REPORT ON
RCRA FACILITY INVESTIGATION
INVESTIGATION DATA REPORT NO. 1

DELPHI CORPORATION
DELPHI ENERGY & CHASSIS SYSTEMS
PLANT 400
1300 NORTH DORT HIGHWAY
FLINT, MICHIGAN

US EPA ID # mid 005 356 647
VOLUME 2 OF 2

by:

Haley & Aldrich of Michigan, Inc.
Detroit, Michigan

for:

Delphi Corporation
Troy, Michigan

File No.: 49017-017
28 March 2003

HALEY & ALDRICH

Appendix D

APPENDIX D

Boring and Monitoring Well Logs

TEST BORING REPORT

HALEY & ALDRICH

Boring No. MW-4601D

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Prosonic Corp.

File No. 49017-013
Sheet No. 1 of 2
Start May 13, 2002
Finish May 15, 2002
Driller D. Bond
H&A Rep. G. Liedel
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	2.0	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	140	NA	-	Casing: NA
Hammer Fall (in.)	30	NA	-	Hoist/Hammer: Cat-Head, Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1	0.0 2.0	1.0		Dark brown, clayey TOPSOIL, trace sand and silty with brick fragments, moist.					15	85	L	L	M	M
	ND				CL	Dark brown, silty CLAY, trace sand, gray and red mottling, moist.					5	95	L	L	M	M
			2.0 4.0													
			4.0 6.0													
5				6.5												
	ND		6.0 8.0		SM	Gray-brown, fine grained, silty SAND, wet.					60	40	L	L	L	L
			8.0 10.0													
				10.0		Note: End hand augering.										
10	ND	S-2 18	10.0 12.0		SM	Gray- brown, fine grained, silty SAND, wet.					55	45	H	L	L	L
		S-3 18	12.0 14.0													
				14.5												
15	ND	S-4 21	14.0 16.0		CL	Stiff gray, silty CLAY with some fine sand, moist.					10	90	L	H	M	M
		S-5 21	16.0 18.0													
20		S-6 24	18.0 20.0													

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 38.0
Rock Cored (lin. ft.) -
Samples 3S

Boring No. MW-4601D

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4601D
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S-7 24	20.0 22.0		CL											
	ND			21.5	SM	Gray to gray -brown, fine to very fine-grained, silty SAND, wet.					60	40	H	L	L	L
		S-8 15	22.0 24.0													
		S-9 15	24.0 26.0													
25																
		S-10 24	26.0 28.0	27.0												
	ND				SM	Gray-brown silty SAND and some coarse sand, moist.			5	10	40	45	L	M	L	L
		S-11 24	28.0 30.0													
30																
		S-12 20	30.0 32.0	31.0												
	ND				SW-SM	Coarse, silty SAND, wet.			20	10	30	40	H	L	L	L
		S-13 20	32.0 34.0													
				33.5												
	ND				SW-SM	Coarse, silty SAND, moist.			5	10	50	35	L	M	L	L
		S-14 20	34.0 36.0													
35						Note: Due to stratigraphy, backfilled to 29.0 feet with bentonite; placed 2.0' feet of sand and then installed well. Fine filter sand used to construct well due to the large amount of fine sand and silt.										
		S-15 20	36.0 38.0													
				38.0		-Bottom of Exploration at 38.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4604D

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Prosonic Corp.

File No. 49017-013
Sheet No. 1 of 2
Start May 13, 2002
Finish May 14, 2002
Driller D. Bond
H&A Rep. G. Liedel
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	2.0	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	140	NA	-	Casing: NA
Hammer Fall (in.)	30	NA	-	Hoist/Hammer: Cat-Head, Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1	0.0 2.0	1.0		Dark brown clayey TOPSOIL, "loam", some sand, moist.					15	85	L	L	M	M
	ND				ML	Yellow-brown, silty SAND, trace gravel, moist.					75	25				
5																
		S-2	8.0 10.0			Note: End hand augering.										
10	ND	S-3 30	10.0 14.0	10.0	SM	Brown to yellow-brown silty SAND, moist.					80	20	L	L	M	M
		S-4 15	14.0 16.0													
15	ND	S-5 15	16.0 18.0	16.0	SP-SM	Yellow-brown, medium to fine-grained, poorly sorted silty SAND, moist.				10	80	10	L	L	M	M
	ND	S-6 15	18.0 20.0	18.0	SP-SM	Yellow-brown, poorly-sorted, medium-grained silty SAND, wet.				10	80	10	H	L	M	M
20																

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 38.0
Rock Cored (lin. ft.) -
Samples 2S

Boring No. MW-4604D

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-4604D
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S-7 15	20.0 22.0		SP-SM											
	ND	S-8 15	22.0 24.0	22.5	SP-SM	Gray-brown, poorly sorted, medium to fine-grained silty SAND, wet.				10	80	10	H	L	M	M
25		S-9 15	24.0 26.0													
	ND	S-10 12	26.0 28.0		SP-SM	Note: Sand blowback in augers.				10	80	10	H	L	M	M
		S-11 12	28.0 30.0	29.5												
30	ND	S-12 15	30.0 32.0		SP-SM	Advanced augers to 34.0'. Gray, poorly sorted SAND with silt, some coarse sand, wet.					15	85	L	M	M	M
		S-13 15	32.0 34.0													
	ND	S-14 15	34.0 36.0	35.0	SM	Very coarse to medium-grained SAND with silt, wet.			20	20	40	20	H	L	L	L
35	ND				CL	Very stiff, gray silty CLAY with some (trace) gravel.		2	5	5	5	83	L	H	M	H
		S-15 15	36.0 38.0			Note: Approximately 30 gallons of water used to advance borehole. -Bottom of Exploration at 38.0 feet.-										
				38.0												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-4604D

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4605D

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Prosonic Corp.

File No. 49017-013
Sheet No. 1 of 2
Start May 13, 2002
Finish May 13, 2002
Driller D. Bond
H&A Rep. A. Guianen
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	2.0	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	140	NA	-	Casing: NA
Hammer Fall (in.)	30	NA	-	Hoist/Hammer: Cat-Head, Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 0	0.0 2.0	0.5		Dark brown, silty clayey "loam" TOPSOIL.										
	ND			2.0	CL	Yellow-brown, silty CLAY with trace gravel and grey mottling, moist.	2				10	88	L	L	M	M
	ND			3.0	ML	Yellow-brown clay SILT, gray mottling, moist.						100	L	M	M	M
	ND				SM	Yellow-brown, silty fine-grained SAND, some mottling, moist.					60	40	L	M	L	L
5	ND			7.2	SM	Brown silty SAND, wet.					50	50	M	L	M	M
	ND			8.2	ML	Brown to yellow-brown sandy, clayey SILT, moist.										
	ND	S-2 0	8.0 10.0	10.0	SM	Brown silty SAND with trace coarse sand, moist to wet. Note: End hand augering.			5		55	40	L	M	M	L
10	ND	S-3 24	10.0 12.0	12.0	CL	Soft, gray silty CLAY, moist.					20	80	L	L	M	L
	ND	S-4 24	12.0 14.0	14.2	CL	Stiff, gray silty CLAY, some reddish mottling.						100	L	H	L	H
15	ND	S-5 18	14.0 16.0	18.0	SP-SM	Brown, poorly sorted, fine to medium-grained SAND with silt, wet.				5	80	15	H			
		S-6 18	16.0 18.0													
	ND	S-7 18	18.0 20.0		SM	Gray, fine-grained, silty SAND, wet.					80	20	H			
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 38.0
Rock Cored (lin. ft.) -
Samples 3S

Boring No. MW-4605D

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-4605D
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S-8 18	20.0 22.0		SM											
	ND	S-9 21	22.0 24.0	22.5	SP	Gray, poorly sorted, fine-grained, silty SAND, wet.				10	70	20	H			
25	ND	S-10 21	24.0 26.0	25.5	SP-SM	Gray, poorly sorted, fine-grained silty SAND, wet.					80	20	H			
	ND	S-11 15	26.0 28.0		SP-SM	Gray, poorly sorted, medium-grained, silty SAND, wet.				60	30	10	H			
		S-12 15	28.0 30.0													
30	ND ND	S-13 18	30.0 32.0	30.5	SM	Gray, fine-grained, silty SAND, wet.					80	20	H			
		S-14 18	32.0 34.0		SP-SM	Gray, poorly sorted, medium to fine-grained, silty SAND, wet.				30	50	20	H			
35	ND	S-15 21	34.0 36.0	34.5	CL	Stiff, gray silty CLAY, moist.					1	99	L	H	H	M
		S-16 21	36.0 38.0	38.0		-Bottom of Exploration at 38.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-4605D

TEST BORING REPORT

HALEY & ALDRICH

Boring No. MW-4610S

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Prosonic Corp.

File No. 49017-013
Sheet No. 1 of 1
Start May 16, 2002
Finish May 16, 2002
Driller D. Bond
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	140	NA	-	Casing: NA
Hammer Fall (in.)	30	NA	-	Hoist/Hammer: Cat-Head, Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							See MW-4610D Test Boring Report for details. Note: Installed 2" PVC well in borehole.										
5																	
10					10.0												

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
- Overburden (lin. ft.) 10.0
- Rock Cored (lin. ft.) -
- Samples -

Boring No. MW-4610S

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-4610D

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Prosonic Corp.

File No. 49017-013
Sheet No. 1 of 2
Start May 16, 2002
Finish May 17, 2002
Driller D. Bond
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: Cat-Head, Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 36	0.0 2.0	2.0	CL	Brown CLAY with fine sand, yellow-brown mottling present, moist, trace silt.					30	70	L	L	M	M
5	200	S-2 36	6.0 7.0	7.0	SM	Black staining, odors, wet, at 7 feet. Light brown SAND, silty, wet, odors.					70	30	L	L	L	L
	275				CL	Gray brown CLAY, mottling present, moist, odors.					5	95	L	L	M	M
		S-3 36	8.0 8.5	8.5												
10	< 1	S-4 46	10.0 14.0	14.0	CL	Gray brown CLAY, moist. Note: 10" steel casing installed to 14.0 feet.					5	95	-	M	M	
15	ND	S-5 36	14.0 17.0		CL	Gray brown CLAY with some medium-grained sand, moist.				10	15	75	N	M	M	
						Same as above.										
		S-6 34	18.0 21.0													
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 32.0
Rock Cored (lin. ft.) -
Samples 3S?

Boring No. MW-4610D

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4610D
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					CL											
				21.0												
	ND				SP	Gray-brown silty SAND, wet.					70	30	R			
				22.0												
	ND	S-7 35	22.0 26.0		SP-SM	Gray brown SAND, with salt interbedded.					90	10				
25																
		S-8 46	26.0 30.0													
				28.5												
	ND				CL	Gray-brown CLAY, moist.						100				
30																
				32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-4610D

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4615S

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Prosonic Corp.

File No. 49017-013
Sheet No. 1 of 1
Start May 16, 2002
Finish May 17, 2002
Driller D. Bond
H&A Rep. G. Liedel
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	140	NA	-	Casing: NA
Hammer Fall (in.)	30	NA	-	Hoist/Hammer: Cat-Head, Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1	0.0 2.0		SP-SM	Brown, silty fine-grained SAND with red and yellow mottling, moist.					70	30	L	L	L	L
				2.0												
	ND				CL	Yellow-brown sandy CLAY, trace silt, gray mottling, moist.					40	60	L	L	M	M
5		S-2	5.0 6.0													
	ND					Water present at 6.0 feet.					40	60	L	L	M	M
				10.0												
10	ND	S-3	10.0 12.0		CL	Stiff, light brown CLAY, moist.										
				12.0		Bottom of Exploration at 12.0 feet.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 12.0
Rock Cored (lin. ft.) -
Samples -

Boring No. MW-4615S

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4620S

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Stearns Drilling

File No. 49017-013
Sheet No. 1 of 1
Start June 12, 2002
Finish June 12, 2002
Driller M. Hefferal
H&A Rep. G. Leidel
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	1 3/8	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	NA	140	-	Casing:
Hammer Fall (in.)	NA	30	-	Hoist/Hammer: Cat-Head Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 24	0.0 2.0		CL	See Test Boring Report for MW-4620D for details. Note: End hand augering (5 ft).										
5																
		S-2 24	8.0 10.0		SP-SM											
10																
		S-3 24	12.0 14.0		SP-SM											
15																
				18.0		-Bottom of Exploration at 18 feet-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 18.0
Rock Cored (lin. ft.) -
Samples -

Boring No. MW-4620S

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. MW-4620D

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Stearns Drilling

File No. 49017-013
Sheet No. 1 of 2
Start June 11, 2002
Finish June 11, 2002
Driller M. Hefferal
H&A Rep. G. Leidel
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	2	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing:
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: Cat-Head Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						-CONCRETE-										
	ND	S-1 60	0.0 5.0	0.7	CL	Yellow-brown silty CLAY, some mottling, moist.					5	95				
						Note: End hand augering (5 ft).										
5	ND	S-2 24	5.0 7.0	5.5	SP-SM	Yellow-brown, fine SAND, with some silt, moist.										
	ND										70	30				
	ND	S-3 24	7.0 9.0			Same as above.					70	30				
	ND	S-4 24	9.0 11.0			Same as above.					70	30				
10	ND	S-5 24	11.0 13.0			Same as above.					70	30				
	ND	S-6 24	13.0 15.0			Same as above.					70	30				
				14.5		Water present at 14.0 feet.										
	ND				ML	Gray sandy SILT, wet					30	70				
15		S-7 24	15.0 17.0	16.5												
	ND				SP-SM	Gray, silty SAND, wet.					60	40				
		S-8 24	17.0 19.0													
	ND	S-9 24	19.0 21.0			Same as above.										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 32.5
Rock Cored (lin. ft.) -
Samples -

Boring No. MW-4620D

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4620D
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20				20.5												
	ND				SP-SM	Olive, fine-grained SAND and silt, wet.					75	25				
		S-10 24	21.0 23.0	23.0												
	ND	S-11 24	23.0 25.0		SP-SM	Same as above except containing fine- to medium-grained SAND.				20	75	5				
25																
		S-12 24	25.0 27.0													
	ND					Same as above except becoming olive, medium-grained SAND with silt, wet.				85	15					
		S-13 24	27.0 29.0	28.5												
	ND				SP	Olive, medium- to coarse-grained SAND with gravel, trace fine-grained sand, wet.		5	45	45	5					
		S-14 24	29.0 31.0													
30	ND					Gray, 4" silty CLAY layer with gravel and sand at 30.0 feet.		15			5	80	L	L	L	H
	ND			31.0		Gray coarse-grained SAND with gravel, wet.		10	70	15	5					
	ND	S-14 18	31.0 32.5		CL	Very hard CLAY with grave and silty.		5				95	L	L	L	H
				32.5		-Refusal at 32.5 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-4620D

TEST BORING REPORT

HALEY & ALDRICH

Boring No. MW-4621S

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Stearns Drilling

File No. 49017-013
Sheet No. 1 of 1
Start June 13, 2002
Finish June 13, 2002
Driller J. Caryska
H&A Rep. G. Leidel
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	1 3/8	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	NA	140	-	Casing:
Hammer Fall (in.)	NA	30	-	Hoist/Hammer: Cat-Head Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						See Test Boring Report for MW-4621D for details. Note: End hand augering (5 ft).										
5				5.0												
		S-1 24	8.0 10.0		CL											
10				13.0		-Bottom of Exploration at 13.0 feet-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 13.0
Rock Cored (lin. ft.) -
Samples -

Boring No. MW-4621S

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4621D

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Stearns Drilling

File No. 49017-013
Sheet No. 1 of 2
Start June 12, 2002
Finish June 14, 2002
Driller M. Hefferal
H&A Rep. G. Leidel
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	1 3/8	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	NA	140	-	Casing:
Hammer Fall (in.)	NA	30	-	Hoist/Hammer: Cat-Head Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Toughness	Plasticity	Strength
0	ND	S-1 60	0.0 5.0		CL	Sandy clay with concrete, bricks, spark plugs. -FILL-					50	50				
				3.0		Note: End hand augering (5 ft).										
	ND				CL	Brown silty CLAY with trace fine-grained sand, brown and gray mottling, moist.					10	90	L	M	M	L
5	ND	S-2 24	5.0 7.0	5.0							10	90	L	M	M	L
	ND	S-3 24	7.0 9.0			Same as above.					10	90	L	M	M	L
	ND	S-4 24	9.0 11.0	9.0	CL	Gray, silty CLAY with sand.					15	85	L	M	M	L
10	ND			10.5	SP-SM	Very fine-grained SAND with silt, oily product, wet.					70	30				
	ND	S-5 24	11.0 13.0	12.0	CL	Gray silty CLAY with trace fine-grained sand, moist to wet.					10	90	L	M	L	L
	ND	S-6 24	13.0 15.0			Same as above.										
15	ND	S-7 24	15.0 17.0			Water present at 15.0 feet. Same as above.										
		S-8 24	17.0 19.0			Same as above.										
20		S-9 24	19.0 21.0													

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 34.5
Rock Cored (lin. ft.) -
Samples -

Boring No. MW-4621D

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

TEST BORING REPORT

HALEY & ALDRICH

Boring No. MW-4621D
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																
	ND	S-10 24	21.0 23.0			Same as above. 2" fine-grained sand seam at 22.0', wet.										
	ND	S-11 0	23.0 25.0			Note: No Recovery from 23 feet to 25 feet.										
25				25.0												
	ND	S-12 24	25.0 27.0			Firm, gray silty CLAY with sand, moist					10	90	L	M	L	M
	ND			26.0	SP-SM	Fine-grained SAND with silt, wet.					95	5				
		S-13 24	27.0 29.0			Same as above.										
		S-14 24	29.0 31.0			Same as above.										
30				31.0												
	ND	S-15 24	31.0 33.0		CL	Gray silty CLAY, moist						100				
		S-16 18	33.0 34.5	34.0 34.5		-Bottom of Exploration at 34.5 feet-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4622S

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Stearns Drilling

File No. 49017-013
Sheet No. 1 of 1
Start June 11, 2002
Finish June 11, 2002
Driller M. Hefferal
H&A Rep. G. Leidel
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: LC-60
Inside Diameter (in.)	NA	1 3/8	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	NA	140	-	Casing:
Hammer Fall (in.)	NA	30	-	Hoist/Hammer: Cat-Head Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							See Test Boring Report for MW-4622D for details.										
5																	
10																	
					12.0		-Bottom of Exploration at 12 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12.0
Rock Cored (lin. ft.)	-
Samples	-

Boring No. MW-4622S

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

TEST BORING REPORT

HALEY & ALDRICH

Boring No. MW-4622D

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Stearns Drilling

File No. 49017-013
Sheet No. 1 of 3
Start June 11, 2002
Finish June 13, 2002
Driller M. Hefferal/J. Gryska
H&A Rep. G. Leidel
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: LC-60
Inside Diameter (in.)	NA	1 3/8	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	NA	140	-	Casing:
Hammer Fall (in.)	NA	30	-	Hoist/Hammer: Cat-Head Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	6	S-1	0.0	0.5		-CONCRETE-										
	ND	60	5.0		CL	Black fly ash and cinders, odor.					5	95	L	M	M	M
	20			2.0												
	ND				CL	Yellow-brown silty CLAY with mottling, moist.					5	95				
	28															
5		S-2	5.0													
		24	7.0													
		S-3	7.0													
		24	9.0													
	ND			8.5												
	ND				SP-SM	Yellow-brown, fine-grained silty SAND, wet.					70	30				
		S-4	9.0													
10	ND	24	11.0													
		S-5	11.0	11.5												
	ND	24	13.0		ML	Gray SILT, some fine-grained sand, wet.					25	75	L	L	L	L
	ND			13.0												
	ND	S-6	13.0		CL	Silty CLAY, moist to wet.										
	ND	24	15.0								5	95	L	M	H	L
	ND			15.0												
15	ND	S-7	15.0		CL	CLAY, trace silt, moist.					5	95	L	M	L	L
		24	17.0													
	ND	S-8	17.0			Same as above.					5	95	L	M	L	L
		24	19.0													
	ND	S-9	19.0			Same as above.										
		24	21.0													
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 61.0
Rock Cored (lin. ft.) -
Samples -

Boring No. MW-4622D

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4622D
File No. 49017-013
Sheet No. 2 of 3

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																
		S-10 24	21.0 23.0			Same as above.										
				23.0												
	ND	S-11 24	23.0 25.0		SP-SM	Gray silty SAND, trace gravel, wet to moist.					50	50				
25	ND	S-12 24	25.0 27.0			Same as above.				5	48	47				
	ND	S-13 24	27.0 29.0			Same as above.										
				28.0												
	ND				SP-SM	Gray coarse- to fine-grained SAND with silt and gravel, wet.		5	50	30	10	5				
	ND	S-14 24	29.0 31.0			Becoming gray, fine-grained SAND, wet.						100				
30						Note: 2" coarse SAND seam at 30 feet.										
				31.0												
	ND	S-15 24	31.0 33.0		SP-SC	Gray coarse- to fine-grained SAND, trace gravel, wet.			15	50	20	15				
	ND	S-16 24	33.0 35.0			Same as above.			15	50	20	15				
35	ND	S-17 24	35.0 37.0			Same as above.										
		S-18 24	37.0 39.0			Same as above.										
		S-19 24	39.0 41.0			Same as above.										
40	ND	S-20 24	41.0 43.0			Same as above except becoming gray medium- to coarse-grained SAND, wet.				30	70					
	ND															
	ND	S-21 24	43.0 45.0			Same as above except becoming gray medium SAND with trace coarse- and fine-grained sand, wet.				10	80	10				
	ND															
45		S-22 24	45.0 47.0													
				46.0												
	ND					Brown, coarse- to medium-grained SAND and gravel , little fine sand, wet.			40	45	15					
	ND	S-23 24	47.0 49.0			Same as above.										
		S-24	49.0			Same as above.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-4622D

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4622D
File No. 49017-013
Sheet No. 3 of 3

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50		24	51.0													
				51.0												
	ND	S-25 24	51.0 53.0		SP	Gray coarse-grained SAND and gravel, wet.			50	50						
	ND	S-26 24	53.0 55.0			Same as above.										
55		S-27 24	55.0 57.0			Same as above.										
		S-28 24	57.0 59.0			Same as above.										
		S-29 24	59.0 61.0			Same as above.										
60				61.0		-Bottom of Exploration at 61 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-4622D

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4623S

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Prosonic Corp.

File No. 49017-013
Sheet No. 1 of 2
Start May 14, 2002
Finish May 14, 2002
Driller D. Bond
H&A Rep. A. Guianen
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	NA	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: Cat-Head, Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Note: See Test Boring Report MW4623 D for stratigraphic detail. Borehole drilled to 20.5'. Monitoring well installed in completed borehole.										
5																	
10																	
15																	
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
5/14/02	1840	0.75	20	-	16.9

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 20.5
Rock Cored (lin. ft.) -
Samples 3S

Boring No. MW-4623S

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4623S
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					20.5												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4623D

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Prosonic Corp.

File No. 49017-013
Sheet No. 1 of 2
Start May 13, 2002
Finish May 14, 2002
Driller D. Bond
H&A Rep. G. Liedel
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	S	NA	Rig Make & Model: CME 85
Inside Diameter (in.)	NA	2.0	NA	Bit Type: Cutting Head Drill Mud: None
Hammer Weight (lb.)	140	NA	-	Casing: NA
Hammer Fall (in.)	30	NA	-	Hoist/Hammer: Cat-Head, Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1	0.0 2.0			Dark brown, clayey TOPSOIL with trace sand and silt, moist.					25	75	L	L	M	M
				2.0												
	ND				CL	Yellow-brown, silty CLAY, trace sand, moist.					5	95	L	L	M	M
				4.5												
5	ND				CL	Yellow-brown, CLAY with silt and trace sand, moist.					5	95	L	L	M	M
				6.0												
	ND				SM	Yellow-brown, fine-grained silty SAND, moist.					70	30	L	L	L	L
		S-2	8.0 10.0													
				10.0		Note: End hand augering.										
10	ND	13	10.0 12.0		SP-SM	Yellow-brown, medium-grained SAND with silt, moist. Same as above.				70	15	15	L	L	L	L
		S-3 13	12.0 14.0													
15	ND	15	14.0 16.0		SP-SM	Yellow-brown, poorly sorted, medium to fine-grained, silty SAND, wet. Same as above.				30	40	30	H	L	L	L
		15	16.0 18.0													
				18.0												
	ND	15	18.0 20.0		SP-SM	Gray-brown, poorly sorted, medium to fine-grained silty SAND, wet.				30	40	30	H	L	L	L
20				20.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
5/14/02	1840	1.75	43.9	-	17.8

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 44.0
Rock Cored (lin. ft.) -
Samples 3S

Boring No. MW-4623D

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-4623D
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND	15	20.0 22.0	20.6	SM	Gray-brown, fine-grained, silty SAND, wet.					60	40	H	L	L	L
	ND				SP-SM	Gray-brown, poorly sorted, medium-grained silty SAND, wet.			5	40	25	30	H	L	L	L
		15	22.0 24.0			Same as above.										
		15	24.0 26.0													
25	ND	12	26.0 28.0		SP	Same as above except becoming gray-brown, coarse-grained SAND, wet.			20	30	30	20	H	L	L	L
		12	28.0 30.0													
30	ND	20	30.0 32.0	30.0	SW-SM	Same as above except becoming grey-brown, moderately well sorted, medium-grained SAND.			5	40	20	35	H	L	L	L
	ND			31.0	SP-SM	Medium to coarse-grained SAND with silt and gravel, wet.		10	15	30	25	20	H	L	L	L
		20	32.0 34.0			Same as above.										
35		18	34.0 36.0			Same as above.										
		18	36.0 38.0													
	ND	18	38.0 40.0	38.0	SP-SM	Grey-brown, coarse SAND with silt and gravel, wet.		15	30	25	20	10	H	L	L	L
40						Note: Blowback in augers from 40.0 to 40.8 feet.										
	ND	15	40.0 42.0	40.8	CL	Stiff, gray silty CLAY with gravel and sand.		5		5	5	85	L	H	M	H
		15	42.0 44.0			Same as above.										
				44.0		-Bottom of Exploration at 44.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-4623D

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4001

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 10, 2001
Finish September 10, 2001
Driller K. Eagan
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore
Hammer Weight (lb.)	NA	NA	-	Drill Mud: -
Hammer Fall (in.)	NA	NA	-	Casing: -
				Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Toughness	Plasticity	Strength
0	ND	G-1 37	0.0 4.0	1.0	ML	Grass over black sandy SILT, organic material present, trace gravel, moist to dry.		5			15	80				
	ND			4.0	ML	Yellow-brown, sandy SILT with gravel, dry.		10			15	75				
	ND	G-2 48	4.0 8.0		ML	Soil Sample: GP-4001/G-2, 6-7 ft.		10			15	75				
5				7.0												
	ND				SP	Yellow-brown, poorly graded SAND, moist.				40	60					
		G-3 48	8.0 12.0													
10				12.0												
	ND	G-4 42	12.0 16.0		SP					40	60					
15				16.0												
	ND	G-5 40	16.0 20.0		SP	Soil Sample: GP-4001/G-5, 16-17 ft.				40	60					
				19.0												
	ND				SP	Water at 19.0 feet.				40	60					
20																

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 36
Rock Cored (lin. ft.) -
Samples G-2, G-5

Boring No. GP-4001

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4001
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6 39	20.0 24.0		SP	GW Sample: GP-4001/GW-1, 20-21 ft.										
				24.0												
	ND	G-7 24	24.0 28.0		SP	Yellow-brown, poorly graded SAND, wet.				40	60					
25																
		G-8 24	28.0 30.0													
				30.0												
30	ND	G-9 24	30.0 33.0		SP	Yellow-brown, poorly graded SAND, wet. GW Sample: GP-4001/GW-2, 31-32 ft.				40	60					
				33.0												
	ND	G-10 20	33.0 36.0		SP					40	60					
35																
				36.0		-Bottom of Exploration at 36.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4001

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4002

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 11, 2001
Finish September 11, 2001
Driller K. Eagan
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore Drill Mud: -
Hammer Weight (lb.)	NA	NA	-	Casing: -
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 38	0.0 4.0	NO WELL INSTALLED	1.0	ML	Grass over black, sandy SILT with gravel, moist.		10		10	10	70				
	ND				4.0	ML	Brown sandy SILT with gravel, moist.		10			15	75				
5	ND	G-2 48	4.0 8.0		7.5	ML	Soil Sample: GP-4002/G-2, 6-7 ft.		10			15	75				
	ND	G-3 48	8.0 12.0		12.0	SP	Yellow-brown, fine to medium grained SAND, moist.				30	70					
10	ND	G-4 48	12.0 16.0		16.0	SP					30	70					
15	ND	G-5 48	16.0 20.0		19.5	SP	Soil Sample: GP-4002/G-5, 16-17 ft.				30	70					
20	ND						Yellow-brown, fine to medium SAND, wet.				30	70					

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples G-2, G-5

Boring No. GP-4002

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4002
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6 48	20.0 24.0		SP	Water at 19.5 feet. GW Sample: GP-4001/GW-1, 20-21 ft.										
	ND	G-7 36	24.0 27.0	24.0	SP	Yellow-brown, fine to medium SAND, wet.				30	70					
25																
	ND	G-8 36	27.0 30.0	27.0	SP	GW Sample: GP-4002/GW-2, 31-32 ft.				30	70					
30				30.0		-Bottom of Exploration at 30.0 feet-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4002

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4003

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 11, 2001
Finish September 11, 2001
Driller K. Eagan
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore Drill Mud: -
Hammer Weight (lb.)	NA	NA	-	Casing: -
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 42	0.0 4.0	NO WELL INSTALLED			Grass over black, sandy SILT with gravel, moist.		10			15	75				
					1.0												
	ND					ML	Yellow-brown, sandy SILT with gravel, moist.		10			15	75				
					4.0												
	ND	G-2 48	4.0 8.0			SP	Yellow-brown poorly graded SAND, moist.		10			15	75				
5																	
					7.0		Soil Sample: GP-4003/G-2, 6-7 ft.										
	ND					SP				15	85						
		G-3 48	8.0 12.0														
10																	
					12.0												
	ND	G-4 48	12.0 16.0			SP	Yellow-brown poorly graded SAND, moist.			15	85						
15																	
					16.0												
	ND	G-5 48	16.0 20.0			SP	Soil Sample: GP-4003/G-5, 16-17 ft.			15	85						
					19.0												
	ND					SP	Yellow-brown, poorly graded SAND, wet. Water at 19.0 feet.			15	85						
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples G-2, G-5

Boring No. GP-4003

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. GP-4003
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6 48	20.0 24.0		SP	GW Sample: GP-4003/GW-1, 20-21 ft.										
				24.0												
	ND	G-7 48	24.0 28.0		SP	Yellow-brown, poorly graded SAND, wet.			15	85						
25																
				28.0												
	ND	G-8 24	28.0 30.0		SP	GW Sample: GP-4003/GW-2, 31-32 ft.			15	85						
				30.0		-Bottom of Exploration at 30.0 feet.-										
30																

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4003

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4004

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 11, 2001
Finish September 11, 2001
Driller K. Eagan
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore
Hammer Weight (lb.)	NA	NA	-	Drill Mud: -
Hammer Fall (in.)	NA	NA	-	Casing: -
				Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 45	0.0 4.0	NO WELL INSTALLED		ML	Grass over black, sandy SILT (ML), with gravel, moist.		10			15	75				
	ND				1.0	ML	Yellow-brown, sandy SILT with gravel, moist.		10			15	75				
	ND	G-2 48	4.0 8.0		4.0	ML	Soil Sample: GP-4004/G-2, 6-7 ft.		10			15	75				
5	ND				7.0	SP	Yellow-brown, poorly graded SAND, moist.				40	60					
		G-3 48	8.0 12.0														
10					12.0												
	ND	G-4 48	12.0 16.0			SP					40	60					
15					16.0												
	ND	G-5	16.0 20.0			SP	Soil Sample: GP-4004/G-5, 16-17 ft.				40	60					
					19.0												
	ND					SP	Yellow-brown, poorly graded SAND, wet. Water at 19.0 feet.				40	60					
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples G-2, G-5

Boring No. GP-4004

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINTS\TESTLOGS\TEST2.GPJ Feb 27, 03

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4004
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6	20.0 24.0		SP	GW Sample: GP-4004/GW-1, 20-21 ft.										
				24.0												
	ND	G-7	24.0 27.0		SP	Yellow-brown, poorly graded SAND, wet.				40	60					
25																
		G-8	27.0 30.0			GW Sample: GP-4004/GW-2, 31-32 ft.										
30				30.0		-Bottom of Exploration at 30.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSUB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TEST\LOGSTEST2.GPJ Feb 27, 03

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4005

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 12, 2001
Finish September 12, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore Drill Mud: -
Hammer Weight (lb.)	NA	NA	-	Casing: -
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	GP-1 47	0.0 4.0	NO WELL INSTALLED			Grass over black-brown, sandy, SILT with gravel, dry.		10								
							Black-brown, sandy SILT with gravel, dry.										
	ND	GP-2 48	4.0 8.0														
5					6.0	SP	Yellow-brown, fine to medium grained, poorly graded SAND, moist.				30	70					
	ND						Soil Samples: GP-4005/G-2 and MS/MSD-1, 6-7 ft.										
		GP-3 48	8.0 12.0														
10					12.0	SP					30	70					
	ND	GP-4 48	12.0 16.0														
15							Soil Sample: GP-4005/G-5, 16-17 ft.										
		GP-5 48	16.0 20.0														
	ND				18.0	SP	Yellow-brown, fine to medium grained SAND, wet. Water at 18.0 feet.				30	70					
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary

Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples G-2, G-5, MS/D

Boring No. GP-4005

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4005
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		GP-6 48	20.0 24.0		SP	GW Sample: GP-4005/GW-1, 20-21 ft.										
				23.0												
	ND				SP	Same as above, becoming coarser grained SAND.			15	30	55					
		GP-7 36	24.0 27.0													
25																
				27.0												
	ND	GP-8 36	27.0 30.0		SP	Yellow-brown, fine to coarse SAND, wet.			15	30	55					
						GW Sample: GP-4005/GW-2, 31-32 ft.										
30				30.0		-Bottom of Exploration at 30.0 feet-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4005

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4006

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 12, 2001
Finish September 12, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation Datum -
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore Drill Mud: -
Hammer Weight (lb.)	NA	NA	-	Casing: -
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	GP-1 40	0.0 4.0	NO WELL INSTALLED		ML	Grass over black sandy SILT with gravel, dry.		10			20	70				
					2.5												
	ND				3.3		2.5-3.25 feet - Crushed gravel and concrete layer.										
	ND						Black sandy SILT with gravel, dry.		15			15	70				
		GP-2 48	4.0 8.0														
5					5.8												
	ND					SP	Yellow-brown, fine to medium grained, poorly graded SAND, moist.				30	70					
							Soil Sample: GP-4006/G-2 and Dup-1, 6-7 ft.										
		GP-3 48	8.0 12.0														
10																	
					12.0												
	ND	GP-4 48	12.0 16.0			SP	Yellow-brown, fine to medium grained, poorly graded SAND, moist.				30	70					
							Soil Sample: GP-4006/G-5, 16-17 ft.										
15																	
		GP-5 48	16.0 20.0														
					18.0												
	ND					SP	Yellow-brown, fine to medium grained, poorly graded SAND, moist.				30	70					
							GW Sample: GP-4006/GW-1, 20-21 ft.										
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples G-2, G-5, D-1

Boring No. GP-4006

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4006
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		GP-6 48	20.0 24.0		SP											
				24.0												
	ND	GP-7 36	24.0 27.0		SP	Yellow-brown, fine to medium grained, poorly graded SAND, moist.				30	70					
25						GW Sample: GP-4006/GW-2, 31-32 ft.										
		GP-8 36	27.0 30.0													
				30.0												
30						-Bottom of Exploration at 30.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4006

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4007

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 12, 2001
Finish September 12, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore
Hammer Weight (lb.)	NA	NA	-	Drill Mud: -
Hammer Fall (in.)	NA	NA	-	Casing: -
				Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		G-1 48	0.0 4.0		ML	Grass over brown, sandy SILT with gravel, dry-moist.		5			15	80				
	1.4			2.0				5			15	80				
	5.6	G-2 30	4.0 8.0	4.0	ML	Brown sandy SILT with gravel, dry-moist.										
5				6.0	SP	Yellow-brown, fine to medium, poorly graded SAND, moist. Soil Sample: GP-4007/G-2, 6-7 ft.				25	75					
		G-3 33	8.0 12.0													
10	2.3			10.0	SP					25	75					
		G-4 46	12.0 16.0													
	4.0			14.0	SP	Yellow-brown, fine to medium, poorly graded SAND, moist. Soil Sample: GP-4007/G-5, 16-17 ft.				25	75					
15		G-5 48	16.0 20.0													
	1.7			18.0 18.5		Same as above except becoming coarser grained SAND at 18.0 feet.				25	75					
						Yellow-brown, poorly graded SAND, wet. Water at 18.5 feet.			10	15	75					
20																

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	30
Rock Cored (lin. ft.)	-
Samples	G-2, G-5

Boring No. GP-4007

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4007
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6 48	20.0 24.0				GW Sample: GP-4007/GW-1, 20-21 ft.										
	2.0				22.0					10	15	75					
		G-7 36	24.0 27.0														
25	1.1				25.5		Yellow-brown, poorly graded SAND, wet.			10	15	75					
		G-8 36	27.0 30.0														
	1.5				28.5		GW Sample: GP-4007/GW-2, 31-32 ft.			10	15	75					
30					30.0		-Bottom of Exploration at 30.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4007

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4008

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 13, 2001
Finish September 13, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore
Hammer Weight (lb.)	NA	NA	-	Drill Mud: -
Hammer Fall (in.)	NA	NA	-	Casing: -
				Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 47	0.0 4.0	1.0	ML	Grass over black sandy SILT with gravel, moist.		10			15	75				
	ND				ML	Yellow-brown, to brown, sandy SILT with gravel, moist to dry.		10			20	70				
5		G-2 34	4.0 8.0	6.0												
	ND				SP	Yellow-brown, fine to medium grained, poorly graded SAND, moist. Soil Sample: GP-4008/G-2, 6-7 ft.				30	70					
10		G-3 36	8.0 12.0	12.0												
	ND	G-4 42	12.0 16.0		SP	Soil Sample: GP-4008/G-5, 16-17 ft.				30	70					
15		G-5 48	16.0 20.0	17.0												
	ND				SP	Yellow-brown, fine to medium grained poorly graded SAND, wet. Water at 17.0 feet. GW Sample: GP-4008/GW-1, 20-21 ft.				30	70					
20																

NO WELL INSTALLED

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples G-2, G-5

Boring No. GP-4008

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINTS\TEST\LOGS\TEST2.GPJ Feb 27, 03

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4008
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6 48	20.0 24.0		SP											
		G-7 36	24.0 27.0													
25				27.0												
	ND	G-8 36	27.0 30.0		SP	Yellow-brown, fine to medium grained, poorly graded SAND, wet.				30	70					
						GW Sample: GP-4008/GW-2, 31-32 ft.										
30				30.0		-Bottom of Exploration at 30.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4009

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 13, 2001
Finish September 13, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore Drill Mud: -
Hammer Weight (lb.)	NA	NA	-	Casing: -
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 43	0.0 4.0	NO WELL INSTALLED	1.0	ML	Grass over black, sandy SILT with gravel, moist.		10			15	75				
	ND					ML	Brown, sandy SILT with gravel, moist.		10		20	70					
		G-2 48	4.0 8.0		5.0												
5	ND					SP	Yellow-brown, fine to medium grained, poorly graded SAND, moist. Soil Sample: GP-4009/G-2, 6-7 ft.				30	70					
		G-3 48	8.0 12.0		9.5												
10	ND					SP	* Pinecone and two pieces of fine gravel at 9.5 feet. Soil Sample: GP-4009/G-5, 16-17 ft.				30	70					
		G-4 44	12.0 16.0														
15																	
		G-5 43	16.0 20.0		17.0												
	ND					SP	Yellow-brown, fine to medium grained, poorly graded SAND, wet. GW Sample: GP-4009/GW-1, 20-21 ft.				30	70					
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples G-2, G-5

Boring No. GP-4009

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4009
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6 41	20.0 24.0			SP											
					24.0												
	ND	G-7 35	24.0 27.0			SP	Yellow-brown, fine to medium grained, poorly graded SAND, wet.				30	70					
25																	
					27.0												
	ND	G-8 33	27.0 30.0			SP	GW Sample: GP-4009/GW-2, 31-32 ft.				30	70					
30					30.0		-Bottom of Exploration at 30.0 ft.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4009

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4010

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 13, 2001
Finish September 13, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore
Hammer Weight (lb.)	NA	NA	-	Drill Mud: -
Hammer Fall (in.)	NA	NA	-	Casing: -
				Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 42	0.0 4.0	NO WELL INSTALLED	1.0	ML	Grass over black sandy SILT with gravel, moist.		10			20	70				
	ND					ML	Brown sandy SILT with gravel, moist.		5			10	85				
5		G-2 41	4.0 8.0		5.5												
	1.7				6.0	SP	Yellow-brown, fine to medium grained, poorly graded SAND, moist. Soil Sample: GP-4010/G-2, 6-7 ft.				30	70					
											30	70					
	ND	G-3 47	8.0 12.0		8.0	SP					30	70					
10					12.0												
	ND	G-4 48	12.0 16.0			SP					30	70					
15					16.0												
	ND	G-5 48	16.0 20.0			SP	Water at 16.75 feet. Yellow-brown, fine to medium grained, poorly graded SAND, moist. Soil Sample: GP-4010/G-5, 16-17 ft.				30	70					
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples G-2, G-5

Boring No. GP-4010

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Toughness: L-Low, M-Medium, H-High Plasticity: N-Nonplastic, L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4010
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6 48	20.0 24.0		SP	GW Sample: GP-4010/GW-1, 20-21 ft.										
				24.0												
	ND	G-7 36	24.0 27.0		SP	Yellow-brown, fine to medium grained, poorly graded SAND, moist.				30	70					
25				27.0												
	ND	G-8 36	27.0 30.0		SP	GW Sample: GP-4010/GW-2, 31-32 ft.				30	70					
				30.0												
30						-Bottom of Exploration at 30.0 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4010

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4011

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start September 13, 2001
Finish September 13, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore Drill Mud: -
Hammer Weight (lb.)	NA	NA	-	Casing: -
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 48	0.0 4.0		ML	Grass over brown sandy SILT with gravel, moist. Trace coal fragments, black staining present 4.0 - 5.0 feet.		10			15	75				
				4.0												
	ND	G-2 48	4.0 8.0		ML	Brown to red-brown, sandy SILT with gravel, moist. Black staining present from 6.0 to 7.0 feet. Trace coal fragments. Soil Sample: GP-4011/G-2, 6-6.5 ft.		15			15	70				
5																
				7.0												
	ND				SP	Yellow-brown to gray, fine, poorly graded SAND, moist.					100					
		G-3 48	8.0 12.0													
				9.8												
10	ND			10.3		Red brown sandy SILT with gravel, moist.		10			15	75				
	ND				MH	Gray, sandy, elastic SILT with gravel, moist.		5			10	85				
		G-4 48	12.0 16.0													
15																
				16.0												
	ND	G-5 48	16.0 20.0		MH	Note: GW not recoverable. Soil Sample: GP-4011/G-5, 18-18.5 ft.		5			10	85				
				19.5												
20	ND				SM	Gray silty SAND, wet.					60	40				

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	21
Rock Cored (lin. ft.)	-
Samples	G-2, G-5

Boring No. GP-4011

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4011
File No. 49017-013
Sheet No. 2 of 1

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6	20.0	20.5												
	ND	12	21.0	21.0	MH	Gray sandy, elastic SILT with gravel, moist. -Refusal at 21.0 feet.-		5			30	65				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4011

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4012

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 13, 2001
Finish September 13, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore Drill Mud: -
Hammer Weight (lb.)	NA	NA	-	Casing: -
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 44	0.0 4.0	NO WELL INSTALLED	1.0	ML	Grass over black, sandy SILT with gravel, dry. Trace coal fragments 1 to 2.5 feet.		10			25	65				
	ND				2.5	ML	Yellow to brown, sandy SILT with gravel, dry. Black staining present 3.8 to 4 feet. Spark plug insulators 5.0 to 6.0 feet. Soil Sample: GP-4012/G-2, 6-6.5 ft.		10			15	75				
5		G-2 48	4.0 8.0		5.0												
	ND				7.0	ML	Yellow-brown, red-brown, gray-brown mottled, sandy SILT with gravel, moist.		5			20	75				
	ND	G-3 36	8.0 12.0		9.0	SP	Yellow-brown, fine, poorly graded SAND, wet. GW Sample: GP-4012/GW-1, 9-10 ft.						100				
10	ND				10.5	CL	Gray, lean clay, moist.						100	N	M	H	H
15		G-4 48	12.0 16.0		16.0												
	ND	G-5 14	16.0 20.0			CL-ML	Gray, sandy, lean clay, moist. Soil Sample: GP-4012/G-5, 19-20 ft.						100	N	M	H	H
20					19.9												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 26
Rock Cored (lin. ft.) -
Samples G-2, G-5, MS/D, D-2

Boring No. GP-4012

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. GP-4012
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND	G-6	20.0	20.5	SC	Gray, clayey SAND, wet.				30	30	40				
	ND	48	24.0		SP	Gray, poorly graded SAND, wet. GW Sample: GP-4012/GW-2 and Dup-3, 22-23 ft.			30	70						
				24.0												
	ND	G-7	24.0 26.0		CL	Gray sandy lean CLAY, moist.				10	90					
25				26.0		-Bottom of Exploration at 26.0 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4012

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4013

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 17, 2001
Finish September 17, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore Drill Mud: -
Hammer Weight (lb.)	NA	NA	-	Casing: -
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 40	0.0 4.0	NO WELL INSTALLED		ML	Grass over brown, sandy SILT with gravel, dry.		10			20	70				
	ND				2.5		Tree roots at 2.5 feet and black staining 2.5 to 3.0 feet.		10			20	70				
		G-2 48	4.0 8.0				Brown sandy SILT with gravel, dry.										
5					7.0												
	ND					ML	Yellow-brown, sandy SILT with gravel, moist.		10			30	60				
	ND	G-3 48	8.0 12.0		8.3	SP	Yellow to brown, poorly graded fine SAND, moist. Black stained sand from 8.3 to 8.7 feet. Soil Sample: GP-4013/G-3, 8.3-8.7 ft.					100					
	ND				9.0		Water at 9.0 - 11.0 feet.										
10					11.2												
	ND					MH	Gray, sandy elastic SILT with gravel, moist.		5			30	65				
		G-4 36	12.0 16.0														
15					16.0												
	ND	G-5 48	16.0 20.0			MH			5			30	65				
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples G-3, G-6

Boring No. GP-4013

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4013
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6 48	20.0 24.0	21.0	MH											
	ND				CL	Gray, sandy lean clay with gravel.		5			10	85				
						Soil Sample: GP-4013/G-6, 21-22 ft.										
						Note: GW not recoverable.										
		G-7 48	24.0 28.0													
25				26.3												
	ND					26.3 to 26.5 gray fine to coarse SAND lens, moist.		5			10	85				
		G-8 18	28.0 30.0													
30				30.0		-Bottom of Exploration at 30.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4013

TEST BORING REPORT

Boring No. GP-4014

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 17, 2001
Finish September 17, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore
Hammer Weight (lb.)	NA	NA	-	Drill Mud: -
Hammer Fall (in.)	NA	NA	-	Casing: -
				Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 46	0.0 4.0	NO WELL INSTALLED	1.0	ML	Grass over brown, sandy SILT with gravel, dry.		10			20	70				
	ND				2.0	SM	Brown, red-brown, yellow-brown, silty SAND with gravel, dry to moist.		20	20	20	20	20				
	ND					MH	Brown, yellow-brown, olive-gray, sandy elastic SILT with gravel, moist.		10			15	75				
5		G-2 48	4.0 8.0				Same as above. Soil Sample: GP-4014/G-2, MS/MSD-3, 6-7 ft.										
	ND	G-3 48	8.0 12.0		7.8	SM	Brown, red-brown, olive-gray silty SAND, wet					60	40				
	ND				9.2	SP	Yellow-brown, fine to medium grained poorly graded SAND, wet. Water at 9.2 feet. GW Sample: GP-4014/GW-1, 10-11 ft.				40	60					
10	ND	G-4 40	12.0 16.0		11.9	MH	Gray, sandy elastic SILT, moist.					10	90				
15		G-5 48	16.0 20.0				Soil Sample: GP-4014/G-5, 17-18 ft.										
	ND				19.0	SM	Gray, silty SAND, moist to wet.				40	45	15				
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 28
Rock Cored (lin. ft.) -
Samples G-2, G-5, MS/D

Boring No. GP-4014

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4014
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6 48	20.0 24.0	21.0	SM											
	ND					Same as above except less silt, wet.				45	50	5				
						GW Sample: GP-4014/GW-2, 22-23 ft.										
						Gray, silty SAND, moist to wet.										
		G-7 39	24.0 28.0													
25				26.8												
	ND					Gray, sandy elastic SILT, moist.					10	90				
				28.0		-Bottom of Exploration at 28.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4023

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start September 19, 2001
Finish September 19, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore Drill Mud: -
Hammer Weight (lb.)	NA	NA	-	Casing: -
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 34	0.0 4.0	NO WELL INSTALLED		ML	Grass over brown sandy SILT with gravel, moist. Coal fragments present and gravel at 0.75 to 1.5 feet and 3.0 to 4.0 feet.	5	10			30	55				
5	ND	G-2 41	4.0 8.0			ML	Black staining present 3.8 to 4.0 feet. Soil Sample: GP-4023/G-2, Dup-4, 6-7 ft.	5	10			30	55				
	ND				7.6	SP	Yellow-brown, poorly graded, fine SAND, wet.					100					
	ND ND	G-3 48	8.0 12.0		8.2 8.5	CH CH	Yellow-brown, sandy fat CLAY, moist. Brown, red-brown, sandy fat CLAY, moist.					5 15	95 85	N	M	H	H
10		G-4 48	12.0 15.9														
	ND				13.5	MH	Red-brown and gray mottled, sandy elastic SILT, moist.					15	85	S	M	M	M
15	ND				15.4 16.0	ML	Gray sandy SILT, moist. Refusal due to obstruction. Offset approximately 5.0 feet to the Northwest. -Refusal at 15.9 feet.-					5	95				

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 15.9
Rock Cored (lin. ft.) -
Samples G-2, D-4

Boring No. GP-4023

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TESTLOGS\TEST2.GPJ Feb 27, 03

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4023a

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 19, 2001
Finish September 19, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore
Hammer Weight (lb.)	NA	NA	-	Drill Mud: -
Hammer Fall (in.)	NA	NA	-	Casing: -
				Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			Used closed piston sampler to probe to 16.0 feet to begin sampling.										
5																	
10																	
15					16.0												
	ND	G-1 48	16.0 20.0			MH	Red-brown and gray mottled, sandy elastic SILT, moist. Soil Sample: GP-4023a/G-1, 17-18 ft.					10	90				
					18.9												
	ND					SP-SM	Gray, poorly graded SAND with silt, moist.				40	50	10				
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples G-1

Boring No. GP-4023a

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4023a
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-2 48	20.0 24.0		SP-SM											
	ND			21.3	SP-SM	Gray, poorly graded SAND with silt, wet. Water at 21.5 feet. GW-Sample: GP-4023a/GW-1, 22-23 ft.				40	50	10				
	ND	G-3 48	24.0 28.0	24.0	SP-SM	Gray, poorly graded SAND with silt, wet.				40	50	10				
25				27.8												
	ND	G-4 20	28.0 30.0		ML	Gray sandy SILT, moist, becoming moist to dry.					5	95				
30				30.0		-Bottom of Exploration at 30.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4023a

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4024

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 20, 2001
Finish September 20, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation Datum -
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore Drill Mud: -
Hammer Weight (lb.)	NA	NA	-	Casing: -
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 47	0.0 4.0	NO WELL INSTALLED	0.8	ML	Grass over dark brown, sandy SILT with gravel, moist.		10			20	70				
	ND				2.2	ML	Same, except becoming yellow-brown, dry. Coal fragments.		10			30	60				
	ND					ML	Red-brown, gray-brown, and red-yellow sandy SILT with gravel, moist.	5	10			20	65				
5		G-2 48	4.0 8.0				Soil Sample: GP-4024/G-2, 5.2-5.5 ft. Black staining and coal fragments present.										
	ND				6.2	SP-SM	Yellow-brown, poorly graded SAND with SILT moist.					85	15				
	ND	G-3 48	8.0 12.0		7.8	ML	Red-yellow, gray, and yellow-brown sandy SILT with gravel, moist.		5			10	85				
10					11.8												
	ND	G-4 39	12.0 16.0			ML	Gray, sandy SILT with gravel, moist.		5			10	85				
	ND				14.1	SP-SM	Brown, poorly graded SAND with SILT, wet.					75	25				
15	ND				14.6	MH	Gray, sandy elastic SILT, moist.					10	90	S	L	M	M
	ND	G-5 42	16.0 20.0		16.0	ML	Gray, sandy SILT with gravel, moist. Soil Sample: GP-4024/G-5, 17-18 ft.		10			10	80				
	ND				19.0	SP	Gray, poorly graded SAND, wet. Water at 19.0 feet.				15	85					
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 28
Rock Cored (lin. ft.) -
Samples G-2

Boring No. GP-4024

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4024
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-6 36	20.0 24.0		SP	GW Sample: GP-4024/GW-1, 21-22 ft.										
				22.9												
				23.1	ML	Silt lens at 22.9 feet to 23.1 feet.										
	ND			23.5	SP MH	Gray sandy elastic SILT with gravel, moist.		5			5	90				
		G-7 35	24.0 28.0													
25																
				28.0		-Bottom of Exploration at 28.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4025

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 20, 2001
Finish September 20, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation Datum -
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore
Hammer Weight (lb.)	NA	NA	-	Drill Mud: -
Hammer Fall (in.)	NA	NA	-	Casing: -
				Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	G-1 48	0.0 4.0	NO WELL INSTALLED		SP-SM	Grass over brown, poorly graded SAND with silt and gravel, moist to dry.		10			80	10				
					1.5												
	ND				2.0	SP-SM	Brown poorly graded SAND with silt and coarse gravel, moist to dry.	25	10			60	5				
	ND																
					3.0	SP-SM											
	ND					SP	Black stained, poorly graded SAND with gravel, moist.		10			90					
					4.0												
	ND	G-2 48	4.0 8.0			MH	Brown becoming yellow-brown and gray mottled sandy elastic SILT, moist.					10	90	S	M	L	M
5																	
					8.1 8.2												
	ND	G-3 48	8.0 12.0				Same, except wet at 8.1 feet to 8.2 feet.					10	90	S	M	L	M
10					10.5												
	ND					MH	Gray elastic SILT with gravel, moist.		5				95	S	H	L	M
		G-4 8	12.0 16.0				Gray sandy elastic SILT with gravel, wet. *Limited recovery, switch to closed piston system for next sample.										
15					16.0												
	ND	G-5 35	16.0 20.0			SP	Gray, poorly graded SAND with silt, wet. GW Sample: GP-4025/GW-1, 17-18 ft.				5	90	5				
20					19.8												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 27.5
Rock Cored (lin. ft.) -
Samples None to lab.

Boring No. GP-4025

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4025
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND	G-6 48	20.0 24.0		MH	Gray, sandy elastic SILT with gravel, moist.		5			10	85				
				22.7	SP	Fine to coarse grained sand pocket 22.7 feet to 23.7 feet, wet.										
				23.7	MH	Gray, sandy elastic SILT with gravel, moist.										
	ND	G-7	24.0 27.5	24.5	SP-SM	Gray, poorly graded SAND with silt, wet.				15	50	35				
25						GW Sample: GP-4025/GW-2, 25-26 ft.										
				27.5		-Refusal at 27.5 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4028

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start September 21, 2001
Finish September 21, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation Datum -
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore
Hammer Weight (lb.)	NA	NA	-	Drill Mud: -
Hammer Fall (in.)	NA	NA	-	Casing: -
				Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND		0.0 6.0	NO WELL INSTALLED		ML	Grass over brown sandy SILT with gravel. Utility locator company recommended hand digging to approximately 5 feet due to unlocated high pressure gas line. Hand augered to 6.0 feet.		20			10	70				
5					6.0												
	ND	G-1 24	6.0 8.0			ML	Brown sandy SILT with gravel and concrete pieces, dry.		20			10	70				
	ND				7.0	ML	Gray-brown to olive-gray sandy SILT. Strong sewage/septic odor, moist to wet.					15	85				
10		G-2 43	8.0 12.0														
					12.0												
	ND	G-3 41	12.0 16.0			ML	Gray sandy SILT, wet to moist. Strong organic/sewage odor.					15	85				
15					16.0												
	ND	G-4 38	16.0 19.0			ML	Gray sandy SILT, wet. Strong organic/sewage odor.					15	85				
					19.0		-Bottom of Exploration at 19.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 19
Rock Cored (lin. ft.) -
Samples None to lab.

Boring No. GP-4028

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4028a

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start September 21, 2001
Finish September 21, 2001
Driller K. Eagan, P. Orsi
H&A Rep. A. Correll
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	NA	1 7/8	NA	Bit Type: Macrocore
Hammer Weight (lb.)	NA	NA	-	Drill Mud: -
Hammer Fall (in.)	NA	NA	-	Casing: -
				Hoist/Hammer: NA NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Used closed piston system to bore down to 8.0 feet. First sample 8.0 feet to 12.0 feet. See Test Boring Report for GP-4028 for 0.0 to 8.0 feet.										
5																	
					8.0												
	ND	G-1 48	8.0 12.0	NO WELL INSTALLED		ML	Gray sandy SILT with gravel, moist.		10			20	70				
10					10.0												
	ND					ML	Brown, red-yellow, red-brown, sandy SILT with gravel, moist.		10			20	70				
					11.0												
	ND					ML	Brown sandy SILT with gravel.		5			25	70				
		G-2 42	12.0 16.0														
					14.5												
15	ND						Gray, sandy SILT, becoming wet.					20	80				
					16.0												
	ND	G-3 37	16.0 20.0			SM	Gray, silty SAND, wet.					80	20				
					18.0												
	ND					SM	Black silty SAND, wet.					90	10				
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	27
Rock Cored (lin. ft.)	-
Samples	None to lab.

Boring No. GP-4028a

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4028a
File No. 49017-013
Sheet No. 2 of 1

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		G-4 31	20.0 24.0		SM											
				24.0												
	ND	G-5 29	24.0 27.0		SM	Black silty SAND, wet.					90	10				
25						GW Sample: GP-4028a/GW-1, Dup-5, 25-26 ft.										
				27.0		-Bottom of Exploration at 27.0 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4028a

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4101

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 7, 2002
Finish May 7, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 48	0.0 4.0	NO WELL INSTALLED	1.0	OH	TOPSOIL with concrete and gravel.										
	ND					CL	Light brown, silty CLAY, moist.					5	95				
	ND	S-2 48	4.0 8.0			CL	Yellow-brown CLAY, some mottling, moist.					5	95				
5		S-3 48	8.0 12.0		9.5												
10	ND					SP-SM	Yellow-brown, poorly-graded SAND, wet.					70	30				
	ND				11.0	CL	Medium stiff, dark brown CLAY, moist.						100	L	M	L	M
		S-4 48	12.0 16.0														
	ND					CL	Gray-brown, silty CLAY, moist.						100	L	L	H	L
15	ND	S-5 36	16.0 20.0			CL	Same, except 3.0 in. sand lens present at 17.0 feet.						100	L	L	H	L
	ND				18.5	ML	Gray-brown SILT, wet.						100				
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 32.0
Rock Cored (lin. ft.) -
Samples NA

Boring No. GP-4101

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4101
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																
		S-6	20.0	20.5												
	ND	48	24.0		SM	Gray-brown, silty SAND, wet.					60	40				
						4.0 inch medium-grained sand lens.										
				22.5		Groundwater sample GW-1 was taken from a depth of 20'-22'										
	ND				ML	Gray-brown, clayey SILT, moist.					5	95				
				23.5												
	ND				SM	Light brown, silty SAND, moist.				40	40	20				
		S-7	24.0	24.5												
25	ND	46	28.0		CL	Gray-brown CLAY, moist.						100				
				27.0												
	ND				SM	Gray-brown, silty SAND, wet.					60	40				
		S-8	28.0			Groundwater sample GW-2 was taken from a depth of 26'-28'										
		28	32.0													
30																
				32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4101

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4102

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 8, 2002
Finish May 8, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			No soils logged for location. Groundwater samples collected only.										
5																	
10																	
15																	
			19.0				NOTE: Groundwater sample GW-1 was taken from a depth of 19'-21'										
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 32.0
Rock Cored (lin. ft.) -
Samples NA

Boring No. GP-4102

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4102
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																	
25																	
30			30.0				NOTE: Groundwater sample GW-2 was taken from a depth of 30'-32'										
					32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TEST\LOGSTEST2.GPJ Feb 27, 03

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4103

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 7, 2002
Finish May 7, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation Datum -
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 48	0.0 4.0	NO WELL INSTALLED	1.0		ASPHALT with gravel.										
	ND					CL	Yellow-brown, silty CLAY with mottling, moist.					5	95				
	ND	S-2 48	4.0 8.0		8.0	CL	Same, with more sand.					10	90				
5	ND	S-3 48	8.0 12.0		9.5	SM	Yellow-brown, silty SAND, wet.			5	30	30	35				
10	ND				10.5	ML	Yellow-brown SILT, some fine sand, moist.					25	75				
	ND					CL	Stiff, dark brown, silty CLAY, moist.						100				
	ND	S-4 48	12.0 16.0		16.0	CL	Medium stiff, gray-brown CLAY, moist.					10	90				
15	ND	S-5 48	16.0 20.0			SM	Gray-brown, very fine-grained SAND with silt, interbedded clay lenses, wet. NOTE: Groundwater sample GW-1 was taken from a depth of 17'-19'					60	40				
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 32.0
Rock Cored (lin. ft.) -
Samples NA

Boring No. GP-4103

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4103
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND	S-6 42	20.0 24.0			SM	Same, more fine-grained sand.					65	35				
	ND	S-7 40	24.0 28.0			SM	Gray-brown silty SAND, wet.				10	60	30				
25	ND					SM	Same, with more fine sand.					70	30				
	ND	S-8 30	28.0 32.0			SM	Gray-brown silty SAND, wet.				5	70	25				
30							NOTE: Groundwater sample GW-2 was taken from a depth of 30'-32'										
					32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4104

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 8, 2002
Finish May 8, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 42	0.0 4.0	NO WELL INSTALLED	1.0	OH	ASPHALT with gravel and organics.										
	ND					CL	Stiff to medium stiff, yellow-brown CLAY, some sand, mottling, moist.					15	85				
	ND	S-2 47	4.0 8.0			CL						15	85				
5					7.5												
	ND				8.0	SM	Yellow-brown silty SAND, moist.					90	10				
	ND	S-3 48	8.0 12.0		8.5	CL	Yellow-brown CLAY, moist.										
	ND ND				8.8	OL	Dark brown organic material, organic odor.										
						SM	Yellow-brown, poorly-graded, fine-grained silty SAND, moist.					60	40				
10	ND	S-4 38	12.0 16.0			SM	Same, becoming wet at 14'					60	40				
					15.0												
15	ND					SM	Yellow-brown, poorly-graded SAND some silt, wet.					80	20				
		S-5 42	16.0 20.0				NOTE: Groundwater sample GW-1 was taken from a depth of 17'-19'										
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
5/14/02	1845	~ 3.0	36.1		16.1

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 32.0
Rock Cored (lin. ft.) -
Samples NA

Boring No. GP-4104

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4104
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND	S-6 44	20.0 24.0		SM	Yellow-brown, fine-grained silty SAND, wet.					60	40				
	ND			22.0	SM	Gray-brown, fine-grained silty SAND, wet.					80	20				
	ND	S-7 14	24.0 28.0		SM	Gray-brown SAND, wet.					80	20				
25						Note: Low recovery.										
	ND				SP-SM	Gray-brown, medium-grained SAND, some silt, wet.				40	50	10				
		S-8	28.0 32.0			NOTE: Groundwater sample GW-2 was taken from a depth of 30'-32'										
30				31.0												
				32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4105

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 7, 2002
Finish May 7, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA
Hammer Weight (lb.)	NA	NA	-	Drill Mud: None
Hammer Fall (in.)	NA	NA	-	Casing: NA
				Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 36	0.0 4.0	NO WELL INSTALLED	0.5	OH	ASPHALT with gravel and sand.										
	ND					CL	Stiff, yellow-brown, CLAY, some mottling and organics, moist.						100				
	ND	S-2 48	4.0 8.0			CL	Same with some sand.				10	5	85				
5					6.5												
	ND					SM	Yellow-brown, moderately well-graded, medium-grained SAND, wet.				20	60	20				
	ND	S-3 48	8.0 12.0		9.5												
10						SM	Yellow-brown, silty fine SAND, moist.					80	20				
	ND	S-4 36	12.0 16.0			SM	Same, becoming wet.					80	20				
15					15.5												
	ND					SM	Yellow-brown, moderately well-graded, medium-grained SAND, moist.				10	70	20				
	ND	S-5 38	16.0 20.0		17.5	SP-SM	Yellow-brown, poorly-graded SAND, wet. NOTE: Groundwater sample GW-1 was taken from a depth of 17'-19'				5	85	10				
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	32.0
Rock Cored (lin. ft.)	-
Samples	NA

Boring No. GP-4105

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4105
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S-6 42	20.0 24.0													
	ND ND	S-7 42	24.0 28.0	24.5	SP-SM	Same, becoming medium- and course-grained SAND.				5	85	10				
25					SW-SM	Yellow-brown, well-graded SAND, wet.			10	30	30	30				
	ND	S-8 44	28.0 32.0		SW-SM	Yellow-brown, well-graded SAND with silt, wet.					20	80				
30					SW-SM	Yellow-brown, well-graded SAND with silt, wet. NOTE: Groundwater sample GW-2 was taken from a depth of 30'-32'					70	30				
				32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4106

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 7, 2002
Finish May 7, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 40	0.0 4.0	NO WELL INSTALLED	1.0	OH	TOPSOIL with organics and some concrete.		10	10		60	20				
	ND					CL	Medium stiff, yellow-brown CLAY with some fine sand, some mottling, moist.					15	85				
5	ND	S-2 48	4.0 8.0		7.0	CL						15	85				
	ND					SP-SM	Yellow-brown, poorly-graded SAND with some silt, moist.					90	10				
10		S-3 36	8.0 12.0														
	ND	S-4 36	12.0 16.0			SP-SM	Same with some medium-grained sand.				5	85	10				
15	ND	S-5 36	16.0 20.0			SP-SM	Yellow-brown, poorly-graded SAND with some silt, moist. NOTE: Groundwater sample GW-1 was taken from a depth of 17'-19' Water present at 19.0 feet.				5	85	10				
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 32.0
Rock Cored (lin. ft.) -
Samples NA

Boring No. GP-4106

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4106
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND	S-6 40	20.0 24.0		SP-SM					5	85	10				
				22.5												
	ND				SP-SM	Yellow-brown, poorly-graded SAND, wet.				40	50	10				
25		S-7 40	24.0 28.0													
	ND	S-8 44	28.0 32.0	29.0	SP-SM	Same, becoming gray-brown. NOTE: Groundwater sample GW-2 was taken from a depth of 30'-32'				40	50	10				
30				32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4106

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4107

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start
Finish
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA
Hammer Weight (lb.)	NA	NA	-	Drill Mud: None
Hammer Fall (in.)	NA	NA	-	Casing: NA
				Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 38	0.0 4.0	1.0	OH	TOPSOIL with organic material.				5	45	50				
	0.8			4.0	CL	Yellow-brown CLAY with some sand, moist.				5	15	80				
5	1.1	S-2 30	4.0 8.0	8.0	SP	Yellow-brown, poorly-graded SAND, moist.					95	5				
	0.7	S-3 24	8.0 12.0		SP						95	5				
10	0.5				SP	Same, becoming coarser grained.					95	5				
		S-4 24	12.0 16.0													
15	0.2	S-5	16.0 20.0		SP	Water at 15.75 feet. Note: Low recovery.					95	5				
20						NOTE: Groundwater sample GW-1 was taken from a depth of 17'-19'										

NO WELL INSTALLED

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 32.0
Rock Cored (lin. ft.) -
Samples NA

Boring No. GP-4107

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4107
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S-6 24	20.0 24.0		SP											
				22.0												
	ND				SP-SM	Gray-brown, poorly-graded SAND, wet.				15	75	10				
		S-7	24.0 28.0													
25																
				28.0												
	ND	S-8	28.0 32.0		SW	Gray-brown, well-graded SAND, wet. NOTE: Groundwater sample GW-2 was taken from a depth of 30'-32'			20	40	35	5				
30																
				32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4108

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 14, 2002
Finish May 14, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation Datum -
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 42	0.0 4.0	NO WELL INSTALLED	1.0	OH	TOPSOIL with organic material, moist.				5	50	45				
	0.6				4.0	CL	Yellow-brown CLAY with sand, some mottling, moist.				5	25	70				
5	0.5	S-2 46	4.0 8.0		7.5	CL					5	25	70				
	0.8	S-3 40	8.0 12.0		12.0	SM	Yellow-brown silty, fine-grained SAND.					70	30				
10	0.8	S-4 36	12.0 16.0		13.5	ML	Water present at 12.0 feet. Yellow-brown SILT with sand, wet.					20	80				
	ND				14.0	SM	Brown silty SAND, wet.					80	20				
	ND				14.3	ML	Gray-brown SILT lens.					5	95				
	0.7					SM	Gray-brown, silty SAND, wet.					65	35				
15		S-5 36	16.0 20.0				NOTE: Groundwater sample GW-1 was taken from a depth of 17'-19'										
20					20.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 32.0
Rock Cored (lin. ft.) -
Samples NA

Boring No. GP-4108

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4108
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND	S-6	20.0 24.0			SM	Same, becoming coarser grained and wet. Note: Low recovery				20	60	20				
					24.0												
	ND	S-7	24.0 28.0			SP-SM	Gray-brown SAND with some silt, wet. Note: Low recovery				25	65	10				
25					28.0												
	ND	S-8	28.0 32.0			SP	SAND with gravel and some silt. Note: Low recovery. NOTE: Groundwater sample GW-2 was taken from a depth of 29'-31'		15	10	20	45	10				
30					32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4109

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 14, 2002
Finish May 14, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA
Hammer Weight (lb.)	NA	NA	-	Drill Mud: None
Hammer Fall (in.)	NA	NA	-	Casing: NA
				Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 48	0.0 4.0	NO WELL INSTALLED		OH	Dark brown TOPSOIL with organic material, moist.				10	45	45				
	0.7				2.0	CL	Stiff, yellow-brown CLAY with mottling, moist.				5	10	85				
5		S-2 47	4.0 8.0														
	2.7				6.5	SP-SM	Yellow-brown SAND with silt, wet. NOTE: Groundwater sample GW-1 was taken from a depth of 6'-8'										
10		S-3 48	8.0 12.0														
	8.5				10.5	CL	Very stiff, gray-brown CLAY, moist.				10	5	85	N	M	L	
	3.9	S-4 45	12.0 16.0		12.0	CL					10	5	85	N	M	L	
15					16.0												
	4.0	S-5 42	16.0 20.0			MH	Gray brown SILT, wet.					5	95	R	-	-	-
20					20.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 32.0
Rock Cored (lin. ft.) -
Samples NA

Boring No. GP-4109

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4109
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	1	S-6 42	20.0 24.0		MH						5	95	R	-	-	-
				24.0												
	0.6	S-7 6	24.0 28.0		MH	Gray brown SILT, wet. Note: Low recovery					5	95	R	-	-	-
25																
		S-8 36	28.0 32.0													
				29.0												
	ND				SW-SM	Gray-brown, well-graded SAND, wet. NOTE: Groundwater sample GW-2 was taken from a depth of 29'-31'			30	30	30	10				
30																
				31.0												
	ND				CL	Very stiff gray-brown CLAY, moist.				10	5	85	N	H	L	-
				32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4109

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4110

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 13, 2002
Finish May 14, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1	0.0 4.0	NO WELL INSTALLED	1.0	OH	Dark brown TOPSOIL with organic material, moist.				10	40	50				
	ND				4.0	CL	Medium stiff, yellow-brown, mottled CLAY with some sand, moist.				10	20	70				
5	8	S-2	4.0 8.0		7.0	CL	Same, becoming gray-brown in color.				10	20	70				
	1	S-3	8.0 12.0		10.8	SP	Gray-brown SAND with silt, wet. NOTE: Groundwater sample GW-1 was taken from a depth of 9'-11'					65	35				
10	ND				11.0	CL	Gray-brown CLAY lens, moist.										
	ND				12.0	SP	Gray-brown SAND with silt, wet.					75	25				
15	1.5	S-4	12.0 16.0		16.0	CL	Medium stiff, gray-brown CLAY, moist.					5	95	N	M	M	M
	1.5	S-5 38	16.0 20.0		18.0	CL	Same, except more sand.					30	70				
	ND				19.5	CL	Medium stiff, gray-brown CLAY, moist.					5	95				
20	0.6						Gray-brown SILT, wet.							R	-	N	N

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 32.0
Rock Cored (lin. ft.) -
Samples NA

Boring No. GP-4110

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4110
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S-6 48	20.0 24.0		MH	Note: Interbedded saturated layers of silt and clay-silt.										
25		S-7 46	24.0 28.0													
	ND			26.0	CL	Stiff, gray-brown CLAY, moist.					5	95				
				28.0												
	ND	S-8 42	28.0 32.0	28.5	MH	Gray-brown SILT, wet.					5	95	R	-	N	N
	ND				SP	Gray-brown SAND with silt, wet.					80	20				
				30.0												
30	ND			30.3	SP	NOTE: Groundwater sample GW-2 was taken from a depth of 28.5'-30.5'				80	20	80				
	ND				CL	Medium coarse SAND lens.				15	5					
				32.0		Very stiff, gray-brown CLAY with medium-grained sand, moist.										
						-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4110

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4111

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 13, 2002
Finish May 13, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 36	0.0 4.0	NO WELL INSTALLED		OH	TOPSOIL with organics, moist.										
					1.0	CL	Medium stiff, dark brown CLAY with some sand, moist.										
	3																
					3.0	CL	Yellow-brown CLAY with mottling, moist.					5	95				
	4																
		S-2 48	4.0 8.0														
5					8.0	SP-SM	Yellow-brown, poorly-graded SAND, wet. NOTE: Groundwater sample GW-1 was taken from a depth of 8'-10'					90	10				
	2	S-3 48	8.0 12.0														
10	ND					SP-SM	Same, becoming gray-brown, wet.					90	10				
					12.0	SP-SM						90	10				
	3	S-4 36	12.0 16.0														
					14.0	CL	Stiff, gray-brown CLAY, moist.					5	95	N	M	M	
	ND																
15					16.0	CL						5	95	N	M	M	
	2	S-5 38	16.0 20.0														
					19.0	MH	Gray-brown SILT, wet.					5	95				
	ND																
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	32.0
Rock Cored (lin. ft.)	-
Samples	NA

Boring No. GP-4111

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4111
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S-6 46	20.0 24.0		MH											
				22.5												
	ND			23.0	CL	Gray-brown CLAY lens, moist.										
	ND				CL	Interbedded layers of silt and clay.										
				24.0												
	ND	S-7 40	24.0 28.0			NOTE: Groundwater sample GW-2 was taken from a depth of 26'-28'										
25																
				28.0												
	ND	S-8 42	28.0 32.0		SM	Gray-brown SAND, some silt. Note: Interbedded with silt layers.				10	70	20				
				30.0												
30	ND				CL	Very stiff, gray-brown CLAY with some medium-grained sand, moist.				10	15	75	-	H	L	M
				32.0		-Bottom of Exploration at 32.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4111

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4112

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Fibertec Env. Services

File No. 49017-013
Sheet No. 1 of 2
Start May 13, 2002
Finish May 13, 2002
Driller E. Dephouse
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	NA	G	NA	Rig Make & Model: Geoprobe 5400
Inside Diameter (in.)	NA	1 5/8	NA	Bit Type: NA Drill Mud: None
Hammer Weight (lb.)	NA	NA	-	Casing: NA
Hammer Fall (in.)	NA	NA	-	Hoist/Hammer: NA, NA

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 44	0.0 4.0	NO WELL INSTALLED	0.5	OH	TOPSOIL with organic material.										
	ND					CL	Stiff, brown CLAY, moist. Note: Some mottling from 3.0' to 5.0'.										
	ND	S-2 48	4.0 8.0		4.0	CL											
5					6.5												
	ND					SM	Light brown SAND with silt.					75	25				
	ND	S-3 48	8.0 12.0		8.0	SM	Same, becoming gray-brown. NOTE: Groundwater sample GW-1 was taken from a depth of 9'-11'					75	25				
10					12.0												
	ND	S-4 48	12.0 16.0			SM	Gray-brown SAND with silt.					75	25				
					14.5												
15	ND					CL	Stiff, gray-brown CLAY, moist.				5	5	90	N	L	H	H
	ND	S-5 45	16.0 20.0		17.0	CL	Same, contains some gravel.	5	5				90				
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 31.0
Rock Cored (lin. ft.) -
Samples NA

Boring No. GP-4112

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4112
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S-6 45	20.0 24.0		CL											
				22.0												
	ND				MH	Gray-brown, clayey SILT, wet.					5	95	S	L	L	L
		S-7 40	24.0 28.0													
25																
				26.0												
	ND			26.5	SM	Gray-brown SAND, wet.				10	70	20				
	ND				CL	Gray-brown CLAY with silt and sand, moist.					20	80	N	L	L	L
				28.0												
	ND	S-8 30	28.0 32.0		CL	Very stiff CLAY with medium- to coarse-grained sand, moist. NOTE: Groundwater sample GW-2 was taken from a depth of 29'-31'			5	5		90	R	H		H
30																
				31.0		-REFUSAL AT 31.0 FEET.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4112

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4114

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 18, 2002
Finish November 18, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-48 (NW)

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-Mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 46	0.0 4.0	0.5		-TOP SOIL-					15	85				
					CL	Yellow brown sandy CLAY, moist.										
5		S-2	4.0 8.0	5.5												
	5 54			6.5	SP	Yellow brown, poorly-graded SAND, moist.					95	5				
					CL	Yellow brown CLAY, moist.					5	95				
10		S-3	8.0 12.0			Color becomes gray brown at 9.0 feet.										
	22000	S-4	12.0 16.0			Brown fluid present.										
15	150	S-5	16.0 20.0	15.5	ML	Gray brown SILT with clay.					5	95				
	40					Wet at 17.5 feet.										
20				20.0												

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 20.0
Rock Cored (lin. ft.) -
Samples

Boring No. GP-4114

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4114
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20							-Bottom of Exploration at 20.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4114B

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 18, 2002
Finish November 18, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-48 (NW)

