Final

Camp Allen Landfill RI Report
Norfolk Naval Base
Norfolk, Virginia

03.13-07/01/94-00594

Volume III
Appendix M-Q

Prepared For:

Department of the Navy
Atlantic Division
Naval Facilities
Engineering Command
Norfolk, Virginia

Under the

LANTDIV CLEAN Program

Comprehensive Long-Term
Environmental Action Navy

Reference:
Contract
N62470-89-D-4814

CTO-0084

July 1994

Baker
Baker Environmental, Inc

FOSTER WHEELER
FOSTER WHEELER ENVIRESPONSE, INC.

WESTON

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WESTON

~~03.13~~
03.13-07/01/94-0054

Draft Final
Remedial Investigation Report

Camp Allen Landfill
Norfolk Naval Base

Norfolk, Virginia

Appendix Volume III
Appendices M through Q

Prepared For:

Department of the Navy
Chesapeake Division
Naval Facilities
Engineering Command

Washington, D.C.

Under the

LANTDIV CLEAN Program

Comprehensive Long-Term
Environmental Action Navy

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DRAFT

APPENDIX M

APPENDIX M
SWCB WELL INFORMATION

VIRGINIA WATER CONTROL BOARD GROUNDWATER DATA
CITIES AND COUNTIES OF TIDEWATER REGION
WWCRUSGS

WELL NO	OWN NAME	LAT LONG	COMP DATE	YIELD	H2O ANAL	TDEPTH	SCRFROM	SCR1TO	SCR2TO	SCR3TO	SCR4TO	TOPO MAP
217-00016	BEST FOODS INC.	36 50 09.5 076 16 16.6	0255	80	NO	166	79	99	.	.	.	35-D
217-00017	GENERAL FOAM PLASTICS	36 51 32.7 076 14 38.2	0567	20	NO	53	.	.	.	.	.	34-C
217-00018	GENERAL FOAM PLASTICS	36 51 32.7 076 14 38.2		23	NO	.	.	.	.	.	.	34-C
217-00021	SHELLER-GLOBE CORP	36 56 01.0 076 19 01.0	0763	.	YES	125	100	120	.	.	.	35-A
217-00022	SHELLER-GLOBE CORP #2	36 56 01.7 076 19 01.2	0771	.	YES	125	100	120	.	.	.	35-A
217-00024	CPC INTERNATIONAL INC	36 50 08.3 076 16 57.3		550	NO	110	.	.	.	.	.	35-D
217-00025	CHAMPALE PRODUCTS CORP.	36 51 41.7 076 16 28.7		55	NO	135	.	.	.	.	.	35-D
217-00030	LAKEWOOD PARK TW1	36 53 24.8 076 15 48.7	0762	.	NO	125	74	79	.	.	.	35-A
217-00031	DELMAR TRAILER CO	36 55 20.3 076 11 45.1	0461	.	NO	100	50	55	.	.	.	34-B
217-00033	SEAVIEW AMUSEMENT	36 54 39.1 076 04 16.8	0756	63	NO	110	60	70	.	.	.	34-A
217-00037	NORFOLK CONTRACTING	36 51 43.5 076 16 20.0	0355	45	NO	60	16	23	50	.	.	35-D
217-00038	ROYAL SILVER	36 52 35.0 076 15 05.0	1145	80	NO	142	114	124	.	.	.	35-A
217-00039	SOUTHERN MATERIALS CORPORATION	36 50 33.8 076 15 53.8	0543	91	NO	125	91	106	.	.	.	35-D
217-00040	MARINE HOSPITAL	36 54 06.0 076 18 09.0	0442	22	NO	116	53	57	.	.	.	35-A
217-00045	NORFOLK SHIPBUILDING	36 50 16.0 076 17 22.0	852	45	NO	91	45	50	62	81	.	35-D
217-00048	MERCURY ROLLER RINK	36 55 00.8 076 16 17.9	0549	15	NO	100	77	92	.	.	.	35-A
217-00050	SHELDON ARCADE BLDG	36 50 47.0 076 17 23.0	935	.	YES	765	745	765	.	.	.	35-D
217-00051	DEPAUL HOSPITAL	36 53 59.0 076 16 59.0	1177	35	NO	140	66	71	.	.	.	35-A
217-00054	C P WOODCOCK	36 50 38.0 076 11 28.0	0168	.	NO	1065	1045	1065	.	.	.	34-C
217-00055	FIRST MERCHANTS BANK BLDG	36 50 42.0 076 17 31.0	0669	.	YES	773	747	773	.	.	.	035-D
217-00056	MOORE'S BRIDGES TW	36 52 26.2 076 12 08.9		.	NO	870	.	.	.	.	.	034-C
217-00057	MOORE'S BRIDGES TW1	36 52 26.2 076 12 08.9		.	NO	970	.	.	.	.	.	034-C
217-00058	OLD VA. NAT. BANK BLDG. #1	36 50 41.6 076 17 32.0		.	NO	780	.	.	.	.	.	035-D
217-00059	OLD VA. NAT. BANK BLDG #2	36 50 41.6 076 17 32.0		.	NO	741	.	.	.	.	.	035-D
217-00060	OLD VA NAT BANK BLDG #3	36 50 41.6 076 17 32.0		.	NO	822	.	.	.	.	.	035-D
217-00062	DEPT OF NAVY GEOTHERMAL #24	36 57 26.5 076 16 07.5	1073	.	NO	1045	.	.	.	.	.	035-A
217-00063	POLICE PISTOL RANGE	36 52 49.6 076 12 16.8	0679	24	YES	110	93	101	.	.	.	034-B
217-00064	J. H. MILES CO	36 51 32.6 076 18 29.0	0679	781	YES	900	790	890	.	.	.	035-D
217-00065	NATIONAL MEDICAL CARE	36 53 59.8 076 17 01.6	0370	32	YES	82	70	78	.	.	.	35-A
217-00066	COMPECO CLEANERS	36 52 13.0 076 16 37.0	1180	.	YES	830	820	830	.	.	.	35-D
217-00067	NORFOLK & WESTERN RAILWAY CO.	36 52 36.0 076 19 34.0	0382	115	YES	700	476	486	575	615	682	35-A
217-00069	US NAVY TW 103	36 57 26.0 076 16 07.0	855	.	NO	200	85	100	.	.	.	35-A
217-00070	WERNER MILLER	36 53 57.4 076 16 35.8	1977	.	YES	43	28	43	.	.	.	35-A
217-00071	JAMES WILLIAMS	36 54 56.9 076 13 18.2	0281	.	YES	13	.	.	.	.	.	34-B
217-00072	JAMES G. MAHONE	36 50 21.7 076 12 15.1	0681	.	YES	63	58	63	.	.	.	34-C
217-00073	MILITARY CIRCLE EQUITABLE LIFE	36 51 02.4 076 12 23.7	0581	70	NO	127	112	127	.	.	.	34-C
217-00074	SEAPORT SUPPLY CORPORATION #1	36 50 02.7 076 16 24.8	1081	24	NO	65	50	65	.	.	.	35-D
217-00075	NORFOLK & WESTERN RAILWAY CO	36 52 37.6 076 19 34.2	0382	115	NO	700	476	486	575	615	682	35-A
217-00076	MR. ALLEN	36 52 33.0 076 15 07.0	0685	40	YES	120	100	120	.	.	.	35-A
217-00077	FORD MOTOR COMPANY	36 49 55.0 076 15 02.0	1381	.	NO	45	40	45	.	.	.	35-D
217-00078	FORD MOTOR COMPANY	36 50 05.0 076 14 58.0	1981	.	NO	55	50	55	.	.	.	34-C
220-00001	OBSERVATION WELL #157	36 51 45.0 076 20 44.0	26	.	YES	603	579	603	.	.	.	35-D
220-00002	VA CHEMICALS INC #2	36 51 48.6 076 20 50.0	551	30	YES	157	137	157	.	.	.	35-D
220-00003	VA CHEMICALS INC #1.	36 51 48.4 076 20 39.0	868	1000	YES	714	642	666	678	714	.	35-D
220-00004	PORTSMOUTH - PP SEWAGE DISPOS	36 51 16.2 076 19 15.0	768	750	YES	855	750	850	.	.	.	35-D
220-00005	PORTSMOUTH COCA-COLA	36 48 47.5 076 21 40.1	54	.	NO	100	.	.	.	.	.	35-D

APPENDIX N

APPENDIX N
PHYSICAL ECOLOGICAL RESULTS

BENTHIC FIELD DATA

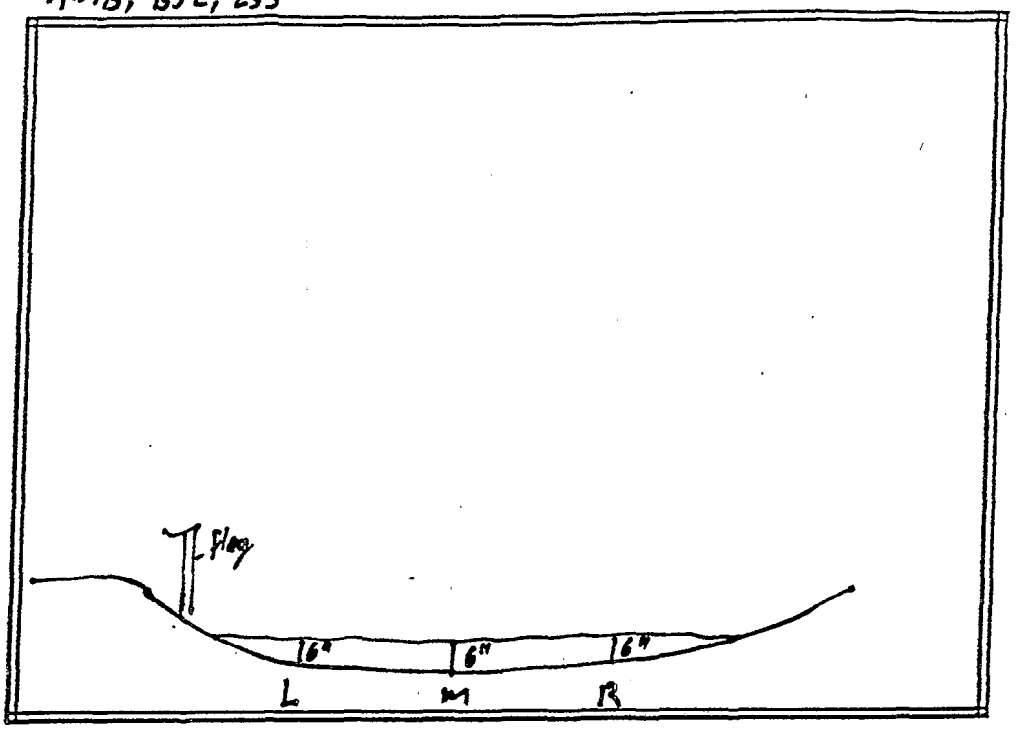
SAMPLING STATION CHARACTERIZATION DATA SHEET

Station Number: BC01 Date: 6/21/93 Time: 15:30

Sample Type: Fish (Benthic Macroinvertebrate) Sediment Surface Water

SAMPLING EQUIPMENT: Seine Gill Net Ponar Kemmerer (Sediment Corer) Spoon Other: _____

AMB, BJC, LSS



Riparian Zone/Instream Features

Predominant Surrounding Land Use: Forest Industrial Other: Semi-industrial/open field

Vegetation Type: Woody vines, herbs, shrubs - shrubby woods edge w/ hydro vegitation near "pond" edge. SAV thru sampling location.

Estimated Stream Width: 20-25' ~~yd~~ Est. Stream Depth: 6" ~~yd~~ Riffle: 0 m Run: 0 m Pool: All m

Stream Type: Cold Water (Warm Water) Velocity: Negligible Channelized: Yes __ No X

Canopy Cover: Open (Partly Open) Partly Shaded Shaded

~ 50%

Sediment/Substrate:

Sediment Odors: Normal Sewage Petroleum Chemical (Anaerobic) None Other: H_2S Odor - Stronger than BC02

Sediment Oils: (Absent) Slight Moderate Profuse

Ponar Grab: Number of Jars Filled with Sediments Replicate: #1: 2 L Replicate #2: 2 M Replicate #3: 3 R

Sediment Description: *See below

Water:

Temp.: 32.5-00, 33.6 pH C Dissolved Oxygen: 9.1 mg/L pH: 7.55 S.U.

Conductivity: 400 Micromhos/cm Salinity: 0 ppt

Water Odors: Normal Sewage Petroleum Chemical (None) Other: Brown

Water Surface Oils: Slick Sheen (None)

Turbidity: Clear Slightly Turbid (Turbid) Opaque Water Color: _____

Weather Conditions: Cloudy Tide: ~~In~~ ~~Out~~ NA

Comments: *01L - sandy, organic matter, black

01M - " " " "

01R - mostly " " "

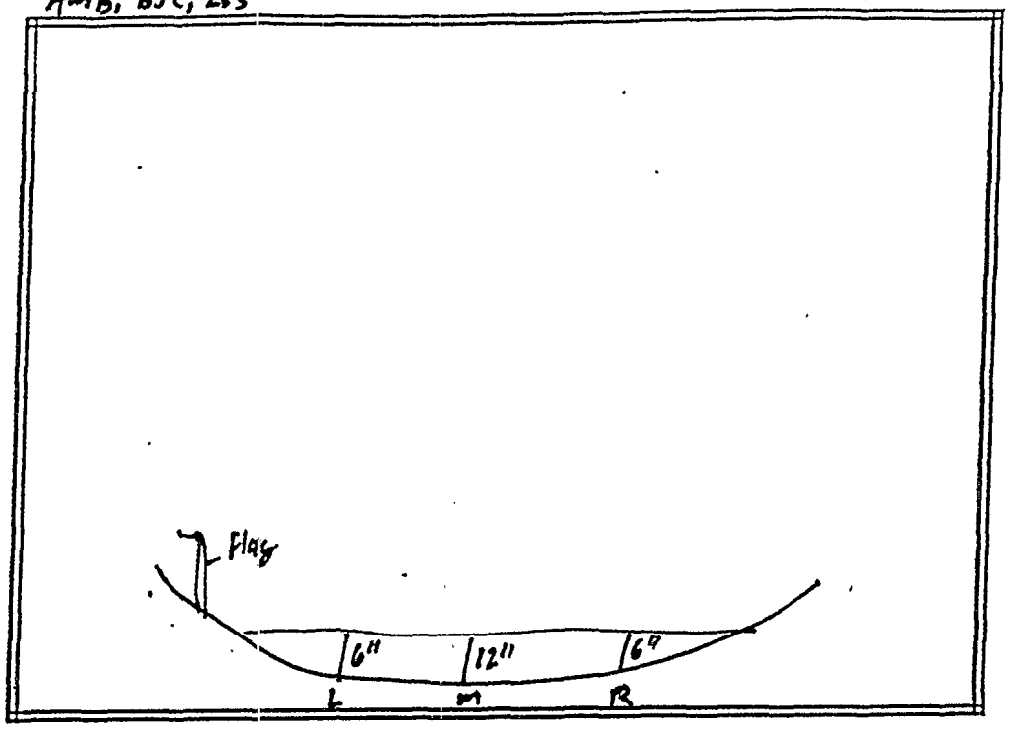
SAMPLING STATION CHARACTERIZATION DATA SHEET

Station Number: BC02 Date: 6/21/93 Time: 14:00

Sample Type: Fish (Benthic Macroinvertebrate) Sediment Surface Water

SAMPLING EQUIPMENT: Seine Gill Net Ponar Kemmerer (Sediment Corer) Spoon Other: _____

AMB, BJC, LGS



Riparian Zone/Instream Features

Predominant Surrounding Land Use: Forest Industrial Other: Semi-industrial/Open Field

Vegetation Type: Same as BC01, SAV ~ 6-10' into "pond", also duckweed present - algae on SAV

Estimated Stream Width: 25-30' ~~yd~~ Est. Stream Depth: 6"-12" ~~yd~~ Riffle: 0 m Run: 0 m Pool: All m

Stream Type: Cold Water (Warm Water) Velocity: Negligible Channelized: Yes __ No X

Canopy Cover: Open (Partly Open) Partly Shaded Shaded

~30%

Sediment/Substrate:

Sediment Odors: Normal Sewage Petroleum Chemical (Anaerobic) None Other: H_2S odor

Sediment Oils: (Absent) Slight Moderate Profuse

Ponar Grab: Number of Jars Filled with Sediments Replicate: #1: 3 L Replicate #2: 1 R Replicate #3: 1 m

Sediment Description: See Below

Water:

Temp.: 27.7° C Dissolved Oxygen: 13 mg/L pH: 7.28 S.U.

Conductivity: 355 Micromhos/cm Salinity: 0.2 ppt

Water Odors: (Normal) Sewage Petroleum Chemical None Other: _____

Water Surface Oils: Slick (Sheen) * None * in some areas

Turbidity: Clear Slightly Turbid (Turbid) Opaque Water Color: Brown

Weather Conditions: Warm, cloudy (90°F) Tide: ~~In~~ ~~Out~~ NA

Comments: 02L - half ~~stick~~ sand, many sticks, leaves, organic, black

02m - less organic matter, silty, black

02R - In between 02L + 02m

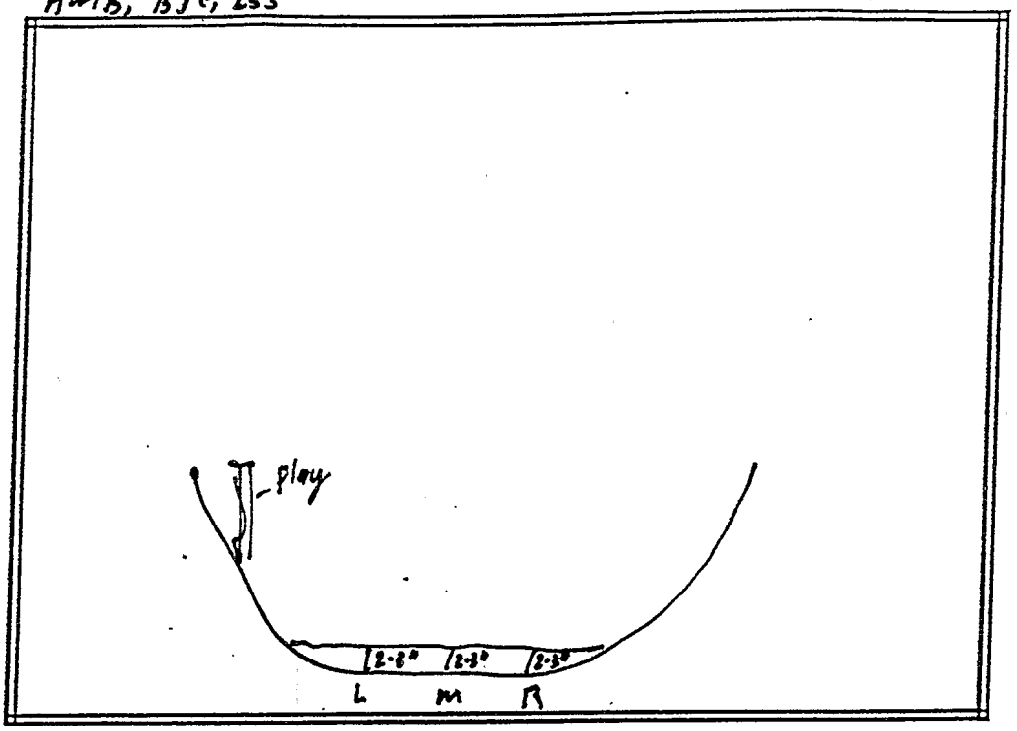
SAMPLING STATION CHARACTERIZATION DATA SHEET

Station Number: BC03 Date: 6/21/93 Time: 1 00

Sample Type: Fish (Benthic Macroinvertebrate) Sediment Surface Water

SAMPLING EQUIPMENT: Seine Gill Net Ponar Kemmerer (Sediment Corer) Spoon Other: _____

AMB, BJC, LSS



Riparian Zone/Instream Features

Predominant Surrounding Land Use: Forest Industrial Other: Open field

Vegetation Type: bank: herbs, vines, heavy SAV 2-3' upstream of station

Estimated Stream Width: 8' pt Est. Stream Depth: 2-3" pt Riffle: 0 m Run: All m Pool: 0 m

Stream Type: Cold Water Warm Water Velocity: Negligible Channelized: Yes X No

Canopy Cover: (Open) Partly Open Partly Shaded Shaded

Sediment/Substrate:

Sediment Odors: (Normal) Sewage Petroleum Chemical Anaerobic None Other: _____

Sediment Oils: (Absent) Slight Moderate Profuse

Ponar Grab: Number of Jars Filled with Sediments Replicate: #1: 2 R Replicate #2: 4 m Replicate #3: 4 L

Sediment Description: See Below

Water: pH cond. DO

Temp.: 28.6, 26.5, 26 C Dissolved Oxygen: 1.8 mg/L pH: 7.13 S.U.

Conductivity: 650 Micromhos/cm Salinity: 0.1 ppt

Water Odors: (Normal) Sewage Petroleum Chemical None Other: _____

Water Surface Oils: Slick (Sheen) None

Turbidity: Clear Slightly Turbid (Turbid) Opaque Water Color: Brown

Weather Conditions: Partly Sunny, 90°F Tide: In Out

Comments: 03R - brownish, silty muck, twigs, organic mater.
03m - sandy, visable inv., some organics
03L - 50% sand, 50% small org. matter, brown, small fish
2 insects in middle sample: Odonata nymph

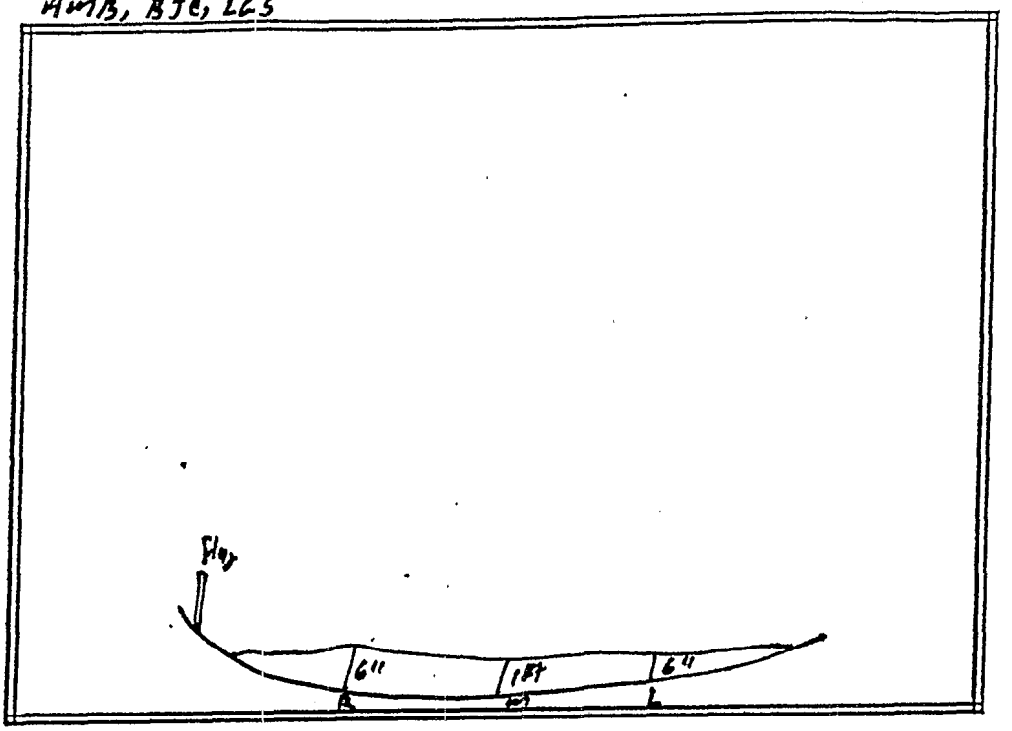
SAMPLING STATION CHARACTERIZATION DATA SHEET

Station Number: BC04 Date: 6/22/93 Time: 10:00

Sample Type: Fish (Benthic Macroinvertebrate) Sediment Surface Water

SAMPLING EQUIPMENT: Seine Gill Net Ponar Kemmerer (Sediment Corer) Spoon Other: _____

AMB, BJC, LGS



Riparian Zone/Instream Features

Predominant Surrounding Land Use: Forest Industrial Other: Open marsh, Field

Vegetation Type: Phragmites, some sedges, no SAV, shrubs w/ vines along some edges

Estimated Stream Width: 25-30' m Est. Stream Depth: 6" 1ft m Riffle: — m Run: all m Pool: — m

Stream Type: Cold Water (Warm Water) Velocity: negligible Channelized: Yes __ No X

Canopy Cover: (Open) Partly Open Partly Shaded Shaded

Sediment/Substrate:

Sediment Odors: Normal Sewage (Petroleum) Chemical Anaerobic None Other: _____

Sediment Oils: Absent Slight (Moderate) Profuse

Ponar Grab: Number of Jars Filled with Sediments Replicate: #1: 3/L Replicate #2: 1/M Replicate #3: 1/R

Sediment Description: See Below

Water: Cond. DO pH

Temp.: 24.5, 25.8, 25.6 C Dissolved Oxygen: top 11.1, bottom 10.5 mg/L pH: 7.93 S.U.

Conductivity: 10,500 Micromhos/cm Salinity: 6.2 ppt

Water Odors: (Normal) Sewage Petroleum Chemical None Other: _____

Water Surface Oils: Slick (Sheen) None

Turbidity: Clear (Slightly Turbid) Turbid Opaque Water Color: Brown

Weather Conditions: Sunny, 90°, breezy Tide: (In) Out

Comments: 04R - Silty, slight petroleum odor, visible inv, some organic debris coming in

04L - SAME as 04R

04M - SAME as 04R

Fish + Fiddler Crabs were observed

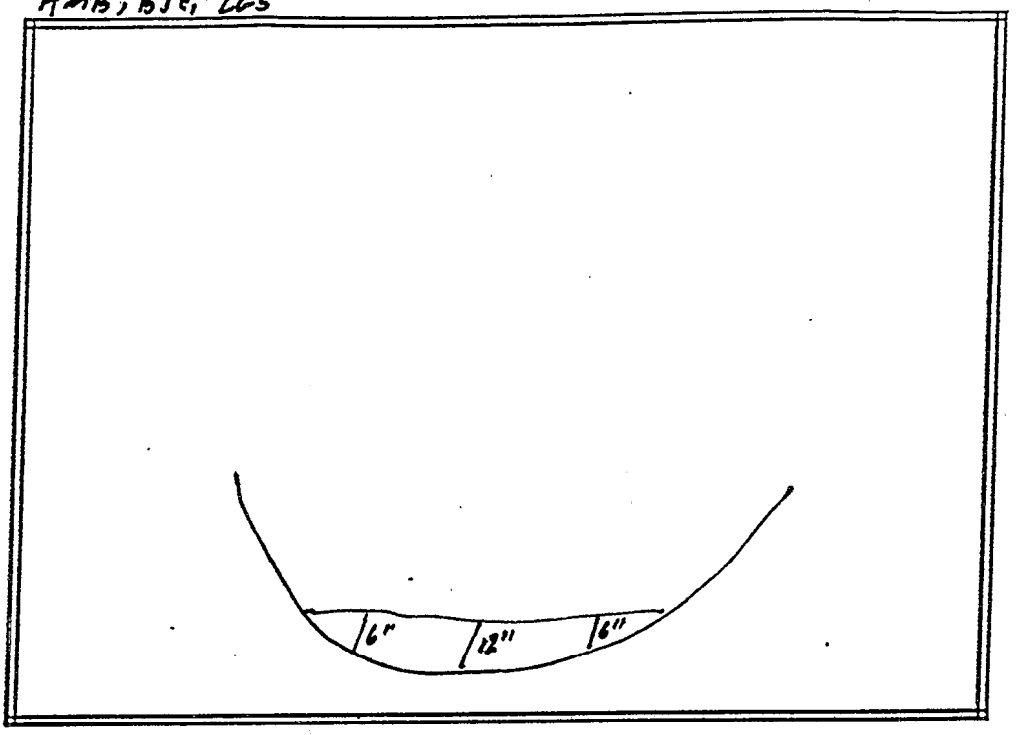
SAMPLING STATION CHARACTERIZATION DATA SHEET

Station Number: BC05 Date: 6/22/92 Time: 14:30

Sample Type: Fish (Benthic Macroinvertebrate) Sediment Surface Water

SAMPLING EQUIPMENT: Seine Gill Net Ponar Kemmerer (Sediment Corer) Spoon Other: _____

AMB, BJE, LGS



Riparian Zone/Instream Features

Predominant Surrounding Land Use: Forest Industrial Other: Residential

Vegetation Type: Phragmites on edge, various grasses, herbs

Estimated Stream Width: 8-10' pt Est. Stream Depth: 6-12" m Riffle: 0 m Run: All m Pool: — m

Stream Type: Cold Water (Warm Water) Velocity: Negligible Channelized: Yes X No __

Canopy Cover: (Open) Partly Open Partly Shaded Shaded

Sediment/Substrate:

Sediment Odors: (Normal) Sewage Petroleum Chemical Anaerobic None Other: _____

Sediment Oils: (Absent) Slight Moderate Profuse

Ponar Grab: Number of Jars Filled with Sediments Replicate: #1: 2 (R) Replicate #2: 2 (M) Replicate #3: 1 (L)

Sediment Description: See Below

Water: ,sat ,DO ,pH

Temp.: 30°, 32, 32.8 C Dissolved Oxygen: 17-bottom, 20-surf mg/L pH: 9.03 S.U.

Conductivity: 9900 (surf), 11,800 (bottom) Micromhos/cm Salinity: 5-Sur, 6.2-bottom ppt

Water Odors: Normal Sewage Petroleum Chemical (None) Other: _____

Water Surface Oils: Slick Sheen (None)

Turbidity: Clear Slightly Turbid (Turbid) Opaque Water Color: Brown

Weather Conditions: hot, sunny Tide: (In) Out (coming in)

Comments: L- Silty, sandy, lack of some organics

M- Same, but more leaf material

R- Rocky, refusal at 4" (10 attempts), 50% sand, 50% leaves
Bottom

BENTHIC MACROINVERTEBRATE LABORATORY DATA

Table 1. Macroinvertebrates listed by class, order, and family - collected by Baker Environmental, Inc. during June 1993 in the vicinity of Willoughby Bay, VA.

Station BC	01L	01R	01M	02L	02R	02M	03L	03R	03M	04L	04R	04M	05L	05R	05M
Turbellaria															
Tricladida															
Planariidae				4	39	4			1		1				
Oligochaeta															
Tubificida															
Tubificidae	98	136	486	821	836	346	708	19	435	21	83	30	140	246	259
Polychaeta															
Phyllodocida															
Nereidae										12	42	16			
Spionida															
Spionidae											1				
Bivalvia															
Veneroida															
Sphaeriidae		3		2	3										
Gastropoda															
Basommatophora															
Physidae	4	2	2	14	10	3		1	3						
Planorbidae		3	4	92	16	6									
Insecta															
Odonata															
Coenagrionidae		1													
Coleoptera															
Haliplidae			3												
Hydrophilidae											1				
Scirtidae							1								
Diptera															
Ceratopogonidae	1														
Chironomidae															
Chironominae		5	2	2	6	10	1	2	5	27	5	23	19	32	36
Tanypodinae							29	14	51						2
Psychodidae						1									
Total Taxa	3	6	5	6	6	6	4	4	5	3	6	3	2	2	3
Total Specimens	103	150	497	935	910	370	739	36	495	60	133	69	159	278	297

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677
Location: WILLOUGHBY BAY, VA BC 01 LEFT
Sample ID: BC-01L
Coll Date: 7/93
Prelim. Sorter: BAKER
Split Sorter:
Subsampled Taxa: —
ID Time Budget: 1.0
Presort ID Time: 0.5
Date-Identifier: 7/12/93 WJM
Split/Midge and worm ID Time:
Date-Identifier:
QA/QC Time:

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TUBIFICIDA	TUBIFICIDAE	98					TUBE WORMS
	BASOMMATOPHORA	PHYSIDAE	4					POUCH SNAILS
	DIPTERA	CERATOPOGONIDAE	1					BITING MIDGES

Notes: 7/12 11:00-11:30

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA BC-01RIGHT
Sample ID: BC-01R
Coll Date: 7/93 Prelim. Sorter: BAKER'S Split Sorter: _____
Subsampled Taxa: —
ID Time Budget: 1.0 Presort ID Time: 0.5 Date-Identifier: 7/12/93 MJM
Split/Midge and worm ID Time: _____ Date-Identifier: _____
QA/QC Time: _____

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TUBIFICIDA	TUBIFICIDAE	136					
	VENEROIDA	SPHAERIIDAE	3					FINGERNAIL CLAM
	BASOMMATOPHORA	PLANORBIDAE	3					POUCH SNAILS
	"	PHYSIDAE	2					
	ODONATA	COENAGRIONIDAE	1					DAMSELFLIES
	DIPTERA	CHIRINOMINAE	5		(CHIRONOMIDAE SUB-FAMILY)			MIDGES

Notes: 7/12 10:00-10:30

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA. BC-01 MIDDLE
Sample ID: BC-01M
Coll Date: 7/93
Prelim. Sorter: BAKER
Split Sorter:
Subsampled Taxa: —
ID Time Budget: 1.0
Presort ID Time: 1.0
Date-Identifier: 7/13/93 MJSM
Split/Midge and worm ID Time:
Date-Identifier:
QA/QC Time:

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TUBIFICIDA	TUBIFICIDAE	486					
	BASOMMATOPHORA	PHYSIDAE	2					
	"	PLANORBIDAE	4					
	COLEOPTERA	HALIPLIDAE	3					CRAWLING WATER BEETLE
	DIPTERA	CHIRONOMINAE	2					

Notes: 7/13 3:00-4:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-03
Location: WILLOUGHBY BAY, VA BC-02 LEFT
Sample ID: BC-02L
Coll Date: 7/93 Prelim. Sorter: BAKER Split Sorter: _____
Subsampled Taxa: —
ID Time Budget: 1.0 Presort ID Time: 1.0 Date-Identifier: 7/13/93 MSM
Split/Midge and worm ID Time: _____ Date-Identifier: _____
QA/QC Time: _____

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TRICLADIDA	PLANARIIDAE	4					
	TUBIFICIDA	TUBIFICIDAE	821					
	BASOMMATOPHORA	PHYSIDAE	14					
	"	PLANORBIDAE	92					
	VENEROIDA	SPHAERIIDAE	2					
	DIPTERA	CHIRONOMINAE	2					

Notes: 7/13 1:00 - 2:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA BC-02 RIGHT
Sample ID: BC-02R
Coll Date: 7/93 Prelim. Sorter: BAKER Split Sorter: _____
Subsampled Taxa: —
ID Time Budget: 1.0 Presort ID Time: 1.0 Date-Identifier: 7/13/93 MSM
Split/Midge and worm ID Time: _____ Date-Identifier: _____
QA/QC Time: _____

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TRICLADIDA	PLANARIIDAE	39					FLATWORMS
	TUBIFICIDA	TUBIFICIDAE	836					
	BASOMMATOPHORA	PHYSIDAE	10					
	"	PLANORBIDAE	16					
	VENEROIDA	SPHAERIIDAE	3					
	DIPTERA	CHIRONOMIDAE	6					

Notes: 7/13 2:00-3:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA BC-02MIDDLE
Sample ID: BC-02M
Coll Date: 7/23 Prelim. Sorter: BAKER Split Sorter: _____
Subsampled Taxa: —
ID Time Budget: 1.0 Presort ID Time: 1.0 Date-Identifier: 7/13/93 MJM
Split/Midge and worm ID Time: _____ Date-Identifier: _____
QA/QC Time: _____

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TRICLADIDA	PLANARIIDAE	4					
	TUBIFICIDA	TUBIFICIDAE	346					
	BASOMMATOPHORA	PHYSIDAE	3					
	"	PLANORBIDAE	6					
	DIPTERA	CHIRONOMINAE	10					
	"	PSYCHODIDAE	1					MOTH FLIES

Notes: 7/13 12:00-1:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA. BC-03 LEFT
Sample ID: BC-03L
Coll Date: 7/93
Prelim. Sorter: BAKER
Split Sorter:
Subsampled Taxa:
ID Time Budget: 1.0
Presort ID Time: 1.0
Date-Identifier: 7/13/93 MJM
Split/Midge and worm ID Time:
Date-Identifier:
QA/QC Time:

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TUBIFICIDA	TUBIFICIDAE	708					
	COLEOPTERA	SCIRTIDAE	1					MARSH BEETLES *
	DIPTERA	CHIRONOMINAE	1.				DIFF. COMM.	FROM BC-01 + BC-0.
	"	TANYPODINAE	29				CHIRONOMIDAE	SUB-FAMILY

Notes: 7/13 4:00-5:00 * LENTIC LITTORAL ZONE, SEDIMENTS + LEAF LITTER

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA. BC-03 RIGHT
Sample ID: BC03R
Coll Date: 7/93
Prelim. Sorter: BAKER
Split Sorter: _____
Subsampled Taxa: _____
ID Time Budget: 1.0
Presort ID Time: 0.5
Date-Identifier: 7/14/93 MJM
Split/Midge and worm ID Time: _____
Date-Identifier: _____
QA/QC Time: _____

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TUBIFICIDA	TUBIFICIDAE	19					
	BASOMMATOPHORA	PHYSIDAE	1					
	DIPTERA	CHIRONOMINAE	2					
	"	TANYPODINAE	14					

Notes: 7/14 7:00-8:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY VA. BC-03 MIDDLE
Sample ID: BC-03M
Coll Date: 7/93 Prelim. Sorter: BAKER Split Sorter: _____
Subsampled Taxa: —
ID Time Budget: 1.0 Presort ID Time: 0.5 Date-Identifier: 7/14/93 MJM
Split/Midge and worm ID Time: _____ Date-Identifier: _____
QA/QC Time: _____

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TRICLADIDA	PLANARIIDAE	1					
	TUBIFICIDA	TUBIFICIDAE	435					
	BASOMMATOPHORA	PHYSIDAE	3					
	DIPTERA	CHIRONOMINAE	5					
	"	TANYPODINAE	51					

Notes: 7/14 8:00 – 9:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA BC-04 LEFT
Sample ID: BC-04L
Coll Date: 6/93
Prelim. Sorter: BAKER
Split Sorter: _____
Subsampled Taxa: —
ID Time Budget: 1.0
Presort ID Time: 1.0
Date-Identifier: 7/14/93 MJM
Split/Midge and worm ID Time: _____
Date-Identifier: _____
QA/QC Time: _____

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TUBIFICIDA	TUBIFICIDAE	21					
	PHYLLODOCIDA	NEREIDAE	12					CLAM WORMS
	DIPTERA	CHIRONOMINAE	27					

Notes: 7/14 9:00-10:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA BC-04RIGHT
Sample ID: BC-04R
Coll Date: 6/93 Prelim. Sorter: BAKER Split Sorter: _____
Subsampled Taxa: —
ID Time Budget: 1.0 Presort ID Time: 1.0 Date-Identifier: 7/14/93
Split/Midge and worm ID Time: _____ Date-Identifier: _____
QA/QC Time: _____

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TRICLADIDA	PLANARIIDAE	1					
	TUBIFICIDA	TUBIFICIDAE	83					
	SPIONIDA	SPIONIDAE	1					MUD WORMS
	PHYLLODOCIDA	NEREIDAE	42					
	COLEOPTERA	HYDROPHILIDAE	1					WATER SCAVENGER BEETLES
	DIPTERA	CHIRONOMINAE	5					

Notes: 7/14 10:00–11:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA BC-04 MIDDLE
Sample ID: BC-04M
Coll Date: 6/93
Prelim. Sorter: BAKER
Split Sorter: —
Subsampled Taxa: —
ID Time Budget: 1.0
Presort ID Time: 1.0
Date-Identifier: 7/14/93 MJM
Split/Midge and worm ID Time:
Date-Identifier:
QA/QC Time:

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TUBIFICIDA	TUBIFICIDAE	30					
	PHYLLODOCIDA	NEREIDAE	16					
	DIPTERA	CHIRONOMINAE	23					

Notes: 7/14 11:00-12:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA BC-05 LEFT
Sample ID: BC-05L
Coll Date: 6/93 Prelim. Sorter: BAKER Split Sorter: _____
Subsampled Taxa: —
ID Time Budget: 1.0 Presort ID Time: 1.0 Date-Identifier: 7/14/93
Split/Midge and worm ID Time: _____ Date-Identifier: _____
QA/QC Time: _____

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TUBIFICIDA	TUBIFICIDAE	140					
	DIPTERA	CHIRONOMINAE	19					

Notes: 7/14 1:00 - 2:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-05
Location: WILLOUGHBY BAY, VA BC-? RIGHT
Sample ID: BC-05R
Coll Date: 6/93
Prelim. Sorter: BAKER
Split Sorter: —
Subsampled Taxa: —
ID Time Budget: 1.0
Presort ID Time: 0.5
Date-Identifier: 7/12/93 MJM
Split/Midge and worm ID Time:
Date-Identifier:
QA/QC Time:

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TUBIFICIDAE	TUBIFICIDAE	246					TUBE WORMS
	DIPTERA	CHIRONOMINAE	32					MIDGES

Notes: 7/12 10:30 - 11:00

Page ____ of ____

INVERTEBRATE SECTION
LABORATORY IDENTIFICATION BENCH SHEET

Client: BAKER ENVIRONMENTAL
Job Number/Task: 04677-01
Location: WILLOUGHBY BAY, VA BC-05 MIDDLE
Sample ID: BC-05M
Coll Date: 6/93
Prelim. Sorter: BAKER
Split Sorter:
Subsampled Taxa: —
ID Time Budget: 1.0
Presort ID Time: 1.0
Date-Identifier: 7/14/93 MJM
Split/Midge and worm ID Time:
Date-Identifier:
QA/QC Time:

QC Check	Taxonomic Order	Taxon	Total Number	=	Presort Number	+	Split/QA/QC Number	Comments
	TUBIFICIDA	TUBIFICIDAE	259					
	DIPTERA	CHIRONOMINAE	36					
	"	TANYPODINAE	2					

Notes: 7/14 12:00-1:00

Page ____ of ____

GRAIN SIZE
ANALYTICAL DATA

LAFAYETTE AREA LAB
500 AMBASSADOR CAFFERY PKWY.
SCOTT, LOUISIANA
ZIP 70583-8544
PHONE: (318) 237-4775

*** CASE NARRATIVE ***

Certificate of Analysis No. 9307032

BAKER ENVIRONMENTAL, INC.

PROJECT: LANTDIY / CAMP ALLEN
NORFOLK, VA

PROJECT NO: 19084-55-SRN

The soil samples from the above project were received at the SPL Laboratory on 07/02/93 in good condition. The soil samples with sample ids BC01SED, BC02SED, BC03SED, BC04SED and BC05SED were unable to be analyzed for % Silt, % Clay, and % Colloids due to matrix interference.

SPL, Incorporated

Karen Lestelle
Karen Lestelle
Customer Service Supervisor

NAVY CLEAN

Date Received: 7/16/93
Project Manager: TEA
CTO Number: 19084
bcc: PRGM F (orig.); TEA Proj. File
LBS -
Subfile No.: SF 6

LAFAYETTE AREA LAB
500 AMBASSADOR CAFFERY PKWY.
SCOTT, LOUISIANA
ZIP 70583-8544
PHONE: (318) 237-4775

Certificate of Analysis No. 9307032-01

BAKER ENVIRONMENTAL, INC.
AOP BLDG.3, 420 ROUSER ROAD
CORAOPLOIS, PA 15108
ATTN: JOHN LOVELY

07/07/93

PROJECT: LANTDIY/CAMP ALLEN
SITE: NORFOLK, VA
SAMPLED BY: BAKER ENVIRONMENTAL
SAMPLE ID: BC01SED

PROJECT NO: 19084-55-SRN
MATRIX: SOLID
DATE SAMPLED: 06/22/93
DATE RECEIVED: 07/02/93

GRAIN SIZE ANALYSIS

	% BY WEIGHT	UNITS
% Pass. No. 10	100	WEIGHT %
% Pass. No. 40	72	WEIGHT %
% Pass. No. 200	37	WEIGHT %

ANALYZED BY: TC
DATE/TIME: 07/05/93
METHOD: ASTM D422
NOTES: ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: This analysis was performed in accordance with EPA guidelines for analysis and quality control.

C. A. Guardia, Laboratory Manager

LAFAYETTE AREA LAB
500 AMBASSADOR CAFFERY PKWY.
SCOTT, LOUISIANA
ZIP 70583-8544
PHONE: (318) 237-4775

Certificate of Analysis No. 9307032-02

BAKER ENVIRONMENTAL, INC.
AOP BLDG.3, 420 ROUSER ROAD
CORAOPLOIS, PA 15108
ATTN: JOHN LOVELY

07/07/93

PROJECT: LANTDIY/CAMP ALLEN
SITE: NORFOLK, VA
SAMPLED BY: BAKER ENVIRONMENTAL
SAMPLE ID: BC02SED

PROJECT NO: 19084-55-SRN
MATRIX: SOLID
DATE SAMPLED: 06/22/93
DATE RECEIVED: 07/02/93

GRAIN SIZE ANALYSIS

	% BY WEIGHT	UNITS
% Pass. No. 10	100	WEIGHT %
% Pass. No. 40	28	WEIGHT %
% Pass. No. 200	9	WEIGHT %

ANALYZED BY: TC
DATE/TIME: 07/05/93
METHOD: ASTM D422
NOTES: ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: This analysis was performed in accordance with EPA guidelines for analysis and quality control.

C. A. Guardia, Laboratory Manager

LAFAYETTE AREA LAB
500 AMBASSADOR CAFFERY PKWY.
SCOTT, LOUISIANA
ZIP 70583-8544
PHONE: (318) 237-4775

Certificate of Analysis No. 9307032-03

BAKER ENVIRONMENTAL, INC.
AOP BLDG.3, 420 ROUSER ROAD
CORAOPLOIS, PA 15108
ATTN: JOHN LOVELY

07/07/93

PROJECT: LANTDIV/CAMP ALLEN
SITE: NORFOLK, VA
SAMPLED BY: BAKER ENVIRONMENTAL
SAMPLE ID: BC03SED

PROJECT NO: 19084-55-SRN
MATRIX: SOLID
DATE SAMPLED: 06/22/93
DATE RECEIVED: 07/02/93

GRAIN SIZE ANALYSIS

	% BY WEIGHT	UNITS
% Pass. No. 10	100	WEIGHT %
% Pass. No. 40	100	WEIGHT %
% Pass. No. 200	53	WEIGHT %

ANALYZED BY: TC
DATE/TIME: 07/05/93
METHOD: ASTM D422
NOTES: ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: This analysis was performed in accordance with EPA guidelines for analysis and quality control.

C. A. Guardia, Laboratory Manager

LAFAYETTE AREA LAB
500 AMBASSADOR CAFFERY PKWY.
SCOTT, LOUISIANA
ZIP 70583-8544
PHONE: (318) 237-4775

Certificate of Analysis No. 9307032-04

BAKER ENVIRONMENTAL, INC.
AOP BLDG.3, 420 ROUSER ROAD
CORAOPLOIS, PA 15108
ATTN: JOHN LOVELY

07/07/93

PROJECT: LANTDIY/CAMP ALLEN
SITE: NORFOLK, VA
SAMPLED BY: BAKER ENVIRONMENTAL
SAMPLE ID: BC04SED

PROJECT NO: 19084-55-SRN
MATRIX: SOLID
DATE SAMPLED: 06/22/93
DATE RECEIVED: 07/02/93

GRAIN SIZE ANALYSIS

	% BY WEIGHT	UNITS
% Pass. No. 10	100	WEIGHT %
% Pass. No. 40	100	WEIGHT %
% Pass. No. 200	59	WEIGHT %

ANALYZED BY: TC
DATE/TIME: 07/05/93
METHOD: ASTM D422
NOTES: ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: This analysis was performed in accordance with EPA guidelines for analysis and quality control.

C. A. Guardia, Laboratory Manager

LAFAYETTE AREA LAB
500 AMBASSADOR CAFFERY PKWY.
SCOTT, LOUISIANA
ZIP 70583-8544
PHONE: (318) 237-4775

Certificate of Analysis No. 9307032-05

BAKER ENVIRONMENTAL, INC.
AOP BLDG.3, 420 ROUSER ROAD
CORAOPLOIS, PA 15108
ATTN: JOHN LOVELY

07/07/93

PROJECT: LANTDIY/CAMP ALLEN
SITE: NORFOLK, VA
SAMPLED BY: BAKER ENVIRONMENTAL
SAMPLE ID: BC05SED

PROJECT NO: 19084-55-SRN
MATRIX: SOLID
DATE SAMPLED: 06/22/93
DATE RECEIVED: 07/02/93

GRAIN SIZE ANALYSIS

	% BY WEIGHT	UNITS
% Pass. No. 10	100	WEIGHT %
% Pass. No. 40	100	WEIGHT %
% Pass. No. 200	76	WEIGHT %

ANALYZED BY: TC
DATE/TIME: 07/05/93
METHOD: ASTM D422
NOTES: ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: This analysis was performed in accordance with EPA guidelines for analysis and quality control.

C. A. Guardia, Laboratory Manager

9307032

SPL®
Environmental Laboratory
8880 Interchange Drive
Houston, Texas 77054
713/660-0901

Analysis Request and Chain of Custody Record

Project No.	Client/Project Name	Project Location
19084-55-SRN	LANIDIY / Camp Allen	Norfolk, Virginia

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS
BC01SED	6/22 93	X			Sediment	none	Grain Size - ASTM D422	SIEV
BC02SED	"	X			"	"	" D422	
BC03SED	"	X			"	"	" D422	7/6/93
BC04SED	"	X			"	"	" D422	
BC05SED	"	X			"	"	" D422	

Samplers: (Signature)	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
A. Bernhardt, L. Savage, B. Cummings Letitia Savage	Letitia Savage	7/1/93 1:55 pm			
Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
Baker Environmental	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
SAMPLER REMARKS: 72hr Turnaround			Received for laboratory: (Signature) B. Sayla	Date: 7/2/93 Time: 1120	Laboratory No.
Seal #			Data Results to:		

APPENDIX O

APPENDIX O
TERRESTRIAL DATA SHEETS

ECOLOGICAL EVALUATION
FIELD DATA SHEET - TERRESTRIAL

Project Name: Camp Allen Ecological Evaluation

Location: Norfolk, Virginia

Date: 6/23/93

Sampling Location: "Pond" by Area B

Data Collected By: BJC, CSS

Habitat Type: submerged edge of pond

Vegetation:

Trees:

Dominant Species:

1. N/A
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. N/A
2.
3.
4.
5.
6.
7.
8.
9.
10.

Saplings/Shrubs:

Dominant Species:

1. N/A
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. N/A
2.
3.
4.
5.
6.
7.
8.
9.
10.

Woody Vines:

Dominant Species:

1. N/A
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. N/A
2.
3.
4.
5.
6.
7.
8.
9.
10.

Herbs:

Dominant Species:

1. Pondweed - Potamogeton sp.
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Secondary Species:

1. Spike Rush - Eleocharis sp.
2. Duckweed - Lemna minor
3. Water Pennywort - Hydrocotyle americana
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Birds: _____

Time: _____

Weather Conditions:

Species	Sex	Feeding	Nesting	Approx. No.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

Birds - recorded on wooded edge data sheet

10. _____

Mammals: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.				
3.				
4.				
5.				
6.	mammals- recorded on wooded edge			
7.	data sheet			
8.				
9.				
10.				

Reptiles and Amphibians: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.				
3.	reptiles and amphibians - recorded on			
4.	wooded edge data sheet			
5.				
6.				

7. _____

8. _____

9. _____

10. _____

Miscellaneous Notes:

ECOLOGICAL EVALUATION
FIELD DATA SHEET - TERRESTRIAL

Project Name: Camp Allen Ecological Evaluation

Location: Norfolk, Virginia

Date: 6/23/93

Sampling Location: "Pond" by Area B

Data Collected By: BJC, LSS

Habitat Type: wooded edge of pond

Vegetation:

Trees:

Dominant Species:

1. well mixed- no
2. species really
3. dominant
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Black Locust - Pseudo Robinia acacia
2. Water Oak - Quercus nigra
3. Sassafras - Sassafras albidum
4. Common Persimmon - Diospyros virginiana
5. Sweet Gum - Liquidambar styraciflua
6. Black Cherry - Prunus serrotina
7. ~~[illegible]~~ Tuliptree - Liriodendron tulipifera
8. Loblolly Pine - Pinus taeda
9. Shagbark Hickory - Carya ovata
10. Red Cedar - Juniperus ~~virgin~~ virginiana

Saplings/Shrubs:

Dominant Species:

1. none
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Flowering Dogwood - Cornus florida
2.
3.
4.
5.
6.
7.
8.
9.
10.

Woody Vines:

Dominant Species:

1. none
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Japanese Honeysuckle - Lonicera japonica
2. Common Greenbrier - Smilax rotundifolia
3. Virginia Creeper - Parthenocissus quinquefolia
4. Sand Grape - Vitis rupestris
5.
6.
7.
8.
9.
10.

Herbs:

Dominant Species:

1. none
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. none apparent -
2. understory, ground
3. surface dominated
4. by woody vines
5.
6.
7.
8.
9.
10.

Birds:

Time: 6/21 - 9:00-10:00 Am, 6/23 - 1:00-3:00 Pm, 6/24 10:30-11:30, misc. observations while at Field trailer nearby

Weather Conditions: warm, sunny, 85-90°, light breeze

Species	Sex	Feeding	Nesting	Approx. No.
1. Mourning Dove - Zenaidra macroura				6
2. Robin - Turdus migratorius				10
3. Purple Grackle - Quiscalus quiscula				2
4. English Sparrow - Passer domesticus domesticus				1
5. Pidgeon - Columba livia				1
6. Killdeer - Charadrius vociferus				3
7. Starling - Sturnus vulgaris vulgaris				20
8. Cardinal - Richmondena cardinalis				2
9. Mocking bird - Minus polyglotas polyglotus				2

Carolina Wren - Thryothorus ludovicianus 1
Carolina Chickadee - Parus Carolinensis 1
King bird - Tyrannus 1
yellow billed Cuckoo - Coccyzus americanus americana 1
Flicker - Colaptes auratus 1

10. _____

Mammals: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1. Commn Muskrat				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Reptiles and Amphibians: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1. Frogs - observed jumping into water on several occasions,				
2. not observed closely enough to identify - suggest				
3. from size and/or habitat - green frog				
4.				
5.				
6.				

7. _____

8. _____

9. _____

10. _____

Miscellaneous Notes:

ECOLOGICAL EVALUATION
FIELD DATA SHEET - TERRESTRIAL

Project Name: Camp Allen Ecological Evaluation

Location: Norfolk, Virginia

Date: 6-23-93

Sampling Location: "Pond" by Area B

Data Collected By: BJC, LSS

Habitat Type: Shrubby pond edge

Vegetation:

Trees:

Dominant Species:

1. Sweet Gum - Liquidambar styraciflua
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Red Mulberry - Morus rubra
2.
3.
4.
5.
6.
7.
8.
9.
10.

Herbs:

Dominant Species:

1. none dominant
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Giant Reed -- Phragmites australis
2. Dogbane - Apocynum androsaemifolium
3. Wild Asparagus -
4. Sweet White Clover - Trifolium repens
5. Field Garlic - Allium vineale
6. scattered grasses -
7. Downy Brome Grass - Bromus tectorum
8. Bitter Panic Grass
9.
10.

Birds:

Time:

Weather Conditions:

Species	Sex	Feeding	Nesting	Approx. No.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

birds for the pond are included on the last pond data sheet

10. _____

Mammals: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.				
3.				
4.				
5.	mammals for the pond are			
6.	included on the last pond			
7.	data sheet			
8.				
9.				
10.				

Reptiles and Amphibians: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.				
3.	reptiles and amphibians for the			
4.	pond are included on the last			
5.	pond data sheet			
6.				

7. _____

8. _____

9. _____

10. _____

Miscellaneous Notes:

ECOLOGICAL EVALUATION
FIELD DATA SHEET - TERRESTRIAL

Project Name: Camp Allen Ecological Evaluation

Location: Norfolk, Virginia

Date: 6/23/93

Sampling Location: "Pond" by Area B

Data Collected By: BJC, LSS

Habitat Type: Open Edge of pond,

Vegetation:

Trees:

Dominant Species:

1. none
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. none
2.
3.
4.
5.
6.
7.
8.
9.
10.

Saplings/Shrubs:

Dominant Species:

1. none dominant
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Black Locust - Robinia pseudo-acacia
2. Black Willow - Salix nigra
3. Blackberry - Rubus allegheniensis
4.
5.
6.
7.
8.
9.
10.

Woody Vines:

Dominant Species:

1. none dominant
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Wild Grape - Vitis sp.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Herbs:

Dominant Species:

1. grasses
2. Orchard Grass - Dactylis glomerata
3. Paspalum sp
4. Downy Brome Grass -
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Curled Dock - Rumex crispus
2. Dock - Rumex sp.
3. Phragmites australis
4. False Nettle - Boehmeria cylindrica
5. Field Bindweed - Convolvulus arvensis
6. Field Garlic - Allium vineale
7. Soft Rush - Juncus effusus
8. Apple mint -
9. Indian Strawberry - Duchesnea indica
10. Virginia Wild Rye - Elymus virginicus

Hop Sedge - Carex pseudo-cyperus

Burred - Sparganium sp.

Birds:

Time:

Weather Conditions:

Species	Sex	Feeding	Nesting	Approx. No.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

Birds for the open edge of the pond are included on the last pond data sheet

10. _____

Mammals: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.				
3.				
4.	mammals for the pond are included			
5.	on the last pond data sheet			
6.				
7.				
8.				
9.				
10.				

Reptiles and Amphibians: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.				
3.	reptiles and amphibians are included			
4.	on the last pond data sheet			
5.				
6.				

7. _____

8. _____

9. _____

10. _____

Miscellaneous Notes:

ECOLOGICAL EVALUATION
FIELD DATA SHEET - TERRESTRIAL

Project Name: Camp Allen Ecological Evaluation

Location: Norfolk, Virginia

Date: 6-23-93

Sampling Location: Drainage Ditch - Area B (Landbridge)

Data Collected By: BJC & LSS

Habitat Type: Stream Edge / Open Field

Vegetation:

Trees:

Dominant Species:

1. none dominant -
2. scattered
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species: (scattered)

1. Red Mulberry - Morus rubra
2. Black Cherry - Prunus serrotina
3. Black Willow - Salix nigra
4.
5.
6.
7.
8.
9.
10.

Saplings/Shrubs:

Dominant Species:

1. none
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. none
2.
3.
4.
5.
6.
7.
8.
9.
10.

Woody Vines:

Dominant Species:

1. Japanese Honeysuckle - ~~Lonicera jap~~ Lonicera japonica (shady Areas)
2. Poison Ivy - Rhus radicans
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Virginia Creeper - Parthenocissus quinquefolia
2.
3.
4.
5.
6.
7.
8.
9.
10.

Herbs:

Dominant Species:

1. Grasses - (Sunny Areas)
2. Meadow Fescue - Festuca elatior
3. Purple Finger Grass - Digitaria filiformis
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Queen Anne's Lace - Daucus carota
2. Field Thistle - Cirsium discolor
3. Field Garlic - Allium vineale
4. Asiatic Dayflower - Commelimma communis
5. Common Evening Primrose - Oenothera biennis

Velvet Grass - Holcus lanatus
Fescue Sedge - Carex Festucacea
Cultivated Barley - Hordeum sativa
Hyssop-leaved thoroughwort - Bupatorium hyssopifolium
Common white Clover - Trifolium repenus
White Sweet Clover - Melilotus Alba
Pokeberry - Phytolacca Americ
Mild water Pepper - Polygonum hydropiperoi
(note - submerged Aquat vegetation - common in stream)

Birds:

Time: 6/21 - 4:00-5:30 6/23 - 3:30-5:00 pm; 6/24 10:00AM-11:30, 6/25 11:30-12:30

Weather Conditions:

Species	Sex	Feeding	Nesting	Approx. No.
1. Red-winged Blackbird - Agelaius phoeniceus				6
2. Common Crow - Corvus brachyrhynchos				3
3. Killdeer - Charadrius vociferus				2
4. Morning Dove - Zenaidura macroura				5
5. Grackle - Quiscalus quiscula				3
6. Starling - Sternus vulgaris vulgaris				50
7. Barn Swallow - Hirundo rustica erythrogaster				6
8. Mockingbird - Minus polyglotos polyglotus				2
9. Robin - Turdus migratorius				6
Cardinal - Richmondena cardinalis				1

10. _____

Mammals: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.	no mammals or mammal sign observed at this			
2.	location			
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Reptiles and Amphibians: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.	Bullfrog (sign-heard voice)			
2.	Snapping Turtle - 6 observed - Chelandra serpentina			
3.				
4.				
5.				
6.				

7. _____

8. _____

9. _____

10. _____

Miscellaneous Notes:

ECOLOGICAL EVALUATION
FIELD DATA SHEET - TERRESTRIAL

Project Name: Camp Allen Ecological Evaluation

Location: Norfolk, Virginia

Date: 6/24/93, 6/25/93

Sampling Location: Area between Brig and Glenwood Park

Data Collected By: BJL, LSS

Habitat Type: Woods

Vegetation:

Trees:

Dominant Species:

1. none - species
2. well mixed
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Loblolly Pine
2. Sweetgum
3. Sassafras
4. Willow Oak
5. Alianthus
6. Black Locust
7. Black Cherry
8. Magnolia
9. Silk Tree
10.

Saplings/Shrubs:

Dominant Species:

1. none dominant-
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Blackberry
2. multiflora Rose
3.
4.
5.
6.
7.
8.
9.
10.

Woody Vines:

Dominant Species:

1. well mixed among
2. several species
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Poison Ivy
2. Virginia Creeper
3. Trumpet Creeper
4. Japanese Honeysuckle
5. Common Greenbriar
6. Wild Grape (some of these were exceptionally large)
7.
8.
9.
10.

Herbs:

Dominant Species:

1. none
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. none - understory
2. dominated by vines
3. with seedling trees
4.
5.
6.
7.
8.
9.
10.

Birds:

Time:

Weather Conditions:

Species	Sex	Feeding	Nesting	Approx. No.
1.				
2.		birds are included on		
3.		wood's edge sheet		
4.				
5.				
6.				
7.				
8.				
9.				

10. _____

Mammals: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.				
3.				
4.				
5.	mammals are covered on			
6.	woods edge sheet			
7.				
8.				
9.				
10.				

Reptiles and Amphibians: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.				
3.	reptiles and amphibians covered			
4.	on woods edge sheet			
5.				
6.				

7. _____

8. _____

9. _____

10. _____

Miscellaneous Notes:

ECOLOGICAL EVALUATION
FIELD DATA SHEET - TERRESTRIAL

Project Name: Camp Allen Ecological Evaluation

Location: Norfolk, Virginia

Date: 6/24/93, 6/25/93

Sampling Location: Area between Brig and Glenwood Park

Data Collected By: BTC, LSS

Habitat Type: Woods Edge (from edge of marsh to woods)

Vegetation:

Trees:

Dominant Species:

1. none
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. none - trees present
2. were all seedlings or
3. saplings
4.
5.
6.
7.
8.
9.
10.

Saplings/Shrubs:

Dominant Species:

1. none - saplings well mixed
2. mixed
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Black Locust - Robinia pseudo acacia
2. Silk tree - Albizzia julibrissin
3. Sweetgum - Liquidambar styraciflua
4. Blackberry - Rubus allegheniensis
5. Shining Sumac - Rhus copallina
6. Willow Oak - Quercus phellos
7. Black Cherry - Prunus serotina
8. Water Oak - Quercus nigra
9. Groundsel tree - Baccharis halimifolia
10. Live Oak - Quercus virginiana (over)

Woody Vines:

Dominant Species:

1. none -
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Wild Grape - Vitis sp.
2. Bull briar - Smilax bona-nox
3. Trumpet Creeper - Campsis radicans
4. Poison Ivy - Rhus radicans
5. Common Greenbrier - Smilax rotundifolia
6. Japanese Honeysuckle - Lonicera japonica
7.
8.
9.
10.

Herbs:

Dominant Species:

1. none dominant
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Sow Thistle - Sonchus oleraceus
2. ~~[illegible]~~ Hawkweed - Hieracium sp.
3. Goldenrod - Solidago sp.
4. Broomsedge - Andropogon virginicus
5. Yucca* - Yucca Filamentosa
6. Daylily* - Hemerocalis flava
7. Phragmites - P. australis
8. Daisy Fleabane - Erigeron annuus
9. Panic Grass - Panicum sp.
10. Perennial Sweetpea - Lathyrus latifolia

Slendar Bush Clover - Lespedeza virginica

* These are probably garden escapes.

Birds:

Time: 7:30 Am - 10:30 Am

Weather Conditions: warm, sunny, slight breeze

Species	Sex	Feeding	Nesting	Approx. No.
1. Blue Jay - Cyanocitta cristata				1
2. Carolina Chickadee - Parus carolinensis				1
3. Crow - Corvus brachyrhynchos				1
4. Red-winged Blackbird - Agelaius phoeniceus				3
5. Barn Swallow - Hirundo rustica erythrogaster				5
6. Laughing Gull - Larus atricilla				1
7. Robin - Turdus migratorius				5
8. Mourning Dove - Zenaidura macroura				12
9. Grackle - ~~R~~ Quiscalus quiscula				5

birds ~~of~~ observed from Glenwood Park and from Brig area across marsh

10. Crested Flycatcher - Myiarchus crinitus 2
(over)

Mammals:

Time:

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1. Grey Squirrel - observed feeding on black cherry, also				
2. nest observed				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Reptiles and Amphibians:

Time:

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.	none observed			
3.	no sign observed			
4.				
5.				
6.				

7. _____

8. _____

9. _____

10. _____

Miscellaneous Notes:

This woods edge area was classic open ground being colonized by seedling trees, shrubs, and saplings. Succession is clearly evident from the marsh edge to the woods. Garden escapes have entered the area, perhaps because people from the nearby housing plan have used the woods for disposal of garden wastes.

ECOLOGICAL EVALUATION
FIELD DATA SHEET - TERRESTRIAL

Project Name: Camp Allen Ecological Evaluation

Location: Norfolk, Virginia

Date: 6-23-93

Sampling Location: Drainage Ditch - Area A (Brig)

Data Collected By: BJC & LSS

Habitat Type: Open Field Edge ?

Vegetation:

Trees:

Dominant Species:

1. none - area is open
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. none - area is open
2.
3.
4.
5.
6.
7.
8.
9.
10.

Saplings/Shrubs:

Dominant Species:

1. none
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Elderberry - Sambucus canadensis
2. Shining Sumac - Rhus copallina
3. Groundsel-tree - Baccharis halimifolia
4.
5.
6.
7.
8.
9.
10.

Woody Vines: In some areas woody vines dominate all other plants

Dominant Species:

1. Trumpet Vine - Campsis radicans
2. Japanese Honeysuckle - Lonicera japonica
3. Blackberry - Rubus allegheniensis
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Herbs:

Dominant Species:

1. Phragmites australis - as
2. lenses of reed only -
3. between open field
4. areas
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Hedge Bindweed - Convolvulus sepium
2. grasses - to be id'ed
3. Curly Dock - Rumex crispus
4. Field Bindweed - Convolvulus arvenis
5. English Plantain - Plantago lanceolata
6. Field Garlic - Allium vineale
7. Common St. Johnswort - Hypericum perforatum
8. Vetch - Vicia sp.
9.
10.

Birds:

Time: 6/24/93 7:45 - 9:45 Am

Weather Conditions:

Species	~~Sex~~	Feeding	Nesting	Approx. No.
1. Killdeer Charadrius vocifrus		X		4
2. Mourning Dove Zenaidra macro urata		X		5
3. Robin - Turdus migratorius		X	X	8
4. Laughing Gull - Larus atricilla		—	—	2
5. Starling - Sturnus vulgaris		X	X[1]	50
6. Yellow-shafted Flicker - Colaptes auratus		—	—	1
7. mockingbird - Mimus polyglotus				5
8. Red-winged Blackbird Agelaius phoeniceus			X[1]	8
9. Common Grackle - Quiscalus quiscula				6

1 assumed nesting because of habitat and behavior (over)

10. _____

Mammals: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	~~Sex~~
1. Grey Squirrel	X	Sciurus carolinensis	Adult	
2. Opossum	X	Didelphis marsupialis	Adult	
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Reptiles and Amphibians: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.	none observed			
3.				
4.				
5.				
6.				

7. _____

8. _____

9. _____

10. _____

Miscellaneous Notes:

ECOLOGICAL EVALUATION
FIELD DATA SHEET - TERRESTRIAL

Project Name: Camp Allen Ecological Evaluation

Location: Norfolk, Virginia

Date: 6/23/93

Sampling Location: Drainage Ditch - Area A (Brig)

Data Collected By: BJC & LSS

Habitat Type: Shrubby Marsh Edge

Vegetation:

Trees:

Dominant Species:

1. none dominant - species
2. well mixed
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Willow Oak - Quercus phellos
2. Sweet Gum - Liquidamber styraciflua
3.
4. American Holly - Ilex opaca
5. Black Cherry - Prunus serrotina
6. Winged Sumac - Rhus copallina
7.
8.
9.
10.

Herbs:

Dominant Species:

1. none dominant
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. Field Bindweed - Convolvulus arvensis
2. Giant Reed - Phragmites australis
3.
4.
5.
6.
7.
8.
9.
10.

Birds: _____

Time: _____

Weather Conditions:

Species	Sex	Feeding	Nesting	Approx. No.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

10. _____

Mammals: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.				
3.				
4.				
5.		none		
6.				
7.				
8.				
9.				
10.				

Reptiles and Amphibians: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.				
3.		none		
4.				
5.				
6.				

7. _____

8. _____

9. _____

10. _____

Miscellaneous Notes:

ECOLOGICAL EVALUATION
FIELD DATA SHEET - TERRESTRIAL

Project Name: Camp Allen Ecological Evaluation

Location: Norfolk, Virginia

Date: 6-23-93

Sampling Location: Drainage Ditch - Area A (Brig)

Data Collected By: BJC + LSS

Habitat Type: Marsh

Vegetation:

Trees:

Dominant Species:

1. NA
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. NA
2.
3.
4.
5.
6.
7.
8.
9.
10.

Saplings/Shrubs:

Dominant Species:

1. NA
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. NA
2.
3.
4.
5.
6.
7.
8.
9.
10.

Woody Vines:

Dominant Species:

1. NA
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. NA
2.
3.
4.
5.
6.
7.
8.
9.
10.

Herbs:

Dominant Species:

1. Giant Reed - Phragmites Australis
2.
3.
4.
5.
6.
7.
8.
9.
10.

Secondary Species:

1. NA
2.
3.
4.
5.
6.
7.
8.
9.
10.

Birds:

Time:

Weather Conditions:

Species	Sex	Feeding	Nesting	Approx. No.
1.				
2.		~~covered on last data~~		
3.		~~sheet for this area~~		
4.		none observed at edge -		
5.		those observed in general area		
6.		covered on other data		
7.		sheets		
8.				
9.				

10. _____

Mammals: ~~[illegible]~~

Time: 0900

Weather Conditions: Clear - Sunny - warm

Species	Observed	Sign	Adult/Juvenile	~~Sex~~
1. Procyon lotor		Racoon ~~Observed~~ - sign (footprints/tracks)	- Adult	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Reptiles and Amphibians: _____

Time: _____

Weather Conditions:

Species	Observed	Sign	Adult/Juvenile	Sex
1.				
2.	none			
3.				
4.				
5.				
6.				

7. _____

8. _____

9. _____

10. _____

Miscellaneous Notes:

observed Fiddler crabs (numerous)

ACCIDENTALS: Birds for which there are no more than five records in the last 50 years, or, for which there is no more than one record in the last 10 years.

TROPICBIRD, White-tailed
BOOBY, Brown
FRIGATEBIRD, Magnificent
IBIS, White-faced
PINTAIL, White-cheeked
HAWK, Swainson's
GYRFALCON
CRAKE, Paint-billed
LIMPKIN
PLOVER, Mountain
SANDPIPER, Sharp-tailed
WOODCOCK, Eurasian
JAEGER, Long-tailed
TERN, Elegant
TERN, White-winged
MURRE, Thick-billed
PUFFIN, Atlantic
ANI, Groove-billed
OWL, Burrowing
HUMMINGBIRD, Rufous
PHOEBE, Say's
FLYCATCHER, Ash-throated
KINGBIRD, Gray
CHICKADEE, Boreal
WHEATEAR, Northern
THRASHER, Sage
WARBLER, Bachman's
Black-throated Gray
Kirtland's
BUNTING, Lazuli
TOWHEE, Green-tailed
SPARROW, Black-throated
BUNTING, Lark
LONGSPUR, Chestnut-collared

HYPOTHETICALS: Birds whose occurrence in the state is not documented by specimen, photograph, or sound recording.

ALBATROSS, Yellow-nosed
EGRET, Reddish
GOOSE, Ross'
Barnacle
GOLDENEYE, Barrow's
KITE, Mississippi
HAWK, Ferruginous
GODWIT, Bar-tailed
STINT, Temminck's
GULL, Mew
California
GULL, Thayer's
Sabine's
Ivory
DOVE, White-winged
OWL, Boreal
KINGBIRD, Cassin's
MAGPIE, Black-billed
PIPIT, Sprague's
WAXING, Bohemian
VIREO, Bell's

EXTINCT:

PIGEON, Passenger
PARAKEET, Carolina

NOTES
the water fowl/marsh birds are difficult to determine - occurence depends on surrounding cover and pond acreage. I have probably been too conservative here and you may find more variety.

I would almost have to see the marsh to determine whether Seasides would be there or not. They don't seem to like marshes bordered on both sides by trees, anyway that's been my experience in this area.

Copies of this list may be had in lots of 10 for $1.00. Orders accompanied by payment should be sent to the Treasurer, Virginia Society of Ornithology, 520 Rainbow Forest Dr., Lynchburg, VA 24502.

BIRDS OF VIRGINIA

OBSERVER: Possible Migrants - Camp Allen Landfill

LOCALITIES **DATES**

LOON, Red-throated			WIGEON, American	✓	
Common			CANVASBACK		
GREBE, Pied-billed	✓		REDHEAD		
Horned			DUCK, Ring-necked	✓	
Red-necked			SCAUP, Greater	✓	
Eared			Lesser	✓	
Western			EIDER, Common		
FULMAR, Northern			King		
PETREL, Black-capped			DUCK, Harlequin		
SHEARWATER, Cory's			OLDSQUAW		
Greater			SCOTER, Black		
Sooty			Surf		
Manx			White-winged		
Audubon's			GOLDENEYE, Common	✓	
STORM-PETREL, Wilson's			BUFFLEHEAD	✓	
Leach's			MERGANSER, Hooded	✓	
GANNET, Northern			Common		
PELICAN, American White			Red-breasted		
Brown			DUCK, Ruddy	✓	
CORMORANT, Great			VULTURE, Black	✓	
Double-crested			Turkey	✓	
ANHINGA			OSPREY	✓	
BITTERN, American			KITE, American Swallow-tailed		
Least	✓		EAGLE, Bald		
HERON, Great Blue	✓		HARRIER, Northern	✓	
EGRET, Great	✓		HAWK, Sharp-shinned	✓	
Snowy	✓		Cooper's	✓	
HERON, Little Blue	✓		GOSHAWK, Northern		
Tricolored	✓		HAWK, Red-shouldered	✓	
EGRET, Cattle			Broad-winged		
HERON, Green-backed	✓		Red-tailed	✓	
NIGHT-HERON, Black-crowned	✓		Rough-legged		
Yellow-crowned	✓		EAGLE, Golden		
IBIS, White			KESTREL, American	✓	
Glossy			MERLIN	✓	
STORK, Wood			FALCON, Peregrine	✓	
FLAMINGO, Greater			PHEASANT, Ring-necked		
WHISTLING-DUCK, Fulvous			GROUSE, Ruffed		
SWAN, Tundra			TURKEY, Wild		
Mute			BOBWHITE, Northern	✓	
GOOSE, Greater White-fronted			RAIL, Yellow		
Snow			Black		
BRANT			Clapper	✓	
GOOSE, Canada	✓		King		
DUCK, Wood			Virginia	✓	
TEAL, Green-winged			SORA		
DUCK, American Black	✓		GALLINULE, Purple		
MALLARD	✓		MOORHEN, Common	✓	
PINTAIL, Northern			COOT, American	✓	
TEAL, Blue-winged	✓		CRANE, Sandhill		
SHOVELER, Northern			PLOVER, Black-bellied		
GADWALL	✓		GOLDEN-PLOVER, Lesser		
WIGEON, Eurasian			PLOVER, Wilson's		

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PLOVER, Semipalmated			TERN, Bridled		
Piping			Sooty		
KILLDEER	✓		Black		
OYSTERCATCHER, American			SKIMMER, Black	✓	
STILT, Black-necked			DOVEKIE		
AVOCET, American			RAZORBILL		
YELLOWLEGS, Greater	✓		DOVE, Rock	✓	
Lesser	✓		Mourning	✓	
SANDPIPER, Solitary			GROUND-DOVE, Common		
WILLET	✓		CUCKOO, Black-billed	✓	
SANDPIPER, Spotted	✓		Yellow-billed	✓	
Upland			BARN-OWL, Common		
WHIMBREL			SCREECH-OWL, Eastern	✓	
CURLEW, Long-billed			OWL, Great Horned	✓	
GODWIT, Hudsonian			Snowy		
Marbled			Barred	✓	
TURNSTONE, Ruddy			Long-eared		
KNOT, Red			Short-eared		
SANDERLING			Northern Saw-whet		
SANDPIPER, Semipalmated			NIGHTHAWK, Common	✓	
Western			CHUCK-WILL'S-WIDOW	✓	
Least	✓		WHIP-POOR-WILL		
White-rumped			SWIFT, Chimney	✓	
Baird's			HUMMINGBIRD, Ruby-throated	✓	
Pectoral			KINGFISHER, Belted	✓	
Purple			WOODPECKER, Red-headed	✓	
DUNLIN			Red-bellied	✓	
SANDPIPER, Curlew			SAPSUCKER, Yellow-bellied	✓	
Stilt			WOODPECKER, Downy	✓	
Buff-breasted			Hairy	✓	
RUFF			Red-cockaded		
DOWITCHER, Short-billed			FLICKER, Northern	✓	
Long-billed			WOODPECKER, Pileated	✓	
SNIPE, Common	✓		FLYCATCHER, Olive-sided		
WOODCOCK, American	✓		WOOD-PEWEE, Eastern	✓	
PHALAROPE, Wilson's			FLYCATCHER, Yellow-bellied		
Red-necked			Acadian	✓	
Red			Alder		
JAEGER, Pomarine			Willow		
Parasitic			Least		
SKUA, Great			PHOEBE, Eastern	✓	
GULL, Laughing	✓		FLYCATCHER, Great Crested	✓	
Franklin's			KINGBIRD, Western		
Little			Eastern	✓	
Common Black-headed			FLYCATCHER, Scissor-tailed		
Bonaparte's			LARK, Horned		
Ring-billed	✓		MARTIN, Purple	✓	
Herring	✓		SWALLOW, Tree	✓	
Iceland			Northern Rough-winged	✓	
Lesser Black-backed			Bank		
Glaucous			Cliff		
Great Black-backed	✓		Barn	✓	
KITTIWAKE, Black-legged			JAY, Blue	✓	
TERN, Gull-billed			CROW, American	✓	
Caspian			Fish	✓	
Royal	✓		RAVEN, Common		
Sandwich			CHICKADEE, Black-capped		
Roseate			Carolina	✓	
Common	✓		TITMOUSE, Tufted	✓	
Arctic			NUTHATCH, Red-breasted	✓	
Forster's	✓		White-breasted	✓	
Least	✓		Brown-headed	✓	

CREEPER, Brown	✓		WARBLER, Connecticut		
WREN, Carolina	✓		Mourning		
Bewick's			YELLOWTHROAT, Common	✓	
House	✓		WARBLER, Hooded	✓	
Winter	✓		Wilson's	✓	
Sedge	✓		Canada	✓	
Marsh	✓		CHAT, Yellow-breasted	✓	
KINGLET, Golden-crowned	✓		TANAGER, Summer	✓	
Ruby-crowned	✓		Scarlet	✓	
GNATCATCHER, Blue-gray	✓		Western		
BLUEBIRD, Eastern	✓		CARDINAL, Northern	✓	
VEERY	✓		GROSBEAK, Rose-breasted	✓	
THRUSH, Gray-cheeked	✓		Black-headed		
Swainson's	✓		Blue	✓	
Hermit	✓		BUNTING, Indigo	✓	
Wood	✓		Painted		
ROBIN, American	✓		DICKCISSEL		
THRUSH, Varied			TOWHEE, Rufous-sided	✓	
CATBIRD, Gray	✓		SPARROW, Bachman's		
MOCKINGBIRD, Northern	✓		American Tree		
THRASHER, Brown	✓		Chipping	✓	
PIPIT, Water			Clay-colored		
WAXWING, Cedar	✓		Field	✓	
SHRIKE, Northern			Vesper		
Loggerhead			Lark		
STARLING, European	✓		Savannah	✓	
VIREO, White-eyed	✓		Grasshopper		
Solitary	✓		Henslow's		
Yellow-throated	✓		Le Conte's		
Warbling			Sharp-tailed		
Philadelphia			Seaside		
Red-eyed	✓		Fox	✓	
WARBLER, Blue-winged	✓		Song	✓	
Golden-winged			Lincoln's		
Tennessee			Swamp	✓	
Orange-crowned	✓		White-throated	✓	
Nashville			White-crowned		
PARULA, Northern	✓		Harris'		
WARBLER, Yellow	✓		JUNCO, Dark-eyed	✓	
Chestnut-sided	✓		LONGSPUR, Lapland		
Magnolia	✓		BUNTING, Snow		
Cape May	✓		BOBOLINK	✓	
Black-throated Blue	✓		BLACKBIRD, Red-winged	✓	
Yellow-rumped	✓		MEADOWLARK, Eastern	✓	
Black-throated Green	✓		BLACKBIRD, Yellow-headed		
Blackburnian	✓		Rusty	✓	
Yellow-throated	✓		Brewer's		
Pine	✓		GRACKLE, Boat-tailed		
Prairie	✓		Common	✓	
Palm	✓		COWBIRD, Brown-headed	✓	
Bay-breasted	✓		ORIOLE, Orchard	✓	
Blackpoll	✓		Northern	✓	
Cerulean			GROSBEAK, Pine		
Black-and-white	✓		FINCH, Purple	✓	
REDSTART, American	✓		House	✓	
WARBLER, Prothonotary			CROSSBILL, Red		
Worm-eating			White-winged		
Swainson's			REDPOLL, Common		
OVENBIRD	✓		SISKIN, Pine	✓	
WATERTHRUSH, Northern	✓		GOLDFINCH, American	✓	
Louisiana	✓		GROSBEAK, Evening	✓	
WARBLER, Kentucky	✓		SPARROW, House	✓	

APPENDIX P

APPENDIX P
CHAIN-OF-CUSTODY FORMS

ROUND 1, FIELD VERIFICATION GROUNDWATER SAMPLE CHAIN-OF-CUSTODY RECORDS

CHAIN-OF-CUSTODY RECORD

ENVIRONMENTAL TESTING SERVICES, INC.
P.O. Box 12715 • 888 Norfolk Square • Norfolk, VA 23502
(804) 461-3874 • Fax (804) 461-0379

CLIENT INFORMATION	
Company	BAKER Environmental
Contact	Mr. Thomas Artman or Local: Jeri Trageser
Address	420 Rouser Rd Bldg 3 Coraopolis, PA 15108 Camp Allen
Phone & FAX	(412)(269)6000 804-434-7626 then 412-298-3553
Purchase Order No.	Job No. 19084-SRN
Quote Number	

Sample ID	Sample Location	Date/Time Collected	Collectors Initials	Matrix	Preservative	Analysis	Field Readings/ Comments	Lab No.
GWA-101	AMW-1C	5/4/92	KH/JZ	gw	none	VOLATILES - method 624		
GWA-102	AMW-9C	5/4/92	KH/JZ	gw	non	VOLATILES - method 624	[illegible]	

Special Instructions: _____

Possible Sample Hazards: _____ **Sample Disposal:** Return to Client _____ *or* Disposal by Lab ✓

Express Service: (yes) / no **Date Due:** per agreement - 24 hr verbal results

Sample Pick-up Charge: yes / no **Mileage Charge** yes / no (#_____)

Relinquished By:	Signature Jeri R. Trageser	Company Baker Environmental, Inc	Date/Time 5/4/92 1630
Received By:	Signature [illegible]	Company ETS	Date/Time 5-4-92 1630
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time

CHAIN-OF-CUSTODY RECORD

ENVIRONMENTAL TESTING SERVICES, INC.
P.O. Box 12715 • 888 Norfolk Square • Norfolk, VA 23502
(804) 461-3874 • Fax (804) 461-0379

CLIENT INFORMATION	
Company	Baker Environmental
Contact	Tom Artman OR Local: Jeri Tronzer
Address	420 Rouser Rd Bldg 5 Coraopolis PA 15108 / Camp Allen Norfolk, VA
Phone & FAX	412-269-6000 / 804-434-7626 then 412-298-3553
Purchase Order No.	Job No. 19084 SRN
Quote Number	

Sample ID	Sample Location	Date/Time Collected	Collectors Initials	Matrix	Preservative	Analysis	Field Readings/ Comments	Lab No.
GWA-102	AMW-9C	5/4/92 1800	JKH	GW	none	Volatiles Method 624	1 unit on HNu	

Special Instructions: _____

Possible Sample Hazards: _____ Sample Disposal: Return to Client _____ *or* Disposal by Lab ✓

Express Service: (yes) / no Date Due: per agreement - 24 hrs verbal results.

