Submitted to NCDENR W.RO 11/18/2005 SS

SOVEREIGN CONSULTING INC.

November 12, 2005

Marine Corps Base, Camp LeJeune
Environmental Management Division
Environmental Quality Division
Building 12, McHugh Boulevard
Camp LeJeune, NC 28542-0004

ATTN: Mr. S. Andrew Smith, Environmental Engineer

Re: Soil Sample Summary Report for Leaking Underground Storage Tank Site AS1-4, Incident #20067, 20068 and 20071, New River MCAS, Jacksonville, North Carolina

Dear Mr. Smith:

Sovereign Consulting Inc. (Sovereign) is pleased to submit this summary report for sampling work performed at underground storage tank site AS1-4, Incident #20067, 20068, and 20071, to the Environmental Management Division at Marine Corps Base (MCB) Camp LeJeune, in Jacksonville, North Carolina. A description of the scope of work, field activities and sample analytical results is presented below.

Sovereign was contracted by Osage of Virginia (Osage) to assist in performing soil and groundwater sampling at the subject site. This sampling was conducted in response to a Review of Report letter from the North Carolina Department of Environment and Natural Resources dated July 26, 2005. Two soil samples were collected in the former tank basin using a stainless steel hand auger. The locations of these samples are shown on the attached AS 1-4 site map. Sample depths were six (6) ft three (3) inches below ground surface (bgs) and six (6) ft bgs for samples SB001-A and SB001-B, respectively. The samples were packed into eight (8) ounce glass sample containers, put on ice, and shipped directly, under Chain of Custody, to Paradigm Analytical Laboratories (Paradigm), Inc. in Wilmington, North Carolina. They were then analyzed using EPA Methods 8260, 8270, MADEP EPH, and MADEP VPH. Analytes were detected in both soil samples. All concentrations were below the applicable soil-to-groundwater and residential maximum soil contaminant concentrations (mscc) with the exception of one contaminant. Methylene chloride was present in each soil sample at 27.3 µg/kg, which is just above the soil-to-groundwater mscc (20 µg/kg), but below the residential mscc (85,000 µg/kg).

A groundwater monitoring well was also installed. Well AS846-MW01, also shown on the attached site map, was installed near the dispenser area located adjacent to the New River. This shallow well is fifteen (15) ft two (2) inches deep and screened from five (5) to fifteen (15) ft bgs. The well was purged and sampled using low flow sampling equipment after the indicator parameters (pH, specific conductivity, redox potential [ORP], DO, Turbidity, and Temperature) had stabilized for three consecutive readings. The sample was also shipped directly to Paradigm for analysis. EPA Methods 602, 625, MADEP EPH, and MADEP VPH were performed. All compounds were below quantitation limits.

606 A-1 Thimble Shoals Blvd. • Newport News, VA 23606 • Tel: 757-594-0980 • Fax: 757-594-9227

If you have any questions or comments, or require additional information, please do not hesitate to call me at (757) 594-0980.

Sincerely,
Sovereign Consulting Inc.

Chris Murray

Chris Murray
Project Manager

Reviewed by

Martin McElwain

Nov 11, 2005

Attachments

	Residential SCL	Industrial SCL	Soil to GW MCC	001	002	003	004	005
C9-C18 ALIPHATICS	9,386	245,280	3,255	48.4	<9.7	<8.4	<8.5	<7.2
C19-C36 ALIPHATICS	93,860	#	#	<8.2	<9.7	<8.4	<8.5	<7.2
C9-C22 AROMATICS	469	12,264	34	420.4	<9.7	<8.4	<8.5	<7.2
C19-C36 ALIPHATICS	939	24,528	72	**1920**	<5.2	<8.4	4.27J	3.23J

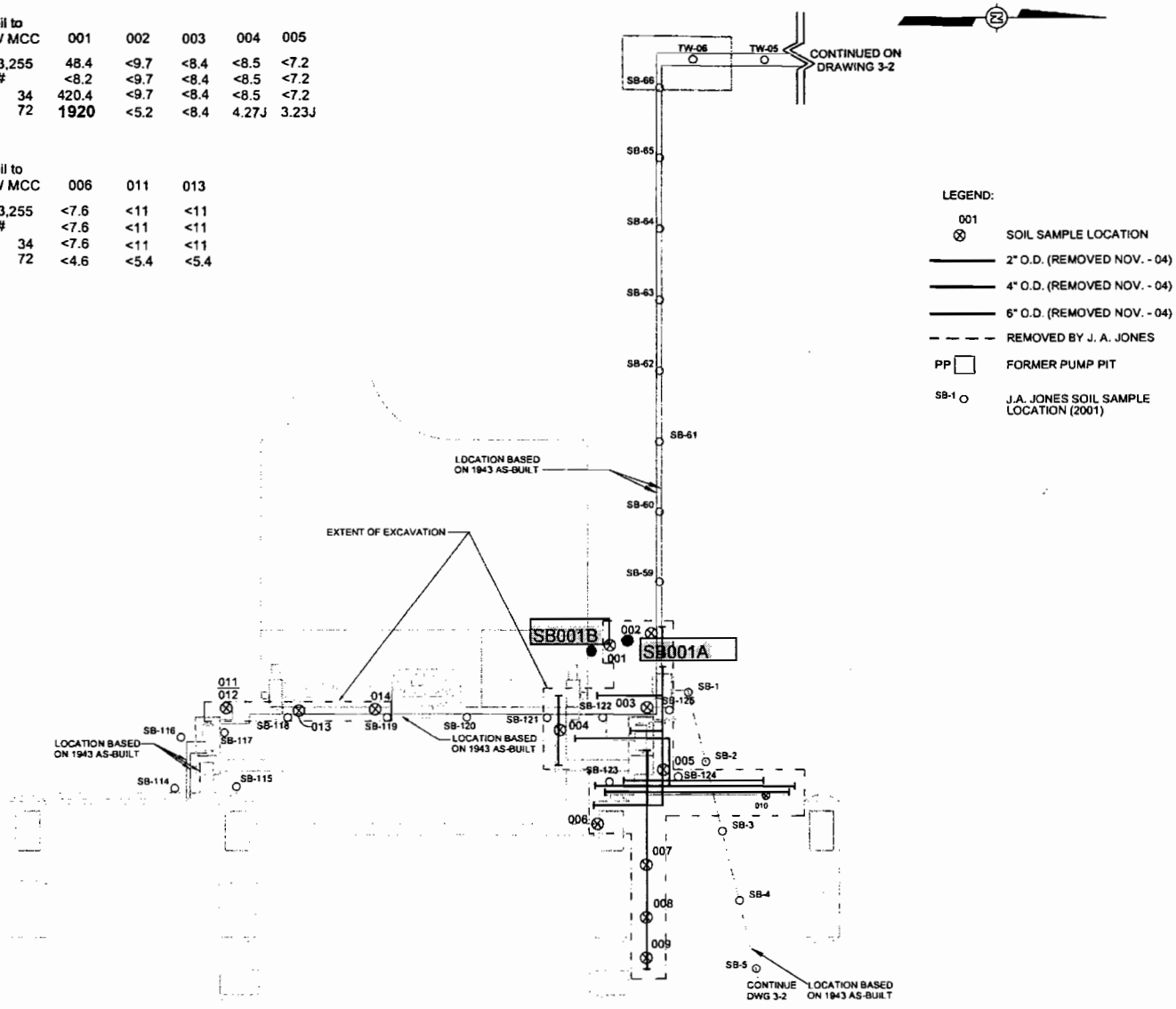
	Residential SCL	Industrial SCL	Soil to GW MCC	006	011	013
C9-C18 ALIPHATICS	9,386	245,280	3,255	<7.6	<11	<11
C19-C36 ALIPHATICS	93,860	#	#	<7.6	<11	<11
C9-C22 AROMATICS	469	12,264	34	<7.6	<11	<11
C19-C36 ALIPHATICS	939	24,528	72	<4.6	<5.4	<5.4

Soil Sample	GRO	DRO
001	**12.3**	<12
002	**114**	**26.1**
003	**412**	<10
004	**16.7**	<12
005	**78.8**	<12
006	**108**	9.11
007	3.8	<9.8
008	<5.5	6.5
009	<5.6	8.41
010	<5.8	<9.6
011	**48.6**	<9.5
012*	**384**	**10.1**
013	**35.2**	<9.9
014	<8.2	<12

ALL RESULTS ARE IN mg/kg (ppm)

BOLD INDICATES: EXCEEDS RESIDENTIAL SCL

* FIELD DUPLICATE SAMPLE TO 011.



NOTE: ASSUMED LAYOUT OF THE AQUA SYSTEM COMPONENTS AND PIPE BASED ON 1943 AS-BUILT DRAWING.

