



Environmental Programs

LANL Water Stewardship Program

P.O. Box 1663, Mailstop M992
Los Alamos, New Mexico 87545
(505) 606-0312/FAX (505) 606-0503



LIBRARY C

Date: October 25, 2006
Refer to: EP2006-0934

Mr. John Young
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313



SUBJECT: REQUESTED DATA

Dear Mr. Young:

Per your request, please find a CD attached containing the following data files

Folder: NMED Request 101606 with the following sub-folders

- LAOI-7 Hg
- LAOI-7 Toluene
- PCBs
 - LAO-B
 - R-8
 - Spring 1

The folders contain pdf files of the Analysis Data Sheets from the laboratory and any available secondary validation for the samples. Folder LAOI-7 Hg contains excel files of the data received from the laboratory's Earth and Environmental Science (EES6) Group. The mercury samples in question were analyzed by this group. This data does not go through a secondary validation process. Please contact David Rogers (505) 667-0313 (slug@lanl.gov) if additional information is needed.

Sincerely,

Andrew Phelps
Associate Director
Environmental Programs



3796

AP/MB/tml

Enclosure: 1) CD attached containing the following data files: NMED Request 101606 with the following sub-folders: LAOI-7 Hg, LAOI-7 Toluene, PCBs, LAO-B, R-8, and Spring 1

Cy: (w/enc)

LWSP File, MS M992

IRM-RMMSO, MS A150

RPF, MS M707

Cy: (w/o enc)

Mathew Johansen, DOE-LASO, M A316

Andrew Phelps, ADEP, MS J591

Carolyn Mangeng, ADEP, MS J591

Alison Dorries, ERSS, MS M992

David Rogers, ERSS-ES, MS M992

Michelle Benak, ERSS-GS, MS K497

Tina Behr-Andres, LWSP, MS M992

Jean Dewart, LWSP, MS M992

Ardyth Simmons, LWSP, MS M992

Start Date	Location Name	Fid Matrix Code	Sample Id	Lab Sample Type Code	Analyte Desc	Request Num	Analyte	Fid Prep Code	Lab Code	Port Common Name	Port Depth SUM	Std Result	Std Uom	Any/ Suite Code	Uncert
23-Aug-2005	LAOI-7	WG	EU0507LAOI701	CS	Mercury	WG-02790-EE	Hg	UF	EES6	Borehole	0	1.01	ug/L METALS		0.00003
29-Aug-2005	LAOI-7	WG	EU0507LAOI702	CS	Mercury	WG-02791-EE	Hg	UF	EES6	Borehole	0	16.60	ug/L METALS		0.0007
29-Aug-2005	LAOI-7	WG	EU0507LAOI703	CS	Mercury	WG-02792-EE	Hg	UF	EES6	Borehole	0	5.30	ug/L METALS		0.0003
30-Aug-2005	LAOI-7	WG	EU0507LAOI704	CS	Mercury	WG-02793-EE	Hg	UF	EES6	Borehole	0	8.00	ug/L METALS		0.0004
01-Sep-2005	LAOI-7	WG	EU0507LAOI705	CS	Mercury	WG-02794-EE	Hg	UF	EES6	Borehole	0	25.00	ug/L METALS		0.001
06-Sep-2005	LAOI-7	WG	EU0507LAOI706	CS	Mercury	WG-02795-EE	Hg	UF	EES6	Borehole	0	5.20	ug/L METALS		0.0001
03-Oct-2005	LAOI-7	WG	EU0507LAOI707	CS	Mercury	WG-02796-EE	Hg	UF	EES6	SINGLE COMPLETION	240	2.30	ug/L METALS		0.0001

