

March 19, 2015

Ms. Tammie Hynum
Chief Hazardous Waste Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

**Re: Offsite Soil Vapor Monitoring Results
Whirlpool Corporation
Fort Smith, Arkansas
EPA No. ARD042755389
AFIN No. 66-00048
CAO LIS 13-202**

Dear Ms. Hynum:

This correspondence summarizes the results of the shallow soil vapor sampling conducted by Whirlpool at offsite residential properties in January 2015. Soil vapor and shallow groundwater monitoring has been performed at five properties consisting of three separate residential properties (identified as Parcel's #1 through #3 on Figure 1), a Whirlpool property on Jacobs Avenue, and the Whirlpool property containing the former manufacturing building.

Letters communicating the soil vapor and shallow groundwater results were provided to each of the respective offsite property owners during face-to-face meetings on Tuesday, March 17, 2015. These letters also reported to residents that the modeled indoor air concentrations indicate that TCE in groundwater and vapor beneath the residential parcels is not a threat to human health due to potential vapor intrusion.

Formal reports summarizing the soil vapor and shallow groundwater investigation will be included in the First Quarter 2015 Progress Report as Attachment B - Soil Vapor Monitoring Report and Attachment E - First Quarter 2015 Shallow Offsite Groundwater Investigation Letter Report, respectively.

MONITORING WELL AND SOIL VAPOR POINT INSTALLATION AND SAMPLING

Shallow groundwater monitoring wells and soil vapor monitoring points were used to assess potential vapor intrusion as a result of trichloroethylene (TCE) impacts in groundwater. This correspondence focuses on investigations completed at three offsite private properties identified as Parcel #1, #2 and #3. Locations of the shallow groundwater monitoring wells and soil vapor sample points installed are depicted on Figure 1.

The monitoring wells and soil vapor points were installed at the respective parcels as presented in the following table:

Parcel ID	Permanent Well ID (screened interval)	Soil Vapor Point ID (screened interval)
#1	MW-173 (5-6) MW-174 (10-11)	VP-5 (7.25-7.75) VP-6 (13.75-14.25)
#2	MW-175 (14-15)	VP-7 (5.25-5.75) VP-8 (10.25-10.75)
#3	MW-176 (13.5-14.5)	VP-9 (5.25-5.75) VP-10 (10.75-11.25)

Groundwater monitoring wells were constructed with 2 inch diameter, schedule 40 PVC, 0.010 slotted pipe, 1 foot in length and 2 inch diameter, solid schedule 40 PVC pipe to the surface. A 20/40 grade sand pack was installed in the well annulus around the PVC screen to approximately 1 foot above the top of the screen. This was followed by an annular seal consisting of bentonite chips 1 to 2 foot above the top of the sand pack. Cement/bentonite grout was placed in the annular space above the seal to the surface. Soil vapor points were constructed with a 6 inch stainless steel screen produced by Geoprobe®. Teflon tubing was connected to the 6 inch screen. A 20/40 grade sand pack was installed in the well annulus, around the screen to approximately 0.25 feet above the top of the screen. This was followed by an annular seal consisting of bentonite chips 1 to 2 feet above the top of sand pack. Bentonite grout was placed in the annular space above the seal to the surface. The monitoring wells and soil vapor points were completed with flush-mount protectors set in concrete with bolted covers. Well construction logs and vapor point logs are provided in Appendix A.

Groundwater samples were submitted to PACE Analytical Services (Lenexa, Kansas) for analysis of VOCs by SW486 Method 8260B. Soil vapor samples were submitted to ALS Environmental (Simi Valley, California) for analysis of volatile organic compounds (VOCs) by EPA Method TO 15. Analytical results by parcel are summarized below and the laboratory reports are provided in Appendix B.

TCE Concentrations at Parcel #1 – Fort Smith, Arkansas

Sample Location	Measured Soil Vapor Concentration	Modeled Indoor Air Concentration
VP-5	0.84 µg/m ³	0.03 µg/m ³

Sample Location	Measured Water Concentration	Modeled Indoor Air Concentration
VP-6	4.3 µg/L	0.01 µg/m ³
MW-174	Non-detect	Not applicable

TCE Concentrations at Parcel #2 – Fort Smith, Arkansas

Sample Location	Measured Soil Vapor Concentration	Modeled Indoor Air Concentration
VP-7	2.8 µg/m ³	0.08 µg/m ³

Sample Location	Measured Water Concentration	Modeled Indoor Air Concentration
MW-175	123 µg/L	0.20 µg/m ³

TCE Concentrations at Parcel #3 – Fort Smith, Arkansas

Sample Location	Measured Soil Vapor Concentration	Modeled Indoor Air Concentration
VP-9	31 µg/m ³	0.93 µg/m ³

Sample Location	Measured Water Concentration	Modeled Indoor Air Concentration
VP-10	636 µg/L	1.02 µg/m ³
MW-176	720 µg/L	1.16 µg/m ³

The modeled indoor air concentrations were compared with the USEPA interim residential indoor air action level of 2 microgram per cubic meter (µg/m³) from the USEPA Region 9 Response Action Levels and Recommendations to Address Near-Term Inhalation Exposures to TCE in Air from Subsurface Vapor Intrusion Memorandum dated July 9, 2014. The modeled indoor air concentrations were less than 1.16 µg/m³ and therefore indicate that TCE in groundwater and vapor beneath the residential parcels is not a threat to human health due to potential vapor intrusion.

In accordance with the Arkansas Department of Environmental Quality's (ADEQ's) guidance, Whirlpool has used the results above to calculate both cancer risk and non-cancer risk related to these groundwater and soil vapor results for TCE by parcel. The calculated risk values for the subject residential parcels are provided below and are below ADEQ's risk thresholds for cancer risk of 1×10^{-5} and non-cancer hazard index of 1.

Parcel ID #	Cancer Risk	Non-cancer Risk
1	1×10^{-6}	0.01
2	5×10^{-7}	0.04
3	4×10^{-6}	0.50

Quarterly monitoring of shallow groundwater and soil vapor will continue throughout 2015 in accordance with the work plans for the shallow groundwater and soil vapor investigations.

During the meetings with the respective property owners, each was asked for their preference for additional crawl space and indoor air sampling. The forms signed by the respective property owners are attached. The requested crawl space and indoor air sampling will be performed during the second quarter monitoring event in April 2015.

If you have any questions or comments please contact me at your earliest convenience.

Sincerely,

ENVIRON International Corporation



Michael F. Ellis, PE
Principal

LIST OF ATTACHMENTS

Figure 1: Location of Shallow Monitoring Wells and Soil Vapor Points

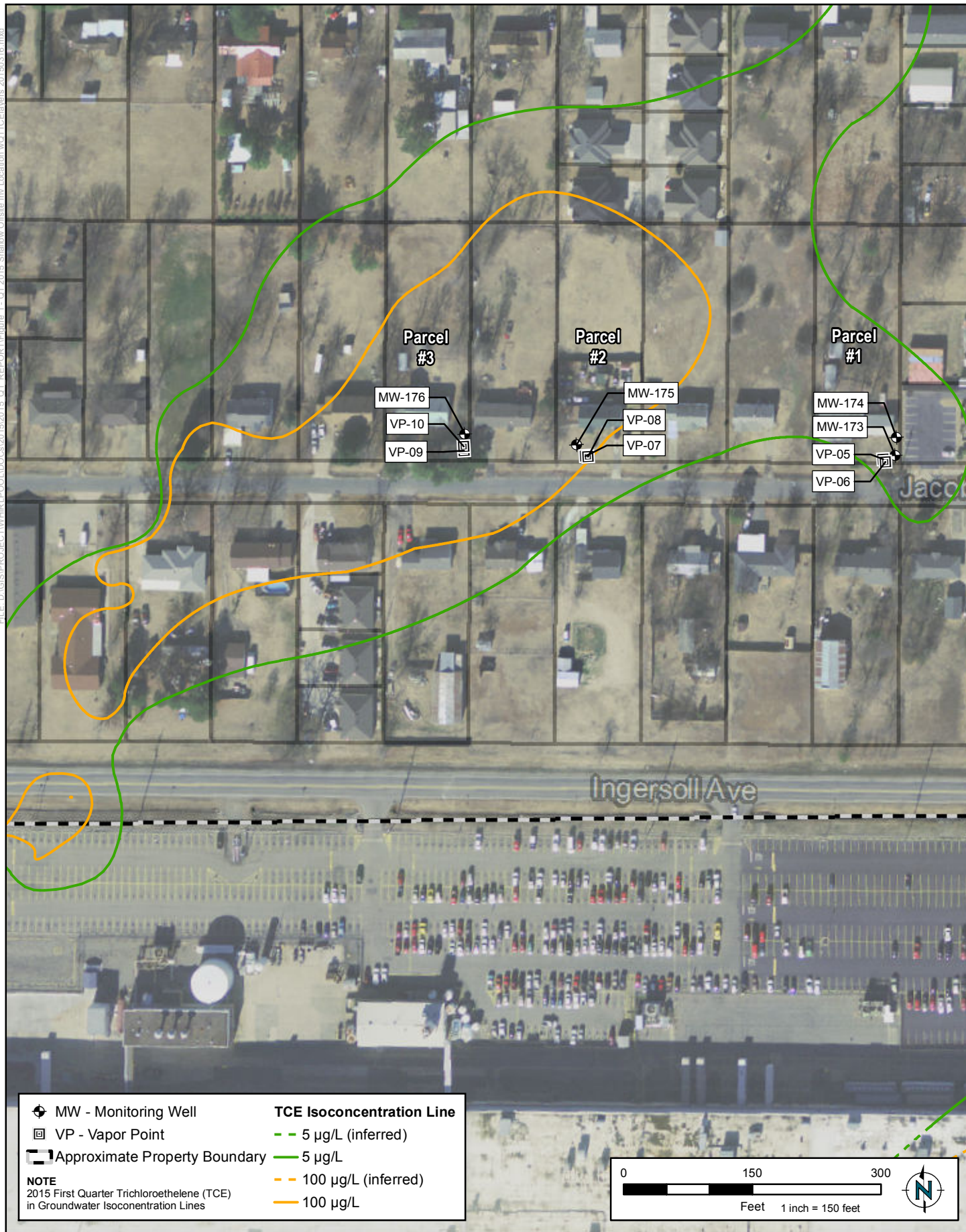
Table 1: Summary of Groundwater Analytical Results for Offsite Parcels