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-Mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 48	0.0 4.0	NO WELL INSTALLED	0.5	OL/OH	-TOP SOIL-				5	15	80				
						CL	Yellow brown sandy CLAY.										
	0.5	S-2 48	4.0 8.0		5.0												
5	8.0					SP	Yellow brown, poorly-graded SAND.					95	5				
	16				6.0		4" SILT lens, wet.										
	30																
	50	S-3 48	8.0 12.0				Same as above, except color becomes gray brown with some fine sand, moist.				5	5	90				
10	110						More fine sand, moist.					10	90				
	2																
	70	S-4 48	12.0 16.0														
					14.5												
15	42					ML	Gray brown SILT, wet.						100				
		S-5 42	16.0 20.0														
					18.0												
						SM	Gray brown, poorly-graded silty SAND.					70	30				
20					20.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 20.0
Rock Cored (lin. ft.) -
Samples

Boring No. GP-4114B

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4114B
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20							-Bottom of Exploration at 20.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4115

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 18, 2002
Finish November 18, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-48 (NW)

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-Mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.6	OL/OH	-TOPSOIL-										
	ND	S-1 42	0.0 4.0	NO WELL INSTALLED		CL	Yellow brown sandy CLAY, moist.					30	70				
	ND	S-2 48	4.0 8.0				Same, except less sand.					5	95				
5					6.0												
	ND				6.5	SP	Yellow brown, poorly-graded SAND, moist.					95	5				
	ND					CL	Light brown, CLAY, moist.					5	95				
		S-3 46	8.0 12.0														
10					10.0												
					10.5	ML	SILT lens, 6 in., moist.						100				
	ND					SP	Light brown, poorly-graded SAND, moist.					95	5				
		S-4 46	12.0 16.0														
15																	
	ND	S-5 46	16.0 20.0		16.5		Wet at 16.5 feet.										
							Color becomes gray brown at approximately 18 feet.										
20					20.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 20.0
Rock Cored (lin. ft.) -
Samples

Boring No. GP-4115

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4115
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20							-Bottom of Exploration at 20.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4116

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 19, 2002
Finish November 19, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-48 (NW)

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-Mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 47	0.0 4.0	NO WELL INSTALLED	0.6	OL/OH	Dark brown TOPSOIL, some brick fragments. -TOPSOIL-										
						CL	Yellow brown CLAY, moist.				5	5	90				
5	ND	S-2 48	4.0 8.0		6.0	SP	Yellow brown, poorly-graded SAND, moist.					95	5				
10	1	S-3	8.0 12.0		10.5	SP	Same as above, except light brown.					95	5				
	2	S-4	12.0 16.0									95	5				
15	10				14.5	SP	Wet at 14.5 feet.					95	5				
							No sample obtained.										
	9	S-5	16.0 20.0									95	5				
20					20.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 20.0
Rock Cored (lin. ft.) -
Samples

Boring No. GP-4116

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4116
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20							-Bottom of Exploration at 20.0 feet.-										
							Note: Advanced augers to 27.5 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4118

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 18, 2002
Finish November 18, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-48 (NW)

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	11	S-1 40	1.0 5.0			ML	Dense, brown and black SILT, mps: 1", no odor, moist. -FILL-					10	90				
	2.8																
5	1.6	S-2 46	5.0 9.0				Same as above.					10	90				
					6.5												
	5.1					SP	Soft tan fine, poorly-graded SAND, mps< 1mm, no odor, moist. -GLACIAL TILL-					100					
	6.7	S-3 38	9.0 13.0				Same as above.					100					
10	1.8																
					13.0												
	2.8	S-4 40	13.0 17.0			SP	Same as above.					100					
15	5.0																
	2.0	S-5 34	17.0 21.0				Same as above.					100					
					18.5												
	10.1					SM	Soft brown, poorly-graded, silty SAND, mps: 1/2", no odor, wet. -GLACIAL TILL-					70	30				
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 30.0
Rock Cored (lin. ft.) -
Samples (17'-19', 28'-30')

Boring No. GP-4118

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4118
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						SM	Water at 18.5 feet.										
					21.0												
	NA						Soil not characterized. Groundwater sample collected at 28 to 30 feet.										
25																	
30					30.0		-Bottom of Exploration at 30.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. GP-4118

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4119

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 18, 2002
Finish November 18, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Building #4082

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					1.0		-CONCRETE-										
	5.0	S-1 38	1.0 5.0	NO WELL INSTALLED		ML	Fairly dense, blackish brown SILT, mps: 1/2", organic odor, moist. -FILL-					10	90				
	16.8																
5					5.5												
	1.1	S-2 46	5.0 9.0			SP	Dense, brown poorly-graded SAND, mps< 1mm, organic odor, moist.					90	10				
	11.5																
		S-3 44	9.0 13.0														
10	54.1						Same as above. -GLACIAL TILL-					10	90				
					12.0												
	60.2					SP	Soft brown, poorly-graded SAND, mps< 1mm, no odor, wet. -GLACIAL TILL-					100					
					13.0		Water at 12.0 feet. -Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 13.0
Rock Cored (lin. ft.) -
Samples GP-1, GP-3, EB

Boring No. GP-4119

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4120

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 19, 2002
Finish November 19, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Building #4082

	Casing	Sampler	Barrel
Type	-	GP	-
Inside Diameter (in.)	-	1 7/8	-
Hammer Weight (lb.)	-	-	-
Hammer Fall (in.)	-	-	-

Drilling Equipment and Procedures
Rig Make & Model: Track-mounted Geoprobe
Bit Type: Macrocore
Drill Mud: None
Casing: Direct Push
Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	95.1	S-1 44	1.0 5.0			ML	Dense brown and black SILT with sand, mps:1", no odor, moist. -FILL-					20	80				
	36.9																
5		S-2 46	5.0 9.0				Same as above.					20	80				
					6.5												
	41.2					ML	Dense, tan and gray SILT with sand, mps: 1/2", no odor, moist to wet. -GLACIAL TILL-					10	90				
	41.7																
	12.5	S-3 48	9.0 13.0				Same as above.					10	90				
10					11.0												
	1.1					SP	Dense, tan poorly-graded SAND, mps< 1mm, no odor, moist to wet. -GLACIAL TILL- Water at 12.0 feet.					100					
					13.0		-Bottom of Exploration at 13.0 feet.-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (lin. ft.) 13
Rock Cored (lin. ft.) -
Samples GP-1, GW

Boring No. GP-4120

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Toughness: L-Low, M-Medium, H-High Plasticity: N-Nonplastic, L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4121

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 19, 2002
Finish November 19, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Building #4082

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	24.1	S-1 40	1.0 5.0	NO WELL INSTALLED		ML	Dense, brown and black SILT, mps: 1", no odor, moist.					10	90				
							-FILL-										
	169.5						Some staining at 4.0 feet.										
					5.0		Same as above.										
5		S-2 48	5.0 9.0		5.5							10	90				
	155.4					ML	Dense, grayish tan SILT with sand, mps: 1/2", no odor, moist.					10	90				
	131.8						-GLACIAL TILL-										
	34.7	S-3 48	9.0 13.0				Same as above.										
10					10.5												
	6.7					SP	Dense, tan poorly-graded SAND, mps< 1mm, no odor, wet.					100					
							-GLACIAL TILL-										
							Water at 11.0 feet.										
					13.0		-Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	13.0
Rock Cored (lin. ft.)	-
Samples	GP-1, GW

Boring No. GP-4121

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TEST\LOGSTEST2.GPJ Feb 27, 03

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4122

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 19, 2002
Finish November 19, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Building #4082

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	1.3	S-1 34	1.0 5.0			ML	Dense, brown SILT, mps: 1", no odor, moist. -FILL-					5	95				
	0.8																
5		S-2 48	5.0 9.0				Same as above.					5	95				
					6.0												
	0.4					ML	Dense, gray and brown, SILT, mps: 1/2", no odor, moist. -GLACIAL TILL-					5	95				
	0.4											5	95				
	0.7	S-3 48	9.0 13.0				Same as above.										
10					10.5												
	0.4					SP	Soft, tan poorly-graded SAND, mps< 1mm, no odor, wet. -GLACIAL TILL- Water at 10.5 feet.					100					
					13.0		-Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 13.0
Rock Cored (lin. ft.) -
Samples GP-1, GW

Boring No. GP-4122

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TEST\LOGSTEST2.GPJ Feb 27, 03

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4123

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 19, 2002
Finish November 19, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Building #4082

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	9.8	S-1 41	1.0 5.0	NO WELL INSTALLED		ML	Dense, brown and black SILT, mps: 1/4", no odor, moist. -FILL-					10	90				
	5.8																
5					5.5												
	9.4	S-2 48	5.0 9.0			ML	Dense, brown and gray SILT, mps: 1/4", no odor, moist. -GLACIAL TILL-					10	90				
	2.0																
		S-3 46	9.0 13.0		10.0												
10	5.2					SP	Dense, tan poorly-graded SAND, mps< 1mm, no odor, wet. Water at 10.0 feet. -GLACIAL TILL-					100					
	0.1																
					13.0		-Bottom of Exploration at 13.0 feet.-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 13.0
Rock Cored (lin. ft.) -
Samples GP-1, GW

Boring No. GP-4123

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4124

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 20, 2002
Finish November 20, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Building #4082

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	--	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	2.1	S-1 32	1.0 5.0	NO WELL INSTALLED		ML	Dense, black and brown SILT, mps: 1/4", no odor, moist.					10	90				
	1.8						-FILL-										
5					5.5												
	0.9	S-2 48	5.0 9.0			ML	Dense, brown and gray SILT, mps: 1/2", no odor, moist.					5	95				
	0.6						-GLACIAL TILL-										
	0.3	S-3 48	9.0 13.0				Same as above.					5	95				
10					11.0												
	0.5					SP	Water at 11.0 feet. Dense, tan poorly-graded SAND, mps< 1mm, no odor, wet.					100					
							-GLACIAL TILL-										
					13.0		-Bottom of Exploration 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 13.0
Rock Cored (lin. ft.) -
Samples GP-1, GW

Boring No. GP-4124

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4125

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 20, 2002
Finish November 20, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Building #4082

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	0.4	S-1 16	1.0 5.0			SP	Fairly dense, tan and brown, poorly-graded SAND, mps: 1", no odor, moist.					100					
	ND						-FILL-										
5					5.5												
	ND	S-2 48	5.0 9.0			ML	Dense, tan and gray SILT, mps: 1/2", no odor, moist.					5	95				
							-GLACIAL TILL-										
		S-3 48	9.0 13.0				Same as above.										
10	ND											5	95				
					12.0												
	ND					SP	Dense, tan poorly-graded SAND, no odor, wet. Water at 12.0 feet.					100					
					13.0		Bottom of Exploration at 13.0 feet										

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	13.0
Rock Cored (lin. ft.)	-
Samples	GP-1, GP-3

Boring No. GP-4125

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT\TEST\LOGSTEST2.GPJ Feb 27, 03

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4126

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 20, 2002
Finish November 20, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Building #4082

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	26.7	S-1 40	1.0 5.0			ML	Dense, brown and black SILT, mps: 1", organic odor, moist.					10	90				
	252.6						-FILL-										
5		S-2 46	5.0 9.0		5.5												
	158.7					ML	Dense, olive/tan SILT, mps: 1/4", organic odor, moist.					5	95				
	38.9						-GLACIAL TILL-										
	415.5	S-3 48	9.0 13.0	NO WELL INSTALLED			Same as above.										
10	13.0						Becoming tan SILT at 12.0 feet. No water encountered in borehole.										
					13.0		-Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	13
Rock Cored (lin. ft.)	-
Samples	GP-1, GP-3

Boring No. GP-4126

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TEST\LOGSTEST2.GPJ Feb 27, 03

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4131

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 19, 2002
Finish November 19, 2002
Driller C. Donovan
H&A Rep. F. Palatka
Elevation -
Datum
Location Building #4111

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Toughness	Plasticity	Strength
0					0.5		-CONCRETE-										
	ND	S-1 44	0.0 4.0	NO WELL INSTALLED		CL	Olive brown CLAY with sand and gravel, moist.		5	5	5	5	80				
					4.0												
	1	S-2	4.0 8.0			CL	Yellow brown CLAY with some fine gravel, moist.		5			5	90				
5					8.0												
	25	S-3	8.0 12.0			SP	Yellow brown, poorly-graded SAND.					95	5				
10					10.0												
	90						Wet at 9.5 feet.										
		S-4	12.0 16.0														
					13.0												
	110						Gray brown silty CLAY, moist.						100				
15																	
					16.0		-Bottom of Exploration at 16.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 16
Rock Cored (lin. ft.) -
Samples

Boring No. GP-4131

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT6\TEST\LOGSTEST2.GPJ Feb 27, 03

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4132

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 19, 2002
Finish November 19, 2002
Driller C. Donovan
H&A Rep. F. Palatka
Elevation -
Datum
Location Building #4111

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.5		-CONCRETE-										
		S-1 40	0.0 4.0		1.0		Yellow brown SAND, backfill present.										
	2				1.5		Olive gray CLAY, backfill present.										
					2.0		Tan SAND, backfill present.										
					2.5		Black COAL/ASPHALT, backfill present.										
	10					CL	Yellow brown CLAY with some sand, moist.					10	90				
5		S-2 46	4.0 8.0														
					7.0												
	28					SP-SM	Yellow brown poorly-graded SAND, moist.					90	10				
		S-3 42	8.0 12.0		9.5		Wet at 9.5 feet.										
10	5			NO WELL INSTALLED													
					12.0												
	8	S-4 38	12.0 16.0			CL	Yellow brown CLAY, moist.						100				
					14.0												
	ND																
15					16.0		-Bottom of Exploration at 16.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	16
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4132

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TESTLOGSTEST2.GPJ Feb 27, 03

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4133

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 20, 2002
Finish November 20, 2002
Driller C. Donovan
H&A Rep. F. Palatka
Elevation -
Datum
Location Building #411.1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 46	0.0 4.0	NO WELL INSTALLED	0.5		-CONCRETE-										
						SP/SC	Interbedded layers of SAND with clay, and some gravel.										
					3.0	CL	Yellow brown CLAY, moist.					5	95				
5		S-2 48	4.0 8.0														
					7.5	SP	Yellow brown, poorly-graded SAND.					95	5				
10		S-3 46	8.0 12.0				Wet at 9.0 feet.										
					11.5 12.0	CL	Gray brown CLAY, moist.						100				
							-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4133

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4134

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 20, 2002
Finish November 20, 2002
Driller C. Donovan
H&A Rep. F. Palatka
Elevation -
Datum
Location Building #4111

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Toughness	Plasticity	Strength
0		S-1 40	0.0 4.0	NO WELL INSTALLED	0.5		-CONCRETE-										
					1.0	SP	Yellow brown, poorly-graded SAND.					95	5				
						CL	Dark brown sandy CLAY, moist.					30	70				
					3.0	CL	Yellow brown CLAY, moist.					5	95				
5		S-2 48	4.0 8.0														
		S-3 46	8.0 12.0		8.5	SP-SM	Yellow brown, poorly-graded SAND, moist. Wet at 9.0 feet.					90	10				
10																	
		S-4 42	12.0 16.0		12.5	CL	Gray brown CLAY, moist.						100				
15					16.0		-Bottom of Exploration at 16.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 16
Rock Cored (lin. ft.) -
Samples

Boring No. GP-4134

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4141

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 20, 2002
Finish November 20, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation Datum -
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	0.8	S-1 28	1.0 5.0			ML	Dense, brown SILT, mps: 1/2", no odor, moist. -FILL-					10	90				
					3.0												
	0.5					ML	Fairly dense, black SLAG, mps: 1/4", no odor, moist. -FILL-				50	50					
5					5.0												
	0.3	S-2 48	5.0 9.0			ML	Dense light brown SILT, mps: 1/2", slight organic odor, moist. -GLACIAL TILL-					5	95				
	0.8			NO WELL INSTALLED													
	4.6	S-3 48	9.0 13.0				Product encountered from 9 to 13 feet.										
10	6.8																
					12.5												
					13.0	SP	Fairly dense, gray with black staining, poorly-graded SAND, mps< 1mm, slight organic odor, moist. -GLACIAL TILL- -Bottom of Exploration at 13.0 feet.-					100					

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	13
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4141

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4142

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 20, 2002
Finish November 20, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	0.4	S-1 34	1.0 5.0			ML	Dense, brown SILT, mps: 1/2", no odor, moist.					10	90				
	0.3					ML	-FILL-										
		S-2 48	4.0 8.0		5.0												
5	0.3					ML	Dense, brown SILT, mps: 1", no odor, moist.					10	90				
							-GLACIAL TILL-										
	0.2																
	0.4	S-3 48	8.0 12.0				Same as above. -GLACIAL TILL-										
10	1.2						Product encountered from 8 to 12 feet.										
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	-

Boring No. GP-4142

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4143

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 20, 2002
Finish November 20, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	0.2	S-1 14	1.0 5.0			ML	Dense, brown SILT, mps: 1/2", no odor, moist. -FILL-					10	90				
	0.4	S-2 48	4.0 8.0		5.0												
5	0.4						Dense, brown SILT, mps: 1/2", no odor, moist. -GLACIAL TILL-					10	90				
	0.7	S-3 48	8.0 12.0				Same as above.					10	90				
10	0.9																
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	
Boring No.	**GP-4143**

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4144

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 21, 2002
Finish November 21, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	0.1	S-1 30	1.0 5.0			SP	Soft, light brown poorly-graded SAND, mps: 1/2", no odor, moist.		<5		<5	95					
	ND						-FILL-										
		S-2 20	4.0 8.0		4.5												
	0.2				5.0		CONCRETE										
5	0.5					ML	Dense, brown SILT, mps< 1mm, no odor, moist.					5	95				
							-GLACIAL TILL-										
	0.2	S-3 28	8.0 12.0	NO WELL INSTALLED			Same as above except traces of product around 10.0 feet.										
10	0.4																
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4144

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4145

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 20, 2002
Finish November 20, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	0.4	S-1 39	1.0 5.0			ML	Dense, brown SILT, mps< 1mm, no odor, moist.					10	90				
	0.2						-FILL-										
		S-2 40	4.0 8.0		4.5												
	0.2					ML	Dense, gray and brown SILT, mps: 1/4", no odor, moist.					5	95				
5							-GLACIAL TILL-										
	0.1																
	0.2	S-3 24	8.0 10.0			ML	Same as above, except product encountered at 9.5 feet.										
10					10.0		-Bottom of Exploration at 10.0 feet.-										

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	10
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4145

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4146

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 21, 2002
Finish November 21, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	0.5	S-1 32	1.0 5.0	NO WELL INSTALLED		ML	Dense, brown SILT, mps: 1", no odor, moist.					10	90				
	0.3						-FILL-										
							Brick fragments as 3.75 feet.										
		S-2 48	4.0 8.0		4.5												
	0.2					ML	Dense, brown and gray SILT, mps: 1/2", no odor, moist.					5	95				
5							-FILL-										
	0.2																
	0.2	S-3 48	8.0 12.0				Same as above.					10	90				
10	7.8						Same as above, except product encountered at 11.0 feet.										
					12.0												
	1.4	S-4 48	12.0 16.0			SP	Dense, tan poorly-graded SAND, mps< 1mm, no odor, moist.					100					
							-GLACIAL TILL-										
	0.3						Water encountered at 12.0 feet.										
15																	
					16.0												
							-Bottom of Exploration at 16.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	16
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4146

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4147

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 21, 2002
Finish November 21, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation Datum -
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	2.2	S-1 29	1.0 5.0			ML	Dense, brown SILT, mps: 1", no odor, moist.					10	90				
	1.3						-FILL-										
					4.0												
		S-2 0	4.0 8.0				No Recovery from 4 to 8 feet.										
5																	
					8.0												
	0.1	S-3 48	8.0 12.0	NO WELL INSTALLED		ML	Dense, brown and gray SILT, no odor, moist.					5	95				
							-GLACIAL TILL-										
10	ND																
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4147

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TEST\LOGSTEST2.GPJ Feb 27, 03

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4148

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 21, 2002
Finish November 21, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	0.4	S-1 24	1.0 5.0			SP	Fairly dense, tan poorly-graded SAND, mps< 1mm, no odor, moist.					100					
	0.4						-FILL-										
					4.0												
	0.9	S-2 48	4.0 8.0			ML	Dense, brown and gray SILT, mps: 1/2", no odor, moist.					10	90				
5							-GLACIAL TILL-										
	0.7																
	1.6	S-3 48	8.0 12.0				Same as above.					10	90				
10	24.1																
					11.0												
						SP	Dense, gray poorly-graded SAND, mps< 1mm, no odor, wet. -GLACIAL TILL-					100					
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4148

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4149

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 21, 2002
Finish November 21, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	2.2	S-1 31	1.0 5.0			ML	Loose, brown SILT, mps: 1". no odor, moist. Brick fragments also present.					10	90				
	0.8						-FILL-										
					4.0												
	0.5	S-2 48	4.0 8.0			ML	Dense, brown SILT, mps: 1/4", no odor, moist.					5	95				
5							-GLACIAL TILL-										
	0.2																
	0.1	S-3 48	8.0 12.0				Same as above.					5	95				
10	0.1																
					12.0		-Bottom of Exploration at 12.0 feet.-										

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
- Overburden (lin. ft.) 12
- Rock Cored (lin. ft.) -
- Samples

Boring No. GP-4149

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TEST\LOGSTEST2.GPJ Feb 27, 03

TEST BORING REPORT

HALEY & ALDRICH

Boring No. GP-4150

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 21, 2002
Finish November 21, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	ND	S-1 4	1.0 5.0			GP	Loose, brown GRAVEL, mps: 1 1/2", no odor, moist. Spark plugs throughout. -FILL-		100								
					4.0												
	ND	S-2 41	4.0 8.0			ML	Dense, brown SILT, mps: 1/4", no odor, moist. -GLACIAL TILL-					10	90				
5																	
	0.2	S-3 37	8.0 12.0				Same as above.					10	90				
10	0.7																
					11.5												
					12.0	SP	Dense, brown poorly-graded SAND, mps< 1mm, no odor, wet. -GLACIAL TILL- Water at 11.5 feet. -Bottom of Exploration at 12.0 feet.-					100					

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4150

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4151

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 21, 2002
Finish November 21, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	ND	S-1 31	1.0 5.0	NO WELL INSTALLED		ML	Dense, brown SILT, mps: 1", no odor, moist. -FILL-					10	90				
					4.0												
	ND	S-2 48	4.0 8.0			ML	Dense, brown SILT, mps: 1/2", no odor, moist. -GLACIAL TILL-					5	95				
5																	
	ND	S-3 40	8.0 12.0			ML	Same as above.					10	90				
10																	
					11.5												
	ND				12.0	SP	Dense, gray poorly-graded SAND, mps < 1mm, no odor, wet. -GLACIAL TILL- Water at 11.5 feet. -Bottom of Exploration at 12.0 feet.-					100					

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4151

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. GP-4152

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 21, 2002
Finish November 21, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location Crane Bay, Plant 400

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	ND	S-1 28	1.0 5.0	NO WELL INSTALLED		ML	Loose, brown sandy SILT with brick fragments, mps: 1/4", no odor, moist. -FILL-					20	80				
		S-2 41	4.0 8.0		4.5												
5	ND					ML	Dense, gray SILT, mps: 1/2", no odor, moist. -GLACIAL TILL-					5	95				
	ND	S-3 48	8.0 12.0			ML	Same as above, except becoming tan at 10.0 feet.					5	95				
10					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. GP-4152

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TEST\LOGSTEST2.GPJ Feb 27, 03

TEST BORING REPORT

Boring No. B-4081

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 14, 2002
Finish November 14, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-08, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	0.7	S-1 24	1.0 5.0			SP	Soft, tan poorly-graded SAND, mps: 1", no odor, moist.					100					
	0.6						-FILL-										
5		S-2 48	5.0 9.0		5.5												
	0.5					ML	Dense, brown SILT with sand, mps: 1", no odor, moist.					15	85				
	0.5			NO WELL INSTALLED			-GLACIAL TILL-										
					9.0												
	ND	S-3 41	9.0 13.0			SP	Dense, tan poorly-graded SAND, mps <1mm, no odor, moist to wet. -GLACIAL TILL-					100					
10							Water at 10.0 feet.										
					11.0												
	ND					ML	Dense, tan SILT, mps: 1/2", no odor, moist. -GLACIAL TILL-					10	90				
					13.0												
							-Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	13.0
Rock Cored (lin. ft.)	-
Samples	GP-1, GP-3, GW

Boring No. B-4081

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT5\TEST\LOGS\TEST2.GPJ Feb 27, 03

HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4082

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 14, 2002
Finish November 14, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-08, Boring #2

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	0.2	S-1 30	1.0 5.0	NO WELL INSTALLED		SP	Soft, tan poorly-graded SAND, mps: 1", no odor, moist.					100					
	0.1						-FILL-										
5	0.1	S-2 38	5.0 9.0				Same as above. -FILL-					100					
					7.0												
	0.1					ML	Soft, brown SILT with sand, mps: 1", no odor, moist.					20	80				
	0.1	S-3 46	9.0 13.0				-GLACIAL TILL-										
10					10.5												
	0.1					SP	Soft, tan poorly-graded SAND, mps <1mm, no odor, wet. -GLACIAL TILL- Water at 10.5 feet.					100					
					13.0		-Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 13.0
Rock Cored (lin. ft.) -
Samples GP-1, GP-3, GW

Boring No. B-4082

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USGSLIB3_OTR.GLB DELPHI.GDT G:\49017\GINT5\TEST\LOGSTEST2.GPJ Feb 27, 03

TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4091

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 6, 2002
Finish November 6, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-09, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	3.7	S-1 20	1.0 3.0			ML	Soft brown SILT with sand, mps: 1/4", no odor, moist. -GLACIAL TILL-					20	80				
					3.0												
							Closed Rod. No sample obtained from 3 to 9 feet.										
5																	
					9.0												
	ND	S-2 22	9.0 11.0			SP	Soft brown poorly-graded SAND, mps <1mm, no odor, wet. -GLACIAL TILL-					100					
10					11.0												
	ND	S-3 24	11.0 13.0			SP	Soft gray poorly-graded SAND, mps <1mm, no odor, wet. -GLACIAL TILL- Water at 13.0 feet.					100					
					13.0		-Bottom of Exploration at 13.0 feet.-										

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 13.0
Rock Cored (lin. ft.) -
Samples GP-1, GP-2, GP-3

Boring No. B-4091

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINTS\TESTLOGSTEST2.GPJ Feb 27, 03

TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4092

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 6, 2002
Finish November 6, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI 09. Boring #2

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	3.6	S-1 12	1.0 3.0			ML	Fairly dense, grayish brown sandy SILT, mps <1mm, no odor, moist. -FILL-					30	70				
					3.0												
							No Sample obtained from 3 to 6 feet.										
5																	
					6.0												
	4.7	S-2 24	6.0 8.0			ML	Dense, tanish gray SILT, mps <1mm, slight hydrocarbon odor, moist. -GLACIAL TILL-					10	90				
					8.0												
	4.3	S-3 18	8.0 10.0			ML	Soft, grayish brown sandy SILT, mps <1mm, no odor, wet. -GLACIAL TILL- Water at 10.0 feet					30	70				
10					10.0		-Bottom of Exploration at 10.0 feet.-										

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 10.0
Rock Cored (lin. ft.) -
Samples GP-1, GP-2, GP-3

Boring No. B-4092

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Toughness: L-Low, M-Medium, H-High Plasticity: N-Nonplastic, L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4093

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 6, 2002
Finish November 6, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-09, Boring #3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	ND	S-1 18	1.0 3.0			ML	Dense, dark gray/black SILT, mps: 1/4", no odor, moist. -GLACIAL TILL-					10	90				
					3.0												
							No sample obtained from 3 to 6 feet..										
5																	
					6.0												
	4.7	S-2 22	6.0 8.0			ML	Dense, tan and gray SILT, mps <1mm, no odor, moist. -GLACIAL TILL-					5	95				
		S-3 20	8.0 10.0														
					9.0												
	ND					SP	Dense, tan poorly-graded SAND, mps <1mm, no odor, moist. Water at 10.0 feet.					100					
10					10.0		-Bottom of Exploration at 10.0 feet.-										

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 10.0
Rock Cored (lin. ft.) -
Samples GP-1, GP-2, GP-3

Boring No. B-4093

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4094

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 14, 2002
Finish November 14, 2002
Driller R. Vining
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-09, Boring #4

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	7.6	S-1 26	1.0 5.0	NO WELL INSTALLED		ML	Fairly dense, brown and black SILT, mps: 1", no odor, moist.					10	90				
	1.9						-FILL-										
5					5.5												
	0.8	S-2 46	5.0 9.0			ML	Dense, brown and tan SILT, mps: 1/2", no odor, moist. -GLACIAL TILL-					5	95				
	0.1																
		S-3 24	9.0 11.0				Same as above.										
10					10.0												
	2.0					SP	Dense, tan poorly-graded SAND, mps< 1mm, no odor, wet. Water at 10.0 feet					100					
	0.3				11.0		-GLACIAL TILL-										
							-Bottom of Exploration at 11.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	11.0
Rock Cored (lin. ft.)	-
Samples	GP-1, GW

Boring No. B-4094

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4141

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 11, 2002
Finish November 11, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-14, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	ND	S-1 32	1.0 5.0	NO WELL INSTALLED		SP	Soft, brown, foundry SAND, mps< 1mm, no odor, moist.					50	50				
					2.5		-FILL-										
	ND					ML	Soft tan SILT with sand, mps: 1/2", no odor, moist. -GLACIAL TILL-					20	80				
5	0.8	S-2 22	5.0 9.0														
	0.5																
	6.2	S-3 22	9.0 13.0				Same as above.					20	80				
10	13.1											20	80				
					13.0												
	8.1	S-4 44	13.0 17.0			SP	Soft, tan poorly-graded SAND, mps <1mm, no odor, wet. Water at 13.0 feet.					100					
15	4.0						-GLACIAL TILL-										
					17.0		-Bottom of Exploration at 17.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	17.0
Rock Cored (lin. ft.)	-
Samples	GP-2,GP-3,FD/GP-2

Boring No. B-4141

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4142

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 11, 2002
Finish November 11, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-14, Boring #2

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	0.3	S-1 40	1.0 5.0	NO WELL INSTALLED		SP	Loose, black, foundry SAND, mps :1/2", no odor, moist.					50	50				
	0.5						-FILL-										
5		S-2 40	5.0 9.0				Same as above.				50	50					
					6.0												
	0.5					ML	Soft brown SILT with sand, mps: 1/2", no odor, moist.					25	75				
	1.5						-GLACIAL TILL-										
	0.8	S-3 47	9.0 13.0				Same as above.					25	75				
10																	
	1.6						No water encountered in borehole.										
					13.0		-Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	13.0
Rock Cored (lin. ft.)	-
Samples	GP-2, GP-3

Boring No. B-4142

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Toughness: L-Low, M-Medium, H-High Plasticity: N-Nonplastic, L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. B-4143

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 11, 2002
Finish November 11, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AIO-14, Boring #3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	0.3	S-1 40	1.0 5.0	NO WELL INSTALLED		SP	Soft, black, foundry SAND, mps: 1", no odor, moist.				50	50					
	0.4						-FILL-										
5		S-2 47	5.0 9.0														
	0.9						Same as above.				50	50					
					8.0												
	0.4					ML	Dense, brown with gray mottling, sandy SILT, mps: <1/4", no odor, moist.					30	70				
10		S-3 45	9.0 13.0														
	1.3						-GLACIAL TILL-										
					12.0		Same as above.										
	0.6					SP	Soft, tan poorly-graded SAND, mps< 1mm, no odor, moist. -GLACIAL TILL-					30	70				
					13.0		No water encountered in borehole. -Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	13.0
Rock Cored (lin. ft.)	-
Samples	GP-2, GP-3, FD

Boring No. B-4143

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4161

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 7, 2002
Finish November 1, 0702
Driller P. Orsi
H&A Rep. G. Laird
Elevation Datum -
Location AOI-16, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.3												
	ND	S-1 22	1.3 5.3			SP	Loose, black foundry SAND, mps< 1mm, no odor, moist. -FILL-					100					
5					5.3												
	ND	S-2 48	5.3 9.3			ML	Dense, brown sandy SILT, mps: 1/4", no odor, moist. -GLACIAL TILL-					30	70				
					8.8												
	ND					ML	Loose, brown and black sandy SILT, mps: 1/2", no odor, wet. -GLACIAL TILL-					30	70				
		S-3 48	9.3 13.3														
10					11.3												
	ND					SP	Soft, tan poorly-graded SAND, mps< 1mm, no odor, moist. -GLACIAL TILL-					100					
	ND	S-4 48	13.3 17.3				Same as above.										
15	ND						Water encountered at 15.25 feet. -GLACIAL TILL-					100					
					17.3		-Bottom of Exploration at 17.25 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 17.25
Rock Cored (lin. ft.) -
Samples GP-1, GP-3, GP-4

Boring No. B-4161

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4162

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 7, 2002
Finish November 7, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-16, Boring #2

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.3												
	ND	S-1	1.3		1.8	SP	Loose, black foundry SAND, mps< 1mm, no odor, moist.					100					
	ND	32	5.3			ML	-FILL- Dense, tan SILT, mps< 1mm, no odor, moist. -GLACIAL TILL-					5	95				
5					5.3												
	ND	S-2 48	5.3 9.3	NO WELL INSTALLED		ML	Dense tan sandy SILT, mps: 1", no odor, moist. -GLACIAL TILL-					35	65				
10	ND	S-3 45	9.3 13.3				Same as above.					35	65				
	ND				10.8	SP	Soft tan poorly-graded SAND, mps< 1mm, no odor, moist. -GLACIAL TILL-					100					
	ND	S-4 45	13.3 17.3		13.8	ML	Fairly dense, grayish brown sandy SILT, mps: 1/4", no odor, moist. -GLACIAL TILL-					50	50				
15							Water encountered at 16.25 feet.										
					17.3		-Bottom of Exploration at 17.25 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 17.25
Rock Cored (lin. ft.) -
Samples GP-1, GP-3, GP-4

Boring No. B-4162

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. B-4163

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 7, 2002
Finish November 7, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-16, Boring #3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.3												
	ND	S-1 18	1.3 5.3			SP	Loose, black and brown foundry SAND, mps< 1mm, no odor, moist. -FILL-					100					
5					5.3												
	ND	S-2 46	5.3 9.3	NO WELL INSTALLED		ML	Dense, tan sandy SILT, mps: 1/2", no odor, moist. -GLACIAL TILL-					30	70				
	ND	S-3 44	9.3 13.3				Same as above.					50	50				
10					10.8												
	ND					SP	Fairly dense, tan poorly-graded SAND, mps< 1mm, no odor, moist. -GLACIAL TILL-					100					
					13.3												
	ND	S-4 47	13.3 17.3			ML	Dense, gray poorly-graded, silty SAND, mps< 1mm, no odor, moist. -GLACIAL TILL-					80	20				
15							Water encountered at 15.25 feet.										
					17.3		-Bottom of Exploration at 17.25 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 17.25
Rock Cored (lin. ft.) -
Samples EB,GP-1,GP-3,GP-4

Boring No. B-4163

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\49017\GINT\TEST\LOGSTEST2.GPJ Feb 27, 03

HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4181

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 12, 2002
Finish November 12, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-18, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	ND	S-1 40	1.0 5.0			SP	Soft, tan poorly-graded SAND, mps: 1", no odor, moist. -FILL-					100					
					4.0												
	ND					ML	Dense, tan SILT with sand, mps< 1mm, no odor, moist. -GLACIAL TILL-					20	80				
5					5.5												
	ND	S-2 45	5.0 9.0			SP	Soft, tan poorly-graded SAND, mps< 1mm, no odor, moist. -GLACIAL TILL-					100					
	0.3	S-3 48	9.0 13.0				Same as above.					100					
10																	
	ND	S-4 48	13.0 17.0				Same as above.					100					
15																	
	ND	S-5 48	17.0 21.0				Same as above. Water encountered at 10.0 feet.					100					
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	21.0
Rock Cored (lin. ft.)	-
Samples	GP-1,GP-3,GP-5,FD

Boring No. B-4181

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4181
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																	
					21.0		-Bottom of Exploration at 21.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. B-4181

HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4182

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 12, 2002
Finish November 13, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-18, Boring #2

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	0.3	S-1 36	1.0 5.0			ML	Dense tan SILT with sand, mps: 1/2", no odor, moist. -FILL-					20	80				
5	ND	S-2 44	5.0 9.0				Same as above.					20	80				
					6.0												
	ND					SP	Soft, tan poorly-graded SAND, mps: 1/2", no odor, moist. -GLACIAL TILL-					100					
	ND	S-3 46	9.0 13.0				Same as above.					100					
10																	
	ND	S-4 40	13.0 17.0				Same as above.					100					
15																	
	ND	S-5 40	17.0 21.0				Same as above. Water encountered at 20.0 feet.					100					
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 21.0
Rock Cored (lin. ft.) -
Samples GP-1,GP-3,GP-5,MSD

Boring No. B-4182

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4182
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																	
					21.0		-Bottom of Exploration at 21.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. B-4183

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 12, 2002
Finish November 12, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation - Datum
Location AOI-18, Boring #3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	ND	S-1 40	1.0 5.0	NO WELL INSTALLED		ML	Dense, brown SILT with sand, mps: 3/4", no odor, moist. -FILL-					15	85				
5																	
		S-2 44	5.0 9.0														
					6.5												
	ND					SP	Soft, tan poorly-graded SAND, mps< 1mm, no odor, moist. -GLACIAL TILL-					100					
	ND	S-3 48	9.0 13.0				Same as above.					100					
10																	
	ND	S-4 40	13.0 17.0				Same as above.					100					
15																	
	ND	S-5 46	17.0 21.0				Same as above. Water encountered at 20.0 feet.					100					
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary

Overburden (lin. ft.) 21.0
Rock Cored (lin. ft.) -
Samples EB,GP-1,GP-3,GP-5

Boring No. B-4183

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4183
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																	
					21.0		-Bottom of Exploration at 21.0 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4211

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 13, 2002
Finish November 13, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-21, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	1.4	S-1 32	1.0 5.0	NO WELL INSTALLED		ML	Soft, brown sandy SILT, mps: 1/4", no odor, moist. -FILL-					50	50				
	1.8																
5		S-2 42	5.0 9.0		5.5												
	0.4					ML	Dense, tan and gray, SILT with sand, mps: 1/2", slight hydrocarbon odor, moist. -FILL-					25	75				
	6.7																
		S-3 47	9.0 13.0		9.5												
10	16.4					SP	Soft, grayish tan, poorly-graded SAND, mps< 1mm, hydrocarbon odor, moist. -FILL-					100					
					12.5												
	13.4				13.0	ML	Dense, grayish brown SILT, mps: 1/4", hydrocarbon odor, moist. -FILL- No water encountered in borehole. -Bottom of Exploration at 13.0 feet.-					10	90				

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	13.0
Rock Cored (lin. ft.)	-
Samples	EB,GP-1,GP-3

Boring No. B-4211

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4213

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 13, 2002
Finish November 13, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-21, Boring #3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	18.1	S-1 30	1.0 5.0			SP	Loose, black foundry SAND, mps: 1", hydrocarbon odor, moist. -FILL-					100					
					4.0												
	12.2					ML	Fairly dense, brown sandy SILT, mps< 1mm, hydrocarbon odor, moist.					50	50				
5	9.5	S-2 45	5.0 9.0				-FILL-										
	7.3						-FILL-					50	50				
	8.5	S-3 35	9.0 13.0				Same as above.					50	50				
10	10.5						Same as above.										
	9.0	S-4 38	13.0 17.0				Same as above.					50	50				
							No water encountered in borehole.										
15							-FILL-										
					17.0		-Bottom of Exploration at 17.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 17.0
Rock Cored (lin. ft.) -
Samples GP-1, GP-3, GP-4

Boring No. B-4213

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4214

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 13, 2002
Finish November 13, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-21, Boring #4

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	2.5	S-1 24	1.0 5.0	NO WELL INSTALLED		SP	Soft, tan poorly-graded SAND, mps< 1mm, no odor, moist. -FILL-					100					
	4.0				3.0												
5	6.2	S-2 33	5.0 9.0				Same as above except becoming gray at 7 feet, with a hydrocarbon odor present.					100					
	8.2																
	11.7	S-3 33	9.0 13.0				Same as above.					100					
10					11.0												
	8.1					ML	Dense, brown sandy SILT, mps: 1", hydrocarbon odor, moist. -FILL-					50	50				
	3.8	S-4 48	13.0 17.0				Same as above.										
15	3.0						Same as above. No water encountered in borehole.					50	50				
					17.0		-Bottom of Exploration at 17.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 17.0
Rock Cored (lin. ft.) -
Samples GP-1, GP-2, GP-3

Boring No. B-4214

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4215

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 14, 2002
Finish November 14, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-21, Boring #5

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	1.9	S-1 24	1.0 5.0			SP	Loose, tan poorly-graded SAND, mps< 1mm, slight hydrocarbon odor, moist. -FILL-					100					
	11.1																
5	13.1	S-2 40	5.0 9.0				Same as above.					100					
					6.0												
	35.0					ML	Dense, brown sandy SILT, mps: 1", hydrocarbon odor, moist. -FILL-					35	65				
				NO WELL INSTALLED													
		S-3 48	9.0 13.0		9.5												
10	37.0					SP	Dense, grayish brown poorly-graded SAND, mps< 1mm, hydrocarbon odor, moist. -FILL-					100					
					12.0												
	19.1					ML	Dense, brown SILT, mps: 1/4", hydrocarbon odor, moist. -FILL-					5	95				
					13.0												
	18.1	S-4 47	13.0 17.0			SP	Dense, grayish brown poorly-graded SAND, mps< 1mm, hydrocarbon odor, moist. -FILL-					100					
15																	
					16.0												
	4.5					ML	Dense grayish brown SILT, mps< 1mm, slight hydrocarbon odor, moist. -FILL-					5	95				
					17.0		-Bottom of Exploration at 17.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	17.0
Rock Cored (lin. ft.)	-
Samples	GP-1,GP-2,GP-3,EB

Boring No. B-4215

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4231

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 6, 2002
Finish November 6, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-23, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.3		-CONCRETE-										
		S-1 30	0.0 4.0	NO WELL INSTALLED		SP-SM	Yellow brown, poorly-graded SAND with silt, moist.					90	10				
5		S-2 32	4.0 8.0														
		S-3 30	8.0 12.0		8.0	CL	Yellow brown sandy CLAY, moist.					20	80				
10					10.0	SP	Yellow brown, poorly-graded SAND, moist. Water at 11.6 feet.					95	5				
		S-4 44	12.0 16.0				Same as above except particle size increasing.				5	90	5				
15							Rust color staining at 15 feet.										
		S-5 32	16.0 20.0		17.0		Same as above except dark brown/black, moist.										
					17.5	SP	Poorly-graded SAND with fine gravel.		10	60	10	10	10				
						CL	Gray and brown CLAY with silt, moist.						100				
20					20.0												

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 20.0
Rock Cored (lin. ft.) -
Samples

Boring No. B-4231

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4231
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20							-Bottom of Exploration at 20.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4232

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 7, 2002
Finish November 7, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation Datum -
Location AOI-23, Boring #2

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.3		-CONCRETE-										
	ND	S-1 24	0.0 4.0		SP	Yellow brown, poorly-graded SAND.					95	5				
				4.0												
	ND	S-2 40	4.0 8.0			Same as above.										
5																
				8.0												
	ND	S-3 24	8.0 12.0			Same as above.				5	90	5				
						Water at 11.0 feet.										
10																
				12.0												
	ND	S-4 6	12.0 14.0			Same as above.										
		S-5 12	14.0 17.0													
15																
				16.0												
	ND				SP	Brown/black, poorly-graded SAND.		10	10		75	5				
				17.0												
		S-6	17.0 20.0		SP	Brown/Black SAND.										
				18.0												
	ND				CL	Gray brown CLAY, moist. 3" silt lens at 18.5 feet.						100				
20				20.0												

NO WELL INSTALLED

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 20.0
Rock Cored (lin. ft.) -
Samples
Boring No. B-4232

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4232
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20							-Bottom of Exploration at 20.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. B-4233

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 2
Start November 13, 2002
Finish November 13, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation Datum -
Location AOI-23, Boring #3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.2		-CONCRETE-										
	ND	S-1 24	0.0 4.0	NO WELL INSTALLED		SP	Yellow brown, poorly-graded SAND, moist.					95	5				
		S-2 40	4.0 12.0			8	Same as above.										
5																	
	ND	S-3	8.0 12.0			SP	Tan, poorly-graded SAND, moist.			10	10	95	5				
10							Water at 10.5 feet.										
	ND	S-4	12.0 16.0				Same as above. 4" lens of coarse SAND and fine gravel at 12.5 feet.										
15																	
	ND	S-5	16.0 20.0				Same as above, except becoming gray-brown.										
20					20.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 23.0
Rock Cored (lin. ft.) -
Samples

Boring No. B-4233

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4233
File No. 49017-013
Sheet No. 2 of 2

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND	S-6	20.0 23.0			CL	Gray brown CLAY, moist.					5	95				
					23.0		-Bottom of Exploration at 23.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. B-4233

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4251

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 7, 2002
Finish November 7, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI 25, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.3		-CONCRETE-										
	ND	S-1 42	0.0 4.0	NO WELL INSTALLED	0.3	CL	Yellow brown CLAY, moist. Black staining present.					5	95				
					4.0												
	ND	S-2 48	4.0 8.0			SP	Poorly-graded SAND, moist.				85	5	10				
5																	
	ND	S-3 48	8.0 12.0				3" lens of broken concrete, brick, backfill at 9.0 feet.										
10							Same as above except becoming gray brown.										
	ND	S-4	12.0 16.0		13.0	ML	Gray brown CLAY. Wet at 13.5 feet.						100				
15					16.0		-Bottom of Exploration at 16.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	16.0
Rock Cored (lin. ft.)	-
Samples	

Boring No. B-4251

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4252

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 7, 2002
Finish November 7, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI 25, Boring #2

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 36	0.0 4.0	NO WELL INSTALLED	0.3		-CONCRETE-										
						CL	Yellow brown CLAY, moist. Some staining present.					5	95				
					2.0	CL											
5	15.0	S-2 48	4.0 8.0				4" lens with concrete, backfill at 7.0 feet.										
10		S-3 48	8.0 12.0														
	ND	S-4 46	12.0 16.0		14.0	ML	Gray brown clayey SILT. Water at 14.5 feet.						100				
15					16.0		-Bottom of Exploration at 16.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	16.0
Rock Cored (lin. ft.)	-
Samples	

Boring No. B-4252

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4253

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 7, 2002
Finish November 7, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI 25, Boring #3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.3		-CONCRETE-										
		S-1 36	0.0 4.0	NO WELL INSTALLED		SP	Poorly-graded SAND with gravel, concrete, some staining present. -FILL-		10	10	60	10	5				
	ND				2.0	CL	Yellow brown CLAY, moist.				5		95				
5		S-2 48	4.0 8.0														
	ND				6.0		Same as above except more sand.				5	20	75				
	8.0	S-3 46	8.0 12.0		9.0	SP	Poorly-graded SAND, black staining throughout. Containing less sand with depth.				5	90	5				
10					12.0												
	ND	S-4	12.0 16.0			SP	Yellow brown, poorly-graded SAND, wet.			15	10	70	5				
					14.0	ML	Gray brown, clayey SILT, wet.						100				
15					16.0		-Bottom of Exploration at 16.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	16.0
Rock Cored (lin. ft.)	-
Samples	

Boring No. B-4253

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4254

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 8, 2002
Finish November 8, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI 25, Boring #4

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.3		-CONCRETE-										
	ND	S-1 44	0.0 4.0	NO WELL INSTALLED	0.3	SP	Yellow-brown, poorly-graded SAND.					95	5				
						CL	-FILL-					5	95				
							Yellow brown CLAY, moist.										
	ND	S-2 48	4.0 8.0				Same as above.										
5																	
		S-3 48	8.0 12.0														
10																	
	ND	S-4 48	12.0 16.0				Same as above except becoming gray brown.					5	95				
					14.0	ML	Gray brown SILT.						100				
15							Wet at 14.5 feet.										
					16.0		-Bottom of Exploration at 16.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 16.0
Rock Cored (lin. ft.) -
Samples

Boring No. B-4254

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4255

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 8, 2002
Finish November 8, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI 25, Boring #5

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 24	0.0 4.0	NO WELL INSTALLED	0.3	SP	-CONCRETE- Dark brown, poorly-graded SAND with black staining, moist.			15	10	70	5				
	ND	S-2 48	4.0 8.0		4.0	CL	Yellow brown CLAY, moist.				5	5	90				
5																	
	ND	S-3 24	8.0 12.0		9.0		6" SAND layer at 9.0 feet. Sample obtained from CLAY.										
10					12.0												
	ND	S-4 48	12.0 16.0		14.0	SP	Dark brown, poorly-graded SAND, moist.			10	10	55	5				
15					16.0	ML	Gray brown SILT. Water at 15 feet. -Bottom of Exploration at 16.0 feet.-						100				

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
- Overburden (lin. ft.) 16.0
- Rock Cored (lin. ft.) -
- Samples
- **Boring No.** B-4255

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4271

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 8, 2002
Finish November 8, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-27, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.4		-CONCRETE-										
	ND	S-1 32	0.0 4.0	NO WELL INSTALLED		SP-SC	Yellow brown, poorly-graded SAND with clay, moist.					90	10				
	ND	S-2 32	4.0 8.0			SP	Yellow brown, poorly-graded SAND.					95	5				
5																	
	ND	S-3 40	8.0 12.0				Water at 9.5 feet.										
10					10.5	ML	Gray brown SILT. Water sample obtained from 9.5 to 10.5 feet.						100				
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 12
Rock Cored (lin. ft.) -
Samples

Boring No. B-4271

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4275

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 11, 2002
Finish November 11, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-27, Boring #5

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 44	0.0 4.0	NO WELL INSTALLED		SC	Yellow brown, poorly-graded clayey SAND, moist.				5	65	35				
					3.0	CL	Brown CLAY, moist.					5	95				
	ND	S-2 48	4.0 8.0		4.0	SP-SC	Yellow brown, poorly-graded SAND, moist.				5	85	10				
5					7.0	CL	Brown CLAY, moist.					5	95				
	ND	S-3 45	8.0 12.0		9.0	SP	Water at 9.0 feet. Yellow brown, poorly-graded SAND, wet.					95	5				
10					11.0	ML	Gray brown SILT, moist.					95	5				
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. B-4275

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4277

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 12, 2002
Finish November 12, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-27, Boring #7

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 44	0.0 4.0	NO WELL INSTALLED		CL	Yellow brown CLAY with interbedded layers of fine sand, moist.				10	30	60				
					4.0												
	ND	S-2 48	4.0 8.0			CL	Yellow brown CLAY, moist.						100				
5					7.5												
		S-3 42	8.0 12.0			SP-SC	Yellow brown, poorly-graded SAND with clay, moist. Water at 8.5 feet.					85	15				
	ND				9.5	ML	Gray brown SILT, moist.						100				
10					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 12
Rock Cored (lin. ft.) -
Samples
Boring No. B-4277

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4278

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 12, 2002
Finish November 12, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-27, Boring #8

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore Drill Mud: None
Hammer Weight (lb.)	-	-	-	Casing: Direct Push
Hammer Fall (in.)	-	-	-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 38	0.0 4.0	NO WELL INSTALLED		CL	Yellow brown CLAY with interbedded layers of fine sand, moist.				5	25	70				
	ND	S-2 48	4.0 8.0		4.0												
5					7.5	SP-SM	Yellow brown, poorly-graded SAND with silt. Water at 9.0 feet.					90	10				
	ND	S-3 48	8.0 12.0		9.5	CL	Gray brown CLAY, moist.					5	95				
10					11.0	ML	Gray brown SILT, moist.						100				
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 12
Rock Cored (lin. ft.) -
Samples

Boring No. B-4278

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4279

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 20, 2002
Finish November 20, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-27, Boring #9

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 42	0.0 4.0	NO WELL INSTALLED		SC	Yellow brown, poorly-graded SAND with interbedded layers of clay, moist.				5	65	30				
					4.0												
	ND	S-2 48	4.0 8.0			CL	Yellow brown sandy CLAY, moist.					20	80				
5					8.0												
	ND	S-3	8.0 12.0			SP-SM	Yellow brown, poorly-graded SAND with silt. Water at 9.5 feet.					80	20				
10					10.0	CL	Gray brown CLAY, moist.					5	95				
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. B-4279

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-42710

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 13, 2002
Finish November 13, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI-27, Boring #10

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1	0.0 4.0	NO WELL INSTALLED		CL	Yellow brown CLAY, moist.				5	5	90				
5	ND	S-2	4.0 8.0		6.5	SP-SM	Yellow brown, poorly-graded SAND with silt.					90	10				
	ND	S-3	8.0 12.0		9.5	CL	Yellow brown CLAY, moist.						100				
10					11.0	ML	Gray brown SILT, moist.						100				
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 12
Rock Cored (lin. ft.) -
Samples

Boring No. B-42710

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4311

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 8, 2002
Finish November 8, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-31, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 24	0.0 4.0	NO WELL INSTALLED		SP	Soft, brown poorly-graded SAND, mps: 1/2", no odor, moist to wet -FILL-				80	20					
					4.0												
	ND	S-2 20	4.0 8.0				Same as above but wet. Water encountered at 5.0 feet				80	20					
5																	
					8.0												
	ND	S-3 47	8.0 12.0				Same as above.										
					9.0		-FILL-										
	ND					SP	Soft, tan poorly-graded SAND, mps< 1mm, no odor, wet -GLACIAL TILL-				100						
10																	
					12.0		Bottom of Exploration at 12.0 feet										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples GP-1, GP-2, GP-3	

Boring No. B-4311

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. B-4371

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 6, 2002
Finish November 6, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location AOI 37, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		GP		Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)		1 7/8		Bit Type: Macrocore
				Drill Mud: None
Hammer Weight (lb.)			-	Casing: Direct Push
Hammer Fall (in.)			-	Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.5		- CONCRETE-										
		S-1 36	0.0 4.0	NO WELL INSTALLED		SP	Gray brown, poorly-graded SAND with staining at 2.0 feet, brick and backfill at 4.0 feet, moist.				20	70	10				
		S-2 48	4.0 8.0		5.0												
5						CL	Olive brown CLAY, moist					5	95				
					6.0	SP	Yellow brown, poorly-graded SAND, moist.					95	5				
					8.0												
		S-3 48	8.0 10.0			SP	Gray brown, poorly-graded SAND, moist. Water at 9.5 feet.					95	5				
10					10.0		-Bottom of Exploration at 10.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	10
Rock Cored (lin. ft.)	-
Samples	

Boring No. B-4371

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4451

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 8, 2002
Finish November 8, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-45, Boring #1

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	ND	S-1 32	1.0 5.0			SP	Soft, black and tan, foundry SAND, mps: 1/4", no odor, moist. -FILL-				30	70					
					5.0												
5	ND	S-2 48	5.0 9.0			ML	Dense, brown sandy SILT, mps: 1/2", no odor, moist. -GLACIAL TILL-				30	70					
	4.1	S-3 46	9.0 13.0				Same as above except hydrocarbon odor present.				40	60					
10	4.9						Water encountered at 12.75 feet.										
					13.0		-Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 13.0
Rock Cored (lin. ft.) -
Samples GP-1, GP-2, GP-3

Boring No. B-4451

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Toughness: L-Low, M-Medium, H-High Plasticity: N-Nonplastic, L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4452

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 8, 2002
Finish November 8, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-45, Boring #2

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				NO WELL INSTALLED			-CONCRETE-										
					1.0												
	ND	S-1 40	1.0 5.0			SP	Soft, black and tan, foundry SAND, mps: 1/4", no odor, moist. -FILL-				40	60					
					4.5												
	ND					ML	Soft, brown sandy SILT, mps< 1mm, no odor, moist. -GLACIAL TILL-					50	50				
5		S-2 44	5.0 9.0														
	0						Same as above except hydrocarbon odor.					50	50				
	2.7	S-3 47	9.0 13.0				-GLACIAL TILL-					50	50				
10							Water encountered at 10.0 feet.										
					11.0												
	3.8					SP	Soft, tan poorly-graded SAND, mps< 1mm, no odor, wet. -GLACIAL TILL-					100					
					13.0												
							-Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 13.0
Rock Cored (lin. ft.) -
Samples GP-1, GP-2, GP-3

Boring No. B-4452

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4453

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 11, 2002
Finish November 11, 2002
Driller P. Orsi
H&A Rep. G. Laird
Elevation -
Datum
Location AOI-45, Boring #3

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Track-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							-CONCRETE-										
					1.0												
	0.4	S-1 44	1.0 5.0	NO WELL INSTALLED		SW	Soft, black and tan foundry SAND, mps< 1mm, no odor, moist.				50	50					
	1.8				3.0		-FILL-										
5					5.0												
	35.0	S-2 47	5.0 9.0			ML	Dense, brown SILT with sand, mps: 1/2", slight hydrocarbon odor, moist.					25	75				
	9.9						-GLACIAL TILL-										
	8.2	S-3 48	9.0 13.0				Same as above.					25	75				
10							Water encountered at 11.0 feet.										
					11.0												
	4.5					SW	Fairly dense, tan and gray poorly-graded SAND, mps< 1mm, slight hydrocarbon odor, wet. -GLACIAL TILL-					100					
					13.0		-Bottom of Exploration at 13.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary
Overburden (lin. ft.) 13.0
Rock Cored (lin. ft.) -
SamplesD,GP-1,GP-2,GP-3

Boring No. B-4453

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. B-4481

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 14, 2002
Finish November 14, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0																	
		S-1	0.0		0.5	OL/	-TOP SOIL-ORGANICS-				5	10	85				
	ND	46	4.0			OH	Brown, poorly-graded SAND with clay, backfill material present throughout, moist.				10	75	15				
						SP-SC											
					3.0												
	ND					CL	Yellow brown CLAY with sand, moist.				5	15	80				
		S-2	4.0														
		48	8.0														
5																	
					7.0												
	ND					SP-SM	Yellow brown, poorly-graded SAND with silt, moist.					80	20				
		S-3	8.0				Water at 8.5 feet.										
			12.0														
10																	
					10.5												
	1.8					ML	Gray brown SILT with clay.						100				
					11.5												
					12.0	CL	Gray brown CLAY with silt.						100				
							-Bottom of Exploration at 12.0 feet.-										

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. B-4481

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4482

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 14, 2002
Finish November 14, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation -
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 45	0.0 4.0	NO WELL INSTALLED	1.0	OL/OH	-TOP SOIL-										
	ND				2.0	SP-SC	Dark brown, poorly-graded SAND with clay, backfill present, moist.				10	70	20				
					3.0	CL	Yellow brown CLAY with sand, moist.					20	80				
					5.0	SP-SM	Light brown, poorly-graded SAND with silt.					80	20				
		S-2 46	4.0 8.0														
5	ND				6.5	CL	Yellow brown CLAY, moist.					5	95				
	ND					SP-SM	Yellow brown, poorly-graded SAND with silt, moist.					90	10				
		S-3 46	8.0 12.0														
	1.8						Same as above. Water at 9.0 feet.										
10					10.5	CL	Yellow brown CLAY with interbedded silt layers, becoming gray brown at 11.5 feet.					5	95				
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. B-4482

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. B-4483

Project Delphi Flint Dort Highway, USA
Client Delphi Corporation
Contractor Zebra Environmental Corp.

File No. 49017-013
Sheet No. 1 of 1
Start November 14, 2002
Finish November 14, 2002
Driller D. Pino
H&A Rep. F. Palatka
Elevation Datum -
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	GP	-	Rig Make & Model: Truck-mounted Geoprobe
Inside Diameter (in.)	-	1 7/8	-	Bit Type: Macrocore
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Direct Push
				Hoist/Hammer: Automatic Hammer

Depth (ft.)	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 42	0.0 4.0	NO WELL INSTALLED	0.6	OL/OH	-TOP SOIL-										
						SP-SC	Light brown, poorly-graded SAND with clay, moist.				5	75	20				
					3.5												
					4.0		-CONCRETE FRAGMENTS-										
		S-2 46	4.0 8.0			CL	Yellow brown sandy CLAY, moist.				10	30	60				
5					6.5												
						SP	Yellow brown, poorly-graded SAND, moist.					90	5				
		S-3 48	8.0 12.0				Water at 9.0 feet.										
10	2.8				10.0	CL	Gray brown CLAY with silt, moist.					5	95				
					12.0		-Bottom of Exploration at 12.0 feet.-										

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	12
Rock Cored (lin. ft.)	-
Samples	

Boring No. B-4483

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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Appendix E

APPENDIX E

Soil and Underground Water Risk-Based Screening Results

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-08	INORG	Aluminum	7429-90-5	D	4	4	1.70E+03	5.86E+03						3.7E+05				1.6E-02
AOI-08	INORG	Antimony	7440-36-0		4				2.40E-01	2.90E-01			5.9E+03	6.7E+02				
AOI-08	INORG	Arsenic	7440-38-2	A	4	4	2.50E+00	4.10E+00					9.1E+02	3.7E+01			4.5E-03	1.1E-01
AOI-08	INORG	Barium	7440-39-3	D	4	4	7.00E+00	5.21E+01					1.5E+05	1.3E+05			3.5E-04	4.0E-04
AOI-08	INORG	Beryllium	7440-41-7	B1	4	4	9.50E-02	3.20E-01					5.9E+02	1.6E+03			5.4E-04	2.0E-04
AOI-08	INORG	Cadmium	7440-43-9	B1	4	4	3.70E-02	7.50E-02					2.2E+03	2.1E+03			3.4E-05	3.6E-05
AOI-08	INORG	Chromium III	16065-83-1	D	4	4	3.90E+00	5.77E+01					1.5E+05	1.0E+06			3.8E-04	5.8E-05
AOI-08	INORG	Chromium VI	18540-29-9	A	4	3	2.50E-01	1.06E+01	2.10E-01	2.10E-01			2.4E+02	9.2E+03			4.4E-02	1.2E-03
AOI-08	INORG	Cobalt	7440-48-4	B1	4	4	2.10E+00	4.60E+00					5.9E+03	9.0E+03			7.8E-04	5.1E-04
AOI-08	INORG	Copper	7440-50-8	D	4	4	3.80E+00	9.70E+00					5.9E+04	7.3E+04			1.6E-04	1.3E-04
AOI-08	INORG	Cyanide (total)	57-12-5	D	4				9.30E-02	1.10E-01			2.5E+02	2.5E+02				
AOI-08	INORG	Iron	7439-89-6	D	4	4	4.63E+03	1.08E+04						5.8E+05				1.9E-02
AOI-08	INORG	Lead	7439-92-1	B2	4	4	3.20E+00	6.80E+00					4.4E+04	9.0E+02			1.5E-04	7.6E-03
AOI-08	INORG	Magnesium	7439-95-4		4	4	6.48E+02	1.77E+04					2.9E+06	1.0E+06			6.1E-03	1.8E-02
AOI-08	INORG	Manganese	7439-96-5	D	4	4	9.19E+01	2.22E+02					1.5E+03	9.0E+04			1.5E-01	2.5E-03
AOI-08	INORG	Mercury	7439-97-6	D	4				1.70E-02	2.00E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02				
AOI-08	INORG	Nickel	7440-02-0	A	4	4	4.70E+00	1.05E+01					1.6E+04	1.5E+05			6.6E-04	7.0E-05
AOI-08	INORG	Selenium	7782-49-2	D	4				3.30E-01	3.90E-01			5.9E+04	9.6E+03				
AOI-08	INORG	Silver	7440-22-4	D	4				1.10E-01	1.20E-01			2.9E+03	9.0E+03				
AOI-08	INORG	Sodium	7440-23-5		4	1	6.51E+01	6.51E+01	4.22E+01	4.98E+01								
AOI-08	INORG	Thallium	7440-28-0		4				6.10E-01	7.20E-01				1.3E+02				
AOI-08	INORG	Vanadium	7440-62-2		4	4	5.90E+00	1.36E+01						5.5E+03				2.5E-03
AOI-08	INORG	Zinc	7440-66-6	D	4	1	6.38E+01	6.38E+01	1.60E+00	1.90E+00				6.3E+05				1.0E-04
AOI-09	VOC	Benzene	71-43-2	A	1				2.00E-02	2.00E-02	8.4E+00	4.5E+01	4.7E+05	4.0E+02				
AOI-09	VOC	1,1-Dichloroethene	75-35-4	C	1				2.00E-02	2.00E-02	3.3E-01	3.7E+00	7.8E+04	5.7E+02				
AOI-09	VOC	Ethyl Benzene	100-41-4	D	1				2.00E-02	2.00E-02	1.4E+02	2.4E+03	1.3E+07	1.4E+02				
AOI-09	VOC	Toluene	108-88-3	D	1				2.00E-02	2.00E-02	2.5E+02	3.3E+03	1.2E+07	2.5E+02				
AOI-09	VOC	1,1,1-Trichloroethane	71-55-6	D	1				5.00E-03	5.00E-03	4.6E+02	4.5E+03	2.9E+07	4.6E+02				
AOI-09	VOC	Trichloroethene	79-01-6	C-B2	1	1	2.27E-02	2.27E-02			3.7E+01	2.6E+02	2.3E+06	5.0E+02	6.1E-04	8.7E-05	9.9E-09	4.5E-05
AOI-09	VOC	Vinyl Chloride	75-01-4	A	1				2.00E-02	2.00E-02	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
AOI-09	VOC	Xylenes (total)	1330-20-7	D	1	1	3.49E-02	3.49E-02			1.5E+02	5.4E+04	1.3E+08	1.5E+02	2.3E-04	6.5E-07	2.7E-10	2.3E-04
AOI-09	INORG	Aluminum	7429-90-5	D	10	10	1.07E+03	1.19E+04						3.7E+05				3.2E-02
AOI-09	INORG	Antimony	7440-36-0		10	1	3.20E-01	3.20E-01	2.30E-01	2.80E-01			5.9E+03	6.7E+02			5.4E-05	4.8E-04
AOI-09	INORG	Arsenic	7440-38-2	A	10	10	1.20E+00	1.30E+01					9.1E+02	3.7E+01			1.4E-02	3.5E-01
AOI-09	INORG	Barium	7440-39-3	D	10	10	5.40E+00	1.12E+02					1.5E+05	1.3E+05			7.5E-04	8.6E-04
AOI-09	INORG	Beryllium	7440-41-7	B1	10	9	1.10E-01	7.60E-01	8.10E-02	8.10E-02			5.9E+02	1.6E+03			1.3E-03	4.8E-04
AOI-09	INORG	Cadmium	7440-43-9	B1	10	8	3.20E-02	2.70E-01	1.60E-02	1.90E-02			2.2E+03	2.1E+03			1.2E-04	1.3E-04
AOI-09	INORG	Chromium (total)	7440-47-3		10	10	2.40E+00	1.92E+02					2.4E+02	9.2E+03			8.0E-01	2.1E-02
AOI-09	INORG	Cobalt	7440-48-4	B1	10	10	1.10E+00	1.85E+01					5.9E+03	9.0E+03			3.1E-03	2.1E-03
AOI-09	INORG	Copper	7440-50-8	D	10	10	8.10E+00	3.28E+02					5.9E+04	7.3E+04			5.6E-03	4.5E-03
AOI-09	INORG	Cyanide (total)	57-12-5	D	10	5	2.20E-01	3.90E+00	1.00E-01	1.10E-01			2.5E+02	2.5E+02			1.6E-02	1.6E-02
AOI-09	INORG	Iron	7439-89-6	D	10	10	2.81E+03	2.96E+04						5.8E+05				5.1E-02
AOI-09	INORG	Lead	7439-92-1	B2	10	8	2.90E+00	3.27E+01	2.30E-01	2.30E-01			4.4E+04	9.0E+02			7.4E-04	3.6E-02
AOI-09	INORG	Magnesium	7439-95-4		10	10	3.94E+03	2.04E+04					2.9E+06	1.0E+06			7.0E-03	2.0E-02
AOI-09	INORG	Manganese	7439-96-5	D	10	10	7.87E+01	1.57E+03					1.5E+03	9.0E+04			1.0E+00	1.7E-02
AOI-09	INORG	Mercury	7439-97-6	D	10	6	1.90E-02	3.50E-02	1.90E-02	2.00E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	3.9E-04	5.6E-04	4.0E-06	6.0E-05
AOI-09	INORG	Nickel	7440-02-0	A	10	10	2.70E+00	6.17E+01					1.6E+04	1.5E+05			3.9E-03	4.1E-04
AOI-09	INORG	Selenium	7782-49-2	D	10	2	5.10E-01	5.10E-01	3.10E-01	3.80E-01			5.9E+04	9.6E+03			8.6E-06	5.3E-05
AOI-09	INORG	Silver	7440-22-4	D	10				1.00E-01	1.20E-01			2.9E+03	9.0E+03				
AOI-09	INORG	Sodium	7440-23-5		10	9	4.93E+01	1.80E+03	4.90E+01	4.90E+01								
AOI-09	INORG	Thallium	7440-28-0		10				5.80E-01	7.20E-01				1.3E+02				
AOI-09	INORG	Vanadium	7440-62-2		10	10	4.20E+00	3.02E+01						5.5E+03				5.5E-03
AOI-09	INORG	Zinc	7440-66-6	D	10	10	8.10E+00	9.65E+01						6.3E+05				1.5E-04
AOI-11	VOC	Benzene	71-43-2	A	31	8	2.00E-02	6.80E+00	2.00E-03	1.20E-01	8.4E+00	4.5E+01	4.7E+05	4.0E+02	8.1E-01	1.5E-01	1.4E-05	1.7E-02
AOI-11	VOC	Ethyl Benzene	100-41-4	D	31	13	1.50E-02	9.10E+00	2.00E-03	1.00E-02	1.4E+02	2.4E+03	1.3E+07	1.4E+02	6.5E-02	3.8E-03	7.0E-07	6.5E-02

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-11	VOC	Toluene	108-88-3	D	31	14	6.00E-03	3.50E+01	2.00E-03	1.00E-02	2.5E+02	3.3E+03	1.2E+07	2.5E+02	1.4E-01	1.1E-02	2.9E-06	1.4E-01
AOI-11	VOC	Xylenes (total)	1330-20-7	D	31	16	1.30E-02	5.50E+01	2.00E-03	1.00E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	3.7E-01	1.0E-03	4.2E-07	3.7E-01
AOI-13	VOC	Benzene	71-43-2	A	17	1	5.20E-02	5.20E-02	1.00E-02	2.00E-02	8.4E+00	4.5E+01	4.7E+05	4.0E+02	6.2E-03	1.2E-03	1.1E-07	1.3E-04
AOI-13	VOC	Ethyl Benzene	100-41-4	D	17	3	1.30E-02	8.40E-02	1.00E-02	5.00E-02	1.4E+02	2.4E+03	1.3E+07	1.4E+02	6.0E-04	3.5E-05	6.5E-09	6.0E-04
AOI-13	VOC	Toluene	108-88-3	D	17	3	3.60E-02	2.90E-01	1.00E-02	1.00E-02	2.5E+02	3.3E+03	1.2E+07	2.5E+02	1.2E-03	8.8E-05	2.4E-08	1.2E-03
AOI-13	VOC	Xylenes (total)	1330-20-7	D	17	2	3.00E-02	7.80E-02	1.00E-02	5.00E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	5.2E-04	1.4E-06	6.0E-10	5.2E-04
AOI-14	INORG	Aluminum	7429-90-5	D	8	8	5.22E+03	1.39E+04						3.7E+05				3.8E-02
AOI-14	INORG	Antimony	7440-36-0		8	7	3.30E-01	1.20E+00	2.80E-01	2.80E-01			5.9E+03	6.7E+02			2.0E-04	1.8E-03
AOI-14	INORG	Arsenic	7440-38-2	A	8	8	1.20E+00	1.13E+01					9.1E+02	3.7E+01			1.2E-02	3.1E-01
AOI-14	INORG	Barium	7440-39-3	D	8	8	4.20E+01	1.29E+02					1.5E+05	1.3E+05			8.6E-04	9.9E-04
AOI-14	INORG	Beryllium	7440-41-7	B1	8	8	1.40E-01	7.70E-01					5.9E+02	1.6E+03			1.3E-03	4.8E-04
AOI-14	INORG	Cadmium	7440-43-9	B1	8	8	6.80E-02	4.40E-01					2.2E+03	2.1E+03			2.0E-04	2.1E-04
AOI-14	INORG	Chromium (total)	7440-47-3		8	8	8.10E+00	4.19E+01					2.4E+02	9.2E+03			1.7E-01	4.6E-03
AOI-14	INORG	Cobalt	7440-48-4	B1	8	8	1.80E+00	1.32E+01					5.9E+03	9.0E+03			2.2E-03	1.5E-03
AOI-14	INORG	Copper	7440-50-8	D	8	8	4.60E+00	8.68E+01					5.9E+04	7.3E+04			1.5E-03	1.2E-03
AOI-14	INORG	Cyanide (total)	57-12-5	D	8				1.00E-01	1.10E-01			2.5E+02	2.5E+02				
AOI-14	INORG	Iron	7439-89-6	D	8	8	6.43E+03	3.34E+04						5.8E+05				5.8E-02
AOI-14	INORG	Lead	7439-92-1	B2	8	8	5.00E+00	2.75E+02					4.4E+04	9.0E+02			6.3E-03	3.1E-01
AOI-14	INORG	Magnesium	7439-95-4		8	8	6.82E+02	1.68E+04					2.9E+06	1.0E+06			5.8E-03	1.7E-02
AOI-14	INORG	Manganese	7439-96-5	D	8	8	3.69E+01	6.71E+02					1.5E+03	9.0E+04			4.5E-01	7.5E-03
AOI-14	INORG	Mercury	7439-97-6	D	8	3	1.90E-02	3.20E-02	1.80E-02	1.90E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	3.6E-04	5.2E-04	3.6E-06	5.5E-05
AOI-14	INORG	Nickel	7440-02-0	A	8	8	5.90E+00	4.02E+01					1.6E+04	1.5E+05			2.5E-03	2.7E-04
AOI-14	INORG	Selenium	7782-49-2	D	8				3.50E-01	3.70E-01			5.9E+04	9.6E+03				
AOI-14	INORG	Silver	7440-22-4	D	8				1.10E-01	1.20E-01			2.9E+03	9.0E+03				
AOI-14	INORG	Sodium	7440-23-5		8	8	1.74E+02	2.19E+03										
AOI-14	INORG	Thallium	7440-28-0		8				6.60E-01	7.00E-01				1.3E+02				
AOI-14	INORG	Vanadium	7440-62-2		8	8	8.60E+00	3.42E+01						5.5E+03				6.2E-03
AOI-14	INORG	Zinc	7440-66-6	D	8	8	1.61E+01	4.78E+01						6.3E+05				7.6E-05
AOI-16	SVOC	Acenaphthene	83-32-9		12				1.60E-02	1.90E-02	3.5E+05	9.7E+04	6.2E+06	1.3E+05				
AOI-16	SVOC	Acenaphthylene	208-96-8	D	12				2.20E-02	2.50E-02	3.0E+03	2.7E+03	1.0E+06	5.2E+03				
AOI-16	SVOC	Acetophenone	98-86-2	D	12				2.30E-02	2.70E-02	1.1E+03	5.2E+04	1.4E+07	1.1E+03				
AOI-16	SVOC	Anthracene	120-12-7	D	12				1.90E-02	2.30E-02	1.0E+06	1.6E+06	2.9E+07	7.3E+05				
AOI-16	SVOC	Atrazine	1912-24-9		12				2.50E-02	2.90E-02				3.3E+02				
AOI-16	SVOC	Benzaldehyde	100-52-7		12				1.60E-02	1.90E-02								
AOI-16	SVOC	Benzo(a)anthracene	56-55-3	B2	12				2.60E-02	3.10E-02				8.0E+01				
AOI-16	SVOC	Benzo(a)pyrene	50-32-8	B2	12				1.70E-02	2.00E-02			1.9E+03	8.0E+00				
AOI-16	SVOC	Benzo(b)fluoranthene	205-99-2	B2	12	2	4.40E-02	5.50E-02	2.30E-02	2.70E-02				8.0E+01				6.9E-04
AOI-16	SVOC	Benzo(g,h,i)perylene	191-24-2	D	12				1.80E-02	2.10E-02			3.5E+05	7.0E+03				
AOI-16	SVOC	Benzo(k)fluoranthene	207-08-9	B2	12				1.80E-02	2.10E-02				8.0E+02				
AOI-16	SVOC	Biphenyl	92-52-4		12				2.10E-02	2.40E-02								
AOI-16	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	12				3.00E-02	3.50E-02								
AOI-16	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	12				2.10E-02	2.40E-02	4.4E+01	1.3E+01	1.2E+04	5.8E+01				
AOI-16	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	12	1	4.20E-02	4.20E-02	1.50E-02	1.70E-02			8.9E+05	1.0E+04			4.7E-08	4.2E-06
AOI-16	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	12				1.70E-02	2.00E-02								
AOI-16	SVOC	Butylbenzylphthalate	85-68-7	C	12				2.40E-02	2.80E-02			2.1E+07	3.1E+02				
AOI-16	SVOC	Caprolactam	105-60-2		12				3.20E-02	3.70E-02			2.9E+05	3.1E+05				
AOI-16	SVOC	Carbazole	86-74-8	B2	12				2.20E-02	2.50E-02				2.4E+03				
AOI-16	SVOC	4-Chloro-3-methylphenol	59-50-7		12				2.20E-02	2.50E-02				1.5E+04				
AOI-16	SVOC	4-Chloroaniline	106-47-8		12				2.30E-02	2.70E-02								
AOI-16	SVOC	2-Chloronaphthalene	91-58-7		12				1.90E-02	2.30E-02				1.8E+05				
AOI-16	SVOC	2-Chlorophenol	95-57-8		12				2.10E-02	2.40E-02				4.5E+03				
AOI-16	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		12				1.90E-02	2.30E-02								
AOI-16	SVOC	Chrysene	218-01-9	B2	12	3	4.40E-02	6.60E-02	2.50E-02	2.90E-02				8.0E+03				8.3E-06
AOI-16	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	12				2.10E-02	2.40E-02				8.0E+00				
AOI-16	SVOC	Dibenzofuran	132-64-9	D	12				1.90E-02	2.30E-02								