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 162704	Date Collected: 05/09/2006 13:38	Matrix: GROUND WATER
Lab Sample ID: 162704010	Date Received: 05/11/2006 09:30	
	Client: ESHL001	Project: ESHL00701
Client ID: GU06050LAOI790	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Batch ID: 531872	Inst: VOA2.I	Dilution: 1
Run Date: 05/20/2006 00:59	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.500	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.500	1.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.500	1.00
74-83-9	Bromomethane	U	1.00	ug/L	0.500	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.500	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.310	1.00
67-64-1	Acetone	J	2.57	ug/L	1.25	5.00
75-05-8	Acetonitrile	U	25.0	ug/L	6.25	25.0
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.25	5.00
75-09-2	Methylene chloride	U	5.00	ug/L	2.00	5.00
75-15-0	Carbon disulfide	J	1.81	ug/L	1.25	5.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.25	5.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.250	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.250	1.00

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SDG Number: 162704	Date Collected: 05/09/2006 13:38	Matrix: GROUND WATER
Lab Sample ID: 162704010	Date Received: 05/11/2006 09:30	
	Client: ESHL001	Project: ESHL00701
Client ID: GU06050LAOI790	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Batch ID: 531872	Inst: VOA2.I	Dilution: 1
Run Date: 05/20/2006 00:59	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.250	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.250	1.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.250	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.250	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.250	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.25	5.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.250	1.00
108-88-3	Toluene		71.2	ug/L	0.250	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.250	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.250	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.25	5.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.250	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.250	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.250	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.250	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.250	1.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.250	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.250	2.00
95-47-6	o-Xylene	U	1.00	ug/L	0.250	1.00
100-42-5	Styrene	U	1.00	ug/L	0.250	1.00

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Batch ID: 531872	Inst: VOA2.I	Dilution: 1
Run Date: 05/20/2006 00:59	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-25-2	Bromoform	U	1.00	ug/L	0.250	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.250	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.250	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.250	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.250	1.00
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.250	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.250	1.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.250	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.250	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.250	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.250	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.250	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.250	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.250	1.00
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.250	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.250	1.00
91-20-3	Naphthalene	U	1.00	ug/L	0.250	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
107-02-8	Acrolein	U	5.00	ug/L	3.00	5.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	1.00	5.00

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	Client: ESHL001	Project: ESHL00701
Client ID: GU06050LAOI790	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Batch ID: 531872	Inst: VOA2.I	Dilution: 1
Run Date: 05/20/2006 00:59	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
107-05-1	Allyl chloride	U	5.00	ug/L	3.70	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.00	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.00	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	12.5	50.0
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.00	5.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.00	5.00
123-91-1	1,4-Dioxane	U	50.0	ug/L	20.0	50.0
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.250	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.250	1.00

Surrogate/Tracer recovery	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	61.7	60.0	103	(65%-123%)
Bromofluorobenzene	66.2	60.0	110	(80%-120%)
Dibromofluoromethane	65.0	60.0	108	(72%-128%)
Toluene-d8	67.7	60.0	113	(80%-120%)

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Lab Sample ID: 162704011	Date Received: 05/11/2006 09:30	
	Client: ESHL001	Project: ESHL00701
Client ID: GU06050LAOI701-FTB	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Batch ID: 531872	Inst: VOA2.I	Dilution: 1
Run Date: 05/22/2006 08:35	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.500	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.500	1.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.500	1.00
74-83-9	Bromomethane	U	1.00	ug/L	0.500	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.500	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.310	1.00
67-64-1	Acetone	J	1.77	ug/L	1.25	5.00
75-05-8	Acetonitrile	U	25.0	ug/L	6.25	25.0
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.25	5.00
75-09-2	Methylene chloride	U	5.00	ug/L	2.00	5.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.25	5.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.25	5.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.250	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.250	1.00

