PLANT 4 HONE AREA CLOSURE REPORT

HONEYWELL INDUSTRIAL COMPLEX
SOUTH BEND, INDIANA

PREPARED FOR:

HONEYWELL INTERNATIONAL INC.

PROJECT NUMBER 48480

APRIL 2000

PLANT 4 HONE AREA
CLOSURE REPORT

HONEYWELL INDUSTRIAL COMPLEX
SOUTH BEND, INDIANA

PREPARED FOR:

HONEYWELL INTERNATIONAL INC.
717 NORTH BENDIX DRIVE
SOUTH BEND, INDIANA 46620

PREPARED BY:

HARDING LAWSON ASSOCIATES
39255 COUNTRY CLUB DRIVE, SUITE B-25
FARMINGTON HILLS, MICHIGAN 48331

PROJECT NUMBER 48480

APRIL 2000

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1. INTRODUCTION

This report documents the closure of the Plant 4 Hone Area conducted at the Honeywell Industrial Complex located at 717 North Bendix Drive, South Bend, Indiana. The Honeywell Industrial Complex is an active manufacturing facility consisting of 26 primary buildings on 110 acres. A site layout map is included as Figure 1.

In January 1999, the Honeywell Industrial Complex entered into a Voluntary Remediation Agreement (VRA) with the Indiana Department of Environmental Management (IDEM). As part of on-going voluntary investigations and remedial actions at the facility, Harding Lawson Associates (HLA) assisted Honeywell with the removal of two underground, open top, process flow-through tanks, the excavation of visually impacted soil adjacent to the tanks, and soil verification sampling.

Previous investigations around the former tanks indicated that the concentrations of total petroleum hydrocarbons (TPH) in soil slightly exceeded 10,000 milligrams per kilogram (mg/kg). Trichloroethene (TCE) was also detected in soil at concentrations that exceeded the IDEM Voluntary Remediation Program (VRP) Tier II Cleanup Goals for soil protective of groundwater. These findings, documented in a September 21, 1999 report entitled Final Report: Subsurface Investigation, Plant 4 Hone Area, dictate that the tanks be removed in order to allow for removal of oil-impacted soils. This report documents the tank removal and soil excavation activities.

2. HONE AREA CLOSURE ACTIVITIES

Concrete Cutting and Breaking, located in South Bend, Indiana, was on site December 20, 1999, to remove the concrete floor in the vicinity of the two process tanks. System Installation Management (SIM), located in Whitmore Lake, Michigan, was on site December 20 through 22, 1999 and March 8, 2000 to remove the concrete and process tanks, excavate visually impacted soil, and backfill the excavation. HLA was on site December 20 through 22, 1999 to oversee the closure activities and collect soil verification samples.

The concrete floor was cut in sections along a grid pattern (approximately 3 square feet) using a mobile diesel-powered wet saw. The concrete depth varied from 8 to 10 inches in this area. No wire reinforcement was encountered. Concrete sections were removed using a Bobcat 337 excavator. The

concrete sections were placed into a truck bed using the excavator and a Mustang 940 E-series front-end loader and transported to an open area adjacent to Gate 9 for offsite disposal/recycling. Honeywell personnel coordinated the removal of concrete offsite. Figure 2 shows the area of concrete removed.

Two 250-gallon capacity steel process tanks and associated piping were removed using the excavator bucket. Both tanks were empty and intact. No holes or cracks were observed in the tanks. Atmospheric conditions inside each tank were measured using gas meters (oxygen meter and MiniRae photoionization detector [PID]) provided by Honeywell Health and Safety personnel. No explosive conditions existed and no sustainable volatile organic compound (VOC) readings were measured. The tanks were transported to Indiana Scrap and Recycling Services located in South Bend, Indiana for recycling.

Soil was then removed from the area using the excavator. The excavation extended to approximately 7 feet below ground surface (bgs) along the perimeter and sloped to 11 to 12 feet bgs at the center of the excavation. The extent of excavation is shown on Figure 2.

Excavated soils were predominantly medium brown sand. Gray clay was encountered at a depth of 11 to 12 feet bgs. Under the tanks and in the center of the excavation, soil was removed to the top of the clay layer (approximately 11 feet bgs). Visually impacted soils were encountered, primarily within the upper 6 feet of soil, and were removed. PID readings ranged from 3 to 108 parts per million (ppm).

Approximately 175 tons of soil was removed. Excavated soil was placed into a truck bed and transported to the on-site soil staging area located at the west end of the site (see Figure 1). The soil was stockpiled, sloped to minimize ponding of water, and bermed with clean sand. The berm and floor of the pile were lined with overlapping 8-mil polyethylene sheeting and the pile was covered and secured.

The excavation was backfilled with clean sand placed in one-foot lifts and compacted using a vibratory plate attached to the excavator bucket. After placing backfill to a depth a 4 feet bgs, nuclear density compaction tests were performed to verify the material was compacted to at least 95 percent of the maximum dry density, as determined by the Modified Proctor Method. Compaction testing results are provided in Appendix B. Honeywell personnel were responsible for pouring the concrete floor to complete restoration of the area.

3. SOIL VERIFICATION SAMPLING

Soil samples were collected from seven locations (HA-1 through HA-7) within the excavation to verify impacted soil was removed. Sample locations are shown on Figure 3.

At the deep locations (greater than 5 feet bgs), the excavator bucket was used to collect the soil samples. At the shallow locations, a hand auger was used. Soil was transferred into sample containers using a stainless steel bucket and spoon. The sampling tools were decontaminated between sample locations using a solution of trisodium phosphate (TSP) and water and rinsed with distilled water.

The sample containers were placed in a cooler on ice and shipped via overnight courier to TriMatrix Laboratories, Inc. (TriMatrix), located in Grand Rapids, Michigan, for analysis. Soil samples were analyzed for VOCs and TPH, using USEPA Methods 8260B and 8015, respectively.

The analytical results are presented on Table 1 and included in Appendix A. Detected concentrations were below the IDEM Tier II Cleanup Goals established for this site (see Tier II Criteria Comparison, Voluntary Investigation report dated January 2000). The analytical results confirmed that no further soil excavation was necessary.

4. SOIL DISPOSAL

One composite sample (HA-8) was collected from the excavated soil to evaluate disposal requirements. A hand auger was used to collect soil from eight locations at varying depths within the pile. The soil was then composited using a stainless steel bowl and spoon and transferred into sample containers. The samples were placed in a cooler on ice and shipped via overnight courier to TriMatrix for analysis.

Samples were analyzed for waste characteristics, including TCLP-metals, TCLP-volatiles, TCLP-semivolatiles, polychlorinated biphenyls (PCBs), flash point, pH, reactive sulfides and cyanides, and paint filter. The analytical results are included in Appendix A and indicated that the soil was not a RCRA hazardous waste by characteristic. The soil was transported offsite and disposed of as a non-hazardous special waste at Waste Management of Indiana, L.L.C., located in Danville, Indiana.

Table 1
Summary of Laboratory Analytical Results
Plant 4 Hone Area Closure
Honeywell Industrial Complex, South Bend, Indiana

SAMPLE	HA-1	HA-2	HA-3	HA-4	HA-5	HA-6	HA-7	IDEM TIER II CLEANUP GOALS
TOTAL PETROLEUM HYDROCARBONS (Units in mg/kg)	**7,900**	<10	<10	**1,800**	<10	**8,700**	**880**	10,000
VOLATILES (Units in mg/kg)								
Trichloroethene	**6.2**	**0.10**	**0.20**	**1.2**	<0.050	**20**	**2**	25.73
Naphthalene	<0.050	<0.050	<0.050	<0.050	<0.050	**0.43**	<0.050	10,000

NOTES: Cleanup Goals are as presented in the "Tier II Criteria Comparison, Voluntary Site Investigation, Honeywell Industrial Complex, South Bend, Indiana", which were approved by IDEM VRP