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-16	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	12				2.10E-02	2.40E-02			8.2E+03	3.0E+01				
AOI-16	SVOC	2,4-Dichlorophenol	120-83-2		12				1.80E-02	2.10E-02			2.3E+06	1.8E+03				
AOI-16	SVOC	Diethylphthalate	84-66-2	D	12				2.20E-02	2.50E-02			1.5E+06	7.4E+02				
AOI-16	SVOC	2,4-Dimethylphenol	105-67-9		12				2.10E-02	2.40E-02			2.1E+06	3.6E+04				
AOI-16	SVOC	Dimethylphthalate	131-11-3	D	12				1.90E-02	2.30E-02			1.5E+06	7.9E+02				
AOI-16	SVOC	Di-n-butylphthalate	84-74-2	D	12				2.60E-02	3.10E-02			1.5E+06	7.6E+02				
AOI-16	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		12				5.50E-02	6.40E-02				2.6E+02				
AOI-16	SVOC	2,4-Dinitrophenol	51-28-5		12				5.40E-02	6.20E-02								
AOI-16	SVOC	2,4-Dinitrotoluene	121-14-2	B2	12				2.50E-02	2.90E-02			2.0E+04	2.2E+02				
AOI-16	SVOC	2,6-Dinitrotoluene	606-20-2	B2	12				1.70E-02	2.00E-02								
AOI-16	SVOC	Di-n-octylphthalate	117-84-0		12				7.30E-02	8.50E-02				2.0E+04				
AOI-16	SVOC	Fluoranthene	206-44-0	D	12	2	4.30E-02	6.40E-02	1.80E-02	2.10E-02	1.0E+06	8.9E+05	4.1E+06	1.3E+05	6.4E-08	7.2E-08	1.6E-08	4.9E-07
AOI-16	SVOC	Fluorene	86-73-7	D	12				1.70E-02	2.00E-02	1.0E+06	1.5E+05	4.1E+06	8.7E+04				
AOI-16	SVOC	Hexachlorobenzene	118-74-1	B2	12				2.50E-02	2.90E-02	2.2E+02	5.6E+01	8.5E+03	3.7E+01				
AOI-16	SVOC	Hexachlorobutadiene	87-68-3	C	12				1.80E-02	2.10E-02	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-16	SVOC	Hexachlorocyclopentadiene	77-47-4	E	12				1.10E-02	1.30E-02	5.6E+01	6.0E+01	5.9E+03	7.2E+02				
AOI-16	SVOC	Hexachloroethane	67-72-1	C	12				1.90E-02	2.30E-02	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-16	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	12				2.20E-02	2.50E-02				8.0E+01				
AOI-16	SVOC	Isophorone	78-59-1	C	12				2.50E-02	2.90E-02			8.2E+06	2.4E+03				
AOI-16	SVOC	2-Methylnaphthalene	91-57-6		12	3	7.50E-02	1.00E-01	1.90E-02	2.30E-02				2.6E+04				3.8E-06
AOI-16	SVOC	Methylphenol (total)	1319-77-3		12				2.30E-02	2.70E-02			2.9E+06	3.6E+04				
AOI-16	SVOC	Naphthalene	91-20-3	C	12	3	5.40E-02	6.70E-02	1.90E-02	2.30E-02	4.7E+02	3.5E+02	8.8E+04	5.2E+04	1.4E-04	1.9E-04	7.6E-07	1.3E-06
AOI-16	SVOC	2-Nitroaniline	88-74-4		12				1.50E-02	1.70E-02								
AOI-16	SVOC	3-Nitroaniline	99-09-2	C	12				2.50E-02	2.90E-02								
AOI-16	SVOC	4-Nitroaniline	100-01-6	C	12				1.90E-02	2.30E-02								
AOI-16	SVOC	Nitrobenzene	98-95-3	D	12				2.70E-02	3.20E-02	1.7E+02	6.4E+01	2.1E+04	3.4E+02				
AOI-16	SVOC	2-Nitrophenol	88-75-5		12				2.40E-02	2.80E-02				2.0E+03				
AOI-16	SVOC	4-Nitrophenol	100-02-7		12				6.00E-02	7.00E-02								
AOI-16	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	12				2.20E-02	2.50E-02				7.8E+03				
AOI-16	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	12				1.70E-02	2.00E-02			2.0E+03	5.4E+00				
AOI-16	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	12				3.10E-02	3.60E-02								
AOI-16	SVOC	Pentachlorophenol	87-86-5	B2	12				6.80E-02	8.00E-02			1.3E+05	3.2E+02				
AOI-16	SVOC	Phenanthrene	85-01-8	D	12	3	6.50E-02	1.30E-01	2.40E-02	2.80E-02	5.1E+03	1.9E+02	2.9E+03	5.2E+03	2.5E-05	6.8E-04	4.5E-05	2.5E-05
AOI-16	SVOC	Phenol	108-95-2	D	12				2.10E-02	2.40E-02			1.8E+07	1.2E+04				
AOI-16	SVOC	Pyrene	129-00-0	D	12	2	4.00E-02	5.10E-02	2.40E-02	2.80E-02	1.0E+06	7.8E+05	2.9E+06	8.4E+04	5.1E-08	6.5E-08	1.8E-08	6.1E-07
AOI-16	SVOC	2,4,5-Trichlorophenol	95-95-4		12				1.70E-02	2.00E-02			1.0E+07	7.3E+04				
AOI-16	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	12				2.20E-02	2.50E-02			1.3E+06	3.3E+03				
AOI-16	INORG	Aluminum	7429-90-5	D	12	12	2.33E+03	1.49E+04						3.7E+05				4.0E-02
AOI-16	INORG	Antimony	7440-36-0		12	1	3.20E-01	3.20E-01	2.60E-01	3.10E-01			5.9E+03	6.7E+02			5.4E-05	4.8E-04
AOI-16	INORG	Arsenic	7440-38-2	A	12	12	1.20E+00	8.80E+00					9.1E+02	3.7E+01			9.7E-03	2.4E-01
AOI-16	INORG	Barium	7440-39-3	D	12	12	1.32E+01	6.57E+01					1.5E+05	1.3E+05			4.4E-04	5.1E-04
AOI-16	INORG	Beryllium	7440-41-7	B1	12	12	1.50E-01	7.40E-01					5.9E+02	1.6E+03			1.3E-03	4.6E-04
AOI-16	INORG	Cadmium	7440-43-9	B1	12				1.80E-02	2.10E-02			2.2E+03	2.1E+03				
AOI-16	INORG	Chromium (total)	7440-47-3		12	12	5.60E+00	4.87E+01					2.4E+02	9.2E+03			2.0E-01	5.3E-03
AOI-16	INORG	Cobalt	7440-48-4	B1	12	12	1.10E+00	1.02E+01					5.9E+03	9.0E+03			1.7E-03	1.1E-03
AOI-16	INORG	Copper	7440-50-8	D	12	12	5.40E+00	4.36E+01					5.9E+04	7.3E+04			7.4E-04	6.0E-04
AOI-16	INORG	Cyanide (total)	57-12-5	D	12				1.00E-01	1.20E-01			2.5E+02	2.5E+02				
AOI-16	INORG	Iron	7439-89-6	D	12	12	5.43E+03	2.65E+04						5.8E+05				4.6E-02
AOI-16	INORG	Lead	7439-92-1	B2	12	12	3.20E+00	2.33E+01					4.4E+04	9.0E+02			5.3E-04	2.6E-02
AOI-16	INORG	Magnesium	7439-95-4		12	12	5.45E+02	1.76E+04					2.9E+06	1.0E+06			6.1E-03	1.8E-02
AOI-16	INORG	Manganese	7439-96-5	D	12	12	1.36E+02	4.56E+02					1.5E+03	9.0E+04			3.0E-01	5.1E-03
AOI-16	INORG	Mercury	7439-97-6	D	12	10	2.40E-02	5.70E-02	1.90E-02	2.00E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	6.4E-04	9.2E-04	6.5E-06	9.8E-05
AOI-16	INORG	Nickel	7440-02-0	A	12	12	4.80E+00	2.62E+01					1.6E+04	1.5E+05			1.6E-03	1.7E-04
AOI-16	INORG	Selenium	7782-49-2	D	12				3.50E-01	4.10E-01			5.9E+04	9.6E+03				
AOI-16	INORG	Silver	7440-22-4	D	12				1.10E-01	1.30E-01			2.9E+03	9.0E+03				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-16	INORG	Sodium	7440-23-5		12	12	1.83E+02	2.96E+03										
AOI-16	INORG	Thallium	7440-28-0		12				6.60E-01	7.70E-01				1.3E+02				
AOI-16	INORG	Vanadium	7440-62-2		12	12	6.10E+00	3.27E+01						5.5E+03				5.9E-03
AOI-16	INORG	Zinc	7440-66-6	D	12	12	8.80E+00	5.73E+01						6.3E+05				9.1E-05
AOI-18	INORG	Aluminum	7429-90-5	D	10	10	9.20E+02	1.31E+04						3.7E+05				3.5E-02
AOI-18	INORG	Antimony	7440-36-0		10				2.40E-01	2.80E-01			5.9E+03	6.7E+02				
AOI-18	INORG	Arsenic	7440-38-2	A	10	10	1.10E+00	1.05E+01					9.1E+02	3.7E+01			1.2E-02	2.8E-01
AOI-18	INORG	Barium	7440-39-3	D	10	10	4.00E+00	7.39E+01					1.5E+05	1.3E+05			4.9E-04	5.7E-04
AOI-18	INORG	Beryllium	7440-41-7	B1	10	7	7.70E-02	7.60E-01	7.00E-02	8.40E-02			5.9E+02	1.6E+03			1.3E-03	4.8E-04
AOI-18	INORG	Cadmium	7440-43-9	B1	10	9	1.80E-02	2.10E-01	2.00E-02	2.00E-02			2.2E+03	2.1E+03			9.5E-05	1.0E-04
AOI-18	INORG	Chromium (total)	7440-47-3		10	10	3.20E+00	5.47E+01					2.4E+02	9.2E+03			2.3E-01	5.9E-03
AOI-18	INORG	Cobalt	7440-48-4	B1	10	10	1.30E+00	1.21E+01					5.9E+03	9.0E+03			2.1E-03	1.3E-03
AOI-18	INORG	Copper	7440-50-8	D	10	9	3.30E+00	2.29E+01	1.70E-01	1.70E-01			5.9E+04	7.3E+04			3.9E-04	3.1E-04
AOI-18	INORG	Cyanide (total)	57-12-5	D	10	6	2.70E-01	9.30E+00	9.10E-02	1.10E-01			2.5E+02	2.5E+02			3.7E-02	3.7E-02
AOI-18	INORG	Iron	7439-89-6	D	10	10	3.32E+03	2.78E+04						5.8E+05				4.8E-02
AOI-18	INORG	Lead	7439-92-1	B2	10	10	1.70E+00	1.14E+01					4.4E+04	9.0E+02			2.6E-04	1.3E-02
AOI-18	INORG	Magnesium	7439-95-4		10	10	5.42E+02	8.81E+03					2.9E+06	1.0E+06			3.0E-03	8.8E-03
AOI-18	INORG	Manganese	7439-96-5	D	10	10	6.48E+01	4.54E+02					1.5E+03	9.0E+04			3.0E-01	5.0E-03
AOI-18	INORG	Mercury	7439-97-6	D	10	4	2.50E-02	6.00E-01	1.60E-02	2.00E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	6.7E-03	9.7E-03	6.8E-05	1.0E-03
AOI-18	INORG	Nickel	7440-02-0	A	10	10	2.90E+00	3.01E+01					1.6E+04	1.5E+05			1.9E-03	2.0E-04
AOI-18	INORG	Selenium	7782-49-2	D	10				3.20E-01	3.80E-01			5.9E+04	9.6E+03				
AOI-18	INORG	Silver	7440-22-4	D	10				1.00E-01	1.20E-01			2.9E+03	9.0E+03				
AOI-18	INORG	Sodium	7440-23-5		10	3	3.09E+02	6.78E+02	4.12E+01	4.95E+01								
AOI-18	INORG	Thallium	7440-28-0		10				6.00E-01	7.20E-01				1.3E+02				
AOI-18	INORG	Vanadium	7440-62-2		10	10	3.60E+00	3.01E+01						5.5E+03				5.5E-03
AOI-18	INORG	Zinc	7440-66-6	D	10	10	1.15E+01	3.87E+03						6.3E+05				6.1E-03
AOI-19	INORG	Zinc	7440-66-6	D	47	47	7.50E+00	2.00E+02						6.3E+05				3.2E-04
AOI-21	VOC	Acetone	67-64-1	D	12	3	1.60E-01	1.70E-01	5.20E-02	6.50E-02	1.1E+05	1.6E+05	1.7E+08	7.3E+04	1.5E-06	1.1E-06	1.0E-09	2.3E-06
AOI-21	VOC	Benzene	71-43-2	A	12				7.20E-03	9.30E-03	8.4E+00	4.5E+01	4.7E+05	4.0E+02				
AOI-21	VOC	Bromodichloromethane	75-27-4	B2	12				8.60E-03	1.10E-02	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
AOI-21	VOC	Bromoform	75-25-2	B2	12				1.10E-02	1.50E-02	7.7E+02	3.1E+03	3.6E+06	8.7E+02				
AOI-21	VOC	Bromomethane	74-83-9	D	12				4.40E-02	5.70E-02	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
AOI-21	VOC	2-Butanone	78-93-3	D	12				5.40E-02	7.00E-02	2.7E+04	3.5E+04	2.9E+07	2.7E+04				
AOI-21	VOC	Carbon Disulfide	75-15-0		12	2	1.30E-02	1.50E-02	4.70E-03	6.10E-03	1.4E+02	1.6E+03	2.1E+07	2.8E+02	1.1E-04	9.4E-06	7.1E-10	5.4E-05
AOI-21	VOC	Carbon Tetrachloride	56-23-5	B2	12				1.50E-02	1.90E-02	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
AOI-21	VOC	Chlorobenzene	108-90-7	D	12				6.10E-03	7.90E-03	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
AOI-21	VOC	Chloroethane	75-00-3		12				4.90E-02	6.40E-02	9.5E+02	3.6E+04	2.9E+08	9.5E+02				
AOI-21	VOC	Chloroform	67-66-3	B2	12				1.30E-02	1.60E-02	3.8E+01	1.5E+02	1.6E+06	1.5E+03				
AOI-21	VOC	Chloromethane	74-87-3	D	12				1.50E-02	1.90E-02	1.0E+01	1.2E+02	2.6E+06	1.1E+03				
AOI-21	VOC	Cumene	98-82-8	D	12	6	2.20E-02	8.50E-02	8.90E-03	1.20E-02	3.9E+02	2.0E+03	2.6E+06	3.9E+02	2.2E-04	4.3E-05	3.3E-08	2.2E-04
AOI-21	VOC	Cyclohexane	110-82-7		12	1	1.90E-02	1.90E-02	6.50E-03	8.40E-03								
AOI-21	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	12				2.40E-02	3.10E-02	1.2E+00	1.5E+01	5.9E+03	1.2E+00				
AOI-21	VOC	Dibromochloromethane	124-48-1	C	12				1.10E-02	1.50E-02	2.1E+01	8.0E+01	1.6E+05	5.0E+02				
AOI-21	VOC	1,2-Dibromoethane	106-93-4	B2	12				7.90E-03	1.00E-02	3.6E+00	5.8E+00	1.8E+04	4.3E-01				
AOI-21	VOC	1,2-Dichlorobenzene	95-50-1	D	12				7.20E-03	9.30E-03	2.1E+02	4.6E+04	4.4E+07	2.1E+02				
AOI-21	VOC	1,3-Dichlorobenzene	541-73-1	D	12				8.70E-03	1.10E-02				1.7E+02				
AOI-21	VOC	1,4-Dichlorobenzene	106-46-7	C	12				9.00E-03	1.20E-02	1.0E+02	2.6E+02	5.7E+05	1.9E+03				
AOI-21	VOC	Dichlorodifluoromethane	75-71-8		12				2.40E-02	3.10E-02	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
AOI-21	VOC	1,1-Dichloroethane	75-34-3	C	12	4	2.90E-02	1.10E-01	1.10E-02	1.30E-02	4.3E+02	2.5E+03	1.5E+07	8.9E+02	2.6E-04	4.4E-05	7.3E-09	1.2E-04
AOI-21	VOC	1,2-Dichloroethane	107-06-2	B2	12				1.40E-02	1.80E-02	1.1E+01	2.1E+01	1.5E+05	4.2E+02				
AOI-21	VOC	1,1-Dichloroethene	75-35-4	C	12				8.30E-03	1.10E-02	3.3E-01	3.7E+00	7.8E+04	5.7E+02				
AOI-21	VOC	cis-1,2-Dichloroethene	156-59-2	D	12	4	1.90E-02	2.80E-01	8.20E-03	1.10E-02	4.1E+01	2.1E+02	1.0E+06	6.4E+02	6.8E-03	1.3E-03	2.8E-07	4.4E-04
AOI-21	VOC	trans-1,2-Dichloroethene	156-60-5		12				1.00E-02	1.40E-02	4.3E+01	3.3E+02	2.1E+06	1.4E+03				
AOI-21	VOC	1,2-Dichloropropane	78-87-5	B2	12				9.80E-03	1.30E-02	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
AOI-21	VOC	1,3-Dichloropropene (total)	542-75-6	B2	12				8.00E-03	1.00E-02	5.4E+00	6.0E+01	5.9E+05	2.4E+02				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-21	VOC	Ethyl Benzene	100-41-4	D	12	6	2.90E-02	1.20E-01	6.80E-03	8.80E-03	1.4E+02	2.4E+03	1.3E+07	1.4E+02	8.6E-04	5.0E-05	9.2E-09	8.6E-04
AOI-21	VOC	2-Hexanone	591-78-6		12				1.70E-02	2.20E-02	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
AOI-21	VOC	Methyl Acetate	79-20-9		12	12	3.40E-02	1.30E-01										
AOI-21	VOC	Methyl tert-butyl ether	1634-04-4		12				8.60E-03	1.10E-02	5.9E+03	3.0E+04	8.8E+07	5.9E+03				
AOI-21	VOC	4-Methyl-2-pentanone	108-10-1		12	1	9.80E-02	9.80E-02	2.50E-02	3.20E-02	2.7E+03	5.3E+04	6.0E+07	2.7E+03	3.6E-05	1.8E-06	1.6E-09	3.6E-05
AOI-21	VOC	Methylcyclohexane	108-87-2		12	4	2.60E-02	8.50E-02	9.30E-03	1.20E-02								
AOI-21	VOC	Methylene Chloride	75-09-2	B2	12	3	5.10E-02	1.70E-01	1.70E-02	2.20E-02	2.4E+02	7.0E+02	8.3E+06	2.3E+03	7.1E-04	2.4E-04	2.0E-08	7.4E-05
AOI-21	VOC	Styrene	100-42-5		12				7.50E-03	9.70E-03	5.2E+02	3.3E+03	6.9E+06	5.2E+02				
AOI-21	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	12				1.00E-02	1.40E-02	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
AOI-21	VOC	Tetrachloroethene	127-18-4	C-B2	12				1.10E-02	1.50E-02	6.0E+01	6.0E+02	6.8E+06	8.8E+01				
AOI-21	VOC	Toluene	108-88-3	D	12	8	2.10E-02	8.60E-02	5.90E-03	6.70E-03	2.5E+02	3.3E+03	1.2E+07	2.5E+02	3.4E-04	2.6E-05	7.2E-09	3.4E-04
AOI-21	VOC	1,2,4-Trichlorobenzene	120-82-1	D	12				1.10E-02	1.50E-02	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
AOI-21	VOC	1,1,1-Trichloroethane	71-55-6	D	12				9.30E-03	1.20E-02	4.6E+02	4.5E+03	2.9E+07	4.6E+02				
AOI-21	VOC	1,1,2-Trichloroethane	79-00-5	C	12				8.30E-03	1.10E-02	2.4E+01	5.7E+01	2.5E+05	8.4E+02				
AOI-21	VOC	Trichloroethene	79-01-6	C-B2	12	3	2.90E-02	2.40E-01	9.10E-03	1.00E-02	3.7E+01	2.6E+02	2.3E+06	5.0E+02	6.5E-03	9.2E-04	1.0E-07	4.8E-04
AOI-21	VOC	Trichlorofluoromethane	75-69-4		12				9.20E-03	1.20E-02	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
AOI-21	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		12	5	3.80E-02	7.30E-01	3.10E-02	3.90E-02	5.5E+02	2.1E+05	2.3E+09	5.5E+02	1.3E-03	3.5E-06	3.2E-10	1.3E-03
AOI-21	VOC	Vinyl Chloride	75-01-4	A	12				1.10E-02	1.50E-02	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
AOI-21	VOC	Xylenes (total)	1330-20-7	D	12	8	1.10E-01	7.50E-01	2.00E-02	2.30E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	5.0E-03	1.4E-05	5.8E-09	5.0E-03
AOI-21	SVOC	Acenaphthene	83-32-9		12				1.50E-02	3.70E-01	3.5E+05	9.7E+04	6.2E+06	1.3E+05				
AOI-21	SVOC	Acenaphthylene	208-96-8	D	12				2.00E-02	5.00E-01	3.0E+03	2.7E+03	1.0E+06	5.2E+03				
AOI-21	SVOC	Acetophenone	98-86-2	D	12				2.20E-02	5.30E-01	1.1E+03	5.2E+04	1.4E+07	1.1E+03				
AOI-21	SVOC	Anthracene	120-12-7	D	12				1.80E-02	4.50E-01	1.0E+06	1.6E+06	2.9E+07	7.3E+05				
AOI-21	SVOC	Atrazine	1912-24-9		12				2.40E-02	5.80E-01				3.3E+02				
AOI-21	SVOC	Benzaldehyde	100-52-7		12				1.50E-02	3.70E-01								
AOI-21	SVOC	Benzo(a)anthracene	56-55-3	B2	12				2.50E-02	6.10E-01				8.0E+01				
AOI-21	SVOC	Benzo(a)pyrene	50-32-8	B2	12				1.60E-02	4.00E-01			1.9E+03	8.0E+00				
AOI-21	SVOC	Benzo(b)fluoranthene	205-99-2	B2	12				2.20E-02	5.30E-01				8.0E+01				
AOI-21	SVOC	Benzo(g,h,i)perylene	191-24-2	D	12				1.70E-02	4.20E-01			3.5E+05	7.0E+03				
AOI-21	SVOC	Benzo(k)fluoranthene	207-08-9	B2	12				1.70E-02	4.20E-01				8.0E+02				
AOI-21	SVOC	Biphenyl	92-52-4		12	7	4.20E-01	1.70E+00	1.90E-02	3.80E-01								
AOI-21	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	12				2.80E-02	6.90E-01								
AOI-21	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	12				1.90E-02	4.80E-01	4.4E+01	1.3E+01	1.2E+04	5.8E+01				
AOI-21	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	12	1	7.80E-01	7.80E-01	1.40E-02	3.40E-01			8.9E+05	1.0E+04			8.8E-07	7.8E-05
AOI-21	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	12				1.60E-02	4.00E-01								
AOI-21	SVOC	Butylbenzylphthalate	85-68-7	C	12				2.30E-02	5.60E-01			2.1E+07	3.1E+02				
AOI-21	SVOC	Caprolactam	105-60-2		12				3.00E-02	7.40E-01			2.9E+05	3.1E+05				
AOI-21	SVOC	Carbazole	86-74-8	B2	12				2.00E-02	5.00E-01				2.4E+03				
AOI-21	SVOC	4-Chloro-3-methylphenol	59-50-7		12				2.00E-02	5.00E-01				1.5E+04				
AOI-21	SVOC	4-Chloroaniline	106-47-8		12				2.20E-02	5.30E-01								
AOI-21	SVOC	2-Chloronaphthalene	91-58-7		12				1.80E-02	4.50E-01				1.8E+05				
AOI-21	SVOC	2-Chlorophenol	95-57-8		12				1.90E-02	4.80E-01				4.5E+03				
AOI-21	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		12				1.80E-02	4.50E-01								
AOI-21	SVOC	Chrysene	218-01-9	B2	12				2.40E-02	5.80E-01				8.0E+03				
AOI-21	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	12				1.90E-02	4.80E-01				8.0E+00				
AOI-21	SVOC	Dibenzofuran	132-64-9	D	12				1.80E-02	4.50E-01								
AOI-21	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	12				1.90E-02	4.80E-01			8.2E+03	3.0E+01				
AOI-21	SVOC	2,4-Dichlorophenol	120-83-2		12				1.70E-02	4.20E-01			2.3E+06	1.8E+03				
AOI-21	SVOC	Diethylphthalate	84-66-2	D	12				2.00E-02	5.00E-01			1.5E+06	7.4E+02				
AOI-21	SVOC	2,4-Dimethylphenol	105-67-9		12				1.90E-02	4.80E-01			2.1E+06	3.6E+04				
AOI-21	SVOC	Dimethylphthalate	131-11-3	D	12				1.80E-02	4.50E-01			1.5E+06	7.9E+02				
AOI-21	SVOC	Di-n-butylphthalate	84-74-2	D	12				2.50E-02	6.10E-01			1.5E+06	7.6E+02				
AOI-21	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		12				5.20E-02	1.30E+00				2.6E+02				
AOI-21	SVOC	2,4-Dinitrophenol	51-28-5		12				5.10E-02	1.20E+00								
AOI-21	SVOC	2,4-Dinitrotoluene	121-14-2	B2	12				2.40E-02	5.80E-01			2.0E+04	2.2E+02				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-21	SVOC	2,6-Dinitrotoluene	606-20-2	B2	12				1.60E-02	4.00E-01								
AOI-21	SVOC	Di-n-octylphthalate	117-84-0		12				6.90E-02	1.70E+00				2.0E+04				
AOI-21	SVOC	Fluoranthene	206-44-0	D	12	1	8.70E-01	8.70E-01	1.70E-02	4.20E-01	1.0E+06	8.9E+05	4.1E+06	1.3E+05	8.7E-07	9.8E-07	2.1E-07	6.7E-06
AOI-21	SVOC	Fluorene	86-73-7	D	12	2	3.70E-01	1.70E+00	1.60E-02	4.00E-01	1.0E+06	1.5E+05	4.1E+06	8.7E+04	1.7E-06	1.1E-05	4.1E-07	2.0E-05
AOI-21	SVOC	Hexachlorobenzene	118-74-1	B2	12				2.40E-02	5.80E-01	2.2E+02	5.6E+01	8.5E+03	3.7E+01				
AOI-21	SVOC	Hexachlorobutadiene	87-68-3	C	12				1.70E-02	4.20E-01	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-21	SVOC	Hexachlorocyclopentadiene	77-47-4	E	12				1.10E-02	2.60E-01	5.6E+01	6.0E+01	5.9E+03	7.2E+02				
AOI-21	SVOC	Hexachloroethane	67-72-1	C	12				1.80E-02	4.50E-01	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-21	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	12				2.00E-02	5.00E-01				8.0E+01				
AOI-21	SVOC	Isophorone	78-59-1	C	12				2.40E-02	5.80E-01			8.2E+06	2.4E+03				
AOI-21	SVOC	2-Methylnaphthalene	91-57-6		12	9	2.40E+00	4.00E+01	1.80E-02	3.60E-01				2.6E+04				1.5E-03
AOI-21	SVOC	Methylphenol (total)	1319-77-3		12	1	8.80E-01	8.80E-01	2.20E-02	5.30E-01			2.9E+06	3.6E+04			3.0E-07	2.4E-05
AOI-21	SVOC	Naphthalene	91-20-3	C	12	8	5.60E-01	1.10E+01	1.80E-02	4.50E-01	4.7E+02	3.5E+02	8.8E+04	5.2E+04	2.3E-02	3.1E-02	1.3E-04	2.1E-04
AOI-21	SVOC	2-Nitroaniline	88-74-4		12				1.40E-02	3.40E-01								
AOI-21	SVOC	3-Nitroaniline	99-09-2	C	12				2.40E-02	5.80E-01								
AOI-21	SVOC	4-Nitroaniline	100-01-6	C	12				1.80E-02	4.50E-01								
AOI-21	SVOC	Nitrobenzene	98-95-3	D	12				2.60E-02	6.40E-01	1.7E+02	6.4E+01	2.1E+04	3.4E+02				
AOI-21	SVOC	2-Nitrophenol	88-75-5		12				2.30E-02	5.60E-01				2.0E+03				
AOI-21	SVOC	4-Nitrophenol	100-02-7		12				5.70E-02	1.40E+00								
AOI-21	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	12				2.00E-02	5.00E-01				7.8E+03				
AOI-21	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	12				1.60E-02	4.00E-01			2.0E+03	5.4E+00				
AOI-21	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	12				2.90E-02	7.20E-01								
AOI-21	SVOC	Pentachlorophenol	87-86-5	B2	12				6.50E-02	1.60E+00			1.3E+05	3.2E+02				
AOI-21	SVOC	Phenanthrene	85-01-8	D	12	9	4.70E-01	3.70E+00	2.30E-02	2.80E-01	5.1E+03	1.9E+02	2.9E+03	5.2E+03	7.3E-04	1.9E-02	1.3E-03	7.1E-04
AOI-21	SVOC	Phenol	108-95-2	D	12	1	1.40E+00	1.40E+00	1.90E-02	4.80E-01			1.8E+07	1.2E+04			7.8E-08	1.2E-04
AOI-21	SVOC	Pyrene	129-00-0	D	12	1	1.10E+00	1.10E+00	2.30E-02	5.60E-01	1.0E+06	7.8E+05	2.9E+06	8.4E+04	1.1E-06	1.4E-06	3.8E-07	1.3E-05
AOI-21	SVOC	2,4,5-Trichlorophenol	95-95-4		12				1.60E-02	4.00E-01			1.0E+07	7.3E+04				
AOI-21	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	12				2.00E-02	5.00E-01			1.3E+06	3.3E+03				
AOI-21	P/PCB	PCBs (total)	1336-36-3	B2	12				2.10E-02	2.10E-01	1.6E+04	8.1E+02	6.5E+03					
AOI-21	INORG	Aluminum	7429-90-5	D	12	12	1.47E+03	8.04E+03						3.7E+05				2.2E-02
AOI-21	INORG	Antimony	7440-36-0		12	1	5.70E-01	5.70E-01	2.40E-01	3.10E-01			5.9E+03	6.7E+02			9.7E-05	8.5E-04
AOI-21	INORG	Arsenic	7440-38-2	A	12	12	9.70E-01	6.80E+00					9.1E+02	3.7E+01			7.5E-03	1.8E-01
AOI-21	INORG	Barium	7440-39-3	D	12	12	9.00E+00	1.11E+02					1.5E+05	1.3E+05			7.4E-04	8.5E-04
AOI-21	INORG	Beryllium	7440-41-7	B1	12	12	1.10E-01	5.30E-01					5.9E+02	1.6E+03			9.0E-04	3.3E-04
AOI-21	INORG	Cadmium	7440-43-9	B1	12	10	1.90E-02	6.10E-01	1.80E-02	1.80E-02			2.2E+03	2.1E+03			2.8E-04	2.9E-04
AOI-21	INORG	Chromium (total)	7440-47-3		12	12	3.10E+00	3.41E+01					2.4E+02	9.2E+03			1.4E-01	3.7E-03
AOI-21	INORG	Cobalt	7440-48-4	B1	12	12	1.40E+00	3.49E+01					5.9E+03	9.0E+03			5.9E-03	3.9E-03
AOI-21	INORG	Copper	7440-50-8	D	12	12	3.10E+00	1.53E+02					5.9E+04	7.3E+04			2.6E-03	2.1E-03
AOI-21	INORG	Cyanide (total)	57-12-5	D	12				9.20E-02	1.20E-01			2.5E+02	2.5E+02				
AOI-21	INORG	Iron	7439-89-6	D	12	12	3.16E+03	1.81E+04						5.8E+05				3.1E-02
AOI-21	INORG	Lead	7439-92-1	B2	12	12	1.70E+00	1.94E+02					4.4E+04	9.0E+02			4.4E-03	2.2E-01
AOI-21	INORG	Magnesium	7439-95-4		12	12	3.10E+03	1.91E+04					2.9E+06	1.0E+06			6.6E-03	1.9E-02
AOI-21	INORG	Manganese	7439-96-5	D	12	12	6.37E+01	7.71E+02					1.5E+03	9.0E+04			5.1E-01	8.6E-03
AOI-21	INORG	Mercury	7439-97-6	D	12	4	2.10E-02	1.50E-01	1.70E-02	2.20E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	1.7E-03	2.4E-03	1.7E-05	2.6E-04
AOI-21	INORG	Nickel	7440-02-0	A	12	11	5.00E+00	4.42E+01	1.70E-01	1.70E-01			1.6E+04	1.5E+05			2.8E-03	2.9E-04
AOI-21	INORG	Selenium	7782-49-2	D	12				3.20E-01	4.20E-01			5.9E+04	9.6E+03				
AOI-21	INORG	Silver	7440-22-4	D	12				1.00E-01	1.40E-01			2.9E+03	9.0E+03				
AOI-21	INORG	Sodium	7440-23-5		12	4	5.48E+01	9.17E+01	4.18E+01	5.42E+01								
AOI-21	INORG	Thallium	7440-28-0		12				6.10E-01	7.90E-01				1.3E+02				
AOI-21	INORG	Vanadium	7440-62-2		12	12	5.40E+00	2.04E+01						5.5E+03				3.7E-03
AOI-21	INORG	Zinc	7440-66-6	D	12	7	2.97E+01	2.28E+02	1.60E+00	1.70E+00				6.3E+05				3.6E-04
AOI-23	VOC	Acetone	67-64-1	D	10	4	6.10E-02	1.30E-01	5.60E-02	6.10E-02	1.1E+05	1.6E+05	1.7E+08	7.3E+04	1.2E-06	8.1E-07	7.6E-10	1.8E-06
AOI-23	VOC	Benzene	71-43-2	A	10	1	7.00E-02	7.00E-02	7.90E-03	8.70E-03	8.4E+00	4.5E+01	4.7E+05	4.0E+02	8.3E-03	1.6E-03	1.5E-07	1.8E-04
AOI-23	VOC	Bromodichloromethane	75-27-4	B2	10				9.00E-03	1.00E-02	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
AOI-23	VOC	Bromoform	75-25-2	B2	10				1.20E-02	1.40E-02	7.7E+02	3.1E+03	3.6E+06	8.7E+02				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-23	VOC	Bromomethane	74-83-9	D	10				4.60E-02	5.30E-02	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
AOI-23	VOC	2-Butanone	78-93-3	D	10				5.70E-02	6.60E-02	2.7E+04	3.5E+04	2.9E+07	2.7E+04				
AOI-23	VOC	Carbon Disulfide	75-15-0		10	1	2.20E-02	2.20E-02	4.90E-03	5.70E-03	1.4E+02	1.6E+03	2.1E+07	2.8E+02	1.6E-04	1.4E-05	1.0E-09	7.9E-05
AOI-23	VOC	Carbon Tetrachloride	56-23-5	B2	10				1.50E-02	1.80E-02	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
AOI-23	VOC	Chlorobenzene	108-90-7	D	10				6.40E-03	7.30E-03	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
AOI-23	VOC	Chloroethane	75-00-3		10				5.10E-02	5.90E-02	9.5E+02	3.6E+04	2.9E+08	9.5E+02				
AOI-23	VOC	Chloroform	67-66-3	B2	10				1.30E-02	1.50E-02	3.8E+01	1.5E+02	1.6E+06	1.5E+03				
AOI-23	VOC	Chloromethane	74-87-3	D	10				1.50E-02	1.80E-02	1.0E+01	1.2E+02	2.6E+06	1.1E+03				
AOI-23	VOC	Cumene	98-82-8	D	10	1	9.00E-02	9.00E-02	9.80E-03	1.10E-02	3.9E+02	2.0E+03	2.6E+06	3.9E+02	2.3E-04	4.5E-05	3.5E-08	2.3E-04
AOI-23	VOC	Cyclohexane	110-82-7		10	2	2.00E-02	1.80E-01	7.10E-03	7.80E-03								
AOI-23	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	10				2.50E-02	2.90E-02	1.2E+00	1.5E+01	5.9E+03	1.2E+00				
AOI-23	VOC	Dibromochloromethane	124-48-1	C	10				1.20E-02	1.40E-02	2.1E+01	8.0E+01	1.6E+05	5.0E+02				
AOI-23	VOC	1,2-Dibromoethane	106-93-4	B2	10				8.30E-03	9.60E-03	3.6E+00	5.8E+00	1.8E+04	4.3E-01				
AOI-23	VOC	1,2-Dichlorobenzene	95-50-1	D	10				7.60E-03	8.70E-03	2.1E+02	4.6E+04	4.4E+07	2.1E+02				
AOI-23	VOC	1,3-Dichlorobenzene	541-73-1	D	10				9.10E-03	1.00E-02				1.7E+02				
AOI-23	VOC	1,4-Dichlorobenzene	106-46-7	C	10				9.40E-03	1.10E-02	1.0E+02	2.6E+02	5.7E+05	1.9E+03				
AOI-23	VOC	Dichlorodifluoromethane	75-71-8		10				2.50E-02	2.90E-02	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
AOI-23	VOC	1,1-Dichloroethane	75-34-3	C	10				1.20E-02	1.40E-02	4.3E+02	2.5E+03	1.5E+07	8.9E+02				
AOI-23	VOC	1,2-Dichloroethane	107-06-2	B2	10				1.40E-02	1.60E-02	1.1E+01	2.1E+01	1.5E+05	4.2E+02				
AOI-23	VOC	1,1-Dichloroethene	75-35-4	C	10				8.70E-03	1.00E-02	3.3E-01	3.7E+00	7.8E+04	5.7E+02				
AOI-23	VOC	cis-1,2-Dichloroethene	156-59-2	D	10	1	3.60E-02	3.60E-02	8.50E-03	9.70E-03	4.1E+01	2.1E+02	1.0E+06	6.4E+02	8.8E-04	1.7E-04	3.6E-08	5.6E-05
AOI-23	VOC	trans-1,2-Dichloroethene	156-60-5		10				1.10E-02	1.30E-02	4.3E+01	3.3E+02	2.1E+06	1.4E+03				
AOI-23	VOC	1,2-Dichloropropane	78-87-5	B2	10				1.00E-02	1.20E-02	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
AOI-23	VOC	1,3-Dichloropropene (total)	542-75-6	B2	10				8.40E-03	9.70E-03	5.4E+00	6.0E+01	5.9E+05	2.4E+02				
AOI-23	VOC	Ethyl Benzene	100-41-4	D	10	1	1.50E-01	1.50E-01	7.50E-03	8.20E-03	1.4E+02	2.4E+03	1.3E+07	1.4E+02	1.1E-03	6.3E-05	1.2E-08	1.1E-03
AOI-23	VOC	2-Hexanone	591-78-6		10				1.80E-02	2.00E-02	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
AOI-23	VOC	Methyl Acetate	79-20-9		10	1	4.30E-02	4.30E-02	2.60E-02	3.00E-02								
AOI-23	VOC	Methyl tert-butyl ether	1634-04-4		10				9.00E-03	1.00E-02	5.9E+03	3.0E+04	8.8E+07	5.9E+03				
AOI-23	VOC	4-Methyl-2-pentanone	108-10-1		10				2.60E-02	3.00E-02	2.7E+03	5.3E+04	6.0E+07	2.7E+03				
AOI-23	VOC	Methylcyclohexane	108-87-2		10	2	6.20E-02	5.10E-01	1.00E-02	1.10E-02								
AOI-23	VOC	Methylene Chloride	75-09-2	B2	10				1.80E-02	2.00E-02	2.4E+02	7.0E+02	8.3E+06	2.3E+03				
AOI-23	VOC	Styrene	100-42-5		10				7.90E-03	9.10E-03	5.2E+02	3.3E+03	6.9E+06	5.2E+02				
AOI-23	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	10				1.10E-02	1.30E-02	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
AOI-23	VOC	Tetrachloroethene	127-18-4	C-B2	10	2	4.50E-01	1.80E+00	1.30E-02	1.40E-02	6.0E+01	6.0E+02	6.8E+06	8.8E+01	3.0E-02	3.0E-03	2.6E-07	2.0E-02
AOI-23	VOC	Toluene	108-88-3	D	10	2	4.80E-02	5.70E-01	6.40E-03	7.10E-03	2.5E+02	3.3E+03	1.2E+07	2.5E+02	2.3E-03	1.7E-04	4.8E-08	2.3E-03
AOI-23	VOC	1,2,4-Trichlorobenzene	120-82-1	D	10				1.20E-02	1.40E-02	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
AOI-23	VOC	1,1,1-Trichloroethane	71-55-6	D	10				9.70E-03	1.10E-02	4.6E+02	4.5E+03	2.9E+07	4.6E+02				
AOI-23	VOC	1,1,2-Trichloroethane	79-00-5	C	10				8.70E-03	1.00E-02	2.4E+01	5.7E+01	2.5E+05	8.4E+02				
AOI-23	VOC	Trichloroethene	79-01-6	C-B2	10				9.50E-03	1.10E-02	3.7E+01	2.6E+02	2.3E+06	5.0E+02				
AOI-23	VOC	Trichlorofluoromethane	75-69-4		10				9.60E-03	1.10E-02	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
AOI-23	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		10				3.20E-02	3.70E-02	5.5E+02	2.1E+05	2.3E+09	5.5E+02				
AOI-23	VOC	Vinyl Chloride	75-01-4	A	10				1.20E-02	1.40E-02	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
AOI-23	VOC	Xylenes (total)	1330-20-7	D	10	2	9.50E-02	7.30E-01	2.20E-02	2.40E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	4.9E-03	1.4E-05	5.6E-09	4.9E-03
AOI-23	SVOC	Acenaphthene	83-32-9		10				1.50E-02	1.80E-02	3.5E+05	9.7E+04	6.2E+06	1.3E+05				
AOI-23	SVOC	Acenaphthylene	208-96-8	D	10				2.10E-02	2.40E-02	3.0E+03	2.7E+03	1.0E+06	5.2E+03				
AOI-23	SVOC	Acetophenone	98-86-2	D	10				2.20E-02	2.50E-02	1.1E+03	5.2E+04	1.4E+07	1.1E+03				
AOI-23	SVOC	Anthracene	120-12-7	D	10	1	9.00E-02	9.00E-02	1.90E-02	2.10E-02	1.0E+06	1.6E+06	2.9E+07	7.3E+05	9.0E-08	5.6E-08	3.1E-09	1.2E-07
AOI-23	SVOC	Atrazine	1912-24-9		10				2.40E-02	2.80E-02				3.3E+02				
AOI-23	SVOC	Benzaldehyde	100-52-7		10				1.50E-02	1.80E-02								
AOI-23	SVOC	Benzo(a)anthracene	56-55-3	B2	10	1	2.30E-01	2.30E-01	2.50E-02	2.90E-02				8.0E+01				2.9E-03
AOI-23	SVOC	Benzo(a)pyrene	50-32-8	B2	10	1	2.10E-01	2.10E-01	1.60E-02	1.90E-02			1.9E+03	8.0E+00			1.1E-04	2.6E-02
AOI-23	SVOC	Benzo(b)fluoranthene	205-99-2	B2	10	1	2.30E-01	2.30E-01	2.20E-02	2.50E-02				8.0E+01				2.9E-03
AOI-23	SVOC	Benzo(g,h,i)perylene	191-24-2	D	10	1	1.30E-01	1.30E-01	1.80E-02	2.00E-02			3.5E+05	7.0E+03			3.7E-07	1.9E-05
AOI-23	SVOC	Benzo(k)fluoranthene	207-08-9	B2	10	1	1.40E-01	1.40E-01	1.80E-02	2.00E-02				8.0E+02				1.8E-04
AOI-23	SVOC	Biphenyl	92-52-4		10				2.00E-02	2.30E-02								

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-23	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	10				2.80E-02	3.30E-02								
AOI-23	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	10				2.00E-02	2.30E-02	4.4E+01	1.3E+01	1.2E+04	5.8E+01				
AOI-23	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	10				1.40E-02	1.60E-02			8.9E+05	1.0E+04				
AOI-23	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	10				1.60E-02	1.90E-02								
AOI-23	SVOC	Butylbenzylphthalate	85-68-7	C	10				2.30E-02	2.70E-02			2.1E+07	3.1E+02				
AOI-23	SVOC	Caprolactam	105-60-2		10				3.10E-02	3.50E-02			2.9E+05	3.1E+05				
AOI-23	SVOC	Carbazole	86-74-8	B2	10	1	5.00E-02	5.00E-02	2.10E-02	2.40E-02				2.4E+03				2.1E-05
AOI-23	SVOC	4-Chloro-3-methylphenol	59-50-7		10				2.10E-02	2.40E-02				1.5E+04				
AOI-23	SVOC	4-Chloroaniline	106-47-8		10				2.20E-02	2.50E-02								
AOI-23	SVOC	2-Chloronaphthalene	91-58-7		10				1.90E-02	2.10E-02				1.8E+05				
AOI-23	SVOC	2-Chlorophenol	95-57-8		10				2.00E-02	2.30E-02				4.5E+03				
AOI-23	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		10				1.90E-02	2.10E-02								
AOI-23	SVOC	Chrysene	218-01-9	B2	10	2	3.70E-02	2.50E-01	2.50E-02	2.80E-02				8.0E+03				3.1E-05
AOI-23	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	10				2.00E-02	2.30E-02				8.0E+00				
AOI-23	SVOC	Dibenzofuran	132-64-9	D	10				1.90E-02	2.10E-02								
AOI-23	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	10				2.00E-02	2.30E-02			8.2E+03	3.0E+01				
AOI-23	SVOC	2,4-Dichlorophenol	120-83-2		10				1.80E-02	2.00E-02			2.3E+06	1.8E+03				
AOI-23	SVOC	Diethylphthalate	84-66-2	D	10				2.10E-02	2.40E-02			1.5E+06	7.4E+02				
AOI-23	SVOC	2,4-Dimethylphenol	105-67-9		10				2.00E-02	2.30E-02			2.1E+06	3.6E+04				
AOI-23	SVOC	Dimethylphthalate	131-11-3	D	10				1.90E-02	2.10E-02			1.5E+06	7.9E+02				
AOI-23	SVOC	Di-n-butylphthalate	84-74-2	D	10				2.50E-02	2.90E-02			1.5E+06	7.6E+02				
AOI-23	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		10				5.30E-02	6.10E-02				2.6E+02				
AOI-23	SVOC	2,4-Dinitrophenol	51-28-5		10				5.10E-02	5.90E-02								
AOI-23	SVOC	2,4-Dinitrotoluene	121-14-2	B2	10				2.40E-02	2.80E-02			2.0E+04	2.2E+02				
AOI-23	SVOC	2,6-Dinitrotoluene	606-20-2	B2	10				1.60E-02	1.90E-02								
AOI-23	SVOC	Di-n-octylphthalate	117-84-0		10				7.00E-02	8.10E-02				2.0E+04				
AOI-23	SVOC	Fluoranthene	206-44-0	D	10	2	4.90E-02	5.00E-01	1.80E-02	2.00E-02	1.0E+06	8.9E+05	4.1E+06	1.3E+05	5.0E-07	5.6E-07	1.2E-07	3.8E-06
AOI-23	SVOC	Fluorene	86-73-7	D	10				1.60E-02	1.90E-02	1.0E+06	1.5E+05	4.1E+06	8.7E+04				
AOI-23	SVOC	Hexachlorobenzene	118-74-1	B2	10				2.40E-02	2.80E-02	2.2E+02	5.6E+01	8.5E+03	3.7E+01				
AOI-23	SVOC	Hexachlorobutadiene	87-68-3	C	10				1.80E-02	2.00E-02	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-23	SVOC	Hexachlorocyclopentadiene	77-47-4	E	10				1.10E-02	1.30E-02	5.6E+01	6.0E+01	5.9E+03	7.2E+02				
AOI-23	SVOC	Hexachloroethane	67-72-1	C	10				1.90E-02	2.10E-02	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-23	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	10	1	1.20E-01	1.20E-01	2.10E-02	2.40E-02				8.0E+01				1.5E-03
AOI-23	SVOC	Isophorone	78-59-1	C	10				2.40E-02	2.80E-02			8.2E+06	2.4E+03				
AOI-23	SVOC	2-Methylnaphthalene	91-57-6		10	1	4.60E-02	4.60E-02	2.00E-02	2.10E-02				2.6E+04				1.8E-06
AOI-23	SVOC	Methylphenol (total)	1319-77-3		10				2.20E-02	2.50E-02			2.9E+06	3.6E+04				
AOI-23	SVOC	Naphthalene	91-20-3	C	10				1.90E-02	2.10E-02	4.7E+02	3.5E+02	8.8E+04	5.2E+04				
AOI-23	SVOC	2-Nitroaniline	88-74-4		10				1.40E-02	1.60E-02								
AOI-23	SVOC	3-Nitroaniline	99-09-2	C	10				2.40E-02	2.80E-02								
AOI-23	SVOC	4-Nitroaniline	100-01-6	C	10				1.90E-02	2.10E-02								
AOI-23	SVOC	Nitrobenzene	98-95-3	D	10				2.60E-02	3.00E-02	1.7E+02	6.4E+01	2.1E+04	3.4E+02				
AOI-23	SVOC	2-Nitrophenol	88-75-5		10				2.30E-02	2.70E-02				2.0E+03				
AOI-23	SVOC	4-Nitrophenol	100-02-7		10				5.80E-02	6.70E-02								
AOI-23	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	10				2.10E-02	2.40E-02				7.8E+03				
AOI-23	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	10				1.60E-02	1.90E-02			2.0E+03	5.4E+00				
AOI-23	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	10				3.00E-02	3.40E-02								
AOI-23	SVOC	Pentachlorophenol	87-86-5	B2	10				6.60E-02	7.60E-02			1.3E+05	3.2E+02				
AOI-23	SVOC	Phenanthrene	85-01-8	D	10	2	5.40E-02	3.50E-01	2.40E-02	2.70E-02	5.1E+03	1.9E+02	2.9E+03	5.2E+03	6.9E-05	1.8E-03	1.2E-04	6.7E-05
AOI-23	SVOC	Phenol	108-95-2	D	10				2.00E-02	2.30E-02			1.8E+07	1.2E+04				
AOI-23	SVOC	Pyrene	129-00-0	D	10	2	4.40E-02	3.90E-01	2.40E-02	2.70E-02	1.0E+06	7.8E+05	2.9E+06	8.4E+04	3.9E-07	5.0E-07	1.3E-07	4.6E-06
AOI-23	SVOC	2,4,5-Trichlorophenol	95-95-4		10				1.60E-02	1.90E-02			1.0E+07	7.3E+04				
AOI-23	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	10				2.10E-02	2.40E-02			1.3E+06	3.3E+03				
AOI-23	P/PCB	PCBs (total)	1336-36-3	B2	10	1	5.77E-02	5.77E-02	2.20E-02	2.50E-02	1.6E+04	8.1E+02	6.5E+03		3.6E-06	7.1E-05	8.9E-06	
AOI-23	INORG	Aluminum	7429-90-5	D	10	10	9.33E+02	8.67E+03						3.7E+05				2.3E-02
AOI-23	INORG	Antimony	7440-36-0		10	3	3.60E-01	4.40E-01	2.60E-01	2.90E-01			5.9E+03	6.7E+02			7.5E-05	6.6E-04

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-23	INORG	Arsenic	7440-38-2	A	10	10	2.80E+00	7.60E+00					9.1E+02	3.7E+01			8.4E-03	2.1E-01
AOI-23	INORG	Barium	7440-39-3	D	10	10	3.30E+00	5.39E+01					1.5E+05	1.3E+05			3.6E-04	4.1E-04
AOI-23	INORG	Beryllium	7440-41-7	B1	10	9	1.00E-01	4.80E-01	8.20E-02	8.20E-02			5.9E+02	1.6E+03			8.1E-04	3.0E-04
AOI-23	INORG	Cadmium	7440-43-9	B1	10	6	3.20E-02	9.80E-02	1.80E-02	2.00E-02			2.2E+03	2.1E+03			4.5E-05	4.7E-05
AOI-23	INORG	Chromium (total)	7440-47-3		10	10	2.50E+00	2.12E+01					2.4E+02	9.2E+03			8.8E-02	2.3E-03
AOI-23	INORG	Cobalt	7440-48-4	B1	10	10	1.70E+00	7.10E+00					5.9E+03	9.0E+03			1.2E-03	7.9E-04
AOI-23	INORG	Copper	7440-50-8	D	10	10	4.60E+00	4.10E+01					5.9E+04	7.3E+04			6.9E-04	5.6E-04
AOI-23	INORG	Cyanide (total)	57-12-5	D	10	2	1.10E-01	2.20E-01	9.60E-02	1.10E-01			2.5E+02	2.5E+02			8.8E-04	8.8E-04
AOI-23	INORG	Iron	7439-89-6	D	10	10	3.05E+03	1.76E+04						5.8E+05				3.0E-02
AOI-23	INORG	Lead	7439-92-1	B2	10	10	2.00E+00	1.05E+01					4.4E+04	9.0E+02			2.4E-04	1.2E-02
AOI-23	INORG	Magnesium	7439-95-4		10	10	1.50E+03	2.84E+04					2.9E+06	1.0E+06			9.8E-03	2.8E-02
AOI-23	INORG	Manganese	7439-96-5	D	10	10	8.65E+01	4.47E+02					1.5E+03	9.0E+04			3.0E-01	5.0E-03
AOI-23	INORG	Mercury	7439-97-6	D	10	5	1.90E-02	3.10E-02	1.90E-02	2.00E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	3.5E-04	5.0E-04	3.5E-06	5.3E-05
AOI-23	INORG	Nickel	7440-02-0	A	10	10	3.20E+00	1.81E+01					1.6E+04	1.5E+05			1.1E-03	1.2E-04
AOI-23	INORG	Selenium	7782-49-2	D	10				3.40E-01	3.90E-01			5.9E+04	9.6E+03				
AOI-23	INORG	Silver	7440-22-4	D	10	1	3.30E-01	3.30E-01	1.20E-01	1.30E-01			2.9E+03	9.0E+03			1.1E-04	3.7E-05
AOI-23	INORG	Sodium	7440-23-5		10	7	6.72E+01	5.81E+02	4.64E+01	4.80E+01								
AOI-23	INORG	Thallium	7440-28-0		10				6.40E-01	7.30E-01				1.3E+02				
AOI-23	INORG	Vanadium	7440-62-2		10	10	3.90E+00	2.11E+01						5.5E+03				3.8E-03
AOI-23	INORG	Zinc	7440-66-6	D	10	10	1.61E+01	4.25E+01						6.3E+05				6.7E-05
AOI-24	VOC	Benzene	71-43-2	A	14	2	7.80E-01	2.20E+00	1.00E-02	1.00E-02	8.4E+00	4.5E+01	4.7E+05	4.0E+02	2.6E-01	4.9E-02	4.7E-06	5.5E-03
AOI-24	VOC	Ethyl Benzene	100-41-4	D	14	2	7.00E-01	1.10E+02	1.00E-02	1.00E-02	1.4E+02	2.4E+03	1.3E+07	1.4E+02	7.9E-01	4.6E-02	8.5E-06	7.9E-01
AOI-24	VOC	Toluene	108-88-3	D	14	5	3.30E-02	6.30E+00	1.00E-02	1.00E-02	2.5E+02	3.3E+03	1.2E+07	2.5E+02	2.5E-02	1.9E-03	5.3E-07	2.5E-02
AOI-24	VOC	Xylenes (total)	1330-20-7	D	14	3	3.90E-02	1.30E+02	1.00E-02	3.00E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	8.7E-01	2.4E-03	1.0E-06	8.7E-01
AOI-25	VOC	Acetone	67-64-1	D	15	3	1.40E-01	4.10E-01	5.40E-02	9.40E-01	1.1E+05	1.6E+05	1.7E+08	7.3E+04	3.7E-06	2.6E-06	2.4E-09	5.6E-06
AOI-25	VOC	Benzene	71-43-2	A	15	5	4.20E-02	1.90E-01	7.80E-03	9.70E-03	8.4E+00	4.5E+01	4.7E+05	4.0E+02	2.3E-02	4.2E-03	4.0E-07	4.8E-04
AOI-25	VOC	Bromodichloromethane	75-27-4	B2	15				9.30E-03	1.60E-01	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
AOI-25	VOC	Bromoform	75-25-2	B2	15				1.20E-02	2.20E-01	7.7E+02	3.1E+03	3.6E+06	8.7E+02				
AOI-25	VOC	Bromomethane	74-83-9	D	15				4.80E-02	8.30E-01	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
AOI-25	VOC	2-Butanone	78-93-3	D	15	3	8.80E-02	1.90E-01	5.90E-02	1.00E+00	2.7E+04	3.5E+04	2.9E+07	2.7E+04	7.0E-06	5.4E-06	6.6E-09	7.0E-06
AOI-25	VOC	Carbon Disulfide	75-15-0		15	1	1.40E-02	1.40E-02	5.10E-03	8.80E-02	1.4E+02	1.6E+03	2.1E+07	2.8E+02	1.0E-04	8.8E-06	6.7E-10	5.0E-05
AOI-25	VOC	Carbon Tetrachloride	56-23-5	B2	15				1.60E-02	2.80E-01	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
AOI-25	VOC	Chlorobenzene	108-90-7	D	15				6.60E-03	1.10E-01	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
AOI-25	VOC	Chloroethane	75-00-3		15				5.30E-02	9.20E-01	9.5E+02	3.6E+04	2.9E+08	9.5E+02				
AOI-25	VOC	Chloroform	67-66-3	B2	15				1.40E-02	2.40E-01	3.8E+01	1.5E+02	1.6E+06	1.5E+03				
AOI-25	VOC	Chloromethane	74-87-3	D	15				1.60E-02	2.80E-01	1.0E+01	1.2E+02	2.6E+06	1.1E+03				
AOI-25	VOC	Cumene	98-82-8	D	15	4	3.60E-02	9.90E-02	9.60E-03	1.70E-01	3.9E+02	2.0E+03	2.6E+06	3.9E+02	2.5E-04	5.0E-05	3.8E-08	2.5E-04
AOI-25	VOC	Cyclohexane	110-82-7		15	4	3.80E-02	2.00E-01	7.00E-03	1.20E-01								
AOI-25	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	15				2.60E-02	4.50E-01	1.2E+00	1.5E+01	5.9E+03	1.2E+00				
AOI-25	VOC	Dibromochloromethane	124-48-1	C	15				1.20E-02	2.20E-01	2.1E+01	8.0E+01	1.6E+05	5.0E+02				
AOI-25	VOC	1,2-Dibromoethane	106-93-4	B2	15				8.60E-03	1.50E-01	3.6E+00	5.8E+00	1.8E+04	4.3E-01				
AOI-25	VOC	1,2-Dichlorobenzene	95-50-1	D	15				7.80E-03	1.40E-01	2.1E+02	4.6E+04	4.4E+07	2.1E+02				
AOI-25	VOC	1,3-Dichlorobenzene	541-73-1	D	15				9.40E-03	1.60E-01				1.7E+02				
AOI-25	VOC	1,4-Dichlorobenzene	106-46-7	C	15				9.80E-03	1.70E-01	1.0E+02	2.6E+02	5.7E+05	1.9E+03				
AOI-25	VOC	Dichlorodifluoromethane	75-71-8		15				2.60E-02	4.50E-01	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
AOI-25	VOC	1,1-Dichloroethane	75-34-3	C	15	4	6.30E-02	1.50E+00	1.20E-02	1.60E-02	4.3E+02	2.5E+03	1.5E+07	8.9E+02	3.5E-03	6.0E-04	1.0E-07	1.7E-03
AOI-25	VOC	1,2-Dichloroethane	107-06-2	B2	15				1.50E-02	2.60E-01	1.1E+01	2.1E+01	1.5E+05	4.2E+02				
AOI-25	VOC	1,1-Dichloroethene	75-35-4	C	15	2	5.50E-02	1.10E-01	9.00E-03	1.60E-01	3.3E-01	3.7E+00	7.8E+04	5.7E+02	3.3E-01	3.0E-02	1.4E-06	1.9E-04
AOI-25	VOC	cis-1,2-Dichloroethene	156-59-2	D	15				8.90E-03	1.50E-01	4.1E+01	2.1E+02	1.0E+06	6.4E+02				
AOI-25	VOC	trans-1,2-Dichloroethene	156-60-5		15				1.10E-02	2.00E-01	4.3E+01	3.3E+02	2.1E+06	1.4E+03				
AOI-25	VOC	1,2-Dichloropropane	78-87-5	B2	15				1.10E-02	1.80E-01	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
AOI-25	VOC	1,3-Dichloropropene (total)	542-75-6	B2	15				8.70E-03	1.50E-01	5.4E+00	6.0E+01	5.9E+05	2.4E+02				
AOI-25	VOC	Ethyl Benzene	100-41-4	D	15	6	6.80E-02	6.60E-01	7.40E-03	9.20E-03	1.4E+02	2.4E+03	1.3E+07	1.4E+02	4.7E-03	2.8E-04	5.1E-08	4.7E-03
AOI-25	VOC	2-Hexanone	591-78-6		15				1.80E-02	3.10E-01	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
AOI-25	VOC	Methyl Acetate	79-20-9		15	4	5.00E-02	8.00E-01	2.70E-02	4.70E-01								

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-25	VOC	Methyl tert-butyl ether	1634-04-4		15				9.30E-03	1.60E-01	5.9E+03	3.0E+04	8.8E+07	5.9E+03				
AOI-25	VOC	4-Methyl-2-pentanone	108-10-1		15	3	3.00E-02	2.10E-01	2.70E-02	4.70E-01	2.7E+03	5.3E+04	6.0E+07	2.7E+03	7.8E-05	4.0E-06	3.5E-09	7.8E-05
AOI-25	VOC	Methylcyclohexane	108-87-2		15	7	3.90E-02	6.70E-01	1.00E-02	1.30E-02								
AOI-25	VOC	Methylene Chloride	75-09-2	B2	15				1.80E-02	3.10E-01	2.4E+02	7.0E+02	8.3E+06	2.3E+03				
AOI-25	VOC	Styrene	100-42-5		15				8.20E-03	1.40E-01	5.2E+02	3.3E+03	6.9E+06	5.2E+02				
AOI-25	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	15				1.10E-02	2.00E-01	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
AOI-25	VOC	Tetrachloroethene	127-18-4	C-B2	15				1.20E-02	2.20E-01	6.0E+01	6.0E+02	6.8E+06	8.8E+01				
AOI-25	VOC	Toluene	108-88-3	D	15	7	7.30E-02	3.90E+01	6.40E-03	7.90E-03	2.5E+02	3.3E+03	1.2E+07	2.5E+02	1.6E-01	1.2E-02	3.3E-06	1.6E-01
AOI-25	VOC	1,2,4-Trichlorobenzene	120-82-1	D	15				1.20E-02	2.20E-01	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
AOI-25	VOC	1,1,1-Trichloroethane	71-55-6	D	15	7	2.10E-02	4.40E+00	1.00E-02	1.30E-02	4.6E+02	4.5E+03	2.9E+07	4.6E+02	9.6E-03	9.8E-04	1.5E-07	9.6E-03
AOI-25	VOC	1,1,2-Trichloroethane	79-00-5	C	15				9.00E-03	1.60E-01	2.4E+01	5.7E+01	2.5E+05	8.4E+02				
AOI-25	VOC	Trichloroethene	79-01-6	C-B2	15				9.90E-03	1.70E-01	3.7E+01	2.6E+02	2.3E+06	5.0E+02				
AOI-25	VOC	Trichlorofluoromethane	75-69-4		15				1.00E-02	1.70E-01	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
AOI-25	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		15				3.30E-02	5.70E-01	5.5E+02	2.1E+05	2.3E+09	5.5E+02				
AOI-25	VOC	Vinyl Chloride	75-01-4	A	15				1.20E-02	2.20E-01	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
AOI-25	VOC	Xylenes (total)	1330-20-7	D	15	7	9.40E-02	3.10E+00	2.20E-02	2.70E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	2.1E-02	5.7E-05	2.4E-08	2.1E-02
AOI-25	SVOC	Acenaphthene	83-32-9		15				1.60E-02	1.80E-02	3.5E+05	9.7E+04	6.2E+06	1.3E+05				
AOI-25	SVOC	Acenaphthylene	208-96-8	D	15	1	5.30E-02	5.30E-02	2.20E-02	2.40E-02	3.0E+03	2.7E+03	1.0E+06	5.2E+03	1.8E-05	2.0E-05	5.3E-08	1.0E-05
AOI-25	SVOC	Acetophenone	98-86-2	D	15				2.30E-02	2.60E-02	1.1E+03	5.2E+04	1.4E+07	1.1E+03				
AOI-25	SVOC	Anthracene	120-12-7	D	15	1	5.70E-02	5.70E-02	1.90E-02	2.20E-02	1.0E+06	1.6E+06	2.9E+07	7.3E+05	5.7E-08	3.6E-08	2.0E-09	7.8E-08
AOI-25	SVOC	Atrazine	1912-24-9		15				2.50E-02	2.90E-02				3.3E+02				
AOI-25	SVOC	Benzaldehyde	100-52-7		15				1.60E-02	1.80E-02								
AOI-25	SVOC	Benzo(a)anthracene	56-55-3	B2	15	2	5.70E-02	1.80E-01	2.60E-02	2.90E-02				8.0E+01				2.3E-03
AOI-25	SVOC	Benzo(a)pyrene	50-32-8	B2	15	2	7.20E-02	2.00E-01	1.70E-02	1.90E-02			1.9E+03	8.0E+00			1.1E-04	2.5E-02
AOI-25	SVOC	Benzo(b)fluoranthene	205-99-2	B2	15	2	1.30E-01	4.10E-01	2.30E-02	2.50E-02				8.0E+01				5.1E-03
AOI-25	SVOC	Benzo(g,h,i)perylene	191-24-2	D	15	2	4.80E-02	1.70E-01	1.80E-02	2.00E-02			3.5E+05	7.0E+03			4.9E-07	2.4E-05
AOI-25	SVOC	Benzo(k)fluoranthene	207-08-9	B2	15	2	5.20E-02	2.10E-01	1.80E-02	2.00E-02				8.0E+02				2.6E-04
AOI-25	SVOC	Biphenyl	92-52-4		15				2.00E-02	2.40E-02								
AOI-25	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	15				3.00E-02	3.40E-02								
AOI-25	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	15				2.00E-02	2.40E-02	4.4E+01	1.3E+01	1.2E+04	5.8E+01				
AOI-25	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	15				1.50E-02	1.70E-02			8.9E+05	1.0E+04				
AOI-25	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	15				1.70E-02	2.00E-02								
AOI-25	SVOC	Butylbenzylphthalate	85-68-7	C	15				2.40E-02	2.80E-02			2.1E+07	3.1E+02				
AOI-25	SVOC	Caprolactam	105-60-2		15				3.20E-02	3.70E-02			2.9E+05	3.1E+05				
AOI-25	SVOC	Carbazole	86-74-8	B2	15	1	4.50E-02	4.50E-02	2.20E-02	2.40E-02				2.4E+03				1.9E-05
AOI-25	SVOC	4-Chloro-3-methylphenol	59-50-7		15				2.20E-02	2.50E-02				1.5E+04				
AOI-25	SVOC	4-Chloroaniline	106-47-8		15				2.30E-02	2.60E-02								
AOI-25	SVOC	2-Chloronaphthalene	91-58-7		15				1.90E-02	2.20E-02				1.8E+05				
AOI-25	SVOC	2-Chlorophenol	95-57-8		15				2.00E-02	2.40E-02				4.5E+03				
AOI-25	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		15				1.90E-02	2.20E-02								
AOI-25	SVOC	Chrysene	218-01-9	B2	15	2	9.30E-02	3.00E-01	2.50E-02	2.80E-02				8.0E+03				3.8E-05
AOI-25	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	15				2.00E-02	2.40E-02				8.0E+00				
AOI-25	SVOC	Dibenzofuran	132-64-9	D	15	1	1.20E-01	1.20E-01	1.90E-02	2.20E-02								
AOI-25	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	15				2.00E-02	2.40E-02			8.2E+03	3.0E+01				
AOI-25	SVOC	2,4-Dichlorophenol	120-83-2		15				1.80E-02	2.10E-02			2.3E+06	1.8E+03				
AOI-25	SVOC	Diethylphthalate	84-66-2	D	15				2.20E-02	2.50E-02			1.5E+06	7.4E+02				
AOI-25	SVOC	2,4-Dimethylphenol	105-67-9		15				2.00E-02	2.40E-02			2.1E+06	3.6E+04				
AOI-25	SVOC	Dimethylphthalate	131-11-3	D	15				1.90E-02	2.20E-02			1.5E+06	7.9E+02				
AOI-25	SVOC	Di-n-butylphthalate	84-74-2	D	15				2.60E-02	3.00E-02			1.5E+06	7.6E+02				
AOI-25	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		15				5.40E-02	6.30E-02				2.6E+02				
AOI-25	SVOC	2,4-Dinitrophenol	51-28-5		15				5.30E-02	6.20E-02								
AOI-25	SVOC	2,4-Dinitrotoluene	121-14-2	B2	15				2.50E-02	2.90E-02			2.0E+04	2.2E+02				
AOI-25	SVOC	2,6-Dinitrotoluene	606-20-2	B2	15				1.70E-02	2.00E-02								
AOI-25	SVOC	Di-n-octylphthalate	117-84-0		15				7.30E-02	8.40E-02				2.0E+04				
AOI-25	SVOC	Fluoranthene	206-44-0	D	15	3	4.40E-02	4.30E-01	1.80E-02	2.00E-02	1.0E+06	8.9E+05	4.1E+06	1.3E+05	4.3E-07	4.8E-07	1.0E-07	3.3E-06

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-25	SVOC	Fluorene	86-73-7	D	15				1.70E-02	2.00E-02	1.0E+06	1.5E+05	4.1E+06	8.7E+04				
AOI-25	SVOC	Hexachlorobenzene	118-74-1	B2	15				2.50E-02	2.90E-02	2.2E+02	5.6E+01	8.5E+03	3.7E+01				
AOI-25	SVOC	Hexachlorobutadiene	87-68-3	C	15				1.80E-02	2.10E-02	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-25	SVOC	Hexachlorocyclopentadiene	77-47-4	E	15				1.10E-02	1.30E-02	5.6E+01	6.0E+01	5.9E+03	7.2E+02				
AOI-25	SVOC	Hexachloroethane	67-72-1	C	15				1.90E-02	2.20E-02	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-25	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	15	2	4.30E-02	1.60E-01	2.20E-02	2.40E-02				8.0E+01				2.0E-03
AOI-25	SVOC	Isophorone	78-59-1	C	15				2.50E-02	2.90E-02			8.2E+06	2.4E+03				
AOI-25	SVOC	2-Methylnaphthalene	91-57-6		15	5	4.40E-02	4.50E-01	1.90E-02	2.20E-02				2.6E+04				1.7E-05
AOI-25	SVOC	Methylphenol (total)	1319-77-3		15				2.30E-02	2.60E-02			2.9E+06	3.6E+04				
AOI-25	SVOC	Naphthalene	91-20-3	C	15	4	4.30E-02	2.90E-01	1.90E-02	2.20E-02	4.7E+02	3.5E+02	8.8E+04	5.2E+04	6.2E-04	8.3E-04	3.3E-06	5.6E-06
AOI-25	SVOC	2-Nitroaniline	88-74-4		15				1.50E-02	1.70E-02								
AOI-25	SVOC	3-Nitroaniline	99-09-2	C	15				2.50E-02	2.90E-02								
AOI-25	SVOC	4-Nitroaniline	100-01-6	C	15				1.90E-02	2.20E-02								
AOI-25	SVOC	Nitrobenzene	98-95-3	D	15				2.70E-02	3.20E-02	1.7E+02	6.4E+01	2.1E+04	3.4E+02				
AOI-25	SVOC	2-Nitrophenol	88-75-5		15				2.40E-02	2.80E-02				2.0E+03				
AOI-25	SVOC	4-Nitrophenol	100-02-7		15				6.00E-02	7.00E-02								
AOI-25	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	15				2.20E-02	2.50E-02				7.8E+03				
AOI-25	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	15				1.70E-02	2.00E-02			2.0E+03	5.4E+00				
AOI-25	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	15				3.10E-02	3.60E-02								
AOI-25	SVOC	Pentachlorophenol	87-86-5	B2	15				6.80E-02	7.90E-02			1.3E+05	3.2E+02				
AOI-25	SVOC	Phenanthrene	85-01-8	D	15	2	4.20E-02	3.00E-01	2.40E-02	2.70E-02	5.1E+03	1.9E+02	2.9E+03	5.2E+03	5.9E-05	1.6E-03	1.0E-04	5.8E-05
AOI-25	SVOC	Phenol	108-95-2	D	15				2.00E-02	2.40E-02			1.8E+07	1.2E+04				
AOI-25	SVOC	Pyrene	129-00-0	D	15	3	4.20E-02	2.90E-01	2.40E-02	2.70E-02	1.0E+06	7.8E+05	2.9E+06	8.4E+04	2.9E-07	3.7E-07	1.0E-07	3.5E-06
AOI-25	SVOC	2,4,5-Trichlorophenol	95-95-4		15				1.70E-02	2.00E-02			1.0E+07	7.3E+04				
AOI-25	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	15				2.20E-02	2.50E-02			1.3E+06	3.3E+03				
AOI-25	P/PCB	PCBs (total)	1336-36-3	B2	15	2	5.71E-02	3.40E-01	2.30E-02	2.50E-02	1.6E+04	8.1E+02	6.5E+03		2.1E-05	4.2E-04	5.2E-05	
AOI-25	INORG	Aluminum	7429-90-5	D	15	15	4.06E+03	1.40E+04						3.7E+05				3.8E-02
AOI-25	INORG	Antimony	7440-36-0		15	3	3.10E-01	4.80E-01	2.60E-01	2.90E-01			5.9E+03	6.7E+02			8.1E-05	7.2E-04
AOI-25	INORG	Arsenic	7440-38-2	A	15	15	4.20E+00	9.90E+00					9.1E+02	3.7E+01			1.1E-02	2.7E-01
AOI-25	INORG	Barium	7440-39-3	D	15	15	1.78E+01	1.03E+02					1.5E+05	1.3E+05			6.9E-04	7.9E-04
AOI-25	INORG	Beryllium	7440-41-7	B1	15	15	2.30E-01	8.40E-01					5.9E+02	1.6E+03			1.4E-03	5.3E-04
AOI-25	INORG	Cadmium	7440-43-9	B1	15	13	6.90E-02	4.80E-01	2.00E-02	2.00E-02			2.2E+03	2.1E+03			2.2E-04	2.3E-04
AOI-25	INORG	Chromium (total)	7440-47-3		15	15	8.10E+00	2.31E+01					2.4E+02	9.2E+03			9.6E-02	2.5E-03
AOI-25	INORG	Cobalt	7440-48-4	B1	15	15	5.40E+00	1.39E+01					5.9E+03	9.0E+03			2.4E-03	1.5E-03
AOI-25	INORG	Copper	7440-50-8	D	15	15	1.23E+01	3.33E+01					5.9E+04	7.3E+04			5.6E-04	4.6E-04
AOI-25	INORG	Cyanide (total)	57-12-5	D	15	1	1.40E-01	1.40E-01	1.00E-01	1.10E-01			2.5E+02	2.5E+02			5.6E-04	5.6E-04
AOI-25	INORG	Iron	7439-89-6	D	15	15	1.17E+04	2.75E+04						5.8E+05				4.7E-02
AOI-25	INORG	Lead	7439-92-1	B2	15	15	5.90E+00	1.72E+01					4.4E+04	9.0E+02			3.9E-04	1.9E-02
AOI-25	INORG	Magnesium	7439-95-4		15	15	3.19E+03	3.36E+04					2.9E+06	1.0E+06			1.2E-02	3.4E-02
AOI-25	INORG	Manganese	7439-96-5	D	15	15	2.69E+02	5.96E+02					1.5E+03	9.0E+04			4.0E-01	6.6E-03
AOI-25	INORG	Mercury	7439-97-6	D	15	6	2.70E-02	1.70E-01	1.80E-02	2.00E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	1.9E-03	2.7E-03	1.9E-05	2.9E-04
AOI-25	INORG	Nickel	7440-02-0	A	15	15	1.22E+01	2.96E+01					1.6E+04	1.5E+05			1.9E-03	2.0E-04
AOI-25	INORG	Selenium	7782-49-2	D	15	4	5.20E-01	2.70E+00	3.50E-01	4.10E-01			5.9E+04	9.6E+03			4.6E-05	2.8E-04
AOI-25	INORG	Silver	7440-22-4	D	15				1.10E-01	1.30E-01			2.9E+03	9.0E+03				
AOI-25	INORG	Sodium	7440-23-5		15	15	1.81E+02	1.09E+03										
AOI-25	INORG	Thallium	7440-28-0		15				6.60E-01	7.60E-01				1.3E+02				
AOI-25	INORG	Vanadium	7440-62-2		15	15	1.30E+01	3.31E+01						5.5E+03				6.0E-03
AOI-25	INORG	Zinc	7440-66-6	D	15	15	3.61E+01	1.22E+02						6.3E+05				1.9E-04
AOI-26	VOC	Benzene	71-43-2	A	89				1.00E-02	1.00E-02	8.4E+00	4.5E+01	4.7E+05	4.0E+02				
AOI-26	VOC	1,1-Dichloroethane	75-34-3	C	75	4	1.30E-01	9.60E+00			4.3E+02	2.5E+03	1.5E+07	8.9E+02	2.2E-02	3.8E-03	6.4E-07	1.1E-02
AOI-26	VOC	Ethyl Benzene	100-41-4	D	89	8	8.00E-02	4.00E+00	1.00E-02	1.00E-02	1.4E+02	2.4E+03	1.3E+07	1.4E+02	2.9E-02	1.7E-03	3.1E-07	2.9E-02
AOI-26	VOC	Methylene Chloride	75-09-2	B2	75						2.4E+02	7.0E+02	8.3E+06	2.3E+03				
AOI-26	VOC	Tetrachloroethene	127-18-4	C-B2	75	2	2.00E-01	7.20E-01			6.0E+01	6.0E+02	6.8E+06	8.8E+01	1.2E-02	1.2E-03	1.1E-07	8.2E-03
AOI-26	VOC	Toluene	108-88-3	D	89	10	8.00E-02	4.10E+00	1.00E-02	1.00E-02	2.5E+02	3.3E+03	1.2E+07	2.5E+02	1.6E-02	1.2E-03	3.4E-07	1.6E-02
AOI-26	VOC	1,1,1-Trichloroethane	71-55-6	D	75	12	1.30E-01	3.10E+01			4.6E+02	4.5E+03	2.9E+07	4.6E+02	6.7E-02	6.9E-03	1.1E-06	6.7E-02