Sample Pick-up Charge: yes / no Mileage Charge yes / no (#_____)

Relinquished By:	Signature J K Hare	Company Baker	Date/Time 5-5-92
Received By:	Signature [illegible]	Company E.T.S.	Date/Time 5-5-92 / [illegible]
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time

CHAIN-OF-CUSTODY RECORD

ENVIRONMENTAL TESTING SERVICES, INC.
P.O. Box 12715 • 888 Norfolk Square • Norfolk, VA 23502
(804) 461-3874 • Fax (804) 461-0379

CLIENT INFORMATION	
Company	Baker Environmental Inc
Contact	Tom Artman
Address	420 Rouser Rd. Coraopolis, PA
Phone & FAX	412-269-6000 (2002 - FAX)
Purchase Order No.	Job No. 17087-50 SRW
Quote Number	

Sample ID	Sample Location	Date/Time Collected	Collectors Initials	Matrix	Preservative	Analysis	Field Readings/ Comments	Lab No.
GWA-103	MW-15B	5/11/92 (16:22)	KH	Aq	NONE	601		

Special Instructions: 24 Hr Turnaround

Possible Sample Hazards: _____ Sample Disposal: Return to Client _____ *or* Disposal by Lab X

Express Service: (yes) / no Date Due: 24 Hr

Sample Pick-up Charge: (yes) / no Mileage Charge yes / no (#_____)

Relinquished By:	Signature [signature]	Company BEI	Date/Time 11 May 92 [illegible]
Received By:	Signature [signature]	Company ETS	Date/Time 5-11-92 [illegible]
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time

ETS Form 003/Rev. 1-92

CHAIN-OF-CUSTODY RECORD

ENVIRONMENTAL TESTING SERVICES, INC.
P.O. Box 12715 • 888 Norfolk Square • Norfolk, VA 23502
(804) 461-3874 • Fax (804) 461-0379

CLIENT INFORMATION	
Company	Baker Environmental, Inc.
Contact	Tom Artman
Address	420 Rouser Rd Bldg 3 Coraopolis PA 15108
Phone & FAX	412-269-6000 Fax 412-269-2002
Purchase Order No.	Job No. 19084-50-SRN
Quote Number	

Sample ID	Sample Location	Date/Time Collected	Collectors Initials	Matrix	Preservative	Analysis	Field Readings/ Comments	Lab No.
GWA-104	B-MW 11B	5-17-92/1740	JFN/JKH	GW	none	method 601 (Vols)		
GWA-105	B-MW 8B	5-17-92/1800	JFN/JKH	GW	none	method 601 (Vols)		
	Sample							
	Bottles are	labelled 5/16/92		however				
	Samples were	Collected on 5/17/92						
					JLT			
					5/18/92			

Special Instructions: 24 hr turnaround.

Possible Sample Hazards: _____ Sample Disposal: Return to Client _____ *or* Disposal by Lab ✓

Express Service: (yes) / no Date Due: (24 hr.) ☆

Sample Pick-up Charge: yes (no) Mileage Charge yes / no (#_____)

Relinquished By:	Signature JK Harry	Company Weston for Baker	Date/Time 5-18-92 800
Received By:	Signature Anne S Burnett	Company ETS, Inc	Date/Time 5-18-92/0800
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time

Form 003/Rev. 1-92

CHAIN-OF-CUSTODY RECORD

ENVIRONMENTAL TESTING SERVICES, INC.
P.O. Box 12715 • 888 Norfolk Square • Norfolk, VA 23502
(804) 461-3874 • Fax (804) 461-0379

CLIENT INFORMATION	
Company	Baker Environmental
Contact	Jeri Tragesser or Tom Artman
Address	420 Rouser Rd Bldg 3 Coraopolis PA
Phone & FAX	412-269-6000 (Fax 8002)
Purchase Order No.	Job No. 19084-50-5800
Quote Number	

Sample ID	Sample Location	Date/Time Collected	Collectors Initials	Matrix	Preservative	Analysis	Field Readings/ Comments	Lab No.
GWA-106	AMW-13B	5-19-92/1152	JEZ	GW	n/a	VOLATILES Method 601		
GWA-107	AMW-14B	5-19-92/1057	JEZ	GW	n/a	VOLATILES Method 601		
GWA-108	AMW-9B	5-19-92/1611	JEZ	GW	n/a	VOLATILES Method 601		

Special Instructions: 24 hr turnaround

Possible Sample Hazards: _____ **Sample Disposal:** Return to Client _____ *or* Disposal by Lab ✓

Express Service: (yes) / no **Date Due:** 24 hr

Sample Pick-up Charge: (yes) / no **Mileage Charge** yes / no (#_____)

Relinquished By:	Signature Jeri R Tragesser	Company Baker Environmental	Date/Time 5-19-92 / 1500
Received By:	Signature [illegible]	Company ETS	Date/Time 5-19-92 / 1500
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time

CHAIN-OF-CUSTODY RECORD

ENVIRONMENTAL TESTING SERVICES, INC.
P.O. Box 12715 • 888 Norfolk Square • Norfolk, VA 23502
(804) 461-3874 • Fax (804) 461-0379

CLIENT INFORMATION	
Company	Baker
Contact	JL Trageser or T.F. Artman
Address	420 Rouser Rd, BLDG 3 Coraopolis, PA 15108
Phone & FAX	412-269-6000 (Fax - 2002)
Purchase Order No.	Job No. 19084-SEN
Quote Number	

Sample ID	Sample Location	Date/Time Collected	Collectors Initials	Matrix	Preservative	Analysis	Field Readings/ Comments	Lab No.
GWA-111	AMW-17B	6/14/92 - 1325	BJC/KJM	gw	—	VOLATILES (Method 601)		
GWA-113	AMW-17B	6/14/92 - 1325	BJC/KJM	gw	—	"		
GWA-112	AMW-16B	6/15/92 - 1100	KJM	gw	—	"		

Special Instructions: 24 hr turnaround

Possible Sample Hazards: _____ Sample Disposal: Return to Client _____ *or* Disposal by Lab ✓

Express Service: (yes) / no Date Due: 24 hrs.

Sample Pick-up Charge: (yes) / no Mileage Charge yes / no (#_____)

Relinquished By:	Signature Jeri R. Trageser	Company Baker Environmental	Date/Time 6/15/92 20:00
Received By:	Signature Geoff Hinshelwood	Company ETS	Date/Time 6/15/92 20:00
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time

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CHAIN-OF-CUSTODY RECORD

ENVIRONMENTAL TESTING SERVICES, INC.
P.O. Box 12715 • 888 Norfolk Square • Norfolk, VA 23502
(804) 461-3874 • Fax (804) 461-0379

CLIENT INFORMATION	
Company	BAKER ENVIRONMENTAL, INC
Contact	Tom Artman
Address	AOP, Building #3, 420 Rouser Rd Coraopolis, PA 15108
Phone & FAX	412-269-2617 / 412-269-2602
Purchase Order No.	—
Job No.	19084-SRN
Quote Number	—

Sample ID	Sample Location	Date/Time Collected	Collectors Initials	Matrix	Preservative	Analysis	Field Readings/ Comments	Lab No.
A-MW8B	CAMP ALLEN	6/17/92 (1130)	MEK/KM	WATER	NONE (ICE)	TCLP SCAN (Full)	TCLP	
							FOR	
							GW	
							DISPOSAL	
							* (2) 40ml vials	
							* (2) 1gal ambers	

Special Instructions: Full Scan TCLP – 3 day turn-a-round

Possible Sample Hazards: _____ **Sample Disposal:** Return to Client _____ *or* Disposal by Lab [signature]

Express Service: yes / no **Date Due:** 6/22 AM

Sample Pick-up Charge: yes / no **Mileage Charge** yes / no (# _____)

Relinquished By:	Signature [signature]	Company Baker Environmental, Inc.	Date/Time 6/17/92 1840
Received By:	Signature [signature]	Company ETS	Date/Time 6/17/92 1840
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time
Relinquished By:	Signature	Company	Date/Time
Received By:	Signature	Company	Date/Time

ROUND 2, CLP & NON-CLP SAMPLE CHAIN-OF-CUSTODY RECORDS

CLIENT CODE 489-619 (?)

QUOTE / SAR NUMBER

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

COOLER # 1 of 2

№ 15463

001789

PROJ. NO.: 8CTO-84

PROJECT NAME/LOCATION: 19084-SRN / NORFOLK, VA

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40ml TCL VOA	1 liter amber TCL SVOL	1 liter amber TCL Pest/PCB	1 liter poly TAL metals (TOTAL)	1 liter poly TAL metals (Dissolved)	4 oz TCL VOL	4 oz TCL SVOL	4 oz TCL Pest/PCB	4 oz TAL metals	REMARKS
	4/28/92	1500		✓	SWB-5	8	2	2	2	1	1					All samples
	4/28/92	1510		✓	SDB-5S	4						1	1	1	1	for CLP
	4/28/92	1545		✓	SDB-5D	4						1	1	1	1	level D QA/QC
	4/28/92	1845		✓	TBB-09	2	2									
					Temp. vial	1										

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4-28-92 2030	FEXET			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	4/29/92 1:10pm	AIRBILL # 4347525700	

Distribution Original Accompanies Shipment. Copy returned with Report.

Cool 2 of 2

CLIENT CODE 489-619(?)

QUOTE / SAR NUMBER

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 15464

001790

PROJ. NO.	PROJECT NAME/LOCATION
CTO-84	19084-SRN/NORFOLK VA

SAMPLERS: (Signature) [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	4 oz TCL VOL	1 liter TCL SVOC	1 liter TCL Pest/PCB	1 liter poly TAL metal (DISSOLVED)	1 liter poly TAL metal (TOTAL)	4 oz TCL Cyanide	REMARKS
	4/28/92	1915		✓	RSB-06	8	2	2	2	1	1		ALL SAMPLES
	4/28/92	1900		✓	RSB-07	8	2	2	2	1	1		FOR CLP
	4/28/92	1930		✓	TBB-10	2	2						LEVEL D QA/QC
					TEMP VIAL	1							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesser	4-28-92 2030	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[illegible]	4/29/92 1:10pm	AIRBILL # 4347525700	

Distribution Original Accompanies Shipment. Copy returned with Report.

1 of 3 coolers

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15467

001791

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Jeri L. Trageser [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40ml TCL Vol	1 liter glass TCL SVOL	1 liter glass TCL Pest/PCB	1 liter poly TAL metals (TOTAL)	1 liter poly TAL metals (Dissolved)		REMARKS
	4/29/92	1200		✓	SWB-4	24	6	6	6	3	3		MS/MSD Sample
	4/29/92	1830		✓	TBB-10	2	2						
					1 Temp Vial								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri L. Trageser	4/29/92 2030	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Lois Ezzo	4-30-92 11:20	Air Bill # 4347525696	

Distribution Original Accompanies Shipment. Copy returned with Report.

2 - of 3 Coolers

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15466

001700

PROJ. NO.	PROJECT NAME/LOCATION
	19084 -SRN

SAMPLERS: (Signature) Jeri R. Tragesser John F. West

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40 ml TCL Vol	1 liter TCL SVOC	1 liter TCL Pest/PCB	1 liter poly metals (TOTAL)	1 liter poly metals (dissolved)			REMARKS
	4/24/92	1815		✓	RSB-09	8	2	2	2	1	1			All samples
	4/24/92	1200		✓	SWB-6	8	2	2	2	1	1			in Coolers
	4/24/92	1835		✓	TBB-11	2	2							1, 2 & 3 (this
														shipment) are
					1 TEMP Vial.									scheduled to have
														Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesser	4/29/92 2030	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Lois Engro	4-30-92 11:20	FED EX AIRBILL # ~~4347525~~ jet 4347525696	

Distribution Original Accompanies Shipment. Copy returned with Report.

3 of 3 coolers

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W. / NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15465

001793

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Jeri R. Tragesser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	4 oz glass TCL VOC	4 oz glass TCL SVOC	4 oz glass TCL Pest/PCB	4 oz glass TAL Metals (TOTAL)		40 ml TCL VOC	REMARKS
	4/24/92	1245		✓	SDB-4S	4	1	1	1	1			
	4/24/92	1245		✓	SDB-7S	4	1	1	1	1			
	4/24/92	1300		✓	SDB-4D	4	1	1	1	1			rec'd 8 ms/msd per J. Bernarding.
	4/24/92	1300		✓	SDB-8D	4	1	1	1	1			
	4/24/92	1845		✓	TBB-12	2	2						
					1 Temp vial								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesser	4/24/92 2030	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[illegible]	4-30-92 1120	AIR BILL # 4347525696	

Distribution Original Accompanies Shipment. Copy returned with Report.

Cooler 2 of 2

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15468

001794

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Jeri R. Trageser, John F. [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40ml TCL VOL	1 liter glass TCL SVOL	1 liter glass TCL Pest/PCB	1 liter poly TAL metals (TOTAL)	1 liter glass TAL metals (Dissolved)		40z glass TCL VOL	40z glass TCL SVOL	40z glass TCL Pest/PCB	40z glass TAL metals (TOTAL)	REMARKS
	4/30/92	1830		✓	TBB-15	2	2										ALL SAMPLES
	4/30/92	1615		✓	SWB-1	8	2	2	2	1	1						to undergo
	4/30/92	1030		✓	SDB-6	4							1	1	1	1	LEVEL D QA/QC
	4/30/92	1100		✓	SDB-3	4							1	1	1	1	
	4/30/92	1530		✓	SDB-2	4							1	1	1	1	
	4/30/92	1520		✓	SWB-2	8	2	2	2	1	1						
					~~SWB~~ JLT												
	4/30/92	1615		✓	SDB-1	4							1	1	1	1	
					+1 Temp Vial												

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	4/30/92 2000	FED. EX.			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Dera Sloan	5/1/92 10:00am	Airbill # 4347525394	

Distribution Original Accompanies Shipment. Copy returned with Report.

Cooler 1 of 2

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15469

001795

PROJ. NO.

PROJECT NAME/LOCATION: 19084 - SRN

SAMPLERS: (Signature) Jori R. Trageser [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40 ml TCL Vol	1 liter glass TCL 5 Vols	1 liter glass TCL Post/PCB	1 liter polymetals TAL (total)	1 liter polymetals (TAL) (dissolved)		REMARKS
	4/30/92	1815		✓	TBB-14	2	2						All samples to
	4/30/92	1330		✓	RSB-~~14~~ JLT 10	8	2	2	2	1	1		undergo level D
	4/30/92	1100			SWB-3	8	2	2	2	1	1		QA/QC
					1 TEMP VIAL								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jori R. Trageser	4/30/92 2000	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	5/1/92 10:00 am	Air Bill # 4347525394	

Distribution Original Accompanies Shipment. Copy returned with Report.

Cooler 1 of 2

001609

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15469

PROJ. NO.

PROJECT NAME/LOCATION: 19084 - SRN

SAMPLERS: (Signature) [signature] [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40 ml TCL Vol	1 liter glass TCL 5 Vols	1 liter glass TCL Pest/PCB	1 liter polymetals (total)	1 liter polymetals (TAL) (dissolved)		REMARKS
	4/30/92	1815		✓	TBB-14	2	2						All samples to
	4/30/92	1330		✓	RSB-~~14~~ SLT 10	8	2	2	2	1	1		undergo Level D
	4/30/92	1100			SWB-3	8	2	2	2	1	1		QA/QC
					1 TEMP VIAL								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4/30/92 2000	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	5/1/92 10:00 am	Air Bill # 4347525394	

Distribution Original Accompanies Shipment. Copy returned with Report

Cool 2 of 2

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15468

001610

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN

SAMPLERS: (Signature) Jeri R. Trageser, John F. [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40ml TCL VOL	1 liter glass TCL SVOL	1 liter glass TCL Pest/PCB	1 liter poly TAL metals (TOTAL)	1 liter glass TAL metals (Dissolved)		4oz glass TCL VOL	4oz glass TCL SVOL	4oz glass TCL Pest/PCB	4oz glass TAL metals (TOTAL)	REMARKS
	4/30/92	1830		✓	TBB-15	2	2										ALL SAMPLES
	4/30/92	1615		✓	SWB-1	8	2	2	2	1	1						to undergo
	4/30/92	1030		✓	SDB-6	4							1	1	1	1	LEVEL D QA/QC
	4/30/92	1100		✓	SDB-3	4							1	1	1	1	
	4/30/92	1530		✓	SDB-2	4							1	1	1	1	
	4/30/92	1520		✓	SWB-2	8	2	2	2	1	1						
					~~SWB~~ JLT												
	4/30/92	1615		✓	SDB-1	4							1	1	1	1	
					+ 1 Temp Vial												

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	4/30/92 2000	FED. EX.			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Sera Sloan	5/1/92 10:00am	Airbill # 4347525394	

Distribution Original Accompanies Shipment. Copy returned with Report.

Cooler 1 of 5

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15470

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN

SAMPLERS: (Signature) Jeff R. Tragesser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	4 oz glass (TOTAL metals)			4 oz glass for selected metals (**)			REMARKS
	5/2/92	1002		✓	SSB-01	1	1						All samples require Level D Q.V/QC
	5/2/92	1330 (*)		✓	SSB-02	1	1						
	5/2/92	1055		✓	SSB-03	2	2						1 4 oz for ms/msd volume
	5/4/92	1240		✓	SDA-15	1				1			
	5/4/92	1430		✓	SDA-13	1				1			
	5/4/92	1600		✓	SDA-21S	1				1			(*) SSB-02 Sampled at approximate 1330hrs time not recorded on sample ~~tabel~~ label.
	5/4/92	1605		✓	SDA-22D ~~TEMP VIAL~~	1				1			
	5/4/92	1700		✓	SDA-05	1				1			
	5/3/92	1140		✓	SDA-20S	1	~~1~~ get			1			
	5/3/92	1155		✓	SDA-19S	1	~~1~~ get			1			(**) Selected metals include
	5/3/92	1220		✓	SDA-18S	1	~~1~~ get			1			Arsenic, Beryllium, Cadmium,
	5/3/92	1235		✓	SDA-18D	1	~~1~~ get			1			Chromium, lead, mercury,
	5/3/92	1310		✓	SDA-03	1				1			Selenium, Silver & Vanadium
	5/4/92	1400		✓	SDA-14S	1				1			
	5/4/92	1605		✓	SDA-14D	1				1			+ 1 Temp Vial

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeff R. Tragesser	5/4/92 2000	FEDERAL EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	5-5-92 0955	FED. EX AIRBILL # 4347525383	

Distribution Original Accompanies Shipment, Copy returned with Report

Cooler 5 of 5

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 15471

001612

PROJ. NO.

PROJECT NAME/LOCATION: 19084 - SRN

SAMPLERS: (Signature) Jon R. Trageser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40ml glass TCL VOLATILES	1 liter glass TCL SVOLS	1 liter glass TCL Pest/PCB	1 liter Poly TAL metals (total)	1 liter poly TAL metals (dissolved)	1 liter poly chloride, sulfate, alkalinity	REMARKS
	5/3/92	1610		✓	RSA-05	9	2	2	2	1	1	1	All samples to be analyzed with Level D QA/QC
	5/3/92	1335		✓	SWA-09	9	2	2	2	1	1	1	
	5/3/92	1430		✓	TBA-09	2	2						
					Hampvial								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Trageser	5/4/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	5-5-92 0955	FEDEX AIRBILL # 4347525383	

Distribution Original Accompanies Shipment. Copy returned with Report.

Cooler # 3 of 5

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 15472

PROJ. NO.	PROJECT NAME/LOCATION
	19084 - SRN

SAMPLERS: (Signature) Jeri R. Tragesen

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40ml TCL Vols	1 liter glass TCL SVOC	1 liter glass TCL Pest/ACB	1 liter poly TAL metals (total)	1 liter poly TAL metals (dissolved)	1 liter poly chloride, sulfate + alkalinity	REMARKS
	5/3/92	1330		✓	SWA-03 *	(18) 2 Jet	6	6	6	~~3~~	~~3~~	~~3~~	** e JET includes volume for MS/MSD
	5/3/92	1500		✓	TBA-10	(6) ~~2~~	(6) 2 jet						
					1 temp vial								* Please note correct time of sampling SWA-03 is 1330. Some MS/MSD volume containers are marked as 1340. Please disregard.
													Also, sample for Level D QA/QC
							Due to lack of space →						** Total and Dissolved metals and chloride, sulfate, ALKALINITY containers are packed in Cooler #4. Please refer to Cooler 4 C-O-C

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesen	5/4/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John [signature]	Date / Time 5-5-92 0955	Remarks Fed Ex Air bill # 4347525383.	

Distribution Original Accompanies Shipment. Copy returned with Report

Cover 4 of 2

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15473

001614

PROJ. NO.	PROJECT NAME/LOCATION

SAMPLERS: (Signature) Jeri R. Tragesen

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: 1 liter poly TAL (metals (TOTAL))	1 liter poly TAL (metals (dissolved))	1 liter poly (chloride, sulfate & alk.)				REMARKS
	5/3/92	1330*		✓	SWA -03 **	9	3	3	3				includes volume for ms/msd.
					1 temp vial								* Note: correct time of sampling was 1330 hrs. Some containers for ms/msd may read 1340 hrs.
													** Due to lack of cooler space vols, SVOLs, Pest/PCB's are packaged in cooler #3 of —

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesen	5/4/92 2000	FEDEX.			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	5-5-92 0955	AIRBILL # 4347525383	

Distribution Original Accompanies Shipment. Copy returned with Report.

Coolers of

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15474

001615

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN

SAMPLERS: (Signature) Jeri L. Tragesen

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40ml VOLs (gl.)	1 liter (gl.) SVOLS	1 liter (gl.) Pest/PCB	1 liter poly TAL metals (TOTA)	1 liter poly TAL metals (Dissolved)	1 liter poly for Chloride, Sulfate and Alkalinity	REMARKS
	5/4/92	1340		✓	SWA-04	9	2	2	2	1	1	1	All samples should be analyzed using level D QA/QC.
	5/4/92	1900		✓	TBA-11	2	2						
					1 TEMP VIAL								
													~~COC - 1 of 2~~

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri L. Tragesen	5/4/92 2000	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	5-5-92 0955	AIR Bill 4347525383	

Distribution Original Accompanies Shipment. Copy returned with Report.

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QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

Cooler of 1

№ 15478

PROJ. NO.	PROJECT NAME/LOCATION
	19084 - SRN

SAMPLERS: (Signature) Jill R. Traynor

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	*Metals poly ✓ (for select metals)	Dmb(gl) VOC	Metals(1) 3 VOC	Metals Pest/PCB	Metals poly TRL metals (Total)	Metals poly TRL metals (Dissolved)	Metals poly chloride, sulfate alkalinity	REMARKS
	5/4/92	1800		✓	RSA-07	1	1							All Samples for Level DQA/QC
	5/4/92	1800		✓	RSA-08	9		2	2	2	1	1	1	
	5/4/92	1645		✓	SWA-05	9		2	2	2	1	1	1	
														* Selected metals include
	5/4/92	1915		✓	TBA-12	2		2						Ar, Be, Cd, Cr, Pb, Hg, Se,
														Ag, Va
					1 TRIP VIAL									

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jill R. Traynor	5/4/92 2000	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Tom London	5-5-92 0955	AIR BILL # 4347525523	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15476

001313

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Melissa C. Davidson, Jori R. Trageser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: 40 ml g1 TCL VOL PACKES	1 liter (g1) TCL SVOL	1 liter (g1) TCL Post/PCB	1 liter (poly) TAL metal (TOTAL)	1 liter (poly) TAL metal (Dissolved)	1 liter (poly) chloride sulfate, alkalinity	1 liter (poly) selected metals *	REMARKS
	5/5/92	0921		✓	RW-56	2	2							All samples for level D QA/QC
	5/5/92	1025		✓	RW-57	2	2							
	5/5/92	0921		✓	RW-59	2	2							
				✓	FBP-100	10	2	2	2	1	1	1	1	
					~~FBR~~ D JLT									
	5/5/92	1315		✓	FBD-100	10	2	2	2	1	1	1	1	
														* Selected metal include:
	5/5/92	1600		✓	TBA-01	2	2							Ar, Be, Cd, Cr, Pb, Hg
														Se, ~~S~~ JLT Ag, Va
					1 Temp Vial									

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jori R. Trageser	5/5/92 1800	Fed Ex.			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John Gruber	Date / Time 5-6-92 0930	Remarks Airbill # - 4347525372	

Distribution Original Accompanies Shipment. Copy returned with Report

Cooler [illegible] of 2

001314

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15477

PROJ. NO.: 19084-SKN

PROJECT NAME/LOCATION: CAMP ALLEN LANDFILL RI/FS Norfolk, VA

SAMPLERS: (Signature) R.P. Dabel, Ken Martin, [illegible], Barb Cunningham, [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	4oz glass selected metals*	40 ml glass TCL volatiles	1 l poly TAL metals (Total)	1 l poly TAL metals (Dissolved)	1 l poly chloride, sulfate, alkalinity	REMARKS
	5/11/92	1110		X	SDA-1		1					* Selected metals include:
	5/11/92	1020		X	SDA-16S		1					Arsenic (206.2), Beryllium (200.7)
	5/11/92	1025		X	SDA-16D		1					Cadmium (200.7), Chromium (200.7)
	5/11/92	0942		X	SDA-2		1					Lead (239.2), Mercury (245.1), Selenium (270.2)
	5/11/92	1450		X	SDA-11		1					Silver (200.7), and Vanadium (200.7)
	5/11/92	1545		X	SDA-10S		1					
	5/11/92	1545		X	SDA-10D		1					* All samples require
	5/11/92	1100		X	SWA-1				2	1	1	1 Level D QA/QC
	5/11/92	0935		X	SWA-2				2	1	1	1
	5/11/92	1646		X	TBA-13				2			* One Temp Vial included
	5/11/92	1700		X	RSA-09		1		2	1	1	1

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Thomas E. [illegible]	5/11/92 1800	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[illegible]	5/12/92 13:30	Fed Ex Airbill # 4347525254	

Distribution Original Accompanies Shipment. Copy returned with Report.

Copy 2 of 2

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 15479

001315

PROJ. NO.: 19084-SRN

PROJECT NAME/LOCATION: CAMP ALLEN LANDFILL RI/FS Norfolk, VA

SAMPLERS: (Signature) R. P. Dalal, Bob Cummings

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40ml glass TCL Volatiles	1L glass TCL Semi-Volatiles	1L glass TCL Pest/PCB	1L poly TAL metals (dissolved)	1L poly TAL metals (total)	1L poly Chloride, sulfate, alkalinity	REMARKS
	5/11/92	1100		X	SWA-1		—	2	2	—	—	—	* all samples to be analyzed with Level D QA/QC.
	5/11/92	0935		X	SWA-2		—	2	2	—	—	—	
	5/11/92	1700		X	RSA-09		—	2	2	—	—	—	* One Temp Vial included

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Thomas E. Fuller	5/11/92 1800	Federal Express.			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Sherry Lucio	5/12/92 13:30	Fed Ex Airbill # 4347525254	

Distribution Original Accompanies Shipment. Copy returned with Report

Cooler of 3

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15481

001316

PROJ. NO.: 19084-SPN

PROJECT NAME/LOCATION: CAMP ALLEN LANDFILL RI/FS Norfolk, VA

SAMPLERS: (Signature) [signature], Kim Martin, Bob Cummings, [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: 402 glass selected metals *	40ml glass TCL volatiles	1 l poly TAL metals (Total)	1 l poly TAL metals (Dissolved)	1 l poly chloride, sulfate, alkalinity	REMARKS
	5/12/92	1015		X	SDA-9	1	1					* Selected Metals include:
	5/12/92	1100		X	SDA-6	1	1					Arsenic (206.2), Beryllium (200.7)
	5/12/92	1145		X	SDA-17	1	1					Cadmium (200.7), Chromium (200.7),
	5/12/92	1425		X	SDA-24	1	1					Lead (239.2), Mercury (245.1),
	5/12/92	1500		X	SDA-7	1	1					Selenium (270.2), Silver (200.7)
	5/12/92	1545		X	SDA-8 (1)	3	3					and VANADIUM (200.7)
	5/12/92	1050		X	SWA-6	2		2				* all samples require
	5/12/92	1452		X	SWA-7	2		2				Level D QA/QC
	5/12/92	1530		X	SWA-8 (1)	6		6				
												* One Temp Vial included
	5/12/92	1700		X	TBA-14	2		2				
	5/12/92	1640		X	RSA-10	3	1 (2)	2				
												(1) includes volume for MS/MSD
												(2) 1 l poly

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/12/92 1800	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 5-13-92 0930	Remarks Fed Ex. Airbill # 4347525276	

Distribution Original Accompanies Shipment. Copy returned with Report.

Cooler 2 of 5

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15484

PROJ. NO.: 19084-SRN

PROJECT NAME/LOCATION: Camp Allen Landfill RI/FS Norfolk, VA

SAMPLERS: (Signature) [signature], Ken Martin, Barb Cuneo, [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: 40ml glass TCL volatiles	1 l poly TAL metals (Total)	1 l poly TAL metals (Dissolved)	1 l poly Chloride, Sulfate, Alkalinity	1 l glass TCL PEST/PCB	REMARKS
	5/12/92	1055		X	SWA-6	2		1	1			All samples require
	5/12/92	1455		X	SWA-7	2		1	1			Level D QA/QC
	5/12/92	1540		X	SWA-8 (1)	6		3	3			
	5/12/92	1640		X	RSA-10	2		1	1			One Temp Vial included
												(1) includes volume for MS/MSD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/12/92 1800	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 5-13-92 0930	Remarks	Fed Ex Airbill # 4347525276

Distribution Original Accompanies Shipment. Copy returned with Report.

Cooler of 5

CLIENT CODE _____

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Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 15485

001318

PROJ. NO.: 19084-SRN

PROJECT NAME/LOCATION: Camp Allen Landfill RI/FS Norfolk, VA

SAMPLERS: (Signature) Thomas Arton, [illegible], Ken Martin, Barb Cunning, Peter Mondoy

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	1 l glass TCL Semi Vials	40 ml glass TCL volatiles	1 l poly TAL metals	1 l poly TAL metals (Total)	1 l poly chloride (Dissolved)	1 l glass TCL pest/PCBs	REMARKS
	5/12/92	1055		X	SWA-6	5	2				1	2	all samples require
	5/12/92	1455		X	SWA-7	5	2				1	2	Level D QA/QC
	5/12/92	1540		X	SWA-8 (1)	3					3		
	5/12/92	1640		X	RSA-10	1					1		One Temp Vial included

(1) includes volume for MS/MSD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Thomas E. Arton	5/12/92 1800	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	5-13-92 0930	Fed EX Airbill # 4347525276	

Distribution Original Accompanies Shipment. Copy returned with Report.

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CLIENT CODE _____

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Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15483

PROJ. NO.	PROJECT NAME/LOCATION
19084-5120	Camp Allen Landfill RI/FS Norfolk, VA

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	1L glass TCL Semivolatiles	40ml glass TCL Volatiles	1L poly TAL Metals (Total)	1L poly TAL Metals (Dissolved)	1L poly Cyanide, Sulfate, Alkalinity	1L glass TCL Pest/PCBs	REMARKS
	5/12/92				SWA-6								All samples require
	5/12/92				SWA-7								Level D QA/QC
	5/12/92	1540			SWA-8 (1)	12	6					6	
													One Temp Vial included
													(1) includes volume for MS/MSD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/12/92 1800	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	5-13-92 0930	Fed Ex Airbill # 4347525227	

Distribution Original Accompanies Shipment. Copy returned with Report

Cooler 5 of 5

CLIENT CODE _____

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Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 15482

001320

PROJ. NO.: 19084-SRN

PROJECT NAME/LOCATION: Camp Allen Landfill RI/FS Norfolk, VA

SAMPLERS: (Signature) [signature], Ken Martin, Barb Cummings, Peter Mardoff

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: 1 l glass TCL Semi Vols	40ml TCL Volatiles	1 l poly TAL metals (Total)	1 l poly TAL metals (Dissolved)	1 l poly Chloride, Sulfate, Alkalinity	1 l glass TCL Pest/PCB	REMARKS
	5/12/92	1640		X	RSA-10		2					2	all samples require Level D QA/QC
													One Temp Vial included

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/12/92 1800	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 5-13-92 0930	Remarks Fed Ex Airbill # 4347525276	

Distribution Original Accompanies Shipment. Copy returned with Report.

Cooler 1 of 1

CLIENT CODE _____

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WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15486

C01321

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Brian Stoffo, Jon R. Trageser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40ml TCL Vol (CLP)	1 liter TCL SVOLS (glass)	1 liter TCL Pest PCB (glass)	1 liter TAL metals (Total) poly	40Z glass TCL VOL	40Z glass TCL SVOL	40Z glass TCL Pest PCB	40Z glass TAL metals TOTAL	REMARKS
	5/18/92	1045		✓	SBB-07	4					1	1	1	1	All samples for Level D
	5/18/92	1010		✓	SBB-08	4					1	1	1	1	QA/QC
	5/18/92	0932		✓	SBB-09	4					1	1	1	1	
	5/18/92	1516		✓	SBB-10	4					1	1	1	1	
	5/18/92	1516		✓	SBB-11	4					1	1	1	1	
	5/18/92	1437		✓	SBB-06	8					2	2	2	2	MS/MSD Volume
	5/18/92	1700		✓	TBB-01	2	2								
	5/18/92	1630		✓	RSB-01	7	2	2	2	1					
					1 Temp Vial										

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Trageser	5/18/92 1830	Fed EX.			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John Gruber	Date / Time 5-19-92 1140	Remarks AIR Bill # 4347525280	

Distribution Original Accompanies Shipment. Copy returned with Report

CLIENT CODE _____

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Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15480

Cooler 1 of 1

002120

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Brian Stiffes, Jack Tragesen

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	40ml(gl) CLP TCL VOL	1liter(gl) CLP TCL SVOL	1liter(gl) CLP TCL Pest/PCB	1liter(poly) CLP TAL metals (total)	4oz(gl) CLP TCL VOL	4oz(gl) CLP TCL SVOL	4oz(gl) CLP TCL Pest/PCB	4oz(gl) CLP TAL metals (TOTAL)		REMARKS
	5/19/92	0846		✓	SBB-01	4					1	1	1	1		All samples
	5/19/92	0920		✓	SBB-02	4					1	1	1	1		require
	5/19/92	0947		✓	SBB-03	4					1	1	1	1		Level D QA/QC
	5/19/92	1053		✓	SBB-05	4					1	1	1	1		
	5/19/92	1119		✓	SBB-04	4					1	1	1	1		
	5/19/92	1600		✓	RSB-02	7	2	2	2	1						
	5/19/92	1615		✓	TBB-02	2	2									
					(1 Temp Vial)											

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jack Tragesen	5/19/92 1800	FEDERAL EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John Gruber	Date / Time 5-20-92 1115	Remarks AIRBILL # 4347525291	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 19573

Cooler 1 of 1

002121

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) [signature]

STA NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: CLP 40ml TCL VOL	CLP TCL 1 liter amber SVOL	1 liter amber CLP TCL Post/PCB	CLP TCL VOL 4oz glass	CLP TCL SVOL 4oz glass	CLP TCL Post/PCB 4oz glass	REMARKS
	5/27/92	1420		✓	SBA-01 *	6				2	2	2	All samples for Level D
	5/27/92	1520		✓	SBA-02	3				1	1	1	QA/QC
	5/27/92	1800		✓	RSA-01	6	2	2	2				
	5/27/92	1830		✓	TBA-02	2	2						* Volume sufficient for ms/msd
					1 Temp Vial								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	5/27/92 2000	Fed Ex			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 5-28-92 1300	Remarks Airbill # 4347525534	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE 039884

QUOTE / SAR NUMBER _____

Chain of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 17642

Cooler 1 of 1

002122

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Jon R. Trageser, Brian Sattes

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	(CLP-TCL) 40ml gl Vols	1 liter amber CLP TCL SVOLS	1 liter amber CLP-TCL Pest/PCB	40Z gl CLP TCL VOL	40Z glass CLP-TCL SVOL	40Z glass CLP-TCL Pest/PCB	REMARKS
	5/28/92	0802		✓	SBA-03	3				1	1	1	
	5/28/92	0838		✓	SBA-04	3				1	1	1	
	5/28/92	1033		✓	SBA-05	3				1	1	1	
	5/28/92	1118		✓	SBA-06	3				1	1	1	
	5/28/92	1541		✓	SBA-07	3				1	1	1	
	5/28/92	1616		✓	SBA-08	3				1	1	1	
	5/28/92	1541		✓	SBA-09	3				1	1	1	
	5/28/92	1030		✓	RSA-02	6	2	2	2				
	5/28/92	1040		✓	TBA-03	2	2						
					1 Temp Vial	1							All samples for level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Trageser	5/28/92 2000	FEDERAL EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	5-29-92 1100	FED EX AIRBILL # 4347525416	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 15374

Cooler 1 of 1

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN

SAMPLERS: (Signature) Jeri R. Tragesser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER	REMARKS
	5/28/92	0910		✓	GB-01	5		Selected Physical
	5/29/92	1042		✓	GB-02	4		Parameters are:
	5/28/92	1736		✓	GB-03	6		① Grainsize by sieve +
	5/29/92	1530		✓	GB-04	4		hydrometer (D422)
								② Atterberg limits
								③ Moisture Content (D2216)
								④ Bulk Specific Gravity.
								Containers are ~ 8 to 12 oz each
					1 Temp Vial			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesser	5/1/92 1900	FEDERAL EXPRESS.			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
			6-2-92 1000	AIRBILL # 4347525486	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE 5034484
QUOTE / SAR NUMBER 13140
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 16506

001564

Cooler 1 of 2

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN Baker

SAMPLERS: (Signature) John E Zimmerman Jr. Barbara J. Cump Jeri R. Trageser Kenneth J. Martin

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL Vols (gravel)	TCL SVOLS (1 liter)	TCL Pest/PCB (1 liter)	TAL Met (TOTAL) (1 liter)	TAL Met (Diss) (1 liter)	Chloride Sulfate (1 liter)	Alkalinity	REMARKS
	6/2/92	0950		✓	SWA-11	9	2	2	2	1	1	1		
	6/2/92	1045		✓	SWA-17	9	2	2	2	1	1	1		
					~~SWA-12 cjet~~									
					~~SDA-12S cjet~~									
					~~SDA-12D cjet~~									
					~~SDA-23S cjet~~									
					~~RSA-03 cjet~~									
	6/2/92	0915		✓	TBA-04									
					1 temp vial	1								
													*	All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/2/92 1800	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John Gruber	Date / Time 6-3-92 1130	Remarks Airbill # 4347525475	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE B039984
QUOTE / SAR NUMBER 13190
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 17611

001565

Cooler 2 of 2

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN Baker

SAMPLERS: (Signature) John E. Zimmerman, Jr. Barbara J. Cummings Jeri R. Trageser Kenneth J. Mart

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL Vols (40ml)	TCL SVOLs (1 liter)	TCL Pest/PCB (1 liter)	TAL Met (TOTAL) (1 liter)	TAL Met (Diss) (1 liter)	Chloride, Sulfate (1 liter)	Alkalinity	4 oz GLASS Selected metals	REMARKS *
	6/2/92	1500		✓	TBA-05	2	2								
	6/2/92	1530		✓	RSA-03	9	2	2	2	1	1	1			
	6/2/92	1410		✓	SWA-12	9	2	2	2	1	1	1			
	6/2/92	1415		✓	SDA-12S **	1								1	selected metals
	6/2/92	1420		✓	SDA-12D	1								1	include:
	6/2/92	1415		✓	SDA-23S **	1								1	Ar, Be, Cd, Cr, Pb
															Hg, Se, Ag, Va.
					Temp Vial	1									

Correct
** Time of sampling (1415) container label incorrect (1410)

* All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/2/92 1800	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John [signature]	Date / Time 6-3-92 1130	Remarks Airbill # 4347525475	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE 3039984
QUOTE / SAR NUMBER 13190
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 17612

001566

Cooler 1 of 3

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN Baker

SAMPLERS: (Signature) Jeri R. Trageser / Peter A. Mandrup

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: TCL Volts (4 ml)	TCL SVOLS (1 liter)	TCL Pest/PCB (1 liter)	TAL Met (TOTAL) (1 liter)	TAL Met (Diss) (1 liter)	Chloride, Sulfate (1 liter)	alkalinity	REMARKS
	6/10/92	1230		✓	GWB-210	9	2	2	2	1	1	1		
	6/10/92	1230		✓	+MSMSD volume →	18	4	4	4	2	2	2		← MS/MSD Volume
	6/10/92	1600		✓	TBB-201	2	2							
					1 Temp vial	1								
														ALL Samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/10/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		John Graber	6-11-92 1040	Air bill # 4347525464	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15487

001567

Cooler 2 of 3

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN Baker

SAMPLERS: (Signature) Jeri R. Tragesser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOCs (40ml)	TCL SVOCs (1 liter)	TCL Pest/PCBs (1 liter)	TAL Metals (TOTAL) (1 liter)	TAL Metals (Dissolved) (1 liter)	Chloride Sulfate Alkalinity (1 2 liter)	REMARKS
	6/10/92	1445		✓	GWB-207	9	2	2	2	1	1	1	ALL Samples
	6/10/92	1615		✓	GWB-208	9	2	2	2	1	1	1	For Level D
													QA/QC
	6/10/92				TBB-202	2	2						
					1 Temp Vial	1							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesser	6/10/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
			6-11-92 1040	AIRBILL# 4347525464	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 19572

Cooler 3 of 3

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN / Baker

SAMPLERS: (Signature) Barbara Cummings, Jim R. Trageser, Kenneth J. Moat

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	CLP TCL (4 Dual) VOLS	CLP TCL SVOLS (1 liter amber)	CLP TCL Pest/PCB (1 liter amber)	CLP TAL metals (1 liter poly) Total	CLP TAL metals (1 liter poly) dissolved	CLP Chloride, Sulfate & ALKALINITY (1 liter poly)	REMARKS
	6/10/92	1720		✓	GWB - 212	9	2	2	2	1	1	1	ALL samples for
	6/10/92	1845		✓	GWB - 209	9	2	2	2	1	1	1	Level D QA/QC
	6/10/92	1845		✓	GWB - 223	9	2	2	2	1	1	1	
				~~✓~~									
	6/10/92	1815		✓	TBB-203	2	2						
					1 Temp Vial	1							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jim R. Trageser	6/10/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John Graber	Date / Time 6-11-92 1040	Remarks AIRBILL # 4347525464	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE B039984
QUOTE / SAR NUMBER 13190
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 17613

Cooler 1 of 3

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN Baker

SAMPLERS: (Signature) Kenneth J. Martin, Jon R. Trageser, Peter A. Mandaly

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: TL Volts (yone)	TL SVOLS (1 liter)	TL Pest/PCB (1 liter)	TAL Met. (Total) (1 liter)	TAL Met (Diss) (1 liter)	Chloride Sulfate Alk (1 liter)	REMARKS
	6/11/92	1545		✓	TBB-204	2	2						
	6/11/92	1115		✓	GWB-219	9	2	2	2	1	1	1	
	6/11/92	1115		✓	GWB-224	9	2	2	2	1	1	1	
	6/11/92	1025		✓	GWB-211	9	2	2	2	1	1	1	
					1 Temp vial	1							
												*	ALL samples for level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Trageser	6/11/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		John Gruber	6-12-92 0930	Airbill # 4347525453	

Distribution Original Accompanies Shipment. Copy returned with Report.

001203

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W. / NORTH CANTON, OHIO 44720

(216) 497-9396

№ 19575

Cooler 2 of 3

PROJECT NAME/LOCATION: 19084-SRN / Baker

SAMPLERS: (Signature) Jeri R. Tragesser / [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40ml glass)	TCL SVOLS (liter amber)	TCL Pest/PCBs (liter amber)	TAL metals-total (liter poly)	TAL metals-dissolved (liter poly)	Chloride, Sulfate, alkalinity (liter poly)	REMARKS
	6/11/92	1730		✓	TBB-205	2	2						All Samples
	6/11/92	1445		✓	GWB-201	9	2	2	2	1	1	1	for LEVEL D
	6/11/92	1345		✓	GWB-202	9	2	2	2	1	1	1	QA/QC
					1 Temp vial	1							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesser	6/11/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[illegible]	6-12-92 0930	AIRBILL # 4347525453	

002204

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W. / NORTH CANTON, OHIO 44720
(216) 497-9396

№ 19574

Cooler 3 of 3

PROJECT NAME/LOCATION: 19084-SRN / Baker

SAMPLERS: (Signature) Kenneth A. Mate / John Kenny / Jeff R. Tragesser / Mark Kimble / Tim Mazzage

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	CLP TCL VOCS (40ml)	CLP TCL SVOCS (1liter amber)	CLP TCL Pest/PCB (1liter amber)	CLP TAL metals - total (1liter poly)	CLP TAL metals - dissolved (1liter poly)	Chlor de - sulfate (1liter poly)	alkalinity (1liter poly)	REMARKS
	6/11/92	1730		V	TBB-206	2	2							* ALL Samples for Level D QA/QC
	6/11/92	1730		V	RSB-201	9	2	2	2	1	1	1		
	6/11/92	1545		V	GWB-204	9	2	2	2	1	1	1		
	6/11/92	1605		V	GWB-203	9	2	2	2	1	1	1		
				V										
					JCT									
					Temp Vial	1								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeff R. Tragesser	6/11/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Remarks		
		John Gruber	6-12-	Bill # 4347525453	

Distribution Original Accompanies Shipment. Copy returned with Report.

WADSWORTH LABORATORIES NORTH CANTON OHIO

012205

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 19576

Cooler 1 of 4

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN / Baker

SAMPLERS: (Signature) Jon R. Trageser, [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40ml glass)	TCL SVOLS (1 litre amber)	TCL Pest/PCBs (1 litre amber)	TAL metals (1 litre poly) - total	TAL metals (1 litre poly) - dissolved	Chloride, sulfate, alkalinity (1 litre poly)	REMARKS
	6/12/92	1230		✓	TBB-207	2	2						
	6/12/92	1030		✓	GWB-205	9	2	2	2	1	1	1	
	6/12/92	0920		✓	GWB-206	9	2	2	2	1	1	1	
	6/12/92	1130		✓	RSB-202	9	2	2	2	1	1	1	
					1 Temp Vial	1							
													* All samples for level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Trageser	6/12/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		S L Goodin	6-13-92 8:45	AIRBILL # 4347525442	

Distribution Original Accompanies Shipment. Copy returned with Report.

001206

CLIENT CODE 039984
QUOTE / SAR NUMBER _____
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 17640

Cooler 2 of 4

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN/BAKER

SAMPLERS: (Signature) Barbara J. Cummings, Kenneth J. Martin, Jon R. Tragesa

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40 ml glass)	TCL SVOLS (1 liter glass)	TCL Pest/PCB (1 liter glass)	TAL metals (TOTAL) (1 liter poly)	TAL metals (DISSOLVED) (1 liter poly)	chloride, sulfate, alkalinity	REMARKS
	6/12/92	1245		✓	TBB-208	2	2						
	6/12/92	0940		✓	GWB-218	27	6	6	6	3	3	3	includes MS/MSD volume
					1 Temp Vial	1							

* All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Tragesa	6/12/92 2000	FEDERAL EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) S L Goodin	Date / Time 6.13.92 3:45	Remarks AIRBILL # 4347525442	

Distribution Original Accompanies Shipment. Copy returned with Report.

001207

CLIENT CODE 039984

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALER...

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 17637

Cooler 3 of 4

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Kenneth T. Martin, Peter Mordey, Mark E. Kirino, Jon R. Trageser, Barbara J. Cummings

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL Vols (40ml glass)	TCL SVOLS (1 liter glass)	TCL Pest/PCB (1 liter glass)	TAL metals (TOTAL) (1 liter poly)	TAL metals (Dissolved) (1 liter poly)	Chloride Sulfate alkalinity	REMARKS
	6/12/92	1520		✓	GWB-214	9	2	2	2	1	1	1	
	6/12/92	1226		✓	GWB-216	9	2	2	2	1	1	1	→ Time for this container is 1715
	6/12/92	1630		✓	GWB-217	9	2	2	2	1	1	1	due to slight field problem.
	6/12/92	1800		✓	TBB-209	2	2						

* All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Trageser	6/12/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) S L Goodin	Date / Time 6-13-92 3:45	Remarks Airbill # 4347525442	

001208

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE 039984

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 17638

Cooler 4 of 4

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN / Baker

SAMPLERS: (Signature) Jori R. Tragesser [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40ml glass)	TCL SVOLS (1 liter glass)	TCL pest/PCBs (1 liter glass)	TAL metals (TOTAL) (1 liter poly)	TAL metals (Dissolved) (1 liter poly)	Chloride, sulfate, alkalinity	REMARKS
	6/12/92	1815		✓	TBS-210	2	2						
	6/12/92	1630		✓	GWA-221	9	2	2	2	1	1	1	
					+1 Temp vial	1							
													* All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jori R. Tragesser	6/12/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		S L Goodin	6.13.92 3:45	AIRBILL # 4347525442	

Distribution Original Accompanies Shipment. Copy returned with Report.

C01209

CLIENT CODE 039984
QUOTE / SAR NUMBER _____
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 17636

001295

Cooler 1 of 6

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN / Baker

SAMPLERS: (Signature) [signature] [signature] [signature] Jeri R. Trageser Bob Jabal [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40ml glass)	TCL SVOLS (1 liter glass)	TCL Pest/PCBs (1 liter glass)	TAL metals (TOTAL) (1 liter poly)	TAL metals (DISSOLVED) (1 liter poly)	Chloride, Sulfate, alkalinity	REMARKS
	6/13/92	0830		✓	GWB-213	9	2	2	2	1	1	1	
	6/13/92	1305		✓	~~GWB-215~~ GWA-201	9	2	2	2	1	1	1	STATION LOCATION GWA-201
	6/13/92	1000		✓	TBB-211	2	2						
					+1 Temp Vial	1							
													* All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/13/92 1700	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Tera Sloan	Date / Time 6/15/92 9:00 am	Remarks AIRBILL # 4347525431	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 195771

Cooler 2 of 6

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN

SAMPLERS: (Signature) Jeri R. Trageser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	CLP TCL VOCs (Water only)	CLP TCL SVOCs (Water only)	CLP TCL Pest/PCBs (Water only)	CLP TAL metals (Total) (Water only)	CLP TAL metals (Dissolved) (Water only)	Chloride, sulfate, alkalinity	REMARKS
	6/13/92	1120		✓	TBA-212	2	2						* All Samples for
	6/13/92	0840		✓	GWA-222	9	2	2	2	1	1	1	Level D QA/QC
	6/13/92	1000		✓	GWA-220	9	2	2	2	1	1	1	
					1 Temp Vial	1							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/13/92 1700	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		DURA 10CM	6/15/92 9:00am	AIRBILL # 4347525431	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE 039484

QUOTE / SAR NUMBER

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 17641

001297

Cooler 3 of 6

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) [illegible] Jeff R. Tragesser

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	40ml CLP TCL VOA	1 liter glass CLP TCL SVOC	1 liter glass CLP TCL Pest/PCB	1 liter poly CLP TAL Metal (total)	1 liter poly CLP TAL metal (dissolved)	1 liter poly chloride sulfate alkalinity	REMARKS
	6/13/92	1030		✓	GWB-215	9	2	2	2	1	1	1	
	6/13/92	1200		✓	TBA-213	2							
					1 Temp Vial	1							
													All samples for level D QA/QC.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeff R. Tragesser	6/13/92 1700	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[illegible]	6/15/92 9:00am	AIRBILL # 4347525431	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE 039984
QUOTE / SAR NUMBER _____
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 17639

001298

Cooler 4 of 6

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN / Baker

SAMPLERS: (Signature) Jeri R. Trageser, Barbara J. Cummings

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40ml glass)	TCL SVOLS (1 liter glass)	TCL Pest/PCB (1 liter glass)	TAL metals (TOTAL) (1 liter poly)	TAL metals (DISSOLVED) (1 liter poly)	Chloride, Sulfate, alkalinity	REMARKS
	6/13/92	1100		✓	GWA-233	9	2	2	2	1	1	1	
	6/13/92	1100		✓	GWA-216	9	2	2	2	1	1	1	
				✓	TBA-214	2	2						
					Temp Vial	1							
													* All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/13/92 1700	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Sera Sloan	6/15/92 9:00am	AIRBILL # 4347525431	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE B039984
QUOTE / SAR NUMBER 13140
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W. / NORTH CANTON, OHIO 44720
(216) 497-9396

№ 16504 001299

PROJ. NO.
PROJECT NAME/LOCATION 19084-SRN
SAMPLERS: (Signature)

Cooler 5 of 6

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	CLP TCL VOA (40ml glass)	CLP TCL SVOA (1 liter glass)	CLP TCL Pest/PCB (1 liter glass)	CLP TAL metals (1 liter glass)	CLP TAL metals (1 liter glass)	cyanide (1 liter glass)	REMARKS
	6/13/92			✓	GWA-218	9	2	2	2	1	1	1	
	6/13/92			✓	GWA-215	9	2	2	2	1	1	1	
	6/13/92			✓	TBA-215	2	2						
					Temp Vial	1							
													* All Samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	6/13/92 1700				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
			6/15/92 9:00am	AIRBILL # 4347525431	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE B034934
QUOTE / SAR NUMBER 13190
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 16502

001300

Cooler 6 of 6

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Jon R. Trageser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	CLP TCL VOL (40 ml glass)	CLP TCL SVOL (1 liter glass)	CLP TCL Pest/PCB (1 liter glass)	CLP TAL metals (TOTAL) (1 liter poly)	CLP TAL metals (Dissolved) (1 liter poly)	Chloride Sulfate Alkalinity	REMARKS
	6/13/92	1425		✓	GWA-217	9	2	2	2	1	1	1	
	6/13/92	1545		✓	TBA-216	2	2						
					1 Temp Vial	1							

* All Samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Trageser	6/13/92 1700	FEDERAL EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Teka Sloan	6/15/92 9:00am	AIRBILL # 4347525431	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15363 091301

Cooler 1 of 8

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Barbara Jr Crum, Ken Marks, Jon R. Tragesser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40 ml vials)	TCL SVOLS (1 liter amber)	TCL Pest/PCBs (1 liter amber)	TAL Metals (1 liter poly)	TAL Metals (1 liter poly)	TAL Metals (1 liter poly)	REMARKS
	6/14/92	1115		✓	GWB-220	3				1	1	1	
	6/14/92	1025		✓	GWB-221	3				1	1	1	
	6/14/92	1000		✓	GWB-225	3				1	1	1	
	6/14/92	1000		✓	GWB-226	3				1	1	1	
	6/14/92	1510		✓	GWA-213	3				1	1	1	
	6/14/92	1230		✓	GWA-214	3				1	1	1	
	6/14/92	0930		✓	GWB-222	3				1	1	1	
	6/14/92	1615		✓	GWA-225	9				3	3	3	includes MS/MSD VOLUME
													* All Samples for Level D QA/QC
					1 Temp Vial	1							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Tragesser	6/15/92 2000	FEDERAL EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		John Lindy	6-16-92 1000	AIRBILL # 4347525490	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE B034984
QUOTE / SAR NUMBER 13140
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 16501

001302

Cooler 2 of 8

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) [signature] Barbara J. Cummings [signature] Jeri R. Tragesar [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	CLP TCL VOLS (40ml glass)	CLP TCL SVOLS (1 liter glass)	CLP TCL Pest/PCBs (1 liter glass)	CLP PAL metals (TOTAL) (1 liter poly)	CLP TPL metals (Dissolved) (1 liter poly)	chloride, sulfate, alkalinity	REMARKS
	6/14/92	1615		✓	GWA-~~214~~ 225 (LT)	18	6	6	6	~~7~~	LT		includes + MS/MSD volume
					TBA-220	2	2						
													* All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesar	6/15/92 2000	FEDERAL EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks
		John Gruber	6-16-92 1000	AIRBILL # 4347525490

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15361

001303

Cooler 3 of

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) [signature] Barbara J Cavanagh [signature] Jeri R. Trageser [signature] [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: TCL VOLS (40 ml glass)	TCL SVOLS (1 liter glass)	TCL Pest/PCB (1 liter glass)	TAL metals (TOTAL) (1 liter poly)	TAL metals (Dissolved) (1 liter poly)	Chloride + sulfate alkalinity	REMARKS
	6/15/92	1052		✓	GWA-205	6	2	2	2				
	6/14/92	1510		✓	GWA-213	6	2	2	2				
	6/14/92	1115		✓	GWB-220 (ALT)	6	2	2	2				
	6/14/92	1220		✓	TBA-218	2	2						
					Temp Vial	1							
													* All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/15/92 2000	FEDERAL EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John Gruber	Date / Time 6-16-92 1000	Remarks AIRBILL # 4347525490	

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LIENT CODE _____
UOTE / SAR NUMBER _____
hain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 15360

001304

cooler 4 of 8

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) [signature] Barbara J. Cummings [signature] Jon L. Trageser [signature] [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40ml glass)	TCL SVOLS (1 liter glass)	TCL Pest/PCBs (1 liter glass)	TAL metals (TOTAL) (1 liter poly)	TAL metals (Dissolved) (1 liter poly)	chloride, sulfate, alkalinity	REMARKS
	6/14/92	1025		✓	GWB-221	6	2	2	2				
	6/14/92	1000		✓	GWB-225	6	2	2	2				
	6/14/92	1000		✓	GWB-226	6	2	2	2				
	6/14/92	1230		✓	TBA-219	2	2						
					Temp vial	1							
													* All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6/15/92 2000	FEDERAL EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 6-16-92 1000	Remarks AIRBILL # 4347525490	

Distribution Original Accompanies Shipment. Copy returned with Report.

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QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15364

001305

Cooler 5 of 8

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) [signature] Barbara J. Cummings [signature] [signature] Jeri R. Trageser Ken [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER			OLPTAL metals TOTAL 1 liter poly	CYPTAL metals DISSOLVED 1 liter poly	Chloride, sulfate alkalinity	REMARKS
	6/15/92	1052		✓	GWA-205	3				1	1	1	
	6/14/92	1340		✓	GWA-203	3				1	1	1	
	6/15/92	1510		✓	GWA-227	9				3	3	3	INCLUDES MS/MSD VOLUME
	6/14/92	1530		✓	GWA-202	3				1	1	1	
					1 Temp Vial								
													ALL Samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/15/92 2000	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 6-16-92 1000	Remarks AIRBILL # 4347525490	

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CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15361

0001306

Cooler 6 of 8

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) [signature] Barbara J. Cunnup [signature] Jeri L. Tragesen [signature] [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: TCL VOL (40ml glass)	TCL SVOL (1 liter glass)	TCL Pest/PCB (1 liter glass)				REMARKS
	6/14/92	1340		✓	GWA-203	6	2	2	2				
	6/14/92	1530		✓	GWA-202	6	2	2	2				
	6/14/92	0930		✓	GWB-222	6	2	2	2				
	6/14/92	0920		✓	TBA-217	2	2						
					1 Temp Vial								
													All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri L. Tragesen	6/15/92 2000	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		John Gruber	6-16-92 1000	AIRBILL # 4347525490	

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Chain-of Custody Record

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4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15365

001307

Cooler # 7 of 5

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Barbara J. Cunnap, Kim Martin, Jeri R. Trageser, Bert Jelal

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: TCL VOL (40ml glass)	TCL SVOL (1 liter glass)	TCL Pest/PCB (1 liter glass)				REMARKS
	6/15/92	1510			GWA-227	18	6	6	6				includes MS/MSD
	6/14/92	1240		✓	TRIP-TBA-221	2	2						
					Temp Vial	1							
													All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/15/92 2000	Fed Ex			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John Gruber	Date / Time 6-16-92 1000	Remarks AIRBILL # 4347525490	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE _____

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 15367

001308

Cooler 8 of 8

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Ken Martin, John C Zimmerman, Jim R. Trageser, Mark E. Kramer, Barbara Cunningham

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40ml glass)	TCL SVOLS (1 liter glass)	TCL PEST/PCB (1 liter glass)	TAL metals (1 liter poly)	TAL metals (1 liter poly)	Chloride	REMARKS
	6/14/92	1230		✓	GWA-214	6	2	2	2				
	6/15/92	1845		✓	TBA-222	2	2						
					Temp Vial	1							
													All Samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jim R. Trageser	6/15/92 2000	FEDERAL EXPRESS			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John Gruber	Date / Time 6-16-92 1000	Remarks AIRBILL # 4347525490	

Distribution Original Accompanies Shipment. Copy returned with Report.

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Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15368

001044

Cooler 1 of 2

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN

SAMPLERS: (Signature) Kenneth J. Mack, Barbara J. Cummings, Mark E. Kimes, Jeri L. Tragesser, Barbara Jokel

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40ml glass)	TCL 5 VOLS (1 liter glass)	TCL Post 7 PCB (1 liter glass)	TAL metals (TOTAL) (1 liter glass)	TAL metals (DISSOLVED) (1 liter poly)	chloride sulfate alkalinity	REMARKS
	6/15/92	1525		✓	GWA-206	9	2	2	2	1	1	1	
	6/15/92	1725		✓	GWA-212	9	2	2	2	1	1	1	
	6/16/92	1150		✓	GWA-208	9 ~~8~~ JLT	2	2	2	1	1	1	
					TBA-223	2	2						
					Temp Vial	1							All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri L. Tragesser	6/16/92 2000	Federal Express			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John Gruber	Date / Time 6-17-92 1000	Remarks Airbill # 4347525501	

Distribution Original Accompanies Shipment. Copy returned with Report.

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WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 15369

Cooler 2 of 2

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN

SAMPLERS: (Signature) [signature] Kenneth L. Mott Barbara J. Crump [signature] Jeri R. Trageser Barbara Jakel

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: TCL VOLS (40ml)	TCLS VOLS (1 liter)	TCL Pest/PCB (1 liter)	TAL Met (TOTAL) (1 liter)	TAL Met (DISSOLVED) (1 liter)	Chloride sulfate alkalinity (1 liter)	REMARKS
	6/16/92	1020		✓	GWA-209	9	2	2	2	1	1	1	
	6/16/92	1140		✓	GWA-234	9	2	2	2	1	1	1	
	6/16/92	1140		✓	GWA-204	9	2	2	2	1	1	1	
	6/16/92	1015		✓	TBA-224	2	2						
					1 Temp Vial	1							
													All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/16/92 2000	Fed Ex			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		John Grubb	6-17-92 1000	AIRBILL # 4347525501	

Distribution Original Accompanies Shipment. Copy returned with Report

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QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15369

Cooler 2 of 2

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Edward E. Kimes, Kenneth L. Mauff, Barbara J. Crump, John Eggimann, Jeri R. Trageser, Barbara Jokel

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: TCL VOCs (HCl)	TCL VOCs (Water)	TCL Semi-VOCs (Water)	TAL Met (Total) (Water)	TAL Met (Diss. Water)	Chemical Analysis Water (Liters)	REMARKS
	6/16/92	1020		✓	GWA-209	9	2	2	2	1	1	1	
	6/16/92	1140		✓	GWA-234	9	2	2	2	1	1	1	
	6/16/92	1140		✓	GWA-204	9	2	2	2	1	1	1	
	6/16/92	1015		✓	TBA-224	2	2						
					1 Temp Vial	1							
													All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/16/92 2000	Fed. Ex			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) John L. Gruber	Date / Time 6-17-92 1000	Remarks AIRBILL # 4347523501	

Distribution Original Accompanies Shipment. Copy returned with Report.

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Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15370

Cooler 1 of 1/3

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Barbara J Cramp, Kenny Martin, Barb Jolly, John E Zimmerman, Jon R. Trageser, Pat E. Kimm

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: RL VOLS (40ml)	TCL SVOLS (1 liter)	TCL Pest/PCB (1 liter)	TAL metals (1 liter)	TAL metals (1 liter)	Chloride Sulfate Alkalinity (1 liter)	REMARKS
	6/17/92 JLT	1145		✓	GWA-207	27	6	6	6	3	3	3	+ includes MS/MSD vol
	6/16/92 JLT	1020		✓	TBA-225	2	2						
													* All samples for level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Trageser	6/17/92	Fed Ex			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	6-19-92 0925	AIRBILL # 4347525405	

Distribution Original Accompanies Shipment. Copy returned with Report.

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QUOTE / SAR NUMBER _____

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WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15371

Cooler 2 of 4

PROJ. NO.

PROJECT NAME/LOCATION: 19084-SRN

SAMPLERS: (Signature) Barbara J. Cunningham, John E. Gunnison, Paul E. Gunnison, Barb Spaler, Jeri R. Tragesser, Ken Martin

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40ml)	TCL SVOLS (1 liter)	TCL Pest/PCB (1 liter)	TAL metals (Total) (1 liter)	TAL metals (DISSOLVED) (1 liter)	Chloride sulfates alkalinity (1 liter)	REMARKS
	6/17/92	1210		✓	GWA-223	9	2	2	2	1	1	1	
	6/17/92	1210		✓	GWA-224	9	2	2	2	1	1	1	
	6/16/92	1025		✓	TBA 226	2	2						
					Temp Vial	1							

* All samples for Level D QA/QC.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesser	6/17/92 1800	Fed Ex			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		John Gul	6-19-92 0925	AIRBILL # 4347525405	

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QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 15372

Cooler 3 of 5

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN

SAMPLERS: (Signature) Barbara J. Cunningham, [illegible], Jeri R. Trageser, [illegible], Ken Martin

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS (40ml)	TCL VOLS (1 liter)	TCL Pest/PCB (1 liter)	TAL metals (TOTAL) (1 liter)	TAL Metals (DISSOLVED) (1 liter)	Chloride, Sulfate, Alkalinity (1 liter)	REMARKS
	6/17/92	1130		✓	GWA-226	9	2	2	2	1	1	1	
	6/17/92	1130		✓	GWA-235	9	2	2	2	1	1	1	
	6/17/92	1530		✓	TBA-227	2	2						
					Temp Vial	1							
													ALL Samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Trageser	6/17/92 1800	Fed Ex			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	6-19-92 0925	AIRBILL # 4347525405	

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QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

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№ 15373

Cooler 4 of 4

PROJ. NO.	PROJECT NAME/LOCATION
	19084-SRN

SAMPLERS: (Signature) Jeri R. Tragesser, Barbara Bartlett

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	AL VOLS (40ml)	TAL VOLS (40ml)	TAL Pest/PCB (1 liter)	TAL Metals (1 liter)	TAL Metals (Total & Dissolved) (1 liter)	Cyanide, Sulfate, Alkalinity (1 liter)	REMARKS
	6/17/92	1510		✓	GWA-210	9✓	2	2	2	1	1	1	This is a "bad" well
													High vols organics on HNu
													OVA~90
													HNu 5
													Bad odor
	6/17/92	1600		✓	RSA-203	9	2	2	2	1	1	1	
	6/17/92	1615		✓	TBA-228	2	2						
					Temp Vial	1							
													All samples for level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jeri R. Tragesser	6/17/92 1800	Fed Ex			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
			6/19/92 0925	FedEx Airbill # 4347525405	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE B039984
QUOTE / SAR NUMBER 13190
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 16503

Cooler 1 of 3

PROJ. NO.	PROJECT NAME/LOCATION
19084	CAMP ALLEN RI/FS, NNB

SAMPLERS: (Signature) John E. Zimmerman Jr. / R.P. Obal / Thomas E. Anton / Kenneth T. Martin

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL (Vols) (40ml)	TCL (SVOLS) (1 lg)	TCL (PST/PCB) (1 lg)	TAL metals (TOTAL) (1 lp)	TAL metals (DISSOLVED) (1 lp)	chloride, sulfate, alkalinity (1 lp)	REMARKS
	6/18/92	0940		X	GWA-231	9	2	2	2	1	1	1	
	6/18/92	1300		X	TBA-229	2	2						
	6/18/92	1300		X	TEMP VIAL	1							*TRIP BLANK SUBSTITUTED*
	6/18/92	1130		X	GWA-211	9	2	2	2	1	1	1	
	6/18/92	1400		X	GWA-230	2	2						
	6/18/92	1725		X	GWA-236	2	2						
	6/18/92	1725		X	GWA-232	2	2						
	6/18/92	1840		X	GWA-219	2	2						

* All SAMPLES LEVEL D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Thomas E. Anton	6-18-92 ~~1955~~ TEA 1955	Fed EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		John Graber	6-19-92 0925	Fed EX Airbill 4347525545	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE B039984
QUOTE / SAR NUMBER 13190
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 16505

Cooler 2 of 3

PROJ. NO.	PROJECT NAME/LOCATION
19084	CAMP ALLEN RI/FS, NNB

SAMPLERS: (Signature) John C. Zimmerman Jr., R.P. Dabel, Thomas S. Arthur, Kenneth T. Martin

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL (SVOLS) (1 LG)	TCL (PST/PCBS) (1 LG)	TAL metals (1 LP)	TAL metals (1 LP)	Dissolved chloride, sulfate, alkalinity (1 LP)		REMARKS
	6/18/92	1400		X	GWA-230	7	2	2	1	1	1		
	6/18/92	1330		X	TEMP VIAL	1							* TRIP BLANK SUBSTITUTED *
	6/18/92	1725		X	GWA-236	7	2	2	1	1	1		

* All SAMPLES FOR LEVEL D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Thomas S. Arthur	6-18-92 1955	Fed EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	6-19-92 0925	Fed EX Airbill C. 4347525545	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE B39984

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 172955

Cooler 5 of 3

PROJ. NO.	PROJECT NAME/LOCATION
19084	CAMP ALLEN RI/FS NNB

SAMPLERS: (Signature) John E. Zimmerman / RP Level / Thomas E. Arthur / Kenneth T. Martin

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL (Subs) (1 L)	TCL (Pest/Pcbs) (1 L)	TAL Metals Total (1 L P)	TAL Metals Dissolved (1 L P)	Chloride, Sulfate, Alkalinity (1 L P)		REMARKS
	6/18/92	1330		X	TEMP VIAL	1							* TRIP BLANK SUBSTITUTED *
	6/18/92	1725		X	GWA-232	7	2	2	1	1	1		
	6/18/92	1840		X	GWA-219	7	2	2	1	1	1		
													* All Samples Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Thomas E. Arthur	6/18/92 1955	Fed EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		John Gruber	6-19-92 0925	Fed EX Airbill 4347525545	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE 539984

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

№ 17296

PROJ. NO.	PROJECT NAME/LOCATION
19084	CAMP ALLEN RI/FS NNB

SAMPLERS: (Signature) [signature] Kenneth J. Martin R.P. Cabal John Zimmerman

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL Vol (40ml)	TCL Svol (1 lg)	TCL Pest/PCB (1 lg)	TAL metals (TOTAL) (1 lp)	TAL metals (DISSOLVED) (1 lp)	Alkalinity, Sulfate, Chloride	REMARKS
	6/19/92	1100		X	TEMP VIAL	1							*Trip Blank substituted*
	6/19/92	1100		X	TBA-230	2	2						
	6/19/92	1030		X	GWA-228	9	2	2	2	1	1	1	
	6/19/92	1040		X	GWA-229	13	6	2	2	1	1	1	*includes ms/msd for VOAs*

*All samples for Level D QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6/19/92 1900	Fed EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Doris Herren	Date / Time 6-20-92 11:30	Remarks Fed EX Airbill # 4300204996	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE B39984
QUOTE / SAR NUMBER _____
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 17293

Cooler 2 of 2

PROJ. NO. 19084

PROJECT NAME/LOCATION: CAMP ALLEN RI/FS, NNB

SAMPLERS: (Signature) Kenneth L. Martin, R.P. Debal, John E. Zimmerman Jr.

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL (SVOCs) (1 l.g.)	TCL PST/PCB (1 l.g.)	TAL metals (TOTAL) (1 l.p.)	TAL metals (DISSOLVED) (1 l.p.)	Alkalinity & Chloride (1 l.p.)	Sulfate (1 l.p.)	REMARKS
	6/19/92	1100		X	TEMP VIAL	1							* TRIP BLANK SUBSTITUTED *
	6/19/92	1040		X	GWA – 229 (MS/MSD)	14	4	4	2	2	2		* MS/MSD Volumes *

* all samples for Level II QA/QC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6/19/92 ~~1900~~ TCK 1900	Fed EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Doris Herren	Date / Time 6-20-92 11:30	Remarks Fed EX Airbill # 4300204996	

Distribution Original Accompanies Shipment. Copy returned with Report

ROUND 3, CLP & NON-CLP SAMPLE CHAIN-OF-CUSTODY RECORDS

COOLER 1/2

CLIENT CODE 3001

QUOTE / SAR NUMBER 14735

Chain-of Custody Record

WADSWORTH/ALERT Laboratories

Division of Enseco Incorporated
4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396 FAX (216) 497-0772

№ 30453

001988

PROJ. NO. 19084

PROJECT NAME/LOCATION C.A.L. NORFOLK

SAMPLERS: (Signature) Kenneth J. Martin

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL-VOLATILES	TCL-SEMI-VOLS	TCL-PEST/PCBs	TAL-TOTAL-METALS	REMARKS
SSB-05	12-8-92	1125		X	AREA B	4	X	X	X	X	28 DAYS (TURN-AROUND TIME)
SSB-10	12-8-92	1125		X	AREA B	4	X	X	X	X	28 DAYS "
SSB-06	12-8-92	1235		X	AREA B	4	X	X	X	X	28 DAYS "
SSB-08	12-8-92	1245		X	AREA B	4	X	X	X	X	28 DAYS "
SSB-07	12-8-92	1258		X	AREA B	4	X	X	X	X	28 DAYS "
SSB-09	12-8-92	1330		X	AREA B	4	X	X	X	X	28 DAYS " MS/MSD
FB-201	12-8-92	1045		X	AREA B	2	X				28 DAYS "
FB-202	12-8-92	1450		X	AREA B	2	X				28 DAYS "
TBB-301	12-8-92	1500		X	AREA B	2	X				28 DAYS "

LEVEL "D" QA/QC
TEMPERATURE VIAL INCLUDED

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Kenneth J. Martin	12/8/92 1900				KM
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					KM
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
KM			12-9-92 1530	AIRBILL # 4347525556	

Distribution Original Accompanies Shipment. Copy returned with Report.

FORM 003

COOLER 2/2

CLIENT CODE 3002
QUOTE / SAR NUMBER _____
Chain-of Custody Record

WADSWORTH/ALERT Laboratories

Division of Enseco Incorporated
4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396 FAX (216) 497-0772

№ 30454

001989

PROJ. NO.	PROJECT NAME/LOCATION
19084	C.A.L NORFOLK.

SAMPLERS: (Signature) Kenneth J. Martin Michael D. Smith

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL-Semivols	TCL-Pest/PCB	TAL-Total Metals	TAL-Dissolved Metals		TOC TEA 12/8/92	REMARKS
FB-201	12-8-92	1045		X	AREA B	6	X	X	X	X			☆ 28 DAY TURN-A-ROUND
FB-202	12-8-92	1450		X	AREA B	6	X	X	X	X			
													☆ Level "D" QA/QC
													☆ TEMPERATURE VIAL INCLUDED

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Kenneth J. Martin	12/8/92 1900				Kim
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					Kim
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
Kim		John Shaber	12-9-92 1530	AIR BILL # 434752555 6	

Distribution Original Accompanies Shipment. Copy returned with Report.

FORM 003

COC 1 of 3

CLIENT CODE 2004

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT Laboratories

Division of Enseco Incorporated
4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396 FAX (216) 497-0772

№ 30456

001990

PROJ. NO.	PROJECT NAME/LOCATION
19084	C.A.L., NORFOLK

SAMPLERS: (Signature) Michael D. Smith / Kenneth Y. Martin

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL-VOLATILES	TCL-SEMI-VOLS	TCL-PEST/PCB	TAL-TOTAL METALS			REMARKS
SSA-05	12-9-92	0810		X	AREA A	4/G	X	X	X	X			28 DAY "TURN AROUND TIME"
SSA-04	12-9-92	0850		X	AREA A	4/G	X	X	X	X			28 DAY "
SSA-03	12-9-92	0850		X	AREA A	4/G	X	X	X	X			28 DAY "
SSA-02	12-9-92	0900		X	AREA A	4/G	X	X	X	X			28 DAY "
SSA-01	12-9-92	1022		X	AREA A	4/G	X	X	X	X			28 DAY "
SDA-26	12-9-92	1135		X	AREA A	3/G	X	X	X				28 DAY "
SDA-28	12-9-92	1155		X	AREA A	3/G	X	X	X				28 DAY "
SDA-27	12-9-92	1205		X	AREA A	3/G	X	X	X				28 DAY "
SDA-30	12-9-92	1445		X	AREA A	3/G	X	X	X				28 DAY "
SDA-31	12-9-92	1445		X	AREA A	3/G	X	X	X				28 DAY "
SDA-29	12-9-92	1535		X	AREA A.	3/G	X	X	X				28 DAY " MS/MSD
TBA-30	12-9-92	1800		X	AREA A.	2/G	X						28 DAY "
													Level "D" QA/QC
													Temp. vial included.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature) Kenneth Y. Martin	Date / Time 12/9/92 1930	Received for Laboratory by: (Signature)	Date / Time 12-10-92 1030	Remarks Air Bill # 4347525560	

Distribution Original Accompanies Shipment. Copy returned with Report.

FORM 003

COC 1 of 3

CLIENT CODE 3004.
QUOTE / SAR NUMBER _____
Chain-of Custody Record

WADSWORTH/ALERT Laboratories

Division of Enseco Incorporated
4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396 FAX (216) 497-0772

№ 30456

000315

PROJ. NO.	PROJECT NAME/LOCATION
19084	C.A.L., NORFOLK

SAMPLERS: (Signature) Michael D. Smith, Kenneth J. Martin

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL-VOLATILES	TCL-SEMI-VOLS	TCL-PEST/PCB	TAL-TOTAL METALS			REMARKS
SSA-05	12-9-92	0810		X	AREA A	4/G	X	X	X	X			28 DAY TURN AROUND TIME
SSA-04	12-9-92	0830		X	AREA A	4/G	X	X	X	X			28 DAY "
SSA-03	12-9-92	0850		X	AREA A	4/G	X	X	X	X			28 DAY "
SSA-02	12-9-92	0900		X	AREA A	4/G	X	X	X	X			28 DAY "
SSA-01	12-9-92	1022		X	AREA A	4/G	X	X	X	X			28 DAY "
SDA-26	12-9-92	1135		X	AREA A	3/G	X	X	X				28 DAY "
SDA-28	12-9-92	1155		X	AREA A	3/G	X	X	X				28 DAY "
SDA-27	12-9-92	1205		X	AREA A	3/G	X	X	X				28 DAY "
SDA-30	12-9-92	1445		X	AREA A	3/G	X	X	X				28 DAY "
SDA-31	12-9-92	1445		X	AREA A	3/G	X	X	X				28 DAY "
SDA-29	12-9-92	1535		X	AREA A.	3/G	X	X	X				28 DAY " MS/MSD
TBA-30	12-9-92	1800		X	AREA A.	2/G	X						28 DAY "
													LEVEL "D" QA/QC
													TEMP. VIAL INCLUDED.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					Ken
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					Ken
Relinquished by: (Signature) Kenneth J. Martin	Date / Time 12/9/92 1930	Received for Laboratory by: (Signature) [signature]	Date / Time 12-10-92 1030	Remarks Air Bill # 434752556.0	

Distribution Original Accompanies Shipment. Copy returned with Report.

FORM 003

CLIENT CODE 3002

QUOTE / SAR NUMBER

Chain-of Custody Record

WADSWORTH/ALERT Laboratories

Division of Enseco Incorporated
4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396 FAX (216) 497-0772

Cooler 1 of 1
C-O-C - 1 of 2

№ 30463

000936

PROJ. NO.	PROJECT NAME/LOCATION
	19084 - C.A.L. Norfolk

SAMPLERS: (Signature) Kenneth McMart. Jari R. Tragesser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: TCL VOLS 40ml glass							REMARKS
	12/14/92	1315		X	GWB-314	2	2							All samples for level D QA/QC
	12/14/92	1010		X	GWB-306	2	2							
	12/14/92	1120		X	GWB-301	2	2							
	12/14/92	1315		X	GWB-304	2	2							
	12/14/92	0905		X	RSB-313	2	2							
	12/14/92	1535		X	GWB-310	2	2							
	12/13/92	1810		X	GWB-305	2	2							
	12/13/92	1541		X	GWB-307	2	2							
	12/13/92	1650		X	GWB-302	2	2							
	12/14/92	1520		X	GWB-311	2	2							
	12/14/92	0945		X	GWB-309	2	2							
	12/14/92	1520		X	GWB-315	2	2							
	12/14/92	1135		X	GWB-313	2	2							
	12/14/92	1035		X	GWB-308	2	2							
	12/14/92	1430		X	GWB 312	2	2							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature) Jari R. Tragesser	Date / Time 12/14/92 1900	Received for Laboratory by: (Signature) S. Goodin	Date / Time 12-15-92 1:00	Remarks FEDEX AIRBILL # 4347525571	

Distribution Original Accompanies Shipment. Copy returned with Report.

FORM 003

Cooler 1 of 1
C-O-C 2 of 2

CLIENT CODE 3008
QUOTE / SAR NUMBER
Chain-of Custody Record

WADSWORTH/ALERT Laboratories

Division of Enseco Incorporated
4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396 FAX (216) 497-0772

№ 304599

000947

PROJ. NO.	PROJECT NAME/LOCATION
19084	C.A.L. Norfolk

SAMPLERS: (Signature) Kenneth L. Martin Jon R. Tragesee

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL Vols 40 ml glass	TOC SCG 15.5.92 per JFB	BOD/TSS 500 ml poly		COD 250 ml poly		REMARKS
	12/14/92	1520		X	FSB-GWS-01	4	~~2~~	2	1		1		All TCL Samples
	12/13/92	1650		X	FSB-GWD-01	4	~~2~~	2	1		1		for Level D QA/QC
	12/14/92	1530		X	GWB-303	2	2						
	12/14/92	1530		X	GWB-303MS/MSD	4	4						FSB samples
	12/14/92	1715		X	TBB-302	2	2						non-CLP.
					1 Temp Vial								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jon R. Tragesee	12/14/92 1900	FED EX			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		N Goodin	12.15.92 1:00	AIRBILL # 4347525571	

Distribution Original Accompanies Shipment. Copy returned with Report.