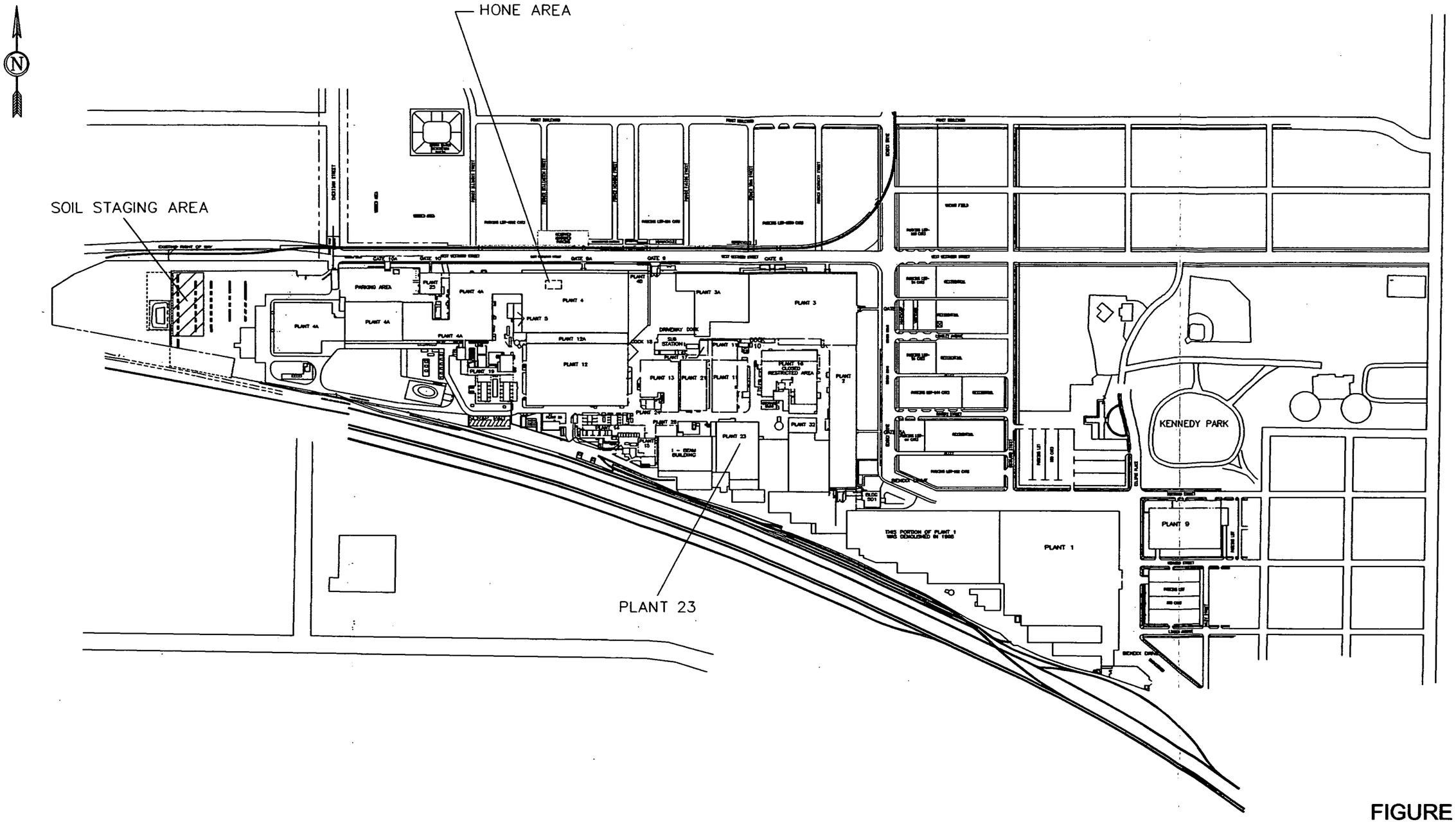

FIGURE 1
SITE MAP
HONEYWELL INDUSTRIAL COMPLEX
SOUTH BEND, INDIANA

Harding Lawson Associates

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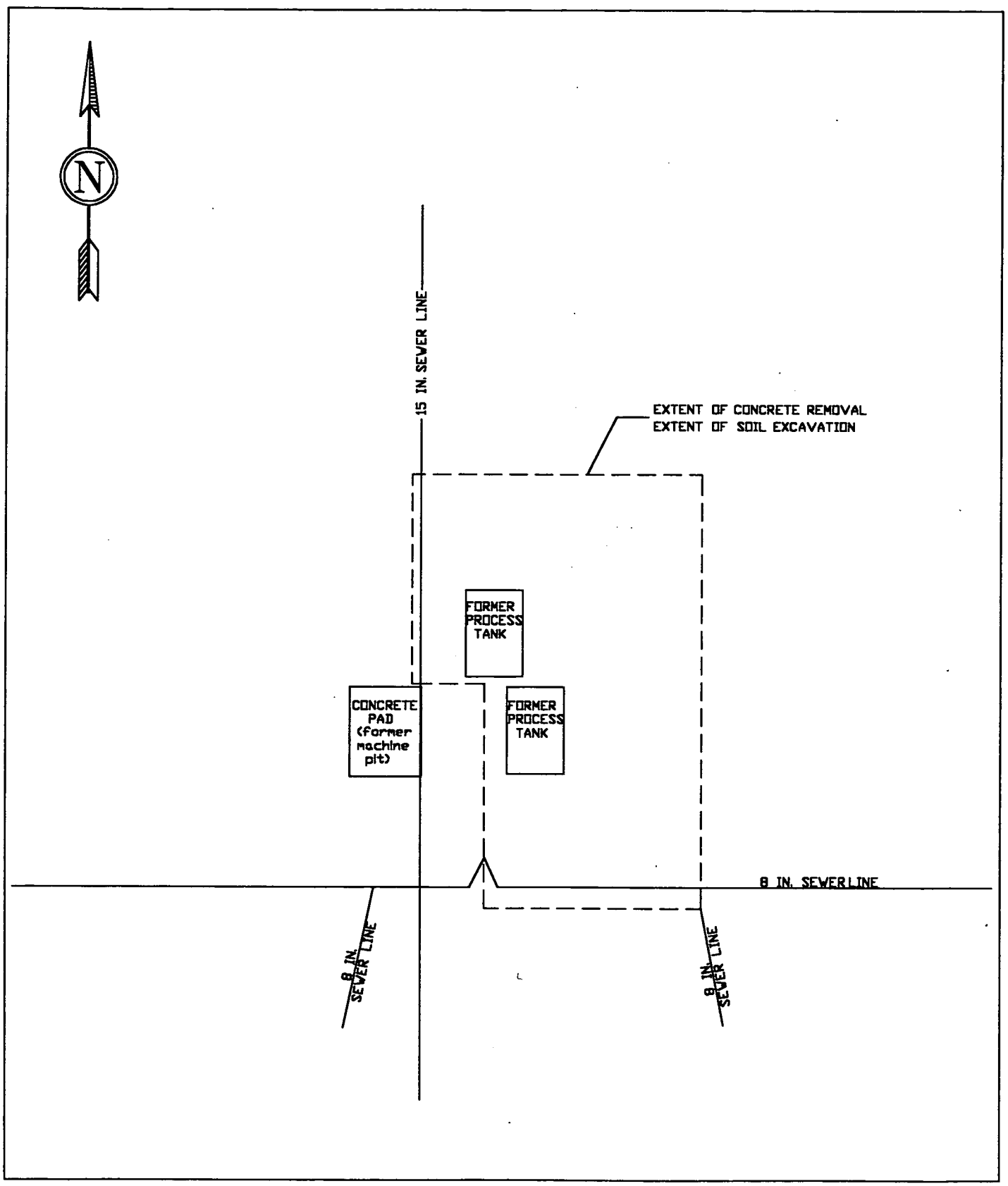

SCALE 1"=10'

FIGURE 2
EXCAVATION AREA
HONEYWELL INDUSTRIAL COMPLEX
SOUTH BEND, INDIANA

Harding Lawson Associates, Inc.

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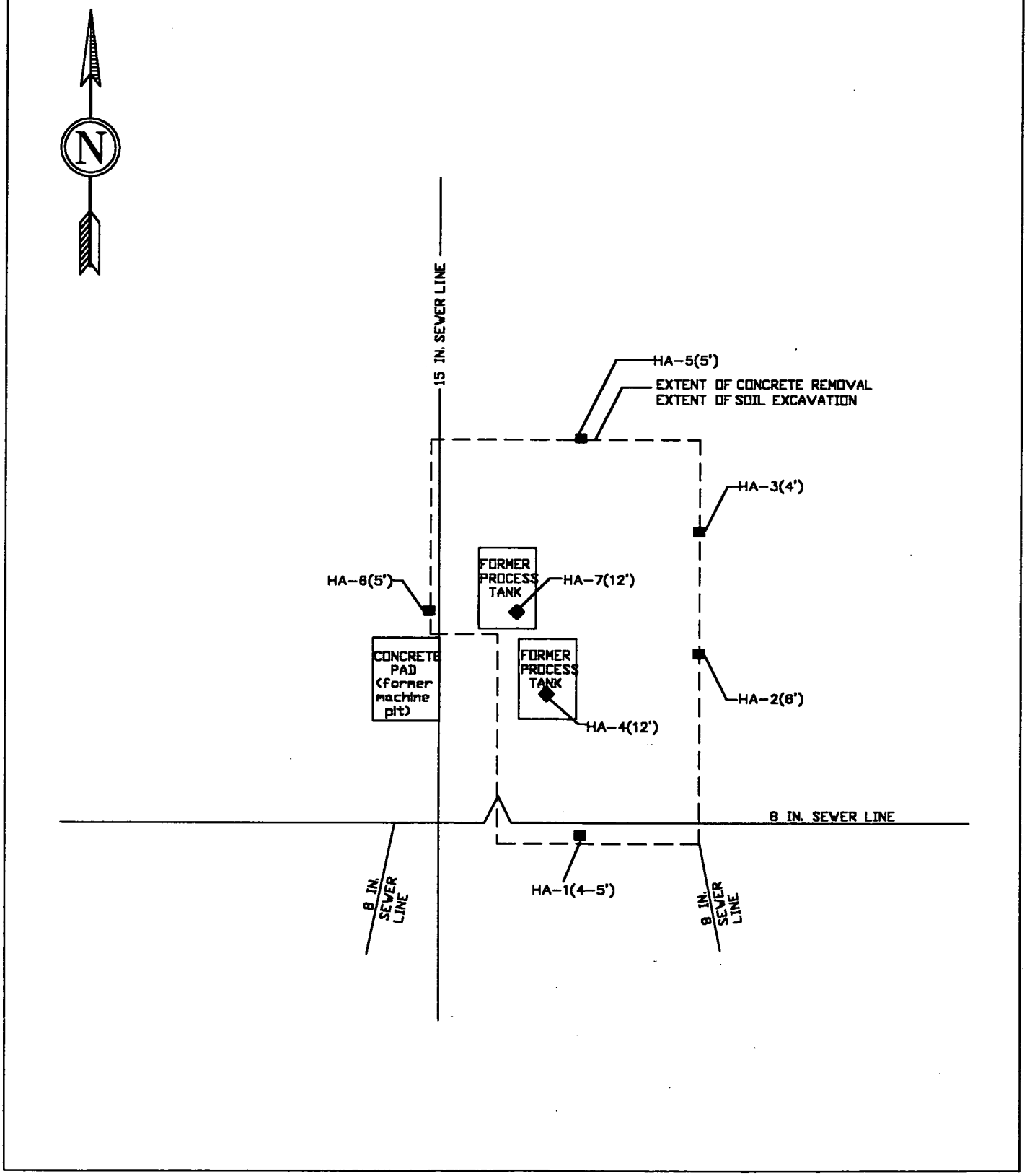

SCALE 1"=10"

LEGEND

- ◆ FLOOR SAMPLE
- ■ SIDE WALL SAMPLE
- HA-1(4') HAND AUGER (depth)

FIGURE 3
SOIL SAMPLE LOCATIONS
HONEYWELL INDUSTRIAL COMPLEX
SOUTH BEND, INDIANA

Harding Lawson Associates, Inc.

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APPENDIX A

LABORATORY ANALYTICAL RESULTS

TriMatrix
Laboratories, Inc.

January 13, 2000

Honeywell
Attn: Mr. Don Walsh
Harding Lawson Associates
39255 Country Club Dr. Ste B-25
Farmington Hills, MI 48331

RE: Plant #4
PO: SE825313

Dear Mr. Don Walsh:

Enclosed is a copy of your laboratory report and invoice for submittal **34899-6.** This submittal was completely received on December 27, 1999. All analyses have been validated and comply with our Quality Control program statistics unless otherwise noted.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Jennifer L. Rice
Project Chemist

Enclosure

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TriMatrix
Laboratories, Inc.

ANALYTICAL REPORT

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples

Submittal Number: 34899- 6
Location:
Contact: Jennifer L. Rice
Phone: (616) 975-4500

	HA-1	HA-2	HA-3	Quantitation Limit	Units
Lab Sample No:	239997	239998	239999		
Volatile Organics USEPA 8260B	Enclosed	Enclosed	Enclosed		
DRO/TPH 8015 (Screen)	* 7900	<10	<10	Varies	mg/kg dry
Percent Solids	95	98	99	0.1	%
Sampled by:	J. Ruprich	J. Ruprich	J. Ruprich		
Date Sampled:	12/21/99	12/21/99	12/21/99		
Time Sampled:	10:30	11:10	13:20		
Date Received:	12/23/99	12/23/99	12/23/99		
Time Received:	10:20	10:20	10:20		

* See attached Statement of Data Qualifications.

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples

Submittal Number: 34899- 6
Location:
Contact: Jennifer L. Rice
Phone: (616) 975-4500

	HA-4	HA-5	HA-6	Quantitation Limit	Units
Lab Sample No:	240000	240001	240002		
Volatile Organics USEPA 8260B	Enclosed	Enclosed	Enclosed		
DRO/TPH 8015 (Screen)	* 1800	<10	* 8700	Varies	mg/kg dry
Percent Solids	97	99	99	0.1	%
Sampled by:	J. Ruprich	J. Ruprich	J. Ruprich		
Date Sampled:	12/21/99	12/21/99	12/21/99		
Time Sampled:	13:40	00:00	15:00		
Date Received:	12/23/99	12/23/99	12/23/99		
Time Received:	10:20	10:20	10:20		

* See attached Statement of Data Qualifications.

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TriMatrix
Laboratories, Inc.

ANALYTICAL REPORT

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples

Submittal Number: 34899- 6
Location:
Contact: Jennifer L. Rice
Phone: (616) 975-4500

	HA-7	Quantitation Limit	Units
Lab Sample No:	240003		
Volatile Organics USEPA 8260B	Enclosed		
DRO/TPH 8015 (Screen)	* 880	165	mg/kg dry
Percent Solids	99	0.1	%

Sampled by: J. Ruprich
Date Sampled: 12/21/99
Time Sampled: 15:15
Date Received: 12/23/99
Time Received: 10:20

* See attached Statement of Data Qualifications.

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VOLATILE ORGANICS
USEPA 8260B

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-1

Submittal Number 34899- 6
Date Sampled: 12/21/99 Time: 10:30
Date Received: 12/23/99 Time: 10:20
Analysis Date: 01/04/00
Lab Sample No: 239997

Parameter	Result mg/kg dry	Parameter	Result mg/kg dry
Acrolein	<0.010	Toluene	<0.050
Acrylonitrile	<0.010	1,1,1-Trichloroethane	<0.050
Benzene	<0.010	1,1,2-Trichloroethane	<0.050
Bromoform	<0.010	Trichloroethene	**6.2**
Bromomethane	<0.010	Trichlorofluoromethane	<0.10
Carbon Tetrachloride	<0.010	Vinyl Chloride	<0.10
Chlorobenzene	<0.010	Acetone	<1.0
Chlorodibromomethane	<0.010	Methyl Ethyl Ketone	<1.0
Chloroethane	<0.010	Styrene	<0.050
2-Chloroethyl Vinyl Ether	<0.10	Xylene (Total)	<0.10
Chloroform	<0.010	Vinyl Acetate	<0.50
Chloromethane	<0.010	2-Hexanone	<0.50
Dichlorobromomethane	<0.010	4-Methyl-2-Pentanone	<0.50
Dichlorodifluoromethane	<0.010	Carbon Disulfide	<0.50
1,1-Dichloroethane	<0.010	1,2-Dichlorobenzene	<0.050
1,2-Dichloroethane	<0.010	1,3-Dichlorobenzene	<0.050
1,1-Dichloroethylene	<0.010	1,4-Dichlorobenzene	<0.050
trans-1,2-Dichloroethene	<0.010	Methyl(tert)butyl Ether	<0.10
cis-1,2-Dichloroethene	<0.010	Isopropylbenzene	<0.010
1,2-Dichloropropane	<0.010	n-Propylbenzene	<0.010
cis-1,3-Dichloropropene	<0.010	1,3,5-Trimethylbenzene	<0.010
trans-1,3-Dichloropropene	<0.010	1,2,4-Trimethylbenzene	<0.010
Ethylbenzene	<0.010	Naphthalene	<0.050
Methylene Chloride	<0.010	Acenaphthylene	<0.50
1,1,2,2-Tetrachloroethane	<0.050	2-Methylnaphthalene	<0.10
Tetrachloroethene	<0.050		

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VOLATILE ORGANICS
USEPA 8260B

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-2

Submittal Number 34899- 6
Date Sampled: 12/21/99 Time: 11:10
Date Received: 12/23/99 Time: 10:20
Analysis Date: 01/04/00
Lab Sample No: 239998