DRAWING NUMBER 845845-fig-3-1rev
OFFICE Atlanta, GA
X-REF ---
IMAGE ---

PLOT DATE: 10/05/03
FORMAT REVISION

REVISIONS

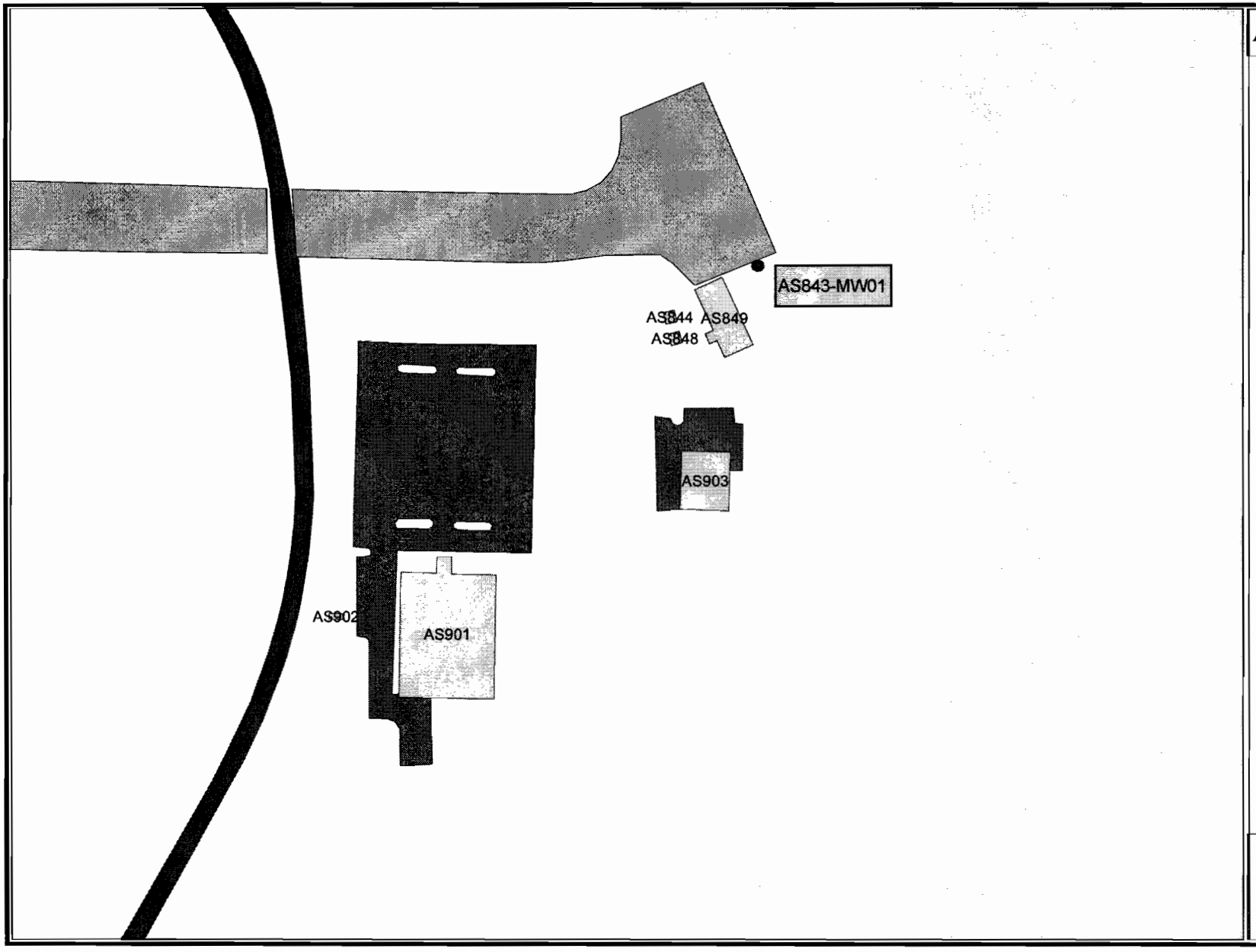
REV	DATE	BY	CHK'D	APP'D	DESCRIPTION/ISSUE

Shaw Environmental, Inc.
PROJECT NO. 845845

	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
	RBK	TFR	RBK	
	5/19/03	5/19/03	5/19/03	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
JACKSONVILLE, N.C.
NAVAL STATION
MCB CAMP LEJEUNE
FORMER LANDING FIELD
GASOLINE DISTRIBUTION AQUA SYSTEM
AQUA SYSTEM PIPE REMOVAL

SCALE: AS SHOWN
SIZE: D
DELIVERY ORDER NO: 0012
CONSTR. CONTRACT NO: N62470-02-D-3260
MANFAC DRAWING NO: 7
SHEET I.D.: 3-1



AS 1-4 Well Install

Legend

- Airfield Surfaces
- Road Centerline
- Vehicular Bridges
- PAVED
- UNPAVED
- PAVED
- UNPAVED
- PAVED
- UNPAVED
- Existing Buildings
- Foundations
- Canopies
- Sheds
- Slabs
- Creeks and Streams
- Water Bodies
- Water Courses

0 30 60 120 180 Feet

Prepared
Author: Andrew Smith
Organization: MCB Camp Lejeune EMD

N

Map Projection: UTM (NAD83, GRS 1980)

INTEGRATED GEOGRAPHIC INFORMATION REPOSITORY
Marine Corps Base, Camp Lejeune, NC

Managed by the GIS Branch, Business Technology Division,
Business & Logistics Support Department

NOTE: THIS MAP IS FOR REFERENCE ONLY

Although every effort has been made to ensure the accuracy of information, errors and omissions originating from the physical sources used to develop the database may be reflected in the data supplied. The requestor must be aware of data conditions and ultimately, bear responsibility for the appropriate use of the information with respect to possible errors, original map scale, collection methodology, currency of data, and other specific conditions to current date.

Mr. Mike Cree
Osage of Virginia
4800A Colley Avenue
Norfolk VA 23508-2037

Report Number: G649-3

Client Project: AS 1-4

Dear Mr. Cree:

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
Paradigm Analytical Laboratories, Inc.

10/14/05

Laboratory Director Date
J. Patrick Weaver

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: SB001-A
Client Project ID: AS 1-4
Lab Sample ID G649-3-1A
Lab Project ID: G649-3
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09-30-2005 11:45
Date Received: 9/30/05
Matrix: Soil
%Solids: 82.4

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	**5.70**	52.2	3.07	1	10/5/05	J
Benzene	BQL	5.22	2.98	1	10/5/05	
Bromobenzene	BQL	5.22	2.57	1	10/5/05	
Bromochloromethane	BQL	5.22	3.05	1	10/5/05	
Bromodichloromethane	BQL	5.22	2.97	1	10/5/05	
Bromoform	BQL	5.22	2.53	1	10/5/05	
Bromomethane	BQL	5.22	4.38	1	10/5/05	
2-Butanone	BQL	26.1	3.01	1	10/5/05	
n-Butylbenzene	BQL	5.22	3.50	1	10/5/05	
sec-Butylbenzene	BQL	5.22	3.65	1	10/5/05	
tert-Butylbenzene	BQL	5.22	3.62	1	10/5/05	
Carbon disulfide	BQL	5.22	2.75	1	10/5/05	
Carbon tetrachloride	BQL	5.22	3.61	1	10/5/05	
Chlorobenzene	BQL	5.22	2.62	1	10/5/05	
Chloroethane	BQL	5.22	3.28	1	10/5/05	
Chloroform	BQL	5.22	2.62	1	10/5/05	
Chloromethane	BQL	5.22	2.52	1	10/5/05	
2-Chlorotoluene	BQL	5.22	3.11	1	10/5/05	
4-Chlorotoluene	BQL	5.22	2.90	1	10/5/05	
Dibromochloromethane	BQL	5.22	2.34	1	10/5/05	
1,2-Dibromo-3-chloropropane	BQL	5.22	11.1	1	10/5/05	
Dibromomethane	BQL	5.22	3.13	1	10/5/05	
1,2-Dibromoethane (EDB)	BQL	5.22	2.43	1	10/5/05	
1,2-Dichlorobenzene	BQL	5.22	2.52	1	10/5/05	
1,3-Dichlorobenzene	BQL	5.22	2.44	1	10/5/05	
1,4-Dichlorobenzene	BQL	5.22	2.57	1	10/5/05	
trans-1,4-Dichloro-2-butene	BQL	5.22	11.2	1	10/5/05	
1,1-Dichloroethane	BQL	5.22	3.01	1	10/5/05	
1,1-Dichloroethene	BQL	5.22	4.02	1	10/5/05	
1,2-Dichloroethane	BQL	5.22	3.00	1	10/5/05	
cis-1,2-Dichloroethene	BQL	5.22	2.57	1	10/5/05	
trans-1,2-dichloroethene	BQL	5.22	3.39	1	10/5/05	
1,2-Dichloropropane	BQL	5.22	2.67	1	10/5/05	
1,3-Dichloropropane	BQL	5.22	2.39	1	10/5/05	
2,2-Dichloropropane	BQL	5.22	3.32	1	10/5/05	
1,1-Dichloropropene	BQL	5.22	3.77	1	10/5/05	
cis-1,3-Dichloropropene	BQL	5.22	2.90	1	10/5/05	
trans-1,3-Dichloropropene	BQL	5.22	2.96	1	10/5/05	
Dichlorodifluoromethane	BQL	5.22	3.90	1	10/5/05	
Diisopropyl ether (DIPE)	BQL	5.22	2.47	1	10/5/05	
Ethylbenzene	BQL	5.22	3.17	1	10/5/05	
Hexachlorobutadiene	BQL	5.22	4.12	1	10/5/05	