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Lab Sample ID: 162704011	Date Received: 05/11/2006 09:30	
	Client: ESHL001	Project: ESHL00701
Client ID: GU06050LAOI701-FTB	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Batch ID: 531872	Inst: VOA2.I	Dilution: 1
Run Date: 05/22/2006 08:35	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.250	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.250	1.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.250	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.250	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.250	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.25	5.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.250	1.00
108-88-3	Toluene	U	1.00	ug/L	0.250	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.250	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.250	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.25	5.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.250	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.250	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.250	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.250	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.250	1.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.250	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.250	2.00
95-47-6	o-Xylene	U	1.00	ug/L	0.250	1.00
100-42-5	Styrene	U	1.00	ug/L	0.250	1.00

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Lab Sample ID: 162704011	Date Received: 05/11/2006 09:30	
	Client: ESHL001	Project: ESHL00701
Client ID: GU06050LAOI701-FTB	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Batch ID: 531872	Inst: VOA2.I	Dilution: 1
Run Date: 05/22/2006 08:35	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-25-2	Bromoform	U	1.00	ug/L	0.250	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.250	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.250	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.250	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.250	1.00
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.250	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.250	1.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.250	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.250	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.250	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.250	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.250	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.250	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.250	1.00
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.250	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.250	1.00
91-20-3	Naphthalene	U	1.00	ug/L	0.250	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
107-02-8	Acrolein	U	5.00	ug/L	3.00	5.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	1.00	5.00

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Lab Sample ID: 162704011	Date Received: 05/11/2006 09:30	
Client ID: GU06050LAOI701-FTB	Client: ESHL001	Project: ESHL00701
Batch ID: 531872	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Run Date: 05/22/2006 08:35	Inst: VOA2.I	Dilution: 1
	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
107-05-1	Allyl chloride	U	5.00	ug/L	3.70	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.00	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.00	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	12.5	50.0
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.00	5.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.00	5.00
123-91-1	1,4-Dioxane	U	50.0	ug/L	20.0	50.0
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.250	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.250	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	62.0	60.0	ug/L	103	(65%-123%)
Bromofluorobenzene	66.4	60.0	ug/L	111	(80%-120%)
Dibromofluoromethane	66.0	60.0	ug/L	110	(72%-128%)
Toluene-d8	68.7	60.0	ug/L	115	(80%-120%)