Table 2: Summary of Soil Vapor Analytical Results for Offsite Parcels

Appendix A: Monitoring Well Construction and Vapor Point Construction Logs

Appendix B: Laboratory Analytical Reports

FIGURE



SHALLOW MONITORING WELL AND VAPOR POINT LOCATIONS

Figure
1

TABLES

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS (OFFSITE PARCELS)
Whirlpool Facility - Fort Smith, Arkansas

Location	Remedial	MW-174	MW-175	MW-176	VP-6	VP-10
ENVIRON Sample ID	Action Levels	MW-174-GW-20150120	MW-175-GW-20150120	MW-176-GW-20150120	VP-06-GW-20150120	VP-10-GW-20150120
Lab Sample ID	per ADEQ	60186563001	60186566001	60186564001	60186563002	60186564002
Collection Depth (ft bgs)	RADD Issued	10 - 11	14 - 15	13.5 - 14.5	13.75 - 14.25	10.75 - 11.25
Sample Date	Dec 2013	01/20/2015	01/20/2015	01/20/2015	01/20/2015	01/20/2015
Volatile Organic Compounds						
Acetone	12000	51.1 (5.0)	16.1 (5.0)	U (5.0)	5.7 J (5.0)	5.8 J (5.0)
2-Butanone	4900	11.3 (5.0)	U (5.0)	U (5.0)	U (5.0)	U (5.0)
Chloroform	80	U (0.50)	U (0.50)	U (0.50)	U (0.50)	U (0.50)
1,1-Dichloroethene	7.0	U (0.50)	U (0.50)	2.6 (0.50)	U (0.50)	2.8 (0.50)
cis-1,2-Dichloroethene	70	U (0.50)	2.0 (0.50)	16.8 (0.50)	U (0.50)	18.8 (0.50)
trans-1,2-Dichloroethene	100	U (0.50)	U (0.50)	U (0.50)	U (0.50)	0.51 J (0.50)
Trichloroethene	5.0	U (0.50)	<u>123 (0.50)</u>	<u>720 (5.0)</u>	4.3 (0.50)	<u>636 (5.0)</u>
Vinyl Chloride	2.0	U (0.50)	U (0.50)	0.57 J (0.50)	U (0.50)	0.61 J (0.50)

Notes:

- 1 All concentrations are presented in µg/L (ppb)
- 2 Only compounds with at least one detection are shown
- 3 Concentrations that exceed the remedial action levels per ADEQ RADD issued December 2013 are double underlined

U: Not detected

J: Estimated concentration

(): Method detection limit

RADD: Remedial Action Decision Document

ADEQ: Arkansas Department of
Environmental Quality

µg/L: Micrograms per liter

ft bgs: Feet below ground surface

TABLE 2
SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS (OFFSITE PARCELS)
Whirlpool Facility - Fort Smith, Arkansas

Parcel	1	2	3
Location	VP-5	VP-7	VP-9
ENVIRON Sample ID	VP-05-201501	VP-7-201501	VP-9-201501
Lab Sample ID	P1500238-001	P1500228-001	P1500223-001
Collection Depth (ft bgs)	7.5	5.5	5.5
Sample Date	01/16/2015	01/19/2015	01/19/2015
Volatile Organic Compounds			
1,1-Dichloroethane	U (0.0091)	U (0.011)	0.36 (0.011)
1,2-Dichloroethane	0.20 (0.0092)	0.20 (0.011)	2.3 (0.011)
1,1-Dichloroethene	0.85 (0.0088)	0.42 (0.011)	1.7 (0.010)
cis-1,2-Dichloroethene	0.084 (0.0082)	0.25 (0.010)	0.14 (0.0096)
trans-1,2-Dichloroethene	0.15 (0.0086)	U (0.011)	0.14 (0.010)
Tetrachloroethene	0.79 (0.0099)	0.44 (0.012)	0.29 (0.012)
1,1,1-Trichloroethane	U (0.0076)	U (0.0094)	0.045 (0.0090)
Trichloroethene	0.84 (0.0096)	2.8 (0.012)	31 (0.011)
Vinyl Chloride	4.6 (0.0091)	1.5 (0.011)	4.1 (0.011)

Notes:

- 1 All concentrations are presented in $\mu\text{g}/\text{m}^3$
- 2 Only compounds with at least one detection are shown
- U: Not detected
- D: Reported result is from a dilution
- (): Method detection limit
- ft bgs: Feet below ground surface

APPENDIX A: Monitoring Well Construction and Soil Vapor Point Construction Logs



2118 North Tyler Road Building A, Wichita, KS 67212

Site ID: MW-173

Date(s): 1/14/2015

Location: Fort Smith, Arkansas

Logged By: N. Zurweller

Checked By: K. Stonestreet

Contractor: Walker-Hill

Purpose: Monitoring Well

Drilling Method: Sonic

GS Elevation: 463.94 ft amsl

TOC Elevation: 463.56 ft amsl

Sampling Method: Sonic

North: 369623.00

East: 591972.98

Well Construction:

Surface Casing: Sch 40 PVC 8 inch 0.5 FT to 4 FT
Blank Casing: Sch 40 PVC 2 Inch 0 FT to 5 FT
Screen: Sch. 40 2 Inch 0.10 PVC 5 FT to 6 FT
Surface Casing: Cement Grout 0 FT to 4 FT
Well: Cement Grout 0 FT to 2 FT
Bentonite 2 FT to 4 FT
Sand 4 FT to 6 FT

Borehole Dia.: 12 inches

Total Depth: 15.5 feet

Project Number: 3433244A

Project Name: Whirlpool Corporation

Remarks: Lithology from boring DP-63.

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction Flush Mount
460	4			0.0		CL	TOPSOIL, DARK BROWN, SANDY, LOOSE, MOIST, OCCASIONAL ROOT HAIRS		
				0.0			SILTY CLAY, DARK BROWN/GRAY, MOTTLED, FREQUENT ORGANIC NODULES, STIFF, PLASTIC, MOIST		
	5		DP-63 (5.5)	0.0			SILTY CLAY, DARK BROWN/RED BROWN/GRAY, MOTTLED, SOFT, PLASTIC, MOIST		
	6			0.0			SILTY CLAY, RED BROWN, FREQUENT GRAVEL, SUB ROUND, FINE GRAIN, SAND, FINE TO MEDIUM GRAIN, STIFF, SLIGHTLY PLASTIC, MOIST, WITH ORGANIC NODULES		
455	10		DP-63 (10.5)	0.0			SILTY CLAY, DARK BROWN/RED BROWN, TRACE GRAVEL, FINE GRAIN, SOFT, PLASTIC, MOIST		
	5.5			0.0		CH	SANDY CLAY, RED BROWN, FINE TO MEDIUM GRAIN, WITH GRAVEL, FINE GRAIN, SUB ROUND, COHESIVE, MOIST		
450	15			0.0		CL	SILTY CLAY, RED BROWN/GRAY, MOTTLED, WITH GRAVEL, FINE TO COURSE GRAIN, SUB ROUND, SAND, FINE TO MEDIUM GRAIN, VERY STIFF, COHESIVE, MOIST		
445	20								
440	25								
435									