Parameter	Result mg/kg dry	Parameter	Result mg/kg dry
Acrolein	<0.010	Toluene	<0.050
Acrylonitrile	<0.010	1,1,1-Trichloroethane	<0.050
Benzene	<0.010	1,1,2-Trichloroethane	<0.050
Bromoform	<0.010	Trichloroethene	**0.10**
Bromomethane	<0.010	Trichlorofluoromethane	<0.10
Carbon Tetrachloride	<0.010	Vinyl Chloride	<0.10
Chlorobenzene	<0.010	Acetone	<1.0
Chlorodibromomethane	<0.010	Methyl Ethyl Ketone	<1.0
Chloroethane	<0.010	Styrene	<0.050
2-Chloroethyl Vinyl Ether	<0.10	Xylene (Total)	<0.10
Chloroform	<0.010	Vinyl Acetate	<0.50
Chloromethane	<0.010	2-Hexanone	<0.50
Dichlorobromomethane	<0.010	4-Methyl-2-Pentanone	<0.50
Dichlorodifluoromethane	<0.010	Carbon Disulfide	<0.50
1,1-Dichloroethane	<0.010	1,2-Dichlorobenzene	<0.050
1,2-Dichloroethane	<0.010	1,3-Dichlorobenzene	<0.050
1,1-Dichloroethylene	<0.010	1,4-Dichlorobenzene	<0.050
trans-1,2-Dichloroethene	<0.010	Methyl(tert)butyl Ether	<0.10
cis-1,2-Dichloroethene	<0.010	Isopropylbenzene	<0.010
1,2-Dichloropropane	<0.010	n-Propylbenzene	<0.010
cis-1,3-Dichloropropene	<0.010	1,3,5-Trimethylbenzene	<0.010
trans-1,3-Dichloropropene	<0.010	1,2,4-Trimethylbenzene	<0.010
Ethylbenzene	<0.010	Naphthalene	<0.050
Methylene Chloride	<0.010	Acenaphthylene	<0.50
1,1,2,2-Tetrachloroethane	<0.050	2-Methylnaphthalene	<0.10
Tetrachloroethene	<0.050		

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Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-3

Submittal Number 34899- 6
Date Sampled: 12/21/99 Time: 13:20
Date Received: 12/23/99 Time: 10:20
Analysis Date: 01/04/00
Lab Sample No: 239999

Parameter	Result mg/kg dry	Parameter	Result mg/kg dry
Acrolein	<0.010	Toluene	<0.050
Acrylonitrile	<0.010	1,1,1-Trichloroethane	<0.050
Benzene	<0.010	1,1,2-Trichloroethane	<0.050
Bromoform	<0.010	Trichloroethene	**0.20**
Bromomethane	<0.010	Trichlorofluoromethane	<0.10
Carbon Tetrachloride	<0.010	Vinyl Chloride	<0.10
Chlorobenzene	<0.010	Acetone	<1.0
Chlorodibromomethane	<0.010	Methyl Ethyl Ketone	<1.0
Chloroethane	<0.010	Styrene	<0.050
2-Chloroethyl Vinyl Ether	<0.10	Xylene (Total)	<0.10
Chloroform	<0.010	Vinyl Acetate	<0.50
Chloromethane	<0.010	2-Hexanone	<0.50
Dichlorobromomethane	<0.010	4-Methyl-2-Pentanone	<0.50
Dichlorodifluoromethane	<0.010	Carbon Disulfide	<0.50
1,1-Dichloroethane	<0.010	1,2-Dichlorobenzene	<0.050
1,2-Dichloroethane	<0.010	1,3-Dichlorobenzene	<0.050
1,1-Dichloroethylene	<0.010	1,4-Dichlorobenzene	<0.050
trans-1,2-Dichloroethene	<0.010	Methyl(tert)butyl Ether	<0.10
cis-1,2-Dichloroethene	<0.010	Isopropylbenzene	<0.010
1,2-Dichloropropane	<0.010	n-Propylbenzene	<0.010
cis-1,3-Dichloropropene	<0.010	1,3,5-Trimethylbenzene	<0.010
trans-1,3-Dichloropropene	<0.010	1,2,4-Trimethylbenzene	<0.010
Ethylbenzene	<0.010	Naphthalene	<0.050
Methylene Chloride	<0.010	Acenaphthylene	<0.50
1,1,2,2-Tetrachloroethane	<0.050	2-Methylnaphthalene	<0.10
Tetrachloroethene	<0.050		

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USEPA 8260B

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-4

Submittal Number 34899- 6
Date Sampled: 12/21/99 Time: 13:40
Date Received: 12/23/99 Time: 10:20
Analysis Date: 01/04/00
Lab Sample No: 240000

Parameter	Result mg/kg dry	Parameter	Result mg/kg dry
Acrolein	<0.052	Toluene	<0.26
Acrylonitrile	<0.052	1,1,1-Trichloroethane	<0.26
Benzene	<0.052	1,1,2-Trichloroethane	<0.26
Bromoform	<0.052	Trichloroethene	**1.2**
Bromomethane	<0.052	Trichlorofluoromethane	<0.52
Carbon Tetrachloride	<0.052	Vinyl Chloride	<0.52
Chlorobenzene	<0.052	Acetone	<5.2
Chlorodibromomethane	<0.052	Methyl Ethyl Ketone	<5.2
Chloroethane	<0.052	Styrene	<0.26
2-Chloroethyl Vinyl Ether	<0.52	Xylene (Total)	<0.52
Chloroform	<0.052	Vinyl Acetate	<2.6
Chloromethane	<0.052	2-Hexanone	<2.6
Dichlorobromomethane	<0.052	4-Methyl-2-Pentanone	<2.6
Dichlorodifluoromethane	<0.052	Carbon Disulfide	<2.6
1,1-Dichloroethane	<0.052	1,2-Dichlorobenzene	<0.26
1,2-Dichloroethane	<0.052	1,3-Dichlorobenzene	<0.26
1,1-Dichloroethylene	<0.052	1,4-Dichlorobenzene	<0.26
trans-1,2-Dichloroethene	<0.052	Methyl(tert)butyl Ether	<0.52
cis-1,2-Dichloroethene	<0.052	Isopropylbenzene	<0.052
1,2-Dichloropropane	<0.052	n-Propylbenzene	<0.052
cis-1,3-Dichloropropene	<0.052	1,3,5-Trimethylbenzene	<0.052
trans-1,3-Dichloropropene	<0.052	1,2,4-Trimethylbenzene	<0.052
Ethylbenzene	<0.052	Naphthalene	<0.26
Methylene Chloride	<0.052	Acenaphthylene	<2.6
1,1,2,2-Tetrachloroethane	<0.26	2-Methylnaphthalene	<0.52
Tetrachloroethene	<0.26		

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VOLATILE ORGANICS
USEPA 8260B

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-5

Submittal Number 34899- 6
Date Sampled: 12/21/99 Time: 00:00
Date Received: 12/23/99 Time: 10:20
Analysis Date: 01/04/00
Lab Sample No: 240001

Parameter	Result mg/kg dry	Parameter	Result mg/kg dry
Acrolein	<0.010	Toluene	<0.050
Acrylonitrile	<0.010	1,1,1-Trichloroethane	<0.050
Benzene	<0.010	1,1,2-Trichloroethane	<0.050
Bromoform	<0.010	Trichloroethene	<0.050
Bromomethane	<0.010	Trichlorofluoromethane	<0.10
Carbon Tetrachloride	<0.010	Vinyl Chloride	<0.10
Chlorobenzene	<0.010	Acetone	<1.0
Chlorodibromomethane	<0.010	Methyl Ethyl Ketone	<1.0
Chloroethane	<0.010	Styrene	<0.050
2-Chloroethyl Vinyl Ether	<0.10	Xylene (Total)	<0.10
Chloroform	<0.010	Vinyl Acetate	<0.50
Chloromethane	<0.010	2-Hexanone	<0.50
Dichlorobromomethane	<0.010	4-Methyl-2-Pentanone	<0.50
Dichlorodifluoromethane	<0.010	Carbon Disulfide	<0.50
1,1-Dichloroethane	<0.010	1,2-Dichlorobenzene	<0.050
1,2-Dichloroethane	<0.010	1,3-Dichlorobenzene	<0.050
1,1-Dichloroethylene	<0.010	1,4-Dichlorobenzene	<0.050
trans-1,2-Dichloroethene	<0.010	Methyl(tert)butyl Ether	<0.10
cis-1,2-Dichloroethene	<0.010	Isopropylbenzene	<0.010
1,2-Dichloropropane	<0.010	n-Propylbenzene	<0.010
cis-1,3-Dichloropropene	<0.010	1,3,5-Trimethylbenzene	<0.010
trans-1,3-Dichloropropene	<0.010	1,2,4-Trimethylbenzene	<0.010
Ethylbenzene	<0.010	Naphthalene	<0.050
Methylene Chloride	<0.010	Acenaphthylene	<0.50
1,1,2,2-Tetrachloroethane	<0.050	2-Methylnaphthalene	<0.10
Tetrachloroethene	<0.050		

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VOLATILE ORGANICS
USEPA 8260B

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-6

Submittal Number 34899- 6
Date Sampled: 12/21/99 Time: 15:00
Date Received: 12/23/99 Time: 10:20
Analysis Date: 01/04/00
Lab Sample No: 240002

Parameter	Result mg/kg dry	Parameter	Result mg/kg dry
Acrolein	<0.051	Toluene	<0.25
Acrylonitrile	<0.051	1,1,1-Trichloroethane	<0.25
Benzene	<0.051	1,1,2-Trichloroethane	<0.25
Bromoform	<0.051	Trichloroethene	* 20
Bromomethane	<0.051	Trichlorofluoromethane	<0.51
Carbon Tetrachloride	<0.051	Vinyl Chloride	<0.51
Chlorobenzene	<0.051	Acetone	<5.1
Chlorodibromomethane	<0.051	Methyl Ethyl Ketone	<5.1
Chloroethane	<0.051	Styrene	<0.25
2-Chloroethyl Vinyl Ether	<0.51	Xylene (Total)	<0.51
Chloroform	<0.051	Vinyl Acetate	<2.5
Chloromethane	<0.051	2-Hexanone	<2.5
Dichlorobromomethane	<0.051	4-Methyl-2-Pentanone	<2.5
Dichlorodifluoromethane	<0.051	Carbon Disulfide	<2.5
1,1-Dichloroethane	<0.051	1,2-Dichlorobenzene	<0.25
1,2-Dichloroethane	<0.051	1,3-Dichlorobenzene	<0.25
1,1-Dichloroethylene	<0.051	1,4-Dichlorobenzene	<0.25
trans-1,2-Dichloroethene	<0.051	Methyl(tert)butyl Ether	<0.51
cis-1,2-Dichloroethene	<0.051	Isopropylbenzene	<0.051
1,2-Dichloropropane	<0.051	n-Propylbenzene	<0.051
cis-1,3-Dichloropropene	<0.051	1,3,5-Trimethylbenzene	<0.051
trans-1,3-Dichloropropene	<0.051	1,2,4-Trimethylbenzene	<0.051
Ethylbenzene	<0.051	Naphthalene	**0.43**
Methylene Chloride	<0.051	Acenaphthylene	<2.5
1,1,2,2-Tetrachloroethane	<0.25	2-Methylnaphthalene	<0.51
Tetrachloroethene	<0.25		

* See attached Statement of Data Qualifications.

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VOLATILE ORGANICS
USEPA 8260B

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-7

Submittal Number 34899- 6
Date Sampled: 12/21/99 Time: 15:15
Date Received: 12/23/99 Time: 10:20
Analysis Date: 01/04/00
Lab Sample No: 240003

Parameter	Result mg/kg dry	Parameter	Result mg/kg dry
Acrolein	<0.051	Toluene	<0.25
Acrylonitrile	<0.051	1,1,1-Trichloroethane	<0.25
Benzene	<0.051	1,1,2-Trichloroethane	<0.25
Bromoform	<0.051	Trichloroethene	**2.0**
Bromomethane	<0.051	Trichlorofluoromethane	<0.51
Carbon Tetrachloride	<0.051	Vinyl Chloride	<0.51
Chlorobenzene	<0.051	Acetone	<5.1
Chlorodibromomethane	<0.051	Methyl Ethyl Ketone	<5.1
Chloroethane	<0.051	Styrene	<0.25
2-Chloroethyl Vinyl Ether	<0.51	Xylene (Total)	<0.51
Chloroform	<0.051	Vinyl Acetate	<2.5
Chloromethane	<0.051	2-Hexanone	<2.5
Dichlorobromomethane	<0.051	4-Methyl-2-Pentanone	<2.5
Dichlorodifluoromethane	<0.051	Carbon Disulfide	<2.5
1,1-Dichloroethane	<0.051	1,2-Dichlorobenzene	<0.25
1,2-Dichloroethane	<0.051	1,3-Dichlorobenzene	<0.25
1,1-Dichloroethylene	<0.051	1,4-Dichlorobenzene	<0.25
trans-1,2-Dichloroethene	<0.051	Methyl(tert)butyl Ether	<0.51
cis-1,2-Dichloroethene	<0.051	Isopropylbenzene	<0.051
1,2-Dichloropropane	<0.051	n-Propylbenzene	<0.051
cis-1,3-Dichloropropene	<0.051	1,3,5-Trimethylbenzene	<0.051
trans-1,3-Dichloropropene	<0.051	1,2,4-Trimethylbenzene	<0.051
Ethylbenzene	<0.051	Naphthalene	<0.25
Methylene Chloride	<0.051	Acenaphthylene	<2.5
1,1,2,2-Tetrachloroethane	<0.25	2-Methylnaphthalene	<0.51
Tetrachloroethene	<0.25		

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ANALYTICAL REPORT

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples

Submittal Number: 34899- 6
Location:
Contact: Jennifer L. Rice
Phone: (616) 975-4500

	HA-8	Quantitation Limit	Units
Lab Sample No:	240004		
TCLP Volatile Organics USEPA Method 8260B	Enclosed		
TCLP Semi-Volatiles USEPA Method 8270	Enclosed		
PCB Scan USEPA-8082 Scan	* Enclosed		
Arsenic, TCLP	<0.20	0.20	mg/L
Barium, TCLP	<0.20	0.20	mg/L
Cadmium, TCLP	<0.01	0.01	mg/L
Chromium, TCLP	<0.08	0.08	mg/L
Lead, TCLP	<0.10	0.10	mg/L
Mercury, TCLP	<0.0004	0.0004	mg/L
Selenium, TCLP	<0.20	0.20	mg/L
Silver, TCLP	<0.01	0.01	mg/L
Flash point, cl-cup	>200	68	deg. F
pH	7.96	1.00	pH Units
Sulfide Reactivity	<10	10	mg/kg
Cyanide Reactivity	<250	250	mg/kg
Paint Filter Liquids Test	<1	1	mL
Sampled by:	J. Ruprich		
Date Sampled:	12/22/99		
Time Sampled:	08:40		
Date Received:	12/23/99		
Time Received:	10:20		

* See attached Statement of Data Qualifications.

