthracene	120-12-7	µg/L	10	U	10	U	10	U
Carbazole	86-74-8	µg/L	10	U	10	U	10	U
Di-n-Butylphthalate	84-74-2	µg/L	10	U	10	U	10	U
Fluroanthene	206-44-0	µg/L	10	UJ	10	UJ	10	UJ
Pyrene	129-00-0	µg/L	10	U	10	U	10	U
Butylebenzylphthalate	85-68-7	µg/L	10	U	10	U	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	U		U	10	U
Benzo (a) Anthracene	56-55-3	µg/L	10	U	10	U	10	U
Chrysene	218-01-9	µg/L	10	UJ	10	UJ	10	UJ
bis (2-Ethylhexyl) Phthalate	117-81-7	µg/L	10	U	4	J	3	J
Di-n-Octyle Phthalate	117-84-0	µg/L	10	U	10	U	10	U
Benzo (b) Fluoranthene	205-99-2	µg/L	10	U	10	U	10	U
Benzo (k) Fluoranthene	207-08-9	µg/L	10	UJ	10	UJ	10	UJ
Benzo (a) Pyrene	50-32-8	µg/L	10	U	10	U	10	U
Indeno (1,2,3-cd) Pyrene	193-39-5	µg/L	10	U	10	U	10	U
Dibenze (a,h) Anthracene	53-70-3	µg/L	10	U	10	U	10	U
Benzo (g,h,i) Perylene	191-247-2	µg/L	10	U	10	U	10	U

shaded areas indicate changes by the validator
40267TBL.XLS

entered by: [illegible]
date: 9-26-94

checked by: BM
date: 9-26-9

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMR4	
		Date:	11-May-94	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
Phenol	108-95-2	µg/L	10	U
bis (2-Chloroethyl) ether	111-44-4	µg/L	10	U
2-Chlorophenol	95-57-8	µg/L	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	U
2-Methylphenol	95-48-7	µg/L	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	U
4-Methylphenol	106-44-5	µg/L	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	U
Hexachloroethane	67-72-1	µg/L	10	U
Nitrobenzene	98-95-3	µg/L	10	U
Isophorone	78-59-1	µg/L	10	U
2-Nitrophenol	88-75-5	µg/L	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	U
bis (2-chloroethoxy) methane	111-91-1	µg/L	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	U
Naphthalene	91-20-3	µg/L	10	U
4-Chloroaniline	106-47-8	µg/L	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	U
4-Chloro-3-methylphenol	59-50-7	µg/L	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	U
2-Nitroaniline	88-74-4	µg/L	25	U
Dimethylphthalate	131-11-3	µg/L	10	U
Acenaphthylene	208-96-8	µg/L	10	U
2,6-Dinitrotoluene	606-20-2	µg/L	10	U
3-Nitroaniline	99-09-2	µg/L	25	U
Acenaphthene	83-32-9	µg/L	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	U
4-Nitrophenol	100-02-7	µg/L	25	U
Dibenzofuran	132-64-9	µg/L	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	U
Diethylphthalate	84-66-2	µg/L	10	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	10	U
Fluorene	86-73-7	µg/L	10	U
4-Nitroaniline	100-01-6	µg/L	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	U
4-Bromophyl-phenylether	101-55-3	µg/L	10	U
Hexachlorobenzene	118-74-1	µg/L	10	U
Pentachlorophenol	87-86-5	µg/L	25	U

shaded areas indicate changes by the validator
40267TBL.XLS

entered by: [illegible]
date: 9-26-94

checked by: BM
date: 9-26-94

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMR4	
		Date:	11-May-94	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
Phenanthrene	85-01-8	µg/L	10	U
Anthracene	120-12-7	µg/L	10	U
Carbazole	86-74-8	µg/L	10	U
Di-n-Butylphthalate	84-74-2	µg/L	10	U
Fluroanthene	206-44-0	µg/L	10	UJ
Pyrene	129-00-0	µg/L	10	U
Butylebenzylphthalate	85-68-7	µg/L	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	U
Benzo (a) Anthracene	56-55-3	µg/L	10	U
Chrysene	218-01-9	µg/L	10	UJ
bis (2-Ethylhexyl) Phthalate	117-81-7	µg/L	3	J
Di-n-Octyle Phthalate	117-84-0	µg/L	10	U
Benzo (b) Fluoranthene	205-99-2	µg/L	10	U
Benzo (k) Fluoranthene	207-08-9	µg/L	10	UJ
Benzo (a) Pyrene	50-32-8	µg/L	10	U
Indeno (1,2,3-cd) Pyrene	193-39-5	µg/L	10	U
Dibenze (a,h) Anthracene	53-70-3	µg/L	10	U
Benzo (g,h,i) Perylene	191-247-2	µg/L	10	U

shaded areas indicate changes by the validator
40267TBL.XLS

entered by: [illegible]
date: 9-26-94

checked by: BM
date: 9-26-94

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.71		HEIS #:	B0BMY8	
		Date:	24-May-94	
Constituent		Matrix:	WATER	
	CAS #	Units	Results	Q
Phenol	108-95-2	µg/L	10	U
Bis (2-Chloroethyl) ether	111-44-4	µg/L	10	U
2-Chlorophenol	95-57-8	µg/L	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	UJ
1,4-Dichlorobenzene	106-46-7	µg/L	10	UJ
1,2-Dichlorobenzene	95-50-1	µg/L	10	UJ
2-Methylphenol	95-48-7	µg/L	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	U
4-Methylphenol	106-44-5	µg/L	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	U
Hexachloroethane	67-72-1	µg/L	10	UJ
Nitrobenzene	98-95-3	µg/L	10	U
Isophorone	78-59-1	µg/L	10	U
2-Nitrophenol	88-75-5	µg/L	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	U
Bis (2-chloroethoxy) methane	111-91-1	µg/L	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	U
Naphthalene	91-20-3	µg/L	10	U
4-Chloroaniline	106-47-8	µg/L	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	UJ
4-Chloro-3-methylphenol	59-50-7	µg/L	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	UJ
2,4,6-Trichlorophenol	88-06-2	µg/L	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	U
2-Nitroaniline	88-74-4	µg/L	25	U
Dimethylphthalate	131-11-3	µg/L	10	U
Acenaphthylene	208-96-8	µg/L	10	U
3-Nitroaniline	99-09-2	µg/L	25	U
Acenaphthene	83-39-2	µg/L	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	U
4-Nitrophenol	100-02-7	µg/L	25	U
Dibenzofuran	132-64-9	µg/L	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	U
2,6-Dinitrotoluene	606-20-2	µg/L	10	U
Diethylphthalate	84-66-2	µg/L	10	U
4-Chloropheyl-phenylether	005-72-3	µg/L	10	U
Fluorene	86-73-7	µg/L	10	U
4-Nitroaniline	100-01-6	µg/L	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	U
4-Bromophyl-phenylether	101-55-3	µg/L	10	U
Hexachlorobenzene	118-74-1	µg/L	10	U
Pentachlorophenol	87-86-5	µg/L	25	U
Phenanthrene	85-01-8	µg/L	10	U

shaded areas show changes by validator

entered by: CMS date: 9/7/94 TMA779.XLS checked by: [redacted] date

9413501.1366

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.71		HEIS #:	B0BMY8	
		Date:	24-May-94	
Constituent		Matrix:	WATER	
	CAS #	Units	Results	Q
Anthracene	120-12-7	µg/L	10	U
Carbazole	85-74-8	µg/L	10	U
Di-n-Butylphthalate	84-74-2	µg/L	10	U
Fluroanthene	206-44-0	µg/L	10	U
Pyrene	129-00-0	µg/L	10	U
Butylebenzylphthalate	85-68-7	µg/L	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	U
Benzo (a) Anthracene	56-55-3	µg/L	10	U
Bis (2-Ethylhexyl) Phthalate	117-81-7	µg/L	10	U
Chrysene	218-01-9	µg/L	10	U
Di-n-Octyle Phthalate	117-81-7	µg/L	10	U
Benzo (b) Fluoranthene	205-99-2	µg/L	10	U
Benzo (k) Fluoranthene	207-08-9	µg/L	10	U
Benzo (a) Pyrene	50-32-8	µg/L	10	U
Indeno (1,2,3-cd) Pyrene	193-39-5	µg/L	10	U
Dibenze (a,h) Anthracene	53-70-3	µg/L	10	U
Benzo (g,h,i) Perylene	91-247-2	µg/L	10	U

shaded areas show changes by validator

entered by: CMS date: 9/7/94 TMA779.XLS checked by: AA date: 9/7/94

[redacted]

96-7501-1367

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.72		HEIS #:	B0BMP0		B0BMW8		B0BMX2		B0BMY0		B0BMZ2		B0BMZ8	
		Date:	17-May-94		19-May-94		23-May-94		18-May-94		20-May-94		25-May-94	
Constituent		Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Phenol	108-95-2	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Bis (2-Chloroethyl) ether	111-44-4	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	95-57-8	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2-Methylphenol	95-48-7	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	106-44-5	µg/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	UJ
Hexachloroethane	97-72-1	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Nitrobenzene	98-95-3	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Isophorone	78-59-1	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2-Nitrophenol	88-75-5	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Bis (2-chloroethoxy) methane	111-91-1	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Naphthalene	91-20-3	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline	106-47-8	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	59-50-7	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	UJ	25	U	25	U	25	U	25	U	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	88-74-4	µg/L	25	UJ	25	U	25	U	25	U	25	U	25	U
Dimethylphthalate	131-11-3	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	208-96-8	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	606-20-2	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	99-09-2	µg/L	25	UJ	25	U	25	U	25	U	25	U	25	U
Acenaphthene	83-39-2	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ
4-Nitrophenol	100-02-7	µg/L	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ
Dibenzofuran	132-64-9	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Diethylphthalate	84-66-2	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
4-Chloropheyl-phenylether	005-72-3	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Fluorene	86-73-7	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	100-01-6	µg/L	25	UJ	25	U	25	U	25	U	25	U	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	25	UJ	25	U	25	U	25	U	25	U	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
4-Bromophyl-phenylether	101-55-3	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	118-74-1	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	87-86-5	µg/L	25	UJ	25	U	25	U	25	U	25	U	25	U
Phenanthrene	85-01-8	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Anthracene	120-12-7	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Carbazole	85-74-8	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Di-n-Butylphthalate	84-74-2	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Fluroanthene	206-44-0	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Pyrene	129-00-0	µg/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	U
Butylebenzylphthalate	85-68-7	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Benzo (a) Anthracene	56-55-3	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U

entered by: CMD date: 10-2-94

shaded areas indicates changes by validator
40272TB2.XLS

checked by: BM date: 10-3-9

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.72		HEIS #:	B0BMP0		B0BMW8		B0BMX2		B0BMY0		B0BMZ2		B0BMZ8	
		Date:	17-May-94		19-May-94		23-May-94		18-May-94		20-May-94		25-May-94	
Constituent		Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Chrysene	218-01-9	µg/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	U
Bis (2-Ethylhexyl) Phthalate	117-81-7	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Di-n-Octyle Phthalate	117-81-7	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Benzo (b) Fluoranthene	205-99-2	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Benzo (k) Fluoranthene	207-08-9	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Benzo (a) Pyrene	50-32-8	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Indeno (1,2,3-cd) Pyrene	193-39-5	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Dibenze (a,h) Anthracene	53-70-3	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U
Benzo (g,h,i) Perylene	91-247-2	µg/L	10	UJ	10	U	10	U	10	U	10	U	10	U