2118 North Tyler Road Building A, Wichita, KS 67212

Site ID: **MW-174**

Date(s): **1/14/2015**

Location: **Fort Smith, Arkansas**

Logged By: **N. Zurweller**

Checked By: **K. Stonestreet**

Contractor: **Walker-Hill**

Purpose: **Monitoring Well**

Drilling Method: **Sonic**

GS Elevation: **463.72 ft amsl**

TOC Elevation: **463.45 ft amsl**

Sampling Method: **Sonic**

North: **369643.79**

East: **591975.59**

Well Construction:

Surface Casing: Sch 40 PVC 8 inch 0.5 FT to 10 FT
Blank Casing: Sch 40 PVC 2 Inch 0 FT to 11 FT
Screen: Sch. 40 2 Inch 0.10 PVC 11 FT to 12 FT
Surface Casing: Cement Grout 0 FT to 10 FT
Well: Cement Grout 0 FT to 8 FT
Bentonite 8 FT to 10 FT
Sand 10 FT to 12 FT

Borehole Dia.: **12 inches**

Total Depth: **15.5 feet**

Project Number: **3433244A**

Project Name: **Whirlpool Corporation**

Remarks: **Lithology from boring DP-63.**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction Flush Mount
460	4			0.0		CL	TOPSOIL, DARK BROWN, SANDY, LOOSE, MOIST, OCCASIONAL ROOT HAIRS		
				0.0			SILTY CLAY, DARK BROWN/GRAY, MOTTLED, FREQUENT ORGANIC NODULES, STIFF, PLASTIC, MOIST		
	5		DP-63 (5.5)	0.0			SILTY CLAY, DARK BROWN/RED BROWN/GRAY, MOTTLED, SOFT, PLASTIC, MOIST		
	6			0.0			SILTY CLAY, RED BROWN, FREQUENT GRAVEL, SUB ROUND, FINE GRAIN, SAND, FINE TO MEDIUM GRAIN, STIFF, SLIGHTLY PLASTIC, MOIST, WITH ORGANIC NODULES		
455	10		DP-63 (10.5)	0.0			SILTY CLAY, DARK BROWN/RED BROWN, TRACE GRAVEL, FINE GRAIN, SOFT, PLASTIC, MOIST		
				0.0		CH	SANDY CLAY, RED BROWN, FINE TO MEDIUM GRAIN, WITH GRAVEL, FINE GRAIN, SUB ROUND, COHESIVE, MOIST		
450	15			0.0		CL	SILTY CLAY, RED BROWN/GRAY, MOTTLED, WITH GRAVEL, FINE TO COURSE GRAIN, SUB ROUND, SAND, FINE TO MEDIUM GRAIN, VERY STIFF, COHESIVE, MOIST		
445	20								
440	25								
435									



2118 North Tyler Road Building A, Wichita, KS 67212

Site ID: MW-175

Date(s): 1/15/2015

Location: Fort Smith, Arkansas

Logged By: N. Zurweller

Checked By: K. Stonestreet

Contractor: Walker-Hill

Purpose: Monitoring Well

Drilling Method: Sonic

GS Elevation: 464.52 ft amsl

TOC Elevation: 464.17 ft amsl

Sampling Method: Sonic

North: 369654.94

East: 591602.59

Well Construction:

Surface Casing: Sch 40 PVC 8 inch 0.5 FT to 13 FT
Blank Casing: Sch 40 PVC 2 Inch 0 FT to 14.5 FT
Screen: Sch. 40 2 Inch 0.10 PVC 13.5 FT to 14.5 FT
Surface Casing: Cement Grout 0 FT to 13 FT
Well: Cement Grout 0 FT to 10.5 FT
Bentonite 10.5 FT to 12.5 FT
Sand 12.5 FT to 14.5 FT

Borehole Dia.: 12 inches

Total Depth: 15.0 feet

Project Number: 3433244A

Project Name: Whirlpool Corporation

Remarks: Lithology from boring DP-64.

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction Flush Mount
460	4			0.0		CL	TOPSOIL, DARK BROWN, ROOT HAIRS, WET(SATURATED)		
	5			0.0			SILTY CLAY, RED BROWN/GRAY, MOTTLED, FREQUENT ORGANIC NODULES, SILT DECREASING WITH DEPTH, TRACE GRAVEL, FINE GRAIN, SUB ROUND, STIFF, PLASTIC, MOIST		
	6			0.0			SILTY CLAY, RED BROWN/GRAY, MOTTLED, FREQUENT ORGANIC NODULES, TRACE GRAVEL, FINE GRAIN, SUB ROUND, VERY STIFF, PLASTIC, MOIST		
455	10			0.0			SILTY CLAY, RED BROWN/GRAY, MOTTLED, FREQUENT GRAVEL, FINE GRAIN, TRACE SAND, FINE GRAIN, STIFF, SLIGHTLY PLASTIC, MOIST		
	5			0.0			SILTY CLAY, RED BROWN, WITH GRAVEL, SUB ROUND, FINE GRAIN, TRACE SAND, FINE GRAIN, STIFF, COHESIVE, MOIST		
450	15		DP-64 (14.5)	0.1		SM	SILTY SAND, RED BROWN, SLIGHTLY CLAYEY, FINE TO MEDIUM GRAIN, SLIGHTLY COHESIVE, MOIST		
						CL	SILTY CLAY, RED BROWN, WITH GRAVEL, SUB ROUND, FINE TO COURSE GRAIN, HARD, DRY		
445	20								
440	25								
435									



ENVIRON

2118 North Tyler Road Building A, Wichita, KS 67212

Site ID: MW-176

Date(s): 1/16/2015

Location: Fort Smith, Arkansas

Logged By: N. Zurweller

Checked By: K. Stonestreet

Contractor: Able Environmental

Purpose: Monitoring Well

Drilling Method: Hollow Stem Auger

GS Elevation: 465.46 ft amsl

TOC Elevation: 465.24 ft amsl

Sampling Method: Sonic

North: 369675.04

East: 591473.47

Well Construction:

Surface Casing: Sch 40 PVC 8 inch 0.5 FT to 12.5 FT

Blank Casing: Sch 40 PVC 2 Inch 0 FT to 13 FT

Screen: Sch. 40 2 Inch 0.10 PVC 13 FT to 14 FT

Surface Casing: Cement Grout 0 FT to 12.5 FT

Well: Cement Grout 0 FT to 10 FT

Bentonite 10 FT to 12 FT

Sand 12 FT to 14 FT

Borehole Dia.: 12 inches

Total Depth: 15.0 feet

Project Number: 3433244A

Project Name: Whirlpool Corporation

Remarks: Lithology from boring DP-65.

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction Flush Mount
465	4			0.1		CL	SILTY CLAY, GRAY/BROWN, MOTTLED, SOFT, PLASTIC, WET, OCCASIONAL ROOT HAIR		
				0.8					
460	5			1.8			SILTY CLAY, RED BROWN/GRAY, MOTTLED, TRACE GRAVEL, FINE GRAIN, SUB ROUND, VERY STIFF, PLASTIC, MOIST, OCCASIONAL ORGANIC NODULES		
				8.7					
455	10			2.1					
				2.8		SM	SILTY SAND, RED BROWN, FINE TO MEDIUM GRAIN, SLIGHTLY CLAYEY, SLIGHTLY COHESIVE, MOIST		
			DP-65 (14)			CL	SILTY CLAY, RED BROWN/GRAY, MOTTLED, SLIGHTLY SANDY, FINE GRAIN, STIFF, PLASTIC, MOIST		
450	15						SILTY CLAY, RED BROWN, WITH GRAVEL, FINE TO COARSE GRAIN, SUB ROUND, STIFF, COHESIVE, MOIST, CRUMBLES		
445	20								
440	25								



2118 North Tyler Road Building A, Wichita, KS 67212

Site ID: **VP-5**

Date(s): **1/14/2015**

Location: **Fort Smith, Arkansas**

Logged By: **N. Zurweller**

Checked By: **K. Stonestreet**

Contractor: **Walker-Hill**

Purpose: **Vapor Point**

Drilling Method: **Sonic**

GS Elevation: **464.08 ft amsl**

TOC Elevation: **Not available**

Sampling Method: **Sonic**

North: **369619.19**

East: **591959.04**

Well Construction:

Surface Casing: Sch 40 PVC 8 inch 0.5 FT to 7 FT
Blank Casing: 0.25 Inch I.D. Tubing 0 FT to 7.25 FT
Screen: Stainless Steel 7.25 FT to 7.75 FT
Surface Casing: Cement Grout 0 FT to 7 FT
Well: Cement Grout 0 FT to 5 FT
Bentonite Grout 5 FT to 7 FT
Sand 7 FT to 8 FT