FORM 003

Cooler 1 of 1
C-O-C 1 of 3

CLIENT CODE 399866 TEA
QUOTE / SAR NUMBER 3010
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 172918

000948

PROJ. NO.	PROJECT NAME/LOCATION
19084	C.A.L.

SAMPLERS: (Signature) Thomas E. Arthur, Jeri R. Trageser

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOAs	TCL SVOAs	PEST/PCBs				REMARKS
	12/15/92	1830		X	SBA-10	1 glass	X	X	X				CLP NEESA LEVEL "D"
	12/15/92	1830		X	SBA-11	1 glass	X	X	X				QA/QC.

Note: Sampling method offered limited volume. Also, original container used to minimize volatilization during sample transfer.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Thomas E. Arthur	12/15/92 1900				TEA
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					TEA
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Doris Herren	12-16-92 22:30	Fed. Ex Air Bill #. 4347525604	

Distribution Original Accompanies Shipment. Copy returned with Report.

Cooler 1 of 1
C-OC 1 of 3

CLIENT CODE [illegible]
QUOTE / SAR NUMBER 3009

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W. / NORTH CANTON, OHIO 44720
(216) 497-9396

№ 17292

Chain-of Custody Record

000307

PROJ. NO.	PROJECT NAME/LOCATION
19084	C.A.L.

SAMPLERS: (Signature) Jon R. Trageser Kenneth L. Mack

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS Hexel glass			TOC	COD	BOD/TSS	REMARKS
	12/10/92	0930		X	GWA-310	2	2						All "GWA or RSA" Samples for Level D QA/QC
	12/10/92	1205		X	GWA-311	2	2						
	12/10/92	0930		X	GWA-321	2	2						
	12/10/92	1050		X	GWA-322	2	2						
	12/10/92	1050		X	GWA-305	2	2						All "FSA" Samples (TOC/COD/BOD/TSS) for non-CLP.
	12/10/92	1745		X	GWA-308	2	2						
	12/10/92	1615		X	GWA-309	2	2						in same baggy
	12/10/92	1615		X	GWA-309 ms/msd	4	4						
	12/10/92	1530		X	RSA-301	2	2						
	12/10/92	1315		X	GWA-307	2	2						
	12/10/92	1110		X	GWA-301	2	2						
	12/10/92	0830		X	GWA-306	2	2						
	12/10/92	1015		X	GWA-316	2	2						
	12/10/92	1600		X	GWA-304	2	2						
	12/10/92	1315		X	FSA-GWD-01	4				2	1	1	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Vincent E. Arthur	12/15/92 1930				YCF
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					YCF
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Doris Herron	12-16-92 2:30	Fed Ex # AIR Bill 4347525604	

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE ~~[illegible]~~ JLT 3011

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720

(216) 497-9396

Cooler 1 of 1

C-O-C 3 of 3

№ 17290

000305

PROJ. NO.	PROJECT NAME/LOCATION
19054	CAL

SAMPLERS: (Signature) Jon R. Tragesser Kenneth L. Martin

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	PARAMETER: TCL VOC volume poly						REMARKS
	12/15/92	1915		X	TBA-303	2	2						ALL "GWA" & TBA Samples
	12/15/92	1730		X	GWA-314	2	2						for Level D QA/QC
					(1 TEMP VIAL)								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	12/15/92 1730				[signature]
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					[signature]
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Doris Warren	12/16/92 2:30	Fed Ex Air Bill # 4347525604	

Distribution Original Accompanies Shipment. Copy returned with Report.

COOLER 1 of 1
C-O-C 1 of 2

CLIENT CODE ~~B29984~~ 3012 (JLT)
QUOTE / SAR NUMBER _____
Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

№ 17289

000306

PROJ. NO.	PROJECT NAME/LOCATION
19084	C.A.L. NORFOLK, VA

SAMPLERS: (Signature) Kenneth J. Martin [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOIS 40ml glass	TCL SVOLS 1 ltr glass	TCL Pest/PCB 1 ltr glass	TAL metals - TOTAL 1 ltr poly	TAL metals - Dissolved 1 ltr poly		REMARKS
	12/16/92	0750		x	TBA-30[illegible] (JLT)	2	2						All GWA/GWB/RSA
	12/16/92	1355		x	RSA-302	8	2	2	2	1	1		& TBA Samples
	12/15/92	2008		x	GWA-302	2	2						for Level D QA/QC.
	12/15/92	1840		x	GWA-303	2	2						
	12/15/92	2130		x	GWA-312	2	2						* TEMPERATURE VIAL INCLUDED
	12/16/92	1530		x	GWB-317	JLT ~~2~~ 8	2	2	2	1	1		
	12/16/92	1120		x	GWB-319	8	2	2	2	1	1		
	12/16/92	1135		x	GWB-320	8	2	2	2	1	1		
	12/16/92	0930		x	GWA-315	2	2						
	1216				GWA-313 DN 12-17-92	2	2						

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					Ku
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					Ku

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks
Kenneth J. Martin	12/16/92 1830	[signature]	12/17/92 9:50	AIR BILL # 4300204860

Distribution Original Accompanies Shipment. Copy returned with Report.

CLIENT CODE ~~B39984~~ 3012 (JLT)

QUOTE / SAR NUMBER _____

Chain-of Custody Record

WADSWORTH/ALERT LABORATORIES

4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396

COUNTER 1 of 1
C-O-C 1 of 2

№ 17289

001079

PROJ. NO.	PROJECT NAME/LOCATION
19084	C.A.L. NORFOLK, VA

SAMPLERS: (Signature) Kenneth J. Martin Peter A. Monday

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLS 40ml glass	TCL SVOLS 1 ltr glass	TCL Post/PCB 1 ltr glass	TAL mets - TOTAL 1 ltr poly	TAL mets - Dissolved 1 ltr poly		REMARKS
	12/16/92	0750		x	TBA-304 (JLT)	2	2						All GWA/GWB/RSA
	12/16/92	1355		x	RSA-302	8	2	2	2	1	1		& TBA Samples
	12/15/92	2008		x	GWA-302	2	2						for Level D QA/QC.
	12/15/92	1840		x	GWA-303	2	2						
	12/15/92	2130		x	GWA-312	2	2						* TEMPERATURE VIAL INCLUDED
	12/16/92	1530		x	GWB-317	JLT ~~2~~ 8	2	2	2	1	1		
	12/16/92	1120		x	GWB-319	8	2	2	2	1	1		
	12/16/92	1135		x	GWB-320	8	2	2	2	1	1		
	12/16/92	0930		x	GWA-315	2	2						
	1216				GWA-313 DN 12-17-92	2	2						

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					K
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					K
Relinquished by: (Signature) Kenneth J. Martin	Date / Time 12/16/92 1830	Received for Laboratory by: (Signature) [signature]	Date / Time 12/17/92 9:50	Remarks AIR BILL # 4300204860	

Distribution Original Accompanies Shipment. Copy returned with Report.

Cooler 3/3

CLIENT CODE 3016

QUOTE / SAR NUMBER

Chain-of Custody Record

WADSWORTH/ALERT Laboratories

Division of Enseco Incorporated
4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396 FAX (216) 497-0772

№ 30462

001050

PROJ. NO.	PROJECT NAME/LOCATION
19084	C.A.L. NORFOLK

SAMPLERS: (Signature) Kenneth J. Martin [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL SVOCS	TCL PEST/PCB	TAL METALS, TOTAL	TAL METALS, DISSOLVED		REMARKS
GWA-317	12/18/92	1240		X	AREA A (AMW-18B)	6	2	2	1	1		
GWA-317	12/18/92	1240		X	AREA A (AMW-18B)	12	4	4	2	2		* MS/MSD
												** ALL SAMPLES FOR LEVEL D QA/QC
												TEMPERATURE VIAL INCLUDED

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					Kil
					Y

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks
Kenneth J. Martin	12/18/92 1900	S Goodie	12 19 92 10:15	AIRBILL # 4300204856

Distribution Original Accompanies Shipment. Copy returned with Report.

FORM 003

COOLER 2/3

CLIENT CODE 3015

QUOTE / SAR NUMBER

Chain-of Custody Record

WADSWORTH/ALERT Laboratories

Division of Enseco Incorporated
4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396 FAX (216) 497-0772

№ 30461

001081

PROJ. NO.	PROJECT NAME/LOCATION
1900A	C.A.L. NORFOLK

SAMPLERS: (Signature) Kenneth J. Martin

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL SVOCS	TCL PEST/PCBS	TAL METALS, TOTAL	TAL METALS, DISSOLVED	REMARKS
RSA-23	12/18/92	0745		X	AREA A (PUMP)	6	2	2	1	1	* ALL SAMPLES FOR
GWA-32	12/18/92	1240		X	AREA A AMW-18B	6	2	2	1	1	LEVEL D QA/QC
											TEMPERATURE VIAL INCLUDED

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					K.M.
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					K.
Relinquished by: (Signature) Kenneth J. Martin	Date / Time 12/18/92 1900	Received for Laboratory by: (Signature) D. Goodson	Date / Time 12.19.92 10:15	Remarks AIRBILL # 4300204856	

Distribution Original Accompanies Shipment. Copy returned with Report.

FORM 003

Cooler 1/3

CLIENT CODE 3014

QUOTE / SAR NUMBER

Chain-of Custody Record

WADSWORTH/ALERT Laboratories

Division of Enseco Incorporated
4101 SHUFFEL DRIVE N.W./NORTH CANTON, OHIO 44720
(216) 497-9396 FAX (216) 497-0772

№ 30460

001082

PROJ. NO.	PROJECT NAME/LOCATION
2084	C.A.L. NORFOLK

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	TCL VOLATILES 40 ml	1-liter G TCL SVOLS	1-liter G TCL PEST/PCB	1-liter P TAL METALS, TOTAL	1-liter P TAL METALS DISSOLVED		REMARKS
GWA-318	12/18/92	1045		X	AREA A (AMW-19B)	8	2	2	2	1	1		ALL SAMPLES FOR
RSA-303	12/18/92	0745		X	AREA A (PUMP)	2	X						LEVEL D QA/QC
GWA-317	12/18/92	1240		X	AREA A (AMW-18B)	2	X						
GWA-317	12/18/92	1240		X	AREA A (AMW-18B)	4 ~~2~~	X						*MS/MSD
GWA-320	12/18/92	1240		X	AREA A (AMW-18B)	2	X						
TB4-305	12/18/92	1625		X	AREA A (TRIP BLANK)	2	X						
													TEMPERATURE VIAL INCLUDED

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					K
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					K

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks
[signature]	12/18/92 1900	S. Goodes	12.19.92 10:15	AIRBILL # 4300204856

FORM 003

Distribution Original Accompanies Shipment. Copy returned with Report.

ROUNDS 1, 2 & 3 AIR SAMPLE CHAIN-OF-CUSTODY RECORDS

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 42524

Project Name/No. [1] 19084 C.A.L.
Sample Team Members [2] KJM / BJC
Profit Center No. [3]
Project Manager [4] TOM ARTMAN
Purchase Order No. [6] SEE D.O.
Required Report Date [11] PER D.O.

Samples Shipment Date [7] 1/15/93
Lab Destination [8] ITAS CINCINNATI
Lab Contact [9] JOY WALLACE
Project Contact/Phone [12] BARB CUMMINGS (412) 269-6000
Carrier/Waybill No. [13] FED EX / #5829548491

Bill to: [5] PER DELIVERY ORDER

Report to: [10] BAKER ENVIRONMENTAL, INC.
MR. TOM ARTMAN
AIRPORT OFFICE PARK BLDG 3
420 ROUSER ROAD
CORAOPOLIS PA 15108

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
AA-01A	ROUND 1 / AIR	1/12/93 1530	6L SS	4 LITERS	NA	EPA METHOD TO-14		
AA-02A	ROUND 1 / AIR	1-12-93/1533	6L SS	4 LITERS	NA	EPA METHOD TO-14	FOR LAB USE ONLY	
AA-03A	ROUND 1 / AIR	1-12-93/1536	6L SS	4 LITERS	NA	EPA METHOD TO-14		
AA-04A	ROUND 1 / AIR	1-12-93/1537	6L SS	4 LITERS	NA	EPA METHOD TO-14		
AA-05A	ROUND 1 / AIR	1-12-93/1546	6L SS	4 LITERS	NA	EPA METHOD TO-14	FOR LAB USE ONLY	
AA-06A	ROUND 1 / AIR	1-12-93/1548	6L SS	4 LITERS	NA	EPA METHOD TO-14		
AA-07A	ROUND 1 / AIR	1-12-93/1520	6L SS	4 LITERS	NA	EPA METHOD TO-14		
AA-08A	ROUND 1 / AIR	1-12-93/1516	6L SS	4 LITERS	NA	EPA METHOD TO-14		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard ☒ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: [25]
Return to Client ☐ Disposal by Lab ☒ Archive _____ (mos.)

Turnaround Time Required: [26]
Normal ☒ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify): LEVEL E

1. Relinquished by [28] (Signature/Affiliation)	Date: Time:	1. Received by [28] (Signature/Affiliation)	Date: Time: KM
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: KM Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

* AA-12A POINT SOURCE LOCATION

MCA 3/15/9

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 425246
Page 2 of 2

Project Name 19084

Project No. 19084

Samples Shipment Date 15 JAN 93

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
AA-09A	ROUND 1/AIR	1-12-93/1553	6 L SS	4 LITERS	NA	EPA METHOD TØ-14		
AA-10A	ROUND 1/AIR	1-12-93/1525	6 L SS	4 LITERS	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	
AA-11A	ROUND 1/AIR	1-12-93/1554	6 L SS	4 LITERS	NA	EPA METHOD TØ-14		
AA-12A *	ROUND 1/AIR	1-12/93/1542	6 L SS	4 LITERS	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	
AB-01A	ROUND 1/AIR	1-12-93/1525	6 L SS	4 LITERS	NA	EPA METHOD TØ-14		
AB-02A	ROUND 1/AIR	1-12-93/1523	6 L SS	4 LITERS	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	
AB-03A	ROUND 1/AIR	1-12-93/1518	6 L SS	4 LITERS	NA	EPA METHOD TØ-14		
AB-04A	ROUND 1/AIR	1-12-93/1521	6 L SS	4 LITERS	NA	EPA METHOD TØ-14		
AB-05A	ROUND 1/AIR	1-12-93/1520	6 L SS	4 LITERS	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	
A-01A	ROUND 1/AIR	1-12-93/1536	6 L SS	4 LITERS	NA	EPA METHOD TØ-14		
A-02A	ROUND 1/AIR	1-12-93/1545	6 L SS	4 LITERS	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	
A-03A	ROUND 1/AIR	1-12-93/1530	6 L SS	4 LITERS	NA	EPA METHOD TØ-14		
A-04A	ROUND 1/AIR	1-12-93/1533	6 L SS	4 LITERS	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	
A-05A	ROUND 1/AIR	1-12-93/1540	6 L SS	4 LITERS	NA	EPA METHOD TØ-14		
TB-A	ROUND 1 BLANK	1-12-93/	6 L SS	~~4 LM~~	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 42523
Page 1 of 2

Project Name/No. [1] 19084 C.A.C.
Sample Team Members [2] KJM / BJC
Profit Center No. [3]
Project Manager [4] TOM ARTMAN
Purchase Order No. [6] SEE D.O.
Required Report Date [11] PER D.O.

Samples Shipment Date [7] 15 JAN 93
Lab Destination [8] ITAS CINCINNATI
Lab Contact [9] JOY WALLACE
Project Contact/Phone [12] BARB CUMMINGS (412) 269-6000
Carrier/Waybill No. [13] FED EX 5829548502

Bill to: [5] PER DELIVERY ORDER

Report to: [10] BAKER ENVIRONMENTAL, INC.
MR. TOM ARTMAN
AIRPORT OFFICE PARK BLDG 3
420 ROUSER ROAD
CORAOPOLIS PA 15108

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Preservative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
AA-01B	ROUND 2 / AIR	1-13-93/1516	6L SS	4-LITERS	NA	EPA METHOD TO-14		
AA-02B	ROUND 2 / AIR	1-13-93/1517	6L SS	4 LITERS	NA	EPA METHOD TO-14	FOR LAB USE ONLY	
AA-03B	ROUND 2 / AIR	1-13-93/1520	6L SS	4-LITERS	NA	EPA METHOD TO-14		
AA-04B	ROUND 2 / AIR	1-13-93/1522	6L SS	4 LITERS	NA	EPA METHOD TO-14		
AA-05B	ROUND 2 / AIR	1-13-93/1526	6L SS	4 LITERS	NA	EPA METHOD TO-14	FOR LAB USE ONLY	
AA-06B	ROUND 2 / AIR	1-13-93/1528	6L SS	4 LITERS	NA	EPA METHOD TO-14		
AA-07B	ROUND 2 / AIR	1-13-93/1511	6L SS	4 LITERS	NA	EPA METHOD TO-14		
AA-08B	ROUND 2 / AIR	1-13-93/1509	6L SS	4 LITERS	NA	EPA METHOD TO-14		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard [X] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ]

Sample Disposal: [25]
Return to Client [ ] Disposal by Lab [X] Archive _____ (mos.)

Turnaround Time Required: [26]
Normal [X] Rush [ ]

QC Level: [27]
I. [ ] II. [ ] III. [ ] Project Specific (specify): LEVEL E

1. Relinquished by [28] (Signature/Affiliation) Date: Time:	1. Received by [28] (Signature/Affiliation) Date: Time: KM
2. Relinquished by (Signature/Affiliation) Date: Time:	2. Received by (Signature/Affiliation) Date: Time: KM
3. Relinquished by (Signature/Affiliation) Date: Time:	3. Received by (Signature/Affiliation) Date: Time:

Comments: [29]

* AA-12B POINT SOURCE LOCATION

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 425238

Project Name 19084 C, A, L

Project No. 19084

Samples Shipment Date 15 JAN 93

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
AA-09B	ROUND 2/AIR	1-13-93/1533	6L SS	4 LITERS	NA	EPA METHOD TØ-14		
AA-10B	ROUND 2/AIR	1-13-93/1515	6L SS	4 LITERS	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	
AA-11B	ROUND 2/AIR	1-13-93/1534	6L SS	4 LITERS	NA	EPA METHOD TØ-14		
AA-12B *	ROUND 2/AIR	1-13-93/1530	6L SS	4 LITERS	N.A.	EPA METHOD TØ-14	FOR LAB USE ONLY	
AB-01B	ROUND 2/AIR	1-13-93/1514	6L SS	4 LITERS	NA	EPA METHOD TØ-14		
AB-02B	ROUND 2/AIR	1-13-93/1512	6L SS	4 LITERS	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	
AB-03B	ROUND 2/AIR	1-13-93/1505	6L SS	4 LITERS	NA	EPA METHOD TØ-14		
AB-04B	ROUND 2/AIR	1-13-93/1508	6L SS	4 LITERS	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	
AB-05B	ROUND 2/AIR	1-13-93/1507	6L SS	4 LITERS	NA	EPA METHOD TO-14		
A-01B	ROUND 2/AIR	1-13-93/1525	6L SS	4 LITERS	NA	EPA METHOD TO-14	FOR LAB USE ONLY	
A-02B	ROUND 2/AIR	1-13-93/1534	6L SS	4 LITERS	NA	EPA - METHOD TØ-14		
A-03B	ROUND 2/AIR	1-13-93/1519	6L SS	4 LITERS	NA	EPA METHOD TØ-14	FOR LAB USE ONLY	
A-04B	ROUND 2/AIR	1-13-93/1522	6L SS	4 LITERS	NA	EPA METHOD TO-14		
A-05B	ROUND 2/AIR	1-13-93/1528	6L SS	4 LITERS	NA	EPA METHOD TO-14	FOR LAB USE ONLY	
TB-B	ROUND 2 BLANK	1-13-93/—	6L SS	~~4 LITERS~~ NA	NA	EPA METHOD TØ-14		

White: To accompany samples

Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document 425241
Page 1 of 2

Project Name/No. 1 19084 C.A.L.
Sample Team Members 2 KJM / BJC
Profit Center No. 3
Project Manager 4 TOM ARTMAN
Purchase Order No. 6 SEE D.O.
Required Report Date 11 PER D.O.

Samples Shipment Date 7 15 JAN 93
Lab Destination 8 ITAS CINCINNATI
Lab Contact 9 JOY WALLACE
Project Contact/Phone 12 BARB CUMMINGS (412) 269-6000
Carrier/Waybill No. 13 FED EX / #582954851 3

Bill to: 5 PER DELIVERY ORDER

Report to: 10 BAKER ENVIRONMENTAL INC.
MR. TOM ARTMAN
AIRPORT OFFICE PARK BLDG 3
420 ROUSER ROAD
CORAOPOLIS PA 15108

White: To accompany samples
Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
AA-01C	ROUND 3 / AIR	1-14-93 / 1521	6L SS	4 LITERS	NA	EPA METHOD TO-14	Samples	
AA-02C	ROUND 3 / AIR	1-14-93 / 1523	6L SS	4 LITERS	NA	EPA METHOD TO-14	received	
AA-03C	ROUND 3 / AIR	1-14-93 / 1530	6L SS	4 LITERS	NA	EPA METHOD TO-14	in good	
AA-04C	ROUND 3 / AIR	1-14-93 / 1532	6L SS	4 LITERS	NA	EPA METHOD TO-14	condition	
AA-05C	ROUND 3 / AIR	1-14-93 / 1536	6L SS	4 LITERS	NA	EPA METHOD TO-14	w/ COC	
AA-06C	ROUND 3 / AIR	1-14-93 / 1538	6L SS	4 LITERS	NA	EPA METHOD TO-14	seals intact	
AA-07C	ROUND 3 / AIR	1-14-93 / 1516	6L SS	4 LITERS	NA	EPA METHOD TO-14	Julie Moore	
AA-08C	ROUND 3 / AIR	1-14-93 / 1514	6L SS	4 LITERS	NA	EPA METHOD TO-14	1/20/93	

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☒ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: 25
Return to Client ☐ Disposal by Lab ☒ Archive _____ (mos.)

Turnaround Time Required: 26
Normal ☒ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): LEVEL E

1. Relinquished by 28 (Signature/Affiliation) Barbara Cummings, Baker Environmental Inc.	Date: 1-15-93 Time: 1300	1. Received by 28 (Signature/Affiliation) Julie Moore ITAS	Date: 1/18/93 Time: 1500 KM
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time: KM
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

* AA-12C POINT SOURCE LOCATION / BOX 1C thru 4C / Extra Summa Canister in Shipment

*See back of form for special instructions.

MCA 3/15/91

WU T-12

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 425241
Page 2 of 2

Project Name 19084 C.A.C. Project No. 190848 Samples Shipment Date 15 JAN 93

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
AA-09C	ROUND 3/ AIR	1-14-93/1549	6L SS	4 LITERS	NA	EPA METHOD TO-14	Sampled	
AA-10C	ROUND 3/ AIR	1-14/93/1518	6L SS	4 LITERS	NA	EPA METHOD TO-14	Received	
AA-11C	ROUND 3/ AIR	1-14-93/1545	6L SS	4 LITERS	NA	EPA METHOD TO-14	for	
AA-12C *	ROUND 3/ AIR	1-14-93/1524	6L SS	4 LITERS	NA	EPA METHOD TO-14	Condition	
AB-01C	ROUND 3/ AIR	1-14-93/1508	6L SS	4 LITERS	NA	EPA METHOD TO-14	w/ COC	
AB-02C	ROUND 3/ AIR	1-14-93/1506	6L SS	4 LITERS	NA	EPA METHOD TO-14	seals	
AB-03C	ROUND 3/ AIR	1-14-93/1500	6L SS	4 LITERS	NA	EPA METHOD TO-14	intact	
AB-04C	ROUND 3/ AIR	1-14-93/1503	6L SS	4 LITERS	NA	EPA METHOD TO-14	J. Moore	
AB-05C	ROUND 3/ AIR	1-14-93/1501	6L SS	4 LITERS	NA	EPA METHOD TO-14	1/21/93	
A-01C	ROUND 3/ AIR	1-14-93/1520	6L SS	4 LITERS	NA	EPA METHOD TO-14		
A-02C	ROUND 3/ AIR	1-14-93/1537	6L SS	4 LITERS	NA	EPA METHOD TO-14		
A-03C	ROUND 3/ AIR	1-14-93/1514	6L SS	4 LITERS	NA	EPA METHOD TO-14		
A-04C	ROUND 3/ AIR	1-14-93/1517	6L SS	4 LITERS	NA	EPA METHOD TO-14		
A-05C	ROUND 3/ AIR	1-14-93/1522	6L SS	4 LITERS	NA	EPA METHOD TO-14		
TB-C	ROUND 3 BLANK	1-14-93/—	6L SS	—	NA	EPA METHOD TO-14		

FOR LAB USE ONLY

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.[30] 425241
Page 2 of 2

Project Name 19084 CIAIL

Project No. 190848

Samples Shipment Date 15 JAN 93

ONE CONTAINER PER LINE

Sample[14] Number	Sample[15] Description/Type	Date/Time[16] Collected	Container[17] Type	Sample[18] Volume	Pre-[19] servative	Requested Testing[20] Program	Condition on[21] Receipt	Disposal[22] Record No.
12264 AA-09C	ROUND 3/ AIR	1-14-93/1549	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000918*	AA0337
11284 AA-10C	ROUND 3/ AIR	1-14-93/1518	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000919*	LAB 338
11371 AA-11C	ROUND 3/ AIR	1-14-93/1546	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000920*	ONLY 339
0178 AA-12C *	ROUND 3/ AIR	1-14-93/1524	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000921*	340
12263 AB-01C	ROUND 3/ AIR	1-14-93/1508	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000922*	LAB 341
12258 AB-02C	ROUND 3/ AIR	1-14-93/1506	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000923*	ONLY 342
0110 AB-03C	ROUND 3/ AIR	1-14-93/1500	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000924*	LAB 343
04393 AB-04C	ROUND 3/ AIR	1-14-93/1503	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000925*	ONLY 344
11407 AB-05C	ROUND 3/ AIR	1-14-93/1501	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000926*	345
0046 A-01C	ROUND 3/ AIR	1-14-93/1620	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000927*	LAB 346
11285 A-02C	ROUND 3/ AIR	1-14-93/1537	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000928*	ONLY 347
0133 A-03C	ROUND 3/ AIR	1-14-93/1614	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000929*	LAB 348
12886 A-04C	ROUND 3/ AIR	1-14-93/1517	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000930*	ONLY 349
0094 A-05C	ROUND 3/ AIR	1-14-93/1532	6L SS	4 LITERS	NA	EPA METHOD TO-14	*0000931*	350
11369 TB-C	ROUND 3 BLANK	1-14-93/—	6L SS	—	NA	EPA METHOD TO-14	*0000932*	LAB 351
								ONLY
								LAB
								ONLY

White: To accompany samples
Yellow: Field copy

*See back of form for special instructions.

APPENDIX Q

APPENDIX Q
DATA VALIDATION ANALYTICAL SUMMARIES

APPENDIX Q BREAKDOWN

Section	Sample Group	Data Validation Report Date
Q-1	RSA-02	11/30/92
Q-2	GWA-221	11/30/92
Q-3	RSB-10	11/30/92
Q-4	GWA-219	12/2/92
Q-5	RSB-06	12/4/92
Q-6	GWA-204	12/4/92
Q-7	FBD-100	12/4/92
Q-8	GWA-205	12/4/92
Q-9	Selected metals	12/8/92
Q-10	SBB-07	12/9/92
Q-11	GWB-201	1/12/93
Q-12	SSB-05	2/2/93
Q-13	GWA-313	2/2/93
Q-14	SDA-29	2/2/93
Q-15	GWA-301	2/2/93
Q-16	Round 1 Air	2/16/93
Q-17	Round 2 Air	2/16/93
Q-18	Round 3 Air	2/16/93

GLOSSARY OF SOME COMMON DATA QUALIFIER CODES AND TERMINOLOGY USED IN THE EPA CONTRACT LABORATORY PROGRAM

Codes Relating To Identification

(indicate confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates the approximate sample concentration necessary to be detected.

NO CODE = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm the result.

N = Tentative identification. Consider analyte present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(indicate positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

OTHER CODES

Q = No analytical result.

AWD
TECHNOLOGIES
A Subsidiary of
The Dow Chemical Company

PGH-92-TMJ-1142

DATE November 30, 1992

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Project Number CTO-84
SDG Number RSA02

Samples:

SBA09	SWA11	SWA17	SWA12	GWB210
GWB207	GWB208	GWB212	GWB209	GWB223
GWB219				

Field Blanks:

TBA03	TBA04	TBA05	TBB201	TBB202
TBB203	TBB204	RSA02	RSA03	

Field Duplicates:

SBA09 and SBA07 (In SDG Number GWB201)

AWD Technologies, Inc.
Penn Center West Building III Suite 300 Pittsburgh Pennsylvania 15276 Telephone 412 788 2717 Fax 412 788 1316

Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 10 water samples and 1 soil sample plus 9 field blanks. The samples were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), pesticides/PCBs, and TAL metals (filtered and unfiltered) by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed with the exception of those qualified as unreliable "R". The quality of organic analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, compound identification, and compound quantitation. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, matrix spikes, laboratory and field blanks, laboratory duplicates, laboratory control samples, GFAA analytical spike recoveries, ICP serial dilutions, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Major Issues

Analytical spike recoveries for selenium in samples GWB207 and GWB219 were less than the 40 percent quality control limit in the initial and rerun analyses. Therefore, quantitation limits for selenium in these sample are qualified "R", unreliable.

Minor Issues

Acetone, 2-butanone, phenol, di-n-butylphthalate, bis(2-ethylhexyl)phthalate, gamma-BHC, heptachlor, dieldrin, endrin, aluminum, antimony, arsenic, calcium, chromium, cobalt, iron, magnesium, selenium, silver, sodium, thallium, vanadium, and zinc were reported in laboratory and/or field blanks. Therefore, positive results for acetone, 2-butanone, bis(2-ethylhexyl)phthalate and di-n-butylphthalate which are less than ten (10) times the blank concentrations are qualified "B". Also, results for phenol, dieldrin, aluminum, antimony, arsenic, chromium, cobalt, iron, silver, thallium, vanadium, and zinc less than five (5) times the blank concentrations are qualified "B". No results for the other above mentioned compounds are qualified because either there were no positive results for these compounds in any samples or sample concentrations were greater than five (5) times the blanks levels.

Pesticide surrogate spike recoveries for a number of samples were below quality control limits. Therefore, positive results in affected samples are qualified "L", biased low, and quantitation limits are qualified "UL", biased low. Please note that both surrogate spike recoveries for the laboratory blank associated with this data set (PBLK1) were well below criteria. No data are qualified on the basis of the blank surrogate results because some samples have already been qualified due to surrogate spike problems while surrogate spike recoveries for the other samples are within the acceptable range.

Percent differences (%Ds) for 2-nitrophenol, pentachlorophenol, and 2,4-dinitrotoluene exceeded the 25 percent quality control limit in continuing calibrations. Therefore, quantitation limits for these compounds are qualified "UJ", estimated, in samples associated with the calibrations.

Semivolatile internal standard responses were below the laboratory's quality control range for several samples. The samples were reanalyzed by the laboratory as required by the statement of work. In the reanalysis, internal standard responses for some samples met criteria while others were still outside the required range. For samples which had satisfactory internal standard responses in the rerun analyses, only these reanalyses are reported on the data summary. If the rerun was also outside of criteria, only the initial run is reported on the data summary. For samples in which internal standard responses were outside laboratory limits, positive results of compounds associated with each internal standard are qualified "J", estimated, and quantitation limits are qualified "UJ", estimated. Both initial and rerun analyses are included in Appendix A.

The matrix spike recovery for selenium in the analyses of unfiltered samples was below the 75 percent quality control limit. Therefore, quantitation limits for selenium are qualified "UL", biased low.

Laboratory duplicate results for zinc (filtered samples) exceeded the 20 percent quality control limit applied to water samples. Therefore, positive unfiltered zinc results, other than those qualified "B" because of blank contamination, are qualified "J", estimated.

Analytical spike results for arsenic, lead, selenium, and thallium were outside the 85 to 115 percent quality control range in some samples. Whenever the spike recovery is greater than 115 percent, positive results are qualified "K", biased high. Whenever analytical spike recoveries are less than 85 percent, quantitation limits are qualified "UL", biased low. Please note that some results for arsenic, selenium, and thallium have been previously qualified "B" due to blank contamination and the "B" qualifier takes precedence under current U.S. EPA guidelines.

Notes

Some results of the pesticide/PCB analysis (Appendix A) were flagged "P" by the laboratory because percent differences (%Ds) between reported concentrations on the primary and confirmation columns was greater than 25 percent. No data are qualified on the basis of these %Ds because qualification of data is not required by current guidelines. Appendix C shows the laboratory's results on each column. Note that most of the flagged results are qualified "J", estimated, on the data summary because the reported concentrations were below contract required quantitation limits (CRQLs).

Results for 1,2-dichloroethane, total 1,2-dichloroethene, naphthalene, dibenzofuran, diethylphthalate, fluorene, fluoranthene, pyrene, 1,2-dichlorobenzene, 2-methylphenol, 4-methylphenol, 4-chloro-3-methylphenol, 2-methylnaphthalene, acenaphthene, phenanthrene, 2,4-dimethylphenol, endrin, heptachlor epoxide, 4,4'-DDD, endosulfan sulfate, and 4,4'-DDE in some samples were below contract required quantitation limits (CRQL). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated on the data summaries.

Matrix spike (MS)/matrix spike duplicate (MSD) results for several compounds failed to meet quality control criteria. No results are qualified on the basis of the MS/MSD results because according to current U.S. EPA guidelines, data should not be qualified on the basis of MS/MSD results alone.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Tentatively Identified Compounds (TICs)
5. Appendix C - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # RSA02

Sample no.	GWB207	GWB208	GWB209	GWB210	GWB212	GWB219
Date collected	6/10/92	6/10/92	6/10/92	6/10/92	6/10/92	6/11/92
Date analyzed	6/15/92	6/15/92	6/15/92	6/15/92	6/15/92	6/16/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	7 B	10 U	4 B	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	10 U	10 U	2 J
butanone	10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroethan	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	47
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	GWB223	RSA-02	RSA-03	SBA-09	SWA-11	SWA-12
Date collected	6/10/92	5/28/92	6/2/92	5/28/92	6/2/92	6/2/92
Date analyzed	6/15/92	6/5/92	6/8/92	6/3/92	6/8/92	6/8/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/kg	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	2000 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	2000 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	2000 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	2000 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	2000 U	10 U	10 U
Acetone	6 B	10 U	6 J	1100 B	10 U	14 B
Carbon disulfide	10 U	10 U	10 U	2000 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	2000 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	2000 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	760 J	10 U	10 U
Chloroform	10 U	10 U	10 U	2000 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	2000 U	10 U	10 U
2-butanone	10 U	10 U	10 U	2300 B	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	2000 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	2000 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	2000 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	2000 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	2000 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	2000 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	2000 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	2000 U	10 U	10 U
Benzene	10 U	10 U	10 U	2000 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	2000 U	10 U	10 U
Bromoform	10 U	10 U	10 U	2000 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	2000 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	2000 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	2000 U	10 U	10 U
1,2,2,2-tetrachloroethan	10 U	10 U	10 U	2000 U	10 U	10 U
Toluene	10 U	10 U	12	2600	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	2000 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	2000 U	10 U	10 U
Styrene	10 U	10 U	10 U	2000 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	2000 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # RSA02

Sample no.	SWA-17	TBA-03	TBA-04	TBA-05	TBB201	TBB202
Date collected	6/2/92	5/28/92	6/2/92	6/2/92	6/10/92	6/10/92
Date analyzed	6/8/92	6/8/92	6/8/92	6/8/92	6/15/92	6/15/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10 U	10	8 J	11
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
butanone	10 U	10 U	10 U	10 U	10 U	3 J
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroethan	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	TBB203	TBB204
Date collected	6/10/92	6/11/92
Date analyzed	6/15/92	6/15/92
Percent moisture	NA	NA
Dilution factor	1	1
Units	ug/L	ug/L
Chloromethane	10 U	10 U
Bromomethane	10 U	10 U
Vinyl chloride	10 U	10 U
Chloroethane	10 U	10 U
Methylene chloride	10 U	10 U
Acetone	9 J	7 J
Carbon disulfide	10 U	10 U
1,1-dichloroethene	10 U	10 U
1,1-dichloroethane	10 U	10 U
1,2-dichloroethene	10 U	10 U
Chloroform	10 U	10 U
1,2-dichloroethane	10 U	10 U
2-butanone	10 U	10 U
1,1,1-trichloroethane	10 U	10 U
Carbon tetrachloride	10 U	10 U
Bromodichloromethane	10 U	10 U
1,2-dichloropropane	10 U	10 U
C-1,3-dichloropropene	10 U	10 U
Trichloroethene	10 U	10 U
Dibromochloromethane	10 U	10 U
1,1,2-trichloroethane	10 U	10 U
Benzene	10 U	10 U
T-1,3-dichloropropene	10 U	10 U
Bromoform	10 U	10 U
4-methyl-2-pentanone	10 U	10 U
2-hexanone	10 U	10 U
Tetrachloroethene	10 U	10 U
1,2,2,2-tetrachloroethan	10 U	10 U
Toluene	10 U	10 U
Chlorobenzene	10 U	10 U
Ethylbenzene	10 U	10 U
Styrene	10 U	10 U
Xylenes(total)	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
DG # RSA02

Sample no.	GWB207	GWB208	GWB209	GWB210	GWB212
Date collected	6/10/92	6/10/92	6/10/92	6/10/92	6/10/92
Date extracted	6/15/92	6/15/92	6/15/92	6/15/92	6/15/92
Date analyzed	6/16/92	6/16/92	6/16/92	6/16/92	6/16/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	1 B	1 B	1 B	2 B	1 B
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	4 J	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-nitrophenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2,4-dimethylphenol	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	1 J	10 U	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	76	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	GWB207	GWB208	GWB209	GWB210	GWB212
Date collected	6/10/92	6/10/92	6/10/92	6/10/92	6/10/92
Date extracted	6/15/92	6/15/92	6/15/92	6/15/92	6/15/92
Date analyzed	6/16/92	6/16/92	6/16/92	6/16/92	6/16/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	7 J	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	1 J	10 U	3 J	0.9 J	0.7 J
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	0.5 J	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	1 B	0.9 B	4 B
Fluoranthene	1 B	10 U	10 U	10 U	10 U
Pyrene	0.8 J	10 UJ	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 UJ	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 U	10 UJ	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 UJ	10 U	10 U	10 U
Chrysene	10 U	10 UJ	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	0.7 B	10 UJ	10 U	10 U	1 B
Di-n-octylphthalate	10 U	10 UJ	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 UJ	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 UJ	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 UJ	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 UJ	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 UJ	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 UJ	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
DG # RSA02

Sample no.	GWB219	GWB223	RSA03	SBA09	SWA11
Date collected	6/11/92	6/10/92	6/2/92	5/28/92	6/2/92
Date extracted	6/15/92	6/15/92	6/8/92	6/4/92	6/8/92
Date analyzed	6/17/92	6/16/92	6/15/92	6/15/92	6/16/92
Percent moisture	NA	NA	NA	36	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/kg	ug/L
Phenol	1 B	1 B	10 U	520 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	520 U	10 U
2-chlorophenol	10 U	10 U	10 U	520 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	520 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	520 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	520 U	10 U
2-methylphenol	10 U	10 U	10 U	32 J	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	520 U	10 U
4-methylphenol	10 U	10 U	10 U	52 J	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	520 U	10 U
Hexachloroethane	10 U	10 U	10 U	520 U	10 U
Nitrobenzene	10 U	10 U	10 U	520 U	10 U
Isophorone	10 U	10 U	10 U	520 U	10 U
2-nitrophenol	10 UJ	10 UJ	10 U	520 U	10 UJ
2,4-dimethylphenol	10 U	10 U	10 U	1100	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	520 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	520 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	520 U	10 U
Naphthalene	10 U	10 U	10 U	710	10 U
4-chloroaniline	10 U	10 U	10 U	520 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	520 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	36 J	10 U
2-methylnaphthalene	10 U	10 U	10 U	360 J	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	520 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	520 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	1300 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	520 U	10 U
2-nitroaniline	25 U	25 U	25 U	1300 U	25 U
Dimethylphthalate	10 U	10 U	10 U	520 U	10 U
Acenaphthylene	10 U	10 U	10 U	520 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	520 U	10 U
3-nitroaniline	25 U	25 U	25 U	1300 U	25 U
Acenaphthene	10 U	10 U	10 U	62 J	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	GWB219	GWB223	RSA03	SBA09	SWA11
Date collected	6/11/92	6/10/92	6/2/92	5/28/92	6/2/92
Date extracted	6/15/92	6/15/92	6/8/92	6/4/92	6/8/92
Date analyzed	6/17/92	6/16/92	6/15/92	6/15/92	6/16/92
Percent moisture	NA	NA	NA	36	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/kg	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	1300 U	25 U
4-nitrophenol	25 U	25 U	25 U	1300 U	25 U
Dibenzofuran	10 U	10 U	10 U	45 J	10 U
2,4-dinitrotoluene	10 UJ	10 U	10 U	520 U	10 U
Diethylphthalate	10 U	0.8 J	10 U	520 U	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U	520 U	10 U
Fluorene	10 U	10 U	10 U	39 J	10 U
4-nitroaniline	25 U	25 U	25 U	1300 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	1300 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	520 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	520 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	520 U	10 U
Pentachlorophenol	25 U	25 UJ	25 U	1300 U	25 UJ
Phenanthrene	10 U	10 U	10 U	30 J	10 U
Anthracene	10 U	10 U	10 U	520 U	10 U
Carbazole	10 U	10 U	10 U	520 U	10 U
Di-n-butylphthalate	1 B	1 B	0.6 J	220 B	0.7 B
Fluoranthene	10 U	10 U	10 U	520 U	10 U
Pyrene	10 U	10 UJ	10 U	28 J	10 U
Butylbenzylphthalate	10 U	10 UJ	10 U	520 U	10 U
3,3'-dichlorobenzidine	10 U	10 UJ	10 U	520 U	10 U
Benzo(a)anthracene	10 U	10 UJ	10 U	520 U	10 U
Chrysene	10 U	10 UJ	10 U	520 U	10 U
Bis(2-ethylhexyl)phthalate	0.7 B	10 UJ	2 J	140 J	0.7 B
Di-n-octylphthalate	10 U	10 UJ	10 U	520 U	10 U
Benzo(b)fluoranthene	10 U	10 UJ	10 U	520 U	10 U
Benzo(k)fluoranthene	10 U	10 UJ	10 U	520 U	10 U
Benzo(a)pyrene	10 U	10 UJ	10 U	520 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 UJ	10 U	520 U	10 U
Dibenz(a,h)anthracene	10 U	10 UJ	10 U	520 U	10 U
Benzo(g,h,i)perylene	10 U	10 UJ	10 U	520 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
DG # RSA02

Sample no.	SWA12	SWA17	RSA02
Date collected	6/2/92	6/2/92	5/28/92
Date extracted	6/8/92	6/8/92	6/3/92
Date analyzed	6/16/92	6/15/92	6/4/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
Phenol	10 U	10 U	0.9 B
Bis(2-chloroethyl)ether	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U
2-nitrophenol	10 UJ	10 U	10 U
2,4-dimethylphenol	2 J	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	SWA12	SWA17	RSA02
Date collected	6/2/92	6/2/92	5/28/92
Date extracted	6/8/92	6/8/92	6/3/92
Date analyzed	6/16/92	6/15/92	6/4/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U
Diethylphthalate	0.9 J	10 U	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U
Pentachlorophenol	25 UJ	25 U	25 U
Phenanthrene	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U
Di-n-butylphthalate	3 B	0.9 B	0.5 J
Fluoranthene	10 U	10 U	10 U
Pyrene	10 U	10 UJ	10 U
Butylbenzylphthalate	10 U	10 UJ	10 U
3,3'-dichlorobenzidine	10 U	10 UJ	10 U
Benzo(a)anthracene	10 U	10 UJ	10 U
Chrysene	10 U	10 UJ	10 U
Bis(2-ethylhexyl)phthalate	1 B	1 B	1 J
Di-n-octylphthalate	10 U	10 UJ	10 U
Benzo(b)fluoranthene	10 U	10 UJ	10 U
Benzo(k)fluoranthene	10 U	10 UJ	10 U
Benzo(a)pyrene	10 U	10 UJ	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 UJ	10 U
Dibenz(a,h)anthracene	10 U	10 UJ	10 U
Benzo(g,h,i)perylene	10 U	10 UJ	10 U

DATA SUMMARY - PESTICIDE/PCBS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	GWB207	GWB208	GWB209	GWB210	GWB212
Date collected	6/10/92	6/10/92	6/10/92	6/10/92	6/10/92
Date analyzed	7/04/92	7/04/92	7/04/92	7/04/92	7/04/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Alpha-bhc	0.05 U	0.05 UL	0.05 UL	0.05 U	0.05 U
Beta-bhc	0.05 U	0.05 U	0.05 UL	0.05 U	0.05 U
Delta-bhc	0.05 U	0.05 U	0.05 UL	0.05 U	0.05 U
Gamma-bhc	0.05 U	0.05 U	0.05 UL	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 UL	0.05 U	0.05 U
Aldrin	0.05 U	0.05 U	0.05 UL	0.05 U	0.05 U
Heptachlor epoxide	0.05 U	0.05 U	0.013 J	0.006 J	0.05 U
Endosulfan II	0.05 U	0.05 U	0.05 UL	0.05 U	0.05 U
Dieldrin	0.006 B	0.94 L	0.007 B	0.10 U	0.10 U
4,4'-dde	0.10 U	0.10 UL	0.10 UL	0.10 U	0.10 U
Endrin	0.10 U	0.031 J	0.10 UL	0.10 U	0.10 U
Endosulfan II	0.10 U	0.10 UL	0.10 UL	0.10 U	0.10 U
4,4'-ddd	0.10 U	0.10 UL	0.10 UL	0.10 U	0.10 U
Endosulfan sulfate	0.10 U	0.10 UL	0.10 UL	0.10 U	0.10 U
4,4'-ddt	0.10 U	0.10 UL	0.10 UL	0.10 U	0.10 U
Methoxychlor	0.50 U	0.50 UL	0.50 UL	0.50 U	0.50 U
Endrin ketone	0.10 U	0.10 UL	0.10 UL	0.10 U	0.10 U
Endrin aldehyde	0.10 U	0.10 UL	0.10 UL	0.10 U	0.10 U
Alpha-chlordane	0.05 U	0.05 UL	0.05 UL	0.05 U	0.05 U
Gamma-chlordane	0.05 U	0.05 UL	0.05 UL	0.05 U	0.05 U
Toxaphene	5.0 U	5.0 UL	5.0 UL	5.0 U	5.0 U
Aroclor-1016	1.0 U	1.0 UL	1.0 UL	1.0 U	1.0 U
Aroclor-1221	2.0 U	2.0 UL	2.0 UL	2.0 U	2.0 U
Aroclor-1232	1.0 U	1.0 UL	1.0 UL	1.0 U	1.0 U
Aroclor-1242	1.0 U	1.0 UL	1.0 UL	1.0 U	1.0 U
Aroclor-1248	1.0 U	1.0 UL	1.0 UL	1.0 U	1.0 U
Aroclor-1254	1.0 U	1.0 UL	1.0 UL	1.0 U	1.0 U
Aroclor-1260	1.0 U	1.0 UL	1.O UL	1.0 U	1.0 U

DATA SUMMARY - PESTICIDE/PCBS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	GWB219	GWB223	RSA02	RSA03	SBA09
Date collected	6/10/92	6/10/92	5/28/92	6/02/92	5/28/92
Date analyzed	7/04/92	7/04/92	7/03/92	7/04/92	7/03/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/kg
Alpha-bhc	0.05 UL	0.05 UL	0.05 UL	0.05 U	2.6 U
Beta-bhc	0.05 UL	0.05 UL	0.05 UL	0.05 U	2.6 U
Delta-bhc	0.05 UL	0.05 UL	0.05 UL	0.05 U	2.6 U
Gamma-bhc	0.05 UL	0.05 UL	0.05 UL	0.05 U	2.6 U
Heptachlor	0.05 UL	0.05 UL	0.05 UL	0.05 U	2.6 U
Aldrin	0.05 UL	0.05 UL	0.05 UL	0.05 U	2.6 U
Heptachlor epoxide	0.05 UL	0.008 J	0.05 UL	0.05 U	2.6 U
Endosulfan II	0.05 UL	0.05 UL	0.05 UL	0.05 U	2.6 U
Dieldrin	0.10 UL	0.009 B	0.008 J	0.10 U	0.47 B
4,4'-dde	0.10 UL	0.10 UL	0.10 UL	0.10 U	5.2 U
Endrin	0.10 UL	0.10 UL	0.10 UL	0.10 U	5.2 U
Endosulfan II	0.10 UL	0.10 UL	0.10 UL	0.10 U	5.2 U
4,4'-ddd	0.10 UL	0.10 UL	0.10 UL	0.10 U	4.4 J
Endosulfan sulfate	0.10 UL	0.10 UL	0.10 UL	0.10 U	0.38 J
4,4'-ddt	0.10 UL	0.10 UL	0.10 UL	0.10 U	5.2 U
Methoxychlor	0.50 UL	0.50 UL	0.50 UL	0.50 U	26 U
Endrin ketone	0.10 UL	0.10 UL	0.10 UL	0.10 U	5.2 U
Endrin aldehyde	0.10 UL	0.10 UL	0.10 UL	0.10 U	5.2 U
Alpha-chlordane	0.05 UL	0.05 UL	0.05 UL	0.05 U	2.6 U
Gamma-chlordane	0.05 UL	0.05 UL	0.05 UL	0.05 U	2.6 U
Toxaphene	5.0 UL	5.0 UL	5.0 UL	5.0 U	260 U
Aroclor-1016	1.0 UL	1.0 UL	1.0 UL	1.0 U	52 U
Aroclor-1221	2.0 UL	2.0 UL	2.0 UL	2.0 U	100 U
Aroclor-1232	1.0 UL	1.0 UL	1.0 UL	1.0 U	52 U
Aroclor-1242	1.0 UL	1.0 UL	1.0 UL	1.0 U	52 U
Aroclor-1248	1.0 UL	1.0 UL	1.0 UL	1.0 U	52 U
Aroclor-1254	1.0 UL	1.0 UL	1.0 UL	1.0 U	52 U
Aroclor-1260	1.0 UL	1.0 UL	1.0 UL	1.0 U	52 U

DATA SUMMARY - PESTICIDE/PCBS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	SWA11	SWA12	SWA17
Date collected	6/02/92	6/02/92	6/02/92
Date analyzed	7/03/92	7/04/92	7/03/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
Alpha-bhc	0.05 UL	0.05 U	0.05 U
Beta-bhc	0.05 UL	0.05 U	0.05 U
Delta-bhc	0.05 UL	0.05 U	0.05 U
Gamma-bhc	0.05 UL	0.05 U	0.05 U
Heptachlor	0.05 UL	0.05 U	0.05 U
Aldrin	0.05 UL	0.05 U	0.05 U
Heptachlor epoxide	0.006 J	0.05 U	0.003 J
Endosulfan II	0.05 UL	0.05 U	0.05 U
Dieldrin	0.01 B	0.013 B	0.011 B
4,4'-dde	0.10 UL	0.02 J	0.10 U
Endrin	0.10 UL	0.10 U	0.10 U
Endosulfan II	0.10 UL	0.10 U	0.10 U
4,4'-ddd	0.008 J	0.038 J	0.009 J
Endosulfan sulfate	0.10 UL	0.10 U	0.10 U
4,4'-ddt	0.10 UL	0.10 U	0.10 U
Methoxychlor	0.50 UL	0.50 U	0.50 U
Endrin ketone	0.10 UL	0.10 U	0.10 U
Endrin aldehyde	0.10 UL	0.10 U	0.10 U
Alpha-chlordane	0.05 UL	0.05 U	0.05 U
Gamma-chlordane	0.05 UL	0.05 U	0.05 U
Toxaphene	5.0 UL	5.0 U	5.0 U
Aroclor-1016	1.0 UL	1.0 U	1.0 U
Aroclor-1221	2.0 UL	2.0 U	2.0 U
Aroclor-1232	1.0 UL	1.0 U	1.0 U
Aroclor-1242	1.0 UL	1.0 U	1.0 U
Aroclor-1248	1.0 UL	1.0 U	1.0 U
Aroclor-1254	1.0 UL	1.0 U	1.0 U
Aroclor-1260	1.0 UL	1.0 U	1.0 U

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	GWB207	GWB207F	GWB208	GWB208F	GWB209	GWB209F
Date collected	6/10/92	6/10/92	6/10/92	6/10/92	6/10/92	6/10/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	192000	164 B	22800	60.7 B	4780	45.9 B
Antimony	28.7	27.6 B	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	17.0	3.1 B	11.6	2.0 U	9.7 B	3.0 B
Barium	704	96.5	78.3	22.7	51.3	27.3
Beryllium	6.7	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	10.9	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	192000	146000	15400	15100	54000	47400
Chromium	264	8.0 U	41.4 B	10.4	29.7	8.0 U
Cobalt	45.5 B	10.9 B	15.6 B	15.9 B	12.2 B	8.0 U
Copper	339	5.1	14.7	2.0 U	31.2	3.8
Iron	119000	542	26200	1080	10500	35.0 B
Lead	1020	1.0 U	6.1 K	1.0 U	3.0	1.0 U
Magnesium	45800	24900	6920	5200	3140	2300
Manganese	907	247	164	107	193	47.7
Mercury	1.6	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	107	11.0 U	12.4	11.0 U	11.0 U	11.0 U
Potassium	39200	20500	4280	2080	2230	1930
Selenium	10.0 R	2.0 UL	10.0 UL	2.0 UL	10.0 UL	2.0 UL
Silver	3.7 B	2.0 U	2.0 U	2.0 U	2.5 B	2.0 U
Sodium	56300	51400	17600	16600	13600	12600
Thallium	1.0 UL	1.0 U	1.0 U	1.0 U	1.0 B	1.7 B
Vanadium	461	8.9 B	58.2	4.0 U	25.8 B	4.3 B
Zinc	1550 J	29.7 B	89.6 B	39.6 B	172 J	24.6 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	GWB210	GWB210F	GWB212	GWB212F	GWB219	GWB219F
Date collected	6/10/92	6/10/92	6/10/92	6/10/92	6/11/92	6/11/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	2650	30.0 B	905	35.6 B	138000	100 B
Antimony	18.0 U	19.2 B	18.0 U	18.0 U	18.0 U	30.8 B
Arsenic	2.8 B	2.0 U	93.6	51.1	29.4	2.0 U
Barium	59.3	47.0	35.6	28.0	278	15.0
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	6.5	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0	3.0 U
Calcium	26400	26500	37800	35200	97200	94800
Chromium	8.0 U	8.0 B	8.0 U	8.0 U	222	8.0 U
Cobalt	14.0 B	11.2 B	12.9 B	8.0 B	65.0 B	38.6 B
Copper	11.7	2.2	5.9	2.7	72.7	6.9
Iron	7940	3460	33500	23500	155000	2210
Lead	1.0	1.0 U	1.0 U	1.0 U	51.9	1.0 U
Magnesium	7250	7090	8340	7860	51100	40000
Manganese	831	825	152	132	1700	1360
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.22	0.20 U
Nickel	11.0 U	11.0 U	11.0	11.0 U	59.5	11.0 U
Potassium	3040	2680	3200	3050	16200	4280
Selenium	2.0 UL	2.0 UL	2.0 UL	2.0 UL	10.0 R	10.0 UL
Silver	2.0 U	2.0 U	2.0 U	2.0 U	2.5 B	2.0 U
Sodium	23700	21200	23200	21500	14700	13400
Thallium	1.0 U	1.0 U	1.0 U	1.4 B	1.0 U	1.3 B
Vanadium	7.8 B	4.0 U	6.6 B	4.3 B	404	4.1 B
Zinc	88.6 B	31.8 B	35.7 B	27.0 B	388 J	54.2 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	GWB223	GWB223F	RSA03	RSA03F	SWA11	SWA11F
Date collected	6/10/92	6/10/92	6/02/92	6/02/92	6/02/92	6/02/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	7160	31.7 B	18.0 U	18.0 U	379 B	51.6 B
Antimony	20.0	18.0 U	18.0 U	18.8 B	18.0 U	18.0 U
Arsenic	8.6 B	2.0 U	2.0 U	2.0 U	4.3 B	2.2 B
Barium	56.3	25.0	3.0 U	3.0 U	39.1	34.1
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	56500	43400	544 B	1460 B	57400	54100
Chromium	29.0 B	9.4 B	13.5	8.0 U	8.0 U	8.0 U
Cobalt	13.4 B	8.0 U	8.0 U	10.6 B	14.3 B	13.8 B
Copper	13.3	2.1	2.0 U	2.0 U	5.1	2.0 U
Iron	11300	32.0 B	10.0 B	12.0 B	4620	255
Lead	2.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UL
Magnesium	3460	2170	98.2 B	74.5 B	85800	80900
Manganese	131	44.9	3.0 U	3.0 U	271	246
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	2900	1800	236 U	236 U	29100	27400
Selenium	10.0 UL	2.0 UL	2.0 UL	2.0 U	2.0 UL	2.0 UL
Silver	2.0 U	2.0 U	3.0 B	2.0 U	2.3 B	2.0 U
Sodium	14300	11900	767 B	528 B	654000	546000
Thallium	1.8 B	1.8 B	1.0 U	1.0 B	1.0 UL	1.0 UL
Vanadium	29.0 B	4.0 U	4.0 U	4.0 U	5.8 B	4.0 U
Zinc	61.3 B	30.0 B	26.7 J	23.3	69.3 B	35.3 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSA02

Sample no.	SWA12	SWA12F	SWA17	SWA17F
Date collected	6/02/92	6/02/92	6/02/92	6/02/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
Aluminum	4020	81.1 B	746	60.5 B
Antimony	20.6	21.1 B	18.0 U	18.0 U
Arsenic	11.5 K	2.1 B	4.2 B	4.0 U
Barium	46.3	16.4	41.3	27.8
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	22800	24100	72200	65100
Chromium	17.7 B	11.2 B	8.0 U	8.0 U
Cobalt	10.6 B	8.0 U	12.1 B	14.7 B
Copper	27.1	2.1	6.4	3.7
Iron	14300	636	4850	410
Lead	53.6	1.0 U	1.0 U	1.0 U
Magnesium	7670	6700	139000	126000
Manganese	574	107	169	147
Mercury	0.20 U	0.20 U	0.27	0.20 U
Nickel	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	3200	2380	48200	43200
Selenium	2.0 UL	2.0 U	2.0 UL	2.0 UL
Silver	2.0 U	2.0 U	2.0 U	2.2 B
Sodium	22100	20100	1220000	1090000
Thallium	1.0 U	1.4 B	5.0 UL	5.0 UL
Vanadium	19.0 B	4.0 U	6.2 B	7.1 B
Zinc	199 J	33.0 B	53.5 B	27.0 B
Cyanide	Q	Q	Q	Q

AWD
TECHNOLOGIES
A Subsidiary of
The Dow Chemical Company

PGH-92-TMJ-1143

DATE November 30, 1992

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Project Number CTO-84
SDG Number GWA221

Samples:

GWA221	GWB213	GWA201	GWA222	GWA220
GWA215	GWA233	GWA216	GWA218	GWB215
GWA217	GWA225	GWA202	GWA203	

Field Blanks:

TBB211	TBA212	TBA213	TBA214	TBA215
TBA216				

Field Duplicates:

GWA233 and GWA216

AWD Technologies, Inc.
Penn Center West Building III Suite 300 Pittsburgh Pennsylvania 15276 Telephone 412 788 2717 Fax 412 788 1316

Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 20 water samples including 6 trip blanks. The samples were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), pesticides/PCBs, and TAL metals (filtered and unfiltered) by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed with the exception of those qualified as unreliable "R". The quality of organic analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, compound identification, and compound quantitation. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, matrix spikes, laboratory and field blanks, laboratory duplicates, laboratory control samples, GFAA analytical spike recoveries, ICP serial dilutions, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Major Issues

In the pesticide/PCB analysis, 4,4'-DDT was identified on the confirmation column but not on the primary column and the laboratory, therefore, reported 4,4'-DDT as not detected (U) in sample GWB215. Examination of the two chromatograms which the laboratory ran on the primary column indicates an unresolved peak at the retention time expected for 4,4'-DDT. Because of the identification discrepancy between the primary and secondary columns and because of possible 4,4'-DDT peaks seen on the primary column, the non-detected 4,4'-DDT result is open to question. Therefore the quantitation limit for 4,4'-DDT in sample GWB215 is qualified "R", unreliable, indicating that reported result may require additional confirmation. All pesticide chromatograms for this sample are included in Appendix C.

The matrix spike recovery for arsenic (unfiltered samples only) was below the 30 percent quality control limit. Therefore, positive unfiltered arsenic results are qualified "L", biased very low.

Analytical spike recoveries for selenium in samples GWA222, GWA202F, GWA203, GWA215F, GWA216F, GWA217, and GWA220 were less than the 40 percent quality control limit in the initial and rerun analyses. Therefore, quantitation limits for selenium in these sample are qualified "R", unreliable.

Minor Issues

Acetone, di-n-butylphthalate, dieldrin, aluminum, beryllium, barium, calcium, cobalt, copper, iron, lead, manganese, magnesium, selenium, silver, sodium, thallium, and zinc were reported in laboratory and/or field blanks. Therefore, positive results for acetone and di-n-butylphthalate which are less than ten (10) times the blank concentrations are qualified "B". Also, results for dieldrin, aluminum, barium, beryllium, cobalt, copper, iron, lead, manganese, silver, selenium, thallium, and zinc less than five (5) times the blank concentration are qualified "B". No results for the other above mentioned compounds are qualified because either there were no positive results for these compounds in any samples or sample concentrations were greater than five (5) times the blanks levels.

Pesticide surrogate spike recoveries for most samples were below quality control limits. Therefore, positive results in affected samples are qualified "L", biased low, and quantitation limits are qualified "UL", biased low. Please not that several compounds have received "J" qualifiers because concentrations are below CRQLs (see Notes below). In cases where a compound receives "J" and "L" qualifiers, the "J" qualifier takes precedence and the concentration is considered to be an estimated value.

Semivolatile internal standard responses were below the laboratory's quality control range for samples GWA201 and GWA222. The samples were reanalyzed by the laboratory as required by the statement of work. In the reanalysis, internal standard responses were still outside the required range. Therefore, quantitation limits of compounds associated with each internal standard are qualified "UJ", estimated, on the data summary. Both initial and rerun analyses are included in Appendix A.

Matrix spike recoveries for antimony, mercury, selenium, and thallium in the analyses of unfiltered samples were below the 75 percent quality control limit. Also, matrix spike recoveries for lead, mercury, and thallium were below 75 percent in the analyses of filtered samples. Therefore, positive results in affected samples are qualified "L", biased low and quantitation limits for selenium are qualified "UL", biased low. Note that some lead, selenium, and thallium results have previously been qualified "B" due to blank contamination.

Laboratory duplicate results for selenium and zinc (filtered samples) exceeded the 20 percent quality control limit applied to water samples. Therefore, positive unfiltered zinc results, other than those qualified "B" because of blank contamination, are qualified "J", estimated. No selenium results are qualified on the basis of the duplicate results because all positive selenium results have been qualified "B" due to blank contamination.

Serial dilution results for aluminum and barium (unfiltered samples only) exceeded the 10 percent quality control limit. Therefore, positive unfiltered results for these analytes are qualified "J", estimated.

Analytical spike results for arsenic, lead, selenium, and thallium were below the 85 percent quality control limit in some samples. Therefore, positive results are qualified "L", biased low, and quantitation limits are qualified "UL", biased low. Please note that some results for selenium and thallium have been previously qualified "B" due to blank contamination and the "B" qualifier takes precedence under current U.S. EPA guidelines. The analytical spike result for arsenic in sample GWA225 exceeded the 115 percent quality limit. This result is not used to qualify the arsenic result in this sample because arsenic has been qualified "L" because of more serious matrix spike problems (see Major Issues above).

In the analysis of selenium by the method of standard additions (MSA) in sample GWA218, the correlation coefficient was below 0.995 in the initial and rerun analyses. The selenium result in this sample is not qualified on the basis of the MSA results because this result has been qualified "B" due to blank contamination.

Notes

Some results of the pesticide/PCB analysis (Appendix A) were flagged "P" by the laboratory because percent differences (%Ds) between reported concentrations on the primary and confirmation columns was greater than 25 percent. No data are qualified on the basis of these %Ds because qualification of data is not required by current guidelines. Appendix C shows the laboratory's results on each column. Note that most of the flagged results are qualified "J", estimated, on the data summary because the reported concentrations were below contract required quantitation limits (CRQLs).

Results for vinyl chloride, tetrachloroethene, 1,2-dichloroethane, total 1,2-dichloroethene, 1,1-dichloroethane, phenol, naphthalene, diethylphthalate, bis(2-ethylhexyl)phthalate, 2-methylnaphthalene, acenaphthene, phenanthrene, delta-BHC, aldrin, heptachlor epoxide, endrin aldehyde, and 4,4'-DDE in some samples are below contract required quantitation limits (CRQL). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated on the data summaries.
The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Tentatively Identified Compounds (TICs)
5. Appendix C - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM\CAMP ALLEN LANDFILL
DG # GWA221

Sample no.	GWA201	GWA202	GWA203	GWA215	GWA216	GWA217
Date collected	6/13/92	6/14/92	6/15/92	6/13/92	6/13/92	6/13/92
Date analyzed	6/22/92	6/22/92	6/22/92	6/22/92	6/22/92	6/22/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	9 J	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10 U	10 U	10 U	12 B
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	40	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
2-butanone	10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	18	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	4 J	10 U	10 U
1,2,2,2-tetrachloroetha	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM\CAMP ALLEN LANDFILL
SDG # GWA221

Sample no.	GWA218	GWA220	GWA221	GWA222	GWA225	GWA233
Date collected	6/13/92	6/13/92	6/12/92	6/13/92	6/14/92	6/13/92
Date analyzed	6/22/92	6/22/92	6/19/92	6/19/92	6/22/92	6/22/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	10 U	3 J	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	10 U	3 J	10 U
2-butanone	10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroetha	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM\CAMP ALLEN LANDFILL
SDG # GWA221

Sample no.	GWB213	GWB215	TBA212	TBA213	TBA214	TBA215
Date collected	6/13/92	6/13/92	6/13/92	6/13/92	6/13/92	6/13/92
Date analyzed	6/19/92	6/22/92	6/19/92	6/22/92	6/22/92	6/23/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	42	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	420 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	420 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	420 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	420 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	420 U	10 U	10 U	10 U	10 U
Acetone	10 U	5600 B	10 U	15	10	11
Carbon disulfide	10 U	420 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	420 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	3 J	420 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	10 U	420 U	10 U	10 U	10 U	10 U
Chloroform	10 U	420 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	420 U	10 U	10 U	10 U	10 U
2-butanone	10 U	420 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	420 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	420 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	420 U	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	420 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	420 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	420 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	420 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	420 U	10 U	10 U	10 U	10 U
Benzene	10 U	420 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	420 U	10 U	10 U	10 U	10 U
Bromoform	10 U	420 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	420 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	420 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	420 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroetha	10 U	420 U	10 U	10 U	10 U	10 U
Toluene	10 U	420 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	420 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	420 U	10 U	10 U	10 U	10 U
Styrene	10 U	420 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	420 U	10 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS
NAVY CLEAN PROGRAM\CAMP ALLEN LANDFILL
SDG # GWA221

Sample no.	TBA216	TBB211
Date collected	6/13/92	6/13/92
Date analyzed	6/22/92	6/22/92
Percent moisture	NA	NA
Dilution factor	1	1
Units	ug/L	ug/L
Chloromethane	10 U	10 U
Bromomethane	10 U	10 U
Vinyl chloride	10 U	10 U
Chloroethane	10 U	10 U
Methylene chloride	10 U	10 U
Acetone	10 U	10 U
Carbon disulfide	10 U	10 U
1,1-dichloroethene	10 U	10 U
1,1-dichloroethane	10 U	10 U
1,2-dichloroethene	10 U	10 U
Chloroform	10 U	10 U
1,2-dichloroethane	10 U	10 U
2-butanone	10 U	10 U
1,1,1-trichloroethane	10 U	10 U
Carbon tetrachloride	10 U	10 U
Bromodichloromethane	10 U	10 U
1,2-dichloropropane	10 U	10 U
C-1,3-dichloropropene	10 U	10 U
Trichloroethene	10 U	10 U
Dibromochloromethane	10 U	10 U
1,1,2-trichloroethane	10 U	10 U
Benzene	10 U	10 U
T-1,3-dichloropropene	10 U	10 U
Bromoform	10 U	10 U
4-methyl-2-pentanone	10 U	10 U
2-hexanone	10 U	10 U
Tetrachloroethene	10 U	10 U
1,2,2,2-tetrachloroetha	10 U	10 U
Toluene	10 U	10 U
Chlorobenzene	10 U	10 U
Ethylbenzene	10 U	10 U
Styrene	10 U	10 U
Xylenes(total)	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # GWB221

Sample no.	GWA201	GWA202	GWA203	GWA215	GWA216
Date collected	6/13/92	6/14/92	6/15/92	6/13/92	6/13/92
Date extracted	6/17/92	6/16/92	6/16/92	6/17/92	6/17/92
Date analyzed	6/22/92	6/17/92	6/19/92	6/19/92	6/22/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	10 U	0.5 J	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane	10 U	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylam	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)meth	10 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWB221

Sample no.	GWA201	GWA202	GWA203	GWA215	GWA216
Date collected	6/13/92	6/14/92	6/15/92	6/13/92	6/13/92
Date extracted	6/17/92	6/16/92	6/16/92	6/17/92	6/17/92
Date analyzed	6/22/92	6/17/92	6/19/92	6/19/92	6/22/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	0.7 J	10 U	10 U	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	1 B	1 B	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 UJ	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 UJ	10 U	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 UJ	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 UJ	10 U	10 U	10 U	10 U
Chrysene	10 UJ	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	10 UJ	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 UJ	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 UJ	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 UJ	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 UJ	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 UJ	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 UJ	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 UJ	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
CDG # GWB221

Sample no.	GWA217	GWA218	GWA220	GWA221	GWA222
Date collected	6/13/92	6/13/92	6/13/92	6/12/92	6/13/92
Date extracted	6/17/92	6/17/92	6/17/92	6/17/92	6/17/92
Date analyzed	6/19/92	6/19/92	6/19/92	6/19/92	6/22/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	10 U	10 U	10 U	2 J	0.7 J
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane	10 U	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylam	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)meth	10 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	1 J	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWB221

Sample no.	GWA217	GWA218	GWA220	GWA221	GWA222
Date collected	6/13/92	6/13/92	6/13/92	6/12/92	6/13/92
Date extracted	6/17/92	6/17/92	6/17/92	6/17/92	6/17/92
Date analyzed	6/19/92	6/19/92	6/19/92	6/19/92	6/22/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	0.7 J	1 J	10 U	10 U	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	2 B	10 U	3 B	2 B	0.8 B
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 UJ
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 UJ
3,3'-dichlorobenzidine	10 U	10 U	10 U	10 U	10 UJ
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 UJ
Chrysene	10 U	10 U	10 U	10 U	10 UJ
Bis(2-ethylhexyl)phthalate	0.8 J	10 U	1 J	2 J	10 UJ
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 UJ
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 UJ
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 UJ
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 UJ
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 UJ
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 UJ
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 UJ

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # GWB221

Sample no.	GWA225	GWA233	GWB213	GWB215
Date collected	6/14/92	6/13/92	6/13/92	6/13/92
Date extracted	6/17/92	6/17/92	6/17/92	6/17/92
Date analyzed	6/19/92	6/19/92	6/19/92	6/19/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
Phenol	10 U	10 U	10 U	14
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	13
N-nitroso-di-n-propylam	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	10 U
s(2-chloroethoxy)meth	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	3 J
4-chloroaniline	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	0.6 J
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWB221

Sample no.	GWA225	GWA233	GWB213	GWB215
Date collected	6/14/92	6/13/92	6/13/92	6/13/92
Date extracted	6/17/92	6/17/92	6/17/92	6/17/92
Date analyzed	6/19/92	6/19/92	6/19/92	6/19/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	0.6 J	10 U	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	0.9 J
Anthracene	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U
Di-n-butylphthalate	0.9 B	2 B	0.9 B	1 B
Fluoranthene	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	1 J	10 U	2 J	2 J
Di-n-octylphthalate	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # GWA221

Sample no.	GWA201	GWA202	GWA203	GWA215	GWA216
Date collected	6/13/92	6/14/92	6/15/92	6/13/92	6/13/92
Date analyzed	7/05/92	7/09/92	7/09/92	7/06/92	7/06/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Beta-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Delta-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Gamma-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Heptachlor	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Aldrin	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Heptachlor epoxide	0.004 J	0.05 UL	0.05 UL	0.05 UL	0.008 J
Endosulfan I	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Dieldrin	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
4,4'-DDE	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endrin	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endosulfan II	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
,4'-DDD	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endosulfan sulfate	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
4,4'-DDT	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Methoxychlor	0.50 UL	0.50 UL	0.50 UL	0.50 UL	0.50 UL
Endrin ketone	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endrin aldehyde	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Alpha-Chlordane	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Toxaphene	5.0 UL	5.0 UL	5.0 UL	5.0 UL	5.0 UL
Aroclor-1016	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1221	2.0 UL	2.0 UL	2.0 UL	2.0 UL	2.0 UL
Aroclor-1232	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1242	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1248	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1254	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1260	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA221

Sample no.	GWA217	GWA218	GWA220	GWA221	GWA222
Date collected	6/13/92	6/13/92	6/13/92	6/12/92	6/13/92
Date analyzed	7/06/92	7/06/92	7/05/92	7/05/92	7/05/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Beta-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Delta-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Gamma-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Heptachlor	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Aldrin	0.05 UL	0.05 UL	0.026 J	0.05 UL	0.05 UL
Heptachlor epoxide	0.05 UL	0.05 UL	0.05 UL	0.004 J	0.005 J
Endosulfan I	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Dieldrin	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
4,4'-DDE	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endrin	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endosulfan II	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
4,4'-DDD	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endosulfan sulfate	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
4,4'-DDT	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Methoxychlor	0.50 UL	0.50 UL	0.50 UL	0.50 UL	0.50 UL
Endrin ketone	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endrin aldehyde	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Alpha-Chlordane	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Toxaphene	5.0 UL	5.0 UL	5.0 UL	5.0 UL	5.0 UL
Aroclor-1016	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1221	2.0 UL	2.0 UL	2.0 UL	2.0 UL	2.0 UL
Aroclor-1232	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1242	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1248	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1254	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1260	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # GWA221

Sample no.	GWA225	GWA233	GWB213	GWB215
Date collected	6/14/92	6/13/92	6/13/92	6/13/92
Date analyzed	7/06/92	7/06/92	7/05/92	7/06/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 U	0.05 UL	0.05 UL	0.05 UL
Beta-BHC	0.05 U	0.05 UL	0.05 UL	0.05 UL
Delta-BHC	0.05 U	0.05 UL	0.05 UL	0.014 J
Gamma-BHC	0.05 U	0.05 UL	0.05 UL	0.05 UL
Heptachlor	0.05 U	0.05 UL	0.05 UL	0.05 UL
Aldrin	0.05 U	0.05 UL	0.05 UL	0.05 UL
Heptachlor epoxide	0.05 U	0.005 J	0.005 J	0.05 UL
Endosulfan I	0.05 U	0.05 UL	0.05 UL	0.05 UL
Dieldrin	0.10 U	0.10 UL	0.10 UL	0.006 B
4,4'-DDE	0.10 U	0.10 UL	0.10 UL	0.047 J
Endrin	0.10 U	0.10 UL	0.10 UL	0.10 UL
Endosulfan II	0.10 U	0.10 UL	0.10 UL	0.10 UL
4,4'-DDD	0.10 U	0.10 UL	0.10 UL	0.14
Endosulfan sulfate	0.10 U	0.10 UL	0.10 UL	0.10 UL
4,4'-DDT	0.10 U	0.10 UL	0.10 UL	0.10 R
Methoxychlor	0.50 U	0.50 UL	0.50 UL	0.50 UL
Endrin ketone	0.10 U	0.10 UL	0.10 UL	0.10 UL
Endrin aldehyde	0.10 U	0.10 UL	0.10 UL	0.009 J
Alpha-Chlordane	0.05 U	0.05 UL	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 U	0.05 UL	0.05 UL	0.05 UL
Toxaphene	5.0 U	5.0 UL	5.0 UL	5.0 UL
Aroclor-1016	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1221	2.0 U	2.0 UL	2.0 UL	2.0 UL
Aroclor-1232	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1242	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1248	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1254	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1260	1.0 U	1.0 UL	1.0 UL	1.0 UL

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA221

Sample no.	GWA201	GWA202	GWA203	GWA215	GWA216
Date collected	6/13/92	6/14/92	6/15/92	6/13/92	6/13/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	71000 J	15800 J	31300 J	40100 J	48500 J
Antimony	18.0 UL	18.0 UL	18.0 UL	18.0 UL	19.5 B
Arsenic	103 L	10.3 L	8.6 L	11.7 L	64.9 L
Barium	403 J	59.5 J	140 J	105 J	254 J
Beryllium	3.5 B	2.0 U	2.0 U	2.8 B	6.5 B
Cadmium	3.0 U	3.0 U	3.0 U	17.1	8.0
Calcium	65400	89700	47300	50700	530000
Chromium	93.9	21.0	53.2	55.6	170
Cobalt	37.8 B	10.1 B	13.2 B	25.4 B	37.7 B
Copper	44.4	12.8	16.0	32.3	56.9
Iron	56600	24200	16000	39100	256000
Lead	43.6	4.1 B	3.7 B	27.2	45.9
Magnesium	16000	73900	22300	53300	25100
Manganese	677	399	338	1100	2290
Mercury	0.22 L	0.20 UL	0.23 L	0.28 L	0.21 L
Nickel	31.8	11.0 U	19.2	11.0 U	51.0
Potassium	6250	33800	6710	8800	7540
Selenium	10.0 UL	10.0 UL	10.0 R	10.0 UL	10.0 UL
Silver	2.0 U	2.0 U	2.4 B	2.0 U	2.4 B
Sodium	12600	204000	139000	107000	91100
Thallium	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Vanadium	181	39.3	71.9	118	365
Zinc	155	108	180	501	347
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA221

Sample no.	GWA217	GWA218	GWA220	GWA221	GWA222
Date collected	6/13/92	6/13/92	6/13/92	6/12/92	6/13/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	6500 J	26200	797	563 J	73500 J
Antimony	18.0 UL	18.0 UL	18.0 UL	18.0 UL	18.0 UL
Arsenic	158 L	30.6 L	4.5 L	4.1 L	44.3 L
Barium	154 J	285 J	52.0 J	160 J	437 J
Beryllium	2.0 U	3.3 B	2.0 U	2.0 U	2.8 B
Cadmium	3.0 U	9.3	3.0 U	3.0 U	3.0 U
Calcium	103000	55300	117000	295000	60400
Chromium	15.7	52.5	8.0 U	8.0 U	89.2
Cobalt	8.0 U	11.3 B	8.0 U	8.0 U	13.1 B
Copper	12.2	38.7	4.6 B	13.8	45.4
Iron	46300	119000	20000	5940	57800
Lead	1.4 B	208	2.2 B	1.0 U	31.7
Magnesium	45000	7270	53000	9450	14000
Manganese	275	174	650	308	186
Mercury	0.20 UL	0.20 UL	0.20 UL	0.20 UL	0.20 UL
Nickel	11.0 U	11.4	11.0 U	11.0 U	24.2
Potassium	38100	4210	103000	4900	9970
Selenium	10.0 R	2.5 B	10.0 R	10.0 UL	10.0 R
Silver	2.0 U	2.0 U	2.0 B	2.0 U	2.0 U
Sodium	169000	16100	195000	169000	8530
Thallium	1.0 UL	2.0 B	1.0 UL	1.0 UL	1.0 UL
Vanadium	31.9	72.5	7.6	7.8	199
Zinc	140	362	47.2 B	125	229
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA221

Sample no.	GWA225	GWA233	GWB213	GWB215	GWA201F
Date collected	6/14/92	6/13/92	6/13/92	6/13/92	6/13/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	32900	45300 J	3040 J	6660 J	60.5 B
Antimony	18.0 UL	18.0 U	18.0 U	21.6 L	18.0 U
Arsenic	3.8 L	63.8 L	26.6 L	22.6 L	2.0 U
Barium	178 J	233 J	614	71.2 J	22.8
Beryllium	2.0 U	5.5 B	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	5.0	6.3	3.0 U	3.0 U
Calcium	52500	371000	161000	126000	64200
Chromium	48.5	161	96.2	82.1	8.0 U
Cobalt	13.8 B	34.1 B	8.0 U	8.0 U	8.0 U
Copper	39.8	56.5	14.0	13.6	19.2
Iron	75700	241000	178000	15600	52.0 B
Lead	35.5	42.5	2.9 B	23.2	1.0 UL
Magnesium	40900	23300	6000	9400	12200
Manganese	786	2050	268	262	12.1 B
Mercury	0.20 UL	0.20 UL	0.20 UL	0.20 UL	0.20 UL
Nickel	13.2	50.3	11.0 U	11.0 U	11.0 U
Potassium	22600	7540	5230	13700	2430
Selenium	10.0 UL	10.0 UL	10.0 UL	2.0 UL	4.0 B
Silver	2.0 U	2.3 B	2.0 U	2.2 B	2.0 U
Sodium	124000	95500	33300	72400	11100
Thallium	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Vanadium	95.7	346	38.0	45.5	4.0 U
Zinc	178	387	95.3 B	100	23.4 B
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA221

Sample no.	GWA202F	GWA203F	GWA215F	GWA216F	GWA217F
Date collected	6/14/92	6/15/92	6/13/92	6/13/92	6/13/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	67.9 B	56.6 B	95.9 B	93.1 B	143 B
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	3.8	2.0 U	2.7	2.0 U	153
Barium	15.0 B	62.6	22.2	39.5	131
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	88000	46600	50100	87300	105000
Chromium	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Cobalt	8.0 U	8.0 U	15.9 B	8.0 U	8.0 U
Copper	2.0 U	2.0 U	2.9 B	2.9 B	2.2 B
Iron	50.0 B	41.0 B	4980	205	37200
Lead	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Magnesium	71000	20800	51000	5220	45300
Manganese	233	285	1010	80.9	243
Mercury	0.20 UL	0.20 UL	0.20 UL	0.20 UL	0.20 UL
Nickel	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	31700	4570	6320	2420	38100
Selenium	10.0 R	2.0 UL	10.0 R	10.0 R	10.0 UL
Silver	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Sodium	206000	139000	108000	91600	174000
Thallium	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Vanadium	5.1	4.0 U	4.0 U	4.0 U	5.3
Zinc	17.1 B	81.1 B	27.8 B	32.6 B	20.8 B
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA221

Sample no.	GWA218F	GWA220F	GWA221F	GWA222F	GWA225F
Date collected	6/13/92	6/13/92	6/12/92	6/13/92	6/14/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	84.0 B	48.0 B	69.1 B	109 B	95.9 B
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	2.0 U	2.2 L	2.0 U	3.6 L	2.2 B
Barium	83.3	29.2	155	17.7 B	89.4
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	50600	119000	301000	54200	52900
Chromium	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Copper	2.0 U	2.9 B	3.7 B	2.7 B	2.0 U
Iron	419	9570	2130	158	8490
Lead	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Magnesium	5570	54800	9360	8270	38900
Manganese	53.6	651	284	33.9	711
Mercury	0.20 UL	0.20 UL	0.20 UL	0.20 UL	0.20 UL
Nickel	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	2260	109000	6400	4470	20100
Selenium	2.0 UL	10.0 UL	10.0 UL	2.0 U	10.0 UL
Silver	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Sodium	14600	204000	177000	6960	128000
Thallium	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Vanadium	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	21.9 B	15.3 B	14.6 B	16.0 B	61.8 B
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA221

Sample no.	GWA233F	GWB213F	GWB215F
Date collected	6/13/92	6/13/92	6/13/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
Aluminum	78.2 B	138 B	114 B
Antimony	18.0 U	18.0 U	32.9
Arsenic	2.0 U	2.0 U	14.1
Barium	42.3	15.4 B	7.8 B
Beryllium	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U
Calcium	92300	98500	141000
Chromium	8.0 U	8.0 U	22.2
Cobalt	8.0 U	8.0 U	8.0 U
Copper	2.7 B	2.8 B	5.4 B
Iron	230	176	164
Lead	1.0 UL	1.2 B	1.0 UL
Magnesium	5490	5100	9300
Manganese	78.6	36.0	221
Mercury	0.20 UL	0.20 UL	0.20 UL
Nickel	11.0 U	11.0 U	11.0 U
Potassium	2380	5040	14000
Selenium	2.0 UL	2.0 UL	2.0 U
Silver	2.0 U	2.0 U	2.0 U
Sodium	96200	35500	75500
Thallium	1.0 UL	1.0 UL	1.0 UL
Vanadium	4.0 U	4.0 U	29.9
Zinc	18.5 B	41.1 B	25.0 B
Cyanide	Q	Q	Q

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PGH-92-TMJ-1154

DATE November 30, 1992

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
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Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Project Number CTO-84
SDG Number RSB10

<u>Samples</u>:

SDB-1	SDB-2	SDB-3	SDB-6	SWA-03
SWA-04	SWA-05	SWA-09		

SSB-01, SSB-02, SSB-03 - metals only

Field Blanks:

TBB-14	TBB-15	TBA-09	TBA-10	TBA-11
TBA-12	RSB-10	RSA-05	RSA-08	

Field Duplicates:

SWA-03 SWA-09

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Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 20 water samples including 6 trip blanks. The samples were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), pesticides/PCBs, and TAL metals (filtered and unfiltered) by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed with the exception of those qualified as unreliable "R". The quality of organic analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, compound identification, and compound quantitation. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, matrix spikes, laboratory and field blanks, laboratory duplicates, laboratory control samples, GFAA analytical spike recoveries, ICP serial dilutions, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Major Issues

Matrix spike recoveries for antimony, arsenic, and selenium were below the 30 percent quality control limit. Therefore, positive results for these analytes in samples associated with the matrix spikes are qualified "L", biased very low, and quantitation limits are qualified "R", unreliable.