entered by: CMD date: 10-2-94

shaded areas indicates changes by validator
40272TB2.XLS

checked by: BM date: 10-3-94

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.76		HEIS #:	B0BMP8		B0BMQ2		B0BMV6		B0C1G5	
		Date:	3-Jun-94		1-Jun-94		6-Jun-94		2-Jun-94	
Constituent		Matrix:	WATER		WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
Phenol	108-95-2	µg/L	10	U	10	U	10	U	10	U
Bis (2-Chloroethyl) ether	111-44-4	µg/L	10	U	10	U	10	U	10	U
2-Chlorophenol	95-57-8	µg/L	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	541-73-1	µg/L	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	106-46-7	µg/L	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	95-50-1	µg/L	10	U	10	U	10	U	10	U
2-Methylphenol	95-48-7	µg/L	10	U	10	U	10	U	10	U
2,2'-oxybis (1-Chloropropane)	108-60-1	µg/L	10	U	10	U	10	U	10	U
4-Methylphenol	106-44-5	µg/L	10	U	10	U	10	U	10	U
N-Nitroso-Di-n-propylamine	621-64-7	µg/L	10	U	10	U	10	U	10	U
Hexachloroethane	97-72-1	µg/L	10	U	10	U	10	U	10	U
Nitrobenzene	98-95-3	µg/L	10	U	10	U	10	U	10	U
Isophorone	78-59-1	µg/L	10	U	10	U	10	U	10	U
2-Nitrophenol	88-75-5	µg/L	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	105-67-9	µg/L	10	U	10	U	10	U	10	U
Bis (2-chloroethoxy) methane	111-91-1	µg/L	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	120-83-2	µg/L	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	10	U	10	U	10	U	10	U
Naphthalene	91-20-3	µg/L	10	U	10	U	10	U	10	U
4-Chloroaniline	106-47-8	µg/L	10	U	10	U	10	U	10	U
Hexachlorobutadiene	87-68-3	µg/L	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	59-50-7	µg/L	10	U	10	U	10	U	10	U
2-Methylnaphthalene	91-57-6	µg/L	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	77-47-4	µg/L	10	U	10	U	10	U	10	U
2,4,6-Trichlorophenol	88-06-2	µg/L	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	95-95-4	µg/L	25	U	25	U	25	U	25	U
2-Chloronaphthalene	91-58-7	µg/L	10	U	10	U	10	U	10	U
2-Nitroaniline	88-74-4	µg/L	25	U	25	U	25	U	25	U
Dimethylphthalate	131-11-3	µg/L	10	U	10	U	10	U	10	U
Acenaphthylene	208-96-8	µg/L	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	606-20-2	µg/L	10	U	10	U	10	U	10	U
3-Nitroaniline	99-09-2	µg/L	25	U	25	U	25	U	25	U
Acenaphthene	83-32-9	µg/L	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	51-28-5	µg/L	25	U	25	U	25	U	25	U
4-Nitrophenol	100-02-7	µg/L	25	U	25	U	25	U	25	U
Dibenzofuran	132-64-9	µg/L	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	121-14-2	µg/L	10	U	10	U	10	U	10	U
Diethylphthalate	84-66-2	µg/L	10	U	10	U	10	U	10	U
4-Chloropheyl-phenylether	7005-72-3	µg/L	10	U	10	U	10	U	10	U
Fluorene	86-73-7	µg/L	10	U	10	U	10	U	10	U
4-Nitroaniline	100-01-6	µg/L	25	U	25	U	25	U	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	25	U	25	U	25	U	25	U
N-Nitrosodiphenylamine (1)	86-30-6	µg/L	10	U	10	U	10	U	10	U
4-Bromophyl-phenylether	101-55-3	µg/L	10	U	10	U	10	U	10	U
Hexachlorobenzene	118-74-1	µg/L	10	UJ	10	UJ	10	UJ	10	UJ
Pentachlorophenol	87-86-5	µg/L	25	U	25	U	25	U	25	U
Phenanthrene	85-01-8	µg/L	10	U	10	U	10	U	10	U

shaded areas show changes by validator

entered by: [illegible] date: 9-22-94 40276TBL.XLS checked by: [illegible] date: 9/26/94

SEMIVOLATILE ORGANICS DATA SUMMARY TABLE

FILE #:VW402.76		HEIS #:	B0BMP8		B0BMQ2		B0BMV6		B0C1G5	
		Date:	3-Jun-94		1-Jun-94		6-Jun-94		2-Jun-94	
Constituent		Matrix:	WATER		WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
Anthracene	120-12-7	µg/L	10	U	10	U	10	U	10	U
Carbazole	85-74-8	µg/L	10	U	10	U	10	U	10	U
Di-n-Butylphthalate	84-74-2	µg/L	10	U	10	U	10	U	10	U
Fluroanthene	206-44-0	µg/L	10	U	10	U	10	U	10	U
Pyrene	129-00-0	µg/L	10	U	10	U	10	U	10	U
Butylebenzylphthalate	85-68-7	µg/L	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	10	U	10	U	10	U	10	U
Benzo (a) Anthracene	56-55-3	µg/L	10	U	10	U	10	U	10	U
Chrysene	218-01-9	µg/L	10	U	10	U	10	U	10	U
Bis (2-Ethylhexyl) Phthalate	117-81-7	µg/L	10	U	10	U	10	U	10	U
Di-n-Octyle Phthalate	117-81-7	µg/L	10	U	10	U	10	U	10	U
Benzo (b) Fluoranthene	205-99-2	µg/L	10	U	10	U	10	U	10	U
Benzo (k) Fluoranthene	207-08-9	µg/L	10	U	10	U	10	U	10	U
Benzo (a) Pyrene	50-32-8	µg/L	10	U	10	U	10	U	10	U
Indeno (1,2,3-cd) Pyrene	193-39-5	µg/L	10	U	10	U	10	U	10	U
Dibenze (a,h) Anthracene	53-70-3	µg/L	10	U	10	U	10	U	10	U
Benzo (g,h,i) Perylene	191-247-2	µg/L	10	U	10	U	10	U	10	U

shaded areas show changes by validator

40276TBL.XLS

entered by: [illegible] date: [illegible] checked by: [illegible] date: 9/26/9[illegible]

9613501.1371

APPENDIX D

SEMIVOLATILE ORGANIC VALIDATED LABORATORY REPORT FORMS

9613501.1372

000116

EPA SAMPLE NO.

B0BMY4

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40517I03

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/13/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/17/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl)Ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U	
106-44-5	4-Methylphenol	10	U	
621-64-7	N-Nitroso-Di-n-Propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	U	
105-67-9	2,4-Dimethylphenol	10	U	
111-91-1	bis(2-Chloroethoxy)Methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-Methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	25	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	25	~~U~~	UJ
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	
51-28-5	2,4-Dinitrophenol	25	U	

CMO 9/8/9

9613501.1373

1C

000117
EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40517I03

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/13/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/17/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
100-02-7	4-Nitrophenol	25	~~U~~	UJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	~~U~~	UJ
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J	
218-01-9	Chrysene	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	U	
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

BM 8-10-94 CMS 9/8/

9613601.1374

000118

EPA SAMPLE NO.

B0BMY4

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40517I03

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/13/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/17/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN KETONE	5.67	2	~~BJ~~

U UJN BM 9-30

000182

6-10-94 CM 9/8/94

9613501.1575

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9596 5x'd

Level: (low/med) LOW Date Received: 05/21/94 5-18-94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

8-22-94

9613501.1376

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9596

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

8-22-94 (dc)

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9596

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94 (WJC)

9613501.1378

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8920

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94 5x'd 5-11-94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

8-22-94 (WJC)

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8920

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMRO

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8920

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

6-22-94 (WSC)

9613501.1581

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8932

Level: (low/med) LOW Date Received: 05/13/94 5-11-94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94 5-11-94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

9613501.1382

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8932

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 3/90

8-22-94 (WJC)

9613501.1585

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 538 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8932

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

8-22-94 EWJ

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9059

Level: (low/med) LOW Date Received: 05/14/94 5x'd 5-12-9

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

9613501.1385

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9059

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

6-22-94 (WJC)

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9059

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.15	3	~~J~~ JN
2. 314-40-9	BROMACIL	17.47	4	JN

BM 9-30-94

FORM I SV-TIC 3/90

8-22-94

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9047R

Level: (low/med) LOW Date Received: 05/14/94 5-12-

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

8-22-94 (WJC)

9613501.1388

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9047R

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 545 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9047R

Level: (low/med) LOW Date Received: 05/14/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/17/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613501.1390

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8883

Level: (low/med) LOW Date Received: 05/13/94 SK 5-10-9

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8883

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

9613501.1392

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 536 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8883

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 3/90

 8-22-94

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9573

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9573

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 577 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9573

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

9613501.1396

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8781

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8781

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

JJ

BM 8-29-94
~~000065~~

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8781

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8781

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	U	UJ
100-02-7	4-Nitrophenol	25	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	~~U~~	UJ
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	~~U~~	UJ
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 3/90

BM 8-29-94

~~000006~~ 000205

9613501.1398 1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMQ6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8781

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8781

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 3/90

BM
8-29-94

9613501.1399

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8797

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8797

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

CJ

8.29.94

~~000068~~
000207

9613501.1400

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8797

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8797

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	U	UJ
100-02-7	4-Nitrophenol	25	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	~~U~~	UJ
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	~~U~~	UJ
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

BM 8-29-94 000205
~~000064~~

9613501.1401

1F

EPA SAMPLE NO.

BOBMX6

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 534 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8797

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8797

Level: (low/med) LOW Date Received: 05/11/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

BM 8-29-94

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8826

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8826

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8826

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8826

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	~~U~~	UJ
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	~~U~~	UJ
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

9613501.1404

1F

EPA SAMPLE NO.

BOBMS2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8826

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8826

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1-PROPENE, TRICHLORO-	5.40	2	~~JX~~ JL

FORM I SV-TIC 3/90

BM 8-24-94

9613501.1405

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOBMS6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8842

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8842

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

BM 8-29-94

9613501.1406

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix (soil/water) WATER Lab Sample ID: AA8842

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8842

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	~~U~~	UJ
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	~~U~~	UJ
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

BM 8-29-94

9613501.1407

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMS6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8842

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8842

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/13/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	C

FORM I SV-TIC 3/90

BM 8-29-94

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8855

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8855

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8855

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8855

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	~~U~~	UJ
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	4	J	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	~~U~~	UJ
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

BM 8-29-94

9613501.1410

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMT4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8855

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8855

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1-PROPENE,TRICHLORO	5.42	7	~~JY~~ J
2.	UNKNOWN	6.25	2	~~J~~ J

FORM I SV-TIC 3/90

BM 8-27-94

9613501.1411

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8868

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8868

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

9613501.1412

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8868

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8868

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	~~U~~	UJ
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	3	J	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	~~U~~	UJ
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

BH 8-29-94

~~000001~~

9613501.1413

1F

EPA SAMPLE NO.