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TCLP VOLATILE ORGANICS
USEPA METHOD 8260B

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-8

Submittal Number 34899- 6
Date Sampled: 12/22/99 Time: 08:40
Date Received: 12/23/99 Time: 10:20
Analysis Date: 01/04/00
Lab Sample No: 240004

Parameter	Result mg/L	Parameter	Result mg/L
Benzene	<0.10	1,1-Dichloroethylene	<0.10
Carbon Tetrachloride	<0.10	Methyl Ethyl Ketone	<5.0
Chlorobenzene	<0.10	Tetrachloroethene	<0.10
Chloroform	<0.10	Trichloroethene	<0.10
1,2-Dichloroethane	<0.10	Vinyl Chloride	<0.10

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TCLP SEMI-VOLATILES
USEPA METHOD 8270

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-8

Submittal Number 34899- 6
Date Sampled: 12/22/99 Time: 08:40
Date Received: 12/23/99 Time: 10:20
Analysis Date: 01/04/00
Lab Sample No: 240004

Parameter	Result mg/L	Parameter	Result mg/L
1,4-Dichlorobenzene	<0.005	Pentachlorophenol	<0.005
2,4-Dinitrotoluene	<0.005	2,4,6-Trichlorophenol	<0.005
Hexachlorobenzene	<0.005	2,4,5-Trichlorophenol	<0.005
Hexachlorobutadiene	<0.005	2-Methylphenol	<0.005
Hexachloroethane	<0.005	3 & 4 Methylphenol	<0.005
Nitrobenzene	<0.005	Pyridine	<0.005

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TriMatrix
Laboratories, Inc.

PCB SCAN
USEPA-8082 SCAN

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-8

Submittal Number 34899- 6
Date Sampled: 12/22/99 Time: 08:40
Date Received: 12/23/99 Time: 10:20
Analysis Date: 01/05/00
Lab Sample No: 240004

Parameter	Result mg/kg	Parameter	Result mg/kg
PCB-1016	<5.0	PCB-1248	<5.0
PCB-1221	<5.0	PCB-1254	<5.0
PCB-1232	<5.0	PCB-1260	<5.0
PCB-1242	<5.0		

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QUALITY CONTROL REPORT

Parameter: **Arsenic, TCLP**
Method: Atomic Emission-ICP USEPA-6010B TCLP
Units: mg/L

Method Preparation Blank

Test Date	QC Batch #	Analyst	Blank Conc
01/04/00	50747	DSC	<0.20

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	50747	DSC	5.0	5.301	106	89-127

Matrix Spike Recovery

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Spike Qty	Sample +Spike	Recovery	QC Limits
240004	01/04/00	50747	DSC	<0.20	5.0	4.903	98	80-129
240004	01/04/00	50747	DSC	<0.20	5.0	4.968	99	80-129

Matrix Spike Duplicate

Sample Number	Test Date	QC Batch #	Analyst	Sample+Spike Conc #1	Sample+Spike Conc #2	RPD	QC Limits
240004	01/04/00	50747	DSC	4.903	4.968	1	0- 20

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QUALITY CONTROL REPORT

Parameter: **Arsenic, Total**
Method: Atomic Emission-ICP EPA-200.7/6010B WATER
Units: ug/L

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
01/04/00	151422	DSC	<100

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	151422	DSC	1000	1045	105	90-110

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QUALITY CONTROL REPORT

Parameter: **Barium, TCLP**
Method: Atomic Emission-ICP USEPA-6010B TCLP
Units: mg/L

Method Preparation Blank

Test Date	QC Batch #	Analyst	Blank Conc
01/04/00	50747	DSC	<0.20

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	50747	DSC	0.50	0.511	102	86-119

Matrix Spike Recovery

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Spike Qty	Sample +Spike	Recovery	QC Limits
240004	01/04/00	50747	DSC	<0.20	0.50	0.598	120	52-139
240004	01/04/00	50747	DSC	<0.20	0.50	0.614	123	52-139

Matrix Spike Duplicate

Sample Number	Test Date	QC Batch #	Analyst	Sample+Spike Conc #1	Sample+Spike Conc #2	RPD	QC Limits
240004	01/04/00	50747	DSC	0.598	0.614	3	0- 20

QUALITY CONTROL REPORT

Parameter: **Barium, Total**
Method: Atomic Emission-ICP EPA-200.7/6010B WATER
Units: ug/L

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
01/04/00	151422	DSC	<10

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	151422	DSC	1000	1043	104	90-110

QUALITY CONTROL REPORT

Parameter: **Cadmium, TCLP**
Method: Atomic Emission-ICP USEPA-6010B TCLP
Units: mg/L

Method Preparation Blank

Test Date	QC Batch #	Analyst	Blank Conc
01/04/00	50747	DSC	<0.01

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	50747	DSC	0.50	0.479	96	84-120

Matrix Spike Recovery

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Spike Qty	Sample +Spike	Recovery	QC Limits
240004	01/04/00	50747	DSC	<0.01	0.50	0.440	88	71-117
240004	01/04/00	50747	DSC	<0.01	0.50	0.443	89	71-117

Matrix Spike Duplicate

Sample Number	Test Date	QC Batch #	Analyst	Sample+Spike Conc #1	Sample+Spike Conc #2	RPD	QC Limits
240004	01/04/00	50747	DSC	0.440	0.443	1	0- 20

QUALITY CONTROL REPORT

Parameter: **Cadmium, Total**
Method: Atomic Emission-ICP EPA-200.7/6010B WATER
Units: ug/L

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
01/04/00	151422	DSC	<5

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	151422	DSC	1000	958	96	90-110

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QUALITY CONTROL REPORT

Parameter: **Chromium, TCLP**
Method: Atomic Emission-ICP USEPA-6010B TCLP
Units: mg/L

Method Preparation Blank

Test Date	QC Batch #	Analyst	Blank Conc
01/04/00	50747	DSC	<0.08

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	50747	DSC	0.50	0.495	99	85-118

Matrix Spike Recovery

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Spike Qty	Sample +Spike	Recovery	QC Limits
240004	01/04/00	50747	DSC	<0.08	0.50	0.457	91	75-118
240004	01/04/00	50747	DSC	<0.08	0.50	0.459	92	75-118

Matrix Spike Duplicate

Sample Number	Test Date	QC Batch #	Analyst	Sample+Spike Conc #1	Sample+Spike Conc #2	RPD	QC Limits
240004	01/04/00	50747	DSC	0.457	0.459	0	0- 20

QUALITY CONTROL REPORT

Parameter: **Chromium, Total**
Method: Atomic Emission-ICP EPA-200.7/6010B WATER
Units: ug/L

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
01/04/00	151422	DSC	<10

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	151422	DSC	1000	998	100	90-110

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QUALITY CONTROL REPORT

Parameter: **Cyanide Reactivity**
Method: Hydrogen Cyanide Released from Wastes USEPA-7.3.3.2 WASTE
Units: mg/kg

Duplicate Percent Difference

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Duplicate Conc	RPD	QC Limits
240004	12/30/99	50564	VAS	<250	<250	0	0- 20

QUALITY CONTROL REPORT

Parameter: **DRO/TPH 8015 (Screen)**
Method: Extractable Petroleum Hydrocarbons USEPA-8015A Mod SOIL
Units: mg/kg dry

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
01/04/00	151449	DLV	<10
01/05/00	151450	DLV	<10

Method Preparation Blank

Test Date	QC Batch #	Analyst	Blank Conc
01/04/00	50542	DLV	<10

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	50542	DLV	16.7	16.0	96	39-127

QUALITY CONTROL REPORT

Parameter: **Flash point, cl-cup**
Method: Pensky-Martens Closed-Cup Method USEPA-1010 WATER
Units: deg. F

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
01/06/00	151460	SAJ	<68

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/06/00	151460	SAJ	81	82	101	100-102

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QUALITY CONTROL REPORT

Parameter: **Flash point, cl-cup**
Method: Pensky-Martens Closed-Cup Method USEPA-1010 WASTE
Units: deg. F

Duplicate Percent Difference

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Duplicate Conc	RPD	QC Limits
240004	01/06/00	50762	SAJ	>200	>200	0	0- 20

QUALITY CONTROL REPORT

Parameter: **Lead, TCLP**
Method: Atomic Emission-ICP USEPA-6010B TCLP
Units: mg/L

Method Preparation Blank

Test Date	QC Batch #	Analyst	Blank Conc
01/04/00	50747	DSC	<0.10

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	50747	DSC	0.50	0.470	94	83-120

Matrix Spike Recovery

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Spike Qty	Sample +Spike	Recovery	QC Limits
240004	01/04/00	50747	DSC	<0.10	0.50	0.473	95	57-130
240004	01/04/00	50747	DSC	<0.10	0.50	0.454	91	57-130

Matrix Spike Duplicate

Sample Number	Test Date	QC Batch #	Analyst	Sample+Spike Conc #1	Sample+Spike Conc #2	RPD	QC Limits
240004	01/04/00	50747	DSC	0.473	0.454	4	0- 20

QUALITY CONTROL REPORT

Parameter: **Lead, Total**
Method: Atomic Emission-ICP EPA-200.7/6010B WATER
Units: ug/L

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
01/04/00	151422	DSC	<40

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	151422	DSC	1000	981	98	90-110

QUALITY CONTROL REPORT

Parameter: **Mercury, TCLP**
Method: Cold Vapor, Mercury USEPA-7470A TCLP
Units: mg/L

Matrix Spike Recovery

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Spike Qty	Sample +Spike	Recovery	QC Limits
240004	01/04/00	50670	SPLM	<0.0004	0.0050	0.00576	115	46-139
240004	01/04/00	50670	SPLM	<0.0004	0.0050	0.00512	102	46-139

Matrix Spike Duplicate

Sample Number	Test Date	QC Batch #	Analyst	Sample+Spike Conc #1	Sample+Spike Conc #2	RPD	QC Limits
240004	01/04/00	50670	SPLM	0.00576	0.00512	12	0- 20

QUALITY CONTROL REPORT

Parameter: **Mercury, Total**
Method: Cold Vapor, Mercury USEPA-7470A WATER
Units: ug/L

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
01/04/00	151365	SPLM	<0.2

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	151365	SPLM	3.0	3.45	115	80-120

Method Preparation Blank

Test Date	QC Batch #	Analyst	Blank Conc
01/04/00	50670	SPLM	<0.2

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	50670	SPLM	2.50	2.62	105	76-123

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QUALITY CONTROL REPORT

Parameter: **Paint Filter Liquids Test**
Method: Paint Filter Liquids Test USEPA-9095 WASTE
Units: mL

Duplicate Percent Difference

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Duplicate Conc	RPD	QC Limits
240004	12/28/99	50664	GEH	<1	<1	0	0- 20

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QUALITY CONTROL REPORT

Parameter: **Percent Solids**
Method: Residue-Gravimetric, Dried @ 103-105*C USEPA-160.3 SOIL
Units: %

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
12/29/99	151349	CEM	<0.1

Duplicate Percent Difference

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Duplicate Conc	RPD	QC Limits
239998	12/29/99	50656	CEM	98	99	1	0- 20

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QUALITY CONTROL REPORT

Parameter: **pH**
Method: pH Electrometric Determination EPA-150.1/9040B WATER
Units: pH Units