Borehole Dia.: **12 inches**

Total Depth: **8.0 feet**

Project Number: **3433244A**

Project Name: **Whirlpool Corporation**

Remarks: **Lithology from boring DP-63.**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction Flush Mount
460	4			0.0		CL	TOPSOIL, DARK BROWN, SANDY, LOOSE, MOIST, OCCASIONAL ROOT HAIRS		
				0.0			SILTY CLAY, DARK BROWN/GRAY, MOTTLED, FREQUENT ORGANIC NODULES, STIFF, PLASTIC, MOIST		
	5		DP-63 (5.5)	0.0			SILTY CLAY, DARK BROWN/RED BROWN/GRAY, MOTTLED, SOFT, PLASTIC, MOIST		
	6			0.0			SILTY CLAY, RED BROWN, FREQUENT GRAVEL, SUB ROUND, FINE GRAIN, SAND, FINE TO MEDIUM GRAIN, STIFF, SLIGHTLY PLASTIC, MOIST, WITH ORGANIC NODULES		
455	10		DP-63 (10.5)	0.0			SILTY CLAY, DARK BROWN/RED BROWN, TRACE GRAVEL, FINE GRAIN, SOFT, PLASTIC, MOIST		
				0.0		CH	SANDY CLAY, RED BROWN, FINE TO MEDIUM GRAIN, WITH GRAVEL, FINE GRAIN, SUB ROUND, COHESIVE, MOIST		
450	15			0.0		CL	SILTY CLAY, RED BROWN/GRAY, MOTTLED, WITH GRAVEL, FINE TO COURSE GRAIN, SUB ROUND, SAND, FINE TO MEDIUM GRAIN, VERY STIFF, COHESIVE, MOIST		
445	20								
440	25								
435									



2118 North Tyler Road Building A, Wichita, KS 67212

Site ID: **VP-6**

Date(s): **1/14/2015**

Location: **Fort Smith, Arkansas**

Logged By: **N. Zurweller**

Checked By: **K. Stonestreet**

Contractor: **Walker-Hill**

Purpose: **Vapor Point**

Drilling Method: **Sonic**

GS Elevation: **464.01 ft amsl**

TOC Elevation: **Not available**

Sampling Method: **Sonic**

North: **369615.51**

East: **591961.14**

Well Construction:

Surface Casing: Sch 40 PVC 8 inch 0.5 FT to 13.5 FT
Blank Casing: 0.25 Inch I.D. Tubing 0 FT to 13.75 FT
Screen: Stainless Steel 13.75 FT to 14.25 FT
Surface Casing: Cement Grout 0 FT to 13.5 FT
Well: Cement Grout 0 FT to 11.5 FT
Bentonite Grout 11.5 FT to 13.5 FT
Sand 13.5 FT to 14.5 FT

Borehole Dia.: **12 inches**

Total Depth: **14.5 feet**

Project Number: **3433244A**

Project Name: **Whirlpool Corporation**

Remarks: **Lithology from boring DP-63.**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction Flush Mount
460	4			0.0		CL	TOPSOIL, DARK BROWN, SANDY, LOOSE, MOIST, OCCASIONAL ROOT HAIRS		
				0.0			SILTY CLAY, DARK BROWN/GRAY, MOTTLED, FREQUENT ORGANIC NODULES, STIFF, PLASTIC, MOIST		
	5		DP-63 (5.5)	0.0			SILTY CLAY, DARK BROWN/RED BROWN/GRAY, MOTTLED, SOFT, PLASTIC, MOIST		
	6			0.0			SILTY CLAY, RED BROWN, FREQUENT GRAVEL, SUB ROUND, FINE GRAIN, SAND, FINE TO MEDIUM GRAIN, STIFF, SLIGHTLY PLASTIC, MOIST, WITH ORGANIC NODULES		
455	10		DP-63 (10.5)	0.0			SILTY CLAY, DARK BROWN/RED BROWN, TRACE GRAVEL, FINE GRAIN, SOFT, PLASTIC, MOIST		
				0.0		CH	SANDY CLAY, RED BROWN, FINE TO MEDIUM GRAIN, WITH GRAVEL, FINE GRAIN, SUB ROUND, COHESIVE, MOIST		
450	15			0.0		CL	SILTY CLAY, RED BROWN/GRAY, MOTTLED, WITH GRAVEL, FINE TO COURSE GRAIN, SUB ROUND, SAND, FINE TO MEDIUM GRAIN, VERY STIFF, COHESIVE, MOIST		
445	20								
440	25								
435									



2118 North Tyler Road Building A, Wichita, KS 67212

Site ID: **VP-7**

Date(s): **1/15/2015**

Location: **Fort Smith, Arkansas**

Logged By: **N. Zurweller**

Checked By: **K. Stonestreet**

Contractor: **Walker-Hill**

Purpose: **Vapor Point**

Drilling Method: **Sonic**

GS Elevation: **464.63 ft amsl**

TOC Elevation: **Not available**

Sampling Method: **Sonic**

North: **369641.40**

East: **591612.33**

Well Construction:

Surface Casing: Sch 40 PVC 8 inch 0.5 FT to 5 FT
Blank Casing: 0.25 Inch I.D. Tubing 0 FT to 5.25 FT
Screen: Stainless Steel 5.25 FT to 5.75 FT
Surface Casing: Cement Grout 0 FT to 5 FT
Well: Cement Grout 0 FT to 3 FT
Bentonite Grout 3 FT to 5 FT
Sand 5 FT to 6 FT

Borehole Dia.: **12 inches**

Total Depth: **6.0 feet**

Project Number: **3433244A**

Project Name: **Whirlpool Corporation**

Remarks: **Lithology from boring DP-64.**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction Flush Mount
460	4			0.0		CL	TOPSOIL, DARK BROWN, ROOT HAIRS, WET(SATURATED)		
	5			0.0			SILTY CLAY, RED BROWN/GRAY, MOTTLED, FREQUENT ORGANIC NODULES, SILT DECREASING WITH DEPTH, TRACE GRAVEL, FINE GRAIN, SUB ROUND, STIFF, PLASTIC, MOIST		
	6			0.0			SILTY CLAY, RED BROWN/GRAY, MOTTLED, FREQUENT ORGANIC NODULES, TRACE GRAVEL, FINE GRAIN, SUB ROUND, VERY STIFF, PLASTIC, MOIST		
455	10			0.0			SILTY CLAY, RED BROWN/GRAY, MOTTLED, FREQUENT GRAVEL, FINE GRAIN, TRACE SAND, FINE GRAIN, STIFF, SLIGHTLY PLASTIC, MOIST		
	5			0.0			SILTY CLAY, RED BROWN, WITH GRAVEL, SUB ROUND, FINE GRAIN, TRACE SAND, FINE GRAIN, STIFF, COHESIVE, MOIST		
450	15		DP-64 (14.5)	0.1		SM	SILTY SAND, RED BROWN, SLIGHTLY CLAYEY, FINE TO MEDIUM GRAIN, SLIGHTLY COHESIVE, MOIST		
						CL	SILTY CLAY, RED BROWN, WITH GRAVEL, SUB ROUND, FINE TO COURSE GRAIN, HARD, DRY		
445	20								
440	25								
435									



2118 North Tyler Road Building A, Wichita, KS 67212

Site ID: **VP-8**

Date(s): **1/15/2015**

Location: **Fort Smith, Arkansas**

Logged By: **N. Zurweller**

Checked By: **K. Stonestreet**

Contractor: **Walker-Hill**

Purpose: **Vapor Point**

Drilling Method: **Sonic**

GS Elevation: **464.61 ft amsl**

TOC Elevation: **Not available**

Sampling Method: **Sonic**

North: **369641.14**

East: **591615.45**

Well Construction:

Surface Casing: Sch 40 PVC 8 inch 0.5 FT to 10 FT
Blank Casing: 0.25 Inch I.D. Tubing 0 FT to 10.25 FT
Screen: Stainless Steel 10.25 FT to 10.75 FT
Surface Casing: Cement Grout 0 FT to 10 FT
Well: Cement Grout 0 FT to 8 FT
Bentonite Grout 8 FT to 10 FT
Sand 10 FT to 11 FT