Analytical spike recoveries for selenium and thallium in some samples were less than the 40 percent quality control limit in the initial and rerun analyses. Therefore, quantitation limits for these analytes in affected samples are qualified "R", unreliable.

Minor Issues

Acetone, carbon disulfide, 1,1,1-trichloroethane, di-n-butylphthalate, bis(2-ethylhexyl)phthalate, 4,4'-DDT, aluminum, antimony, arsenic, beryllium, barium, cadmium, calcium, copper, iron, lead, manganese, magnesium, potassium, silver, sodium, thallium, vanadium, and zinc were reported in laboratory and/or field blanks. Therefore, positive results for acetone, di-n-butylphthalate, and bis(2-ethylhexyl)phthalate which are less than ten (10) times the blank concentrations are qualified "B". Also, results for 4,4'-DDT, arsenic, aluminum, barium, beryllium, cobalt, copper, iron, lead, magnesium, manganese, silver, sodium, thallium, vanadium, and zinc less than five (5) times the blank concentration are qualified "B". No results for the other above mentioned compounds are qualified because either there were no positive

results for these compounds in any samples or sample concentrations were greater than five (5) times the blanks levels.

Percent differences (%Ds) for bromomethane, 1,2-dichloroethane, 2-nitrophenol, 2,4-dinitrotoluene, hexachlorobenzene, and pentachlorophenol exceeded the 25 percent quality control limit in continuing calibrations. Therefore, quantitation limits of these compounds in samples associated with the calibrations are qualified "UJ", estimated.

In the pesticide/PCB analysis, samples SDB-3 and SDB-6 were diluted and rerun by the laboratory because of high concentrations of 4,4'-DDE and 4,4'-DDD. In the reanalyses, surrogate recoveries were high in both samples. Results for these two samples on the data summary are taken from the initial run with the exception of 4,4'-DDE and 4,4'-DDD which are from the diluted runs. Positive results in sample SDB-3 are qualified "K", biased high, because surrogate recoveries were high for this sample. 4,4'-DDE and 4,4'-DDD results in sample SDB-6 are qualified "K" because of high surrogate recoveries in the diluted analysis.

Pesticide surrogate spike recoveries for most water samples were below quality control limits. Therefore, quantitation limits of affected samples are qualified "UL", biased low. Please note that several compounds have received "J" qualifiers because concentrations are below CRQLs (see notes below). In cases where a compound receives "J" and "L" qualifiers, the "J" qualifier takes precedence and the concentration is considered to be an estimated value.

Matrix spike recoveries for lead and thallium were below the 75 percent quality control limit for filtered and unfiltered water samples. Therefore, positive results in affected samples are qualified "L", biased low, and quantitation limits for are qualified "UL", biased low.

The soil matrix spike recovery for mercury exceeded the 115 percent quality control limit. Therefore, positive mercury results in affected samples are qualified "K", biased high.

Soil laboratory duplicate results for calcium and lead exceeded the advisory 35 percent quality control limit applied to soil samples. Therefore, soil positive results for these analytes are qualified "J", estimated.

Serial dilution results for aluminum, barium, calcium, iron, magnesium, manganese, and sodium exceeded the 10 percent quality control limit. Therefore, positive results for these analytes are qualified "J", estimated, in samples associated with the respective dilutions.

Analytical spike results for lead, selenium, and thallium were below the 85 percent quality control limit in some samples. Therefore, positive results are qualified "L", biased low, and

quantitation limits are qualified "UL", biased low. Please note that some results for lead have been previously qualified "B" or "J" and these qualifiers take precedence over the "L" qualifier.

Notes

Some results of the pesticide/PCB analysis (Appendix A) were flagged "P" by the laboratory because percent differences (%Ds) between reported concentrations on the primary and confirmation columns was greater than 25 percent. No data are qualified on the basis of these %Ds because qualification of data is not required by current guidelines. Appendix C shows the laboratory's results on each column. Note that most of the flagged results are qualified "J", estimated, on the data summary because the reported concentrations were below contract required quantitation limits (CRQLs).

Results for acetone, carbon disulfide, 1,1-dichloroethane, benzene, total xylenes, total 1,2-dichloroethene, trichloroethene, methylene chloride, 1,1,1-trichloroethane, di-n-butylphthalate, bis(2-ethylhexyl)phthalate, phenol, 4-methylphenol, phenanthrene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, naphthalene, 2-methylnaphthalene, 4,4'-DDT, endosulfan I, methoxychlor, endrin aldehyde, dieldrin, endrin, alpha-chlordane, gamma-chlordane, alpha-BHC, and 4,4'-DDD in some samples are below contract required quantitation limits (CRQL). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated, on the data summaries.

Soil volatile, water and soil semivolatile, and soil pesticide/PCB matrix spike (MS)/matrix spike duplicate (MSD) results failed to meet quality control criteria. No data are qualified in the basis of the MS/MSD results because according to U.S. EPA guidelines organic data are not to be qualified on the basis of MS/MSD results alone. Please note that 11 of 12 soil pesticides recoveries were high. There were, however, insufficient corroborating data to qualify pesticide/PCB results because of the MS/MSD results.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory
4. Appendix B - Tentatively Identified Compounds (TICs)
5. Appendix C - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	RSA-05	RSA-08	RSB-10	SDB-1	SDB-2	SDB-3
Date collected	5/03/92	5/04/92	4/30/92	4/30/92	4/30/92	4/30/92
Date analyzed	5/08/92	5/09/92	5/05/92	5/04/92	5/04/92	5/04/92
Percent moisture	NA	NA	NA	34	21	73
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Chloromethane	10 U	10 U	10 U	15 U	13 U	37 U
Bromomethane	10 U	10 U	10 U	15 U	13 U	37 U
Vinyl chloride	10 U	10 U	10 U	44	13 U	37 U
Chloroethane	10 U	10 U	10 U	15 U	13 U	37 U
Methylene chloride	10 U	10 U	10 U	15 U	13 U	37 U
Acetone	10 U	6 B	8 J	120	71 B	610
Carbon disulfide	10 U	4 J	10 U	15 U	13 U	22 J
1,1-dichloroethene	10 U	10 U	10 U	15 U	13 U	37 U
1,1-dichloroethane	10 U	10 U	10 U	8 J	13 U	37 U
1,2-dichloroethene	10 U	10 U	10 U	130	13 U	11 J
Chloroform	10 U	10 U	10 U	15 U	13 U	37 U
1,2-dichloroethane	10 U	10 U	10 U	20	13 U	37 U
2-butanone	10 U	10 U	10 U	24	17	250
1,1,1-trichloroethane	10 U	10 U	10 U	15 U	13 U	37 U
Carbon tetrachloride	10 U	10 U	10 U	15 U	13 U	37 U
Bromodichloromethane	10 U	10 U	10 U	15 U	13 U	37 U
1,2-dichloropropane	10 U	10 U	10 U	15 U	13 U	37 U
C-1,3-dichloropropene	10 U	10 U	10 U	15 U	13 U	37 U
Trichloroethene	10 U	10 U	10 U	71	13 U	13 J
Dibromochloromethane	10 U	10 U	10 U	15 U	13 U	37 U
1,1,2-trichloroethane	10 U	10 U	10 U	15 U	13 U	37 U
Benzene	10 U	10 U	10 U	14 J	13 U	37 U
T-1,3-dichloropropene	10 U	10 U	10 U	15 U	13 U	37 U
Bromoform	10 U	10 U	10 U	15 U	13 U	37 U
4-methyl-2-pentanone	10 U	10 U	10 U	15 U	13 U	37 U
2-hexanone	10 U	10 U	10 U	15 U	13 U	37 U
Tetrachloroethene	10 U	10 U	10 U	15 U	13 U	37 U
1,2,2,2-tetrachloroetha	10 U	10 U	10 U	15 U	13 U	37 U
□Toluene□¶	10 U	10 U	10 U	15 U	13 U	37 U
Chlorobenzene	10 U	10 U	10 U	15 U	13 U	37 U
Ethylbenzene	10 U	10 U	10 U	15 U	13 U	37 U
Styrene	10 U	10 U	10 U	15 U	13 U	37 U
Xylenes(total)	10 U	10 U	10 U	4 J	13 U	37 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	SDB-6	SWA-03	SWA-04	SWA-05	SWA-09	TBA-09
Date collected	4/30/92	5/03/92	5/04/92	5/04/92	5/03/92	5/03/92
Date analyzed	5/05/92	5/08/92	5/09/92	5/09/92	5/08/92	5/08/92
Percent moisture	33	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	37 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	37 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	60	10 U	10 U	10 U	10 U	10 U
Chloroethane	37 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	23 J	10 U	10 U	10 U	10 U	10 U
Acetone	140 B	9 B	8 B	12 B	7 B	6 J
Carbon disulfide	37 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	37 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	15 J	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	230	10 U	10 U	10 U	10 U	10 U
Chloroform	37 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	37 U	10 U	10 U	10 U	10 U	10 U
2-butanone	67	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	37 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	37 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	37 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloropropane	37 U	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	37 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	520	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	37 U	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	37 U	10 U	10 U	10 U	10 U	10 U
Benzene	62	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	37 U	10 U	10 U	10 U	10 U	10 U
Bromoform	37 U	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	37 U	10 U	10 U	10 U	10 U	10 U
2-hexanone	37 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	37 U	10 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroetha	37 U	10 U	10 U	10 U	10 U	10 U
□Toluene□¶	37 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	37 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	37 U	10 U	10 U	10 U	10 U	10 U
Styrene	37 U	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	37 U	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # RSB10

Sample no.	TBA-10	TBA-11	TBA-12	TBB-14	TBB-15
Date collected	5/03/92	5/04/92	5/04/92	4/30/92	4/30/92
Date analyzed	5/09/92	5/09/92	5/09/92	5/05/92	5/05/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 UJ	10 U	10 U	10 UJ	10 UJ
Vinyl chloride	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U
Acetone	7 J	6 J	7 J	10 U	10
Carbon disulfide	10 U	10 U	3 J	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 UJ	10 U	10 U	10 UJ	10 UJ
butanone	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	2 J	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroetha	10 U	10 U	10 U	10 U	10 U
Toluene¶	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	RSA-05	RSA-08	RSB-10	SDB-1	SDB-2	SDB-3
Date collected	5/03/92	5/04/92	4/30/92	4/30/92	4/30/92	4/30/92
Date extracted	5/06/92	5/06/92	5/06/92	5/05/92	5/05/92	5/05/92
Date analyzed	5/15/92	5/15/92	5/15/92	5/20/92	5/18/92	5/19/92
Percent moisture	NA	NA	NA	34	21	73
Dilution factor	1	1	1	1	1	2
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Phenol	10 U	10 U	10 U	73 J	420 U	2400 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	1000 U	420 U	2400 U
2-chlorophenol	10 U	10 U	10 U	1000 U	420 U	2400 U
1,3-dichlorobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
1,4-dichlorobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
1,2-dichlorobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
2-methylphenol	10 U	10 U	10 U	1000 U	420 U	2400 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	1000 U	420 U	2400 U
4-methylphenol	10 U	10 U	10 U	310 J	420 U	2400 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	1000 U	420 U	2400 U
Hexachloroethane	10 U	10 U	10 U	1000 U	420 U	2400 U
Nitrobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
Isophorone	10 U	10 U	10 U	1000 U	420 U	2400 U
2-nitrophenol	10 U	10 U	10 U	1000 UJ	420 U	2400 U
2,4-dimethylphenol	10 U	10 U	10 U	1000 U	420 U	2400 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	1000 U	420 U	2400 U
2,4-dichlorophenol	10 U	10 U	10 U	1000 U	420 U	2400 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
Naphthalene	10 U	10 U	10 U	1000 U	420 U	2400 U
4-chloroaniline	10 U	10 U	10 U	1000 U	420 U	2400 U
Hexachlorobutadiene	10 U	10 U	10 U	1000 U	420 U	2400 U
4-chloro-3-methylphenol	10 U	10 U	10 U	1000 U	420 U	2400 U
2-methylnaphthalene	10 U	10 U	10 U	1000 U	420 U	2400 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	1000 U	420 U	2400 U
2,4,6-trichlorophenol	10 U	10 U	10 U	1000 U	420 U	2400 U
2,4,5-trichlorophenol	25 U	25 U	25 U	2400 U	1000 U	5900 U
2-chloronaphthalene	10 U	10 U	10 U	1000 U	420 U	2400 U
2-nitroaniline	25 U	25 U	25 U	2400 U	1000 U	5900 U
Dimethylphthalate	10 U	10 U	10 U	1000 U	420 U	2400 U
Acenaphthylene	10 U	10 U	10 U	1000 U	420 U	2400 U
2,6-dinitrotoluene	10 U	10 U	10 U	1000 U	420 U	2400 U
3-nitroaniline	25 U	25 U	25 U	2400 U	1000 U	5900 U
Acenaphthene	10 U	10 U	10 U	1000 U	420 U	2400 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	RSA-05	RSA-08	RSB-10	SDB-1	SDB-2	SDB-3
Date collected	5/03/92	5/04/92	4/30/92	4/30/92	4/30/92	4/30/92
Date extracted	5/06/92	5/06/92	5/06/92	5/05/92	5/05/92	5/05/92
Date analyzed	5/15/92	5/15/92	5/15/92	5/20/92	5/18/92	5/19/92
Percent moisture	NA	NA	NA	34	21	73
Dilution factor	1	1	1	2	1	2
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	25 U	25 U	25 U	2400 U	1000 U	5900 U
4-nitrophenol	25 U	25 U	25 U	2400 U	1000 U	5900 U
Dibenzofuran	10 U	10 U	10 U	1000 U	420 U	2400 U
2,4-dinitrotoluene	10 U	10 U	10 U	1000 UJ	420 U	2400 U
Diethylphthalate	10 U	10 U	10 U	1000 U	420 U	2400 U
4-chlorophenyl-phenylether	10 U	10 U	10 U	1000 U	420 U	2400 U
Fluorene	10 U	10 U	10 U	1000 U	420 U	2400 U
4-nitroaniline	25 U	25 U	25 U	2400 U	1000 U	5900 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	2400 U	1000 U	5900 U
N-nitrosodiphenylamine	10 U	10 U	10 U	1000 U	420 U	2400 U
4-bromophenyl-phenylether	10 U	10 U	10 U	1000 U	420 U	2400 U
Hexachlorobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
Pentachlorophenol	25 U	25 U	25 U	2400 U	1000 U	5900 U
Phenanthrene	10 U	10 U	10 U	1000 U	86 J	200 J
Anthracene	10 U	10 U	10 U	1000 U	420 U	2400 U
Carbazole	10 U	10 U	10 U	1000 U	420 U	2400 U
Di-n-butylphthalate	2 J	2 J	10 U	230 B	61 B	960 B
Fluoranthene	10 U	10 U	10 U	1000 U	130 J	630 J
Pyrene	10 U	10 U	10 U	1000 U	75 J	350 J
Butylbenzylphthalate	10 U	10 U	10 U	1000 U	420 U	2400 U
3,3'-dichlorobenzidine	10 U	10 U	10 U	1000 U	420 U	2400 U
Benzo(a)anthracene	10 U	10 U	10 U	1000 U	50 J	190 J
Chrysene	10 U	10 U	10 U	1000 U	50 J	350 J
Bis(2-ethylhexyl)phthalate	0.9 J	2 J	6 J	560 B	69 B	5300
Di-n-octylphthalate	10 U	10 U	10 U	1000 U	420 U	2400 U
Benzo(b)fluoranthene	10 U	10 U	10 U	1000 U	74 J	390 J
Benzo(k)fluoranthene	10 U	10 U	10 U	1000 U	25 J	140 J
Benzo(a)pyrene	10 U	10 U	10 U	1000 U	48 J	210 J
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	1000 U	420 U	2400 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	1000 U	420 U	2400 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	1000 U	420 U	2400 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	SDB-6	SWA-03	SWA-04	SWA-05	SWA-09
Date collected	4/30/92	5/03/92	5/04/92	5/04/92	5/03/92
Date extracted	5/05/92	5/06/92	5/06/92	5/06/92	5/06/92
Date analyzed	5/18/92	5/19/92	5/21/92	5/19/92	5/19/92
Percent moisture	33	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/kg	ug/L	ug/L	ug/L	ug/L
Phenol	490 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	490 U	10 U	10 U	10 U	10 U
2-chlorophenol	490 U	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	490 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	45 J	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	49 J	10 U	10 U	10 U	10 U
2-methylphenol	490 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	490 U	10 U	10 U	10 U	10 U
4-methylphenol	490 U	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylamine	490 U	10 U	10 U	10 U	10 U
Hexachloroethane	490 U	10 U	10 U	10 U	10 U
Nitrobenzene	490 U	10 U	10 U	10 U	10 U
Isophorone	490 U	10 U	10 U	10 U	10 U
2-nitrophenol	490 U	10 U	10 UJ	10 U	10 U
2,4-dimethylphenol	490 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	490 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	490 U	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	490 U	10 U	10 U	10 U	10 U
Naphthalene	46 J	10 U	10 U	10 U	10 U
4-chloroaniline	490 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	490 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	490 U	10 U	10 U	10 U	10 U
2-methylnaphthalene	30 J	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	490 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	490 U	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	1200 U	25 U	25 U	25 U	25 U
2-chloronaphthalene	490 U	10 U	10 U	10 U	10 U
2-nitroaniline	1200 U	25 U	25 U	25 U	25 U
Dimethylphthalate	490 U	10 U	10 U	10 U	10 U
Acenaphthylene	490 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	490 U	10 U	10 U	10 U	10 U
3-nitroaniline	1200 U	25 U	25 U	25 U	25 U
Acenaphthene	490 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	SDB-6	SWA-03	SWA-04	SWA-05	SWA-09
Date collected	4/30/92	5/03/92	5/04/92	5/04/92	5/03/92
Date extracted	5/05/92	5/06/92	5/06/92	5/06/92	5/06/92
Date analyzed	5/18/92	5/19/92	5/21/92	5/19/92	5/19/92
Percent moisture	33	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/kg	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	1200 U	25 U	25 U	25 U	25 U
4-nitrophenol	1200 U	25 U	25 U	25 U	25 U
Dibenzofuran	490 U	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	490 U	10 U	10 U	10 U	10 U
Diethylphthalate	490 U	10 U	10 U	10 U	10 U
4-chlorophenyl-phenylether	490 U	10 U	10 U	10 U	10 U
Fluorene	490 U	10 U	10 U	10 U	10 U
4-nitroaniline	1200 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	1200 U	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	490 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	490 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	490 U	10 U	10 UJ	10 U	10 U
Pentachlorophenol	1200 U	25 U	25 UJ	25 U	25 U
Phenanthrene	490 U	10 U	10 U	10 U	10 U
Anthracene	490 U	10 U	10 U	10 U	10 U
Carbazole	490 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	150 B	3 B	10 U	2 B	3 B
Fluoranthene	490 U	10 U	10 U	10 U	10 U
Pyrene	490 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	490 U	10 U	10 U	10 U	10 U
3,3'-dichlorobenzidine	490 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	490 U	10 U	10 U	10 U	10 U
Chrysene	490 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	84 B	10 U	10 U	0.8 B	10 U
Di-n-octylphthalate	490 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	490 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	490 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	490 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	490 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	490 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	490 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	RSA-05	RSA-08	RSB-10	SDB-1	SDB-2	SDB-3
Date collected	5/03/92	5/04/92	4/30/92	4/30/92	4/30/92	4/30/92
Date extracted	5/06/92	5/06/92	5/06/92	5/05/92	5/05/92	5/05/92
Date analyzed	5/15/92	5/15/92	5/15/92	5/20/92	5/18/92	5/19/92
Percent moisture	NA	NA	NA	34	21	73
Dilution factor	1	1	1	2	1	2
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Phenol	10 U	10 U	10 U	73 J	420 U	2400 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	1000 U	420 U	2400 U
2-chlorophenol	10 U	10 U	10 U	1000 U	420 U	2400 U
1,3-dichlorobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
1,4-dichlorobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
1,2-dichlorobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
2-methylphenol	10 U	10 U	10 U	1000 U	420 U	2400 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	1000 U	420 U	2400 U
4-methylphenol	10 U	10 U	10 U	310 J	420 U	2400 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	1000 U	420 U	2400 U
Hexachloroethane	10 U	10 U	10 U	1000 U	420 U	2400 U
Nitrobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
Isophorone	10 U	10 U	10 U	1000 U	420 U	2400 U
2-nitrophenol	10 U	10 U	10 U	1000 UJ	420 U	2400 U
2,4-dimethylphenol	10 U	10 U	10 U	1000 U	420 U	2400 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	1000 U	420 U	2400 U
2,4-dichlorophenol	10 U	10 U	10 U	1000 U	420 U	2400 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	1000 U	420 U	2400 U
Naphthalene	10 U	10 U	10 U	1000 U	420 U	2400 U
4-chloroaniline	10 U	10 U	10 U	1000 U	420 U	2400 U
Hexachlorobutadiene	10 U	10 U	10 U	1000 U	420 U	2400 U
4-chloro-3-methylphenol	10 U	10 U	10 U	1000 U	420 U	2400 U
2-methylnaphthalene	10 U	10 U	10 U	1000 U	420 U	2400 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	1000 U	420 U	2400 U
2,4,6-trichlorophenol	10 U	10 U	10 U	1000 U	420 U	2400 U
2,4,5-trichlorophenol	25 U	25 U	25 U	2400 U	1000 U	5900 U
2-chloronaphthalene	10 U	10 U	10 U	1000 U	420 U	2400 U
2-nitroaniline	25 U	25 U	25 U	2400 U	1000 U	5900 U
Dimethylphthalate	10 U	10 U	10 U	1000 U	420 U	2400 U
Acenaphthylene	10 U	10 U	10 U	1000 U	420 U	2400 U
2,6-dinitrotoluene	10 U	10 U	10 U	1000 U	420 U	2400 U
3-nitroaniline	25 U	25 U	25 U	2400 U	1000 U	5900 U
Acenaphthene	10 U	10 U	10 U	1000 U	420 U	2400 U

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	SDB-6	SWA-03	SWA-04	SWA-05	SWA-09
Date collected	4/30/92	5/03/92	5/04/92	5/04/92	5/03/92
Date analyzed	6/08/92	6/04/92	6/05/92	6/05/92	6/04/92
Percent moisture	33	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/kg	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	2.5 U	0.006 J	0.05 U	0.05 UL	0.05 U
Beta-BHC	2.5 U	0.05 UL	0.05 U	0.05 UL	0.05 U
Delta-BHC	2.5 U	0.05 UL	0.05 U	0.05 UL	0.05 U
Gamma-BHC	2.5 U	0.05 UL	0.05 U	0.05 UL	0.05 U
Heptachlor	2.5 U	0.05 UL	0.05 U	0.05 UL	0.05 U
Aldrin	2.5 U	0.05 UL	0.05 U	0.05 UL	0.05 U
Heptachlor epoxide	2.5 U	0.05 UL	0.05 U	0.05 UL	0.05 U
Endosulfan I	5.6	0.05 UL	0.05 U	0.05 UL	0.05 U
Dieldrin	3.1 J	0.10 UL	0.10 U	0.10 UL	0.10 U
4,4'-DDE	36 K	0.10 UL	0.10 U	0.10 UL	0.10 U
Endrin	5.0 U	0.10 UL	0.10 U	0.10 UL	0.10 U
Endosulfan II	5.0 U	0.10 UL	0.10 U	0.10 UL	0.10 U
4,4'-DDD	100 K	0.18 J	0.012 J	0.10 UL	0.016 J
Endosulfan sulfate	5.0 U	0.10 UL	0.10 U	0.10 UL	0.10 U
4,4'-DDT	4.4 B	0.013 B	0.10 U	0.021 B	0.10 U
Methoxychlor	25 U	0.50 UL	0.50 U	0.50 UL	0.50 U
Endrin ketone	5.0 U	0.10 UL	0.10 U	0.10 UL	0.10 U
Endrin aldehyde	8.3	0.10 UL	0.10 U	0.10 UL	0.10 U
Alpha-Chlordane	0.68 J	0.05 UL	0.05 U	0.05 UL	0.05 U
Gamma-Chlordane	2.4 J	0.05 UL	0.05 U	0.05 UL	0.05 U
Toxaphene	250 U	5.0 UL	5.0 U	5.0 UL	5.0 U
Aroclor-1016	50 U	1.0 UL	1.0 U	1.0 UL	1.0 U
Aroclor-1221	100 U	2.0 UL	2.0 U	2.0 UL	2.0 U
Aroclor-1232	50 U	1.0 UL	1.0 U	1.0 UL	1.0 U
Aroclor-1242	50 U	1.0 UL	1.0 U	1.0 UL	1.0 U
Aroclor-1248	50 U	1.0 UL	1.0 U	1.0 UL	1.0 U
Aroclor-1254	200	1.0 UL	1.0 U	1.0 UL	1.0 U
Aroclor-1260	50 U	1.0 UL	1.0 U	1.0 UL	1.0 U

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	SDB1	SDB2	SDB3	SDB6	SSB01	SSB02
Date collected	4/30/92	4/30/92	4/30/92	4/30/92	5/02/92	5/02/92
Percent solids	66.3	78.8	27.0	66.9	89.0	65.0
Dilution factor	1	1	1	1	1	1
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	2120	1040	26800	2040	5630	9120
Antimony	5.7 R	4.5 R	16.0 L	5.2 R	4.0 R	5.7 L
Arsenic	8.6 L	1.4 B	25.2 L	6.3 L	4.0 L	25.1 L
Barium	211 J	31.6 J	171 J	9.8 BJ	192 J	410 J
Beryllium	0.76	0.50 U	3.8 B	0.58 U	0.57 B	1.5 B
Cadmium	11.8	0.75 U	41.9	0.87 U	4.0 B	0.95 U
Calcium	13400 J	2740 J	3170 J	820 J	19900 J	4810 J
Chromium	12.9	3.0	225	6.1	13.4	11.7
Cobalt	2.5 U	2.0 U	20.8	2.3 U	3.7	4.7
Copper	32.7	41.4	298	12.8	13.4	28.3
Iron	8710	3180	40700	5240	8700	8530
Lead	61.9 J	26.9 J	497 J	23.1 J	51.9 J	18.1 J
Magnesium	436	170 B	4950	295	1010	869
Manganese	33.9	9.8	246	12.5	61.2	53.5
Mercury	0.35 K	0.13 U	1.4 K	0.26 K	0.12 U	0.16 K
Nickel	9.7	2.7 U	42.3	3.2 U	9.5	18.7
Potassium	287	104	3870	184	676	1710
Selenium	0.58 UL	0.50 UL	1.4 U	0.62 UL	0.78	1.2
Silver	5.0 B	0.91 B	10.0	1.2 B	1.3 B	2.3 B
Sodium	348 B	231 B	735 B	268 B	365 B	462 B
Thallium	0.75 B	0.35 B	2.0 B	0.52 B	0.65 B	0.94 B
Vanadium	37.0	7.9 B	130	10.4	42.8	128
Zinc	244	80.4	1020	43.2	120	37.3 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	SSB03	RSA05	RSA08	RSB10	SWA03	SWA04
Date collected	5/02/92	5/03/92	5/04/92	4/30/92	5/03/92	5/04/92
Percent solids	86.0	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	mg/kg	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	7440	29.2 J	79.7 J	48.6 J	1020 J	643 B
Antimony	7.8 L	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	8.2 L	2.0 U	2.0 U	2.0 U	5.9 B	5.4 B
Barium	42.8 J	3.0 U	3.0 U	3.0 U	39.1 B	30.8 B
Beryllium	0.46 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	31.3	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	4270 J	540 J	859 J	518 J	112000 J	152000 J
Chromium	869	8.0 U	8.0 U	8.0 U	8.0 U	12.0
Cobalt	7.5	8.0 U	8.1	8.0 U	8.0 U	8.0 U
Copper	12.9	2.0 U	2.0 U	2.0 U	6.0 B	4.9 B
Iron	6880	30.0 J	39.0 J	55.0 J	2420 J	1230 J
Lead	213 J	1.0 UL	1.0 UL	1.0 UL	3.1 B	5.0 UL
Magnesium	611	37.7 J	135 J	19.5 J	194000 J	375000 J
Manganese	41.9	3.0 U	3.0 U	3.0 U	194 J	99.6 J
Mercury	0.24 K	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	10.9	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	582	236 U	236 U	236 U	71400	144000
Selenium	0.46 U	2.0 R	2.0 R	2.0 R	2.0 R	4.0 R
Silver	1.1 B	2.1	2.3	3.0	2.0 U	5.7 B
Sodium	232 B	114 J	996 J	397 J	1740000 J	3880000 J
Thallium	0.27 B	1.0 UL	1.0 UL	1.0 R	5.0 UL	5.0 R
Vanadium	19.0	4.0 U	7.5	7.3	8.4 B	16.6 B
Zinc	2570	35.0	39.0	38.0	58.9 B	47.5 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # RSB10

Sample no.	SWA05	SWA09	SWA03F	SWA04F	SWA05F	SWA09F
Date collected	5/04/92	5/03/92	5/03/92	5/04/92	5/04/92	5/03/92
Percent solids	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	726 J	1000 J	124 B	175 B	217 B	357 B
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	7.5 B	3.4 B	2.6 B	2.0 U	3.6 B	2.6 B
Barium	43.5	36.2 B	29.8 B	28.0 B	39.6	33.2 B
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	2.6 B	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	98600 J	117000 J	112000 J	147000 J	89100 J	115000 J
Chromium	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U	8.9	8.0 U	8.9
Copper	9.2 B	10.0 B	7.1 B	6.5 B	5.0 B	7.1 B
Iron	2700 J	2490 J	170 B	207 B	166 B	560
Lead	4.3 B	3.0 B	1.0 UL	1.0 UL	1.0 UL	1.1 B
Magnesium	152000 J	192000 J	199000 J	362000 J	141000 J	195000 J
Manganese	213 J	206 J	180 J	88.7 J	192 J	183 J
Mercury	0.20 U	0.31	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	54500	73200	73600	141000	50600	73100
Selenium	2.0 R	2.0 R	10.0 R	2.0 R	2.0 R	2.0 R
Silver	2.9 B	3.3 B	3.9 B	8.4 B	4.3 B	5.1 B
Sodium	1310000 J	1800000 J	1860000 J	3690000 J	1260000 J	1800000 J
Thallium	5.0 UL	5.0 UL	5.0 UL	5.0 R	5.0 UL	5.0 UL
Vanadium	11.1 B	11.2 B	11.8 B	21.6 B	10.0 B	14.6 B
Zinc	72.4 B	59.1 B	38.8 B	48.7 B	39.8 B	35.4 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # RSB10

Sample no.	RSA05F	RSA08F	RSB10F
Date collected	5/03/92	5/04/92	4/30/92
Percent solids	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
Aluminum	43.1	98.7	35.2
Antimony	18.0 U	18.0 U	19.7
Arsenic	2.0 U	2.2	2.0 U
Barium	3.0 U	3.5	3.0 U
Beryllium	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U
Calcium	637 J	922 J	868 J
Chromium	8.0 U	8.0 U	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U
Copper	3.6	2.0 U	3.2
Iron	28.0	51.0	21.0
Lead	1.0 UL	1.0 UL	1.0 UL
Magnesium	62.0 J	467 J	44.5 J
Manganese	3.0 U	3.0 U	3.0 U
Mercury	0.20 U	0.20 U	0.20 U
Nickel	11.0 U	11.0 U	11.0 U
Potassium	236 U	240	236 U
Selenium	2.0 R	2.0 R	2.0 R
Silver	2.0 U	2.0 U	2.0 U
Sodium	328 J	2580 J	361 J
Thallium	1.0 UL	1.0 UL	1.0 UL
Vanadium	6.9	4.0 U	7.5
Zinc	36.0	36.0	40.0
Cyanide	Q	Q	Q

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PGH-92-TMJ-1169

DATE December 2, 1992

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Project Number CTO-84
SDG Number GWA219

Samples:

GWA219 GWA228 GWA229 TBA230

Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 4 water samples. The samples were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), pesticides/PCBs, and TAL metals (total and dissolved) by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed with the exception of those qualified as unreliable "R". The quality of organic analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, compound identification, and compound

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quantitation. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, matrix spikes, laboratory and field blanks, laboratory duplicates, laboratory control samples, GFAA analytical spike recoveries, ICP serial dilutions, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Major Issues

Analytical spike recoveries for selenium were less than the 40 percent quality control limit in initial and rerun analyses. Therefore, quantitation limits for selenium are qualified "R", unreliable.

Minor Issues

Aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, copper, iron, magnesium, manganese, selenium, silver, sodium, thallium, vanadium, and zinc were reported in laboratory blanks. Therefore, results for aluminum, barium, copper, arsenic, iron, thallium, vanadium, and zinc less than five (5) times the blank concentrations are qualified "B". No results for the other above mentioned analytes are qualified because either there are no positive results for these compounds in any samples or sample concentrations are greater than five (5) times the blanks levels.

A pesticide surrogate spike recovery in sample GWA229 was below the quality control range. Therefore, quantitation limits in this sample are qualified "UL", biased low. Note the only positive result in this sample (4,4'-DDT) is qualified "J", estimated, because the concentration is below the CRDL (see notes below).

Percent differences (%Ds) 1,1,1-trichloroethane, carbon tetrachloride, and fluoranthene exceeded the 25 percent quality control limit in continuing calibrations. Therefore, quantitation limits for these compounds are qualified "UJ", estimated.

Matrix spike recoveries for silver and thallium were below the 75 percent quality control limit. Therefore, quantitation limits for these analytes are qualified "UL", biased low. Note that thallium has been qualified "B" due to blank contamination in some samples.

Laboratory duplicate results for copper and zinc (unfiltered samples) exceeded the 20 percent quality control limit applied to water samples. Therefore, positive unfiltered copper and zinc

results (other than those qualified "B" because of blank contamination) are qualified "J", estimated.

Analytical spike results for selenium and thallium were below the 85 to 115 percent quality control range in some samples. Therefore, quantitation limits are qualified "UL", biased low in affected samples. Please note that selenium results have previously been qualified "R" (see major issues above) and some thallium results have been qualified "B" due to blank contamination.

Notes

The 4,4'-DDT result in sample GWA229 (Appendix A) was flagged "P" by the laboratory because the percent difference (%D) between reported concentrations on the primary and confirmation columns was greater than 25 percent. No data are qualified on the basis of the %D because qualification of data is not required by current guidelines. Appendix C shows the laboratory's results on each column. Note that the 4,4'-DDT result is qualified "J", estimated, on the data summary because the reported concentration is below the contract required quantitation limit (CRQL).

Results for total-1,2-dichloroethene, di-n-butylphthalate, bis(2-ethylhexyl)phthalate, phenol, and 4,4-DDT in some samples are below contract required quantitation limits (CRQL). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated on the data summaries.

Semivolatile and pesticide/PCB matrix spike (MS)/matrix spike duplicate (MSD) results for several compounds failed to meet quality control criteria. No results are qualified on the basis of the MS/MSD results because according to current U.S. EPA guidelines, data should not be qualified on the basis of MS/MSD results alone.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Tentatively Identified Compounds (TICs)
5. Appendix C - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION
(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION
(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA219

Sample no.	GWA219	GWA228	GWA 229	TBA230
Date collected	6/19/92	6/19/92	6/19/92	6/18/92
Date analyzed	6/26/92	6/26/92	6/27/92	6/26/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U
Vinyl chloride	11	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U
1,2-dichloroethene	70	2 J	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	10 U
2-butanone	10 U	10 U	10 U	11
1,1,1-trichloroethane	10 UJ	10 UJ	10 UJ	10 U
Carbon tetrachloride	10 UJ	10 UJ	10 UJ	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U
Trichloroethene	10	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroethane	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SDG # GWA219

Sample no.	GWA219	GWA228	GWA229
Date collected	6/19/92	6/19/92	6/19/92
Date extracted	6/24/92	6/24/92	6/24/92
Date analyzed	6/30/92	6/30/92	6/30/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
Phenol	10 U	0.6 J	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SDG # GWA219

Sample no.	GWA219	GWA228	GWA229
Date collected	6/19/92	6/19/92	6/19/92
Date extracted	6/24/92	6/24/92	6/24/92
Date analyzed	6/30/92	6/30/92	6/30/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U
Di-n-butylphthalate	2 J	10 U	10 U
Fluoranthene	10 UJ	10 UJ	10 UJ
Pyrene	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	3 J	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SDG # GWA219

Sample no.	GWA229	GWA219	GWA228
Date collected	6/19/92	6/19/92	6/19/92
Date analyzed	7/11/92	7/11/92	7/11/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
Alpha-BHC	0.05 UL	0.05 U	0.05 U
Beta-BHC	0.05 UL	0.05 U	0.05 U
Delta-BHC	0.05 UL	0.05 U	0.05 U
Gamma-BHC	0.05 UL	0.05 U	0.05 U
Heptachlor	0.05 UL	0.05 U	0.05 U
Aldrin	0.05 UL	0.05 U	0.05 U
Heptachlor epoxide	0.05 UL	0.05 U	0.05 U
Endosulfan I	0.05 UL	0.05 U	0.05 U
Dieldrin	0.10 UL	0.10 U	0.10 U
4,4'-DDE	0.10 UL	0.10 U	0.10 U
Endrin	0.10 UL	0.10 U	0.10 U
Endosulfan II	0.10 UL	0.10 U	0.10 U
4,4'-DDD	0.10 UL	0.10 U	0.10 U
Endosulfan sulfate	0.10 UL	0.10 U	0.10 U
4,4'-DDT	0.016 J	0.10 U	0.10 U
Methoxychlor	0.50 UL	0.50 U	0.50 U
Endrin ketone	0.10 UL	0.10 U	0.10 U
Endrin aldehyde	0.10 UL	0.10 U	0.10 U
Alpha-Chlordane	0.05 UL	0.05 U	0.05 U
Gamma-Chlordane	0.05 UL	0.05 U	0.05 U
Toxaphene	5.0 UL	5.0 U	5.0 U
Aroclor-1016	1.0 UL	1.0 U	1.0 U
Aroclor-1221	2.0 UL	2.0 U	2.0 U
Aroclor-1232	1.0 UL	1.0 U	1.0 U
Aroclor-1242	1.0 UL	1.0 U	1.0 U
Aroclor-1248	1.0 UL	1.0 U	1.0 U
Aroclor-1254	1.0 UL	1.0 U	1.0 U
Aroclor-1260	1.0 UL	1.0 U	1.0 U

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
DG # GWA219

Sample no.	GWA219	GWA219F	GWA228	GWA228F	GWA229	GWA229F
Date collected	6/19/92	6/19/92	6/19/92	6/19/92	6/19/92	6/19/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	506	25.0 B	4970	62.1 B	8500	81.9 B
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	2.0 U	2.0 U	9.2 B	2.0 U	26.7	2.0 U
Barium	62.5	55.5	76.9	21.4 B	144	82.5
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	116000	94300	94600	74200	461000	328000
Chromium	8.0 U	8.0 U	27.0	8.0 U	27.7	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Copper	5.3 B	2.0 U	8.7 B	2.0 U	8.8 B	2.0 U
Iron	5200	828	62300	89.0 B	62400	89.0
Lead	1.0 U	1.0 U	15.3	1.0 U	8.6	1.0 U
Magnesium	5270	4690	6950	2720	13600	5050
Manganese	145	114	1010	103	779	3.0 U
ercury	0.20 U	0.20 U	0.34	0.20 U	0.20 U	0.20 U
Nickel	16.6	11.0 U	13.5	11.0 U	11.0 U	11.0 U
Potassium	4280	4010	2660	1920	6620	5840
Selenium	10.0 R	2.0 R	10.0 R	10.0 R	10.0 R	10.0 R
Silver	2.0 UL	2.0 UL	2.0 UL	2.0 UL	2.0 UL	2.0 UL
Sodium	249000	247000	43600	41500	461000	452000
Thallium	4.1 B	3.3 B	6.1 B	4.7 B	1.0 UL	1.0 UL
Vanadium	7.2 B	4.0 U	81.2	4.0 U	103	8.2 B
Zinc	38.1 J	18.4	91.2 J	19.0	61.0 J	12.2 B
Cyanide	Q	Q	Q	Q	Q	Q

AWD TECHNOLOGIES
A Subsidiary of
The Dow Chemical Company

PGH-92-GK-1148

DATE December 4, 1992

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Gina Kelly
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Project Number CTO-84
SDG Number RSB06

Samples:

SWB-1	SWB-4	SDB-5D
SWB-2	SWB-5	SDB-4S
SWB-3	SDB-5S	SDB-4D

Duplicate Samples:
SWB-6 (of SWB-4)
SDB-7S (of SDB-4S)
SDB-8D (of SDB-4D)

Trip Blanks:

TBB-09	TBB-10	TBB-12
TBB-10	TBB-11	

Rinsate Blanks:

RSB-06	RSB-07	RSB-09

AWD Technologies, Inc.
Penn Center West Building III Suite 300 Pittsburgh Pennsylvania 15276 Telephone 412 788 2717 Fax 412 788 1316

Overview

The sample delivery group (SDG) for the Navy CLEAN Program's Camp Allen Landfill Site contained 6 water samples, 6 soil samples, 3 duplicate samples, plus 5 trip and 3 rinsate blanks. The samples were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), pesticides/PCBs, and TAL metals by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed in all samples. The quality of organic analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, compound identification, and compound quantitation. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, matrix spikes, laboratory and field blanks, laboratory duplicates, laboratory control samples, GFAA analytical spike recoveries, ICP serial dilutions, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Major Issues

The pesticide analysis surrogate spike recoveries for sample SDB-4D were zero. The laboratory reanalyzed the sample (SDB-4DDL) and the surrogates were diluted out. The results on the data summary are taken from the reanalysis (SDB-4DDL) with the exception of 4,4'-DDE, which is taken from the initial run (SDB-4D). The 4,4'-DDE result is qualified "L", biased very low.

Minor Issues

Acetone and methylene chloride were reported in the analysis of the volatile fraction laboratory and/or field QC blanks. Therefore positive results for acetone and methylene chloride which are less than ten (10) times the highest level of blank contamination are qualified "B".

The volatile fraction percent differences (%Ds) for carbon tetrachloride and bromomethane were outside the 25 percent quality control limit in the continuing calibrations. There were no positive results for carbon tetrachloride or bromomethane in any samples, therefore no data were qualified based on these %Ds.

Di-n-butylphthalate and bis(2-ethylhexyl)phthalate were reported in the analysis of the semivolatile fraction laboratory and/or field blanks. Therefore, positive results for

di-n-butylphthalate and bis(2-ethylhexyl)phthalate which are less than ten (10) times the highest level of blank contamination are qualified "B".

The semivolatile fraction internal standard responses for chrysene-d12 and perylene-d12 were outside the laboratory's quality control range in several samples. The samples were reanalyzed by the laboratory as required by the statement of work. In the reanalysis, the internal standard responses were still outside the required range. The initial run is reported on the data summary and positive results of compounds associated with each internal standard are qualified "J", estimated, and quantitation limits are qualified "UJ", estimated. Both initial and rerun analyses are included in Appendix A.

The semivolatile fraction percent differences (%Ds) for 2,4,5-trichlorophenol, hexachlorobenzene, 2,4-dinitrotoluene, 2,6-dinitrotoluene, and pentachlorophenol exceeded the 25 percent quality control limit in the continuing calibration. There were no positive results for any of the compounds in any samples, therefore no data were qualified based on these %Ds.

Pesticide surrogate spike recoveries for a number of samples were below quality control limits. Therefore positive results in affected samples are qualified "L", biased low and quantitation limits are qualified "UL", biased low.

Heptachlor epoxide and dieldrin were reported in the analysis of the PCB/pesticide fraction laboratory and/or field blanks. Therefore positive results for heptachlor epoxide and dieldrin which are less than five (5) times the highest level of blank contamination are qualified "B".

Silver, calcium, sodium, thallium, aluminum, antimony, copper, iron, and magnesium were reported in the analysis of the metal fraction laboratory and/or field blanks. Therefore, positive results for these compounds which are less than five (5) times the highest level of blank contamination are qualified "B".

The metals fraction spike sample recoveries (%R) for antimony, selenium, and zinc were outside the 75 to 125 percent quality control limits. Whenever the spike recoveries are greater than 125 percent, positive results are qualified "K" biased high. Whenever analytical spike recoveries are less than 75 percent positive sample results are qualified "L", biased low and quantitation limits are qualified "UL", biased low. Results for antimony and selenium may have been qualified "B", due to blank contamination and under current U.S. EPA guidelines, the "B" qualifier takes precedence.

The metals fraction laboratory duplicate RPD results for copper and lead exceeded the 35 percent quality control limit applied to soil samples. Therefore positive soil copper and lead results are qualified "J", estimated.

The metals fraction laboratory duplicate RPD results for unfiltered lead and zinc exceeded the 20 percent quality control limit applied to water samples. Therefore positive unfiltered lead and zinc results are qualified "J", estimated.

The metals fraction ICP serial dilution percent difference (%D) for filtered magnesium and sodium were outside quality control limits. Therefore positive filtered magnesium and sodium results are qualified "J", estimated.

The metals fraction analytical spike results for selenium were outside the 85 to 115 percent quality control range in some samples. Whenever the spike recovery is greater than 115 percent positive results are qualified "K", biased high. Whenever analytical spike recoveries are less than 85 percent positive results are qualified "L", biased low and quantitation limits are qualified "UL", biased low.

Notes

Some results of the pesticide/PCB analysis (Appendix A) were flagged "P" by the laboratory because percent differences (%Ds) between reported concentrations on the primary and confirmation columns was greater than 25 percent. No data are qualified on the basis of these %Ds because qualification of data is not required by current guidelines. Appendix C shows the laboratory's results on each column. Note that most of the flagged results are qualified "J", estimated, on the data summary because the reported concentrations were below contract required quantitation limits (CRQLs).

Matrix spike (MS)/matrix spike duplicate (MSD) results for several compounds failed to meet quality control criteria. No results are qualified on the basis of the MS/MSD results because according to U.S. EPA guidelines, data should not be qualified on the basis of MS/MSD results alone.

The pesticide analyses of samples SDB-5D and SDB-8D required the samples be diluted several times. The results on the data summary are taken from the initial runs and some results were taken from the diluted runs (SDB-5DDL and SDB-8DDL). Therefore, the results reported on the data summary are a combination of the initial analysis and the diluted runs.

The soil semivolatile surrogate recoveries were diluted out of samples SDB-4D, SDB-5D, SDB-8D, SDB-4MS, and SDB5-MSD.

Results for methylene chloride, carbon disulfide, 1,2-dichloroethene (total), trichloroethene, chlorobenzene, tetrachloroethene, vinyl chloride, 1,2-dichloroethane, bromodichloromethane, carbon disulfide, chloroform, benzene, 2-butanone, 4-methylphenol, fluoranthene, pyrene,

chrysene, bis(2-ethylhexyl)phthalate, benzo(b)fluoranthene, benzo(a)pyrene, phenol, naphthalene, acenaphthene, 2,4-dimethylphenol, phenanthrene, di-n-butylphthalate, benzo(k)fluoranthene, 4,4'-DDD, aldrin, heptachlor epoxide, endosulfan I, dieldrin, 4,4'-DDE, alpha-chlordane, gamma-chlordane, gamma-BHC (lindane), Aroclor 1248, and Aroclor 1254 in some samples are below contract required quantitation limits (CRQLs). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated on the data summaries.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
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4. Appendix B - Tentatively Identified Compounds.
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GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
)G # RSB06

Sample no.	RSB-06	RSB-07	RSB-09	SDB-4D	SDB-4S	SDB-5D
Date collected	4/28/92	4/28/92	4/28/92	4/29/92	4/29/92	4/28/92
Date analyzed	5/01/92	5/01/92	5/04/92	5/04/92	5/05/92	5/01/92
Percent moisture	NA	NA	NA	28	77	13
Dilution factor	1	1	1	1.7	5	5
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Chloromethane	10 U	10 U	10 U	23 U	220 U	57 U
Bromomethane	10 U	10 U	10 U	23 U	220 U	57 U
Vinyl chloride	10 U	10 U	10 U	10 J	220 U	57 U
Chloroethane	10 U	10 U	10 U	23 U	220 U	57 U
Methylene chloride	10 U	2 J	10 U	23 U	97 J	57 U
Acetone	8 J	9 J	10 U	340	2300	520
Carbon disulfide	10 U	10 U	10 U	23 U	220 U	29 J
1,1-dichloroethene	10 U	10 U	10 U	23 U	220 U	57 U
1,1-dichloroethane	10 U	10 U	10 U	23 U	220 U	57 U
1,2-dichloroethene	10 U	10 U	10 U	87	230	26 J
Chloroform	10 U	10 U	10 U	23 U	220 U	57 U
1,2-dichloroethane	10 U	10 U	10 U	23 U	220 U	57 U
2-butanone	10 U	10 U	10 U	140	1300	120
1,1-trichloroethane	10 U	10 U	10 U	23 U	220 U	57 U
arbon tetrachloride	10 U	10 U	10 U	23 U	220 U	57 U
Bromodichloromethane	10 U	10 U	10 U	23 U	220 U	57 U
1,2-dichloropropane	10 U	10 U	10 U	23 U	220 U	57 U
C-1,3-dichloropropene	10 U	10 U	10 U	23 U	220 U	57 U
Trichloroethene	10 U	10 U	10 U	39	220 U	12 J
Dibromochloromethane	10 U	10 U	10 U	23 U	220 U	57 U
1,1,2-trichloroethane	10 U	10 U	10 U	23 U	220 U	57 U
Benzene	10 U	10 U	10 U	23 U	220 U	57 U
T-1,3-dichloropropene	10 U	10 U	10 U	23 U	220 U	57 U
Bromoform	10 U	10 U	10 U	23 U	220 U	57 U
4-methyl-2-pentanone	10 U	10 U	10 U	23 U	220 U	57 U
2-hexanone	10 U	10 U	10 U	23 U	220 U	57 U
Tetrachloroethene	10 U	10 U	10 U	120	220 U	57 U
1,2,2,2-tetrachloroetha	10 U	10 U	10 U	23 U	220 U	57 U
Toluene¶	10 U	10 U	10 U	23 U	220 U	57 U
Chlorobenzene	10 U	10 U	10 U	23 U	220 U	27 J
Ethylbenzene	10 U	10 U	10 U	23 U	220 U	57 U
Styrene	10 U	10 U	10 U	23 U	220 U	57 U
Xylenes(total)	10 U	10 U	10 U	23 U	220 U	57 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # RSB06

Sample no.	SDB-5S	SDB-7S	SDB-8D	SWB-1	SWB-2	SWB-3
Date collected	4/28/92	4/29/92	4/29/92	4/30/92	4/30/92	4/30/92
Date analyzed	5/01/92	5/05/92	5/04/92	5/04/92	5/04/92	5/04/92
Percent moisture	16	79	55	NA	NA	NA
Dilution factor	1	5	2	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
Chloromethane	12 U	240 U	44 U	10 U	10 U	10 U
Bromomethane	12 U	240 U	44 U	10 U	10 U	10 U
Vinyl chloride	12 U	240 U	12 J	22	10 U	11
Chloroethane	12 U	240 U	44 U	10 U	10 U	10 U
Methylene chloride	12 U	110 J	44 U	10 U	10 U	4 B
Acetone	18 B	4800	600	14 B	12 B	12 B
Carbon disulfide	12 U	240 U	44 U	10 U	10 U	3 J
1,1-dichloroethene	12 U	240 U	44 U	10 U	10 U	10 U
1,1-dichloroethane	12 U	240 U	44 U	3 J	10 U	2 J
1,2-dichloroethene	11 J	460	38 J	46	10 U	28
Chloroform	12 U	240 U	44 U	10 U	24	3 J
1,2-dichloroethane	12 U	240 U	44 U	8 J	10 U	3 J
2-butanone	12 U	2600	170	10 U	10 U	10 U
1,1,1-trichloroethane	12 U	240 U	44 U	10 U	10 U	10 U
Carbon tetrachloride	12 U	240 U	44 U	10 U	10 U	10 U
romodichloromethane	12 U	240 U	44 U	10 U	6 J	10 U
,2-dichloropropane	12 U	240 U	44 U	10 U	10 U	10 U
C-1,3-dichloropropene	12 U	240 U	44 U	10 U	10 U	10 U
Trichloroethene	3 J	82 J	33 J	30	10 U	45
Dibromochloromethane	12 U	240 U	44 U	10 U	10 U	10 U
1,1,2-trichloroethane	12 U	240 U	44 U	10 U	10 U	10 U
Benzene	12 U	240 U	44 U	12	10 U	6 J
T-1,3-dichloropropene	12 U	240 U	44 U	10 U	10 U	10 U
Bromoform	12 U	240 U	44 U	10 U	10 U	10 U
4-methyl-2-pentanone	12 U	240 U	44 U	10 U	10 U	10 U
2-hexanone	12 U	240 U	44 U	10 U	10 U	10 U
Tetrachloroethene	12 U	52 J	180	10 U	10 U	10 U
1,2,2,2-tetrachloroetha	12 U	240 U	44 U	10 U	10 U	10 U
Toluene¶	12 U	240 U	44 U	10 U	10 U	10 U
Chlorobenzene	12 U	240 U	44 U	10 U	10 U	10 U
Ethylbenzene	12 U	240 U	44 U	10 U	10 U	10 U
Styrene	12 U	240 U	44 U	10 U	10 U	10 U
Xylenes(total)	12 U	240 U	44 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # RSB06

Sample no.	SWB-4	SWB-5	SWB-6	TBB-09	TBB-10	TBB-10
Date collected	4/29/92	4/28/92	4/29/92	4/28/92	4/29/92	4/30/92
Date analyzed	5/04/92	4/30/92	5/04/92	4/30/92	4/30/92	5/04/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	6 J	6 J	6 J	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	3 B	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	11 B	4 J	6 J	9 J
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	15	20	15	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
2-butanone	4 J	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U
,2-dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	21	20	22	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	3 J	10 U	3 J	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	6 J	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroetha	10 U	10 U	10 U	10 U	10 U	10 U
Toluene¶	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
)G # RSB06

Sample no.	TBB-11	TBB-12
Date collected	4/29/92	4/29/92
Date analyzed	5/04/92	5/04/92
Percent moisture	NA	NA
Dilution factor	1	1
Units	ug/L	ug/L
Chloromethane	10 U	10 U
Bromomethane	10 U	10 U
Vinyl chloride	10 U	10 U
Chloroethane	10 U	10 U
Methylene chloride	10 U	4 J
Acetone	8 J	12
Carbon disulfide	10 U	10 U
1,1-dichloroethene	10 U	10 U
1,1-dichloroethane	10 U	10 U
1,2-dichloroethene	10 U	10 U
Chloroform	10 U	10 U
1,2-dichloroethane	10 U	10 U
2-butanone	10 U	6 J
1,1-trichloroethane	10 U	10 U
arbon tetrachloride	10 U	10 U
Bromodichloromethane	10 U	10 U
1,2-dichloropropane	10 U	10 U
C-1,3-dichloropropene	10 U	10 U
Trichloroethene	10 U	10 U
Dibromochloromethane	10 U	10 U
1,1,2-trichloroethane	10 U	10 U
Benzene	10 U	10 U
T-1,3-dichloropropene	10 U	10 U
Bromoform	10 U	10 U
4-methyl-2-pentanone	10 U	10 U
2-hexanone	10 U	10 U
Tetrachloroethene	10 U	10 U
1,2,2,2-tetrachloroetha	10 U	10 U
Toluene¶	10 U	10 U
Chlorobenzene	10 U	10 U
Ethylbenzene	10 U	10 U
Styrene	10 U	10 U
Xylenes(total)	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # RSB06

Sample no.	RSB-06	RSB-07	RSB-09	SDB-4D	SDB-4S	SDB-5D
Date collected	4/28/92	4/28/92	4/28/92	4/29/92	4/29/92	4/28/92
Date extracted	4/30/92	4/30/92	4/30/92	5/04/92	5/04/92	5/04/92
Date analyzed	5/05/92	5/05/92	5/05/92	5/06/93	5/08/92	5/06/92
Percent moisture	NA	NA	NA	28	77	13
Dilution factor	1	1	1	10.0	4.0	10.0
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Phenol	10 U	10 U	10 U	4600 U	1800 J	3800 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	4600 U	5700 U	3800 U
2-chlorophenol	10 U	10 U	10 U	4600 U	5700 U	3800 U
1,3-dichlorobenzene	10 U	10 U	10 U	4600 U	5700 U	3800 U
1,4-dichlorobenzene	10 U	10 U	10 U	4600 U	5700 U	3800 U
1,2-dichlorobenzene	10 U	10 U	10 U	4600 U	5700 U	3800 U
2-methylphenol	10 U	10 U	10 U	4600 U	5700 U	3800 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	4600 U	5700 U	3800 U
4-methylphenol	10 U	10 U	10 U	320 J	15000	3800 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	4600 U	5700 U	3800 U
Hexachloroethane	10 U	10 U	10 U	4600 U	5700 U	3800 U
Nitrobenzene	10 U	10 U	10 U	4600 U	5700 U	3800 U
Isophorone	10 U	10 U	10 U	4600 U	5700 U	3800 U
2-nitrophenol	10 U	10 U	10 U	4600 U	5700 U	3800 U
2,4-dimethylphenol	10 U	10 U	10 U	4600 U	5700 U	3800 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	4600 U	5700 U	3800 U
2,4-dichlorophenol	10 U	10 U	10 U	4600 U	5700 U	3800 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	4600 U	5700 U	3800 U
Naphthalene	10 U	10 U	10 U	4600 U	5700 U	200 J
4-chloroaniline	10 U	10 U	10 U	4600 U	5700 U	3800 U
Hexachlorobutadiene	10 U	10 U	10 U	4600 U	5700 U	3800 U
4-chloro-3-methylphenol	10 U	10 U	10 U	4600 U	5700 U	3800 U
2-methylnaphthalene	10 U	10 U	10 U	4600 U	5700 U	3800 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	4600 U	5700 U	3800 U
2,4,6-trichlorophenol	10 U	10 U	10 U	4600 U	5700 U	3800 U
2,4,5-trichlorophenol	25 U	25 U	25 U	11000 U	14000 U	9200 U
2-chloronaphthalene	10 U	10 U	10 U	4600 U	5700 U	3800 U
2-nitroaniline	25 U	25 U	25 U	11000 U	14000 U	9200 U
Dimethylphthalate	10 U	10 U	10 U	4600 U	5700 U	3800 U
Acenaphthylene	10 U	10 U	10 U	4600 U	5700 U	3800 U
2,6-dinitrotoluene	10 U	10 U	10 U	4600 U	5700 U	3800 U
3-nitroaniline	25 U	25 U	25 U	11000 U	14000 U	9200 U
Acenaphthene	10 U	10 U	10 U	4600 U	5700 U	4100

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # RSB06

Sample no.	RSB-06	RSB-07	RSB-09	SDB-4D	SDB-4S	SDB-5D
Date collected	4/28/92	4/28/92	4/28/92	4/29/92	4/29/92	4/28/92
Date extracted	4/30/92	4/30/92	4/30/92	5/04/92	5/04/92	5/04/92
Date analyzed	5/05/92	5/05/92	5/05/92	5/06/93	5/08/92	5/06/92
Percent moisture	NA	NA	NA	28	77	13
Dilution factor	1	1	1	10.0	4.0	10.0
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	25 U	25 U	25 U	11000 U	14000 U	9200 U
4-nitrophenol	25 U	25 U	25 U	11000 U	14000 U	9200 U
Dibenzofuran	10 U	10 U	10 U	4600 U	5700 U	3800 U
2,4-dinitrotoluene	10 U	10 U	10 U	4600 U	5700 U	3800 U
Diethylphthalate	10 U	10 U	10 U	4600 U	5700 U	3800 U
4-chlorophenyl-phenylether	10 U	10 U	10 U	4600 U	5700 U	3800 U
Fluorene	10 U	10 U	10 U	4600 U	5700 U	3800 U
4-nitroaniline	25 U	25 U	25 U	11000 U	14000 U	9200 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	11000 U	14000 U	9200 U
N-nitrosodiphenylamine	10 U	10 U	10 U	4600 U	5700 U	3800 U
4-bromophenyl-phenylether	10 U	10 U	10 U	4600 U	5700 U	3800 U
Hexachlorobenzene	10 U	10 U	10 U	4600 U	5700 U	3800 U
Pentachlorophenol	25 U	25 U	25 U	11000 U	14000 U	9200 U
Phenanthrene	10 U	10 U	10 U	4600 U	5700 U	3800 U
Anthracene	10 U	10 U	10 U	4600 U	5700 U	3800 U
Carbazole	10 U	10 U	10 U	4600 U	5700 U	3800 U
Di-n-butylphthalate	10 U	2 J	0.5 J	4600 U	5700 U	3800 U
Fluoranthene	10 U	10 U	10 U	340 J	5700 U	1000 J
Pyrene	10 U	10 U	10 U	240 J	5700 U	800 J
Butylbenzylphthalate	10 U	10 U	10 U	4600 U	5700 U	3800 U
3,3'-dichlorobenzidine	10 U	10 U	10 U	4600 U	5700 U	3800 U
Benzo(a)anthracene	10 U	10 U	10 U	4600 U	5700 U	250 J
Chrysene	10 U	10 U	10 U	300 J	300 J	460 J
Bis(2-ethylhexyl)phthalate	2 J	0.6 J	3 J	1800 J	4700	1900 J
Di-n-octylphthalate	10 U	10 U	10 U	4600 U	5700 U	3800 U
Benzo(b)fluoranthene	10 U	10 U	10 U	460 J	280 J	330 J
Benzo(k)fluoranthene	10 U	10 U	10 U	4600 U	5700 U	3800 U
Benzo(a)pyrene	10 U	10 U	10 U	230 J	5700 U	3800 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	4600 U	5700 U	3800 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	4600 U	5700 U	3800 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	4600 U	5700 U	3800 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
)G # RSB06

Sample no.	SDB-5S	SDB-7S	SDB-8D	SWB-1	SWB-2	SWB-3
Date collected	4/28/92	4/29/92	4/29/92	4/30/92	4/30/92	4/30/92
Date extracted	5/04/92	5/04/92	5/04/92	5/01/92	5/01/92	5/01/92
Date analyzed	5/06/92	5/08/92	5/08/92	5/06/92	5/06/92	5/06/92
Percent moisture	16	79	55	NA	NA	NA
)ilution factor	2.0	2.0	10.0	1	1	1
nits	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
henol	790 U	3200	7300 U	0.9 J	10 U	10 U
is(2-chloroethyl)ether	790 U	3100 U	7300 U	10 U	10 U	10 U
-chlorophenol	790 U	3100 U	7300 U	10 U	10 U	10 U
,3-dichlorobenzene	790 U	3100 U	7300 U	10 U	10 U	10 U
1,4-dichlorobenzene	790 U	3100 U	7300 U	10 U	10 U	10 U
1,2-dichlorobenzene	790 U	3100 U	7300 U	10 U	10 U	10 U
2-methylphenol	790 U	3100 U	7300 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	790 U	3100 U	7300 U	10 U	10 U	10 U
4-methylphenol	790 U	23000	520 J	3 J	10 U	10 U
N-nitroso-di-n-propylamine	790 U	3100 U	7300 U	10 U	10 U	10 U
Hexachloroethane	790 U	3100 U	7300 U	10 U	10 U	10 U
Nitrobenzene	790 U	3100 U	7300 U	10 U	10 U	10 U
Isophorone	790 U	3100 U	7300 U	10 U	10 U	10 U
2-nitrophenol	790 U	3100 U	7300 U	10 U	10 U	10 U
4-dimethylphenol	790 U	380 J	7300 U	1 J	10 U	10 U
s(2-chloroethoxy)methane	790 U	3100 U	7300 U	10 U	10 U	10 U
2,4-dichlorophenol	790 U	3100 U	7300 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	790 U	3100 U	7300 U	10 U	10 U	10 U
Naphthalene	790 U	3100 U	7300 U	10 U	10 U	10 U
4-chloroaniline	790 U	3100 U	7300 U	10 U	10 U	10 U
Hexachlorobutadiene	790 U	3100 U	7300 U	10 U	10 U	10 U
4-chloro-3-methylphenol	790 U	3100 U	7300 U	10 U	10 U	10 U
2-methylnaphthalene	790 U	3100 U	7300 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	790 U	3100 U	7300 U	10 U	10 U	10 U
2,4,6-trichlorophenol	790 U	3100 U	7300 U	10 U	10 U	10 U
2,4,5-trichlorophenol	1900 U	7600 U	18000 U	25 U	25 U	25 U
2-chloronaphthalene	790 U	3100 U	7300 U	10 U	10 U	10 U
2-nitroaniline	1900 U	7600 U	18000 U	25 U	25 U	25 U
Dimethylphthalate	790 U	3100 U	7300 U	10 U	10 U	10 U
Acenaphthylene	790 U	3100 U	7300 U	10 U	10 U	10 U
2,6-dinitrotoluene	790 U	3100 U	7300 U	10 U	10 U	10 U
3-nitroaniline	1900 U	7600 U	18000 U	25 U	25 U	25 U
Acenaphthene	430 J	3100 U	7300 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
)G # RSB06

Sample no.	SDB-5S	SDB-7S	SDB-8D	SWB-1	SWB-2	SWB-3
Date collected	4/28/92	4/29/92	4/29/92	4/30/92	4/30/92	4/30/92
Date extracted	5/04/92	5/04/92	5/04/92	5/01/92	5/01/92	5/01/92
Date analyzed	5/06/92	5/08/92	5/08/92	5/06/92	5/06/92	5/06/92
Percent moisture	16	79	55	NA	NA	NA
Dilution factor	2.0	2.0	10.0	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
2,4-dinitrophenol	1900 U	7600 U	18000 U	25 U	25 U	25 U
4-nitrophenol	1900 U	7600 U	18000 U	25 U	25 U	25 U
Dibenzofuran	790 U	3100 U	7300 U	10 U	10 U	10 U
2,4-dinitrotoluene	790 U	3100 U	7300 U	10 U	10 U	10 U
Diethylphthalate	790 U	3100 U	7300 U	10 U	10 U	10 U
4-chlorophenyl-phenylether	790 U	3100 U	7300 U	10 U	10 U	10 U
Fluorene	790 U	3100 U	7300 U	10 U	10 U	10 U
4-nitroaniline	1900 U	7600 U	18000 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	1900 U	7600 U	18000 U	25 U	25 U	25 U
N-nitrosodiphenylamine	790 U	3100 U	7300 U	10 U	10 U	10 U
4-bromophenyl-phenylether	790 U	3100 U	7300 U	10 U	10 U	10 U
Hexachlorobenzene	790 U	3100 U	7300 U	10 U	10 U	10 U
Pentachlorophenol	1900 U	7600 U	18000 U	25 U	25 U	25 U
Phenanthrene	790 U	220 J	7300 U	10 U	10 U	10 U
Anthracene	790 U	3100 U	7300 U	10 U	10 U	10 U
^arbazole	790 U	3100 U	7300 U	10 U	10 U	10 U
.-n-butylphthalate	49 B	1300 J	7300 U	10 U	10 U	10 U
Fluoranthene	52 J	500 J	650 J	10 U	10 U	10 U
Pyrene	39 J	330 J	510 J	10 U	10 U	10 UJ
Butylbenzylphthalate	790 U	3100 U	7300 U	10 U	10 U	10 UJ
3,3'-dichlorobenzidine	790 U	3100 U	7300 U	10 U	10 U	10 UJ
Benzo(a)anthracene	790 U	170 J	7300 U	10 U	10 U	10 UJ
Chrysene	790 U	290 J	7300 U	10 U	10 U	10 UJ
Bis(2-ethylhexyl)phthalate	390 J	4600	4400 J	10 U	10 U	10 UJ
Di-n-octylphthalate	790 U	3100 U	7300 U	10 U	10 U	10 UJ
Benzo(b)fluoranthene	790 U	300 J	7300 U	10 U	10 U	10 UJ
Benzo(k)fluoranthene	790 U	160 J	7300 U	10 U	10 U	10 UJ
Benzo(a)pyrene	790 U	210 J	7300 U	10 U	10 U	10 UJ
Indeno(1,2,3-cd)pyrene	790 U	3100 U	7300 U	10 U	10 U	10 UJ
Dibenz(a,h)anthracene	790 U	3100 U	7300 U	10 U	10 U	10 UJ
Benzo(g,h,i)perylene	790 U	3100 U	7300 U	10 U	10 U	10 UJ

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # RSB06

Sample no.	SWB-3RE	SWB-4	SWB-5	SWB-5RE	SWB-6
Date collected	4/30/92	4/29/92	4/28/92	4/28/92	4/29/92
Date extracted	5/01/92	4/30/92	4/30/92	4/30/92	4/30/92
Date analyzed	5/08/92	5/06/92	5/05/92	5/06/92	5/06/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	0.8 J	0.7 J	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
`DG # RSB06

Sample no.	SWB-3RE	SWB-4	SWB-5	SWB-5RE	SWB-6
Date collected	4/30/92	4/29/92	4/28/92	4/28/92	4/29/92
Date extracted	5/01/92	4/30/92	4/30/92	4/30/92	4/30/92
Date analyzed	5/08/92	5/06/92	5/05/92	5/06/92	5/06/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
i-n-butylphthalate	10 U	1 J	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 UJ	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 UJ	10 U	10 U
3,3'-dichlorobenzidine	10 U	10 U	10 UJ	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 UJ	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	10 U	9 J	1 J	2 J	10 U
Di-n-octylphthalate	10 U	10 U	10 UJ	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 UJ	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 UJ	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 UJ	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 UJ	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 UJ	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 UJ	10 U	10 U

DATA SUMMARY -- PESTICIDE/PCBS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG #RSB06

Sample no.	RSB-06	RSB-07	RSB-09	SDB-4DDL	SDB-4S	SDB-5D
Date collected	4/28/92	4/28/92	4/28/92	4/29/92	4/29/92	4/28/92
Date analyzed	5/22/92	5/22/92	5/22/92	6/01/92	5/23/92	5/23/92
Percent moisture	NA	NA	NA	28	77	13
Dilution factor	1	1	1	500	1	2
Units	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Alpha-BHC	0.05 UL	0.05 UL	0.05 UL	1200 U	7.2 U	3.8 U
Beta-BHC	0.05 UL	0.05 UL	0.05 UL	1200 U	7.2 U	3.8 U
Delta-BHC	0.05 UL	0.05 UL	0.003 J	1200 U	7.2 U	3.8 U
Gamma-BHC	0.05 UL	0.05 UL	0.05 UL	1200 U	7.2 U	1.2 J
Heptachlor	0.05 UL	0.05 UL	0.05 UL	1200 U	7.2 U	3.8 U
Aldrin	0.05 UL	0.05 UL	0.05 UL	1200 U	3.5 J	14
Heptachlor epoxide	0.05 UL	0.05 UL	0.006 J	1200 U	0.96 J	3.8 U
Endosulfan I	0.05 UL	0.05 UL	0.05 UL	1200 U	6.4 J	3.8 U
Dieldrin	0.10 UL	0.10 UL	0.10 UL	2300 U	7.9 J	62
4,4'-DDE	0.1O UL	0.1O UL	0.10 UL	60 L	13 J	85
Endrin	0.1O UL	0.1O UL	0.10 UL	2300 U	14 U	11
Endosulfan II	0.1O UL	0.1O UL	0.10 UL	2300 U	14 U	7.7 U
4,4'-DDD	0.1O UL	0.1O UL	0.10 UL	1600 J	48	380
Endosulfan sulfate	0.1O UL	0.1O UL	0.10 UL	2300 U	14 U	7.7 U
4,4'-DDT	0.1O UL	0.1O UL	0.10 UL	4400	14 U	1.1 J
Methoxychlor	0.50 UL	0.50 UL	0.50 UL	12000 U	72 U	38 U
Endrin ketone	0.10 UL	0.1O UL	0.10 UL	2300 U	14 U	1.1 J
Endrin aldehyde	0.10 UL	0.1O UL	0.10 UL	2300 U	14 U	7.7 U
Alpha-Chlordane	0.05 UL	0.05 UL	0.05 UL	1200 U	2.8 J	3.8 U
Gamma-Chlordane	0.05 UL	0.05 UL	0.05 UL	1200 U	1.3 J	16
Toxaphene	5.0 UL	5.0 UL	5.0 UL	120000 U	720 U	380 U
Aroclor-1016	1.0 UL	1.0 UL	1.0 UL	23000 U	140 U	77 U
Aroclor-1221	2.0 UL	2.0 UL	2.0 UL	46000 U	290 U	150 U
Aroclor-1232	1.0 UL	1.0 UL	1.0 UL	23000 U	140 U	77 U
Aroclor-1242	1.0 UL	1.0 UL	1.0 UL	23000 U	140 U	77 U
Aroclor-1248	1.0 UL	1.0 UL	1.0 UL	23000 U	140 U	68 J
Aroclor-1254	1.0 UL	1.0 UL	1.0 UL	23000 U	180	980
Aroclor-1260	1.0 UL	1.0 UL	1.0 UL	23000 U	140 U	77 U

DATA SUMMARY -- PESTICIDE/PCBS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
)G #RSB06

Sample no.	SDB-5S	SDB-5SDL	SDB-7S	SDB-8D	SWB-1	SWB-2
Date collected	4/28/92	4/28/92	4/29/92	4/29/92	4/30/92	4/30/92
Date analyzed	5/23/92	6/01/92	5/24/92	5/24/92	5/22/92	5/22/92
Percent moisture	16	16	77	55	NA	NA
Dilution factor	4	40	2	5	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L
Alpha-BHC	7.9 U	79 U	14 U	19 U	0.05 UL	0.05 U
Beta-BHC	7.9 U	79 U	14 U	19 U	0.05 UL	0.05 U
Delta-BHC	7.9 U	79 U	14 U	19 U	0.05 UL	0.05 U
Gamma-BHC	7.9 U	79 U	14 U	19 U	0.05 UL	0.05 U
Heptachlor	7.9 U	79 U	14 U	19 U	0.05 UL	0.05 U
Aldrin	7.9 U	79 U	8.4 J	3.4 J	0.05 UL	0.05 U
Heptachlor epoxide	1.2 J	79 U	14 U	19 U	0.05 UL	0.05 U
Endosulfan I	7.9 U	79 U	14 U	19 U	0.05 UL	0.05 U
Dieldrin	9.9 J	13 J	19 J	28 J	0.005 B	0.10 U
4,4'-DDE	13 J	17 J	34	390	0.10 UL	0.10 U
Endrin	16 U	160 U	29 U	25 J	0.10 UL	0.10 U
Endosulfan II	16 U	160 U	29 U	37 U	0.10 UL	0.10 U
4'-DDD	310	410	110	5100	0.10 UL	0.10 U
Endosulfan sulfate	16 U	160 U	29 U	37 U	0.10 UL	0.10 U
4,4'-DDT	16U	160 U	29 U	590	0.10 UL	0.10 U
Methoxychlor	79 U	790 U	140 U	190 U	0.50 UL	0.50 U
Endrin ketone	16 U	160 U	29 U	37 U	0.10 UL	0.10 U
Endrin aldehyde	16 U	160 U	29 U	120 U	0.10 UL	0.10 U
Alpha-Chlordane	2.4 J	79 U	7.1 J	22 J	0.05 UL	0.05 U
Gamma-Chlordane	4.3 J	79 U	6.8 J	27 U	0.05 UL	0.05 U
Toxaphene	790 U	7900 U	1400 U	1900 U	5.0 UL	5.0 U
Aroclor-1016	160 U	1600 U	290 U	370 U	1.0 UL	1.0 U
Aroclor-1221	320 U	3200 U	580 U	740 U	2.0 UL	2.0 U
Aroclor-1232	160 U	1600 U	290 U	370 U	1.0 UL	1.0 U
Aroclor-1242	160 U	1600 U	290 U	370 U	1.0 UL	1.0 U
Aroclor-1248	21 J	1600 U	290 U	170 J	1.0 UL	1.0 U
Aroclor-1254	170	640 J	270 J	2100	1.0 UL	1.0 U
Aroclor-1260	160 U	1600 U	290 U	370 U	1.0 UL	1.0 U

DATA SUMMARY -- PESTICIDE/PCBS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG #RSB06

Sample no.	SWB-3	SWB-4	SWB-5	SWB-6
Date collected	4/30/92	4/29/92	4/28/92	4/29/92
Date analyzed	5/22/92	5/22/92	5/22/92	5/22/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 U	0.05 U	0.05 UL	0.05 UL
Beta-BHC	0.05 U	0.05 U	0.05 UL	0.05 UL
Delta-BHC	0.05 U	0.05 U	0.05 UL	0.05 UL
Gamma-BHC	0.05 U	0.007 J	0.013 J	0.006 J
Heptachlor	0.05 U	0.05 U	0.05 UL	0.05 UL
Aldrin	0.05 U	0.05 U	0.05 UL	0.05 UL
Heptachlor epoxide	0.006 B	0.05 U	0.004 B	0.05 UL
Endosulfan I	0.05 U	0.05 U	0.05 UL	0.05 UL
Dieldrin	0.10 U	0.10 U	0.006 B	0.10 UL
4,4'-DDE	0.10 U	0.10 U	0.10 UL	0.10 UL
Endrin	0.10 U	0.10 U	0.10 UL	0.10 UL
Endosulfan II	0.10 U	0.10 U	0.10 UL	0.10 UL
4,4'-DDD	0.007 J	0.10 U	0.02 J	0.10 UL
Endosulfan sulfate	0.10 U	0.10 U	0.10 UL	0.10 UL
4,4'-DDT	0.10 U	0.10 U	0.10 UL	0.10 UL
Methoxychlor	0.50 U	0.50 U	0.50 UL	0.50 UL
Endrin ketone	0.10 U	0.10 U	0.10 UL	0.10 UL
Endrin aldehyde	0.10 U	0.10 U	0.1O UL	0.10 UL
Alpha-Chlordane	0.05 U	0.05 U	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 U	0.05 U	0.05 UL	0.05 UL
Toxaphene	5.0 U	5.0 U	5.0 UL	5.0 UL
Aroclor-1016	1.0 U	1.0 U	1.0 UL	1.0 UL
Aroclor-1221	2.0 U	2.0 U	2.0 UL	2.0 UL
Aroclor-1232	1.0 U	1.0 U	1.0 UL	1.0 UL
Aroclor-1242	1.0 U	1.0 U	1.0 UL	1.0 UL
Aroclor-1248	1.0 U	1.0 U	1.0 UL	1.0 UL
Aroclor-1254	1.0 U	1.0 U	1.0 UL	1.0 UL
Aroclor-1260	1.0 U	1.0 U	1.0 UL	1.0 UL

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
ˆDG # RSB06

Sample no.	RSB06	RSB06F	RSB07	RSB07F	RSB09	RSB09F
Date collected	4/28/92	4/28/92	4/28/92	4/28/92	4/28/92	4/28/92
Percent solids	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	49.8	30.5	32.6	94.8	34.0	73.0
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Barium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	472	534	509	493	568	535
Chromium	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Copper	2.0 U	2.6	2.2	2.4	2.0 U	2.0
Iron	32.0	11.1	17.0	22.0	171	31.0
Lead	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Magnesium	19.0 U	31.1 J	38.0	30.2 J	19.0 U	19.0 U
Manganese	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	236 U	236 U	236 U	236 U	236 U	236 U
,elenium	2.0 UL	2.0 UL	2.0 UL	2.0 UL	2.0 UL	2.0 UL
Silver	2.0 U	2.9	2.4	2.0 U	2.0 U	2.0
Sodium	717	503 J	367	815 J	253	535 J
Thallium	1.2	1.6	1.1	1.6	1.1	1.5
Vanadium	4.0 U	5.2	5.1	4.0 U	4.0 U	4.0 U
Zinc	17.0 J	23.0	24.9 J	25.2	20.0 J	23.0
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
SDG # RSB06

Sample no.	SDB4D	SDB4S	SDB5D	SDB5S	SDB7S	SDB8B
Date collected	4/29/92	4/29/92	4/28/92	4/28/92	4/29/92	4/29/92
Percent solids	71.8	23.4	87.0	83.6	21.3	44.6
Dilution factor	1	1	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Aluminum	7440	13000	2090	1470	14200 L	10500 L
Antimony	5.0 UL	15.2 UL	9.4 B	4.1 UL	26.7 B	11.3 B
Arsenic	31.3	42.7	18.8	3.2	62.2	47.7
Barium	50.1	133	36.7	22.1	150	71.9
Beryllium	0.56	1.7 U	0.46 U	0.46 U	1.8 U	0.85 U
Cadmium	12.0	12.5	11.8	1.5	14.9	16.5
Calcium	1650	3330	2000	509	3720	2170
Chromium	104	51.8	92.9	31.2	53.5	171
Cobalt	8.4	8.1	1.9	3.3	8.7	10.6
Copper	126 J	284 J	216 J	553 J	318 J	136 J
Iron	18100	77800	9330	5880	88800	27300
Lead	169 J	330 J	170 J	36.5 J	436 J	253 J
Magnesium	1510	2760	512	367	2980	1990
Manganese	69.6	197	50.7	51.2	220	110
Mercury	0.33	0.37 U	0.26	0.25	0.85	0.47
Nickel	17.0	22.5	11.1	25.6	22.8	21.7
Potassium	1000	2060	341	274	2160	1510
Selenium	0.56 UL	1.7 UL	0.46 UL	0.46 UL	1.8 UL	0.85 UL
Silver	3.1	14.7	22.0	0.91 B	15.2	4.8
Sodium	246 B	793	247 B	188 B	624	339 B
Thallium	0.64 B	3.6 B	0.94 B	0.68 B	4.3 B	1.9 B
Vanadium	34.8	69.7	10.6	6.8	83.5	50.8
Zinc	336 K	812 K	542 K	244 K	902 K	533 K
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
'DG # RSB06

Sample no.	SWB1	SWB1F	SWB2	SWB2F	SWB3	SWB3F
Date collected	4/30/92	4/30/92	4/30/92	4/30/92	4/30/92	4/30/92
Percent solids	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	690	72.6 B	166 B	111 B	193 B	139 B
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	6.7	2.8	2.0 U	2.0 U	4.3	2.0 U
Barium	197	151	33.2	28.0	58.9	53.0 B
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	106000	101000	19600	19300	33500	32500
Chromium	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Copper	13.1 B	3.7 B	9.4 B	7.2 B	7.2 B	6.8 B
Iron	8780	535	539	57.0 B	6440	386
Lead	15.8 J	1.0 U	1.4 J	1.0 U	5.9 J	1.0 U
Magnesium	11400	11400	2420	2310 J	8250	8080 J
Manganese	272	253	18.6	17.4	184	177
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	15.0	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	13600	13700	2670	2610	3400	3320 B
Selenium	20.0 UL	20.0 UL	2.0 UL	2.0 UL	2.0 UL	2.0 UL
Silver	2.0 U	2.0 U	2.0 U	2.5 B	2.0 U	2.1 B
Sodium	31400	30900	19300	18200 J	26800	27200 J
Thallium	1.0 U	1.0 U	1.0 U	1.0 U	1.9 B	1.7 B
Vanadium	10.2 B	4.0 U	4.0 U	4.0 U	4.1	4.8 B
Zinc	202 J	28.6	146 J	111	60.8 J	57.8
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
LOG # RSB06

Sample no.	SWB4	SWB4F	SWB5	SWB5F	SWB6	SWB6F
Date collected	4/29/92	4/29/92	4/28/92	4/28/92	4/29/92	4/29/92
Percent solids	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	459 B	92.6 B	109 B	20.9 B	375 B	84.0 B
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	19.5 B
Arsenic	4.7	2.0 U	5.3	3.7	3.4	2.0 U
Barium	59.0	48.8	52.9	44.8	55.9	39.1
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	36200	32100	48800	44500	34300	27800
Chromium	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Copper	14.6 B	4.1 B	3.6 B	3.6 B	8.7 B	3.5 B
Iron	8180	1300	5080	95.0	7030	250
Lead	4.4 J	3.0	3.3 J	1.0 U	6.0 J	1.0 U
Magnesium	8520	7530 J	10000	9230 J	8160	6430 J
Manganese	185	158	212	190	178	137
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	3390	3000	4750	4350	3320	2580
Selenium	2.0 UL	2.0 UL	20.0 UL	2.0 UL	2.0 UL	2.0 UL
Silver	2.0 U	2.0 U	2.0 U	2.0 U	2.6 B	2.0 U
Sodium	26300	22100 J	22200	21300 J	23900	19500 J
Thallium	1.3 B	1.0 U	1.9 B	2.4 B	1.3 B	1.7 B
Vanadium	5.4	4.4	4.0 U	4.0 U	6.2	4.0 U
Zinc	109 J	46.0	49.1 J	42.3	47.7 J	37.3
Cyanide	Q	Q	Q	Q	Q	Q

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A Subsidiary of
The Dow Chemical Company

PGH-92-GK-1155

DATE December 4, 1992

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Gina Kelly
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Project Number CTO-84
SDG Number GWA204

Samples:

GWA-204	GWA-207	GWA-223	GWA-224
GWA-230	GWA-226	GWA-210	GWA-231
GWA-211	GWA-232		

Duplicate Samples:
GWA-234 (of GWA-204)
GWA-235 (of GWA-226)
GWA-236 (of GWA-232)

Trip Blanks:

TBA-224	TBA-225	TBA-226
TBA-227	TBA-228	TBA-229

Rinsate Blank:
RSA-203

AWD Technologies, Inc.
Penn Center West Building III Suite 300 Pittsburgh Pennsylvania 15276 Telephone 412 788 2717 Fax 412 788 1316

Overview

The sample delivery group (SDG) for the Navy CLEAN Program's Camp Allen Landfill Site contained 10 water samples, 3 duplicate water samples, plus 6 trip and 1 rinsate blanks. The samples were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), pesticides/PCBs, and TAL metals by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed in all samples. The quality of organic analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, compound identification, and compound quantitation. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, matrix spikes, laboratory and field blanks, laboratory duplicates, laboratory control samples, GFAA analytical spike recoveries, ICP serial dilutions, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Minor Issues

Acetone and 2-butanone were reported in the analysis of the volatile fraction laboratory and/or field QC blanks. Therefore positive results for acetone and 2-butanone which are less than ten (10) times the highest level of blank contamination are qualified "B".