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 162704	Date Collected: 05/09/2006 13:38	Matrix: GROUND WATER
Lab Sample ID: 162704003	Date Received: 05/11/2006 09:30	
	Client: ESHL001	Project: ESHL00701
Client ID: GU06050LAOI701	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Batch ID: 531872	Inst: VOA2.I	Dilution: 1
Run Date: 05/20/2006 00:30	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.00	ug/L	0.500	1.00
74-87-3	Chloromethane	U	1.00	ug/L	0.500	1.00
75-01-4	Vinyl chloride	U	1.00	ug/L	0.500	1.00
74-83-9	Bromomethane	U	1.00	ug/L	0.500	1.00
75-00-3	Chloroethane	U	1.00	ug/L	0.500	1.00
75-69-4	Trichlorofluoromethane	U	1.00	ug/L	0.310	1.00
67-64-1	Acetone	J	2.01	ug/L	1.25	5.00
75-05-8	Acetonitrile	U	25.0	ug/L	6.25	25.0
75-35-4	1,1-Dichloroethylene	U	1.00	ug/L	0.300	1.00
74-88-4	Iodomethane	U	5.00	ug/L	1.25	5.00
75-09-2	Methylene chloride	U	5.00	ug/L	2.00	5.00
75-15-0	Carbon disulfide	U	5.00	ug/L	1.25	5.00
156-60-5	trans-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
108-05-4	Vinyl acetate	U	5.00	ug/L	1.50	5.00
75-34-3	1,1-Dichloroethane	U	1.00	ug/L	0.300	1.00
78-93-3	2-Butanone	U	5.00	ug/L	1.25	5.00
156-59-2	cis-1,2-Dichloroethylene	U	1.00	ug/L	0.300	1.00
594-20-7	2,2-Dichloropropane	U	1.00	ug/L	0.300	1.00
67-66-3	Chloroform	U	1.00	ug/L	0.250	1.00
74-97-5	Bromochloromethane	U	1.00	ug/L	0.300	1.00
71-55-6	1,1,1-Trichloroethane	U	1.00	ug/L	0.300	1.00
563-58-6	1,1-Dichloropropene	U	1.00	ug/L	0.250	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 162704	Date Collected: 05/09/2006 13:38	Matrix: GROUND WATER
Lab Sample ID: 162704003	Date Received: 05/11/2006 09:30	
	Client: ESHL001	Project: ESHL00701
Client ID: GU06050LAOI701	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Batch ID: 531872	Inst: VOA2.I	Dilution: 1
Run Date: 05/20/2006 00:30	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
56-23-5	Carbon tetrachloride	U	1.00	ug/L	0.250	1.00
107-06-2	1,2-Dichloroethane	U	1.00	ug/L	0.250	1.00
71-43-2	Benzene	U	1.00	ug/L	0.300	1.00
79-01-6	Trichloroethylene	U	1.00	ug/L	0.250	1.00
78-87-5	1,2-Dichloropropane	U	1.00	ug/L	0.250	1.00
75-27-4	Bromodichloromethane	U	1.00	ug/L	0.250	1.00
74-95-3	Dibromomethane	U	1.00	ug/L	0.300	1.00
108-10-1	4-Methyl-2-pentanone	U	5.00	ug/L	1.25	5.00
10061-01-5	cis-1,3-Dichloropropylene	U	1.00	ug/L	0.250	1.00
108-88-3	Toluene		69.8	ug/L	0.250	1.00
10061-02-6	trans-1,3-Dichloropropylene	U	1.00	ug/L	0.250	1.00
79-00-5	1,1,2-Trichloroethane	U	1.00	ug/L	0.250	1.00
591-78-6	2-Hexanone	U	5.00	ug/L	1.25	5.00
142-28-9	1,3-Dichloropropane	U	1.00	ug/L	0.250	1.00
127-18-4	Tetrachloroethylene	U	1.00	ug/L	0.250	1.00
124-48-1	Dibromochloromethane	U	1.00	ug/L	0.250	1.00
106-93-4	1,2-Dibromoethane	U	1.00	ug/L	0.250	1.00
108-90-7	Chlorobenzene	U	1.00	ug/L	0.250	1.00
100-41-4	Ethylbenzene	U	1.00	ug/L	0.250	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/L	0.250	2.00
95-47-6	o-Xylene	U	1.00	ug/L	0.250	1.00
100-42-5	Styrene	U	1.00	ug/L	0.250	1.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 162704	Date Collected: 05/09/2006 13:38	Matrix: GROUND WATER
Lab Sample ID: 162704003	Date Received: 05/11/2006 09:30	
	Client: ESHL001	Project: ESHL00701
Client ID: GU06050LAOI701	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Batch ID: 531872	Inst: VOA2.I	Dilution: 1
Run Date: 05/20/2006 00:30	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-25-2	Bromoform	U	1.00	ug/L	0.250	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/L	0.250	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/L	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/L	0.250	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/L	0.250	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/L	0.250	1.00
98-82-8	Isopropylbenzene	U	1.00	ug/L	0.250	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/L	0.250	1.00
106-43-4	4-Chlorotoluene	U	1.00	ug/L	0.250	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/L	0.250	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/L	0.250	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/L	0.250	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/L	0.250	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/L	0.250	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/L	0.250	1.00
104-51-8	n-Butylbenzene	U	1.00	ug/L	0.250	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/L	0.500	1.00
87-68-3	Hexachlorobutadiene	U	1.00	ug/L	0.250	1.00
91-20-3	Naphthalene	U	1.00	ug/L	0.250	1.00
87-61-6	1,2,3-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
107-02-8	Acrolein	U	5.00	ug/L	3.00	5.00
76-13-1	Trichlorotrifluoroethane	U	5.00	ug/L	1.00	5.00