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
12/28/99	151337	CEM	<1.00
12/28/99	151337	CEM	<1.00

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
12/28/99	151337	CEM	6.00	5.97	100	98-102
12/28/99	151337	CEM	7.40	7.35	99	98-102

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QUALITY CONTROL REPORT

Parameter: **pH**
Method: pH Electrometric Determination USEPA-9045C WASTE
Units: pH Units

Duplicate Percent Difference

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Duplicate Conc	RPD	QC Limits
240004	12/28/99	50645	CEM	7.96	8.23	3	0- 20

QUALITY CONTROL REPORT

Parameter: **Selenium, TCLP**
Method: Atomic Emission-ICP USEPA-6010B TCLP
Units: mg/L

Method Preparation Blank

Test Date	QC Batch #	Analyst	Blank Conc
01/04/00	50747	DSC	<0.20

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	50747	DSC	5.0	5.380	108	84-139

Matrix Spike Recovery

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Spike Qty	Sample +Spike	Recovery	QC Limits
240004	01/04/00	50747	DSC	<0.20	5.0	4.936	99	85-137
240004	01/04/00	50747	DSC	<0.20	5.0	5.121	102	85-137

Matrix Spike Duplicate

Sample Number	Test Date	QC Batch #	Analyst	Sample+Spike Conc #1	Sample+Spike Conc #2	RPD	QC Limits
240004	01/04/00	50747	DSC	4.936	5.121	4	0- 20

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QUALITY CONTROL REPORT

Parameter: **Selenium, Total**
Method: Atomic Emission-ICP EPA-200.7/6010B WATER
Units: ug/L

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
01/04/00	151422	DSC	<100

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	151422	DSC	1000	1043	104	90-110

QUALITY CONTROL REPORT

Parameter: **Silver, TCLP**
Method: Atomic Emission-ICP USEPA-6010B TCLP
Units: mg/L

Method Preparation Blank

Test Date	QC Batch #	Analyst	Blank Conc
01/04/00	50747	DSC	<0.01

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	50747	DSC	0.50	0.440	88	76-110

Matrix Spike Recovery

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Spike Qty	Sample +Spike	Recovery	QC Limits
240004	01/04/00	50747	DSC	<0.01	0.50	0.418	84	64-114
240004	01/04/00	50747	DSC	<0.01	0.50	0.423	85	64-114

Matrix Spike Duplicate

Sample Number	Test Date	QC Batch #	Analyst	Sample+Spike Conc #1	Sample+Spike Conc #2	RPD	QC Limits
240004	01/04/00	50747	DSC	0.418	0.423	1	0- 20

QUALITY CONTROL REPORT

Parameter: **Silver, Total**
Method: Atomic Emission-ICP EPA-200.7/6010B WATER
Units: ug/L

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
01/04/00	151422	DSC	<5

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
01/04/00	151422	DSC	1000	906	91	90-110

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QUALITY CONTROL REPORT

Parameter: **Sulfide Reactivity**
Method: Hydrogen Sulfide Released from Wastes USEPA-7.3.4.2 WASTE
Units: mg/kg

Instrument Blank

Test Date	Analytical Batch Number	Analyst	Blank Conc
12/28/99	151343	CEM	<10

Laboratory Control Sample

Test Date	Analytical Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
12/28/99	151343	CEM	25.2	25.2	100	93-104

Method Preparation Blank

Test Date	QC Batch #	Analyst	Blank Conc
12/21/99	50335	CEM	<10

Laboratory Fortified Blank

Test Date	QC Batch #	Analyst	Spike Qty	Spike Result	Recovery	QC Limits
12/21/99	50335	CEM	29.2	11.2	38	25-132

Matrix Spike Recovery

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Spike Qty	Sample +Spike	Recovery	QC Limits
240004	12/28/99	50335	CEM	<10	312	155	50	1-138

Duplicate Percent Difference

Sample Number	Test Date	QC Batch #	Analyst	Sample Conc	Duplicate Conc	RPD	QC Limits
240004	12/28/99	50335	CEM	<10	<10	0	0- 20

QUALITY CONTROL REPORT

INSTRUMENT BLANK

Fraction: Polychlorinated Biphenyls USEPA Method 8082
Method: Organochlorine Pesticides & PCBs
Analyst: Brian R. Launs Test Date: 01/04/00
Units: mg/kg dry
Analytical Batch: 151393

Parameter	Blank Concentration	Quantitation Limit
PCB-1016	ND	0.33
PCB-1221	ND	0.33
PCB-1232	ND	0.33
PCB-1242	ND	0.33
PCB-1248	ND	0.33
PCB-1254	ND	0.33
PCB-1260	ND	0.33

QUALITY CONTROL REPORT

METHOD PREPARATION BLANK

Fraction: PCB Scan USEPA-8082 Scan
Method: Organochlorine Pesticides & PCBs
Analyst: Brian R. Launs Test Date: 01/05/00
Units: mg/kg
QC Batch: 50764-103

Parameter	Blank Concentration	Quantitation Limit
PCB-1016	<0.50	0.50
PCB-1221	<0.50	0.50
PCB-1232	<0.50	0.50
PCB-1242	<0.50	0.50
PCB-1248	<0.50	0.50
PCB-1254	<0.50	0.50
PCB-1260	<0.50	0.50

QUALITY CONTROL REPORT

LABORATORY FORTIFIED BLANK

Fraction: PCB Scan USEPA-8082 Scan
Method: Organochlorine Pesticides & PCBs
Analyst: Brian R. Launs Test Date: 01/05/00
Units: mg/kg
QC Batch: 50764-103

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
PCB-1242	5.00	7.45	149	39 - 180

QUALITY CONTROL REPORT

INSTRUMENT BLANK

Fraction: Semi-Volatile Organics USEPA-8270 Scan
Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Kaufman Test Date: 01/04/00
Units: mg/L
Analytical Batch: 151296

Parameter	Blank Concentration	Quantitation Limit
1,4-Dichlorobenzene	ND	0.005
2,4-Dinitrotoluene	ND	0.005
Hexachlorobenzene	ND	0.005
Hexachlorobutadiene	ND	0.005
Hexachloroethane	ND	0.005
Nitrobenzene	ND	0.005
Pentachlorophenol	ND	0.005
2,4,6-Trichlorophenol	ND	0.005
2,4,5-Trichlorophenol	ND	0.005
2-Methylphenol	ND	0.005
Pyridine	ND	0.005
3 & 4 Methylphenol	ND	0.005

QUALITY CONTROL REPORT

METHOD PREPARATION BLANK

Fraction: Semi-Volatile Organics USEPA-8270 Scan
Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Kaufman Test Date: 01/03/00
Units: mg/L
QC Batch: 50755-203

Parameter	Blank Concentration	Quantitation Limit
1,4-Dichlorobenzene	<0.005	0.005
2,4-Dinitrotoluene	<0.005	0.005
Hexachlorobenzene	<0.005	0.005
Hexachlorobutadiene	<0.005	0.005
Hexachloroethane	<0.005	0.005
Nitrobenzene	<0.005	0.005
Pentachlorophenol	<0.005	0.005
2,4,6-Trichlorophenol	<0.005	0.005
2,4,5-Trichlorophenol	<0.005	0.005
2-Methylphenol	<0.005	0.005
Pyridine	<0.005	0.005
3 & 4 Methylphenol	<0.005	0.005

QUALITY CONTROL REPORT

LABORATORY FORTIFIED BLANK

Fraction: Semi-Volatile Organics USEPA-8270 Scan
Method: Semi-Volatiles GC/MS
Analyst: Dawn M. Kaufman Test Date: 01/03/00
Units: mg/L
QC Batch: 50755-203

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
1,4-Dichlorobenzene	0.200	0.171	86	47 - 124
2,4-Dinitrotoluene	0.200	0.190	95	33 - 124
Hexachlorobenzene	0.200	0.212	106	45 - 134
Hexachlorobutadiene	0.200	0.180	90	41 - 121
Hexachloroethane	0.200	0.174	87	42 - 133
Nitrobenzene	0.200	0.200	100	46 - 139
Pentachlorophenol	0.200	0.0934	47	1 - 157
2,4,6-Trichlorophenol	0.200	0.158	79	28 - 129
2,4,5-Trichlorophenol	0.200	0.142	71	30 - 132
2-Methylphenol	0.200	0.145	73	27 - 113
Pyridine	0.200	0.103	52	1 - 118
3 & 4 Methylphenol	0.400	0.298	75	28 - 135

QUALITY CONTROL REPORT

MATRIX SPIKE RECOVERY

Fraction: Volatile Organics USEPA-8260B Scan
Method: Volatiles Purge & Trap-GC/MS USEPA-8260B TCLP
Analyst: James P. O'Keefe Test Date: 01/10/00
Sample No: 240004
Units: mg/L
QC Batch: 49921

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Benzene	<0.10	4.00	3.77	94	73 - 126
Carbon Tetrachloride	<0.10	4.00	3.59	90	67 - 140
Chlorobenzene	<0.10	4.00	3.89	97	70 - 129
Chloroform	<0.10	4.00	3.79	95	76 - 127
1,2-Dichloroethane	<0.10	4.00	4.00	100	76 - 123
1,1-Dichloroethylene	<0.10	4.00	3.53	88	65 - 127
Tetrachloroethene	<0.10	4.00	3.77	94	68 - 130
Trichloroethene	<0.10	4.00	3.76	94	71 - 124
Vinyl Chloride	<0.10	4.00	2.97	74	61 - 140
Methyl Ethyl Ketone	<5.0	4.00	2.48	62	23 - 152

QUALITY CONTROL REPORT

MATRIX SPIKE RECOVERY

Fraction: Volatile Organics USEPA-8260B Scan
Method: Volatiles Purge & Trap-GC/MS USEPA-8260B TCLP
Analyst: James P. O'Keefe Test Date: 01/11/00
Sample No: 240004
Units: mg/L
QC Batch: 49921

Parameter	Sample Conc	Spike Quantity	Sample +Spike	Spike % Rec	Control Limits
Benzene	<0.10	4.00	3.89	97	73 - 126
Carbon Tetrachloride	<0.10	4.00	3.76	94	67 - 140
Chlorobenzene	<0.10	4.00	3.99	100	70 - 129
Chloroform	<0.10	4.00	3.88	97	76 - 127
1,2-Dichloroethane	<0.10	4.00	4.06	102	76 - 123
1,1-Dichloroethylene	<0.10	4.00	3.66	92	65 - 127
Tetrachloroethene	<0.10	4.00	3.92	98	68 - 130
Trichloroethene	<0.10	4.00	3.92	98	71 - 124
Vinyl Chloride	<0.10	4.00	3.14	79	61 - 140
Methyl Ethyl Ketone	<5.0	4.00	2.41	60	23 - 152

QUALITY CONTROL REPORT

MATRIX SPIKE DUPLICATE

Fraction: Volatile Organics USEPA-8260B Scan
Method: Volatiles Purge & Trap-GC/MS USEPA-8260B TCLP
Analyst: James P. O'Keefe Test Date: 01/11/00
Sample No: 240004
Units: mg/L
QC Batch: 49921

Parameter	Sample+Spike Conc #1	Sample+Spike Conc #2	Relative % Diff.	Control Limits
Benzene	3.77	3.89	3	0 - 22
Carbon Tetrachloride	3.59	3.76	5	0 - 15
Chlorobenzene	3.89	3.99	3	0 - 20
Chloroform	3.79	3.88	2	0 - 18
1,2-Dichloroethane	4.00	4.06	1	0 - 21
1,1-Dichloroethylene	3.53	3.66	4	0 - 23
Tetrachloroethene	3.77	3.92	4	0 - 19
Trichloroethene	3.76	3.92	4	0 - 22
Vinyl Chloride	2.97	3.14	6	0 - 21
Methyl Ethyl Ketone	2.48	2.41	3	0 - 25

QUALITY CONTROL REPORT

METHOD PREPARATION BLANK

Fraction: GC/MS Volatile Organics USEPA Method 8260B
Method: Volatiles Purge & Trap-GC/MS
Analyst: Gerald L. Holycross Test Date: 01/04/00
Units: mg/kg dry
QC Batch: 50134-104