The volatile fraction percent differences (%Ds) for 1,1,1-trichloroethane and carbon tetrachloride exceeded the 25 percent quality control limit in the continuing calibration. There were no positive results for 1,1,1-trichloroethane or carbon tetrachloride in any samples, therefore no data were qualified based on these %Ds.

Di-n-butylphthalate was reported in the analysis of the semivolatile fraction laboratory and/or field QC blanks. There were no positive results for di-n-butylphthalate in any samples, therefore no data were qualified based on this blank contamination.

The semivolatile fraction internal standard responses for perylene-d12 and chrysene-d12 were below the laboratory's quality control range for several samples. The samples were reanalyzed by the laboratory as required by the statement of work. In the reanalysis the internal standard responses were still outside the required range. The initial runs are reported on the data summary and positive results of compounds associated with each internal standard are qualified

"J", estimated and quantitation limits are qualified "UJ", estimated. Both initial and rerun analyses are included in Appendix A.

The semivolatile fraction relative standard deviation (%RSD) for 2,4-dinitrophenol exceeded the 30 percent quality control limit in the initial calibration. There were no positive results for 2,4-dinitrophenol in any samples, therefore no data were qualified based on this %RSD.

The semivolatile fraction percent difference (%D) for fluoranthene exceeded the 25 percent quality control limit in the continuing calibration. There were no positive results for fluoranthene in any samples, therefore no data were qualified based on this %D.

Pesticide surrogate spike recoveries for a number of samples were below quality control limits. Therefore, positive results in affected samples are qualified "L", biased low and quantitation limits are qualified "UL", biased low.

Aluminum, antimony, cadmium, calcium, iron, magnesium, manganese, sodium, silver, thallium, and vanadium were reported in the metals fraction laboratory and/or field QC blanks. Therefore positive results for aluminum, antimony, cadmium, calcium, iron, magnesium, manganese, sodium, silver, and vanadium which are less than five (5) times the highest level of blank contamination are qualified "B". No results for thallium are qualified because there were no positive results for this compound in any samples.

The metals fraction spike sample recoveries (%R) for filtered arsenic, mercury, selenium, and thallium were below the recommended 75 to 125 percent quality control limits. Whenever analytical spike recoveries are less than 75 percent, positive sample results are qualified "L", biased low, and quantitation limits are qualified "UL", biased low.

The metals fraction spike sample recoveries (%R) for unfiltered antimony, arsenic, lead, mercury, selenium, and thallium were below the 75 to 125 percent quality control limits. Whenever analytical spike recoveries are less than 75 percent, positive sample results are qualified "L", biased low, and quantitation limits are qualified "UL", biased low. Results for antimony may have been qualified "B", due to blank contamination and under current U.S. EPA guidelines the "B" qualifier takes precedence.

The metals fraction laboratory duplicate RPD results for filtered selenium exceeded the 20 percent quality control limit applied to water samples. There were no positive results for filtered selenium in any samples, therefore no data were qualified based on this RPD.

The metals fraction ICP serial dilution percent difference (%D) for unfiltered manganese and potassium were outside quality control limits. Therefore positive results for unfiltered manganese and potassium are qualified "J", estimated.

The metals fraction standard addition correlation coefficients for arsenic and lead were less than 0.995 in sample GWA-207. Therefore positive lead and arsenic results in the sample are qualified "J", estimated.

The metals fraction analytical spike results for arsenic, lead, selenium, and thallium were outside the 85 to 115 percent quality control range in some samples. Whenever the spike recovery is greater than 115 percent positive results are qualified "K", biased high. Whenever analytical spike recoveries are less than 85 percent positive results are qualified "L", biased low and quantitation limits are qualified "UL", biased low. Please note that some results for thallium have been previously qualified "B", due to blank contamination and the "B", qualifier takes precedence under current U.S. EPA guidelines.

Notes

Some results of the pesticide/PCB analysis (Appendix A) were flagged "P" by the laboratory because percent differences (%Ds) between reported concentrations on the primary and confirmation columns was greater than 25 percent. No data are qualified on the basis of these %Ds because qualification of data is not required by current guidelines. Appendix C shows the laboratory's results on each column. Note that most of the flagged results are qualified "J", estimated, on the data summary because the reported concentrations were below contract required quantitation limits (CRQLs).

Matrix spike (MS)/matrix spike duplicate (MSD) results for several compounds failed to meet quality control criteria. No results are qualified on the basis of the MS/MSD results because according to U.S. EPA guidelines, data should not be qualified on the basis of MS/MSD results alone.

Results for benzene, xylene (total), trichloroethene, methylene chloride, bis(2-ethylhexyl)phthalate, phenol, 2-methylphenol, 2,4-dimethylphenol, bis(2-chloroethyl)ether, 2,2'-oxybis(1-chloropropane), diethylphthalate, and gamma-chlordane in some samples are below contract required quantitation limits (CRQLs). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated on the data summaries.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits qualified with UJ.
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Tentatively Identified Compounds
5. Appendix C - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

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The Dow Chemical Company

PGH-92-GK-1170

DATE December 4, 1992

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Gina Kelly
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Project Number CTO-84
SDG Number FBD-100

Samples:

RW-56	SWA-01	SWA-7
RW-57	SWA-02	SWA-8
RW-59	SWA-6	SBB-10
SBB-06		

Duplicate Sample:
SBB-11 (of SBB-10)

Field Blanks:

FBD-100	FBP-100

Trip Blanks:

TBA-13	TBA-14	TBA-01	TBB-01

Rinsate Blanks:

RSA-09	RSA-10	RSB-01

AWD Technologies, Inc.
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Overview

The sample delivery group (SDG) for the Navy CLEAN Program's Camp Allen Landfill Site contained 7 water samples, 3 soil samples, 1 duplicate soil sample plus 2 field, 4 trip, and 3 rinsate blanks. The samples were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), pesticides/PCBs, and TAL metals by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed in all samples. The quality of organic analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, compound identification, and compound quantitation. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, matrix spikes, laboratory and field blanks, laboratory duplicates, laboratory control samples, GFAA analytical spike recoveries, ICP serial dilutions, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Minor Issues

Acetone, 2-butanone, chloroform, toluene, bromodichloromethane, and carbon disulfide were reported in the analysis of the volatile fraction laboratory and/or field QC blanks. Therefore positive results for acetone and 2-butanone which are less than ten (10) times the highest level of blank contamination are qualified "B". No results for chloroform, toluene, bromodichloromethane, and carbon disulfide are qualified because either there were no positive results for these compounds in any samples or sample concentrations were greater than five times the blank levels.

The volatile fraction percent relative standard deviations (%RSDs) for acetone and trans-1,3-dichloropropene exceeded the 30 percent quality control limit in the initial calibrations. Results for acetone were qualified "B", due to blank contamination in some samples, and there were no positive results for trans-1,3-dichloropropene in any samples therefore no data were qualified based on these %RSDs.

Bis(2-ethylhexyl)phthalate and di-n-butylphthalate were reported in the analysis of the semivolatile fraction laboratory and/or field QC blanks. Therefore samples whose concentrations are less than ten (10) times the highest level of contamination are qualified "B".

The semivolatile fraction relative standard deviation (%RSD) for 2,4-dinitrophenol exceeded the 30 percent quality control limit in the initial calibration. There were no positive results for 2,4-dinitrophenol in any samples, therefore no data were qualified based on this %RSD.

The semivolatile fraction percent differences (%Ds) for 2-nitrophenol, 2,4-dinitrotoluene, hexachlorobenzene, and pentachlorophenol exceeded the 25 percent quality control limit in the continuing calibrations. There were no positive results for these compounds in any samples, therefore no data were qualified based on these %Ds.

The semivolatile fraction internal standard response for perylene-d12 and chrysene-d12 were below the laboratory's quality control range in sample SBB-06. The sample was also analyzed as the matrix spike/matrix spike duplicate and therefore the sample was not required to be reanalyzed. Therefore compounds associated with each internal standard in SBB-06 are qualified "J", estimated and quantitation limits are qualified "UJ", estimated.

Pesticide surrogate spike recoveries for a number of samples were below quality control limits. Therefore positive results in affected samples are qualified "L", biased low and quantitation limits are qualified "UL", biased low.

Aluminum, barium, beryllium, cadmium, calcium, chromium, copper, iron, magnesium, selenium, sodium, thallium, and vanadium were reported in the metals fraction laboratory and/or field blanks. Therefore positive results for aluminum, chromium, copper, iron, sodium, thallium, and vanadium which are less than five (5) times the highest level of blank contamination are qualified "B". There were no positive results for the other compounds mentioned, therefore no data were qualified based on this blank contamination.

The metals fraction spike sample recoveries (%R) for soil selenium and antimony were outside the 75 to 125 percent quality control limits. Whenever the spike recoveries are greater than 125 percent, positive results are qualified "K", biased high. Whenever analytical spike recoveries are less than 75 percent positive sample results are qualified "L", biased low and quantitation limits are qualified "UL", biased low.

The metals fraction spike sample recovery (%R) for filtered and unfiltered selenium was outside the 75 to 125 percent quality control limits. Whenever the spike recoveries are greater than 125 percent, positive results are qualified "K" biased high. Whenever analytical spike recoveries are less than 75 percent positive sample results are qualified "L", biased low and quantitation limits are qualified "UL", biased low.

The metals fraction laboratory duplicate RPD results for filtered and unfiltered zinc exceeded the 20 percent quality control limit applied to water samples. Therefore positive filtered and unfiltered zinc results are qualified "J", estimated.

The metals fraction ICP serial dilution percent difference (%D) for unfiltered aluminum were outside quality control limits. Therefore positive unfiltered aluminum results are qualified "J", estimated.

The metals fraction analytical spike results for selenium, arsenic, lead, and thallium were outside the 85 to 115 percent quality control range in some samples. Whenever the spike recovery is greater than 115 percent positive results are qualified "K", biased high. Whenever analytical spike recoveries are less than 85 percent positive results are qualified "L", biased low and quantitation limits are qualified "UL", biased low. Please note that some results for thallium have been previously qualified "B", due to blank contamination and the "B" qualifier takes precedence under current U.S. EPA guidelines.

Notes

Some results of the pesticide/PCB analysis (Appendix A) were flagged "P" by the laboratory because percent differences (%Ds) between reported concentrations on the primary and confirmation columns was greater than 25 percent. No data are qualified on the basis of these %Ds because qualification of data is not required by current guidelines. Appendix C shows the laboratory's results on each column. Note that most of the flagged results are qualified "J", estimated, on the data summary because the reported concentrations were below contract required quantitation limits (CRQLs).

Matrix spike (MS)/matrix spike duplicate (MSD) results for several compounds failed to meet quality control criteria. No results are qualified on the basis of the MS/MSD results because according to U.S. EPA guidelines, data should not be qualified on the basis of MS/MSD results alone.

The pesticide analyses of sample SBB-06 required the sample be diluted. The results on the data summary are taken from the initial run and some results were taken from the diluted run. Therefore, the results reported on the data summary are a combination of the initial analysis and the diluted run.

The soil volatile and semivolatile surrogate recoveries were diluted out of samples SBB-06, SBB-06MS, and SBB-06MSD.

Results for toluene, 1,2-dichloroethene (total), trichloroethene, xylene (total), phenanthrene, diethylphthalate, 4,4'-DDD, 4,4'-DDE, endrin, Aroclor 1254, and delta-BHC in some samples are below contract required quantitation limits (CRQLs). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated on the data summaries.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits qualified with UJ.
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Tentatively Identified Compounds
5. Appendix C - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

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(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
CDG # FBD100

Sample no.	FBD-100	FBP-100	RSA-09	RSA-10	RSB-01	RW-56
Date collected	5/05/92	5/05/92	5/11/92	5/12/92	5/18/92	5/05/92
Date analyzed	5/09/92	5/09/92	5/14/92	5/14/92	5/20/92	5/09/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10 U	11	12	4 B
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	72	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
2-butanone	10 U	10 U	12	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	15	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	11	10 U	4 J	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
'AVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
JDG # FBD100

Sample no.	RW-57	RW-59	SBB-06	SBB-10	SBB-11	SWA-01
Date collected	5/05/92	5/05/92	5/18/92	5/18/92	5/18/92	5/11/92
Date analyzed	5/09/92	5/09/92	5/21/92	5/20/92	5/20/92	5/14/92
Percent moisture	NA	NA	15	14	18	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/L
Chloromethane	10 U	10 U	15000 U	12 U	12 U	10 U
Bromomethane	10 U	10 U	15000 U	12 U	12 U	10 U
Vinyl chloride	10 U	10 U	15000 U	12 U	12 U	10 U
Chloroethane	10 U	10 U	15000 U	12 U	12 U	10 U
Methylene chloride	10 U	10 U	15000 U	12 U	12 U	10 U
Acetone	10 U	10 U	6000 J	55 B	53 B	12 B
Carbon disulfide	10 U	10 U	15000 U	12 U	12 U	10 U
1,1-dichloroethene	10 U	10 U	15000 U	12 U	12 U	10 U
1,1-dichloroethane	10 U	10 U	15000 U	12 U	12 U	10 U
1,2-dichloroethene	10 U	10 U	15000 U	12 U	12 U	4 J
Chloroform	10 U	10 U	15000 U	12 U	12 U	10 U
` 2-dichloroethane	10 U	10 U	15000 U	12 U	12 U	10 U
2-butanone	10 U	10 U	10000 J	6 B	12 U	10 U
1,1,1-trichloroethane	10 U	10 U	15000 U	12 U	12 U	10 U
Carbon tetrachloride	10 U	10 U	15000 U	12 U	12 U	10 U
Bromodichloromethane	10 U	10 U	15000 U	12 U	12 U	10 U
1,2-dichloropropane	10 U	10 U	15000 U	12 U	12 U	10 U
C-1,3-dichloropropene	10 U	10 U	15000 U	12 U	12 U	10 U
Trichloroethene	10 U	10 U	15000 U	12 U	12 U	3 J
Dibromochloromethane	10 U	10 U	15000 U	12 U	12 U	10 U
1,1,2-trichloroethane	10 U	10 U	15000 U	12 U	12 U	10 U
Benzene	10 U	10 U	15000 U	12 U	12 U	10 U
T-1,3-dichloropropene	10 U	10 U	15000 U	12 U	12 U	10 U
Bromoform	10 U	10 U	15000 U	12 U	12 U	10 U
4-methyl-2-pentanone	10 U	10 U	15000 U	12 U	12 U	10 U
2-hexanone	10 U	10 U	15000 U	12 U	12 U	10 U
Tetrachloroethene	10 U	10 U	15000 U	12 U	12 U	10 U
1,2,2,2-tetrachloroethane	10 U	10 U	15000 U	12 U	12 U	10 U
Toluene	10 U	10 U	16000	12 U	12 U	10 U
Chlorobenzene	10 U	10 U	15000 U	12 U	12 U	10 U
Ethylbenzene	10 U	10 U	30000	12 U	12 U	10 U
Styrene	10 U	10 U	15000 U	12 U	12 U	10 U
Xylenes(total)	10 U	10 U	200000	12 U	12 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # FBD100

Sample no.	SWA-02	SWA-6	SWA-7	SWA-8	TBA-01	TBA-13
Date collected	5/11/92	5/12/92	5/12/92	5/12/92	5/05/92	5/11/92
Date analyzed	5/14/92	5/14/92	5/14/92	5/14/92	5/09/92	5/14/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	8 B	14 B	25 B	14 B	4 J	20
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	3 J	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
2-butanone	10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	2 J	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	3 J	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS
`'AVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
JG # FBD100

Sample no.	TBA-14	TBB-01
Date collected	5/12/92	5/18/92
Date analyzed	5/14/92	5/20/92
Percent moisture	NA	NA
Dilution factor	1	1
Units	ug/L	ug/L
Chloromethane	10 U	10 U
Bromomethane	10 U	10 U
Vinyl chloride	10 U	10 U
Chloroethane	10 U	10 U
Methylene chloride	10 U	10 U
Acetone	10	12
Carbon disulfide	10 U	10 U
1,1-dichloroethene	10 U	10 U
1,1-dichloroethane	10 U	10 U
1,2-dichloroethene	10 U	10 U
Chloroform	10 U	10 U
' 2-dichloroethane	10 U	10 U
_-butanone	10 U	10 U
1,1,1-trichloroethane	10 U	10 U
Carbon tetrachloride	10 U	10 U
Bromodichloromethane	10 U	10 U
1,2-dichloropropane	10 U	10 U
C-1,3-dichloropropene	10 U	10 U
Trichloroethene	10 U	10 U
Dibromochloromethane	10 U	10 U
1,1,2-trichloroethane	10 U	10 U
Benzene	10 U	10 U
T-1,3-dichloropropene	10 U	10 U
Bromoform	10 U	10 U
4-methyl-2-pentanone	10 U	10 U
2-hexanone	10 U	10 U
Tetrachloroethene	10 U	10 U
1,2,2,2-tetrachloroethane	10 U	10 U
Toluene	10 U	10 U
Chlorobenzene	10 U	10 U
Ethylbenzene	10 U	10 U
Styrene	10 U	10 U
Xylenes(total)	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
DG # FBD100

Sample no.	FBD-100	FBP-100	RSA-09	RSA-10	RSB-01
Date collected	5/05/92	5/05/92	5/11/92	5/12/92	5/18/92
Date extracted	5/07/92	5/07/92	5/13/92	5/13/92	5/20/92
Date analyzed	5/21/92	5/21/92	5/21/92	5/21/92	5/22/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropro	10 U	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylam	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	10 U	10 U
is(2-chloroethoxy)meth	10 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadie	10 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SDG # FBD100

Sample no.	FBD-100	FBP-100	RSA-09	RSA-10	RSB-01
Date collected	5/05/92	5/05/92	5/11/92	5/12/92	5/18/92
Date extracted	5/07/92	5/07/92	5/13/92	5/13/92	5/20/92
Date analyzed	5/21/92	5/21/92	5/21/92	5/21/92	5/22/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
4-chlorophenyl-phenylet	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenyleth	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	0.7 J	10 U	1 J	0.7 J
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthal	2 J	10 U	2 J	2 J	0.8 B
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SDG # FBD100

Sample no.	SBB-06	SBB-10	SBB-11	SWA-01	SWA-02
Date collected	5/18/92	5/18/92	5/18/92	5/11/92	5/11/92
Date extracted	5/26/92	5/26/92	5/26/92	5/13/92	5/13/92
Date analyzed	6/02/92	6/01/92	6/01/92	5/21/92	5/21/92
Percent moisture	15	14	18	NA	NA
Dilution factor	10	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L
Phenol	3900 U	380 U	400 U	10 U	10 U
Bis(2-chloroethyl)ether	3900 U	380 U	400 U	10 U	10 U
2-chlorophenol	3900 U	380 U	400 U	10 U	10 U
1,3-dichlorobenzene	3900 U	380 U	400 U	10 U	10 U
1,4-dichlorobenzene	3900 U	380 U	400 U	10 U	10 U
1,2-dichlorobenzene	6500	380 U	400 U	10 U	10 U
2-methylphenol	3900 U	380 U	400 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	3900 U	380 U	400 U	10 U	10 U
4-methylphenol	3900 U	380 U	400 U	10 U	10 U
N-nitroso-di-n-propylamine	3900 U	380 U	400 U	10 U	10 U
Hexachloroethane	3900 U	380 U	400 U	10 U	10 U
Nitrobenzene	3900 U	380 U	400 U	10 U	10 U
Isophorone	3900 U	380 U	400 U	10 U	10 U
2-nitrophenol	3900 U	380 U	400 U	10 U	10 U
2,4-dimethylphenol	3900 U	380 U	400 U	10 U	10 U
Bis(2-chloroethoxy)methane	3900 U	380 U	400 U	10 U	10 U
2,4-dichlorophenol	3900 U	380 U	400 U	10 U	10 U
1,2,4-trichlorobenzene	3900 U	380 U	400 U	10 U	10 U
Naphthalene	14000	380 U	400 U	10 U	10 U
4-chloroaniline	3900 U	380 U	400 U	10 U	10 U
Hexachlorobutadiene	3900 U	380 U	400 U	10 U	10 U
4-chloro-3-methylphenol	3900 U	380 U	400 U	10 U	10 U
2-methylnaphthalene	3300 J	380 U	400 U	10 U	10 U
Hexachlorocyclopentadiene	3900 U	380 U	400 U	10 U	10 U
2,4,6-trichlorophenol	3900 U	380 U	400 U	10 U	10 U
2,4,5-trichlorophenol	9400 U	930 U	980 U	25 U	25 U
2-chloronaphthalene	3900 U	380 U	400 U	10 U	10 U
2-nitroaniline	9400 U	930 U	980 U	25 U	25 U
Dimethylphthalate	3900 U	380 U	400 U	10 U	10 U
Acenaphthylene	3900 U	380 U	400 U	10 U	10 U
2,6-dinitrotoluene	3900 U	380 U	400 U	10 U	10 U
3-nitroaniline	9400 U	930 U	980 U	25 U	25 U
Acenaphthene	3900 U	380 U	400 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SDG # FBD100

Sample no.	SBB-06	SBB-10	SBB-11	SWA-01	SWA-02
Date collected	5/18/92	5/18/92	5/18/92	5/11/92	5/11/92
Date extracted	5/26/92	5/26/92	5/26/92	5/13/92	5/13/92
Date analyzed	6/02/92	6/01/92	6/01/92	5/21/92	5/21/92
Percent moisture	15	14	18	NA	NA
Dilution factor	10	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L
2,4-dinitrophenol	9400 U	930 U	980 U	25 U	25 U
4-nitrophenol	9400 U	930 U	980 U	25 U	25 U
Dibenzofuran	3900 U	380 U	400 U	10 U	10 U
2,4-dinitrotoluene	3900 U	380 U	400 U	10 U	10 U
Diethylphthalate	3900 U	20 J	400 U	10 U	10 U
4-chlorophenyl-phenylether	3900 U	380 U	400 U	10 U	10 U
Fluorene	3900 U	380 U	400 U	10 U	10 U
4-nitroaniline	9400 U	930 U	980 U	25 U	25 U
4,6-dinitro-2-methylphenol	9400 U	930 U	980 U	25 U	25 U
N-nitrosodiphenylamine	3900 U	380 U	400 U	10 U	10 U
4-bromophenyl-phenylether	3900 U	380 U	400 U	10 U	10 U
Hexachlorobenzene	3900 U	380 U	400 U	10 U	10 U
Pentachlorophenol	9400 U	930 U	980 U	25 U	25 U
Phenanthrene	230 J	380 U	400 U	10 U	10 U
Anthracene	3900 U	380 U	400 U	10 U	10 U
Carbazole	3900 U	380 U	400 U	10 U	10 U
Di-n-butylphthalate	830 J	59 B	220 B	0.7 J	0.5 J
Fluoranthene	3900 U	380 U	400 U	10 U	10 U
Pyrene	3900 UJ	380 U	400 U	10 U	10 U
Butylbenzylphthalate	3900 UJ	380 U	400 U	10 U	10 U
3,3'-dichlorobenzidine	3900 UJ	380 U	400 U	10 U	10 U
Benzo(a)anthracene	3900 UJ	380 U	400 U	10 U	10 U
Chrysene	3900 UJ	380 U	400 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	3900 UJ	22 J	400 U	3 J	3 J
Di-n-octylphthalate	3900 UJ	380 U	400 U	10 U	10 U
Benzo(b)fluoranthene	3900 UJ	380 U	400 U	10 U	10 U
Benzo(k)fluoranthene	3900 UJ	380 U	400 U	10 U	10 U
Benzo(a)pyrene	3900 UJ	380 U	400 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	3900 UJ	380 U	400 U	10 U	10 U
Dibenz(a,h)anthracene	3900 UJ	380 U	400 U	10 U	10 U
Benzo(g,h,i)perylene	3900 UJ	380 U	400 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
DG # FBD100

Sample no.	SWA-6	SWA-7	SWA-8
Date collected	5/12/92	5/12/92	5/12/92
Date extracted	5/13/92	5/13/92	5/13/92
Date analyzed	5/21/92	5/21/92	5/21/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
Phenol	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U
2,2'-oxybis(1-chloropro	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U
N-nitroso-di-n-propylam	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U
Bis(2-chloroethoxy)meth	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U
Hexachlorocyclopentadie	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS (BNAS)
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
DG # FBD100

Sample no.	SWA-6	SWA-7	SWA-8
Date collected	5/12/92	5/12/92	5/12/92
Date extracted	5/13/92	5/13/92	5/13/92
Date analyzed	5/21/92	5/21/92	5/21/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U
4-chlorophenyl-phenylet	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U
4-bromophenyl-phenyleth	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U
Di-n-butylphthalate	10 U	1 J	10 U
Fluoranthene	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U
Bis(2-ethylhexyl)phthal	0.8 J	2 J	10 U
Di-n-octylphthalate	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SGD # FBD100

Sample no.	FBD-100	FBP-100	RSA-09	RSA-10	RSB-01
Date collected	5/05/92	5/05/92	5/11/92	5/12/92	5/18/92
Date analyzed	6/06/92	6/06/92	6/05/92	6/06/92	6/06/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 UL	0.05 U	0.05 UL	0.05 UL	0.05 UL
Beta-BHC	0.05 UL	0.05 U	0.05 UL	0.05 UL	0.05 UL
Delta-BHC	0.05 UL	0.05 U	0.05 UL	0.05 UL	0.05 UL
Gamma-BHC	0.05 UL	0.05 U	0.05 UL	0.05 UL	0.05 UL
Heptachlor	0.05 UL	0.05 U	0.05 UL	0.05 UL	0.05 UL
Aldrin	0.05 UL	0.05 U	0.05 UL	0.05 UL	0.05 UL
Heptachlor epoxide	0.05 UL	0.05 U	0.05 UL	0.05 UL	0.05 UL
Endosulfan I	0.05 UL	0.05 U	0.05 UL	0.05 UL	0.05 UL
Dieldrin	0.10 UL	0.10 U	0.10 UL	0.10 UL	0.10 UL
4,4'-DDE	0.10 UL	0.10 U	0.10 UL	0.10 UL	0.10 UL
Endrin	0.10 UL	0.10 U	0.10 UL	0.10 UL	0.10 UL
Endosulfan II	0.10 UL	0.10 U	0.10 UL	0.10 UL	0.10 UL
4,4'-DDD	0.10 UL	0.10 U	0.10 UL	0.042 J	0.10 UL
Endosulfan sulfate	0.10 UL	0.10 U	0.10 UL	0.10 UL	0.10 UL
4,4'-DDT	0.10 UL	0.10 U	0.10 UL	0.10 UL	0.10 UL
Methoxychlor	0.50 UL	0.50 U	0.50 UL	0.50 UL	0.50 UL
Endrin ketone	0.10 UL	0.10 U	0.10 UL	0.10 UL	0.10 UL
Endrin aldehyde	0.10 UL	0.10 U	0.10 UL	0.10 UL	0.10 UL
Alpha-Chlordane	0.05 UL	0.05 U	0.05 UL	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 UL	0.05 U	0.05 UL	0.05 UL	0.05 UL
Toxaphene	5.0 UL	5.0 U	5.0 UL	5.0 UL	5.0 UL
Aroclor-1016	1.0 UL	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1221	2.0 UL	2.0 U	2.0 UL	2.0 UL	2.0 UL
Aroclor-1232	1.0 UL	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1242	1.0 UL	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1248	1.0 UL	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1254	1.0 UL	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1260	1.0 UL	1.0 U	1.0 UL	1.0 UL	1.0 UL

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
;GD # FBD100

Sample no.	SBB-06	SBB-10	SBB-11	SWA-01	SWA-02
Date collected	5/18/92	5/18/92	5/18/92	5/11/92	5/11/92
Date analyzed	6/06/92	6/06/92	6/06/92	6/05/92	6/05/92
Percent moisture	15	14	18	NA	NA
Dilution factor	10	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L
Alpha-BHC	20 U	1.9 U	2.0 U	0.05 UL	0.05 UL
Beta-BHC	20 U	1.9 U	2.0 U	0.05 UL	0.05 UL
Delta-BHC	20 U	1.9 U	2.0 U	0.05 UL	0.025 J
Gamma-BHC	20 U	1.9 U	2.0 U	0.05 UL	0.05 UL
Heptachlor	20 U	1.9 U	2.0 U	0.05 UL	0.05 UL
Aldrin	20 U	1.9 U	2.0 U	0.05 UL	0.05 UL
Heptachlor epoxide	20 U	1.9 U	2.0 U	0.05 UL	0.05 UL
Endosulfan I	78	1.9 U	2.0 U	0.05 UL	0.05 UL
Dieldrin	1500	3.9 U	4.1 U	0.027 J	0.10 UL
4,4'-DDE	14 J	3.9 U	4.1 U	0.069 J	0.10 UL
Endrin	39 U	3.9 U	4.1 U	0.07 J	0.10 UL
Endosulfan II	17 J	3.9 U	4.1 U	0.10 UL	0.10 UL
4,4'-DDD	3800	3.9 U	4.1 U	0.26 L	0.10 UL
Endosulfan sulfate	39 U	3.9 U	4.1 U	0.10 UL	0.10 UL
4,4'-DDT	39 U	3.9 U	4.1 U	0.10 UL	0.10 UL
Methoxychlor	200 U	19 U	20 U	0.50 UL	0.50 UL
Endrin ketone	39 U	3.9 U	4.1 U	0.10 UL	0.10 UL
Endrin aldehyde	12 J	3.9 U	4.1 U	0.047 J	0.10 UL
Alpha-Chlordane	20 U	1.9 U	2.0 U	0.015 J	0.05 UL
Gamma-Chlordane	20 U	1.9 U	2.0 U	0.024 J	0.05 UL
Toxaphene	2000 U	190 U	200 U	5.0 UL	5.0 UL
Aroclor-1016	390 U	39 U	41 U	1.0 UL	1.0 UL
Aroclor-1221	780 U	78 U	81 U	2.0 UL	2.0 UL
Aroclor-1232	390 U	39 U	41 U	1.0 UL	1.0 UL
Aroclor-1242	390 U	39 U	41 U	1.0 UL	1.0 UL
Aroclor-1248	390 U	39 U	41 U	1.0 UL	1.0 UL
Aroclor-1254	9500	39 U	41 U	0.44 J	1.0 UL
Aroclor-1260	390 U	39 U	41 U	1.0 UL	1.0 UL

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
GD # FBD100

Sample no.	SWA-06	SWA-07	SWA-08
Date collected	5/12/92	5/12/92	5/12/92
Date analyzed	6/05/92	6/05/92	6/05/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
Alpha-BHC	0.05 UL	0.05 UL	0.05 UL
Beta-BHC	0.05 UL	0.05 UL	0.05 UL
Delta-BHC	0.05 UL	0.05 UL	0.05 UL
Gamma-BHC	0.05 UL	0.05 UL	0.05 UL
Heptachlor	0.05 UL	0.05 UL	0.05 UL
Aldrin	0.05 UL	0.05 UL	0.05 UL
Heptachlor epoxide	0.05 UL	0.05 UL	0.05 UL
Endosulfan I	0.05 UL	0.05 UL	0.05 UL
Dieldrin	0.10 UL	0.10 UL	0.10 UL
4,4'-DDE	0.10 UL	0.10 UL	0.10 UL
Endrin	0.10 UL	0.10 UL	0.10 UL
Endosulfan II	0.10 UL	0.10 UL	0.10 UL
4,4'-DDD	0.10 UL	0.10 UL	0.032 J
Endosulfan sulfate	0.10 UL	0.10 UL	0.10 UL
4,4'-DDT	0.10 UL	0.10 UL	0.10 UL
Methoxychlor	0.50 UL	0.50 UL	0.50 UL
Endrin ketone	0.10 UL	0.10 UL	0.10 UL
Endrin aldehyde	0.10 UL	0.10 UL	0.10 UL
Alpha-Chlordane	0.05 UL	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 UL	0.05 UL	0.05 UL
Toxaphene	5.0 UL	5.0 UL	5.0 UL
Aroclor-1016	1.0 UL	1.0 UL	1.0 UL
Aroclor-1221	2.0 UL	2.0 UL	2.0 UL
Aroclor-1232	1.0 UL	1.0 UL	1.0 UL
Aroclor-1242	1.0 UL	1.0 UL	1.0 UL
Aroclor-1248	1.0 UL	1.0 UL	1.0 UL
Aroclor-1254	1.0 UL	1.0 UL	1.0 UL
Aroclor-1260	1.0 UL	1.0 UL	1.0 UL

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # FBD100

Sample no.	FBD100	FBD100F	FBP100	FBP100F	RSA09	RSA09F
Date collected	5/05/92	5/05/92	5/05/92	5/05/92	5/11/92	5/11/92
Percent solids	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	25.0 J	32.0	259 J	58.0	18.0 U	42.0
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Barium	3.0 U	3.0 U	34.6	23.7	3.0 U	3.0 U
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	466	683	18000	16000	418	426
Chromium	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Copper	2.0 U	2.0 U	22.0	3.0	2.0 U	2.0 U
Iron	547	10.0 U	1370	81.0	184	185
Lead	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Magnesium	29.0	61.0 B	2490	2230	48.0	64.0
Manganese	3.0 U	3.0 U	107	12.8	3.0 U	3.0 U
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	236 U	236 U	2700	2440	236 U	236 U
Selenium	2.0 UL	2.0 UL	2.0 UL	2.0 UL	2.0 UL	2.0 UL
Silver	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Sodium	187	187	19200	17200	94.0	39.0 U
Thallium	3.8	3.6	1.0 U	1.0 U	1.0 U	1.7 L
Vanadium	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	11.4 J	12.5 J	211 J	97.1 J	9.6 J	14.4 J
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # FBD100

Sample no.	RSA10	RSA10F	RSB01	SBB06	SBB10	SBB11
Date collected	5/12/92	5/12/92	5/18/92	5/18/92	5/18/92	5/18/92
Percent solids	NA	NA	NA	85.2	85.6	82.2
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	mg/kg	mg/kg	mg/kg
Aluminum	243 J	39.0	18.0 U	10100	8440	11000
Antimony	18.0 U	18.0 U	18.0 U	4.2 UL	4.1 UL	4.3 UL
Arsenic	2.0 UL	2.0 UL	2.0 UL	0.78	1.5	1.3
Barium	5.5	3.0 U	3.0 U	32.9	26.6	34.3
Beryllium	2.0 U	2.0 U	2.0 U	0.47 U	0.46 U	0.48 U
Cadmium	3.0 U	3.0 U	3.0 U	0.70 U	0.69 U	0.72 U
Calcium	492	896	396	1240	407	591
Chromium	8.0 U	8.0 U	8.0 U	14.5 B	11.8 B	16.7 B
Cobalt	8.0 U	8.0 U	8.0 U	1.9 U	1.8 U	1.9 U
Copper	2.0 U	2.0 U	2.0 U	5.2 B	5.0 B	6.0 B
Iron	606	19.0	23.0	7150	7390	12900
Lead	1.0 U	1.0 U	1.0 U	6.2	5.4	7.7
Magnesium	387	98.0	31.0	432	449	706
Manganese	8.7	4.0	3.0 U	17.1	8.3	16.2
Mercury	0.21	0.20 U	0.20 U	0.12 U	0.11 U	0.12 U
Nickel	11.0 U	11.0 U	11.0 U	3.3	2.5 U	3.3
Potassium	266	236 U	236 U	451	337	373
Selenium	2.0 UL	2.0 UL	2.0 UL	0.46 UL	0.45 UL	0.48 UL
Silver	2.0 U	2.0 U	2.0 U	0.47 U	0.46 U	0.48 U
Sodium	654	630	301	249 B	306 B	352
Thallium	1.0 U	1.0 U	1.0 U	1.0 B	0.75 B	0.79 B
Vanadium	4.0 U	4.0 U	4.0 U	15.5 B	13.1 B	23.9 B
Zinc	8.9 J	9.8 J	6.8 J	5.6	7.3	21.2
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # FBD100

Sample no.	SWA01	SWA01F	SWA02	SWA02F	SWA6	SWA6F
Date collected	5/11/92	5/11/92	5/11/92	5/11/92	5/12/92	5/12/92
Percent solids	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	20300 J	73.0 B	121 B	51.0 B	429 J	104 B
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	64.2	6.5	19.5	11.8	4.0 UL	4.0 UL
Barium	409	95.7	117	97.4	43.3	40.9
Beryllium	2.6 B	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	48.3 B	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	119000	97800	77400	70700	123000	122000
Chromium	104	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Cobalt	13.2	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Copper	446	2.0 U	2.0 U	2.0 U	3.0 B	2.0 U
Iron	78300	817	7890	2500	1600	146
Lead	800	2.7	1.2	1.0 U	1.0 L	1.0 UL
Magnesium	18200	13400	23600	21800	233000	231000
Manganese	697	219	267	240	196	191
Mercury	3.9	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	57.0	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	10400	6300	15700	14500	73600	72500
Selenium	10.0 UL	10.0 UL	2.0 UL	2.0 UL	10.0 UL	10.0 UL
Silver	12.0	2.0 U	2.0 U	2.0 U	2.0 U	2.9
Sodium	25700	23600	67600	62300	2180000	2080000
Thallium	3.5 B	1.6 B	1.2 B	1.0 U	5.0 UL	5.0 UL
Vanadium	103	4.0 U	4.0 U	4.0 U	7.0 B	6.0 B
Zinc	1860 J	19.0 J	20.3 J	15.6 J	61.0 J	55.7 J
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # FBD100

Sample no.	SWA7	SWA7F	SWA8	SWA8F
Date collected	5/12/92	5/12/92	5/12/92	5/12/92
Percent solids	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
Aluminum	142 B	23.0 B	1400 J	68.0 B
Antimony	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	2.0 UL	2.0 UL	7.9	4.1
Barium	43.2	37.4	36.5	22.0
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	80000	72700	86300	76200
Chromium	8.0 U	8.0 U	8.0 U	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U	8.0 U
Copper	2.0 U	2.0 U	6.0 B	22.0 B
Iron	2370	102 B	7140	210
Lead	1.0 U	1.0 U	8.6	1.0 U
Magnesium	74900	67900	27000	23700
Manganese	221	200	353	287
Mercury	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	25500	22900	8810	7540
Selenium	10.0 UL	10.0 UL	10.0 UL	10.0 UL
Silver	2.0 U	2.0 U	2.0 U	2.0 U
Sodium	573000	479000	109000	96000
Thallium	1.0 UL	1.0 UL	1.0 U	1.0 U
Vanadium	4.0 U	4.0 U	5.0 B	4.0 U
Zinc	29.9 J	12.9 J	66.0 J	45.0 J
Cyanide	Q	Q	Q	Q

AWD
TECHNOLOGIES
A Subsidiary of
The Dow Chemical Company

PGH-92-GK-1140

DATE December 4, 1992

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Gina Kelly
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Project Number CTO-84
SDG Number GWA205

Samples:

GWA205	GWA206	GWA208
GWA209	GWA212	GWA213
GWA214	GWA227	GWB220
GWB221	GWB222	GWB226

Duplicate Sample:

GWB225 (of GWB226)

Trip Blanks:

TBA217	TBA218	TBA219
TBA220	TBA221	TBA222
TBA223		

AWD Technologies, Inc.
Penn Center West Building III Suite 300 Pittsburgh Pennsylvania 15276 Telephone 412 788 2717 Fax 412 788 1316

Overview

The sample delivery group (SDG) for the Navy CLEAN Program's Camp Allen Landfill Site contained 12 water samples, 1 duplicate water sample, plus 7 trip blanks. The samples were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), pesticides/PCBs, and TAL metals by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed in all samples. The quality of organic analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, compound identification, and compound quantitation. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, matrix spikes, laboratory and field blanks, laboratory duplicates, laboratory control samples, GFAA analytical spike recoveries, ICP serial dilutions, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Minor Issues

Acetone, 2-butanone, and methylene chloride were reported in laboratory and/or field blanks. Therefore, positive results for acetone which are less than ten (10) times the highest level of blank contamination are qualified "B". No results for 2-butanone and methylene chloride are qualified because either there were no positive results for these compounds in any samples or sample concentrations were greater than ten (10) times the blank levels.

The semivolatile fraction internal standard responses for chrysene-d12 and perylene-d12 were below the laboratory's quality control range for one sample. The sample was reanalyzed by the laboratory as required by the statement of work. In the reanalysis, the internal standard responses were still outside the required range. The initial run is reported on the data summary and positive results of compounds associated with each internal standard are qualified "J", estimated, and quantitation limits are qualified "UJ", estimated. Both initial and rerun analyses are included in Appendix A.

Di-n-butylphthalate, 1,3-dichlorobenzene, 1,2-dichlorobenzene, and diethylphthalate were reported in the analysis of the semivolatile fraction laboratory and/or field QC blanks. Therefore positive results for di-n-butylphthalate and diethylphthalate which are less than ten (10) times the highest level of blank contamination are qualified "B". No results for

1,3-dichlorobenzene and 1,2-dichlorobenzene are qualified because there were no positive results for these compounds in any samples.

Pesticide surrogate spike recoveries for a number of samples were below quality control limits. Therefore positive results in affected samples are qualified "L", biased low and quantitation limits are qualified "UL", biased low.

4,4'-DDT, alpha-chlordane, and gamma-chlordane were reported in the analysis of the PCB/pesticide fraction laboratory and/or field QC blanks. Therefore positive results for 4,4'-DDT which are less than five (5) times the highest level of blank contamination are qualified "B". No results for the other above mentioned compounds are qualified because there were no positive results for these compounds in any samples.

Beryllium, copper, iron, nickel, sodium, thallium, cobalt, aluminum, calcium, cadmium, vanadium, arsenic, magnesium, and zinc were reported in the metals fraction laboratory and/or field QC blanks. Therefore positive results for beryllium, copper, iron, nickel, cobalt, aluminum, cadmium, vanadium, and zinc which are less than five (5) times the highest level of blank contamination are qualified "B". No results for the other above mentioned compounds are qualified because either there were no positive results for these compounds in any samples or sample concentrations were greater than five (5) times the blank levels.

The metals fraction laboratory duplicate RPD results for unfiltered aluminum and zinc exceeded the 20 percent quality control limit applied to water samples. Therefore positive unfiltered aluminum and zinc results, other than those qualified because of blank contamination are qualified "J", estimated.

The metals fraction standard addition correlation coefficient result for arsenic was outside quality control limits in sample GWB221. Therefore, the positive result for arsenic in the sample is qualified "J", estimated.

The metals fraction ICP serial dilution percent difference (%D) for unfiltered iron and potassium were outside of quality control limits. Therefore positive unfiltered iron and potassium results, other than those qualified because of blank contamination are qualified "J", estimated.

The metals fraction analytical spike results for lead, selenium, and thallium were outside the 85 to 115 percent quality control range in some samples. Whenever the spike recovery is greater than 115 percent, positive results are qualified "K", biased high. Whenever analytical spike recoveries are less than 85 percent, quantitation limits are qualified "UL", biased low.

Notes

Sample ID for GWB227 was corrected to GWA227 on the pesticide/PCB Form I's.

Some results of the pesticide/PCB analysis (Appendix A) were flagged "P" by the laboratory because percent differences (%Ds) between reported concentrations on the primary and confirmation columns was greater than 25 percent. No data are qualified on the basis of these %Ds because qualification of data is not required by current guidelines. Appendix C shows the laboratory's results on each column. Note that most of the flagged results are qualified "J", estimated, on the data summary because the reported concentrations were below contract required quantitation limits (CRQLs).

Matrix spike (MS)/matrix spike duplicate (MSD) results for several compounds failed to meet quality control criteria. No results are qualified on the basis of the MS/MSD results because according to U.S. EPA guidelines, data should not be qualified on the basis of MS/MSD results alone.

Results for trichloroethene, 1,2-dichloroethene (total), vinyl chloride, 1,2-dichloroethane, benzene, acetone, methylene chloride, phenol, diethylphthalate, di-n-butylphthalate, bis(2-ethylhexyl)phthalate, 2,2'-oxybis (1-chloropropane), bis(2-chloroethyl)ether, n-nitrosodiphenylamine (1), and 4,4'-DDE in some samples are below contract required quantitation limits (CRQL). The laboratory flagged these results "J" on the data analyses sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated on the data summaries.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits qualified with UJ.
3. Appendix A - Results as reported by the laboratory
4. Appendix B - Tentatively Identified Compounds
5. Appendix C - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA205

Sample no.	GWA205	GWA206	GWA208	GWA209	GWA212	GWA213
Date collected	6/15/92	6/15/92	6/16/92	6/16/92	6/15/92	6/14/92
Date analyzed	6/23/92	6/24/92	6/24/92	6/24/92	6/24/92	6/23/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1.1	1	1	1	5
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	11 U	10 U	10 U	10 U	50 U
Bromomethane	10 U	11 U	10 U	10 U	10 U	50 U
Vinyl chloride	10 U	35	10 U	10 U	2 J	100
Chloroethane	10 U	11 U	10 U	10 U	10 U	50 U
Methylene chloride	10 U	11 U	10 U	10 U	10 U	50 U
Acetone	10 U	11 U	10 U	10 U	10 U	50 U
Carbon disulfide	10 U	11 U	10 U	10 U	10 U	50 U
1,1-dichloroethene	10 U	11 U	10 U	10 U	10 U	50 U
1,1-dichloroethane	10 U	11 U	10 U	10 U	10 U	50 U
1,2-dichloroethene	10 U	170	10 U	2 J	10 U	540
Chloroform	10 U	11 U	10 U	10 U	10 U	50 U
1,2-dichloroethane	10 U	11 U	10 U	10 U	10 U	38 J
2-butanone	10 U	11 U	10 U	10 U	10 U	50 U
1,1,1-trichloroethane	10 U	11 U	10 U	10 U	10 U	50 U
Carbon tetrachloride	10 U	11 U	10 U	10 U	10 U	50 U
Bromodichloromethane	10 U	11 U	10 U	10 U	10 U	50 U
1,2-dichloropropane	10 U	11 U	10 U	10 U	10 U	50 U
C-1,3-dichloropropene	10 U	11 U	10 U	10 U	10 U	50 U
Trichloroethene	10 U	10 J	10 U	10 U	10 U	100
Dibromochloromethane	10 U	11 U	10 U	10 U	10 U	50 U
1,1,2-trichloroethane	10 U	11 U	10 U	10 U	10 U	50 U
Benzene	10 U	11 U	10 U	10 U	10 U	50 U
T-1,3-dichloropropene	10 U	11 U	10 U	10 U	10 U	50 U
Bromoform	10 U	11 U	10 U	10 U	10 U	50 U
4-methyl-2-pentanone	10 U	11 U	10 U	10 U	10 U	50 U
2-hexanone	10 U	11 U	10 U	10 U	10 U	50 U
Tetrachloroethene	10 U	11 U	10 U	10 U	10 U	50 U
1,2,2,2-tetrachloroetha	10 U	11 U	10 U	10 U	10 U	50 U
Toluene	10 U	11 U	10 U	10 U	10 U	50 U
Chlorobenzene	10 U	11 U	10 U	10 U	10 U	50 U
Ethylbenzene	10 U	11 U	10 U	10 U	10 U	50 U
Styrene	10 U	11 U	10 U	10 U	10 U	50 U
Xylenes(total)	10 U	11 U	10 U	10 U	10 U	50 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA205

Sample no.	GWA214	GWA227	GWB220	GWB221	GWB222	GWB225
Date collected	6/14/92	6/14/92	6/14/92	6/14/92	6/14/92	6/14/92
Date analyzed	6/23/92	6/24/92	6/23/92	6/24/92	6/23/92	6/23/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	3.3	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	33 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	33 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	370	10 U	10 U
Chloroethane	10 U	10 U	10 U	33 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	33 U	10 U	10 U
Acetone	22 B	10 U	10 U	33 U	10 U	13 B
Carbon disulfide	10 U	10 U	10 U	33 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	51	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	33 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	418	10 U	10 U
Chloroform	10 U	10 U	10 U	33 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	120	10 U	10 U
2-butanone	10 U	10 U	10 U	33 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	33 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	33 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	33 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	33 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	33 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	510	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	33 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	33 U	10 U	10 U
Benzene	10 U	10 U	10 U	20 J	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	33 U	10 U	10 U
Bromoform	10 U	10 U	10 U	33 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	33 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	33 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	33 U	10 U	10 U
1,2,2,2-tetrachloroetha	10 U	10 U	10 U	33 U	10 U	10 U
Toluene	10 U	10 U	10 U	33 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	33 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	33 U	10 U	10 U
Styrene	10 U	10 U	10 U	33 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	33 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # GWA205

Sample no.	GWB226	TBA217	TBA218	TBA219	TBA220	TBA221
Date collected	6/14/92	6/14/92	6/14/92	6/14/92	6/14/92	6/14/92
Date analyzed	6/23/92	6/23/92	6/23/92	6/23/92	6/23/92	6/23/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	2 J	10 U	10 U	10 U	10 U
Acetone	17 B	9 J	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
2-butanone	10 U	12	9 J	13	13	11
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
romodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U
,2-dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroetha	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA205

Sample no.	TBA222	TBA223
Date collected	6/15/92	6/16/92
Date analyzed	6/23/92	6/24/92
Percent moisture	NA	NA
Dilution factor	1	1
Units	ug/L	ug/L
Chloromethane	10 U	10 U
Bromomethane	10 U	10 U
Vinyl chloride	10 U	10 U
Chloroethane	10 U	10 U
Methylene chloride	10 U	10 U
Acetone	10 U	8 J
Carbon disulfide	10 U	10 U
1,1-dichloroethene	10 U	10 U
1,1-dichloroethane	10 U	10 U
1,2-dichloroethene	10 U	10 U
Chloroform	10 U	10 U
1,2-dichloroethane	10 U	10 U
2-butanone	11	13
1,1,1-trichloroethane	10 U	10 U
Carbon tetrachloride	10 U	10 U
Bromodichloromethane	10 U	10 U
1,2-dichloropropane	10 U	10 U
C-1,3-dichloropropene	10 U	10 U
Trichloroethene	10 U	10 U
Dibromochloromethane	10 U	10 U
1,1,2-trichloroethane	10 U	10 U
Benzene	10 U	10 U
T-1,3-dichloropropene	10 U	10 U
Bromoform	10 U	10 U
4-methyl-2-pentanone	10 U	10 U
2-hexanone	10 U	10 U
Tetrachloroethene	10 U	10 U
1,2,2,2-tetrachloroetha	10 U	10 U
Toluene	10 U	10 U
Chlorobenzene	10 U	10 U
Ethylbenzene	10 U	10 U
Styrene	10 U	10 U
Xylenes(total)	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA205

Sample no.	GWA205	GWA206	GWA208	GWA209	GWA212	GWA213
Date collected	6/15/92	6/15/92	6/16/92	6/16/92	6/15/92	6/14/92
Date analyzed	6/23/92	6/24/92	6/24/92	6/24/92	6/24/92	6/23/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1.1	1	1	1	5
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	11 U	10 U	10 U	10 U	50 U
Bromomethane	10 U	11 U	10 U	10 U	10 U	50 U
Vinyl chloride	10 U	35	10 U	10 U	2 J	100
Chloroethane	10 U	11 U	10 U	10 U	10 U	50 U
Methylene chloride	10 U	11 U	10 U	10 U	10 U	50 U
Acetone	10 U	11 U	10 U	10 U	10 U	50 U
Carbon disulfide	10 U	11 U	10 U	10 U	10 U	50 U
1,1-dichloroethene	10 U	11 U	10 U	10 U	10 U	50 U
1,1-dichloroethane	10 U	11 U	10 U	10 U	10 U	50 U
1,2-dichloroethene	10 U	170	10 U	2 J	10 U	540
Chloroform	10 U	11 U	10 U	10 U	10 U	50 U
1,2-dichloroethane	10 U	11 U	10 U	10 U	10 U	38 J
2-butanone	10 U	11 U	10 U	10 U	10 U	50 U
1,1,1-trichloroethane	10 U	11 U	10 U	10 U	10 U	50 U
Carbon tetrachloride	10 U	11 U	10 U	10 U	10 U	50 U
Bromodichloromethane	10 U	11 U	10 U	10 U	10 U	50 U
1,2-dichloropropane	10 U	11 U	10 U	10 U	10 U	50 U
C-1,3-dichloropropene	10 U	11 U	10 U	10 U	10 U	50 U
Trichloroethene	10 U	10 J	10 U	10 U	10 U	100
Dibromochloromethane	10 U	11 U	10 U	10 U	10 U	50 U
1,1,2-trichloroethane	10 U	11 U	10 U	10 U	10 U	50 U
Benzene	10 U	11 U	10 U	10 U	10 U	50 U
T-1,3-dichloropropene	10 U	11 U	10 U	10 U	10 U	50 U
Bromoform	10 U	11 U	10 U	10 U	10 U	50 U
4-methyl-2-pentanone	10 U	11 U	10 U	10 U	10 U	50 U
2-hexanone	10 U	11 U	10 U	10 U	10 U	50 U
Tetrachloroethene	10 U	11 U	10 U	10 U	10 U	50 U
1,2,2,2-tetrachloroetha	10 U	11 U	10 U	10 U	10 U	50 U
Toluene	10 U	11 U	10 U	10 U	10 U	50 U
Chlorobenzene	10 U	11 U	10 U	10 U	10 U	50 U
Ethylbenzene	10 U	11 U	10 U	10 U	10 U	50 U
Styrene	10 U	11 U	10 U	10 U	10 U	50 U
Xylenes(total)	10 U	11 U	10 U	10 U	10 U	50 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
JDG # GWA205

Sample no.	GWA205	GWA206	GWA208	GWA209	GWA212
Date collected	6/15/92	6/15/92	6/16/92	6/16/92	6/15/92
Date extracted	6/18/92	6/22/92	6/22/92	6/22/92	6/22/92
Date analyzed	6/22/92	7/20/92	6/25/92	6/25/92	6/25/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	0.6 J	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
;ophorone	10 U	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
LDG # GWA205

Sample no.	GWA205	GWA206	GWA208	GWA209	GWA212
Date collected	6/15/92	6/15/92	6/16/92	6/16/92	6/15/92
Date extracted	6/18/92	6/22/92	6/22/92	6/22/92	6/22/92
Date analyzed	6/22/92	7/20/92	6/25/92	6/25/92	6/25/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	6 J	10 U	10 U	10 U	0.5 B
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	0.8 B	1 B	0.8 B	0.9 B	1 B
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 UJ	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 UJ	10 U
3,3'-dichlorobenzidine	10 U	10 U	10 U	10 UJ	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 UJ	10 U
Chrysene	10 U	10 U	10 U	10 UJ	10 U
Bis(2-ethylhexyl)phthalate	13	1 J	10 U	10 UJ	1 J
Di-n-octylphthalate	10 U	10 U	10 U	10 UJ	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 UJ	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 UJ	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 UJ	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 UJ	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 UJ	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 UJ	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # GWA205

Sample no.	GWA212RE	GWA213	GWA214	GWA227	GWB220
Date collected	6/15/92	6/14/92	6/14/92	6/15/92	6/14/92
Date extracted	6/22/92	6/18/92	6/18/92	6/18/92	6/18/92
Date analyzed	6/29/92	6/22/92	6/22/92	6/22/92	6/25/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
ophorone	10 U	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
CDG # GWA205

Sample no.	GWA212RE	GWA213	GWA214	GWA227	GWB220
Date collected	6/15/92	6/14/92	6/14/92	6/15/92	6/14/92
Date extracted	6/22/92	6/18/92	6/18/92	6/18/92	6/18/92
Date analyzed	6/29/92	6/22/92	6/22/92	6/22/92	6/25/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	3 B	10 U	10 U	1 B
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	0.7 B	3 B	0.8 B	0.6 B	1 B
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	1 J	1 J	10 U	0.6 J	2 J
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U

NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA205

Sample no.	GWB221	GWB222	GWB225	GWB226
Date collected	6/14/92	6/14/92	6/14/92	6/14/92
Date extracted	6/18/92	6/18/92	6/18/92	6/18/92
Date analyzed	6/25/92	6/22/92	6/22/92	6/22/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
Phenol	10 U	10 U	0.7 J	10 U
Bis(2-chloroethyl)ether	8 J	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	4 J	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U
-nitrophenol	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # GWA205

Sample no.	GWB221	GWB222	GWB225	GWB226
Date collected	6/14/92	6/14/92	6/14/92	6/14/92
Date extracted	6/18/92	6/18/92	6/18/92	6/18/92
Date analyzed	6/25/92	6/22/92	6/22/92	6/22/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	0.8 B	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	1 J	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U
Di-n-butylphthalate	1 B	10 U	0.7 B	0.9 B
Fluoranthene	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5 J	10 U	0.9 J	2 J
Di-n-octylphthalate	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
SDG # GWA205

Sample no.	GWA205	GWA206	GWA208	GWA209	GWA212
Date collected	6/15/92	6/15/92	6/16/92	6/16/92	6/15/92
Date analyzed	7/10/92	7/10/92	7/10/92	7/10/92	7/10/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Beta-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Delta-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Gamma-BHC	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Heptachlor	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Aldrin	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Heptachlor epoxide	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Endosulfan I	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Dieldrin	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
4,4'-DDE	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endrin	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endosulfan II	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
4,4'-DDD	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endosulfan sulfate	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
4,4'-DDT	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Methoxychlor	0.50 UL	0.50 UL	0.50 UL	0.50 UL	0.50 UL
Endrin ketone	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Endrin aldehyde	0.10 UL	0.10 UL	0.10 UL	0.10 UL	0.10 UL
Alpha-Chlordane	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 UL	0.05 UL	0.05 UL	0.05 UL	0.05 UL
Toxaphene	5.0 UL	5.0 UL	5.0 UL	5.0 UL	5.0 UL
Aroclor-1016	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1221	2.0 UL	2.0 UL	2.0 UL	2.0 UL	2.0 UL
Aroclor-1232	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1242	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1248	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1254	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Aroclor-1260	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
SDG # GWA205

Sample no.	GWA213	GWA214	GWA227	GWA220	GWB221
Date collected	6/14/92	6/14/92	6/15/92	6/14/92	6/14/92
Date analyzed	7/10/92	7/10/92	7/10/92	7/10/92	7/10/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 U	0.05 U	0.05 UL	0.05 UL	0.05 UL
Beta-BHC	0.05 U	0.05 U	0.05 UL	0.05 UL	0.05 UL
Delta-BHC	0.05 U	0.05 U	0.05 UL	0.05 UL	0.05 UL
Gamma-BHC	0.05 U	0.05 U	0.05 UL	0.05 UL	0.05 UL
Heptachlor	0.05 U	0.05 U	0.05 UL	0.05 UL	0.05 UL
Aldrin	0.05 U	0.05 U	0.05 UL	0.05 UL	0.05 UL
Heptachlor epoxide	0.05 U	0.05 U	0.05 UL	0.05 UL	0.05 UL
Endosulfan I	0.05 U	0.05 U	0.05 UL	0.05 UL	0.05 UL
Dieldrin	0.10 U	0.10 U	0.10 UL	0.10 UL	0.10 UL
4,4'-DDE	0.10 U	0.10 U	0.10 UL	0.10 UL	0.10 UL
Endrin	0.10 U	0.10 U	0.10 UL	0.10 UL	0.10 UL
Endosulfan II	0.10 U	0.10 U	0.10 UL	0.10 UL	0.10 UL
4,4'-DDD	0.10 U	0.10 U	0.10 UL	0.10 UL	0.10 UL
Endosulfan sulfate	0.10 U	0.10 U	0.10 UL	0.10 UL	0.10 UL
4,4'-DDT	0.10 U	0.019 B	0.10 UL	0.012 B	0.012 B
Methoxychlor	0.50 U	0.50 U	0.50 UL	0.50 UL	0.50 UL
Endrin ketone	0.10 U	0.10 U	0.10 UL	0.10 UL	0.10 UL
Endrin aldehyde	0.10 U	0.10 U	0.10 UL	0.10 UL	0.10 UL
Alpha-Chlordane	0.05 U	0.05 U	0.05 UL	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 U	0.05 U	0.05 UL	0.05 UL	0.05 UL
Toxaphene	0.05 U	0.05 U	5.0 UL	5.0 UL	5.0 UL
Aroclor-1016	1.0 U	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1221	2.0 U	2.0 U	2.0 UL	2.0 UL	2.0 UL
Aroclor-1232	1.0 U	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1242	1.0 U	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1248	1.0 U	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1254	1.0 U	1.0 U	1.0 UL	1.0 UL	1.0 UL
Aroclor-1260	1.0 U	1.0 U	1.0 UL	1.0 UL	1.0 UL

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
'DG # GWA205

Sample no.	GWB222	GWB225	GWB226
Date collected	6/14/92	6/14/92	6/14/92
Date analyzed	7/10/92	7/10/92	7/10/92
Percent moisture	NA	NA	NA
Dilution factor	1	1	1
Units	ug/L	ug/L	ug/L
Alpha-BHC	0.05 UL	0.05 UL	0.05 UL
Beta-BHC	0.05 UL	0.05 UL	0.05 UL
Delta-BHC	0.05 UL	0.05 UL	0.05 UL
Gamma-BHC	0.05 UL	0.05 UL	0.05 UL
Heptachlor	0.05 UL	0.05 UL	0.05 UL
Aldrin	0.05 UL	0.05 UL	0.05 UL
Heptachlor epoxide	0.05 UL	0.05 UL	0.05 UL
Endosulfan I	0.05 UL	0.05 UL	0.05 UL
Dieldrin	0.10 UL	0.10 UL	0.10 UL
4,4'-DDE	0.10 UL	0.018 J	0.009 J
Endrin	0.10 UL	0.10 UL	0.10 UL
Endosulfan II	0.10 UL	0.10 UL	0.10 UL
4,4'-DDD	0.10 UL	0.10 UL	0.10 UL
Endosulfan sulfate	0.10 UL	0.10 UL	0.10 UL
4,4'-DDT	0.10 UL	0.10 UL	0.012 B
Methoxychlor	0.50 UL	0.50 UL	0.50 UL
Endrin ketone	0.10 UL	0.10 UL	0.10 UL
Endrin aldehyde	0.10 UL	0.10 UL	0.10 UL
Alpha-Chlordane	0.05 UL	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 UL	0.05 UL	0.05 UL
Toxaphene	5.0 UL	5.0 UL	5.0 UL
Aroclor-1016	1.0 UL	1.0 UL	1.0 UL
Aroclor-1221	2.0 UL	2.0 UL	2.0 UL
Aroclor-1232	1.0 UL	1.0 UL	1.0 UL
Aroclor-1242	1.0 UL	1.0 UL	1.0 UL
Aroclor-1248	1.0 UL	1.0 UL	1.0 UL
Aroclor-1254	1.0 UL	1.0 UL	1.0 UL
Aroclor-1260	1.0 UL	1.0 UL	1.0 UL

DATA SUMMARY - TAL METALS (TOTAL AND DISSOLVED)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA205

Sample no.	GWA205	GWA205F	GWA206	GWA206F	GWA208	GWA208F
Date collected	6/15/92	6/15/92	6/15/92	6/15/92	6/16/92	6/16/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	29600 J	59.0 U	4080 J	59.0 U	4780 J	59.0 U
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	309	173	6.3	2.0 U	2.0 U	2.0 U
Barium	517	336	82.0	53.0	27.0	15.0
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	46500	40800	134000	93700	72200	67000
Chromium	38.8	8.0 U	26.6	8.0 U	8.0 U	8.0 U
Cobalt	8.0 B	8.0 U	9.0 B	8.0 U	8.0 U	8.0 U
Copper	22.0	4.0 B	9.0 B	2.0 B	10.1 B	2.0 B
Iron	106000 J	48000	44900 J	95.0	4040 J	103 B
Lead	21.8	1.0 UL	7.1	1.0 U	1.8	1.6
Magnesium	90200	83700	6470	3830 B	4030 B	3310 B
Manganese	583	437	441	79.0	80.0	55.0
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	20.0 B	11.0 U	20.0 B	11.0 U	13.0 B	11.0 U
Potassium	20600 J	18000	5380 J	4780	2570 J	2020 J
Selenium	10.0 UL	10.0 UL	10.0 UL	10.0 U	10.0 U	10.0 U
Silver	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Sodium	949000	901000	263000	257000	35000	29800
Thallium	5.0 U	5.0 U	1.0 UL	1.0 UL	1.0 U	1.0 U
Vanadium	72.0	8.0 B	61.0	4.0 U	9.0 B	4.0 U
Zinc	92.0 J	18.0 B	80.0 J	34.0	33.0 J	22.0
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS (TOTAL AND DISSOLVED)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # GWA205

Sample no.	GWA209	GWA209F	GWA212	GWA212F	GWA213	GWA213F
Date collected	6/16/92	6/16/92	6/15/92	6/15/92	6/14/92	6/14/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	5640 J	59.0 U	33400 J	71.0 B	8560 J	59.0 U
Antimony	18.0 U	18.0 U	31.0	18.0 U	18.0 U	18.0 U
Arsenic	9.5	2.0 U	34.1	4.9	19.3	2.0 U
Barium	115	79.0	259	62.0	164	129
Beryllium	2.0 B	2.0 U	2.0 B	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	11.3 B	3.0 U	3.0 U	3.0 U
Calcium	245000	146000	184000	167000	290000	279000
Chromium	47.3	8.0 U	65.8	8.0 U	25.9	8.0 U
Cobalt	13.0 B	8.0 U	29.0 B	8.0 U	12.0 B	8.0 U
Copper	13 B	4.0 B	356	2.0 B	14.0 B	2.0 U
Iron	81200 J	123 B	51600 J	330	50500 J	2720
Lead	13.7	1.0 U	237	1.0 U	9.8	1.0 UL
Magnesium	10100	5580	55300	46400	13000	12700
Manganese	876	78.0	730	350	490	244
Mercury	0.20 U	0.20 U	0.52	0.20 U	0.20 U	0.20 U
Nickel	21.0 B	13.0 B	85.0	13.0 B	21.0 B	11.0 U
Potassium	3770 J	2970	46200 J	39000	3980 J	3620
Selenium	10.0 UL	10.0 UL	10.0 UL	10.0 UL	10.0 UL	10.0 UL
Silver	2.0 U	2.0 U	5.0	2.0 U	2.0 U	2.0 U
Sodium	139000	147000	145000	134000	223000	257000
Thallium	1.0 U	1.0 U	1.0 UL	1.0 UL	1.0 UL	1.0 UL
Vanadium	146	4.0 U	116	4.0 U	64.0	4.0 U
Zinc	90.0 J	13.0 B	1090 J	34.0	117 J	9.0 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS (TOTAL AND DISSOLVED)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA205

Sample no.	GWA214	GWA214F	GWA227	GWA227F	GWB220	GWB220F
Date collected	6/14/92	6/14/92	6/15/92	6/15/92	6/14/92	6/14/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	317 B	59.0 U	818 B	59.0 U	93000 J	59.0 U
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	6.5	4.9	4.0	2.0 U	10.2	2.0 U
Barium	16.0	13.0	29.0	28.0	194	8.0
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U	3.0 B	2.0 U
Cadmium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Calcium	55700	50500	49000	43300	53500	47800
Chromium	8.0 U	8.0 U	8.0 U	8.0 U	166	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U	8.0 U	24.0 B	8.0 U
Copper	5.0 B	2.0 B	3.0 B	3.0 B	51.0	2.0 B
Iron	2070 J	123 B	1950 J	43.0 B	108000 J	65.0 B
Lead	1.0 U	1.0 U	1.0 UL	1.0 UL	61.2	1.0 U
Magnesium	10900	10600	40200	37700	17200	5820
Manganese	47.0	24.0	107	69.0	381	47.0
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	11.0 U	11.0 U	11.0 U	11.0 U	43.0 B	11.0 U
Potassium	9680 J	9420	25400 J	25700	10600 J	1530
Selenium	10.0 UL	10.0 UL	10.0 UL	10.0 UL	10.0 UL	2.0 UL
Silver	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Sodium	199000	195000	582000	550000	7860	5990
Thallium	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 U
Vanadium	4.0 U	4.0 U	5.0 B	4.0 U	356	4.0 U
Zinc	38.0 J	10.0 B	12.0 B	12.0 B	193 J	14.0 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS (TOTAL AND DISSOLVED)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA205

Sample no.	GWB221	GWB221F	GWB222	GWB222F	GWB225	GWB225F
Date collected	6/14/92	6/14/92	6/14/92	6/14/92	6/14/92	6/14/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	127000 J	92.0 B	24500 J	59.0 U	590000 J	657 B
Antimony	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	16.1 J	2.0 U	7.6	3.4	10.0 U	2.0 U
Barium	253	24.0	145	14.0	1730	25.0
Beryllium	5.0 B	2.0 U	2.0 B	2.0 U	30 U	2.0 U
Cadmium	6.3 B	3.0 U	3.0 U	3.0 U	8.0 B	3.0 U
Calcium	60400	54700	126000	124000	75000	43300
Chromium	213	8.0 U	32.6	8.0 U	757	8.0 U
Cobalt	39.0 B	8.0 U	10.0 B	8.0 U	198	8.0 U
Copper	65.0	7.0 B	17.0	2.0 U	376	5.0 B
Iron	147000 J	482	19900 J	25.0 B	713000 J	1100
Lead	41.3	1.0 UL	11.4	1.0 U	304	1.0 U
Magnesium	53100	38900	20800	18500	125000	31500
Manganese	1690	1130	182	85.0	4770	533
Mercury	0.27	0.20 U	0.34	0.20 U	2.8	0.20 U
Nickel	65.0 B	15.0 B	22.0 B	11.0 B	414	11.0 U
Potassium	15400 J	6120	6970 J	5420	46300 J	4820
Selenium	10.0 UL	10.0 UL	10.0 UL	2.0 UL	10.0 UL	2.0 UL
Silver	2.0 U	2.0 U	2.0	2.0 U	2.0 U	2.0 U
Sodium	222000	227000	54500	54900	42500	42000
Thallium	5.0 U	1.0 UL	1.0 UL	1.0 UL	1.0 UL	1.0 U
Vanadium	359	4.0 U	36.0 B	4.0 U	1670	4.0 U
Zinc	266 J	13.0 B	96.0 J	22.0	1370 J	31.0
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS (TOTAL AND DISSOLVED)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
CDG # GWA205

Sample no.	GWB226	GWB226F
Date collected	6/14/92	6/14/92
Percent moisture	NA	NA
Dilution factor	1	1
Units	ug/L	ug/L
Aluminum	630000 J	263 B
Antimony	18.0 U	18.0 U
Arsenic	10.0 U	2.0 U
Barium	1750	17.0
Beryllium	22.0	2.0 U
Cadmium	18.5	3.0 U
Calcium	73200	40300
Chromium	792	8.0 U
Cobalt	207	8.0 U
Copper	384	11.0 B
Iron	756000 J	891
Lead	320	1.0 U
Magnesium	128000	31300
Manganese	4990	502
Mercury	3.2	0.20 U
Nickel	452	11.0 U
Potassium	45500 J	4940
Selenium	10.0 UL	2.0 UL
Silver	3.0	2.0 U
Sodium	41100	40500
Thallium	1.0 U	1.0 U
Vanadium	1550	4.0 U
Zinc	1340 J	14.0 B
Cyanide	Q	Q

AWD
TECHNOLOGIES
A Subsidiary of
The Dow Chemical Company

PGH-92-GK-1186

DATE December 8, 1992

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Gina Kelly
AWD Technologies, Inc.

SUBJECT Data Validation of:
Selected Metals
Arsenic
Beryllium
Cadmium
Chromium
Lead
Mercury
Selenium
Silver
Vanadium

RE: Camp Allen Landfill, Norfolk, Virginia
19084-SRN Site
Project Number CTD-84

Batch Numbers:

A2F030048	AWE130046
A2E120037	A2E060038

AWD Technologies, Inc.
Penn Center West Building III Suite 300 Pittsburgh Pennsylvania 15276 Telephone 412 788 2717 Fax 412 788 1316

Samples:

SDA-15	SDA-19S	SDA-04	SDA-10S
SDA-6	SDA-13	SDA-18S	SDA-1
SDA-10D	SDA-17	SDA-21S	SDA-18D
SDA-16S	SDA-12S	SDA-24	SDA-22D
SDA-03	SDA-16D	SDA-12D	SDA-7
SDA-05	SDA-14S	SDA-2	SDA-23S
SDA-8	SDA-20S	SDA-14D	SDA-11
SDA-9			

Rinsate Blanks:

RSA-07	RSA-09	RSA-07S
RSA-10	RSA-07D	RSA-06

Field Blanks:

FBP-100	FBD-100

Overview

The sets of samples for the 19084-SRN site contained 29 soil samples, plus 6 rinsate and 2 field blanks. The samples were analyzed for the following selected metals: arsenic, beryllium, cadmium, chromium, lead, mercury, selenium, silver, and vanadium by methods of the U.S. EPA's Test Methods for Evaluating Solid Waste, SW-846.

Summary

All compounds were successfully analyzed in all samples. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, laboratory and field blanks, check samples, matrix spikes/matrix spike duplicates, laboratory control samples, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Minor Issues

Arsenic, beryllium, cadmium, chromium, lead, mercury, selenium, silver, and vanadium were reported in the laboratory and/or field QC blanks. Therefore positive results for these

compounds which are less than five (5) times the highest level of blank contamination are qualified "B".

Notes

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Inorganic Analyses.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits qualified with UJ.
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - SELECTED METALS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
Batch # A2E130046

Sample no.	SDA-9	SDA-6	SDA-17	SDA-24	SDA-7	SDA-8	RSA-10
Date collected	5/12/92	5/12/92	5/12/92	5/12/92	5/12/92	5/12/92	5/12/92
Percent solids	37	64	49	31	30	34	NA
Dilution factor	1	1	1	1	1	1	1
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/L
Arsenic	590	9.1	5.1	42	16	23	5 U
Beryllium	1.4 B	0.39 U	0.61 B	0.97 B	0.83 B	0.88 B	5 U
Cadmium	4.4 B	11	1.0 U	4.0 B	2.3 B	1.6 B	5 U
Chromium	120	120	38	61	42	34	10 U
Lead	130	31	63	170	130	94	3 U
Mercury	0.5	0.2	0.2	0.6	0.5	0.6	0.2 U
Selenium	1.4 B	0.8 U	1.0 U	1.6 U	1.7 U	1.5 U	5 U
Silver	3.1	0.8 U	1.0 U	3.4 B	1.8 B	1.5 U	10 U
Vanadium	68	12 B	25 B	67	53	58	52 U

DATA SUMMARY - SELECTED METALS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
atch # A2F030048

Sample no.	SDA-12S	SDA-12D	SDA-23S
Date collected	6/02/92	6/02/92	6/02/92
Percent solids	NA	NA	NA
Dilution factor	1	1	1
Units	mg/kg	mg/kg	mg/kg
Arsenic	1.4 B	6.4	2.0 B
Beryllium	0.32 U	0.48 U	0.37 U
Cadmium	0.6 U	2.3 B	0.7 U
Chromium	3.8 B	21	6.3 B
Lead	10 B	310	20 B
Mercury	0.1 U	0.8	0.2 U
Selenium	0.6 U	1.0 U	0.7 U
Silver	0.6 U	1.0 U	0.7 U
Vanadium	6.0 B	46 B	10 B

DATA SUMMARY - SELECTED METALS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
Batch # A2120037

Sample no.	SDA-1	SDA-16S	SDA-16D	SDA-2	SDA-11	SDA-10S	SDA-10D	RSA-09
Date collected	5/11/92	5/11/92	5/11/92	5/11/92	5/11/92	5/11/92	5/11/92	5/11/92
Percent solids	27	37	85	33	5.7	45	14	NA
Dilution factor	1	1	1	1	1	1	1	1
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/L
Arsenic	100	57	3.3 B	170	4.7 B	31	42	5 U
Beryllium	2.2 B	0.68 B	0.29 B	3.9 B	0.44 U	2.2 B	3.6 B	5 U
Cadmium	72	6.8 B	0.6 B	32	0.9 U	7.2 B	17	5 U
Chromium	200	43	11 B	110	13 B	220	280	10 U
Lead	1000	130	13	270	23	180	45	3 U
Mercury	3.0	0.3	0.1 B	1.6	0.2 U	0.4	0.8	0.2 U
Selenium	1.8 U	1.4 U	0.6 U	2.1 B	0.9 U	1.1 U	3.6 U	5 U
Silver	13	2.8 B	0.6 U	6.5 B	0.9 U	4.2 B	3.6 U	10 U
Vanadium	170	48 B	14 B	180	15 B	74	190	50 U

DATA SUMMARY - SELECTED METALS
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
Batch # A2E060038

Sample no.	SDA-15	SDA-13	SDA-21S	SDA-22D	SDA-05	SDA-20S
Date collected	5/04/92	5/04/92	5/04/92	5/04/92	5/04/92	5/03/92
Percent solids	45	39	61	44	37	43
Dilution factor	1	1	1	1	1	1
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	31	24	26	12	53	30
Beryllium	1.0 B	1.5 B	0.66 B	1.0 B	1.8 B	1.5 B
Cadmium	6.2	6.3	3.2 B	1.1 B	8.1	6.3
Chromium	88	140	59	40	160	110
Lead	67	78	97	16	130	91
Mercury	0.2	0.2	0.2	0.2	0.5	0.2
Selenium	1.1 B	1.3 B	0.8 B	1.1 B	1.4 B	1.2 B
Silver	2.3 B	4.0 B	2.1 B	1.1 B	6.2 B	3.1 B
Vanadium	44 B	53	25 B	43 B	80	62

Sample no.	SDA-19S	SDA-18S	SDA-18D	SDA-03	SDA-14S	SDA-14D
Date collected	5/03/92	5/03/92	5/03/92	5/03/92	5/04/92	5/04/92
Percent solids	29	27	38	37	41	45
Dilution factor	1	1	1	1	1	1
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	35	51	50	29	150	130
Beryllium	2.4 B	1.8 B	2.4 B	1.8 B	1.7 B	0.78 B
Cadmium	9.5	160	180	19	220	1.1 B
Chromium	170	3000	1700	220	1700	39
Lead	120	570	540	99	820	12
Mercury	0.3	0.7	1.0	0.3	0.7	0.2 B
Selenium	1.7 B	1.8 B	1.3 B	1.4 B	1.2 B	1.1 B
Silver	5.0	110	49	6.4	52	1.1 B
Vanadium	78	120	74	62	99	49 B

Sample no.	SDA-04	RSA-07	RSA-06	FBP-100	FBD-100
Date collected	5/04/92	5/04/92	5/04/92	5/05/92	5/05/92
Percent solids	36	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	32	5	5	5	5
Beryllium	1.7 B	5	5	5	5
Cadmium	6.0	5	5	5	5
Chromium	120	10	10	10	10
Lead	96	3	3	3	3
Mercury	0.3	0.2	0.2	0.2	0.2
Selenium	1.4 B	5	5	5	5
Silver	4.0 B	10	10	10	10
Vanadium	61	50	50	50	50

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PGH-92-RKC-1215

DATE December 9, 1992

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Richard K. Cambotti
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Project Number CTO-84
SDG Number SBB-07

Samples:

SBA-01	SBA-02	SBA-03	SBA-04
SBA-05	SBA-06	SBA-07	SBA-08
SBB-01	SBB-02	SBB-03	SBB-04
SBB-05	SBB-07	SBB-08	SBB-09

Trip Blanks:

TBB-02 TBA-02

Rinsate Blanks:

RSB-02 RSA-01

Duplicates:

SBA-07 SBA-09 (from SDG Number RSA-02)

AWD Technologies, Inc.
Penn Center West Building III Suite 300 Pittsburgh Pennsylvania 15276 Telephone 412 788 2717 Fax 412 788 1316

Overview

The sample delivery group (SDG) for the Navy CLEAN Program's Camp Allen Landfill Site contained 16 solid samples, 2 rinsate blanks, and 2 trip blanks. The samples were analyzed for U.S. EPA, Contract Laboratory Program (CLP) Target Compound List (TCL) volatile organic analytes (VOAs), semivolatile organic analytes (SVOAs), pesticides/polychlorinated biphenyl analytes, and CLP Target Analyte List (TAL) metals according to CLP methods.