BOBMW4

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 535 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8868

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8868

Level: (low/med) LOW Date Received: 05/12/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 314-40-9	BROMACIL	16.23	49	JN

BM 8-29-94

FORM I SV-TIC

3/90

9613501.1414

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 537 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8905

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8905

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

BM 8-29-94

9613501.1415

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 537 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8905

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8905

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	~~U~~	UJ
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	3	J	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	~~U~~	UJ
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 3/90

BH 8-29-94

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
BOBMR4

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 537 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8905

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA8905

Level: (low/med) LOW Date Received: 05/13/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/16/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/18/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	17.37	2	~~J~~

FORM I SV-TIC 3/90

9613501.1417

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9703

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9703

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/26/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

UJ

FORM I SV-1

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9703

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9703

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/26/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

UJ

(1) - Cannot be separated from Diphenylamine

9613501.1419

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMP0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9703

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9703

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/26/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC

BM 8-31-94

~~000059~~

9613501.1420

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9610

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9610

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl)Ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U	
106-44-5	4-Methylphenol	10	~~U~~	UJ
621-64-7	N-Nitroso-Di-n-Propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	~~U~~	UJ
105-67-9	2,4-Dimethylphenol	10	U	
111-91-1	bis(2-Chloroethoxy)Methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-Methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	25	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	25	U	
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

BM 8-31-94

~~000360~~

9613501.1421

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9610

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9610

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	~~U~~	UJ
100-02-7	4-Nitrophenol	25	~~U~~	UJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	~~U~~	UJ
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	U	
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 3/90

BM 8-31-94

9613501.1422

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMW8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9610

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9610

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	UNKNOWN	11.92	2	~~J~~	JN
2.	UNKNOWN	14.63	13	~~J~~	JN
3. 314-40-9	BROMACIL	17.62	35	JN	
4.	UNKNOWN	19.35	6	~~J~~	JN

BM 9-30-94

FORM I SV-TIC

BM 8-31-94

[redacted]

9613501.1423

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9719

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9719

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/26/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl)Ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U	
106-44-5	4-Methylphenol	10	~~U~~	UJ
621-64-7	N-Nitroso-Di-n-Propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	~~U~~	UJ
105-67-9	2,4-Dimethylphenol	10	U	
111-91-1	bis(2-Chloroethoxy)Methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-Methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	25	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	25	U	
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

BM 8-31-94

~~000068~~

9613501.1424

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9719

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9719

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/26/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	~~U~~	UJ
100-02-7	4-Nitrophenol	25	~~U~~	UJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	~~U~~	UJ
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	U	
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

8-31-94

9613501.1425

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMX2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9719

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9719

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/26/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 314-40-9	BROMACIL	17.55	26	JN

BM 8-31-94

FORM I SV-TIC

9613501.1426

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMY0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9624

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9624

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl)Ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U	
106-44-5	4-Methylphenol	10	~~U~~	UJ
621-64-7	N-Nitroso-Di-n-Propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	~~U~~	UJ
105-67-9	2,4-Dimethylphenol	10	U	
111-91-1	bis(2-Chloroethoxy)Methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-Methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	25	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	25	U	
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

BM 8-31-94

9613501.1427

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMY0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9624

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9624

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q	
51-28-5	2,4-Dinitrophenol	25	~~U~~	UJ
100-02-7	4-Nitrophenol	25	~~U~~	UJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	~~U~~	UJ
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	U	
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

BM 8-31-94

~~000087~~

9613501.1428

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMY0

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 579 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9624

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9624

Level: (low/med) LOW Date Received: 05/21/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/24/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC

3/90

~~000068~~

9613501.1429

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9615501.1430

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMZ2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9736

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9736

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/26/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	~~U~~ UJ
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	~~U~~ UJ
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

BM 8-31-94

9613501.1451

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMZ2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9736

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9736

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/26/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	~~U~~	UJ
100-02-7	4-Nitrophenol	25	~~U~~	UJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	~~U~~	UJ
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	U	
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

PW 8-31-94

9613501.1432

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMZ2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 583 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9736

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9736

Level: (low/med) LOW Date Received: 05/25/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/26/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC

BM 8-31-94

9613501.1433

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BOBMZ8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: ITSTU Case No.: 602 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9924

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9924

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/31/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q	
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl)Ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U	
106-44-5	4-Methylphenol	10	U	
621-64-7	N-Nitroso-Di-n-Propylamine	10	~~U~~	UJ
67-72-1	Hexachloroethane	10	~~U~~	UJ
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	U	
105-67-9	2,4-Dimethylphenol	10	~~U~~	UJ
111-91-1	bis(2-Chloroethoxy)Methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-Methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	10	U	
91-58-7	2-Chloronaphthalene	25	U	
88-74-4	2-Nitroaniline	10	U	
131-11-3	Dimethylphthalate	25	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	10	U	
83-32-9	Acenaphthene	25	U	
		10	U	

BM 8-31-94

9613501.1434

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMZ8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: ITSTU Case No.: 602 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9924

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9924

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/31/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
51-28-5	2,4-Dinitrophenol	25	~~U~~	UJ
100-02-7	4-Nitrophenol	25	~~U~~	UJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	25	U	
534-52-1	4,6-Dinitro-2-Methylphenol	25	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	25	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
86-74-8	Carbazole	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	~~U~~	~~UJ~~
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	10	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	~~U~~	~~UJ~~
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	U	
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

B.Y. 8-31-94

~~000075~~

9613501.1455

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BOBMZ8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: ITSTU Case No.: 602 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9924

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AA9924

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/31/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/08/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

BM
8-31-94

9613501.1436

000223

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0BMY8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405066-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40602I03

Level: (low/med) LOW Date Received: 05/24/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/25/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/02/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	~~U~~ UJ
106-46-7	1,4-Dichlorobenzene	10	~~U~~ UJ
95-50-1	1,2-Dichlorobenzene	10	~~U~~ UJ
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	~~U~~ UJ
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	~~U~~ UJ
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	~~U~~ UJ
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U

~~000143~~
000243A

CMA 9/9/94

FORM I SV-1

8-26-94 (WJT)

9613501.1437

000224

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0BMY8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405066-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40602I03

Level: (low/med) LOW Date Received: 05/24/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/25/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/02/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

8-26-94 (cdc) CMD 9/8/94

000244

FORM I SV-2

~~000027~~

9613501.1438

000225

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B0BMY8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405066-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 40602I03

Level: (low/med) LOW Date Received: 05/24/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 05/25/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/02/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN KETONE	5.38	3	BJ

000245

B-26-94 (WJC)

CMG 9/8/94

~~000028~~

9613601.1439

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0446

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616009

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/10/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0(ul) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

8-31-94

9613501.1440

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0446

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616009

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/10/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0(ul) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	~~U~~ UJ
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

9613501.1441

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BOBMP8

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.:W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0446

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616009

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/10/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0(ul) Dilution Factor: 1.0

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

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 110-82-7	CYCLOHEXANE	2.57	170	JNB
2.	UNKNOWN	5.12	3	J
3.	(E)-3-CHLORO-2-METHYL-2-PEN	8.22	40	JNB
4. 314-40-9	BROMACIL	19.67	8	JN

8-31-94

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 621 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0309

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616003

Level: (low/med) LOW Date Received: 06/07/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/08/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0(ul) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

9613501.1443

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 621 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0309

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616003

Level: (low/med) LOW Date Received: 06/07/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/08/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0(ul) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	~~U~~ UJ
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

8-31-94

~~000047~~

9613501.1444

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BOBMQ2

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 621 SAS No.: _____ SDG No.:W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0309

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616003

Level: (low/med) LOW Date Received: 06/07/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/08/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0(ul) Dilution Factor: 1.0

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

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 110-82-7	CYCLOHEXANE	2.58	170	JNB
2. 110-83-8	CYCLOHEXENE	2.88	46	JNB
3.	UNKNOWN	5.22	5	J
4.	UNKNOWN	5.47	4	J
5. 930-68-7	2-CYCLOHEXEN-1-ONE	8.23	44	JN
6. 314-40-9	BROMACIL	19.65	3	JN

6-31-94

9613501.1445

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0434

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616008

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/10/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0 (ul) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

6-31-94
~~000040~~

9613501.1446

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0434

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616008

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/10/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0 (ul) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	~~U~~ J
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

9613501.1447

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BOBMV6

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 633 SAS No.: _____ SDG No.:W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0434

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616008

Level: (low/med) LOW Date Received: 06/09/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/10/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0(ul) Dilution Factor: 1.0

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

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 110-82-7	CYCLOHEXANE	2.57	160	JNB
2.	UNKNOWN	2.87	2	JB
3.	UNKNOWN	5.12	2	J
4.	(E)-3-CHLORO-2-METHYL-2-PEN	8.22	40	JNB

8-31-94

~~000054~~

9613501.1448

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOC1G5

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 621 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0322

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616006

Level: (low/med) LOW Date Received: 06/07/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/08/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0(ul) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

9613501.1449

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOC1G5

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 621 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0322

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616006

Level: (low/med) LOW Date Received: 06/07/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/08/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0 (ul) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	~~U~~ UJ
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 3/90

6/21-94

~~000053~~

9613501.1450

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BOC1G5

Lab Name: ITAS-KNOXVILLE Contract: HANFORD

Lab Code: ITSTU Case No.: 621 SAS No.: _____ SDG No.:W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0322

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0616006

Level: (low/med) LOW Date Received: 06/07/94

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 06/08/94

Concentrated Extract Volume: 1000 (ul) Date Analyzed: 06/16/94

Injection Volume: 1.0(ul) Dilution Factor: 1.0

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

Number TICs found: 4Ø

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

Petroleum

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 110-82-7	CYCLOHEXANE	2.57	200	JNB
2. 110-83-8	CYCLOHEXENE	2.87	43	JNB
3.	UNKNOWN	6.02	2	J
4.	UNKNOWN	8.22	50	JB

6-31-94 000257

[redacted]

9613501.1451

APPENDIX E

PESTICIDES VALIDATED DATA SUMMARY TABLES

PESTICIDE/PCB DATA SUMMARY TABLE

FILE #:VW402.56		HEIS #:	B0BMY4	
		Date:	6-May-94	
		Matrix:	WATER	
Constituent	CAS #	Units	Results	Q
alpha-BHC	319-84-6	µg/L	0.050	U
beta-BHC	319-85-7	µg/L	0.050	U
delta-BHC	319-86-8	µg/L	0.050	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.050	U
Heptachlor	76-44-8	µg/L	0.050	U
Aldrin	309-00-2	µg/L	0.050	U
Heptachlor Epoxide	1024-57-3	µg/L	0.050	U
Endosulfan I	959-98-8	µg/L	0.050	U
Dieldrin	60-57-1	µg/L	0.10	U
4,4'-DDE	72-55-9	µg/L	0.10	U
Endrin	72-20-8	µg/L	0.10	U
Endosulfan II	33213-65-9	µg/L	0.10	U
4,4'-DDD	72-54-8	µg/L	0.10	U
Endosulfan Sulfate	1031-07-8	µg/L	0.10	U
4,4'-DDT	50-29-3	µg/L	0.10	U
Methoxychlor	72-43-5	µg/L	0.50	U
Endrin Ketone	53494-70-5	µg/L	0.10	U
Endrin Aldehyde	7421-93-4	µg/L	0.10	U
alpha-Chlordane	5103-71-9	µg/L	0.050	U
gamma-Chlordane	5103-74-2	µg/L	0.050	U
Toxaphene	8001-35-2	µg/L	5.0	U
Aroclor-1016	12674-11-2	µg/L	1.0	U
Aroclor-1221	11104-28-2	µg/L	2.0	U
Aroclor-1232	11141-16-5	µg/L	1.0	U
Aroclor-1242	53469-21-9	µg/L	1.0	U
Aroclor-1248	12672-29-6	µg/L	1.0	U
Aroclor-1254	11097-69-1	µg/L	1.0	U
Aroclor-1260	11096-82-5	µg/L	1.0	U