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: SB001-A
Client Project ID: AS 1-4
Lab Sample ID G649-3-1A
Lab Project ID: G649-3
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09-30-2005 11:45
Date Received: 9/30/05
Matrix: Soil
%Solids: 82.4

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	5.22	2.28	1	10/5/05	
Iodomethane	BQL	5.22	4.86	1	10/5/05	
Isopropylbenzene	BQL	5.22	3.36	1	10/5/05	
4-Isopropyltoluene	BQL	5.22	3.55	1	10/5/05	
Methylene chloride	**27.3**	20.9	2.99	1	10/5/05	
4-Methyl-2-pentanone	BQL	5.22	2.41	1	10/5/05	
Methyl-tert-butyl ether (MTBE)	BQL	5.22	2.65	1	10/5/05	
Naphthalene	BQL	5.22	2.10	1	10/5/05	
n-Propyl benzene	BQL	5.22	3.35	1	10/5/05	
Styrene	BQL	5.22	3.74	1	10/5/05	
1,1,1,2-Tetrachloroethane	BQL	5.22	2.84	1	10/5/05	
1,1,2,2-Tetrachloroethane	BQL	5.22	2.57	1	10/5/05	
Tetrachloroethene	BQL	5.22	3.29	1	10/5/05	
Toluene	BQL	5.22	3.09	1	10/5/05	
1,2,3-Trichlorobenzene	BQL	5.22	2.29	1	10/5/05	
1,2,4-Trichlorobenzene	BQL	5.22	2.34	1	10/5/05	
Trichloroethene	BQL	5.22	3.26	1	10/5/05	
1,1,1-Trichloroethane	BQL	5.22	3.60	1	10/5/05	
1,1,2-Trichloroethane	BQL	5.22	2.69	1	10/5/05	
Trichlorofluoromethane	BQL	5.22	4.31	1	10/5/05	
1,2,3-Trichloropropane	BQL	5.22	2.77	1	10/5/05	
1,2,4-Trimethylbenzene	BQL	5.22	2.92	1	10/5/05	
1,3,5-Trimethylbenzene	BQL	5.22	3.11	1	10/5/05	
Vinyl chloride	BQL	5.22	3.45	1	10/5/05	
m-,p-Xylene	BQL	10.4	5.92	1	10/5/05	
o-Xylene	BQL	5.22	2.92	1	10/5/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	50	53.5	107
1,2-Dichloroethane-d4	50	66.2	132
Toluene-d8	50	52.1	104

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: SB001-B
Client Project ID: AS 1-4
Lab Sample ID G649-3-2A
Lab Project ID: G649-3
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09-30-2005 12:22
Date Received: 9/30/05
Matrix: Soil
%Solids: 81.2

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	**53.4**	54.1	3.18	1	10/5/05	J
Benzene	BQL	5.41	3.09	1	10/5/05	
Bromobenzene	BQL	5.41	2.66	1	10/5/05	
Bromochloromethane	BQL	5.41	3.16	1	10/5/05	
Bromodichloromethane	BQL	5.41	3.07	1	10/5/05	
Bromoform	BQL	5.41	2.62	1	10/5/05	
Bromomethane	BQL	5.41	4.54	1	10/5/05	
2-Butanone	BQL	27.1	3.12	1	10/5/05	
n-Butylbenzene	BQL	5.41	3.63	1	10/5/05	
sec-Butylbenzene	BQL	5.41	3.79	1	10/5/05	
tert-Butylbenzene	BQL	5.41	3.76	1	10/5/05	
Carbon disulfide	BQL	5.41	2.85	1	10/5/05	
Carbon tetrachloride	BQL	5.41	3.75	1	10/5/05	
Chlorobenzene	BQL	5.41	2.72	1	10/5/05	
Chloroethane	BQL	5.41	3.40	1	10/5/05	
Chloroform	BQL	5.41	2.72	1	10/5/05	
Chloromethane	BQL	5.41	2.61	1	10/5/05	
2-Chlorotoluene	BQL	5.41	3.23	1	10/5/05	
4-Chlorotoluene	BQL	5.41	3.01	1	10/5/05	
Dibromochloromethane	BQL	5.41	2.42	1	10/5/05	
1,2-Dibromo-3-chloropropane	BQL	5.41	11.5	1	10/5/05	
Dibromomethane	BQL	5.41	3.25	1	10/5/05	
1,2-Dibromoethane (EDB)	BQL	5.41	2.52	1	10/5/05	
1,2-Dichlorobenzene	BQL	5.41	2.61	1	10/5/05	
1,3-Dichlorobenzene	BQL	5.41	2.53	1	10/5/05	
1,4-Dichlorobenzene	BQL	5.41	2.66	1	10/5/05	
trans-1,4-Dichloro-2-butene	BQL	5.41	11.6	1	10/5/05	
1,1-Dichloroethane	BQL	5.41	3.12	1	10/5/05	
1,1-Dichloroethene	BQL	5.41	4.17	1	10/5/05	
1,2-Dichloroethane	BQL	5.41	3.11	1	10/5/05	
cis-1,2-Dichloroethene	BQL	5.41	2.66	1	10/5/05	
trans-1,2-dichloroethene	BQL	5.41	3.52	1	10/5/05	
1,2-Dichloropropane	BQL	5.41	2.77	1	10/5/05	
1,3-Dichloropropane	BQL	5.41	2.48	1	10/5/05	
2,2-Dichloropropane	BQL	5.41	3.44	1	10/5/05	
1,1-Dichloropropene	BQL	5.41	3.91	1	10/5/05	
cis-1,3-Dichloropropene	BQL	5.41	3.01	1	10/5/05	
trans-1,3-Dichloropropene	BQL	5.41	3.06	1	10/5/05	
Dichlorodifluoromethane	BQL	5.41	4.04	1	10/5/05	
Diisopropyl ether (DIPE)	BQL	5.41	2.57	1	10/5/05	
Ethylbenzene	BQL	5.41	3.29	1	10/5/05	
Hexachlorobutadiene	BQL	5.41	4.28	1	10/5/05	

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: SB001-B
Client Project ID: AS 1-4
Lab Sample ID G649-3-2A
Lab Project ID: G649-3
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 09-30-2005 12:22
Date Received: 9/30/05
Matrix: Soil
%Solids: 81.2

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	5.41	2.36	1	10/5/05	
Iodomethane	BQL	5.41	5.03	1	10/5/05	
Isopropylbenzene	**55.7**	5.41	3.49	1	10/5/05	
4-Isopropyltoluene	BQL	5.41	3.68	1	10/5/05	
Methylene chloride	**27.3**	21.7	3.10	1	10/5/05	
4-Methyl-2-pentanone	BQL	5.41	2.50	1	10/5/05	
Methyl-tert-butyl ether (MTBE)	BQL	5.41	2.75	1	10/5/05	
Naphthalene	BQL	5.41	2.18	1	10/5/05	
n-Propyl benzene	**4.31**	5.41	3.48	1	10/5/05	J
Styrene	BQL	5.41	3.88	1	10/5/05	
1,1,1,2-Tetrachloroethane	BQL	5.41	2.94	1	10/5/05	
1,1,2,2-Tetrachloroethane	BQL	5.41	2.66	1	10/5/05	
Tetrachloroethene	BQL	5.41	3.41	1	10/5/05	
Toluene	BQL	5.41	3.20	1	10/5/05	
1,2,3-Trichlorobenzene	BQL	5.41	2.37	1	10/5/05	
1,2,4-Trichlorobenzene	BQL	5.41	2.42	1	10/5/05	
Trichloroethene	BQL	5.41	3.38	1	10/5/05	
1,1,1-Trichloroethane	BQL	5.41	3.73	1	10/5/05	
1,1,2-Trichloroethane	BQL	5.41	2.79	1	10/5/05	
Trichlorofluoromethane	BQL	5.41	4.47	1	10/5/05	
1,2,3-Trichloropropane	BQL	5.41	2.87	1	10/5/05	
1,2,4-Trimethylbenzene	BQL	5.41	3.03	1	10/5/05	
1,3,5-Trimethylbenzene	BQL	5.41	3.23	1	10/5/05	
Vinyl chloride	BQL	5.41	3.57	1	10/5/05	
m-,p-Xylene	BQL	10.8	6.14	1	10/5/05	
o-Xylene	BQL	5.41	3.03	1	10/5/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	50	53.1	106
1,2-Dichloroethane-d4	50	68.1	136
Toluene-d8	50	56.1	112