Summary

All analyses were successfully determined for all applicable samples. The quality of the analytical data was evaluated on the basis of the quality assurance/quality control (QA/QC) criteria defined by the U.S. EPA, CLP Statements of Work for Organic (4/89) and Inorganic (9/91) Analyses and according to the U.S. EPA, Region III, Modifications to National Functional Guidelines for Organic Data Review (OLMO 1.0-01M01.6, 6/92) and Inorganic Data Review (6/88). Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data usability are discussed below.

Major Issues

Sample spike recoveries for total antimony were less than 30 percent. Therefore, positive results for the total analysis of this metal are qualified "L" to indicate that reported results may be biased low (actual concentrations may be higher) and the detection limits are qualified "R" as unreliable and the possibility of false negative results exists.

Minor Issues

Thallium was reported in laboratory preparation blanks at concentrations affecting the quality of sample results. Therefore, positive thallium results less than five times the level reported in blanks are qualified "B" to indicate a nondetected value.

Duplicate analysis results for arsenic, lead, manganese, nickel, and zinc exceeded recommended control limits. Positive results are qualified "J", and values should be considered estimates.

Acetone and 2-butanone were reported in the analysis of laboratory and/or field QC blanks. Therefore, positive results less than ten (10) times the highest level of blank contamination reported are qualified "B", indicating that these compounds are not detected above quality control blank concentration levels.

Volatile fraction recovery of the system monitoring compounds in the analysis and reanalysis of samples SBA-02 and SBB-01 exceeded the recommended control range. Positive sample results and sample detection limits are qualified "J" and "UJ", respectively, to denote approximate values. Poor recovery of the internal standard chlorobenzene-d5 and 1,4-difluorobenzene support this estimated qualification.

Initial calibration relative standard deviation (RSD) for the volatile compound acetone exceeded the recommended response factor of 25 percent criteria and continuing calibration response factor percent difference (%D) for 2-butanone.

Di-n-butylphthalate and bis(2-ethylhexyl)phthalate were reported in the analysis of laboratory and/or field QC blanks. Positive sample results less than ten (10) times the highest level of blank contamination reported are qualified "B", indicating that these compounds are not detected above quality control blank concentration levels.

Volatile and semivolatile tentatively identified compounds (TICs) were reviewed for appropriate mass spectral identification and deleted if reported in associated laboratory of field QC blank analyses. Deletion is indicated by a line through the reported value in the data summary Form I pages.

Recovery of the decachlorobiphenyl pesticide/PCB surrogates in the analysis of samples SBA-01, SBA-04, SBA-06, SBA-07, and SBA-08 were greater than the recommended acceptable criteria. Recovery of the tetrachloro-m-xylene surrogates were acceptable. Positive results and detection limits are qualified "K", estimated and biased high.

Recoveries of the GPC cleanup column compounds alpha-BHC, heptachlor, aldrin, dieldrin, endrin, and 4,4-DDT were greater than the recommended control range. Therefore positive results are qualified "K", estimated and biased high.

<u>Notes</u>

Duplicate analysis for total arsenic and chromium and method of standard addition analysis for total arsenic in samples GWB214 and GWB218 exceeded recommended criteria. Results for these analytes should be considered estimated and biased according to the recovery of analytical spike results.

Initial calibration response factor RSD for the semivolatile compound 2,4-dinitrophenol exceeded the recommended 30 percent criteria, and continuing calibration response factor %D for 4-nitrophenol, 2,4-dinitrophenol, 3-nitroaniline, 2-nitroaniline, 4,6-dinitro-2-methylphenol, bis(2-ethylhexyl)phthalate, and 2,4-dinitrotoluene exceeded the recommended 25 percent criteria.

Data were not qualified on the basis of this criteria due to the lack of positive sample results or qualification by other criteria.

Evaluation of all fraction's analytical results for field duplicate samples SBA-07 and SBA-09 (reported in SDG Number RSA-02 reported relative percent differences (RPDs) exceeding advisory criteria. However, data were not qualified on this basis alone since this criteria is advisory and left to the judgement of the validator and review of potential matrix heterogeneity and field sampling methods.

4,4-DDT was reported in the analysis of a laboratory blank associated with SDG Number SBB-07. However, data are not qualified since sample results indicate nondetectable results or results greater than five times the applicable blank concentration of this compound.

Reported detection limits for some volatile and semivolatile results reflect analysis as a medium or high level contaminated sample in addition to any sample extract dilutions.

The data were reviewed according to the criteria specified and should be accepted as qualified and presented in the Data Summary.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits qualified with UJ.
3. Appendix A - Results as reported by the laboratory
4. Appendix B - Tentatively Identified Compounds
5. Appendix C - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC COMPOUNDS (VOAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
CDG # SBB07

Sample no.	RSA-01	RSB-02	SBA-01	SBA-02	SBA-03	SBA-04
Date collected	5/27/92	5/19/92	5/27/92	5/27/92	5/28/92	5/28/92
Date analyzed	5/31/92	5/22/92	6/3/92	6/2/92	6/3/92	6/4/92
Percent moisture	NA	NA	51	35	50	27
Dilution factor	1	1	10	1	1	1
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
Chloromethane	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Bromomethane	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Vinyl chloride	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Chloroethane	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Methylene chloride	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Acetone	6 J	10 U	58000 B	17 B	25000 U	1800 B
Carbon disulfide	10U	10 U	170000 U	15 UJ	25000 U	5700 U
1,1-dichloroethene	10U	10 U	170000 U	15 UJ	25000 U	5700 U
1,1-dichloroethane	10U	10 U	170000 U	15 UJ	25000 U	5700 U
1,2-dichloroethene	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Chloroform	10U	10 U	170000 U	15 UJ	25000 U	5700 U
1,2-dichloroethane	10U	10 U	170000 U	15 UJ	25000 U	5700 U
2-butanone	10U	10 U	91000 B	15 UJ	25000 U	2600 B
1,1,1-trichloroethane	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Carbon tetrachloride	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Bromodichloromethane	10U	10 U	170000 U	15 UJ	25000 U	5700 U
1,2-dichloropropane	10U	10 U	170000 U	15 UJ	25000 U	5700 U
C-1,3-dichloropropene	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Trichloroethene	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Dibromochloromethane	10U	10 U	170000 U	15 UJ	25000 U	5700 U
1,1,2-trichloroethane	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Benzene	10U	10 U	170000 U	15 UJ	25000 U	5700 U
T-1,3-dichloropropene	10U	10 U	170000 U	15 UJ	25000 U	5700 U
Bromoform	10 U	10 U	170000 U	15 UJ	25000 U	5700 U
4-methyl-2-pentanone	10 U	10 U	170000 U	13 B	25000 U	5700 U
2-hexanone	10 U	10 U	170000 U	15 UJ	25000 U	5700 U
Tetrachloroethene	10 U	10 U	170000 U	15 UJ	25000 U	5700 U
1,2,2,2-tetrachloroethan	10 U	10 U	170000 U	15 UJ	25000 U	5700 U
Toluene	10 U	10 U	3000000	15 UJ	35000	19000
Chlorobenzene	10 U	10 U	170000 U	15 UJ	25000 U	5700 U
Ethylbenzene	10 U	10 U	45000 J	15 UJ	25000 U	3500 J
Styrene	10 U	10 U	170000 U	15 UJ	25000 U	5700 U
Xylenes(total)	10 U	10 U	340000	15 UJ	20000 J	38000

DATA SUMMARY - VOLATILE ORGANIC COMPOUNDS (VOAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
'DG # SBB07

Sample no.	SBA-05	SBA-06	SBA-07	SBA-08	SBB-01	SBB-01RE
Date collected	5/28/92	5/28/92	5/28/92	5/28/92	5/19/92	5/19/92
Date analyzed	6/2/92	6/8/92	6/2/92	6/3/92	5/22/92	5/22/92
Percent moisture	37	39	38	53	43	43
Dilution factor	1	2.5	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Chloromethane	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Bromomethane	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Vinyl chloride	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Chloroethane	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Methylene chloride	16 U	41 U	4 J	27000 U	18 UJ	18 UJ
Acetone	13 B	490 J	69 B	27000 U	22 B	21 B
Carbon disulfide	16 U	13 J	22	27000 U	18 UJ	18 UJ
1,1-dichloroethene	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
1,1-dichloroethane	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
1,2-dichloroethene	16 U	41 U	17	27000 U	18 UJ	18 UJ
Chloroform	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
1,2-dichloroethane	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
2-butanone	4 B	98 B	16 B	17000 J	18 UJ	18 UJ
1,1,1-trichloroethane	16 U	63	16 U	27000 U	18 UJ	18 UJ
Carbon tetrachloride	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Bromodichloromethane	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
1,2-dichloropropane	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
C-1,3-dichloropropene	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Trichloroethene	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Dibromochloromethane	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
1,1,2-trichloroethane	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Benzene	16 U	41 U	12 J	27000 U	18 UJ	18 UJ
T-1,3-dichloropropene	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Bromoform	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
4-methyl-2-pentanone	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
2-hexanone	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Tetrachloroethene	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
1,2,2,2-tetrachloroethan	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Toluene	16 U	15 J	20	27000 U	18 UJ	18 UJ
Chlorobenzene	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Ethylbenzene	16 U	21 J	16 U	27000 U	18 UJ	18 UJ
Styrene	16 U	41 U	16 U	27000 U	18 UJ	18 UJ
Xylenes(total)	16 U	130	30	27000 U	18 UJ	18 UJ

DATA SUMMARY - VOLATILE ORGANIC COMPOUNDS (VOAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
DG # SBB07

Sample no.	SBB-02	SBB-03	SBB-04	SBB-05	SBB-07	SBB-08
Date collected	5/19/92	5/19/92	5/19/92	5/19/92	5/18/92	5/18/92
Date analyzed	5/22/92	5/22/92	5/22/92	5/22/92	5/21/92	5/20/92
Percent moisture	12	18	16	15	15	15
Dilution factor	1	1	3.3	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Chloromethane	11 U	12 U	40 U	12 U	1500 U	12 U
Bromomethane	11 U	12 U	40 U	12 U	1500 U	12 U
Vinyl chloride	11 U	12 U	40 U	16	1500 U	12 U
Chloroethane	11 U	12 U	40 U	12 U	1500 U	12 U
Methylene chloride	11 U	12 U	40 U	12 U	1500 U	200
Acetone	14 B	35 B	92 B	170 J	1900	25 B
Carbon disulfide	11 U	12 U	40 U	12 U	1500 U	12 U
1,1-dichloroethene	11 U	12 U	40 U	12 U	1500 U	12 U
1,1-dichloroethane	11 U	12 U	40 U	12	1500 U	12 U
1,2-dichloroethene	11 U	12 U	420	79	4300	4 J
Chloroform	11 U	12 U	40 U	12 U	1500 U	12 U
1,2-dichloroethane	11 U	12 U	25 J	12 U	1500 U	12 U
2-butanone	11 U	6 B	71 B	29 B	2200 B	6 B
1,1,1-trichloroethane	11 U	12 U	15 J	8 J	1500 U	12 U
arbon tetrachloride	11 U	12 U	40 U	12 U	1500 U	12 U
omodichloromethane	11 U	12 U	40 U	12 U	1500 U	12 U
1,2-dichloropropane	11 U	12 U	40 U	12 U	1500 U	12 U
C-1,3-dichloropropene	11 U	12 U	40 U	12 U	1500 U	12 U
Trichloroethene	11 U	12 U	27 J	12 U	3100	12 U
Dibromochloromethane	11 U	12 U	40 U	12 U	1500 U	12 U
1,1,2-trichloroethane	11 U	12 U	40 U	12 U	1500 U	12 U
Benzene	11 U	12 U	250	26	1500 U	12 U
T-1,3-dichloropropene	11 U	12 U	40 U	12 U	1500 U	12 U
Bromoform	11 U	12 U	40 U	12 U	1500 U	12 U
4-methyl-2-pentanone	11 U	12 U	250	120	2200	61
2-hexanone	11 U	12 U	40 U	12 U	1500 U	12 U
Tetrachloroethene	11 U	12 U	40 U	12 U	1500 U	12 U
1,2,2,2-tetrachloroethan	11 U	12 U	40 U	12 U	1500 U	12 U
Toluene	11 U	12 U	85	68	1500 U	14
Chlorobenzene	11 U	12 U	40 U	12 U	1500 U	12 U
Ethylbenzene	11 U	12 U	40 U	12 U	1500 U	12 U
Styrene	11 U	12 U	40 U	12 U	1500 U	12 U
Xylenes(total)	11 U	12 U	40 U	4 J	1500 U	5 J

DATA SUMMARY - VOLATILE ORGANIC COMPOUNDS (VOAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
)G # SBB07

Sample no.	SBB-09	TBA-02	TBB-02
Date collected	5/18/92	5/27/92	5/20/92
Date analyzed	5/20/92	5/31/92	5/22/92
Percent moisture	12	NA	NA
Dilution factor	1	1	1
Units	ug/kg	ug/L	ug/L
Chloromethane	11 U	10 U	10 U
Bromomethane	11 U	10 U	10 U
Vinyl chloride	11 U	10 U	10 U
Chloroethane	11 U	10 U	10 U
Methylene chloride	11 U	10 U	10 U
Acetone	29 B	8 J	6 J
Carbon disulfide	11 U	10 U	10 U
1,1-dichloroethene	11 U	10 U	10 U
1,1-dichloroethane	11 U	10 U	10 U
1,2-dichloroethene	11 U	10 U	10 U
Chloroform	11 U	10 U	10 U
1,2-dichloroethane	11 U	10 U	10 U
2-butanone	14 B	10 U	10 U
1,1,1-trichloroethane	11 U	10 U	10 U
`arbon tetrachloride	11 U	10 U	10 U
ɔromodichloromethane	11 U	10 U	10 U
1,2-dichloropropane	11 U	10 U	10 U
C-1,3-dichloropropene	11 U	10 U	10 U
Trichloroethene	11 U	10 U	10 U
Dibromochloromethane	11 U	10 U	10 U
1,1,2-trichloroethane	11 U	10 U	10 U
Benzene	11 U	10 U	10 U
T-1,3-dichloropropene	11 U	10 U	10 U
Bromoform	11 U	10 U	10 U
4-methyl-2-pentanone	11 U	10 U	10 U
2-hexanone	11 U	10 U	10 U
Tetrachloroethene	11 U	10 U	10 U
1,2,2,2-tetrachloroethan	11 U	10 U	10 U
Toluene	11 U	10 U	10 U
Chlorobenzene	11 U	10 U	10 U
Ethylbenzene	11 U	10 U	10 U
Styrene	11 U	10 U	10 U
Xylenes(total)	11 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # SBB-07

Sample no.	RSA-01	RSB-02	SBA-01	SBA-02	SBA-02RE
Date collected	5/27/92	5/19/92	5/27/92	5/27/92	5/27/92
Date extracted	6/1/92	5/21/92	6/1/92	6/1/92	6/1/92
Date analyzed	6/2/92	5/22/92	6/3/92	6/3/92	6/4/92
Percent moisture	NA	NA	51	35	35
Dilution factor	1	1	10	1	1
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Phenol	1 J	10 U	6800 U	510 U	510 U
Bis(2-chloroethyl)ether	10 U	10 U	6800 U	510 U	510 U
2-chlorophenol	10 U	10 U	6800 U	510 U	510 U
1,3-dichlorobenzene	10 U	10 U	6800 U	510 U	510 U
1,4-dichlorobenzene	10 U	10 U	6800 U	510 U	510 U
1,2-dichlorobenzene	10 U	10 U	6800 U	510 U	510 U
2-methylphenol	10 U	10 U	6800 U	510 U	510 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	6800 U	510 U	510 U
4-methylphenol	10 U	10 U	6800 U	510 U	510 U
N-nitroso-di-n-propylamine	10 U	10 U	6800 U	510 U	510 U
Hexachloroethane	10 U	10 U	6800 U	510 U	510 U
Nitrobenzene	10 U	10 U	6800 U	510 U	510 U
Isophorone	10 U	10 U	6800 U	510 U	510 U
-nitrophenol	10 U	10 U	6800 U	510 U	510 U
2,4-dimethylphenol	10 U	10 U	6700 J	510 U	510 U
Bis(2-chloroethoxy)methane	10 U	10 U	6800 U	510 U	510 U
2,4-dichlorophenol	10 U	10 U	6800 U	510 U	510 U
1,2,4-trichlorobenzene	10 U	10 U	6800 U	510 U	510 U
Naphthalene	10 U	10 U	32000	29 J	34 J
4-chloroaniline	10 U	10 U	6800 U	510 U	510 U
Hexachlorobutadiene	10 U	10 U	6800 U	510 U	510 U
4-chloro-3-methylphenol	10 U	10 U	6800 U	510 U	510 U
2-methylnaphthalene	10 U	10 U	21000	510 U	510 U
Hexachlorocyclopentadiene	10 U	10 U	6800 U	510 U	510 U
2,4,6-trichlorophenol	10 U	10 U	6800 U	510 U	510 U
2,4,5-trichlorophenol	25 U	25 U	17000 U	1300 U	1300 U
2-chloronaphthalene	10 U	10 U	6800 U	510 U	510 U
2-nitroaniline	25 U	25 U	17000 U	1300 U	1300 U
Dimethylphthalate	10 U	10 U	6800 U	510 U	510 U
Acenaphthylene	10 U	10 U	6800 U	510 U	510 U
2,6-dinitrotoluene	10 U	10 U	6800 U	510 U	510 U
3-nitroaniline	25 U	25 U	17000 U	1300 U	1300 U
Acenaphthene	10 U	10 U	5600 J	510 U	510 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SBB-07

Sample no.	RSA-01	RSB-02	SBA-01	SBA-02	SBA-02RE
Date collected	5/27/92	5/19/92	5/27/92	5/27/92	5/27/92
Date extracted	6/1/92	5/21/92	6/1/92	6/1/92	6/1/92
Date analyzed	6/2/92	5/22/92	6/3/92	6/3/92	6/4/92
Percent moisture	NA	NA	51	35	35
Dilution factor	1	1	10	1	1
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	25 U	25 U	17000 U	1300 U	1300 U
4-nitrophenol	25 U	25 U	17000 U	1300 U	1300 U
Dibenzofuran	10 U	10 U	1700 J	510 U	510 U
2,4-dinitrotoluene	10 U	10 U	6800 U	510 U	510 U
Diethylphthalate	10 U	10 U	6800 U	510 U	510 U
4-chlorophenyl-phenylether	10 U	10 U	6800 U	510 U	510 U
Fluorene	10 U	10 U	1300 J	510 U	510 U
4-nitroaniline	25 U	25 U	17000 U	1300 U	1300 U
4,6-dinitro-2-methylphenol	25 U	25 U	17000 U	1300 U	1300 U
N-nitrosodiphenylamine	10 U	10 U	6800 U	510 U	510 U
4-bromophenyl-phenylether	10 U	10 U	6800 U	510 U	510 U
Hexachlorobenzene	10 U	10 U	6800 U	510 U	510 U
Pentachlorophenol	25 U	25 U	17000 U	1300 U	1300 U
Phenanthrene	10 U	10 U	6800 U	510 U	510 U
Anthracene	10 U	10 U	6800 U	510 U	510 U
Carbazole	10 U	10 U	6800 U	510 U	510 U
Di-n-butylphthalate	6 J	10 U	5800 B	150 B	130 B
Fluoranthene	10 U	10 U	6800 U	510 U	510 U
Pyrene	10 U	10 U	6800 U	510 U	510 U
Butylbenzylphthalate	10 U	10 U	6800 U	510 U	510 U
3,3'-dichlorobenzidine	10 U	10 U	6800 U	510 U	510 U
Benzo(a)anthracene	10 U	10 U	6800 U	510 U	510 U
Chrysene	10 U	10 U	6800 U	510 U	510 U
Bis(2-ethylhexyl)phthalate	2 J	3 J	6800 U	510 U	510 U
Di-n-octylphthalate	10 U	10 U	6800 U	510 U	510 U
Benzo(b)fluoranthene	10 U	10 U	6800 U	510 U	510 U
Benzo(k)fluoranthene	10 U	10 U	6800 U	510 U	510 U
Benzo(a)pyrene	10 U	10 U	6800 U	510 U	510 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	6800 U	510 U	510 U
Dibenz(a,h)anthracene	10 U	10 U	6800 U	510 U	510 U
Benzo(g,h,i)perylene	10 U	10 U	6800 U	510 U	510 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # SBB-07

Sample no.	SBA-03	SBA-04	SBA-05	SBA-06	SBA-07
Date collected	5/28/92	5/28/92	5/28/92	5/28/92	5/28/92
Date extracted	6/1/92	6/1/92	6/1/92	6/1/92	6/1/92
Date analyzed	6/3/92	6/3/92	6/4/92	6/3/92	6/3/92
Percent moisture	50	27	37	39	38
Dilution factor	10	10	1	10	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Phenol	6700 U	4600 U	530 U	5500 U	540 U
Bis(2-chloroethyl)ether	6700 U	4600 U	530 U	5500 U	540 U
2-chlorophenol	6700 U	4600 U	530 U	5500 U	540 U
1,3-dichlorobenzene	6700 U	4600 U	530 U	5500 U	540 U
1,4-dichlorobenzene	6700 U	4600 U	530 U	5500 U	540 U
1,2-dichlorobenzene	6700 U	4600 U	530 U	5500 U	540 U
2-methylphenol	6400 J	4400 J	530 U	5500 U	540 U
2,2'-oxybis(1-chloropropane)	6700 U	4600 U	530 U	5500 U	540 U
4-methylphenol	5500 J	4600 U	530 U	5500 U	540 U
N-nitroso-di-n-propylamine	6700 U	4600 U	530 U	5500 U	540 U
Hexachloroethane	6700 U	4600 U	530 U	5500 U	540 U
Nitrobenzene	6700 U	4600 U	530 U	5500 U	540 U
Isophorone	6700 U	4600 U	530 U	5500 U	540 U
-nitrophenol	6700 U	4600 U	530 U	5500 U	540 U
2,4-dimethylphenol	41000	4600 U	530 U	5500 U	1100
Bis(2-chloroethoxy)methane	6700 U	4600 U	530 U	5500 U	540 U
2,4-dichlorophenol	6700 U	4600 U	530 U	5500 U	540 U
1,2,4-trichlorobenzene	6700 U	4600 U	530 U	5500 U	540 U
Naphthalene	8200	20000	530 U	1800 J	550
4-chloroaniline	6700 U	4600 U	530 U	5500 U	540 U
Hexachlorobutadiene	6700 U	4600 U	530 U	5500 U	540 U
4-chloro-3-methylphenol	6700 U	4600 U	530 U	5500 U	540 U
2-methylnaphthalene	1900 J	2000 J	530 U	1300 J	250 J
Hexachlorocyclopentadiene	6700 U	4600 U	530 U	5500 U	540 U
2,4,6-trichlorophenol	6700 U	4600 U	530 U	5500 U	540 U
2,4,5-trichlorophenol	17000 U	11000 U	1300 U	14000 U	1300 U
2-chloronaphthalene	6700 U	4600 U	530 U	5500 U	540 U
2-nitroaniline	17000 U	11000 U	1300 U	14000 U	1300 U
Dimethylphthalate	6700 U	4600 U	530 U	5500 U	540 U
Acenaphthylene	6700 U	4600 U	530 U	5500 U	540 U
2,6-dinitrotoluene	6700 U	4600 U	530 U	5500 U	540 U
3-nitroaniline	17000 U	11000 U	1300 U	14000 U	1300 U
Acenaphthene	6700 U	4600 U	530 U	490 J	45 J

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SBB-07

Sample no.	SBA-03	SBA-04	SBA-05	SBA-06	SBA-07
Date collected	5/28/92	5/28/92	5/28/92	5/28/92	5/28/92
Date extracted	6/1/92	6/1/92	6/1/92	6/1/92	6/1/92
Date analyzed	6/3/92	6/3/92	6/4/92	6/3/92	6/3/92
Percent moisture	50	27	37	39	38
Dilution factor	10	10	1	10	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	17000 U	11000 U	1300 U	14000 U	1300 U
4-nitrophenol	17000 U	11000 U	1300 U	14000 U	1300 U
Dibenzofuran	6700 U	4600 U	530 U	5500 U	41 J
2,4-dinitrotoluene	6700 U	4600 U	530 U	5500 U	540 U
Diethylphthalate	6700 U	4600 U	530 U	5500 U	130 J
4-chlorophenyl-phenylether	6700 U	4600 U	530 U	5500 U	540 U
Fluorene	6700 U	4600 U	530 U	5500 U	31 J
4-nitroaniline	17000 U	11000 U	1300 U	14000 U	1300 U
4,6-dinitro-2-methylphenol	17000 U	11000 U	1300 U	14000 U	1300 U
N-nitrosodiphenylamine	6700 U	4600 U	530 U	5500 U	540 U
4-bromophenyl-phenylether	6700 U	4600 U	530 U	5500 U	540 U
Hexachlorobenzene	6700 U	4600 U	530 U	5500 U	540 U
Pentachlorophenol	17000 U	11000 U	1300 U	14000 U	1300 U
Phenanthrene	6700 U	4600 U	530 U	370 J	66 J
Anthracene	6700 U	4600 U	530 U	5500 U	540 U
Carbazole	6700 U	4600 U	530 U	5500 U	540 U
Di-n-butylphthalate	420 B	720 B	82 B	2200 B	370 B
Fluoranthene	6700 U	4600 U	530 U	5500 U	93 J
Pyrene	6700 U	4600 U	530 U	5500 U	71 J
Butylbenzylphthalate	6700 U	4600 U	530 U	5500 U	540 U
3,3'-dichlorobenzidine	6700 U	4600 U	530 U	5500 U	540 U
Benzo(a)anthracene	6700 U	4600 U	530 U	5500 U	70 J
Chrysene	6700 U	4600 U	530 U	5500 U	72 J
Bis(2-ethylhexyl)phthalate	13000	4600 U	530 U	17000	51 J
Di-n-octylphthalate	6700 U	4600 U	530 U	5500 U	540 U
Benzo(b)fluoranthene	6700 U	4600 U	530 U	5500 U	85 J
Benzo(k)fluoranthene	6700 U	4600 U	530 U	5500 U	51 J
Benzo(a)pyrene	6700 U	4600 U	530 U	5500 U	70 J
Indeno(1,2,3-cd)pyrene	6700 U	4600 U	530 U	5500 U	42 J
Dibenz(a,h)anthracene	6700 U	4600 U	530 U	5500 U	540 U
Benzo(g,h,i)perylene	6700 U	4600 U	530 U	5500 U	39 J

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # SBB-07

Sample no.	SBA-08	SBB-01	SBB-02	SBB-03	SBB-04
Date collected	5/28/92	5/19/92	5/19/92	5/19/92	5/19/92
Date extracted	6/1/92	5/26/92	5/26/92	5/26/92	5/26/92
Date analyzed	6/8/92	6/2/92	6/2/92	6/2/92	6/2/92
Percent moisture	35	43	12	18	16
Dilution factor	2	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Phenol	1000 U	580 U	380 U	410 U	25 J
Bis(2-chloroethyl)ether	1000 U	580 U	380 U	410 U	400 U
2-chlorophenol	1000 U	580 U	380 U	410 U	400 U
1,3-dichlorobenzene	1000 U	580 U	380 U	410 U	400 U
1,4-dichlorobenzene	1000 U	580 U	380 U	410 U	400 U
1,2-dichlorobenzene	1000 U	580 U	380 U	410 U	400 U
2-methylphenol	1000 U	580 U	380 U	410 U	400 U
2,2'-oxybis(1-chloropropane)	1000 U	580 U	380 U	410 U	400 U
4-methylphenol	1000 U	580 U	380 U	410 U	400 U
N-nitroso-di-n-propylamine	1000 U	580 U	380 U	410 U	400 U
Hexachloroethane	1000 U	580 U	380 U	410 U	400 U
Nitrobenzene	1000 U	580 U	380 U	410 U	400 U
Isophorone	680 K	580 U	380 U	410 U	400 U
-nitrophenol	1000 U	580 U	380 U	410 U	400 U
2,4-dimethylphenol	530 K	580 U	380 U	410 U	400 U
Bis(2-chloroethoxy)methane	1000 U	580 U	380 U	410 U	400 U
2,4-dichlorophenol	1000 U	580 U	380 U	410 U	400 U
1,2,4-trichlorobenzene	1000 U	580 U	380 U	410 U	400 U
Naphthalene	3400 K	580 U	380 U	410 U	400 U
4-chloroaniline	1000 U	580 U	380 U	410 U	400 U
Hexachlorobutadiene	1000 U	580 U	380 U	410 U	400 U
4-chloro-3-methylphenol	1000 U	580 U	380 U	410 U	400 U
2-methylnaphthalene	1100 K	580 U	380 U	410 U	400 U
Hexachlorocyclopentadiene	1000 U	580 U	380 U	410 U	400 U
2,4,6-trichlorophenol	1000 U	580 U	380 U	410 U	400 U
2,4,5-trichlorophenol	2600 U	1500 U	950 U	1000 U	990 U
2-chloronaphthalene	1000 U	580 U	380 U	410 U	400 U
2-nitroaniline	2600 U	1500 U	950 U	1000 U	990 U
Dimethylphthalate	1000 U	580 U	380 U	410 U	400 U
Acenaphthylene	1000 U	580 U	380 U	410 U	400 U
2,6-dinitrotoluene	1000 U	580 U	380 U	410 U	400 U
3-nitroaniline	2600 U	1500 U	950 U	1000 U	990 U
Acenaphthene	1000 U	580 U	380 U	410 U	400 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SBB-07

Sample no.	SBA-08	SBB-01	SBB-02	SBB-03	SBB-04
Date collected	5/28/92	5/19/92	5/19/92	5/19/92	5/19/92
Date extracted	6/1/92	5/26/92	5/26/92	5/26/92	5/26/92
Date analyzed	6/8/92	6/2/92	6/2/92	6/2/92	6/2/92
Percent moisture	35	43	12	18	16
Dilution factor	2	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	2600 U	1500 U	950 U	1000 U	990 U
4-nitrophenol	2600 U	1500 U	950 U	1000 U	990 U
Dibenzofuran	1000 U	580 U	380 U	410 U	400 U
2,4-dinitrotoluene	1000 U	580 U	380 U	410 U	400 U
Diethylphthalate	95 K	580 U	48 J	23 J	95 J
4-chlorophenyl-phenylether	1000 U	580 U	380 U	410 U	400 U
Fluorene	70 K	580 U	380 U	410 U	400 U
4-nitroaniline	2600 U	1500 U	950 U	1000 U	990 U
4,6-dinitro-2-methylphenol	2600 U	1500 U	950 U	1000 U	990 U
N-nitrosodiphenylamine	1000 U	580 U	380 U	410 U	400 U
4-bromophenyl-phenylether	1000 U	580 U	380 U	410 U	400 U
Hexachlorobenzene	1000 U	580 U	380 U	410 U	400 U
Pentachlorophenol	2600 U	1500 U	950 U	1000 U	990 U
Phenanthrene	110 K	580 U	380 U	410 U	400 U
Anthracene	1000 U	580 U	380 U	410 U	400 U
Carbazole	1000 U	580 U	380 U	410 U	400 U
Di-n-butylphthalate	600 B	260 B	320 B	230 B	200 B
Fluoranthene	1000 U	580 U	380 U	410 U	400 U
Pyrene	1000 U	580 U	380 U	410 U	400 U
Butylbenzylphthalate	1000 U	580 U	380 U	410 U	400 U
3,3'-dichlorobenzidine	1000 U	580 U	380 U	410 U	400 U
Benzo(a)anthracene	1000 U	580 U	380 U	410 U	400 U
Chrysene	1000 U	580 U	380 U	410 U	400 U
Bis(2-ethylhexyl)phthalate	760 K	580 U	380 U	410 U	400 U
Di-n-octylphthalate	1000 U	580 U	380 U	410 U	400 U
Benzo(b)fluoranthene	1000 U	580 U	380 U	410 U	400 U
Benzo(k)fluoranthene	1000 U	580 U	380 U	410 U	400 U
Benzo(a)pyrene	1000 U	580 U	380 U	410 U	400 U
Indeno(1,2,3-cd)pyrene	1000 U	580 U	380 U	410 U	400 U
Dibenz(a,h)anthracene	1000 U	580 U	380 U	410 U	400 U
Benzo(g,h,i)perylene	1000 U	580 U	380 U	410 U	400 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # SBB-07

Sample no.	SBB-05	SBB-07	SBB-08	SBB-09
Date collected	5/19/92	5/18/92	5/18/92	5/18/92
Date extracted	5/26/92	5/26/92	5/26/92	5/26/92
Date analyzed	6/2/92	6/3/92	6/2/92	6/2/92
Percent moisture	15	15	15	12
Dilution factor	1	5	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg
Phenol	390 U	13000	28 J	380 U
Bis(2-chloroethyl)ether	390 U	2000 U	390 U	380 U
2-chlorophenol	390 U	2000 U	390 U	380 U
1,3-dichlorobenzene	390 U	2000 U	390 U	380 U
1,4-dichlorobenzene	390 U	2000 U	390 U	380 U
1,2-dichlorobenzene	390 U	2000 U	390 U	380 U
2-methylphenol	390 U	180 J	46 J	380 U
2,2'-oxybis(1-chloropropane)	390 U	2000 U	390 U	380 U
4-methylphenol	390 U	650 J	390 U	380 U
N-nitroso-di-n-propylamine	390 U	2000 U	390 U	380 U
Hexachloroethane	390 U	2000 U	390 U	380 U
Nitrobenzene	390 U	2000 U	390 U	380 U
Isophorone	390 U	2000 U	390 U	380 U
nitrophenol	390 U	2000 U	390 U	380 U
2,4-dimethylphenol	390 U	2000 U	390 U	380 U
Bis(2-chloroethoxy)methane	390 U	2000 U	390 U	380 U
2,4-dichlorophenol	390 U	2000 U	390 U	380 U
1,2,4-trichlorobenzene	390 U	2000 U	390 U	380 U
Naphthalene	390 U	2000 U	390 U	380 U
4-chloroaniline	390 U	2000 U	390 U	380 U
Hexachlorobutadiene	390 U	2000 U	390 U	380 U
4-chloro-3-methylphenol	390 U	2000 U	390 U	380 U
2-methylnaphthalene	390 U	2000 U	390 U	380 U
Hexachlorocyclopentadiene	390 U	2000 U	390 U	380 U
2,4,6-trichlorophenol	390 U	2000 U	390 U	380 U
2,4,5-trichlorophenol	980 U	4900 U	980 U	950 U
2-chloronaphthalene	390 U	2000 U	390 U	380 U
2-nitroaniline	980 U	4900 U	980 U	950 U
Dimethylphthalate	390 U	2000 U	390 U	380 U
Acenaphthylene	390 U	2000 U	390 U	380 U
2,6-dinitrotoluene	390 U	2000 U	390 U	380 U
3-nitroaniline	980 U	4900 U	980 U	950 U
Acenaphthene	390 U	2000 U	390 U	380 U

DATA SUMMARY - SEMIVOLATILE ORGANIC CHEMICALS (BNAS)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SBB-07

Sample no.	SBB-05	SBB-07	SBB-08	SBB-09
Date collected	5/19/92	5/18/92	5/18/92	5/18/92
Date extracted	5/26/92	5/26/92	5/26/92	5/26/92
Date analyzed	6/2/92	6/3/92	6/2/92	6/2/92
Percent moisture	15	15	15	12
Dilution factor	1	5	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	980 U	4900 U	980 U	950 U
4-nitrophenol	980 U	4900 U	980 U	950 U
Dibenzofuran	390 U	2000 U	390 U	380 U
2,4-dinitrotoluene	390 U	2000 U	390 U	380 U
Diethylphthalate	390 U	2000 U	34 J	26 J
4-chlorophenyl-phenylether	390 U	2000 U	390 U	380 U
Fluorene	390 U	2000 U	390 U	380 U
4-nitroaniline	980 U	4900 U	980 U	950 U
4,6-dinitro-2-methylphenol	980 U	4900 U	980 U	950 U
N-nitrosodiphenylamine	390 U	2000 U	390 U	380 U
4-bromophenyl-phenylether	390 U	2000 U	390 U	380 U
Hexachlorobenzene	390 U	2000 U	390 U	380 U
Pentachlorophenol	980 U	4900 U	980 U	950 U
Phenanthrene	390 U	2000 U	390 U	380 U
Anthracene	390 U	2000 U	390 U	380 U
Carbazole	390 U	2000 U	390 U	380 U
Di-n-butylphthalate	420 B	470 B	530 B	490 B
Fluoranthene	390 U	2000 U	390 U	380 U
Pyrene	390 U	2000 U	390 U	380 U
Butylbenzylphthalate	390 U	2000 U	390 U	380 U
3,3'-dichlorobenzidine	390 U	2000 U	390 U	380 U
Benzo(a)anthracene	390 U	2000 U	390 U	380 U
Chrysene	390 U	2000 U	390 U	380 U
Bis(2-ethylhexyl)phthalate	390 U	2000 U	390 U	380 U
Di-n-octylphthalate	390 U	2000 U	390 U	380 U
Benzo(b)fluoranthene	390 U	2000 U	390 U	380 U
Benzo(k)fluoranthene	390 U	2000 U	390 U	380 U
Benzo(a)pyrene	390 U	2000 U	390 U	380 U
Indeno(1,2,3-cd)pyrene	390 U	2000 U	390 U	380 U
Dibenz(a,h)anthracene	390 U	2000 U	390 U	380 U
Benzo(g,h,i)perylene	390 U	2000 U	390 U	380 U

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
GD # SBB07

Sample no.	RSA-01	RSB-02	SBA-01	SBA-02	SBA-03
Date collected	5/27/92	5/20/92	5/27/92	5/27/92	5/28/92
Date analyzed	6/13/92	6/13/92	6/14/92	6/14/92	6/14/92
Percent moisture	NA	NA	51	35	50
Dilution factor	1	1	9.0	4.0	4.0
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Alpha-BHC	0.05 U	0.05 U	31 U	10 U	13 U
Beta-BHC	0.05 U	0.05 U	31 U	10 U	13 U
Delta-BHC	0.05 U	0.05 U	31 U	10 U	13 U
Gamma-BHC	0.05 U	0.05 U	31 U	10 U	13 U
Heptachlor	0.05 U	0.05 U	31 U	10 U	13 U
Aldrin	0.05 U	0.05 U	31 U	10 U	13 U
Heptachlor epoxide	0.05 U	0.05 U	31 U	10 U	13 U
Endosulfan I	0.05 U	0.05 U	31 U	10 U	13 U
Dieldrin	0.10 U	0.10 U	24 K	3.0 K	66 K
4,4'-DDE	0.10 U	0.10 U	61 U	21 U	16 J
Endrin	0.10 U	0.10 U	61 U	21 U	27 U
Endosulfan II	0.10 U	0.10 U	61 U	21 U	27 U
4'-DDD	0.10 U	0.10 U	20 K	21 U	6.4 J
Endosulfan sulfate	0.10 U	0.10 U	61 U	21 U	27 U
4,4'-DDT	0.10 U	0.10 U	61 U	21 U	27 U
Methoxychlor	0.50 U	0.50 U	310 U	100 U	130 U
Endrin ketone	0.10 U	0.10 U	61 U	21 U	27 U
Endrin aldehyde	0.10 U	0.10 U	21 K	21 U	25 J
Alpha-Chlordane	0.05 U	0.05 U	31 U	10 U	13 U
Gamma-Chlordane	0.05 U	0.05 U	31 U	10 U	13 U
Toxaphene	5.0 U	5.0 U	3100 U	1000 U	1300 U
Aroclor-1016	1.0 U	1.0 U	610 U	210 U	270 U
Aroclor-1221	2.0 U	2.0 U	1200 U	410 U	530 U
Aroclor-1232	1.0 U	1.0 U	610 U	210 U	270 U
Aroclor-1242	1.0 U	1.0 U	610 U	210 U	270 U
Aroclor-1248	1.0 U	1.0 U	610 U	210 U	270 U
Aroclor-1254	1.0 U	1.0 U	610 U	210 U	270 U
Aroclor-1260	1.0 U	1.0 U	1200	210 U	1200

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SGD # SBB07

Sample no.	SBA-04		SBA-05		SBA-06		SBA-07		SBA-08	
Date collected	5/28/92		5/29/92		5/28/92		5/28/92		5/28/92	
Date analyzed	6/14/92		6/14/92		6/14/92		6/14/92		6/14/92	
Percent moisture	27		37		39		38		53	
Dilution factor	4.0		1.0		9.0		1.0		1.0	
Units	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
Alpha-BHC	9.1	U	2.6	U	25	U	2.7	U	3.5	U
Beta-BHC	9.1	U	2.6	U	25	U	2.7	U	3.5	U
Delta-BHC	9.1	U	2.6	U	25	U	2.7	U	1.4	K
Gamma-BHC	9.1	U	2.6	U	25	U	2.7	U	3.5	U
Heptachlor	9.1	U	2.6	U	25	U	2.7	U	3.5	U
Aldrin	9.1	U	2.6	U	25	U	2.7	U	3.5	U
Heptachlor epoxide	9.1	U	2.6	U	25	U	2.7	U	2.7	K
Endosulfan I	9.1	U	2.6	U	15	K	2.7	U	2.3	K
Dieldrin	89	K	5.3	U	40	K	0.88	K	5.6	K
4,4'-DDE	18	U	5.3	U	9.5	K	1.2	K	2.5	K
Endrin	18	U	5.3	U	49	U	5.4	U	7.1	U
Endosulfan II	3.1	K	5.3	U	49	U	5.4	U	7.1	U
4,4'-DDD	4.9	K	10		49	U	11	K	16	K
Endosulfan sulfate	18	U	5.3	U	49	U	5.4	U	7.1	U
4,4'-DDT	18	U	11	K	49	U	5.4	U	7.1	U
Methoxychlor	91	U	26	U	250	U	27	U	35	U
Endrin ketone	18	U	5.3	U	49	U	5.4	U	7.1	U
Endrin aldehyde	18	U	5.3	U	34	K	5.4	U	3.8	K
Alpha-Chlordane	9.1	U	2.6	U	25	U	2.7	U	3.5	U
Gamma-Chlordane	9.1	U	2.6	U	25	U	2.7	U	3.5	U
Toxaphene	910	U	260	U	2500	U	270	U	350	U
Aroclor-1016	180	U	53	U	490	U	54	U	71	U
Aroclor-1221	370	U	110	U	980	U	110	U	140	U
Aroclor-1232	180	U	53	U	490	U	54	U	71	U
Aroclor-1242	180	U	53	U	490	U	54	U	71	U
Aroclor-1248	180	U	53	U	490	U	54	U	71	U
Aroclor-1254	1600		53	U	490	U	54	U	71	U
Aroclor-1260	180	U	53	U	1800		73		190	

NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SGD # SBB07

Sample no.	SBB-01		SBB-02		SBB-03		SBB-04		SBB-05	
Date collected	5/19/92		5/19/92		5/19/92		5/19/92		5/19/92	
Date analyzed	6/13/92		6/13/92		6/13/92		6/13/92		6/13/92	
Percent moisture	43		12		18		16		15	
Dilution factor	1.0		1.0		1.0		1.0		1.0	
Units	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
Alpha-BHC	2.9	U	1.9	U	2.0	U	2.0	U	2.0	U
Beta-BHC	2.9	U	1.9	U	2.0	U	2.0	U	2.0	U
Delta-BHC	2.9	U	1.9	U	2.0	U	2.0	U	2.0	U
Gamma-BHC	2.9	U	1.9	U	2.0	U	2.0	U	2.0	U
Heptachlor	2.9	U	1.9	U	2.0	U	2.0	U	2.0	U
Aldrin	2.9	U	1.9	U	2.0	U	2.0	U	2.0	U
Heptachlor epoxide	2.9	U	1.9	U	2.0	U	2.0	U	2.0	U
Endosulfan I	2.9	U	1.9	U	2.0	U	2.0	U	2.0	U
Dieldrin	5.8	U	3.8	U	4.1	U	4.0	U	3.9	U
4,4'-DDE	5.8	U	3.8	U	4.1	U	4.0	U	3.9	U
Endrin	5.8	U	3.8	U	4.1	U	4.0	U	3.9	U
Endosulfan II	5.8	U	3.8	U	4.1	U	4.0	U	3.9	U
4,4'-DDD	5.8	U	3.8	U	4.1	U	4.0	U	3.9	U
Endosulfan sulfate	5.8	U	3.8	U	4.1	U	4.0	U	3.9	U
4,4'-DDT	5.8	U	3.8	U	4.1	U	4.0	U	3.9	U
Methoxychlor	29	.U	19	.U	20	U	20	U	20	U
Endrin ketone	5.8	U	3.8	U	4.1	U	4.0	U	3.9	U
Endrin aldehyde	5.8	U	3.8	U	4.1	U	4.0	U	3.9	U
Alpha-Chlordane	2.9	U	1.9	U	2.0	U	2.0	U	2.0	U
Gamma-Chlordane	2.9	U	1.9	U	2.0	U	2.0	U	2.0	U
Toxaphene	290	U	190	U	200	U	200	U	200	U
Aroclor-1016	58	U	38	U	41	U	40	U	39	U
Aroclor-1221	120	U	76	U	81	U	79	U	78	U
Aroclor-1232	58	U	38	U	41	U	40	U	39	U
Aroclor-1242	58	U	38	U	41	U	40	U	39	U
Aroclor-1248	58	U	38	U	41	U	40	U	39	U
Aroclor-1254	58	U	38	U	41	U	40	U	39	U
Aroclor-1260	58	U	38	U	41	U	40	U	39	U

DATA SUMMARY - PESTICIDES/PCBS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SGD # SBB07

Sample no.	SBB-07		SBB-08		SBB-09	
Date collected	5/18/92		5/18/92		5/18/92	
Date analyzed	6/13/92		6/13/92		6/13/92	
Percent moisture	15		15		13	
Dilution factor	1.0		1.0		1.0	
Units	ug/kg		ug/kg		ug/kg	
Alpha-BHC	2.0	U	2.0	U	1.9	U
Beta-BHC	2.0	U	2.0	U	1.9	U
Delta-BHC	2.0	U	2.0	U	1.9	U
Gamma-BHC	2.0	U	2.0	U	1.9	U
Heptachlor	2.0	U	2.0	U	1.9	U
Aldrin	2.0	U	2.0	U	1.9	U
Heptachlor epoxide	2.0	U	2.0	U	1.9	U
Endosulfan I	2.0	U	2.0	U	1.9	U
Dieldrin	3.9	U	3.9	U	3.8	U
4,4'-DDE	3.9	U	3.9	U	3.8	U
Endrin	3.9	U	3.9	U	3.8	U
Endosulfan II	3.9	U	3.9	U	3.8	U
4,4'-DDD	3.9	U	3.9	U	3.8	U
Endosulfan sulfate	3.9	U	3.9	U	3.8	U
4,4'-DDT	3.9	U	3.9	U	3.8	U
Methoxychlor	20	U	20	U	19	.U
Endrin ketone	3.9	U	3.9	U	3.8	U
Endrin aldehyde	3.9	U	3.9	U	3.8	U
Alpha-Chlordane	2.0	U	2.0	U	1.9	U
Gamma-Chlordane	2.0	U	2.0	U	1.9	U
Toxaphene	200	U	200	U	190	U
Aroclor-1016	39	U	39	U	38	U
Aroclor-1221	78	U	78	U	77	U
Aroclor-1232	39	U	39	U	38	U
Aroclor-1242	39	U	39	U	38	U
Aroclor-1248	39	U	39	U	38	U
Aroclor-1254	39	U	39	U	38	U
Aroclor-1260	39	U	39	U	38	U

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # SBB07

Sample no.	RSB02	SBB01	SBB02	SBB03	SBB04
Date collected	5/19/92	5/19/92	5/19/92	5/19/92	5/19/92
Percent solids	NA	57.3	87.9	82.3	84.2
Dilution factor	1	1	1	1	1
Units	ug/L	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	39.9	14600	8200	3360	5050
Antimony	18.0 U	8.0 L	4.1 R	4.4 R	4.5 R
Arsenic	2.0 U	60.5 J	2.2 J	5.7 J	0.98 J
Barium	3.0 U	1480	27.0	7.0	12.1
Beryllium	2.0 U	5.6	0.45 U	0.49 U	0.49 U
Cadmium	3.0 U	1.3	0.68 U	0.74 U	0.74 U
Calcium	541	9290	311	352	517
Chromium	8.0 U	24.9	8.6	6.0	7.5
Cobalt	8.0 U	16.2	1.8 U	2.0 U	2.0 U
Copper	2.0 U	63.6	3.8	2.1	2.8
Iron	45.0	22700	6530	3820	3340
Lead	1.0 U	19.8 J	4.6 J	3.1 J	2.9 J
Magnesium	88.5	2180	487	399	438
Manganese	3.0 U	63.5 J	47.2 J	14.6 J	12.1 J
Mercury	0.20 U	0.68	0.10 U	0.12 U	0.13 U
Nickel	11.0 U	38.7 J	5.2 J	3.5 J	4.3 J
Potassium	236 U	2230	316	389	423
Selenium	2.0 U	5.7 J	0.47 U	0.50 U	0.48 UL
Silver	2.0 U	0.73 U	0.45 U	0.49 U	0.49 U
Sodium	225	1250	515	399	552
Thallium	1.0 U	2.0	0.47 B	0.45 B	0.65 B
Vanadium	4.0 U	149	12.8	10.2	9.5
Zinc	24.9	47.9 J	17.1 J	7.9 J	18.6 J
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # SBB07

Sample no.	SBB05	SBB07	SBB08	SBB09
Date collected	5/19/92	5/18/92	5/18/92	5/18/92
Percent solids	85.2	85.4	85.2	87.5
Dilution factor	1	1	1	1
Units	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	6090	15500	3440	7140
Antimony	4.3 R	0.02 R	4.1 R	4.0 R
Arsenic	1.0 J	2.5 J	0.66 J	1.1 J
Barium	14.6	41.9	9.5	19.2
Beryllium	0.48 U	0.49 U	0.46 U	0.44 U
Cadmium	0.72 U	0.73 U	0.69 U	0.67 U
Calcium	544	782	361	302
Chromium	6.4	18.3	6.5	5.9
Cobalt	1.9 U	2.0 U	1.8 U	1.8 U
Copper	3.1	5.8	1.9	3.1
Iron	3880	13500	2010	3380
Lead	3.1 J	8.6 J	2.1 J	5.5 J
Magnesium	358	938	314	477
langanese	12.3 J	17.2 J	9.2 J	6.8 J
Mercury	0.13 U	0.11 U	0.10 U	0.10 U
Nickel	3.9 J	4.7 J	3.3 J	4.8 J
Potassium	320	682	276	329
Selenium	0.47 U	0.48 UL	0.46 U	0.47 U
Silver	0.48 U	0.49 U	0.46 U	0.44 U
Sodium	561	402	243	312
Thallium	0.64 B	0.50 B	0.59 B	0.56 B
Vanadium	9.3	26.6	6.2	10.4
Zinc	13.2 J	26.0 J	6.0 J	6.1 J
Cyanide	Q	Q	Q	Q

AWD
TECHNOLOGIES
A Subsidiary of
The Dow Chemical Company

PGH-93-RKC-041

DATE January 12, 1993

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Richard K. Cambotti RKC
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Project Number CTO-84
SDG Number GWB201

Samples:

GWB201	GWB204	GWB211	GWB217
GWB202	GWB205	GWB214	GWB218
GWB203	GWB206	GWB216	GWB224

Trip Blanks:

TBB205	TBB206	TBB207
TBB208	TBB209	TBB210

Rinsate Blanks:

RSB201	RSB202

AWD Technologies, Inc.
Penn Center West Building III Suite 300 Pittsburgh Pennsylvania 15276 Telephone 412 788 2717 Fax 412 788 1316

Overview

The sample delivery group (SDG) for the Navy CLEAN Program's Camp Allen Landfill Site contained 20 aqueous samples including 2 rinsate and 6 trip blanks. The samples were analyzed for U.S. EPA, Contract Laboratory Program (CLP) Target Compound List (TCL) volatile organic analytes (VOAs), semivolatile organic analytes (SVOAs), pesticides/polychlorinated biphenyl analytes, and CLP Target Analyte List (TAL) metals according to CLP methods.

Summary

All analyses were successfully determined for all applicable samples. The quality of the analytical data was evaluated on the basis of the quality assurance/quality control (QA/QC) criteria defined by the U.S. EPA, CLP Statements of Work for Organic (4/89) and Inorganic (9/91) Analyses and according to the U.S. EPA, Region III, Modifications to National Functional Guidelines for Organic Data Review (OLMO 1.0-01M01.6, 6/92) and Inorganic Data Review (6/88). Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data usability are discussed below.

Minor Issues

Sample spike recoveries for total antimony, arsenic, and thallium were less than the recommended 75 percent. Therefore, positive results and detection limits for the total analysis of these metals are qualified "L" and "UL", respectively, to indicate that reported results may be biased low (actual concentrations may be higher) and the possibility of false negative results exists.

Sample spike recoveries for total chromium, manganese, selenium, vanadium, and zinc, as well as dissolved mercury, selenium, and thallium were greater than the recommended 125 percent. Accordingly, positive results for these analytes are qualified "K", biased high, and actual results may be less than those reported.

Acetone and 2-butanone were reported in the analysis of laboratory and/or field QC blanks. Therefore, positive results less than ten (10) times the highest level of blank contamination reported are qualified "B", indicating that these compounds are not detected above quality control blank concentration levels.

Aluminum, arsenic, cadmium, chromium, copper, lead, thallium, and zinc were reported in the analysis of laboratory and/or field QC blanks associated with this sample delivery group. Therefore, both total and dissolved samples analysis results less than five times the highest applicable blank contaminant level are qualified "B", indicating that these metals are not detected above QC blank concentrations.

Volatile fraction recovery of the 1,2-dichloroethane-d4 system monitoring compound in the analysis and reanalysis of sample GWB206 was greater than the recommended 114 percent. Positive sample results and sample detection limits are qualified "J" and "UJ", respectively, to denote approximate values.

Recovery of the volatile fraction internal standard, chlorobenzene-d5 in the analysis of sample GWB216 were less than the recommended acceptable range. Therefore, the positive sample results and sample detection limits for volatile compounds quantified on the basis of this internal standard are qualified "J" and "UJ", respectively, to indicate approximate values.

Area counts for the semivolatile internal standards chrysene-d12 and perylene-d12 in the analyses and reanalyses of samples GWB201, GWB202, GWB206, GWB211, GWB216, GWB218, and GWB224 were less than the recommended acceptable range. Detection limits for semivolatile compounds quantified on the basis of these internal standards are qualified "UJ", estimated.

Di-n-butylphthalate and bis(2-ethylhexyl)phthalate were reported in the analysis of laboratory and/or field QC blanks. Positive sample results less than ten (10) times the highest level of blank contamination reported are qualified "B", indicating that these compounds are not detected above quality control blank concentration levels.

Volatile and semivolatile tentatively identified compounds (TICs) were reviewed for appropriate mass spectral identification and deleted if reported in associated laboratory of field QC blank analyses. Deletion is indicated by a line through the reported value in the data summary Form I pages.

Notes

Duplicate analysis for total arsenic and chromium and method of standard addition analysis for total arsenic in samples GWB214 and GWB218 exceeded recommended criteria. Results for these analytes should be considered estimated and biased according to the recovery of analytical spike results.

Initial calibration relative standard deviation (RSD) for the volatile compound 2-butanone exceeded the recommended response factor of 30 percent criteria and continuing calibration response factor percent difference (%D) for chloromethane, vinyl chloride, and acetone exceeded 25 percent. Data were not qualified on the basis of this criteria due to the lack of positive sample results or qualification by other criteria.

Initial calibration response factor RSD for the semivolatile compound 2,4-dinitrophenol exceeded the recommended 30 percent criteria, and continuing calibration response factor %D for 2-nitrophenol, 4-nitrophenol, 2,4-dinitrophenol, 3-nitroaniline, 4-nitroaniline, 4,6-dinitro-2-methylphenol, pentachlorophenol, bis(2-ethylhexyl)phthalate, and di-n-octylphthalate exceeded the recommended 25 percent criteria. Data were not qualified on the basis of this criteria due to the lack of positive sample results or qualification by other criteria.

Recovery of the decachlorobiphenyl pesticide/PCB surrogates in the analysis of all SDG-GWB201 samples except GWB211 were less than the recommended acceptable criteria. Recovery of the tetrachloro-m-xylene surrogates were acceptable. Data are not qualified on the basis of this criteria since positive results were not reported.

Evaluation of all fraction's analytical results for field duplicate samples GWB224 and GWB219 (reported in SDG-RSA02) reported relative percent differences (RPDs) exceeding advisory criteria. However, data were not qualified on this basis alone since this criteria is advisory and left to the judgement of the validator and review of potential matrix heterogeneity and field sampling methods.

The data were reviewed according to the criteria specified and should be accepted as qualified and presented in the Data Summary.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits qualified with UJ.
3. Appendix A - Results as reported by the laboratory
4. Appendix B - Tentatively Identified Compounds
5. Appendix C - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC COMPOUNDS (VOAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
IDG # GWB201

Sample no.	GWB201	GWB202	GWB203	GWB204	GWB205
Date collected	6/11/92	6/11/92	6/11/92	6/11/92	6/11/92
Date analyzed	6/16/92	6/16/92	6/17/92	6/17/92	6/19/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	12.5	3.3
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	120 U	33 U
Bromomethane	10 U	10 U	10 U	120 U	33 U
Vinyl chloride	10 U	10 U	10 U	940 J	300
Chloroethane	10 U	10 U	10 U	120 U	33 U
Methylene chloride	10 U	10 U	10 U	120 U	33 U
Acetone	10 B	10 U	10 U	44 B	33 U
Carbon disulfide	10 U	10 U	10 U	120 U	33 U
1,1-dichloroethene	10 U	10 U	10 U	120 U	37
1,1-dichloroethane	10 U	10 U	10 U	120 U	89
1,2-dichloroethene	10 U	10 U	7 J	1600	460
Chloroform	10 U	10 U	10 U	120 U	33 U
1,2-dichloroethane	10 U	10 U	10 U	58 J	180
2-butanone	10 U	10 U	10 U	82 B	33 U
1,1,1-trichloroethane	10 U	10 U	10 U	120 U	30 J
Carbon tetrachloride	10 U	10 U	10 U	120 U	33 U
Bromodichloromethane	10 U	10 U	10 U	120 U	33 U
1,2-dichloropropane	10 U	10 U	10 U	120 U	33 U
C-1,3-dichloropropene	10 U	10 U	10 U	120 U	33 U
Trichloroethene	10 U	10 U	10 U	44 J	520
Dibromochloromethane	10 U	10 U	10 U	120 U	33 U
1,1,2-trichloroethane	10 U	10 U	10 U	120 U	33 U
Benzene	10 U	10 U	10 U	29 J	410
T-1,3-dichloropropene	10 U	10 U	10 U	120 U	33 U
Bromoform	10 U	10 U	10 U	120 U	33 U
4-methyl-2-pentanone	10 U	10 U	10 U	120 U	33 U
2-hexanone	10 U	10 U	10 U	120 U	33 U
Tetrachloroethene	10 U	10 U	10 U	120 U	8 J
1,2,2,2-tetrachloroethane	10 U	10 U	10 U	120 U	33 U
Toluene	10 U	10 U	10 U	120 U	33 U
Chlorobenzene	10 U	10 U	10 U	120 U	33 U
Ethylbenzene	10 U	10 U	10 U	120 U	33 U
Styrene	10 U	10 U	10 U	120 U	33 U
Xylenes(total)	10 U	10 U	10 U	120 U	33 U

DATA SUMMARY - VOLATILE ORGANIC COMPOUNDS (VOAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	GWB206	GWB211	GWB214	GWB216	GWB217
Date collected	6/11/92	6/11/92	6/12/92	6/12/92	6/12/92
Date analyzed	6/17/92	6/16/92	6/19/92	6/17/92	6/22/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	3.3
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 UJ	10 U	10 U	10 U	33 U
Bromomethane	10 UJ	10 U	10 U	10 U	33 U
Vinyl chloride	10 UJ	10 U	10 U	10 U	33 U
Chloroethane	10 UJ	10 U	10 U	10 U	33 U
Methylene chloride	10 UJ	10 U	10 U	10 U	33 U
Acetone	10 UJ	10 U	10 U	10 U	33 U
Carbon disulfide	10 UJ	10 U	10 U	10 U	33 U
1,1-dichloroethene	10 UJ	10 U	10 U	10 U	33 U
1,1-dichloroethane	10 UJ	10 U	10 U	10 U	33 U
1,2-dichloroethene	4 J	10 U	9	10 U	33 U
Chloroform	10 UJ	10 U	10 U	10 U	33 U
1,2-dichloroethane	130 J	10 U	10 U	6 J	450
2-butanone	10 UJ	10 U	10 U	10 U	33 U
1,1,1-trichloroethane	10 UJ	10 U	10 U	10 U	33 U
Carbon tetrachloride	10 UJ	10 U	10 U	10 U	33 U
Bromodichloromethane	10 UJ	10 U	10 U	10 U	33 U
1,2-dichloropropane	10 UJ	10 U	10 U	10 U	33 U
C-1,3-dichloropropene	10 UJ	10 U	10 U	10 U	33 U
Trichloroethene	3 J	10 U	35	3 J	33 U
Dibromochloromethane	10 UJ	10 U	10 U	10 U	33 U
1,1,2-trichloroethane	10 UJ	10 U	10 U	10 U	33 U
Benzene	10 UJ	10 U	10 U	10 U	33 U
T-1,3-dichloropropene	10 UJ	10 U	10 U	10 U	33 U
Bromoform	10 UJ	10 U	10 U	10 U	33 U
4-methyl-2-pentanone	10 UJ	10 U	10 U	10 UJ	33 U
2-hexanone	10 UJ	10 U	10 U	10 UJ	33 U
Tetrachloroethene	10 UJ	10 U	10 U	10 J	33 U
1,2,2,2-tetrachloroethane	10 UJ	10 U	10 U	10 UJ	33 U
Toluene	10 UJ	10 U	10 U	10 UJ	33 U
Chlorobenzene	10 UJ	10 U	10 U	10 UJ	33 U
Ethylbenzene	10 UJ	10 U	10 U	10 UJ	33 U
Styrene	10 UJ	10 U	10 U	10 UJ	33 U
Xylenes(total)	10 UJ	10 U	10 U	10 UJ	33 U

DATA SUMMARY - VOLATILE ORGANIC COMPOUNDS (VOAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
IDG # GWB201

Sample no.	GWB218	GWB224	RSB201	RSB202	TBB205
Date collected	6/12/92	6/11/92	6/11/92	6/12/92	6/11/92
Date analyzed	6/19/92	6/16/92	6/17/92	6/17/92	6/16/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	2 J	10 U	10 U	10 U
2-butanone	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroethane	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	49	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - VOLATILE ORGANIC COMPOUNDS (VOAS)
NAVY CLEAN PROGRAM/ CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	TBB206	TBB207	TBB208	TBB209	TBB210
Date collected	6/12/92	6/12/92	6/12/92	6/12/92	6/12/92
Date analyzed	6/17/92	6/19/92	6/19/92	6/17/92	6/19/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U
Acetone	5 J	9 J	8 J	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethene	10 U	10 U	10 U	10 U	10 U
1,1-dichloroethane	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U
1,2-dichloroethane	10 U	10 U	10 U	10 U	10 U
2-butanone	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U
1,2-dichloropropane	10 U	10 U	10 U	10 U	10 U
C-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U
1,1,2-trichloroethane	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U
T-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U
1,2,2,2-tetrachloroethane	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U
Xylenes(total)	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	GWB201	GWB202	GWB203	GWB204	GWB205
Date collected	6/11/92	6/11/92	6/11/92	6/11/92	6/11/92
Date extracted	6/15/92	6/15/92	6/15/92	6/15/92	6/15/92
Date analyzed	6/16/92	6/17/92	6/17/92	6/17/92	6/17/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	10 U	10 U	0.8 J	0.7 J	6 J
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	3 J	2 J
1,2-dichlorobenzene	10 U	10 U	10 U	16	3 J
2-methylphenol	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	0.6 J	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	4 J
4-chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U	2 J
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	2 J	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	GWB201	GWB202	GWB203	GWB204	GWB205
Date collected	6/11/92	6/11/92	6/11/92	6/11/92	6/11/92
Date extracted	6/15/92	6/15/92	6/15/92	6/15/92	6/15/92
Date analyzed	6/16/92	6/17/92	6/17/92	6/17/92	6/17/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	0.6 J	10 U	10 U	1 J	2 J
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	0.6 B	3 B	2 B
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 UJ	10 UJ	10 U	10 U	10 U
Butylbenzylphthalate	10 UJ	10 UJ	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 UJ	10 UJ	10 U	10 U	10 U
Benzo(a)anthracene	10 UJ	10 UJ	10 U	10 U	10 U
Chrysene	10 UJ	10 UJ	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	10 UJ	10 UJ	10 U	1 B	2 B
Di-n-octylphthalate	10 UJ	10 UJ	10 U	10 U	10 U
Benzo(b)fluoranthene	10 UJ	10 UJ	10 U	10 U	10 U
Benzo(k)fluoranthene	10 UJ	10 UJ	10 U	10 U	10 U
Benzo(a)pyrene	10 UJ	10 UJ	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 UJ	10 UJ	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 UJ	10 UJ	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	GWB206	GWB211	GWB214	GWB216	GWB217
Date collected	6/11/92	6/11/92	6/12/92	6/12/92	6/12/92
Date extracted	6/15/92	6/15/92	6/15/92	6/15/92	6/15/92
Date analyzed	6/17/92	6/16/92	6/17/92	6/17/92	6/17/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	10 U	10 U	10 U	0.6 J	1 J
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	GWB206	GWB211	GWB214	GWB216	GWB217
Date collected	6/11/92	6/11/92	6/12/92	6/12/92	6/12/92
Date extracted	6/15/92	6/15/92	6/15/92	6/15/92	6/15/92
Date analyzed	6/17/92	6/16/92	6/17/92	6/17/92	6/17/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	1 J	10 U	10 U	0.7 J	0.6 J
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	1 B	10 U	4 B	4 B	7 B
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 UJ	10 UJ	10 U	10 U	10 U
Butylbenzylphthalate	10 UJ	10 UJ	10 U	10 UJ	10 U
3,3'-dichlorobenzidine	10 UJ	10 UJ	10 U	10 UJ	10 U
Benzo(a)anthracene	10 UJ	10 UJ	10 U	10 UJ	10 U
Chrysene	10 UJ	10 UJ	10 U	10 UJ	10 U
Bis(2-ethylhexyl)phthalate	10 UJ	10 UJ	10 U	10 UJ	10 U
Di-n-octylphthalate	10 UJ	10 UJ	10 U	10 UJ	10 U
Benzo(b)fluoranthene	10 UJ	10 UJ	10 U	10 UJ	10 U
Benzo(k)fluoranthene	10 UJ	10 UJ	10 U	10 UJ	10 U
Benzo(a)pyrene	10 UJ	10 UJ	10 U	10 UJ	10 U
Indeno(1,2,3-cd)pyrene	10 UJ	10 UJ	10 U	10 UJ	10 U
Dibenz(a,h)anthracene	10 UJ	10 UJ	10 U	10 UJ	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	GWB218	GWB224	RSB201	RSB202
Date collected	6/12/92	6/11/92	6/11/92	6/12/92
Date extracted	6/15/92	6/15/92	6/15/92	6/15/92
Date analyzed	6/17/92	6/16/92	6/17/92	6/17/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
Phenol	0.6 J	0.8 J	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U	0.7 J
Naphthalene	10 U	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMIVOLATILE ORGANIC COMPOUNDS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	GWB218	GWB224	RSB201	RSB202
Date collected	6/12/92	6/11/92	6/11/92	6/12/92
Date extracted	6/15/92	6/15/92	6/15/92	6/15/92
Date analyzed	6/17/92	6/16/92	6/17/92	6/17/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U
Di-n-butylphthalate	4 B	10 U	0.9 J	3 J
Fluoranthene	10 U	10 U	10 U	10 U
Pyrene	10 UJ	10 UJ	10 U	10 U
Butylbenzylphthalate	10 UJ	10 UJ	10 U	10 U
3,3'-dichlorobenzidine	10 UJ	10 UJ	10 U	10 U
Benzo(a)anthracene	10 UJ	10 UJ	10 U	10 U
Chrysene	10 UJ	10 UJ	10 U	10 U
Bis(2-ethylhexyl)phthalate	10 UJ	10 UJ	10 U	0.7 J
Di-n-octylphthalate	10 UJ	10 UJ	10 U	10 U
Benzo(b)fluoranthene	10 UJ	10 UJ	10 U	10 U
Benzo(k)fluoranthene	10 UJ	10 UJ	10 U	10 U
Benzo(a)pyrene	10 UJ	10 UJ	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 UJ	10 UJ	10 U	10 U
Dibenz(a,h)anthracene	10 UJ	10 UJ	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U

DATA SUMMARY - PESTICIDE/PCBS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	GWB201	GWB202	GWB203	GWB204	GWB205
Date collected	6/11/92	6/11/92	6/11/92	6/11/92	6/11/92
Date analyzed	7/04/92	7/04/92	7/04/92	7/04/92	7/04/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.005 J
Beta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.15
Heptachlor	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.10 U	0.009 J	0.10 U	0.10 U	0.043 J
4,4'-DDE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Endrin	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Endosulfan II	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
4,4'-DDD	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Endosulfan sulfate	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
4,4'-DDT	0.10 U	0.015 J	0.10 U	0.10 U	0.10 U
Methoxychlor	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Endrin ketone	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Endrin aldehyde	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Alpha-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Toxaphene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Aroclor-1016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1221	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Aroclor-1232	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1242	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1248	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1254	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1260	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

DATA SUMMARY - PESTICIDE/PCBS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	GWB206	GWB211	GWB214	GWB216	GWB217
Date collected	6/11/92	6/11/92	6/12/92	6/12/92	6/12/92
Date analyzed	7/04/92	7/04/92	7/05/92	7/05/92	7/05/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Beta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.009 J	0.10 U	0.10 U	0.007 J	0.10 U
4,4'-DDE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Endrin	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Endosulfan II	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
4,4'-DDD	0.018 J	0.10 U	0.10 U	0.10 U	0.10 U
Endosulfan sulfate	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
4,4'-DDT	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Methoxychlor	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Endrin ketone	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Endrin aldehyde	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Alpha-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Toxaphene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Aroclor-1016	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1221	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Aroclor-1232	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1242	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1248	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1254	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1260	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

DATA SUMMARY - PESTICIDE/PCBS
NAVY CLEAN PROGRAM / CAMP ALLEN LANDFILL
SDG # GWB201

Sample no.	GWB218	GWB224	RSB201	RSB202
Date collected	6/12/92	6/11/92	6/11/92	6/12/92
Date analyzed	7/05/92	7/04/92	7/04/92	7/04/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 U
Beta-BHC	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BHC	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-BHC	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.05 U	0.05 U	0.05 U	0.003 J
Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.10 U	0.10 U	0.10 U	0.10 U
4,4'-DDE	0.10 U	0.10 U	0.10 U	0.10 U
Endrin	0.10 U	0.10 U	0.10 U	0.10 U
Endosulfan II	0.10 U	0.10 U	0.10 U	0.10 U
4,4'-DDD	0.10 U	0.10 U	0.10 U	0.10 U
Endosulfan sulfate	0.10 U	0.10 U	0.10 U	0.10 U
4,4'-DDT	0.10 U	0.10 U	0.10 U	0.10 U
Methoxychlor	0.50 U	0.50 U	0.50 U	0.50 U
Endrin ketone	0.10 U	0.10 U	0.10 U	0.10 U
Endrin aldehyde	0.10 U	0.10 U	0.10 U	0.10 U
Alpha-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U
Toxaphene	5.0 U	5.0 U	5.0 U	5.0 U
Aroclor-1016	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1221	2.0 U	2.0 U	2.0 U	2.0 U
Aroclor-1232	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1242	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1248	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1254	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1260	1.0 U	1.0 U	1.0 U	1.0 U

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM /CAMP ALLEN LANDFILL
SDG # GWB201

Sample No.	GWB201	GWB202	GWB203	GWB204	GWB205
Date collected	6/11/92	6/11/92	6/11/92	6/11/92	6/11/92
Percent moisture	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	162000	51100	2840	88800	8230
Antimony	18 UL	18 UL	18 UL	18 UL	18 UL
Arsenic	27.2 L	20 L	20.7 L	32 L	10.7 B
Barium	296	210	33.8	228	46.1
Beryllium	6.3	2.3	2 U	4.1	2 U
Cadmium	17.8	6.4 B	3 U	14.1 B	3 U
Calcium	44900	35900	63000	12000	98800
Chromium	244 K	77.3 B	8 U	141 K	9.5 B
Cobalt	37.1	15.2	8 U	14.6	8 U
Copper	110	50.6	12.6 B	59.2	12.2 B
Iron	249000	86700	13700	183000	23200
Lead	92.5	60.2	2 B	44.8	4 B
Magnesium	27600	19600	3110	32500	19100
Manganese	810 K	889 K	218 K	906 K	1270 K
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	68.2	23.9	12	27.6	11 U
Potassium	16400	8160	2240	12200	8030
Selenium	10 U	10 U	10 U	10 U	2 U
Silver	2.4	2 U	2 U	2 U	2 U
Sodium	12900	12500	24100	62300	36100
Thallium	2.7 B	3 B	1 UL	2.9 B	1 UL
Vanadium	596 K	267 K	24.2 K	297 K	22.4 K
Zinc	393 K	355 K	199 K	231 K	168 K
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM /CAMP ALLEN LANDFILL
SDG # GWB201

Sample No.	GWB206	GWB211	GWB214	GWB216	GWB217	GWB218	GWB224
Date collected	6/11/92	6/11/92	6/12/92	6/12/92	6/12/92	6/12/92	6/11/92
Percent moisture	NA	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	146000	6200	40000	63900	1290	37600	133000
Antimony	18.3 L	18 UL	25.2 L	18 UL	18 UL	18 UL	18 UL
Arsenic	194 L	14.8 L	93.8 L	24.1 L	6.7 B	9.6 B	19.4 L
Barium	569	66.3	150	176	106	255	280
Beryllium	11.2	2 U	10.5	3.3	2 U	2 U	6.5
Cadmium	30.8	3 U	26.9	4.1 B	3.3 B	5.3 B	10.7 B
Calcium	705000	147000	408000	18700	199000	108000	113000
Chromium	542 K	26.2 B	232 K	85 B	8 U	64 B	213 K
Cobalt	99.2	8 U	181	25.8	8 U	8 U	62.8
Copper	225	10.9 B	31.8	38.1	5.6 B	37.7	80.6
Iron	428000	26900	382000	64700	11000	51500	169000
Lead	183	5.4 B	53.6	38.5	1.5 B	35	56.9
Magnesium	41800	5270	20200	14900	9040	16000	56000
Manganese	4270 K	293 K	4740 K	865 K	242 K	805 K	1930 K
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	179	11 U	203	37.5	11 U	17.5	58.8
Potassium	15700	2400	7480	7960	6650	8680	15100
Selenium	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Silver	2.9	2 U	3.2	2 U	2 U	2 U	2 U
Sodium	24900	15300	42000	19000	149000	15500	15800
Thallium	1 UL	2.9 B	1 UL	1 UL	1 UL	2.1 B	1.6 B
Vanadium	769 K	48.4 K	426 K	175 K	4 .0 U	110 K	421 K
Zinc	576 K	205 K	985 K	331 K	151 B	206 K	418 K
Cyanide	Q	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM /CAMP ALLEN LANDFILL
SDG # GWB201

Sample No.	GWB201F	GWB202F	GWB203F	GWB204F	GWB205F	GWB206F
Date collected	6/11/92	6/11/92	6/11/92	6/11/92	6/11/92	6/11/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	201	96.1 B	34.1 B	168 B	50.6 B	98.9 B
Antimony	18 U	18 U	18 U	18 U	18 U	18 U
Arsenic	7 B	16.4	4.5 B	3.6 B	3.9 B	4 B
Barium	13.4	49.9	18.6	53.3	26.4	43.8
Beryllium	2 U	2 U	2 U	2 U	2 U	2 U
Cadmium	3 U	5.9 B	3 U	8.1 B	3 U	3 U
Calcium	39400	33800	48300	11300	97300	74600
Chromium	8 U	8 U	8 U	8 U	8 U	8 U
Cobalt	8 U	8 U	8 U	8 U	10.3	8 U
Copper	10.5	2.1 B	8.6 B	2 U	5.8 B	8.4 B
Iron	18100	27900	496	64600	5500	170 B
Lead	1 U	1 U	1 U	1 U	1 U	1 U
Magnesium	10900	14300	1940	24800	17900	2710
Manganese	275	704	85.3	715	1180	110
Mercury	0.2 UL	0.2 UL	0.2 UL	0.2 UL	0.2 UL	0.2 UL
Nickel	11 U	11 U	11 U	11 U	11 U	11 U
Potassium	3470	3930	1430	3510	7240	2180
Selenium	2 UL	2 UL	2 UL	10 UL	2 UL	10 UL
Silver	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	10700	11000	22000	64600	34000	18700
Thallium	2.7 B	3 B	1 UL	2.7 B	1 UL	1 UL
Vanadium	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	21.5 B	36.8 B	16 B	29 B	24.5 B	13.1 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM /CAMP ALLEN LANDFILL
SDG # GWB201

Sample No.	GWB211F	GWB214F	GWB216F	GWB217F	GWB218F	GWB224F
Date collected	6/11/92	6/12/92	6/12/92	6/12/92	6/12/92	6/11/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	46.8 B	57.2 B	85.1 B	60.4 B	113 B	108 B
Antimony	18 U	18 U	18 U	18 U	18 U	18 U
Arsenic	2 U	2 U	2.4 B	3.2 B	2 U	2 U
Barium	29.2	16.8	21.7	96	64.2	16.6
Beryllium	2 U	2 U	2 U	2 U	2 U	2 U
Cadmium	3 U	3 U	3.6 B	3 U	3 U	3 U
Calcium	62200	59900	13600	197000	108000	109000
Chromium	8 U	8 U	8 U	8 U	8 U	8 U
Cobalt	8 U	8 U	13.3	8 U	8 U	23.1
Copper	3.4 B	4.3 B	4.9 B	2.6 B	4.2 B	4.4 B
Iron	37 B	641	1740	4150	536	2540
Lead	1 U	1 U	1 U	1 U	1 U	1 U
Magnesium	2220	5690	7680	8310	13100	40300
Manganese	29.3	134	573	198	595	1410
Mercury	0.2 UL	0.2 UL	0.2 UL	0.2 UL	0.2 UL	0.2 UL
Nickel	11 U	11 U	11 U	11 U	11 U	11 U
Potassium	1710	3000	2530	6080	5870	4390
Selenium	2 UL	10 UL	2 UL	10 UL	2 UL	10 UL
Silver	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	13400	40700	15300	155000	14300	13700
Thallium	2.9 B	1 UL	1 UL	1 UL	2.6 B	1.8 B
Vanadium	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	17.6 B	18 B	46.9 B	15.9 B	17.3 B	54.7 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - DISSOLVED
NAVY CLEAN PROGRAM /CAMP ALLEN LANDFILL
SDG # GWB201

Sample No.	GWB211F	GWB214F	GWB216F	GWB217F	GWB218F	GWB224F
Date collected	6/11/92	6/12/92	6/12/92	6/12/92	6/12/92	6/11/92
Date analyzed	6/16/92	6/19/92	6/17/92	6/22/92	6/19/92	6/16/92
Percent moisture	NA	NA	NA	NA	NA	NA
Dilution factor	1	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	46.8 B	57.2 B	85.1 B	60.4 B	113 B	108 B
Antimony	18 U	18 U	18 U	18 U	18 U	18 U
Arsenic	2 U	2 U	2.4 B	3.2 B	2 U	2 U
Barium	29.2	16.8	21.7	96	64.2	16.6
Beryllium	2 U	2 U	2 U	2 U	2 U	2 U
Cadmium	3 U	3 U	3.6 B	3 U	3 U	3 U
Calcium	62200	59900	13600	197000	108000	109000
Chromium	8 U	8 U	8 U	8 U	8 U	8 U
Cobalt	8 U	8 U	13.3	8 U	8 U	23.1
Copper	3.4 B	4.3 B	4.9 B	2.6 B	4.2 B	4.4 B
Iron	37 B	641	1740	4150	536	2540
Lead	1 U	1 U	1 U	1 U	1 U	1 U
Magnesium	2220	5690	7680	8310	13100	40300
Manganese	29.3	134	573	198	595	1410
Mercury	0.2 UL	0.2 UL	0.2 UL	0.2 UL	0.2 UL	0.2 UL
Nickel	11 U	11 U	11 U	11 U	11 U	11 U
Potassium	1710	3000	2530	6080	5870	4390
Selenium	2 UL	10 UL	2 UL	10 UL	2 UL	10 UL
Silver	2 U	2 U	2 U	2 U	2 U	2 U
Sodium	13400	40700	15300	155000	14300	13700
Thallium	2.9 B	1 UL	1 UL	1 UL	2.6 B	1.8 B
Vanadium	4	4	4	4	4	4
Zinc	17.6 B	18 B	46.9 B	15.9 B	17.3 B	54.7 B
Cyanide	Q	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS - TOTAL AND DISSOLVED
NAVY CLEAN PROGRAM /CAMP ALLEN LANDFILL
SDG # GWB201

Sample No.	RSB201	RSB201F	RSB202	RSB202F
Date collected	6/11/92	6/11/92	6/12/92	6/12/92
Percent moisture	NA	NA	NA	NA
Dilution factor	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L
Aluminum	64.2	33.0	29.2	18.7
Antimony	18.0 U	18.0 U	18.0 U	18.0 U
Arsenic	2.0 U	2.0 U	2.2	2.0 U
Barium	6.3	3.0 U	3.0 U	3.0 U
Beryllium	2.0 U	2.0 U	2.0 U	2.0 U
Cadmium	3.0 U	3.0 U	3.5	4.0
Calcium	424	527	471	450
Chromium	22.2	8.0 U	8.0 U	8.0 U
Cobalt	8.0 U	8.0 U	8.0 U	8.0 U
Copper	4.7	2.7	2.9	2.9
Iron	95.0	86.0	24.0	48.0
Lead	1.2	1.0	1.0 U	1.0 U
Magnesium	33.4	22.1	21.6	26.4
Manganese	8.9	3.0	3.0 U	3.0 U
Mercury	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	11.0 U	11.0 U	11.0 U	11.0 U
Potassium	236 U	236 U	236 U	236 U
Selenium	10.0 U	10.0 U	10.0 U	2.0 U
Silver	2.0 U	2.0 U	2.0 U	2.5
Sodium	302	324	260	334
Thallium	2.6	2.6	1.0 U	1.0 U
Vanadium	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	31.5	22.4	18.9	19.0
Cyanide	Q	Q	Q	Q

AWD TECHNOLOGIES

A Subsidiary of
The Dow Chemical Company

PGH-93-TMJ-120

DATE February 2, 1993

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Contract Number 68-D1-0085
Case Number 19084, SDG Number SSB05

Samples:

SDA26	SDA27	SDA28	SDA30	SDA31
SSA01	SSA02	SSA03	SSA04	SSA05
SSB05	SSB06	SSB07	SSB08	SSB09
SSB10				

Field Blanks:

TBA-301	TBB-301 (Trip Blanks)
FB201	FB202
FB201F	FB202F

Field Duplicates:

SDA30 SDA31

AWD Technologies, Inc.
Penn Center West Building III Suite 300 Pittsburgh Pennsylvania 15276 Telephone 412 788 2717 Fax 412 788 1316

Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 16 soil samples plus 2 trip blanks and 4 field blanks. The samples were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), pesticides/PCBs, and TAL metals by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed in all samples. The quality of organic analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, field duplicates, compound identification, and compound quantitation. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, matrix spikes, laboratory and field blanks, laboratory duplicates, laboratory control samples, GFAA analytical spike recoveries, ICP serial dilutions, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Minor Issues

Acetone, chloroform, bromodichloromethane, dibromochloromethane, di-n-butylphthalate, bis(2-ethylhexyl)phthalate, aluminum, barium, beryllium, calcium, copper, iron, lead, magnesium, manganese, potassium, silver, sodium, vanadium, and zinc were reported in laboratory and/or field blanks. Therefore, positive results for acetone, di-n-butylphthalate, and bis(2-ethylhexyl)phthalate which are less than ten (10) times the blank concentrations are qualified "B". Also, results for barium, beryllium, copper, magnesium, potassium, silver, sodium, and zinc less than five (5) times the blank concentrations are qualified "B". No results for the other above mentioned compounds are qualified because either there were no positive results for these compounds in any samples or sample concentrations were greater than five (5) times the blanks levels.