shaded areas indicate a changes by the validator

TMA 760

entered by: [illegible]
date: 5-26-94

checked by: [illegible]
date: 9/26/94

PESTICIDE/PCB DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMP4		B0BMR0		B0BMR8		B0BMT0	
		Date:	18-May-94		11-May-94		11-May-94		12-May-94	
		Matrix:	WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
alpha-BHC	319-84-6	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
beta-BHC	319-85-7	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
delta-BHC	319-86-8	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Heptachlor	76-44-8	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Aldrin	309-00-2	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Heptachlor epoxide	1024-57-3	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Endosulfan I	959-98-8	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Dieldrin	60-57-1	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
4,4'-DDE	72-55-9	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endrin	72-20-8	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endosulfan II	33213-65-9	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
4,4'-DDD	72-54-8	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endosulfan sulfate	1031-07-8	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
4,4'-DDT	50-29-3	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Methoxychlor	72-43-5	µg/L	0.05	U	0.05	U	0.50	U	0.50	U
Endrin ketone	53494-70-5	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endrin aldehyde	7421-93-4	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
alpha-Chlordane	5103-71-9	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
gamma-Chlordane	51003-74-2	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Toxaphene	8001-35-2	µg/L	5.0	U	5.0	U	5.0	U	5.0	U
Aroclor-1016	12674-11-2	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1221	11104-28-2	µg/L	2.0	U	2.0	U	2.0	U	2.0	U
Aroclor-1232	11141-16-5	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1242	53469-21-9	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1248	12672-29-6	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1254	11097-69-1	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1260	11096-82-5	µg/L	1.0	U	1.0	U	1.0	U	1.0	U

entered by: Jm
date: 9/20/94

Shaded areas indicate changes by the validator.
40266DST.XLS

checked by: Mw
date: 9-20-94

96 PESTICIDE/PCB DATA SUMMARY TABLE

FILE #:VW402.66		HEIS #:	B0BMT8		B0BMV2		B0BMW0	
		Date:	12-May-94		6-May-94		19-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
alpha-BHC	319-84-6	µg/L	0.050	U	0.050	U	0.050	U
beta-BHC	319-85-7	µg/L	0.050	U	0.050	U	0.050	U
delta-BHC	319-86-8	µg/L	0.050	U	0.050	U	0.050	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.050	U	0.050	U	0.050	U
Heptachlor	76-44-8	µg/L	0.050	U	0.050	U	0.050	U
Aldrin	309-00-2	µg/L	0.050	U	0.050	U	0.050	U
Heptachlor epoxide	1024-57-3	µg/L	0.050	U	0.050	U	0.050	U
Endosulfan I	959-98-8	µg/L	0.050	U	0.050	U	0.050	U
Dieldrin	60-57-1	µg/L	0.10	U	0.10	U	0.10	U
4,4'-DDE	72-55-9	µg/L	0.10	U	0.10	U	0.10	U
Endrin	72-20-8	µg/L	0.10	U	0.10	U	0.10	U
Endosulfan II	33213-65-9	µg/L	0.10	U	0.10	U	0.10	U
4,4'-DDD	72-54-8	µg/L	0.10	U	0.10	U	0.10	U
Endosulfan sulfate	1031-07-8	µg/L	0.10	U	0.10	U	0.10	U
4,4'-DDT	50-29-3	µg/L	0.10	U	0.10	U	0.10	U
Methoxychlor	72-43-5	µg/L	0.50	U	0.50	U	0.50	U
Endrin ketone	53494-70-5	µg/L	0.10	U	0.10	U	0.10	U
Endrin aldehyde	7421-93-4	µg/L	0.10	U	0.10	U	0.10	U
alpha-Chlordane	5103-71-9	µg/L	0.050	U	0.050	U	0.050	U
gamma-Chlordane	51003-74-2	µg/L	0.050	U	0.050	U	0.050	U
Toxaphene	8001-35-2	µg/L	5.0	U	5.0	U	5.0	U
Aroclor-1016	12674-11-2	µg/L	1.0	U	1.0	U	1.0	U
Aroclor-1221	11104-28-2	µg/L	2.0	U	2.0	U	2.0	U
Aroclor-1232	11141-16-5	µg/L	1.0	U	1.0	U	1.0	U
Aroclor-1242	53469-21-9	µg/L	1.0	U	1.0	U	1.0	U
Aroclor-1248	12672-29-6	µg/L	1.0	U	1.0	U	1.0	U
Aroclor-1254	11097-69-1	µg/L	1.0	U	1.0	U	1.0	U
Aroclor-1260	11096-82-5	µg/L	1.0	U	1.0	U	1.0	U

entered by: gm
date: 9/20/94

Shaded areas indicate changes by the validator.
40266DST.XLS

checked by: [illegible]
date: 9-20-94

961350J U55

PESTICIDE/PCB DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMQ6		B0BMR4		B0BMS2		B0BMS6	
		Date:			11-May-94		10-May-94		10-May-94	
		Matrix:	WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
alpha-BHC	319-84-6	µg/L	0.050	UJ	0.050	U	0.050	U	0.050	U
beta-BHC	319-85-7	µg/L	0.050	UJ	0.050	U	0.050	U	0.050	U
delta-BHC	319-86-8	µg/L	0.050	UJ	0.050	U	0.050	U	0.050	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.050	UJ	0.050	U	0.050	U	0.050	U
Heptachlor	76-44-8	µg/L	0.050	UJ	0.050	U	0.050	U	0.050	U
Aldrin	309-00-2	µg/L	0.050	UJ	0.050	U	0.050	U	0.050	U
Heptachlor epoxide	1024-57-3	µg/L	0.050	UJ	0.050	U	0.050	U	0.050	U
Endosulfan I	959-98-8	µg/L	0.050	UJ	0.050	U	0.050	U	0.050	U
Dieldrin	60-57-1	µg/L	0.10	UJ	0.10	U	0.10	U	0.10	U
4,4'-DDE	72-55-9	µg/L	0.10	UJ	0.10	U	0.10	U	0.10	U
Endrin	72-20-8	µg/L	0.10	UJ	0.10	U	0.10	U	0.10	U
Endosulfan II	33213-65-9	µg/L	0.10	UJ	0.10	U	0.10	U	0.10	U
4,4'-DDD	72-54-8	µg/L	0.10	UJ	0.10	U	0.10	U	0.10	U
Endosulfan sulfate	1031-07-8	µg/L	0.10	UJ	0.10	U	0.10	U	0.10	U
4,4'-DDT	50-29-3	µg/L	0.10	UJ	0.10	U	0.10	U	0.10	U
Methoxychlor	72-43-5	µg/L	0.50	UJ	0.50	U	0.50	U	0.50	U
Endrin ketone	53494-70-5	µg/L	0.10	UJ	0.10	U	0.10	U	0.10	U
Endrin aldehyde	7421-93-4	µg/L	0.10	UJ	0.10	U	0.10	U	0.10	U
alpha-Chlordane	5103-71-9	µg/L	0.050	UJ	0.050	U	0.050	U	0.050	U
gamma-Chlordane	51003-74-2	µg/L	0.050	UJ	0.050	U	0.050	U	0.050	U
Toxaphene	8001-35-2	µg/L	5.0	UJ	5.0	U	5.0	U	5.0	U
Aroclor-1016	12674-11-2	µg/L	1.0	UJ	1.0	U	1.0	U	1.0	U
Aroclor-1221	11104-28-2	µg/L	2.0	UJ	2.0	U	2.0	U	2.0	U
Aroclor-1232	11141-16-5	µg/L	1.0	UJ	1.0	U	1.0	U	1.0	U
Aroclor-1242	53469-21-9	µg/L	1.0	UJ	1.0	U	1.0	U	1.0	U
Aroclor-1248	12672-29-6	µg/L	1.0	UJ	1.0	U	1.0	U	1.0	U
Aroclor-1254	11097-69-1	µg/L	1.0	UJ	1.0	U	1.0	U	1.0	U
Aroclor-1260	11096-82-5	µg/L	1.0	UJ	1.0	U	1.0	U	1.0	U

entered by: BM
date: 10-3-94

Shaded areas indicate changes by the validator.
ITC060.XLS

checked by: West
date: 10-12-94

PESTICIDE/PCB DATA SUMMARY TABLE

FILE #:VW402.67		HEIS #:	B0BMT4		B0BMW4		B0BMX6	
		Date:	9-May-94		9-May-94		6-May-94	
		Matrix:	WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q
alpha-BHC	319-84-6	µg/L	0.050	U	0.050	U	0.050	UJ
beta-BHC	319-85-7	µg/L	0.050	U	0.050	U	0.050	UJ
delta-BHC	319-86-8	µg/L	0.050	U	0.050	U	0.050	UJ
gamma-BHC (Lindane)	58-89-9	µg/L	0.050	U	0.050	U	0.050	UJ
Heptachlor	76-44-8	µg/L	0.050	U	0.050	U	0.050	UJ
Aldrin	309-00-2	µg/L	0.050	U	0.050	U	0.050	UJ
Heptachlor epoxide	1024-57-3	µg/L	0.050	U	0.050	U	0.050	UJ
Endosulfan I	959-98-8	µg/L	0.050	U	0.050	U	0.050	UJ
Dieldrin	60-57-1	µg/L	0.10	U	0.10	U	0.10	UJ
4,4'-DDE	72-55-9	µg/L	0.10	U	0.10	U	0.10	UJ
Endrin	72-20-8	µg/L	0.10	U	0.10	U	0.10	UJ
Endosulfan II	33213-65-9	µg/L	0.10	U	0.10	U	0.10	UJ
4,4'-DDD	72-54-8	µg/L	0.10	U	0.10	U	0.10	UJ
Endosulfan sulfate	1031-07-8	µg/L	0.10	U	0.10	U	0.10	UJ
4,4'-DDT	50-29-3	µg/L	0.10	U	0.10	U	0.10	UJ
Methoxychlor	72-43-5	µg/L	0.50	U	0.50	U	0.50	UJ
Endrin ketone	53494-70-5	µg/L	0.10	U	0.10	U	0.10	UJ
Endrin aldehyde	7421-93-4	µg/L	0.10	U	0.10	U	0.10	UJ
alpha-Chlordane	5103-71-9	µg/L	0.050	U	0.050	U	0.050	UJ
gamma-Chlordane	51003-74-2	µg/L	0.050	U	0.050	U	0.050	UJ
Toxaphene	8001-35-2	µg/L	5.0	U	5.0	U	5.0	UJ
Aroclor-1016	12674-11-2	µg/L	1.0	U	1.0	U	1.0	UJ
Aroclor-1221	11104-28-2	µg/L	2.0	U	2.0	U	2.0	UJ
Aroclor-1232	11141-16-5	µg/L	1.0	U	1.0	U	1.0	UJ
Aroclor-1242	53469-21-9	µg/L	1.0	U	1.0	U	1.0	UJ
Aroclor-1248	12672-29-6	µg/L	1.0	U	1.0	U	1.0	UJ
Aroclor-1254	11097-69-1	µg/L	1.0	U	1.0	U	1.0	UJ
Aroclor-1260	11096-82-5	µg/L	1.0	U	1.0	U	1.0	UJ