Parameter	Blank Concentration	Quantitation Limit
Acetone	<0.10	0.10
Benzene	<0.010	0.010
Dichlorobromomethane	<0.010	0.010
Bromoform	<0.010	0.010
Bromomethane	<0.010	0.010
Methyl Ethyl Ketone	<0.10	0.10
Carbon Disulfide	<0.10	0.10
Carbon Tetrachloride	<0.010	0.010
Chlorobenzene	<0.010	0.010
Chloroethane	<0.010	0.010
2-Chloroethyl Vinyl Ether	<0.10	0.10
Chloroform	<0.010	0.010
Chloromethane	<0.010	0.010
Chlorodibromomethane	<0.010	0.010
1,1-Dichloroethane	<0.010	0.010
1,2-Dichloroethane	<0.010	0.010
1,1-Dichloroethylene	<0.010	0.010
1,2-Dichloropropane	<0.010	0.010
cis-1,3-Dichloropropene	<0.010	0.010
trans-1,3-Dichloropropene	<0.010	0.010
Ethylbenzene	<0.010	0.010
2-Hexanone	<0.10	0.10
4-Methyl-2-Pentanone	<0.10	0.10
Methylene Chloride	<0.010	0.010
Styrene	<0.010	0.010
1,1,2,2-Tetrachloroethane	<0.010	0.010
Tetrachloroethene	<0.010	0.010
1,1,1-Trichloroethane	<0.010	0.010
1,1,2-Trichloroethane	<0.010	0.010
Trichloroethene	<0.010	0.010
Toluene	<0.010	0.010
Vinyl Acetate	<0.10	0.10
Vinyl Chloride	<0.010	0.010
Xylene (Total)	<0.030	0.030

QUALITY CONTROL REPORT

METHOD PREPARATION BLANK

Fraction: GC/MS Volatile Organics USEPA Method 8260B
Method: Volatiles Purge & Trap-GC/MS
Analyst: Gerald L. Holycross Test Date: 01/04/00
Units: mg/kg dry
QC Batch: 50767-104

Parameter	Blank Concentration	Quantitation Limit
Acetone	<0.50	0.50
Benzene	<0.050	0.050
Dichlorobromomethane	<0.050	0.050
Bromoform	<0.050	0.050
Bromomethane	<0.050	0.050
Methyl Ethyl Ketone	<0.50	0.50
Carbon Disulfide	<0.50	0.50
Carbon Tetrachloride	<0.050	0.050
Chlorobenzene	<0.050	0.050
Chloroethane	<0.050	0.050
2-Chloroethyl Vinyl Ether	<0.50	0.50
Chloroform	<0.050	0.050
Chloromethane	<0.050	0.050
Chlorodibromomethane	<0.050	0.050
1,1-Dichloroethane	<0.050	0.050
1,2-Dichloroethane	<0.050	0.050
1,1-Dichloroethylene	<0.050	0.050
1,2-Dichloropropane	<0.050	0.050
cis-1,3-Dichloropropene	<0.050	0.050
trans-1,3-Dichloropropene	<0.050	0.050
Ethylbenzene	<0.050	0.050
2-Hexanone	<0.50	0.50
4-Methyl-2-Pentanone	<0.50	0.50
Methylene Chloride	<0.050	0.050
Styrene	<0.050	0.050
1,1,2,2-Tetrachloroethane	<0.050	0.050
Tetrachloroethene	<0.050	0.050
1,1,1-Trichloroethane	<0.050	0.050
1,1,2-Trichloroethane	<0.050	0.050
Trichloroethene	<0.050	0.050
Toluene	<0.050	0.050
Vinyl Acetate	<0.50	0.50
Vinyl Chloride	<0.050	0.050
Xylene (Total)	<0.15	0.15

QUALITY CONTROL REPORT

LABORATORY FORTIFIED BLANK

Fraction: Volatile Organics USEPA-8260B Scan
Method: Volatiles Purge & Trap-GC/MS
Analyst: Gerald L. Holycross Test Date: 01/04/00
Units: mg/kg dry
QC Batch: 50134-104

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
Benzene	0.040	0.0449	112	77 - 118
Chlorobenzene	0.040	0.0394	99	78 - 121
1,1-Dichloroethylene	0.040	0.0382	96	70 - 122
Toluene	0.040	0.0455	114	76 - 117
Trichloroethene	0.040	0.0408	102	74 - 124

QUALITY CONTROL REPORT

LABORATORY FORTIFIED BLANK

Fraction: Volatile Organics USEPA-8260B Scan
Method: Volatiles Purge & Trap-GC/MS
Analyst: Gerald L. Holycross Test Date: 01/04/00
Units: mg/kg dry
QC Batch: 50767-104

Parameter	Spike Quantity	Spike Result	Spike % Rec	Control Limits
Benzene	2.0	2.24	112	77 - 118
Chlorobenzene	2.0	1.97	99	78 - 121
1,1-Dichloroethylene	2.0	1.91	96	70 - 122
Toluene	2.0	2.28	114	76 - 117
Trichloroethene	2.0	2.04	102	74 - 124

QUALITY CONTROL REPORT
SURROGATE RECOVERIES

Method: Volatiles Purge & Trap-GC/MS USEPA-8260B SOIL

Surrogate Compound List

SUR-1: Dibromofluoromethane
SUR-2: d8-Toluene
SUR-3: 4-Bromofluorobenzene

% R = Percent Recovery

Compounds:		SUR-1	SUR-2	SUR-3
Control Limits:		74-131	78-122	79-125
Sample # / ID	Batch	% R	% R	% R
MPB-104	50134	89	92	93
MPB-104	50767	89	92	93
LFB-104	50134	89	92	93
LFB-104	50767	89	92	93
239997	50767	98	101	100
239998	50134	101	109	106
239999	50134	105	114	113
240000	50767	100	108	103
240001	50134	106	115	103
240002	50767	106	113	98
240003	50767	101	113	108

QUALITY CONTROL REPORT
SURROGATE RECOVERIES

Method: Volatiles Purge & Trap-GC/MS USEPA-8260B TCLP

Surrogate Compound List

SUR-1: Dibromofluoromethane
SUR-2: d8-Toluene
SUR-3: 4-Bromofluorobenzene

% R = Percent Recovery

Compounds:	SUR-1	SUR-2	SUR-3
Control Limits:	78-125	81-119	81-120
Sample # / ID	Batch	% R	% R	% R
240004SPK	49921	90	94	99
240004SPK	49921	91	94	99
240004	49921	94	97	99

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QUALITY CONTROL REPORT
SURROGATE RECOVERIES

Method: Organochlorine Pesticides & PCBs USEPA-8081A SOIL

Surrogate Compound List

SUR-1: Tetrachloro-M-xylene
SUR-2: Decachlorobiphenyl

% R = Percent Recovery

Compounds:		SUR-1	SUR-2
Control Limits:		40-125	25-151
Sample # / ID	Batch	% R	% R
BLK-001	151393	85	132

QUALITY CONTROL REPORT
SURROGATE RECOVERIES

Method: Organochlorine Pesticides & PCBs USEPA-8081A WASTE

Surrogate Compound List

SUR-1: Tetrachloro-M-xylene
SUR-2: Decachlorobiphenyl

% R = Percent Recovery

Compounds:		SUR-1	SUR-2
Control Limits:		21-143	11-148
Sample # / ID	Batch	% R	% R
MPB-103	50764	139	150
LFB-103	50764	141	152

QUALITY CONTROL REPORT
SURROGATE RECOVERIES

Method: Semi-Volatiles GC/MS USEPA-8270C TCLP

Surrogate Compound List

SUR-1:	2-Fluorobiphenyl	SUR-4:	d6-Phenol
SUR-2:	2-Fluorophenol	SUR-5:	o-Terphenyl
SUR-3:	d5-Nitrobenzene	SUR-6:	2,4,6-Tribromophenol

% R = Percent Recovery

Compounds:		SUR-1	SUR-2	SUR-3	SUR-4	SUR-5	SUR-6
Control Limits:		41-121	4-111	29-131	13-114	28-127	4-143
Sample # / ID	Batch	% R	% R	% R	% R	% R	% R
MPB-203	50755	88	89	107	63	82	90
LFB-203	50755	90	85	106	59	86	110
240004	50755	85	83	109	60	80	116

QUALITY CONTROL REPORT
SURROGATE RECOVERIES

Method: Extractable Petroleum Hydrocarbons USEPA-8015A Mod SOIL

Surrogate Compound List

SUR-1: o-Terphenyl

% R = Percent Recovery

Compounds:	SUR-1
Control Limits:	50-150

Sample # / ID	Batch	% R
BLK-001	151449	84
BLK-001	151450	105
MPB-103	50542	73
LFB-103	50542	83
239998	50542	96
239999	50542	81
240001	50542	83

METHODS PAGE

Parameter: Volatile Organics USEPA 8260B
Method: Volatiles Purge & Trap-GC/MS
Application: SOIL Reference Citation: USEPA-8260B
Analyst: Gerald L. Holycross (GLH) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
239997	HA-1	151561	50767-104
239998	HA-2	151561	50134-104
239999	HA-3	151561	50134-104
240000	HA-4	151561	50767-104
240001	HA-5	151561	50134-104
240002	HA-6	151561	50767-104
240003	HA-7	151561	50767-104

Parameter: Arsenic, TCLP
Method: Atomic Emission-ICP
Application: TCLP Reference Citation: USEPA-6010B
Analyst: Denise S. Coffey (DSC) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151422	50747

Parameter: Barium, TCLP
Method: Atomic Emission-ICP
Application: TCLP Reference Citation: USEPA-6010B
Analyst: Denise S. Coffey (DSC) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151422	50747

Parameter: Cadmium, TCLP
Method: Atomic Emission-ICP
Application: TCLP Reference Citation: USEPA-6010B
Analyst: Denise S. Coffey (DSC) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151422	50747

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METHODS PAGE

Parameter: Chromium, TCLP
Method: Atomic Emission-ICP
Application: TCLP Reference Citation: USEPA-6010B
Analyst: Denise S. Coffey (DSC) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151422	50747

Parameter: Cyanide Reactivity
Method: Hydrogen Cyanide Released from Wastes
Application: WASTE Reference Citation: USEPA-7.3.3.2
Analyst: Victoria A. Simonis (VAS) Date Analyzed: 12/30/99

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151262	50564

Parameter: DILUTION: PCB'S
Method: Waste Dilution
Application: WASTE Reference Citation: USEPA-3580A
Analyst: James D. Mc Fadden (JDM) Date Analyzed: 01/03/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151370	-103

Parameter: DRO/TPH 8015 (Screen)
Method: Extractable Petroleum Hydrocarbons
Application: SOIL Reference Citation: USEPA-8015A Mod
Analyst: Diane L. VanMale (DLV) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
239999	HA-3	151449	50542-103
240001	HA-5	151449	50542-103

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METHODS PAGE

Parameter: DRO/TPH 8015 (Screen)
Method: Extractable Petroleum Hydrocarbons
Application: SOIL Reference Citation: USEPA-8015A Mod
Analyst: Diane L. VanMale (DLV) Date Analyzed: 01/05/00

Sample Number	Sample Description	Analytical Batch	QC Batch
239997	HA-1	151450	50542-103
239998	HA-2	151450	50542-103
240000	HA-4	151450	50542-103
240002	HA-6	151450	50542-103
240003	HA-7	151450	50542-103

Parameter: Semi-Volatile Extraction
Method: Separatory Funnel Liquid-Liquid Extract.
Application: TCLP Reference Citation: USEPA-3510B
Analyst: David R. Isenga (DRI) Date Analyzed: 01/03/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151318	-203

Parameter: Extraction Method-DRO Diesel Range Organics
Method: Extraction of Diesel Range Organics
Application: SOIL Reference Citation: USEPA-3550B Mod
Analyst: David R. Isenga (DRI) Date Analyzed: 01/03/00

Sample Number	Sample Description	Analytical Batch	QC Batch
239997	HA-1	151104	-103
239998	HA-2	151104	-103
239999	HA-3	151104	-103
240000	HA-4	151104	-103
240001	HA-5	151104	-103
240002	HA-6	151104	-103
240003	HA-7	151104	-103

Parameter: Flash point, cl-cup
Method: Pensky-Martens Closed-Cup Method
Application: WASTE Reference Citation: USEPA-1010
Analyst: Shelly A. Jewell (SAJ) Date Analyzed: 01/06/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151460	50762

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METHODS PAGE

Parameter: Inorganic Pretreatment
Method: Hydrogen Cyanide Released from Wastes
Application: WASTE Reference Citation: USEPA-7.3.3.2
Analyst: Jodie L. Blouw (JLB) Date Analyzed: 12/30/99

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151261	

Parameter: Inorganic Pretreatment
Method: Hydrogen Sulfide Released from Wastes
Application: WASTE Reference Citation: USEPA-7.3.4.2
Analyst: Christina E. Mincy (CEM) Date Analyzed: 12/28/99

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	150906	

Parameter: Lead, TCLP
Method: Atomic Emission-ICP
Application: TCLP Reference Citation: USEPA-6010B
Analyst: Denise S. Coffey (DSC) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151422	50747

Parameter: Mercury, TCLP
Method: Cold Vapor, Mercury
Application: TCLP Reference Citation: USEPA-7470A
Analyst: Stephanie P. Langille (SPLM) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151365	50670

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METHODS PAGE

Parameter: Digestion Mtd. 245.1/7470 Mercury-Cold Vapor Method
Method: Digestion for Manual Cold-Vapor Mercury
Application: TCLP Reference Citation: USEPA-7470A
Analyst: Stephanie P. Langille (SPLM) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151348	