Percent differences (%Ds) for bromomethane, vinyl chloride, indeno(1,2,3-cd) pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene exceeded the 25 percent quality control limit in continuing calibrations. Therefore, quantitation limits of these compounds in samples associated with the calibrations are qualified "UJ", estimated.

Pesticide surrogate spike recoveries for most samples were below quality control limits. Therefore, positive results for all compounds in affected samples are qualified "L" biased low, and quantitation limits are qualified "UL", biased low. Please note that several compounds have received "J" qualifiers because concentrations are below CRQLs (see notes below). In cases

where a compound receives "J" and "L" qualifiers, the "J" qualifier takes precedence and the concentration is considered to be an estimated value. Also, note that for samples SSA03 and SSB06 surrogate recoveries were low on the primary column but high on the confirmation column. Because results are reported from the primary column, results for these two samples are qualified "L" and "UL", as described above.

The DCB pesticide surrogate spike recovery for Sample SSA04 exceeded the advisory quality control range on the primary column but was 0 percent on the confirmation column. Examination of the chromatogram of the confirmation column showed an unresolved peak at the expected retention time of DBC which could not be quantitated by the laboratory. Because the results reported by the laboratory are from the primary column and because surrogate spike recoveries for this column were high, positive results for Sample SSA04 are qualified "K", biased high. Please note that some results in this Sample were flagged "J" by the laboratory because they were below contract required quantitation limits (CRQLs). In these cases the "J" qualifier takes precedence over the "K" qualifier and such results are qualified "J", estimated, on the data summary.

In the pesticide/PCB analysis, sample SDA27 required dilution because a number of analytes exceeded the linear calibration range. The laboratory reported results of the diluted analysis in Sample SDA27DL and flagged positive results with a "D", indicating that they were from the diluted run (See Appendix A). Results from the initial run (SDA27) and diluted run (SDA27DL) have been combined on the data summary as follows: Non-detected results, i.e., quantitation limits, are reported from the initial run; positive results, with the exception of dieldrin and 4,4'-DDT, are reported from the diluted run; results for dieldrin and 4,4'-DDT, which had been diluted out in the rerun analysis, are reported from the initial run. All results reported from the initial run are qualified "L" or "UL", biased low, because of low surrogate spike recoveries. Appendix A includes results of the initial and diluted analyses.

Table 1 lists results of the field duplicate analysis of compounds which had positive results in at least one sample. Of the compounds shown in the table, only the relative percent differences (RPDs) for 4,4'-DDE and 4,4'-DDD exceed the soil 35 percent advisory quality control limit or the $\pm$ 2xCRQL criterion for results less than 5 times the CRQL. Therefore, positive results for 4,4'-DDE and 4,4'-DDD are qualified "J", estimated, in the duplicate pair (SDA30 and SDA31) only. Please note that the 4,4'-DDE result in Sample SDA31, which had previously been qualified "L" because of low surrogate spike recoveries, is now qualified "J". The field duplicate pair was not analyzed for metals.

Matrix spike recoveries for antimony and selenium were below the 75 percent quality control limit. Therefore, quantitation limits for these analytes are qualified "UL", biased low.

Serial dilution results for barium, calcium, and magnesium exceeded the 10 percent quality control limit. Therefore, positive results for these analytes are qualified "J", estimated.

The analytical spike recovery for arsenic in Sample SSA01 exceeded the 115 percent quality control limit. Therefore, the positive arsenic result in this sample is qualified "K", biased high.

Analytical spike recoveries for selenium and thallium exceeded the 115 percent quality control limit in a number of samples. No data are qualified on the basis of these high recoveries because there were no positive results for selenium or thallium in any samples.

Notes

Table 2 provides a comparison of the concentrations of unspiked compounds from Sample SSB09, SSB09MS, and SSB09MSD. Examination of percent relative standard deviations (%RSDs) shown in the table indicates that the %RSDs range from 9.8 to 21.3 percent. At the present time the U.S. EPA does not provide guidelines for evaluating data on the basis of unspiked MS/MSD analytes. Therefore, no results are evaluated on the basis of the data in Table 2.

Some results of the pesticide/PCB analysis (Appendix A) were flagged "P" by the laboratory (See Appendix A) because percent differences (%Ds) between concentrations reported on the primary and confirmation columns were greater than 25 percent. No data are qualified on the basis of these %Ds because qualification of data is not required by current guidelines. Appendix C shows the laboratory's results on each column.

Results for acetone, chlorobenzene, di-n-butylphthalate. bis(2-ethylhexyl)phthalate, butylbenzylphthalate, naphthalene, acenaphthene, phenanthrene, anthracene, carbazole, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, aldrin, endosulfan I, endrin ketone, endrin aldehyde, alpha-chlordane, gamma-chlordane, gamma-BHC (Lindane), 4,4'-DDE, 4,4'-DDD, 4,4'-DDT, heptachlor epoxide, dieldrin, and aroclor-1260 in some samples are below contract required quantitation limits (CRQL). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated, on the data summaries, unless qualified because of blank contamination as described in Minor Issues above.

In the semivolatile analysis, 2-(ethoxyethoxy)ethanol was reported as a Tentatively Identified Compound (TIC) in laboratory blanks and in some samples. Results for this compound have been lined out and initialed by the data validator indicating that it is considered to be a blank contaminant.

The aroclor-1260 results in samples SDA26, SDA27, SSA03, SSB08 and SSB10 were confirmed by GC/MS and accordingly flagged "C" by the laboratory on the Pesticide Organics Analysis Data Sheets (Appendix A). The "C" flag has not been retained on the data summary.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

Table 1 - Field Duplicate Analysis
Table 2 - Comparison of MS/MS Unspiked Compounds

1. Glossary of data qualifier codes
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory
4. Appendix B - Tentatively Identified Compounds (TICs)
5. Appendix C - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

TABLE 1

FIELD DUPLICATE ANALYSIS

TABLE 1 - FIELD DUPLICATE RESULTS
SDG # SSB05

	SDA30 ug/kg	SDA31 ug/kg	RPD %
gamma-BHC	0.91 J	ND	
4,4'-DDE	26	9.6	92.1
4,4'-DDD	22	4.3 J	134.6
4,4'-DDT	9.9	6.8 J	37.1
alpha-Chlordane	2.5 J	0.89 J	95.0
gamma-Chlordane	1.9 J	0.80 J	81.5
Aroclor-1260	42 J	12 J	111.1
phenanthrene	30 J	49 J	48.1
di-n-butylphthalate	25 B	49 B	64.9
fluoranthene	100 J	220 J	75.0
pyrene	87 J	190 J	74.4
benzo(a)anthracene	53 J	110 J	69.9
chrysene	64 J	150 J	80.4
bis(2-ethylhexyl)phthalate	230 B	620 B	91.8
benzo(b)fluoranthene	60 J	130 J	73.7
benzo(k)fluoranthene	32 J	64 J	66.7
benzo(a)pyrene	39 J	83 J	72.1
acetone	270 B	250 B	7.7
2-butanone	43	42	2.4

Table 2

Comparison of Unspiked Compounds in Sample, Matrix Spike and Matrix Spike Duplicate

TABLE 2 - COMPARISON OF MS/MSD UNSPIKED COMPOUNDS
SDG # SSB05

	SSB09 ug/kg	SSB09MS ug/kg	SSB09MSD ug/kg	%RSD
VOLATILES				
Acetone	ND	ND	9 J	
SEMIVOLATILES				
Di-n-butylphthalate	37 B	46 B	43 B	10.9
Bis(2-ethylhexyl)phthalate	ND	ND	20 B	
PESTICIDE/PCBS				
Heptachlor Epoxide	1.5 J	1.4 J	0.98 J	21.3
4,4'-DDE	6.1	5.3	4.4	16.1
4,4'-DDD	1.6 J	2.1 J	1.7 J	14.7
Endrin Aldehyde	ND	0.82 J	0.82 J	
alpha-Chlordane	2.8	2.9	2.4	9.8
gamma-Chlordane	1.9	1.8	1.4 J	15.6
Aroclor-1260	26	21 J	23 J	10.8

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SSB05

Sample No.	FB201	FB202	SDA26	SDA27	SDA28
Date Collected	12/9/92	12/8/92	12/9/92	12/9/92	12/9/92
Date Analyzed	12/14/92	12/14/92	12/17/92	12/17/92	12/17/92
Percent Moisture	NA	NA	51	64	24
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Chloromethane	2 U	2 U	20 U	28 U	13 U
Bromomethane	2 U	2 U	20 U	28 U	13 U
Vinyl chloride	2 U	2 U	20 U	28 U	13 U
Chloroethane	2 U	2 U	20 U	28 U	13 U
Methylene chloride	2 U	2 U	20 U	28 U	13 U
Acetone	10 U	10 U	100 B	340 B	56 B
Carbon disulfide	2 U	2 U	6 J	28 U	13 U
1,1-dichloroethene	2 U	2 U	20 U	28 U	13 U
1,1-dichloroethane	2 U	2 U	20 U	28 U	13 U
1,2-dichloroethene	2 U	2 U	20 U	28 U	13 U
Chloroform	2 U	29	20 U	28 U	13 U
1,2-dichloroethane	2 U	2 U	20 U	28 U	13 U
2-butanone	10 U	10 U	21	83	16
1,1,1-trichloroethane	2 U	2 U	20 U	28 U	13 U
Carbon tetrachloride	2 U	2 U	20 U	28 U	13 U
Bromodichloromethane	2 U	10	20 U	28 U	13 U
1,2-dichloropropane	2 U	2 U	20 U	28 U	13 U
C-1,3-dichloropropene	2 U	2 U	20 U	28 U	13 U
Trichloroethene	2 U	2 U	20 U	28 U	13 U
Dibromochloromethane	2 U	2	20 U	28 U	13 U
1,1,2-trichloroethane	2 U	2 U	20 U	28 U	13 U
Benzene	2 U	2 U	20 U	28 U	13 U
T-1,3-dichloropropene	2 U	2 U	20 U	28 U	13 U
Bromoform	2 U	2 U	20 U	28 U	13 U
4-methyl-2-pentanone	10 U	10 U	20 U	28 U	13 U
2-hexanone	10 U	10 U	20 U	28 U	13 U
Tetrachloroethene	2 U	2 U	20 U	28 U	13 U
1,2,2,2-tetrachloroethane	2 U	2 U	20 U	28 U	13 U
Toluene	2 U	2 U	20 U	28 U	13 U
Chlorobenzene	2 U	2 U	20 U	6 J	13 U
Ethylbenzene	2 U	2 U	20 U	28 U	13 U
Styrene	2 U	2 U	20 U	28 U	13 U
Xylenes(total)	2 U	2 U	20 U	28 U	13 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SSB05

Sample No.	SDA30	SDA31	SSA01	SSA02	SSA03
Date Collected	12/9/92	12/9/92	12/9/92	12/9/92	12/9/92
Date Analyzed	12/17/92	12/17/92	12/17/92	12/16/92	12/16/92
Percent Moisture	66	62	19	34	48
Dilution Factor	1	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Chloromethane	29 U	26 U	12 U	15 U	19 U
Bromomethane	29 U	26 U	12 U	15 U	19 U
Vinyl chloride	29 U	26 U	12 U	15 U	19 U
Chloroethane	29 U	26 U	12 U	15 U	19 U
Methylene chloride	29 U	26 U	12 U	15 U	19 U
Acetone	270 B	250 B	7 B	6 B	19 U
Carbon disulfide	29 U	26 U	12 U	15 U	19 U
1,1-dichloroethene	29 U	26 U	12 U	15 U	19 U
1,1-dichloroethane	29 U	26 U	12 U	15 U	19 U
1,2-dichloroethene	29 U	26 U	12 U	15 U	19 U
Chloroform	29 U	26 U	12 U	15 U	19 U
1,2-dichloroethane	29 U	26 U	12 U	15 U	19 U
2-butanone	43	42	12 U	15 U	19 U
1,1,1-trichloroethane	29 U	26 U	12 U	15 U	19 U
Carbon tetrachloride	29 U	26 U	12 U	15 U	19 U
Bromodichloromethane	29 U	26 U	12 U	15 U	19 U
1,2-dichloropropane	29 U	26 U	12 U	15 U	19 U
C-1,3-dichloropropene	29 U	26 U	12 U	15 U	19 U
Trichloroethene	29 U	26 U	12 U	15 U	19 U
Dibromochloromethane	29 U	26 U	12 U	15 U	19 U
1,1,2-trichloroethane	29 U	26 U	12 U	15 U	19 U
Benzene	29 U	26 U	12 U	15 U	19 U
T-1,3-dichloropropene	29 U	26 U	12 U	15 U	19 U
Bromoform	29 U	26 U	12 U	15 U	19 U
4-methyl-2-pentanone	29 U	26 U	12 U	15 U	19 U
2-hexanone	29 U	26 U	12 U	15 U	19 U
Tetrachloroethene	29 U	26 U	12 U	15 U	19 U
1,2,2,2-tetrachloroethane	29 U	26 U	12 U	15 U	19 U
Toluene	29 U	26 U	12 U	15 U	19 U
Chlorobenzene	29 U	26 U	12 U	15 U	19 U
Ethylbenzene	29 U	26 U	12 U	15 U	19 U
Styrene	29 U	26 U	12 U	15 U	19 U
Xylenes(total)	29 U	26 U	12 U	15 U	19 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # SSB05

Sample No.	SSA04	SSA05	SSB05	SSB06	SSB07
Date Collected	12/9/92	12/9/92	12/8/92	12/8/92	12/8/92
Date Analyzed	12/17/92	12/16/92	12/12/92	12/12/92	12/16/92
Percent Moisture	32	9	41	6	8
Dilution Factor	1	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Chloromethane	15 U	11 U	17 U	11 U	11 U
Bromomethane	15 U	11 U	17 UJ	11 UJ	11 U
Vinyl chloride	15 U	11 U	17 UJ	11 UJ	11 U
Chloroethane	15 U	11 U	17 U	11 U	11 U
Methylene chloride	15 U	11 U	17 U	11 U	54
Acetone	8 B	11 U	160 B	11 U	11 U
Carbon disulfide	15 U	11 U	17 U	11 U	11 U
1,1-dichloroethene	15 U	11 U	17 U	11 U	11 U
1,1-dichloroethane	15 U	11 U	17 U	11 U	11 U
1,2-dichloroethene	15 U	11 U	17 U	11 U	11 U
Chloroform	15 U	11 U	17 U	11 U	11 U
1,2-dichloroethane	15 U	11 U	17 U	11 U	11 U
2-butanone	15 U	11 U	61	11 U	11 U
1,1,1-trichloroethane	15 U	11 U	17 U	11 U	11 U
Carbon tetrachloride	15 U	11 U	17 U	11 U	11 U
Bromodichloromethane	15 U	11 U	17 U	11 U	11 U
1,2-dichloropropane	15 U	11 U	17 U	11 U	11 U
C-1,3-dichloropropene	15 U	11 U	17 U	11 U	11 U
ichloroethene	15 U	11 U	17 U	11 U	11 U
ibromochloromethane	15 U	11 U	17 U	11 U	11 U
1,1,2-trichloroethane	15 U	11 U	17 U	11 U	11 U
Benzene	15 U	11 U	17 U	11 U	11 U
T-1,3-dichloropropene	15 U	11 U	17 U	11 U	11 U
Bromoform	15 U	11 U	17 U	11 U	11 U
4-methyl-2-pentanone	15 U	11 U	17 U	11 U	11 U
2-hexanone	15 U	11 U	17 U	11 U	11 U
Tetrachloroethene	15 U	11 U	17 U	11 U	11 U
1,2,2,2-tetrachloroethane	15 U	11 U	17 U	11 U	11 U
Toluene	15 U	11 U	17 U	11 U	11 U
Chlorobenzene	15 U	11 U	17 U	11 U	11 U
Ethylbenzene	15 U	11 U	17 U	11 U	11 U
Styrene	15 U	11 U	17 U	11 U	11 U
Xylenes(total)	15 U	11 U	17 U	11 U	11 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SSB05

Sample No.	SSB08	SSB09	SSB10	TBA301	TBB301
Date Collected	12/8/92	12/8/92	12/8/92	12/9/92	12/8/92
Date Analyzed	12/16/92	12/12/92	12/12/92	12/14/92	12/14/92
Percent Moisture	27	9	37	NA	NA
Dilution Factor	1	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/L	ug/L
Chloromethane	14 U	11 U	16 U	2 U	2 U
Bromomethane	14 U	11 UJ	16 UJ	2 U	2 U
Vinyl chloride	14 U	11 UJ	16 UJ	2 U	2 U
Chloroethane	14 U	11 U	16 U	2 U	2 U
Methylene chloride	14 U	11 U	16 U	2 U	2 U
Acetone	20 B	11 U	150 B	10 U	10 U
Carbon disulfide	14 U	11 U	16 U	2 U	2 U
1,1-dichloroethene	14 U	11 U	16 U	2 U	2 U
1,1-dichloroethane	14 U	11 U	16 U	2 U	2 U
1,2-dichloroethene	14 U	11 U	16 U	2 U	2 U
Chloroform	14 U	11 U	16 U	2 U	2 U
1,2-dichloroethane	14 U	11 U	16 U	2 U	2 U
2-butanone	14 U	11 U	61	10 U	10 U
1,1,1-trichloroethane	14 U	11 U	16 U	2 U	2 U
Carbon tetrachloride	14 U	11 U	16 U	2 U	2 U
Bromodichloromethane	14 U	11 U	16 U	2 U	2 U
1,2-dichloropropane	14 U	11 U	16 U	2 U	2 U
C-1,3-dichloropropene	14 U	11 U	16 U	2 U	2 U
Trichloroethene	14 U	11 U	16 U	2 U	2 U
Dibromochloromethane	14 U	11 U	16 U	2 U	2 U
1,1,2-trichloroethane	14 U	11 U	16 U	2 U	2 U
Benzene	14 U	11 U	16 U	2 U	2 U
T-1,3-dichloropropene	14 U	11 U	16 U	2 U	2 U
Bromoform	14 U	11 U	16 U	2 U	2 U
4-methyl-2-pentanone	14 U	11 U	16 U	10 U	10 U
2-hexanone	14 U	11 U	16 U	10 U	10 U
Tetrachloroethene	14 U	11 U	16 U	2 U	2 U
1,2,2,2-tetrachloroethane	14 U	11 U	16 U	2 U	2 U
Toluene	14 U	11 U	16 U	2 U	2 U
Chlorobenzene	14 U	11 U	16 U	2 U	2 U
Ethylbenzene	14 U	11 U	16 U	2 U	2 U
Styrene	14 U	11 U	16 U	2 U	2 U
Xylenes(total)	14 U	11 U	16 U	2 U	2 U

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SSB05

Sample No.	FB201	FB202	SDA26	SDA27	SDA28
Date Collected	12/8/92	12/8/92	12/9/92	12/9/92	12/9/92
Date Extracted	12/14/92	12/14/92	12/17/92	12/17/92	12/17/92
Date Analyzed	12/17/92	12/17/92	12/21/92	12/22/92	12/22/92
Percent Moisture	NA	NA	41	63	18
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Phenol	10 U	10 U	560 U	900 U	410 U
Bis(2-chloroethyl)ether	10 U	10 U	560 U	900 U	410 U
2-chlorophenol	10 U	10 U	560 U	900 U	410 U
1,3-dichlorobenzene	10 U	10 U	560 U	900 U	410 U
1,4-dichlorobenzene	10 U	10 U	560 U	900 U	410 U
1,2-dichlorobenzene	10 U	10 U	560 U	900 U	410 U
2-methylphenol	10 U	10 U	560 U	900 U	410 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	560 U	900 U	410 U
4-methylphenol	10 U	10 U	560 U	900 U	410 U
N-nitroso-di-n-propylamine	10 U	10 U	560 U	900 U	410 U
Hexachloroethane	10 U	10 U	560 U	900 U	410 U
Nitrobenzene	10 U	10 U	560 U	900 U	410 U
Isophorone	10 U	10 U	560 U	900 U	410 U
2-nitrophenol	10 U	10 U	560 U	900 U	410 U
2,4-dimethylphenol	10 U	10 U	560 U	900 U	410 U
Bis(2-chloroethoxy)methane	10 U	10 U	560 U	900 U	410 U
2,4-dichlorophenol	10 U	10 U	560 U	900 U	410 U
1,2,4-trichlorobenzene	10 U	10 U	560 U	900 U	410 U
Naphthalene	10 U	10 U	560 U	900 U	410 U
4-chloroaniline	10 U	10 U	560 U	900 U	410 U
Hexachlorobutadiene	10 U	10 U	560 U	900 U	410 U
4-chloro-3-methylphenol	10 U	10 U	560 U	900 U	410 U
2-methylnaphthalene	10 U	10 U	560 U	900 U	410 U
Hexachlorocyclopentadiene	10 U	10 U	560 U	900 U	410 U
2,4,6-trichlorophenol	10 U	10 U	560 U	900 U	410 U
2,4,5-trichlorophenol	25 U	25 U	1400 U	2300 U	1000 U
2-chloronaphthalene	10 U	10 U	560 U	900 U	410 U
2-nitroaniline	25 U	25 U	1400 U	2300 U	1000 U
Dimethylphthalate	10 U	10 U	560 U	900 U	410 U
Acenaphthylene	10 U	10 U	560 U	900 U	410 U
2,6-dinitrotoluene	10 U	10 U	560 U	900 U	410 U
3-nitroaniline	25 U	25 U	1400 U	2300 U	1000 U
Acenaphthene	10 U	10 U	560 U	45 J	410 U

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SSB05

Sample No.	FB201	FB202	SDA26	SDA27	SDA28
Date Collected	12/8/92	12/8/92	12/9/92	12/9/92	12/9/92
Date Extracted	12/14/92	12/14/92	12/17/92	12/17/92	12/17/92
Date Analyzed	12/17/92	12/17/92	12/21/92	12/22/92	12/22/92
Percent Moisture	NA	NA	41	63	18
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	25 U	25 U	1400 U	2300 U	1000 U
4-nitrophenol	25 U	25 U	1400 U	2300 U	1000 U
Dibenzofuran	10 U	10 U	560 U	900 U	410 U
2,4-dinitrotoluene	10 U	10 U	560 U	900 U	410 U
Diethylphthalate	10 U	10 U	560 U	900 U	410 U
4-chlorophenyl-phenylether	10 U	10 U	560 U	900 U	410 U
Fluorene	10 U	10 U	560 U	900 U	410 U
4-nitroaniline	25 U	25 U	1400 U	2300 U	1000 U
4,6-dinitro-2-methylphenol	25 U	25 U	1400 U	2300 U	1000 U
N-nitrosodiphenylamine	10 U	10 U	560 U	900 U	410 U
4-bromophenyl-phenylether	10 U	10 U	560 U	900 U	410 U
Hexachlorobenzene	10 U	10 U	560 U	900 U	410 U
Pentachlorophenol	25 U	25 U	1400 U	2300 U	1000 U
Phenanthrene	10 U	10 U	27 J	270 J	410 U
Anthracene	10 U	10 U	560 U	71 J	410 U
Carbazole	10 U	10 U	560 U	46 J	410 U
Di-n-butylphthalate	10 U	0.8 J	89 B	53 B	71 B
Fluoranthene	10 U	10 U	64 J	460 J	410 U
Pyrene	10 U	10 U	63 J	320 J	410 U
Butylbenzylphthalate	10 U	10 U	560 U	900 U	410 U
3,3'-dichlorobenzidine	10 U	10 U	560 U	900 U	410 U
Benzo(a)anthracene	10 U	10 U	42 J	220 J	410 U
Chrysene	10 U	10 U	38 J	200 J	410 U
Bis(2-ethylhexyl)phthalate	10 U	2 J	290 B	620 B	57 B
Di-n-octylphthalate	10 U	10 U	560 U	900 U	410 U
Benzo(b)fluoranthene	10 U	10 U	53 J	230 J	410 U
Benzo(k)fluoranthene	10 U	10 U	560 U	100 J	410 U
Benzo(a)pyrene	10 U	10 U	36 J	170 J	410 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	560 UJ	74 J	410 UJ
Dibenz(a,h)anthracene	10 U	10 U	560 UJ	900 UJ	410 UJ
Benzo(g,h,i)perylene	10 U	10 U	560 UJ	54 J	410 UJ

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SSB05

Sample No.	SDA30	SDA31	SSA01	SSA02	SSA03
Date Collected	12/9/92	12/9/92	12/9/92	12/9/92	12/9/92
Date Extracted	12/17/92	12/17/92	12/17/92	12/17/92	12/17/92
Date Analyzed	12/22/92	12/22/92	12/21/92	12/21/92	12/21/92
Percent Moisture	18	55	19	26	23
Dilution Factor	1	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Phenol	410 U	740 U	410 U	450 U	430 U
Bis(2-chloroethyl)ether	410 U	740 U	410 U	450 U	430 U
2-chlorophenol	410 U	740 U	410 U	450 U	430 U
1,3-dichlorobenzene	410 U	740 U	410 U	450 U	430 U
1,4-dichlorobenzene	410 U	740 U	410 U	450 U	430 U
1,2-dichlorobenzene	410 U	740 U	410 U	450 U	430 U
2-methylphenol	410 U	740 U	410 U	450 U	430 U
2,2'-oxybis(1-chloropropane)	410 U	740 U	410 U	450 U	430 U
4-methylphenol	410 U	740 U	410 U	450 U	430 U
N-nitroso-di-n-propylamine	410 U	740 U	410 U	450 U	430 U
Hexachloroethane	410 U	740 U	410 U	450 U	430 U
Nitrobenzene	410 U	740 U	410 U	450 U	430 U
Isophorone	410 U	740 U	410 U	450 U	430 U
2-nitrophenol	410 U	740 U	410 U	450 U	430 U
2,4-dimethylphenol	410 U	740 U	410 U	450 U	430 U
Bis(2-chloroethoxy)methane	410 U	740 U	410 U	450 U	430 U
2,4-dichlorophenol	410 U	740 U	410 U	450 U	430 U
1,2,4-trichlorobenzene	410 U	740 U	410 U	450 U	430 U
Naphthalene	410 U	740 U	410 U	450 U	430 U
4-chloroaniline	410 U	740 U	410 U	450 U	430 U
Hexachlorobutadiene	410 U	740 U	410 U	450 U	430 U
4-chloro-3-methylphenol	410 U	740 U	410 U	450 U	430 U
2-methylnaphthalene	410 U	740 U	410 U	450 U	430 U
Hexachlorocyclopentadiene	410 U	740 U	410 U	450 U	430 U
2,4,6-trichlorophenol	410 U	740 U	410 U	450 U	430 U
2,4,5-trichlorophenol	1000 U	1900 U	1000 U	1100 U	1100 U
2-chloronaphthalene	410 U	740 U	410 U	450 U	430 U
2-nitroaniline	1000 U	1900 U	1000 U	1100 U	1100 U
Dimethylphthalate	410 U	740 U	410 U	450 U	430 U
Acenaphthylene	410 U	740 U	410 U	450 U	430 U
2,6-dinitrotoluene	410 U	740 U	410 U	450 U	430 U
3-nitroaniline	1000 U	1900 U	1000 U	1100 U	1100 U
Acenaphthene	410 U	740 U	410 U	450 U	430 U

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SSB05

Sample No.	SDA30	SDA31	SSA01	SSA02	SSA03
Date Collected	12/9/92	12/9/92	12/9/92	12/9/92	12/9/92
Date Extracted	12/17/92	12/17/92	12/17/92	12/17/92	12/17/92
Date Analyzed	12/22/92	12/22/92	12/21/92	12/21/92	12/21/92
Percent Moisture	18	55	19	26	23
Dilution Factor	1	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	1000 U	1900 U	1000 U	1100 U	1100 U
4-nitrophenol	1000 U	1900 U	1000 U	1100 U	1100 U
Dibenzofuran	410 U	740 U	410 U	450 U	430 U
2,4-dinitrotoluene	410 U	740 U	410 U	450 U	430 U
Diethylphthalate	410 U	740 U	410 U	450 U	430 U
4-chlorophenyl-phenylether	410 U	740 U	410 U	450 U	430 U
Fluorene	410 U	740 U	410 U	450 U	430 U
4-nitroaniline	1000 U	1900 U	1000 U	1100 U	1100 U
4,6-dinitro-2-methylphenol	1000 U	1900 U	1000 U	1100 U	1100 U
N-nitrosodiphenylamine	410 U	740 U	410 U	450 U	430 U
4-bromophenyl-phenylether	410 U	740 U	410 U	450 U	430 U
Hexachlorobenzene	410 U	740 U	410 U	450 U	430 U
Pentachlorophenol	1000 U	1900 U	1000 U	1100 U	1100 U
Phenanthrene	30 J	49 J	410 U	25 J	430 U
Anthracene	410 U	740 U	410 U	450 U	430 U
Carbazole	410 U	740 U	410 U	450 U	430 U
Di-n-butylphthalate	25 B	49 B	42 B	62 B	66 B
Fluoranthene	100 J	220 J	29 J	58 J	67 J
Pyrene	87 J	190 J	29 J	60 J	89 J
Butylbenzylphthalate	410 U	740 U	410 U	450 U	430 U
3,3'-dichlorobenzidine	410 U	740 U	410 U	450 U	430 U
Benzo(a)anthracene	53 J	110 J	410 U	37 J	69 J
Chrysene	64 J	150 J	410 U	46 J	76 J
Bis(2-ethylhexyl)phthalate	230 B	620 B	60 B	55 B	100 B
Di-n-octylphthalate	410 U	740 U	410 U	450 U	430 U
Benzo(b)fluoranthene	60 J	130 J	410 U	55 J	89 J
Benzo(k)fluoranthene	32 J	64 J	410 U	450 U	37 J
Benzo(a)pyrene	39 J	83 J	410 U	29 J	42 J
Indeno(1,2,3-cd)pyrene	410 UJ	740 UJ	410 UJ	450 UJ	430 UJ
Dibenz(a,h)anthracene	410 UJ	740 UJ	410 UJ	450 UJ	430 UJ
Benzo(g,h,i)perylene	410 UJ	740 UJ	410 UJ	450 UJ	430 UJ

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SSB05

Sample No.	SSA04	SSA05	SSB05	SSB06	SSB07
Date Collected	12/9/92	12/9/92	12/8/92	12/8/92	12/8/92
Date Extracted	12/17/92	12/17/92	12/17/92	12/17/92	12/17/92
Date Analyzed	12/21/92	12/21/92	12/21/92	12/21/92	12/21/92
Percent Moisture	33	9	29	15	6
Dilution Factor	1	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Phenol	500 U	370 U	470 U	390 U	350 U
Bis(2-chloroethyl)ether	500 U	370 U	470 U	390 U	350 U
2-chlorophenol	500 U	370 U	470 U	390 U	350 U
1,3-dichlorobenzene	500 U	370 U	470 U	390 U	350 U
1,4-dichlorobenzene	500 U	370 U	470 U	390 U	350 U
1,2-dichlorobenzene	500 U	370 U	470 U	390 U	350 U
2-methylphenol	500 U	370 U	470 U	390 U	350 U
2,2'-oxybis(1-chloropropane)	500 U	370 U	470 U	390 U	350 U
4-methylphenol	500 U	370 U	470 U	390 U	350 U
N-nitroso-di-n-propylamine	500 U	370 U	470 U	390 U	350 U
Hexachloroethane	500 U	370 U	470 U	390 U	350 U
Nitrobenzene	500 U	370 U	470 U	390 U	350 U
Isophorone	500 U	370 U	470 U	390 U	350 U
2-nitrophenol	500 U	370 U	470 U	390 U	350 U
2,4-dimethylphenol	500 U.	370 U	470 U	390 U	350 U
Bis(2-chloroethoxy)methane	500 U	370 U	470 U	390 U	350 U
2,4-dichlorophenol	500 U	370 U	470 U	390 U	350 U
1,2,4-trichlorobenzene	500 U	370 U	470 U	390 U	350 U
Naphthalene	500 U	370 U	470 U	29 J	350 U
chloroaniline	500 U	370 U	470 U	390 U	350 U
exachlorobutadiene	500 U	370 U	470 U	390 U	350 U
4-chloro-3-methylphenol	500 U	370 U	470 U	390 U	350 U
2-methylnaphthalene	500 U	370 U	470 U	390 U	350 U
Hexachlorocyclopentadiene	500 U	370 U	470 U	390 U	350 U
2,4,6-trichlorophenol	500 U	370 U	470 U	390 U	350 U
2,4,5-trichlorophenol	1200 U	920 U	1200 U	980 U	890 U
2-chloronaphthalene	500 U	370 U	470 U	390 U	350 U
2-nitroaniline	1200 U	920 U	1200 U	980 U	890 U
Dimethylphthalate	500 U	370 U	470 U	390 U	350 U
Acenaphthylene	500 U	370 U	470 U	390 U	350 U
2,6-dinitrotoluene	500 U	370 U	470 U	390 U	350 U
3-nitroaniline	1200 U	920 U	1200 U	980 U	890 U
Acenaphthene	500 U	370 U	470 U	390 U	350 U

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SSBO5

Sample No.	SSA04	SSA05	SSB05	SSB06	SSB07
Date Collected	12/9/92	12/9/92	12/8/92	12/8/92	12/8/92
Date Extracted	12/17/92	12/17/92	12/17/92	12/17/92	12/17/92
Date Analyzed	12/21/92	12/21/92	12/21/92	12/21/92	12/21/92
Percent Moisture	33	9	29	15	6
Dilution Factor	1	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	1200 U	920 U	1200 U	980 U	890 U
4-nitrophenol	1200 U	920 U	1200 U	980 U	890 U
Dibenzofuran	500 U	370 U	470 U	390 U	350 U
2,4-dinitrotoluene	500 U	370 U	470 U	390 U	350 U
Diethylphthalate	500 U	370 U	470 U	390 U	350 U
4-chlorophenyl-phenylether	500 U	370 U	470 U	390 U	350 U
Fluorene	500 U	370 U	470 U	390 U	350 U
4-nitroaniline	1200 U	920 U	1200 U	980 U	890 U
4,6-dinitro-2-methylphenol	1200 U	920 U	1200 U	980 U	890 U
N-nitrosodiphenylamine	500 U	370 U	470 U	390 U	350 U
4-bromophenyl-phenylether	500 U	370 U	470 U	390 U	350 U
Hexachlorobenzene	500 U	370 U	470 U	390 U	350 U
Pentachlorophenol	1200 U	920 U	1200 U	980 U	890 U
Phenanthrene	36 J	370 U	470 U	390 U	350 U
Anthracene	500 U	370 U	470 U	390 U	350 U
Carbazole	500 U	370 U	470 U	390 U	350 U
Di-n-butylphthalate	86 B	32 B	72 B	38 B	42 B
Fluoranthene	96 J	23 J	470 U	49 J	27 J
Pyrene	85 J	30 J	470 U	49 J	27 J
Butylbenzylphthalate	500 U	370 U	470 U	17 J	350
3,3'-dichlorobenzidine	500 U	370 U	470 U	390 U	350 U
Benzo(a)anthracene	55 J	21 J	470 U	53 J	24 J
Chrysene	71 J	20 J	470 U	69 J	28 J
Bis(2-ethylhexyl)phthalate	66 B	23 B	64 B	29 B	42 B
Di-n-octylphthalate	500 U	370 U	470 U	390 U	350 U
Benzo(b)fluoranthene	110 J	27 J	470 U	99 J	56 J
Benzo(k)fluoranthene	51 J	370 U	470 U	37 J	21 J
Benzo(a)pyrene	48 J	19 J	470 U	54 J	30 J
Indeno(1,2,3-cd)pyrene	25 J	370 UJ	470 UJ	45 J	24 J
Dibenz(a,h)anthracene	500 UJ	370 UJ	470 UJ	390 UJ	350 UJ
Benzo(g,h,i)perylene	500 UJ	370 UJ	470 UJ	39 J	19 J

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SSB05

Sample No.	SSB08	SSB09	SSB10
Date Collected	12/8/92	12/8/92	12/8/92
Date Extracted	12/17/92	12/17/92	12/17/92
Date Analyzed	12/21/92	12/21/92	12/21/92
Percent Moisture	45	8	35
Dilution Factor	1	1	1
Units	ug/kg	ug/kg	ug/kg
Phenol	610 U	360 U	510 U
Bis(2-chloroethyl)ether	610 U	360 U	510 U
2-chlorophenol	610 U	360 U	510 U
1,3-dichlorobenzene	610 U	360 U	510 U
1,4-dichlorobenzene	610 U	360 U	510 U
1,2-dichlorobenzene	610 U	360 U	510 U
2-methylphenol	610 U	360 U	510 U
2,2'-oxybis(1-chloropropane)	610 U	360 U	510 U
4-methylphenol	610 U	360 U	510 U
N-nitroso-di-n-propylamine	610 U	360 U	510 U
Hexachloroethane	610 U	360 U	510 U
Nitrobenzene	610 U	360 U	510 U
Isophorone	610 U	360 U	510 U
2-nitrophenol	610 U	360 U	510 U
2,4-dimethylphenol	610 U	360 U	510 U
Bis(2-chloroethoxy)methane	610 U	360 U	510 U
2,4-dichlorophenol	610 U	360 U	510 U
1,2,4-trichlorobenzene	610 U	360 U	510 U
Naphthalene	610 U	360 U	510 U
4-chloroaniline	610 U	360 U	510 U
Hexachlorobutadiene	610 U	360 U	510 U
4-chloro-3-methylphenol	610 U	360 U	510 U
2-methylnaphthalene	610 U	360 U	510 U
Hexachlorocyclopentadiene	610 U	360 U	510 U
2,4,6-trichlorophenol	610 U	360 U	510 U
2,4,5-trichlorophenol	1500 U	910 U	1300 U
2-chloronaphthalene	610 U	360 U	510 U
2-nitroaniline	1500 U	910 U	1300 U
Dimethylphthalate	610 U	360 U	510 U
Acenaphthylene	610 U	360 U	510 U
2,6-dinitrotoluene	610 U	360 U	510 U
3-nitroaniline	1500 U	910 U	1300 U
Acenaphthene	610 U	360 U	510 U

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL.
SDG # SSB05

Sample No.	SSB08	SSB09	SSB10
Date Collected	12/8/92	12/8/92	12/8/92
Date Extracted	12/17/92	12/17/92	12/17/92
Date Analyzed	12/21/92	12/21/92	12/21/92
Percent Moisture	45	8	35
Dilution Factor	1	1	1
Units	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	1500 U	910 U	1300 U
4-nitrophenol	1500 U	910 U	1300 U
Dibenzofuran	610 U	360 U	510 U
2,4-dinitrotoluene	610 U	360 U	510 U
Diethylphthalate	610 U	360 U	510 U
4-chlorophenyl-phenylether	610 U	360 U	510 U
Fluorene	610 U	360 U	510 U
4-nitroaniline	1500 U	910 U	1300 U
4,6-dinitro-2-methylphenol	1500 U	910 U	1300 U
N-nitrosodiphenylamine	610 U	360 U	510 U
4-bromophenyl-phenylether	610 U	360 U	510 U
Hexachlorobenzene	610 U	360 U	510 U
Pentachlorophenol	1500 U	910 U	1300 U
Phenanthrene	70 J	360 U	510 U
Anthracene	610 U	360 U	510 U
Carbazole	610 U	360 U	510 U
Di-n-butylphthalate	100 B	37 B	88 B
Fluoranthene	150 J	360 U	510 U
Pyrene	130 J	360 U	510 U
Butylbenzylphthalate	610 U	360 U	510 U
3,3'-dichlorobenzidine	610 U	360 U	510 U
Benzo(a)anthracene	75 J	360 U	510 U
Chrysene	73 J	360 U	510 U
Bis(2-ethylhexyl)phthalate	180 B	360 U	78 B
Di-n-octylphthalate	610 U	360 U	510 U
Benzo(b)fluoranthene	95 J	360 U	510 U
Benzo(k)fluoranthene	38 J	360 U	510 U
Benzo(a)pyrene	68 J	360 U	510 U
Indeno(1,2,3-cd)pyrene	38 J	360 UJ	510 UJ
Dibenz(a,h)anthracene	610 UJ	360 UJ	510 UJ
Benzo(g,h,i)perylene	40 J	360 UJ	510 UJ

DATA SUMMARY - PESTICIDE/PCBs
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # SSB05

Sample No.	FB201	FB202	SDA26	SDA27	SDA28
Date Collected	12/8/92	12/8/92	12/9/92	12/9/92	12/9/92
Date Extracted	12/14/92	12/14/92	12/17/92	12/17/92	12/17/92
Date Analyzed	12/24/92	12/24/92	12/24/92	12/24/92	12/24/92
Percent Moisture	NA	NA	41	64	18
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg
Alpha-BHC	0.05 U	0.05 U	19 L	62	2 U
Beta-BHC	0.05 U	0.05 U	17 L	55	2 U
Delta-BHC	0.05 U	0.05 U	10 L	180	2 U
Gamma-BHC	0.05 U	0.05 U	44 UL	130 UL	0.74 J
Heptachlor	0.05 U	0.05 U	2.8 UL	4.6 UL	2 U
Aldrin	0.05 U	0.05 U	2.8 UL	4.6 UL	2 U
Heptachlor epoxide	0.05 U	0.05 U	2.8 UL	4.6 UL	2 U
Endosulfan I	0.05 U	0.05 U	2.3 L	15	1.2 J
Dieldrin	0.1 U	0.1 U	5.6 UL	14 L	4.1 U
4,4'-DDE	0.1 U	0.1 U	95 L	110	36
Endrin	0.1 U	0.1 U	5.6 UL	9.3 UL	4.1 U
Endosulfan II	0.1 U	0.1 U	5.6 UL	9.3 UL	4.1 U
4,4'-DDD	0.1 U	0.1 U	120 L	93	13
Endosulfan sulfate	0.1 U	0.1 U	5.6 UL	9.3 UL	4.1 U
4,4'-DDT	0.1 U	0.1 U	73 L	14 L	9.5
Methoxychlor	0.5 U	0.5 U	28 UL	46 UL	20 U
Endrin ketone	0.1 U	0.1 U	5.6 UL	9.3 UL	4.1 U
Endrin aldehyde	0.1 U	0.1 U	5.6 UL	32	4.1 U
Alpha-Chlordane	0.05 U	0.05 U	64 L	20	2.2
Gamma-Chlordane	0.05 U	0.05 U	69 L	13	2
Toxaphene	5 U	5 U	280 UL	460 UL	200 U
Aroclor-1016	1 U	1 U	56 UL	93 UL	41 U
Aroclor-1221	2 U	2 U	110 UL	190 UL	81 U
Aroclor-1232	1 U	1 U	56 UL	93 UL	41 U
Aroclor-1242	1 U	1 U	56 UL	93 UL	41 U
Aroclor-1248	1 U	1 U	56 UL	93 UL	41 U
Aroclor-1254	1 U	1 U	56 UL	93 UL	41 U
Aroclor-1260	1 U	1 U	350 L	1500	52

DATA SUMMARY - PESTICIDE/PCBs
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # SSB05

Sample No.	SDA30	SDA31	SSA01	SSA02	SSA03
Date Collected	12/9/92	12/9/92	12/9/92	12/9/92	12/9/92
Date Extracted	12/17/92	12/17/92	12/17/92	12/17/92	12/17/92
Date Analyzed	12/24/92	12/24/92	12/24/92	12/24/92	12/24/92
Percent Moisture	45	55	19	26	23
Dilution Factor	1	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Alpha-BHC	3 U	3.7 UL	2.1 UL	2.3 U	2.2 UL
Beta-BHC	3 U	3.7 UL	2.1 UL	2.3 U	2.2 UL
Delta-BHC	3 U	3.7 UL	2.1 UL	2.3 U	2.2 UL
Gamma-BHC	0.91 J	3.7 UL	2.1 UL	2.3 U	2.2 UL
Heptachlor	3 U	3.7 UL	2.1 UL	2.3 U	2.2 UL
Aldrin	3 U	3.7 UL	2.1 UL	9.1	2.2 UL
Heptachlor epoxide	3 U	3.7 UL	0.69 J	2.3 U	2.2 UL
Endosulfan I	3 U	3.7 UL	0.61 J	2.3 U	2.2 UL
Dieldrin	6.1 U	7.4 UL	1.1 J	4.5 U	4.3 UL
4,4'-DDE	26 J	9.6 J	6.1 L	14	4.2 J
Endrin	6.1 U	7.4 UL	4.1 UL	4.5 U	4.3 UL
Endosulfan II	6.1 U	7.4 UL	4.1 UL	4.5 U	4.3 UL
4,4'-DDD	22 J	4.3 J	6.2 L	4 J	4.3 UL
Endosulfan sulfate	6.1 U	7.4 UL	4.1 UL	4.5 U	4.3 UL
4,4'-DDT	9.9	6.8 J	1.7 J	3.9 J	4.3 UL
Methoxychlor	30 U	37 UL	21 UL	23 U	22 UL
Endrin ketone	6.1 U	7.4 UL	4.1 UL	4.5 U	4.3 UL
Endrin aldehyde	6.1 U	7.4 UL	4.1 UL	4.5 U	4.3 UL
Alpha-Chlordane	2.5 J	0.89 J	0.55 J	0.56 J	2.2 L
Gamma-Chlordane	1.9 J	0.8 J	2.1 UL	2.3 U	1.4 J
Toxaphene	300 U	370 UL	210 UL	230 U	220 UL
Aroclor-1016	61 U	74 UL	41 UL	45 U	43 UL
Aroclor-1221	120 U	150 UL	82 UL	90 U	87 UL
Aroclor-1232	61 U	74 UL	41 UL	45 U	43 UL
Aroclor-1242	61 U	74 UL	41 UL	45 U	43 UL
Aroclor-1248	61 U	74 UL	41 UL	45 U	43 UL
Aroclor-1254	61 U	74 UL	41 UL	45 U	43 UL
Aroclor-1260	42 J	12 J	41 UL	83	420 L

DATA SUMMARY - PESTICIDE/PCBs
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # SSB05

Sample No.	SSA04	SSA05	SSB05	SSB06	SSB07
Date Collected	12/9/92	12/9/92	12/8/92	12/8/92	12/8/92
Date Extracted	12/17/92	12/17/92	12/17/92	12/17/92	12/17/92
Date Analyzed	12/24/92	12/31/92	12/24/92	12/25/92	12/25/92
Percent Moisture	33	9	29	15	6
Dilution Factor	1	1	1	1	1
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Alpha-BHC	2.5 U	1.8 UL	2.3 UL	2 UL	1.8 U
Beta-BHC	2.5 U	1.8 UL	2.3 UL	2 UL	1.8 U
Delta-BHC	2.5 U	1.8 UL	2.3 UL	2 UL	1.8 U
Gamma-BHC	2.5 U	1.8 UL	2.3 UL	2 UL	1.8 J
Heptachlor	2.5 U	1.8 UL	2.3 UL	2 UL	1.8 U
Aldrin	2.5 U	1.8 UL	2.3 UL	2 UL	0.79 J
Heptachlor epoxide	2.4 J	1.8 UL	2.3 UL	2 UL	1.8 U
Endosulfan I	2.5 U	1.8 UL	1.6 J	1.2 J	0.44 J
Dieldrin	27 K	3.7 UL	4.7 UL	3.9 UL	3.5 U
4,4'-DDE	1 J	0.5 J	13 L	10 L	7.9
Endrin	5 U	3.7 UL	4.7 UL	3.9 UL	3.5 U
Endosulfan II	5 U	3.7 UL	4.7 UL	3.9 UL	3.5 U
4,4'-DDD	3.1 K	3.7 UL	6.8 L	3.9 UL	3.5 U
Endosulfan sulfate	5 U	3.7 UL	4.7 UL	3.9 UL	3.5 U
4,4'-DDT	5 U	3.7 UL	4.7 UL	16 L	3.5 U
Methoxychlor	25 U	18 UL	23 UL	20 UL	18 U
Endrin ketone	5 U	3.7 UL	4.7 UL	3.9 UL	3.5 U
Endrin aldehyde	5 U	3.7 UL	4.7 UL	3.9 UL	3.5 U
Alpha-Chlordane	3.1 K	0.46 J	1.1 J	7.1 L	1.5 J
Gamma-Chlordane	3.8 K	1.8 UL	0.78 J	2 UL	0.43 J
Toxaphene	250 U	180 UL	230 UL	200 UL	180 U
Aroclor-1016	50 U	37 UL	47 UL	39 UL	35 U
Aroclor-1221	100 U	73 UL	94 UL	78 UL	71 U
Aroclor-1232	50 U	37 UL	47 UL	39 UL	35 U
Aroclor-1242	50 U	37 UL	47 UL	39 UL	35 U
Aroclor-1248	50 U	37 UL	47 UL	39 UL	35 U
Aroclor-1254	50 U	37 UL	47 UL	39 UL	35 U
Aroclor-1260	180 K	13 J	140 L	320 L	160

DATA SUMMARY - PESTICIDE/PCBs
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # SSB05

Sample No.	SSB08	SSB09	SSB10
Date Collected	12/8/92	12/8/92	12/8/92
Date Extracted	12/17/92	12/17/92	12/17/92
Date Analyzed	12/25/92	12/25/92	12/25/92
Percent Moisture	45	8	35
Dilution Factor	1	1	1
Units	ug/kg	ug/kg	ug/kg
Alpha-BHC	3 UL	1.8 U	2.6 UL
Beta-BHC	3 UL	1.8 U	2.6 UL
Delta-BHC	3 UL	1.8 U	2.6 UL
Gamma-BHC	3 UL	1.8 U	2.6 UL
Heptachlor	3 UL	1.8 U	2.6 UL
Aldrin	5.8 L	1.8 U	2.6 UL
Heptachlor epoxide	3 UL	1.5 J	2.6 UL
Endosulfan I	8.4 L	1.8 U	2.2 J
Dieldrin	6.1 UL	5.2	5.1 UL
4,4'-DDE	6.1 UL	6.1	27 L
Endrin	6.1 UL	3.6 U	5.1 UL
Endosulfan II	6.1 UL	3.6 U	5.1 UL
4,4'-DDD	6.1 UL	1.6 J	11 L
Endosulfan sulfate	6.1 UL	3.6 U	5.1 UL
4,4'-DDT	6.1 UL	1.4 J	5.1 UL
Methoxychlor	30 UL	18 U	26 UL
Endrin ketone	6.1 UL	3.6 U	0.89 J
Endrin aldehyde	6.1 UL	3.6 U	5.1 UL
Alpha-Chlordane	22 L	2.8	1.8 J
Gamma-Chlordane	3 UL	1.9	1.3 J
Toxaphene	300 UL	180 U	260 UL
Aroclor-1016	61 UL	36 U	51 UL
Aroclor-1221	120 UL	72 U	100 UL
Aroclor-1232	61 UL	36 U	51 UL
Aroclor-1242	61 UL	36 U	51 UL
Aroclor-1248	61 UL	36 U	51 UL
Aroclor-1254	61 UL	36 U	51 UL
Aroclor-1260	780 L	26 J	370 L

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # SSB05

Sample No.	FB201	FB201F	FB202	FB202F	SSA01
Date Collected	12/8/92	12/8/92	12/8/92	12/8/92	12/9/92
Percent Solids	NA	NA	NA	NA	80.6
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	mg/kg
Aluminum	73.2	15 U	406	66.2	7080
Antimony	17 U	17 U	17 U	17 U	4.3 UL
Arsenic	2 U	2 U	2 U	2 U	1.9 K
Barium	1 U	4.1	33.3	25.3	38.2 J
Beryllium	1 U	1 U	1 U	1 U	0.25 U
Cadmium	4 U	4 U	4 U	4 U	1 U
Calcium	110	917	16700	16100	896 J
Chromium	10 U	10 U	10 U	10 U	8.9
Cobalt	10 U	10 U	10 U	10 U	2.5 U
Copper	2 U	2 U	5.9	23.3	6.3 B
Iron	41	50	2160	218	4920
Lead	1.8	1 U	1 U	1 U	19.6
Magnesium	28.2	40.7	2710	2570	535 B
Manganese	3 U	3.8	44.8	3 U	39.5
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.12 U
Nickel	12 U	12 U	12 U	12 U	3 U
Potassium	192 U	192 U	2930	2900	613 B
Selenium	2 U	2 U	2 U	2 U	0.49 UL
Silver	3 U	3 U	27.4	3 U	0.75 U
Sodium	366	940	10100	9720	200 B
Thallium	1 U	1 U	1 U	1 U	0.24 U
Vanadium	4 U	4 U	4 U	4 U	17.6
Zinc	3.4	44.5	276	122	32.9 B
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # SSB05

Sample No.	SSA02	SSA03	SSA04	SSA05	SSB05
Date Collected	12/8/92	12/9/92	12/9/92	12/9/92	12/8/92
Percent Solids	NA	52	67.9	91	58.6
Dilution Factor	1	1	1	1	1
Units	ug/L	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	7820	9880	6260	3640	3130
Antimony	5.2 UL	6.6 UL	5.1 UL	3.8 UL	5.9 UL
Arsenic	25.9	70	41.1	5.2	11.6
Barium	394 J	1050 J	309 J	39.4 J	19.6 B
Beryllium	0.43 B	0.91	0.3 J	0.22 U	0.35 U
Cadmium	22.2	88.9	34.7	0.9 U	2.5
Calcium	2280 J	3990 J	18500 J	20200 J	1680 J
Chromium	38.5	121	42.4	9.8	11.3
Cobalt	7.7	18.3	3 U	2.2 U	3.5 U
Copper	477	169	104	5.2 B	26.3
Iron	20800	17900	10800	8080	6660
Lead	246	683	234	13.2	54.9
Magnesium	694 B	1080 B	912 B	890 B	394 B
Manganese	96.1	128	82.8	76.6	19.3
Mercury	0.29	0.44	0.77	0.12 U	0.35
Nickel	34.6	84.1	12.6	7.1	4.2 U
Potassium	915 B	1840 B	902 B	603 B	256 B
Selenium	0.62 UL	0.78 UL	0.6 UL	0.45 UL	0.68 UL
Silver	1.9 B	8.5 B	1.6 B	0.67 U	2.3 B
Sodium	339 B	502 B	470 B	365 B	244 B
Thallium	0.52	0.82	0.92	0.22 U	0.34 U
Vanadium	52.4	78.7	42.6	15.2	13.7
Zinc	916	564	204	44.3 B	135 B
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # SSB05

Sample No.	SSB06	SSB07	SSB08	SSB09	SSB10
Date Collected	12/8/92	12/8/92	12/8/92	12/8/92	12/8/92
Percent Solids	94.1	91.9	72.6	91	63.2
Dilution Factor	1	1	1	1	1
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	4870	1680	3180	4730	6820
Antimony	3.7 UL	3.8 UL	4.8 UL	3.8 UL	5.3 UL
Arsenic	5.8	2.5	2.6	2.6	16
Barium	33.2 J	24.4 B	44.4 J	27.5 B	34.3 J
Beryllium	0.22 U	0.22 U	0.28 J	0.22 U	0.31 U
Cadmium	12.8	1.5	20.5	0.9 U	3.6
Calcium	31400 J	6580 J	1850 J	2950 J	1520 J
Chromium	24.3	13.5	44.3	7.9	20.8
Cobalt	6.7	2.2 U	2.8 U	2.2 U	3.1 U
Copper	16.6	39.8	87.8	5.3 B	39.1
Iron	10400	13600	4540	4680	8730
Lead	251	75.3	150	29.6	91.8
Magnesium	1470 B	417 B	528 B	449 B	774 B
Manganese	102	62	70.5	34	27.1
Mercury	0.17	0.16	0.77	0.12	0.36
Nickel	25.3	7.9	15.3	2.7 U	4.1
Potassium	945 B	300 B	438 B	378 B	566 B
Selenium	0.43 UL	0.44 UL	0.55 UL	0.45 UL	0.63 UL
Silver	1.1 B	0.77 B	0.84 U	0.67 U	8.1 B
Sodium	474 B	213 B	295 B	212 B	264 B
Thallium	0.23	0.22 U	0.28 U	0.22 U	0.32 U
Vanadium	18.6	11.3	19.8	10.2	23.5
Zinc	70.5 B	128 B	405	34.2 B	23.1 B
Cyanide	Q	Q	Q	Q	Q

AWD TECHNOLOGIES

A Subsidiary of
The Dow Chemical Company

PGH-93-TMJ-124

DATE February 2, 1993

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs
TAL Metals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Contract Nos. 68-D1-0085 and 039984, Case Number 19084, SDG Number GWA313

Samples:

Unfiltered Samples
GWB317 GWB319 GWB320 GWA313 GWA317
GWA320 GWA318

Filtered Samples
GWB317F GWB319F GWB320F GWA313F GWA317F
GWA320F GWA318F

Field Blanks
TBA-305 (Trip Blank)
RSA302 RSA303 RSA302F RSA303F

Field Duplicates
GWA317 GWA320

AWD Technologies, Inc.
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Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 19 water samples including 1 trip blank and 4 rinsate blanks. The samples were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), pesticides/PCBs, and TAL metals (filtered and unfiltered) by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed with the exception of those qualified as unreliable "R". The quality of organic analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, field duplicates, compound identification, and compound quantitation. The quality of inorganic analytical data was evaluated by the following parameters: initial and continuing calibrations, interference check samples, matrix spikes, laboratory and field blanks, laboratory and field duplicates, laboratory control samples, GFAA analytical spike recoveries, ICP serial dilutions, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Major Issues

In the semivolatile analysis, surrogate spike recoveries for phenol were less than the 10 percent quality control limit (were zero) in Sample GWA318 and the rerun, GWA318RE. Therefore, quantitation limits of the acid fraction of this sample are qualified "R", unreliable.

Minor Issues

Acetone, methylene chloride, trichloroethene, toluene, di-n-butylphthalate, bis(2-ethylhexyl)phthalate, aluminum, antimony, barium, beryllium, cadmium, calcium, copper, iron, magnesium, manganese, nickel, potassium, silver, sodium, vanadium, and zinc were reported in laboratory and/or field blanks. Therefore, positive results for acetone, methylene chloride, toluene, di-n-butylphthalate, and bis(2-ethylhexyl)phthalate which are less than ten (10) times the blank concentrations are qualified "B". Also, results for trichloroethene, aluminum, antimony, barium, beryllium, cadmium, copper, iron, magnesium, manganese, nickel, silver, vanadium, and zinc less than five (5) times the highest blank concentrations are qualified "B". No results for the other above mentioned compounds are qualified because either there were no positive results for these compounds in any samples or sample concentrations were greater than five (5) times the blanks levels.

Percent differences (%Ds) for bromomethane, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene exceeded the 25 percent quality control limit in continuing calibrations. Therefore, quantitation limits of these compounds in samples associated with the calibrations are qualified "UJ", estimated.

Pesticide surrogate spike recoveries for most samples were below quality control limits. Therefore, positive results for all compounds in affected samples are qualified "L" biased low, and quantitation limits are qualified "UL", biased low. Please note that dieldrin in Sample GWB317 received a "J" qualifier because its concentration is below the CRQL (see notes below). In cases where a compound receives "J" and "L" qualifiers, the "J" qualifier takes precedence and the concentration is considered to be an estimated value.

Matrix spike recoveries for selenium were below the 75 percent quality control limit in the unfiltered samples. Therefore, quantitation limits in affected samples are qualified "UL", biased low. In the filtered samples, all metals were within the quality control limits.

Laboratory duplicate results for zinc in the analysis of filtered samples exceeded the 20 percent quality control limit applied to water samples. Therefore, filtered positive results for zinc are qualified "J", estimated. Note that all positive filtered zinc results have previously been qualified "B" due to blank contamination and according to U.S. EPA guidance, "B" qualifiers take precedence over "J" qualifiers.

Serial dilution results for barium in the unfiltered samples and magnesium in the filtered samples exceeded the 10 percent quality control limit. Therefore, positive results for these analytes are qualified "J", estimated, in affected samples.

Analytical spike results for selenium in some samples and arsenic in samples RSA303 and RSA303F were below the 85 percent quality control limit. Therefore, quantitation limits for these compounds are qualified "UL", biased low, in affected samples.

Notes

Table 1 lists results of the field duplicate analysis of compounds which have positive results in at least one of the duplicate samples. The data in the table indicate that all compounds meet either the aqueous 20 percent advisory quality control limit or the $\pm$ CRQL criterion for results less than 5 times the CRQL.

Table 2 provides a comparison of the concentrations of unspiked compounds from Samples SSB09, SSB09MS, and SSB09MSD. Examination of percent relative standard deviations (%RSDs) shown in the table indicates that the %RSDs range from 0.0 to

27.0 percent. At the present time the U.S. EPA does not provide guidelines for evaluating data on the basis of unspiked MS/MSD analytes. Therefore, no results are evaluated on the basis of the data in Table 2.

Results for acetone, 1,2-dichloroethene (total), chloroform, 2-butanone, toluene, xylenes(total), phenol, di-n-butylphthalate. bis(2-ethylhexyl)phthalate, butylbenzylphthalate, naphthalene, 2-methylnaphthalene, 1,2,4-trichlorobenzene, diethylphthalate, and dieldrin in some samples are below contract required quantitation limits (CRQLs). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated, on the data summaries, unless qualified because of blank contamination as described in Minor Issues above.

In the semivolatile analysis, 2-(ethoxyethoxy)ethanol was reported as a Tentatively Identified Compound (TIC) in laboratory blanks and in Sample GWB317. The results for this compound in this sample has been lined out and initialed by the data validator indicating that it is considered to be a blank contaminant.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

Table 1 - Field Duplicate Analysis
Table 2 - Comparison of MS/MS Unspiked Compounds

1. Glossary of data qualifier codes
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory
4. Appendix B - Tentatively Identified Compounds (TICs)
5. Appendix C - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

TABLE 1

FIELD DUPLICATE ANALYSIS

TABLE 1 - FIELD DUPLICATE RESULTS
SDG # GWA313

	GWA317 ug/L	GWA320 ug/L	RPD %
phenol	8 J	7 J	13.3
naphthalene	0.7 J	1 B	35.3
bis(2-ethylhexyl)phthalate	4 B	3 B	28.6
acetone	7 B	4 B	54.5
1,2-dichloroethene (total)	9	8	11.8
chloroform	1 J	1 J	
trichloroethene	14	13	7.4

	GWA317 ug/L	GWA320 ug/L	RPD %	GWA320F ug/L	GWA317F ug/L	RPD %
Aluminum	354 B	341 B	3.7	15 U	30.7 B	
Antimony	18.4 B	17 U		25 B	17 U	
Arsenic	1.8	1.0 U		1.0 U	1.0 U	
Barium	53 J	52 J	1.9	48	47.7	0.6
Beryllium	1.2 B	1.0 U		1.0 U	1.6 U	
Calcium	153000	158000	3.2	140000	144000	2.8
Copper	2.0 B	3.2 B	46.2	3.7 B	4.9 B	27.9
Iron	423 B	439 B	3.7	22 B	13 B	51.4
Magnesium	3200	3160	1.3	1280 J	829 J	42.8
Manganese	20.4 B	24.6 B	18.7	3.0 U	3.6 B	
Potassium	9720	9710	0.1	10100	10500	3.9
Silver	3.0 U	3.0 U		6.8 B	3.0 U	
Sodium	74800	76100	1.7	78100	78600	0.6
Vanadium	13.2 B	11.8 B	11.2	10.2 B	10.6 B	3.8
Zinc	16.2 B	4.0 B	120.8	4.6 B	32.9 B	150.9

Table 2

Comparison of Unspiked Compounds in Sample, Matrix Spike and Matrix Spike Duplicate

TABLE 2 - COMPARISON OF MS/MSD UNSPIKED COMPOUNDS
SDG # GWA313

	GWA317 ug/L	GWA317MS ug/L	GWA317MSD ug/L	%RSD
VOLATILES				
Acetone	7 B	7 B	6 B	8.7
Chloroform	1 J	1 J	1 J	0.0
1,2-Dichloroethene(total)	9	12	7	27.0
SEMIVOLATILES				
Naphthalene	0.7 J	0.8 J	0.9 J	12.5
Di-n-butylphthalate	ND	2 B	ND	
Bis(2-ethylhexyl)phthalate	4 B	6 B	ND	
PESTICIDE/PCBS				
Endrin Ketone	ND	0.025 J	0.024 J	

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA313

Sample No.	GWA313	GWA317	GWA318	GWA320	GWB317
Date Collected	12/18/92	12/18/92	12/18/92	12/18/92	12/16/92
Date Analyzed	12/24/92	12/23/92	12/24/92	12/24/92	12/23/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	7.1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	14 U	2 U	2 U	2 U	2 U
Bromomethane	14 UJ	2 U	2 UJ	2 UJ	2 U
Vinyl chloride	14 U	2 U	2 U	2 U	2 U
Chloroethane	14 U	2 U	2 U	2 U	2 U
Methylene chloride	14 U	2 U	2 B	2 U	2 U
Acetone	71 U	7 B	28 B	4 B	10 U
Carbon disulfide	14 U	2 U	2 U	2 U	2 U
1,1-dichloroethene	14 U	2 U	2 U	2 U	2 U
1,1-dichloroethane	14 U	2 U	2 U	2 U	2 U
1,2-dichloroethene	8 J	9	5	8	2 U
Chloroform	14 U	1 J	8	1 J	2 U
1,2-dichloroethane	14 U	2 U	2 U	2 U	2 U
2-butanone	71 U	10 U	2 J	10 U	10 U
1,1,1-trichloroethane	14 U	2 U	2 U	2 U	2 U
Carbon tetrachloride	14 U	2 U	2 U	2 U	2 U
Bromodichloromethane	14 U	2 U	2 U	2 U	2 U
1,2-dichloropropane	14 U	2 U	2 U	2 U	2 U
C-1,3-dichloropropene	14 U	2 U	2 U	2 U	2 U
Trichloroethene	14 U	14	14	13	2 B
Dibromochloromethane	14 U	2 U	2 U	2 U	2 U
1,1,2-trichloroethane	14 U	2 U	2 U	2 U	2 U
Benzene	14 U	2 U	2 U	2 U	2 U
T-1,3-dichloropropene	14 U	2 U	2 U	2 U	2 U
Bromoform	14 U	2 U	2 U	2 U	2 U
4-methyl-2-pentanone	71 U	10 U	10 U	10 U	10 U
2-hexanone	71 U	10 U	10 U	10 U	10 U
Tetrachloroethene	14 U	2 U	4	2 U	4
1,2,2,2-tetrachloroethane	14 U	2 U	2 U	2 U	2 U
Toluene	14 U	2 U	2 U	2 U	2 U
Chlorobenzene	14 U	2 U	2 U	2 U	2 U
Ethylbenzene	14 U	2 U	2 U	2 U	2 U
Styrene	14 U	2 U	2 U	2 U	2 U
Xylenes(total)	14 U	2 U	1 J	2 U	2 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA313

Sample No.	GWB319	GWB320	RSA302	RSA303	TBA305
Date Collected	12/16/92	12/16/92	12/16/92	12/16/92	12/18/92
Date Analyzed	12/23/92	12/23/92	12/23/92	12/23/92	12/24/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	1.8	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	4 U	2 U	2 U	2 U	2 U
Bromomethane	4 U	2 U	2 U	2 U	2 U
Vinyl chloride	4 U	2 U	2 U	2 U	2 U
Chloroethane	4 U	2 U	2 U	2 U	2 U
Methylene chloride	4 U	2 U	2	2 U	2 U
Acetone	18 U	10 U	10 U	10 U	10 U
Carbon disulfide	4 U	2 U	2 U	2 U	2 U
1,1-dichloroethene	4 U	2 U	2 U	2 U	2 U
1,1-dichloroethane	4 U	2 U	2 U	2 U	2 U
1,2-dichloroethene	4 U	16	2 U	2 U	2 U
Chloroform	4 U	1 J	2 U	2 U	2 U
1,2-dichloroethane	4 U	3	2 U	2 U	2 U
2-butanone	18 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	4 U	2 U	2 U	2 U	2 U
Carbon tetrachloride	4 U	2 U	2 U	2 U	2 U
Bromodichloromethane	4 U	2 U	2 U	2 U	2 U
1,2-dichloropropane	4 U	2 U	2 U	2 U	2 U
C-1,3-dichloropropene	4 U	2 U	2 U	2 U	2 U
Trichloroethene	4 U	18	2 U	1 J	2 U
Dibromochloromethane	4 U	2 U	2 U	2 U	2 U
1,1,2-trichloroethane	4 U	2 U	2 U	2 U	2 U
Benzene	4 U	12	2 U	2 U	2 U
T-1,3-dichloropropene	4 U	2 U	2 U	2 U	2 U
Bromoform	4 U	2 U	2 U	2 U	2 U
4-methyl-2-pentanone	18 U	10 U	10 U	10 U	10 U
2-hexanone	18 U	10 U	10 U	10 U	10 U
Tetrachloroethene	4 U	2 U	2 U	2 U	2 U
1,2,2,2-tetrachloroethane	4 U	2 U	2 U	2 U	2 U
Toluene	3 B	2 U	2 U	2	2 U
Chlorobenzene	4 U	2 U	2 U	2 U	2 U
Ethylbenzene	18	2 U	2 U	2 U	2 U
Styrene	4 U	2 U	2 U	2 U	2 U
Xylenes(total)	140	2 U	2 U	2 U	2 U

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA313

Sample No.	GWA317	GWA318	GWA320	GWB317	GWB319
Date Collected	12/18/92	12/18/92	12/18/92	12/16/92	12/16/92
Date Extracted	12/21/92	12/21/92	12/21/92	12/21/92	12/21/92
Date Analyzed	12/28/92	12/28/92	12/30/92	12/28/92	12/28/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	8 J	10 R	7 J	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-chlorophenol	10 U	10 R	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-methylphenol	10 U	10 R	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U	10 U	10 U
4-methylphenol	10 U	10 R	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-nitrophenol	10 U	10 R	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 R	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 R	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	0.5 J	10 U	10 U	10 U
Naphthalene	0.7 J	1 J	1 J	10 U	2 J
chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 R	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U	10 U	8 J
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 R	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 R	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA313

Sample No.	GWA317	GWA318	GWA320	GWB317	GWB319
Date Collected	12/18/92	12/18/92	12/18/92	12/16/92	12/16/92
Date Extracted	12/21/92	12/21/92	12/21/92	12/21/92	12/21/92
Date Analyzed	12/28/92	12/28/92	12/30/92	12/28/92	12/28/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 R	25 U	25 U	25 U
4-nitrophenol	25 U	25 R	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	0.8 J	10 U	10 U	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 R	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 R	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	1 B	10 U	0.9 B	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	4 B	7 B	3 B	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Dibenz(a,h)anthracene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(g,h,i)perylene	10 UJ	10 UJ	10 U	10 UJ	10 UJ

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA313

Sample No.	GWB320	RSA302	RSA303
Date Collected	12/16/92	12/16/92	12/18/92
Date Extracted	12/21/92	12/21/92	12/21/92
Date Analyzed	12/28/92	12/28/92	12/28/92
Percent Moisture	NA	NA	NA
Dilution Factor	1	1	1
Units	ug/L	ug/L	ug/L
Phenol	6 J	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U
2-chlorophenol	10 U	10 U	10 U
1,3-dichlorobenzene	10 U	10 U	10 U
1,4-dichlorobenzene	10 U	10 U	10 U
1,2-dichlorobenzene	10 U	10 U	10 U
2-methylphenol	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10 U	10 U	10 U
4-methylphenol	10 U	10 U	10 U
N-nitroso-di-n-propylamine	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U
2-nitrophenol	10 U	10 U	10 U
2,4-dimethylphenol	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U
2,4-dichlorophenol	10 U	10 U	10 U
1,2,4-trichlorobenzene	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
4-chloroaniline	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U
4-chloro-3-methylphenol	10 U	10 U	10 U
2-methylnaphthalene	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U
2,4,6-trichlorophenol	10 U	10 U	10 U
2,4,5-trichlorophenol	25 U	25 U	25 U
2-chloronaphthalene	10 U	10 U	10 U
2-nitroaniline	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U
2,6-dinitrotoluene	10 U	10 U	10 U
3-nitroaniline	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA313

Sample No.	GWI3320	RSA302	RSA303
Date Collected	12/16/92	12/16/92	12/18/92
Date Extracted	12/21/92	12/21/92	12/21/92
Date Analyzed	12/28/92	12/28/92	12/28/92
Percent Moisture	NA	NA	NA
Dilution Factor	1	1	1
Units	ug/L	ug/L	ug/L
2,4-dinitrophenol	25 U	25 U	25 U
4-nitrophenol	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U
2,4-dinitrotoluene	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U
4-chlorophenyl-phenylether	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U
4-nitroaniline	25 U	25 U	25 U
4,6-dinitro-2-methylphenol	25 U	25 U	25 U
N-nitrosodiphenylamine	10 U	10 U	10 U
4-bromophenyl-phenylether	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U
3,3'-dichlorobenzidine	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	2 B	1 J	2 J
Di-n-octylphthalate	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 UJ	10 UJ	10 UJ
Dibenz(a,h)anthracene	10 UJ	10 UJ	10 UJ
Benzo(g,h,i)perylene	10 UJ	10 UJ	10 UJ

DATA SUMMARY - PESTICIDE/PCBs
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # GWA313

Sample No.	GWA317	GWA318	GWA320	GWB317	GWB319
Date Collected	12/18/92	12/18/92	12/18/92	12/16/92	12/16/92
Date Extracted	12/21/92	12/21/92	12/21/92	12/21/92	12/21/92
Date Analyzed	01/08/93	01/08/93	01/08/93	01/08/93	01/08/93
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Alpha-BHC	0.05 UL	0.05 U	0.05 U	0.05 UL	0.05 UL
Beta-BHC	0.05 UL	0.05 U	0.05 U	0.05 UL	0.05 UL
Delta-BHC	0.05 UL	0.05 U	0.05 U	0.05 UL	0.05 UL
Gamma-BHC	0.05 UL	0.05 U	0.05 U	0.05 UL	0.05 UL
Heptachlor	0.05 UL	0.05 U	0.05 U	0.05 UL	0.05 UL
Aldrin	0.05 UL	0.05 U	0.05 U	0.05 UL	0.05 UL
Heptachlor epoxide	0.05 UL	0.05 U	0.05 U	0.05 UL	0.05 UL
Endosulfan I	0.05 UL	0.05 U	0.05 U	0.05 UL	0.05 UL
Dieldrin	0.1 UL	0.1 U	0.1 U	0.022 J	0.1 UL
4,4'-DDE	0.1 UL	0.1 U	0.1 U	0.1 UL	0.1 UL
Endrin	0.1 UL	0.1 U	0.1 U	0.1 UL	0.1 UL
Endosulfan II	0.1 UL	0.1 U	0.1 U	0.1 UL	0.1 UL
4,4'-DDD	0.1 UL	0.1 U	0.1 U	0.1 UL	0.1 UL
Endosulfan sulfate	0.1 UL	0.1 U	0.1 U	0.1 UL	0.1 UL
4,4'-DDT	0.1 UL	0.1 U	0.1 U	0.1 UL	0.1 UL
Methoxychlor	0.5 UL	0.5 U	0.5 U	0.5 UL	0.5 UL
Endrin ketone	0.1 UL	0.1 U	0.1 U	0.1 UL	0.1 UL
Endrin aldehyde	0.1 UL	0.1 U	0.1 U	0.1 UL	0.1 UL
Alpha-Chlordane	0.05 UL	0.05 U	0.05 U	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 UL	0.05 U	0.05 U	0.05 UL	0.05 UL
Toxaphene	5 UL	5 U	5 U	5 UL	5 UL
Aroclor-1016	1 UL	1 U	1 U	1 UL	1 UL
Aroclor-1221	2 UL	2 U	2 U	2 UL	2 UL
Aroclor-1232	1 UL	1 U	1 U	1 UL	1 UL
Aroclor-1242	1 UL	1 U	1 U	1 UL	1 UL
Aroclor-1248	1 UL	1 U	1 U	1 UL	1 UL
Aroclor-1254	1 UL	1 U	1 U	1 UL	1 UL
Aroclor-1260	1 UL	1 U	1 U	1 UL	1 UL

DATA SUMMARY - PESTICIDE/PCBs
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # GWA313

Sample No.	GWB320	RSA302	RSA303
Date Collected	12/16/92	12/16/92	12/18/92
Date Extracted	12/21/92	12/21/92	12/21/92
Date Analyzed	01/08/93	01/08/93	01/08/93
Percent Moisture	NA	NA	NA
Dilution Factor	1	1	1
Units	ug/L	ug/L	ug/L
Alpha-BHC	0.05 UL	0.05 UL	0.05 UL
Beta-BHC	0.05 UL	0.05 UL	0.05 UL
Delta-BHC	0.05 UL	0.05 UL	0.05 UL
Gamma-BHC	0.05 UL	0.05 UL	0.05 UL
Heptachlor	0.05 UL	0.05 UL	0.05 UL
Aldrin	0.05 UL	0.05 UL	0.05 UL
Heptachlor epoxide	0.05 UL	0.05 UL	0.05 UL
Endosulfan I	0.05 UL	0.05 UL	0.05 UL
Dieldrin	0.1 UL	0.1 UL	0.1 UL
4,4'-DDE	0.1 UL	0.1 UL	0.1 UL
Endrin	0.1 UL	0.1 UL	0.1 UL
Endosulfan II	0.1 UL	0.1 UL	0.1 UL
4,4'-DDD	0.1 UL	0.1 UL	0.1 UL
Endosulfan sulfate	0.1 UL	0.1 UL	0.1 UL
4,4'-DDT	0.1 UL	0.1 UL	0.1 UL
Methoxychlor	0.5 UL	0.5 UL	0.5 UL
Endrin ketone	0.1 UL	0.1 UL	0.1 UL
Endrin aldehyde	0.1 UL	0.1 UL	0.1 UL
Alpha-Chlordane	0.05 UL	0.05 UL	0.05 UL
Gamma-Chlordane	0.05 UL	0.05 UL	0.05 UL
Toxaphene	5 UL	5 UL	5 UL
Aroclor-1016	1 UL	1 UL	1 UL
Aroclor-1221	2 UL	2 UL	2 UL
Aroclor-1232	1 UL	1 UL	1 UL
Aroclor-1242	1 UL	1 UL	1 UL
Aroclor-1248	1 UL	1 UL	1 UL
Aroclor-1254	1 UL	1 UL	1 UL
Aroclor-1260	1 UL	1 UL	1 UL

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # GWA313

Sample No.	GWA317	GWA317F	GWA318	GWA318F	GWA320
Date Collected	12/18/92	12/18/92	12/18/92	12/18/92	12/18/92
Percent Solids	NA	NA	NA	NA	NA
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	354 B	30.7 B	1120	693	341 B
Antimony	18.4 B	17 U	17 U	17 U	17 U
Arsenic	1.8	1.0 U	2.0	1.2	1.0 U
Barium	53 J	47.7	44.4 J	39.8	52 J
Beryllium	1.2 B	1.6 U	1.0 U	1.0 U	1.0 U
Cadmium	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Calcium	153000	144000	108000	104000	158000
Chromium	9 U	9.0 U	9.0 U	9.0 U	9.0 U
Cobalt	10 U	10 U	10 U	10 U	10 U
Copper	2.0 B	4.9 B	6.7 B	4.1 B	3.2 B
Iron	423 B	13 B	672	11 B	439 B
Lead	1.0 U	1.0 U	10.7	1.0 U	1.0 U
Magnesium	3200	829 J	162 B	22.6 B	3160
Manganese	20.4 B	3.6 B	6.0 B	3.0 U	24.6 B
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	12 U	12 U	12 U	12 U	12 U
Potassium	9720	10500	15800	16100	9710
Selenium	1.0 UL	5.0 U	1.0 UL	1.0 UL	1.0 UL
Silver	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Sodium	74800	78600	139000	140000	76100
Thallium	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vanadium	13.2 B	10.6 B	12.6 B	10.5 B	11.8 B
Zinc	16.2 B	32.9 B	25.7 B	3.0 U	4.0 B
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # GWA313

Sample No.	GWA320F	GWB317	GWB317F	GWB319	GWB319F
Date Collected	12/18/92	12/16/92	12/16/92	12/16/92	12/16/92
Percent Solids	NA	NA	NA	NA	NA
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	15 U	135000	141 B	83000	89 B
Antimony	25 B	17 U	17 U	17 U	17 U
Arsenic	1.0 U	15	8.8	8.5	7.8
Barium	48	389 J	17.2 B	230 J	23.5
Beryllium	1.0 U	4.9 B	1.0 U	2.3	1.0 U
Cadmium	4.0 U	5.4 B	4.0 U	4.0 U	4.0 U
Calcium	140000	31000	24900	90500	88900
Chromium	9.0 U	165	9.0 U	98	9.0 U
Cobalt	10 U	29.7	10 U	22.6	10 U
Copper	3.7 B	100	4.7 B	39.2	3.5 B
Iron	22 B	106000	1200	61900	1780
Lead	1.0 U	70.8	1.0 U	26.2	1.0 U
Magnesium	1280 J	18200	3440 J	15900	7390 J
Manganese	3.0 U	591	143	573	291
Mercury	0.20 U	0.45	0.20 U	0.20 U	0.20 U
Nickel	12 U	70.2 B	18 B	47.1	12 U
Potassium	10100	13400	2690	10000	4030
Selenium	5.0 U	5.0 UL	1.0 U	5.0 UL	1.0 U
Silver	6.8 B	3.0 U	3.0 U	3.1 B	3.0 U
Sodium	78100	7830	6470	8600	7160
Thallium	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vanadium	10.2 B	334	4.9 B	160	4.0 U
Zinc	4.6 B	248	8.2 B	136 B	3.0 U
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # GWA313

Sample No.	GWB320	GWB320F	RSA302	RSA302F	RSA303
Date Collected	12/16/92	12/16/92	12/16/92	12/16/92	12/18/92
Percent Solids	NA	NA	NA	NA	NA
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	130 B	33.6 B	35.4	60.5	61.7
Antimony	17 U	17 U	17 U	21.4	17 U
Arsenic	2.7	1.3	1.0 U	1.0 U	1.0 UL
Barium	98.6 J	94.1	1.0 U	1.0 U	1.0 U
Beryllium	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Calcium	167000	170000	218	108	703
Chromium	9.0 U	9.0 U	9.0 U	9.0 U	9.0 U
Cobalt	10 U	10 U	10 U	10 U	10 U
Copper	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Iron	9120	6450	94	17	67
Lead	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Magnesium	13300	13200 J	14 U	14 U	29.7
Manganese	373	356	3.0 U	3.0 U	3.0
Mercury	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	12 U	12 U	12 U	12 U	12 U
Potassium	3730	3980	192 U	192 U	192 U
Selenium	1.0 UL	1.0 UL	1.0 UL	1.0 U	5.0 UL
Silver	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Sodium	139000	146000	698	1110	1180
Thallium	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vanadium	6.1 B	4.0 U	4.0 U	6.2	7.6
Zinc	7.1 B	3.8 B	3.0 U	3.0 U	29.2
Cyanide	Q	Q	Q	Q	Q

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # GWA313

Sample No.	RSA303F	
Date Collected	12/18/92	
Percent Solids	NA	
Dilution Factor	1	
Units	ug/L	
Aluminum	15	U
Antimony	17	U
Arsenic	1.0	UL
Barium	1.0	U
Beryllium	1.0	U
Cadmium	4.0	U
Calcium	72.6	
Chromium	9.0	U
Cobalt	10	U
Copper	2.2	
Iron	27	
Lead	1.0	U
Magnesium	14	U
Manganese	3.0	U
Mercury	0.2	U
Nickel	12	U
Potassium	192	U
Selenium	5.0	UL
Silver	3.2	
Sodium	561	
Thallium	1.0	U
Vanadium	4.0	U
Zinc	8.5	J
Cyanide	Q	

AWD TECHNOLOGIES

A Subsidiary of
The Dow Chemical Company

PGH-93-TMJ-119

DATE February 2, 1993

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals
Semivolatile Organic Chemicals
Pesticides/PCBs

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Contract Number 68-D1-0085
Case Number 19084, SDG Number SDA29

<u>Samples</u>:

<u>Water Samples</u>

GWB314	GWB306	GWB301	GWA304	GWA310
GWB305	GWB307	GWB302	GWB311	GWB309
GWB315	GWB313	GWB308	GWB312	GWB303

<u>Soil Samples</u>

SBA10	SBA11	SDA29

<u>Field Blanks</u>
TBB-302 (Trip Blank)
RSB313

<u>Field Duplicates</u>

GWB311	GWA315

AWD Technologies, Inc.
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Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 17 water samples including 1 trip blank and 1 rinsate blank which were analyzed for volatile organic chemicals (VOAs). The data package also contained 3 soil samples which were analyzed for volatile organic chemicals (VOAs), semivolatile organic chemicals (BNAs), and pesticides/PCBs. The analyses were performed by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed in all samples. The quality of analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, field duplicates, compound identification, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Minor Issues

Acetone, methylene chloride, 2-butanone, and di-n-butylphthalate were reported in laboratory and/or field blanks. Therefore, positive results for acetone, 2-butanone, and di-n-butylphthalate which are less than ten (10) times the highest blank concentrations are qualified "B". No results for methylene chloride have been qualified because there were no positive results for methylene chloride in any samples.