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-26	VOC	Trichloroethene	79-01-6	C-B2	75	6	1.60E-01	1.20E+01			3.7E+01	2.6E+02	2.3E+06	5.0E+02	3.2E-01	4.6E-02	5.2E-06	2.4E-02
AOI-26	VOC	Xylenes (total)	1330-20-7	D	89	11	3.50E-02	2.57E+01	3.00E-02	3.00E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	1.7E-01	4.8E-04	2.0E-07	1.7E-01
AOI-26	SVOC	Naphthalene	91-20-3	C	15				3.30E-01	3.30E-01	4.7E+02	3.5E+02	8.8E+04	5.2E+04				
AOI-26	INORG	Arsenic	7440-38-2	A	71	41	5.10E-01	1.20E+01	5.00E+00	5.00E+00			9.1E+02	3.7E+01			1.3E-02	3.2E-01
AOI-26	INORG	Barium	7440-39-3	D	71	71	9.00E+00	1.30E+02					1.5E+05	1.3E+05			8.7E-04	1.0E-03
AOI-26	INORG	Cadmium	7440-43-9	B1	71				2.00E-03	2.00E+00			2.2E+03	2.1E+03				
AOI-26	INORG	Chromium (total)	7440-47-3		71	50	5.00E+00	6.80E+01	5.00E+00	5.00E+00			2.4E+02	9.2E+03			2.8E-01	7.4E-03
AOI-26	INORG	Copper	7440-50-8	D	71	71	3.30E+00	6.10E+03					5.9E+04	7.3E+04			1.0E-01	8.4E-02
AOI-26	INORG	Lead	7439-92-1	B2	71	70	5.60E+00	4.60E+01	5.00E+00	5.00E+00			4.4E+04	9.0E+02			1.0E-03	5.1E-02
AOI-26	INORG	Mercury	7439-97-6	D	71				1.00E-01	1.00E+00	8.9E+01	6.2E+01	8.8E+03	5.8E+02				
AOI-26	INORG	Selenium	7782-49-2	D	71				5.00E-01	5.00E-01			5.9E+04	9.6E+03				
AOI-26	INORG	Silver	7440-22-4	D	71	1	1.50E-01	1.50E-01	1.00E-01	1.00E+00			2.9E+03	9.0E+03			5.2E-05	1.7E-05
AOI-26	INORG	Zinc	7440-66-6	D	71	71	9.60E+00	9.20E+02						6.3E+05				1.5E-03
AOI-27	VOC	Acetone	67-64-1	D	14				5.20E-02	6.50E-02	1.1E+05	1.6E+05	1.7E+08	7.3E+04				
AOI-27	VOC	Benzene	71-43-2	A	14	1	1.60E-02	1.60E-02	7.40E-03	9.40E-03	8.4E+00	4.5E+01	4.7E+05	4.0E+02	1.9E-03	3.6E-04	3.4E-08	4.0E-05
AOI-27	VOC	Bromodichloromethane	75-27-4	B2	14				8.80E-03	1.10E-02	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
AOI-27	VOC	Bromoform	75-25-2	B2	14				1.20E-02	1.50E-02	7.7E+02	3.1E+03	3.6E+06	8.7E+02				
AOI-27	VOC	Bromomethane	74-83-9	D	14				4.50E-02	5.70E-02	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
AOI-27	VOC	2-Butanone	78-93-3	D	14				5.60E-02	7.10E-02	2.7E+04	3.5E+04	2.9E+07	2.7E+04				
AOI-27	VOC	Carbon Disulfide	75-15-0		14				4.90E-03	6.10E-03	1.4E+02	1.6E+03	2.1E+07	2.8E+02				
AOI-27	VOC	Carbon Tetrachloride	56-23-5	B2	14				1.50E-02	1.90E-02	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
AOI-27	VOC	Chlorobenzene	108-90-7	D	14				6.30E-03	7.90E-03	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
AOI-27	VOC	Chloroethane	75-00-3		14				5.10E-02	6.40E-02	9.5E+02	3.6E+04	2.9E+08	9.5E+02				
AOI-27	VOC	Chloroform	67-66-3	B2	14				1.30E-02	1.60E-02	3.8E+01	1.5E+02	1.6E+06	1.5E+03				
AOI-27	VOC	Chloromethane	74-87-3	D	14				1.50E-02	1.90E-02	1.0E+01	1.2E+02	2.6E+06	1.1E+03				
AOI-27	VOC	Cumene	98-82-8	D	14				9.20E-03	1.20E-02	3.9E+02	2.0E+03	2.6E+06	3.9E+02				
AOI-27	VOC	Cyclohexane	110-82-7		14	1	1.30E-02	1.30E-02	6.70E-03	8.50E-03								
AOI-27	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	14				2.50E-02	3.10E-02	1.2E+00	1.5E+01	5.9E+03	1.2E+00				
AOI-27	VOC	Dibromochloromethane	124-48-1	C	14				1.20E-02	1.50E-02	2.1E+01	8.0E+01	1.6E+05	5.0E+02				
AOI-27	VOC	1,2-Dibromoethane	106-93-4	B2	14				8.20E-03	1.00E-02	3.6E+00	5.8E+00	1.8E+04	4.3E-01				
AOI-27	VOC	1,2-Dichlorobenzene	95-50-1	D	14				7.40E-03	9.40E-03	2.1E+02	4.6E+04	4.4E+07	2.1E+02				
AOI-27	VOC	1,3-Dichlorobenzene	541-73-1	D	14				9.00E-03	1.10E-02				1.7E+02				
AOI-27	VOC	1,4-Dichlorobenzene	106-46-7	C	14				9.30E-03	1.20E-02	1.0E+02	2.6E+02	5.7E+05	1.9E+03				
AOI-27	VOC	Dichlorodifluoromethane	75-71-8		14				2.50E-02	3.10E-02	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
AOI-27	VOC	1,1-Dichloroethane	75-34-3	C	14				1.20E-02	1.50E-02	4.3E+02	2.5E+03	1.5E+07	8.9E+02				
AOI-27	VOC	1,2-Dichloroethane	107-06-2	B2	14				1.40E-02	1.80E-02	1.1E+01	2.1E+01	1.5E+05	4.2E+02				
AOI-27	VOC	1,1-Dichloroethene	75-35-4	C	14				8.50E-03	1.10E-02	3.3E-01	3.7E+00	7.8E+04	5.7E+02				
AOI-27	VOC	cis-1,2-Dichloroethene	156-59-2	D	14				8.40E-03	1.10E-02	4.1E+01	2.1E+02	1.0E+06	6.4E+02				
AOI-27	VOC	trans-1,2-Dichloroethene	156-60-5		14				1.10E-02	1.40E-02	4.3E+01	3.3E+02	2.1E+06	1.4E+03				
AOI-27	VOC	1,2-Dichloropropane	78-87-5	B2	14				1.00E-02	1.30E-02	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
AOI-27	VOC	1,3-Dichloropropene (total)	542-75-6	B2	14				8.30E-03	1.00E-02	5.4E+00	6.0E+01	5.9E+05	2.4E+02				
AOI-27	VOC	Ethyl Benzene	100-41-4	D	14				7.00E-03	8.90E-03	1.4E+02	2.4E+03	1.3E+07	1.4E+02				
AOI-27	VOC	2-Hexanone	591-78-6		14				1.70E-02	2.20E-02	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
AOI-27	VOC	Methyl Acetate	79-20-9		14	2	6.30E-02	2.20E-01	2.60E-02	3.30E-02								
AOI-27	VOC	Methyl tert-butyl ether	1634-04-4		14				8.80E-03	1.10E-02	5.9E+03	3.0E+04	8.8E+07	5.9E+03				
AOI-27	VOC	4-Methyl-2-pentanone	108-10-1		14				2.60E-02	3.30E-02	2.7E+03	5.3E+04	6.0E+07	2.7E+03				
AOI-27	VOC	Methylcyclohexane	108-87-2		14	3	1.30E-02	5.80E-02	9.60E-03	1.20E-02								
AOI-27	VOC	Methylene Chloride	75-09-2	B2	14				1.70E-02	2.20E-02	2.4E+02	7.0E+02	8.3E+06	2.3E+03				
AOI-27	VOC	Styrene	100-42-5		14	1	2.80E-02	2.80E-02	7.80E-03	9.80E-03	5.2E+02	3.3E+03	6.9E+06	5.2E+02	5.4E-05	8.5E-06	4.1E-09	5.4E-05
AOI-27	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	14				1.10E-02	1.40E-02	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
AOI-27	VOC	Tetrachloroethene	127-18-4	C-B2	14	1	1.50E-02	1.50E-02	1.20E-02	1.50E-02	6.0E+01	6.0E+02	6.8E+06	8.8E+01	2.5E-04	2.5E-05	2.2E-09	1.7E-04
AOI-27	VOC	Toluene	108-88-3	D	14	1	3.50E-02	3.50E-02	6.00E-03	7.60E-03	2.5E+02	3.3E+03	1.2E+07	2.5E+02	1.4E-04	1.1E-05	2.9E-09	1.4E-04
AOI-27	VOC	1,2,4-Trichlorobenzene	120-82-1	D	14				1.20E-02	1.50E-02	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
AOI-27	VOC	1,1,1-Trichloroethane	71-55-6	D	14				9.60E-03	1.20E-02	4.6E+02	4.5E+03	2.9E+07	4.6E+02				
AOI-27	VOC	1,1,2-Trichloroethane	79-00-5	C	14				8.50E-03	1.10E-02	2.4E+01	5.7E+01	2.5E+05	8.4E+02				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-27	VOC	Trichloroethene	79-01-6	C-B2	14	4	3.40E-02	5.50E-01	9.40E-03	1.20E-02	3.7E+01	2.6E+02	2.3E+06	5.0E+02	1.5E-02	2.1E-03	2.4E-07	1.1E-03
AOI-27	VOC	Trichlorofluoromethane	75-69-4		14				9.50E-03	1.20E-02	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
AOI-27	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		14				3.10E-02	4.00E-02	5.5E+02	2.1E+05	2.3E+09	5.5E+02				
AOI-27	VOC	Vinyl Chloride	75-01-4	A	14				1.20E-02	1.50E-02	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
AOI-27	VOC	Xylenes (total)	1330-20-7	D	14	1	4.70E-02	4.70E-02	2.00E-02	2.60E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	3.1E-04	8.7E-07	3.6E-10	3.1E-04
AOI-27	SVOC	Acenaphthene	83-32-9		14				1.50E-02	1.80E-02	3.5E+05	9.7E+04	6.2E+06	1.3E+05				
AOI-27	SVOC	Acenaphthylene	208-96-8	D	14				2.00E-02	2.40E-02	3.0E+03	2.7E+03	1.0E+06	5.2E+03				
AOI-27	SVOC	Acetophenone	98-86-2	D	14				2.10E-02	2.60E-02	1.1E+03	5.2E+04	1.4E+07	1.1E+03				
AOI-27	SVOC	Anthracene	120-12-7	D	14				1.80E-02	2.20E-02	1.0E+06	1.6E+06	2.9E+07	7.3E+05				
AOI-27	SVOC	Atrazine	1912-24-9		14				2.30E-02	2.80E-02				3.3E+02				
AOI-27	SVOC	Benzaldehyde	100-52-7		14				1.50E-02	1.80E-02								
AOI-27	SVOC	Benzo(a)anthracene	56-55-3	B2	14	1	6.80E-02	6.80E-02	2.40E-02	3.00E-02				8.0E+01				8.5E-04
AOI-27	SVOC	Benzo(a)pyrene	50-32-8	B2	14	1	7.30E-02	7.30E-02	1.60E-02	1.90E-02			1.9E+03	8.0E+00			3.8E-05	9.1E-03
AOI-27	SVOC	Benzo(b)fluoranthene	205-99-2	B2	14	1	1.10E-01	1.10E-01	2.10E-02	2.60E-02				8.0E+01				1.4E-03
AOI-27	SVOC	Benzo(g,h,i)perylene	191-24-2	D	14	1	4.90E-02	4.90E-02	1.70E-02	2.10E-02			3.5E+05	7.0E+03			1.4E-07	7.0E-06
AOI-27	SVOC	Benzo(k)fluoranthene	207-08-9	B2	14	1	4.40E-02	4.40E-02	1.70E-02	2.10E-02				8.0E+02				5.5E-05
AOI-27	SVOC	Biphenyl	92-52-4		14				1.90E-02	2.30E-02								
AOI-27	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	14				2.70E-02	3.30E-02								
AOI-27	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	14				1.90E-02	2.30E-02	4.4E+01	1.3E+01	1.2E+04	5.8E+01				
AOI-27	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	14	1	7.00E-02	7.00E-02	1.40E-02	1.70E-02			8.9E+05	1.0E+04			7.9E-08	7.0E-06
AOI-27	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	14				1.60E-02	1.90E-02								
AOI-27	SVOC	Butylbenzylphthalate	85-68-7	C	14				2.20E-02	2.70E-02			2.1E+07	3.1E+02				
AOI-27	SVOC	Caprolactam	105-60-2		14				3.00E-02	3.60E-02			2.9E+05	3.1E+05				
AOI-27	SVOC	Carbazole	86-74-8	B2	14				2.00E-02	2.40E-02				2.4E+03				
AOI-27	SVOC	4-Chloro-3-methylphenol	59-50-7		14				2.00E-02	2.40E-02				1.5E+04				
AOI-27	SVOC	4-Chloroaniline	106-47-8		14				2.10E-02	2.60E-02								
AOI-27	SVOC	2-Chloronaphthalene	91-58-7		14				1.80E-02	2.20E-02				1.8E+05				
AOI-27	SVOC	2-Chlorophenol	95-57-8		14				1.90E-02	2.30E-02				4.5E+03				
AOI-27	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		14				1.80E-02	2.20E-02								
AOI-27	SVOC	Chrysene	218-01-9	B2	14	1	8.60E-02	8.60E-02	2.30E-02	2.80E-02				8.0E+03				1.1E-05
AOI-27	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	14				1.90E-02	2.30E-02				8.0E+00				
AOI-27	SVOC	Dibenzofuran	132-64-9	D	14				1.80E-02	2.20E-02								
AOI-27	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	14				1.90E-02	2.30E-02			8.2E+03	3.0E+01				
AOI-27	SVOC	2,4-Dichlorophenol	120-83-2		14				1.70E-02	2.10E-02			2.3E+06	1.8E+03				
AOI-27	SVOC	Diethylphthalate	84-66-2	D	14				2.00E-02	2.40E-02			1.5E+06	7.4E+02				
AOI-27	SVOC	2,4-Dimethylphenol	105-67-9		14				1.90E-02	2.30E-02			2.1E+06	3.6E+04				
AOI-27	SVOC	Dimethylphthalate	131-11-3	D	14				1.80E-02	2.20E-02			1.5E+06	7.9E+02				
AOI-27	SVOC	Di-n-butylphthalate	84-74-2	D	14	1	4.10E-02	4.10E-02	2.40E-02	3.00E-02			1.5E+06	7.6E+02			2.7E-08	5.4E-05
AOI-27	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		14				5.10E-02	6.20E-02				2.6E+02				
AOI-27	SVOC	2,4-Dinitrophenol	51-28-5		14				5.00E-02	6.00E-02								
AOI-27	SVOC	2,4-Dinitrotoluene	121-14-2	B2	14				2.30E-02	2.80E-02			2.0E+04	2.2E+02				
AOI-27	SVOC	2,6-Dinitrotoluene	606-20-2	B2	14				1.60E-02	1.90E-02								
AOI-27	SVOC	Di-n-octylphthalate	117-84-0		14				6.80E-02	8.20E-02				2.0E+04				
AOI-27	SVOC	Fluoranthene	206-44-0	D	14	1	1.80E-01	1.80E-01	1.70E-02	2.10E-02	1.0E+06	8.9E+05	4.1E+06	1.3E+05	1.8E-07	2.0E-07	4.4E-08	1.4E-06
AOI-27	SVOC	Fluorene	86-73-7	D	14				1.60E-02	1.90E-02	1.0E+06	1.5E+05	4.1E+06	8.7E+04				
AOI-27	SVOC	Hexachlorobenzene	118-74-1	B2	14				2.30E-02	2.80E-02	2.2E+02	5.6E+01	8.5E+03	3.7E+01				
AOI-27	SVOC	Hexachlorobutadiene	87-68-3	C	14				1.70E-02	2.10E-02	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-27	SVOC	Hexachlorocyclopentadiene	77-47-4	E	14				1.10E-02	1.30E-02	5.6E+01	6.0E+01	5.9E+03	7.2E+02				
AOI-27	SVOC	Hexachloroethane	67-72-1	C	14				1.80E-02	2.20E-02	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-27	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	14	1	4.00E-02	4.00E-02	2.00E-02	2.40E-02				8.0E+01				5.0E-04
AOI-27	SVOC	Isophorone	78-59-1	C	14				2.30E-02	2.80E-02			8.2E+06	2.4E+03				
AOI-27	SVOC	2-Methylnaphthalene	91-57-6		14	2	4.20E-02	4.30E-02	1.80E-02	2.20E-02				2.6E+04				1.7E-06
AOI-27	SVOC	Methylphenol (total)	1319-77-3		14				2.10E-02	2.60E-02			2.9E+06	3.6E+04				
AOI-27	SVOC	Naphthalene	91-20-3	C	14				1.80E-02	2.20E-02	4.7E+02	3.5E+02	8.8E+04	5.2E+04				
AOI-27	SVOC	2-Nitroaniline	88-74-4		14				1.40E-02	1.70E-02								

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-27	SVOC	3-Nitroaniline	99-09-2	C	14				2.30E-02	2.80E-02								
AOI-27	SVOC	4-Nitroaniline	100-01-6	C	14				1.80E-02	2.20E-02								
AOI-27	SVOC	Nitrobenzene	98-95-3	D	14				2.50E-02	3.10E-02	1.7E+02	6.4E+01	2.1E+04	3.4E+02				
AOI-27	SVOC	2-Nitrophenol	88-75-5		14				2.20E-02	2.70E-02				2.0E+03				
AOI-27	SVOC	4-Nitrophenol	100-02-7		14				5.60E-02	6.80E-02								
AOI-27	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	14				2.00E-02	2.40E-02				7.8E+03				
AOI-27	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	14				1.60E-02	1.90E-02			2.0E+03	5.4E+00				
AOI-27	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	14				2.90E-02	3.50E-02								
AOI-27	SVOC	Pentachlorophenol	87-86-5	B2	14				6.30E-02	7.70E-02			1.3E+05	3.2E+02				
AOI-27	SVOC	Phenanthrene	85-01-8	D	14	1	1.50E-01	1.50E-01	2.20E-02	2.70E-02	5.1E+03	1.9E+02	2.9E+03	5.2E+03	2.9E-05	7.9E-04	5.2E-05	2.9E-05
AOI-27	SVOC	Phenol	108-95-2	D	14				1.90E-02	2.30E-02			1.8E+07	1.2E+04				
AOI-27	SVOC	Pyrene	129-00-0	D	14	1	1.60E-01	1.60E-01	2.20E-02	2.70E-02	1.0E+06	7.8E+05	2.9E+06	8.4E+04	1.6E-07	2.1E-07	5.5E-08	1.9E-06
AOI-27	SVOC	2,4,5-Trichlorophenol	95-95-4		14				1.60E-02	1.90E-02			1.0E+07	7.3E+04				
AOI-27	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	14				2.00E-02	2.40E-02			1.3E+06	3.3E+03				
AOI-27	P/PCB	PCBs (total)	1336-36-3	B2	14	1	3.18E-02	3.18E-02	2.10E-02	2.60E-02	1.6E+04	8.1E+02	6.5E+03		2.0E-06	3.9E-05	4.9E-06	
AOI-27	INORG	Aluminum	7429-90-5	D	14	14	1.54E+03	1.43E+04						3.7E+05				3.9E-02
AOI-27	INORG	Antimony	7440-36-0		14	4	4.60E-01	8.80E+00	2.40E-01	2.90E-01			5.9E+03	6.7E+02			1.5E-03	1.3E-02
AOI-27	INORG	Arsenic	7440-38-2	A	14	14	2.10E+00	9.80E+00					9.1E+02	3.7E+01			1.1E-02	2.6E-01
AOI-27	INORG	Barium	7440-39-3	D	14	14	9.50E+00	1.39E+02					1.5E+05	1.3E+05			9.3E-04	1.1E-03
AOI-27	INORG	Beryllium	7440-41-7	B1	14	7	1.20E-01	8.40E-01	7.30E-02	8.40E-02			5.9E+02	1.6E+03			1.4E-03	5.3E-04
AOI-27	INORG	Cadmium	7440-43-9	B1	14	13	5.30E-02	6.40E-01	1.70E-02	1.70E-02			2.2E+03	2.1E+03			2.9E-04	3.0E-04
AOI-27	INORG	Chromium (total)	7440-47-3		14	14	2.90E+00	2.38E+01					2.4E+02	9.2E+03			9.9E-02	2.6E-03
AOI-27	INORG	Cobalt	7440-48-4	B1	14	14	2.00E+00	1.51E+01					5.9E+03	9.0E+03			2.6E-03	1.7E-03
AOI-27	INORG	Copper	7440-50-8	D	14	14	4.20E+00	1.25E+02					5.9E+04	7.3E+04			2.1E-03	1.7E-03
AOI-27	INORG	Cyanide (total)	57-12-5	D	14				9.30E-02	1.10E-01			2.5E+02	2.5E+02				
AOI-27	INORG	Iron	7439-89-6	D	14	14	4.54E+03	3.29E+04						5.8E+05				5.7E-02
AOI-27	INORG	Lead	7439-92-1	B2	14	14	2.10E+00	7.80E+01					4.4E+04	9.0E+02			1.8E-03	8.7E-02
AOI-27	INORG	Magnesium	7439-95-4		14	14	1.88E+03	1.53E+04					2.9E+06	1.0E+06			5.3E-03	1.5E-02
AOI-27	INORG	Manganese	7439-96-5	D	14	14	5.10E+01	1.03E+03					1.5E+03	9.0E+04			6.9E-01	1.1E-02
AOI-27	INORG	Mercury	7439-97-6	D	14	1	3.20E-02	3.20E-02	1.70E-02	2.10E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	3.6E-04	5.2E-04	3.6E-06	5.5E-05
AOI-27	INORG	Nickel	7440-02-0	A	14	14	4.20E+00	3.51E+01					1.6E+04	1.5E+05			2.2E-03	2.3E-04
AOI-27	INORG	Selenium	7782-49-2	D	14				3.30E-01	4.00E-01			5.9E+04	9.6E+03				
AOI-27	INORG	Silver	7440-22-4	D	14	2	1.30E-01	8.60E-01	1.10E-01	1.30E-01			2.9E+03	9.0E+03			3.0E-04	9.6E-05
AOI-27	INORG	Sodium	7440-23-5		14	9	5.17E+01	1.21E+02	4.23E+01	5.02E+01								
AOI-27	INORG	Thallium	7440-28-0		14	1	1.40E+00	1.40E+00	6.10E-01	7.50E-01				1.3E+02				1.1E-02
AOI-27	INORG	Vanadium	7440-62-2		14	14	6.30E+00	3.39E+01						5.5E+03				6.2E-03
AOI-27	INORG	Zinc	7440-66-6	D	14	14	1.60E+01	1.95E+02						6.3E+05				3.1E-04
AOI-31	VOC	Acetone	67-64-1	D	3				5.60E-02	5.80E-02	1.1E+05	1.6E+05	1.7E+08	7.3E+04				
AOI-31	VOC	Benzene	71-43-2	A	9				8.10E-03	1.00E-02	8.4E+00	4.5E+01	4.7E+05	4.0E+02				
AOI-31	VOC	Bromodichloromethane	75-27-4	B2	3				9.60E-03	1.00E-02	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
AOI-31	VOC	Bromoform	75-25-2	B2	3				1.30E-02	1.30E-02	7.7E+02	3.1E+03	3.6E+06	8.7E+02				
AOI-31	VOC	Bromomethane	74-83-9	D	3				4.90E-02	5.10E-02	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
AOI-31	VOC	2-Butanone	78-93-3	D	3				6.10E-02	6.30E-02	2.7E+04	3.5E+04	2.9E+07	2.7E+04				
AOI-31	VOC	Carbon Disulfide	75-15-0		3				5.30E-03	5.50E-03	1.4E+02	1.6E+03	2.1E+07	2.8E+02				
AOI-31	VOC	Carbon Tetrachloride	56-23-5	B2	3				1.60E-02	1.70E-02	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
AOI-31	VOC	Chlorobenzene	108-90-7	D	3				6.80E-03	7.10E-03	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
AOI-31	VOC	Chloroethane	75-00-3		3				5.50E-02	5.70E-02	9.5E+02	3.6E+04	2.9E+08	9.5E+02				
AOI-31	VOC	Chloroform	67-66-3	B2	3				1.40E-02	1.50E-02	3.8E+01	1.5E+02	1.6E+06	1.5E+03				
AOI-31	VOC	Chloromethane	74-87-3	D	3				1.60E-02	1.70E-02	1.0E+01	1.2E+02	2.6E+06	1.1E+03				
AOI-31	VOC	Cumene	98-82-8	D	3				1.00E-02	1.00E-02	3.9E+02	2.0E+03	2.6E+06	3.9E+02				
AOI-31	VOC	Cyclohexane	110-82-7		3	2	2.00E-02	2.40E-02	7.30E-03	7.30E-03								
AOI-31	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	3				2.70E-02	2.80E-02	1.2E+00	1.5E+01	5.9E+03	1.2E+00				
AOI-31	VOC	Dibromochloromethane	124-48-1	C	3				1.30E-02	1.30E-02	2.1E+01	8.0E+01	1.6E+05	5.0E+02				
AOI-31	VOC	1,2-Dibromoethane	106-93-4	B2	3				8.90E-03	9.30E-03	3.6E+00	5.8E+00	1.8E+04	4.3E-01				
AOI-31	VOC	1,2-Dichlorobenzene	95-50-1	D	3				8.10E-03	8.40E-03	2.1E+02	4.6E+04	4.4E+07	2.1E+02				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-31	VOC	1,3-Dichlorobenzene	541-73-1	D	3				9.70E-03	1.00E-02				1.7E+02				
AOI-31	VOC	1,4-Dichlorobenzene	106-46-7	C	3				1.00E-02	1.00E-02	1.0E+02	2.6E+02	5.7E+05	1.9E+03				
AOI-31	VOC	Dichlorodifluoromethane	75-71-8		3				2.70E-02	2.80E-02	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
AOI-31	VOC	1,1-Dichloroethane	75-34-3	C	3				1.30E-02	1.30E-02	4.3E+02	2.5E+03	1.5E+07	8.9E+02				
AOI-31	VOC	1,2-Dichloroethane	107-06-2	B2	3				1.50E-02	1.60E-02	1.1E+01	2.1E+01	1.5E+05	4.2E+02				
AOI-31	VOC	1,1-Dichloroethene	75-35-4	C	3				9.30E-03	9.60E-03	3.3E-01	3.7E+00	7.8E+04	5.7E+02				
AOI-31	VOC	cis-1,2-Dichloroethene	156-59-2	D	3				9.10E-03	9.50E-03	4.1E+01	2.1E+02	1.0E+06	6.4E+02				
AOI-31	VOC	trans-1,2-Dichloroethene	156-60-5		3				1.20E-02	1.20E-02	4.3E+01	3.3E+02	2.1E+06	1.4E+03				
AOI-31	VOC	1,2-Dichloropropane	78-87-5	B2	3				1.10E-02	1.10E-02	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
AOI-31	VOC	1,3-Dichloropropene (total)	542-75-6	B2	3				9.00E-03	9.40E-03	5.4E+00	6.0E+01	5.9E+05	2.4E+02				
AOI-31	VOC	Ethyl Benzene	100-41-4	D	9	2	1.10E-02	1.80E-02	7.60E-03	1.00E-02	1.4E+02	2.4E+03	1.3E+07	1.4E+02	1.3E-04	7.5E-06	1.4E-09	1.3E-04
AOI-31	VOC	2-Hexanone	591-78-6		3				1.90E-02	1.90E-02	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
AOI-31	VOC	Methyl Acetate	79-20-9		3	2	3.30E-02	4.80E-02	2.90E-02	2.90E-02								
AOI-31	VOC	Methyl tert-butyl ether	1634-04-4		3				9.60E-03	1.00E-02	5.9E+03	3.0E+04	8.8E+07	5.9E+03				
AOI-31	VOC	4-Methyl-2-pentanone	108-10-1		3				2.80E-02	2.90E-02	2.7E+03	5.3E+04	6.0E+07	2.7E+03				
AOI-31	VOC	Methylcyclohexane	108-87-2		3	3	1.90E-02	9.20E-02										
AOI-31	VOC	Methylene Chloride	75-09-2	B2	3				1.90E-02	1.90E-02	2.4E+02	7.0E+02	8.3E+06	2.3E+03				
AOI-31	VOC	Styrene	100-42-5		3	1	1.30E-02	1.30E-02	8.70E-03	8.80E-03	5.2E+02	3.3E+03	6.9E+06	5.2E+02	2.5E-05	3.9E-06	1.9E-09	2.5E-05
AOI-31	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	3				1.20E-02	1.20E-02	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
AOI-31	VOC	Tetrachloroethene	127-18-4	C-B2	3				1.30E-02	1.30E-02	6.0E+01	6.0E+02	6.8E+06	8.8E+01				
AOI-31	VOC	Toluene	108-88-3	D	9				6.60E-03	1.00E-02	2.5E+02	3.3E+03	1.2E+07	2.5E+02				
AOI-31	VOC	1,2,4-Trichlorobenzene	120-82-1	D	3				1.30E-02	1.30E-02	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
AOI-31	VOC	1,1,1-Trichloroethane	71-55-6	D	3				1.00E-02	1.10E-02	4.6E+02	4.5E+03	2.9E+07	4.6E+02				
AOI-31	VOC	1,1,2-Trichloroethane	79-00-5	C	3				9.30E-03	9.60E-03	2.4E+01	5.7E+01	2.5E+05	8.4E+02				
AOI-31	VOC	Trichloroethene	79-01-6	C-B2	3				1.00E-02	1.10E-02	3.7E+01	2.6E+02	2.3E+06	5.0E+02				
AOI-31	VOC	Trichlorofluoromethane	75-69-4		3				1.00E-02	1.10E-02	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
AOI-31	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		3				3.40E-02	3.50E-02	5.5E+02	2.1E+05	2.3E+09	5.5E+02				
AOI-31	VOC	Vinyl Chloride	75-01-4	A	3				1.30E-02	1.30E-02	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
AOI-31	VOC	Xylenes (total)	1330-20-7	D	9	1	2.20E-02	2.20E-02	1.00E-02	2.30E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	1.5E-04	4.1E-07	1.7E-10	1.5E-04
AOI-31	SVOC	Acenaphthene	83-32-9		3				1.50E-02	1.70E-02	3.5E+05	9.7E+04	6.2E+06	1.3E+05				
AOI-31	SVOC	Acenaphthylene	208-96-8	D	3				2.10E-02	2.30E-02	3.0E+03	2.7E+03	1.0E+06	5.2E+03				
AOI-31	SVOC	Acetophenone	98-86-2	D	3				2.20E-02	2.40E-02	1.1E+03	5.2E+04	1.4E+07	1.1E+03				
AOI-31	SVOC	Anthracene	120-12-7	D	3	1	4.00E-02	4.00E-02	2.10E-02	2.10E-02	1.0E+06	1.6E+06	2.9E+07	7.3E+05	4.0E-08	2.5E-08	1.4E-09	5.5E-08
AOI-31	SVOC	Atrazine	1912-24-9		3				2.40E-02	2.70E-02				3.3E+02				
AOI-31	SVOC	Benzaldehyde	100-52-7		3				1.50E-02	1.70E-02								
AOI-31	SVOC	Benzo(a)anthracene	56-55-3	B2	3	2	1.30E-01	2.10E-01	2.80E-02	2.80E-02				8.0E+01				2.6E-03
AOI-31	SVOC	Benzo(a)pyrene	50-32-8	B2	3	2	1.40E-01	2.50E-01	1.80E-02	1.80E-02			1.9E+03	8.0E+00			1.3E-04	3.1E-02
AOI-31	SVOC	Benzo(b)fluoranthene	205-99-2	B2	3	2	1.60E-01	3.10E-01	2.40E-02	2.40E-02				8.0E+01				3.9E-03
AOI-31	SVOC	Benzo(g,h,i)perylene	191-24-2	D	3	2	7.60E-02	1.50E-01	1.90E-02	1.90E-02			3.5E+05	7.0E+03			4.3E-07	2.1E-05
AOI-31	SVOC	Benzo(k)fluoranthene	207-08-9	B2	3	2	1.10E-01	1.70E-01	1.90E-02	1.90E-02				8.0E+02				2.1E-04
AOI-31	SVOC	Biphenyl	92-52-4		3				2.00E-02	2.20E-02								
AOI-31	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	3				2.80E-02	3.20E-02								
AOI-31	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	3				2.00E-02	2.20E-02	4.4E+01	1.3E+01	1.2E+04	5.8E+01				
AOI-31	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	3	2	8.80E-02	2.10E-01	1.60E-02	1.60E-02			8.9E+05	1.0E+04			2.4E-07	2.1E-05
AOI-31	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	3				1.60E-02	1.80E-02								
AOI-31	SVOC	Butylbenzylphthalate	85-68-7	C	3				2.30E-02	2.60E-02			2.1E+07	3.1E+02				
AOI-31	SVOC	Caprolactam	105-60-2		3				3.00E-02	3.40E-02			2.9E+05	3.1E+05				
AOI-31	SVOC	Carbazole	86-74-8	B2	3				2.10E-02	2.30E-02				2.4E+03				
AOI-31	SVOC	4-Chloro-3-methylphenol	59-50-7		3				2.10E-02	2.30E-02				1.5E+04				
AOI-31	SVOC	4-Chloroaniline	106-47-8		3				2.20E-02	2.40E-02								
AOI-31	SVOC	2-Chloronaphthalene	91-58-7		3				1.80E-02	2.10E-02				1.8E+05				
AOI-31	SVOC	2-Chlorophenol	95-57-8		3				2.00E-02	2.20E-02				4.5E+03				
AOI-31	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		3				1.80E-02	2.10E-02								
AOI-31	SVOC	Chrysene	218-01-9	B2	3	2	1.50E-01	2.50E-01	2.70E-02	2.70E-02				8.0E+03				3.1E-05
AOI-31	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	3				2.00E-02	2.20E-02				8.0E+00				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-31	SVOC	Dibenzofuran	132-64-9	D	3				1.80E-02	2.10E-02								
AOI-31	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	3				2.00E-02	2.20E-02			8.2E+03	3.0E+01				
AOI-31	SVOC	2,4-Dichlorophenol	120-83-2		3				1.70E-02	1.90E-02			2.3E+06	1.8E+03				
AOI-31	SVOC	Diethylphthalate	84-66-2	D	3				2.10E-02	2.30E-02			1.5E+06	7.4E+02				
AOI-31	SVOC	2,4-Dimethylphenol	105-67-9		3				2.00E-02	2.20E-02			2.1E+06	3.6E+04				
AOI-31	SVOC	Dimethylphthalate	131-11-3	D	3				1.80E-02	2.10E-02			1.5E+06	7.9E+02				
AOI-31	SVOC	Di-n-butylphthalate	84-74-2	D	3				2.50E-02	2.80E-02			1.5E+06	7.6E+02				
AOI-31	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		3				5.20E-02	5.80E-02				2.6E+02				
AOI-31	SVOC	2,4-Dinitrophenol	51-28-5		3				5.10E-02	5.70E-02								
AOI-31	SVOC	2,4-Dinitrotoluene	121-14-2	B2	3				2.40E-02	2.70E-02			2.0E+04	2.2E+02				
AOI-31	SVOC	2,6-Dinitrotoluene	606-20-2	B2	3				1.60E-02	1.80E-02								
AOI-31	SVOC	Di-n-octylphthalate	117-84-0		3				6.90E-02	7.80E-02				2.0E+04				
AOI-31	SVOC	Fluoranthene	206-44-0	D	3	2	2.40E-01	4.70E-01	1.90E-02	1.90E-02	1.0E+06	8.9E+05	4.1E+06	1.3E+05	4.7E-07	5.3E-07	1.1E-07	3.6E-06
AOI-31	SVOC	Fluorene	86-73-7	D	3				1.60E-02	1.80E-02	1.0E+06	1.5E+05	4.1E+06	8.7E+04				
AOI-31	SVOC	Hexachlorobenzene	118-74-1	B2	3				2.40E-02	2.70E-02	2.2E+02	5.6E+01	8.5E+03	3.7E+01				
AOI-31	SVOC	Hexachlorobutadiene	87-68-3	C	3				1.70E-02	1.90E-02	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-31	SVOC	Hexachlorocyclopentadiene	77-47-4	E	3				1.10E-02	1.20E-02	5.6E+01	6.0E+01	5.9E+03	7.2E+02				
AOI-31	SVOC	Hexachloroethane	67-72-1	C	3				1.80E-02	2.10E-02	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-31	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	3	2	6.80E-02	1.40E-01	2.30E-02	2.30E-02				8.0E+01				1.8E-03
AOI-31	SVOC	Isophorone	78-59-1	C	3				2.40E-02	2.70E-02			8.2E+06	2.4E+03				
AOI-31	SVOC	2-Methylnaphthalene	91-57-6		3	1	5.90E-02	5.90E-02	1.80E-02	2.10E-02				2.6E+04				2.3E-06
AOI-31	SVOC	Methylphenol (total)	1319-77-3		3				2.20E-02	2.40E-02			2.9E+06	3.6E+04				
AOI-31	SVOC	Naphthalene	91-20-3	C	3				1.80E-02	2.10E-02	4.7E+02	3.5E+02	8.8E+04	5.2E+04				
AOI-31	SVOC	2-Nitroaniline	88-74-4		3				1.40E-02	1.60E-02								
AOI-31	SVOC	3-Nitroaniline	99-09-2	C	3				2.40E-02	2.70E-02								
AOI-31	SVOC	4-Nitroaniline	100-01-6	C	3				1.80E-02	2.10E-02								
AOI-31	SVOC	Nitrobenzene	98-95-3	D	3				2.60E-02	2.90E-02	1.7E+02	6.4E+01	2.1E+04	3.4E+02				
AOI-31	SVOC	2-Nitrophenol	88-75-5		3				2.30E-02	2.60E-02				2.0E+03				
AOI-31	SVOC	4-Nitrophenol	100-02-7		3				5.70E-02	6.50E-02								
AOI-31	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	3				2.10E-02	2.30E-02				7.8E+03				
AOI-31	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	3				1.60E-02	1.80E-02			2.0E+03	5.4E+00				
AOI-31	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	3				2.90E-02	3.30E-02								
AOI-31	SVOC	Pentachlorophenol	87-86-5	B2	3				6.50E-02	7.30E-02			1.3E+05	3.2E+02				
AOI-31	SVOC	Phenanthrene	85-01-8	D	3	2	1.60E-01	2.10E-01	2.60E-02	2.60E-02	5.1E+03	1.9E+02	2.9E+03	5.2E+03	4.1E-05	1.1E-03	7.2E-05	4.0E-05
AOI-31	SVOC	Phenol	108-95-2	D	3				2.00E-02	2.20E-02			1.8E+07	1.2E+04				
AOI-31	SVOC	Pyrene	129-00-0	D	3	2	2.10E-01	3.70E-01	2.60E-02	2.60E-02	1.0E+06	7.8E+05	2.9E+06	8.4E+04	3.7E-07	4.7E-07	1.3E-07	4.4E-06
AOI-31	SVOC	2,4,5-Trichlorophenol	95-95-4		3				1.60E-02	1.80E-02			1.0E+07	7.3E+04				
AOI-31	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	3				2.10E-02	2.30E-02			1.3E+06	3.3E+03				
AOI-37	VOC	Acetone	67-64-1	D	3	3	7.80E-02	2.30E-01			1.1E+05	1.6E+05	1.7E+08	7.3E+04	2.1E-06	1.4E-06	1.4E-09	3.2E-06
AOI-37	VOC	Benzene	71-43-2	A	3				7.90E-03	8.30E-03	8.4E+00	4.5E+01	4.7E+05	4.0E+02				
AOI-37	VOC	Bromodichloromethane	75-27-4	B2	3				9.30E-03	9.90E-03	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
AOI-37	VOC	Bromoform	75-25-2	B2	3				1.30E-02	1.30E-02	7.7E+02	3.1E+03	3.6E+06	8.7E+02				
AOI-37	VOC	Bromomethane	74-83-9	D	3				4.80E-02	5.10E-02	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
AOI-37	VOC	2-Butanone	78-93-3	D	3				5.90E-02	6.30E-02	2.7E+04	3.5E+04	2.9E+07	2.7E+04				
AOI-37	VOC	Carbon Disulfide	75-15-0		3				5.10E-03	5.40E-03	1.4E+02	1.6E+03	2.1E+07	2.8E+02				
AOI-37	VOC	Carbon Tetrachloride	56-23-5	B2	3				1.60E-02	1.70E-02	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
AOI-37	VOC	Chlorobenzene	108-90-7	D	3				6.60E-03	7.00E-03	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
AOI-37	VOC	Chloroethane	75-00-3		3				5.40E-02	5.70E-02	9.5E+02	3.6E+04	2.9E+08	9.5E+02				
AOI-37	VOC	Chloroform	67-66-3	B2	3				1.40E-02	1.40E-02	3.8E+01	1.5E+02	1.6E+06	1.5E+03				
AOI-37	VOC	Chloromethane	74-87-3	D	3				1.60E-02	1.70E-02	1.0E+01	1.2E+02	2.6E+06	1.1E+03				
AOI-37	VOC	Cumene	98-82-8	D	3				9.70E-03	1.00E-02	3.9E+02	2.0E+03	2.6E+06	3.9E+02				
AOI-37	VOC	Cyclohexane	110-82-7		3				7.10E-03	7.50E-03								
AOI-37	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	3				2.60E-02	2.80E-02	1.2E+00	1.5E+01	5.9E+03	1.2E+00				
AOI-37	VOC	Dibromochloromethane	124-48-1	C	3				1.30E-02	1.30E-02	2.1E+01	8.0E+01	1.6E+05	5.0E+02				
AOI-37	VOC	1,2-Dibromoethane	106-93-4	B2	3				8.70E-03	9.20E-03	3.6E+00	5.8E+00	1.8E+04	4.3E-01				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-37	VOC	1,2-Dichlorobenzene	95-50-1	D	3				7.90E-03	8.30E-03	2.1E+02	4.6E+04	4.4E+07	2.1E+02				
AOI-37	VOC	1,3-Dichlorobenzene	541-73-1	D	3				9.50E-03	1.00E-02				1.7E+02				
AOI-37	VOC	1,4-Dichlorobenzene	106-46-7	C	3				9.80E-03	1.00E-02	1.0E+02	2.6E+02	5.7E+05	1.9E+03				
AOI-37	VOC	Dichlorodifluoromethane	75-71-8		3				2.60E-02	2.80E-02	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
AOI-37	VOC	1,1-Dichloroethane	75-34-3	C	3	2	1.90E-01	7.10E-01	1.30E-02	1.30E-02	4.3E+02	2.5E+03	1.5E+07	8.9E+02	1.7E-03	2.8E-04	4.7E-08	8.0E-04
AOI-37	VOC	1,2-Dichloroethane	107-06-2	B2	3				1.50E-02	1.60E-02	1.1E+01	2.1E+01	1.5E+05	4.2E+02				
AOI-37	VOC	1,1-Dichloroethene	75-35-4	C	3	2	5.30E-02	4.00E-01	9.40E-03	9.40E-03	3.3E-01	3.7E+00	7.8E+04	5.7E+02	1.2E+00	1.1E-01	5.1E-06	7.0E-04
AOI-37	VOC	cis-1,2-Dichloroethene	156-59-2	D	3				8.90E-03	9.40E-03	4.1E+01	2.1E+02	1.0E+06	6.4E+02				
AOI-37	VOC	trans-1,2-Dichloroethene	156-60-5		3				1.10E-02	1.20E-02	4.3E+01	3.3E+02	2.1E+06	1.4E+03				
AOI-37	VOC	1,2-Dichloropropane	78-87-5	B2	3				1.10E-02	1.10E-02	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
AOI-37	VOC	1,3-Dichloropropene (total)	542-75-6	B2	3				8.80E-03	9.30E-03	5.4E+00	6.0E+01	5.9E+05	2.4E+02				
AOI-37	VOC	Ethyl Benzene	100-41-4	D	3				7.40E-03	7.80E-03	1.4E+02	2.4E+03	1.3E+07	1.4E+02				
AOI-37	VOC	2-Hexanone	591-78-6		3				1.80E-02	1.90E-02	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
AOI-37	VOC	Methyl Acetate	79-20-9		3				2.70E-02	2.90E-02								
AOI-37	VOC	Methyl tert-butyl ether	1634-04-4		3				9.30E-03	9.90E-03	5.9E+03	3.0E+04	8.8E+07	5.9E+03				
AOI-37	VOC	4-Methyl-2-pentanone	108-10-1		3				2.70E-02	2.90E-02	2.7E+03	5.3E+04	6.0E+07	2.7E+03				
AOI-37	VOC	Methylcyclohexane	108-87-2		3				1.00E-02	1.10E-02								
AOI-37	VOC	Methylene Chloride	75-09-2	B2	3				1.80E-02	1.90E-02	2.4E+02	7.0E+02	8.3E+06	2.3E+03				
AOI-37	VOC	Styrene	100-42-5		3				8.20E-03	8.70E-03	5.2E+02	3.3E+03	6.9E+06	5.2E+02				
AOI-37	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	3				1.10E-02	1.20E-02	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
AOI-37	VOC	Tetrachloroethene	127-18-4	C-B2	3				1.30E-02	1.30E-02	6.0E+01	6.0E+02	6.8E+06	8.8E+01				
AOI-37	VOC	Toluene	108-88-3	D	3				6.40E-03	6.80E-03	2.5E+02	3.3E+03	1.2E+07	2.5E+02				
AOI-37	VOC	1,2,4-Trichlorobenzene	120-82-1	D	3				1.30E-02	1.30E-02	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
AOI-37	VOC	1,1,1-Trichloroethane	71-55-6	D	3	2	2.40E-01	3.90E+00	1.10E-02	1.10E-02	4.6E+02	4.5E+03	2.9E+07	4.6E+02	8.5E-03	8.7E-04	1.3E-07	8.5E-03
AOI-37	VOC	1,1,2-Trichloroethane	79-00-5	C	3				9.00E-03	9.50E-03	2.4E+01	5.7E+01	2.5E+05	8.4E+02				
AOI-37	VOC	Trichloroethene	79-01-6	C-B2	3				9.90E-03	1.00E-02	3.7E+01	2.6E+02	2.3E+06	5.0E+02				
AOI-37	VOC	Trichlorofluoromethane	75-69-4		3				1.00E-02	1.10E-02	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
AOI-37	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		3				3.30E-02	3.50E-02	5.5E+02	2.1E+05	2.3E+09	5.5E+02				
AOI-37	VOC	Vinyl Chloride	75-01-4	A	3				1.30E-02	1.30E-02	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
AOI-37	VOC	Xylenes (total)	1330-20-7	D	3				2.20E-02	2.30E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02				
AOI-37	SVOC	Acenaphthene	83-32-9		3				1.60E-02	1.70E-02	3.5E+05	9.7E+04	6.2E+06	1.3E+05				
AOI-37	SVOC	Acenaphthylene	208-96-8	D	3				2.20E-02	2.30E-02	3.0E+03	2.7E+03	1.0E+06	5.2E+03				
AOI-37	SVOC	Acetophenone	98-86-2	D	3				2.30E-02	2.40E-02	1.1E+03	5.2E+04	1.4E+07	1.1E+03				
AOI-37	SVOC	Anthracene	120-12-7	D	3				1.90E-02	2.00E-02	1.0E+06	1.6E+06	2.9E+07	7.3E+05				
AOI-37	SVOC	Atrazine	1912-24-9		3				2.50E-02	2.70E-02				3.3E+02				
AOI-37	SVOC	Benzaldehyde	100-52-7		3				1.60E-02	1.70E-02								
AOI-37	SVOC	Benzo(a)anthracene	56-55-3	B2	3				2.60E-02	2.80E-02				8.0E+01				
AOI-37	SVOC	Benzo(a)pyrene	50-32-8	B2	3				1.70E-02	1.80E-02			1.9E+03	8.0E+00				
AOI-37	SVOC	Benzo(b)fluoranthene	205-99-2	B2	3				2.30E-02	2.40E-02				8.0E+01				
AOI-37	SVOC	Benzo(g,h,i)perylene	191-24-2	D	3				1.80E-02	1.90E-02			3.5E+05	7.0E+03				
AOI-37	SVOC	Benzo(k)fluoranthene	207-08-9	B2	3				1.80E-02	1.90E-02				8.0E+02				
AOI-37	SVOC	Biphenyl	92-52-4		3				2.10E-02	2.20E-02								
AOI-37	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	3				3.00E-02	3.10E-02								
AOI-37	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	3				2.10E-02	2.20E-02	4.4E+01	1.3E+01	1.2E+04	5.8E+01				
AOI-37	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	3				1.50E-02	1.60E-02			8.9E+05	1.0E+04				
AOI-37	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	3				1.70E-02	1.80E-02								
AOI-37	SVOC	Butylbenzylphthalate	85-68-7	C	3				2.40E-02	2.50E-02			2.1E+07	3.1E+02				
AOI-37	SVOC	Caprolactam	105-60-2		3				3.20E-02	3.40E-02			2.9E+05	3.1E+05				
AOI-37	SVOC	Carbazole	86-74-8	B2	3				2.20E-02	2.30E-02				2.4E+03				
AOI-37	SVOC	4-Chloro-3-methylphenol	59-50-7		3				2.20E-02	2.30E-02				1.5E+04				
AOI-37	SVOC	4-Chloroaniline	106-47-8		3				2.30E-02	2.40E-02								
AOI-37	SVOC	2-Chloronaphthalene	91-58-7		3				1.90E-02	2.00E-02				1.8E+05				
AOI-37	SVOC	2-Chlorophenol	95-57-8		3				2.10E-02	2.20E-02				4.5E+03				
AOI-37	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		3				1.90E-02	2.00E-02								
AOI-37	SVOC	Chrysene	218-01-9	B2	3				2.50E-02	2.70E-02				8.0E+03				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-37	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	3				2.10E-02	2.20E-02				8.0E+00				
AOI-37	SVOC	Dibenzofuran	132-64-9	D	3				1.90E-02	2.00E-02								
AOI-37	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	3				2.10E-02	2.20E-02			8.2E+03	3.0E+01				
AOI-37	SVOC	2,4-Dichlorophenol	120-83-2		3				1.80E-02	1.90E-02			2.3E+06	1.8E+03				
AOI-37	SVOC	Diethylphthalate	84-66-2	D	3				2.20E-02	2.30E-02			1.5E+06	7.4E+02				
AOI-37	SVOC	2,4-Dimethylphenol	105-67-9		3				2.10E-02	2.20E-02			2.1E+06	3.6E+04				
AOI-37	SVOC	Dimethylphthalate	131-11-3	D	3				1.90E-02	2.00E-02			1.5E+06	7.9E+02				
AOI-37	SVOC	Di-n-butylphthalate	84-74-2	D	3				2.60E-02	2.80E-02			1.5E+06	7.6E+02				
AOI-37	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		3				5.50E-02	5.80E-02				2.6E+02				
AOI-37	SVOC	2,4-Dinitrophenol	51-28-5		3				5.40E-02	5.70E-02								
AOI-37	SVOC	2,4-Dinitrotoluene	121-14-2	B2	3				2.50E-02	2.70E-02			2.0E+04	2.2E+02				
AOI-37	SVOC	2,6-Dinitrotoluene	606-20-2	B2	3				1.70E-02	1.80E-02								
AOI-37	SVOC	Di-n-octylphthalate	117-84-0		3				7.30E-02	7.70E-02				2.0E+04				
AOI-37	SVOC	Fluoranthene	206-44-0	D	3	1	7.70E-02	7.70E-02	1.90E-02	1.90E-02	1.0E+06	8.9E+05	4.1E+06	1.3E+05	7.7E-08	8.7E-08	1.9E-08	5.9E-07
AOI-37	SVOC	Fluorene	86-73-7	D	3				1.70E-02	1.80E-02	1.0E+06	1.5E+05	4.1E+06	8.7E+04				
AOI-37	SVOC	Hexachlorobenzene	118-74-1	B2	3				2.50E-02	2.70E-02	2.2E+02	5.6E+01	8.5E+03	3.7E+01				
AOI-37	SVOC	Hexachlorobutadiene	87-68-3	C	3				1.80E-02	1.90E-02	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-37	SVOC	Hexachlorocyclopentadiene	77-47-4	E	3				1.10E-02	1.20E-02	5.6E+01	6.0E+01	5.9E+03	7.2E+02				
AOI-37	SVOC	Hexachloroethane	67-72-1	C	3				1.90E-02	2.00E-02	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-37	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	3				2.20E-02	2.30E-02				8.0E+01				
AOI-37	SVOC	Isophorone	78-59-1	C	3				2.50E-02	2.70E-02			8.2E+06	2.4E+03				
AOI-37	SVOC	2-Methylnaphthalene	91-57-6		3				1.90E-02	2.00E-02				2.6E+04				
AOI-37	SVOC	Methylphenol (total)	1319-77-3		3				2.30E-02	2.40E-02			2.9E+06	3.6E+04				
AOI-37	SVOC	Naphthalene	91-20-3	C	3				1.90E-02	2.00E-02	4.7E+02	3.5E+02	8.8E+04	5.2E+04				
AOI-37	SVOC	2-Nitroaniline	88-74-4		3				1.50E-02	1.60E-02								
AOI-37	SVOC	3-Nitroaniline	99-09-2	C	3				2.50E-02	2.70E-02								
AOI-37	SVOC	4-Nitroaniline	100-01-6	C	3				1.90E-02	2.00E-02								
AOI-37	SVOC	Nitrobenzene	98-95-3	D	3				2.70E-02	2.90E-02	1.7E+02	6.4E+01	2.1E+04	3.4E+02				
AOI-37	SVOC	2-Nitrophenol	88-75-5		3				2.40E-02	2.50E-02				2.0E+03				
AOI-37	SVOC	4-Nitrophenol	100-02-7		3				6.00E-02	6.40E-02								
AOI-37	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	3				2.20E-02	2.30E-02				7.8E+03				
AOI-37	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	3				1.70E-02	1.80E-02			2.0E+03	5.4E+00				
AOI-37	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	3				3.10E-02	3.30E-02								
AOI-37	SVOC	Pentachlorophenol	87-86-5	B2	3				6.80E-02	7.20E-02			1.3E+05	3.2E+02				
AOI-37	SVOC	Phenanthrene	85-01-8	D	3	1	5.20E-02	5.20E-02	2.50E-02	2.50E-02	5.1E+03	1.9E+02	2.9E+03	5.2E+03	1.0E-05	2.7E-04	1.8E-05	1.0E-05
AOI-37	SVOC	Phenol	108-95-2	D	3				2.10E-02	2.20E-02			1.8E+07	1.2E+04				
AOI-37	SVOC	Pyrene	129-00-0	D	3	1	4.30E-02	4.30E-02	2.50E-02	2.50E-02	1.0E+06	7.8E+05	2.9E+06	8.4E+04	4.3E-08	5.5E-08	1.5E-08	5.1E-07
AOI-37	SVOC	2,4,5-Trichlorophenol	95-95-4		3				1.70E-02	1.80E-02			1.0E+07	7.3E+04				
AOI-37	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	3				2.20E-02	2.30E-02			1.3E+06	3.3E+03				
AOI-45	VOC	Acetone	67-64-1	D	10				5.20E-02	5.80E-02	1.1E+05	1.6E+05	1.7E+08	7.3E+04				
AOI-45	VOC	Benzene	71-43-2	A	10	1	1.00E-02	1.00E-02	7.50E-03	8.40E-03	8.4E+00	4.5E+01	4.7E+05	4.0E+02	1.2E-03	2.2E-04	2.1E-08	2.5E-05
AOI-45	VOC	Bromodichloromethane	75-27-4	B2	10				8.90E-03	1.00E-02	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
AOI-45	VOC	Bromoform	75-25-2	B2	10				1.20E-02	1.30E-02	7.7E+02	3.1E+03	3.6E+06	8.7E+02				
AOI-45	VOC	Bromomethane	74-83-9	D	10				4.60E-02	5.10E-02	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
AOI-45	VOC	2-Butanone	78-93-3	D	10				5.70E-02	6.30E-02	2.7E+04	3.5E+04	2.9E+07	2.7E+04				
AOI-45	VOC	Carbon Disulfide	75-15-0		10				4.90E-03	5.50E-03	1.4E+02	1.6E+03	2.1E+07	2.8E+02				
AOI-45	VOC	Carbon Tetrachloride	56-23-5	B2	10				1.50E-02	1.70E-02	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
AOI-45	VOC	Chlorobenzene	108-90-7	D	10				6.30E-03	7.10E-03	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
AOI-45	VOC	Chloroethane	75-00-3		10				5.10E-02	5.70E-02	9.5E+02	3.6E+04	2.9E+08	9.5E+02				
AOI-45	VOC	Chloroform	67-66-3	B2	10				1.30E-02	1.50E-02	3.8E+01	1.5E+02	1.6E+06	1.5E+03				
AOI-45	VOC	Chloromethane	74-87-3	D	10				1.50E-02	1.70E-02	1.0E+01	1.2E+02	2.6E+06	1.1E+03				
AOI-45	VOC	Cumene	98-82-8	D	10				9.20E-03	1.00E-02	3.9E+02	2.0E+03	2.6E+06	3.9E+02				
AOI-45	VOC	Cyclohexane	110-82-7		10	4	3.00E-02	9.30E-02	6.70E-03	7.50E-03								
AOI-45	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	10				2.50E-02	2.80E-02	1.2E+00	1.5E+01	5.9E+03	1.2E+00				
AOI-45	VOC	Dibromochloromethane	124-48-1	C	10				1.20E-02	1.30E-02	2.1E+01	8.0E+01	1.6E+05	5.0E+02				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-45	VOC	1,2-Dibromoethane	106-93-4	B2	10				8.30E-03	9.30E-03	3.6E+00	5.8E+00	1.8E+04	4.3E-01				
AOI-45	VOC	1,2-Dichlorobenzene	95-50-1	D	10				7.50E-03	8.40E-03	2.1E+02	4.6E+04	4.4E+07	2.1E+02				
AOI-45	VOC	1,3-Dichlorobenzene	541-73-1	D	10				9.00E-03	1.00E-02				1.7E+02				
AOI-45	VOC	1,4-Dichlorobenzene	106-46-7	C	10				9.40E-03	1.00E-02	1.0E+02	2.6E+02	5.7E+05	1.9E+03				
AOI-45	VOC	Dichlorodifluoromethane	75-71-8		10				2.50E-02	2.80E-02	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
AOI-45	VOC	1,1-Dichloroethane	75-34-3	C	10				1.20E-02	1.30E-02	4.3E+02	2.5E+03	1.5E+07	8.9E+02				
AOI-45	VOC	1,2-Dichloroethane	107-06-2	B2	10				1.40E-02	1.60E-02	1.1E+01	2.1E+01	1.5E+05	4.2E+02				
AOI-45	VOC	1,1-Dichloroethene	75-35-4	C	10				8.60E-03	9.60E-03	3.3E-01	3.7E+00	7.8E+04	5.7E+02				
AOI-45	VOC	cis-1,2-Dichloroethene	156-59-2	D	10	1	6.00E-02	6.00E-02	8.50E-03	9.50E-03	4.1E+01	2.1E+02	1.0E+06	6.4E+02	1.5E-03	2.9E-04	6.0E-08	9.4E-05
AOI-45	VOC	trans-1,2-Dichloroethene	156-60-5		10	1	6.80E-02	6.80E-02	1.10E-02	1.20E-02	4.3E+01	3.3E+02	2.1E+06	1.4E+03	1.6E-03	2.1E-04	3.2E-08	4.9E-05
AOI-45	VOC	1,2-Dichloropropane	78-87-5	B2	10				1.00E-02	1.10E-02	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
AOI-45	VOC	1,3-Dichloropropene (total)	542-75-6	B2	10				8.40E-03	9.40E-03	5.4E+00	6.0E+01	5.9E+05	2.4E+02				
AOI-45	VOC	Ethyl Benzene	100-41-4	D	10	3	7.40E-03	2.90E-02	7.10E-03	7.90E-03	1.4E+02	2.4E+03	1.3E+07	1.4E+02	2.1E-04	1.2E-05	2.2E-09	2.1E-04
AOI-45	VOC	2-Hexanone	591-78-6		10				1.70E-02	1.90E-02	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
AOI-45	VOC	Methyl Acetate	79-20-9		10	1	1.10E-01	1.10E-01	2.60E-02	2.90E-02								
AOI-45	VOC	Methyl tert-butyl ether	1634-04-4		10				8.90E-03	1.00E-02	5.9E+03	3.0E+04	8.8E+07	5.9E+03				
AOI-45	VOC	4-Methyl-2-pentanone	108-10-1		10				2.60E-02	2.90E-02	2.7E+03	5.3E+04	6.0E+07	2.7E+03				
AOI-45	VOC	Methylcyclohexane	108-87-2		10	6	1.70E-02	2.70E-01	9.70E-03	1.00E-02								
AOI-45	VOC	Methylene Chloride	75-09-2	B2	10				1.70E-02	1.90E-02	2.4E+02	7.0E+02	8.3E+06	2.3E+03				
AOI-45	VOC	Styrene	100-42-5		10				7.80E-03	8.80E-03	5.2E+02	3.3E+03	6.9E+06	5.2E+02				
AOI-45	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	10				1.10E-02	1.20E-02	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
AOI-45	VOC	Tetrachloroethene	127-18-4	C-B2	10	2	5.10E-02	7.90E-02	1.20E-02	1.30E-02	6.0E+01	6.0E+02	6.8E+06	8.8E+01	1.3E-03	1.3E-04	1.2E-08	9.0E-04
AOI-45	VOC	Toluene	108-88-3	D	10	5	2.00E-02	5.70E-02	6.10E-03	6.80E-03	2.5E+02	3.3E+03	1.2E+07	2.5E+02	2.3E-04	1.7E-05	4.8E-09	2.3E-04
AOI-45	VOC	1,2,4-Trichlorobenzene	120-82-1	D	10				1.20E-02	1.30E-02	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
AOI-45	VOC	1,1,1-Trichloroethane	71-55-6	D	10	1	9.50E-02	9.50E-02	9.70E-03	1.10E-02	4.6E+02	4.5E+03	2.9E+07	4.6E+02	2.1E-04	2.1E-05	3.3E-09	2.1E-04
AOI-45	VOC	1,1,2-Trichloroethane	79-00-5	C	10				8.60E-03	9.60E-03	2.4E+01	5.7E+01	2.5E+05	8.4E+02				
AOI-45	VOC	Trichloroethene	79-01-6	C-B2	10	2	1.30E-02	1.10E-01	9.50E-03	1.10E-02	3.7E+01	2.6E+02	2.3E+06	5.0E+02	3.0E-03	4.2E-04	4.8E-08	2.2E-04
AOI-45	VOC	Trichlorofluoromethane	75-69-4		10				9.60E-03	1.10E-02	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
AOI-45	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		10				3.20E-02	3.50E-02	5.5E+02	2.1E+05	2.3E+09	5.5E+02				
AOI-45	VOC	Vinyl Chloride	75-01-4	A	10				1.20E-02	1.30E-02	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
AOI-45	VOC	Xylenes (total)	1330-20-7	D	10	5	2.80E-02	1.70E-01	2.10E-02	2.30E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	1.1E-03	3.1E-06	1.3E-09	1.1E-03
AOI-45	SVOC	Acenaphthene	83-32-9		10	4	5.50E-01	9.60E-01	1.60E-02	1.70E-01	3.5E+05	9.7E+04	6.2E+06	1.3E+05	2.7E-06	9.9E-06	1.5E-07	7.4E-06
AOI-45	SVOC	Acenaphthylene	208-96-8	D	10				2.10E-02	2.30E-01	3.0E+03	2.7E+03	1.0E+06	5.2E+03				
AOI-45	SVOC	Acetophenone	98-86-2	D	10				2.20E-02	2.40E-01	1.1E+03	5.2E+04	1.4E+07	1.1E+03				
AOI-45	SVOC	Anthracene	120-12-7	D	10	4	2.70E-01	4.80E-01	1.90E-02	2.10E-01	1.0E+06	1.6E+06	2.9E+07	7.3E+05	4.8E-07	3.0E-07	1.7E-08	6.6E-07
AOI-45	SVOC	Atrazine	1912-24-9		10				2.50E-02	2.70E-01				3.3E+02				
AOI-45	SVOC	Benzaldehyde	100-52-7		10				1.60E-02	1.70E-01								
AOI-45	SVOC	Benzo(a)anthracene	56-55-3	B2	10	4	2.60E+00	4.40E+00	2.60E-02	2.80E-01				8.0E+01				5.5E-02
AOI-45	SVOC	Benzo(a)pyrene	50-32-8	B2	10	4	5.40E+00	9.20E+00	1.70E-02	1.80E-01			1.9E+03	8.0E+00			4.8E-03	1.2E+00
AOI-45	SVOC	Benzo(b)fluoranthene	205-99-2	B2	10	4	5.60E+00	1.00E+01	2.20E-02	2.40E-01				8.0E+01				1.3E-01
AOI-45	SVOC	Benzo(g,h,i)perylene	191-24-2	D	10	4	3.50E+00	5.10E+00	1.80E-02	1.90E-01			3.5E+05	7.0E+03			1.5E-05	7.3E-04
AOI-45	SVOC	Benzo(k)fluoranthene	207-08-9	B2	10	4	2.40E+00	4.00E+00	1.80E-02	1.90E-01				8.0E+02				5.0E-03
AOI-45	SVOC	Biphenyl	92-52-4		10				2.00E-02	2.20E-01								
AOI-45	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	10				2.90E-02	3.20E-01								
AOI-45	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	10				2.00E-02	2.20E-01	4.4E+01	1.3E+01	1.2E+04	5.8E+01				
AOI-45	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	10	1	4.80E-01	4.80E-01	1.50E-02	5.90E-02			8.9E+05	1.0E+04			5.4E-07	4.8E-05
AOI-45	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	10				1.70E-02	1.80E-01								
AOI-45	SVOC	Butylbenzylphthalate	85-68-7	C	10				2.40E-02	2.60E-01			2.1E+07	3.1E+02				
AOI-45	SVOC	Caprolactam	105-60-2		10				3.10E-02	3.40E-01			2.9E+05	3.1E+05				
AOI-45	SVOC	Carbazole	86-74-8	B2	10	4	1.30E-01	3.20E-01	2.10E-02	2.30E-01				2.4E+03				1.3E-04
AOI-45	SVOC	4-Chloro-3-methylphenol	59-50-7		10				2.10E-02	2.30E-01				1.5E+04				
AOI-45	SVOC	4-Chloroaniline	106-47-8		10				2.20E-02	2.40E-01								
AOI-45	SVOC	2-Chloronaphthalene	91-58-7		10				1.90E-02	2.10E-01				1.8E+05				
AOI-45	SVOC	2-Chlorophenol	95-57-8		10				2.00E-02	2.20E-01				4.5E+03				
AOI-45	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		10				1.90E-02	2.10E-01								

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-45	SVOC	Chrysene	218-01-9	B2	10	5	2.10E-01	4.80E+00	2.50E-02	2.70E-01				8.0E+03				6.0E-04
AOI-45	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	10	4	1.20E+00	1.80E+00	2.00E-02	2.20E-01				8.0E+00				2.3E-01
AOI-45	SVOC	Dibenzofuran	132-64-9	D	10	1	1.00E-01	1.00E-01	1.90E-02	2.10E-01								
AOI-45	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	10				2.00E-02	2.20E-01			8.2E+03	3.0E+01				
AOI-45	SVOC	2,4-Dichlorophenol	120-83-2		10				1.80E-02	1.90E-01			2.3E+06	1.8E+03				
AOI-45	SVOC	Diethylphthalate	84-66-2	D	10				2.10E-02	2.30E-01			1.5E+06	7.4E+02				
AOI-45	SVOC	2,4-Dimethylphenol	105-67-9		10				2.00E-02	2.20E-01			2.1E+06	3.6E+04				
AOI-45	SVOC	Dimethylphthalate	131-11-3	D	10				1.90E-02	2.10E-01			1.5E+06	7.9E+02				
AOI-45	SVOC	Di-n-butylphthalate	84-74-2	D	10				2.60E-02	2.80E-01			1.5E+06	7.6E+02				
AOI-45	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		10				5.40E-02	5.80E-01				2.6E+02				
AOI-45	SVOC	2,4-Dinitrophenol	51-28-5		10				5.30E-02	5.70E-01								
AOI-45	SVOC	2,4-Dinitrotoluene	121-14-2	B2	10				2.50E-02	2.70E-01			2.0E+04	2.2E+02				
AOI-45	SVOC	2,6-Dinitrotoluene	606-20-2	B2	10				1.70E-02	1.80E-01								
AOI-45	SVOC	Di-n-octylphthalate	117-84-0		10				7.20E-02	7.80E-01				2.0E+04				
AOI-45	SVOC	Fluoranthene	206-44-0	D	10	4	2.30E+00	3.90E+00	1.80E-02	1.90E-01	1.0E+06	8.9E+05	4.1E+06	1.3E+05	3.9E-06	4.4E-06	9.5E-07	3.0E-05
AOI-45	SVOC	Fluorene	86-73-7	D	10	4	1.00E-01	1.80E-01	1.70E-02	1.80E-01	1.0E+06	1.5E+05	4.1E+06	8.7E+04	1.8E-07	1.2E-06	4.4E-08	2.1E-06
AOI-45	SVOC	Hexachlorobenzene	118-74-1	B2	10				2.50E-02	2.70E-01	2.2E+02	5.6E+01	8.5E+03	3.7E+01				
AOI-45	SVOC	Hexachlorobutadiene	87-68-3	C	10				1.80E-02	1.90E-01	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-45	SVOC	Hexachlorocyclopentadiene	77-47-4	E	10				1.10E-02	1.20E-01	5.6E+01	6.0E+01	5.9E+03	7.2E+02				
AOI-45	SVOC	Hexachloroethane	67-72-1	C	10				1.90E-02	2.10E-01	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-45	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	10	4	3.30E+00	4.80E+00	2.10E-02	2.30E-01				8.0E+01				6.0E-02
AOI-45	SVOC	Isophorone	78-59-1	C	10				2.50E-02	2.70E-01			8.2E+06	2.4E+03				
AOI-45	SVOC	2-Methylnaphthalene	91-57-6		10	4	1.00E-01	1.40E-01	1.90E-02	2.10E-01				2.6E+04				5.4E-06
AOI-45	SVOC	Methylphenol (total)	1319-77-3		10				2.20E-02	2.40E-01			2.9E+06	3.6E+04				
AOI-45	SVOC	Naphthalene	91-20-3	C	10	4	1.30E-01	2.00E-01	1.90E-02	2.10E-01	4.7E+02	3.5E+02	8.8E+04	5.2E+04	4.3E-04	5.7E-04	2.3E-06	3.8E-06
AOI-45	SVOC	2-Nitroaniline	88-74-4		10				1.50E-02	1.60E-01								
AOI-45	SVOC	3-Nitroaniline	99-09-2	C	10				2.50E-02	2.70E-01								
AOI-45	SVOC	4-Nitroaniline	100-01-6	C	10				1.90E-02	2.10E-01								
AOI-45	SVOC	Nitrobenzene	98-95-3	D	10				2.70E-02	2.90E-01	1.7E+02	6.4E+01	2.1E+04	3.4E+02				
AOI-45	SVOC	2-Nitrophenol	88-75-5		10				2.40E-02	2.60E-01				2.0E+03				
AOI-45	SVOC	4-Nitrophenol	100-02-7		10				6.00E-02	6.40E-01								
AOI-45	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	10				2.10E-02	2.30E-01				7.8E+03				
AOI-45	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	10				1.70E-02	1.80E-01			2.0E+03	5.4E+00				
AOI-45	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	10				3.00E-02	3.30E-01								
AOI-45	SVOC	Pentachlorophenol	87-86-5	B2	10				6.70E-02	7.30E-01			1.3E+05	3.2E+02				
AOI-45	SVOC	Phenanthrene	85-01-8	D	10	6	1.60E-01	1.70E+00	2.40E-02	2.60E-01	5.1E+03	1.9E+02	2.9E+03	5.2E+03	3.3E-04	8.9E-03	5.9E-04	3.3E-04
AOI-45	SVOC	Phenol	108-95-2	D	10				2.00E-02	2.20E-01			1.8E+07	1.2E+04				
AOI-45	SVOC	Pyrene	129-00-0	D	10	4	2.10E+00	4.40E+00	2.40E-02	2.60E-01	1.0E+06	7.8E+05	2.9E+06	8.4E+04	4.4E-06	5.6E-06	1.5E-06	5.2E-05
AOI-45	SVOC	2,4,5-Trichlorophenol	95-95-4		10				1.70E-02	1.80E-01			1.0E+07	7.3E+04				
AOI-45	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	10				2.10E-02	2.30E-01			1.3E+06	3.3E+03				
AOI-45	P/PCB	PCBs (total)	1336-36-3	B2	10	1	6.93E-02	6.93E-02	2.20E-02	2.30E-02	1.6E+04	8.1E+02	6.5E+03		4.3E-06	8.6E-05	1.1E-05	
AOI-45	INORG	Aluminum	7429-90-5	D	10	10	3.09E+03	8.92E+03						3.7E+05				2.4E-02
AOI-45	INORG	Antimony	7440-36-0		10	8	2.70E-01	4.90E-01	2.60E-01	2.60E-01			5.9E+03	6.7E+02			8.3E-05	7.3E-04
AOI-45	INORG	Arsenic	7440-38-2	A	10	10	2.00E+00	1.06E+01					9.1E+02	3.7E+01			1.2E-02	2.9E-01
AOI-45	INORG	Barium	7440-39-3	D	10	10	9.00E+00	6.61E+01					1.5E+05	1.3E+05			4.4E-04	5.1E-04
AOI-45	INORG	Beryllium	7440-41-7	B1	10	6	1.40E-01	3.70E-01	7.40E-02	7.50E-02			5.9E+02	1.6E+03			6.3E-04	2.3E-04
AOI-45	INORG	Cadmium	7440-43-9	B1	10	4	1.20E-01	2.20E-01	1.80E-02	1.90E-02			2.2E+03	2.1E+03			1.0E-04	1.0E-04
AOI-45	INORG	Chromium (total)	7440-47-3		10	10	4.90E+00	1.44E+01					2.4E+02	9.2E+03			6.0E-02	1.6E-03
AOI-45	INORG	Cobalt	7440-48-4	B1	10	10	1.50E+00	8.10E+00					5.9E+03	9.0E+03			1.4E-03	9.0E-04
AOI-45	INORG	Copper	7440-50-8	D	10	10	2.60E+00	1.70E+01					5.9E+04	7.3E+04			2.9E-04	2.3E-04
AOI-45	INORG	Cyanide (total)	57-12-5	D	10	1	1.70E-01	1.70E-01	9.60E-02	1.10E-01			2.5E+02	2.5E+02			6.8E-04	6.8E-04
AOI-45	INORG	Iron	7439-89-6	D	10	10	5.91E+03	2.01E+04						5.8E+05				3.5E-02
AOI-45	INORG	Lead	7439-92-1	B2	10	10	4.20E+00	4.80E+01					4.4E+04	9.0E+02			1.1E-03	5.3E-02
AOI-45	INORG	Magnesium	7439-95-4		10	10	5.82E+02	1.98E+04					2.9E+06	1.0E+06			6.8E-03	2.0E-02
AOI-45	INORG	Manganese	7439-96-5	D	10	10	7.92E+01	4.21E+02					1.5E+03	9.0E+04			2.8E-01	4.7E-03