Parameter: Digestion Method-3010 Flame-AA/ICP (TCLP)
Method: Acid Digestion for Flame AA-ICP
Application: TCLP Reference Citation: USEPA-3010A
Analyst: Marge A. Scott (MSS) Date Analyzed: 12/30/99

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151217	

Parameter: Paint Filter Liquids Test
Method: Paint Filter Liquids Test
Application: WASTE Reference Citation: USEPA-9095
Analyst: Gretchen Housekeeper (GEH) Date Analyzed: 12/28/99

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151357	50664

Parameter: PCB Scan USEPA-8082 Scan
Method: Organochlorine Pesticides & PCBs
Application: WASTE Reference Citation: USEPA-8081A
Analyst: Brian R. Launs (BRL) Date Analyzed: 01/05/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151393	50764-103

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METHODS PAGE

Parameter: Percent Solids
Method: Residue-Gravimetric, Dried @ 103-105*C
Application: SOIL Reference Citation: USEPA-160.3
Analyst: Christina E. Mincy (CEM) Date Analyzed: 12/29/99

Sample Number	Sample Description	Analytical Batch	QC Batch
239997	HA-1	151349	50656
239998	HA-2	151349	50656
239999	HA-3	151349	50656
240000	HA-4	151349	50656
240001	HA-5	151349	50656
240002	HA-6	151349	50656
240003	HA-7	151349	50656

Parameter: pH
Method: pH Electrometric Determination
Application: WASTE Reference Citation: USEPA-9045C
Analyst: Christina E. Mincy (CEM) Date Analyzed: 12/28/99

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151337	50645

Parameter: Selenium, TCLP
Method: Atomic Emission-ICP
Application: TCLP Reference Citation: USEPA-6010B
Analyst: Denise S. Coffey (DSC) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151422	50747

Parameter: Silver, TCLP
Method: Atomic Emission-ICP
Application: TCLP Reference Citation: USEPA-6010B
Analyst: Denise S. Coffey (DSC) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151422	50747

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METHODS PAGE

Parameter: Sulfide Reactivity
Method: Hydrogen Sulfide Released from Wastes
Application: WASTE — Reference Citation: USEPA-7.3.4.2
Analyst: Christina E. Mincy (CEM) — Date Analyzed: 12/28/99

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151343	50335

Parameter: TCLP Extraction-Metals
Method: Leaching Procedure (TCLP-METALS)
Application: WASTE — Reference Citation: USEPA-1311
Analyst: Marge A. Scott (MSS) — Date Analyzed: 12/30/99

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151216	

Parameter: TCLP Extraction-Semi-Vol.
Method: Leaching Procedure (TCLP-Organics)
Application: TCLP — Reference Citation: USEPA-1311
Analyst: Marge A. Scott (MSS) — Date Analyzed: 12/29/99

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	150379	-129

Parameter: TCLP ZHE Extraction
Method: Zero Headspace Extraction-TCLP
Application: TCLP — Reference Citation: USEPA-1311
Analyst: Stephen J. Lentine (SJL) — Date Analyzed: 12/29/99

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	150283	-129

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METHODS PAGE

Parameter: TCLP Semi-Volatiles USEPA Method 8270
Method: Semi-Volatiles GC/MS
Application: TCLP Reference Citation: USEPA-8270C
Analyst: Dawn M. Kaufman (DMK) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151296	50755-203

Parameter: TCLP Volatile Organics USEPA Method 8260B
Method: Volatiles Purge & Trap-GC/MS
Application: TCLP Reference Citation: USEPA-8260B
Analyst: James P. O'Keefe (JPO) Date Analyzed: 01/04/00

Sample Number	Sample Description	Analytical Batch	QC Batch
240004	HA-8	151467	49921-129

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TriMatrix
Laboratories, Inc.

ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Honeywell
Proj: Plant #4

Submittal Number 34899- 6
Date Sampled: 12/21/99
Date Received: 12/23/99

Subm: Dec. 21/22, 1999 Samples
Sample: HA-1

Sample No: 239997

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Volatile Organics USEPA 8260B	01/04/00	01/04/00		
DRO/TPH 8015 (Screen)	01/05/00	02/12/00	01/03/00	01/04/00
Extraction Method-DRO Diesel Range Organics	01/03/00	01/04/00		
Percent Solids	12/29/99	01/18/00		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-2

Submittal Number 34899- 6
Date Sampled: 12/21/99
Date Received: 12/23/99

Sample No: 239998

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Volatile Organics USEPA 8260B	01/04/00	01/04/00		
DRO/TPH 8015 (Screen)	01/05/00	02/12/00	01/03/00	01/04/00
Extraction Method-DRO Diesel Range Organics	01/03/00	01/04/00		
Percent Solids	12/29/99	01/18/00		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Honeywell
Proj: Plant #4

Submittal Number 34899- 6
Date Sampled: 12/21/99
Date Received: 12/23/99

Subm: Dec. 21/22, 1999 Samples
Sample: HA-3

Sample No: 239999

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Volatile Organics USEPA 8260B	01/04/00	01/04/00		
DRO/TPH 8015 (Screen)	01/04/00	02/12/00	01/03/00	01/04/00
Extraction Method-DRO Diesel Range Organics	01/03/00	01/04/00		
Percent Solids	12/29/99	01/18/00		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Honeywell
Proj: Plant #4

Submittal Number 34899- 6
Date Sampled: 12/21/99
Date Received: 12/23/99

Subm: Dec. 21/22, 1999 Samples
Sample: HA-4

Sample No: 240000

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Volatile Organics USEPA 8260B	01/04/00	01/04/00		
DRO/TPH 8015 (Screen)	01/05/00	02/12/00	01/03/00	01/04/00
Extraction Method-DRO Diesel Range Organics	01/03/00	01/04/00		
Percent Solids	12/29/99	01/18/00		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Honeywell
Proj: Plant #4

Submittal Number 34899- 6
Date Sampled: 12/21/99
Date Received: 12/23/99

Subm: Dec. 21/22, 1999 Samples
Sample: HA-5

Sample No: 240001

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Volatile Organics USEPA 8260B	01/04/00	01/04/00		
DRO/TPH 8015 (Screen)	01/04/00	02/12/00	01/03/00	01/04/00
Extraction Method-DRO Diesel Range Organics	01/03/00	01/04/00		
Percent Solids	12/29/99	01/18/00		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-6

Submittal Number 34899- 6
Date Sampled: 12/21/99
Date Received: 12/23/99

Sample No: 240002

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Volatile Organics USEPA 8260B	01/04/00	01/04/00		
DRO/TPH 8015 (Screen)	01/05/00	02/12/00	01/03/00	01/04/00
Extraction Method-DRO Diesel Range Organics	01/03/00	01/04/00		
Percent Solids	12/29/99	01/18/00		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-7

Submittal Number 34899- 6
Date Sampled: 12/21/99
Date Received: 12/23/99

Sample No: 240003

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Volatile Organics USEPA 8260B	01/04/00	01/04/00		
DRO/TPH 8015 (Screen)	01/05/00	02/12/00	01/03/00	01/04/00
Extraction Method-DRO Diesel Range Organics	01/03/00	01/04/00		
Percent Solids	12/29/99	01/18/00		

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Honeywell
Proj: Plant #4

Subm: Dec. 21/22, 1999 Samples
Sample: HA-8

Submittal Number 34899- 6
Date Sampled: 12/22/99
Date Received: 12/23/99

Sample No: 240004

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
Arsenic, TCLP	01/04/00	06/27/00	12/30/99	06/27/00
Barium, TCLP	01/04/00	06/27/00	12/30/99	06/27/00
Cadmium, TCLP	01/04/00	06/27/00	12/30/99	06/27/00
Chromium, TCLP	01/04/00	06/27/00	12/30/99	06/27/00
Cyanide Reactivity	12/30/99	01/19/00	12/30/99	01/05/00
DILUTION: PCB'S	01/03/00	01/05/00		
Semi-Volatile Extraction	01/03/00	01/05/00	12/29/99	01/05/00
Flash point, cl-cup	01/06/00	01/19/00		
Inorganic Pretreatment	12/30/99	01/05/00		
Inorganic Pretreatment	12/28/99	12/29/99		
Lead, TCLP	01/04/00	06/27/00	12/30/99	06/27/00
Mercury, TCLP	01/04/00	01/17/00	01/04/00	01/27/00
Digestion Mtd. 245.1/7470 Mercury-Cold Vapor Method	01/04/00	01/27/00	12/30/99	01/19/00
Digestion Method-3010 Flame-AA/ICP (TCLP)	12/30/99	06/27/00	12/30/99	01/19/00
Paint Filter Liquids Test	12/28/99	01/19/00		
PCB Scan USEPA-8082 Scan	01/05/00	02/12/00	01/03/00	01/05/00
pH	12/28/99	12/22/99		
Selenium, TCLP	01/04/00	06/27/00	12/30/99	06/27/00
Silver, TCLP	01/04/00	06/27/00	12/30/99	06/27/00
Sulfide Reactivity	12/28/99	01/19/00	12/28/99	12/29/99

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ANALYSIS-PRETREATMENT DATE SUMMARY PAGE

Honeywell
Proj: Plant #4

Submittal Number 34899- 6
Date Sampled: 12/22/99
Date Received: 12/23/99

Subm: Dec. 21/22, 1999 Samples
Sample: HA-8

Sample No: 240004

	Analysis		Pretreatment	
	Run Date	Hold Date	Run Date	Hold Date
TCLP Extraction-Metals	12/30/99	01/19/00		
TCLP Extraction-Semi-Vol.	12/29/99	01/05/00		
TCLP ZHE Extraction	12/29/99	01/05/00		
TCLP Semi-Volatiles USEPA Method 8270	01/04/00	02/12/00	01/03/00	01/05/00
TCLP Volatile Organics USEPA Method 8260B	01/04/00	01/12/00	12/29/99	01/05/00

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34899- 6

STATEMENT OF DATA QUALIFICATIONS

Analysis: **Trichloroethene**
Volatiles Purge & Trap-GC/MS
SOIL USEPA-8260B

Qualification:

The analytical result for this compound was quantitated using the continuing calibration standard. The value reported must be considered estimated as it exceeded the linear range of the curve.

Sample(s) Qualified: 240002 HA-6

Analysis: **PCB Scan**
Organochlorine Pesticides & PCBs
WASTE USEPA-8081A

Qualification:

The reporting limit for this sample and the corresponding analysis is elevated due to an analytical interference which was a direct result of the sample matrix.

Explanation for Sample(s) listed below:

One or more interfering peaks were present.

Sample(s) Qualified: 240004 HA-8

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **PCB Scan**
Organochlorine Pesticides & PCBs
WASTE USEPA-8081A

Qualification:

Surrogate results are unavailable due to sample matrix interference(s) which resulted in a dilution of greater than 1:5 of the sample extract.

Sample(s) Qualified: 240004 HA-8

Analysis: **DRO/TPH 8015 (Screen)**
Extractable Petroleum Hydrocarbons
SOIL USEPA-8015A Mod

Qualification:

Surrogate results are unavailable due to positive results in the sample extract resulting in a dilution of greater than 1:5 of the sample extract.

Sample(s) Qualified: 239997 HA-1
240000 HA-4
240002 HA-6

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **DRO/TPH 8015 (Screen)**
Extractable Petroleum Hydrocarbons
SOIL USEPA-8015A Mod

Qualification:

The matrix spike and/or matrix spike duplicate recovery for this analyte was out of control low when compared to the laboratory established limit. Positive results reported for this analyte in this sample must be considered estimated and less than or non-detectable results considered approximate.

Explanation for Sample(s) listed below:

Percent Recovery	Control Limits
---	---

Sample(s) Qualified: 240003 HA-7

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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CASE NARRATIVE

Analysis: **Cyanide Reactivity**
Hydrogen Cyanide Released from Wastes
WASTE USEPA-7.3.3.2

Narrative:

The procedure for the analysis of Cyanide Reactivity was not performed on this sample because the corresponding Total Cyanide result is <250 mg/kg.

Sample(s) Narrated: 240004 HA-8

Analysis: **Volatile Organics**
Volatiles Purge & Trap-GC/MS
SOIL USEPA-8260B

Narrative:

This sample was prepared in accordance to the Methanol sample extraction procedure, as outlined in USEPA Method 5030.

Sample(s) Narrated:

239997	HA-1
240000	HA-4
240002	HA-6
240003	HA-7

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TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 58557

Project Manager	Project Name	Sampler (Print)	Sampler Signature
DON WALSH	PLANT 4 CLOSURE	J. RUPRICH	Julie Ruprich

Project No. 47875

For Lab Use Only — Rack/Tray No: — Lab Project # 34899-6

Date Sampled 1999	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
12.21	1030	SOIL		X	HA-1	2	16	VOC, TPH T(G)	239997	
12.21	1110			X	HA-2	2	16	VOC, TPH	239998	
12.21	1320			X	HA-3	2	16	VOC, TPH	239999 240000	
12.21	1340			X	HA-4	2	16	VOC, TPH	240000	
12.21				X	HA-5	2	16	VOC, TPH	240001	
12.21	1500			X	HA-6	2	16	VOC, TPH	240002	
12.21	1515			X	HA-7	2	16	VOC, TPH	240003	
12.22	0840		X		HA-8	5	11, 16	HAZ. WASTE CHARACTERISTICS TG 240004		

Relinquished By:	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged in By:	Date/Time
Julie Ruprich	12-22-99 0940		FED EX 10:20	12-23-99		5:00pm 12-27-99

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

APPENDIX B

COMPACTION TESTING RESULTS

COMPACTION TEST REPORT
REPORT NO. 2

Shilts, Graves & Associates, Inc.