entered by: BM
date: 10-3-94

Shaded areas indicate changes by the validator.
ITC060.XLS

checked by: WJC
date: 10-11-94

9613501.1457

PCB DATA SUMMARY TABLE

	HEIS #:	BOBMY8	
	Date:	18-May-94	
	Matrix:	WATER	
CAS #	Units	Results	Q
319-84-6	µg/L	0.050	U
319-85-7	µg/L	0.050	U
319-86-8	µg/L	0.050	U
58-89-9	µg/L	0.050	U
76-44-8	µg/L	0.050	U
309-00-2	µg/L	0.050	U
1024-57-3	µg/L	0.050	U
959-98-8	µg/L	0.050	U
60-57-1	µg/L	0.10	U
72-55-9	µg/L	0.10	U
72-20-8	µg/L	0.10	U
33213-65-9	µg/L	0.10	U
72-54-8	µg/L	0.10	U
1031-07-8	µg/L	0.10	U
50-29-3	µg/L	0.10	U
72-43-5	µg/L	0.50	U
53494-70-5	µg/L	0.10	U
7421-93-4	µg/L	0.10	U
5103-71-9	µg/L	0.050	U
5103-74-2	µg/L	0.050	U
8001-35-2	µg/L	5.0	U
12674-11-2	µg/L	1.0	U
11104-28-2	µg/L	2.0	U
11141-16-5	µg/L	1.0	U
53469-21-9	µg/L	1.0	U
12672-29-6	µg/L	1.0	U
11097-69-1	µg/L	1.0	U
11096-82-5	µg/L	1.0	U

RESULTS TABLE

3MW8		BOBMX2		BOBMY0		BOBMZ2	
1ay-94		23-May-94		18-May-94		20-May-94	
ATER		WATER		WATER		WATER	
s	Q	Results	Q	Results	Q	Result	Q
)	U	0.050	U	0.050	U	0.050	U
)	U	0.050	U	0.050	U	0.050	U
	U	0.050	U	0.050	U	0.050	U
	U	0.050	U	0.050	U	0.050	U
	UJ	0.050	UJ	0.050	UJ	0.050	UJ
	U	0.050	U	0.050	U	0.050	U
	UJ	0.050	UJ	0.050	UJ	0.050	UJ
	U	0.050	U	0.050	U	0.050	U
	U	0.10	U	0.10	U	0.10	U
	U	0.10	U	0.10	U	0.10	U
	U	0.10	U	0.10	U	0.10	U
	U	0.10	U	0.10	U	0.10	U
	UJ	0.10	UJ	0.10	UJ	0.10	UJ
	U	0.10	U	0.10	U	0.10	U
	U	0.10	U	0.10	U	0.10	U
	J	0.50	U	0.50	U	0.50	U
	J	0.10	U	0.10	U	0.10	U
	I	0.10	U	0.10	U	0.10	U
		0.050	U	0.050	U	0.050	U
		0.050	U	0.050	U	0.050	U
		5.0	U	5.0	U	5.0	U
		1.0	U	1.0	U	1.0	U
		2.0	U	2.0	U	2.0	U
		1.0	U	1.0	U	1.0	U
		1.0	U	1.0	U	1.0	U
		1.0	U	1.0	U	1.0	U
		1.0	U	1.0	U	1.0	U
		1.0	U	1.0	U	1.0	U

shaded areas show changes by validator

checked by: AF date: [illegible]

checked by: MCS date: 9-19-9

7/94 TMA779.XLS

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PESTICIDE/PCB ANALYSIS RESULTS TABLE

FILE #:VW402.72		HEIS #:	BOBMZ8	
		Date:	25-May-94	
Constituent		Matrix:	WATER	
	CAS #	Units	Results	Q
alpha-BHC	319-84-6	µg/L	0.050	U
beta-BHC	319-85-7	µg/L	0.050	U
delta-BHC	319-86-8	µg/L	0.050	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.050	U
Heptachlor	76-44-8	µg/L	0.050	UJ
Aldrin	309-00-2	µg/L	0.050	U
Heptachlor Epoxide	1024-57-3	µg/L	0.050	UJ
Endosulfan I	959-98-8	µg/L	0.050	U
Dieldrin	60-57-1	µg/L	0.10	UJ
4,4'-DDE	72-55-9	µg/L	0.10	U
Endrin	72-20-8	µg/L	0.10	U
Endosulfan II	3213-65-9	µg/L	0.10	U
4,4'-DDD	72-54-8	µg/L	0.10	UJ
Endosulfan Sulfate	1031-07-8	µg/L	0.10	U
4,4'-DDT	50-29-3	µg/L	0.10	U
Methoxychlor	72-43-5	µg/L	0.50	U
Endrin Ketone	3494-70-5	µg/L	0.10	UJ
Endrin Aldehyde	7421-93-4	µg/L	0.10	U
alpha-Chlordane	5103-71-9	µg/L	0.050	U
gamma-Chlordane	5103-74-2	µg/L	0.050	U
Toxaphene	8001-35-2	µg/L	5.0	U
Aroclor-1016	2674-11-2	µg/L	1.0	U
Aroclor-1221	1104-28-2	µg/L	2.0	U
Aroclor-1232	1141-16-5	µg/L	1.0	U
Aroclor-1242	3469-21-9	µg/L	1.0	U
Aroclor-1248	2672-29-6	µg/L	1.0	U
Aroclor-1254	1097-69-1	µg/L	1.0	U
Aroclor-1260	1096-82-5	µg/L	1.0	U

shaded areas show changes by validator

entered by: BM date: 9.15.94 ITC079.XLS checked by: [illegible] date: 9-19-9

[redacted]

PESTICIDE/PCB ANALYSIS RESULTS TABLE

FILE #: 402.76		HEIS #:	BOBMP8		BOBMQ2		BOBMV6		BOC1G5	
		Date:	3-Jun-94		1-Jun-94		6-Jun-94		2-Jun-94	
Constituent		Matrix:	WATER		WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
alpha-BHC	319-84-6	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
beta-BHC	319-85-7	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
delta-BHC	319-86-8	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Heptachlor	76-44-8	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Aldrin	309-00-2	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Heptachlor Epoxide	1024-57-3	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Endosulfan I	959-98-8	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Dieldrin	60-57-1	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
4,4'-DDE	72-55-9	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endrin	72-20-8	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endosulfan II	33213-65-9	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
4,4'-DDD	72-54-8	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endosulfan Sulfate	1031-07-8	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
4,4'-DDT	50-29-3	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Methoxychlor	72-43-5	µg/L	0.50	U	0.50	U	0.50	U	0.50	U
Endrin Ketone	53494-70-5	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
Endrin Aldehyde	7421-93-4	µg/L	0.10	U	0.10	U	0.10	U	0.10	U
alpha-Chlordane	5103-71-9	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
gamma-Chlordane	5103-74-2	µg/L	0.050	U	0.050	U	0.050	U	0.050	U
Toxaphene	8001-35-2	µg/L	5.0	U	5.0	U	5.0	U	5.0	U
Aroclor-1016	12674-11-2	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1221	11104-28-2	µg/L	2.0	U	2.0	U	2.0	U	2.0	U
Aroclor-1232	11141-16-5	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1242	53469-21-9	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1248	12672-29-6	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1254	11097-69-1	µg/L	1.0	U	1.0	U	1.0	U	1.0	U
Aroclor-1260	11096-82-5	µg/L	1.0	U	1.0	U	1.0	U	1.0	U

shaded areas indicate a change by the validator

entered by: [illegible] date: 9-26-94 40276TBL.XLS checked by: JM date: 9/26/94

APPENDIX F

PESTICIDES VALIDATED LABORATORY REPORT FORMS

9613501.1461

000119

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0BMY4

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05036 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405036-01D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/11/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/13/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/25/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP4

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9596

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/21/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/25/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/26/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR0

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8920

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/13/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

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WJC

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8932

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/13/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

8-23-94 WJC

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT0

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9059

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/14/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/17/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/23/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

8-23-94 (WJC)

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9047

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/14/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/17/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/23/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

8-23-94

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9613501.1467

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV2

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA8883

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/13/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

8-23-94
WJ

9613501.1468

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMWO

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0062 SAS No.: _____ SDG No.: W0062

Matrix: (soil/water) WATER Lab Sample ID: AA9573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/21/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/25/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/26/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

8-15-94
WJC

9613501.1469 1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ6

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0055 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8784

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/11/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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BM 8-29-94

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMR4

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0055 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8905

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/13/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00 quant. vendor lab quant replaced aug. 29-94

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

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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Rev. 00

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS2

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0055 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8828

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/12/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

Error Corrected Lab qual. applied 8-29-94 BM 10-3-94

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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BM 8-29-94

9613601.1472

Rev. 00

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMS6

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0055 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8843

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/12/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

Peak Name Det Peak replaced [illegible]

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

~~UF~~ U

BM 10-7

BM 8-29-94

Rev. 00

9613501.1473

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMT4

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0055 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8856

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/12/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

Qual. removed based on U ~~NJ~~ replace 10-9-94 BM 8/10-3

BM 8-29-94

FORM I PEST 3/90

9613601.1474

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW4

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0055 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8869

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/12/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

Quant. reviewed Lab quals replaced by ~~UJ~~ U 4/29/94 BM 10-7-

BM 8-29-94

FORM I PEST 3/90

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX6

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0055 SAS No.: _____ SDG No.: W0055

Matrix: (soil/water) WATER Lab Sample ID: AA8798

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/11/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/16/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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BM 8-29-94

FORM I PEST 3/90

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B0BMY8

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 05066 SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: A405066-01G

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/24/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/25/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/09/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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8-26-94

cwo 9/9/94

FORM I PEST

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9613501.1477

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP0

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0068 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9703

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/25/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/26/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/27/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
319-84-6	alpha-BHC	0.050	U	UJ
319-85-7	beta-BHC	0.050	U	UJ
319-86-8	delta-BHC	0.050	U	UJ
58-89-9	gamma-BHC (Lindane)	0.050	U	UJ
76-44-8	Heptachlor	0.050	U	UJ
309-00-2	Aldrin	0.050	U	UJ
1024-57-3	Heptachlor epoxide	0.050	U	UJ
959-98-8	Endosulfan I	0.050	U	UJ
60-57-1	Dieldrin	0.10	U	UJ
72-55-9	4,4'-DDE	0.10	U	UJ
72-20-8	Endrin	0.10	U	UJ
33213-65-9	Endosulfan II	0.10	U	UJ
72-54-8	4,4'-DDD	0.10	U	UJ
1031-07-8	Endosulfan sulfate	0.10	U	UJ
50-29-3	4,4'-DDT	0.10	U	UJ
72-43-5	Methoxychlor	0.50	U	UJ
53494-70-5	Endrin ketone	0.10	U	UJ
7421-93-4	Endrin aldehyde	0.10	U	UJ
5103-71-9	alpha-Chlordane	0.050	U	UJ
5103-74-2	gamma-Chlordane	0.050	U	UJ
8001-35-2	Toxaphene	5.0	U	UJ
12674-11-2	Aroclor-1016	1.0	U	UJ
11104-28-2	Aroclor-1221	2.0	U	UJ
11141-16-5	Aroclor-1232	1.0	U	UJ
53469-21-9	Aroclor-1242	1.0	U	UJ
12672-29-6	Aroclor-1248	1.0	U	UJ
11097-69-1	Aroclor-1254	1.0	U	UJ
11096-82-5	Aroclor-1260	1.0	U	UJ