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-45	INORG	Mercury	7439-97-6	D	10	5	3.50E-02	9.50E-02	1.70E-02	1.90E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	1.1E-03	1.5E-03	1.1E-05	1.6E-04
AOI-45	INORG	Nickel	7440-02-0	A	10	10	4.70E+00	2.12E+01					1.6E+04	1.5E+05			1.3E-03	1.4E-04
AOI-45	INORG	Selenium	7782-49-2	D	10	2	4.20E-01	4.70E-01	3.40E-01	3.80E-01			5.9E+04	9.6E+03			8.0E-06	4.9E-05
AOI-45	INORG	Silver	7440-22-4	D	10				1.10E-01	1.20E-01			2.9E+03	9.0E+03				
AOI-45	INORG	Sodium	7440-23-5		10	10	1.07E+02	2.45E+02										
AOI-45	INORG	Thallium	7440-28-0		10				6.30E-01	7.00E-01				1.3E+02				
AOI-45	INORG	Vanadium	7440-62-2		10	10	6.70E+00	2.29E+01						5.5E+03				4.2E-03
AOI-45	INORG	Zinc	7440-66-6	D	10	10	1.70E+01	8.82E+01						6.3E+05				1.4E-04
AOI-48	VOC	Acetone	67-64-1	D	18	5	2.20E-01	9.60E-01	5.30E-02	2.20E-01	1.1E+05	1.6E+05	1.7E+08	7.3E+04	8.7E-06	6.0E-06	5.6E-09	1.3E-05
AOI-48	VOC	Benzene	71-43-2	A	18	5	1.20E-02	1.90E-01	7.60E-03	4.90E-02	8.4E+00	4.5E+01	4.7E+05	4.0E+02	2.3E-02	4.2E-03	4.0E-07	4.8E-04
AOI-48	VOC	Bromodichloromethane	75-27-4	B2	18				9.10E-03	6.10E-02	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
AOI-48	VOC	Bromoform	75-25-2	B2	18				1.20E-02	9.70E-02	7.7E+02	3.1E+03	3.6E+06	8.7E+02				
AOI-48	VOC	Bromomethane	74-83-9	D	18				2.40E-02	2.00E-01	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
AOI-48	VOC	2-Butanone	78-93-3	D	18				5.80E-02	4.90E-01	2.7E+04	3.5E+04	2.9E+07	2.7E+04				
AOI-48	VOC	Carbon Disulfide	75-15-0		18				5.00E-03	2.10E-01	1.4E+02	1.6E+03	2.1E+07	2.8E+02				
AOI-48	VOC	Carbon Tetrachloride	56-23-5	B2	18				9.30E-03	6.50E-02	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
AOI-48	VOC	Chlorobenzene	108-90-7	D	18				6.40E-03	4.90E-02	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
AOI-48	VOC	Chloroethane	75-00-3		18	1	6.50E-02	6.50E-02	3.40E-02	2.30E-01	9.5E+02	3.6E+04	2.9E+08	9.5E+02	6.8E-05	1.8E-06	2.2E-10	6.8E-05
AOI-48	VOC	Chloroform	67-66-3	B2	18				9.30E-03	6.10E-02	3.8E+01	1.5E+02	1.6E+06	1.5E+03				
AOI-48	VOC	Chloromethane	74-87-3	D	18				1.40E-02	9.10E-02	1.0E+01	1.2E+02	2.6E+06	1.1E+03				
AOI-48	VOC	Cumene	98-82-8	D	18	3	1.70E-02	1.10E+00	7.30E-03	4.80E-02	3.9E+02	2.0E+03	2.6E+06	3.9E+02	2.8E-03	5.5E-04	4.2E-07	2.8E-03
AOI-48	VOC	Cyclohexane	110-82-7		18	5	1.00E-02	3.40E-01	6.90E-03	5.20E-02								
AOI-48	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	18				2.50E-02	4.90E-01	1.2E+00	1.5E+01	5.9E+03	1.2E+00				
AOI-48	VOC	Dibromochloromethane	124-48-1	C	18				1.20E-02	7.90E-02	2.1E+01	8.0E+01	1.6E+05	5.0E+02				
AOI-48	VOC	1,2-Dibromoethane	106-93-4	B2	18				8.40E-03	1.20E-01	3.6E+00	5.8E+00	1.8E+04	4.3E-01				
AOI-48	VOC	1,2-Dichlorobenzene	95-50-1	D	18	1	4.70E-01	4.70E-01	7.60E-03	9.70E-02	2.1E+02	4.6E+04	4.4E+07	2.1E+02	2.2E-03	1.0E-05	1.1E-08	2.2E-03
AOI-48	VOC	1,3-Dichlorobenzene	541-73-1	D	18				8.80E-03	5.80E-02				1.7E+02				
AOI-48	VOC	1,4-Dichlorobenzene	106-46-7	C	18	4	2.80E-02	1.10E-01	9.50E-03	4.00E-02	1.0E+02	2.6E+02	5.7E+05	1.9E+03	1.1E-03	4.2E-04	1.9E-07	5.8E-05
AOI-48	VOC	Dichlorodifluoromethane	75-71-8		18				2.50E-02	2.30E-01	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
AOI-48	VOC	1,1-Dichloroethane	75-34-3	C	18	2	4.70E+00	1.80E+01	1.20E-02	5.10E-02	4.3E+02	2.5E+03	1.5E+07	8.9E+02	4.2E-02	7.2E-03	1.2E-06	2.0E-02
AOI-48	VOC	1,2-Dichloroethane	107-06-2	B2	18	2	9.20E-02	1.20E+00	1.00E-02	6.10E-02	1.1E+01	2.1E+01	1.5E+05	4.2E+02	1.1E-01	5.7E-02	8.0E-06	2.9E-03
AOI-48	VOC	1,1-Dichloroethene	75-35-4	C	18	2	1.70E-01	3.90E+00	8.70E-03	4.40E-02	3.3E-01	3.7E+00	7.8E+04	5.7E+02	1.2E+01	1.1E+00	5.0E-05	6.8E-03
AOI-48	VOC	cis-1,2-Dichloroethene	156-59-2	D	18	1	1.80E+00	1.80E+00	8.60E-03	4.60E-02	4.1E+01	2.1E+02	1.0E+06	6.4E+02	4.4E-02	8.6E-03	1.8E-06	2.8E-03
AOI-48	VOC	trans-1,2-Dichloroethene	156-60-5		18	1	1.10E-01	1.10E-01	1.10E-02	5.20E-02	4.3E+01	3.3E+02	2.1E+06	1.4E+03	2.6E-03	3.3E-04	5.2E-08	7.9E-05
AOI-48	VOC	1,2-Dichloropropane	78-87-5	B2	18				8.70E-03	5.70E-02	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
AOI-48	VOC	1,3-Dichloropropene (total)	542-75-6	B2	18				8.50E-03	7.30E-02	5.4E+00	6.0E+01	5.9E+05	2.4E+02				
AOI-48	VOC	Ethyl Benzene	100-41-4	D	18	5	2.00E-02	3.90E-01	7.20E-03	2.30E-02	1.4E+02	2.4E+03	1.3E+07	1.4E+02	2.8E-03	1.6E-04	3.0E-08	2.8E-03
AOI-48	VOC	2-Hexanone	591-78-6		18				1.80E-02	1.80E-01	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
AOI-48	VOC	Methyl Acetate	79-20-9		18	5	3.00E-02	3.00E-01	2.70E-02	2.70E-01								
AOI-48	VOC	Methyl tert-butyl ether	1634-04-4		18				9.10E-03	6.70E-02	5.9E+03	3.0E+04	8.8E+07	5.9E+03				
AOI-48	VOC	4-Methyl-2-pentanone	108-10-1		18				2.70E-02	1.80E-01	2.7E+03	5.3E+04	6.0E+07	2.7E+03				
AOI-48	VOC	Methylcyclohexane	108-87-2		18	8	1.80E-02	1.20E+00	9.90E-03	9.70E-02								
AOI-48	VOC	Methylene Chloride	75-09-2	B2	18	1	7.90E-01	7.90E-01	1.80E-02	1.20E-01	2.4E+02	7.0E+02	8.3E+06	2.3E+03	3.3E-03	1.1E-03	9.5E-08	3.4E-04
AOI-48	VOC	Styrene	100-42-5		18	1	2.50E-02	2.50E-02	8.00E-03	1.00E-01	5.2E+02	3.3E+03	6.9E+06	5.2E+02	4.8E-05	7.6E-06	3.6E-09	4.8E-05
AOI-48	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	18				1.00E-02	6.70E-02	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
AOI-48	VOC	Tetrachloroethene	127-18-4	C-B2	18	1	2.50E-01	2.50E-01	1.20E-02	5.10E-02	6.0E+01	6.0E+02	6.8E+06	8.8E+01	4.2E-03	4.2E-04	3.7E-08	2.8E-03
AOI-48	VOC	Toluene	108-88-3	D	18	13	1.10E-02	2.00E+00	6.20E-03	1.10E-02	2.5E+02	3.3E+03	1.2E+07	2.5E+02	8.0E-03	6.1E-04	1.7E-07	8.0E-03
AOI-48	VOC	1,2,4-Trichlorobenzene	120-82-1	D	18				1.00E-02	6.70E-02	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
AOI-48	VOC	1,1,1-Trichloroethane	71-55-6	D	18	3	5.20E-02	3.70E+01	9.20E-03	4.10E-02	4.6E+02	4.5E+03	2.9E+07	4.6E+02	8.0E-02	8.2E-03	1.3E-06	8.0E-02
AOI-48	VOC	1,1,2-Trichloroethane	79-00-5	C	18	2	1.10E-01	3.70E-01	8.70E-03	4.10E-02	2.4E+01	5.7E+01	2.5E+05	8.4E+02	1.5E-02	6.5E-03	1.5E-06	4.4E-04
AOI-48	VOC	Trichloroethene	79-01-6	C-B2	18	6	1.20E-02	5.70E+00	9.60E-03	4.90E-02	3.7E+01	2.6E+02	2.3E+06	5.0E+02	1.5E-01	2.2E-02	2.5E-06	1.1E-02
AOI-48	VOC	Trichlorofluoromethane	75-69-4		18				9.70E-03	1.20E-01	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
AOI-48	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		18				3.20E-02	2.30E-01	5.5E+02	2.1E+05	2.3E+09	5.5E+02				
AOI-48	VOC	Vinyl Chloride	75-01-4	A	18				1.00E-02	6.70E-02	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
AOI-48	VOC	Xylenes (total)	1330-20-7	D	18	8	2.90E-02	2.20E+00	1.80E-02	3.10E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	1.5E-02	4.1E-05	1.7E-08	1.5E-02

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-48	SVOC	Acenaphthene	83-32-9		18	2	1.20E-01	1.50E-01	1.60E-02	1.30E+00	3.5E+05	9.7E+04	6.2E+06	1.3E+05	4.3E-07	1.5E-06	2.4E-08	1.2E-06
AOI-48	SVOC	Acenaphthylene	208-96-8	D	18				2.10E-02	1.20E+00	3.0E+03	2.7E+03	1.0E+06	5.2E+03				
AOI-48	SVOC	Acetophenone	98-86-2	D	18				2.20E-02	1.30E+00	1.1E+03	5.2E+04	1.4E+07	1.1E+03				
AOI-48	SVOC	Anthracene	120-12-7	D	18	2	3.30E-01	3.40E-01	1.90E-02	1.30E+00	1.0E+06	1.6E+06	2.9E+07	7.3E+05	3.4E-07	2.1E-07	1.2E-08	4.7E-07
AOI-48	SVOC	Atrazine	1912-24-9		18				2.40E-02	4.00E+00				3.3E+02				
AOI-48	SVOC	Benzaldehyde	100-52-7		18				1.60E-02	4.50E+00								
AOI-48	SVOC	Benzo(a)anthracene	56-55-3	B2	18	5	4.30E-02	1.30E+00	2.50E-02	1.40E+00				8.0E+01				1.6E-02
AOI-48	SVOC	Benzo(a)pyrene	50-32-8	B2	18	5	3.90E-02	1.30E+00	1.70E-02	1.60E+00			1.9E+03	8.0E+00			6.8E-04	1.6E-01
AOI-48	SVOC	Benzo(b)fluoranthene	205-99-2	B2	18	5	3.90E-02	1.70E+00	2.20E-02	1.50E+00				8.0E+01				2.1E-02
AOI-48	SVOC	Benzo(g,h,i)perylene	191-24-2	D	18	5	3.90E-02	7.10E-01	1.80E-02	1.40E+00			3.5E+05	7.0E+03			2.0E-06	1.0E-04
AOI-48	SVOC	Benzo(k)fluoranthene	207-08-9	B2	18	3	3.90E-02	6.40E-01	1.80E-02	1.40E+00				8.0E+02				8.0E-04
AOI-48	SVOC	Biphenyl	92-52-4		18				2.00E-02	3.70E+00								
AOI-48	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	18				2.90E-02	1.20E+00								
AOI-48	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	18				2.00E-02	1.30E+00	4.4E+01	1.3E+01	1.2E+04	5.8E+01				
AOI-48	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	18	1	1.30E-01	1.30E-01	1.40E-02	1.40E+00			8.9E+05	1.0E+04			1.5E-07	1.3E-05
AOI-48	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	18				1.70E-02	1.60E+00								
AOI-48	SVOC	Butylbenzylphthalate	85-68-7	C	18				2.30E-02	1.30E+00			2.1E+07	3.1E+02				
AOI-48	SVOC	Caprolactam	105-60-2		18				3.10E-02	4.70E+00			2.9E+05	3.1E+05				
AOI-48	SVOC	Carbazole	86-74-8	B2	18	2	1.30E-01	1.50E-01	2.10E-02	1.40E+00				2.4E+03				6.3E-05
AOI-48	SVOC	4-Chloro-3-methylphenol	59-50-7		18				2.10E-02	1.30E+00				1.5E+04				
AOI-48	SVOC	4-Chloroaniline	106-47-8		18				2.20E-02	1.30E+00								
AOI-48	SVOC	2-Chloronaphthalene	91-58-7		18				1.90E-02	1.30E+00				1.8E+05				
AOI-48	SVOC	2-Chlorophenol	95-57-8		18				2.00E-02	1.40E+00				4.5E+03				
AOI-48	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		18				1.90E-02	1.40E+00								
AOI-48	SVOC	Chrysene	218-01-9	B2	18	6	4.90E-02	1.50E+00	2.40E-02	1.20E+00				8.0E+03				1.9E-04
AOI-48	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	18	2	1.10E-01	2.00E-01	2.00E-02	1.30E+00				8.0E+00				2.5E-02
AOI-48	SVOC	Dibenzofuran	132-64-9	D	18	2	8.50E-02	1.00E-01	1.90E-02	1.30E+00								
AOI-48	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	18				2.00E-02	1.00E+00			8.2E+03	3.0E+01				
AOI-48	SVOC	2,4-Dichlorophenol	120-83-2		18				1.80E-02	1.30E+00			2.3E+06	1.8E+03				
AOI-48	SVOC	Diethylphthalate	84-66-2	D	18				2.10E-02	4.00E+00			1.5E+06	7.4E+02				
AOI-48	SVOC	2,4-Dimethylphenol	105-67-9		18				2.00E-02	2.10E+00			2.1E+06	3.6E+04				
AOI-48	SVOC	Dimethylphthalate	131-11-3	D	18				1.90E-02	4.20E+00			1.5E+06	7.9E+02				
AOI-48	SVOC	Di-n-butylphthalate	84-74-2	D	18	3	1.40E-01	4.00E-01	2.50E-02	4.00E+00			1.5E+06	7.6E+02			2.7E-07	5.3E-04
AOI-48	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		18				5.30E-02	4.20E+00				2.6E+02				
AOI-48	SVOC	2,4-Dinitrophenol	51-28-5		18				5.20E-02	2.90E+00								
AOI-48	SVOC	2,4-Dinitrotoluene	121-14-2	B2	18				2.40E-02	1.20E+00			2.0E+04	2.2E+02				
AOI-48	SVOC	2,6-Dinitrotoluene	606-20-2	B2	18				1.70E-02	1.30E+00								
AOI-48	SVOC	Di-n-octylphthalate	117-84-0		18				5.80E-02	1.40E+00				2.0E+04				
AOI-48	SVOC	Fluoranthene	206-44-0	D	18	6	6.20E-02	2.80E+00	1.80E-02	1.50E+00	1.0E+06	8.9E+05	4.1E+06	1.3E+05	2.8E-06	3.1E-06	6.8E-07	2.2E-05
AOI-48	SVOC	Fluorene	86-73-7	D	18	1	1.50E-01	1.50E-01	1.70E-02	1.30E+00	1.0E+06	1.5E+05	4.1E+06	8.7E+04	1.5E-07	1.0E-06	3.7E-08	1.7E-06
AOI-48	SVOC	Hexachlorobenzene	118-74-1	B2	18				2.40E-02	1.50E+00	2.2E+02	5.6E+01	8.5E+03	3.7E+01				
AOI-48	SVOC	Hexachlorobutadiene	87-68-3	C	18				1.80E-02	1.20E+00	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-48	SVOC	Hexachlorocyclopentadiene	77-47-4	E	18				1.10E-02	1.60E+00	5.6E+01	6.0E+01	5.9E+03	7.2E+02				
AOI-48	SVOC	Hexachloroethane	67-72-1	C	18				1.90E-02	1.30E+00	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-48	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	18	3	5.00E-02	6.50E-01	2.10E-02	1.80E+00				8.0E+01				8.1E-03
AOI-48	SVOC	Isophorone	78-59-1	C	18				2.40E-02	1.20E+00			8.2E+06	2.4E+03				
AOI-48	SVOC	2-Methylnaphthalene	91-57-6		18	4	9.50E-02	6.10E+00	1.90E-02	6.40E-02				2.6E+04				2.3E-04
AOI-48	SVOC	Methylphenol (total)	1319-77-3		18				2.20E-02	1.20E+00			2.9E+06	3.6E+04				
AOI-48	SVOC	Naphthalene	91-20-3	C	18	5	6.00E-02	4.10E+00	1.90E-02	6.50E-02	4.7E+02	3.5E+02	8.8E+04	5.2E+04	8.7E-03	1.2E-02	4.7E-05	7.9E-05
AOI-48	SVOC	2-Nitroaniline	88-74-4		18				1.40E-02	1.20E+00								
AOI-48	SVOC	3-Nitroaniline	99-09-2	C	18				2.40E-02	3.70E+00								
AOI-48	SVOC	4-Nitroaniline	100-01-6	C	18				1.90E-02	1.80E+00								
AOI-48	SVOC	Nitrobenzene	98-95-3	D	18				2.70E-02	1.20E+00	1.7E+02	6.4E+01	2.1E+04	3.4E+02				
AOI-48	SVOC	2-Nitrophenol	88-75-5		18				2.30E-02	1.20E+00				2.0E+03				
AOI-48	SVOC	4-Nitrophenol	100-02-7		18				5.90E-02	5.00E+00								

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-48	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	18				2.10E-02	1.30E+00				7.8E+03				
AOI-48	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	18				1.70E-02	1.20E+00			2.0E+03	5.4E+00				
AOI-48	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	18				3.00E-02	1.40E+00								
AOI-48	SVOC	Pentachlorophenol	87-86-5	B2	18				6.60E-02	3.20E+00			1.3E+05	3.2E+02				
AOI-48	SVOC	Phenanthrene	85-01-8	D	18	5	5.10E-02	1.70E+00	2.30E-02	1.40E+00	5.1E+03	1.9E+02	2.9E+03	5.2E+03	3.3E-04	8.9E-03	5.9E-04	3.3E-04
AOI-48	SVOC	Phenol	108-95-2	D	18				2.00E-02	1.30E+00			1.8E+07	1.2E+04				
AOI-48	SVOC	Pyrene	129-00-0	D	18	3	7.10E-02	2.50E+00	2.30E-02	1.30E+00	1.0E+06	7.8E+05	2.9E+06	8.4E+04	2.5E-06	3.2E-06	8.6E-07	3.0E-05
AOI-48	SVOC	2,4,5-Trichlorophenol	95-95-4		18				1.70E-02	1.40E+00			1.0E+07	7.3E+04				
AOI-48	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	18				2.10E-02	1.70E+00			1.3E+06	3.3E+03				
AOI-48	P/PCB	PCBs (total)	1336-36-3	B2	12	3	3.67E-02	4.13E-01	2.10E-02	2.70E-02	1.6E+04	8.1E+02	6.5E+03		2.6E-05	5.1E-04	6.3E-05	
AOI-48	INORG	Aluminum	7429-90-5	D	12	12	1.10E+03	1.27E+04						3.7E+05				3.4E-02
AOI-48	INORG	Antimony	7440-36-0		12	5	2.60E-01	7.40E-01	2.50E-01	6.50E-01			5.9E+03	6.7E+02			1.3E-04	1.1E-03
AOI-48	INORG	Arsenic	7440-38-2	A	12	12	1.10E+00	1.13E+01					9.1E+02	3.7E+01			1.2E-02	3.1E-01
AOI-48	INORG	Barium	7440-39-3	D	12	12	9.30E+00	1.63E+02					1.5E+05	1.3E+05			1.1E-03	1.3E-03
AOI-48	INORG	Beryllium	7440-41-7	B1	12	9	2.30E-01	6.60E-01	7.30E-02	9.00E-02			5.9E+02	1.6E+03			1.1E-03	4.1E-04
AOI-48	INORG	Cadmium	7440-43-9	B1	12	11	3.30E-02	2.90E+00	5.50E-02	5.50E-02			2.2E+03	2.1E+03			1.3E-03	1.4E-03
AOI-48	INORG	Chromium (total)	7440-47-3		10	10	3.30E+00	2.04E+01					2.4E+02	9.2E+03			8.5E-02	2.2E-03
AOI-48	INORG	Chromium III	16065-83-1	D	2	2	2.00E+00	1.32E+01					1.5E+05	1.0E+06			8.8E-05	1.3E-05
AOI-48	INORG	Chromium VI	18540-29-9	A	2	1	9.00E-01	9.00E-01	2.30E-01	2.30E-01			2.4E+02	9.2E+03			3.8E-03	9.8E-05
AOI-48	INORG	Cobalt	7440-48-4	B1	12	12	1.20E+00	1.02E+01					5.9E+03	9.0E+03			1.7E-03	1.1E-03
AOI-48	INORG	Copper	7440-50-8	D	12	12	2.90E+00	1.00E+02					5.9E+04	7.3E+04			1.7E-03	1.4E-03
AOI-48	INORG	Cyanide (total)	57-12-5	D	12	2	1.30E-01	4.10E-01	9.40E-02	2.20E-01			2.5E+02	2.5E+02			1.6E-03	1.6E-03
AOI-48	INORG	Iron	7439-89-6	D	12	12	2.94E+03	2.38E+04						5.8E+05				4.1E-02
AOI-48	INORG	Lead	7439-92-1	B2	12	12	2.60E+00	1.40E+02					4.4E+04	9.0E+02			3.2E-03	1.6E-01
AOI-48	INORG	Magnesium	7439-95-4		12	12	5.39E+02	1.88E+04					2.9E+06	1.0E+06			6.5E-03	1.9E-02
AOI-48	INORG	Manganese	7439-96-5	D	12	12	3.99E+01	3.73E+02					1.5E+03	9.0E+04			2.5E-01	4.1E-03
AOI-48	INORG	Mercury	7439-97-6	D	12	6	3.40E-02	4.60E-01	1.70E-02	2.10E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	5.2E-03	7.4E-03	5.2E-05	7.9E-04
AOI-48	INORG	Nickel	7440-02-0	A	12	12	2.40E+00	2.74E+01					1.6E+04	1.5E+05			1.7E-03	1.8E-04
AOI-48	INORG	Selenium	7782-49-2	D	12				3.30E-01	4.10E-01			5.9E+04	9.6E+03				
AOI-48	INORG	Silver	7440-22-4	D	12	2	1.20E-01	3.20E-01	1.10E-01	2.00E-01			2.9E+03	9.0E+03			1.1E-04	3.6E-05
AOI-48	INORG	Sodium	7440-23-5		12	10	5.27E+01	3.17E+02	5.87E+01	6.59E+01								
AOI-48	INORG	Thallium	7440-28-0		12	9	6.60E-01	1.80E+00	5.90E-01	6.60E-01				1.3E+02				1.4E-02
AOI-48	INORG	Vanadium	7440-62-2		12	12	5.70E+00	3.33E+01						5.5E+03				6.1E-03
AOI-48	INORG	Zinc	7440-66-6	D	12	12	9.40E+00	1.88E+03						6.3E+05				3.0E-03
AOI-48 (NW)	VOC	Acetone	67-64-1	D	30	2	7.10E-01	7.70E-01	7.30E-02	3.80E-01	1.1E+05	1.6E+05	1.7E+08	7.3E+04	7.0E-06	4.8E-06	4.5E-09	1.1E-05
AOI-48 (NW)	VOC	Acrolein	107-02-8	C	21				1.40E-01	1.90E-01	7.6E-01	3.7E-01	5.9E+02	1.2E+04				
AOI-48 (NW)	VOC	Acrylonitrile	107-13-1	B1	21				1.40E+00	1.90E+00	3.5E+01	1.7E+01	5.8E+04	7.4E+01				
AOI-48 (NW)	VOC	Benzene	71-43-2	A	31				1.70E-02	4.40E-02	8.4E+00	4.5E+01	4.7E+05	4.0E+02				
AOI-48 (NW)	VOC	Bromobenzene	108-86-1		21				6.70E-02	8.80E-02	5.8E+02	5.4E+02	2.4E+05	7.6E+02				
AOI-48 (NW)	VOC	Bromochloromethane	74-97-5		21				6.70E-02	8.80E-02								
AOI-48 (NW)	VOC	Bromodichloromethane	75-27-4	B2	30				9.70E-03	8.80E-02	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
AOI-48 (NW)	VOC	Bromoform	75-25-2	B2	30				1.60E-02	8.80E-02	7.7E+02	3.1E+03	3.6E+06	8.7E+02				
AOI-48 (NW)	VOC	Bromomethane	74-83-9	D	30				2.50E-02	1.90E-01	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
AOI-48 (NW)	VOC	2-Butanone	78-93-3	D	30				7.90E-02	3.80E-01	2.7E+04	3.5E+04	2.9E+07	2.7E+04				
AOI-48 (NW)	VOC	n-Butylbenzene	104-51-8		21				3.30E-02	4.40E-02				8.0E+03				
AOI-48 (NW)	VOC	sec-Butylbenzene	135-98-8		21				3.30E-02	4.40E-02				8.0E+03				
AOI-48 (NW)	VOC	tert-Butylbenzene	98-06-6		21				3.30E-02	4.40E-02				8.0E+03				
AOI-48 (NW)	VOC	Carbon Disulfide	75-15-0		30				3.40E-02	1.90E-01	1.4E+02	1.6E+03	2.1E+07	2.8E+02				
AOI-48 (NW)	VOC	Carbon Tetrachloride	56-23-5	B2	30				9.70E-03	4.40E-02	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
AOI-48 (NW)	VOC	3-Chloro-1-propene	107-05-1		21				1.40E-01	1.90E-01								
AOI-48 (NW)	VOC	Chlorobenzene	108-90-7	D	30				7.90E-03	4.40E-02	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
AOI-48 (NW)	VOC	Chloroethane	75-00-3		30				3.60E-02	1.90E-01	9.5E+02	3.6E+04	2.9E+08	9.5E+02				
AOI-48 (NW)	VOC	2-Chloroethylvinyl ether	110-75-8		21				2.40E+00	3.20E+00								
AOI-48 (NW)	VOC	Chloroform	67-66-3	B2	30				9.70E-03	4.40E-02	3.8E+01	1.5E+02	1.6E+06	1.5E+03				
AOI-48 (NW)	VOC	Chloromethane	74-87-3	D	30				1.50E-02	1.90E-01	1.0E+01	1.2E+02	2.6E+06	1.1E+03				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-48 (NW)	VOC	2-Chlorotoluene	95-49-8		21				3.30E-02	4.40E-02	5.0E+02	1.5E+03	2.1E+06	5.0E+02				
AOI-48 (NW)	VOC	4-Chlorotoluene	106-43-4		21				3.30E-02	4.40E-02								
AOI-48 (NW)	VOC	Cumene	98-82-8	D	30				7.70E-03	1.90E-01	3.9E+02	2.0E+03	2.6E+06	3.9E+02				
AOI-48 (NW)	VOC	Cyclohexane	110-82-7		9				8.30E-03	1.00E-02								
AOI-48 (NW)	VOC	p-Cymene	99-87-6		21				3.30E-02	4.40E-02								
AOI-48 (NW)	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	30				7.90E-02	1.90E-01	1.2E+00	1.5E+01	5.9E+03	1.2E+00				
AOI-48 (NW)	VOC	Dibromochloromethane	124-48-1	C	30				1.30E-02	8.80E-02	2.1E+01	8.0E+01	1.6E+05	5.0E+02				
AOI-48 (NW)	VOC	1,2-Dibromoethane	106-93-4	B2	30				1.80E-02	1.90E-01	3.6E+00	5.8E+00	1.8E+04	4.3E-01				
AOI-48 (NW)	VOC	Dibromomethane	74-95-3		21				1.40E-01	1.90E-01				2.0E+03				
AOI-48 (NW)	VOC	trans-1,4-Dichloro-2-butene	110-57-6		21				3.30E-02	4.40E-02								
AOI-48 (NW)	VOC	1,2-Dichlorobenzene	95-50-1	D	30				1.60E-02	8.80E-02	2.1E+02	4.6E+04	4.4E+07	2.1E+02				
AOI-48 (NW)	VOC	1,3-Dichlorobenzene	541-73-1	D	30				9.20E-03	8.80E-02				1.7E+02				
AOI-48 (NW)	VOC	1,4-Dichlorobenzene	106-46-7	C	30				1.60E-02	8.80E-02	1.0E+02	2.6E+02	5.7E+05	1.9E+03				
AOI-48 (NW)	VOC	Dichlorodifluoromethane	75-71-8		30				3.70E-02	8.80E-02	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
AOI-48 (NW)	VOC	1,1-Dichloroethane	75-34-3	C	30				1.40E-02	4.40E-02	4.3E+02	2.5E+03	1.5E+07	8.9E+02				
AOI-48 (NW)	VOC	1,2-Dichloroethane	107-06-2	B2	30				1.10E-02	4.40E-02	1.1E+01	2.1E+01	1.5E+05	4.2E+02				
AOI-48 (NW)	VOC	1,1-Dichloroethene	75-35-4	C	13				1.70E-02	2.10E-02	3.3E-01	3.7E+00	7.8E+04	5.7E+02				
AOI-48 (NW)	VOC	cis-1,2-Dichloroethene	156-59-2	D	30				1.60E-02	4.40E-02	4.1E+01	2.1E+02	1.0E+06	6.4E+02				
AOI-48 (NW)	VOC	trans-1,2-Dichloroethene	156-60-5		30				1.70E-02	4.40E-02	4.3E+01	3.3E+02	2.1E+06	1.4E+03				
AOI-48 (NW)	VOC	1,2-Dichloropropane	78-87-5	B2	30				9.10E-03	4.40E-02	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
AOI-48 (NW)	VOC	1,3-Dichloropropane	142-28-9		21				3.30E-02	4.40E-02								
AOI-48 (NW)	VOC	2,2-Dichloropropane	594-20-7		21				3.30E-02	4.40E-02								
AOI-48 (NW)	VOC	1,1-Dichloropropene	563-58-6		21				3.30E-02	4.40E-02								
AOI-48 (NW)	VOC	1,3-Dichloropropene (total)	542-75-6	B2	30				1.20E-02	4.40E-02	5.4E+00	6.0E+01	5.9E+05	2.4E+02				
AOI-48 (NW)	VOC	Ethyl Benzene	100-41-4	D	31	1	5.87E-02	5.87E-02	1.40E-02	4.40E-02	1.4E+02	2.4E+03	1.3E+07	1.4E+02	4.2E-04	2.4E-05	4.5E-09	4.2E-04
AOI-48 (NW)	VOC	2-Hexanone	591-78-6		30				2.90E-02	8.80E-02	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
AOI-48 (NW)	VOC	Iodomethane	74-88-4		21				6.70E-02	8.80E-02								
AOI-48 (NW)	VOC	Methyl Acetate	79-20-9		9	3	9.30E-02	4.70E-01	4.40E-02	5.50E-02								
AOI-48 (NW)	VOC	Methyl tert-butyl ether	1634-04-4		9				1.10E-02	1.30E-02	5.9E+03	3.0E+04	8.8E+07	5.9E+03				
AOI-48 (NW)	VOC	4-Methyl-2-pentanone	108-10-1		9				2.80E-02	3.50E-02	2.7E+03	5.3E+04	6.0E+07	2.7E+03				
AOI-48 (NW)	VOC	Methylcyclohexane	108-87-2		9				1.60E-02	2.00E-02								
AOI-48 (NW)	VOC	Methylene Chloride	75-09-2	B2	30				4.00E-02	1.90E-01	2.4E+02	7.0E+02	8.3E+06	2.3E+03				
AOI-48 (NW)	VOC	n-Propylbenzene	103-65-1		21				6.70E-02	8.80E-02			5.9E+05	8.0E+03				
AOI-48 (NW)	VOC	Styrene	100-42-5		30				1.70E-02	4.40E-02	5.2E+02	3.3E+03	6.9E+06	5.2E+02				
AOI-48 (NW)	VOC	1,1,1,2-Tetrachloroethane	630-20-6		21				6.70E-02	8.80E-02	3.3E+01	1.2E+02	5.3E+05	4.4E+02				
AOI-48 (NW)	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	30				1.10E-02	8.80E-02	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
AOI-48 (NW)	VOC	Tetrachloroethene	127-18-4	C-B2	30				1.50E-02	4.40E-02	6.0E+01	6.0E+02	6.8E+06	8.8E+01				
AOI-48 (NW)	VOC	Tetrahydrofuran	109-99-9		21				4.80E-01	6.30E-01	2.4E+03	1.5E+04	1.7E+08	9.5E+03				
AOI-48 (NW)	VOC	Toluene	108-88-3	D	31				9.70E-03	8.80E-02	2.5E+02	3.3E+03	1.2E+07	2.5E+02				
AOI-48 (NW)	VOC	1,2,3-Trichlorobenzene	87-61-6		21				1.40E-01	1.90E-01								
AOI-48 (NW)	VOC	1,2,4-Trichlorobenzene	120-82-1	D	30				1.10E-02	1.90E-01	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
AOI-48 (NW)	VOC	1,1,1-Trichloroethane	71-55-6	D	31				5.00E-03	4.40E-02	4.6E+02	4.5E+03	2.9E+07	4.6E+02				
AOI-48 (NW)	VOC	1,1,2-Trichloroethane	79-00-5	C	30				1.60E-02	4.40E-02	2.4E+01	5.7E+01	2.5E+05	8.4E+02				
AOI-48 (NW)	VOC	Trichloroethene	79-01-6	C-B2	34	6	1.35E-01	8.95E+01	1.70E-02	4.40E-02	3.7E+01	2.6E+02	2.3E+06	5.0E+02	**2.4E+00**	3.4E-01	3.9E-05	1.8E-01
AOI-48 (NW)	VOC	Trichlorofluoromethane	75-69-4		30				1.80E-02	8.80E-02	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
AOI-48 (NW)	VOC	1,2,3-Trichloropropane	96-18-4	B2	21				6.70E-02	8.80E-02				8.3E+02				
AOI-48 (NW)	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		9				3.60E-02	4.50E-02	5.5E+02	2.1E+05	2.3E+09	5.5E+02				
AOI-48 (NW)	VOC	1,2,4-Trimethylbenzene	95-63-6		21				6.70E-02	8.80E-02	1.1E+02	2.5E+04	3.6E+07	1.1E+02				
AOI-48 (NW)	VOC	1,3,5-Trimethylbenzene	108-67-8		21				6.70E-02	8.80E-02	9.4E+01	1.9E+04	3.6E+07	9.4E+01				
AOI-48 (NW)	VOC	Vinyl Acetate	108-05-4		21				1.40E+00	1.90E+00	1.5E+03	2.0E+03	5.9E+06	2.4E+03				
AOI-48 (NW)	VOC	Vinyl Chloride	75-01-4	A	34				1.10E-02	8.80E-02	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
AOI-48 (NW)	VOC	Xylenes (total)	1330-20-7	D	31	1	8.13E-02	8.13E-02	1.80E-02	8.80E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	5.4E-04	1.5E-06	6.3E-10	5.4E-04
AOI-48 (NW)	SVOC	Acenaphthene	83-32-9		9				5.40E-02	6.30E-02	3.5E+05	9.7E+04	6.2E+06	1.3E+05				
AOI-48 (NW)	SVOC	Acenaphthylene	208-96-8	D	9				5.00E-02	5.80E-02	3.0E+03	2.7E+03	1.0E+06	5.2E+03				
AOI-48 (NW)	SVOC	Acetophenone	98-86-2	D	9				5.30E-02	6.20E-02	1.1E+03	5.2E+04	1.4E+07	1.1E+03				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-48 (NW)	SVOC	Anthracene	120-12-7	D	9				5.20E-02	6.00E-02	1.0E+06	1.6E+06	2.9E+07	7.3E+05				
AOI-48 (NW)	SVOC	Atrazine	1912-24-9		9				1.60E-01	1.90E-01				3.3E+02				
AOI-48 (NW)	SVOC	Benzaldehyde	100-52-7		9				1.80E-01	2.10E-01								
AOI-48 (NW)	SVOC	Benzo(a)anthracene	56-55-3	B2	9	1	2.40E-01	2.40E-01	5.80E-02	6.80E-02				8.0E+01				3.0E-03
AOI-48 (NW)	SVOC	Benzo(a)pyrene	50-32-8	B2	9	1	2.80E-01	2.80E-01	6.30E-02	7.40E-02			1.9E+03	8.0E+00			1.5E-04	3.5E-02
AOI-48 (NW)	SVOC	Benzo(b)fluoranthene	205-99-2	B2	9	1	3.70E-01	3.70E-01	6.10E-02	7.20E-02				8.0E+01				4.6E-03
AOI-48 (NW)	SVOC	Benzo(g,h,i)perylene	191-24-2	D	9	1	1.90E-01	1.90E-01	5.80E-02	6.80E-02			3.5E+05	7.0E+03			5.4E-07	2.7E-05
AOI-48 (NW)	SVOC	Benzo(k)fluoranthene	207-08-9	B2	9	1	1.60E-01	1.60E-01	5.60E-02	6.50E-02				8.0E+02				2.0E-04
AOI-48 (NW)	SVOC	Biphenyl	92-52-4		9				1.50E-01	1.70E-01								
AOI-48 (NW)	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	9				5.00E-02	5.80E-02								
AOI-48 (NW)	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	9				5.40E-02	6.30E-02	4.4E+01	1.3E+01	1.2E+04	5.8E+01				
AOI-48 (NW)	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	9				5.70E-02	6.70E-02			8.9E+05	1.0E+04				
AOI-48 (NW)	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	9				6.40E-02	7.50E-02								
AOI-48 (NW)	SVOC	Butylbenzylphthalate	85-68-7	C	9	1	7.00E-02	7.00E-02	5.40E-02	6.30E-02			2.1E+07	3.1E+02			3.3E-09	2.3E-04
AOI-48 (NW)	SVOC	Caprolactam	105-60-2		9				1.90E-01	2.20E-01			2.9E+05	3.1E+05				
AOI-48 (NW)	SVOC	Carbazole	86-74-8	B2	9				5.50E-02	6.40E-02				2.4E+03				
AOI-48 (NW)	SVOC	4-Chloro-3-methylphenol	59-50-7		9				5.40E-02	6.30E-02				1.5E+04				
AOI-48 (NW)	SVOC	4-Chloroaniline	106-47-8		9				5.40E-02	6.30E-02								
AOI-48 (NW)	SVOC	2-Chloronaphthalene	91-58-7		9				5.10E-02	5.90E-02				1.8E+05				
AOI-48 (NW)	SVOC	2-Chlorophenol	95-57-8		9				5.50E-02	6.40E-02				4.5E+03				
AOI-48 (NW)	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		9				5.50E-02	6.40E-02								
AOI-48 (NW)	SVOC	Chrysene	218-01-9	B2	9	3	6.00E-02	3.10E-01	4.90E-02	5.70E-02				8.0E+03				3.9E-05
AOI-48 (NW)	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	9				5.40E-02	6.30E-02				8.0E+00				
AOI-48 (NW)	SVOC	Dibenzofuran	132-64-9	D	9				5.30E-02	6.20E-02								
AOI-48 (NW)	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	9				4.10E-02	4.80E-02			8.2E+03	3.0E+01				
AOI-48 (NW)	SVOC	2,4-Dichlorophenol	120-83-2		9				5.30E-02	6.20E-02			2.3E+06	1.8E+03				
AOI-48 (NW)	SVOC	Diethylphthalate	84-66-2	D	9				1.60E-01	1.90E-01			1.5E+06	7.4E+02				
AOI-48 (NW)	SVOC	2,4-Dimethylphenol	105-67-9		9				8.40E-02	9.90E-02			2.1E+06	3.6E+04				
AOI-48 (NW)	SVOC	Dimethylphthalate	131-11-3	D	9				1.70E-01	2.00E-01			1.5E+06	7.9E+02				
AOI-48 (NW)	SVOC	Di-n-butylphthalate	84-74-2	D	9				1.60E-01	1.90E-01			1.5E+06	7.6E+02				
AOI-48 (NW)	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		9				1.70E-01	2.00E-01				2.6E+02				
AOI-48 (NW)	SVOC	2,4-Dinitrophenol	51-28-5		9				1.20E-01	1.40E-01								
AOI-48 (NW)	SVOC	2,4-Dinitrotoluene	121-14-2	B2	9				4.90E-02	5.70E-02			2.0E+04	2.2E+02				
AOI-48 (NW)	SVOC	2,6-Dinitrotoluene	606-20-2	B2	9				5.10E-02	5.90E-02								
AOI-48 (NW)	SVOC	Di-n-octylphthalate	117-84-0		9				5.70E-02	6.70E-02				2.0E+04				
AOI-48 (NW)	SVOC	Fluoranthene	206-44-0	D	9	3	9.60E-02	5.00E-01	5.90E-02	6.90E-02	1.0E+06	8.9E+05	4.1E+06	1.3E+05	5.0E-07	5.6E-07	1.2E-07	3.8E-06
AOI-48 (NW)	SVOC	Fluorene	86-73-7	D	9				5.10E-02	5.90E-02	1.0E+06	1.5E+05	4.1E+06	8.7E+04				
AOI-48 (NW)	SVOC	Hexachlorobenzene	118-74-1	B2	9				5.90E-02	6.90E-02	2.2E+02	5.6E+01	8.5E+03	3.7E+01				
AOI-48 (NW)	SVOC	Hexachlorobutadiene	87-68-3	C	30				4.70E-02	1.90E-01	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-48 (NW)	SVOC	Hexachlorocyclopentadiene	77-47-4	E	9				6.30E-02	7.40E-02	5.6E+01	6.0E+01	5.9E+03	7.2E+02				
AOI-48 (NW)	SVOC	Hexachloroethane	67-72-1	C	30				5.10E-02	1.90E-01	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-48 (NW)	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	9	1	1.70E-01	1.70E-01	7.40E-02	8.60E-02				8.0E+01				2.1E-03
AOI-48 (NW)	SVOC	Isophorone	78-59-1	C	9				4.60E-02	5.40E-02			8.2E+06	2.4E+03				
AOI-48 (NW)	SVOC	2-Methylnaphthalene	91-57-6		30				5.10E-02	1.90E-01				2.6E+04				
AOI-48 (NW)	SVOC	Methylphenol (total)	1319-77-3		9				5.00E-02	5.80E-02			2.9E+06	3.6E+04				
AOI-48 (NW)	SVOC	Naphthalene	91-20-3	C	30				5.20E-02	1.90E-01	4.7E+02	3.5E+02	8.8E+04	5.2E+04				
AOI-48 (NW)	SVOC	2-Nitroaniline	88-74-4		9				4.90E-02	5.70E-02								
AOI-48 (NW)	SVOC	3-Nitroaniline	99-09-2	C	9				1.50E-01	1.70E-01								
AOI-48 (NW)	SVOC	4-Nitroaniline	100-01-6	C	9				7.20E-02	8.40E-02								
AOI-48 (NW)	SVOC	Nitrobenzene	98-95-3	D	9				4.90E-02	5.70E-02	1.7E+02	6.4E+01	2.1E+04	3.4E+02				
AOI-48 (NW)	SVOC	2-Nitrophenol	88-75-5		9				4.90E-02	5.70E-02				2.0E+03				
AOI-48 (NW)	SVOC	4-Nitrophenol	100-02-7		9				2.00E-01	2.30E-01								
AOI-48 (NW)	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	9				5.20E-02	6.00E-02				7.8E+03				
AOI-48 (NW)	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	9				4.60E-02	5.40E-02			2.0E+03	5.4E+00				
AOI-48 (NW)	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	9				5.50E-02	6.40E-02								

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-48 (NW)	SVOC	Pentachlorophenol	87-86-5	B2	9				1.30E-01	1.50E-01			1.3E+05	3.2E+02				
AOI-48 (NW)	SVOC	Phenanthrene	85-01-8	D	9	2	6.70E-02	2.10E-01	5.50E-02	6.40E-02	5.1E+03	1.9E+02	2.9E+03	5.2E+03	4.1E-05	1.1E-03	7.2E-05	4.0E-05
AOI-48 (NW)	SVOC	Phenol	108-95-2	D	9				5.20E-02	6.00E-02			1.8E+07	1.2E+04				
AOI-48 (NW)	SVOC	Pyrene	129-00-0	D	9	3	7.50E-02	4.00E-01	5.40E-02	6.30E-02	1.0E+06	7.8E+05	2.9E+06	8.4E+04	4.0E-07	5.1E-07	1.4E-07	4.8E-06
AOI-48 (NW)	SVOC	2,4,5-Trichlorophenol	95-95-4		9				5.80E-02	6.80E-02			1.0E+07	7.3E+04				
AOI-48 (NW)	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	9				6.60E-02	7.80E-02			1.3E+06	3.3E+03				
AOI-48 (NW)	P/PCB	PCBs (total)	1336-36-3	B2	9	2	3.98E-02	5.18E-02	2.10E-02	2.50E-02	1.6E+04	8.1E+02	6.5E+03		3.2E-06	6.4E-05	8.0E-06	
AOI-48 (NW)	INORG	Aluminum	7429-90-5	D	9	9	1.16E+03	1.01E+04						3.7E+05				2.7E-02
AOI-48 (NW)	INORG	Antimony	7440-36-0		9	4	5.90E-01	8.20E-01	5.20E-01	6.00E-01			5.9E+03	6.7E+02			1.4E-04	1.2E-03
AOI-48 (NW)	INORG	Arsenic	7440-38-2	A	9	9	1.40E+00	6.80E+00					9.1E+02	3.7E+01			7.5E-03	1.8E-01
AOI-48 (NW)	INORG	Barium	7440-39-3	D	9	9	4.10E+00	7.85E+01					1.5E+05	1.3E+05			5.2E-04	6.0E-04
AOI-48 (NW)	INORG	Beryllium	7440-41-7	B1	9	5	6.90E-02	3.00E-01	4.90E-02	5.70E-02			5.9E+02	1.6E+03			5.1E-04	1.9E-04
AOI-48 (NW)	INORG	Cadmium	7440-43-9	B1	9	3	5.50E-02	4.20E-01	4.50E-02	5.30E-02			2.2E+03	2.1E+03			1.9E-04	2.0E-04
AOI-48 (NW)	INORG	Chromium (total)	7440-47-3		9	9	3.50E+00	2.31E+01					2.4E+02	9.2E+03			9.6E-02	2.5E-03
AOI-48 (NW)	INORG	Cobalt	7440-48-4	B1	9	9	1.30E+00	8.10E+00					5.9E+03	9.0E+03			1.4E-03	9.0E-04
AOI-48 (NW)	INORG	Copper	7440-50-8	D	9	9	2.80E+00	3.30E+01					5.9E+04	7.3E+04			5.6E-04	4.5E-04
AOI-48 (NW)	INORG	Cyanide (total)	57-12-5	D	9				1.80E-01	2.10E-01			2.5E+02	2.5E+02				
AOI-48 (NW)	INORG	Iron	7439-89-6	D	9	9	3.90E+03	1.78E+04						5.8E+05				3.1E-02
AOI-48 (NW)	INORG	Lead	7439-92-1	B2	9	9	2.20E+00	1.22E+02					4.4E+04	9.0E+02			2.8E-03	1.4E-01
AOI-48 (NW)	INORG	Magnesium	7439-95-4		9	9	5.61E+02	1.99E+04					2.9E+06	1.0E+06			6.9E-03	2.0E-02
AOI-48 (NW)	INORG	Manganese	7439-96-5	D	9	9	6.80E+01	8.84E+02					1.5E+03	9.0E+04			5.9E-01	9.8E-03
AOI-48 (NW)	INORG	Mercury	7439-97-6	D	9	6	1.20E-02	8.70E-02	8.90E-03	1.00E-02	8.9E+01	6.2E+01	8.8E+03	5.8E+02	9.8E-04	1.4E-03	9.9E-06	1.5E-04
AOI-48 (NW)	INORG	Nickel	7440-02-0	A	9	9	3.20E+00	2.08E+01					1.6E+04	1.5E+05			1.3E-03	1.4E-04
AOI-48 (NW)	INORG	Selenium	7782-49-2	D	9	1	3.80E-01	3.80E-01	3.30E-01	3.80E-01			5.9E+04	9.6E+03			6.4E-06	4.0E-05
AOI-48 (NW)	INORG	Silver	7440-22-4	D	9				1.60E-01	1.90E-01			2.9E+03	9.0E+03				
AOI-48 (NW)	INORG	Sodium	7440-23-5		9	5	6.87E+01	2.68E+02	5.55E+01	6.17E+01								
AOI-48 (NW)	INORG	Thallium	7440-28-0		9	6	6.40E-01	1.50E+00	6.00E-01	6.20E-01				1.3E+02				1.2E-02
AOI-48 (NW)	INORG	Vanadium	7440-62-2		9	9	5.00E+00	2.37E+01						5.5E+03				4.3E-03
AOI-48 (NW)	INORG	Zinc	7440-66-6	D	9	9	1.27E+01	1.25E+02						6.3E+05				2.0E-04
AOI-48 (SE)	VOC	Acetone	67-64-1	D	14				3.10E-01	3.60E-01	1.1E+05	1.6E+05	1.7E+08	7.3E+04				
AOI-48 (SE)	VOC	Acrolein	107-02-8	C	14				1.50E-01	1.80E-01	7.6E-01	3.7E-01	5.9E+02	1.2E+04				
AOI-48 (SE)	VOC	Acrylonitrile	107-13-1	B1	14				1.50E+00	1.80E+00	3.5E+01	1.7E+01	5.8E+04	7.4E+01				
AOI-48 (SE)	VOC	Benzene	71-43-2	A	14				3.60E-02	4.20E-02	8.4E+00	4.5E+01	4.7E+05	4.0E+02				
AOI-48 (SE)	VOC	Bromobenzene	108-86-1		14				7.20E-02	8.50E-02	5.8E+02	5.4E+02	2.4E+05	7.6E+02				
AOI-48 (SE)	VOC	Bromochloromethane	74-97-5		14				7.20E-02	8.50E-02								
AOI-48 (SE)	VOC	Bromodichloromethane	75-27-4	B2	14				7.20E-02	8.50E-02	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
AOI-48 (SE)	VOC	Bromoform	75-25-2	B2	14				7.20E-02	8.50E-02	7.7E+02	3.1E+03	3.6E+06	8.7E+02				
AOI-48 (SE)	VOC	Bromomethane	74-83-9	D	14				1.50E-01	1.80E-01	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
AOI-48 (SE)	VOC	2-Butanone	78-93-3	D	14				3.10E-01	3.60E-01	2.7E+04	3.5E+04	2.9E+07	2.7E+04				
AOI-48 (SE)	VOC	n-Butylbenzene	104-51-8		14				3.60E-02	4.20E-02				8.0E+03				
AOI-48 (SE)	VOC	sec-Butylbenzene	135-98-8		14				3.60E-02	4.20E-02				8.0E+03				
AOI-48 (SE)	VOC	tert-Butylbenzene	98-06-6		14				3.60E-02	4.20E-02				8.0E+03				
AOI-48 (SE)	VOC	Carbon Disulfide	75-15-0		14				1.50E-01	1.80E-01	1.4E+02	1.6E+03	2.1E+07	2.8E+02				
AOI-48 (SE)	VOC	Carbon Tetrachloride	56-23-5	B2	14				3.60E-02	4.20E-02	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
AOI-48 (SE)	VOC	3-Chloro-1-propene	107-05-1		14				1.50E-01	1.80E-01								
AOI-48 (SE)	VOC	Chlorobenzene	108-90-7	D	14				3.60E-02	4.20E-02	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
AOI-48 (SE)	VOC	Chloroethane	75-00-3		14				1.50E-01	1.80E-01	9.5E+02	3.6E+04	2.9E+08	9.5E+02				
AOI-48 (SE)	VOC	2-Chloroethylvinyl ether	110-75-8		14				2.60E+00	3.00E+00								
AOI-48 (SE)	VOC	Chloroform	67-66-3	B2	14				3.60E-02	4.20E-02	3.8E+01	1.5E+02	1.6E+06	1.5E+03				
AOI-48 (SE)	VOC	Chloromethane	74-87-3	D	14				1.50E-01	1.80E-01	1.0E+01	1.2E+02	2.6E+06	1.1E+03				
AOI-48 (SE)	VOC	2-Chlorotoluene	95-49-8		14				3.60E-02	4.20E-02	5.0E+02	1.5E+03	2.1E+06	5.0E+02				
AOI-48 (SE)	VOC	4-Chlorotoluene	106-43-4		14				3.60E-02	4.20E-02								
AOI-48 (SE)	VOC	Cumene	98-82-8	D	14				1.50E-01	1.80E-01	3.9E+02	2.0E+03	2.6E+06	3.9E+02				
AOI-48 (SE)	VOC	p-Cymene	99-87-6		14				3.60E-02	4.20E-02								
AOI-48 (SE)	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	14				1.50E-01	1.80E-01	1.2E+00	1.5E+01	5.9E+03	1.2E+00				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
AOI-48 (SE)	VOC	Dibromochloromethane	124-48-1	C	14				7.20E-02	8.50E-02	2.1E+01	8.0E+01	1.6E+05	5.0E+02				
AOI-48 (SE)	VOC	1,2-Dibromoethane	106-93-4	B2	14				1.50E-01	1.80E-01	3.6E+00	5.8E+00	1.8E+04	4.3E-01				
AOI-48 (SE)	VOC	Dibromomethane	74-95-3		14				1.50E-01	1.80E-01				2.0E+03				
AOI-48 (SE)	VOC	trans-1,4-Dichloro-2-butene	110-57-6		14				3.60E-02	4.20E-02								
AOI-48 (SE)	VOC	1,2-Dichlorobenzene	95-50-1	D	14				7.20E-02	8.50E-02	2.1E+02	4.6E+04	4.4E+07	2.1E+02				
AOI-48 (SE)	VOC	1,3-Dichlorobenzene	541-73-1	D	14				7.20E-02	8.50E-02				1.7E+02				
AOI-48 (SE)	VOC	1,4-Dichlorobenzene	106-46-7	C	14				7.20E-02	8.50E-02	1.0E+02	2.6E+02	5.7E+05	1.9E+03				
AOI-48 (SE)	VOC	Dichlorodifluoromethane	75-71-8		14				7.20E-02	8.50E-02	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
AOI-48 (SE)	VOC	1,1-Dichloroethane	75-34-3	C	14				3.60E-02	4.20E-02	4.3E+02	2.5E+03	1.5E+07	8.9E+02				
AOI-48 (SE)	VOC	1,2-Dichloroethane	107-06-2	B2	14				3.60E-02	4.20E-02	1.1E+01	2.1E+01	1.5E+05	4.2E+02				
AOI-48 (SE)	VOC	cis-1,2-Dichloroethene	156-59-2	D	14	2	1.20E-01	2.80E-01	3.60E-02	4.20E-02	4.1E+01	2.1E+02	1.0E+06	6.4E+02	6.8E-03	1.3E-03	2.8E-07	4.4E-04
AOI-48 (SE)	VOC	trans-1,2-Dichloroethene	156-60-5		14				3.60E-02	4.20E-02	4.3E+01	3.3E+02	2.1E+06	1.4E+03				
AOI-48 (SE)	VOC	1,2-Dichloropropane	78-87-5	B2	14				3.60E-02	4.20E-02	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
AOI-48 (SE)	VOC	1,3-Dichloropropane	142-28-9		14				3.60E-02	4.20E-02								
AOI-48 (SE)	VOC	2,2-Dichloropropane	594-20-7		14				3.60E-02	4.20E-02								
AOI-48 (SE)	VOC	1,1-Dichloropropene	563-58-6		14				3.60E-02	4.20E-02								
AOI-48 (SE)	VOC	1,3-Dichloropropene (total)	542-75-6	B2	14				3.60E-02	4.20E-02	5.4E+00	6.0E+01	5.9E+05	2.4E+02				
AOI-48 (SE)	VOC	Ethyl Benzene	100-41-4	D	14	1	4.10E-02	4.10E-02	3.60E-02	4.20E-02	1.4E+02	2.4E+03	1.3E+07	1.4E+02	2.9E-04	1.7E-05	3.2E-09	2.9E-04
AOI-48 (SE)	VOC	2-Hexanone	591-78-6		14				7.20E-02	8.50E-02	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
AOI-48 (SE)	VOC	Iodomethane	74-88-4		14				7.20E-02	8.50E-02								
AOI-48 (SE)	VOC	Methylene Chloride	75-09-2	B2	14				1.50E-01	1.80E-01	2.4E+02	7.0E+02	8.3E+06	2.3E+03				
AOI-48 (SE)	VOC	n-Propylbenzene	103-65-1		14				7.20E-02	8.50E-02			5.9E+05	8.0E+03				
AOI-48 (SE)	VOC	Styrene	100-42-5		14				3.60E-02	4.20E-02	5.2E+02	3.3E+03	6.9E+06	5.2E+02				
AOI-48 (SE)	VOC	1,1,1,2-Tetrachloroethane	630-20-6		14				7.20E-02	8.50E-02	3.3E+01	1.2E+02	5.3E+05	4.4E+02				
AOI-48 (SE)	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	14				7.20E-02	8.50E-02	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
AOI-48 (SE)	VOC	Tetrachloroethene	127-18-4	C-B2	14				3.60E-02	4.20E-02	6.0E+01	6.0E+02	6.8E+06	8.8E+01				
AOI-48 (SE)	VOC	Tetrahydrofuran	109-99-9		14				5.20E-01	6.10E-01	2.4E+03	1.5E+04	1.7E+08	9.5E+03				
AOI-48 (SE)	VOC	Toluene	108-88-3	D	14	1	1.30E-01	1.30E-01	7.20E-02	8.50E-02	2.5E+02	3.3E+03	1.2E+07	2.5E+02	5.2E-04	3.9E-05	1.1E-08	5.2E-04
AOI-48 (SE)	VOC	1,2,3-Trichlorobenzene	87-61-6		14				1.50E-01	1.80E-01								
AOI-48 (SE)	VOC	1,2,4-Trichlorobenzene	120-82-1	D	14				1.50E-01	1.80E-01	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
AOI-48 (SE)	VOC	1,1,1-Trichloroethane	71-55-6	D	14				3.60E-02	4.20E-02	4.6E+02	4.5E+03	2.9E+07	4.6E+02				
AOI-48 (SE)	VOC	1,1,2-Trichloroethane	79-00-5	C	14				3.60E-02	4.20E-02	2.4E+01	5.7E+01	2.5E+05	8.4E+02				
AOI-48 (SE)	VOC	Trichloroethene	79-01-6	C-B2	14	2	1.90E-01	3.50E-01	3.60E-02	4.20E-02	3.7E+01	2.6E+02	2.3E+06	5.0E+02	9.5E-03	1.3E-03	1.5E-07	7.0E-04
AOI-48 (SE)	VOC	Trichlorofluoromethane	75-69-4		14				7.20E-02	8.50E-02	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
AOI-48 (SE)	VOC	1,2,3-Trichloropropane	96-18-4	B2	14				7.20E-02	8.50E-02				8.3E+02				
AOI-48 (SE)	VOC	1,2,4-Trimethylbenzene	95-63-6		14	1	9.00E-02	9.00E-02	7.20E-02	8.50E-02	1.1E+02	2.5E+04	3.6E+07	1.1E+02	8.2E-04	3.6E-06	2.5E-09	8.2E-04
AOI-48 (SE)	VOC	1,3,5-Trimethylbenzene	108-67-8		14				7.20E-02	8.50E-02	9.4E+01	1.9E+04	3.6E+07	9.4E+01				
AOI-48 (SE)	VOC	Vinyl Acetate	108-05-4		14				1.50E+00	1.80E+00	1.5E+03	2.0E+03	5.9E+06	2.4E+03				
AOI-48 (SE)	VOC	Vinyl Chloride	75-01-4	A	14	1	1.10E-01	1.10E-01	7.20E-02	8.50E-02	2.8E+00	2.9E+01	8.9E+05	3.4E+01	3.9E-02	3.8E-03	1.2E-07	3.2E-03
AOI-48 (SE)	VOC	Xylenes (total)	1330-20-7	D	14	1	2.40E-01	2.40E-01	7.20E-02	8.50E-02	1.5E+02	5.4E+04	1.3E+08	1.5E+02	1.6E-03	4.4E-06	1.8E-09	1.6E-03
AOI-48 (SE)	SVOC	Hexachlorobutadiene	87-68-3	C	14				1.50E-01	1.80E-01	3.5E+02	4.6E+02	1.8E+05	3.5E+02				
AOI-48 (SE)	SVOC	Hexachloroethane	67-72-1	C	14				1.50E-01	1.80E-01	7.9E+01	6.6E+02	1.0E+05	7.3E+02				
AOI-48 (SE)	SVOC	2-Methylnaphthalene	91-57-6		14	2	2.30E-01	2.60E-01	1.50E-01	1.80E-01				2.6E+04				1.0E-05
AOI-48 (SE)	SVOC	Naphthalene	91-20-3	C	14				1.50E-01	1.80E-01	4.7E+02	3.5E+02	8.8E+04	5.2E+04				
Building 4082	VOC	Acetone	67-64-1	D	2				2.40E-01	6.90E-01	1.1E+05	1.6E+05	1.7E+08	7.3E+04				
Building 4082	VOC	Benzene	71-43-2	A	13				2.00E-02	9.90E-02	8.4E+00	4.5E+01	4.7E+05	4.0E+02				
Building 4082	VOC	Bromodichloromethane	75-27-4	B2	2				4.10E-02	1.20E-01	6.4E+00	3.1E+01	1.1E+05	4.9E+02				
Building 4082	VOC	Bromoform	75-25-2	B2	2				5.50E-02	1.60E-01	7.7E+02	3.1E+03	3.6E+06	8.7E+02				
Building 4082	VOC	Bromomethane	74-83-9	D	2				2.10E-01	6.00E-01	1.6E+00	1.3E+01	1.5E+05	1.0E+03				
Building 4082	VOC	2-Butanone	78-93-3	D	2				2.60E-01	7.40E-01	2.7E+04	3.5E+04	2.9E+07	2.7E+04				
Building 4082	VOC	Carbon Disulfide	75-15-0		2				2.20E-02	6.40E-02	1.4E+02	1.6E+03	2.1E+07	2.8E+02				
Building 4082	VOC	Carbon Tetrachloride	56-23-5	B2	2				7.00E-02	2.00E-01	9.9E-01	1.2E+01	1.7E+05	3.9E+02				
Building 4082	VOC	Chlorobenzene	108-90-7	D	2				2.90E-02	8.30E-02	2.2E+02	9.2E+02	2.1E+06	2.6E+02				
Building 4082	VOC	Chloroethane	75-00-3		2				2.40E-01	6.70E-01	9.5E+02	3.6E+04	2.9E+08	9.5E+02				
Building 4082	VOC	Chloroform	67-66-3	B2	2				6.00E-02	1.70E-01	3.8E+01	1.5E+02	1.6E+06	1.5E+03				

Table E-1a: Onsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Industrial Soil Volatilization to Indoor Air Criteria (mg/kg)	Industrial Soil Volatilization of Ambient Air Criteria (mg/kg)	Industrial Particulate Inhalation Criteria (mg/kg)	Industrial Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Industrial Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Industrial Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Industrial Particulate Inhalation Criteria	Ratio of Max Conc to Industrial Direct Contact Criteria
Building 4082	VOC	Chloromethane	74-87-3	D	2				7.00E-02	2.00E-01	1.0E+01	1.2E+02	2.6E+06	1.1E+03				
Building 4082	VOC	Cumene	98-82-8	D	2				4.20E-02	1.20E-01	3.9E+02	2.0E+03	2.6E+06	3.9E+02				
Building 4082	VOC	Cyclohexane	110-82-7		2				3.10E-02	8.90E-02								
Building 4082	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	2				1.20E-01	3.30E-01	1.2E+00	1.5E+01	5.9E+03	1.2E+00				
Building 4082	VOC	Dibromochloromethane	124-48-1	C	2				5.50E-02	1.60E-01	2.1E+01	8.0E+01	1.6E+05	5.0E+02				
Building 4082	VOC	1,2-Dibromoethane	106-93-4	B2	2				3.80E-02	1.10E-01	3.6E+00	5.8E+00	1.8E+04	4.3E-01				
Building 4082	VOC	1,2-Dichlorobenzene	95-50-1	D	2				3.40E-02	9.90E-02	2.1E+02	4.6E+04	4.4E+07	2.1E+02				
Building 4082	VOC	1,3-Dichlorobenzene	541-73-1	D	2				4.20E-02	1.20E-01				1.7E+02				
Building 4082	VOC	1,4-Dichlorobenzene	106-46-7	C	2				4.30E-02	1.20E-01	1.0E+02	2.6E+02	5.7E+05	1.9E+03				
Building 4082	VOC	Dichlorodifluoromethane	75-71-8		2				1.20E-01	3.30E-01	1.7E+03	6.3E+04	1.5E+09	1.0E+03				
Building 4082	VOC	1,1-Dichloroethane	75-34-3	C	2	2	5.90E+00	6.80E+00			4.3E+02	2.5E+03	1.5E+07	8.9E+02	1.6E-02	2.7E-03	4.5E-07	7.6E-03
Building 4082	VOC	1,2-Dichloroethane	107-06-2	B2	2				6.50E-02	1.90E-01	1.1E+01	2.1E+01	1.5E+05	4.2E+02				
Building 4082	VOC	1,1-Dichloroethene	75-35-4	C	13	1	7.20E-01	7.20E-01	2.00E-02	1.10E-01	3.3E-01	3.7E+00	7.8E+04	5.7E+02	**2.2E+00**	1.9E-01	9.2E-06	1.3E-03
Building 4082	VOC	cis-1,2-Dichloroethene	156-59-2	D	2				3.90E-02	1.10E-01	4.1E+01	2.1E+02	1.0E+06	6.4E+02				
Building 4082	VOC	trans-1,2-Dichloroethene	156-60-5		2				5.00E-02	1.40E-01	4.3E+01	3.3E+02	2.1E+06	1.4E+03				
Building 4082	VOC	1,2-Dichloropropane	78-87-5	B2	2				4.70E-02	1.30E-01	7.4E+00	3.0E+01	1.2E+05	5.5E+02				
Building 4082	VOC	1,3-Dichloropropene (total)	542-75-6	B2	2				3.80E-02	1.10E-01	5.4E+00	6.0E+01	5.9E+05	2.4E+02				
Building 4082	VOC	Ethyl Benzene	100-41-4	D	13	6	2.10E-02	4.16E-02	2.00E-02	9.30E-02	1.4E+02	2.4E+03	1.3E+07	1.4E+02	3.0E-04	1.7E-05	3.2E-09	3.0E-04
Building 4082	VOC	2-Hexanone	591-78-6		2				8.00E-02	2.30E-01	1.8E+03	1.3E+03	1.2E+06	2.5E+03				
Building 4082	VOC	Methyl Acetate	79-20-9		2	1	3.50E-01	3.50E-01	3.40E-01	3.40E-01								
Building 4082	VOC	Methyl tert-butyl ether	1634-04-4		2				4.10E-02	1.20E-01	5.9E+03	3.0E+04	8.8E+07	5.9E+03				
Building 4082	VOC	4-Methyl-2-pentanone	108-10-1		2				1.20E-01	3.40E-01	2.7E+03	5.3E+04	6.0E+07	2.7E+03				
Building 4082	VOC	Methylcyclohexane	108-87-2		2				4.40E-02	1.30E-01								
Building 4082	VOC	Methylene Chloride	75-09-2	B2	2				8.00E-02	2.30E-01	2.4E+02	7.0E+02	8.3E+06	2.3E+03				
Building 4082	VOC	Styrene	100-42-5		2				3.60E-02	1.00E-01	5.2E+02	3.3E+03	6.9E+06	5.2E+02				
Building 4082	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	2				5.00E-02	1.40E-01	2.3E+01	3.4E+01	6.8E+04	2.4E+02				
Building 4082	VOC	Tetrachloroethene	127-18-4	C-B2	2				5.50E-02	1.60E-01	6.0E+01	6.0E+02	6.8E+06	8.8E+01				
Building 4082	VOC	Toluene	108-88-3	D	13	1	3.08E-02	3.08E-02	2.00E-02	8.00E-02	2.5E+02	3.3E+03	1.2E+07	2.5E+02	1.2E-04	9.3E-06	2.6E-09	1.2E-04
Building 4082	VOC	1,2,4-Trichlorobenzene	120-82-1	D	2				5.50E-02	1.60E-01	1.1E+03	3.4E+04	1.1E+07	1.1E+03				
Building 4082	VOC	1,1,1-Trichloroethane	71-55-6	D	13	4	1.88E-01	1.70E+01	5.00E-03	5.00E-03	4.6E+02	4.5E+03	2.9E+07	4.6E+02	3.7E-02	3.8E-03	5.9E-07	3.7E-02
Building 4082	VOC	1,1,2-Trichloroethane	79-00-5	C	2				4.00E-02	1.10E-01	2.4E+01	5.7E+01	2.5E+05	8.4E+02				
Building 4082	VOC	Trichloroethene	79-01-6	C-B2	13	12	2.40E-02	1.62E+00	1.20E-01	1.20E-01	3.7E+01	2.6E+02	2.3E+06	5.0E+02	4.4E-02	6.2E-03	7.0E-07	3.2E-03
Building 4082	VOC	Trichlorofluoromethane	75-69-4		2				4.40E-02	1.30E-01	5.6E+02	1.1E+05	1.7E+09	5.6E+02				
Building 4082	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		2				1.40E-01	4.10E-01	5.5E+02	2.1E+05	2.3E+09	5.5E+02				
Building 4082	VOC	Vinyl Chloride	75-01-4	A	13				2.00E-02	1.60E-01	2.8E+00	2.9E+01	8.9E+05	3.4E+01				
Building 4082	VOC	Xylenes (total)	1330-20-7	D	13	6	4.62E-02	6.74E-02	2.00E-02	2.70E-01	1.5E+02	5.4E+04	1.3E+08	1.5E+02	4.5E-04	1.2E-06	5.2E-10	4.5E-04

Notes:

The Screening Criteria are MDEQ Part 201 Generic Screening Values (MDEQ 2002).

The Screening Criteria for Pyrene was used as a surrogate for Phenanthrene and Benzo(g,h,i)perylene.

The Screening Criteria for Naphthalene was used as a surrogate for 2-Methylnaphthalene.

The concentrations for the Methylphenol (2, 3, & 4) were summed before comparing to the Screening Criteria for 4-Methylphenol.

The concentrations for all PCB isomers were summed before comparing to the Screening Criteria.

The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the Screening Criteria.

The concentrations for the 1,3-Dichloropropene isomers (cis and trans) were summed before comparing to the Screening Criteria.

The toxicity values that MDEQ used to calculate its screening criteria for 1,1-Dichloroethene (1,1-DCE) are different from the toxicity values for 1,1-DCE published in IRIS (January, 2003). The updated screening criteria for 1,1-DCE, based on IRIS toxicity values, are: 36,400 mg/kg (industrial soil direct contact), 49.2 mg/kg (industrial soil volatilization to indoor air), 552 mg/kg (industrial soil volatilization to ambient air - infinite depth), and 1.18E+7 mg/kg (soil particulate inhalation). There are no detected concentrations of 1,1-DCE at the Site that exceed the updated screening criteria.

Chem Group - Chemical Group

Carc Class - EPA Weight-of-Evidence Cancer Classification

Min QL - Minimum Quantitation Limit

Max QL - Maximum Quantitation Limit

Table E-1b: Offsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Residential Soil Volatilization of Ambient Air Criteria (mg/kg)	Residential Particulate Inhalation Criteria (mg/kg)	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Residential Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Residential Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Residential Particulate Inhalation Criteria	Ratio of Max Conc to Residential Direct Contact Criteria
AOI-48	VOC	Acetone	67-64-1	D	2	1	1.20E-01	1.20E-01	8.20E-02	8.20E-02	1.1E+05	1.3E+05	3.9E+08	2.3E+04	1.1E-06	9.2E-07	3.1E-10	5.2E-06
AOI-48	VOC	Benzene	71-43-2	A	2				1.80E-02	2.10E-02	1.6E+00	1.3E+01	3.8E+05	1.8E+02				
AOI-48	VOC	Bromodichloromethane	75-27-4	B2	2				1.10E-02	1.20E-02	1.2E+00	9.1E+00	8.4E+04	1.1E+02				
AOI-48	VOC	Bromoform	75-25-2	B2	2				1.70E-02	2.00E-02	1.5E+02	9.0E+02	2.8E+06	8.2E+02				
AOI-48	VOC	Bromomethane	74-83-9	D	2				2.80E-02	3.20E-02	8.6E-01	1.1E+01	3.3E+05	3.2E+02				
AOI-48	VOC	2-Butanone	78-93-3	D	2				8.80E-02	9.90E-02	2.7E+04	2.9E+04	6.7E+07	2.7E+04				
AOI-48	VOC	Carbon Disulfide	75-15-0		2				3.80E-02	4.30E-02	7.6E+01	1.3E+03	4.7E+07	2.8E+02				
AOI-48	VOC	Carbon Tetrachloride	56-23-5	B2	2				1.10E-02	1.20E-02	1.9E-01	3.5E+00	1.3E+05	9.6E+01				
AOI-48	VOC	Chlorobenzene	108-90-7	D	2				8.80E-03	9.90E-03	1.2E+02	7.7E+02	4.7E+06	2.6E+02				
AOI-48	VOC	Chloroethane	75-00-3		2				4.00E-02	4.50E-02	9.5E+02	3.0E+04	6.7E+08	9.5E+02				
AOI-48	VOC	Chloroform	67-66-3	B2	2				1.10E-02	1.20E-02	7.2E+00	4.5E+01	1.3E+06	1.2E+03				
AOI-48	VOC	Chloromethane	74-87-3	D	2				1.60E-02	1.80E-02	2.3E+00	4.0E+01	4.9E+06	1.1E+03				
AOI-48	VOC	Cumene	98-82-8	D	2				8.60E-03	9.70E-03	3.9E+02	1.7E+03	5.8E+06	3.9E+02				
AOI-48	VOC	Cyclohexane	110-82-7		2				9.20E-03	1.00E-02								
AOI-48	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	2				8.80E-02	9.90E-02	1.2E+00	1.3E+01	1.3E+04	1.2E+00				
AOI-48	VOC	Dibromochloromethane	124-48-1	C	2				1.40E-02	1.60E-02	3.9E+00	2.4E+01	1.3E+05	1.1E+02				
AOI-48	VOC	1,2-Dibromoethane	106-93-4	B2	2				2.10E-02	2.30E-02	6.7E-01	1.7E+00	1.4E+04	2.5E-01				
AOI-48	VOC	1,2-Dichlorobenzene	95-50-1	D	2				1.70E-02	2.00E-02	2.1E+02	3.9E+04	1.0E+08	2.1E+02				
AOI-48	VOC	1,3-Dichlorobenzene	541-73-1	D	2				1.00E-02	1.20E-02				1.7E+02				
AOI-48	VOC	1,4-Dichlorobenzene	106-46-7	C	2				1.70E-02	2.00E-02	1.9E+01	7.7E+01	4.5E+05	4.0E+02				
AOI-48	VOC	Dichlorodifluoromethane	75-71-8		2				4.10E-02	4.70E-02	9.0E+02	5.3E+04	3.3E+09	1.0E+03				
AOI-48	VOC	1,1-Dichloroethane	75-34-3	C	2				1.50E-02	1.70E-02	2.3E+02	2.1E+03	3.3E+07	8.9E+02				
AOI-48	VOC	1,2-Dichloroethane	107-06-2	B2	2				1.20E-02	1.30E-02	2.1E+00	6.2E+00	1.2E+05	9.1E+01				
AOI-48	VOC	1,1-Dichloroethene	75-35-4	C	2				1.80E-02	2.10E-02	6.2E-02	1.1E+00	6.2E+04	2.0E+02				
AOI-48	VOC	cis-1,2-Dichloroethene	156-59-2	D	2				1.70E-02	2.00E-02	2.2E+01	1.8E+02	2.3E+06	6.4E+02				
AOI-48	VOC	trans-1,2-Dichloroethene	156-60-5		2				2.00E-02	2.20E-02	2.3E+01	2.8E+02	4.7E+06	1.4E+03				
AOI-48	VOC	1,2-Dichloropropane	78-87-5	B2	2				1.00E-02	1.20E-02	4.0E+00	2.5E+01	2.7E+05	1.4E+02				
AOI-48	VOC	1,3-Dichloropropene (total)	542-75-6	B2	2				1.30E-02	1.50E-02	1.0E+00	1.8E+01	7.8E+05	1.0E+01				
AOI-48	VOC	Ethyl Benzene	100-41-4	D	2	1	1.50E-02	1.50E-02	1.70E-02	1.70E-02	8.7E+01	7.2E+02	1.0E+07	1.4E+02	1.7E-04	2.1E-05	1.5E-09	1.1E-04
AOI-48	VOC	2-Hexanone	591-78-6		2				3.30E-02	3.70E-02	9.9E+02	1.1E+03	2.7E+06	2.5E+03				
AOI-48	VOC	Methyl Acetate	79-20-9		2				4.90E-02	5.50E-02								
AOI-48	VOC	Methyl tert-butyl ether	1634-04-4		2				1.20E-02	1.30E-02	5.9E+03	2.5E+04	2.0E+08	1.5E+03				
AOI-48	VOC	4-Methyl-2-pentanone	108-10-1		2				3.20E-02	3.60E-02	2.7E+03	4.5E+04	1.4E+08	2.7E+03				
AOI-48	VOC	Methylcyclohexane	108-87-2		2				1.70E-02	2.00E-02								
AOI-48	VOC	Methylene Chloride	75-09-2	B2	2				4.50E-02	5.00E-02	4.5E+01	2.1E+02	6.6E+06	1.3E+03				
AOI-48	VOC	Styrene	100-42-5		2				1.80E-02	2.10E-02	2.5E+02	9.7E+02	5.5E+06	4.0E+02				
AOI-48	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	2				1.20E-02	1.30E-02	4.3E+00	1.0E+01	5.4E+04	5.3E+01				
AOI-48	VOC	Tetrachloroethene	127-18-4	C-B2	2				1.60E-02	1.80E-02	1.1E+01	1.8E+02	5.4E+06	8.8E+01				
AOI-48	VOC	Toluene	108-88-3	D	2	1	5.30E-02	5.30E-02	1.20E-02	1.20E-02	2.5E+02	2.8E+03	2.7E+07	2.5E+02	2.1E-04	1.9E-05	2.0E-09	2.1E-04
AOI-48	VOC	1,2,4-Trichlorobenzene	120-82-1	D	2				1.20E-02	1.30E-02	1.1E+03	2.8E+04	2.5E+07	9.9E+02				
AOI-48	VOC	1,1,1-Trichloroethane	71-55-6	D	2				1.10E-02	1.20E-02	2.5E+02	3.8E+03	6.7E+07	4.6E+02				
AOI-48	VOC	1,1,2-Trichloroethane	79-00-5	C	2				1.70E-02	2.00E-02	4.6E+00	1.7E+01	1.9E+05	1.8E+02				
AOI-48	VOC	Trichloroethene	79-01-6	C-B2	2				1.80E-02	2.10E-02	7.1E+00	7.8E+01	1.8E+06	5.0E+02				
AOI-48	VOC	Trichlorofluoromethane	75-69-4		2				2.10E-02	2.30E-02	5.6E+02	9.2E+04	3.8E+09	5.6E+02				
AOI-48	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		2				4.00E-02	4.50E-02	5.5E+02	1.8E+05	5.1E+09	5.5E+02				
AOI-48	VOC	Vinyl Chloride	75-01-4	A	2				1.20E-02	1.30E-02	2.7E-01	4.2E+00	3.5E+05	3.8E+00				
AOI-48	VOC	Xylenes (total)	1330-20-7	D	2	1	1.00E-01	1.00E-01	2.30E-02	2.30E-02	1.5E+02	4.6E+04	2.9E+08	1.5E+02	6.7E-04	2.2E-06	3.4E-10	6.7E-04
AOI-48	SVOC	Acenaphthene	83-32-9		2				6.00E-02	6.40E-02	1.9E+05	8.1E+04	1.4E+07	4.1E+04				
AOI-48	SVOC	Acenaphthylene	208-96-8	D	2				5.60E-02	5.90E-02	1.6E+03	2.2E+03	2.3E+06	1.6E+03				
AOI-48	SVOC	Acetophenone	98-86-2	D	2				5.90E-02	6.30E-02	1.1E+03	4.4E+04	3.3E+07	1.1E+03				
AOI-48	SVOC	Anthracene	120-12-7	D	2				5.80E-02	6.20E-02	1.0E+06	1.4E+06	6.7E+07	2.3E+05				
AOI-48	SVOC	Atrazine	1912-24-9		2				1.80E-01	1.90E-01				7.1E+01				
AOI-48	SVOC	Benzaldehyde	100-52-7		2				2.00E-01	2.10E-01								
AOI-48	SVOC	Benzo(a)anthracene	56-55-3	B2	2				6.50E-02	6.90E-02				2.0E+01				
AOI-48	SVOC	Benzo(a)pyrene	50-32-8	B2	2				7.10E-02	7.60E-02			1.5E+03	2.0E+00				

Table E-1b: Offsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Residential Soil Volatilization of Ambient Air Criteria (mg/kg)	Residential Particulate Inhalation Criteria (mg/kg)	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Residential Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Residential Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Residential Particulate Inhalation Criteria	Ratio of Max Conc to Residential Direct Contact Criteria
AOI-48	SVOC	Benzo(b)fluoranthene	205-99-2	B2	2				6.90E-02	7.30E-02				2.0E+01				
AOI-48	SVOC	Benzo(g,h,i)perylene	191-24-2	D	2				6.50E-02	6.90E-02			8.0E+05	2.5E+03				
AOI-48	SVOC	Benzo(k)fluoranthene	207-08-9	B2	2				6.30E-02	6.70E-02				2.0E+02				
AOI-48	SVOC	Biphenyl	92-52-4		2				1.70E-01	1.80E-01								
AOI-48	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	2				5.60E-02	5.90E-02								
AOI-48	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	2				6.00E-02	6.40E-02	8.3E+00	3.8E+00	9.4E+03	1.3E+01				
AOI-48	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	2				6.40E-02	6.80E-02			7.0E+05	2.8E+03				
AOI-48	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	2				7.20E-02	7.70E-02								
AOI-48	SVOC	Butylbenzylphthalate	85-68-7	C	2				6.00E-02	6.40E-02			4.7E+07	3.1E+02				
AOI-48	SVOC	Caprolactam	105-60-2		2				2.10E-01	2.30E-01			6.7E+05	5.3E+04				
AOI-48	SVOC	Carbazole	86-74-8	B2	2				6.10E-02	6.60E-02				5.3E+02				
AOI-48	SVOC	4-Chloro-3-methylphenol	59-50-7		2				6.00E-02	6.40E-02				4.5E+03				
AOI-48	SVOC	4-Chloroaniline	106-47-8		2				6.00E-02	6.40E-02								
AOI-48	SVOC	2-Chloronaphthalene	91-58-7		2				5.70E-02	6.10E-02				5.6E+04				
AOI-48	SVOC	2-Chlorophenol	95-57-8		2				6.10E-02	6.60E-02				1.4E+03				
AOI-48	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		2				6.10E-02	6.60E-02								
AOI-48	SVOC	Chrysene	218-01-9	B2	2				5.40E-02	5.80E-02				2.0E+03				
AOI-48	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	2				6.00E-02	6.40E-02				2.0E+00				
AOI-48	SVOC	Dibenzofuran	132-64-9	D	2				5.90E-02	6.30E-02								
AOI-48	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	2				4.60E-02	4.90E-02			6.5E+03	6.6E+00				
AOI-48	SVOC	2,4-Dichlorophenol	120-83-2		2				5.90E-02	6.30E-02			5.1E+06	6.6E+02				
AOI-48	SVOC	Diethylphthalate	84-66-2	D	2				1.80E-01	1.90E-01			3.3E+06	7.4E+02				
AOI-48	SVOC	2,4-Dimethylphenol	105-67-9		2				9.50E-02	1.00E-01			4.7E+06	1.1E+04				
AOI-48	SVOC	Dimethylphthalate	131-11-3	D	2				1.90E-01	2.00E-01			3.3E+06	7.9E+02				
AOI-48	SVOC	Di-n-butylphthalate	84-74-2	D	2				1.80E-01	1.90E-01			3.3E+06	7.6E+02				
AOI-48	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		2				1.90E-01	2.00E-01				7.9E+01				
AOI-48	SVOC	2,4-Dinitrophenol	51-28-5		2				1.30E-01	1.40E-01								
AOI-48	SVOC	2,4-Dinitrotoluene	121-14-2	B2	2				5.40E-02	5.80E-02			1.6E+04	4.8E+01				
AOI-48	SVOC	2,6-Dinitrotoluene	606-20-2	B2	2				5.70E-02	6.10E-02								
AOI-48	SVOC	Di-n-octylphthalate	117-84-0		2				6.40E-02	6.80E-02				6.9E+03				
AOI-48	SVOC	Fluoranthene	206-44-0	D	2				6.60E-02	7.10E-02	1.0E+06	7.4E+05	9.3E+06	4.6E+04				
AOI-48	SVOC	Fluorene	86-73-7	D	2				5.70E-02	6.10E-02	5.8E+05	1.3E+05	9.3E+06	2.7E+04				
AOI-48	SVOC	Hexachlorobenzene	118-74-1	B2	2				6.60E-02	7.10E-02	4.1E+01	1.7E+01	6.8E+03	8.9E+00				
AOI-48	SVOC	Hexachlorobutadiene	87-68-3	C	2				5.30E-02	5.70E-02	1.3E+02	1.3E+02	1.4E+05	1.0E+02				
AOI-48	SVOC	Hexachlorocyclopentadiene	77-47-4	E	2				7.10E-02	7.60E-02	3.0E+01	5.0E+01	1.3E+04	7.2E+02				
AOI-48	SVOC	Hexachloroethane	67-72-1	C	2				5.70E-02	6.10E-02	4.0E+01	5.5E+02	2.3E+05	2.3E+02				
AOI-48	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	2				8.30E-02	8.80E-02				2.0E+01				
AOI-48	SVOC	Isophorone	78-59-1	C	2				5.20E-02	5.60E-02			1.2E+07	2.4E+03				
AOI-48	SVOC	2-Methylnaphthalene	91-57-6		2				5.70E-02	6.10E-02				8.1E+03				
AOI-48	SVOC	Methylphenol (total)	1319-77-3		2				5.60E-02	5.90E-02			6.7E+06	1.1E+04				
AOI-48	SVOC	Naphthalene	91-20-3	C	2				5.80E-02	6.20E-02	2.5E+02	3.0E+02	2.0E+05	1.6E+04				
AOI-48	SVOC	2-Nitroaniline	88-74-4		2				5.40E-02	5.80E-02								
AOI-48	SVOC	3-Nitroaniline	99-09-2	C	2				1.70E-01	1.80E-01								
AOI-48	SVOC	4-Nitroaniline	100-01-6	C	2				8.00E-02	8.60E-02								
AOI-48	SVOC	Nitrobenzene	98-95-3	D	2				5.40E-02	5.80E-02	9.1E+01	5.4E+01	4.7E+04	1.0E+02				
AOI-48	SVOC	2-Nitrophenol	88-75-5		2				5.40E-02	5.80E-02				6.3E+02				
AOI-48	SVOC	4-Nitrophenol	100-02-7		2				2.20E-01	2.40E-01								
AOI-48	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	2				5.80E-02	6.20E-02				1.7E+03				
AOI-48	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	2				5.20E-02	5.60E-02			1.6E+03	1.2E+00				
AOI-48	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	2				6.10E-02	6.60E-02								
AOI-48	SVOC	Pentachlorophenol	87-86-5	B2	2				1.40E-01	1.50E-01			1.0E+05	9.0E+01				
AOI-48	SVOC	Phenanthrene	85-01-8	D	2				6.10E-02	6.60E-02	2.8E+03	1.6E+02	6.7E+03	1.6E+03				
AOI-48	SVOC	Phenol	108-95-2	D	2				5.80E-02	6.20E-02			4.0E+07	1.2E+04				
AOI-48	SVOC	Pyrene	129-00-0	D	2				6.00E-02	6.40E-02	1.0E+06	6.5E+05	6.7E+06	2.9E+04				
AOI-48	SVOC	2,4,5-Trichlorophenol	95-95-4		2				6.50E-02	6.90E-02			2.3E+07	2.3E+04				

Table E-1b: Offsite Soil Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)	Residential Soil Volatilization to Indoor Air Criteria (mg/kg)	Residential Soil Volatilization of Ambient Air Criteria (mg/kg)	Residential Particulate Inhalation Criteria (mg/kg)	Residential Direct Contact Criteria (mg/kg)	Ratio of Max Conc to Residential Soil Volatilization to Indoor Air Criteria	Ratio of Max Conc to Residential Soil Volatilization of Ambient Air Criteria	Ratio of Max Conc to Residential Particulate Inhalation Criteria	Ratio of Max Conc to Residential Direct Contact Criteria
AOI-48	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	2				7.50E-02	8.00E-02			1.0E+06	7.1E+02				
AOI-48	P/PCB	PCBs (total)	1336-36-3	B2	2				2.40E-02	2.50E-02	3.0E+03	2.4E+02	5.2E+03					
AOI-48	INORG	Aluminum	7429-90-5	D	2	2	1.99E+03	1.34E+04						5.0E+04				2.7E-01
AOI-48	INORG	Antimony	7440-36-0		2	1	1.40E+00	1.40E+00	6.20E-01	6.20E-01			1.3E+04	1.8E+02			1.1E-04	7.8E-03
AOI-48	INORG	Arsenic	7440-38-2	A	2	2	3.60E+00	1.10E+01					7.2E+02	7.6E+00			1.5E-02	1.4E+00
AOI-48	INORG	Barium	7440-39-3	D	2	2	2.72E+01	7.63E+01					3.3E+05	3.7E+04			2.3E-04	2.1E-03
AOI-48	INORG	Beryllium	7440-41-7	B1	2	1	5.80E-01	5.80E-01	5.40E-02	5.40E-02			1.3E+03	4.1E+02			4.5E-04	1.4E-03
AOI-48	INORG	Cadmium	7440-43-9	B1	2	2	1.50E-01	1.70E-01					1.7E+03	5.5E+02			1.0E-04	3.1E-04
AOI-48	INORG	Chromium (total)	7440-47-3		2	2	2.17E+01	2.30E+01					2.6E+02	2.5E+03			8.8E-02	9.2E-03
AOI-48	INORG	Cobalt	7440-48-4	B1	2	2	3.30E+00	1.29E+01					1.3E+04	2.6E+03			9.9E-04	5.0E-03
AOI-48	INORG	Copper	7440-50-8	D	2	2	1.92E+01	9.48E+01					1.3E+05	2.0E+04			7.3E-04	4.7E-03
AOI-48	INORG	Cyanide (total)	57-12-5	D	2				2.00E-01	2.10E-01			2.5E+02	1.2E+01				
AOI-48	INORG	Iron	7439-89-6	D	2	2	1.76E+04	2.79E+04						1.6E+05				1.7E-01
AOI-48	INORG	Lead	7439-92-1	B2	2	2	1.23E+01	2.47E+01					1.0E+05	4.0E+02			2.5E-04	6.2E-02
AOI-48	INORG	Magnesium	7439-95-4		2	2	1.22E+03	1.52E+04					6.7E+06	1.0E+06			2.3E-03	1.5E-02
AOI-48	INORG	Manganese	7439-96-5	D	2	2	2.40E+02	5.06E+02					3.3E+03	2.5E+04			1.5E-01	2.0E-02
AOI-48	INORG	Mercury	7439-97-6	D	2	2	3.60E-02	1.40E-01			4.8E+01	5.2E+01	2.0E+04	1.6E+02	2.9E-03	2.7E-03	7.0E-06	8.8E-04
AOI-48	INORG	Nickel	7440-02-0	A	2	2	1.73E+01	3.05E+01					1.3E+04	4.0E+04			2.3E-03	7.6E-04
AOI-48	INORG	Selenium	7782-49-2	D	2				3.70E-01	3.90E-01			1.3E+05	2.6E+03				
AOI-48	INORG	Silver	7440-22-4	D	2				1.80E-01	1.90E-01			6.7E+03	2.5E+03				
AOI-48	INORG	Sodium	7440-23-5		2	2	1.14E+02	4.01E+02										
AOI-48	INORG	Thallium	7440-28-0		2	1	1.10E+00	1.10E+00	5.90E-01	5.90E-01				3.5E+01				3.1E-02
AOI-48	INORG	Vanadium	7440-62-2		2	2	7.00E+00	3.17E+01						7.5E+02				4.2E-02
AOI-48	INORG	Zinc	7440-66-6	D	2	2	5.31E+01	7.97E+01						1.7E+05				4.7E-04

Notes:

The Screening Criteria are MDEQ Part 201 Generic Screening Values (MDEQ 2002).