Borehole Dia.: **12 inches**

Total Depth: **11.0 feet**

Project Number: **3433244A**

Project Name: **Whirlpool Corporation**

Remarks: **Lithology from boring DP-64.**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction Flush Mount
460	4			0.0		CL	TOPSOIL, DARK BROWN, ROOT HAIRS, WET(SATURATED)		
	5			0.0			SILTY CLAY, RED BROWN/GRAY, MOTTLED, FREQUENT ORGANIC NODULES, SILT DECREASING WITH DEPTH, TRACE GRAVEL, FINE GRAIN, SUB ROUND, STIFF, PLASTIC, MOIST		
	6			0.0			SILTY CLAY, RED BROWN/GRAY, MOTTLED, FREQUENT ORGANIC NODULES, TRACE GRAVEL, FINE GRAIN, SUB ROUND, VERY STIFF, PLASTIC, MOIST		
455	10			0.0			SILTY CLAY, RED BROWN/GRAY, MOTTLED, FREQUENT GRAVEL, FINE GRAIN, TRACE SAND, FINE GRAIN, STIFF, SLIGHTLY PLASTIC, MOIST		
	5			0.0			SILTY CLAY, RED BROWN, WITH GRAVEL, SUB ROUND, FINE GRAIN, TRACE SAND, FINE GRAIN, STIFF, COHESIVE, MOIST		
450	15		DP-64 (14.5)	0.1		SM	SILTY SAND, RED BROWN, SLIGHTLY CLAYEY, FINE TO MEDIUM GRAIN, SLIGHTLY COHESIVE, MOIST		
						CL	SILTY CLAY, RED BROWN, WITH GRAVEL, SUB ROUND, FINE TO COURSE GRAIN, HARD, DRY		
445	20								
440	25								
435									



2118 North Tyler Road Building A, Wichita, KS 67212

Site ID: **VP-9**

Date(s): **1/16/2015**

Location: **Fort Smith, Arkansas**

Logged By: **N. Zurweller**

Checked By: **K. Stonestreet**

Contractor: **Able Environmental**

Purpose: **Vapor Point**

Drilling Method: **Hollow Stem Auger**

GS Elevation: **465.6 ft amsl**

TOC Elevation: **Not available**

Sampling Method: **Sonic**

North: **369655.87**

East: **591471.58**

Well Construction:

Surface Casing: Sch 40 PVC 8 inch 0.5 FT to 5 FT
Blank Casing: 0.25 Inch I.D. Tubing 0 FT to 5.25 FT
Screen: Stainless Steel 5.25 FT to 5.75 FT
Surface Casing: Cement Grout 0 FT to 5 FT
Well: Cement Grout 0 FT to 3 FT
Bentonite Grout 3 FT to 5 FT
Sand 5 FT to 6 FT

Borehole Dia.: **12 inches**

Total Depth: **6.0 feet**

Project Number: **3433244A**

Project Name: **Whirlpool Corporation**

Remarks: **Lithology from boring DP-65.**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction Flush Mount
465	4			0.1		CL	SILTY CLAY, GRAY/BROWN, MOTTLED, SOFT, PLASTIC, WET, OCCASIONAL ROOT HAIR		
	5			0.8					
460	6			1.8			SILTY CLAY, RED BROWN/GRAY, MOTTLED, TRACE GRAVEL, FINE GRAIN, SUB ROUND, VERY STIFF, PLASTIC, MOIST, OCCASIONAL ORGANIC NODULES		
	10			8.7					
455	15			2.1					
	5		DP-65 (14)	2.8		SM	SILTY SAND, RED BROWN, FINE TO MEDIUM GRAIN, SLIGHTLY CLAYEY, SLIGHTLY COHESIVE, MOIST		
450	15					CL	SILTY CLAY, RED BROWN/GRAY, MOTTLED, SLIGHTLY SANDY, FINE GRAIN, STIFF, PLASTIC, MOIST		
							SILTY CLAY, RED BROWN, WITH GRAVEL, FINE TO COARSE GRAIN, SUB ROUND, STIFF, COHESIVE, MOIST, CRUMBLES		
445	20								
440	25								



2118 North Tyler Road Building A, Wichita, KS 67212

Site ID: **VP-10**

Date(s): **1/16/2015**

Location: **Fort Smith, Arkansas**

Logged By: **N. Zurweller**

Checked By: **K. Stonestreet**

Contractor: **Able Environmental**

Purpose: **Vapor Point**

Drilling Method: **Hollow Stem Auger**

GS Elevation: **465.59 ft amsl**

TOC Elevation: **Not available**

Sampling Method: **Sonic**

North: **369661.02**

East: **591471.62**

Well Construction:

Surface Casing: Sch 40 PVC 8 inch 0.5 FT to 10.5 FT
Blank Casing: 0.25 Inch I.D. Tubing 0 FT to 10.75 FT
Screen: Stainless Steel 10.75 FT to 11.25 FT
Surface Casing: Cement Grout 0 FT to 10.5 FT
Well: Cement Grout 0 FT to 8.5 FT
Bentonite Grout 8.5 FT to 10.5 FT
Sand 10.5 FT to 11.5 FT

Borehole Dia.: **12 inches**

Total Depth: **11.5 feet**

Project Number: **3433244A**

Project Name: **Whirlpool Corporation**

Remarks: **Lithology from boring DP-65.**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction Flush Mount
465	4			0.1		CL	SILTY CLAY, GRAY/BROWN, MOTTLED, SOFT, PLASTIC, WET, OCCASIONAL ROOT HAIR		
				0.8					
460	5			1.8			SILTY CLAY, RED BROWN/GRAY, MOTTLED, TRACE GRAVEL, FINE GRAIN, SUB ROUND, VERY STIFF, PLASTIC, MOIST, OCCASIONAL ORGANIC NODULES		
				8.7					
455	10			2.1					
				2.8		SM	SILTY SAND, RED BROWN, FINE TO MEDIUM GRAIN, SLIGHTLY CLAYEY, SLIGHTLY COHESIVE, MOIST		
			DP-65 (14)			CL	SILTY CLAY, RED BROWN/GRAY, MOTTLED, SLIGHTLY SANDY, FINE GRAIN, STIFF, PLASTIC, MOIST		
450	15						SILTY CLAY, RED BROWN, WITH GRAVEL, FINE TO COARSE GRAIN, SUB ROUND, STIFF, COHESIVE, MOIST, CRUMBLES		
445	20								
440	25								

APPENDIX B: Laboratory Analytical Reports

January 27, 2015

Wendy Stonestreet
Environ International Corporation
7500 College Blvd Ste 925
Overland Park, KS 66210

RE: Project: FORT SMITH AR
Pace Project No.: 60186563

Dear Wendy Stonestreet:

Enclosed are the analytical results for sample(s) received by the laboratory on January 21, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mary Jane Walls
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

cc: Tamara Gleason, ENVIRON International Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: FORT SMITH AR

Pace Project No.: 60186563

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: FORT SMITH AR

Pace Project No.: 60186563

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60186563001	MW-174-GW-20150120	Water	01/20/15 13:40	01/21/15 08:30
60186563002	VP-06-GW-20150120	Water	01/20/15 15:50	01/21/15 08:30

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SAMPLE ANALYTE COUNT

Project: FORT SMITH AR

Pace Project No.: 60186563

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60186563001	MW-174-GW-20150120	EPA 5030B/8260	PRG	38
60186563002	VP-06-GW-20150120	EPA 5030B/8260	PRG	38

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: FORT SMITH AR

Pace Project No.: 60186563

Method: EPA 5030B/8260

Description: 8260 MSV

Client: Environ_AR

Date: January 27, 2015

General Information:

2 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/67171

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FORT SMITH AR

Pace Project No.: 60186563

Sample: MW-174-GW-20150120 **Lab ID:** 60186563001 **Collected:** 01/20/15 13:40 **Received:** 01/21/15 08:30 **Matrix:** Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 5030B/8260									
Acetone	51.1	ug/L	10.0	5.0	1		01/23/15 19:41	67-64-1	
Benzene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.50	1		01/23/15 19:41	75-27-4	
Bromoform	ND	ug/L	1.0	0.50	1		01/23/15 19:41	75-25-2	
Bromomethane	ND	ug/L	5.0	2.5	1		01/23/15 19:41	74-83-9	
2-Butanone (MEK)	11.3	ug/L	10.0	5.0	1		01/23/15 19:41	78-93-3	
Carbon disulfide	ND	ug/L	5.0	2.5	1		01/23/15 19:41	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.50	1		01/23/15 19:41	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:41	75-00-3	
Chloroform	ND	ug/L	1.0	0.50	1		01/23/15 19:41	67-66-3	
Chloromethane	ND	ug/L	1.0	0.50	1		01/23/15 19:41	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.50	1		01/23/15 19:41	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:41	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:41	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.50	1		01/23/15 19:41	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	100-41-4	
2-Hexanone	ND	ug/L	10.0	5.0	1		01/23/15 19:41	591-78-6	
Methylene chloride	ND	ug/L	1.0	0.50	1		01/23/15 19:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	2.5	1		01/23/15 19:41	108-10-1	
Styrene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:41	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	127-18-4	
Toluene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:41	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.50	1		01/23/15 19:41	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.50	1		01/23/15 19:41	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1.5	1		01/23/15 19:41	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100 %		80-120		1		01/23/15 19:41	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		80-120		1		01/23/15 19:41	17060-07-0	
Toluene-d8 (S)	100 %		80-120		1		01/23/15 19:41	2037-26-5	
Preservation pH	1.0		0.10	0.10	1		01/23/15 19:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FORT SMITH AR