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 162704	Date Collected: 05/09/2006 13:38	Matrix: GROUND WATER
Lab Sample ID: 162704003	Date Received: 05/11/2006 09:30	
Client ID: GU06050LAOI701	Client: ESHL001	Project: ESHL00701
Batch ID: 531872	Method: SW846 8260B DOE-AL	SOP Ref: GL-OA-E-038
Run Date: 05/20/2006 00:30	Inst: VOA2.I	Dilution: 1
	Analyst: CDS1	Purge Vol: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
107-05-1	Allyl chloride	U	5.00	ug/L	3.70	5.00
107-13-1	Acrylonitrile	U	5.00	ug/L	1.00	5.00
126-99-8	2-Chloro-1,3-butadiene	U	1.00	ug/L	0.300	1.00
107-12-0	Propionitrile	U	5.00	ug/L	1.50	5.00
126-98-7	Methacrylonitrile	U	5.00	ug/L	1.00	5.00
78-83-1	Isobutyl alcohol	U	50.0	ug/L	12.5	50.0
80-62-6	Methyl methacrylate	U	5.00	ug/L	1.00	5.00
97-63-2	Ethyl methacrylate	U	5.00	ug/L	1.00	5.00
123-91-1	1,4-Dioxane	U	50.0	ug/L	20.0	50.0
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/L	0.250	1.00
120-82-1	1,2,4-Trichlorobenzene	U	1.00	ug/L	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/L	0.250	1.00

Surrogate/Tracer recovery	Result	Nominal		Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	63.9	60.0	ug/L	107	(65%-123%)
Bromofluorobenzene	67.7	60.0	ug/L	113	(80%-120%)
Dibromofluoromethane	66.4	60.0	ug/L	111	(72%-128%)
Toluene-d8	68.6	60.0	ug/L	114	(80%-120%)

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Memorandum

Date: 06/14/06

To: Bart Vanden Plas

From: Allison Evans

Subject: GC/MS Organic Data Review and Validation – LANL WQH

COC: WG-03747-GE

SDG: 162704

Laboratory: GEL

Analysis: VOCs

Data Qualifiers (see following sections for detailed explanations)

All samples

Results for 1,4-dioxane should be **qualified R, V7b** due to very low initial calibration response factor.

Results for acetonitrile, propionitrile, and isobutyl alcohol should be **qualified UJ, V7b** due to low initial calibration response factor.

Sample GU06050LAOI701

The result for acetone should be **qualified 5U, V4** due to blank contamination.

Sample GU06050LAOI790

The result for acetone should be **qualified 5U, V4** due to blank contamination.

The result for carbon disulfide should be **qualified J+, VWQ9** due to high calibration verification positive bias.

Summary/General Comments

The samples were prepared and analyzed with approved procedures using method EPA 8260B (VOCs). Data were reported for all required analytes.

See attached Data Assessment Worksheets for supporting documentation on the data review and validation.

This validation was performed according to DOE-NNSA Service Center Model Data Validation Procedure Rev. 4.

Sample Shipping/Receiving

All COC, analysis request, and sample receipt documentation was complete and correct.

Holding Times and Preservation

The samples were analyzed within the prescribed holding time and properly preserved.

Instrument Tune

All instrument tune requirements were met.

Calibration

All initial calibration QC acceptance criteria were met, with the following exceptions. The initial calibration response factor (RF) for 1,4-dioxane was < 0.01. All sample results were non-detects; therefore all sample results should be **qualified R**. The initial calibration RFs for acetonitrile, propionitrile, and isobutyl alcohol were < 0.05 but > 0.01. All associated sample results were non-detects, should be **qualified UJ**.

Samples GU06050LAOI701 and GU06050LAOI790 were run on 5/20/06. Sample GU06050LAOI701-FTB was run on 5/22/06. The continuing calibration verifications (CCVs) associated with each run were noted on separate worksheets.