The Screening Criteria for Pyrene was used as a surrogate for Phenanthrene and Benzo(g,h,i)perylene.

The Screening Criteria for Naphthalene was used as a surrogate for 2-Methylnaphthalene.

The concentrations for the Methylphenol (2, 3, & 4) were summed before comparing to the Screening Criteria for 4-Methylphenol.

The concentrations for all PCB isomers were summed before comparing to the Screening Criteria.

The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the Screening Criteria.

The concentrations for the 1,3-Dichloropropene isomers (cis and trans) were summed before comparing to the Screening Criteria.

The toxicity values that MDEQ used to calculate its screening criteria for 1,1-Dichloroethene (1,1-DCE) are different from the toxicity values for 1,1-DCE published in IRIS (January, 2003). The updated screening criteria for 1,1-DCE, based on IRIS toxicity values, are: 36,400 mg/kg (industrial soil direct contact), 49.2 mg/kg (industrial soil volatilization to indoor air), 552 mg/kg (industrial soil volatilization to ambient air - infinite depth), and 1.18E+7 mg/kg (soil particulate inhalation). There are no detected concentrations of 1,1-DCE at the Site that exceed the updated screening criteria.

Chem Group - Chemical Group

Carc Class - EPA Weight-of-Evidence Cancer Classification

Min QL - Minimum Quantitation Limit

Max QL - Maximum Quantitation Limit

Table E-2a: Onsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-11	VOC	Benzene	71-43-2	T	A	19	3	2.20E-02	4.30E-02	4.00E-04	1.00E-03	5.0E-03	3.5E+01	1.1E+01	**8.6E+00**	1.2E-03	3.9E-03
AOI-11	VOC	1,1-Dichloroethane	75-34-3	T	C	2						2.5E+00	2.3E+03	2.4E+03			
AOI-11	VOC	1,2-Dichloroethane	107-06-2	T	B2	2	1	3.80E-03	3.80E-03			5.0E-03	5.9E+01	1.9E+01	7.6E-01	6.4E-05	2.0E-04
AOI-11	VOC	1,1-Dichloroethene	75-35-4	T	C	2						7.0E-03	1.3E+00	1.1E+01			
AOI-11	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	2						7.0E-02	2.1E+02	2.0E+02			
AOI-11	VOC	Ethyl Benzene	100-41-4	T	D	19	1	6.60E-03	6.60E-03	2.00E-05	1.00E-03	7.0E-01	1.7E+02	1.7E+02	9.4E-03	3.9E-05	3.9E-05
AOI-11	VOC	Methyl tert-butyl ether	1634-04-4	T		2				5.00E-02	5.00E-02	6.9E-01	4.7E+04	6.1E+02			
AOI-11	VOC	Toluene	108-88-3	T	D	19	1	7.50E-03	7.50E-03	2.00E-04	1.00E-03	1.0E+00	5.3E+02	5.3E+02	7.5E-03	1.4E-05	1.4E-05
AOI-11	VOC	1,1,1-Trichloroethane	71-55-6	T	D	2						2.0E-01	1.3E+03	1.3E+03			
AOI-11	VOC	Trichloroethene	79-01-6	T	C-B2	2						5.0E-03	9.7E+01	2.2E+01			
AOI-11	VOC	Vinyl Chloride	75-01-4	T	A	2						2.0E-03	1.3E+01	1.0E+00			
AOI-11	VOC	Xylenes (total)	1330-20-7	T	D	19	3	1.20E-02	3.60E-02	2.00E-04	1.00E-03	1.0E+01	1.9E+02	1.9E+02	3.6E-03	1.9E-04	1.9E-04
AOI-11	SVOC	PAHs (total)	130498-29-2	T		3				3.00E-03	3.00E-03						
AOI-13	VOC	Benzene	71-43-2	T	A	7	1	1.80E-03	1.80E-03	1.00E-03	1.00E-03	5.0E-03	3.5E+01	1.1E+01	3.6E-01	5.1E-05	1.6E-04
AOI-13	VOC	1,1-Dichloroethane	75-34-3	T	C	2						2.5E+00	2.3E+03	2.4E+03			
AOI-13	VOC	1,2-Dichloroethane	107-06-2	T	B2	2						5.0E-03	5.9E+01	1.9E+01			
AOI-13	VOC	1,1-Dichloroethene	75-35-4	T	C	2						7.0E-03	1.3E+00	1.1E+01			
AOI-13	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	2						7.0E-02	2.1E+02	2.0E+02			
AOI-13	VOC	Ethyl Benzene	100-41-4	T	D	7				1.00E-03	1.00E-03	7.0E-01	1.7E+02	1.7E+02			
AOI-13	VOC	Methyl tert-butyl ether	1634-04-4	T		1				5.00E-02	5.00E-02	6.9E-01	4.7E+04	6.1E+02			
AOI-13	VOC	Toluene	108-88-3	T	D	7				1.00E-03	1.00E-03	1.0E+00	5.3E+02	5.3E+02			
AOI-13	VOC	1,1,1-Trichloroethane	71-55-6	T	D	2						2.0E-01	1.3E+03	1.3E+03			
AOI-13	VOC	Trichloroethene	79-01-6	T	C-B2	2						5.0E-03	9.7E+01	2.2E+01			
AOI-13	VOC	Vinyl Chloride	75-01-4	T	A	2						2.0E-03	1.3E+01	1.0E+00			
AOI-13	VOC	Xylenes (total)	1330-20-7	T	D	7	1	1.60E-03	1.60E-03	1.00E-03	1.00E-03	1.0E+01	1.9E+02	1.9E+02	1.6E-04	8.4E-06	8.4E-06
AOI-13	SVOC	PAHs (total)	130498-29-2	T		2				3.00E-03	3.00E-03						
AOI-24	VOC	Benzene	71-43-2	T	A	7				1.00E-03	1.00E-03	5.0E-03	3.5E+01	1.1E+01			
AOI-24	VOC	1,1-Dichloroethane	75-34-3	T	C	1	1	4.10E-01	4.10E-01			2.5E+00	2.3E+03	2.4E+03	1.6E-01	1.8E-04	1.7E-04
AOI-24	VOC	1,2-Dichloroethane	107-06-2	T	B2	1						5.0E-03	5.9E+01	1.9E+01			
AOI-24	VOC	1,1-Dichloroethene	75-35-4	T	C	1	1	2.90E-01	2.90E-01			7.0E-03	1.3E+00	1.1E+01	**4.1E+01**	2.2E-01	2.6E-02
AOI-24	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	1						7.0E-02	2.1E+02	2.0E+02			
AOI-24	VOC	Ethyl Benzene	100-41-4	T	D	7				1.00E-03	1.00E-03	7.0E-01	1.7E+02	1.7E+02			
AOI-24	VOC	Toluene	108-88-3	T	D	7	2	4.50E-02	6.50E-02	1.00E-03	1.00E-03	1.0E+00	5.3E+02	5.3E+02	6.5E-02	1.2E-04	1.2E-04
AOI-24	VOC	1,1,1-Trichloroethane	71-55-6	T	D	1	1	3.10E+00	3.10E+00			2.0E-01	1.3E+03	1.3E+03	**1.6E+01**	2.4E-03	2.4E-03
AOI-24	VOC	Trichloroethene	79-01-6	T	C-B2	1						5.0E-03	9.7E+01	2.2E+01			
AOI-24	VOC	Vinyl Chloride	75-01-4	T	A	1						2.0E-03	1.3E+01	1.0E+00			
AOI-24	VOC	Xylenes (total)	1330-20-7	T	D	7				1.00E-03	3.00E-03	1.0E+01	1.9E+02	1.9E+02			
AOI-26	VOC	Acetone	67-64-1	T	D	11	9	2.40E-02	6.90E-01	5.10E-04	1.10E-03	2.1E+00	1.0E+06	3.1E+04	3.3E-01	6.9E-07	2.2E-05
AOI-26	VOC	Benzene	71-43-2	T	A	51	2	2.50E-03	8.80E-03	1.60E-04	6.20E-02	5.0E-03	3.5E+01	1.1E+01	**1.8E+00**	2.5E-04	8.0E-04
AOI-26	VOC	Bromodichloromethane	75-27-4	T	B2	11				1.70E-04	5.30E-02	1.0E-01	3.7E+01	1.4E+01			
AOI-26	VOC	Bromoform	75-25-2	T	B2	11				1.80E-04	6.20E-02	1.0E-01	3.1E+03	1.4E+02			
AOI-26	VOC	Bromomethane	74-83-9	T	D	11				2.00E-04	5.00E-02	2.9E-02	9.0E+00	7.0E+01			
AOI-26	VOC	2-Butanone	78-93-3	T	D	11				4.10E-04	9.80E-02	3.8E+01	2.4E+05	2.4E+05			
AOI-26	VOC	Carbon Disulfide	75-15-0	T		11	1	6.80E-04	6.80E-04	2.40E-04	4.00E-02	2.3E+00	5.5E+02	1.2E+03	3.0E-04	1.2E-06	5.7E-07
AOI-26	VOC	Carbon Tetrachloride	56-23-5	T	B2	11				1.20E-04	6.20E-02	5.0E-03	2.4E+00	4.6E+00			
AOI-26	VOC	Chlorobenzene	108-90-7	T	D	50	2	7.90E-03	3.20E-02	1.40E-04	6.30E-02	1.0E-01	4.7E+02	8.6E+01	3.2E-01	6.8E-05	3.7E-04
AOI-26	VOC	Chloroethane	75-00-3	T		11	2	1.40E-02	7.20E-02	2.60E-04	4.80E-02	1.7E+00	5.7E+03	4.4E+02	4.2E-02	1.3E-05	1.6E-04
AOI-26	VOC	Chloroform	67-66-3	T	B2	50	8	6.90E-03	6.70E-01	1.40E-04	5.80E-02	1.0E-01	1.8E+02	1.5E+02	**6.7E+00**	3.7E-03	4.5E-03
AOI-26	VOC	Chloromethane	74-87-3	T	D	11				1.30E-04	8.20E-02	1.1E+00	4.5E+01	4.9E+02			
AOI-26	VOC	Cumene	98-82-8	T	D	11				1.20E-04	6.50E-02	2.3E+00	5.6E+01	5.6E+01			
AOI-26	VOC	Cyclohexane	110-82-7	T		11				1.30E-04	5.50E-02						
AOI-26	VOC	1,2-Dibromo-3-chloropropane	96-12-8	T	B2	11				6.20E-04	1.40E-01	2.0E-04	1.2E+00	3.9E-01			
AOI-26	VOC	Dibromochloromethane	124-48-1	T	C	11				2.60E-04	6.20E-02	1.0E-01	1.1E+02	1.8E+01			

Table E-2a: Onsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-26	VOC	1,2-Dibromoethane	106-93-4	T	B2	11				2.20E-04	5.70E-02	1.0E-03	1.5E+01	2.5E-02			
AOI-26	VOC	1,2-Dichlorobenzene	95-50-1	T	D	50	2	3.20E-02	7.60E-02	1.10E-04	6.30E-02	6.0E-01	1.6E+02	1.6E+02	1.3E-01	4.8E-04	4.8E-04
AOI-26	VOC	1,3-Dichlorobenzene	541-73-1	T	D	11				1.50E-04	6.30E-02	1.9E-02		2.0E+00			
AOI-26	VOC	1,4-Dichlorobenzene	106-46-7	T	C	50	1	7.60E-03	7.60E-03	1.70E-04	6.30E-02	7.5E-02	7.4E+01	6.4E+00	1.0E-01	1.0E-04	1.2E-03
AOI-26	VOC	Dichlorodifluoromethane	75-71-8	T		11				2.60E-04	8.20E-02	4.8E+00	3.0E+02	3.0E+02			
AOI-26	VOC	1,1-Dichloroethane	75-34-3	T	C	53	12	2.30E-04	1.10E+00	3.00E-04	6.00E-03	2.5E+00	2.3E+03	2.4E+03	4.4E-01	4.8E-04	4.6E-04
AOI-26	VOC	1,2-Dichloroethane	107-06-2	T	B2	53	5	4.80E-03	1.70E-02	2.10E-04	4.70E-02	5.0E-03	5.9E+01	1.9E+01	**3.4E+00**	2.9E-04	8.9E-04
AOI-26	VOC	1,1-Dichloroethene	75-35-4	T	C	53	13	5.00E-03	2.20E+00	2.40E-04	6.20E-03	7.0E-03	1.3E+00	1.1E+01	**3.1E+02**	**1.7E+00**	2.0E-01
AOI-26	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	53	15	3.50E-04	4.40E-01	3.50E-04	5.80E-02	7.0E-02	2.1E+02	2.0E+02	**6.3E+00**	2.1E-03	2.2E-03
AOI-26	VOC	trans-1,2-Dichloroethene	156-60-5	T		50	3	6.90E-03	3.50E-02	1.50E-04	5.50E-02	1.0E-01	2.0E+02	2.2E+02	3.5E-01	1.8E-04	1.6E-04
AOI-26	VOC	1,2-Dichloropropane	78-87-5	T	B2	11				1.70E-04	6.80E-02	5.0E-03	3.6E+01	1.6E+01			
AOI-26	VOC	1,3-Dichloropropene (total)	542-75-6	T	B2	11				2.70E-04	5.80E-02	3.5E-02	2.6E+01	5.5E+00			
AOI-26	VOC	Ethyl Benzene	100-41-4	T	D	51	5	1.60E-04	8.30E-02	4.10E-04	6.80E-02	7.0E-01	1.7E+02	1.7E+02	1.2E-01	4.9E-04	4.9E-04
AOI-26	VOC	2-Hexanone	591-78-6	T		11				4.60E-04	9.70E-02	2.9E+00	8.7E+03	5.2E+03			
AOI-26	VOC	Methyl Acetate	79-20-9	T		11				4.10E-04	9.00E-02						
AOI-26	VOC	Methyl tert-butyl ether	1634-04-4	T		11				1.30E-04	4.50E-02	6.9E-01	4.7E+04	6.1E+02			
AOI-26	VOC	4-Methyl-2-pentanone	108-10-1	T		11				2.30E-04	4.30E-02	5.2E+00	2.0E+04	1.3E+04			
AOI-26	VOC	Methylcyclohexane	108-87-2	T		11				1.50E-04	7.00E-02						
AOI-26	VOC	Methylene Chloride	75-09-2	T	B2	50	4	1.10E-03	5.00E+00	2.90E-04	4.80E-02	5.0E-03	1.4E+03	2.2E+02	**1.0E+03**	3.6E-03	2.3E-02
AOI-26	VOC	Styrene	100-42-5	T		11				1.50E-04	5.80E-02	1.0E-01	3.1E+02	9.7E+00			
AOI-26	VOC	1,1,2,2-Tetrachloroethane	79-34-5	T	C	11				2.50E-04	6.00E-02	3.5E-02	7.7E+01	4.7E+00			
AOI-26	VOC	Tetrachloroethene	127-18-4	T	C-B2	50	2	1.70E-03	3.10E-03	2.30E-04	7.00E-02	5.0E-03	1.7E+02	1.2E+01	6.2E-01	1.8E-05	2.6E-04
AOI-26	VOC	Toluene	108-88-3	T	D	51	5	3.60E-04	1.00E-01	3.90E-04	6.50E-02	1.0E+00	5.3E+02	5.3E+02	1.0E-01	1.9E-04	1.9E-04
AOI-26	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	11				1.70E-04	6.70E-02	7.0E-02	3.0E+02	1.9E+01			
AOI-26	VOC	1,1,1-Trichloroethane	71-55-6	T	D	53	17	8.00E-04	1.10E+01	1.50E-04	7.80E-03	2.0E-01	1.3E+03	1.3E+03	**5.5E+01**	8.5E-03	8.5E-03
AOI-26	VOC	1,1,2-Trichloroethane	79-00-5	T	C	50				3.00E-04	6.00E-02	5.0E-03	1.1E+02	2.1E+01			
AOI-26	VOC	Trichloroethene	79-01-6	T	C-B2	53	22	6.40E-04	3.40E+00	4.20E-04	7.00E-02	5.0E-03	9.7E+01	2.2E+01	**6.8E+02**	3.5E-02	1.5E-01
AOI-26	VOC	Trichlorofluoromethane	75-69-4	T		11				2.80E-04	9.00E-02	7.3E+00	1.1E+03	1.1E+03			
AOI-26	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	T		11				3.20E-04	5.30E-02	1.7E+02	1.7E+02	1.7E+02			
AOI-26	VOC	Vinyl Chloride	75-01-4	T	A	14	6	6.50E-04	2.00E-01	3.60E-04	6.00E-02	2.0E-03	1.3E+01	1.0E+00	**1.0E+02**	1.5E-02	2.0E-01
AOI-26	VOC	Xylenes (total)	1330-20-7	T	D	51	5	9.80E-03	3.10E-01	3.30E-04	7.30E-02	1.0E+01	1.9E+02	1.9E+02	3.1E-02	1.6E-03	1.6E-03
AOI-26	SVOC	Acenaphthene	83-32-9	T		2				8.00E-04	8.00E-04	3.8E+00	4.2E+00	4.2E+00			
AOI-26	SVOC	Acenaphthylene	208-96-8	T	D	2				7.10E-04	7.10E-04	1.5E-01	3.9E+00	3.9E+00			
AOI-26	SVOC	Acetophenone	98-86-2	T	D	2				2.60E-03	2.60E-03	4.4E+00	6.1E+03	6.1E+03			
AOI-26	SVOC	Anthracene	120-12-7	T	D	2				6.80E-04	6.80E-04	4.3E-02	4.3E-02	4.3E-02			
AOI-26	SVOC	Atrazine	1912-24-9	T		2				2.50E-03	2.50E-03	3.0E-03		5.4E+00			
AOI-26	SVOC	Benzaldehyde	100-52-7	T		2				2.80E-03	2.80E-03						
AOI-26	SVOC	Benzo(a)anthracene	56-55-3	T	B2	2				7.00E-04	7.00E-04	8.5E-03		9.4E-03			
AOI-26	SVOC	Benzo(a)pyrene	50-32-8	T	B2	5				4.90E-05	7.30E-04	5.0E-03		2.0E-03			
AOI-26	SVOC	Benzo(b)fluoranthene	205-99-2	T	B2	2				9.40E-04	9.40E-04	2.0E-03		2.0E-03			
AOI-26	SVOC	Benzo(g,h,i)perylene	191-24-2	T	D	5				1.40E-05	8.50E-04	5.0E-03		5.0E-03			
AOI-26	SVOC	Benzo(k)fluoranthene	207-08-9	T	B2	5				4.30E-05	8.40E-04	5.0E-03		5.0E-03			
AOI-26	SVOC	Biphenyl	92-52-4	T		2				2.60E-03	2.60E-03						
AOI-26	SVOC	bis(2-Chloroethoxy)methane	111-91-1	T	D	2				8.70E-04	8.70E-04						
AOI-26	SVOC	bis(2-Chloroethyl) ether	111-44-4	T	B2	5				2.80E-05	9.70E-04	8.3E-03	2.1E+02	5.7E+00			
AOI-26	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	2				2.70E-03	2.70E-03	6.0E-03		3.2E-01			
AOI-26	SVOC	4-Bromophenyl-phenyl ether	101-55-3	T	D	2				8.80E-04	8.80E-04						
AOI-26	SVOC	Butylbenzylphthalate	85-68-7	T	C	2				8.80E-04	8.80E-04	2.7E+00		2.7E+00			
AOI-26	SVOC	Caprolactam	105-60-2	T		2				2.50E-03	2.50E-03	1.7E+01		3.9E+05			
AOI-26	SVOC	Carbazole	86-74-8	T	B2	2				8.20E-04	8.20E-04	3.5E-01		7.4E+00			
AOI-26	SVOC	4-Chloro-3-methylphenol	59-50-7	T		2				9.90E-04	9.90E-04	4.2E-01		7.9E+01			
AOI-26	SVOC	4-Chloroaniline	106-47-8	T		2				6.10E-04	6.10E-04						
AOI-26	SVOC	2-Chloronaphthalene	91-58-7	T		2				8.50E-04	8.50E-04	5.2E+00		6.7E+00			

Table E-2a: Onsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-26	SVOC	2-Chlorophenol	95-57-8	T		2				1.00E-03	1.00E-03	1.3E-01		9.4E+01			
AOI-26	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3	T		2				7.90E-04	7.90E-04						
AOI-26	SVOC	Chrysene	218-01-9	T	B2	5				4.20E-05	7.50E-04	5.0E-03		5.0E-03			
AOI-26	SVOC	Dibenz(a,h)anthracene	53-70-3	T	B2	2				7.90E-04	7.90E-04	2.0E-03		2.0E-03			
AOI-26	SVOC	Dibenzofuran	132-64-9	T	D	2				1.10E-03	1.10E-03						
AOI-26	SVOC	3,3'-Dichlorobenzidine	91-94-1	T	B2	5				2.40E-05	9.30E-04	4.3E-03		1.8E-01			
AOI-26	SVOC	2,4-Dichlorophenol	120-83-2	T		2				8.50E-04	8.50E-04	2.1E-01		4.8E+01			
AOI-26	SVOC	Diethylphthalate	84-66-2	T	D	2				6.50E-04	6.50E-04	1.6E+01		1.1E+03			
AOI-26	SVOC	2,4-Dimethylphenol	105-67-9	T		2				8.50E-04	8.50E-04	1.0E+00		5.2E+02			
AOI-26	SVOC	Dimethylphthalate	131-11-3	T	D	2				7.60E-04	7.60E-04	2.1E+02		4.2E+03			
AOI-26	SVOC	Di-n-butylphthalate	84-74-2	T	D	2				6.70E-04	6.70E-04	2.5E+00		1.1E+01			
AOI-26	SVOC	4,6-Dinitro-2-methylphenol	534-52-1	T		2				1.30E-03	1.30E-03	2.0E-02		9.5E+00			
AOI-26	SVOC	2,4-Dinitrophenol	51-28-5	T		2				3.00E-03	3.00E-03						
AOI-26	SVOC	2,4-Dinitrotoluene	121-14-2	T	B2	2				7.90E-04	7.90E-04	3.2E-02		8.6E+00			
AOI-26	SVOC	2,6-Dinitrotoluene	606-20-2	T	B2	2				5.70E-04	5.70E-04						
AOI-26	SVOC	Di-n-octylphthalate	117-84-0	T		2				1.10E-03	1.10E-03	3.8E-01		4.0E-01			
AOI-26	SVOC	Fluoranthene	206-44-0	T	D	5				2.00E-04	8.10E-04	2.1E-01	2.1E-01	2.1E-01			
AOI-26	SVOC	Fluorene	86-73-7	T	D	2				1.00E-03	1.00E-03	2.0E+00	2.0E+00	2.0E+00			
AOI-26	SVOC	Hexachlorobenzene	118-74-1	T	B2	2				7.40E-04	7.40E-04	1.0E-03	3.0E+00	4.6E-03			
AOI-26	SVOC	Hexachlorobutadiene	87-68-3	T	C	2				7.30E-04	7.30E-04	4.2E-02	3.2E+00	4.0E-01			
AOI-26	SVOC	Hexachlorocyclopentadiene	77-47-4	T	E	2				1.10E-03	1.10E-03	5.0E-02	4.2E-01	1.6E+00			
AOI-26	SVOC	Hexachloroethane	67-72-1	T	C	2				7.40E-04	7.40E-04	2.1E-02	5.0E+01	1.9E+00			
AOI-26	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	T	B2	5				4.00E-05	6.30E-04	2.0E-03		2.0E-03			
AOI-26	SVOC	Isophorone	78-59-1	T	C	2				6.30E-04	6.30E-04	3.1E+00		9.9E+02			
AOI-26	SVOC	2-Methylnaphthalene	91-57-6	T		2				6.40E-04	6.40E-04	7.5E-01		2.5E+01			
AOI-26	SVOC	Methylphenol (total)	1319-77-3	T		2				1.30E-03	1.30E-03	1.0E+00		8.1E+02			
AOI-26	SVOC	Naphthalene	91-20-3	T	C	2				7.50E-04	7.50E-04	1.5E+00	3.1E+01	3.1E+01			
AOI-26	SVOC	2-Nitroaniline	88-74-4	T		2				7.00E-04	7.00E-04						
AOI-26	SVOC	3-Nitroaniline	99-09-2	T	C	2				7.10E-04	7.10E-04						
AOI-26	SVOC	4-Nitroaniline	100-01-6	T	C	2				1.30E-03	1.30E-03						
AOI-26	SVOC	Nitrobenzene	98-95-3	T	D	5				4.00E-05	8.10E-04	9.6E-03	5.5E+02	1.1E+01			
AOI-26	SVOC	2-Nitrophenol	88-75-5	T		2				2.10E-03	2.10E-03	5.8E-02		7.9E+01			
AOI-26	SVOC	4-Nitrophenol	100-02-7	T		2				1.90E-03	1.90E-03						
AOI-26	SVOC	N-Nitrosodiphenylamine	86-30-6	T	B2	2				1.40E-03	1.40E-03	1.1E+00		3.5E+01			
AOI-26	SVOC	N-Nitroso-di-n-propylamine	621-64-7	T	B2	2				6.70E-04	6.70E-04	5.0E-03		3.6E-01			
AOI-26	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	T	C	2				7.80E-04	7.80E-04						
AOI-26	SVOC	Pentachlorophenol	87-86-5	T	B2	5				1.30E-04	2.40E-03	1.0E-03		2.0E-01			
AOI-26	SVOC	Phenanthrene	85-01-8	T	D	2				8.20E-04	8.20E-04	1.5E-01	1.0E+00	1.0E+00			
AOI-26	SVOC	Phenol	108-95-2	T	D	2				2.60E-03	2.60E-03	1.3E+01		2.9E+04			
AOI-26	SVOC	Pyrene	129-00-0	T	D	2				1.10E-03	1.10E-03	1.4E-01	1.4E-01	1.4E-01			
AOI-26	SVOC	2,4,5-Trichlorophenol	95-95-4	T		2				1.20E-03	1.20E-03	2.1E+00		1.7E+02			
AOI-26	SVOC	2,4,6-Trichlorophenol	88-06-2	T	B2	2				1.70E-03	1.70E-03	4.7E-01		1.0E+01			
AOI-26	P/PCB	PCBs (total)	1336-36-3	T	B2	2				8.20E-05	8.20E-05	5.0E-04	4.5E-02	3.3E-03			
AOI-26	INORG	Aluminum	7429-90-5	T	D	2	2	3.30E-01	3.90E+00			4.1E+00		6.4E+04	9.5E-01		6.1E-05
AOI-26	INORG	Antimony	7440-36-0	T		2	1	5.80E-03	5.80E-03	3.40E-03	3.40E-03	6.0E-03		6.8E+01	9.7E-01		8.5E-05
AOI-26	INORG	Arsenic	7440-38-2	T	A	18	15	1.00E-03	3.90E-02	5.00E-04	5.00E-03	5.0E-02		4.3E+00	7.8E-01		9.1E-03
AOI-26	INORG	Barium	7440-39-3	T	D	18	15	1.00E-02	4.70E-01	1.00E-02	1.00E-02	2.0E+00		1.4E+04	2.4E-01		3.4E-05
AOI-26	INORG	Beryllium	7440-41-7	T	B1	2				6.00E-04	6.00E-04	4.0E-03		2.9E+02			
AOI-26	INORG	Cadmium	7440-43-9	T	B1	29	5	4.40E-03	1.20E-02	2.80E-04	1.00E-02	5.0E-03		1.9E+02	**2.4E+00**		6.3E-05
AOI-26	INORG	Chromium (total)	7440-47-3	T		29	16	3.00E-04	1.70E-02	2.00E-04	2.00E-03	1.0E-01		4.6E+02	1.7E-01		3.7E-05
AOI-26	INORG	Cobalt	7440-48-4	T	B1	2	2	2.30E-03	3.20E-03			1.0E-01		2.4E+03	3.2E-02		1.3E-06
AOI-26	INORG	Copper	7440-50-8	T	D	18	17	1.00E-03	3.00E-02	1.70E-03	1.70E-03	4.0E+00		7.4E+03	7.5E-03		4.1E-06
AOI-26	INORG	Cyanide (total)	57-12-5	T	D	2	2	2.10E-03	4.30E-03			2.0E-01		5.7E+01	2.2E-02		7.5E-05

Table E-2a: Onsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-26	INORG	Iron	7439-89-6	T	D	5	5	3.90E+00	1.29E+01			5.6E+00		5.8E+04	**2.3E+00**		2.2E-04
AOI-26	INORG	Lead	7439-92-1	T	B2	29	8	5.00E-03	8.00E-01	1.60E-03	5.00E-02	4.0E-03			**2.0E+02**		
AOI-26	INORG	Magnesium	7439-95-4	T		2	2	3.46E+01	5.24E+01			1.1E+03		1.0E+06	4.8E-02		5.2E-05
AOI-26	INORG	Manganese	7439-96-5	D	D	3	3	3.30E-02	6.60E-01			2.5E+00		9.1E+03	2.6E-01		7.3E-05
AOI-26	INORG	Manganese	7439-96-5	T	D	5	5	7.40E-02	8.50E-01			2.5E+00		9.1E+03	3.4E-01		9.3E-05
AOI-26	INORG	Mercury	7439-97-6	T	D	18	2	1.20E-04	2.10E-04	2.00E-05	4.00E-05	2.0E-03	5.6E-02	5.6E-02	1.1E-01	3.8E-03	3.8E-03
AOI-26	INORG	Nickel	7440-02-0	T	A	2	2	5.60E-03	1.50E-02			1.0E-01		7.4E+04	1.5E-01		2.0E-07
AOI-26	INORG	Nitrate	14797-55-8	T		3	3	3.00E-02	2.00E-01			1.0E+01		3.1E+05	2.0E-02		6.5E-07
AOI-26	INORG	Phosphorous (total)	7723-14-0	T		3	2	2.00E-02	1.00E-01	2.00E-02	2.00E-02	2.4E+02			4.2E-04		
AOI-26	INORG	Selenium	7782-49-2	T	D	18	6	6.00E-03	8.00E-01	5.00E-04	5.00E-03	5.0E-02		9.7E+02	**1.6E+01**		8.2E-04
AOI-26	INORG	Silver	7440-22-4	T	D	18	14	1.00E-03	2.30E-02	1.30E-04	1.00E-03	9.8E-02		1.5E+03	2.3E-01		1.5E-05
AOI-26	INORG	Sodium	7440-23-5	T		2	2	1.08E+02	2.61E+02								
AOI-26	INORG	Thallium	7440-28-0	T		2				3.30E-05	3.30E-05	2.0E-03		1.3E+01			
AOI-26	INORG	Vanadium	7440-62-2	T		2	2	1.40E-03	8.20E-03			6.2E-02		9.7E+02	1.3E-01		8.5E-06
AOI-26	INORG	Zinc	7440-66-6	T	D	18	15	1.00E-03	1.90E+00	1.00E-03	1.00E-03	5.0E+00		1.1E+05	3.8E-01		1.7E-05
AOI-48	VOC	Acetone	67-64-1	T	D	21	2	5.40E-02	2.30E-01	5.10E-04	5.10E-02	2.1E+00	1.0E+06	3.1E+04	1.1E-01	2.3E-07	7.4E-06
AOI-48	VOC	Acrolein	107-02-8	T	C	1				5.00E-03	5.00E-03	3.3E-01	4.2E+00	3.4E+03			
AOI-48	VOC	Acrylonitrile	107-13-1	T	B1	1				1.00E-03	1.00E-03	1.1E-02	1.9E+02	1.4E+01			
AOI-48	VOC	Benzene	71-43-2	T	A	21	3	5.00E-04	4.50E-02	1.60E-04	1.60E-02	5.0E-03	3.5E+01	1.1E+01	**9.0E+00**	1.3E-03	4.1E-03
AOI-48	VOC	Bromobenzene	108-86-1	T		1				1.00E-03	1.00E-03	5.0E-02	3.9E+02	1.2E+01			
AOI-48	VOC	Bromochloromethane	74-97-5	T		1				1.00E-03	1.00E-03						
AOI-48	VOC	Bromodichloromethane	75-27-4	T	B2	21				1.70E-04	1.70E-02	1.0E-01	3.7E+01	1.4E+01			
AOI-48	VOC	Bromoform	75-25-2	T	B2	21				1.80E-04	1.80E-02	1.0E-01	3.1E+03	1.4E+02			
AOI-48	VOC	Bromomethane	74-83-9	T	D	21				2.00E-04	2.00E-02	2.9E-02	9.0E+00	7.0E+01			
AOI-48	VOC	2-Butanone	78-93-3	T	D	21				4.10E-04	4.10E-02	3.8E+01	2.4E+05	2.4E+05			
AOI-48	VOC	n-Butylbenzene	104-51-8	T		1				1.00E-03	1.00E-03	2.3E-01		5.9E+00			
AOI-48	VOC	sec-Butylbenzene	135-98-8	T		1				1.00E-03	1.00E-03	2.3E-01		4.4E+00			
AOI-48	VOC	tert-Butylbenzene	98-06-6	T		1				1.00E-03	1.00E-03	2.3E-01		8.9E+00			
AOI-48	VOC	Carbon Disulfide	75-15-0	T		21	1	2.10E-04	2.10E-04	2.00E-04	2.00E-02	2.3E+00	5.5E+02	1.2E+03	9.1E-05	3.8E-07	1.8E-07
AOI-48	VOC	Carbon Tetrachloride	56-23-5	T	B2	21	1	5.50E-04	5.50E-04	1.20E-04	1.20E-02	5.0E-03	2.4E+00	4.6E+00	1.1E-01	2.3E-04	1.2E-04
AOI-48	VOC	3-Chloro-1-propene	107-05-1	T		1				1.00E-03	1.00E-03						
AOI-48	VOC	Chlorobenzene	108-90-7	T	D	21				1.40E-04	1.40E-02	1.0E-01	4.7E+02	8.6E+01			
AOI-48	VOC	Chloroethane	75-00-3	T		21				2.60E-04	2.60E-02	1.7E+00	5.7E+03	4.4E+02			
AOI-48	VOC	2-Chloroethylvinyl ether	110-75-8	T		1				1.00E-02	1.00E-02						
AOI-48	VOC	Chloroform	67-66-3	T	B2	21	2	3.10E-04	5.60E-04	1.40E-04	1.40E-02	1.0E-01	1.8E+02	1.5E+02	5.6E-03	3.1E-06	3.7E-06
AOI-48	VOC	Chloromethane	74-87-3	T	D	21				1.30E-04	1.30E-02	1.1E+00	4.5E+01	4.9E+02			
AOI-48	VOC	2-Chlorotoluene	95-49-8	T		1				1.00E-03	1.00E-03	4.2E-01	3.7E+02	4.4E+01			
AOI-48	VOC	4-Chlorotoluene	106-43-4	T		1				1.00E-03	1.00E-03						
AOI-48	VOC	Cumene	98-82-8	T	D	21	1	2.50E-02	2.50E-02	1.20E-04	1.20E-02	2.3E+00	5.6E+01	5.6E+01	1.1E-02	4.5E-04	4.5E-04
AOI-48	VOC	Cyclohexane	110-82-7	T		20	1	5.50E-03	5.50E-03	1.30E-04	1.30E-02						
AOI-48	VOC	p-Cymene	99-87-6	T		1				1.00E-03	1.00E-03						
AOI-48	VOC	1,2-Dibromo-3-chloropropane	96-12-8	T	B2	21				6.20E-04	6.20E-02	2.0E-04	1.2E+00	3.9E-01			
AOI-48	VOC	Dibromochloromethane	124-48-1	T	C	21				2.60E-04	2.60E-02	1.0E-01	1.1E+02	1.8E+01			
AOI-48	VOC	1,2-Dibromoethane	106-93-4	T	B2	21				2.20E-04	2.20E-02	1.0E-03	1.5E+01	2.5E-02			
AOI-48	VOC	Dibromomethane	74-95-3	T		1				5.00E-03	5.00E-03	2.3E-01		5.3E+02			
AOI-48	VOC	trans-1,4-Dichloro-2-butene	110-57-6	T		1				1.00E-03	1.00E-03						
AOI-48	VOC	1,2-Dichlorobenzene	95-50-1	T	D	21	1	2.30E-02	2.30E-02	1.10E-04	1.10E-02	6.0E-01	1.6E+02	1.6E+02	3.8E-02	1.4E-04	1.4E-04
AOI-48	VOC	1,3-Dichlorobenzene	541-73-1	T	D	21				1.50E-04	1.50E-02	1.9E-02		2.0E+00			
AOI-48	VOC	1,4-Dichlorobenzene	106-46-7	T	C	21	1	3.50E-03	3.50E-03	1.70E-04	1.70E-02	7.5E-02	7.4E+01	6.4E+00	4.7E-02	4.7E-05	5.5E-04
AOI-48	VOC	Dichlorodifluoromethane	75-71-8	T		21				2.60E-04	2.60E-02	4.8E+00	3.0E+02	3.0E+02			
AOI-48	VOC	1,1-Dichloroethane	75-34-3	T	C	34	8	1.90E-04	3.40E+00	1.60E-04	1.10E-03	2.5E+00	2.3E+03	2.4E+03	**1.4E+00**	1.5E-03	1.4E-03
AOI-48	VOC	1,2-Dichloroethane	107-06-2	T	B2	34	2	3.10E-02	3.30E-02	2.10E-04	1.50E-03	5.0E-03	5.9E+01	1.9E+01	**6.6E+00**	5.6E-04	1.7E-03
AOI-48	VOC	1,1-Dichloroethene	75-35-4	T	C	34	4	8.70E-04	1.80E-01	2.40E-04	1.70E-03	7.0E-03	1.3E+00	1.1E+01	**2.6E+01**	1.4E-01	1.6E-02

Table E-2a: Onsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	34	9	1.80E-03	1.30E-01	2.20E-04	1.60E-03	7.0E-02	2.1E+02	2.0E+02	**1.9E+00**	6.2E-04	6.5E-04
AOI-48	VOC	trans-1,2-Dichloroethene	156-60-5	T		21	4	2.70E-04	1.40E-02	1.50E-04	1.50E-02	1.0E-01	2.0E+02	2.2E+02	1.4E-01	7.0E-05	6.4E-05
AOI-48	VOC	1,2-Dichloropropane	78-87-5	T	B2	21				1.70E-04	1.70E-02	5.0E-03	3.6E+01	1.6E+01			
AOI-48	VOC	1,3-Dichloropropane	142-28-9	T		1				1.00E-03	1.00E-03						
AOI-48	VOC	2,2-Dichloropropane	594-20-7	T		1				1.00E-03	1.00E-03						
AOI-48	VOC	1,1-Dichloropropene	563-58-6	T		1				1.00E-03	1.00E-03						
AOI-48	VOC	1,3-Dichloropropene (total)	542-75-6	T	B2	21				2.70E-04	2.70E-02	3.5E-02	2.6E+01	5.5E+00			
AOI-48	VOC	Ethyl Benzene	100-41-4	T	D	21	1	2.20E-02	2.20E-02	1.20E-04	1.20E-02	7.0E-01	1.7E+02	1.7E+02	3.1E-02	1.3E-04	1.3E-04
AOI-48	VOC	2-Hexanone	591-78-6	T		21				4.60E-04	5.00E-02	2.9E+00	8.7E+03	5.2E+03			
AOI-48	VOC	Iodomethane	74-88-4	T		1				1.00E-03	1.00E-03						
AOI-48	VOC	Methyl Acetate	79-20-9	T		20				4.10E-04	4.10E-02						
AOI-48	VOC	Methyl tert-butyl ether	1634-04-4	T		21				1.30E-04	1.30E-02	6.9E-01	4.7E+04	6.1E+02			
AOI-48	VOC	4-Methyl-2-pentanone	108-10-1	T		21				2.30E-04	5.00E-02	5.2E+00	2.0E+04	1.3E+04			
AOI-48	VOC	Methylcyclohexane	108-87-2	T		20	1	9.40E-03	9.40E-03	1.50E-04	1.50E-02						
AOI-48	VOC	Methylene Chloride	75-09-2	T	B2	21	2	3.00E-03	4.40E-02	2.90E-04	2.80E-02	5.0E-03	1.4E+03	2.2E+02	**8.8E+00**	3.1E-05	2.0E-04
AOI-48	VOC	n-Propylbenzene	103-65-1	T		1				1.00E-03	1.00E-03	2.3E-01		1.5E+01			
AOI-48	VOC	Styrene	100-42-5	T		21				1.50E-04	1.50E-02	1.0E-01	3.1E+02	9.7E+00			
AOI-48	VOC	1,1,1,2-Tetrachloroethane	630-20-6	T		1				1.00E-03	1.00E-03	3.2E-01	9.6E+01	3.0E+01			
AOI-48	VOC	1,1,2,2-Tetrachloroethane	79-34-5	T	C	21				2.50E-04	2.50E-02	3.5E-02	7.7E+01	4.7E+00			
AOI-48	VOC	Tetrachloroethene	127-18-4	T	C-B2	21				2.30E-04	2.30E-02	5.0E-03	1.7E+02	1.2E+01			
AOI-48	VOC	Tetrahydrofuran	109-99-9	T		1				1.00E-01	1.00E-01	2.7E-01	1.6E+04	1.6E+03			
AOI-48	VOC	Toluene	108-88-3	T	D	21	1	3.10E-04	3.10E-04	1.80E-04	1.80E-02	1.0E+00	5.3E+02	5.3E+02	3.1E-04	5.8E-07	5.8E-07
AOI-48	VOC	1,2,3-Trichlorobenzene	87-61-6	T		1				5.00E-03	5.00E-03						
AOI-48	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	21				1.70E-04	1.70E-02	7.0E-02	3.0E+02	1.9E+01			
AOI-48	VOC	1,1,1-Trichloroethane	71-55-6	T	D	34	6	1.90E-04	1.50E+00	1.50E-04	1.10E-03	2.0E-01	1.3E+03	1.3E+03	**7.5E+00**	1.2E-03	1.2E-03
AOI-48	VOC	1,1,2-Trichloroethane	79-00-5	T	C	21				3.00E-04	3.00E-02	5.0E-03	1.1E+02	2.1E+01			
AOI-48	VOC	Trichloroethene	79-01-6	T	C-B2	34	3	1.10E-03	3.80E-02	1.40E-04	1.40E-02	5.0E-03	9.7E+01	2.2E+01	**7.6E+00**	3.9E-04	1.7E-03
AOI-48	VOC	Trichlorofluoromethane	75-69-4	T		21				2.80E-04	2.80E-02	7.3E+00	1.1E+03	1.1E+03			
AOI-48	VOC	1,2,3-Trichloropropane	96-18-4	T	B2	1				1.00E-03	1.00E-03	1.2E-01		8.4E+01			
AOI-48	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	T		20				3.20E-04	3.20E-02	1.7E+02	1.7E+02	1.7E+02			
AOI-48	VOC	1,2,4-Trimethylbenzene	95-63-6	T		1				1.00E-03	1.00E-03	2.9E+00	5.6E+01	5.6E+01			
AOI-48	VOC	1,3,5-Trimethylbenzene	108-67-8	T		1				1.00E-03	1.00E-03	2.9E+00	6.1E+01	6.1E+01			
AOI-48	VOC	Vinyl Acetate	108-05-4	T		1				5.00E-02	5.00E-02	1.8E+00	8.9E+03	8.0E+03			
AOI-48	VOC	Vinyl Chloride	75-01-4	T	A	34	5	5.30E-03	9.90E-02	1.50E-04	1.50E-02	2.0E-03	1.3E+01	1.0E+00	**5.0E+01**	7.6E-03	9.9E-02
AOI-48	VOC	Xylenes (total)	1330-20-7	T	D	21	1	3.50E-01	3.50E-01	3.30E-04	3.30E-02	1.0E+01	1.9E+02	1.9E+02	3.5E-02	1.8E-03	1.8E-03
AOI-48	SVOC	Acenaphthene	83-32-9	T		19				8.00E-04	8.00E-04	3.8E+00	4.2E+00	4.2E+00			
AOI-48	SVOC	Acenaphthylene	208-96-8	T	D	19				7.10E-04	7.10E-04	1.5E-01	3.9E+00	3.9E+00			
AOI-48	SVOC	Acetophenone	98-86-2	T	D	19				2.60E-03	2.60E-03	4.4E+00	6.1E+03	6.1E+03			
AOI-48	SVOC	Anthracene	120-12-7	T	D	19				6.80E-04	6.80E-04	4.3E-02	4.3E-02	4.3E-02			
AOI-48	SVOC	Atrazine	1912-24-9	T		19				2.50E-03	2.50E-03	3.0E-03		5.4E+00			
AOI-48	SVOC	Benzaldehyde	100-52-7	T		19				2.80E-03	2.80E-03						
AOI-48	SVOC	Benzo(a)anthracene	56-55-3	T	B2	19				7.00E-04	7.00E-04	8.5E-03		9.4E-03			
AOI-48	SVOC	Benzo(a)pyrene	50-32-8	T	B2	38				4.90E-05	7.30E-04	5.0E-03		2.0E-03			
AOI-48	SVOC	Benzo(b)fluoranthene	205-99-2	T	B2	19				9.40E-04	9.40E-04	2.0E-03		2.0E-03			
AOI-48	SVOC	Benzo(g,h,i)perylene	191-24-2	T	D	38				1.40E-05	8.50E-04	5.0E-03		5.0E-03			
AOI-48	SVOC	Benzo(k)fluoranthene	207-08-9	T	B2	38				4.30E-05	8.40E-04	5.0E-03		5.0E-03			
AOI-48	SVOC	Biphenyl	92-52-4	T		19				2.60E-03	2.60E-03						
AOI-48	SVOC	bis(2-Chloroethoxy)methane	111-91-1	T	D	19				8.70E-04	8.70E-04						
AOI-48	SVOC	bis(2-Chloroethyl) ether	111-44-4	T	B2	38				2.80E-05	9.70E-04	8.3E-03	2.1E+02	5.7E+00			
AOI-48	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	19	1	2.80E-03	2.80E-03	2.70E-03	2.70E-03	6.0E-03		3.2E-01	4.7E-01		8.8E-03
AOI-48	SVOC	4-Bromophenyl-phenyl ether	101-55-3	T	D	19				8.80E-04	8.80E-04						
AOI-48	SVOC	Butylbenzylphthalate	85-68-7	T	C	19				8.80E-04	8.80E-04	2.7E+00		2.7E+00			
AOI-48	SVOC	Caprolactam	105-60-2	T		19				2.50E-03	2.50E-03	1.7E+01		3.9E+05			

Table E-2a: Onsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48	SVOC	Carbazole	86-74-8	T	B2	19				8.20E-04	8.20E-04	3.5E-01		7.4E+00			
AOI-48	SVOC	4-Chloro-3-methylphenol	59-50-7	T		19				9.90E-04	9.90E-04	4.2E-01		7.9E+01			
AOI-48	SVOC	4-Chloroaniline	106-47-8	T		19				6.10E-04	6.10E-04						
AOI-48	SVOC	2-Chloronaphthalene	91-58-7	T		19				8.50E-04	8.50E-04	5.2E+00		6.7E+00			
AOI-48	SVOC	2-Chlorophenol	95-57-8	T		19				1.00E-03	1.00E-03	1.3E-01		9.4E+01			
AOI-48	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3	T		19				7.90E-04	7.90E-04						
AOI-48	SVOC	Chrysene	218-01-9	T	B2	38				4.20E-05	7.50E-04	5.0E-03		5.0E-03			
AOI-48	SVOC	Dibenz(a,h)anthracene	53-70-3	T	B2	19				7.90E-04	7.90E-04	2.0E-03		2.0E-03			
AOI-48	SVOC	Dibenzofuran	132-64-9	T	D	19				1.10E-03	1.10E-03						
AOI-48	SVOC	3,3'-Dichlorobenzidine	91-94-1	T	B2	38				2.40E-05	9.30E-04	4.3E-03		1.8E-01			
AOI-48	SVOC	2,4-Dichlorophenol	120-83-2	T		19				8.50E-04	8.50E-04	2.1E-01		4.8E+01			
AOI-48	SVOC	Diethylphthalate	84-66-2	T	D	19				6.50E-04	6.50E-04	1.6E+01		1.1E+03			
AOI-48	SVOC	2,4-Dimethylphenol	105-67-9	T		19				8.50E-04	8.50E-04	1.0E+00		5.2E+02			
AOI-48	SVOC	Dimethylphthalate	131-11-3	T	D	19				7.60E-04	7.60E-04	2.1E+02		4.2E+03			
AOI-48	SVOC	Di-n-butylphthalate	84-74-2	T	D	19				6.70E-04	6.70E-04	2.5E+00		1.1E+01			
AOI-48	SVOC	4,6-Dinitro-2-methylphenol	534-52-1	T		19				1.30E-03	1.30E-03	2.0E-02		9.5E+00			
AOI-48	SVOC	2,4-Dinitrophenol	51-28-5	T		19				3.00E-03	3.00E-03						
AOI-48	SVOC	2,4-Dinitrotoluene	121-14-2	T	B2	19				7.90E-04	7.90E-04	3.2E-02		8.6E+00			
AOI-48	SVOC	2,6-Dinitrotoluene	606-20-2	T	B2	19				5.70E-04	5.70E-04						
AOI-48	SVOC	Di-n-octylphthalate	117-84-0	T		19				1.10E-03	1.10E-03	3.8E-01		4.0E-01			
AOI-48	SVOC	Fluoranthene	206-44-0	T	D	38				4.60E-05	8.10E-04	2.1E-01	2.1E-01	2.1E-01			
AOI-48	SVOC	Fluorene	86-73-7	T	D	19				1.00E-03	1.00E-03	2.0E+00	2.0E+00	2.0E+00			
AOI-48	SVOC	Hexachlorobenzene	118-74-1	T	B2	19				7.40E-04	7.40E-04	1.0E-03	3.0E+00	4.6E-03			
AOI-48	SVOC	Hexachlorobutadiene	87-68-3	T	C	20				7.30E-04	1.00E-03	4.2E-02	3.2E+00	4.0E-01			
AOI-48	SVOC	Hexachlorocyclopentadiene	77-47-4	T	E	19				1.10E-03	1.10E-03	5.0E-02	4.2E-01	1.6E+00			
AOI-48	SVOC	Hexachloroethane	67-72-1	T	C	20				7.40E-04	5.00E-03	2.1E-02	5.0E+01	1.9E+00			
AOI-48	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	T	B2	38				4.00E-05	6.30E-04	2.0E-03		2.0E-03			
AOI-48	SVOC	Isophorone	78-59-1	T	C	19				6.30E-04	6.30E-04	3.1E+00		9.9E+02			
AOI-48	SVOC	2-Methylnaphthalene	91-57-6	T		20	1	1.30E-02	1.30E-02	6.40E-04	5.00E-03	7.5E-01		2.5E+01	1.7E-02		5.2E-04
AOI-48	SVOC	Methylphenol (total)	1319-77-3	T		19				1.30E-03	1.30E-03	1.0E+00		8.1E+02			
AOI-48	SVOC	Naphthalene	91-20-3	T	C	20	1	2.60E-02	2.60E-02	7.50E-04	5.00E-03	1.5E+00	3.1E+01	3.1E+01	1.7E-02	8.4E-04	8.4E-04
AOI-48	SVOC	2-Nitroaniline	88-74-4	T		19				7.00E-04	7.00E-04						
AOI-48	SVOC	3-Nitroaniline	99-09-2	T	C	19				7.10E-04	7.10E-04						
AOI-48	SVOC	4-Nitroaniline	100-01-6	T	C	19				1.30E-03	1.30E-03						
AOI-48	SVOC	Nitrobenzene	98-95-3	T	D	38				4.00E-05	8.10E-04	9.6E-03	5.5E+02	1.1E+01			
AOI-48	SVOC	2-Nitrophenol	88-75-5	T		19				2.10E-03	2.10E-03	5.8E-02		7.9E+01			
AOI-48	SVOC	4-Nitrophenol	100-02-7	T		19				1.90E-03	1.90E-03						
AOI-48	SVOC	N-Nitrosodiphenylamine	86-30-6	T	B2	19				1.40E-03	1.40E-03	1.1E+00		3.5E+01			
AOI-48	SVOC	N-Nitroso-di-n-propylamine	621-64-7	T	B2	19				6.70E-04	6.70E-04	5.0E-03		3.6E-01			
AOI-48	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	T	C	19				7.80E-04	7.80E-04						
AOI-48	SVOC	Pentachlorophenol	87-86-5	T	B2	38	1	2.10E-04	2.10E-04	1.30E-04	2.40E-03	1.0E-03		2.0E-01	2.1E-01		1.1E-03
AOI-48	SVOC	Phenanthrene	85-01-8	T	D	19				8.20E-04	8.20E-04	1.5E-01	1.0E+00	1.0E+00			
AOI-48	SVOC	Phenol	108-95-2	T	D	19				2.60E-03	2.60E-03	1.3E+01		2.9E+04			
AOI-48	SVOC	Pyrene	129-00-0	T	D	19				1.10E-03	1.10E-03	1.4E-01	1.4E-01	1.4E-01			
AOI-48	SVOC	2,4,5-Trichlorophenol	95-95-4	T		19				1.20E-03	1.20E-03	2.1E+00		1.7E+02			
AOI-48	SVOC	2,4,6-Trichlorophenol	88-06-2	T	B2	19				1.70E-03	1.70E-03	4.7E-01		1.0E+01			
AOI-48	P/PCB	PCBs (total)	1336-36-3	T	B2	19				8.20E-05	8.20E-05	5.0E-04	4.5E-02	3.3E-03			
AOI-48	INORG	Aluminum	7429-90-5	T	D	19	16	7.80E-02	2.52E+01	5.70E-02	5.70E-02	4.1E+00		6.4E+04	**6.1E+00**		3.9E-04
AOI-48	INORG	Antimony	7440-36-0	T		19				3.40E-03	3.40E-03	6.0E-03		6.8E+01			
AOI-48	INORG	Arsenic	7440-38-2	T	A	19	11	2.60E-03	4.50E-02	2.10E-03	2.10E-03	5.0E-02		4.3E+00	9.0E-01		1.0E-02
AOI-48	INORG	Barium	7440-39-3	T	D	19	19	1.80E-02	7.00E-01			2.0E+00		1.4E+04	3.5E-01		5.0E-05
AOI-48	INORG	Beryllium	7440-41-7	T	B1	19				6.00E-04	6.00E-04	4.0E-03		2.9E+02			
AOI-48	INORG	Cadmium	7440-43-9	T	B1	19	8	2.80E-04	8.00E-04	2.80E-04	2.80E-04	5.0E-03		1.9E+02	1.6E-01		4.2E-06

Table E-2a: Onsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48	INORG	Chromium (total)	7440-47-3	T		16	8	1.60E-03	4.40E-02	1.50E-03	1.50E-03	1.0E-01		4.6E+02	4.4E-01		9.6E-05
AOI-48	INORG	Chromium III	16065-83-1	T	D	3	3	1.90E-03	2.90E-03			1.0E-01		2.9E+05	2.9E-02		1.0E-08
AOI-48	INORG	Chromium VI	18540-29-9	T	A	3				5.00E-03	5.00E-03	1.0E-01		4.6E+02			
AOI-48	INORG	Cobalt	7440-48-4	T	B1	19	15	8.00E-04	1.90E-02	7.40E-04	7.40E-04	1.0E-01		2.4E+03	1.9E-01		7.9E-06
AOI-48	INORG	Copper	7440-50-8	T	D	19	9	2.70E-03	3.90E-02	1.70E-03	1.70E-03	4.0E+00		7.4E+03	9.8E-03		5.3E-06
AOI-48	INORG	Cyanide (total)	57-12-5	T	D	19	3	3.60E-03	7.10E-03	1.80E-03	1.80E-03	2.0E-01		5.7E+01	3.6E-02		1.2E-04
AOI-48	INORG	Iron	7439-89-6	T	D	19	19	4.50E-02	4.47E+01			5.6E+00		5.8E+04	**8.0E+00**		7.7E-04
AOI-48	INORG	Lead	7439-92-1	T	B2	19	6	2.20E-03	2.00E-02	1.60E-03	1.60E-03	4.0E-03			**5.0E+00**		
AOI-48	INORG	Magnesium	7439-95-4	T		19	19	7.90E+00	1.05E+02			1.1E+03		1.0E+06	9.5E-02		1.1E-04
AOI-48	INORG	Manganese	7439-96-5	T	D	19	19	1.10E-02	5.70E+00			2.5E+00		9.1E+03	**2.3E+00**		6.3E-04
AOI-48	INORG	Mercury	7439-97-6	T	D	19	2	8.80E-05	1.20E-04	8.70E-05	8.70E-05	2.0E-03	5.6E-02	5.6E-02	6.0E-02	2.1E-03	2.1E-03
AOI-48	INORG	Nickel	7440-02-0	T	A	19	15	2.90E-03	5.60E-02	2.90E-03	2.90E-03	1.0E-01		7.4E+04	5.6E-01		7.6E-07
AOI-48	INORG	Selenium	7782-49-2	T	D	19				4.70E-03	4.70E-03	5.0E-02		9.7E+02			
AOI-48	INORG	Silver	7440-22-4	T	D	19	1	1.70E-04	1.70E-04	1.30E-04	1.30E-04	9.8E-02		1.5E+03	1.7E-03		1.1E-07
AOI-48	INORG	Sodium	7440-23-5	T		19	19	1.62E+01	6.51E+02								
AOI-48	INORG	Thallium	7440-28-0	T		19	8	5.30E-05	1.80E-04	3.30E-05	3.30E-05	2.0E-03		1.3E+01	9.0E-02		1.4E-05
AOI-48	INORG	Vanadium	7440-62-2	T		19	12	1.00E-03	4.80E-02	3.40E-04	3.40E-04	6.2E-02		9.7E+02	7.7E-01		4.9E-05
AOI-48	INORG	Zinc	7440-66-6	T	D	19	14	5.50E-02	5.20E-01	1.40E-02	1.40E-02	5.0E+00		1.1E+05	1.0E-01		4.7E-06
AOI-48 (NW)	VOC	Acetone	67-64-1	T	D	9				5.10E-04	2.50E-02	2.1E+00	1.0E+06	3.1E+04			
AOI-48 (NW)	VOC	Acrolein	107-02-8	T	C	2				5.00E-03	5.00E-03	3.3E-01	4.2E+00	3.4E+03			
AOI-48 (NW)	VOC	Acrylonitrile	107-13-1	T	B1	2				1.00E-03	1.00E-03	1.1E-02	1.9E+02	1.4E+01			
AOI-48 (NW)	VOC	Benzene	71-43-2	T	A	9				1.60E-04	3.20E-03	5.0E-03	3.5E+01	1.1E+01			
AOI-48 (NW)	VOC	Bromobenzene	108-86-1	T		2				1.00E-03	1.00E-03	5.0E-02	3.9E+02	1.2E+01			
AOI-48 (NW)	VOC	Bromochloromethane	74-97-5	T		2				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	Bromodichloromethane	75-27-4	T	B2	9				1.70E-04	3.40E-03	1.0E-01	3.7E+01	1.4E+01			
AOI-48 (NW)	VOC	Bromoform	75-25-2	T	B2	9				1.80E-04	3.60E-03	1.0E-01	3.1E+03	1.4E+02			
AOI-48 (NW)	VOC	Bromomethane	74-83-9	T	D	9				2.00E-04	4.00E-03	2.9E-02	9.0E+00	7.0E+01			
AOI-48 (NW)	VOC	2-Butanone	78-93-3	T	D	9	1	2.90E-03	2.90E-03	4.10E-04	8.20E-03	3.8E+01	2.4E+05	2.4E+05	7.6E-05	1.2E-08	1.2E-08
AOI-48 (NW)	VOC	n-Butylbenzene	104-51-8	T		2				1.00E-03	1.00E-03	2.3E-01		5.9E+00			
AOI-48 (NW)	VOC	sec-Butylbenzene	135-98-8	T		2				1.00E-03	1.00E-03	2.3E-01		4.4E+00			
AOI-48 (NW)	VOC	tert-Butylbenzene	98-06-6	T		2				1.00E-03	1.00E-03	2.3E-01		8.9E+00			
AOI-48 (NW)	VOC	Carbon Disulfide	75-15-0	T		9	1	2.10E-04	2.10E-04	2.00E-04	5.00E-03	2.3E+00	5.5E+02	1.2E+03	9.1E-05	3.8E-07	1.8E-07
AOI-48 (NW)	VOC	Carbon Tetrachloride	56-23-5	T	B2	9	1	5.00E-04	5.00E-04	1.20E-04	2.40E-03	5.0E-03	2.4E+00	4.6E+00	1.0E-01	2.1E-04	1.1E-04
AOI-48 (NW)	VOC	3-Chloro-1-propene	107-05-1	T		2				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	Chlorobenzene	108-90-7	T	D	9				1.40E-04	2.80E-03	1.0E-01	4.7E+02	8.6E+01			
AOI-48 (NW)	VOC	Chloroethane	75-00-3	T		9				2.60E-04	5.20E-03	1.7E+00	5.7E+03	4.4E+02			
AOI-48 (NW)	VOC	2-Chloroethylvinyl ether	110-75-8	T		2				5.00E-03	5.00E-03						
AOI-48 (NW)	VOC	Chloroform	67-66-3	T	B2	9	1	2.80E-03	2.80E-03	1.40E-04	2.80E-03	1.0E-01	1.8E+02	1.5E+02	2.8E-02	1.6E-05	1.9E-05
AOI-48 (NW)	VOC	Chloromethane	74-87-3	T	D	9				1.30E-04	2.60E-03	1.1E+00	4.5E+01	4.9E+02			
AOI-48 (NW)	VOC	2-Chlorotoluene	95-49-8	T		2				1.00E-03	1.00E-03	4.2E-01	3.7E+02	4.4E+01			
AOI-48 (NW)	VOC	4-Chlorotoluene	106-43-4	T		2				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	Cumene	98-82-8	T	D	9				1.20E-04	2.40E-03	2.3E+00	5.6E+01	5.6E+01			
AOI-48 (NW)	VOC	Cyclohexane	110-82-7	T		7				1.30E-04	2.60E-03						
AOI-48 (NW)	VOC	p-Cymene	99-87-6	T		2				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	1,2-Dibromo-3-chloropropane	96-12-8	T	B2	9				6.20E-04	1.20E-02	2.0E-04	1.2E+00	3.9E-01			
AOI-48 (NW)	VOC	Dibromochloromethane	124-48-1	T	C	9				2.60E-04	5.20E-03	1.0E-01	1.1E+02	1.8E+01			
AOI-48 (NW)	VOC	1,2-Dibromoethane	106-93-4	T	B2	9				2.20E-04	4.40E-03	1.0E-03	1.5E+01	2.5E-02			
AOI-48 (NW)	VOC	Dibromomethane	74-95-3	T		2				1.00E-03	1.00E-03	2.3E-01		5.3E+02			
AOI-48 (NW)	VOC	trans-1,4-Dichloro-2-butene	110-57-6	T		2				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	1,2-Dichlorobenzene	95-50-1	T	D	9				1.10E-04	2.20E-03	6.0E-01	1.6E+02	1.6E+02			
AOI-48 (NW)	VOC	1,3-Dichlorobenzene	541-73-1	T	D	9				1.50E-04	3.00E-03	1.9E-02		2.0E+00			
AOI-48 (NW)	VOC	1,4-Dichlorobenzene	106-46-7	T	C	9				1.70E-04	3.40E-03	7.5E-02	7.4E+01	6.4E+00			
AOI-48 (NW)	VOC	Dichlorodifluoromethane	75-71-8	T		9				2.60E-04	5.20E-03	4.8E+00	3.0E+02	3.0E+02			

Table E-2a: Onsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48 (NW)	VOC	1,1-Dichloroethane	75-34-3	T	C	11				1.60E-04	3.20E-03	2.5E+00	2.3E+03	2.4E+03			
AOI-48 (NW)	VOC	1,2-Dichloroethane	107-06-2	T	B2	11				2.10E-04	4.20E-03	5.0E-03	5.9E+01	1.9E+01			
AOI-48 (NW)	VOC	1,1-Dichloroethene	75-35-4	T	C	11				2.40E-04	4.80E-03	7.0E-03	1.3E+00	1.1E+01			
AOI-48 (NW)	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	11	2	1.80E-02	3.70E-02	2.20E-04	1.10E-03	7.0E-02	2.1E+02	2.0E+02	5.3E-01	1.8E-04	1.9E-04
AOI-48 (NW)	VOC	trans-1,2-Dichloroethene	156-60-5	T		9	2	4.00E-03	4.10E-02	1.50E-04	1.00E-03	1.0E-01	2.0E+02	2.2E+02	4.1E-01	2.1E-04	1.9E-04
AOI-48 (NW)	VOC	1,2-Dichloropropane	78-87-5	T	B2	9				1.70E-04	3.40E-03	5.0E-03	3.6E+01	1.6E+01			
AOI-48 (NW)	VOC	1,3-Dichloropropane	142-28-9	T		2				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	2,2-Dichloropropane	594-20-7	T		2				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	1,1-Dichloropropene	563-58-6	T		2				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	1,3-Dichloropropene (total)	542-75-6	T	B2	9				2.70E-04	5.40E-03	3.5E-02	2.6E+01	5.5E+00			
AOI-48 (NW)	VOC	Ethyl Benzene	100-41-4	T	D	9				1.20E-04	2.40E-03	7.0E-01	1.7E+02	1.7E+02			
AOI-48 (NW)	VOC	2-Hexanone	591-78-6	T		9				4.60E-04	9.20E-03	2.9E+00	8.7E+03	5.2E+03			
AOI-48 (NW)	VOC	Iodomethane	74-88-4	T		2				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	Methyl Acetate	79-20-9	T		7				4.10E-04	8.20E-03						
AOI-48 (NW)	VOC	Methyl tert-butyl ether	1634-04-4	T		9				1.30E-04	5.00E-03	6.9E-01	4.7E+04	6.1E+02			
AOI-48 (NW)	VOC	4-Methyl-2-pentanone	108-10-1	T		9				2.30E-04	5.00E-03	5.2E+00	2.0E+04	1.3E+04			
AOI-48 (NW)	VOC	Methylcyclohexane	108-87-2	T		7				1.50E-04	3.00E-03						
AOI-48 (NW)	VOC	Methylene Chloride	75-09-2	T	B2	9				3.40E-04	6.80E-03	5.0E-03	1.4E+03	2.2E+02			
AOI-48 (NW)	VOC	n-Propylbenzene	103-65-1	T		2				1.00E-03	1.00E-03	2.3E-01		1.5E+01			
AOI-48 (NW)	VOC	Styrene	100-42-5	T		9				1.50E-04	3.00E-03	1.0E-01	3.1E+02	9.7E+00			
AOI-48 (NW)	VOC	1,1,1,2-Tetrachloroethane	630-20-6	T		2				1.00E-03	1.00E-03	3.2E-01	9.6E+01	3.0E+01			
AOI-48 (NW)	VOC	1,1,2,2-Tetrachloroethane	79-34-5	T	C	9				2.50E-04	5.00E-03	3.5E-02	7.7E+01	4.7E+00			
AOI-48 (NW)	VOC	Tetrachloroethene	127-18-4	T	C-B2	9				2.30E-04	4.60E-03	5.0E-03	1.7E+02	1.2E+01			
AOI-48 (NW)	VOC	Tetrahydrofuran	109-99-9	T		2				1.00E-03	1.00E-03	2.7E-01	1.6E+04	1.6E+03			
AOI-48 (NW)	VOC	Toluene	108-88-3	T	D	9				1.80E-04	3.60E-03	1.0E+00	5.3E+02	5.3E+02			
AOI-48 (NW)	VOC	1,2,3-Trichlorobenzene	87-61-6	T		2				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	9				1.70E-04	5.00E-03	7.0E-02	3.0E+02	1.9E+01			
AOI-48 (NW)	VOC	1,1,1-Trichloroethane	71-55-6	T	D	11	2	1.60E-04	4.40E-04	1.50E-04	3.00E-03	2.0E-01	1.3E+03	1.3E+03	2.2E-03	3.4E-07	3.4E-07
AOI-48 (NW)	VOC	1,1,2-Trichloroethane	79-00-5	T	C	9				3.00E-04	6.00E-03	5.0E-03	1.1E+02	2.1E+01			
AOI-48 (NW)	VOC	Trichloroethene	79-01-6	T	C-B2	11	10	3.00E-04	2.20E+00	1.40E-04	1.40E-04	5.0E-03	9.7E+01	2.2E+01	**4.4E+02**	2.3E-02	1.0E-01
AOI-48 (NW)	VOC	Trichlorofluoromethane	75-69-4	T		9				2.80E-04	5.60E-03	7.3E+00	1.1E+03	1.1E+03			
AOI-48 (NW)	VOC	1,2,3-Trichloropropane	96-18-4	T	B2	2				1.00E-03	1.00E-03	1.2E-01		8.4E+01			
AOI-48 (NW)	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	T		7				3.20E-04	6.40E-03	1.7E+02	1.7E+02	1.7E+02			
AOI-48 (NW)	VOC	1,2,4-Trimethylbenzene	95-63-6	T		2				1.00E-03	1.00E-03	2.9E+00	5.6E+01	5.6E+01			
AOI-48 (NW)	VOC	1,3,5-Trimethylbenzene	108-67-8	T		2				1.00E-03	1.00E-03	2.9E+00	6.1E+01	6.1E+01			
AOI-48 (NW)	VOC	Vinyl Acetate	108-05-4	T		2				5.00E-03	5.00E-03	1.8E+00	8.9E+03	8.0E+03			
AOI-48 (NW)	VOC	Vinyl Chloride	75-01-4	T	A	11	1	2.40E-04	2.40E-04	1.50E-04	3.00E-03	2.0E-03	1.3E+01	1.0E+00	1.2E-01	1.8E-05	2.4E-04
AOI-48 (NW)	VOC	Xylenes (total)	1330-20-7	T	D	9				3.30E-04	6.60E-03	1.0E+01	1.9E+02	1.9E+02			
AOI-48 (NW)	SVOC	Acenaphthene	83-32-9	T		7				8.00E-04	8.00E-04	3.8E+00	4.2E+00	4.2E+00			
AOI-48 (NW)	SVOC	Acenaphthylene	208-96-8	T	D	7				7.10E-04	7.10E-04	1.5E-01	3.9E+00	3.9E+00			
AOI-48 (NW)	SVOC	Acetophenone	98-86-2	T	D	7				2.60E-03	2.60E-03	4.4E+00	6.1E+03	6.1E+03			
AOI-48 (NW)	SVOC	Anthracene	120-12-7	T	D	7				6.80E-04	6.80E-04	4.3E-02	4.3E-02	4.3E-02			
AOI-48 (NW)	SVOC	Atrazine	1912-24-9	T		7				2.50E-03	2.50E-03	3.0E-03		5.4E+00			
AOI-48 (NW)	SVOC	Benzaldehyde	100-52-7	T		7				2.80E-03	2.80E-03						
AOI-48 (NW)	SVOC	Benzo(a)anthracene	56-55-3	T	B2	7				7.00E-04	7.00E-04	8.5E-03		9.4E-03			
AOI-48 (NW)	SVOC	Benzo(a)pyrene	50-32-8	T	B2	15				4.90E-05	7.30E-04	5.0E-03		2.0E-03			
AOI-48 (NW)	SVOC	Benzo(b)fluoranthene	205-99-2	T	B2	7				9.40E-04	9.40E-04	2.0E-03		2.0E-03			
AOI-48 (NW)	SVOC	Benzo(g,h,i)perylene	191-24-2	T	D	15				1.40E-05	8.50E-04	5.0E-03		5.0E-03			
AOI-48 (NW)	SVOC	Benzo(k)fluoranthene	207-08-9	T	B2	15				4.30E-05	8.40E-04	5.0E-03		5.0E-03			
AOI-48 (NW)	SVOC	Biphenyl	92-52-4	T		7				2.60E-03	2.60E-03						
AOI-48 (NW)	SVOC	bis(2-Chloroethoxy)methane	111-91-1	T	D	7				8.70E-04	8.70E-04						
AOI-48 (NW)	SVOC	bis(2-Chloroethyl) ether	111-44-4	T	B2	15				2.80E-05	9.70E-04	8.3E-03	2.1E+02	5.7E+00			
AOI-48 (NW)	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	7	1	3.50E-03	3.50E-03	2.70E-03	2.70E-03	6.0E-03		3.2E-01	5.8E-01		1.1E-02