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK1100505A
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected:
Date Received:
Matrix: Soil
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	50.0	2.94	1	10/5/05	
Benzene	BQL	5.00	2.85	1	10/5/05	
Bromobenzene	BQL	5.00	2.46	1	10/5/05	
Bromochloromethane	BQL	5.00	2.92	1	10/5/05	
Bromodichloromethane	BQL	5.00	2.84	1	10/5/05	
Bromoform	BQL	5.00	2.42	1	10/5/05	
Bromomethane	BQL	5.00	4.19	1	10/5/05	
2-Butanone	BQL	25.0	2.88	1	10/5/05	
n-Butylbenzene	BQL	5.00	3.35	1	10/5/05	
sec-Butylbenzene	BQL	5.00	3.50	1	10/5/05	
tert-Butylbenzene	BQL	5.00	3.47	1	10/5/05	
Carbon disulfide	BQL	5.00	2.63	1	10/5/05	
Carbon tetrachloride	BQL	5.00	3.46	1	10/5/05	
Chlorobenzene	BQL	5.00	2.51	1	10/5/05	
Chloroethane	BQL	5.00	3.14	1	10/5/05	
Chloroform	BQL	5.00	2.51	1	10/5/05	
Chloromethane	BQL	5.00	2.41	1	10/5/05	
2-Chlorotoluene	BQL	5.00	2.98	1	10/5/05	
4-Chlorotoluene	BQL	5.00	2.78	1	10/5/05	
Dibromochloromethane	BQL	5.00	2.24	1	10/5/05	
1,2-Dibromo-3-chloropropane	BQL	5.00	10.6	1	10/5/05	
Dibromomethane	BQL	5.00	3.00	1	10/5/05	
1,2-Dibromoethane (EDB)	BQL	5.00	2.33	1	10/5/05	
1,2-Dichlorobenzene	BQL	5.00	2.41	1	10/5/05	
1,3-Dichlorobenzene	BQL	5.00	2.34	1	10/5/05	
1,4-Dichlorobenzene	BQL	5.00	2.46	1	10/5/05	
trans-1,4-Dichloro-2-butene	BQL	5.00	10.7	1	10/5/05	
1,1-Dichloroethane	BQL	5.00	2.88	1	10/5/05	
1,1-Dichloroethene	BQL	5.00	3.85	1	10/5/05	
1,2-Dichloroethane	BQL	5.00	2.87	1	10/5/05	
cis-1,2-Dichloroethene	BQL	5.00	2.46	1	10/5/05	
trans-1,2-dichloroethene	BQL	5.00	3.25	1	10/5/05	
1,2-Dichloropropane	BQL	5.00	2.56	1	10/5/05	
1,3-Dichloropropane	BQL	5.00	2.29	1	10/5/05	
2,2-Dichloropropane	BQL	5.00	3.18	1	10/5/05	
1,1-Dichloropropene	BQL	5.00	3.61	1	10/5/05	
cis-1,3-Dichloropropene	BQL	5.00	2.78	1	10/5/05	
trans-1,3-Dichloropropene	BQL	5.00	2.83	1	10/5/05	
Dichlorodifluoromethane	BQL	5.00	3.73	1	10/5/05	
Diisopropyl ether (DIPE)	BQL	5.00	2.37	1	10/5/05	
Ethylbenzene	BQL	5.00	3.04	1	10/5/05	
Hexachlorobutadiene	BQL	5.00	3.95	1	10/5/05	

Results for Volatiles
by GCMS 8260-5035

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID VBLK1100505A
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected:
Date Received:
Matrix: Soil
%Solids: 100.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	MDL UG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	5.00	2.18	1	10/5/05	
Iodomethane	BQL	5.00	4.65	1	10/5/05	
Isopropylbenzene	BQL	5.00	3.22	1	10/5/05	
4-Isopropyltoluene	BQL	5.00	3.40	1	10/5/05	
Methylene chloride	BQL	20.0	2.86	1	10/5/05	
4-Methyl-2-pentanone	BQL	5.00	2.31	1	10/5/05	
Methyl-tert-butyl ether (MTBE)	BQL	5.00	2.54	1	10/5/05	
Naphthalene	BQL	5.00	2.01	1	10/5/05	
n-Propyl benzene	BQL	5.00	3.21	1	10/5/05	
Styrene	BQL	5.00	3.58	1	10/5/05	
1,1,1,2-Tetrachloroethane	BQL	5.00	2.72	1	10/5/05	
1,1,2,2-Tetrachloroethane	BQL	5.00	2.46	1	10/5/05	
Tetrachloroethene	BQL	5.00	3.15	1	10/5/05	
Toluene	BQL	5.00	2.96	1	10/5/05	
1,2,3-Trichlorobenzene	BQL	5.00	2.19	1	10/5/05	
1,2,4-Trichlorobenzene	BQL	5.00	2.24	1	10/5/05	
Trichloroethene	BQL	5.00	3.12	1	10/5/05	
1,1,1-Trichloroethane	BQL	5.00	3.45	1	10/5/05	
1,1,2-Trichloroethane	BQL	5.00	2.58	1	10/5/05	
Trichlorofluoromethane	BQL	5.00	4.13	1	10/5/05	
1,2,3-Trichloropropane	BQL	5.00	2.65	1	10/5/05	
1,2,4-Trimethylbenzene	BQL	5.00	2.80	1	10/5/05	
1,3,5-Trimethylbenzene	BQL	5.00	2.98	1	10/5/05	
Vinyl chloride	BQL	5.00	3.30	1	10/5/05	
m-,p-Xylene	BQL	10.0	5.67	1	10/5/05	
o-Xylene	BQL	5.00	2.80	1	10/5/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	50	52.6	105
1,2-Dichloroethane-d4	50	51.6	103
Toluene-d8	50	51.4	103

Comments:

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for MS/MSD
by GC/MS 8260/5035

Client Project ID: Batch QC
Lab Sample ID: G649-3-1A
Batch ID: 1100505

Date Analyzed: 5 Oct 2005 3:16 pm
Matrix: Soil
Analyzed By: JTF

Compound	Unspiked Sample ug/L	Spike conc. ug/L	Recovered MS %	Recovered MSD %	Limits Lower %	Limits Upper %	RPD %	RPD Limit %
benzene	BQL	100	101.9	101.1	74.8	133	0.7	30
chlorobenzene	BQL	100	111.2	107.6	66.3	135	3.3	30
1,1-dichloroethene	BQL	100	102.8	102.1	72.0	135	0.7	30
toluene	1.6	100	104.4	102.6	70.5	138	1.7	30
trichloroethene	BQL	100	100.6	98.3	60.7	152	2.3	30

Comments:

Concentrations are on column amounts.
Concentration Units: ug/L

Flags:

* = Out of limits.
NA = Not applicable
BQL = Below quantitation limit.

Reviewed By: _____

VO41.072303.1

Results for Laboratory Control Spike (LCS)
by GC/MS 8260/5035

Lab Sample ID: LCS1100505A
Analyst: JTF
Batch ID: 1100505

Date Analyzed: 5 Oct 2005 9:30 am
Matrix: Soil

compound	Spiked (µg/Kg)	Amount recovered	LCS (%)	Limits Lower (%)	Limits Upper (%)
benzene	100	99.26	99.3	77.6	122
chlorobenzene	100	105.59	105.6	75.3	125
1,1-dichloroethene	100	98.83	98.8	78.5	121
toluene	100	101.84	101.8	75.7	124
trichloroethene	100	96.29	96.3	60.8	139

Comments: Concentration values are on column amount.

Flags: * = Out of limits.
NA = Not applicable
NS = Not spiked

Reviewed by: _____

VO39.072303.1

Results for Semivolatiles
by GCMS 8270

Client Sample ID: SB001-A
Client Project ID: AS 1-4
Lab Sample ID: G649-3-1G
Lab Project ID: G649-3
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 9/30/2005 11:45
Date Received: 9/30/2005
Date Extracted: 10/4/2005
Matrix: Soil
% Solids: 82.41

Compound	Result ug/Kg	Quantitation Limit ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	368	52.7	1	10/7/2005	
Acenaphthylene	BQL	368	49.0	1	10/7/2005	
Anthracene	BQL	368	53.4	1	10/7/2005	
Benzo[a]anthracene	**125**	368	63.7	1	10/7/2005	J
Benzo[a]pyrene	**81.1**	368	56.4	1	10/7/2005	J
Benzo[b]fluoranthene	**155**	368	64.5	1	10/7/2005	J
Benzo[g,h,i]perylene	BQL	368	100	1	10/7/2005	
Benzo[k]fluoranthene	BQL	368	71.1	1	10/7/2005	
Benzoic Acid	BQL	737	737	1	10/7/2005	
Bis(2-chloroethoxy)methane	BQL	368	54.9	1	10/7/2005	
Bis(2-chloroethyl)ether	BQL	368	44.6	1	10/7/2005	
Bis(2-chloroisopropyl)ether	BQL	368	46.1	1	10/7/2005	
Bis(2-ethylhexyl)phthalate	BQL	368	49.4	1	10/7/2005	
4-bromophenyl phenyl ether	BQL	368	62.3	1	10/7/2005	
Butylbenzylphthalate	BQL	368	56.7	1	10/7/2005	
2-Chloronaphthalene	BQL	368	57.9	1	10/7/2005	
2-Chlorophenol	BQL	368	115	1	10/7/2005	
4-Chloro-3-methylphenol	BQL	368	115	1	10/7/2005	
4-Chloroaniline	BQL	1840	281	1	10/7/2005	
4-Chlorophenyl phenyl ether	BQL	368	54.2	1	10/7/2005	
Chrysene	**162**	368	39.8	1	10/7/2005	J
Dibenzo[a,h]anthracene	BQL	368	103	1	10/7/2005	
Dibenzofuran	BQL	368	67.1	1	10/7/2005	
Di-n-Butylphthalate	BQL	368	43.9	1	10/7/2005	
1,2-Dichlorobenzene	BQL	368	40.9	1	10/7/2005	
1,3-Dichlorobenzene	BQL	368	40.2	1	10/7/2005	
1,4-Dichlorobenzene	BQL	368	41.6	1	10/7/2005	
3,3'-Dichlorobenzidine	BQL	737	92.9	1	10/7/2005	
2,4-Dichlorophenol	BQL	368	133	1	10/7/2005	
Diethylphthalate	BQL	368	47.5	1	10/7/2005	
Dimethylphthalate	BQL	368	44.6	1	10/7/2005	
2,4-Dimethylphenol	BQL	368	263	1	10/7/2005	
Di-n-octylphthalate	BQL	368	60.8	1	10/7/2005	
4,6-Dinitro-2-methylphenol	BQL	1840	217	1	10/7/2005	
2,4-Dinitrophenol	BQL	1840	811	1	10/7/2005	
2,4-Dinitrotoluene	BQL	368	47.9	1	10/7/2005	
2,6-Dinitrotoluene	BQL	368	67.1	1	10/7/2005	
Diphenylamine *	BQL	368	36.1	1	10/7/2005	
Fluoranthene	**177**	368	51.6	1	10/7/2005	J
Fluorene	BQL	368	45.7	1	10/7/2005	
Hexachlorobenzene	BQL	368	56.7	1	10/7/2005	
Hexachlorobutadiene	BQL	368	59.0	1	10/7/2005	