All initial calibration verification (ICV) and CCV QC acceptance criteria were met in the CCVs run on 5/20/06, with the following exceptions. The ICV and/or CCV percent differences (%Ds) for seven compounds were > 20% with positive bias. The associated sample results were non-detects, and should not be qualified. The %D for carbon disulfide was > 20% with a positive bias in the ICV and CCV. The carbon disulfide result for sample GU06050LAOI790 was a detect, and should be **qualified J+**. The carbon disulfide result for sample GU06050LAOI701 was a non-detect, and should not be qualified. The acrolein CCV was > 20% but < 40% with a negative bias. Associated sample results were non-detects, and no other calibration issues occurred, therefore no sample results should be qualified.

All ICV and CCV QC acceptance criteria were met in the CCVs run on 5/22/06, with the following exceptions. The ICV and/or CCV %Ds for eight compounds were > 20% with positive bias, but the associated sample results were non-detects, and should not be qualified. The %D for dichlorodifluoromethane was > 20% but < 40% with a negative bias in the CCV, but the associated sample result was a non-detect, and no other calibration issues occurred for the compound, therefore the sample result should not be qualified.

In instances where both the ICV and CCV were outside the acceptance limits, the grosser infraction was noted on the worksheet and in the Memo.

Blanks

The method blanks (MBs) and field trip blank (FTB) met all acceptance criteria, with the following exceptions. Acetone was detected in the FTB GU06050LAOI701-FTB at a concentration > the method detection limit (MDL) but < practical quantitation limit (PQL). The acetone results for samples GU06050LAOI701 and GU06050LAOI790 were detects < the PQL, and should be **qualified 5U**, at the PQL.

Surrogates

All surrogate recoveries met the acceptance criteria.

Internal Standards

All internal standards met the acceptance criteria.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The MS and MSD met all acceptance criteria. It should be noted that eleven compounds were not represented in the MS/MSD. No sample results should be qualified as a result.

Laboratory Control Sample (LCS)

The LCSs met all acceptance criteria.

Detection Limits/Dilutions

Detection limits were reported in the data package. The samples were not diluted.

Tentatively Identified Compounds (TICs)

Analysis for TICs was requested and reported but not assessed for data validation.

Other QC

No other specific issues that affect data quality were identified.

1D
PCB ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GU05050GBAL01

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 136421

Matrix: (soil/water) GROUND WAT Lab Sample ID: 136421012

Sample wt/vol: 990.0 (g/mL) ML Lab File ID: 035F3501

% Moisture: _____ decanted: (Y/N)____ Date Received: 05/12/05

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 05/16/05

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

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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12674-11-2-----Aroclor-1016		0.10	U
11104-28-2-----Aroclor-1221		0.10	U
11141-16-5-----Aroclor-1232		0.10	U
53469-21-9-----Aroclor-1242		0.10	U
12672-29-6-----Aroclor-1248		0.10	U
11097-69-1-----Aroclor-1254		0.10	U
11096-82-5-----Aroclor-1260		0.063	J
37324-23-5-----Aroclor-1262		0.10	U

Analytical Quality Associates, Inc.

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Memorandum

Date: 6/23/05

To: William Turney

From: Karen Germann

Subject: GC Organic Data Review and Validation – LANL ESH
COC: WG-02435-GE, WG-02441-GE, WG-02501-GE, and WG-02503-GE
SDG: 136421
Laboratory: GEL
Analysis: PCBs

Data Qualifiers (see following sections for detailed explanations)

Sample GU0505G3OAP01 The results for all target analytes should be **qualified UJ, P3c, P14a** due to low surrogate recovery and lack of precision information.

Samples GU05050G1OL01 and GU05050GGSB01
The results for all target analytes should be **qualified UJ, P14a** due to lack of precision information.

Sample GU0505GBAL01 The result for Aroclor-1260 should be **qualified J, P14a** due to lack of precision information.
The results for all target analytes except Aroclor-1260 should be **qualified UJ, P14a** due to lack of precision information.