Table E-2a: Onsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48 (NW)	SVOC	4-Bromophenyl-phenyl ether	101-55-3	T	D	7				8.80E-04	8.80E-04						
AOI-48 (NW)	SVOC	Butylbenzylphthalate	85-68-7	T	C	7				8.80E-04	8.80E-04	2.7E+00		2.7E+00			
AOI-48 (NW)	SVOC	Caprolactam	105-60-2	T		7				2.50E-03	2.50E-03	1.7E+01		3.9E+05			
AOI-48 (NW)	SVOC	Carbazole	86-74-8	T	B2	7				8.20E-04	8.20E-04	3.5E-01		7.4E+00			
AOI-48 (NW)	SVOC	4-Chloro-3-methylphenol	59-50-7	T		7				9.90E-04	9.90E-04	4.2E-01		7.9E+01			
AOI-48 (NW)	SVOC	4-Chloroaniline	106-47-8	T		7				6.10E-04	6.10E-04						
AOI-48 (NW)	SVOC	2-Chloronaphthalene	91-58-7	T		7				8.50E-04	8.50E-04	5.2E+00		6.7E+00			
AOI-48 (NW)	SVOC	2-Chlorophenol	95-57-8	T		7				1.00E-03	1.00E-03	1.3E-01		9.4E+01			
AOI-48 (NW)	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3	T		7				7.90E-04	7.90E-04						
AOI-48 (NW)	SVOC	Chrysene	218-01-9	T	B2	15				4.20E-05	7.50E-04	5.0E-03		5.0E-03			
AOI-48 (NW)	SVOC	Dibenz(a,h)anthracene	53-70-3	T	B2	7				7.90E-04	7.90E-04	2.0E-03		2.0E-03			
AOI-48 (NW)	SVOC	Dibenzofuran	132-64-9	T	D	7				1.10E-03	1.10E-03						
AOI-48 (NW)	SVOC	3,3'-Dichlorobenzidine	91-94-1	T	B2	15				2.40E-05	9.30E-04	4.3E-03		1.8E-01			
AOI-48 (NW)	SVOC	2,4-Dichlorophenol	120-83-2	T		7				8.50E-04	8.50E-04	2.1E-01		4.8E+01			
AOI-48 (NW)	SVOC	Diethylphthalate	84-66-2	T	D	7	1	6.80E-04	6.80E-04	6.50E-04	6.50E-04	1.6E+01		1.1E+03	4.3E-05		6.2E-07
AOI-48 (NW)	SVOC	2,4-Dimethylphenol	105-67-9	T		7				8.50E-04	8.50E-04	1.0E+00		5.2E+02			
AOI-48 (NW)	SVOC	Dimethylphthalate	131-11-3	T	D	7				7.60E-04	7.60E-04	2.1E+02		4.2E+03			
AOI-48 (NW)	SVOC	Di-n-butylphthalate	84-74-2	T	D	7				6.70E-04	6.70E-04	2.5E+00		1.1E+01			
AOI-48 (NW)	SVOC	4,6-Dinitro-2-methylphenol	534-52-1	T		7				1.30E-03	1.30E-03	2.0E-02		9.5E+00			
AOI-48 (NW)	SVOC	2,4-Dinitrophenol	51-28-5	T		7				3.00E-03	3.00E-03						
AOI-48 (NW)	SVOC	2,4-Dinitrotoluene	121-14-2	T	B2	7				7.90E-04	7.90E-04	3.2E-02		8.6E+00			
AOI-48 (NW)	SVOC	2,6-Dinitrotoluene	606-20-2	T	B2	7				5.70E-04	5.70E-04						
AOI-48 (NW)	SVOC	Di-n-octylphthalate	117-84-0	T		7				1.10E-03	1.10E-03	3.8E-01		4.0E-01			
AOI-48 (NW)	SVOC	Fluoranthene	206-44-0	T	D	15				4.60E-05	8.10E-04	2.1E-01	2.1E-01	2.1E-01			
AOI-48 (NW)	SVOC	Fluorene	86-73-7	T	D	7				1.00E-03	1.00E-03	2.0E+00	2.0E+00	2.0E+00			
AOI-48 (NW)	SVOC	Hexachlorobenzene	118-74-1	T	B2	7				7.40E-04	7.40E-04	1.0E-03	3.0E+00	4.6E-03			
AOI-48 (NW)	SVOC	Hexachlorobutadiene	87-68-3	T	C	9				7.30E-04	1.00E-03	4.2E-02	3.2E+00	4.0E-01			
AOI-48 (NW)	SVOC	Hexachlorocyclopentadiene	77-47-4	T	E	7				1.10E-03	1.10E-03	5.0E-02	4.2E-01	1.6E+00			
AOI-48 (NW)	SVOC	Hexachloroethane	67-72-1	T	C	9				7.40E-04	1.00E-03	2.1E-02	5.0E+01	1.9E+00			
AOI-48 (NW)	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	T	B2	15				4.00E-05	6.30E-04	2.0E-03		2.0E-03			
AOI-48 (NW)	SVOC	Isophorone	78-59-1	T	C	7				6.30E-04	6.30E-04	3.1E+00		9.9E+02			
AOI-48 (NW)	SVOC	2-Methylnaphthalene	91-57-6	T		9				6.40E-04	5.00E-03	7.5E-01		2.5E+01			
AOI-48 (NW)	SVOC	Methylphenol (total)	1319-77-3	T		7	1	4.30E-02	4.30E-02	1.30E-03	1.30E-03	1.0E+00		8.1E+02	4.3E-02		5.3E-05
AOI-48 (NW)	SVOC	Naphthalene	91-20-3	T	C	9				7.50E-04	5.00E-03	1.5E+00	3.1E+01	3.1E+01			
AOI-48 (NW)	SVOC	2-Nitroaniline	88-74-4	T		7				7.00E-04	7.00E-04						
AOI-48 (NW)	SVOC	3-Nitroaniline	99-09-2	T	C	7				7.10E-04	7.10E-04						
AOI-48 (NW)	SVOC	4-Nitroaniline	100-01-6	T	C	7				1.30E-03	1.30E-03						
AOI-48 (NW)	SVOC	Nitrobenzene	98-95-3	T	D	15				4.00E-05	8.10E-04	9.6E-03	5.5E+02	1.1E+01			
AOI-48 (NW)	SVOC	2-Nitrophenol	88-75-5	T		7				2.10E-03	2.10E-03	5.8E-02		7.9E+01			
AOI-48 (NW)	SVOC	4-Nitrophenol	100-02-7	T		7				1.90E-03	1.90E-03						
AOI-48 (NW)	SVOC	N-Nitrosodiphenylamine	86-30-6	T	B2	7				1.40E-03	1.40E-03	1.1E+00		3.5E+01			
AOI-48 (NW)	SVOC	N-Nitroso-di-n-propylamine	621-64-7	T	B2	7				6.70E-04	6.70E-04	5.0E-03		3.6E-01			
AOI-48 (NW)	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	T	C	7				7.80E-04	7.80E-04						
AOI-48 (NW)	SVOC	Pentachlorophenol	87-86-5	T	B2	15				1.30E-04	2.40E-03	1.0E-03		2.0E-01			
AOI-48 (NW)	SVOC	Phenanthrene	85-01-8	T	D	7				8.20E-04	8.20E-04	1.5E-01	1.0E+00	1.0E+00			
AOI-48 (NW)	SVOC	Phenol	108-95-2	T	D	7	1	1.80E-02	1.80E-02	2.60E-03	2.60E-03	1.3E+01		2.9E+04	1.4E-03		6.2E-07
AOI-48 (NW)	SVOC	Pyrene	129-00-0	T	D	7				1.10E-03	1.10E-03	1.4E-01	1.4E-01	1.4E-01			
AOI-48 (NW)	SVOC	2,4,5-Trichlorophenol	95-95-4	T		7				1.20E-03	1.20E-03	2.1E+00		1.7E+02			
AOI-48 (NW)	SVOC	2,4,6-Trichlorophenol	88-06-2	T	B2	7				1.70E-03	1.70E-03	4.7E-01		1.0E+01			
AOI-48 (NW)	P/PCB	PCBs (total)	1336-36-3	T	B2	7	1	8.60E-05	8.60E-05	8.20E-05	8.20E-05	5.0E-04	4.5E-02	3.3E-03	1.7E-01	1.9E-03	2.6E-02
AOI-48 (NW)	INORG	Aluminum	7429-90-5	T	D	7	7	7.10E-02	1.01E+01			4.1E+00		6.4E+04	**2.5E+00**		1.6E-04
AOI-48 (NW)	INORG	Antimony	7440-36-0	T		7				3.40E-03	3.40E-03	6.0E-03		6.8E+01			
AOI-48 (NW)	INORG	Arsenic	7440-38-2	T	A	7	5	2.20E-03	1.30E-02	2.10E-03	2.10E-03	5.0E-02		4.3E+00	2.6E-01		3.0E-03

Table E-2a: Onsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48 (NW)	INORG	Barium	7440-39-3	T	D	7	7	4.00E-02	2.20E-01			2.0E+00		1.4E+04	1.1E-01		1.6E-05
AOI-48 (NW)	INORG	Beryllium	7440-41-7	T	B1	7				6.00E-04	6.00E-04	4.0E-03		2.9E+02			
AOI-48 (NW)	INORG	Cadmium	7440-43-9	T	B1	7	1	2.30E-03	2.30E-03	2.80E-04	2.80E-04	5.0E-03		1.9E+02	4.6E-01		1.2E-05
AOI-48 (NW)	INORG	Chromium (total)	7440-47-3	T		7	7	2.60E-03	2.50E-02			1.0E-01		4.6E+02	2.5E-01		5.4E-05
AOI-48 (NW)	INORG	Cobalt	7440-48-4	T	B1	7	7	9.00E-04	5.50E-03			1.0E-01		2.4E+03	5.5E-02		2.3E-06
AOI-48 (NW)	INORG	Copper	7440-50-8	T	D	7	3	7.20E-03	8.70E-03	1.70E-03	1.70E-03	4.0E+00		7.4E+03	2.2E-03		1.2E-06
AOI-48 (NW)	INORG	Cyanide (total)	57-12-5	T	D	7	1	4.50E-03	4.50E-03	1.80E-03	1.80E-03	2.0E-01		5.7E+01	2.3E-02		7.9E-05
AOI-48 (NW)	INORG	Iron	7439-89-6	T	D	7	7	9.70E-02	1.41E+01			5.6E+00		5.8E+04	**2.5E+00**		2.4E-04
AOI-48 (NW)	INORG	Lead	7439-92-1	T	B2	7	3	4.40E-03	6.20E-03	1.60E-03	1.60E-03	4.0E-03			**1.6E+00**		
AOI-48 (NW)	INORG	Magnesium	7439-95-4	T		7	7	2.15E+01	9.86E+01			1.1E+03		1.0E+06	9.0E-02		9.9E-05
AOI-48 (NW)	INORG	Manganese	7439-96-5	T	D	7	7	9.70E-03	9.90E-01			2.5E+00		9.1E+03	4.0E-01		1.1E-04
AOI-48 (NW)	INORG	Mercury	7439-97-6	T	D	7	1	1.20E-04	1.20E-04	8.70E-05	8.70E-05	2.0E-03	5.6E-02	5.6E-02	6.0E-02	2.1E-03	2.1E-03
AOI-48 (NW)	INORG	Nickel	7440-02-0	T	A	7	6	4.00E-03	1.90E-02	2.90E-03	2.90E-03	1.0E-01		7.4E+04	1.9E-01		2.6E-07
AOI-48 (NW)	INORG	Selenium	7782-49-2	T	D	7				4.70E-03	4.70E-03	5.0E-02		9.7E+02			
AOI-48 (NW)	INORG	Silver	7440-22-4	T	D	7	1	1.50E-04	1.50E-04	1.30E-04	1.30E-04	9.8E-02		1.5E+03	1.5E-03		1.0E-07
AOI-48 (NW)	INORG	Sodium	7440-23-5	T		7	7	1.38E+02	8.00E+02								
AOI-48 (NW)	INORG	Thallium	7440-28-0	T		7	4	3.50E-05	8.80E-05	3.30E-05	3.30E-05	2.0E-03		1.3E+01	4.4E-02		6.8E-06
AOI-48 (NW)	INORG	Vanadium	7440-62-2	T		7	6	6.90E-04	1.70E-02	3.40E-04	3.40E-04	6.2E-02		9.7E+02	2.7E-01		1.8E-05
AOI-48 (NW)	INORG	Zinc	7440-66-6	T	D	7	2	2.00E-01	2.50E-01	1.40E-02	1.40E-02	5.0E+00		1.1E+05	5.0E-02		2.3E-06
Legacy	VOC	Benzene	71-43-2	T	A	5				1.00E-03	1.00E-03	5.0E-03	3.5E+01	1.1E+01			
Legacy	VOC	Ethyl Benzene	100-41-4	T	D	5				1.00E-03	1.00E-03	7.0E-01	1.7E+02	1.7E+02			
Legacy	VOC	Toluene	108-88-3	T	D	5				1.00E-03	1.00E-03	1.0E+00	5.3E+02	5.3E+02			
Legacy	VOC	Xylenes (total)	1330-20-7	T	D	5				3.00E-03	3.00E-03	1.0E+01	1.9E+02	1.9E+02			

Notes:

The Screening Criteria are MDEQ Part 201 Generic Screening Values (MDEQ 2002).

The Screening Criteria for Pyrene was used as a surrogate for Phenanthrene and Benzo(g,h,i)perylene.

The Screening Criteria for Naphthalene was used as a surrogate for 2-Methylnaphthalene.

The concentrations for the Methylphenol (2, 3, & 4) were summed before comparing to the Screening Criteria for 4-Methylphenol.

The concentrations for all PCB isomers were summed before comparing to the Screening Criteria.

The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the Screening Criteria.

The concentrations for the 1,3-Dichloropropene isomers (cis and trans) were summed before comparing to the Screening Criteria.

The toxicity values that MDEQ used to calculate its screening criteria for 1,1-Dichloroethene (1,1-DCE) are different from the toxicity values for 1,1-DCE published in IRIS (January, 2003). The updated screening criteria for 1,1-DCE, based on IRIS toxicity values, are: 1.04 mg/L (industrial drinking water), 797 mg/L (groundwater contact), 188 mg/L (industrial groundwater volatilization to indoor air). There are no detected concentrations of 1,1-DCE at the Site that exceed the updated screening criteria.

Chem Group - Chemical Group
Meas Basis - Measured Basis; T = Total, D = Dissolved
Carc Class - EPA Weight-of-Evidence Cancer Classification
Min QL - Minimum Quantitation Limit
Max QL - Maximum Quantitation Limit

Table E-2b: Offsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Residential Drinking Water Criteria (mg/L)	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48	VOC	Acetone	67-64-1	T	D	2				5.10E-04	5.10E-04	7.3E-01	1.0E+06	3.1E+04			
AOI-48	VOC	Benzene	71-43-2	T	A	2				1.60E-04	1.60E-04	5.0E-03	5.6E+00	1.1E+01			
AOI-48	VOC	Bromodichloromethane	75-27-4	T	B2	2				1.70E-04	1.70E-04	1.0E-01	4.8E+00	1.4E+01			
AOI-48	VOC	Bromoform	75-25-2	T	B2	2				1.80E-04	1.80E-04	1.0E-01	4.7E+02	1.4E+02			
AOI-48	VOC	Bromomethane	74-83-9	T	D	2				2.00E-04	2.00E-04	1.0E-02	4.0E+00	7.0E+01			
AOI-48	VOC	2-Butanone	78-93-3	T	D	2				4.10E-04	4.10E-04	1.3E+01	2.4E+05	2.4E+05			
AOI-48	VOC	Carbon Disulfide	75-15-0	T		2				2.00E-04	2.00E-04	8.0E-01	2.5E+02	1.2E+03			
AOI-48	VOC	Carbon Tetrachloride	56-23-5	T	B2	2				1.20E-04	1.20E-04	5.0E-03	3.7E-01	4.6E+00			
AOI-48	VOC	Chlorobenzene	108-90-7	T	D	2				1.40E-04	1.40E-04	1.0E-01	2.1E+02	8.6E+01			
AOI-48	VOC	Chloroethane	75-00-3	T		2				2.60E-04	2.60E-04	4.3E-01	5.7E+03	4.4E+02			
AOI-48	VOC	Chloroform	67-66-3	T	B2	2				1.40E-04	1.40E-04	1.0E-01	2.8E+01	1.5E+02			
AOI-48	VOC	Chloromethane	74-87-3	T	D	2				1.30E-04	1.30E-04	2.6E-01	8.6E+00	4.9E+02			
AOI-48	VOC	Cumene	98-82-8	T	D	2				1.20E-04	1.20E-04	8.0E-01	5.6E+01	5.6E+01			
AOI-48	VOC	Cyclohexane	110-82-7	T		2				1.30E-04	1.30E-04						
AOI-48	VOC	1,2-Dibromo-3-chloropropane	96-12-8	T	B2	2				6.20E-04	6.20E-04	2.0E-04	1.2E+00	3.9E-01			
AOI-48	VOC	Dibromochloromethane	124-48-1	T	C	2				2.60E-04	2.60E-04	1.0E-01	1.4E+01	1.8E+01			
AOI-48	VOC	1,2-Dibromoethane	106-93-4	T	B2	2				2.20E-04	2.20E-04	1.0E-03	2.4E+00	2.5E-02			
AOI-48	VOC	1,2-Dichlorobenzene	95-50-1	T	D	2				1.10E-04	1.10E-04	6.0E-01	1.6E+02	1.6E+02			
AOI-48	VOC	1,3-Dichlorobenzene	541-73-1	T	D	2				1.50E-04	1.50E-04	6.6E-03		2.0E+00			
AOI-48	VOC	1,4-Dichlorobenzene	106-46-7	T	C	2				1.70E-04	1.70E-04	7.5E-02	1.6E+01	6.4E+00			
AOI-48	VOC	Dichlorodifluoromethane	75-71-8	T		2				2.60E-04	2.60E-04	1.7E+00	2.2E+02	3.0E+02			
AOI-48	VOC	1,1-Dichloroethane	75-34-3	T	C	3				1.60E-04	1.60E-04	8.8E-01	1.0E+03	2.4E+03			
AOI-48	VOC	1,2-Dichloroethane	107-06-2	T	B2	3				2.10E-04	2.10E-04	5.0E-03	9.6E+00	1.9E+01			
AOI-48	VOC	1,1-Dichloroethene	75-35-4	T	C	3				2.40E-04	2.40E-04	7.0E-03	2.0E-01	1.1E+01			
AOI-48	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	3				2.20E-04	2.20E-04	7.0E-02	9.3E+01	2.0E+02			
AOI-48	VOC	trans-1,2-Dichloroethene	156-60-5	T		2				1.50E-04	1.50E-04	1.0E-01	8.5E+01	2.2E+02			
AOI-48	VOC	1,2-Dichloropropane	78-87-5	T	B2	2				1.70E-04	1.70E-04	5.0E-03	1.6E+01	1.6E+01			
AOI-48	VOC	1,3-Dichloropropene (total)	542-75-6	T	B2	2				2.70E-04	2.70E-04	8.5E-03	3.9E+00	5.5E+00			
AOI-48	VOC	Ethyl Benzene	100-41-4	T	D	2				1.20E-04	1.20E-04	7.0E-01	1.1E+02	1.7E+02			
AOI-48	VOC	2-Hexanone	591-78-6	T		2				4.60E-04	4.60E-04	1.0E+00	4.2E+03	5.2E+03			
AOI-48	VOC	Methyl Acetate	79-20-9	T		2				4.10E-04	4.10E-04						
AOI-48	VOC	Methyl tert-butyl ether	1634-04-4	T		2				1.30E-04	1.30E-04	2.4E-01	4.7E+04	6.1E+02			
AOI-48	VOC	4-Methyl-2-pentanone	108-10-1	T		2				2.30E-04	2.30E-04	1.8E+00	2.0E+04	1.3E+04			
AOI-48	VOC	Methylcyclohexane	108-87-2	T		2				1.50E-04	1.50E-04						
AOI-48	VOC	Methylene Chloride	75-09-2	T	B2	2				3.40E-04	3.40E-04	5.0E-03	2.2E+02	2.2E+02			
AOI-48	VOC	Styrene	100-42-5	T		2				1.50E-04	1.50E-04	1.0E-01	1.7E+02	9.7E+00			
AOI-48	VOC	1,1,2,2-Tetrachloroethane	79-34-5	T	C	2				2.50E-04	2.50E-04	8.5E-03	1.2E+01	4.7E+00			
AOI-48	VOC	Tetrachloroethene	127-18-4	T	C-B2	2				2.30E-04	2.30E-04	5.0E-03	2.5E+01	1.2E+01			
AOI-48	VOC	Toluene	108-88-3	T	D	2				1.80E-04	1.80E-04	1.0E+00	5.3E+02	5.3E+02			
AOI-48	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	2				1.70E-04	1.70E-04	7.0E-02	3.0E+02	1.9E+01			
AOI-48	VOC	1,1,1-Trichloroethane	71-55-6	T	D	3				1.50E-04	1.50E-04	2.0E-01	6.6E+02	1.3E+03			
AOI-48	VOC	1,1,2-Trichloroethane	79-00-5	T	C	2				3.00E-04	3.00E-04	5.0E-03	1.7E+01	2.1E+01			
AOI-48	VOC	Trichloroethene	79-01-6	T	C-B2	3				1.40E-04	1.40E-04	5.0E-03	1.5E+01	2.2E+01			
AOI-48	VOC	Trichlorofluoromethane	75-69-4	T		2				2.80E-04	2.80E-04	2.6E+00	1.1E+03	1.1E+03			
AOI-48	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	T		2				3.20E-04	3.20E-04	1.7E+02	1.7E+02	1.7E+02			
AOI-48	VOC	Vinyl Chloride	75-01-4	T	A	3				1.50E-04	1.50E-04	2.0E-03	1.1E+00	1.0E+00			
AOI-48	VOC	Xylenes (total)	1330-20-7	T	D	2				3.30E-04	3.30E-04	1.0E+01	1.9E+02	1.9E+02			
AOI-48	SVOC	Acenaphthene	83-32-9	T		2				8.00E-04	8.00E-04	1.3E+00	4.2E+00	4.2E+00			
AOI-48	SVOC	Acenaphthylene	208-96-8	T	D	2				7.10E-04	7.10E-04	5.2E-02	3.9E+00	3.9E+00			
AOI-48	SVOC	Acetophenone	98-86-2	T	D	2				2.60E-03	2.60E-03	1.5E+00	6.1E+03	6.1E+03			
AOI-48	SVOC	Anthracene	120-12-7	T	D	2				6.80E-04	6.80E-04	4.3E-02	4.3E-02	4.3E-02			
AOI-48	SVOC	Atrazine	1912-24-9	T		2				2.50E-03	2.50E-03	3.0E-03		5.4E+00			
AOI-48	SVOC	Benzaldehyde	100-52-7	T		2				2.80E-03	2.80E-03						

Table E-2b: Offsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Residential Drinking Water Criteria (mg/L)	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48	SVOC	Benzo(a)anthracene	56-55-3	T	B2	2				7.00E-04	7.00E-04	2.1E-03		9.4E-03			
AOI-48	SVOC	Benzo(a)pyrene	50-32-8	T	B2	4				4.90E-05	7.30E-04	5.0E-03		2.0E-03			
AOI-48	SVOC	Benzo(b)fluoranthene	205-99-2	T	B2	2				9.40E-04	9.40E-04	2.0E-03		2.0E-03			
AOI-48	SVOC	Benzo(g,h,i)perylene	191-24-2	T	D	4				1.40E-05	8.50E-04	5.0E-03		5.0E-03			
AOI-48	SVOC	Benzo(k)fluoranthene	207-08-9	T	B2	4				4.30E-05	8.40E-04	5.0E-03		5.0E-03			
AOI-48	SVOC	Biphenyl	92-52-4	T		2				2.60E-03	2.60E-03						
AOI-48	SVOC	bis(2-Chloroethoxy)methane	111-91-1	T	D	2				8.70E-04	8.70E-04						
AOI-48	SVOC	bis(2-Chloroethyl) ether	111-44-4	T	B2	4				2.80E-05	9.70E-04	2.0E-03	3.8E+01	5.7E+00			
AOI-48	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	2				2.70E-03	2.70E-03	6.0E-03		3.2E-01			
AOI-48	SVOC	4-Bromophenyl-phenyl ether	101-55-3	T	D	2				8.80E-04	8.80E-04						
AOI-48	SVOC	Butylbenzylphthalate	85-68-7	T	C	2				8.80E-04	8.80E-04	1.2E+00		2.7E+00			
AOI-48	SVOC	Caprolactam	105-60-2	T		2				2.50E-03	2.50E-03	5.8E+00		3.9E+05			
AOI-48	SVOC	Carbazole	86-74-8	T	B2	2				8.20E-04	8.20E-04	8.5E-02		7.4E+00			
AOI-48	SVOC	4-Chloro-3-methylphenol	59-50-7	T		2				9.90E-04	9.90E-04	1.5E-01		7.9E+01			
AOI-48	SVOC	4-Chloroaniline	106-47-8	T		2				6.10E-04	6.10E-04						
AOI-48	SVOC	2-Chloronaphthalene	91-58-7	T		2				8.50E-04	8.50E-04	1.8E+00		6.7E+00			
AOI-48	SVOC	2-Chlorophenol	95-57-8	T		2				1.00E-03	1.00E-03	4.5E-02		9.4E+01			
AOI-48	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3	T		2				7.90E-04	7.90E-04						
AOI-48	SVOC	Chrysene	218-01-9	T	B2	4				4.20E-05	7.50E-04	5.0E-03		5.0E-03			
AOI-48	SVOC	Dibenz(a,h)anthracene	53-70-3	T	B2	2				7.90E-04	7.90E-04	2.0E-03		2.0E-03			
AOI-48	SVOC	Dibenzofuran	132-64-9	T	D	2				1.10E-03	1.10E-03						
AOI-48	SVOC	3,3'-Dichlorobenzidine	91-94-1	T	B2	4				2.40E-05	9.30E-04	1.1E-03		1.8E-01			
AOI-48	SVOC	2,4-Dichlorophenol	120-83-2	T		2				8.50E-04	8.50E-04	7.3E-02		4.8E+01			
AOI-48	SVOC	Diethylphthalate	84-66-2	T	D	2				6.50E-04	6.50E-04	5.5E+00		1.1E+03			
AOI-48	SVOC	2,4-Dimethylphenol	105-67-9	T		2				8.50E-04	8.50E-04	3.7E-01		5.2E+02			
AOI-48	SVOC	Dimethylphthalate	131-11-3	T	D	2				7.60E-04	7.60E-04	7.3E+01		4.2E+03			
AOI-48	SVOC	Di-n-butylphthalate	84-74-2	T	D	2				6.70E-04	6.70E-04	8.8E-01		1.1E+01			
AOI-48	SVOC	4,6-Dinitro-2-methylphenol	534-52-1	T		2				1.30E-03	1.30E-03	2.0E-02		9.5E+00			
AOI-48	SVOC	2,4-Dinitrophenol	51-28-5	T		2				3.00E-03	3.00E-03						
AOI-48	SVOC	2,4-Dinitrotoluene	121-14-2	T	B2	2				7.90E-04	7.90E-04	7.7E-03		8.6E+00			
AOI-48	SVOC	2,6-Dinitrotoluene	606-20-2	T	B2	2				5.70E-04	5.70E-04						
AOI-48	SVOC	Di-n-octylphthalate	117-84-0	T		2				1.10E-03	1.10E-03	1.3E-01		4.0E-01			
AOI-48	SVOC	Fluoranthene	206-44-0	T	D	4				2.00E-04	8.10E-04	2.1E-01	2.1E-01	2.1E-01			
AOI-48	SVOC	Fluorene	86-73-7	T	D	2				1.00E-03	1.00E-03	8.8E-01	2.0E+00	2.0E+00			
AOI-48	SVOC	Hexachlorobenzene	118-74-1	T	B2	2				7.40E-04	7.40E-04	1.0E-03	4.4E-01	4.6E-03			
AOI-48	SVOC	Hexachlorobutadiene	87-68-3	T	C	2				7.30E-04	7.30E-04	1.5E-02	1.6E+00	4.0E-01			
AOI-48	SVOC	Hexachlorocyclopentadiene	77-47-4	T	E	2				1.10E-03	1.10E-03	5.0E-02	1.3E-01	1.6E+00			
AOI-48	SVOC	Hexachloroethane	67-72-1	T	C	2				7.40E-04	7.40E-04	7.3E-03	2.7E+01	1.9E+00			
AOI-48	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	T	B2	4				4.00E-05	6.30E-04	2.0E-03		2.0E-03			
AOI-48	SVOC	Isophorone	78-59-1	T	C	2				6.30E-04	6.30E-04	7.7E-01		9.9E+02			
AOI-48	SVOC	2-Methylnaphthalene	91-57-6	T		2				6.40E-04	6.40E-04	2.6E-01		2.5E+01			
AOI-48	SVOC	Methylphenol (total)	1319-77-3	T		2				1.30E-03	1.30E-03	3.7E-01		8.1E+02			
AOI-48	SVOC	Naphthalene	91-20-3	T	C	2				7.50E-04	7.50E-04	5.2E-01	3.1E+01	3.1E+01			
AOI-48	SVOC	2-Nitroaniline	88-74-4	T		2				7.00E-04	7.00E-04						
AOI-48	SVOC	3-Nitroaniline	99-09-2	T	C	2				7.10E-04	7.10E-04						
AOI-48	SVOC	4-Nitroaniline	100-01-6	T	C	2				1.30E-03	1.30E-03						
AOI-48	SVOC	Nitrobenzene	98-95-3	T	D	4				4.00E-05	8.10E-04	3.4E-03	2.8E+02	1.1E+01			
AOI-48	SVOC	2-Nitrophenol	88-75-5	T		2				2.10E-03	2.10E-03	2.0E-02		7.9E+01			
AOI-48	SVOC	4-Nitrophenol	100-02-7	T		2				1.90E-03	1.90E-03						
AOI-48	SVOC	N-Nitrosodiphenylamine	86-30-6	T	B2	2				1.40E-03	1.40E-03	2.7E-01		3.5E+01			
AOI-48	SVOC	N-Nitroso-di-n-propylamine	621-64-7	T	B2	2				6.70E-04	6.70E-04	5.0E-03		3.6E-01			
AOI-48	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	T	C	2				7.80E-04	7.80E-04						
AOI-48	SVOC	Pentachlorophenol	87-86-5	T	B2	4				1.30E-04	2.40E-03	1.0E-03		2.0E-01			

Table E-2b: Offsite Groundwater Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Residential Drinking Water Criteria (mg/L)	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48	SVOC	Phenanthrene	85-01-8	T	D	2				8.20E-04	8.20E-04	5.2E-02	1.0E+00	1.0E+00			
AOI-48	SVOC	Phenol	108-95-2	T	D	2				2.60E-03	2.60E-03	4.4E+00		2.9E+04			
AOI-48	SVOC	Pyrene	129-00-0	T	D	2				1.10E-03	1.10E-03	1.4E-01	1.4E-01	1.4E-01			
AOI-48	SVOC	2,4,5-Trichlorophenol	95-95-4	T		2				1.20E-03	1.20E-03	7.3E-01		1.7E+02			
AOI-48	SVOC	2,4,6-Trichlorophenol	88-06-2	T	B2	2				1.70E-03	1.70E-03	1.2E-01		1.0E+01			
AOI-48	P/PCB	PCBs (total)	1336-36-3	T	B2	2				8.20E-05	8.20E-05	5.0E-04	4.5E-02	3.3E-03			
AOI-48	INORG	Aluminum	7429-90-5	T	D	2	2	8.70E-02	5.10E+00			3.0E-01		6.4E+04	**1.7E+01**		8.0E-05
AOI-48	INORG	Antimony	7440-36-0	T		2				3.40E-03	3.40E-03	6.0E-03		6.8E+01			
AOI-48	INORG	Arsenic	7440-38-2	T	A	2	1	3.00E-03	3.00E-03	2.10E-03	2.10E-03	5.0E-02		4.3E+00	6.0E-02		7.0E-04
AOI-48	INORG	Barium	7440-39-3	T	D	2	2	4.70E-02	6.00E-02			2.0E+00		1.4E+04	3.0E-02		4.3E-06
AOI-48	INORG	Beryllium	7440-41-7	T	B1	2				6.00E-04	6.00E-04	4.0E-03		2.9E+02			
AOI-48	INORG	Cadmium	7440-43-9	T	B1	2				2.80E-04	2.80E-04	5.0E-03		1.9E+02			
AOI-48	INORG	Chromium (total)	7440-47-3	T		2	1	7.10E-03	7.10E-03	1.50E-03	1.50E-03	1.0E-01		4.6E+02	7.1E-02		1.5E-05
AOI-48	INORG	Cobalt	7440-48-4	T	B1	2	2	1.30E-03	3.20E-03			4.0E-02		2.4E+03	8.0E-02		1.3E-06
AOI-48	INORG	Copper	7440-50-8	T	D	2	1	1.30E-02	1.30E-02	1.70E-03	1.70E-03	1.4E+00		7.4E+03	9.3E-03		1.8E-06
AOI-48	INORG	Cyanide (total)	57-12-5	T	D	2				1.80E-03	1.80E-03	2.0E-01		5.7E+01			
AOI-48	INORG	Iron	7439-89-6	T	D	2	2	6.90E-01	6.60E+00			2.0E+00		5.8E+04	**3.3E+00**		1.1E-04
AOI-48	INORG	Lead	7439-92-1	T	B2	2	1	6.50E-03	6.50E-03	1.60E-03	1.60E-03	4.0E-03			**1.6E+00**		
AOI-48	INORG	Magnesium	7439-95-4	T		2	2	1.62E+01	6.70E+01			4.0E+02		1.0E+06	1.7E-01		6.7E-05
AOI-48	INORG	Manganese	7439-96-5	T	D	2	2	3.40E-01	6.40E-01			8.6E-01		9.1E+03	7.4E-01		7.0E-05
AOI-48	INORG	Mercury	7439-97-6	T	D	2	1	1.30E-04	1.30E-04	8.70E-05	8.70E-05	2.0E-03	5.6E-02	5.6E-02	6.5E-02	2.3E-03	2.3E-03
AOI-48	INORG	Nickel	7440-02-0	T	A	2	1	1.00E-02	1.00E-02	2.90E-03	2.90E-03	1.0E-01		7.4E+04	1.0E-01		1.4E-07
AOI-48	INORG	Selenium	7782-49-2	T	D	2				4.70E-03	4.70E-03	5.0E-02		9.7E+02			
AOI-48	INORG	Silver	7440-22-4	T	D	2				1.30E-04	1.30E-04	3.4E-02		1.5E+03			
AOI-48	INORG	Sodium	7440-23-5	T		2	2	1.61E+02	2.18E+02								
AOI-48	INORG	Thallium	7440-28-0	T		2	1	1.40E-04	1.40E-04	3.30E-05	3.30E-05	2.0E-03		1.3E+01	7.0E-02		1.1E-05
AOI-48	INORG	Vanadium	7440-62-2	T		2	1	9.70E-03	9.70E-03	3.40E-04	3.40E-04	4.5E-03		9.7E+02	**2.2E+00**		1.0E-05
AOI-48	INORG	Zinc	7440-66-6	T	D	2	2	1.10E-01	1.90E-01			2.4E+00		1.1E+05	7.9E-02		1.7E-06

Notes:

The Screening Criteria are MDEQ Part 201 Generic Screening Values (MDEQ 2002).

The Screening Criteria for Pyrene was used as a surrogate for Phenanthrene and Benzo(g,h,i)perylene.

The Screening Criteria for Naphthalene was used as a surrogate for 2-Methylnaphthalene.

The concentrations for the Methylphenol (2, 3, & 4) were summed before comparing to the Screening Criteria for 4-Methylphenol.

The concentrations for all PCB isomers were summed before comparing to the Screening Criteria.

The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the Screening Criteria.

The concentrations for the 1,3-Dichloropropene isomers (cis and trans) were summed before comparing to the Screening Criteria.

The toxicity values that MDEQ used to calculate its screening criteria for 1,1-Dichloroethene (1,1-DCE) are different from the toxicity values for 1,1-DCE published in IRIS (January, 2003). The updated screening criteria for 1,1-DCE, based on IRIS toxicity values, are: 1.04 mg/L (industrial drinking water), 797 mg/L (groundwater contact), 188 mg/L (industrial groundwater volatilization to indoor air). There are no detected concentrations of 1,1-DCE at the Site that exceed the updated screening criteria.

Chem Group - Chemical Group

Meas Basis - Measured Basis; T = Total, D = Dissolved

Carc Class - EPA Weight-of-Evidence Cancer Classification

Min QL - Minimum Quantitation Limit

Max QL - Maximum Quantitation Limit

Table E-3a: Onsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-08	INORG	Aluminum	7429-90-5	T	D	2	2	3.99E+01	1.41E+02			4.1E+00		6.4E+04	3.4E+01		2.2E-03
AOI-08	INORG	Antimony	7440-36-0	T		2	2	1.60E-02	2.40E-02			6.0E-03		6.8E+01	4.0E+00		3.5E-04
AOI-08	INORG	Arsenic	7440-38-2	T	A	2	2	4.30E-02	3.30E-01			5.0E-02		4.3E+00	6.6E+00		7.7E-02
AOI-08	INORG	Barium	7440-39-3	T	D	2	2	6.50E-01	1.50E+00			2.0E+00		1.4E+04	7.5E-01		1.1E-04
AOI-08	INORG	Beryllium	7440-41-7	T	B1	2	2	6.00E-04	3.40E-03			4.0E-03		2.9E+02	8.5E-01		1.2E-05
AOI-08	INORG	Cadmium	7440-43-9	T	B1	2	2	1.50E-03	4.90E-03			5.0E-03		1.9E+02	9.8E-01		2.6E-05
AOI-08	INORG	Chromium III	16065-83-1	T	D	2	2	3.00E-01	1.05E+01			1.0E-01		2.9E+05	1.0E+02		3.6E-05
AOI-08	INORG	Chromium VI	18540-29-9	T	A	2	1	1.13E+01	1.13E+01	5.00E-03	5.00E-03	1.0E-01		4.6E+02	1.1E+02		2.5E-02
AOI-08	INORG	Cobalt	7440-48-4	T	B1	2	2	4.50E-02	1.80E-01			1.0E-01		2.4E+03	1.8E+00		7.5E-05
AOI-08	INORG	Copper	7440-50-8	T	D	2	2	1.20E-01	8.10E-01			4.0E+00		7.4E+03	2.0E-01		1.1E-04
AOI-08	INORG	Cyanide (total)	57-12-5	T	D	2	1	5.60E-02	5.60E-02	1.80E-03	1.80E-03	2.0E-01		5.7E+01	2.8E-01		9.8E-04
AOI-08	INORG	Iron	7439-89-6	T	D	2	2	1.08E+02	4.41E+02			5.6E+00		5.8E+04	7.9E+01		7.6E-03
AOI-08	INORG	Lead	7439-92-1	T	B2	2	2	3.60E-02	3.40E-01			4.0E-03			8.5E+01		
AOI-08	INORG	Magnesium	7439-95-4	T		2	2	1.13E+02	2.79E+02			1.1E+03		1.0E+06	2.5E-01		2.8E-04
AOI-08	INORG	Manganese	7439-96-5	T	D	2	2	3.30E+00	8.60E+00			2.5E+00		9.1E+03	3.4E+00		9.5E-04
AOI-08	INORG	Mercury	7439-97-6	T	D	2	2	4.50E-03	7.40E-03			2.0E-03	5.6E-02	5.6E-02	3.7E+00	1.3E-01	1.3E-01
AOI-08	INORG	Nickel	7440-02-0	T	A	2	2	4.70E-01	6.50E-01			1.0E-01		7.4E+04	6.5E+00		8.8E-06
AOI-08	INORG	Selenium	7782-49-2	T	D	2				4.70E-03	4.70E-03	5.0E-02		9.7E+02			
AOI-08	INORG	Silver	7440-22-4	T	D	2				9.80E-04	9.80E-04	9.8E-02		1.5E+03			
AOI-08	INORG	Sodium	7440-23-5	T		2	2	8.70E+01	1.03E+02								
AOI-08	INORG	Thallium	7440-28-0	T		2				5.20E-03	5.20E-03	2.0E-03		1.3E+01			
AOI-08	INORG	Vanadium	7440-62-2	T		2	2	1.20E-01	4.80E-01			6.2E-02		9.7E+02	7.7E+00		4.9E-04
AOI-08	INORG	Zinc	7440-66-6	T	D	2	2	4.80E-01	3.30E+00			5.0E+00		1.1E+05	6.6E-01		3.0E-05
AOI-09	VOC	Benzene	71-43-2	T	A	1				1.00E-03	1.00E-03	5.0E-03	3.5E+01	1.1E+01			
AOI-09	VOC	1,1-Dichloroethene	75-35-4	T	C	1				1.00E-03	1.00E-03	7.0E-03	1.3E+00	1.1E+01			
AOI-09	VOC	Ethyl Benzene	100-41-4	T	D	1	1	1.30E-03	1.30E-03			7.0E-01	1.7E+02	1.7E+02	1.9E-03	7.6E-06	7.6E-06
AOI-09	VOC	Toluene	108-88-3	T	D	1				1.00E-03	1.00E-03	1.0E+00	5.3E+02	5.3E+02			
AOI-09	VOC	1,1,1-Trichloroethane	71-55-6	T	D	1				1.00E-03	1.00E-03	2.0E-01	1.3E+03	1.3E+03			
AOI-09	VOC	Trichloroethene	79-01-6	T	C-B2	1	1	4.30E-02	4.30E-02			5.0E-03	9.7E+01	2.2E+01	8.6E+00	4.4E-04	2.0E-03
AOI-09	VOC	Vinyl Chloride	75-01-4	T	A	1				1.00E-03	1.00E-03	2.0E-03	1.3E+01	1.0E+00			
AOI-09	VOC	Xylenes (total)	1330-20-7	T	D	1	1	4.10E-03	4.10E-03			1.0E+01	1.9E+02	1.9E+02	4.1E-04	2.2E-05	2.2E-05
AOI-09	INORG	Aluminum	7429-90-5	T	D	1	1	1.63E+02	1.63E+02			4.1E+00		6.4E+04	4.0E+01		2.5E-03
AOI-09	INORG	Antimony	7440-36-0	T		1	1	1.70E-02	1.70E-02			6.0E-03		6.8E+01	2.8E+00		2.5E-04
AOI-09	INORG	Arsenic	7440-38-2	T	A	1	1	5.10E-01	5.10E-01			5.0E-02		4.3E+00	1.0E+01		1.2E-01
AOI-09	INORG	Barium	7440-39-3	T	D	1	1	2.20E+00	2.20E+00			2.0E+00		1.4E+04	1.1E+00		1.6E-04
AOI-09	INORG	Beryllium	7440-41-7	T	B1	1	1	3.70E-03	3.70E-03			4.0E-03		2.9E+02	9.3E-01		1.3E-05
AOI-09	INORG	Cadmium	7440-43-9	T	B1	1	1	1.20E-02	1.20E-02			5.0E-03		1.9E+02	2.4E+00		6.3E-05
AOI-09	INORG	Chromium (total)	7440-47-3	T		1	1	2.50E+00	2.50E+00			1.0E-01		4.6E+02	2.5E+01		5.4E-03
AOI-09	INORG	Cobalt	7440-48-4	T	B1	1	1	3.10E-01	3.10E-01			1.0E-01		2.4E+03	3.1E+00		1.3E-04
AOI-09	INORG	Copper	7440-50-8	T	D	1	1	7.40E-01	7.40E-01			4.0E+00		7.4E+03	1.9E-01		1.0E-04
AOI-09	INORG	Cyanide (total)	57-12-5	T	D	1	1	1.10E-01	1.10E-01			2.0E-01		5.7E+01	5.5E-01		1.9E-03
AOI-09	INORG	Iron	7439-89-6	T	D	1	1	4.86E+02	4.86E+02			5.6E+00		5.8E+04	8.7E+01		8.4E-03
AOI-09	INORG	Lead	7439-92-1	T	B2	1	1	2.80E-01	2.80E-01			4.0E-03			7.0E+01		
AOI-09	INORG	Magnesium	7439-95-4	T		1	1	4.67E+02	4.67E+02			1.1E+03		1.0E+06	4.2E-01		4.7E-04
AOI-09	INORG	Manganese	7439-96-5	T	D	1	1	1.39E+01	1.39E+01			2.5E+00		9.1E+03	5.6E+00		1.5E-03
AOI-09	INORG	Mercury	7439-97-6	T	D	1	1	1.40E-03	1.40E-03			2.0E-03	5.6E-02	5.6E-02	7.0E-01	2.5E-02	2.5E-02
AOI-09	INORG	Nickel	7440-02-0	T	A	1	1	1.60E+00	1.60E+00			1.0E-01		7.4E+04	1.6E+01		2.2E-05
AOI-09	INORG	Selenium	7782-49-2	T	D	1				4.70E-03	4.70E-03	5.0E-02		9.7E+02			
AOI-09	INORG	Silver	7440-22-4	T	D	1				9.80E-04	9.80E-04	9.8E-02		1.5E+03			
AOI-09	INORG	Sodium	7440-23-5	T		1	1	1.44E+02	1.44E+02								
AOI-09	INORG	Thallium	7440-28-0	T		1				5.20E-03	5.20E-03	2.0E-03		1.3E+01			
AOI-09	INORG	Vanadium	7440-62-2	T		1	1	5.30E-01	5.30E-01			6.2E-02		9.7E+02	8.5E+00		5.5E-04
AOI-09	INORG	Zinc	7440-66-6	T	D	1	1	1.90E+00	1.90E+00			5.0E+00		1.1E+05	3.8E-01		1.7E-05

Table E-3a: Onsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-27	VOC	Acetone	67-64-1	T	D	8				1.10E-03	3.70E-03	2.1E+00	1.0E+06	3.1E+04			
AOI-27	VOC	Benzene	71-43-2	T	A	8	1	8.70E-04	8.70E-04	3.70E-04	1.20E-03	5.0E-03	3.5E+01	1.1E+01	1.7E-01	2.5E-05	7.9E-05
AOI-27	VOC	Bromodichloromethane	75-27-4	T	B2	8				3.20E-04	1.10E-03	1.0E-01	3.7E+01	1.4E+01			
AOI-27	VOC	Bromoform	75-25-2	T	B2	8				3.70E-04	1.20E-03	1.0E-01	3.1E+03	1.4E+02			
AOI-27	VOC	Bromomethane	74-83-9	T	D	8				3.00E-04	1.00E-03	2.9E-02	9.0E+00	7.0E+01			
AOI-27	VOC	2-Butanone	78-93-3	T	D	8				5.90E-04	2.00E-03	3.8E+01	2.4E+05	2.4E+05			
AOI-27	VOC	Carbon Disulfide	75-15-0	T		8				2.40E-04	8.00E-04	2.3E+00	5.5E+02	1.2E+03			
AOI-27	VOC	Carbon Tetrachloride	56-23-5	T	B2	8				3.70E-04	1.20E-03	5.0E-03	2.4E+00	4.6E+00			
AOI-27	VOC	Chlorobenzene	108-90-7	T	D	8	3	1.40E-03	4.20E-03	3.80E-04	3.80E-04	1.0E-01	4.7E+02	8.6E+01	4.2E-02	8.9E-06	4.9E-05
AOI-27	VOC	Chloroethane	75-00-3	T		8				2.90E-04	9.70E-04	1.7E+00	5.7E+03	4.4E+02			
AOI-27	VOC	Chloroform	67-66-3	T	B2	8				3.50E-04	1.20E-03	1.0E-01	1.8E+02	1.5E+02			
AOI-27	VOC	Chloromethane	74-87-3	T	D	8				4.90E-04	1.60E-03	1.1E+00	4.5E+01	4.9E+02			
AOI-27	VOC	Cumene	98-82-8	T	D	8				3.90E-04	1.30E-03	2.3E+00	5.6E+01	5.6E+01			
AOI-27	VOC	Cyclohexane	110-82-7	T		8	1	4.70E-04	4.70E-04	3.30E-04	1.10E-03						
AOI-27	VOC	1,2-Dibromo-3-chloropropane	96-12-8	T	B2	8				8.20E-04	2.70E-03	2.0E-04	1.2E+00	3.9E-01			
AOI-27	VOC	Dibromochloromethane	124-48-1	T	C	8				3.70E-04	1.20E-03	1.0E-01	1.1E+02	1.8E+01			
AOI-27	VOC	1,2-Dibromoethane	106-93-4	T	B2	8				3.40E-04	1.10E-03	1.0E-03	1.5E+01	2.5E-02			
AOI-27	VOC	1,2-Dichlorobenzene	95-50-1	T	D	8				3.80E-04	1.30E-03	6.0E-01	1.6E+02	1.6E+02			
AOI-27	VOC	1,3-Dichlorobenzene	541-73-1	T	D	8				3.80E-04	1.30E-03	1.9E-02		2.0E+00			
AOI-27	VOC	1,4-Dichlorobenzene	106-46-7	T	C	8				3.80E-04	1.30E-03	7.5E-02	7.4E+01	6.4E+00			
AOI-27	VOC	Dichlorodifluoromethane	75-71-8	T		8				4.90E-04	1.60E-03	4.8E+00	3.0E+02	3.0E+02			
AOI-27	VOC	1,1-Dichloroethane	75-34-3	T	C	8	5	1.90E-03	1.00E-02	3.00E-04	1.00E-03	2.5E+00	2.3E+03	2.4E+03	4.0E-03	4.3E-06	4.2E-06
AOI-27	VOC	1,2-Dichloroethane	107-06-2	T	B2	8				2.80E-04	9.30E-04	5.0E-03	5.9E+01	1.9E+01			
AOI-27	VOC	1,1-Dichloroethene	75-35-4	T	C	8	1	6.50E-04	6.50E-04	3.10E-04	1.00E-03	7.0E-03	1.3E+00	1.1E+01	9.3E-02	5.0E-04	5.9E-05
AOI-27	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	8	5	3.50E-04	1.60E-02	3.50E-04	3.50E-04	7.0E-02	2.1E+02	2.0E+02	2.3E-01	7.6E-05	8.0E-05
AOI-27	VOC	trans-1,2-Dichloroethene	156-60-5	T		8				3.30E-04	1.10E-03	1.0E-01	2.0E+02	2.2E+02			
AOI-27	VOC	1,2-Dichloropropane	78-87-5	T	B2	8				4.10E-04	1.40E-03	5.0E-03	3.6E+01	1.6E+01			
AOI-27	VOC	1,3-Dichloropropene (total)	542-75-6	T	B2	8				3.50E-04	1.20E-03	3.5E-02	2.6E+01	5.5E+00			
AOI-27	VOC	Ethyl Benzene	100-41-4	T	D	8				4.10E-04	1.40E-03	7.0E-01	1.7E+02	1.7E+02			
AOI-27	VOC	2-Hexanone	591-78-6	T		8				5.80E-04	1.90E-03	2.9E+00	8.7E+03	5.2E+03			
AOI-27	VOC	Methyl Acetate	79-20-9	T		8				5.40E-04	1.80E-03						
AOI-27	VOC	Methyl tert-butyl ether	1634-04-4	T		8				2.70E-04	9.00E-04	6.9E-01	4.7E+04	6.1E+02			
AOI-27	VOC	4-Methyl-2-pentanone	108-10-1	T		8				2.60E-04	8.70E-04	5.2E+00	2.0E+04	1.3E+04			
AOI-27	VOC	Methylcyclohexane	108-87-2	T		8	1	7.70E-04	7.70E-04	4.20E-04	1.40E-03						
AOI-27	VOC	Methylene Chloride	75-09-2	T	B2	8				2.90E-04	9.70E-04	5.0E-03	1.4E+03	2.2E+02			
AOI-27	VOC	Styrene	100-42-5	T		8				3.50E-04	1.20E-03	1.0E-01	3.1E+02	9.7E+00			
AOI-27	VOC	1,1,2,2-Tetrachloroethane	79-34-5	T	C	8				3.60E-04	1.20E-03	3.5E-02	7.7E+01	4.7E+00			
AOI-27	VOC	Tetrachloroethene	127-18-4	T	C-B2	8				4.20E-04	1.40E-03	5.0E-03	1.7E+02	1.2E+01			
AOI-27	VOC	Toluene	108-88-3	T	D	8	5	4.30E-04	7.20E-04	3.90E-04	1.30E-03	1.0E+00	5.3E+02	5.3E+02	7.2E-04	1.4E-06	1.4E-06
AOI-27	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	8				4.00E-04	1.30E-03	7.0E-02	3.0E+02	1.9E+01			
AOI-27	VOC	1,1,1-Trichloroethane	71-55-6	T	D	8	2	1.20E-03	1.90E-03	3.90E-04	1.30E-03	2.0E-01	1.3E+03	1.3E+03	9.5E-03	1.5E-06	1.5E-06
AOI-27	VOC	1,1,2-Trichloroethane	79-00-5	T	C	8				3.60E-04	1.20E-03	5.0E-03	1.1E+02	2.1E+01			
AOI-27	VOC	Trichloroethene	79-01-6	T	C-B2	8	4	1.70E-02	9.00E-02	4.20E-04	4.20E-04	5.0E-03	9.7E+01	2.2E+01	**1.8E+01**	9.3E-04	4.1E-03
AOI-27	VOC	Trichlorofluoromethane	75-69-4	T		8				5.40E-04	1.80E-03	7.3E+00	1.1E+03	1.1E+03			
AOI-27	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	T		8	1	1.70E-03	1.70E-03	3.20E-04	1.10E-03	1.7E+02	1.7E+02	1.7E+02	1.0E-05	1.0E-05	1.0E-05
AOI-27	VOC	Vinyl Chloride	75-01-4	T	A	8	3	1.20E-03	6.90E-03	3.60E-04	3.60E-04	2.0E-03	1.3E+01	1.0E+00	**3.5E+00**	5.3E-04	6.9E-03
AOI-27	VOC	Xylenes (total)	1330-20-7	T	D	8				4.40E-04	1.50E-03	1.0E+01	1.9E+02	1.9E+02			
AOI-27	SVOC	Acenaphthene	83-32-9	T		8				8.00E-04	8.00E-04	3.8E+00	4.2E+00	4.2E+00			
AOI-27	SVOC	Acenaphthylene	208-96-8	T	D	8				7.10E-04	7.10E-04	1.5E-01	3.9E+00	3.9E+00			
AOI-27	SVOC	Acetophenone	98-86-2	T	D	8				2.60E-03	2.60E-03	4.4E+00	6.1E+03	6.1E+03			
AOI-27	SVOC	Anthracene	120-12-7	T	D	8				6.80E-04	6.80E-04	4.3E-02	4.3E-02	4.3E-02			
AOI-27	SVOC	Atrazine	1912-24-9	T		8				2.50E-03	2.50E-03	3.0E-03		5.4E+00			
AOI-27	SVOC	Benzaldehyde	100-52-7	T		8				2.80E-03	2.80E-03						

Table E-3a: Onsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-27	SVOC	Benzo(a)anthracene	56-55-3	T	B2	8				7.00E-04	7.00E-04	8.5E-03		9.4E-03			
AOI-27	SVOC	Benzo(a)pyrene	50-32-8	T	B2	8				7.30E-04	7.30E-04	5.0E-03		2.0E-03			
AOI-27	SVOC	Benzo(b)fluoranthene	205-99-2	T	B2	8				9.40E-04	9.40E-04	2.0E-03		2.0E-03			
AOI-27	SVOC	Benzo(g,h,i)perylene	191-24-2	T	D	8				8.50E-04	8.50E-04	5.0E-03		5.0E-03			
AOI-27	SVOC	Benzo(k)fluoranthene	207-08-9	T	B2	8				8.40E-04	8.40E-04	5.0E-03		5.0E-03			
AOI-27	SVOC	Biphenyl	92-52-4	T		8				2.60E-03	2.60E-03						
AOI-27	SVOC	bis(2-Chloroethoxy)methane	111-91-1	T	D	8				8.70E-04	8.70E-04						
AOI-27	SVOC	bis(2-Chloroethyl) ether	111-44-4	T	B2	8				9.70E-04	9.70E-04	8.3E-03	2.1E+02	5.7E+00			
AOI-27	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	8				2.70E-03	2.70E-03	6.0E-03		3.2E-01			
AOI-27	SVOC	4-Bromophenyl-phenyl ether	101-55-3	T	D	8				8.80E-04	8.80E-04						
AOI-27	SVOC	Butylbenzylphthalate	85-68-7	T	C	8				8.80E-04	8.80E-04	2.7E+00		2.7E+00			
AOI-27	SVOC	Caprolactam	105-60-2	T		8				2.50E-03	2.50E-03	1.7E+01		3.9E+05			
AOI-27	SVOC	Carbazole	86-74-8	T	B2	8				8.20E-04	8.20E-04	3.5E-01		7.4E+00			
AOI-27	SVOC	4-Chloro-3-methylphenol	59-50-7	T		8				9.90E-04	9.90E-04	4.2E-01		7.9E+01			
AOI-27	SVOC	4-Chloroaniline	106-47-8	T		8				6.10E-04	6.10E-04						
AOI-27	SVOC	2-Chloronaphthalene	91-58-7	T		8				8.50E-04	8.50E-04	5.2E+00		6.7E+00			
AOI-27	SVOC	2-Chlorophenol	95-57-8	T		8				1.00E-03	1.00E-03	1.3E-01		9.4E+01			
AOI-27	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3	T		8				7.90E-04	7.90E-04						
AOI-27	SVOC	Chrysene	218-01-9	T	B2	8				7.50E-04	7.50E-04	5.0E-03		5.0E-03			
AOI-27	SVOC	Dibenz(a,h)anthracene	53-70-3	T	B2	8				7.90E-04	7.90E-04	2.0E-03		2.0E-03			
AOI-27	SVOC	Dibenzofuran	132-64-9	T	D	8				1.10E-03	1.10E-03						
AOI-27	SVOC	3,3'-Dichlorobenzidine	91-94-1	T	B2	8				9.30E-04	9.30E-04	4.3E-03		1.8E-01			
AOI-27	SVOC	2,4-Dichlorophenol	120-83-2	T		8				8.50E-04	8.50E-04	2.1E-01		4.8E+01			
AOI-27	SVOC	Diethylphthalate	84-66-2	T	D	8	1	6.50E-04	6.50E-04	6.50E-04	6.50E-04	1.6E+01		1.1E+03	4.1E-05		5.9E-07
AOI-27	SVOC	2,4-Dimethylphenol	105-67-9	T		8				8.50E-04	8.50E-04	1.0E+00		5.2E+02			
AOI-27	SVOC	Dimethylphthalate	131-11-3	T	D	8				7.60E-04	7.60E-04	2.1E+02		4.2E+03			
AOI-27	SVOC	Di-n-butylphthalate	84-74-2	T	D	8				6.70E-04	6.70E-04	2.5E+00		1.1E+01			
AOI-27	SVOC	4,6-Dinitro-2-methylphenol	534-52-1	T		8				1.30E-03	1.30E-03	2.0E-02		9.5E+00			
AOI-27	SVOC	2,4-Dinitrophenol	51-28-5	T		8				3.00E-03	3.00E-03						
AOI-27	SVOC	2,4-Dinitrotoluene	121-14-2	T	B2	8				7.90E-04	7.90E-04	3.2E-02		8.6E+00			
AOI-27	SVOC	2,6-Dinitrotoluene	606-20-2	T	B2	8				5.70E-04	5.70E-04						
AOI-27	SVOC	Di-n-octylphthalate	117-84-0	T		8				1.10E-03	1.10E-03	3.8E-01		4.0E-01			
AOI-27	SVOC	Fluoranthene	206-44-0	T	D	8				8.10E-04	8.10E-04	2.1E-01	2.1E-01	2.1E-01			
AOI-27	SVOC	Fluorene	86-73-7	T	D	8				1.00E-03	1.00E-03	2.0E+00	2.0E+00	2.0E+00			
AOI-27	SVOC	Hexachlorobenzene	118-74-1	T	B2	8				7.40E-04	7.40E-04	1.0E-03	3.0E+00	4.6E-03			
AOI-27	SVOC	Hexachlorobutadiene	87-68-3	T	C	8				7.30E-04	7.30E-04	4.2E-02	3.2E+00	4.0E-01			
AOI-27	SVOC	Hexachlorocyclopentadiene	77-47-4	T	E	8				1.10E-03	1.10E-03	5.0E-02	4.2E-01	1.6E+00			
AOI-27	SVOC	Hexachloroethane	67-72-1	T	C	8				7.40E-04	7.40E-04	2.1E-02	5.0E+01	1.9E+00			
AOI-27	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	T	B2	8				6.30E-04	6.30E-04	2.0E-03		2.0E-03			
AOI-27	SVOC	Isophorone	78-59-1	T	C	8				6.30E-04	6.30E-04	3.1E+00		9.9E+02			
AOI-27	SVOC	2-Methylnaphthalene	91-57-6	T		8				6.40E-04	6.40E-04	7.5E-01		2.5E+01			
AOI-27	SVOC	Methylphenol (total)	1319-77-3	T		8				1.30E-03	1.30E-03	1.0E+00		8.1E+02			
AOI-27	SVOC	Naphthalene	91-20-3	T	C	8				7.50E-04	7.50E-04	1.5E+00	3.1E+01	3.1E+01			
AOI-27	SVOC	2-Nitroaniline	88-74-4	T		8				7.00E-04	7.00E-04						
AOI-27	SVOC	3-Nitroaniline	99-09-2	T	C	8				7.10E-04	7.10E-04						
AOI-27	SVOC	4-Nitroaniline	100-01-6	T	C	8				1.30E-03	1.30E-03						
AOI-27	SVOC	Nitrobenzene	98-95-3	T	D	8				8.10E-04	8.10E-04	9.6E-03	5.5E+02	1.1E+01			
AOI-27	SVOC	2-Nitrophenol	88-75-5	T		8				2.10E-03	2.10E-03	5.8E-02		7.9E+01			
AOI-27	SVOC	4-Nitrophenol	100-02-7	T		8				1.90E-03	1.90E-03						
AOI-27	SVOC	N-Nitrosodiphenylamine	86-30-6	T	B2	8				1.40E-03	1.40E-03	1.1E+00		3.5E+01			
AOI-27	SVOC	N-Nitroso-di-n-propylamine	621-64-7	T	B2	8				6.70E-04	6.70E-04	5.0E-03		3.6E-01			
AOI-27	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	T	C	8				7.80E-04	7.80E-04						
AOI-27	SVOC	Pentachlorophenol	87-86-5	T	B2	8				2.40E-03	2.40E-03	1.0E-03		2.0E-01			

Table E-3a: Onsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-27	SVOC	Phenanthrene	85-01-8	T	D	8				8.20E-04	8.20E-04	1.5E-01	1.0E+00	1.0E+00			
AOI-27	SVOC	Phenol	108-95-2	T	D	8				2.60E-03	2.60E-03	1.3E+01		2.9E+04			
AOI-27	SVOC	Pyrene	129-00-0	T	D	8				1.10E-03	1.10E-03	1.4E-01	1.4E-01	1.4E-01			
AOI-27	SVOC	2,4,5-Trichlorophenol	95-95-4	T		8				1.20E-03	1.20E-03	2.1E+00		1.7E+02			
AOI-27	SVOC	2,4,6-Trichlorophenol	88-06-2	T	B2	8				1.70E-03	1.70E-03	4.7E-01		1.0E+01			
AOI-27	P/PCB	PCBs (total)	1336-36-3	T	B2	8				8.20E-05	8.20E-05	5.0E-04	4.5E-02	3.3E-03			
AOI-27	INORG	Aluminum	7429-90-5	T	D	8	8	4.50E+00	7.91E+01			4.1E+00		6.4E+04	**1.9E+01**		1.2E-03
AOI-27	INORG	Antimony	7440-36-0	T		8				3.40E-03	3.40E-03	6.0E-03		6.8E+01			
AOI-27	INORG	Arsenic	7440-38-2	T	A	8	8	5.10E-03	2.60E-01			5.0E-02		4.3E+00	**5.2E+00**		6.0E-02
AOI-27	INORG	Barium	7440-39-3	T	D	8	8	7.60E-02	8.90E-01			2.0E+00		1.4E+04	4.5E-01		6.4E-05
AOI-27	INORG	Beryllium	7440-41-7	T	B1	8	5	9.10E-04	4.20E-03	6.00E-04	6.00E-04	4.0E-03		2.9E+02	**1.1E+00**		1.4E-05
AOI-27	INORG	Cadmium	7440-43-9	T	B1	8	7	4.70E-04	7.40E-03	2.80E-04	2.80E-04	5.0E-03		1.9E+02	**1.5E+00**		3.9E-05
AOI-27	INORG	Chromium (total)	7440-47-3	T		8	8	1.40E-01	1.70E+00			1.0E-01		4.6E+02	**1.7E+01**		3.7E-03
AOI-27	INORG	Cobalt	7440-48-4	T	B1	8	8	5.60E-03	9.10E-02			1.0E-01		2.4E+03	9.1E-01		3.8E-05
AOI-27	INORG	Copper	7440-50-8	T	D	8	8	1.20E-02	2.90E-01			4.0E+00		7.4E+03	7.3E-02		3.9E-05
AOI-27	INORG	Cyanide (total)	57-12-5	T	D	8				1.80E-03	1.80E-03	2.0E-01		5.7E+01			
AOI-27	INORG	Iron	7439-89-6	T	D	8	8	1.48E+01	1.97E+02			5.6E+00		5.8E+04	**3.5E+01**		3.4E-03
AOI-27	INORG	Lead	7439-92-1	T	B2	8	8	6.70E-03	1.00E-01			4.0E-03			**2.5E+01**		
AOI-27	INORG	Magnesium	7439-95-4	T		8	8	3.34E+01	2.10E+02			1.1E+03		1.0E+06	1.9E-01		2.1E-04
AOI-27	INORG	Manganese	7439-96-5	T	D	8	8	3.20E-01	5.70E+00			2.5E+00		9.1E+03	**2.3E+00**		6.3E-04
AOI-27	INORG	Mercury	7439-97-6	T	D	8	7	8.80E-05	1.20E-02	8.70E-05	8.70E-05	2.0E-03	5.6E-02	5.6E-02	**6.0E+00**	2.1E-01	2.1E-01
AOI-27	INORG	Nickel	7440-02-0	T	A	8	8	7.30E-02	1.30E+00			1.0E-01		7.4E+04	**1.3E+01**		1.8E-05
AOI-27	INORG	Selenium	7782-49-2	T	D	8	1	5.90E-03	5.90E-03	4.70E-03	4.70E-03	5.0E-02		9.7E+02	1.2E-01		6.1E-06
AOI-27	INORG	Silver	7440-22-4	T	D	8				9.80E-04	9.80E-04	9.8E-02		1.5E+03			
AOI-27	INORG	Sodium	7440-23-5	T		8	8	1.34E+01	2.53E+02								
AOI-27	INORG	Thallium	7440-28-0	T		8				5.20E-03	5.20E-03	2.0E-03		1.3E+01			
AOI-27	INORG	Vanadium	7440-62-2	T		8	8	1.10E-02	2.40E-01			6.2E-02		9.7E+02	**3.9E+00**		2.5E-04
AOI-27	INORG	Zinc	7440-66-6	T	D	8	8	4.80E-02	1.10E+00			5.0E+00		1.1E+05	2.2E-01		1.0E-05
AOI-48 (NW)	VOC	Acetone	67-64-1	T	D	32				5.10E-04	2.50E-02	2.1E+00	1.0E+06	3.1E+04			
AOI-48 (NW)	VOC	Acrolein	107-02-8	T	C	20				5.00E-03	5.00E-03	3.3E-01	4.2E+00	3.4E+03			
AOI-48 (NW)	VOC	Acrylonitrile	107-13-1	T	B1	20				1.00E-03	1.00E-03	1.1E-02	1.9E+02	1.4E+01			
AOI-48 (NW)	VOC	Benzene	71-43-2	T	A	34	3	1.80E-04	4.10E-04	1.60E-04	1.60E-03	5.0E-03	3.5E+01	1.1E+01	8.2E-02	1.2E-05	3.7E-05
AOI-48 (NW)	VOC	Bromobenzene	108-86-1	T		20				1.00E-03	1.00E-03	5.0E-02	3.9E+02	1.2E+01			
AOI-48 (NW)	VOC	Bromochloromethane	74-97-5	T		20				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	Bromodichloromethane	75-27-4	T	B2	32	1	1.10E-03	1.10E-03	1.70E-04	1.70E-03	1.0E-01	3.7E+01	1.4E+01	1.1E-02	3.0E-05	7.9E-05
AOI-48 (NW)	VOC	Bromoform	75-25-2	T	B2	32				1.80E-04	1.80E-03	1.0E-01	3.1E+03	1.4E+02			
AOI-48 (NW)	VOC	Bromomethane	74-83-9	T	D	32				2.00E-04	2.00E-03	2.9E-02	9.0E+00	7.0E+01			
AOI-48 (NW)	VOC	2-Butanone	78-93-3	T	D	32				4.10E-04	2.50E-02	3.8E+01	2.4E+05	2.4E+05			
AOI-48 (NW)	VOC	n-Butylbenzene	104-51-8	T		20				1.00E-03	1.00E-03	2.3E-01		5.9E+00			
AOI-48 (NW)	VOC	sec-Butylbenzene	135-98-8	T		20				1.00E-03	1.00E-03	2.3E-01		4.4E+00			
AOI-48 (NW)	VOC	tert-Butylbenzene	98-06-6	T		20				1.00E-03	1.00E-03	2.3E-01		8.9E+00			
AOI-48 (NW)	VOC	Carbon Disulfide	75-15-0	T		32				2.00E-04	5.00E-03	2.3E+00	5.5E+02	1.2E+03			
AOI-48 (NW)	VOC	Carbon Tetrachloride	56-23-5	T	B2	32				1.20E-04	1.20E-03	5.0E-03	2.4E+00	4.6E+00			
AOI-48 (NW)	VOC	3-Chloro-1-propene	107-05-1	T		20				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	Chlorobenzene	108-90-7	T	D	32				1.40E-04	1.40E-03	1.0E-01	4.7E+02	8.6E+01			
AOI-48 (NW)	VOC	Chloroethane	75-00-3	T		32				2.60E-04	2.60E-03	1.7E+00	5.7E+03	4.4E+02			
AOI-48 (NW)	VOC	2-Chloroethylvinyl ether	110-75-8	T		20				1.00E-02	1.00E-02						
AOI-48 (NW)	VOC	Chloroform	67-66-3	T	B2	32	3	1.20E-03	1.80E-02	1.40E-04	1.40E-03	1.0E-01	1.8E+02	1.5E+02	1.8E-01	1.0E-04	1.2E-04
AOI-48 (NW)	VOC	Chloromethane	74-87-3	T	D	32	2	1.50E-04	1.70E-04	1.30E-04	1.30E-03	1.1E+00	4.5E+01	4.9E+02	1.5E-04	3.8E-06	3.5E-07
AOI-48 (NW)	VOC	2-Chlorotoluene	95-49-8	T		20				1.00E-03	1.00E-03	4.2E-01	3.7E+02	4.4E+01			
AOI-48 (NW)	VOC	4-Chlorotoluene	106-43-4	T		20				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	Cumene	98-82-8	T	D	32				1.20E-04	5.00E-03	2.3E+00	5.6E+01	5.6E+01			
AOI-48 (NW)	VOC	Cyclohexane	110-82-7	T		12				1.30E-04	1.30E-03						