Pace Project No.: 60186563

Sample: VP-06-GW-20150120 Lab ID: 60186563002 Collected: 01/20/15 15:50 Received: 01/21/15 08:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 5030B/8260									
Acetone	5.7J	ug/L	10.0	5.0	1		01/23/15 19:56	67-64-1	
Benzene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.50	1		01/23/15 19:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.50	1		01/23/15 19:56	75-25-2	
Bromomethane	ND	ug/L	5.0	2.5	1		01/23/15 19:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	5.0	1		01/23/15 19:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	2.5	1		01/23/15 19:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.50	1		01/23/15 19:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:56	75-00-3	
Chloroform	ND	ug/L	1.0	0.50	1		01/23/15 19:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.50	1		01/23/15 19:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.50	1		01/23/15 19:56	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.50	1		01/23/15 19:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	5.0	1		01/23/15 19:56	591-78-6	
Methylene chloride	ND	ug/L	1.0	0.50	1		01/23/15 19:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	2.5	1		01/23/15 19:56	108-10-1	
Styrene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	127-18-4	
Toluene	ND	ug/L	1.0	0.50	1		01/23/15 19:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.50	1		01/23/15 19:56	79-00-5	
Trichloroethene	4.3	ug/L	1.0	0.50	1		01/23/15 19:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.50	1		01/23/15 19:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1.5	1		01/23/15 19:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		01/23/15 19:56	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	80-120		1		01/23/15 19:56	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		01/23/15 19:56	2037-26-5	
Preservation pH	1.0		0.10	0.10	1		01/23/15 19:56		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FORT SMITH AR

Pace Project No.: 60186563

QC Batch:	MSV/67171	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60186563001, 60186563002		

METHOD BLANK: 1510745 Matrix: Water

Associated Lab Samples: 60186563001, 60186563002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/23/15 15:12	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/23/15 15:12	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/23/15 15:12	
1,1-Dichloroethane	ug/L	ND	1.0	01/23/15 15:12	
1,1-Dichloroethene	ug/L	ND	1.0	01/23/15 15:12	
1,2-Dichloroethane	ug/L	ND	1.0	01/23/15 15:12	
1,2-Dichloropropane	ug/L	ND	1.0	01/23/15 15:12	
2-Butanone (MEK)	ug/L	ND	10.0	01/23/15 15:12	
2-Hexanone	ug/L	ND	10.0	01/23/15 15:12	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	01/23/15 15:12	
Acetone	ug/L	ND	10.0	01/23/15 15:12	
Benzene	ug/L	ND	1.0	01/23/15 15:12	
Bromodichloromethane	ug/L	ND	1.0	01/23/15 15:12	
Bromoform	ug/L	ND	1.0	01/23/15 15:12	
Bromomethane	ug/L	ND	5.0	01/23/15 15:12	
Carbon disulfide	ug/L	ND	5.0	01/23/15 15:12	
Carbon tetrachloride	ug/L	ND	1.0	01/23/15 15:12	
Chlorobenzene	ug/L	ND	1.0	01/23/15 15:12	
Chloroethane	ug/L	ND	1.0	01/23/15 15:12	
Chloroform	ug/L	ND	1.0	01/23/15 15:12	
Chloromethane	ug/L	ND	1.0	01/23/15 15:12	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/23/15 15:12	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/23/15 15:12	
Dibromochloromethane	ug/L	ND	1.0	01/23/15 15:12	
Ethylbenzene	ug/L	ND	1.0	01/23/15 15:12	
Methylene chloride	ug/L	ND	1.0	01/23/15 15:12	
Styrene	ug/L	ND	1.0	01/23/15 15:12	
Tetrachloroethene	ug/L	ND	1.0	01/23/15 15:12	
Toluene	ug/L	ND	1.0	01/23/15 15:12	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/23/15 15:12	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/23/15 15:12	
Trichloroethene	ug/L	ND	1.0	01/23/15 15:12	
Vinyl chloride	ug/L	ND	1.0	01/23/15 15:12	
Xylene (Total)	ug/L	ND	3.0	01/23/15 15:12	
1,2-Dichloroethane-d4 (S)	%	102	80-120	01/23/15 15:12	
4-Bromofluorobenzene (S)	%	100	80-120	01/23/15 15:12	
Toluene-d8 (S)	%	100	80-120	01/23/15 15:12	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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QUALITY CONTROL DATA

Project: FORT SMITH AR

Pace Project No.: 60186563

LABORATORY CONTROL SAMPLE: 1510746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.3	102	80-120	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	73-121	
1,1,2-Trichloroethane	ug/L	20	21.1	105	80-120	
1,1-Dichloroethane	ug/L	20	20.6	103	80-120	
1,1-Dichloroethene	ug/L	20	20.2	101	80-120	
1,2-Dichloroethane	ug/L	20	21.5	107	81-120	
1,2-Dichloropropane	ug/L	20	20.6	103	80-120	
2-Butanone (MEK)	ug/L	100	100	100	67-122	
2-Hexanone	ug/L	100	102	102	75-121	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	76-120	
Acetone	ug/L	100	95.9	96	72-120	
Benzene	ug/L	20	22.1	111	80-120	
Bromodichloromethane	ug/L	20	21.3	107	80-120	
Bromoform	ug/L	20	20.3	102	73-138	
Bromomethane	ug/L	20	14.1	71	38-137	
Carbon disulfide	ug/L	20	21.5	107	71-129	
Carbon tetrachloride	ug/L	20	20.6	103	67-146	
Chlorobenzene	ug/L	20	22.0	110	80-120	
Chloroethane	ug/L	20	17.9	89	76-120	
Chloroform	ug/L	20	20.1	100	80-120	
Chloromethane	ug/L	20	16.0	80	34-165	
cis-1,2-Dichloroethene	ug/L	20	20.9	105	80-120	
cis-1,3-Dichloropropene	ug/L	20	20.5	103	80-120	
Dibromochloromethane	ug/L	20	20.9	105	80-126	
Ethylbenzene	ug/L	20	21.0	105	80-120	
Methylene chloride	ug/L	20	18.7	94	80-120	
Styrene	ug/L	20	22.1	110	80-123	
Tetrachloroethene	ug/L	20	21.0	105	80-123	
Toluene	ug/L	20	21.5	108	80-120	
trans-1,2-Dichloroethene	ug/L	20	20.5	102	80-120	
trans-1,3-Dichloropropene	ug/L	20	21.1	106	80-129	
Trichloroethene	ug/L	20	20.7	103	80-120	
Vinyl chloride	ug/L	20	18.3	92	62-125	
Xylene (Total)	ug/L	60	65.7	109	80-120	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			104	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: FORT SMITH AR

Pace Project No.: 60186563

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/67171

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FORT SMITH AR

Pace Project No.: 60186563

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60186563001	MW-174-GW-20150120	EPA 5030B/8260	MSV/67171		
60186563002	VP-06-GW-20150120	EPA 5030B/8260	MSV/67171		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60186563



Client Name: Environ

Courier: Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 5689 1283 9504 Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194

Type of Ice: None Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1-7

Temperature should be above freezing to 6°C

Date and initials of person examining contents: Jan 12/15

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	9.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☒ No ☐ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>wt</u>	15.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	17.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>001 09 2014</u>		18.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	19.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	20. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

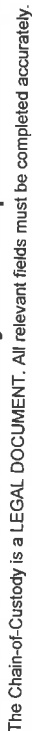
Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: me

Date: 1/21/14



The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Environ	Report To:	Wendy Stonestreet	Attention:	Tamara Gleason
Address:	7500 College Blvd., Ste. 925	Copy To:	Tamara Gleason	Company Name:	
	Overland Park, KS 66210		tgleason@environcorp.com	Address:	
Email To:	wstonestreet@environcorp.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	913-563-5926	Project Name:	Fort Smith, AR	Pace Project Manager:	MJ Walls
Requested Due Date/TAT:	5/24/2012	Project Number:	3434476A	Pace Profile #:	7444 water, 7709 soil

Page: of
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REGULATORY AGENCY					
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Site Location</td> <td style="width: 50%; text-align: center;">AR</td> </tr> <tr> <td colspan="2" style="text-align: center;">STATE: </td> </tr> </table>	Site Location	AR	STATE: 	
Site Location	AR				
STATE: 					

[illegible]

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				Temp In °C	Received on Ice (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)	
	Mitchell Livingston	1/20/15	1715	[Signature]	1/21/15	830	-	+	-	-	-	-	-	-	
SAMPLER NAME AND SIGNATURE															
PRINT Name of SAMPLER: Michael Edgings															
SIGNATURE of SAMPLER: [Signature] DATE Signed (MM/DD/YY): 1/20/15															

Page 13 of

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
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F: +1 805 526 7270
www.alsglobal.com

LABORATORY REPORT

January 29, 2015

Wendy Stonestreet
Environ International Corporation
7500 College Boulevard, Suite 925
Overland Park, KS 66210

RE: Whirlpool, Ft Smith 1st Quarter Vapor / 3434399A

Dear Wendy:

Enclosed are the results of the sample submitted to our laboratory on January 21, 2015. For your reference, these analyses have been assigned our service request number P1500238.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kelly Horiuchi at 4:49 pm, Jan 29, 2015

Kelly Horiuchi
Laboratory Director



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: Environ International Corporation
Project: Whirlpool, Ft Smith 1st Quarter Vapor / 3434399A

Service Request No: P1500238

CASE NARRATIVE

The sample was received intact under chain of custody on January 21, 2015 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed in SIM mode for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is not included on the laboratory's AIHA-LAP scope of accreditation.