Summary/General Comments

The samples were prepared and analyzed with approved procedures using method EPA8082 (PCBs). Data were reported for all required analytes.

Analysis for the following samples were requested on the COC, but these samples were not collected: GU0505G3OAP90 and GU05050GBAL90.

See attached Data Assessment Worksheets for supporting documentation on the data review and validation.

This validation was performed according to DOE-AL Model Data Validation Procedure Rev. 3.

Sample Shipping/Receiving

All COC, analysis request, and sample receipt documentation was complete and correct.

Holding Times and Preservation

The samples were analyzed within the prescribed holding time and properly preserved.

Calibration

All initial and continuing calibration QC acceptance criteria were met for both columns.

Blanks

No target analytes were detected in the method blank or field blank.

Surrogates

All sample and method blank surrogate recoveries met QC acceptance criteria with the following exception. The percent recovery for surrogate decachlorobiphenyl (DCB) was outside QC limits low but >10% in sample GU0505G3OAP01 on both the front and the back column. All associated sample results were non-detects (NDs) and should be **qualified UJ**. A re-extraction of this sample was not possible due to limited sample volume.

Laboratory Control Sample (LCS)

All LCS QC acceptance criteria were met.

Matrix Spike/Matrix Spike Duplicates (MS/MSD)

All MS QC acceptance criteria were met. A MSD was not extracted and analyzed due to inadequate sample volume. A LCSD was not analyzed. All associated sample results should be **qualified UJ** due to lack of precision information.

Target Compound Identification/Confirmation

All continuing calibration verification compounds were within the established retention time windows. All detected compound results were confirmed using a second column. The RPD between the results obtained from the two columns was within QC limits for Aroclor-1260, which was detected in sample GU0505GBAL01. All other sample results were non-detects. Thus, confirmation analyses were not required.

Detection Limits/Dilutions

Detection limits were not reported in the data package. The samples were not diluted.

Other QC

Sulfuric acid / potassium permanganate cleanup was performed on all sample and QC extracts.

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Memorandum

Date: 6/11/05

To: William Turney

From: Marcia Hilchey

Subject: GC Organic Data Review and Validation – LANL ESH

COC: WG-002413-GE

SDG: 135528

Laboratory: GEL

Analysis: PCBs

Data Qualifiers (see following sections for detailed explanations)

Sample GU0504G08R101 Results for all target compounds except aroclor-1254 should be **qualified UJ, P3c, PWQ2** due to low surrogate recoveries and high MS/MSD RPD.
The result for aroclor-1254 should be **qualified J, P3a, PWQ2** due to low surrogate recoveries and high MS/MSD ROD

Summary/General Comments

The samples were prepared and analyzed with approved procedures using method EPA8082 (PCBs). Data were reported for all required analytes.

See attached Data Assessment Worksheets for supporting documentation on the data review and validation.

This validation was performed according to DOE-AL Model Data Validation Procedure Rev. 3.

Sample Shipping/Receiving

All COC, analysis request, and sample receipt documentation was complete and correct.

Holding Times and Preservation

The sample was properly preserved, and analyzed within the prescribed holding time.

Calibration

All initial and continuing calibration QC acceptance criteria were met.

Blanks

No target analytes were detected in the method blank.

Surrogates

Recovery for DCB was below acceptance limits but >10% for the front column. Recovery for both surrogates was below acceptance limits but >10% for the back column. The non-detect (ND) sample results should be **qualified UJ**, the detected result should be **qualified J**. The sample could not be re-analyzed due to limited sample volume.

Laboratory Control Sample (LCS)

LCS recoveries were below acceptance limits.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

All MS/MSD recoveries met QC acceptance criteria. MS/MSD RPD exceeded acceptance limits for aroclors –1016 and –1260. The associated sample results were previously qualified and should not be further qualified. It should be noted that MS/MSD analysis was performed on a sample of similar matrix from another LANL ESH SDG. No sample data should be qualified as a result.