1103 South Bend Avenue • South Bend, Indiana 46617-1419 • 219/233-6820

W.O. No: 15041; Project No. 2-2022

DATE: 03/23/00

CLIENT:
ATTN: Don Walsh
Harding Lawson Associates
39225 Country Club Drive, Suite B25
Farmington Hills, Michigan 48331

PROJECT:
Honeywell
Plant 4 Hon Area Closure 48480
South Bend, Indiana

SITE CONDITIONS		TYPE OF MATERIAL		USE OF MATERIAL		METHOD OF COMPACTION	
Weather	Sunny	Sand	X	Footing Grade		Vibrating Plate	X
Progress		Clay		Embankment (Fill)		Vibrating Roller	
Grade	Subgrade	Gravel	X	Backfill	X	Rubber-tired Roller	
Supervisor	Jay Vora/Honeywell	Stone		Subfloor/Subgrade		Sheep's Foot Roller	
Contractor		Slag		Base Course		Hoe Pack	
Remarks		Other		Other		Other	

LABORATORY MOISTURE-DENSITY RELATION, METHOD

Standard Proctor	ASTM D698	A X
Modified Proctor	ASTM D1557 X	B
Relative Density	ASTM D2049	C
Other		D

LAB. TEST REF. A B C D

MAXIMUM DENSITY, pcf: 117.8

OPTIMUM MOISTURE, %: 10.5

SPECIFICATION REQUIREMENTS: 95 % of Max. Density or ____ % of Rel. Density

FIELD DENSITY TEST METHOD: X Nuclear Gauge, ASTM D2922 & D3017; ____ Rubber Balloon, ASTM D1568: ____ Sand Cone, ASTM D1556

DATE OF TEST	DENSITY TEST NO.	DRY DENSITY pcf	MOIST. CONT. %	LAB. TEST REF.	PERCENT COMPACTION	PASS OR FAIL	LOCATION/REMARKS
03/23	1	112.1	5.4	A	95.2	P	Honing area: north end, -1'
03/23	2	111.9	5.9	A	95.0	P	Honing area: east, middle, -1'
03/23	3	112.2	5.9	A	95.3	P	Honing area: east, south end, -1'

DISTRIBUTION: (2) Client

Respectfully Submitted,

SHILTS, GRAVES & ASSOCIATES, INC.

David B. Peltz, Sr. Engineering Technician

COMPACTION TEST REPORT
REPORT NO. 1

Shilts, Graves & Associates, Inc.
1103 South Bend Avenue • South Bend, Indiana 46617-1419 • 219/233-6820

W.O. No: 14978; Project No. 2-2022

DATE: 03/08/00

CLIENT:
ATTN: Don Walsh
Harding Lawson Associates
39225 Country Club Drive, Suite B25
Farmington Hills, Michigan 48331

PROJECT:
Honeywell
Plant 4 Hon Area Closure 48480
South Bend, Indiana

SITE CONDITIONS		TYPE OF MATERIAL		USE OF MATERIAL		METHOD OF COMPACTION	
Weather	Cloudy, mild	Sand	X	Footing Grade		Vibrating Plate	X
Progress	Backfill	Clay		Embankment (Fill)		Vibrating Roller	X
Grade	Finish subgrade	Gravel		Backfill		Rubber-tired Roller	
Supervisor		Stone		Subfloor/Subgrade	X	Sheep's Foot Roller	
Contractor		Slag		Base Course		Hoe Pack	
Remarks		Other		Other		Other	

LABORATORY MOISTURE-DENSITY RELATION, METHOD			LAB. TEST REF.	A B C D
Standard Proctor	ASTM D698	A X	MAXIMUM DENSITY, pcf	117.8
Modified Proctor	ASTM D1557 X	B	OPTIMUM MOISTURE, %	10.5
Relative Density	ASTM D2049	C	SPECIFICATION REQUIREMENTS	95 % of Max. Density
Other		D		or % of Rel. Density

FIELD DENSITY TEST METHOD: X Nuclear Gauge, ASTM D2922 & D3017; _____ Rubber Balloon, ASTM D1568; _____ Sand Cone, ASTM D1556

DATE OF TEST	DENSITY TEST NO.	DRY DENSITY pcf	MOIST. CONT. %	LAB. TEST REF.	PERCENT COMPACTION	PASS OR FAIL	LOCATION/REMARKS
							REF: Office area excavation
03/08	1	112.3	3.9	A	95.3	P	At CL south end of excavation at -4½' below finish subgrade
03/08	2	112.0	4.1	A	95.1	P	At CL center of excavation at -4½' below finish subgrade
03/08	3	112.5	3.6	A	95.5	P	At CL north end of excavation at -4½' below finish subgrade

DISTRIBUTION: (2) Client

Respectfully Submitted,

SHILTS, GRAVES & ASSOCIATES, INC.

James E. McAlister

James E. McAlister, Sr. Engineering Technician

COMPACTION TEST REPORT
REPORT NO. 1

Shilts, Graves & Associates, Inc.
1103 South Bend Avenue • South Bend, Indiana 46617-1419 • 219/233-6820

W.O. No: 14978; Project No. 2-2022

DATE: 03/08/00

CLIENT:
ATTN: Don Walsh
Harding Lawson Associates
39225 Country Club Drive, Suite B25
Farmington Hills, Michigan 48331

PROJECT:
Honeywell
Plant 4 Hon Area Closure 48480
South Bend, Indiana

SITE CONDITIONS		TYPE OF MATERIAL		USE OF MATERIAL		METHOD OF COMPACTION	
Weather	Cloudy, mild	Sand	X	Footing Grade		Vibrating Plate	X
Progress	Backfill	Clay		Embankment (Fill)		Vibrating Roller	X
Grade	Finish subgrade	Gravel		Backfill		Rubber-tired Roller	
Supervisor		Stone		Subfloor/Subgrade	X	Sheep's Foot Roller	
Contractor		Slag		Base Course		Hoe Pack	
Remarks		Other		Other		Other	

LABORATORY MOISTURE-DENSITY RELATION, METHOD			LAB. TEST REF.	A B C D
Standard Proctor	ASTM D698	A X	MAXIMUM DENSITY, pcf	117.8
Modified Proctor	ASTM D1557 X	B	OPTIMUM MOISTURE, %	10.5
Relative Density	ASTM D2049	C	SPECIFICATION REQUIREMENTS	95 % of Max. Density
Other		D	or	% of Rel. Density

FIELD DENSITY TEST METHOD: X Nuclear Gauge, ASTM D2922 & D3017; _____ Rubber Balloon, ASTM D1568; _____ Sand Cone, ASTM D1556

DATE OF TEST	DENSITY TEST NO.	DRY DENSITY pcf	MOIST. CONT. %	LAB. TEST REF.	PERCENT COMPACTION	PASS OR FAIL	LOCATION/REMARKS
							REF: Office area excavation
03/08	1	112.3	3.9	A	95.3	P	At CL south end of excavation at -4½' below finish subgrade
03/08	2	112.0	4.1	A	95.1	P	At CL center of excavation at -4½' below finish subgrade
03/08	3	112.5	3.6	A	95.5	P	At CL north end of excavation at -4½' below finish subgrade

DISTRIBUTION: (2) Client

Respectfully Submitted,

SHILTS, GRAVES & ASSOCIATES, INC.

James E. McAlister

James E. McAlister, Sr. Engineering Technician

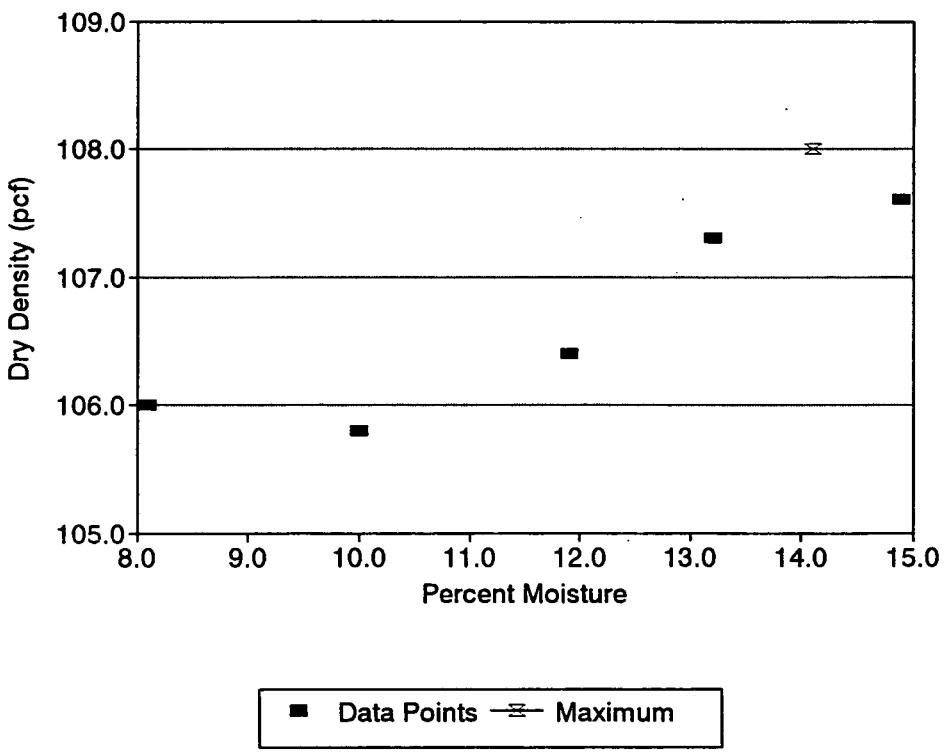
Shilts, Graves and Associates, Inc.

1103 South Bend Avenue
South Bend, Indiana 46617-1419
Phone: (219) 233-6820 FAX: (219) 233-8242

ASTM D-1557	Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cf)
Client:	Harding Lawson Associates
Project:	Honeywell
Description:	Kuert Pile No. 2 Fill Sand

Work Order:		Distribution:
Sample No.:	23569	Client
File:	23569MP	
Sample Date:	21-Feb-80	
Sampled By:		
Received:	21-Feb-80	
Report Date:	27-Feb-80	

Maximum Dry Density = 108.0 pcf Optimum MC = 14.1 percent



Shilts, Graves and Associates, Inc.

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ASTM C-136 ASTM C-117	Sieve Analysis of Fine and Coarse Aggregates Materials Finer Than 75 Micron (No. 200) Sieve in Mineral Aggregates by Washing

Client:	Harding Lawson Associates
Project:	Honeywell
Description:	Kuert: Pile No. 2 fill Sand

Sample No.:	23569	Distribution:
Work Order:	Lab	Client
File:	23569SA	
Sieve Size:	12" diameter	
Date Sampled:	21-Feb-00	
Received:	21-Feb-00	
Report Date:	27-Feb-00	

	Before Wash (grams)	After Wash (grams)	
Sample + Tare	2,041.6	2,036.2	
Tare	1,009.0	1,009.0	
Net Sample	1,032.6	1,027.2	
	Washing Loss	5.4	

Sieve Size	Weight Retained (grams)	Percent Retained	Percent Passing
1-1/2"		0.0%	100.0%
1"		0.0%	100.0%
3/4"	14.6	1.4%	98.6%
1/2"	4.2	0.4%	98.2%
3/8"	5.4	0.5%	97.7%
No. 4	8.9	0.9%	96.8%
No. 8	12.2	1.2%	95.6%
No. 16	10.2	1.0%	94.6%
No. 30	64.5	6.2%	88.4%
No. 50	513.2	49.7%	38.7%
No. 100	369.8	35.8%	2.9%
No. 200	22.2	2.1%	0.7%
Pan	0.8	0.1%	
Loss	5.4	0.5%	
Total	1,031.4		

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Client:	Harding Lawson Associates
Project:	Honeywell
Description:	Kuert: Pile No. 2 fill Sand

Sample No.:	23569	Date Sampled:	21-Feb-00
File:	23569SA	Received:	21-Feb-00
Sieve Size:	12" diameter	Report Date:	27-Feb-00

Sieve Size	Lower Limit	Upper Limit	Sample
1-1/2"			100.0%
1"			100.0%
3/4"			98.6%
1/2"			98.2%
3/8"			97.7%
No. 4			96.8%
No. 8			95.6%
No. 16			94.6%
No. 30			88.4%
No. 50			38.7%
No. 100			2.9%
No. 200			0.7%