BM 8.30.94

9613501.1478

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMW8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0068 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9610

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/21/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/24/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/26/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
319-84-6	alpha-BHC	0.050	U	
319-85-7	beta-BHC	0.050	U	
319-86-8	delta-BHC	0.050	U	
58-89-9	gamma-BHC (Lindane)	0.050	U	
76-44-8	Heptachlor	0.050	~~U~~	UJ
309-00-2	Aldrin	0.050	U	
1024-57-3	Heptachlor epoxide	0.050	~~U~~	UJ
959-98-8	Endosulfan I	0.050	U	
60-57-1	Dieldrin	0.10	U	
72-55-9	4,4'-DDE	0.10	U	
72-20-8	Endrin	0.10	U	
33213-65-9	Endosulfan II	0.10	U	
72-54-8	4,4'-DDD	0.10	~~U~~	UJ
1031-07-8	Endosulfan sulfate	0.10	U	
50-29-3	4,4'-DDT	0.10	U	
72-43-5	Methoxychlor	0.50	U	
53494-70-5	Endrin ketone	0.10	U	
7421-93-4	Endrin aldehyde	0.10	U	
5103-71-9	alpha-Chlordane	0.050	U	
5103-74-2	gamma-Chlordane	0.050	U	
8001-35-2	Toxaphene	5.0	U	
12674-11-2	Aroclor-1016	1.0	U	
11104-28-2	Aroclor-1221	2.0	U	
11141-16-5	Aroclor-1232	1.0	U	
53469-21-9	Aroclor-1242	1.0	U	
12672-29-6	Aroclor-1248	1.0	U	
11097-69-1	Aroclor-1254	1.0	U	
11096-82-5	Aroclor-1260	1.0	U	

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8-30-94

FORM I PEST 3/90

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMX2

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0068 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9719

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/25/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/26/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/28/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q	
319-84-6	alpha-BHC	0.050	U	
319-85-7	beta-BHC	0.050	U	
319-86-8	delta-BHC	0.050	U	
58-89-9	gamma-BHC (Lindane)	0.050	U	
76-44-8	Heptachlor	0.050	~~U~~	UJ
309-00-2	Aldrin	0.050	U	
1024-57-3	Heptachlor epoxide	0.050	~~U~~	UJ
959-98-8	Endosulfan I	0.050	U	
60-57-1	Dieldrin	0.10	U	
72-55-9	4,4'-DDE	0.10	U	
72-20-8	Endrin	0.10	U	
33213-65-9	Endosulfan II	0.10	U	
72-54-8	4,4'-DDD	0.10	~~U~~	UJ
1031-07-8	Endosulfan sulfate	0.10	U	
50-29-3	4,4'-DDT	0.10	U	
72-43-5	Methoxychlor	0.50	U	
53494-70-5	Endrin ketone	0.10	U	
7421-93-4	Endrin aldehyde	0.10	U	
5103-71-9	alpha-Chlordane	0.050	U	
5103-74-2	gamma-Chlordane	0.050	U	
8001-35-2	Toxaphene	5.0	U	
12674-11-2	Aroclor-1016	1.0	U	
11104-28-2	Aroclor-1221	2.0	U	
11141-16-5	Aroclor-1232	1.0	U	
53469-21-9	Aroclor-1242	1.0	U	
12672-29-6	Aroclor-1248	1.0	U	
11097-69-1	Aroclor-1254	1.0	U	
11096-82-5	Aroclor-1260	1.0	U	

FORM I PEST 3/90.

BM 8-30-94

9/26/94

9613501.1480

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMYO

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0068 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9624

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/21/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/24/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/26/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
319-84-6	alpha-BHC	0.050	U	
319-85-7	beta-BHC	0.050	U	
319-86-8	delta-BHC	0.050	U	
58-89-9	gamma-BHC (Lindane)	0.050	U	
76-44-8	Heptachlor	0.050	~~U~~	UJ
309-00-2	Aldrin	0.050	U	
1024-57-3	Heptachlor epoxide	0.050	~~U~~	UJ
959-98-8	Endosulfan I	0.050	U	
60-57-1	Dieldrin	0.10	U	
72-55-9	4,4'-DDE	0.10	U	
72-20-8	Endrin	0.10	U	
33213-65-9	Endosulfan II	0.10	U	
72-54-8	4,4'-DDD	0.10	~~U~~	UJ
1031-07-8	Endosulfan sulfate	0.10	U	
50-29-3	4,4'-DDT	0.10	U	
72-43-5	Methoxychlor	0.50	U	
53494-70-5	Endrin ketone	0.10	U	
7421-93-4	Endrin aldehyde	0.10	U	
5103-71-9	alpha-Chlordane	0.050	U	
5103-74-2	gamma-Chlordane	0.050	U	
8001-35-2	Toxaphene	5.0	U	
12674-11-2	Aroclor-1016	1.0	U	
11104-28-2	Aroclor-1221	2.0	U	
11141-16-5	Aroclor-1232	1.0	U	
53469-21-9	Aroclor-1242	1.0	U	
12672-29-6	Aroclor-1248	1.0	U	
11097-69-1	Aroclor-1254	1.0	U	
11096-82-5	Aroclor-1260	1.0	U	

FORM I PEST 3/90

BM 8-30-96

9613501.1481

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMZ2

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0068 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9736

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/25/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 05/26/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/28/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 5.0 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q	
319-84-6	alpha-BHC	0.050	U	
319-85-7	beta-BHC	0.050	U	
319-86-8	delta-BHC	0.050	U	
58-89-9	gamma-BHC (Lindane)	0.050	U	
76-44-8	Heptachlor	0.050	~~U~~	UJ
309-00-2	Aldrin	0.050	U	
1024-57-3	Heptachlor epoxide	0.050	~~U~~	UJ
959-98-8	Endosulfan I	0.050	U	
60-57-1	Dieldrin	0.10	U	
72-55-9	4,4'-DDE	0.10	U	
72-20-8	Endrin	0.10	U	
33213-65-9	Endosulfan II	0.10	U	
72-54-8	4,4'-DDD	0.10	~~U~~	UJ
1031-07-8	Endosulfan sulfate	0.10	U	
50-29-3	4,4'-DDT	0.10	U	
72-43-5	Methoxychlor	0.50	U	
53494-70-5	Endrin ketone	0.10	U	
7421-93-4	Endrin aldehyde	0.10	U	
5103-71-9	alpha-Chlordane	0.050	U	
5103-74-2	gamma-Chlordane	0.050	U	
8001-35-2	Toxaphene	5.0	U	
12674-11-2	Aroclor-1016	1.0	U	
11104-28-2	Aroclor-1221	2.0	U	
11141-16-5	Aroclor-1232	1.0	U	
53469-21-9	Aroclor-1242	1.0	U	
12672-29-6	Aroclor-1248	1.0	U	
11097-69-1	Aroclor-1254	1.0	U	
11096-82-5	Aroclor-1260	1.0	U	

9-8-94

9613501.1482

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMZ8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0068 SAS No.: _____ SDG No.: W0068

Matrix: (soil/water) WATER Lab Sample ID: AA9924

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 05/27/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 06/01/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/13/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND		Q	
319-84-6	alpha-BHC	0.050	U	
319-85-7	beta-BHC	0.050	U	
319-86-8	delta-BHC	0.050	U	
58-89-9	gamma-BHC (Lindane)	0.050	U	
76-44-8	Heptachlor	0.050	~~U~~	UJ
309-00-2	Aldrin	0.050	U	
1024-57-3	Heptachlor epoxide	0.050	~~U~~	UJ
959-98-8	Endosulfan I	0.050	U	
60-57-1	Dieldrin	0.10	~~U~~	UJ
72-55-9	4,4'-DDE	0.10	U	
72-20-8	Endrin	0.10	U	
33213-65-9	Endosulfan II	0.10	U	
72-54-8	4,4'-DDD	0.10	~~U~~	UJ
1031-07-8	Endosulfan sulfate	0.10	U	
50-29-3	4,4'-DDT	0.10	U	
72-43-5	Methoxychlor	0.50	U	
53494-70-5	Endrin ketone	0.10	~~U~~	UJ
7421-93-4	Endrin aldehyde	0.10	U	
5103-71-9	alpha-Chlordane	0.050	U	
5103-74-2	gamma-Chlordane	0.050	U	
8001-35-2	Toxaphene	5.0	U	
12674-11-2	Aroclor-1016	1.0	U	
11104-28-2	Aroclor-1221	2.0	U	
11141-16-5	Aroclor-1232	1.0	U	
53469-21-9	Aroclor-1242	1.0	U	
12672-29-6	Aroclor-1248	1.0	U	
11097-69-1	Aroclor-1254	1.0	U	
11096-82-5	Aroclor-1260	1.0	U	

(SM) 9-8-94

FORM I PEST 3/90

9613601.1483

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMP8

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0082 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0446

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 06/09/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 06/10/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

9-10-94 (CJS)

9613501.1484

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMQ2

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0082 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0309

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 06/07/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 06/08/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/13/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 3/90

9.16 9.4 (cont.)

9613601.1485

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOBMV6

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0082 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0434

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 06/09/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 06/10/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/24/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 3/90

9/10/94 (W.T.)

9613601.1486

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BOC1G5

Lab Name: ITAS-KNOXVILLE Contract: _____

Lab Code: _____ Case No.: W0082 SAS No.: _____ SDG No.: W0082

Matrix: (soil/water) WATER Lab Sample ID: AB0322

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 06/07/94

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 06/08/94

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/13/94

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

9/16 GW (ESC)

~~000050~~

APPENDIX G

METALS VALIDATED DATA SUMMARY TABLES

METALS DATA SUMMARY

FILE #:VW402.56		HEIS #:	B0BMY4		B0BMY5	
		Date:	6-May-94		6-May-94	
		Matrix:	WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q
Aluminum	7429-90-5	ug/L	20.9	U	20.9	U
Antimony	7440-36-0	ug/L	14.7	U	14.7	U
Arsenic	7440-38-2	ug/L	1.5	U	1.5	UJ
Barium	7440-39-3	ug/L	29.6	B	29.5	B
Beryllium	7440-41-7	ug/L	0.40	U	0.40	U
Cadmium	7440-43-9	ug/L	1.1	U	1.1	U
Calcium	7440-70-2	ug/L	55700		55700	
Chromium	7440-47-3	ug/L	47.3		43.8	
Cobalt	7440-48-4	ug/L	2.1	U	2.1	U
Copper	7440-50-8	ug/L	3.6	U	3.6	U
Iron	7439-89-6	ug/L	83.1	U	31.8	U
Lead	7439-92-1	ug/L	1.6	B	1.5	U
Magnesium	7439-95-4	ug/L	8220		8090	
Manganese	7439-96-5	ug/L	2.6	U	1.9	U
Mercury	7439-97-6	ug/L	0.2	U	0.2	U
Nickel	7440-02-0	ug/L	6.5	U	6.5	U
Potassium	7440-09-7	ug/L	2700	B	2620	B
Selenium	7782-49-2	ug/L	2.1	U	2.1	U
Silver	7440-22-4	ug/L	3.6	U	3.6	U
Sodium	7440-23-5	ug/L	7900		7910	
Thallium	7440-28-0	ug/L	2.2	U	2.2	U
Vanadium	7440-62-2	ug/L	2.2	U	2.2	U
Zinc	7440-66-6	ug/L	7.1	U	7.1	U
Cyanide	CYANIDE	ug/L	10	U		