Percent differences (%Ds) for indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene exceeded the 25 percent quality control limit in a continuing calibration. Therefore, quantitation limits of these compounds are qualified "UJ", estimated, in the one sample associated with the calibration, SBA11.

Pesticide surrogate spike recoveries for samples SBA10 and SDA29 were below quality control limits. Therefore, positive results for all compounds in affected samples are qualified "L" biased low, and quantitation limits are qualified "UL", biased low. Please note that several compounds received a "J" qualifier because their concentrations are below the CRQLs (see notes below). In cases where a compound receives "J" and "L" qualifiers, the "J" qualifier takes precedence and the concentration is considered to be an estimated value.

Notes

Table 1 lists results of the field duplicate analysis of compounds which have positive results in at least one of the duplicate samples. All compounds meet either the aqueous 20 percent advisory quality control limit or the ± CRQL criterion for results less than 5 times the CRQL.

Table 2 provides a comparison of the concentrations of unspiked compounds from Sample SSB09, SSB09MS, and SSB09MSD. Examination of percent relative differences (%RSDs) shown in the table indicates that the %RSDs range from 3.0 to 73.9~~3~~ percent. At the present time the U.S. EPA does not provide guidelines for evaluating data on the basis of unspiked MS/MSD analytes. Therefore, no results are evaluated on the basis of the data in Table 2.

Some results of the pesticide/PCB analysis were flagged "P" by the laboratory (See Appendix A) because percent differences (%Ds) between concentrations reported on the primary and confirmation columns were greater than 25 percent. No data are qualified on the basis of these %Ds because qualification of data is not required by current guidelines. Appendix C shows the laboratory's results on each column.

Results for xylenes(total), toluene, acetone, benzene, 1,2-dichloroethene, 4-methyl-2-pentanone, carbon disulfide, acenaphthene, phenanthrene, fluoranthene, pyrene, di-n-butylphthalate, butylbenzylphthalate, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, 2-methylnaphthalene, dibenzofuran, diethylphthalate, fluorene, bis(2-ethylhexyl)phthalate, endrin, endosulfan I, 4,4'-DDE, 4,4-DDD, alpha-chlordane, and gamma-chlordane in some samples are below contract required quantitation limits (CRQLs). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated, on the data summaries, unless qualified because of blank contamination as described in Minor Issues above.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

Table 1 - Field Duplicate Analysis
Table 2 - Comparison of MS/MS Unspiked Compounds

1. Glossary of data qualifier codes
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory
4. Appendix B - Tentatively Identified Compounds (TICs)
5. Appendix C - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

TABLE 1

FIELD DUPLICATE ANALYSIS

TABLE 1 - FIELD DUPLICATE RESULTS
SDG # SDA29

	GWB311 ug/L	GWB315 ug/L	RPD %
vinyl chloride	310	320	3.2
acetone	14 J	ND	
1,1-dichloroethene	33	32	3.1
1,2-dichloroethene (total)	230	230	0.0
1,2-dichloroethane	62	62	0.0
trichloroethene	230	230	0.0
benzene	11 J	11 J	0.0

Table 2

Comparison of Unspiked Compounds in Sample, Matrix Spike and Matrix Spike Duplicate

TABLE 2 - COMPARISON OF MS/MSD UNSPIKED COMPOUNDS
SDG # SDA29

	SDA29 ug/kg	SDA29MS ug/kg	SDA29MSD ug/kg	%RSD
VOLATILES				
Acetone	120 B	160 B	250 B	37.7
2-Butanone	30 B	40 B	56 B	31.2
SEMIVOLATILES				
Phenanthrene	300 J	140 J	410 J	47.9
Di-n-butylphthalate	1100 B	1500 B	170 B	73.9
Fluoranthene	1100 J	580 J	1100	32.4
Benzo(a)anthracene	500 J	280 J	480	29.0
Chrysene	570 J	350 J	550	24.8
Benzo(b)fluoranthene	670 J	360 J	620	30.3
Benzo(k)fluoranthene	220 J	100 J	250	41.8
Benzo(a)pyrene	320 J	180 J	320	29.6
Indeno(1,2,3-cd)pyrene	190 J	ND	160 J	
Benzo(g,h,i)perylene	170 J	ND	160 J	
Bis(2-ethylhexyl)phthalate	4100	2200	4100	31.6
Butylbenzylphthalate	170 J	ND	ND	
PESTICIDE/PCBS				
Endosulfan I	3.2 J	3.4 J	3.3 J	3.0
4,4'-DDE	84	70	82	9.6
4,4'-DDD	89	85	96	6.2
alpha-Chlordane	7.6 J	6.9 J	7.8 J	6.4
gamma-Chlordane	4.8 J	4.7 J	4.2 J	7.0

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SDA29

Sample No.	GWB301	GWB302	GWB303	GWB304	GWB305
Date Collected	12/14/92	12/14/92	12/14/92	12/14/92	12/14/92
Date Analyzed	12/19/92	12/19/92	12/19/92	12/19/92	12/18/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	7.1	1.3	1	50	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	14 U	2 U	2 U	100 U	2 U
Bromomethane	14 U	2 U	2 U	100 U	2 U
Vinyl chloride	14 U	2	2 U	100 U	2 U
Chloroethane	14 U	2 U	2 U	100 U	2 U
Methylene chloride	14 U	2 U	2 U	100 U	2 U
Acetone	71 U	12 U	10 U	1300	10 U
Carbon disulfide	14 U	2 U	2 U	100 U	2 U
1,1-dichloroethene	14 U	2 U	2 U	100 U	2 U
1,1-dichloroethane	14 U	2 U	2 U	100 U	2 U
1,2-dichloroethene	14 U	4	3	100 U	2 U
Chloroform	14 U	2 U	2 U	100 U	2 U
1,2-dichloroethane	170	38	2 U	100 U	2 U
2-butanone	71 U	12 U	10 U	500 U	10 U
1,1,1-trichloroethane	14 U	2 U	2 U	100 U	2 U
Carbon tetrachloride	14 U	2 U	2 U	100 U	2 U
Bromodichloromethane	14 U	2 U	2 U	100 U	2 U
1,2-dichloropropane	14 U	2 U	2 U	100 U	2 U
C-1,3-dichloropropene	14 U	2 U	2 U	100 U	2 U
Trichloroethene	14 U	4	14	100 U	2 U
Dibromochloromethane	14 U	2 U	2 U	100 U	2 U
1,1,2-trichloroethane	14 U	2 U	2 U	100 U	2 U
Benzene	14 U	2 U	2 U	100 U	2 U
T-1,3-dichloropropene	14 U	2 U	2 U	100 U	2 U
Bromoform	14 U	2 U	2 U	100 U	2 U
4-methyl-2-pentanone	71 U	12 U	10 U	580	10 U
2-hexanone	71 U	12 U	10 U	500 U	10 U
Tetrachloroethene	14 U	2 U	2 U	100 U	2 U
1,2,2,2-tetrachloroethane	14 U	2 U	2 U	100 U	2 U
Toluene	14 U	2 U	2 U	100 U	2 U
Chlorobenzene	14 U	2 U	2 U	100 U	2 U
Ethylbenzene	14 U	2 U	2 U	100 U	2 U
Styrene	14 U	2 U	2 U	100 U	2 U
Xylenes(total)	14 U	2 U	2 U	90 J	2 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SDA29

Sample No.	GWB306	GWB307	GWB308	GWB309	GWB310
Date Collected	12/14/92	12/14/92	12/14/92	12/14/92	12/14/92
Date Analyzed	12/18/92	12/18/92	12/19/92	12/19/92	12/18/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	2 U	2 U	2 U	2 U	2 U
Bromomethane	2 U	2 U	2 U	2 U	2 U
Vinyl chloride	2 U	3	2 U	2 U	2 U
Chloroethane	2 U	2 U	2 U	2 U	2 U
Methylene chloride	2 U	2 U	2 U	2 U	2 U
Acetone	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	2 U	2 U	2 U	2 U	2 U
1,1-dichloroethene	2 U	2 U	2 U	2 U	2 U
1,1-dichloroethane	2 U	2 U	2 U	2 U	2 U
1,2-dichloroethene	2 U	9	2 U	2 U	2 U
Chloroform	2 U	2 U	2 U	2 U	2 U
1,2-dichloroethane	2 U	2	2 U	2 U	2 U
2-butanone	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	2 U	2 U	2 U	2 U	2 U
Carbon tetrachloride	2 U	2 U	2 U	2 U	2 U
Bromodichloromethane	2 U	2 U	2 U	2 U	2 U
1,2-dichloropropane	2 U	2 U	2 U	2 U	2 U
C-1,3-dichloropropene	2 U	2 U	2 U	2 U	2 U
Trichloroethene	2 U	7	2 U	2 U	2 U
Dibromochloromethane	2 U	2 U	2 U	2 U	2 U
1,1,2-trichloroethane	2 U	2 U	2 U	2 U	2 U
Benzene	2 U	2 U	2 U	2 U	2 U
T-1,3-dichloropropene	2 U	2 U	2 U	2 U	2 U
Bromoform	2 U	2 U	2 U	2 U	2 U
4-methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U
2-hexanone	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	2 U	2 U	2 U	2 U	2 U
1,2,2,2-tetrachloroethane	2 U	2 U	2 U	2 U	2 U
Toluene	2 U	1 J	2 U	2 U	2 U
Chlorobenzene	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	2 U	2 U	2 U	2 U	2 U
Styrene	2 U	2 U	2 U	2 U	2 U
Xylenes(total)	2 U	1 J	2 U	2 U	2 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
DG # SDA29

Sample No.	GWB311	GWB312	GWB313	GWB314	GWB315
Date Collected	12/14/92	12/14/92	12/14/92	12/14/92	12/14/92
Date Analyzed	12/19/92	12/19/92	12/19/92	12/18/92	12/19/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	1	1	1	50	10
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	20 U	2 U	2 U	100 U	20 U
Bromomethane	20 U	2 U	2 U	100 U	20 U
Vinyl chloride	310	2	2 U	100 U	320
Chloroethane	20 U	2 U	2 U	100 U	20 U
Methylene chloride	20 U	2 U	2 U	100 U	20 U
Acetone	14 J	10 U	10 U	1200	100 U
Carbon disulfide	20 U	2 U	2 U	100 U	20 U
1,1-dichloroethene	33	2 U	2 U	100 U	32
1,1-dichloroethane	20 U	2 U	2 U	100 U	20 U
1,2-dichloroethene	230	1 J	2 U	100 U	230
Chloroform	20 U	2 U	2 U	100 U	20 U
1,2-dichloroethane	62	2 U	2 U	100 U	62
2-butanone	100 U	10 U	10 U	500 U	100 U
1,1,1-trichloroethane	20 U	2 U	2 U	100 U	20 U
Carbon tetrachloride	20 U	2 U	2 U	100 U	20 U
Bromodichloromethane	20 U	2 U	2 U	100 U	20 U
1,2-dichloropropane	20 U	2 U	2 U	100 U	20 U
C-1,3-dichloropropene	20 U	2 U	2 U	100 U	20 U
Trichloroethene	230	2 U	2 U	100 U	230
Dibromochloromethane	20 U	2 U	2 U	100 U	20 U
1,1,2-trichloroethane	20 U	2 U	2 U	100 U	20 U
Benzene	11 J	2 U	2 U	100 U	11 J
T-1,3-dichloropropene	20 U	2 U	2 U	100 U	20 U
Bromoform	20 U	2 U	2 U	100 U	20 U
4-methyl-2-pentanone	100 U	10 U	10 U	470 J	100 U
2-hexanone	100 U	10 U	10 U	500 U	100 U
Tetrachloroethene	20 U	2 U	2 U	100 U	20 U
1,2,2,2-tetrachloroethane	20 U	2 U	2 U	100 U	20 U
Toluene	20 U	2 U	2 U	100 U	20 U
Chlorobenzene	20 U	2 U	2 U	100 U	20 U
Ethylbenzene	20 U	2 U	2 U	100 U	20 U
Styrene	20 U	2 U	2 U	100 U	20 U
Xylenes(total)	20 U	2 U	2 U	140	20 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SDA29

Sample No.	RSB313	SBA10	SBA11	SDA29	TBB302
Date Collected	12/14/92	12/15/92	12/15/92	12/9/92	12/14/92
Date Analyzed	12/19/92	12/20/92	12/18/92	12/17/92	12/19/92
Percent Moisture	NA	26	17	72	NA
Dilution Factor	1	1	1	1	1
Units	ug/L	ug/kg	ug/kg	ug/kg	ug/L
Chloromethane	2 U	14 U	12 U	36 U	2 U
Bromomethane	2 U	14 U	12 U	36 U	2 U
Vinyl chloride	2 U	14 U	12 U	36 U	2 U
Chloroethane	2 U	14 U	12 U	36 U	2 U
Methylene chloride	2	14 U	12 U	36 U	2 U
Acetone	10 U	83 B	82 B	120 B	10 U
Carbon disulfide	2 U	14 U	4 J	36 U	2 U
1,1-dichloroethene	2 U	14 U	12 U	36 U	2 U
1,1-dichloroethane	2 U	14 U	12 U	36 U	2 U
1,2-dichloroethene	2 U	14 U	12 U	36 U	2 U
Chloroform	2 U	14 U	12 U	36 U	2 U
1,2-dichloroethane	2 U	14 U	12 U	36 U	2 U
2-butanone	10 U	13 B	9 B	30 B	10 U
1,1,1-trichloroethane	2 U	14 U	12 U	36 U	2 U
Carbon tetrachloride	2 U	14 U	12 U	36 U	2 U
Bromodichloromethane	2 U	14 U	12 U	36 U	2 U
1,2-dichloropropane	2 U	14 U	12 U	36 U	2 U
C-1,3-dichloropropene	2 U	14 U	12 U	36 U	2 U
Trichloroethene	2 U	14 U	12 U	36 U	2 U
Dibromochloromethane	2 U	14 U	12 U	36 U	2 U
1,1,2-trichloroethane	2 U	14 U	12 U	36 U	2 U
Benzene	2 U	14 U	12 U	36 U	2 U
T-1,3-dichloropropene	2 U	14 U	12 U	36 U	2 U
Bromoform	2 U	14 U	12 U	36 U	2 U
4-methyl-2-pentanone	10 U	14 U	12 U	36 U	10 U
2-hexanone	10 U	14 U	12 U	36 U	10 U
Tetrachloroethene	2 U	14 U	12 U	36 U	2 U
1,2,2,2-tetrachloroethane	2 U	14 U	12 U	36 U	2 U
Toluene	2 U	14 U	12 U	36 U	2 U
Chlorobenzene	2 U	14 U	12 U	36 U	2 U
Ethylbenzene	2 U	14 U	12 U	36 U	2 U
Styrene	2 U	14 U	12 U	36 U	2 U
Xylenes(total)	2 U	14 U	12 U	36 U	2 U

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # SDA29

Sample No.	SBA10	SBA11	SDA29
Date Collected	12/15/92	12/15/92	12/9/92
Date Extracted	12/18/92	12/18/92	12/18/92
Date Analyzed	12/24/92	12/29/92	12/24/92
Percent Moisture	23	27	66
Dilution Factor	1	1	1
Units	ug/kg	ug/kg	ug/kg
Phenol	430 U	460 U	2000 U
Bis(2-chloroethyl)ether	430 U	460 U	2000 U
2-chlorophenol	430 U	460 U	2000 U
1,3-dichlorobenzene	430 U	460 U	2000 U
1,4-dichlorobenzene	430 U	460 U	2000 U
1,2-dichlorobenzene	430 U	460 U	2000 U
2-methylphenol	430 U	460 U	2000 U
2,2'-oxybis(1-chloropropane)	430 U	460 U	2000 U
4-methylphenol	430 U	460 U	2000 U
N-nitroso-di-n-propylamine	430 U	460 U	2000 U
Hexachloroethane	430 U	460 U	2000 U
Nitrobenzene	430 U	460 U	2000 U
Isophorone	430 U	460 U	2000 U
2-nitrophenol	430 U	460 U	2000 U
2,4-dimethylphenol	430 U	460 U	2000 U
Bis(2-chloroethoxy)methane	430 U	460 U	2000 U
2,4-dichlorophenol	430 U	460 U	2000 U
1,2,4-trichlorobenzene	430 U	460 U	2000 U
Naphthalene	430 U	460 U	2000 U
Chloroaniline	430 U	460 U	2000 U
Hexachlorobutadiene	430 U	460 U	2000 U
4-chloro-3-methylphenol	430 U	460 U	2000 U
2-methylnaphthalene	620	40 J	2000 U
Hexachlorocyclopentadiene	430 U	460 U	2000 U
2,4,6-trichlorophenol	430 U	460 U	2000 U
2,4,5-trichlorophenol	1100 U	1100 U	4900 U
2-chloronaphthalene	430 U	460 U	2000 U
2-nitroaniline	1100 U	1100 U	4900 U
Dimethylphthalate	430 U	460 U	2000 U
Acenaphthylene	430 U	460 U	2000 U
2,6-dinitrotoluene	430 U	460 U	2000 U
3-nitroaniline	1100 U	1100 U	4900 U
Acenaphthene	78 J	100 J	2000 U

DATA SUMMARY - SEMOVOLATILE ORGANIC CHEMICALS (BNAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL.
SDG # SDA29

Sample No.	SBA10	SBA11	SDA29
Date Collected	12/15/92	12/15/92	12/9/92
Date Extracted	12/18/92	12/18/92	12/18/92
Date Analyzed	12/24/92	12/29/92	12/24/92
Percent Moisture	23	27	66
Dilution Factor	1	1	1
Units	ug/kg	ug/kg	ug/kg
2,4-dinitrophenol	1100 U	1100 U	4900 U
4-nitrophenol	1100 U	1100 U	4900 U
Dibenzofuran	430 U	30 J	2000 U
2,4-dinitrotoluene	430 U	460 U	2000 U
Diethylphthalate	430 U	73 J	2000 U
4-chlorophenyl-phenylether	430 U	460 U	2000 U
Fluorene	430 U	35 J	2000 U
4-nitroaniline	1100 U	1100 U	4900 U
4,6-dinitro-2-methylphenol	1100 U	1100 U	4900 U
N-nitrosodiphenylamine	430 U	460 U	2000 U
4-bromophenyl-phenylether	430 U	460 U	2000 U
Hexachlorobenzene	430 U	460 U	2000 U
Pentachlorophenol	1100 U	1100 U	4900 U
Phenanthrene	190 J	37 J	300 J
Anthracene	430 U	460 U	2000 U
Carbazole	430 U	460 U	2000 U
Di-n-butylphthalate	430 U	140 B	1100 B
Fluoranthene	150 J	34 J	1100 J
Pyrene	180 J	31 J	850 J
Butylbenzylphthalate	25 J	460 U	170 J
3,3'-dichlorobenzidine	430 U	460 U	2000 U
Benzo(a)anthracene	45 J	460 U	500 J
Chrysene	53 J	26 J	570 J
Bis(2-ethylhexyl)phthalate	430 U	220 J	4100
Di-n-octylphthalate	430 U	460 U	2000 U
Benzo(b)fluoranthene	41 J	460 U	670 J
Benzo(k)fluoranthene	430 U	460 U	220 J
Benzo(a)pyrene	430 U	460 U	320 J
Indeno(1,2,3-cd)pyrene	430 U	460 UJ	190 J
Dibenz(a,h)anthracene	430 U	460 UJ	2000 U
Benzo(g,h,i)perylene	430 U	460 UJ	170 J

DATA SUMMARY - PESTICIDE/PCBs
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
SDG # SDA29

Sample No.	SBA10	SBA11	SDA29
Date Collected	12/15/92	12/15/92	12/9/92
Date Extracted	12/18/92	12/18/92	12/18/92
Date Analyzed	01/04/93	01/04/93	01/04/93
Percent Moisture	23	27	66
Dilution Factor	1	1	1
Units	ug/kg	ug/kg	ug/kg
Alpha-BHC	2.2 UL	2.3 U	9.8 UL
Beta-BHC	2.2 UL	2.3 U	9.8 UL
Delta-BHC	2.2 UL	2.3 U	9.8 UL
Gamma-BHC	2.2 UL	2.3 U	9.8 UL
Heptachlor	2.2 UL	2.3 U	9.8 UL
Aldrin	2.2 UL	2.3 U	9.8 UL
Heptachlor epoxide	2.2 UL	2.3 U	9.8 UL
Endosulfan I	2.3 L	0.84 J	3.2 J
Dieldrin	4.3 UL	4.6 U	20 UL
4,4'-DDE	8.4 L	2.3 J	64 L
Endrin	2.7 J	4.6 U	20 UL
Endosulfan II	4.3 UL	4.6 U	20 UL
4,4'-DDD	5.8 L	0.88 J	89 L
Endosulfan sulfate	4.3 UL	4.6 U	20 UL
4,4'-DDT	4.3 UL	4.6 U	20 L
Methoxychlor	22 UL	23 U	98 UL
Endrin ketone	4.3 UL	4.6 U	20 UL
Endrin aldehyde	4.3 UL	4.6 U	20 UL
Alpha-Chlordane	2.6 L	1 J	7.6 J
Gamma-Chlordane	2.2 UL	2.3 U	4.8 J
Toxaphene	220 UL	230 U	980 UL
Aroclor-1016	43 UL	46 U	200 UL
Aroclor-1221	87 UL	91 U	390 UL
Aroclor-1232	43 UL	46 U	200 UL
Aroclor-1242	43 UL	46 U	200 UL
Aroclor-1248	43 UL	46 U	200 UL
Aroclor-1254	92 L	46 U	200 UL
Aroclor-1260	43 UL	46 U	200 UL

AWD TECHNOLOGIES

A Subsidiary of
The Dow Chemical Company

PGH-93-TMJ-118

DATE February 2, 1993

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals

RE: Navy CLEAN Program/Camp Allen Landfill

Wadsworth/Alert Laboratories' Contract Number 68-D1-0085
Case Number 19084, SDG Number GWA301

Samples:

GWA310	GWA311	GWA321	GWA322	GWA305
GWA308	GWA309	GWA307	GWA301	GWA306
GWA316	GWA304	GWA314	GWA302	GWA303
GWA312	GWA315			

Field Blanks:

TBA-303 TBA-304 (Trip Blanks)
RSA301

Field Duplicates:

GWA310 GWA321
GWA305 GWA322

AWD Technologies, Inc.
Penn Center West Building III Suite 300 Pittsburgh Pennsylvania 15276 Telephone 412 788 2717 Fax 412 788 1316

Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 20 water samples including 2 trip blanks and 1 rinsate blank. The samples were analyzed for volatile organic chemicals (VOAs) by methods of the U.S. EPA's Contract Laboratory Program (CLP).

Summary

All compounds were successfully analyzed in all samples. The quality of analytical data was evaluated by the following parameters: GC/MS tuning and performance, internal standards, initial calibrations, continuing calibrations, surrogate spikes, matrix spikes, laboratory and field blanks, field duplicates, compound identification, and compound quantitation. Areas of concern with respect to data usability are discussed below.

Minor Issues

Acetone was detected in laboratory blanks and methylene chloride and trichloroethene were reported in field blanks. Therefore, positive results for acetone which are less than ten (10) times the blank concentrations are qualified "B". Also, results for trichloroethene less than five (5) times the blank concentration are qualified "B". No results for methylene chloride are qualified because there were no positive results for this analyte in any samples.

Notes

Results from the two field duplicate pairs contained in this data package were compared by the data validator. All compounds met either the aqueous 20 percent advisory quality control limit or the ± CRQL criterion for results less than 5 times the CRQL.

Results for acetone, 1,2-dichloroethene (total), benzene, toluene, trichloroethene, and vinyl chloride in some samples are below contract required quantitation limits (CRQL). The laboratory flagged these results "J" on the data analysis sheets (Appendix A). The "J" qualifier has been retained after data validation and results for these compounds are qualified "J", estimated, on the data summaries, unless qualified because of blank contamination as described in Minor Issues above.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA) and the U.S. EPA's National Functional Guidelines for Evaluating Organic and Inorganic Analyses.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory
4. Appendix B - Tentatively Identified Compounds (TICs)
5. Appendix C - Support Documentation which includes details to support the statements made in this report

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA301

Sample No.	GWA301	GWA302	GWA303	GWA304	GWA305
Date Collected	12/15/92	12/15/92	12/15/92	12/15/92	12/15/92
Date Analyzed	12/23/92	12/23/92	12/23/92	12/23/92	12/22/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	10	1	1	3.6	1.7
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	20 U	2 U	2 U	7 U	3 U
Bromomethane	20 U	2 U	2 U	7 U	3 U
Vinyl chloride	20 U	2 U	2 U	14	8
Chloroethane	20 U	2 U	2 U	7 U	3 U
Methylene chloride	20 U	2 U	2 U	7 U	3 U
Acetone	32 B	10 U	10 U	9 B	17 U
Carbon disulfide	20 U	2 U	2 U	7 U	3 U
1,1-dichloroethene	20 U	2 U	2 U	7 U	3 U
1,1-dichloroethane	20 U	2 U	2 U	7 U	3 U
1,2-dichloroethene	290	2 U	1 J	110	50
Chloroform	20 U	2 U	2 U	7 U	3 U
1,2-dichloroethane	23	2 U	2 U	7 U	3 U
2-butanone	100 U	10 U	10 U	36 U	17 U
1,1,1-trichloroethane	20 U	2 U	2 U	7 U	3 U
Carbon tetrachloride	20 U	2 U	2 U	7 U	3 U
Bromodichloromethane	20 U	2 U	2 U	7 U	3 U
1,2-dichloropropane	20 U	2 U	2 U	7 U	3 U
C-1,3-dichloropropene	20 U	2 U	2 U	7 U	3 U
Trichloroethene	49 B	2 U	2 U	8 B	11
Dibromochloromethane	20 U	2 U	2 U	7 U	3 U
1,1,2-trichloroethane	20 U	2 U	2 U	7 U	3 U
Benzene	20 U	2 U	2 U	7 U	3 U
T-1,3-dichloropropene	20 U	2 U	2 U	7 U	3 U
Bromoform	20 U	2 U	2 U	7 U	3 U
4-methyl-2-pentanone	100 U	10 U	10 U	36 U	17 U
2-hexanone	100 U	10 U	10 U	36 U	17 U
Tetrachloroethene	20 U	2 U	2 U	7 U	3 U
1,2,2,2-tetrachloroethane	20 U	2 U	2 U	7 U	3 U
Toluene	20 U	2 U	2 U	7 U	3 U
Chlorobenzene	20 U	2 U	2 U	7 U	3 U
Ethylbenzene	20 U	2 U	2 U	7 U	3 U
Styrene	20 U	2 U	2 U	7 U	3 U
Xylenes(total)	20 U	2 U	2 U	7 U	3 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA301

Sample No.	GWA306	GWA307	GWA308	GWA309	GWA310
Date Collected	12/15/92	12/15/92	12/15/92	12/15/92	12/15/92
Date Analyzed	12/23/92	12/23/92	12/23/92	12/22/92	12/22/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	1	2	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	2 U	4 U	2 U	2 U	2 U
Bromomethane	2 U	4 U	2 U	2 U	2 U
Vinyl chloride	2 U	8	2 U	2 U	2 U
Chloroethane	2 U	4 U	2 U	2 U	2 U
Methylene chloride	2 U	4 U	2 U	2 U	2 U
Acetone	10 U	20 U	10 U	10 U	10 U
Carbon disulfide	2 U	4 U	2 U	2 U	2 U
1,1-dichloroethene	2 U	4 U	2 U	2 U	2 U
1,1-dichloroethane	2 U	4 U	2 U	2 U	2 U
1,2-dichloroethene	2 U	59	2 U	3	2 U
Chloroform	2 U	4 U	2 U	2 U	2 U
1,2-dichloroethane	2 U	10	2 U	2 U	2 U
2-butanone	10 U	20 U	10 U	10 U	20 U
1,1,1-trichloroethane	2 U	4 U	2 U	2 U	2 U
Carbon tetrachloride	2 U	4 U	2 U	2 U	2 U
Bromodichloromethane	2 U	4 U	2 U	2 U	2 U
1,2-dichloropropane	2 U	4 U	2 U	2 U	2 U
C-1,3-dichloropropene	2 U	4 U	2 U	2 U	2 U
Trichloroethene	2 U	16	3 B	2 B	3 B
Dibromochloromethane	2 U	4 U	2 U	2 U	2 U
1,1,2-trichloroethane	2 U	4 U	2 U	2 U	2 U
Benzene	2 U	4 U	2 U	2 U	1 J
T-1,3-dichloropropene	2 U	4 U	2 U	2 U	2 U
Bromoform	2 U	4 U	2 U	2 U	2 U
4-methyl-2-pentanone	10 U	20 U	10 U	10 U	10 U
2-hexanone	10 U	20 U	10 U	10 U	10 U
Tetrachloroethene	2 U	4 U	2 U	2 U	2 U
1,2,2,2-tetrachloroethane	2 U	4 U	2 U	2 U	2 U
Toluene	1 J	4 U	2 U	2 U	2 U
Chlorobenzene	2 U	4 U	2 U	2 U	2 U
Ethylbenzene	2 U	4 U	2 U	2 U	2 U
Styrene	2 U	4 U	2 U	2 U	2 U
Xylenes(total)	2 U	4 U	2 U	2 U	2 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
IDG # GWA301

Sample No.	GWA311	GWA312	GWA314	GWA315	GWA316
Date Collected	12/15/92	12/15/92	12/15/92	12/16/92	12/15/92
Date Analyzed	12/22/92	12/23/92	12/23/92	12/23/92	12/23/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	1	25	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	2 U	50 U	2 U	2 U	2 U
Bromomethane	2 U	50 U	2 U	2 U	2 U
Vinyl chloride	2 U	50 U	2 U	1 J	2 U
Chloroethane	2 U	50 U	2 U	2 U	2 U
Methylene chloride	2 U	50 U	2 U	2 U	2 U
Acetone	10 U	89 B	11 B	10 U	10 U
Carbon disulfide	2 U	50 U	2 U	2 U	2 U
1,1-dichloroethene	2 U	50 U	2 U	2 U	2 U
1,1-dichloroethane	2 U	50 U	2 U	2 U	2 U
1,2-dichloroethene	2 U	50 U	2 U	7	2 U
Chloroform	2 U	50 U	2 U	2 U	2 U
1,2-dichloroethane	2 U	50 U	2 U	2 U	2 U
2-butanone	10 U	250 U	10 U	10 U	10 U
1,1,1-trichloroethane	2 U	50 U	2 U	2 U	2 U
Carbon tetrachloride	2 U	50 U	2 U	2 U	2 U
Bromodichloromethane	2 U	50 U	2 U	2 U	2 U
1,2-dichloropropane	2 U	50 U	2 U	2 U	2 U
C-1,3-dichloropropene	2 U	50 U	2 U	2 U	2 U
Trichloroethene	2 B	50 U	2 U	12	2 U
Dibromochloromethane	2 U	50 U	2 U	2 U	2 U
1,1,2-trichloroethane	2 U	50 U	2 U	2 U	2 U
Benzene	2 U	50 U	2 U	2 U	2 U
T-1,3-dichloropropene	2 U	50 U	2 U	2 U	2 U
Bromoform	2 U	50 U	2 U	2 U	2 U
4-methyl-2-pentanone	10 U	250 U	10 U	10 U	10 U
2-hexanone	10 U	250 U	10 U	10 U	10 U
Tetrachloroethene	2 U	50 U	2 U	2 U	2 U
1,2,2,2-tetrachloroethane	2 U	620	2 U	2 U	2 U
Toluene	2 U	50 U	2 U	2 U	2 U
Chlorobenzene	2 U	50 U	2 U	2 U	2 U
Ethylbenzene	2 U	50 U	2 U	2 U	2 U
Styrene	2 U	50 U	2 U	2 U	2 U
Xylenes(total)	2 U	80	2 U	2 U	2 U

DATA SUMMARY - VOLATILE ORGANIC CHEMICALS (VOAs)
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL
SDG # GWA301

Sample No.	GWA321	GWA322	RSA301	TBA303	TBA304
Date Collected	12/15/92	12/15/92	12/15/92	12/15/92	12/16/92
Date Analyzed	12/22/92	12/22/92	12/23/92	12/22/92	12/22/92
Percent Moisture	NA	NA	NA	NA	NA
Dilution Factor	1	1.7	1	1	1
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	2 U	3 U	2 U	2 U	2 U
Bromomethane	2 U	3 U	2 U	2 U	2 U
Vinyl chloride	2 U	8	2 U	2 U	2 U
Chloroethane	2 U	3 U	2 U	2 U	2 U
Methylene chloride	2 U	3 U	3	2 U	2 U
Acetone	10 U	17 U	10 U	10 U	10 U
Carbon disulfide	2 U	3 U	2 U	2 U	2 U
1,1-dichloroethene	2 U	3 U	2 U	2 U	2 U
1,1-dichloroethane	2 U	3 U	2 U	2 U	2 U
1,2-dichloroethene	2 U	48	2 U	2 U	2 U
Chloroform	2 U	3 U	2 U	2 U	2 U
1,2-dichloroethane	2 U	3 U	2 U	2 U	2 U
2-butanone	10 U	17 U	10 U	10 U	10 U
1,1,1-trichloroethane	2 U	3 U	2 U	2 U	2 U
Carbon tetrachloride	2 U	3 U	2 U	2 U	2 U
Bromodichloromethane	2 U	3 U	2 U	2 U	2 U
1,2-dichloropropane	2 U	3 U	2 U	2 U	2 U
C-1,3-dichloropropene	2 U	3 U	2 U	2 U	2 U
Trichloroethene	3 B	10	1 J	2 U	2 U
Dibromochloromethane	2 U	3 U	2 U	2 U	2 U
1,1,2-trichloroethane	2 U	3 U	2 U	2 U	2 U
Benzene	1 J	3 U	2 U	2 U	2 U
T-1,3-dichloropropene	2 U	3 U	2 U	2 U	2 U
Bromoform	2 U	3 U	2 U	2 U	2 U
4-methyl-2-pentanone	10 U	17 U	10 U	10 U	10 U
2-hexanone	10 U	17 U	10 U	10 U	10 U
Tetrachloroethene	2 U	3 U	2 U	2 U	2 U
1,2,2,2-tetrachloroethane	2 U	3 U	2 U	2 U	2 U
Toluene	2 U	3 U	2 U	2 U	2 U
Chlorobenzene	2 U	3 U	2 U	2 U	2 U
Ethylbenzene	2 U	3 U	2 U	2 U	2 U
Styrene	2 U	3 U	2 U	2 U	2 U
Xylenes(total)	2 U	3 U	2 U	2 U	2 U

AWD TECHNOLOGIES

A Subsidiary of
The Dow Chemical Company

PGH-93-TMJ-192

DATE February 16, 1993

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals - Air Samples

RE: Navy CLEAN Program/Camp Allen Landfill - Phase II

IT Analytical Services Work Order No. 58

Samples:

AA-01A	AA-02A	AA-03A	AA-04A	AA-05A
AA-06A	AA-07A	AA-08A	AA-09A	AA-10A
AA-11A	AA-12A	AB-01A	AB-02A	AB-03A
AB-04A	AB-05A	A-01A	A-02A	A-03A
A-04A	A-05A			

Field Blanks:

TB-A (Trip Blank)

Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 23 air samples including 1 trip blank. The samples were analyzed for volatile organic chemicals (VOAs) by U.S. EPA Method TO-14.

Summary

All compounds were successfully analyzed in all samples. The quality of analytical data was evaluated by the following parameters: holding times, surrogate spikes, laboratory blanks, and field blanks. Results of the data validation review are discussed below.

Data Validation Results

Quality control criteria were met for the parameters listed in the Summary section above.

Notes

The methylene chloride result in Sample AA-07C, the Freon 113 result in Sample AA-02A and the 1,1,1-trichloroethane result in Sample AA-08C have been qualified "J", estimated, because their concentrations were below method detection limits.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA), the U.S. EPA's National Functional Guidelines for Evaluating Organic Analyses and U.S EPA Method TO-14.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION
(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION
(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - AIR SAMPLES
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
T ANALYTICAL WORK ORDER # 58

Sample no.	AA-01A	AA-02A	AA-03A	AA-04A	AA-05A
Date collected	12-Jan-93	12-Jan-93	12-Jan-93	12-Jan-93	12-Jan-93
Date analyzed	19-Jan-93	19-Jan-93	19-Jan-93	19-Jan-93	19-Jan-93
Dilution factor	1.8	1.5	1.4	1.6	1.6
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.5	2.2	0.5	0.7	0.6
Chloromethane	0.9 U	0.8 U	0.7 U	0.8	0.8 U
Vinyl chloride	0.5 U	0.5 U	0.4 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.4 U	0.5 U	0.5 U
Chloroethane	0.9 U	0.8 U	0.7 U	0.8 U	0.8 U
1,1-dichloroethene	0.5 U	0.5 U	0.4 U	0.5 U	0.5 U
Freon 113	0.5 U	0.4 J	0.4 U	0.5 U	0.5 U
Methylene chloride	1.5	1.3	1.2	1.6	1.2
1,1-dichloroethane	0.5 U	0.5 U	0.4 U	0.5 U	0.5 U
c-1,2-dichloroethene	0.5 U	0.5 U	0.4 U	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.4 U	0.5 U	0.8
1,1,1-trichloroethane	0.5 U	16	6.1	4.4	140
Carbon tetrachloride	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzene	0.4	0.4	0.4	0.4	0.7
1,2-dichloroethane	0.5 U	0.5 U	0.4 U	0.5 U	0.5 U
Trichloroethene	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-dichloropropane	0.5 U	0.5 U	0.4 U	0.5 U	0.5 U
c-1,3-dichloropropene	0.7 U	0.6 U	0.6 U	0.6 U	0.6 U
Toluene	2.2	1.7	0.7	3.2	0.3 U
t-1,3-dichloropropene	0.7 U	0.6 U	0.6 U	0.6 U	0.6 U
1,2-trichloroethane	0.5 U	0.5 U	0.4 U	0.5 U	0.5 U
trachloroethene	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U
1.2-Dibromoethane	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	0.4 U	0.3 U	0.3 U	0.3 U	17
m&orp-xylene	0.5	0.4	0.4	0.9	100
o-Xylene	0.4 U	0.3 U	0.3 U	0.4	24
Styrene	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1,2,2-tetrachloroethane	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0.1 U	0.2 U	0.2 U
1,4-Dichlorobenzene	1.8	1.1	0.1 U	1.5	0.2 U
Benzyl Chloride	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0.1 U	0.2 U	0.2 U
Freon 114	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U
Trichlorofluoromethane	0.4	0.7	0.3 U	6.5	0.3 U
1,3,5-Trimethylbenzene	0.4 U	0.3 U	0.3 U	0.6	0.5
1,2,4-Trimethylbenzene	1.5	0.3 U	0.3 U	1.2	1.6
1,2,4-Trichlorobenzene	0.4 U	0.3 U	0.4	0.3 U	0.3 U
Hexachlorobutadiene	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U

DATA SUMMARY - AIR SAMPLES
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
IT ANALYTICAL WORK ORDER # 58

Sample no.	AA-06A	AA-07A	AA-08A	AA-09A	AA-10A
Date collected	12-Jan-93	12-Jan-93	12-Jan-93	12-Jan-93	12-Jan-93
Date analyzed	19-Jan-93	19-Jan-93	19-Jan-93	19-Jan-93	19-Jan-93
Dilution factor	100	1.4	1.5	1.5	1.4
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	20 U	0.6	0.5	0.6	0.6
Chloromethane	50 U	0.7 U	0.9	1.0	1.1
Vinyl chloride	30 U	0.4 U	0.5 U	0.5 U	0.4 U
Bromomethane	30 U	0.4 U	0.5 U	0.5 U	0.4 U
Chloroethane	50 U	0.7 U	0.8 U	0.8 U	0.7 U
1,1-dichloroethene	30 U	0.4 U	0.5 U	0.5 U	0.4 U
Freon 113	30 U	0.4 U	0.5 U	0.5 U	0.4 U
Methylene chloride	20 U	1.3	1.3	1.2	1.5
1,1-dichloroethane	30 U	0.4 U	0.5 U	0.5 U	0.4 U
c-1,2-dichloroethene	30 U	0.4 U	0.5 U	0.5 U	0.4 U
Chloroform	30 U	0.4 U	0.5 U	0.5 U	0.5
1,1,1-trichloroethane	3400	3.2	5.7	13	5.1
Carbon tetrachloride	20 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzene	20 U	0.5	0.5	0.6	0.5
1,2-dichloroethane	30 U	0.4 U	0.5 U	0.5 U	0.4 U
Trichloroethene	20 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-dichloropropane	30 U	0.4 U	0.5 U	0.5 U	0.4 U
c-1,3-dichloropropene	40 U	0.6 U	0.6 U	0.6 U	0.6 U
Toluene	20 U	0.9	7.8	1.5	1.6
t-1,3-dichloropropene	40 U	0.6 U	0.6 U	0.6 U	0.6 U
1,1,2-trichloroethane	30 U	0.4 U	0.5 U	0.5 U	0.4 U
Tetrachloroethene	20 U	0.3 U	0.3 U	0.3 U	0.3 U
1.2-Dibromoethane	20 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	20 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	20 U	0.3 U	0.7	0.4	0.3 U
m&orp-xylene	20 U	0.4	2.8	2.0	0.7
o-Xylene	20 U	0.3 U	1.2	0.6	0.3 U
Styrene	20 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1,2,2-tetrachloroethane	20 U	0.3 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	10 U	0.1 U	0.2 U	0.2 U	0.1 U
1,4-Dichlorobenzene	10 U	0.1 U	0.2 U	0.2 U	13
Benzyl Chloride	20 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichlorobenzene	10 U	0.1 U	0.2 U	0.2 U	0.1 U
Freon 114	20 U	0.3 U	0.3 U	0.3 U	0.3 U
Trichlorofluoromethane	20 U	0.3	0.3 U	0.4	0.8
1,3,5-Trimethylbenzene	20 U	0.3 U	1.1	0.3 U	0.3 U
1,2,4-Trimethylbenzene	21	0.3 U	1.7	0.3	0.3
1,2,4-Trichlorobenzene	20 U	0.3 U	0.3 U	0.3 U	0.3 U
Hexachlorobutadiene	20 U	0.3 U	0.3 U	0.3 U	0.3 U

DATA SUMMARY - AIR SAMPLES
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
ANALYTICAL WORK ORDER # 58

Sample no.	AA-11A	AA-12A	AB-01A	AB-02A	AB-03A
Date collected	12-Jan-93	12-Jan-93	12-Jan-93	12-Jan-93	12-Jan-93
Date analyzed	25-Jan-93	20-Jan-93	20-Jan-93	20-Jan-93	20-Jan-93
Dilution factor	1.6	1.5	1.4	1.4	1.3
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.5	0.3 U	0.4	0.3 U	0.3 U
Chloromethane	0.8 U	0.8 U	0.7 U	0.7 U	0.7 U
Vinyl chloride	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Bromomethane	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Chloroethane	0.8 U	0.8 U	0.7 U	0.7 U	0.7 U
1,1-dichloroethene	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Freon 113	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Methylene chloride	2.9	0.8	0.8	0.3	0.5
1,1-dichloroethane	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
c-1,2-dichloroethene	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Chloroform	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	7.6	8.5	27	9.5	10
Carbon tetrachloride	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzene	0.4	0.6	0.4	0.4	0.5
1,2-dichloroethane	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Trichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-dichloropropane	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
c-1,3-dichloropropene	0.6 U	0.6 U	0.6 U	0.6 U	0.5 U
Toluene	1.5	4.5	1.4	1.9	1.1
t-1,3-dichloropropene	0.6 U	0.6 U	0.6 U	0.6 U	0.5 U
1,1,2-trichloroethane	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Tetrachloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dibromoethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	0.3 U	0.4	0.3 U	0.3 U	0.3 U
m&orp-xylene	0.8	1.5	0.4	0.5	0.4
o-Xylene	0.3 U	0.4	0.3 U	0.3 U	0.3 U
Styrene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1,2,2-tetrachloroethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0.1 U	0.1 U	0.1 U
1,4-Dichlorobenzene	0.2 U	0.2 U	0.6	0.5	0.1 U
Benzyl Chloride	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0.1 U	0.1 U	0.1 U
Freon 114	0.4	29	0.3 U	0.3 U	0.3 U
Trichlorofluoromethane	0.3	0.3 U	0.6	0.3 U	0.5
1,3,5-Trimethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2,4-Trimethylbenzene	0.6	0.2	0.3 U	0.3 U	0.3 U
1,2,4-Trichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Hexachlorobutadiene	1.0	0.3 U	0.3 U	0.3 U	0.3 U

DATA SUMMARY - AIR SAMPLES
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
IT ANALYTICAL WORK ORDER # 58

Sample no.	AB-04A	AB-05A	A-01A	A-02A	A-03A
Date collected	12-Jan-93	12-Jan-93	12-Jan-93	12-Jan-93	12-Jan-93
Date analyzed	20-Jan-93	20-Jan-93	27-Jan-93	27-Jan-93	27-Jan-93
Dilution factor	1.4	1.7	2.6	1.5	1.5
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.3 U	0.5	0.5 U	0.3	0.4
Chloromethane	0.7 U	0.9 U	1.3 U	0.8 U	0.8 U
Vinyl chloride	0.4 U	0.5 U	0.8 U	0.5 U	0.5 U
Bromomethane	0.4 U	0.5 U	0.8 U	0.5 U	0.5 U
Chloroethane	0.7 U	0.9 U	1.3 U	0.8 U	0.8 U
1,1-dichloroethene	0.4 U	0.5 U	0.8 U	0.5 U	0.5 U
Freon 113	0.4 U	0.5 U	0.8 U	0.5 U	0.5 U
Methylene chloride	0.8	0.6	1.0	1.2	0.5
1,1-dichloroethane	0.4 U	0.5 U	0.8 U	0.5 U	0.5 U
c-1,2-dichloroethene	0.4 U	0.5 U	0.8 U	0.5 U	0.5 U
Chloroform	0.4 U	0.5 U	0.8 U	0.5 U	0.5 U
1,1,1-trichloroethane	17	11	11	3.3	3.7
Carbon tetrachloride	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
Benzene	0.4	0.5	0.5	0.4	0.5
1,2-dichloroethane	0.4 U	0.5 U	0.8 U	0.5 U	0.5 U
Trichloroethene	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
1,2-dichloropropane	0.4 U	0.5 U	0.8 U	0.5 U	0.5 U
c-1,3-dichloropropene	0.6 U	0.7 U	1.0 U	0.6 U	0.6 U
Toluene	1.2	1.2	1.2	1.2	1.0
t-1,3-dichloropropene	0.6 U	0.7 U	1.0 U	0.6 U	0.6 U
1,1,2-trichloroethane	0.4 U	0.5 U	0.8 U	0.5 U	0.5 U
Tetrachloroethene	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
1,2-Dibromoethane	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
Chlorobenzene	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
Ethylbenzene	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
m&orp-xylene	0.4	0.4	0.5 U	0.7	0.4
o-Xylene	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
Styrene	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
1,1,2,2-tetrachloroethane	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
1,3-Dichlorobenzene	0.1 U	0.2 U	0.3 U	0.2 U	0.2 U
1,4-Dichlorobenzene	0.1 U	0.2 U	0.3 U	0.2 U	0.2 U
Benzyl Chloride	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
1,2-Dichlorobenzene	0.1 U	0.2 U	0.3 U	0.2 U	0.2 U
Freon 114	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
Trichlorofluoromethane	0.4	0.3 U	0.5 U	0.3 U	0.3 U
1,3,5-Trimethylbenzene	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
1,2,4-Trimethylbenzene	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
1,2,4-Trichlorobenzene	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U
Hexachlorobutadiene	0.3 U	0.3 U	0.5 U	0.3 U	0.3 U

DATA SUMMARY - AIR SAMPLES
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
ANALYTICAL WORK ORDER # 58

Sample no.	A-04A	A-05A	TB-A
Date collected	12-Jan-93	12-Jan-93	12-Jan-93
Date analyzed	25-Jan-93	25-Jan-93	25-Jan-93
Dilution factor	1.4	1.6	1.0
Units	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.5	0.5	0.2 U
Chloromethane	0.7 U	0.8 U	0.5 U
Vinyl chloride	0.4 U	0.5 U	0.3 U
Bromomethane	0.4 U	0.5 U	0.3 U
Chloroethane	0.7 U	0.8 U	0.5 U
1,1-dichloroethene	0.4 U	0.5 U	0.3 U
Freon 113	0.4 U	0.5 U	0.3 U
Methylene chloride	0.5	0.9	0.2 U
1,1-dichloroethane	0.4 U	0.5 U	0.3 U
c-1,2-dichloroethene	0.4 U	0.5 U	0.3 U
Chloroform	0.4 U	0.5 U	0.3 U
1,1,1-trichloroethane	4.8	14	0.3 U
Carbon tetrachloride	0.3 U	0.3 U	0.2 U
Benzene	0.5	0.4	0.2 U
1,2-dichloroethane	0.4 U	0.5 U	0.3 U
Trichloroethene	0.3 U	0.3 U	0.2 U
1,2-dichloropropane	0.4 U	0.5 U	0.3 U
c-1,3-dichloropropene	0.6 U	0.6 U	0.4 U
Toluene	1.0	1.0	0.2 U
t-1,3-dichloropropene	0.6 U	0.6 U	0.4 U
1,1,2-trichloroethane	0.4 U	0.5 U	0.3 U
Tetrachloroethene	0.3 U	0.3 U	0.2 U
1.2-Dibromoethane	0.3 U	0.3 U	0.2 U
Chlorobenzene	0.3 U	0.3 U	0.2 U
Ethylbenzene	0.3 U	0.3 U	0.2 U
m&orp-xylene	0.4	0.3 U	0.2 U
o-Xylene	0.3 U	0.3 U	0.2 U
Styrene	0.3 U	0.3 U	0.2 U
1,1,2,2-tetrachloroethane	0.3 U	0.3 U	0.2 U
1,3-Dichlorobenzene	0.1 U	0.2 U	0.1 U
1,4-Dichlorobenzene	0.1 U	0.2 U	0.1 U
Benzyl Chloride	0.3 U	0.3 U	0.2 U
1,2-Dichlorobenzene	0.1 U	0.2 U	0.1 U
Freon 114	0.3 U	0.3 U	0.2 U
Trichlorofluoromethane	0.3 U	0.3 U	0.2 U
1,3,5-Trimethylbenzene	0.3 U	0.3 U	0.2 U
1,2,4-Trimethylbenzene	0.3 U	0.3 U	0.2 U
1,2,4-Trichlorobenzene	0.3 U	0.3 U	0.2 U
Hexachlorobutadiene	0.3 U	0.3 U	0.2 U

AWD TECHNOLOGIES

A Subsidiary of
The Dow Chemical Company

PGH-93-TMJ-193

DATE February 16, 1993

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals - Air Samples

RE: Navy CLEAN Program/Camp Allen Landfill - Phase II

IT Analytical Services Work Order No. 59

Samples:

AA-01B	AA-02B	AA-03B	AA-04B	AA-05B
AA-06B	AA-07B	AA-08B	AA-09B	AA-10B
AA-11B	AA-12B	AB-01B	AB-02B	AB-03B
AB-04B	AB-05B	A-01B	A-02B	A-03B
A-04B	A-05B			

Field Blanks:

TB-B (Trip Blank)

Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 23 air samples including 1 trip blank. The samples were analyzed for volatile organic chemicals (VOAs) by U.S. EPA Method TO-14.

Summary

All compounds were successfully analyzed in all samples. The quality of analytical data was evaluated by the following parameters: holding times, surrogate spikes, laboratory blanks, and field blanks. Results of the data validation review are discussed below.

Data Validation Results

Quality control criteria were met for the parameters listed in the Summary section above.

Notes

The benzene result in Sample AB-04B has been qualified "J", estimated, because its concentration is below the method detection limit.

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA), the U.S. EPA's National Functional Guidelines for Evaluating Organic Analyses and U.S EPA Method TO-14.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION
(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION
(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - AIR SAMPLES
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
ANALYTICAL WORK ORDER # 59

Sample no.	AA-01B	AA-02B	AA-03B	AA-04B	AA-05B
Date collected	13-Jan-93	13-Jan-93	13-Jan-93	13-Jan-93	13-Jan-93
Date analyzed	27-Jan-93	28-Jan-93	27-Jan-93	27-Jan-93	27-Jan-93
Dilution factor	1.9	4.3	1.4	1.6	22
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.7	1.9	0.7	0.8	4.4 U
Chloromethane	1.0 U	2.2 U	0.7 U	0.8	11 U
Vinyl chloride	0.6 U	1.3 U	0.4 U	0.5 U	6.6 U
Bromomethane	0.9	1.3 U	0.6	0.6	6.6 U
Chloroethane	1.0 U	2.2 U	0.7 U	0.8 U	11 U
1,1-dichloroethene	0.6 U	1.3 U	0.4 U	0.5 U	6.6 U
Freon 113	0.6 U	1.3 U	0.4 U	0.5 U	6.6 U
Methylene chloride	1.0	0.9 U	0.3 U	0.6	4.4 U
1,1-dichloroethane	0.6 U	1.3 U	0.4 U	0.5 U	6.6 U
c-1,2-dichloroethene	0.6 U	1.3 U	0.4 U	0.5 U	6.6 U
Chloroform	0.6 U	1.3 U	0.4 U	0.5 U	6.6 U
1,1,1-trichloroethane	9.0	29	2.1	1.8	180
Carbon tetrachloride	0.4 U	0.9 U	0.3 U	0.3 U	4.4 U
Benzene	0.7	0.9 U	0.6	0.7	4.4 U
1,2-dichloroethane	0.6 U	1.3 U	0.4 U	0.5 U	6.6 U
Trichloroethene	0.4 U	0.9 U	0.3 U	0.3 U	4.4 U
1,2-dichloropropane	0.6 U	1.3 U	0.4 U	0.5 U	6.6 U
c-1,3-dichloropropene	0.8 U	1.7 U	0.6 U	0.6 U	8.8 U
Toluene	3.4	2.7	1.2	2.5	39
t-1,3-dichloropropene	0.8 U	1.7 U	0.6 U	0.6 U	8.8 U
1,1,2-trichloroethane	0.6 U	1.3 U	0.4 U	0.5 U	6.6 U
Tetrachloroethene	0.4 U	0.9 U	0.3 U	0.3 U	4.4 U
1,2-Dibromoethane	0.4 U	0.9 U	0.3 U	0.3 U	4.4 U
Chlorobenzene	0.4 U	0.9 U	0.3 U	0.3 U	4.4 U
Ethylbenzene	0.4 U	0.9 U	0.3 U	0.3 U	4 U
m&orp-xylene	0.9	0.9	0.7	0.3 U	6
o-Xylene	0.4 U	0.9 U	0.3	1.0	32
Styrene	0.4 U	0.9 U	0.3 U	0.4	8.9
1,1,2,2-tetrachloroethane	0.4 U	0.9 U	0.3 U	0.3 U	4.4 U
1,3-Dichlorobenzene	0.2 U	0.4 U	0.1 U	0.2 U	2.2 U
1,4-Dichlorobenzene	2.1	2.5	0.1 U	0.2 U	2.2 U
Benzyl Chloride	0.4 U	0.9 U	0.3 U	0.9	4.4 U
1,2-Dichlorobenzene	0.2 U	0.4 U	0.1 U	0.2 U	2.2 U
Freon 114	0.4 U	0.9 U	0.3 U	0.3 U	4.4 U
Trichlorofluoromethane	0.4	0.9 U	0.4	3.7	4.4 U
1,3,5-Trimethylbenzene	0.4 U	0.9 U	0.3 U	0.3	4.4 U
1,2,4-Trimethylbenzene	0.9	0.9 U	0.4	0.9	4.4 U
1,2,4-Trichlorobenzene	0.4 U	0.9 U	0.3 U	0.3 U	4.4 U
Hexachlorobutadiene	0.4 U	0.9 U	0.3 U	0.3 U	4.4 U

DATA SUMMARY - AIR SAMPLES
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
IT ANALYTICAL WORK ORDER # 59

Sample no.	AA-06B	AA-07B	AA-08B	AA-09B	AA-10B
Date collected	13-Jan-93	13-Jan-93	13-Jan-93	13-Jan-93	13-Jan-93
Date analyzed	27-Jan-93	27-Jan-93	27-Jan-93	27-Jan-93	28-Jan-93
Dilution factor	4.5	1.3	1.5	1.5	1.4
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.9 U	0.8	0.4	0.5	0.5
Chloromethane	2.3 U	0.7	0.8 U	0.8 U	0.7 U
Vinyl chloride	1.4 U	0.4 U	0.5 U	0.5 U	0.4 U
Bromomethane	1.4 U	0.4 U	0.5	0.6	0.6
Chloroethane	2.3 U	0.7 U	0.8 U	0.8 U	0.7 U
1,1-dichloroethene	1.4 U	0.4 U	0.5 U	0.5 U	0.4 U
Freon 113	1.4 U	0.4 U	0.5 U	0.5 U	0.4 U
Methylene chloride	0.9 U	0.4	0.3 U	0.3 U	0.4
1,1-dichloroethane	1.4 U	0.4 U	0.5 U	0.5 U	0.4 U
c-1,2-dichloroethene	1.4 U	0.4 U	0.5 U	0.5 U	0.4 U
Chloroform	1.4 U	0.4 U	0.5 U	0.5 U	0.4 U
1,1,1-trichloroethane	8.2	0.6	0.5	2.3	1.7
Carbon tetrachloride	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzene	0.9 U	1.0	0.8	0.8	0.7
1,2-dichloroethane	1.4 U	0.4 U	0.5 U	0.5 U	0.4 U
Trichloroethene	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-dichloropropane	1.4 U	0.4 U	0.5 U	0.5 U	0.4 U
c-1,3-dichloropropene	1.8 U	0.5 U	0.6 U	0.6 U	0.6 U
Toluene	5.3	2.1	2.0	1.7	1.9
t-1,3-dichloropropene	1.8 U	0.5 U	0.6 U	0.6 U	0.6 U
1,1,2-trichloroethane	1.4 U	0.4 U	0.5 U	0.5 U	0.4 U
Tetrachloroethene	0.9 U	0.3 U	0.3 U	0.3	0.3 U
1.2-Dibromoethane	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	0.9 U	0.3	0.3 U	0.3 U	0.3 U
m&orp-xylene	0.9 U	1.1	0.8	0.8	0.8
o-Xylene	0.9 U	0.4	0.3 U	0.3 U	0.3
Styrene	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1,2,2-tetrachloroethane	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	0.5 U	0.1 U	0.2 U	0.2 U	0.1 U
1,4-Dichlorobenzene	0.5 U	0.1 U	0.2 U	0.2 U	20
Benzyl Chloride	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichlorobenzene	0.5 U	0.1 U	0.2 U	0.2 U	0.1 U
Freon 114	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U
Trichlorofluoromethane	0.9 U	0.3	0.3 U	0.4	0.5
1,3,5-Trimethylbenzene	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2,4-Trimethylbenzene	0.9 U	0.6	0.4	0.4	0.4
1,2,4-Trichlorobenzene	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U
Hexachlorobutadiene	0.9 U	0.3 U	0.3 U	0.3 U	0.3 U

DATA SUMMARY - AIR SAMPLES
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
ANALYTICAL WORK ORDER # 59

Sample no.	AA-11B	AA-12B	AB-01B	AB-02B	AB-03B
Date collected	13-Jan-93	13-Jan-93	13-Jan-93	13-Jan-93	13-Jan-93
Date analyzed	28-Jan-93	28-Jan-93	29-Jan-93	28-Jan-93	28-Jan-93
Dilution factor	1.5	1.5	1.4	1.4	2.7
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.4	0.3 U	0.7	0.8	1.1
Chloromethane	0.8 U	0.8 U	0.7	0.8	1.4 U
Vinyl chloride	0.5 U	0.5 U	0.4 U	0.4 U	0.8 U
Bromomethane	0.6	0.5 U	0.4 U	0.4 U	0.8 U
Chloroethane	0.8 U	0.8 U	0.7 U	0.7 U	1.4 U
1,1-dichloroethene	0.5 U	0.5 U	0.4 U	0.4 U	0.8 U
Freon 113	0.5 U	0.5 U	0.4 U	0.4 U	0.8 U
Methylene chloride	30	1.4	0.8	0.4	0.7
1,1-dichloroethane	0.5 U	0.5 U	0.4 U	0.4 U	0.8 U
c-1,2-dichloroethene	0.5 U	0.5 U	0.4 U	0.4 U	0.8 U
Chloroform	0.5 U	0.5 U	0.4 U	0.4 U	0.8 U
1,1,1-trichloroethane	1.6	1.4	7.9	2.6	9.8
Carbon tetrachloride	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U
Benzene	0.8	0.7	0.6	0.6	0.7
1,2-dichloroethane	0.5 U	0.5 U	0.4 U	0.4 U	0.8 U
Trichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U
1,2-dichloropropane	0.5 U	0.5 U	0.4 U	0.4 U	0.8 U
c-1,3-dichloropropene	0.6 U	0.6 U	0.6 U	0.6 U	1.1 U
Toluene	1.9	160	1.6	1.7	1.4
t-1,3-dichloropropene	0.6 U	0.6 U	0.6 U	0.6 U	1.1 U
1,1,2-trichloroethane	0.5 U	0.5 U	0.4 U	0.4 U	0.8 U
Tetrachloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U
1.2-Dibromoethane	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U
Chlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U
Ethylbenzene	0.3 U	0.6	0.3 U	0.3 U	0.5 U
m&orp-xylene	0.8	2.3	0.6	0.7	0.7
o-Xylene	0.4	0.7	0.3 U	0.3	0.5 U
Styrene	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U
1,1,2,2-tetrachloroethane	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0.1 U	0.1 U	0.3 U
1,4-Dichlorobenzene	0.2 U	0.2 U	0.2	0.5	0.3 U
Benzyl Chloride	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0.1 U	0.1 U	0.3 U
Freon 114	0.3 U	42	0.3 U	0.3 U	0.5 U
Trichlorofluoromethane	0.4	0.2	0.3	0.3	0.7
1,3,5-Trimethylbenzene	1.0	0.3 U	0.3 U	0.3 U	0.5 U
1,2,4-Trimethylbenzene	2.2	0.5	0.3 U	0.3	0.5 U
1,2,4-Trichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U
Hexachlorobutadiene	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U

DATA SUMMARY - AIR SAMPLES
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
IT ANALYTICAL WORK ORDER # 59

Sample no.	AB-04B	AB-05B	A-01B	A-02B	A-03B
Date collected	13-Jan-93	13-Jan-93	13-Jan-93	13-Jan-93	13-Jan-93
Date analyzed	28-Jan-93	28-Jan-93	28-Jan-93	28-Jan-93	28-Jan-93
Dilution factor	7.2	1.8	1.3	1.4	1.5
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	1.1	0.5	0.6	0.6	0.6
Chloromethane	3.6 U	0.9 U	0.7	0.7 U	0.8 U
Vinyl chloride	2.2 U	0.5 U	0.4 U	0.4 U	0.5 U
Bromomethane	2.2 U	0.5 U	0.6	0.8	0.5 U
Chloroethane	3.6 U	0.9 U	0.7 U	0.7 U	0.8 U
1,1-dichloroethene	2.2 U	0.5 U	0.4 U	0.4 U	0.5 U
Freon 113	2.2 U	0.5 U	0.4 U	0.4 U	0.5 U
Methylene chloride	0.7	0.4	0.3	0.3	0.3 U
1,1-dichloroethane	2.2 U	0.5 U	0.4 U	0.4 U	0.5 U
c-1,2-dichloroethene	2.2 U	0.5 U	0.4 U	0.4 U	0.5 U
Chloroform	2.2 U	0.5 U	0.4 U	0.4 U	0.5 U
1,1,1-trichloroethane	18	23	2.0	0.4 U	0.5 U
Carbon tetrachloride	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
Benzene	0.6	0.7	0.6	0.6	0.5
1,2-dichloroethane	2.2 U	0.5 U	0.4 U	0.4 U	0.5 U
Trichloroethene	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
1,2-dichloropropane	2.2 U	0.5 U	0.4 U	0.4 U	0.5 U
c-1,3-dichloropropene	2.9 U	0.7 U	0.5 U	0.6 U	0.6 U
Toluene	1.9	2.0	0.9	1.2	1.0
t-1,3-dichloropropene	2.9 U	0.7 U	0.5 U	0.6 U	0.6 U
1,1,2-trichloroethane	2.2 U	0.5 U	0.4 U	0.4 U	0.5 U
Tetrachloroethene	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
1.2-Dibromoethane	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
m&orp-xylene	0.8	0.8	0.5	0.6	0.6
o-Xylene	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
Styrene	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
1,1,2,2-tetrachloroethane	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	0.7 U	0.2 U	0.1 U	0.1 U	0.2 U
1,4-Dichlorobenzene	0.7 U	0.2 U	0.1 U	0.1 U	0.2 U
Benzyl Chloride	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
1,2-Dichlorobenzene	0.7 U	0.2 U	0.1 U	0.1 U	0.2 U
Freon 114	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
Trichlorofluoromethane	1.4 U	0.4	0.3	0.3 U	0.3 U
1,3,5-Trimethylbenzene	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
1,2,4-Trimethylbenzene	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
1,2,4-Trichlorobenzene	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U
Hexachlorobutadiene	1.4 U	0.4 U	0.3 U	0.3 U	0.3 U

DATA SUMMARY - AIR SAMPLES
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
ANALYTICAL WORK ORDER # 59

Sample no.	A-04B	A-05B	TB-B
Date collected	13-Jan-93	13-Jan-93	13-Jan-93
Date analyzed	29-Jan-93	28-Jan-93	28-Jan-93
Dilution factor	1.5	1.6	1
Units	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.7	0.6	0.2 U
Chloromethane	0.8 U	0.8 U	0.5 U
Vinyl chloride	0.5 U	0.5 U	0.3 U
Bromomethane	0.5 U	0.5 U	0.3 U
Chloroethane	0.8 U	0.8 U	0.5 U
1,1-dichloroethene	0.5 U	0.5 U	0.3 U
Freon 113	0.5 U	0.5 U	0.3 U
Methylene chloride	0.8	0.3 U	0.2 U
1,1-dichloroethane	0.5 U	0.5 U	0.3 U
c-1,2-dichloroethene	0.5 U	0.5 U	0.3 U
Chloroform	0.5 U	0.5 U	0.3 U
1,1,1-trichloroethane	8.7	0.5 U	0.3 U
Carbon tetrachloride	0.3 U	0.3 U	0.2 U
Benzene	0.6	0.7	0.2 U
1,2-dichloroethane	0.5 U	0.5 U	0.3 U
Trichloroethene	0.3 U	0.3 U	0.2 U
1,2-dichloropropane	0.5 U	0.5 U	0.3 U
c-1,3-dichloropropene	0.6 U	0.6 U	0.4 U
Toluene	1.6	1.0	0.2 U
t-1,3-dichloropropene	0.6 U	0.6 U	0.4 U
1,1,2-trichloroethane	0.5 U	0.5 U	0.3 U
Tetrachloroethene	0.3 U	0.3 U	0.2 U
1.2-Dibromoethane	0.3 U	0.3 U	0.2 U
Chlorobenzene	0.3 U	0.3 U	0.2 U
Ethylbenzene	0.3 U	0.3 U	0.2 U
m&orp-xylene	0.7	0.6	0.2 U
o-Xylene	0.3	0.3 U	0.2 U
Styrene	0.3 U	0.3 U	0.2 U
1,1,2,2-tetrachloroethane	0.3 U	0.3 U	0.2 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0.1 U
1,4-Dichlorobenzene	0.3	0.2 U	0.1 U
Benzyl Chloride	0.3 U	0.3 U	0.2 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0.1 U
Freon 114	0.3 U	0.3 U	0.2 U
Trichlorofluoromethane	0.3	0.3 U	0.2 U
1,3,5-Trimethylbenzene	0.3 U	0.3 U	0.2 U
1,2,4-Trimethylbenzene	0.3 U	0.3 U	0.2 U
1,2,4-Trichlorobenzene	0.3 U	0.3 U	0.2 U
Hexachlorobutadiene	0.3 U	0.3 U	0.2 U

AWD TECHNOLOGIES

A Subsidiary of
The Dow Chemical Company

PGH-93-TMJ-194

DATE February 16, 1993

TO Mr. Thomas Artman
Project Manager
Baker Environmental, Inc.
Airport Office Park - Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

FROM Thomas M. Jackman
AWD Technologies, Inc.

SUBJECT Data Validation of:
Volatile Organic Chemicals - Air Samples

RE: Navy CLEAN Program/Camp Allen Landfill - Phase II

IT Analytical Services Work Order No. 61

Samples:

AA-01C	AA-02C	AA-03C	AA-04C	AA-05C
AA-06C	AA-07C	AA-08C	AA-09C	AA-10C
AA-11C	AA-12C	AB-01C	AB-02C	AB-03C
AB-04C	AB-05C	A-01C	A-02C	A-03C
A-04C	A-05C			

Field Blanks:

TB-C (Trip Blank)

Overview

This set of samples for the Navy CLEAN Program's Camp Allen Landfill Site contained 23 air samples including 1 trip blank. The samples were analyzed for volatile organic chemicals (VOAs) by U.S. EPA Method TO-14.

Summary

All compounds were successfully analyzed in all samples. The quality of analytical data was evaluated by the following parameters: holding times, surrogate spikes, laboratory blanks, and field blanks. Results of the data validation review are discussed below.

Data Validation Results

Quality control criteria were met for the parameters listed in the Summary section above.

Notes

The methylene chloride result in Sample AA-07C and the 1,1,1-trichloroethane result in Sample AA-08C were flagged "J" by the laboratory because the concentrations were below method detection limits. The "J" qualifier has been retained after data validation and these results are qualified "J", estimated, on the data summary

The data were reviewed according to the Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program (NEESA), the U.S. EPA's National Functional Guidelines for Evaluating Organic Analyses and U.S EPA Method TO-14.

Information Regarding Report Content

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with an "R"; and
   c) All estimated detection limits with qualifier codes, if applicable.
3. Appendix A - Results as reported by the laboratory.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION
(confidence concerning presence or absence of compounds)

U = No detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION
(can be used for positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably lower.

OTHER CODES

Q = No analytical result.

DATA SUMMARY

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
ANALYTICAL WORK ORDER # 61

Sample no.	AA-01C	AA-02C	AA-03C	AA-04C	AA-05C
Date collected	14-Jan-93	14-Jan-93	14-Jan-93	14-Jan-93	14-Jan-93
Date analyzed	28-Jan-93	28-Jan-93	28-Jan-93	28-Jan-93	28-Jan-93
Dilution factor	1.8	1.7	1.5	1.6	64
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.4	0.3 U	0.3 U	0.3 U	12.8 U
Chloromethane	0.9 U	0.9 U	0.8 U	0.8 U	32.0 U
Vinyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	19.2 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	19.2 U
Chloroethane	0.9 U	0.9 U	0.8 U	0.8 U	32.0 U
1,1-dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	19.2 U
Freon 113	0.5 U	0.5 U	0.5 U	0.5 U	19.2 U
Methylene chloride	0.8	0.3 U	0.4	23	380
1,1-dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	19.2 U
c-1,2-dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	19.2 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	19.2 U
1,1,1-trichloroethane	2.1	13.0	1.8	0.7	19.2 U
Carbon tetrachloride	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U
Benzene	0.5	0.3 U	0.5	0.5	12.8 U
1,2-dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	19.2 U
Trichloroethene	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U
1,2-dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	19.2 U
c-1,3-dichloropropene	0.7 U	0.7 U	0.6 U	0.6 U	25.6 U
Toluene	2.4	1.0	0.8	1.5	110
t-1,3-dichloropropene	0.7 U	0.7 U	0.6 U	0.6 U	25.6 U
1,2-trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	19.2 U
Tetrachloroethene	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U
1,2-Dibromoethane	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U
Chlorobenzene	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U
Ethylbenzene	0.4	0.3 U	0.3 U	0.3 U	12.8 U
m&orp-xylene	0.5	0.3 U	0.3	0.6	58
o-Xylene	0.4 U	0.3 U	0.3 U	0.3 U	19
Styrene	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U
1,1,2,2-tetrachloroethane	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	6.4 U
1,4-Dichlorobenzene	2.3	1.1	0.2 U	0.6	6.4 U
Benzyl Chloride	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	6.4 U
Freon 114	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U
Trichlorofluoromethane	0.4 U	0.3 U	0.3	3.4	12.8 U
1,3,5-Trimethylbenzene	0.4	0.3 U	0.3 U	0.4	12.8 U
1,2,4-Trimethylbenzene	0.9	0.3 U	0.3	0.9	12.8 U
1,2,4-Trichlorobenzene	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U
Hexachlorobutadiene	0.4 U	0.3 U	0.3 U	0.3 U	12.8 U

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
IT ANALYTICAL WORK ORDER # 61

Sample no.	AA-06C	AA-07C	AA-08C	AA-09C	AA-10C
Date collected	14-Jan-93	14-Jan-93	14-Jan-93	14-Jan-93	14-Jan-93
Date analyzed	29-Jan-93	28-Jan-93	29-Jan-93	29-Jan-93	28-Jan-93
Dilution factor	1.4	1.3	1.5	1.4	1.4
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.5	0.6	0.5	0.6	2.7
Chloromethane	0.7 U	0.7	0.8 U	1.0	0.8
Vinyl chloride	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
Bromomethane	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
Chloroethane	0.7 U	0.7 U	0.8 U	0.7 U	0.7 U
1,1-dichloroethene	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
Freon 113	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
Methylene chloride	0.4	0.3 J	0.5	0.4	0.7
1,1-dichloroethane	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
c-1,2-dichloroethene	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
Chloroform	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
1,1,1-trichloroethane	5.5	0.8	0.4 J	1.5	1.4
Carbon tetrachloride	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzene	0.5	0.6	0.6	0.7	0.6
1,2-dichloroethane	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
Trichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-dichloropropane	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
c-1,3-dichloropropene	0.6 U	0.5 U	0.6 U	0.6 U	0.6 U
Toluene	0.6	1.1	5.9	1.3	1.9
t-1,3-dichloropropene	0.6 U	0.5 U	0.6 U	0.6 U	0.6 U
1,1,2-trichloroethane	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
Tetrachloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1.2-Dibromoethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
m&orp-xylene	0.4	0.4	0.4	0.5	0.5
o-Xylene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Styrene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1,2,2-tetrachloroethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	0.1 U	0.1 U	0.2 U	0.1 U	0.1 U
1,4-Dichlorobenzene	0.1 U	0.1 U	0.2 U	0.1 U	26
Benzyl Chloride	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichlorobenzene	0.1 U	0.1 U	0.2 U	0.1 U	0.1 U
Freon 114	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Trichlorofluoromethane	0.3 U	0.4	0.3	0.4	1.6
1,3,5-Trimethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2,4-Trimethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2,4-Trichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Hexachlorobutadiene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
ANALYTICAL WORK ORDER # 61

Sample no.	AA-11C	AA-12C	AB-01C	AB-02C	AB-03C
Date collected	14-Jan-93	14-Jan-93	14-Jan-93	14-Jan-93	14-Jan-93
Date analyzed	29-Jan-93	28-Jan-93	29-Jan-93	28-Jan-93	29-Jan-93
Dilution factor	1.5	1.5	1.4	1.4	1.4
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.5	0.7	0.4	0.3	0.5
Chloromethane	0.8 U	0.8 U	0.7 U	0.7 U	0.7 U
Vinyl chloride	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Bromomethane	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Chloroethane	0.8 U	0.8 U	0.7 U	0.7 U	0.7 U
1,1-dichloroethene	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Freon 113	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Methylene chloride	17	0.9	0.8	0.4	0.5
1,1-dichloroethane	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
c-1,2-dichloroethene	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Chloroform	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
1,1,1-trichloroethane	1.1	0.9	2.9	2.7	2.2
Carbon tetrachloride	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Benzene	0.6	0.7	0.6	0.7	0.6
1,2-dichloroethane	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
Trichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-dichloropropane	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
c-1,3-dichloropropene	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Toluene	1.9	670	1.6	2.0	1.3
t-1,3-dichloropropene	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
[illegible],2-trichloroethane	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U
[illegible]etrachloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1.2-Dibromoethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	0.4	0.5	0.3 U	0.3 U	0.3 U
m&orp-xylene	2.4	1.4	0.6	0.6	0.5
o-Xylene	1.2	0.4	0.3 U	0.3 U	0.3 U
Styrene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1,2,2-tetrachloroethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0.1 U	0.1 U	0.1 U
1,4-Dichlorobenzene	0.2 U	0.2 U	0.2	0.4	0.1 U
Benzyl Chloride	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0.1 U	0.1 U	0.1 U
Freon 114	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Trichlorofluoromethane	0.4	0.3 U	0.3	0.3	0.4
1,3,5-Trimethylbenzene	4.4	0.3 U	0.3 U	0.3 U	0.3 U
1,2,4-Trimethylbenzene	7.8	0.3 U	0.3	0.3	0.3
1,2,4-Trichlorobenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Hexachlorobutadiene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
IT ANALYTICAL WORK ORDER # 61

Sample no.	AB-04C	AB-05C	A-01C	A-02C	A-03C
Date collected	14-Jan-93	14-Jan-93	14-Jan-93	14-Jan-93	14-Jan-93
Date analyzed	29-Jan-93	28-Jan-93	29-Jan-93	29-Jan-93	29-Jan-93
Dilution factor	1.4	1.8	1.3	1.5	1.5
Units	ppb v/v	ppb v/v	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.7	0.6	0.4	0.4	0.4
Chloromethane	0.7 U	0.9 U	0.7 U	0.8 U	0.8 U
Vinyl chloride	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U
Bromomethane	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U
Chloroethane	0.7 U	0.9 U	0.7 U	0.8 U	0.8 U
1,1-dichloroethene	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U
Freon 113	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U
Methylene chloride	0.5	0.5	0.4	0.3 U	0.3
1,1-dichloroethane	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U
c-1,2-dichloroethene	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U
Chloroform	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U
1,1,1-trichloroethane	6.4	3.4	2.3	0.5	0.9
Carbon tetrachloride	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
Benzene	0.6	0.6	0.6	0.5	0.6
1,2-dichloroethane	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U
Trichloroethene	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
1,2-dichloropropane	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U
c-1,3-dichloropropene	0.6 U	0.7 U	0.5 U	0.6 U	0.6 U
Toluene	1.6	1.7	0.9	0.8	1.0
t-1,3-dichloropropene	0.6 U	0.7 U	0.5 U	0.6 U	0.6 U
1,1,2-trichloroethane	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U
Tetrachloroethene	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
1.2-Dibromoethane	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
m&orp-xylene	0.6	0.6	0.4	0.4	0.5
o-Xylene	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
Styrene	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
1,1,2,2-tetrachloroethane	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	0.1 U	0.2 U	0.1 U	0.2 U	0.2 U
1,4-Dichlorobenzene	0.1 U	0.2 U	0.1 U	0.2 U	0.2 U
Benzyl Chloride	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
1,2-Dichlorobenzene	0.1 U	0.2 U	0.1 U	0.2 U	0.2 U
Freon 114	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
Trichlorofluoromethane	0.4	0.4	0.3 U	0.3 U	0.3 U
1,3,5-Trimethylbenzene	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
1,2,4-Trimethylbenzene	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
1,2,4-Trichlorobenzene	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U
Hexachlorobutadiene	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U

DATA SUMMARY - TAL METALS
NAVY CLEAN PROGRAM/CAMP ALLEN LANDFILL - PHASE II
T ANALYTICAL WORK ORDER # 61

Sample no.	A-04C	A-05C	TB-C
Date collected	14-Jan-93	14-Jan-93	14-Jan-93
Date analyzed	29-Jan-93	29-Jan-93	29-Jan-93
Dilution factor	1.5	1.6	1
Units	ppb v/v	ppb v/v	ppb v/v
Dichlorodifluoromethane	0.3	0.4	0.2 U
Chloromethane	0.8 U	0.8 U	0.5 U
Vinyl chloride	0.5 U	0.5 U	0.3 U
Bromomethane	0.5 U	0.5 U	0.3 U
Chloroethane	0.8 U	0.8 U	0.5 U
1,1-dichloroethene	0.5 U	0.5 U	0.3 U
Freon 113	0.5 U	0.5 U	0.3 U
Methylene chloride	0.4	0.3	0.2 U
1,1-dichloroethane	0.5 U	0.5 U	0.3 U
c-1,2-dichloroethene	0.5 U	0.5 U	0.3 U
Chloroform	0.5 U	0.5 U	0.3 U
1,1,1-trichloroethane	1.8	0.6	0.3 U
Carbon tetrachloride	0.3 U	0.3 U	0.2 U
Benzene	0.7	0.5	0.2 U
1,2-dichloroethane	0.5 U	0.5 U	0.3 U
Trichloroethene	0.3 U	0.3 U	0.2 U
1,2-dichloropropane	0.5 U	0.5 U	0.3 U
c-1,3-dichloropropene	0.6 U	0.6 U	0.4 U
Toluene	1.1	0.7	0.2 U
t-1,3-dichloropropene	0.6 U	0.6 U	0.4 U
1,2-trichloroethane	0.5 U	0.5 U	0.3 U
etrachloroethene	0.3 U	0.3 U	0.2 U
1.2-Dibromoethane	0.3 U	0.3 U	0.2 U
Chlorobenzene	0.3 U	0.3 U	0.2 U
Ethylbenzene	0.3 U	0.3 U	0.2 U
m&orp-xylene	0.5	0.3	0.2 U
o-Xylene	0.3 U	0.3 U	0.2 U
Styrene	0.3 U	0.3 U	0.2 U
1,1,2,2-tetrachloroethane	0.3 U	0.3 U	0.2 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0.1 U
1,4-Dichlorobenzene	0.2 U	0.2 U	0.1 U
Benzyl Chloride	0.3 U	0.3 U	0.2 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0.1 U
Freon 114	0.3 U	0.3 U	0.2 U
Trichlorofluoromethane	0.3 U	0.3 U	0.2 U
1,3,5-Trimethylbenzene	0.3 U	0.3 U	0.2 U
1,2,4-Trimethylbenzene	0.3 U	0.3 U	0.2 U
1,2,4-Trichlorobenzene	0.3 U	0.3 U	0.2 U
Hexachlorobutadiene	0.3 U	0.3 U	0.2 U