Results for Semivolatiles
by GCMS 8270

Client Sample ID: SB001-A
Client Project ID: AS 1-4
Lab Sample ID: G649-3-1G
Lab Project ID: G649-3
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 9/30/2005 11:45
Date Received: 9/30/2005
Date Extracted: 10/4/2005
Matrix: Soil
% Solids: 82.41

Compound	Result ug/Kg	Quantitation Limit ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	737	38.0	1	10/7/2005	
Hexachloroethane	BQL	368	33.2	1	10/7/2005	
Indeno(1,2,3-c,d)pyrene	BQL	368	94.3	1	10/7/2005	
Isophorone	BQL	368	54.2	1	10/7/2005	
2-Methylnaphthalene	BQL	368	108	1	10/7/2005	
2-Methylphenol	BQL	368	130	1	10/7/2005	
3- & 4-Methylphenol	BQL	368	125	1	10/7/2005	
Naphthalene	BQL	368	29.8	1	10/7/2005	
2-Nitroaniline	BQL	368	57.9	1	10/7/2005	
3-Nitroaniline	BQL	1840	380	1	10/7/2005	
4-Nitroaniline	BQL	1840	113	1	10/7/2005	
Nitrobenzene	BQL	368	49.7	1	10/7/2005	
2-Nitrophenol	BQL	368	114	1	10/7/2005	
4-Nitrophenol	BQL	1840	102	1	10/7/2005	
N-Nitrosodi-n-propylamine	BQL	368	46.8	1	10/7/2005	
Pentachlorophenol	BQL	1840	96.2	1	10/7/2005	
Phenanthrene	62.6	368	42.0	1	10/7/2005	J
Phenol	BQL	368	101	1	10/7/2005	
Pyrene	232	368	70.8	1	10/7/2005	J
1,2,4-Trichlorobenzene	BQL	368	46.1	1	10/7/2005	
2,4,5-Trichlorophenol	BQL	368	143	1	10/7/2005	
2,4,6-Trichlorophenol	BQL	368	131	1	10/7/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.5	95
2-Fluorophenol	10	9.5	95
Nitrobenzene-d5	10	9.2	92
Phenol-d6	10	9.6	96
2,4,6-Tribromophenol	10	8.3	83
4-Terphenyl-d14	10	11.2	112

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.
J = Detected below the quantitation limit.

Reviewed By: _____

Results for Semivolatiles
by GCMS 8270

Client Sample ID: SB001-B
Client Project ID: AS 1-4
Lab Sample ID: G649-3-2G
Lab Project ID: G649-3
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 9/30/2005 12:22
Date Received: 9/30/2005
Date Extracted: 10/4/2005
Matrix: Soil
% Solids: 81.17

Compound	Result ug/Kg	Quantitation Limit ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	363	51.8	1	10/7/2005	
Acenaphthylene	BQL	363	48.2	1	10/7/2005	
Anthracene	BQL	363	52.6	1	10/7/2005	
Benzo[a]anthracene	BQL	363	62.7	1	10/7/2005	
Benzo[a]pyrene	BQL	363	55.5	1	10/7/2005	
Benzo[b]fluoranthene	BQL	363	63.4	1	10/7/2005	
Benzo[g,h,i]perylene	BQL	363	98.6	1	10/7/2005	
Benzo[k]fluoranthene	BQL	363	70.0	1	10/7/2005	
Benzoic Acid	BQL	725	725	1	10/7/2005	
Bis(2-chloroethoxy)methane	BQL	363	54.0	1	10/7/2005	
Bis(2-chloroethyl)ether	BQL	363	43.9	1	10/7/2005	
Bis(2-chloroisopropyl)ether	BQL	363	45.3	1	10/7/2005	
Bis(2-ethylhexyl)phthalate	BQL	363	48.6	1	10/7/2005	
4-bromophenyl phenyl ether	BQL	363	61.3	1	10/7/2005	
Butylbenzylphthalate	BQL	363	55.8	1	10/7/2005	
2-Chloronaphthalene	BQL	363	56.9	1	10/7/2005	
2-Chlorophenol	BQL	363	113	1	10/7/2005	
4-Chloro-3-methylphenol	BQL	363	113	1	10/7/2005	
4-Chloroaniline	BQL	1810	276	1	10/7/2005	
4-Chlorophenyl phenyl ether	BQL	363	53.3	1	10/7/2005	
Chrysene	BQL	363	39.2	1	10/7/2005	
Dibenzo[a,h]anthracene	BQL	363	102	1	10/7/2005	
Dibenzofuran	BQL	363	66.0	1	10/7/2005	
Di-n-Butylphthalate	BQL	363	43.1	1	10/7/2005	
1,2-Dichlorobenzene	BQL	363	40.2	1	10/7/2005	
1,3-Dichlorobenzene	BQL	363	39.5	1	10/7/2005	
1,4-Dichlorobenzene	BQL	363	41.0	1	10/7/2005	
3,3'-Dichlorobenzidine	BQL	725	91.4	1	10/7/2005	
2,4-Dichlorophenol	BQL	363	131	1	10/7/2005	
Diethylphthalate	BQL	363	46.8	1	10/7/2005	
Dimethylphthalate	BQL	363	43.9	1	10/7/2005	
2,4-Dimethylphenol	BQL	363	259	1	10/7/2005	
Di-n-octylphthalate	BQL	363	59.8	1	10/7/2005	
4,6-Dinitro-2-methylphenol	BQL	1810	214	1	10/7/2005	
2,4-Dinitrophenol	BQL	1810	798	1	10/7/2005	
2,4-Dinitrotoluene	BQL	363	47.1	1	10/7/2005	
2,6-Dinitrotoluene	BQL	363	66.0	1	10/7/2005	
Diphenylamine *	BQL	363	35.5	1	10/7/2005	
Fluoranthene	BQL	363	50.8	1	10/7/2005	
Fluorene	BQL	363	45.0	1	10/7/2005	
Hexachlorobenzene	BQL	363	55.8	1	10/7/2005	
Hexachlorobutadiene	BQL	363	58.0	1	10/7/2005	

Results for Semivolatiles
by GCMS 8270

Client Sample ID: SB001-B
Client Project ID: AS 1-4
Lab Sample ID: G649-3-2G
Lab Project ID: G649-3
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 9/30/2005 12:22
Date Received: 9/30/2005
Date Extracted: 10/4/2005
Matrix: Soil
% Solids: 81.17

Compound	Result ug/Kg	Quantitation Limit ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	725	37.3	1	10/7/2005	
Hexachloroethane	BQL	363	32.6	1	10/7/2005	
Indeno(1,2,3-c,d)pyrene	BQL	363	92.8	1	10/7/2005	
Isophorone	BQL	363	53.3	1	10/7/2005	
2-Methylnaphthalene	BQL	363	106	1	10/7/2005	
2-Methylphenol	BQL	363	128	1	10/7/2005	
3- & 4-Methylphenol	BQL	363	123	1	10/7/2005	
Naphthalene	43.5	363	29.4	1	10/7/2005	J
2-Nitroaniline	BQL	363	56.9	1	10/7/2005	
3-Nitroaniline	BQL	1810	373	1	10/7/2005	
4-Nitroaniline	BQL	1810	112	1	10/7/2005	
Nitrobenzene	BQL	363	48.9	1	10/7/2005	
2-Nitrophenol	BQL	363	112	1	10/7/2005	
4-Nitrophenol	BQL	1810	100	1	10/7/2005	
N-Nitrosodi-n-propylamine	BQL	363	46.0	1	10/7/2005	
Pentachlorophenol	BQL	1810	94.6	1	10/7/2005	
Phenanthrene	BQL	363	41.3	1	10/7/2005	
Phenol	BQL	363	99.3	1	10/7/2005	
Pyrene	BQL	363	69.6	1	10/7/2005	
1,2,4-Trichlorobenzene	BQL	363	45.3	1	10/7/2005	
2,4,5-Trichlorophenol	BQL	363	140	1	10/7/2005	
2,4,6-Trichlorophenol	BQL	363	129	1	10/7/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9	90
2-Fluorophenol	10	9.4	94
Nitrobenzene-d5	10	8.7	87
Phenol-d6	10	9.5	95
2,4,6-Tribromophenol	10	7.7	77
4-Terphenyl-d14	10	9.9	99

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.
J = Detected below the quantitation limit.