Shaded areas indicate
changes by the validator
TMA760

entered by: [illegible]
date: 9-26-94

checked by: [illegible]
date: 9/26/9[illegible]

METALS/CYANIDE DATA SUMMARY TABLE

FILE#:VW402.66		HEIS #:	B0BMV2		B0BMV3		B0BMR0		B0BMR1		B0BMR8		B0BMR9		B0BMT0	
		Date:	6-May-94		6-May-94		11-May-94		11-May-94		11-May-94		11-May-94		12-May-94	
		Matrix:	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	ug/L	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U	40.0	U
Antimony	7440-36-0	ug/L	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	7440-38-2	ug/L	9.1	B	6.5	B	2.0	U	2.0	U	2.0	U	2.0	U	2.1	B
Barium	7440-39-3	ug/L	44.0	B	42.3	B	20.7	B	19.3	B	14.2	B	17.8	B	25.1	B
Beryllium	7440-41-7	ug/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	7440-43-9	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	7440-70-2	ug/L	58500		57900		24200		23400		20400		25900		29600	
Chromium	7440-47-3	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	11.8	
Cobalt	7440-48-4	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Copper	7440-50-8	ug/L	10.0	UJ	46.7	J	10.0	UJ	10.0	UJ	10.0	UJ	10.0	UJ	10.0	UJ
Iron	7439-89-6	ug/L	23.8	UJ	10.0	UJ	12.2	UJ	13.1	UJ	35.8	U	10.0	UJ	10.0	UJ
Lead	7439-92-1	ug/L	2.0	UJ	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	UJ
Magnesium	7439-95-4	ug/L	18400		18000		4060	B	3860	B	3620	B	4580	B	3950	B
Manganese	7439-96-5	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.4	B	2.0	U	2.0	U
Mercury	7439-97-6	ug/L	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	7440-02-0	ug/L	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Potassium	7440-09-7	ug/L	7180		7080		1330	BJ	1000	UJ	1000	UJ	1840	BJ	2410	BJ
Selenium	7782-49-2	ug/L	3.1	B	3.0	BJ	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ	2.8	BJ
Silver	7440-22-4	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Sodium	7440-23-5	ug/L	55300		54000		2200	B	2140	B	2730	B	3630	B	3560	B
Thallium	7440-28-0	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Vanadium	7440-62-2	ug/L	17.6	B	17.8	B	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Zinc	7440-66-6	ug/L	11.1	U	5.0	U	5.7	U	8.6	B	5.6	U	5.5	U	9.0	U
Cyanide	5955-70-0	ug/L	10.0	U			10.0	U			10.0	U			10.0	U

FILE#:VW402.66		HEIS #:	B0BMT1		B0BMT8		B0BMT9		B0BMP4		B0BMP5		B0BMW0		B0BMW1	
		Date:	12-May-94		12-May-94		12-May-94		18-May-94		18-May-94		19-May-94		19-May-94	
		Matrix:	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	ug/L	40.0	U	40.0	U	40.0	U	40.0	U	3220		40.0	U	40.0	U
Antimony	7440-36-0	ug/L	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	7440-38-2	ug/L	2.0	U	2.6	B	2.0	U	2.0	U	2.0	U	5.1	B	5.0	B
Barium	7440-39-3	ug/L	43.8	B	62.4	B	28.4	B	23.1	B	25.7	B	42.8	B	41.7	B
Beryllium	7440-41-7	ug/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	7440-43-9	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	7440-70-2	ug/L	79300		113000		32700		26200		31800		60400		58400	
Chromium	7440-47-3	ug/L	15.8		22.0		15.6		10.0	U	1710		10.0	U	10.0	U
Cobalt	7440-48-4	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.7	B	10.0	U	10.0	U
Copper	7440-50-8	ug/L	29.9	J	10.0	UJ	10.0	UJ	10.0	UJ	20.4	BJ	10.0	UJ	10.0	UJ
Iron	7439-89-6	ug/L	10.0	UJ	27.2	UJ	37.4	U	182		5530		98.5	B	34.9	U
Lead	7439-92-1	ug/L	2.0	UJ	2.0	UJ	2.0	UJ	2.0	U	2.0	U	2.0	UJ	2.0	UJ
Magnesium	7439-95-4	ug/L	19000		25900		4420	B	4520	B	4500	B	20100		19500	
Manganese	7439-96-5	ug/L	2.0	U	2.0	U	2.0	U	5.3	B	111		16.2		13.5	B
Mercury	7439-97-6	ug/L	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	7440-02-0	ug/L	20.0	U	20.0	U	20.0	U	20.0	U	625		20.0	U	20.0	U
Potassium	7440-09-7	ug/L	5290		6290		3980	B	1540	BJ	1360	BJ	6870		6330	
Selenium	7782-49-2	ug/L	2.4	BJ	2.0	U	2.0	UJ	2.0	UJ	2.0	UJ	2.9	B	3.2	BJ
Silver	7440-22-4	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Sodium	7440-23-5	ug/L	27000		38000		4150	B	3050	B	3070	B	70500		68200	
Thallium	7440-28-0	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Vanadium	7440-62-2	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Zinc	7440-66-6	ug/L	5.0	U	5.0	U	15.9	U	5.0	U	11.3	U	5.0	U	5.0	U
Cyanide	5955-70-0	ug/L			10.0	U			10.0	U			10.0	U		

entered by: CMO date: 10-2-94

shaded areas indicate changes by the validator
40266TBL.XLS

checked by: BM date: 10-3-9

METALS/CYANIDE DATA SUMMARY TABLE

FILE#:VW402.67		HEIS #:	B0BMT5		B0BMW4		B0BMW5		B0BMR4		B0BMR5	
		Date:	9-May-94		9-May-94		9-May-94		11-May-94		11-May-94	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	ug/L	40.0	U	50.6	B	61.6	B	50.2	B	40.0	U
Antimony	7440-36-0	ug/L	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	7440-38-2	ug/L	2.3	B	2.5	B	2.3	B	2.0	U	2.0	U
Barium	7440-39-3	ug/L	36.2	B	48.2	B	45.1	B	15.8	B	15.4	B
Beryllium	7440-41-7	ug/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	7440-43-9	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	7440-70-2	ug/L	77400		104000		97000		22000		21700	
Chromium	7440-47-3	ug/L	21.8		10.4		11.8		10.0	U	10.0	U
Cobalt	7440-48-4	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Copper	7440-50-8	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Iron	7439-89-6	ug/L	19.9	U	10.0	U	114	J	53.3	U	25.8	U
Lead	7439-92-1	ug/L	2.0	B	2.0	U	2.0	U	2.0	U	6.2	
Magnesium	7439-95-4	ug/L	17100		25700		23800		3830	B	3820	B
Manganese	7439-96-5	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Mercury	7439-97-6	ug/L	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	7440-02-0	ug/L	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Potassium	7440-09-7	ug/L	5770		7470		7140		1030	B	1110	B
Selenium	7782-49-2	ug/L	2.5	BJ	2.0	U	2.0	U	2.0	U	2.0	UJ
Silver	7440-22-4	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Sodium	7440-23-5	ug/L	20500		32300		29800		2110	B	2180	B
Thallium	7440-28-0	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Vanadium	7440-62-2	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Zinc	7440-66-6	ug/L	5.0	U	5.0	U	5.0	U	5.1	B	5.0	U
Cyanide	5955-70-0	ug/L			10.0	U			10.0	U		

entered by: [illegible]
date: 9-26-94

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ITC060

checked by: [illegible]
date: 9-26-94

METALS/CYANIDE DATA SUMMARY TABLE

FILE#:VW402.67		HEIS #:	B0BMS2		B0BMS3		B0BMS6		B0BMS7		B0BMT4	
		Date:	10-May-94		10-May-94		10-May-94		10-May-94		9-May-94	
		Matrix:	WATER		WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	ug/L			40.0	U	40.0	U	40.0	U	41.3	B
Antimony	7440-36-0	ug/L			50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	7440-38-2	ug/L			3.4	B	2.5	B	2.4	B	2.0	U
Barium	7440-39-3	ug/L			27.4	B	36.5	B	39.4	B	42.2	B
Beryllium	7440-41-7	ug/L			1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	7440-43-9	ug/L			5.0	U	5.0	U	5.0	U	5.0	U
Calcium	7440-70-2	ug/L			60500		71800		78900		92600	
Chromium	7440-47-3	ug/L			33.4		334		366		27.1	
Cobalt	7440-48-4	ug/L			10.0	U	10.0	U	10.0	U	10.0	U
Copper	7440-50-8	ug/L			10.0	U	10.0	U	10.0	U	10.0	U
Iron	7439-89-6	ug/L			25.1	U	23.6	U	45.6	U	19.9	U
Lead	7439-92-1	ug/L			2.0	U	2.0	U	2.0	U	2.0	U
Magnesium	7439-95-4	ug/L			13600		10200		11200		20700	
Manganese	7439-96-5	ug/L			2.0	U	2.0	U	2.0	U	2.0	U
Mercury	7439-97-6	ug/L			0.20	U	0.20	U	0.20	U	0.20	U
Nickel	7440-02-0	ug/L			20.0	U	20.0	U	20.0	U	20.0	U
Potassium	7440-09-7	ug/L			4510	B	3870	B	4420	B	5980	
Selenium	7782-49-2	ug/L			2.0	UJ	2.0	UJ	2.0	UJ	2.0	U
Silver	7440-22-4	ug/L			5.0	U	5.0	U	5.0	U	5.0	U
Sodium	7440-23-5	ug/L			17000		16300		17800		24900	
Thallium	7440-28-0	ug/L			2.0	U	2.0	U	2.0	U	2.0	U
Vanadium	7440-62-2	ug/L			10.0	U	10.0	U	10.0	U	10.0	U
Zinc	7440-66-6	ug/L			5.0	U	5.0	U	5.8	B	5.0	U
Cyanide	5955-70-0	ug/L	10.0	U			10.0	U			10.0	U