Table E-3a: Onsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48 (NW)	VOC	p-Cymene	99-87-6	T		20				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	1,2-Dibromo-3-chloropropane	96-12-8	T	B2	32				6.20E-04	6.20E-03	2.0E-04	1.2E+00	3.9E-01			
AOI-48 (NW)	VOC	Dibromochloromethane	124-48-1	T	C	32				2.60E-04	2.60E-03	1.0E-01	1.1E+02	1.8E+01			
AOI-48 (NW)	VOC	1,2-Dibromoethane	106-93-4	T	B2	32				2.20E-04	2.20E-03	1.0E-03	1.5E+01	2.5E-02			
AOI-48 (NW)	VOC	Dibromomethane	74-95-3	T		20				5.00E-03	5.00E-03	2.3E-01		5.3E+02			
AOI-48 (NW)	VOC	trans-1,4-Dichloro-2-butene	110-57-6	T		20				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	1,2-Dichlorobenzene	95-50-1	T	D	32				1.10E-04	1.10E-03	6.0E-01	1.6E+02	1.6E+02			
AOI-48 (NW)	VOC	1,3-Dichlorobenzene	541-73-1	T	D	32				1.50E-04	1.50E-03	1.9E-02		2.0E+00			
AOI-48 (NW)	VOC	1,4-Dichlorobenzene	106-46-7	T	C	32				1.70E-04	1.70E-03	7.5E-02	7.4E+01	6.4E+00			
AOI-48 (NW)	VOC	Dichlorodifluoromethane	75-71-8	T		32				2.60E-04	2.60E-03	4.8E+00	3.0E+02	3.0E+02			
AOI-48 (NW)	VOC	1,1-Dichloroethane	75-34-3	T	C	32	3	5.60E-04	3.20E-03	1.60E-04	1.60E-03	2.5E+00	2.3E+03	2.4E+03	1.3E-03	1.4E-06	1.3E-06
AOI-48 (NW)	VOC	1,2-Dichloroethane	107-06-2	T	B2	32				2.10E-04	2.10E-03	5.0E-03	5.9E+01	1.9E+01			
AOI-48 (NW)	VOC	1,1-Dichloroethene	75-35-4	T	C	40	7	1.90E-03	1.15E-01	2.40E-04	2.40E-03	7.0E-03	1.3E+00	1.1E+01	**1.6E+01**	8.8E-02	1.0E-02
AOI-48 (NW)	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	32	14	1.10E-03	1.00E-01	2.20E-04	1.00E-03	7.0E-02	2.1E+02	2.0E+02	**1.4E+00**	4.8E-04	5.0E-04
AOI-48 (NW)	VOC	trans-1,2-Dichloroethene	156-60-5	T		32	11	1.60E-04	1.40E-01	1.50E-04	1.50E-03	1.0E-01	2.0E+02	2.2E+02	**1.4E+00**	7.0E-04	6.4E-04
AOI-48 (NW)	VOC	1,2-Dichloropropane	78-87-5	T	B2	32				1.70E-04	1.70E-03	5.0E-03	3.6E+01	1.6E+01			
AOI-48 (NW)	VOC	1,3-Dichloropropane	142-28-9	T		20				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	2,2-Dichloropropane	594-20-7	T		20				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	1,1-Dichloropropene	563-58-6	T		20				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	1,3-Dichloropropene (total)	542-75-6	T	B2	32				2.70E-04	2.70E-03	3.5E-02	2.6E+01	5.5E+00			
AOI-48 (NW)	VOC	Ethyl Benzene	100-41-4	T	D	34	1	1.50E-04	1.50E-04	1.20E-04	1.20E-03	7.0E-01	1.7E+02	1.7E+02	2.1E-04	8.8E-07	8.8E-07
AOI-48 (NW)	VOC	2-Hexanone	591-78-6	T		32				4.60E-04	5.00E-02	2.9E+00	8.7E+03	5.2E+03			
AOI-48 (NW)	VOC	Iodomethane	74-88-4	T		20				1.00E-03	1.00E-03						
AOI-48 (NW)	VOC	Methyl Acetate	79-20-9	T		12				4.10E-04	4.10E-03						
AOI-48 (NW)	VOC	Methyl tert-butyl ether	1634-04-4	T		32				1.30E-04	5.00E-03	6.9E-01	4.7E+04	6.1E+02			
AOI-48 (NW)	VOC	4-Methyl-2-pentanone	108-10-1	T		32				2.30E-04	5.00E-02	5.2E+00	2.0E+04	1.3E+04			
AOI-48 (NW)	VOC	Methylcyclohexane	108-87-2	T		12	1	1.50E-04	1.50E-04	1.50E-04	1.50E-03						
AOI-48 (NW)	VOC	Methylene Chloride	75-09-2	T	B2	32				3.40E-04	5.00E-03	5.0E-03	1.4E+03	2.2E+02			
AOI-48 (NW)	VOC	n-Propylbenzene	103-65-1	T		20				1.00E-03	1.00E-03	2.3E-01		1.5E+01			
AOI-48 (NW)	VOC	Styrene	100-42-5	T		32				1.50E-04	1.50E-03	1.0E-01	3.1E+02	9.7E+00			
AOI-48 (NW)	VOC	1,1,1,2-Tetrachloroethane	630-20-6	T		20				1.00E-03	1.00E-03	3.2E-01	9.6E+01	3.0E+01			
AOI-48 (NW)	VOC	1,1,2,2-Tetrachloroethane	79-34-5	T	C	32				2.50E-04	2.50E-03	3.5E-02	7.7E+01	4.7E+00			
AOI-48 (NW)	VOC	Tetrachloroethene	127-18-4	T	C-B2	32				2.30E-04	2.30E-03	5.0E-03	1.7E+02	1.2E+01			
AOI-48 (NW)	VOC	Tetrahydrofuran	109-99-9	T		20				1.00E-01	1.00E-01	2.7E-01	1.6E+04	1.6E+03			
AOI-48 (NW)	VOC	Toluene	108-88-3	T	D	34	6	2.40E-04	1.10E-03	1.80E-04	1.80E-03	1.0E+00	5.3E+02	5.3E+02	1.1E-03	2.1E-06	2.1E-06
AOI-48 (NW)	VOC	1,2,3-Trichlorobenzene	87-61-6	T		20				5.00E-03	5.00E-03						
AOI-48 (NW)	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	32				1.70E-04	5.00E-03	7.0E-02	3.0E+02	1.9E+01			
AOI-48 (NW)	VOC	1,1,1-Trichloroethane	71-55-6	T	D	32	3	1.20E-03	4.30E-03	1.50E-04	1.50E-03	2.0E-01	1.3E+03	1.3E+03	2.2E-02	3.3E-06	3.3E-06
AOI-48 (NW)	VOC	1,1,2-Trichloroethane	79-00-5	T	C	32				3.00E-04	3.00E-03	5.0E-03	1.1E+02	2.1E+01			
AOI-48 (NW)	VOC	Trichloroethene	79-01-6	T	C-B2	40	26	5.50E-04	1.19E+01	1.40E-04	1.00E-03	5.0E-03	9.7E+01	2.2E+01	**2.4E+03**	1.2E-01	5.4E-01
AOI-48 (NW)	VOC	Trichlorofluoromethane	75-69-4	T		32				2.80E-04	2.80E-03	7.3E+00	1.1E+03	1.1E+03			
AOI-48 (NW)	VOC	1,2,3-Trichloropropane	96-18-4	T	B2	20				1.00E-03	1.00E-03	1.2E-01		8.4E+01			
AOI-48 (NW)	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	T		12				3.20E-04	3.20E-03	1.7E+02	1.7E+02	1.7E+02			
AOI-48 (NW)	VOC	1,2,4-Trimethylbenzene	95-63-6	T		20				1.00E-03	1.00E-03	2.9E+00	5.6E+01	5.6E+01			
AOI-48 (NW)	VOC	1,3,5-Trimethylbenzene	108-67-8	T		20				1.00E-03	1.00E-03	2.9E+00	6.1E+01	6.1E+01			
AOI-48 (NW)	VOC	Vinyl Acetate	108-05-4	T		20				5.00E-02	5.00E-02	1.8E+00	8.9E+03	8.0E+03			
AOI-48 (NW)	VOC	Vinyl Chloride	75-01-4	T	A	40	6	1.10E-03	1.27E-02	1.50E-04	1.00E-03	2.0E-03	1.3E+01	1.0E+00	**6.4E+00**	9.8E-04	1.3E-02
AOI-48 (NW)	VOC	Xylenes (total)	1330-20-7	T	D	34	2	5.20E-04	5.40E-04	3.30E-04	3.30E-03	1.0E+01	1.9E+02	1.9E+02	5.4E-05	2.8E-06	2.8E-06
AOI-48 (NW)	SVOC	Hexachlorobutadiene	87-68-3	T	C	20				1.00E-03	1.00E-03	4.2E-02	3.2E+00	4.0E-01			
AOI-48 (NW)	SVOC	Hexachloroethane	67-72-1	T	C	20				5.00E-03	5.00E-03	2.1E-02	5.0E+01	1.9E+00			
AOI-48 (NW)	SVOC	2-Methylnaphthalene	91-57-6	T		20				5.00E-03	5.00E-03	7.5E-01		2.5E+01			
AOI-48 (NW)	SVOC	Naphthalene	91-20-3	T	C	20				5.00E-03	5.00E-03	1.5E+00	3.1E+01	3.1E+01			
AOI-48 (SE)	VOC	Acetone	67-64-1	T	D	7				2.50E-02	2.50E-02	2.1E+00	1.0E+06	3.1E+04			

Table E-3a: Onsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48 (SE)	VOC	Acrolein	107-02-8	T	C	7				5.00E-03	5.00E-03	3.3E-01	4.2E+00	3.4E+03			
AOI-48 (SE)	VOC	Acrylonitrile	107-13-1	T	B1	7				1.00E-03	1.00E-03	1.1E-02	1.9E+02	1.4E+01			
AOI-48 (SE)	VOC	Benzene	71-43-2	T	A	7				1.00E-03	1.00E-03	5.0E-03	3.5E+01	1.1E+01			
AOI-48 (SE)	VOC	Bromobenzene	108-86-1	T		7				1.00E-03	1.00E-03	5.0E-02	3.9E+02	1.2E+01			
AOI-48 (SE)	VOC	Bromochloromethane	74-97-5	T		7				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	Bromodichloromethane	75-27-4	T	B2	7				1.00E-03	1.00E-03	1.0E-01	3.7E+01	1.4E+01			
AOI-48 (SE)	VOC	Bromoform	75-25-2	T	B2	7				1.00E-03	1.00E-03	1.0E-01	3.1E+03	1.4E+02			
AOI-48 (SE)	VOC	Bromomethane	74-83-9	T	D	7				1.00E-03	1.00E-03	2.9E-02	9.0E+00	7.0E+01			
AOI-48 (SE)	VOC	2-Butanone	78-93-3	T	D	7				2.50E-02	2.50E-02	3.8E+01	2.4E+05	2.4E+05			
AOI-48 (SE)	VOC	n-Butylbenzene	104-51-8	T		7				1.00E-03	1.00E-03	2.3E-01		5.9E+00			
AOI-48 (SE)	VOC	sec-Butylbenzene	135-98-8	T		7				1.00E-03	1.00E-03	2.3E-01		4.4E+00			
AOI-48 (SE)	VOC	tert-Butylbenzene	98-06-6	T		7				1.00E-03	1.00E-03	2.3E-01		8.9E+00			
AOI-48 (SE)	VOC	Carbon Disulfide	75-15-0	T		7				5.00E-03	5.00E-03	2.3E+00	5.5E+02	1.2E+03			
AOI-48 (SE)	VOC	Carbon Tetrachloride	56-23-5	T	B2	7				1.00E-03	1.00E-03	5.0E-03	2.4E+00	4.6E+00			
AOI-48 (SE)	VOC	3-Chloro-1-propene	107-05-1	T		7				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	Chlorobenzene	108-90-7	T	D	7				1.00E-03	1.00E-03	1.0E-01	4.7E+02	8.6E+01			
AOI-48 (SE)	VOC	Chloroethane	75-00-3	T		7				1.00E-03	1.00E-03	1.7E+00	5.7E+03	4.4E+02			
AOI-48 (SE)	VOC	2-Chloroethylvinyl ether	110-75-8	T		7				1.00E-02	1.00E-02						
AOI-48 (SE)	VOC	Chloroform	67-66-3	T	B2	7				1.00E-03	1.00E-03	1.0E-01	1.8E+02	1.5E+02			
AOI-48 (SE)	VOC	Chloromethane	74-87-3	T	D	7				1.00E-03	1.00E-03	1.1E+00	4.5E+01	4.9E+02			
AOI-48 (SE)	VOC	2-Chlorotoluene	95-49-8	T		7				1.00E-03	1.00E-03	4.2E-01	3.7E+02	4.4E+01			
AOI-48 (SE)	VOC	4-Chlorotoluene	106-43-4	T		7				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	Cumene	98-82-8	T	D	7				5.00E-03	5.00E-03	2.3E+00	5.6E+01	5.6E+01			
AOI-48 (SE)	VOC	p-Cymene	99-87-6	T		7				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	1,2-Dibromo-3-chloropropane	96-12-8	T	B2	7				1.00E-03	1.00E-03	2.0E-04	1.2E+00	3.9E-01			
AOI-48 (SE)	VOC	Dibromochloromethane	124-48-1	T	C	7				1.00E-03	1.00E-03	1.0E-01	1.1E+02	1.8E+01			
AOI-48 (SE)	VOC	1,2-Dibromoethane	106-93-4	T	B2	7				1.00E-03	1.00E-03	1.0E-03	1.5E+01	2.5E-02			
AOI-48 (SE)	VOC	Dibromomethane	74-95-3	T		7				5.00E-03	5.00E-03	2.3E-01		5.3E+02			
AOI-48 (SE)	VOC	trans-1,4-Dichloro-2-butene	110-57-6	T		7				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	1,2-Dichlorobenzene	95-50-1	T	D	7				1.00E-03	1.00E-03	6.0E-01	1.6E+02	1.6E+02			
AOI-48 (SE)	VOC	1,3-Dichlorobenzene	541-73-1	T	D	7				1.00E-03	1.00E-03	1.9E-02		2.0E+00			
AOI-48 (SE)	VOC	1,4-Dichlorobenzene	106-46-7	T	C	7				1.00E-03	1.00E-03	7.5E-02	7.4E+01	6.4E+00			
AOI-48 (SE)	VOC	Dichlorodifluoromethane	75-71-8	T		7				1.00E-03	1.00E-03	4.8E+00	3.0E+02	3.0E+02			
AOI-48 (SE)	VOC	1,1-Dichloroethane	75-34-3	T	C	7				1.00E-03	1.00E-03	2.5E+00	2.3E+03	2.4E+03			
AOI-48 (SE)	VOC	1,2-Dichloroethane	107-06-2	T	B2	7				1.00E-03	1.00E-03	5.0E-03	5.9E+01	1.9E+01			
AOI-48 (SE)	VOC	1,1-Dichloroethene	75-35-4	T	C	7				1.00E-03	1.00E-03	7.0E-03	1.3E+00	1.1E+01			
AOI-48 (SE)	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	7	2	1.20E-03	1.50E-02	1.00E-03	1.00E-03	7.0E-02	2.1E+02	2.0E+02	2.1E-01	7.1E-05	7.5E-05
AOI-48 (SE)	VOC	trans-1,2-Dichloroethene	156-60-5	T		7				1.00E-03	1.00E-03	1.0E-01	2.0E+02	2.2E+02			
AOI-48 (SE)	VOC	1,2-Dichloropropane	78-87-5	T	B2	7				1.00E-03	1.00E-03	5.0E-03	3.6E+01	1.6E+01			
AOI-48 (SE)	VOC	1,3-Dichloropropane	142-28-9	T		7				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	2,2-Dichloropropane	594-20-7	T		7				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	1,1-Dichloropropene	563-58-6	T		7				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	1,3-Dichloropropene (total)	542-75-6	T	B2	7				1.00E-03	1.00E-03	3.5E-02	2.6E+01	5.5E+00			
AOI-48 (SE)	VOC	Ethyl Benzene	100-41-4	T	D	7				1.00E-03	1.00E-03	7.0E-01	1.7E+02	1.7E+02			
AOI-48 (SE)	VOC	2-Hexanone	591-78-6	T		7				5.00E-02	5.00E-02	2.9E+00	8.7E+03	5.2E+03			
AOI-48 (SE)	VOC	Iodomethane	74-88-4	T		7				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	Methyl tert-butyl ether	1634-04-4	T		7				5.00E-03	5.00E-03	6.9E-01	4.7E+04	6.1E+02			
AOI-48 (SE)	VOC	4-Methyl-2-pentanone	108-10-1	T		7				5.00E-02	5.00E-02	5.2E+00	2.0E+04	1.3E+04			
AOI-48 (SE)	VOC	Methylene Chloride	75-09-2	T	B2	7				5.00E-03	5.00E-03	5.0E-03	1.4E+03	2.2E+02			
AOI-48 (SE)	VOC	n-Propylbenzene	103-65-1	T		7				1.00E-03	1.00E-03	2.3E-01		1.5E+01			
AOI-48 (SE)	VOC	Styrene	100-42-5	T		7				1.00E-03	1.00E-03	1.0E-01	3.1E+02	9.7E+00			
AOI-48 (SE)	VOC	1,1,1,2-Tetrachloroethane	630-20-6	T		7				1.00E-03	1.00E-03	3.2E-01	9.6E+01	3.0E+01			
AOI-48 (SE)	VOC	1,1,2,2-Tetrachloroethane	79-34-5	T	C	7				1.00E-03	1.00E-03	3.5E-02	7.7E+01	4.7E+00			

Table E-3a: Onsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48 (SE)	VOC	Tetrachloroethene	127-18-4	T	C-B2	7				1.00E-03	1.00E-03	5.0E-03	1.7E+02	1.2E+01			
AOI-48 (SE)	VOC	Tetrahydrofuran	109-99-9	T		7				1.00E-01	1.00E-01	2.7E-01	1.6E+04	1.6E+03			
AOI-48 (SE)	VOC	Toluene	108-88-3	T	D	7				1.00E-03	1.00E-03	1.0E+00	5.3E+02	5.3E+02			
AOI-48 (SE)	VOC	1,2,3-Trichlorobenzene	87-61-6	T		7				5.00E-03	5.00E-03						
AOI-48 (SE)	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	7				5.00E-03	5.00E-03	7.0E-02	3.0E+02	1.9E+01			
AOI-48 (SE)	VOC	1,1,1-Trichloroethane	71-55-6	T	D	7				1.00E-03	1.00E-03	2.0E-01	1.3E+03	1.3E+03			
AOI-48 (SE)	VOC	1,1,2-Trichloroethane	79-00-5	T	C	7				1.00E-03	1.00E-03	5.0E-03	1.1E+02	2.1E+01			
AOI-48 (SE)	VOC	Trichloroethene	79-01-6	T	C-B2	7	2	1.10E-02	1.90E-02	1.00E-03	1.00E-03	5.0E-03	9.7E+01	2.2E+01	**3.8E+00**	2.0E-04	8.6E-04
AOI-48 (SE)	VOC	Trichlorofluoromethane	75-69-4	T		7				1.00E-03	1.00E-03	7.3E+00	1.1E+03	1.1E+03			
AOI-48 (SE)	VOC	1,2,3-Trichloropropane	96-18-4	T	B2	7				1.00E-03	1.00E-03	1.2E-01		8.4E+01			
AOI-48 (SE)	VOC	1,2,4-Trimethylbenzene	95-63-6	T		7				1.00E-03	1.00E-03	2.9E+00	5.6E+01	5.6E+01			
AOI-48 (SE)	VOC	1,3,5-Trimethylbenzene	108-67-8	T		7				1.00E-03	1.00E-03	2.9E+00	6.1E+01	6.1E+01			
AOI-48 (SE)	VOC	Vinyl Acetate	108-05-4	T		7				5.00E-02	5.00E-02	1.8E+00	8.9E+03	8.0E+03			
AOI-48 (SE)	VOC	Vinyl Chloride	75-01-4	T	A	7	2	2.80E-03	3.70E-03	1.00E-03	1.00E-03	2.0E-03	1.3E+01	1.0E+00	**1.9E+00**	2.8E-04	3.7E-03
AOI-48 (SE)	VOC	Xylenes (total)	1330-20-7	T	D	7				2.00E-03	2.00E-03	1.0E+01	1.9E+02	1.9E+02			
AOI-48 (SE)	SVOC	Hexachlorobutadiene	87-68-3	T	C	7				1.00E-03	1.00E-03	4.2E-02	3.2E+00	4.0E-01			
AOI-48 (SE)	SVOC	Hexachloroethane	67-72-1	T	C	7				5.00E-03	5.00E-03	2.1E-02	5.0E+01	1.9E+00			
AOI-48 (SE)	SVOC	2-Methylnaphthalene	91-57-6	T		7				5.00E-03	5.00E-03	7.5E-01		2.5E+01			
AOI-48 (SE)	SVOC	Naphthalene	91-20-3	T	C	7				5.00E-03	5.00E-03	1.5E+00	3.1E+01	3.1E+01			
Building 4082	VOC	Acetone	67-64-1	T	D	2				6.60E-02	3.70E-01	2.1E+00	1.0E+06	3.1E+04			
Building 4082	VOC	Benzene	71-43-2	T	A	7				1.00E-03	1.20E-01	5.0E-03	3.5E+01	1.1E+01			
Building 4082	VOC	Bromodichloromethane	75-27-4	T	B2	2				1.90E-02	1.10E-01	1.0E-01	3.7E+01	1.4E+01			
Building 4082	VOC	Bromoform	75-25-2	T	B2	2				2.20E-02	1.20E-01	1.0E-01	3.1E+03	1.4E+02			
Building 4082	VOC	Bromomethane	74-83-9	T	D	2				1.80E-02	1.00E-01	2.9E-02	9.0E+00	7.0E+01			
Building 4082	VOC	2-Butanone	78-93-3	T	D	2				3.60E-02	2.00E-01	3.8E+01	2.4E+05	2.4E+05			
Building 4082	VOC	Carbon Disulfide	75-15-0	T		2				1.40E-02	8.00E-02	2.3E+00	5.5E+02	1.2E+03			
Building 4082	VOC	Carbon Tetrachloride	56-23-5	T	B2	2				2.20E-02	1.20E-01	5.0E-03	2.4E+00	4.6E+00			
Building 4082	VOC	Chlorobenzene	108-90-7	T	D	2				2.30E-02	1.30E-01	1.0E-01	4.7E+02	8.6E+01			
Building 4082	VOC	Chloroethane	75-00-3	T		2				1.70E-02	9.70E-02	1.7E+00	5.7E+03	4.4E+02			
Building 4082	VOC	Chloroform	67-66-3	T	B2	2				2.10E-02	1.20E-01	1.0E-01	1.8E+02	1.5E+02			
Building 4082	VOC	Chloromethane	74-87-3	T	D	2				3.00E-02	1.60E-01	1.1E+00	4.5E+01	4.9E+02			
Building 4082	VOC	Cumene	98-82-8	T	D	2				2.30E-02	1.30E-01	2.3E+00	5.6E+01	5.6E+01			
Building 4082	VOC	Cyclohexane	110-82-7	T		2				2.00E-02	1.10E-01						
Building 4082	VOC	1,2-Dibromo-3-chloropropane	96-12-8	T	B2	2				4.90E-02	2.70E-01	2.0E-04	1.2E+00	3.9E-01			
Building 4082	VOC	Dibromochloromethane	124-48-1	T	C	2				2.20E-02	1.20E-01	1.0E-01	1.1E+02	1.8E+01			
Building 4082	VOC	1,2-Dibromoethane	106-93-4	T	B2	2				2.00E-02	1.10E-01	1.0E-03	1.5E+01	2.5E-02			
Building 4082	VOC	1,2-Dichlorobenzene	95-50-1	T	D	2				2.30E-02	1.30E-01	6.0E-01	1.6E+02	1.6E+02			
Building 4082	VOC	1,3-Dichlorobenzene	541-73-1	T	D	2				2.30E-02	1.30E-01	1.9E-02		2.0E+00			
Building 4082	VOC	1,4-Dichlorobenzene	106-46-7	T	C	2				2.30E-02	1.30E-01	7.5E-02	7.4E+01	6.4E+00			
Building 4082	VOC	Dichlorodifluoromethane	75-71-8	T		2				3.00E-02	1.60E-01	4.8E+00	3.0E+02	3.0E+02			
Building 4082	VOC	1,1-Dichloroethane	75-34-3	T	C	2	2	1.90E+00	8.50E+00			2.5E+00	2.3E+03	2.4E+03	**3.4E+00**	3.7E-03	3.5E-03
Building 4082	VOC	1,2-Dichloroethane	107-06-2	T	B2	2	1	1.00E-01	1.00E-01	1.70E-02	1.70E-02	5.0E-03	5.9E+01	1.9E+01	**2.0E+01**	1.7E-03	5.3E-03
Building 4082	VOC	1,1-Dichloroethene	75-35-4	T	C	7	5	1.40E-03	3.20E-01	1.00E-03	1.00E-03	7.0E-03	1.3E+00	1.1E+01	**4.6E+01**	2.5E-01	2.9E-02
Building 4082	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	2				2.10E-02	1.20E-01	7.0E-02	2.1E+02	2.0E+02			
Building 4082	VOC	trans-1,2-Dichloroethene	156-60-5	T		2				2.00E-02	1.10E-01	1.0E-01	2.0E+02	2.2E+02			
Building 4082	VOC	1,2-Dichloropropane	78-87-5	T	B2	2				2.50E-02	1.40E-01	5.0E-03	3.6E+01	1.6E+01			
Building 4082	VOC	1,3-Dichloropropene (total)	542-75-6	T	B2	2				2.10E-02	1.20E-01	3.5E-02	2.6E+01	5.5E+00			
Building 4082	VOC	Ethyl Benzene	100-41-4	T	D	7				1.00E-03	1.40E-01	7.0E-01	1.7E+02	1.7E+02			
Building 4082	VOC	2-Hexanone	591-78-6	T		2				3.50E-02	1.90E-01	2.9E+00	8.7E+03	5.2E+03			
Building 4082	VOC	Methyl Acetate	79-20-9	T		2				3.30E-02	1.80E-01						
Building 4082	VOC	Methyl tert-butyl ether	1634-04-4	T		2				1.60E-02	9.00E-02	6.9E-01	4.7E+04	6.1E+02			
Building 4082	VOC	4-Methyl-2-pentanone	108-10-1	T		2				1.60E-02	8.70E-02	5.2E+00	2.0E+04	1.3E+04			
Building 4082	VOC	Methylcyclohexane	108-87-2	T		2				2.50E-02	1.40E-01						

Table E-3a: Onsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Industrial Drinking Water Criteria (mg/L)	Industrial Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Industrial Drinking Water Criteria	Ratio of Max Detected to Industrial Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
Building 4082	VOC	Methylene Chloride	75-09-2	T	B2	2	1	3.50E-01	3.50E-01	1.70E-02	1.70E-02	5.0E-03	1.4E+03	2.2E+02	7.0E+01	2.5E-04	1.6E-03
Building 4082	VOC	Styrene	100-42-5	T		2				2.10E-02	1.20E-01	1.0E-01	3.1E+02	9.7E+00			
Building 4082	VOC	1,1,2,2-Tetrachloroethane	79-34-5	T	C	2				2.20E-02	1.20E-01	3.5E-02	7.7E+01	4.7E+00			
Building 4082	VOC	Tetrachloroethene	127-18-4	T	C-B2	2				2.50E-02	1.40E-01	5.0E-03	1.7E+02	1.2E+01			
Building 4082	VOC	Toluene	108-88-3	T	D	7	3	1.30E-03	1.87E-02	1.00E-03	1.30E-01	1.0E+00	5.3E+02	5.3E+02	1.9E-02	3.5E-05	3.5E-05
Building 4082	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	2				2.40E-02	1.30E-01	7.0E-02	3.0E+02	1.9E+01			
Building 4082	VOC	1,1,1-Trichloroethane	71-55-6	T	D	7	6	8.90E-03	9.38E+00	1.00E-03	1.00E-03	2.0E-01	1.3E+03	1.3E+03	4.7E+01	7.2E-03	7.2E-03
Building 4082	VOC	1,1,2-Trichloroethane	79-00-5	T	C	2				2.20E-02	1.20E-01	5.0E-03	1.1E+02	2.1E+01			
Building 4082	VOC	Trichloroethene	79-01-6	T	C-B2	7	3	9.40E-03	1.37E-01	1.00E-03	1.40E-01	5.0E-03	9.7E+01	2.2E+01	2.7E+01	1.4E-03	6.2E-03
Building 4082	VOC	Trichlorofluoromethane	75-69-4	T		2				3.30E-02	1.80E-01	7.3E+00	1.1E+03	1.1E+03			
Building 4082	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	T		2				1.90E-02	1.10E-01	1.7E+02	1.7E+02	1.7E+02			
Building 4082	VOC	Vinyl Chloride	75-01-4	T	A	7	4	1.60E-03	2.47E-02	1.00E-03	1.20E-01	2.0E-03	1.3E+01	1.0E+00	1.2E+01	1.9E-03	2.5E-02
Building 4082	VOC	Xylenes (total)	1330-20-7	T	D	7				1.00E-03	1.50E-01	1.0E+01	1.9E+02	1.9E+02			
Building 4111	VOC	Benzene	71-43-2	T	A	4				1.00E-03	1.00E-03	5.0E-03	3.5E+01	1.1E+01			
Building 4111	VOC	1,1-Dichloroethene	75-35-4	T	C	4	4	9.30E-03	4.39E-01			7.0E-03	1.3E+00	1.1E+01	6.3E+01	3.4E-01	4.0E-02
Building 4111	VOC	Ethyl Benzene	100-41-4	T	D	4	2	2.89E-02	4.81E-02	1.00E-03	1.00E-03	7.0E-01	1.7E+02	1.7E+02	6.9E-02	2.8E-04	2.8E-04
Building 4111	VOC	Toluene	108-88-3	T	D	4	3	1.80E-03	2.27E-01	1.00E-03	1.00E-03	1.0E+00	5.3E+02	5.3E+02	2.3E-01	4.3E-04	4.3E-04
Building 4111	VOC	Trichloroethene	79-01-6	T	C-B2	4	4	5.69E+00	4.32E+01			5.0E-03	9.7E+01	2.2E+01	8.6E+03	4.5E-01	2.0E+00
Building 4111	VOC	Vinyl Chloride	75-01-4	T	A	4	4	3.80E-03	7.56E-02			2.0E-03	1.3E+01	1.0E+00	3.8E+01	5.8E-03	7.6E-02
Building 4111	VOC	Xylenes (total)	1330-20-7	T	D	4	2	7.10E-02	1.01E-01	1.00E-03	1.00E-03	1.0E+01	1.9E+02	1.9E+02	1.0E-02	5.3E-04	5.3E-04

Notes:

The Screening Criteria are MDEQ Part 201 Generic Screening Values (MDEQ 2002).

The Screening Criteria for Pyrene was used as a surrogate for Phenanthrene and Benzo(g,h,i)perylene.

The Screening Criteria for Naphthalene was used as a surrogate for 2-Methylnaphthalene.

The concentrations for the Methylphenol (2, 3, & 4) were summed before comparing to the Screening Criteria for 4-Methylphenol.

The concentrations for all PCB isomers were summed before comparing to the Screening Criteria.

The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the Screening Criteria.

The concentrations for the 1,3-Dichloropropene isomers (cis and trans) were summed before comparing to the Screening Criteria.

The toxicity values that MDEQ used to calculate its screening criteria for 1,1-Dichloroethene (1,1-DCE) are different from the toxicity values for 1,1-DCE published in IRIS (January, 2003). The updated screening criteria for 1,1-DCE, based on IRIS toxicity values, are: 1.04 mg/L (industrial drinking water), 797 mg/L (groundwater contact), 188 mg/L (industrial groundwater volatilization to indoor air). There are no detected concentrations of 1,1-DCE at the Site that exceed the updated screening criteria.

Chem Group - Chemical Group

Meas Basis - Measured Basis; T = Total, D = Dissolved

Carc Class - EPA Weight-of-Evidence Cancer Classification

Min QL - Minimum Quantitation Limit

Max QL - Maximum Quantitation Limit

Table E-3b: Offsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Residential Drinking Water Criteria (mg/L)	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48 (NW)	VOC	Acetone	67-64-1	T	D	28				5.10E-04	1.30E+00	7.3E-01	1.0E+06	3.1E+04			
AOI-48 (NW)	VOC	Acrolein	107-02-8	T	C	15				5.00E-03	2.50E-01	1.2E-01	2.1E+00	3.4E+03			
AOI-48 (NW)	VOC	Acrylonitrile	107-13-1	T	B1	15				1.00E-03	5.00E-02	2.6E-03	3.4E+01	1.4E+01			
AOI-48 (NW)	VOC	Benzene	71-43-2	T	A	28	4	2.10E-04	4.30E+00	1.60E-04	5.00E-02	5.0E-03	5.6E+00	1.1E+01	8.6E+02	7.7E-01	3.9E-01
AOI-48 (NW)	VOC	Bromobenzene	108-86-1	T		15				1.00E-03	5.00E-02	1.8E-02	1.8E+02	1.2E+01			
AOI-48 (NW)	VOC	Bromochloromethane	74-97-5	T		15				1.00E-03	5.00E-02						
AOI-48 (NW)	VOC	Bromodichloromethane	75-27-4	T	B2	28				1.70E-04	5.00E-02	1.0E-01	4.8E+00	1.4E+01			
AOI-48 (NW)	VOC	Bromoform	75-25-2	T	B2	28				1.80E-04	5.00E-02	1.0E-01	4.7E+02	1.4E+02			
AOI-48 (NW)	VOC	Bromomethane	74-83-9	T	D	28				2.00E-04	5.00E-02	1.0E-02	4.0E+00	7.0E+01			
AOI-48 (NW)	VOC	2-Butanone	78-93-3	T	D	28				4.10E-04	1.30E+00	1.3E+01	2.4E+05	2.4E+05			
AOI-48 (NW)	VOC	n-Butylbenzene	104-51-8	T		15	1	7.70E-03	7.70E-03	1.00E-03	5.00E-02	8.0E-02		5.9E+00	9.6E-02		1.3E-03
AOI-48 (NW)	VOC	sec-Butylbenzene	135-98-8	T		15	2	1.50E-03	3.30E-03	1.00E-03	5.00E-02	8.0E-02		4.4E+00	4.1E-02		7.5E-04
AOI-48 (NW)	VOC	tert-Butylbenzene	98-06-6	T		15				1.00E-03	5.00E-02	8.0E-02		8.9E+00			
AOI-48 (NW)	VOC	Carbon Disulfide	75-15-0	T		28				2.00E-04	2.50E-01	8.0E-01	2.5E+02	1.2E+03			
AOI-48 (NW)	VOC	Carbon Tetrachloride	56-23-5	T	B2	28				1.20E-04	5.00E-02	5.0E-03	3.7E-01	4.6E+00			
AOI-48 (NW)	VOC	3-Chloro-1-propene	107-05-1	T		15				1.00E-03	5.00E-02						
AOI-48 (NW)	VOC	Chlorobenzene	108-90-7	T	D	28				1.40E-04	5.00E-02	1.0E-01	2.1E+02	8.6E+01			
AOI-48 (NW)	VOC	Chloroethane	75-00-3	T		28				2.60E-04	5.00E-02	4.3E-01	5.7E+03	4.4E+02			
AOI-48 (NW)	VOC	2-Chloroethylvinyl ether	110-75-8	T		15				1.00E-02	5.00E-01						
AOI-48 (NW)	VOC	Chloroform	67-66-3	T	B2	28	2	2.60E-03	1.30E-02	1.40E-04	5.00E-02	1.0E-01	2.8E+01	1.5E+02	1.3E-01	4.6E-04	8.7E-05
AOI-48 (NW)	VOC	Chloromethane	74-87-3	T	D	28	1	1.60E-04	1.60E-04	1.30E-04	5.00E-02	2.6E-01	8.6E+00	4.9E+02	6.2E-04	1.9E-05	3.3E-07
AOI-48 (NW)	VOC	2-Chlorotoluene	95-49-8	T		15				1.00E-03	5.00E-02	1.5E-01	2.2E+02	4.4E+01			
AOI-48 (NW)	VOC	4-Chlorotoluene	106-43-4	T		15				1.00E-03	5.00E-02						
AOI-48 (NW)	VOC	Cumene	98-82-8	T	D	28	1	6.80E-03	6.80E-03	1.20E-04	2.50E-01	8.0E-01	5.6E+01	5.6E+01	8.5E-03	1.2E-04	1.2E-04
AOI-48 (NW)	VOC	Cyclohexane	110-82-7	T		13	2	1.60E-04	1.70E-04	1.30E-04	1.30E-04						
AOI-48 (NW)	VOC	p-Cymene	99-87-6	T		15	2	4.60E-03	7.20E-03	1.00E-03	5.00E-02						
AOI-48 (NW)	VOC	1,2-Dibromo-3-chloropropane	96-12-8	T	B2	28				6.20E-04	5.00E-02	2.0E-04	1.2E+00	3.9E-01			
AOI-48 (NW)	VOC	Dibromochloromethane	124-48-1	T	C	28				2.60E-04	5.00E-02	1.0E-01	1.4E+01	1.8E+01			
AOI-48 (NW)	VOC	1,2-Dibromoethane	106-93-4	T	B2	28				2.20E-04	5.00E-02	1.0E-03	2.4E+00	2.5E-02			
AOI-48 (NW)	VOC	Dibromomethane	74-95-3	T		15				5.00E-03	2.50E-01	8.0E-02		5.3E+02			
AOI-48 (NW)	VOC	trans-1,4-Dichloro-2-butene	110-57-6	T		15				1.00E-03	5.00E-02						
AOI-48 (NW)	VOC	1,2-Dichlorobenzene	95-50-1	T	D	28				1.10E-04	5.00E-02	6.0E-01	1.6E+02	1.6E+02			
AOI-48 (NW)	VOC	1,3-Dichlorobenzene	541-73-1	T	D	28				1.50E-04	5.00E-02	6.6E-03		2.0E+00			
AOI-48 (NW)	VOC	1,4-Dichlorobenzene	106-46-7	T	C	28				1.70E-04	5.00E-02	7.5E-02	1.6E+01	6.4E+00			
AOI-48 (NW)	VOC	Dichlorodifluoromethane	75-71-8	T		28				2.60E-04	5.00E-02	1.7E+00	2.2E+02	3.0E+02			
AOI-48 (NW)	VOC	1,1-Dichloroethane	75-34-3	T	C	28				1.60E-04	5.00E-02	8.8E-01	1.0E+03	2.4E+03			
AOI-48 (NW)	VOC	1,2-Dichloroethane	107-06-2	T	B2	28	3	1.10E-03	9.90E-03	2.10E-04	5.00E-02	5.0E-03	9.6E+00	1.9E+01	2.0E+00	1.0E-03	5.2E-04
AOI-48 (NW)	VOC	1,1-Dichloroethene	75-35-4	T	C	28	1	1.10E-03	1.10E-03	2.40E-04	5.00E-02	7.0E-03	2.0E-01	1.1E+01	1.6E-01	5.5E-03	1.0E-04
AOI-48 (NW)	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	28	3	3.50E-03	1.00E-02	2.20E-04	5.00E-02	7.0E-02	9.3E+01	2.0E+02	1.4E-01	1.1E-04	5.0E-05
AOI-48 (NW)	VOC	trans-1,2-Dichloroethene	156-60-5	T		28	3	1.30E-03	2.40E-03	1.50E-04	5.00E-02	1.0E-01	8.5E+01	2.2E+02	2.4E-02	2.8E-05	1.1E-05
AOI-48 (NW)	VOC	1,2-Dichloropropane	78-87-5	T	B2	28				1.70E-04	5.00E-02	5.0E-03	1.6E+01	1.6E+01			
AOI-48 (NW)	VOC	1,3-Dichloropropane	142-28-9	T		15				1.00E-03	5.00E-02						
AOI-48 (NW)	VOC	2,2-Dichloropropane	594-20-7	T		15				1.00E-03	5.00E-02						
AOI-48 (NW)	VOC	1,1-Dichloropropene	563-58-6	T		15				1.00E-03	5.00E-02						
AOI-48 (NW)	VOC	1,3-Dichloropropene (total)	542-75-6	T	B2	28				2.70E-04	5.00E-02	8.5E-03	3.9E+00	5.5E+00			
AOI-48 (NW)	VOC	Ethyl Benzene	100-41-4	T	D	28	3	1.40E-04	8.20E-01	1.20E-04	5.00E-02	7.0E-01	1.1E+02	1.7E+02	1.2E+00	7.5E-03	4.8E-03
AOI-48 (NW)	VOC	2-Hexanone	591-78-6	T		28				4.60E-04	2.50E+00	1.0E+00	4.2E+03	5.2E+03			
AOI-48 (NW)	VOC	Iodomethane	74-88-4	T		15				1.00E-03	5.00E-02						
AOI-48 (NW)	VOC	Methyl Acetate	79-20-9	T		13				4.10E-04	4.10E-04						

Table E-3b: Offsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Residential Drinking Water Criteria (mg/L)	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48 (NW)	VOC	Methyl tert-butyl ether	1634-04-4	T		28				1.30E-04	2.50E-01	2.4E-01	4.7E+04	6.1E+02			
AOI-48 (NW)	VOC	4-Methyl-2-pentanone	108-10-1	T		28				2.30E-04	2.50E+00	1.8E+00	2.0E+04	1.3E+04			
AOI-48 (NW)	VOC	Methylcyclohexane	108-87-2	T		13	2	1.90E-04	2.40E-04	1.50E-04	1.50E-04						
AOI-48 (NW)	VOC	Methylene Chloride	75-09-2	T	B2	28				3.40E-04	2.50E-01	5.0E-03	2.2E+02	2.2E+02			
AOI-48 (NW)	VOC	n-Propylbenzene	103-65-1	T		15	4	1.40E-03	1.00E-01	1.00E-03	5.00E-02	8.0E-02		1.5E+01	1.3E+00		6.7E-03
AOI-48 (NW)	VOC	Styrene	100-42-5	T		28				1.50E-04	5.00E-02	1.0E-01	1.7E+02	9.7E+00			
AOI-48 (NW)	VOC	1,1,1,2-Tetrachloroethane	630-20-6	T		15				1.00E-03	5.00E-02	7.7E-02	1.5E+01	3.0E+01			
AOI-48 (NW)	VOC	1,1,2,2-Tetrachloroethane	79-34-5	T	C	28				2.50E-04	5.00E-02	8.5E-03	1.2E+01	4.7E+00			
AOI-48 (NW)	VOC	Tetrachloroethene	127-18-4	T	C-B2	28				2.30E-04	5.00E-02	5.0E-03	2.5E+01	1.2E+01			
AOI-48 (NW)	VOC	Tetrahydrofuran	109-99-9	T		15				1.00E-01	5.00E+00	9.5E-02	6.9E+03	1.6E+03			
AOI-48 (NW)	VOC	Toluene	108-88-3	T	D	28	5	1.00E-03	6.00E-01	1.80E-04	5.00E-02	1.0E+00	5.3E+02	5.3E+02	6.0E-01	1.1E-03	1.1E-03
AOI-48 (NW)	VOC	1,2,3-Trichlorobenzene	87-61-6	T		15				5.00E-03	2.50E-01						
AOI-48 (NW)	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	28				1.70E-04	2.50E-01	7.0E-02	3.0E+02	1.9E+01			
AOI-48 (NW)	VOC	1,1,1-Trichloroethane	71-55-6	T	D	28				1.50E-04	5.00E-02	2.0E-01	6.6E+02	1.3E+03			
AOI-48 (NW)	VOC	1,1,2-Trichloroethane	79-00-5	T	C	28				3.00E-04	5.00E-02	5.0E-03	1.7E+01	2.1E+01			
AOI-48 (NW)	VOC	Trichloroethene	79-01-6	T	C-B2	28	6	4.10E-03	1.00E+00	1.40E-04	5.00E-02	5.0E-03	1.5E+01	2.2E+01	2.0E+02	6.7E-02	4.5E-02
AOI-48 (NW)	VOC	Trichlorofluoromethane	75-69-4	T		28				2.80E-04	5.00E-02	2.6E+00	1.1E+03	1.1E+03			
AOI-48 (NW)	VOC	1,2,3-Trichloropropane	96-18-4	T	B2	15				1.00E-03	5.00E-02	4.2E-02		8.4E+01			
AOI-48 (NW)	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	T		13				3.20E-04	3.20E-04	1.7E+02	1.7E+02	1.7E+02			
AOI-48 (NW)	VOC	1,2,4-Trimethylbenzene	95-63-6	T		15	5	1.80E-03	2.20E-01	1.00E-03	5.00E-02	1.0E+00	5.6E+01	5.6E+01	2.2E-01	3.9E-03	3.9E-03
AOI-48 (NW)	VOC	1,3,5-Trimethylbenzene	108-67-8	T		15	4	5.40E-03	5.60E-02	1.00E-03	5.00E-02	1.0E+00	6.1E+01	6.1E+01	5.6E-02	9.2E-04	9.2E-04
AOI-48 (NW)	VOC	Vinyl Acetate	108-05-4	T		15				5.00E-02	2.50E+00	6.4E-01	4.1E+03	8.0E+03			
AOI-48 (NW)	VOC	Vinyl Chloride	75-01-4	T	A	28	1	2.50E-03	2.50E-03	1.50E-04	5.00E-02	2.0E-03	1.1E+00	1.0E+00	1.3E+00	2.3E-03	2.5E-03
AOI-48 (NW)	VOC	Xylenes (total)	1330-20-7	T	D	28	3	6.20E-03	1.67E+00	3.30E-04	1.00E-01	1.0E+01	1.9E+02	1.9E+02	1.7E-01	8.8E-03	8.8E-03
AOI-48 (NW)	SVOC	Hexachlorobutadiene	87-68-3	T	C	15				1.00E-03	5.00E-02	1.5E-02	1.6E+00	4.0E-01			
AOI-48 (NW)	SVOC	Hexachloroethane	67-72-1	T	C	15				5.00E-03	2.50E-01	7.3E-03	2.7E+01	1.9E+00			
AOI-48 (NW)	SVOC	2-Methylnaphthalene	91-57-6	T		15	1	1.80E-02	1.80E-02	5.00E-03	2.50E-01	2.6E-01		2.5E+01	6.9E-02		7.2E-04
AOI-48 (NW)	SVOC	Naphthalene	91-20-3	T	C	15	2	3.30E-02	1.90E-01	5.00E-03	2.50E-01	5.2E-01	3.1E+01	3.1E+01	3.7E-01	6.1E-03	6.1E-03
AOI-48 (SE)	VOC	Acetone	67-64-1	T	D	9				2.50E-02	2.50E-02	7.3E-01	1.0E+06	3.1E+04			
AOI-48 (SE)	VOC	Acrolein	107-02-8	T	C	9				5.00E-03	5.00E-03	1.2E-01	2.1E+00	3.4E+03			
AOI-48 (SE)	VOC	Acrylonitrile	107-13-1	T	B1	9				1.00E-03	1.00E-03	2.6E-03	3.4E+01	1.4E+01			
AOI-48 (SE)	VOC	Benzene	71-43-2	T	A	9				1.00E-03	1.00E-03	5.0E-03	5.6E+00	1.1E+01			
AOI-48 (SE)	VOC	Bromobenzene	108-86-1	T		9				1.00E-03	1.00E-03	1.8E-02	1.8E+02	1.2E+01			
AOI-48 (SE)	VOC	Bromochloromethane	74-97-5	T		9				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	Bromodichloromethane	75-27-4	T	B2	9				1.00E-03	1.00E-03	1.0E-01	4.8E+00	1.4E+01			
AOI-48 (SE)	VOC	Bromoform	75-25-2	T	B2	9				1.00E-03	1.00E-03	1.0E-01	4.7E+02	1.4E+02			
AOI-48 (SE)	VOC	Bromomethane	74-83-9	T	D	9				1.00E-03	1.00E-03	1.0E-02	4.0E+00	7.0E+01			
AOI-48 (SE)	VOC	2-Butanone	78-93-3	T	D	9				2.50E-02	2.50E-02	1.3E+01	2.4E+05	2.4E+05			
AOI-48 (SE)	VOC	n-Butylbenzene	104-51-8	T		9				1.00E-03	1.00E-03	8.0E-02		5.9E+00			
AOI-48 (SE)	VOC	sec-Butylbenzene	135-98-8	T		9				1.00E-03	1.00E-03	8.0E-02		4.4E+00			
AOI-48 (SE)	VOC	tert-Butylbenzene	98-06-6	T		9				1.00E-03	1.00E-03	8.0E-02		8.9E+00			
AOI-48 (SE)	VOC	Carbon Disulfide	75-15-0	T		9				5.00E-03	5.00E-03	8.0E-01	2.5E+02	1.2E+03			
AOI-48 (SE)	VOC	Carbon Tetrachloride	56-23-5	T	B2	9				1.00E-03	1.00E-03	5.0E-03	3.7E-01	4.6E+00			
AOI-48 (SE)	VOC	3-Chloro-1-propene	107-05-1	T		9				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	Chlorobenzene	108-90-7	T	D	9				1.00E-03	1.00E-03	1.0E-01	2.1E+02	8.6E+01			
AOI-48 (SE)	VOC	Chloroethane	75-00-3	T		9				1.00E-03	1.00E-03	4.3E-01	5.7E+03	4.4E+02			
AOI-48 (SE)	VOC	2-Chloroethylvinyl ether	110-75-8	T		9				1.00E-02	1.00E-02						
AOI-48 (SE)	VOC	Chloroform	67-66-3	T	B2	9				1.00E-03	1.00E-03	1.0E-01	2.8E+01	1.5E+02			
AOI-48 (SE)	VOC	Chloromethane	74-87-3	T	D	9				1.00E-03	1.00E-03	2.6E-01	8.6E+00	4.9E+02			

Table E-3b: Offsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Residential Drinking Water Criteria (mg/L)	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48 (SE)	VOC	2-Chlorotoluene	95-49-8	T		9				1.00E-03	1.00E-03	1.5E-01	2.2E+02	4.4E+01			
AOI-48 (SE)	VOC	4-Chlorotoluene	106-43-4	T		9				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	Cumene	98-82-8	T	D	9				5.00E-03	5.00E-03	8.0E-01	5.6E+01	5.6E+01			
AOI-48 (SE)	VOC	p-Cymene	99-87-6	T		9				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	1,2-Dibromo-3-chloropropane	96-12-8	T	B2	9				1.00E-03	1.00E-03	2.0E-04	1.2E+00	3.9E-01			
AOI-48 (SE)	VOC	Dibromochloromethane	124-48-1	T	C	9				1.00E-03	1.00E-03	1.0E-01	1.4E+01	1.8E+01			
AOI-48 (SE)	VOC	1,2-Dibromoethane	106-93-4	T	B2	9				1.00E-03	1.00E-03	1.0E-03	2.4E+00	2.5E-02			
AOI-48 (SE)	VOC	Dibromomethane	74-95-3	T		9				5.00E-03	5.00E-03	8.0E-02		5.3E+02			
AOI-48 (SE)	VOC	trans-1,4-Dichloro-2-butene	110-57-6	T		9				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	1,2-Dichlorobenzene	95-50-1	T	D	9				1.00E-03	1.00E-03	6.0E-01	1.6E+02	1.6E+02			
AOI-48 (SE)	VOC	1,3-Dichlorobenzene	541-73-1	T	D	9				1.00E-03	1.00E-03	6.6E-03		2.0E+00			
AOI-48 (SE)	VOC	1,4-Dichlorobenzene	106-46-7	T	C	9				1.00E-03	1.00E-03	7.5E-02	1.6E+01	6.4E+00			
AOI-48 (SE)	VOC	Dichlorodifluoromethane	75-71-8	T		9				1.00E-03	1.00E-03	1.7E+00	2.2E+02	3.0E+02			
AOI-48 (SE)	VOC	1,1-Dichloroethane	75-34-3	T	C	9				1.00E-03	1.00E-03	8.8E-01	1.0E+03	2.4E+03			
AOI-48 (SE)	VOC	1,2-Dichloroethane	107-06-2	T	B2	9				1.00E-03	1.00E-03	5.0E-03	9.6E+00	1.9E+01			
AOI-48 (SE)	VOC	1,1-Dichloroethene	75-35-4	T	C	9				1.00E-03	1.00E-03	7.0E-03	2.0E-01	1.1E+01			
AOI-48 (SE)	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	9	1	1.30E-03	1.30E-03	1.00E-03	1.00E-03	7.0E-02	9.3E+01	2.0E+02	1.9E-02	1.4E-05	6.5E-06
AOI-48 (SE)	VOC	trans-1,2-Dichloroethene	156-60-5	T		9				1.00E-03	1.00E-03	1.0E-01	8.5E+01	2.2E+02			
AOI-48 (SE)	VOC	1,2-Dichloropropane	78-87-5	T	B2	9				1.00E-03	1.00E-03	5.0E-03	1.6E+01	1.6E+01			
AOI-48 (SE)	VOC	1,3-Dichloropropane	142-28-9	T		9				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	2,2-Dichloropropane	594-20-7	T		9				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	1,1-Dichloropropene	563-58-6	T		9				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	1,3-Dichloropropene (total)	542-75-6	T	B2	9				1.00E-03	1.00E-03	8.5E-03	3.9E+00	5.5E+00			
AOI-48 (SE)	VOC	Ethyl Benzene	100-41-4	T	D	9				1.00E-03	1.00E-03	7.0E-01	1.1E+02	1.7E+02			
AOI-48 (SE)	VOC	2-Hexanone	591-78-6	T		9				5.00E-02	5.00E-02	1.0E+00	4.2E+03	5.2E+03			
AOI-48 (SE)	VOC	Iodomethane	74-88-4	T		9				1.00E-03	1.00E-03						
AOI-48 (SE)	VOC	Methyl tert-butyl ether	1634-04-4	T		9				5.00E-03	5.00E-03	2.4E-01	4.7E+04	6.1E+02			
AOI-48 (SE)	VOC	4-Methyl-2-pentanone	108-10-1	T		9				5.00E-02	5.00E-02	1.8E+00	2.0E+04	1.3E+04			
AOI-48 (SE)	VOC	Methylene Chloride	75-09-2	T	B2	9				5.00E-03	5.00E-03	5.0E-03	2.2E+02	2.2E+02			
AOI-48 (SE)	VOC	n-Propylbenzene	103-65-1	T		9				1.00E-03	1.00E-03	8.0E-02		1.5E+01			
AOI-48 (SE)	VOC	Styrene	100-42-5	T		9				1.00E-03	1.00E-03	1.0E-01	1.7E+02	9.7E+00			
AOI-48 (SE)	VOC	1,1,1,2-Tetrachloroethane	630-20-6	T		9				1.00E-03	1.00E-03	7.7E-02	1.5E+01	3.0E+01			
AOI-48 (SE)	VOC	1,1,2,2-Tetrachloroethane	79-34-5	T	C	9				1.00E-03	1.00E-03	8.5E-03	1.2E+01	4.7E+00			
AOI-48 (SE)	VOC	Tetrachloroethene	127-18-4	T	C-B2	9				1.00E-03	1.00E-03	5.0E-03	2.5E+01	1.2E+01			
AOI-48 (SE)	VOC	Tetrahydrofuran	109-99-9	T		9				1.00E-01	1.00E-01	9.5E-02	6.9E+03	1.6E+03			
AOI-48 (SE)	VOC	Toluene	108-88-3	T	D	9				1.00E-03	1.00E-03	1.0E+00	5.3E+02	5.3E+02			
AOI-48 (SE)	VOC	1,2,3-Trichlorobenzene	87-61-6	T		9				5.00E-03	5.00E-03						
AOI-48 (SE)	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	9				5.00E-03	5.00E-03	7.0E-02	3.0E+02	1.9E+01			
AOI-48 (SE)	VOC	1,1,1-Trichloroethane	71-55-6	T	D	9				1.00E-03	1.00E-03	2.0E-01	6.6E+02	1.3E+03			
AOI-48 (SE)	VOC	1,1,2-Trichloroethane	79-00-5	T	C	9				1.00E-03	1.00E-03	5.0E-03	1.7E+01	2.1E+01			
AOI-48 (SE)	VOC	Trichloroethene	79-01-6	T	C-B2	9				1.00E-03	1.00E-03	5.0E-03	1.5E+01	2.2E+01			
AOI-48 (SE)	VOC	Trichlorofluoromethane	75-69-4	T		9				1.00E-03	1.00E-03	2.6E+00	1.1E+03	1.1E+03			
AOI-48 (SE)	VOC	1,2,3-Trichloropropane	96-18-4	T	B2	9				1.00E-03	1.00E-03	4.2E-02		8.4E+01			
AOI-48 (SE)	VOC	1,2,4-Trimethylbenzene	95-63-6	T		9				1.00E-03	1.00E-03	1.0E+00	5.6E+01	5.6E+01			
AOI-48 (SE)	VOC	1,3,5-Trimethylbenzene	108-67-8	T		9				1.00E-03	1.00E-03	1.0E+00	6.1E+01	6.1E+01			
AOI-48 (SE)	VOC	Vinyl Acetate	108-05-4	T		9				5.00E-02	5.00E-02	6.4E-01	4.1E+03	8.0E+03			
AOI-48 (SE)	VOC	Vinyl Chloride	75-01-4	T	A	9				1.00E-03	1.00E-03	2.0E-03	1.1E+00	1.0E+00			
AOI-48 (SE)	VOC	Xylenes (total)	1330-20-7	T	D	9				2.00E-03	2.00E-03	1.0E+01	1.9E+02	1.9E+02			
AOI-48 (SE)	SVOC	Hexachlorobutadiene	87-68-3	T	C	9				1.00E-03	1.00E-03	1.5E-02	1.6E+00	4.0E-01			

Table E-3b: Offsite Borehole Water Screening Results
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Min QL (mg/L)	Max QL (mg/L)	Residential Drinking Water Criteria (mg/L)	Residential Groundwater Volatilization to Indoor Air Criteria (mg/L)	Groundwater Contact Criteria (mg/L)	Ratio of Max Detected to Residential Drinking Water Criteria	Ratio of Max Detected to Residential Groundwater Volatilization to Indoor Air Criteria	Ratio of Max Detected to Groundwater Contact Criteria
AOI-48 (SE)	SVOC	Hexachloroethane	67-72-1	T	C	9				5.00E-03	5.00E-03	7.3E-03	2.7E+01	1.9E+00			
AOI-48 (SE)	SVOC	2-Methylnaphthalene	91-57-6	T		9				5.00E-03	5.00E-03	2.6E-01		2.5E+01			
AOI-48 (SE)	SVOC	Naphthalene	91-20-3	T	C	9				5.00E-03	5.00E-03	5.2E-01	3.1E+01	3.1E+01			

Notes:

The Screening Criteria are MDEQ Part 201 Generic Screening Values (MDEQ 2002).

The Screening Criteria for Naphthalene was used as a surrogate for 2-Methylnaphthalene.

The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the Screening Criteria.

The concentrations for the 1,3-Dichloropropene isomers (cis and trans) were summed before comparing to the Screening Criteria.

The toxicity values that MDEQ used to calculate its screening criteria for 1,1-Dichloroethene (1,1-DCE) are different from the toxicity values for 1,1-DCE published in IRIS (January, 2003). The updated screening criteria for 1,1-DCE, based on IRIS toxicity values, are: 1.04 mg/L (industrial drinking water), 797 mg/L (groundwater contact), 188 mg/L (industrial groundwater volatilization to indoor air). There are no detected concentrations of 1,1-DCE at the Site that exceed the updated screening criteria.

Chem Group - Chemical Group

Meas Basis - Measured Basis; T = Total, D = Dissolved

Carc Class - EPA Weight-of-Evidence Cancer Classification

Min QL - Minimum Quantitation Limit

Max QL - Maximum Quantitation Limit

Table E-4: Summary of Floating Products Data
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)
AOI-13	VOC	Acetone	67-64-1	D	3				1.10E-01	5.50E-01
AOI-13	VOC	Benzene	71-43-2	A	3				1.60E-02	7.80E-02
AOI-13	VOC	Bromodichloromethane	75-27-4	B2	3				1.90E-02	9.30E-02
AOI-13	VOC	Bromoform	75-25-2	B2	3				2.50E-02	1.20E-01
AOI-13	VOC	Bromomethane	74-83-9	D	3				9.50E-02	4.80E-01
AOI-13	VOC	2-Butanone	78-93-3	D	3				1.20E-01	5.90E-01
AOI-13	VOC	Carbon Disulfide	75-15-0		3				1.00E-02	5.10E-02
AOI-13	VOC	Carbon Tetrachloride	56-23-5	B2	3				3.20E-02	1.60E-01
AOI-13	VOC	Chlorobenzene	108-90-7	D	3				1.30E-02	6.60E-02
AOI-13	VOC	Chloroethane	75-00-3		3				1.10E-01	5.30E-01
AOI-13	VOC	Chloroform	67-66-3	B2	3				2.70E-02	1.40E-01
AOI-13	VOC	Chloromethane	74-87-3	D	3				3.20E-02	1.60E-01
AOI-13	VOC	Cumene	98-82-8	D	3	2	1.80E+00	4.10E+00	1.90E-02	1.90E-02
AOI-13	VOC	Cyclohexane	110-82-7		3				1.40E-02	7.00E-02
AOI-13	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	3				5.20E-02	2.60E-01
AOI-13	VOC	Dibromochloromethane	124-48-1	C	3				2.50E-02	1.20E-01
AOI-13	VOC	1,2-Dibromoethane	106-93-4	B2	3				1.70E-02	8.60E-02
AOI-13	VOC	1,2-Dichlorobenzene	95-50-1	D	3				1.60E-02	7.80E-02
AOI-13	VOC	1,3-Dichlorobenzene	541-73-1	D	3				1.90E-02	9.40E-02
AOI-13	VOC	1,4-Dichlorobenzene	106-46-7	C	3				1.90E-02	9.80E-02
AOI-13	VOC	Dichlorodifluoromethane	75-71-8		3				5.20E-02	2.60E-01
AOI-13	VOC	1,1-Dichloroethane	75-34-3	C	3				2.50E-02	1.20E-01
AOI-13	VOC	1,2-Dichloroethane	107-06-2	B2	3				2.90E-02	1.50E-01
AOI-13	VOC	1,1-Dichloroethene	75-35-4	C	3				1.80E-02	9.00E-02
AOI-13	VOC	cis-1,2-Dichloroethene	156-59-2	D	3				1.80E-02	8.90E-02
AOI-13	VOC	trans-1,2-Dichloroethene	156-60-5		3				2.30E-02	1.10E-01
AOI-13	VOC	1,2-Dichloropropane	78-87-5	B2	3				2.90E-02	1.50E-01
AOI-13	VOC	1,3-Dichloropropene (total)	542-75-6	B2	3				1.70E-02	8.70E-02
AOI-13	VOC	Ethyl Benzene	100-41-4	D	3	1	8.30E-01	8.30E-01	1.50E-02	7.40E-02
AOI-13	VOC	2-Hexanone	591-78-6		3				3.60E-02	1.80E-01
AOI-13	VOC	Methyl Acetate	79-20-9		3				5.40E-02	2.70E-01
AOI-13	VOC	Methyl tert-butyl ether	1634-04-4		3				1.90E-02	9.30E-02
AOI-13	VOC	4-Methyl-2-pentanone	108-10-1		3				5.40E-02	2.70E-01
AOI-13	VOC	Methylcyclohexane	108-87-2		3	1	1.20E+01	1.20E+01	2.00E-02	8.00E-02
AOI-13	VOC	Methylene Chloride	75-09-2	B2	3				3.60E-02	1.80E-01
AOI-13	VOC	Styrene	100-42-5		3				1.60E-02	8.20E-02
AOI-13	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	3				2.30E-02	1.10E-01
AOI-13	VOC	Tetrachloroethene	127-18-4	C-B2	3				2.50E-02	1.20E-01
AOI-13	VOC	Toluene	108-88-3	D	3	1	2.00E+00	2.00E+00	1.30E-02	6.40E-02
AOI-13	VOC	1,2,4-Trichlorobenzene	120-82-1	D	3				2.50E-02	1.20E-01
AOI-13	VOC	1,1,1-Trichloroethane	71-55-6	D	3				2.00E-02	1.00E-01
AOI-13	VOC	1,1,2-Trichloroethane	79-00-5	C	3				1.80E-02	9.00E-02
AOI-13	VOC	Trichloroethene	79-01-6	C-B2	3				2.00E-02	9.90E-02
AOI-13	VOC	Trichlorofluoromethane	75-69-4		3				2.00E-02	1.00E-01
AOI-13	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		3				6.60E-02	3.30E-01
AOI-13	VOC	Vinyl Chloride	75-01-4	A	3				4.10E-02	2.00E-01
AOI-13	VOC	Xylenes (total)	1330-20-7	D	3	1	1.10E+01	1.10E+01	1.10E-01	5.60E-01
AOI-13	SVOC	Acenaphthene	83-32-9		3				2.80E-01	7.00E-01
AOI-13	SVOC	Acenaphthylene	208-96-8	D	3				3.80E-01	9.50E-01
AOI-13	SVOC	Acetophenone	98-86-2	D	3				4.00E-01	1.00E+00
AOI-13	SVOC	Anthracene	120-12-7	D	3				3.40E-01	8.50E-01
AOI-13	SVOC	Atrazine	1912-24-9		3				4.40E-01	1.10E+00
AOI-13	SVOC	Benzaldehyde	100-52-7		3				2.80E-01	7.00E-01
AOI-13	SVOC	Benzo(a)anthracene	56-55-3	B2	3				4.60E-01	1.20E+00

Table E-4: Summary of Floating Products Data
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)
AOI-13	SVOC	Benzo(a)pyrene	50-32-8	B2	3				3.00E-01	7.50E-01
AOI-13	SVOC	Benzo(b)fluoranthene	205-99-2	B2	3				4.00E-01	1.00E+00
AOI-13	SVOC	Benzo(g,h,i)perylene	191-24-2	D	3				3.20E-01	8.00E-01
AOI-13	SVOC	Benzo(k)fluoranthene	207-08-9	B2	3				3.20E-01	8.00E-01
AOI-13	SVOC	Biphenyl	92-52-4		3				3.60E-01	9.00E-01
AOI-13	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	3				5.20E-01	1.30E+00
AOI-13	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	3				3.60E-01	9.00E-01
AOI-13	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	3				2.60E-01	6.50E-01
AOI-13	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	3				3.00E-01	7.50E-01
AOI-13	SVOC	Butylbenzylphthalate	85-68-7	C	3				4.20E-01	1.00E+00
AOI-13	SVOC	Caprolactam	105-60-2		3				5.60E-01	1.40E+00
AOI-13	SVOC	Carbazole	86-74-8	B2	3				3.80E-01	9.50E-01
AOI-13	SVOC	4-Chloro-3-methylphenol	59-50-7		3				3.80E-01	9.50E-01
AOI-13	SVOC	4-Chloroaniline	106-47-8		3				4.00E-01	1.00E+00
AOI-13	SVOC	2-Chloronaphthalene	91-58-7		3				3.40E-01	8.50E-01
AOI-13	SVOC	2-Chlorophenol	95-57-8		3				3.60E-01	9.00E-01
AOI-13	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		3				3.40E-01	8.50E-01
AOI-13	SVOC	Chrysene	218-01-9	B2	3				4.40E-01	1.10E+00
AOI-13	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	3				3.60E-01	9.00E-01
AOI-13	SVOC	Dibenzofuran	132-64-9	D	3				3.40E-01	8.50E-01
AOI-13	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	3				3.60E-01	9.00E-01
AOI-13	SVOC	2,4-Dichlorophenol	120-83-2		3				3.20E-01	8.00E-01
AOI-13	SVOC	Diethylphthalate	84-66-2	D	3				3.80E-01	9.50E-01
AOI-13	SVOC	2,4-Dimethylphenol	105-67-9		3				3.60E-01	9.00E-01
AOI-13	SVOC	Dimethylphthalate	131-11-3	D	3				3.40E-01	8.50E-01
AOI-13	SVOC	Di-n-butylphthalate	84-74-2	D	3				4.60E-01	1.20E+00
AOI-13	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		3				9.60E-01	2.40E+00
AOI-13	SVOC	2,4-Dinitrophenol	51-28-5		3				9.40E-01	2.40E+00
AOI-13	SVOC	2,4-Dinitrotoluene	121-14-2	B2	3				4.40E-01	1.10E+00
AOI-13	SVOC	2,6-Dinitrotoluene	606-20-2	B2	3				3.00E-01	7.50E-01
AOI-13	SVOC	Di-n-octylphthalate	117-84-0		3				1.30E+00	3.20E+00
AOI-13	SVOC	Fluoranthene	206-44-0	D	3				3.20E-01	8.00E-01
AOI-13	SVOC	Fluorene	86-73-7	D	3				3.00E-01	7.50E-01
AOI-13	SVOC	Hexachlorobenzene	118-74-1	B2	3				4.40E-01	1.10E+00
AOI-13	SVOC	Hexachlorobutadiene	87-68-3	C	3				3.20E-01	8.00E-01
AOI-13	SVOC	Hexachlorocyclopentadiene	77-47-4	E	3				2.00E-01	5.00E-01
AOI-13	SVOC	Hexachloroethane	67-72-1	C	3				3.40E-01	8.50E-01
AOI-13	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	3				3.80E-01	9.50E-01
AOI-13	SVOC	Isophorone	78-59-1	C	3				4.40E-01	1.10E+00
AOI-13	SVOC	2-Methylnaphthalene	91-57-6		3				3.40E-01	8.50E-01
AOI-13	SVOC	Methylphenol (total)	1319-77-3		3				4.20E-01	1.00E+00
AOI-13	SVOC	Naphthalene	91-20-3	C	3				3.40E-01	8.50E-01
AOI-13	SVOC	2-Nitroaniline	88-74-4		3				2.60E-01	6.50E-01
AOI-13	SVOC	3-Nitroaniline	99-09-2	C	3				4.40E-01	1.10E+00
AOI-13	SVOC	4-Nitroaniline	100-01-6	C	3				3.40E-01	8.50E-01
AOI-13	SVOC	Nitrobenzene	98-95-3	D	3				4.80E-01	1.20E+00
AOI-13	SVOC	2-Nitrophenol	88-75-5		3				4.20E-01	1.00E+00
AOI-13	SVOC	4-Nitrophenol	100-02-7		3				1.10E+00	2.60E+00
AOI-13	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	3				3.80E-01	9.50E-01
AOI-13	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	3				3.00E-01	7.50E-01
AOI-13	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	3				5.40E-01	1.40E+00
AOI-13	SVOC	Pentachlorophenol	87-86-5	B2	3				1.20E+00	3.00E+00
AOI-13	SVOC	Phenanthrene	85-01-8	D	3	1	4.80E+01	4.80E+01	4.20E-01	1.00E+00
AOI-13	SVOC	Phenol	108-95-2	D	3				3.60E-01	9.00E-01

Table E-4: Summary of Floating Products Data
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)
AOI-13	SVOC	Pyrene	129-00-0	D	3				4.20E-01	1.00E+00
AOI-13	SVOC	2,4,5-Trichlorophenol	95-95-4		3				3.00E-01	7.50E-01
AOI-13	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	3				3.80E-01	9.50E-01
AOI-13	P/PCB	PCBs (total)	1336-36-3	B2	3				4.40E-02	4.40E-02
AOI-48	VOC	Acetone	67-64-1	D	1				4.30E-01	4.30E-01
AOI-48	VOC	Benzene	71-43-2	A	1	1	2.30E-01	2.30E-01		
AOI-48	VOC	Bromodichloromethane	75-27-4	B2	1				5.60E-02	5.60E-02
AOI-48	VOC	Bromoform	75-25-2	B2	1				9.20E-02	9.20E-02
AOI-48	VOC	Bromomethane	74-83-9	D	1				1.40E-01	1.40E-01
AOI-48	VOC	2-Butanone	78-93-3	D	1				4.50E-01	4.50E-01
AOI-48	VOC	Carbon Disulfide	75-15-0		1				1.90E-01	1.90E-01
AOI-48	VOC	Carbon Tetrachloride	56-23-5	B2	1				5.60E-02	5.60E-02
AOI-48	VOC	Chlorobenzene	108-90-7	D	1				4.50E-02	4.50E-02
AOI-48	VOC	Chloroethane	75-00-3		1	1	3.20E-01	3.20E-01		
AOI-48	VOC	Chloroform	67-66-3	B2	1	1	9.00E-01	9.00E-01		
AOI-48	VOC	Chloromethane	74-87-3	D	1				8.60E-02	8.60E-02
AOI-48	VOC	Cumene	98-82-8	D	1	1	5.80E-01	5.80E-01		
AOI-48	VOC	Cyclohexane	110-82-7		1	1	5.20E-01	5.20E-01		
AOI-48	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	1				4.50E-01	4.50E-01
AOI-48	VOC	Dibromochloromethane	124-48-1	C	1				7.00E-02	7.00E-02
AOI-48	VOC	1,2-Dibromoethane	106-93-4	B2	1				1.10E-01	1.10E-01
AOI-48	VOC	1,2-Dichlorobenzene	95-50-1	D	1	1	1.90E-01	1.90E-01		
AOI-48	VOC	1,3-Dichlorobenzene	541-73-1	D	1				5.40E-02	5.40E-02
AOI-48	VOC	1,4-Dichlorobenzene	106-46-7	C	1				9.20E-02	9.20E-02
AOI-48	VOC	Dichlorodifluoromethane	75-71-8		1				2.20E-01	2.20E-01
AOI-48	VOC	1,1-Dichloroethane	75-34-3	C	1	1	7.60E-01	7.60E-01		
AOI-48	VOC	1,2-Dichloroethane	107-06-2	B2	1				6.10E-02	6.10E-02
AOI-48	VOC	1,1-Dichloroethene	75-35-4	C	1	1	6.00E-01	6.00E-01		
AOI-48	VOC	cis-1,2-Dichloroethene	156-59-2	D	1	1	9.90E+00	9.90E+00		
AOI-48	VOC	trans-1,2-Dichloroethene	156-60-5		1	1	8.00E-01	8.00E-01		
AOI-48	VOC	1,2-Dichloropropane	78-87-5	B2	1				5.20E-02	5.20E-02
AOI-48	VOC	1,3-Dichloropropene (total)	542-75-6	B2	1				6.50E-02	6.50E-02
AOI-48	VOC	Ethyl Benzene	100-41-4	D	1	1	5.40E-01	5.40E-01		
AOI-48	VOC	2-Hexanone	591-78-6		1				1.70E-01	1.70E-01
AOI-48	VOC	Methyl Acetate	79-20-9		1				2.70E+00	2.70E+00
AOI-48	VOC	Methyl tert-butyl ether	1634-04-4		1				6.30E-02	6.30E-02
AOI-48	VOC	4-Methyl-2-pentanone	108-10-1		1				1.60E-01	1.60E-01
AOI-48	VOC	Methylcyclohexane	108-87-2		1	1	7.30E-01	7.30E-01		
AOI-48	VOC	Methylene Chloride	75-09-2	B2	1				2.20E-01	2.20E-01
AOI-48	VOC	Styrene	100-42-5		1				9.40E-02	9.40E-02
AOI-48	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	1				6.10E-02	6.10E-02
AOI-48	VOC	Tetrachloroethene	127-18-4	C-B2	1				8.30E-02	8.30E-02
AOI-48	VOC	Toluene	108-88-3	D	1	1	4.80E-01	4.80E-01		
AOI-48	VOC	1,2,4-Trichlorobenzene	120-82-1	D	1				6.30E-02	6.30E-02
AOI-48	VOC	1,1,1-Trichloroethane	71-55-6	D	1				5.60E-02	5.60E-02
AOI-48	VOC	1,1,2-Trichloroethane	79-00-5	C	1				9.20E-02	9.20E-02
AOI-48	VOC	Trichloroethene	79-01-6	C-B2	1	1	3.40E+00	3.40E+00		
AOI-48	VOC	Trichlorofluoromethane	75-69-4		1				1.10E-01	1.10E-01
AOI-48	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		1				2.10E-01	2.10E-01
AOI-48	VOC	Vinyl Chloride	75-01-4	A	1	1	8.30E-02	8.30E-02		
AOI-48	VOC	Xylenes (total)	1330-20-7	D	1	1	2.40E+00	2.40E+00		
AOI-48	SVOC	Acenaphthene	83-32-9		1				2.80E-01	2.80E-01
AOI-48	SVOC	Acenaphthylene	208-96-8	D	1				3.80E-01	3.80E-01
AOI-48	SVOC	Acetophenone	98-86-2	D	1				4.00E-01	4.00E-01

Table E-4: Summary of Floating Products Data
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)
AOI-48	SVOC	Anthracene	120-12-7	D	1				3.40E-01	3.40E-01
AOI-48	SVOC	Atrazine	1912-24-9		1				4.40E-01	4.40E-01
AOI-48	SVOC	Benzaldehyde	100-52-7		1				2.80E-01	2.80E-01
AOI-48	SVOC	Benzo(a)anthracene	56-55-3	B2	1				4.60E-01	4.60E-01
AOI-48	SVOC	Benzo(a)pyrene	50-32-8	B2	1				3.00E-01	3.00E-01
AOI-48	SVOC	Benzo(b)fluoranthene	205-99-2	B2	1				4.00E-01	4.00E-01
AOI-48	SVOC	Benzo(g,h,i)perylene	191-24-2	D	1				3.20E-01	3.20E-01
AOI-48	SVOC	Benzo(k)fluoranthene	207-08-9	B2	1				3.20E-01	3.20E-01
AOI-48	SVOC	Biphenyl	92-52-4		1				3.60E-01	3.60E-01
AOI-48	SVOC	bis(2-Chloroethoxy)methane	111-91-1	D	1				5.20E-01	5.20E-01
AOI-48	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	1				3.60E-01	3.60E-01
AOI-48	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	1				2.60E-01	2.60E-01
AOI-48	SVOC	4-Bromophenyl-phenyl ether	101-55-3	D	1				3.00E-01	3.00E-01
AOI-48	SVOC	Butylbenzylphthalate	85-68-7	C	1				4.20E-01	4.20E-01
AOI-48	SVOC	Caprolactam	105-60-2		1				5.60E-01	5.60E-01
AOI-48	SVOC	Carbazole	86-74-8	B2	1				3.80E-01	3.80E-01
AOI-48	SVOC	4-Chloro-3-methylphenol	59-50-7		1				3.80E-01	3.80E-01
AOI-48	SVOC	4-Chloroaniline	106-47-8		1				4.00E-01	4.00E-01
AOI-48	SVOC	2-Chloronaphthalene	91-58-7		1				3.40E-01	3.40E-01
AOI-48	SVOC	2-Chlorophenol	95-57-8		1				3.60E-01	3.60E-01
AOI-48	SVOC	4-Chlorophenyl-phenyl ether	7005-72-3		1				3.40E-01	3.40E-01
AOI-48	SVOC	Chrysene	218-01-9	B2	1	1	7.10E+01	7.10E+01		
AOI-48	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	1				3.60E-01	3.60E-01
AOI-48	SVOC	Dibenzofuran	132-64-9	D	1				3.40E-01	3.40E-01
AOI-48	SVOC	3,3'-Dichlorobenzidine	91-94-1	B2	1				3.60E-01	3.60E-01
AOI-48	SVOC	2,4-Dichlorophenol	120-83-2		1				3.20E-01	3.20E-01
AOI-48	SVOC	Diethylphthalate	84-66-2	D	1				3.80E-01	3.80E-01
AOI-48	SVOC	2,4-Dimethylphenol	105-67-9		1				3.60E-01	3.60E-01
AOI-48	SVOC	Dimethylphthalate	131-11-3	D	1				3.40E-01	3.40E-01
AOI-48	SVOC	Di-n-butylphthalate	84-74-2	D	1				4.60E-01	4.60E-01
AOI-48	SVOC	4,6-Dinitro-2-methylphenol	534-52-1		1				9.60E-01	9.60E-01
AOI-48	SVOC	2,4-Dinitrophenol	51-28-5		1				9.40E-01	9.40E-01
AOI-48	SVOC	2,4-Dinitrotoluene	121-14-2	B2	1				4.40E-01	4.40E-01
AOI-48	SVOC	2,6-Dinitrotoluene	606-20-2	B2	1				3.00E-01	3.00E-01
AOI-48	SVOC	Di-n-octylphthalate	117-84-0		1				1.30E+00	1.30E+00
AOI-48	SVOC	Fluoranthene	206-44-0	D	1				3.20E-01	3.20E-01
AOI-48	SVOC	Fluorene	86-73-7	D	1				3.00E-01	3.00E-01
AOI-48	SVOC	Hexachlorobenzene	118-74-1	B2	1				4.40E-01	4.40E-01
AOI-48	SVOC	Hexachlorobutadiene	87-68-3	C	1				3.20E-01	3.20E-01
AOI-48	SVOC	Hexachlorocyclopentadiene	77-47-4	E	1				2.00E-01	2.00E-01
AOI-48	SVOC	Hexachloroethane	67-72-1	C	1				3.40E-01	3.40E-01
AOI-48	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	1				3.80E-01	3.80E-01
AOI-48	SVOC	Isophorone	78-59-1	C	1				4.40E-01	4.40E-01
AOI-48	SVOC	2-Methylnaphthalene	91-57-6		1				3.40E-01	3.40E-01
AOI-48	SVOC	Methylphenol (total)	1319-77-3		1				4.20E-01	4.20E-01
AOI-48	SVOC	Naphthalene	91-20-3	C	1				3.40E-01	3.40E-01
AOI-48	SVOC	2-Nitroaniline	88-74-4		1				2.60E-01	2.60E-01
AOI-48	SVOC	3-Nitroaniline	99-09-2	C	1				4.40E-01	4.40E-01
AOI-48	SVOC	4-Nitroaniline	100-01-6	C	1				3.40E-01	3.40E-01
AOI-48	SVOC	Nitrobenzene	98-95-3	D	1				4.80E-01	4.80E-01
AOI-48	SVOC	2-Nitrophenol	88-75-5		1				4.20E-01	4.20E-01
AOI-48	SVOC	4-Nitrophenol	100-02-7		1				1.10E+00	1.10E+00
AOI-48	SVOC	N-Nitrosodiphenylamine	86-30-6	B2	1				3.80E-01	3.80E-01
AOI-48	SVOC	N-Nitroso-di-n-propylamine	621-64-7	B2	1				3.00E-01	3.00E-01

Table E-4: Summary of Floating Products Data
Delphi Energy and Chassis Systems Dort Highway Facility, Flint, Michigan

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected (mg/kg)	Max Detected (mg/kg)	Min QL (mg/kg)	Max QL (mg/kg)
AOI-48	SVOC	2,2'-oxybis(1-Chloropropane)	108-60-1	C	1				5.40E-01	5.40E-01
AOI-48	SVOC	Pentachlorophenol	87-86-5	B2	1				1.20E+00	1.20E+00
AOI-48	SVOC	Phenanthrene	85-01-8	D	1	1	7.90E+01	7.90E+01		
AOI-48	SVOC	Phenol	108-95-2	D	1				3.60E-01	3.60E-01
AOI-48	SVOC	Pyrene	129-00-0	D	1				4.20E-01	4.20E-01
AOI-48	SVOC	2,4,5-Trichlorophenol	95-95-4		1				3.00E-01	3.00E-01
AOI-48	SVOC	2,4,6-Trichlorophenol	88-06-2	B2	1				3.80E-01	3.80E-01
AOI-48	P/PCB	PCBs (total)	1336-36-3	B2	1				2.00E-02	2.00E-02

Notes:

Chem Group - Chemical Group

Carc Class - EPA Weight-of-Evidence Cancer Classification

Min QL - Minimum Quantitation Limit

Max QL - Maximum Quantitation Limit