Reviewed By: _____

Results for Semivolatiles
by GCMS 8270

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB3768
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected:
Date Received:
Date Extracted: 10/4/2005
Matrix: SOIL
% Solids: 100

Compound	Result ug/Kg	Quantitation Limit ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	313	44.7	1	10/7/2005	
Acenaphthylene	BQL	313	41.6	1	10/7/2005	
Anthracene	BQL	313	45.3	1	10/7/2005	
Benzo[a]anthracene	BQL	313	54.1	1	10/7/2005	
Benzo[a]pyrene	BQL	313	47.8	1	10/7/2005	
Benzo[b]fluoranthene	BQL	313	54.7	1	10/7/2005	
Benzo[g,h,i]perylene	BQL	313	85.0	1	10/7/2005	
Benzo[k]fluoranthene	BQL	313	60.3	1	10/7/2005	
Benzoic Acid	BQL	625	625	1	10/7/2005	
Bis(2-chloroethoxy)methane	BQL	313	46.6	1	10/7/2005	
Bis(2-chloroethyl)ether	BQL	313	37.8	1	10/7/2005	
Bis(2-chloroisopropyl)ether	BQL	313	39.1	1	10/7/2005	
Bis(2-ethylhexyl)phthalate	BQL	313	41.9	1	10/7/2005	
4-bromophenyl phenyl ether	BQL	313	52.8	1	10/7/2005	
Butylbenzylphthalate	BQL	313	48.1	1	10/7/2005	
2-Chloronaphthalene	BQL	313	49.1	1	10/7/2005	
2-Chlorophenol	BQL	313	97.8	1	10/7/2005	
4-Chloro-3-methylphenol	BQL	313	97.5	1	10/7/2005	
4-Chloroaniline	BQL	1560	238	1	10/7/2005	
4-Chlorophenyl phenyl ether	BQL	313	45.9	1	10/7/2005	
Chrysene	BQL	313	33.8	1	10/7/2005	
Dibenzo[a,h]anthracene	BQL	313	87.5	1	10/7/2005	
Dibenzofuran	BQL	313	56.9	1	10/7/2005	
Di-n-Butylphthalate	BQL	313	37.2	1	10/7/2005	
1,2-Dichlorobenzene	BQL	313	34.7	1	10/7/2005	
1,3-Dichlorobenzene	BQL	313	34.1	1	10/7/2005	
1,4-Dichlorobenzene	BQL	313	35.3	1	10/7/2005	
3,3'-Dichlorobenzidine	BQL	625	78.8	1	10/7/2005	
2,4-Dichlorophenol	BQL	313	113	1	10/7/2005	
Diethylphthalate	BQL	313	40.3	1	10/7/2005	
Dimethylphthalate	BQL	313	37.8	1	10/7/2005	
2,4-Dimethylphenol	BQL	313	223	1	10/7/2005	
Di-n-octylphthalate	BQL	313	51.6	1	10/7/2005	
4,6-Dinitro-2-methylphenol	BQL	1560	184	1	10/7/2005	
2,4-Dinitrophenol	BQL	1560	688	1	10/7/2005	
2,4-Dinitrotoluene	BQL	313	40.6	1	10/7/2005	
2,6-Dinitrotoluene	BQL	313	56.9	1	10/7/2005	
Diphenylamine *	BQL	313	30.6	1	10/7/2005	
Fluoranthene	BQL	313	43.7	1	10/7/2005	
Fluorene	BQL	313	38.8	1	10/7/2005	
Hexachlorobenzene	BQL	313	48.1	1	10/7/2005	
Hexachlorobutadiene	BQL	313	50.0	1	10/7/2005	

Results for Semivolatiles by GCMS 8270

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB3768
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: MRC
Date Collected:
Date Received:
Date Extracted: 10/4/2005
Matrix: SOIL
% Solids: 100

Compound	Result ug/Kg	Quantitation Limit ug/Kg	MDL ug/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	625	32.2	1	10/7/2005	
Hexachloroethane	BQL	313	28.1	1	10/7/2005	
Indeno(1,2,3-c,d)pyrene	BQL	313	80.0	1	10/7/2005	
Isophorone	BQL	313	45.9	1	10/7/2005	
2-Methylnaphthalene	BQL	313	91.2	1	10/7/2005	
2-Methylphenol	BQL	313	110	1	10/7/2005	
3- & 4-Methylphenol	BQL	313	106	1	10/7/2005	
Naphthalene	BQL	313	25.3	1	10/7/2005	
2-Nitroaniline	BQL	313	49.1	1	10/7/2005	
3-Nitroaniline	BQL	1560	322	1	10/7/2005	
4-Nitroaniline	BQL	1560	96.3	1	10/7/2005	
Nitrobenzene	BQL	313	42.2	1	10/7/2005	
2-Nitrophenol	BQL	313	96.9	1	10/7/2005	
4-Nitrophenol	BQL	1560	86.6	1	10/7/2005	
N-Nitrosodi-n-propylamine	BQL	313	39.7	1	10/7/2005	
Pentachlorophenol	BQL	1560	81.6	1	10/7/2005	
Phenanthrene	BQL	313	35.6	1	10/7/2005	
Phenol	BQL	313	85.6	1	10/7/2005	
Pyrene	BQL	313	60.0	1	10/7/2005	
1,2,4-Trichlorobenzene	BQL	313	39.1	1	10/7/2005	
2,4,5-Trichlorophenol	BQL	313	121	1	10/7/2005	
2,4,6-Trichlorophenol	BQL	313	111	1	10/7/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	10.5	105
2-Fluorophenol	10	10.1	101
Nitrobenzene-d5	10	9.7	97
Phenol-d6	10	10	100
2,4,6-Tribromophenol	10	8.9	89
4-Terphenyl-d14	10	11.6	116

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.
J = Detected below the quantitation limit.

Reviewed By: _____

Results For Matrix Spike / Matrix Spike Duplicate and Laboratory Control Standard (MS/MSD/LCS)
by GCMS

Client Sample ID: Batch QC
Client Sample ID:
Lab Sample ID: Batch-3768-MS/MSD/LCS
Lab Project ID:
Matrix: SOIL
Prep Method: 3540

Date Collected:
Date Received:
Date Extracted: 10/04/05
Date Analyzed: 10/07/05
Analyzed By: MRC
Dilution: 1

	Sample Amount (µg/kg)	MS Spike (µg/kg)	MS Conc. (µg/kg)	MS Spike % Rec.	MSD Spike (µg/kg)	MSD Conc. (µg/kg)	MSD Conc. % Rec.	RPD	QC Limits RPD	QC Limits % Rec.
Acenaphthylene	BQL	3120	4030	129	3120	3820	122.0	5.25	30	73.0-140
4-Chloro-3-methylphenol	BQL	3120	3440	110	3120	3380	108.0	1.74	30	80.0-115
2-Chlorophenol	BQL	3120	3260	104	3120	3220	103.0	1.06	30	67.9-125
1,4-Dichlorobenzene	BQL	3120	3460	111	3120	3350	107.0	3.21	30	70.6-117
2,4-Dinitrotoluene	BQL	3120	3330	106	3120	3130	100.0	6.10	30	67.6-136
N-Nitrosodi-n-propylamine	BQL	3120	3070	98.2	3120	2990	95.7	2.58	30	74.3-133
4-Nitrophenol	BQL	3120	4340	139*	3120	3880	124.0	10.9	30	56.8-133
Pentachlorophenol	BQL	3120	2700	86.5	3120	2480	79.5	8.43	30	29.2-108
Phenol	BQL	3120	3060	98.0	3120	3010	96.5	1.54	30	71.2-120
Pyrene	BQL	3120	3740	120	3120	4070	130.0	8.55	30	68.5-140
1,2,4-Trichlorobenzene	BQL	3120	3340	107	3120	3200	103.0	4.10	30	68.9-119

	Spiked Amount (µg/kg)	LCS Conc. (µg/kg)	LCS Spike %	QC Limits % Rec.
Acenaphthylene	3125	3980	127	80.8-137
4-Chloro-3-methylphenol	3125	3380	108	83.9-114
2-Chlorophenol	3125	3220	103	80.3-109
1,4-Dichlorobenzene	3125	3460	111	76.2-118
2,4-Dinitrotoluene	3125	3230	103	80.6-126
N-Nitrosodi-n-propylamine	3125	3050	97.7	80.3-131
4-Nitrophenol	3125	4150	123	60.0-129
Pentachlorophenol	3125	2610	83.4	36.4-104
Phenol	3125	3040	97.2	74.3-117
Pyrene	3125	4070	130	74.7-140
1,2,4-Trichlorobenzene	3125	3340	107	74.1-120

Comments:

Concentrations reflect the spiked sample amounts.

Flags:

* = Out of limits.
NA = Not applicable.