entered by: [illegible]
date: 9-26-94

shaded areas indicate changes by the validator
ITC060

checked by: BM
date: 9-26-94

METALS/CYANIDE DATA SUMMARY TABLE

FILE#:VW402.67		HEIS #:	B0BMQ6		B0BMQ7		B0BMX6		B0BMX7	
		Date:	6-May-94		6-May-94		6-May-94		6-May-94	
		Matrix:	WATER		WATER		WATER		WATER	
Constituent	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	7429-90-5	ug/L	40.0	U	40.0	U	41.3	B	46.2	B
Antimony	7440-36-0	ug/L	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	7440-38-2	ug/L	2.0	U	2.0	U	2.0	U	2.0	U
Barium	7440-39-3	ug/L	28.6	B	27.6	B	27.8	B	27.0	B
Beryllium	7440-41-7	ug/L	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	7440-43-9	ug/L	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	7440-70-2	ug/L	50800		51900		52600		52000	
Chromium	7440-47-3	ug/L	54.0		47.6		44.8		48.7	
Cobalt	7440-48-4	ug/L	10.0	U	10.0	U	10.0	U	10.0	U
Copper	7440-50-8	ug/L	10.0	U	10.0	U	10.0	U	10.0	U
Iron	7439-89-6	ug/L	1420	J	23.8	U	40.3	U	17.0	U
Lead	7439-92-1	ug/L	2.0	U	2.4	BJ	2.0	U	32.5	
Magnesium	7439-95-4	ug/L	7390		7470		7600		7490	
Manganese	7439-96-5	ug/L	9.0	B	2.0	U	2.0	U	2.0	U
Mercury	7439-97-6	ug/L	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	7440-02-0	ug/L	20.0	U	20.0	U	20.0	U	20.0	U
Potassium	7440-09-7	ug/L	2100	B	2400	B	1710	B	2610	B
Selenium	7782-49-2	ug/L	2.1	BJ	2.0	U	2.0	U	2.0	U
Silver	7440-22-4	ug/L	5.0	U	5.0	U	5.0	U	5.0	U
Sodium	7440-23-5	ug/L	6900		7200		7170		7020	
Thallium	7440-28-0	ug/L	2.0	UJ	2.0	U	2.0	U	2.0	U
Vanadium	7440-62-2	ug/L	10.0	U	10.0	U	10.0	U	10.0	U
Zinc	7440-66-6	ug/L	10.2	B	5.0	U	9.4	B	24.5	
Titanium	7440-32-6	ug/L	3.0	U	3.0	U	3.0	U	3.0	U
Cyanide	5955-70-0	ug/L	10.0	U			10.0	U		

entered by: [illegible]
date: 9-26-94

shaded areas indicate changes by the validator
ITC060

checked by: BM
date: 9-26-94

METALS/CYANIDE DATA SUMMARY TABLE

Rev. 00

FILE#:VW402.71		HEIS #:	B0BMY8		B0BMY9	
		Date:	18-May-94		18-May-94	
Constituent		Matrix:	WATER		WATER	
	CAS #	Units	Results	Q	Results	Q
Aluminum	7429-90-5	ug/L	20.9	U	853	J
Antimony	7440-36-0	ug/L	14.7	U	14.7	U
Arsenic	7440-38-2	ug/L	1.5	U	1.5	U
Barium	7440-39-3	ug/L	21.7	U	33.2	BJ
Beryllium	7440-41-7	ug/L	0.40	U	0.40	U
Cadmium	7440-43-9	ug/L	1.1	U	1.1	U
Calcium	7440-70-2	ug/L	28600	J	31400	J
Chromium	7440-47-3	ug/L	5.5	U	4.4	U
Cobalt	7440-48-4	ug/L	2.1	U	2.1	U
Copper	7440-50-8	ug/L	3.9	U	4.6	U
Iron	7439-89-6	ug/L	157	U	101	U
Lead	7439-92-1	ug/L	1.6	B	1.5	U
Magnesium	7439-95-4	ug/L	4420	BJ	4780	BJ
Manganese	7439-96-5	ug/L	3.0	U	32.6	J
Mercury	7439-97-6	ug/L	0.20	U	0.20	U
Nickel	7440-02-0	ug/L	6.5	U	6.5	U
Potassium	7440-09-7	ug/L	1900	B	2050	B
Selenium	7782-49-2	ug/L	2.1	U	2.1	U
Silver	7440-22-4	ug/L	3.6	U	3.6	U
Sodium	7440-23-5	ug/L	3320	BJ	3710	B
Thallium	7440-28-0	ug/L	2.2	U	2.2	U
Vanadium	7440-62-2	ug/L	2.2	U	2.2	U
Zinc	7440-66-6	ug/L	7.1	U	8.0	B
Cyanide	5955-70-0	ug/L	10.0	U		

shaded areas show changes by validator

entered by: CMO date: 10/2/94 40271TBL.XLS checked by: BM date: 10.3.9

000302

METALS/CYANIDE DATA SUMMARY TABLE

FILE#:VW402.72		HEIS #:	BOBMW8		BOBMW9		BOBMY0		BOBMY1		BOBMP0		BOBMP1	
		Date:	19-May-94		19-May-94		18-May-94		18-May-94		17-May-94		17-May-94	
Constituent		Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	429-90-5	ug/L	475		121	BJ	67.1	BJ	73.4	BJ	40.0	U	43.6	B
Antimony	440-36-0	ug/L	50	U	50	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	440-38-2	ug/L	2.6	B	2.1	B	2.0	U	2.0	U	10.3		10.9	
Barium	440-39-3	ug/L	112	B	112	B	22.8	B	21.1	B	27.6	B	28.3	B
Beryllium	440-41-7	ug/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	440-43-9	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	440-70-2	ug/L	135000		134000		26100		24000		33000		34800	
Chromium	440-47-3	ug/L	270		82.4		53.5		45.8		10.0	U	10.0	U
Cobalt	440-48-4	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Copper	440-50-8	ug/L	10.0	UJ	10.0	UJ	10.0	UJ	10.0	UJ	10.0	U	10.0	U
Iron	439-89-6	ug/L	889		235	U	246	U	132	U	36.6	U	24.1	U
Lead	439-92-1	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	5.0	U	3.8	U
Magnesium	439-95-4	ug/L	37300		37100		4420	B	4040	B	10800		11300	
Manganese	439-96-5	ug/L	17.1		4.7	B	4.8	B	3.3	B	2.0	U	2.0	U
Mercury	439-97-6	ug/L	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	440-02-0	ug/L	86.8		24.0	B	20.0	U	20.0	U	20.0	U	20.0	U
Potassium	440-09-7	ug/L	7000		6170		1000	UJ	1000	UJ	3490	B	4040	B
Selenium	782-49-2	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.1	BJ
Silver	440-22-4	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Sodium	440-23-5	ug/L	59200		59100		3040	B	2730	B	44900		47200	
Thallium	440-28-0	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	UJ	2.0	UJ
Vanadium	440-62-2	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	19.9	B	22.4	B
Zinc	440-66-6	ug/L	6.0	U	5.0	U	6.5	U	5.0	U	18.2	B	17.1	B
Cyanide	955-70-0	ug/L	10.0	U			10.0	U			10.0	U		

shaded areas show changes by validator

entered by: date: ITC079.XLS checked by: BM date: 10-3-94

000300A

METALS/CYANIDE DATA SUMMARY TABLE

FILE#:VW402.72		HEIS #:	BOBMX2		BOBMX3		BOBMZ2		BOBMZ3		BOBMZ8		BOBMZ9	
		Date:	23-May-94		23-May-94		20-May-94		20-May-94		25-May-94		25-May-94	
Constituent		Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	429-90-5	ug/L	40.0	U	40.0	U	42.8	B	42.3	B	40.0	U	40.0	U
Antimony	440-36-0	ug/L	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	440-38-2	ug/L	5.7	B	4.9	B	2.0	U	2.0		2.0	U	2.0	U
Barium	440-39-3	ug/L	32.1	B	33.4	B	2.0	U	2.0	U	2.0	U	2.0	U
Beryllium	440-41-7	ug/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	440-43-9	ug/L	5.0	U	5.0	U	5.0	U	6.2		5.0	U	5.0	U
Calcium	440-70-2	ug/L	64600		64400		93.9	U	89.4	U	94.8	U	88.3	U
Chromium	440-47-3	ug/L	19.4		17.2		10.0	U	10.0	U	10.0	U	10.0	U
Cobalt	440-48-4	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Copper	440-50-8	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Iron	439-89-6	ug/L	34.2	U	26.2	U	21.0	U	18.6	U	16.8	B	26.9	B
Lead	439-92-1	ug/L	3.2	U	2.7	U	35.0		5.0	U	6.4		2.0	U
Magnesium	439-95-4	ug/L	16500		16400	U	30.0	U	30.0	U	30.0	U	30.0	U
Manganese	439-96-5	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Mercury	439-97-6	ug/L	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	440-02-0	ug/L	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Potassium	440-09-7	ug/L	5090		5720		1000	U	1000	U	1000	U	1000	U
Selenium	782-49-2	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Silver	440-22-4	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Sodium	440-23-5	ug/L	45100		45300		161	B	149	B	185	U	244	U
Thallium	440-28-0	ug/L	2.0	UJ	2.0	UJ	2.0	U	2.0	U	2.0	U	2.0	U
Vanadium	440-62-2	ug/L	10.0	U	11.4	B	10.0	U	10.0	U	10.0	U	10.0	U
Zinc	440-66-6	ug/L	5.0	U	9.1	B	5.0	U	8.3	B	5.0	U	5.0	U
Cyanide	955-70-0	ug/L	10.0	U			10.0	U			10.0	U		

shaded areas show changes by validator

entered by: BM date: 9.15.94 ITC079.XLS checked by: [illegible] date: 9-19-9

METALS/CYANIDE DATA SUMMARY TABLE

FILE#:VW402.76		HEIS #:	B0BMQ2		B0BMQ3		B0BMP8		B0BMP9		B0BMV6		B0BMV7	
		Date:	1-Jun-94		1-Jun-94		3-Jun-94		3-Jun-94		6-Jun-94		6-Jun-94	
Constituent		Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	CAS #	Units	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Aluminum	429-90-5	ug/L	40.0	U	40.0	U	77.0	B	46.5	B	77.7	B	42.7	B
Antimony	440-36-0	ug/L	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	440-38-2	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	4.5	B	4.6	B
Barium	440-39-3	ug/L	49.9	B	51.0	B	33.6	B	31.4	B	25.2	B	24.1	B
Beryllium	440-41-7	ug/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	440-43-9	ug/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Calcium	440-70-2	ug/L	92600		96800		47600		45500		55600		51200	
Chromium	440-47-3	ug/L	19.3		22.8		10.0	U	10.0	U	10.6		10.2	
Cobalt	440-48-4	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Copper	440-50-8	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Iron	439-89-6	ug/L	17.3	U	24.4	U	45.8	U	26.6	U	30.6	U	69.9	U
Lead	439-92-1	ug/L	5.4	UJ	2.0	UJ	2.0	UJ	2.1	UJ	3.6	UJ	13.7	J
Magnesium	439-95-4	ug/L	21600		22600		8790		8400		16800		15400	
Manganese	439-96-5	ug/L	2.0	U	2.0	U	2.6	U	2.2	U	2.0	U	2.0	U
Mercury	439-97-6	ug/L	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	440-02-0	ug/L	20.0	U	20.0	U	20.0	B	20.0	U	20.0	U	20.0	U
Potassium	440-09-7	ug/L	5490		6510		3410	U	3070	B	5540		5740	
Selenium	782-49-2	ug/L	2.7	B	2	U	2.0	U	2.0	U	2.4	BJ	2.0	U
Silver	440-22-4	ug/L	5.0	U	5.0	U	5.0		5.0	U	5.0	U	5.0	U
Sodium	440-23-5	ug/L	26300		27400		5020	U	4790	B	51100		46500	
Thallium	440-28-0	ug/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Vanadium	440-62-2	ug/L	10.0	U	10.0	U	10.0	U	10.0	U	12.0	B	13.4	B
Zinc	440-66-6	ug/L	20.5	U	17.7	U	33.2	U	23.2	U	21.6	U	16.7	U
Cyanide	955-70-0	ug/L	10.0	U			10	U			10.0	U		

shaded areas indicate changes by validator

40276TBL.XLS

entered by: JM date: 9/26/94

checked by: [illegible] date: 9-26-94