Target Compound Identification/Confirmation

All continuing calibration verification compounds were within the established retention time windows. All confirmation acceptance criteria were met.

Detection Limits/Dilutions

Detection limits were not reported in the data package. The sample was not diluted.

Other QC

Sulfuric acid/potassium permanganate and alumina cleanup was performed on all samples.

No other specific issues which affect data quality were identified.

1D
PCB ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GU0504G08R101

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 135528

Matrix: (soil/water) GROUND WAT Lab Sample ID: 135528002

Sample wt/vol: 975.0 (g/mL) ML Lab File ID: 044F4401

% Moisture: _____ decanted: (Y/N)____ Date Received: 04/29/05

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 05/03/05

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

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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12674-11-2-----Aroclor-1016	0.10	U	
11104-28-2-----Aroclor-1221	0.10	U	
11141-16-5-----Aroclor-1232	0.10	U	
53469-21-9-----Aroclor-1242	0.10	U	
12672-29-6-----Aroclor-1248	0.10	U	
11097-69-1-----Aroclor-1254	0.059	J	
11096-82-5-----Aroclor-1260	0.10	U	
37324-23-5-----Aroclor-1262	0.10	U	

1D
PCB ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GU05090G1SW02

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 146657

Matrix: (soil/water) GROUND WAT Lab Sample ID: 146657007

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 031F3101

% Moisture: _____ decanted: (Y/N)____ Date Received: 09/28/05

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 09/30/05

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 10/13/05

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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12674-11-2-----Aroclor-1016	0.10	U	
11104-28-2-----Aroclor-1221	0.10	U	
11141-16-5-----Aroclor-1232	0.10	U	
53469-21-9-----Aroclor-1242	0.10	U	
12672-29-6-----Aroclor-1248	0.10	U	
11097-69-1-----Aroclor-1254	0.10	U	
11096-82-5-----Aroclor-1260	0.10	U	
37324-23-5-----Aroclor-1262	0.17	U	

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Memorandum Revised

Date: 10/20/05

To: William Turney

From: Eyda Hergenreder

Subject: GC Organic Data Review and Validation – LANL WQH
COC: WG-03386-GE; WG-03387-GE; WG-03388-GE; WG-03389-GE
SDG: 146657
Laboratory: GEL
Analysis: PCB

Data Qualifiers (see following sections for detailed explanations)

No data qualifiers should be applied to EPA 8082 sample results in this data package.

Summary/General Comments

The samples were prepared and analyzed with approved procedures using method EPA 8082 (PCB). Data were reported for all required analytes.

See attached Data Assessment Worksheets for supporting documentation on the data review and validation.

The data validation was performed according to DOE NNSA Service Center Model Data Validation Procedure (MDVP) Rev. 4.

Sample Shipping/Receiving

The COC, analysis request and sample receipt documentations were complete and correct.

Holding Times and Preservation

The samples were properly preserved and analyzed within the prescribed holding time.

Calibration

All initial and continuing calibration criteria were met with the following exception. One or more of the five peaks for the continuing calibration verification standard were >15% with a negative bias on column 2 in the aroclor-1016 and aroclor-1260 utilized on the 10/12/05 analytical run for sample GU05090G2SW02. The average concentration of the five quantitative peaks met the acceptance criteria; therefore no data should be qualified.

Blanks

No target compounds were detected in the method blank.

Surrogates

All surrogate acceptance criteria were met.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

All MS/MSD acceptance criteria were met.

Laboratory Control Sample (LCS)

All LCS acceptance criteria were met.

Target Compound Identification/Confirmation

Detected compound results were confirmed on a second column and met QC acceptance criteria.

Detection Limits/Dilutions

MDLs were not reported with this data package. The samples were not diluted.

Other QC

A potassium permanganate/sulfuric acid clean up was performed on the samples.

No other specific issues that affect data quality were identified.