Reviewed By: _____

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Osage of Virginia

Project Name: AS 1-4

Sample Information and Analytical Results	
Sample Identification	SB001-A
Sample Matrix	Soil
Date Collected	09/30/05
Date Received	09/30/05
Date Extracted	10/04/05
Date Analyzed	10/12/05
Dry Weight	82.4
Dilution Factor	1:1
C_9-C_{18} Aliphatics*	< 10 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	83
Aromatic Surrogate % Recovery	81
Fractionation Surrogate 1 % Recovery	120

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G649-3-1H

Reviewed By: PM

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Osage of Virginia

Project Name: AS 1-4

Sample Information and Analytical Results	
Sample Identification	SB001-B
Sample Matrix	Soil
Date Collected	09/30/05
Date Received	09/30/05
Date Extracted	10/04/05
Date Analyzed	10/11/05
Dry Weight	81.2
Dilution Factor	1:1
C_9-C_{18} Aliphatics*	< 10 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	76
Aromatic Surrogate % Recovery	73
Fractionation Surrogate 1 % Recovery	110

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G649-3-2H

Reviewed By: [signature]

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 09/13/05

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C_9-C_{18} Aliphatics	3.84	12.2	100	10
C_{19}-C_{36} Aliphatics	0.57	1.8	100	10
C_{11}-C_{22} Aromatics	4.54	14.4	100	10

Calibration Concentration Levels

Range	Levels (µg/mL)	%RSD or CCC	Method of Quantitation
C_9-C_{18} Aliphatics	6	3.80	Calibration Factor
	30		
	60		
	120		
	240		
C_{19}-C_{36} Aliphatics	8	3.8	Calibration Factor
	40		
	80		
	160		
	320		
C_{11}-C_{22} Aromatics	17	7.9	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 10/12/05

Calibration Check

Range	Levels (µg/mL)	RPD
C_9-C_{18} Aliphatics	120	-7.9
C_{19}-C_{36} Aliphatics	160	-8.2
C_{11}-C_{22} Aromatics	340	-8.3

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit
RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 09/13/05

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C_9-C_{18} Aliphatics	3.84	12.2	100	10
C_{19}-C_{36} Aliphatics	0.57	1.8	100	10
C_{11}-C_{22} Aromatics	4.54	14.4	100	10

Calibration Concentration Levels

Range	Levels (µg/mL)	%RSD or CCC	Method of Quantitation
C_9-C_{18} Aliphatics	6	3.80	Calibration Factor
	30		
	60		
	120		
	240		
C_{19}-C_{36} Aliphatics	8	3.8	Calibration Factor
	40		
	80		
	160		
	320		
C_{11}-C_{22} Aromatics	17	7.9	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 10/11/05

Calibration Check

Range	Levels (µg/mL)	RPD
C_9-C_{18} Aliphatics	120	10.8
C_{19}-C_{36} Aliphatics	160	12.0
C_{11}-C_{22} Aromatics	340	7.6

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit
RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: AS 1-4

Sample Information and Analytical Results	
Sample Identification	SB001-A
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	09/30/05
Date Received	09/30/05
Date Extracted	09/30/05
Date Analyzed	10/06/05
Dry Weight	82
Dilution Factor	1
C_5-C_8 Aliphatics**	< 10 (mg/Kg)
C_9-C_{12} Aliphatics**	< 10 (mg/Kg)
C_9-C_{10} Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	100

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

Lab Info: g649-3-1d

Reviewed By: RW

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: AS 1-4

Sample Information and Analytical Results	
Sample Identification	SB001-B
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	09/30/05
Date Received	09/30/05
Date Extracted	09/30/05
Date Analyzed	10/06/05
Dry Weight	81
Dilution Factor	1
C_5-C_8 Aliphatics**	< 10 (mg/Kg)
C_9-C_{12} Aliphatics**	< 10 (mg/Kg)
C_9-C_{10} Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	100

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

Lab Info: g649-3-2d

Reviewed By: _____

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 09/27/05 PID Initial Calibration Date: 07/14/05

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C_5-C_8 Aliphatics	4.4	14	100	10
C_9-C_{12} Aliphatics	3.4	11	100	10
C_9-C_{10} Aromatics	0.13	0.41	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	%RSD or CCC	Method of Quantitation
C_5-C_8 Aliphatics	40	19.9	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C_9-C_{12} Aliphatics	10	0.99	Linear Regression
	250		
	500		
	750		
	1000		
C_9-C_{10} Aromatics	10	19.50	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 10/05/05

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	RPD
C_5-C_8 Aliphatics	2000	200	3.0
C_9-C_{12} Aliphatics	500	50	-8.6
C_9-C_{10} Aromatics	500	50	-17.0

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit
RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 09/27/05 PID Initial Calibration Date: 07/14/05

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C_5-C_8 Aliphatics	4.4	14	100	10
C_9-C_{12} Aliphatics	3.4	11	100	10
C_9-C_{10} Aromatics	0.13	0.41	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	%RSD or CCC	Method of Quantitation
C_5-C_8 Aliphatics	40	19.9	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C_9-C_{12} Aliphatics	10	0.99	Linear Regression
	250		
	500		
	750		
	1000		
C_9-C_{10} Aromatics	10	19.50	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 10/05/05

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	RPD
C_5-C_8 Aliphatics	2000	200	3.0
C_9-C_{12} Aliphatics	500	50	-8.6
C_9-C_{10} Aromatics	500	50	-17.0

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit
RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 09/27/05 PID Initial Calibration Date: 07/14/05

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C_5-C_8 Aliphatics	4.4	14	100	10
C_9-C_{12} Aliphatics	3.4	11	100	10
C_9-C_{10} Aromatics	0.13	0.41	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	%RSD or CCC	Method of Quantitation
C_5-C_8 Aliphatics	40	19.9	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C_9-C_{12} Aliphatics	10	0.99	Linear Regression
	250		
	500		
	750		
	1000		
C_9-C_{10} Aromatics	10	19.50	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 10/05/05

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	RPD
C_5-C_8 Aliphatics	2000	200	3.0
C_9-C_{12} Aliphatics	500	50	-8.6
C_9-C_{10} Aromatics	500	50	-17.0

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit
RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.

2) Uncertainty for all reported data is less than or equal to 30 percent.

MI34.092205.2

PARADIGM ANALYTICAL LABORATORIES, INC.
5500 Business Drive, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 51544

Page 1 of 1

27 of 27

Client: Osage of Virginia
Address: 4808 A Colley Ave
Address: Norfolk VA 23507
Quote #:

Project ID: AS 1-4
Contact: Mike Cree
Phone: (757) 440-0400
Fax: (757) 440-0401

Date: 9/30/05
Turnaround: Standard
Job Number:
P.O. Number: CTO 0003

Report To: Mike Cree
- same as contact -
Invoice To: Mike Cree

Sample ID	Date	Time	Matrix	Preservatives: Sodium Bisulfate	Methanol	None	Analyses: 8260	VPH	EPH 8270	Comments: Please specify any special reporting requirements
SB001-A	9/30/05	1145	S	X	X	X	3	2	1	G649-3
SB001-B	9/30/05	1222	S	X	X	X	3	2	1	

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
	9/30/05	1635		9/30/05	1635	ambient 20.3°C	NC ____ SC ____ Other ____
					coming down to temp		SEE REVERSE FOR TERMS AND CONDITIONS

ORIGINAL

PARADIGM ANALYTICAL LABORATORIES, INC.

N.C. CERTIFICATION #481

Mr. Mike Cree
Osage of Virginia
4800A Colley Avenue
Norfolk VA 23508-2037

Report Number: G649-2

Client Project: AS 1-4(AS846)

Dear Mr. Cree:

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
Paradigm Analytical Laboratories, Inc.

10/19/01

Laboratory Director — Date
J. Patrick Weaver

Results for Volatiles
by GC 602

Client Sample ID: AS 846-MW01
Client Project ID: AS 1-4(AS846)
Lab Sample ID: G649-2-1A
Lab Project ID: G649-2

Analyzed By: MJC
Date Collected: 9/30/2005 10:30
Date Received: 9/30/2005
Matrix: Water

Analyte	Result ug/L	RL ug/L	Dilution Factor	Date Analyzed
Benzene	BQL	1.00	1	10/6/2005
Diisopropyl ether (DIPE)	BQL	1.00	1	10/6/2005
Ethylbenzene	BQL	1.00	1	10/6/2005
Methyl-tert butyl ether (MTBE)	BQL	2.00	1	10/6/2005
Toluene	BQL	1.00	1	10/6/2005
m/p-Xylene	BQL	2.00	1	10/6/2005
o-Xylene	BQL	2.00	1	10/6/2005

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	39.6	99

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By: _____

Results for Semivolatiles
by GCMS 625

Client Sample ID: AS 846-MW01
Client Project ID: AS 1-4(AS846)
Lab Sample ID: G649-2-1N
Lab Project ID: G649-2

Analyzed By: MRC
Date Collected: 9/30/2005 10:30
Date Received: 9/30/2005
Date Extracted: 10/6/2005
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	10.0	1	10/8/2005
Acenaphthylene	BQL	10.0	1	10/8/2005
Anthracene	BQL	10.0	1	10/8/2005
Benzo[a]anthracene	BQL	10.0	1	10/8/2005
Benzo[a]pyrene	BQL	10.0	1	10/8/2005
Benzo[b]fluoranthene	BQL	10.0	1	10/8/2005
Benzo[g,h,i]perylene	BQL	10.0	1	10/8/2005
Benzo[k]fluoranthene	BQL	10.0	1	10/8/2005
Bis(2-chloroethoxy)methane	BQL	10.0	1	10/8/2005
Bis(2-chloroethyl)ether	BQL	10.0	1	10/8/2005
Bis(2-chloroisopropyl)ether	BQL	10.0	1	10/8/2005
Bis(2-ethylhexyl)phthalate	BQL	10.0	1	10/8/2005
4-bromophenyl phenyl ether	BQL	10.0	1	10/8/2005
Butylbenzylphthalate	BQL	10.0	1	10/8/2005
2-Chloronaphthalene	BQL	10.0	1	10/8/2005
2-Chlorophenol	BQL	10.0	1	10/8/2005
4-Chloro-3-methylphenol	BQL	10.0	1	10/8/2005
4-Chlorophenyl phenyl ether	BQL	10.0	1	10/8/2005
Chrysene	BQL	10.0	1	10/8/2005
Dibenzo[a,h]anthracene	BQL	10.0	1	10/8/2005
Di-n-Butylphthalate	BQL	10.0	1	10/8/2005
1,2-Dichlorobenzene	BQL	10.0	1	10/8/2005
1,3-Dichlorobenzene	BQL	10.0	1	10/8/2005
1,4-Dichlorobenzene	BQL	10.0	1	10/8/2005
3,3'-Dichlorobenzidine	BQL	20.0	1	10/8/2005
2,4-Dichlorophenol	BQL	10.0	1	10/8/2005
Diethylphthalate	BQL	10.0	1	10/8/2005
Dimethylphthalate	BQL	10.0	1	10/8/2005
2,4-Dimethylphenol	BQL	10.0	1	10/8/2005
Di-n-octylphthalate	BQL	10.0	1	10/8/2005
4,6-Dinitro-2-methylphenol	BQL	50.0	1	10/8/2005
2,4-Dinitrophenol	BQL	50.0	1	10/8/2005
2,4-Dinitrotoluene	BQL	10.0	1	10/8/2005
2,6-Dinitrotoluene	BQL	10.0	1	10/8/2005
Diphenylamine *	BQL	10.0	1	10/8/2005
Fluoranthene	BQL	10.0	1	10/8/2005
Fluorene	BQL	10.0	1	10/8/2005
Hexachlorobenzene	BQL	10.0	1	10/8/2005
Hexachlorobutadiene	BQL	10.0	1	10/8/2005
Hexachlorocyclopentadiene	BQL	20.0	1	10/8/2005
Hexachloroethane	BQL	10.0	1	10/8/2005
Indeno(1,2,3-c,d)pyrene	BQL	10.0	1	10/8/2005

Results for Semivolatiles by GCMS 625

Client Sample ID: AS 846-MW01
Client Project ID: AS 1-4(AS846)
Lab Sample ID: G649-2-1N
Lab Project ID: G649-2

Analyzed By: MRC
Date Collected: 9/30/2005 10:30
Date Received: 9/30/2005
Date Extracted: 10/6/2005
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	Dilution Factor	Date Analyzed
Isophorone	BQL	10.0	1	10/8/2005
Naphthalene	BQL	10.0	1	10/8/2005
Nitrobenzene	BQL	10.0	1	10/8/2005
2-Nitrophenol	BQL	10.0	1	10/8/2005
4-Nitrophenol	BQL	50.0	1	10/8/2005
N-Nitrosodi-n-propylamine	BQL	10.0	1	10/8/2005
Pentachlorophenol	BQL	50.0	1	10/8/2005
Phenanthrene	BQL	10.0	1	10/8/2005
Phenol	BQL	10.0	1	10/8/2005
Pyrene	BQL	10.0	1	10/8/2005
1,2,4-Trichlorobenzene	BQL	10.0	1	10/8/2005
2,4,6-Trichlorophenol	BQL	10.0	1	10/8/2005

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7	70
2-Fluorophenol	10	6	60
Nitrobenzene-d5	10	6.2	62
Phenol-d6	10	6.7	67
2,4,6-Tribromophenol	10	7.1	71
4-Terphenyl-d14	10	10	100

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: RNP

Results of Library Search for Semivolatile Compounds

by GCMS

Client Sample ID: AS 846-MW01
Client Project ID: AS 1-4(AS846)
Lab Sample ID: G649-2-1N
Lab Project ID: G649-2
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 9/30/2005 10:30
Date Received: 9/30/2005
Date Extracted: 10/6/2005
Date Analyzed: 10/8/2005
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	No library search compounds detected.				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

Tentatively Identified Compound (TIC) refers to substances which are not present in the list of target compounds. Therefore, not all TICs are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist.

Quantitation is accomplished by relative peak area of the compound compared to that of the nearest internal standard from the total ion chromatogram. TICs are identified and quantitated only if the peak area is equal to or greater than 10% of that of the nearest internal standard. Quantitation provided is an estimate.

Reviewed by: _____

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: AS 1-4(AS846)

Sample Information and Analytical Results	
Sample Identification	AS 846-MW01
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	09/30/05
Date Received	09/30/05
Date Extracted	10/08/05
Date Analyzed	10/08/05
Dry Weight	
Dilution Factor	1
C_5-C_8 Aliphatics**	< 100 (µg/L)
C_9-C_{12} Aliphatics**	< 100 (µg/L)
C_9-C_{10} Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	100

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

Lab Info: g649-2-1e

Reviewed By: RNS

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 09/27/05 PID Initial Calibration Date: 07/14/05

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C_5-C_8 Aliphatics	4.4	14	100	10
C_9-C_{12} Aliphatics	3.4	11	100	10
C_9-C_{10} Aromatics	0.13	0.41	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	%RSD or CCC	Method of Quantitation
C_5-C_8 Aliphatics	40	19.9	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C_9-C_{12} Aliphatics	10	0.99	Linear Regression
	250		
	500		
	750		
	1000		
C_9-C_{10} Aromatics	10	19.50	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 10/07/05

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	RPD
C_5-C_8 Aliphatics	2000	200	-0.7
C_9-C_{12} Aliphatics	500	50	-16.5
C_9-C_{10} Aromatics	500	50	-18.0

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit
RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Osage of Virginia

Project Name: AS 1-4(AS846)

Sample Information and Analytical Results	
Sample Identification	AS 846-MW01
Sample Matrix	Water
Date Collected	09/30/05
Date Received	09/30/05
Date Extracted	10/04/05
Date Analyzed	10/11/05
Dry Weight	
Dilution Factor	1:1
C_9-C_{18} Aliphatics*	< 100 (ug/L)
C_{19}-C_{36} Aliphatics*	< 100 (ug/L)
C_{11}-C_{22} Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	77
Aromatic Surrogate % Recovery	66
Fractionation Surrogate 1 % Recovery	58

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G649-2-1K

Reviewed By: [signature]

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 09/13/05

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C_9-C_{18} Aliphatics	3.84	12.2	100	10
C_{19}-C_{36} Aliphatics	0.57	1.8	100	10
C_{11}-C_{22} Aromatics	4.54	14.4	100	10

Calibration Concentration Levels

Range	Levels (µg/mL)	%RSD or CCC	Method of Quantitation
C_9-C_{18} Aliphatics	6	3.80	Calibration Factor
	30		
	60		
	120		
	240		
C_{19}-C_{36} Aliphatics	8	3.8	Calibration Factor
	40		
	80		
	160		
	320		
C_{11}-C_{22} Aromatics	17	7.9	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 10/11/05

Calibration Check

Range	Levels (µg/mL)	RPD
C_9-C_{18} Aliphatics	120	10.8
C_{19}-C_{36} Aliphatics	160	12.0
C_{11}-C_{22} Aromatics	340	7.6

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit
RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% soilds = Percent Solids

Special Notes:

1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.

2) Uncertainty for all reported data is less than or equal to 30 percent.

MI34.092205.2

PARADIGM ANALYTICAL LABORATORIES, INC.
5500 Business Drive, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 51540

Page 1 of 1

Client: State of Virginia
Address: 4800 A Colley Ave
Address: Norfolk VA 23508
Quote #: _____

Project ID: AS 1-4 (AS846)
Contact: Mike Cree
Phone: (757) 440-0400
Fax: (757) 440-0411

Date: 9/30/05
Turnaround: STANDARD
Job Number: _____
P.O. Number: CTO 0003

Report To: Mike Cree
- Same as contact -
Invoice To: Mike Cree

Sample ID	Date	Time	Matrix	Preservatives: HASO4	HCL	NONE		Analyses: EPH	VPH	BNA Extract (625 + 1070C)	602 + Xylenes						Comments: Please specify any special reporting requirements
AS846-MW01	9/30/05	1030	GW	X	X	X		2	3	2	3						G649-Z

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
[signature]	9/30/05	1700	[signature]	9/30/05	1700	ambient 21.3°C	NC _____ SC _____ Other _____
						coming down to temp	SEE REVERSE FOR TERMS AND CONDITIONS

ORIGINAL

PARADIGM ANALYTICAL LABORATORIES, INC.

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