The Summa canister was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L14-2
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	838341
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	CA200007
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-14-5
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA01627201 4-4
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Environ International Corporation
Project ID: Whirlpool, Ft Smith 1st Quarter Vapor / 3434399A

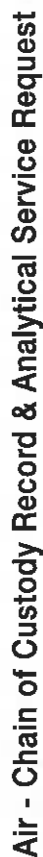
Service Request: P1500238

Date Received: 1/21/2015
Time Received: 09:35

TO-15 - VOC SIM

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)
VP-05-201501	P1500238-001	Air	1/16/2015	17:30	SC01520	-1.00	3.69

X



Page 1 of 1

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ALS Environmental Sample Acceptance Check Form

Client: Environ International Corporation

Work order: P1500238

Project: Whirlpool, Ft Smith 1st Quarter Vapor / 3434399A

Sample(s) received on: 1/21/15

Date opened: 1/21/15

by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

	Yes	No	N/A
1 Were sample containers properly marked with client sample ID?	☒	☐	☐
2 Container(s) supplied by ALS ?	☒	☐	☐
3 Did sample containers arrive in good condition?	☒	☐	☐
4 Were chain-of-custody papers used and filled out?	☒	☐	☐
5 Did sample container labels and/or tags agree with custody papers?	☒	☐	☐
6 Was sample volume received adequate for analysis?	☒	☐	☐
7 Are samples within specified holding times?	☒	☐	☐
8 Was proper temperature (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9 Was a trip blank received?	☐	☒	☐
10 Were custody seals on outside of cooler/Box?	☒	☐	☐
Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
Were signature and date included?	☒	☐	☐
Were seals intact?	☒	☐	☐
Were custody seals on outside of sample container?	☐	☒	☐
Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
Were signature and date included?	☐	☐	☒
Were seals intact?	☐	☐	☒
11 Do containers have appropriate preservation , according to method/SOP or Client specified information?	☐	☐	☒
Is there a client indication that the submitted samples are pH preserved?	☐	☐	☒
Were VOA vials checked for presence/absence of air bubbles?	☐	☐	☒
Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	☐	☐	☒
12 Tubes: Are the tubes capped and intact?	☐	☐	☒
Do they contain moisture?	☐	☐	☒
13 Badges: Are the badges properly capped and intact?	☐	☐	☒
Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1500238-001.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environ International Corporation
Client Sample ID: VP-05-201501
Client Project ID: Whirlpool, Ft Smith 1st Quarter Vapor / 3434399A

ALS Project ID: P1500238
 ALS Sample ID: P1500238-001

Test Code: EPA TO-15 SIM
 Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:
 Container ID: SC01520

Date Collected: 1/16/15
 Date Received: 1/21/15
 Date Analyzed: 1/23/15
 Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.00 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.34

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	4.6	0.034	1.8	0.013	
75-35-4	1,1-Dichloroethene	0.85	0.034	0.21	0.0085	
156-60-5	trans-1,2-Dichloroethene	0.15	0.034	0.038	0.0085	
75-34-3	1,1-Dichloroethane	ND	0.034	ND	0.0083	
156-59-2	cis-1,2-Dichloroethene	0.084	0.034	0.021	0.0085	
107-06-2	1,2-Dichloroethane	0.20	0.034	0.050	0.0083	
71-55-6	1,1,1-Trichloroethane	ND	0.034	ND	0.0061	
79-01-6	Trichloroethene	0.84	0.034	0.16	0.0062	
127-18-4	Tetrachloroethene	0.79	0.034	0.12	0.0049	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environ International Corporation
Client Sample ID: Method Blank
Client Project ID: Whirlpool, Ft Smith 1st Quarter Vapor / 3434399A

ALS Project ID: P1500238
 ALS Sample ID: P150123-MB

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 1/23/15
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.025	ND	0.0098	
75-35-4	1,1-Dichloroethene	ND	0.025	ND	0.0063	
156-60-5	trans-1,2-Dichloroethene	ND	0.025	ND	0.0063	
75-34-3	1,1-Dichloroethane	ND	0.025	ND	0.0062	
156-59-2	cis-1,2-Dichloroethene	ND	0.025	ND	0.0063	
107-06-2	1,2-Dichloroethane	ND	0.025	ND	0.0062	
71-55-6	1,1,1-Trichloroethane	ND	0.025	ND	0.0046	
79-01-6	Trichloroethene	ND	0.025	ND	0.0047	
127-18-4	Tetrachloroethene	ND	0.025	ND	0.0037	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: Environ International Corporation
Client Project ID: Whirlpool, Ft Smith 1st Quarter Vapor / 3434399A

ALS Project ID: P1500238

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 1/16/15

Date(s) Received: 1/21/15

Date(s) Analyzed: 1/23/15

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		% Recovered	% Recovered	% Recovered		
Method Blank	P150123-MB	96	106	92	70-130	
Lab Control Sample	P150123-LCS	97	89	94	70-130	
VP-05-201501	P1500238-001	90	94	71	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Environ International Corporation
Client Sample ID: Lab Control Sample
Client Project ID: Whirlpool, Ft Smith 1st Quarter Vapor / 3434399A

ALS Project ID: P1500238
 ALS Sample ID: P150123-LCS

Test Code: EPA TO-15 SIM
 Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
 Analyst: Wida Ang
 Sample Type: 6.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/23/15
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	4.04	3.55	88	63-120	
75-35-4	1,1-Dichloroethene	4.28	4.44	104	67-114	
156-60-5	trans-1,2-Dichloroethene	4.24	3.93	93	66-115	
75-34-3	1,1-Dichloroethane	4.16	4.03	97	65-117	
156-59-2	cis-1,2-Dichloroethene	4.28	4.18	98	66-116	
107-06-2	1,2-Dichloroethane	4.20	3.67	87	61-118	
71-55-6	1,1,1-Trichloroethane	4.16	4.01	96	65-114	
79-01-6	Trichloroethene	4.16	3.78	91	66-116	
127-18-4	Tetrachloroethene	3.96	3.86	97	65-118	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
 Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

January 27, 2015

Wendy Stonestreet
Environ International Corporation
7500 College Blvd Ste 925
Overland Park, KS 66210

RE: Project: FORT SMITH AR VOCs
Pace Project No.: 60186566

Dear Wendy Stonestreet:

Enclosed are the analytical results for sample(s) received by the laboratory on January 21, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mary Jane Walls
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

cc: Tamara Gleason, ENVIRON International Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60186566001	MW-175-GW-20150120	Water	01/20/15 13:45	01/21/15 08:30
60186566002	TB-02	Water	01/20/15 13:45	01/21/15 08:30

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SAMPLE ANALYTE COUNT

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60186566001	MW-175-GW-20150120	EPA 5030B/8260	PRG	38
60186566002	TB-02	EPA 5030B/8260	PRG	38

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PROJECT NARRATIVE

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

Method: EPA 5030B/8260

Description: 8260 MSV

Client: Environ_AR

Date: January 27, 2015

General Information:

2 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

Sample: MW-175-GW-20150120 Lab ID: 60186566001 Collected: 01/20/15 13:45 Received: 01/21/15 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 5030B/8260									
Acetone	16.1	ug/L	10.0	5.0	1		01/24/15 01:38	67-64-1	
Benzene	ND	ug/L	1.0	0.50	1		01/24/15 01:38	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.50	1		01/24/15 01:38	75-27-4	
Bromoform	ND	ug/L	1.0	0.50	1		01/24/15 01:38	75-25-2	
Bromomethane	ND	ug/L	5.0	2.5	1		01/24/15 01:38	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	5.0	1		01/24/15 01:38	78-93-3	
Carbon disulfide	ND	ug/L	5.0	2.5	1		01/24/15 01:38	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.50	1		01/24/15 01:38	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.50	1		01/24/15 01:38	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:38	75-00-3	
Chloroform	ND	ug/L	1.0	0.50	1		01/24/15 01:38	67-66-3	
Chloromethane	ND	ug/L	1.0	0.50	1		01/24/15 01:38	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.50	1		01/24/15 01:38	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:38	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:38	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.50	1		01/24/15 01:38	75-35-4	
cis-1,2-Dichloroethene	2.0	ug/L	1.0	0.50	1		01/24/15 01:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.50	1		01/24/15 01:38	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.50	1		01/24/15 01:38	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.50	1		01/24/15 01:38	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.50	1		01/24/15 01:38	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.50	1		01/24/15 01:38	100-41-4	
2-Hexanone	ND	ug/L	10.0	5.0	1		01/24/15 01:38	591-78-6	
Methylene chloride	ND	ug/L	1.0	0.50	1		01/24/15 01:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	2.5	1		01/24/15 01:38	108-10-1	
Styrene	ND	ug/L	1.0	0.50	1		01/24/15 01:38	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:38	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.50	1		01/24/15 01:38	127-18-4	
Toluene	ND	ug/L	1.0	0.50	1		01/24/15 01:38	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:38	79-00-5	
Trichloroethene	123	ug/L	1.0	0.50	1		01/24/15 01:38	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.50	1		01/24/15 01:38	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1.5	1		01/24/15 01:38	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	80-120		1		01/24/15 01:38	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	80-120		1		01/24/15 01:38	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		01/24/15 01:38	2037-26-5	
Preservation pH	1.0		0.10	0.10	1		01/24/15 01:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

Sample: TB-02		Lab ID: 60186566002		Collected: 01/20/15 13:45		Received: 01/21/15 08:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	5.0	1		01/23/15 21:55	67-64-1	
Benzene	ND ug/L		1.0	0.50	1		01/23/15 21:55	71-43-2	
Bromodichloromethane	ND ug/L		1.0	0.50	1		01/23/15 21:55	75-27-4	
Bromoform	ND ug/L		1.0	0.50	1		01/23/15 21:55	75-25-2	
Bromomethane	ND ug/L		5.0	2.5	1		01/23/15 21:55	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	5.0	1		01/23/15 21:55	78-93-3	
Carbon disulfide	ND ug/L		5.0	2.5	1		01/23/15 21:55	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	0.50	1		01/23/15 21:55	56-23-5	
Chlorobenzene	ND ug/L		1.0	0.50	1		01/23/15 21:55	108-90-7	
Chloroethane	ND ug/L		1.0	0.50	1		01/23/15 21:55	75-00-3	
Chloroform	ND ug/L		1.0	0.50	1		01/23/15 21:55	67-66-3	
Chloromethane	ND ug/L		1.0	0.50	1		01/23/15 21:55	74-87-3	
Dibromochloromethane	ND ug/L		1.0	0.50	1		01/23/15 21:55	124-48-1	
1,1-Dichloroethane	ND ug/L		1.0	0.50	1		01/23/15 21:55	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	0.50	1		01/23/15 21:55	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	0.50	1		01/23/15 21:55	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.50	1		01/23/15 21:55	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.50	1		01/23/15 21:55	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	0.50	1		01/23/15 21:55	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	0.50	1		01/23/15 21:55	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	0.50	1		01/23/15 21:55	10061-02-6	
Ethylbenzene	ND ug/L		1.0	0.50	1		01/23/15 21:55	100-41-4	
2-Hexanone	ND ug/L		10.0	5.0	1		01/23/15 21:55	591-78-6	
Methylene chloride	ND ug/L		1.0	0.50	1		01/23/15 21:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	2.5	1		01/23/15 21:55	108-10-1	
Styrene	ND ug/L		1.0	0.50	1		01/23/15 21:55	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	0.50	1		01/23/15 21:55	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.50	1		01/23/15 21:55	127-18-4	
Toluene	ND ug/L		1.0	0.50	1		01/23/15 21:55	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.50	1		01/23/15 21:55	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.50	1		01/23/15 21:55	79-00-5	
Trichloroethene	ND ug/L		1.0	0.50	1		01/23/15 21:55	79-01-6	
Vinyl chloride	ND ug/L		1.0	0.50	1		01/23/15 21:55	75-01-4	
Xylene (Total)	ND ug/L		3.0	1.5	1		01/23/15 21:55	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101 %		80-120		1		01/23/15 21:55	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		80-120		1		01/23/15 21:55	17060-07-0	
Toluene-d8 (S)	98 %		80-120		1		01/23/15 21:55	2037-26-5	
Preservation pH	1.0		0.10	0.10	1		01/23/15 21:55		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

QC Batch:	MSV/67172	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60186566001, 60186566002		

METHOD BLANK: 1510757 Matrix: Water

Associated Lab Samples: 60186566001, 60186566002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/23/15 21:25	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/23/15 21:25	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/23/15 21:25	
1,1-Dichloroethane	ug/L	ND	1.0	01/23/15 21:25	
1,1-Dichloroethene	ug/L	ND	1.0	01/23/15 21:25	
1,2-Dichloroethane	ug/L	ND	1.0	01/23/15 21:25	
1,2-Dichloropropane	ug/L	ND	1.0	01/23/15 21:25	
2-Butanone (MEK)	ug/L	ND	10.0	01/23/15 21:25	
2-Hexanone	ug/L	ND	10.0	01/23/15 21:25	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	01/23/15 21:25	
Acetone	ug/L	ND	10.0	01/23/15 21:25	
Benzene	ug/L	ND	1.0	01/23/15 21:25	
Bromodichloromethane	ug/L	ND	1.0	01/23/15 21:25	
Bromoform	ug/L	ND	1.0	01/23/15 21:25	
Bromomethane	ug/L	ND	5.0	01/23/15 21:25	
Carbon disulfide	ug/L	ND	5.0	01/23/15 21:25	
Carbon tetrachloride	ug/L	ND	1.0	01/23/15 21:25	
Chlorobenzene	ug/L	ND	1.0	01/23/15 21:25	
Chloroethane	ug/L	ND	1.0	01/23/15 21:25	
Chloroform	ug/L	ND	1.0	01/23/15 21:25	
Chloromethane	ug/L	ND	1.0	01/23/15 21:25	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/23/15 21:25	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/23/15 21:25	
Dibromochloromethane	ug/L	ND	1.0	01/23/15 21:25	
Ethylbenzene	ug/L	ND	1.0	01/23/15 21:25	
Methylene chloride	ug/L	ND	1.0	01/23/15 21:25	
Styrene	ug/L	ND	1.0	01/23/15 21:25	
Tetrachloroethene	ug/L	ND	1.0	01/23/15 21:25	
Toluene	ug/L	ND	1.0	01/23/15 21:25	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/23/15 21:25	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/23/15 21:25	
Trichloroethene	ug/L	ND	1.0	01/23/15 21:25	
Vinyl chloride	ug/L	ND	1.0	01/23/15 21:25	
Xylene (Total)	ug/L	ND	3.0	01/23/15 21:25	
1,2-Dichloroethane-d4 (S)	%	101	80-120	01/23/15 21:25	
4-Bromofluorobenzene (S)	%	100	80-120	01/23/15 21:25	
Toluene-d8 (S)	%	99	80-120	01/23/15 21:25	

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QUALITY CONTROL DATA

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

LABORATORY CONTROL SAMPLE: 1510758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.1	105	80-120	
1,1,2,2-Tetrachloroethane	ug/L	20	19.9	100	73-121	
1,1,2-Trichloroethane	ug/L	20	20.4	102	80-120	
1,1-Dichloroethane	ug/L	20	20.5	103	80-120	
1,1-Dichloroethene	ug/L	20	20.6	103	80-120	
1,2-Dichloroethane	ug/L	20	21.2	106	81-120	
1,2-Dichloropropane	ug/L	20	20.3	101	80-120	
2-Butanone (MEK)	ug/L	100	101	101	67-122	
2-Hexanone	ug/L	100	99.7	100	75-121	
4-Methyl-2-pentanone (MIBK)	ug/L	100	109	109	76-120	
Acetone	ug/L	100	101	101	72-120	
Benzene	ug/L	20	21.9	110	80-120	
Bromodichloromethane	ug/L	20	21.7	109	80-120	
Bromoform	ug/L	20	20.0	100	73-138	
Bromomethane	ug/L	20	15.4	77	38-137	
Carbon disulfide	ug/L	20	22.3	112	71-129	
Carbon tetrachloride	ug/L	20	21.5	108	67-146	
Chlorobenzene	ug/L	20	21.0	105	80-120	
Chloroethane	ug/L	20	20.2	101	76-120	
Chloroform	ug/L	20	20.1	100	80-120	
Chloromethane	ug/L	20	19.3	97	34-165	
cis-1,2-Dichloroethene	ug/L	20	20.5	102	80-120	
cis-1,3-Dichloropropene	ug/L	20	21.4	107	80-120	
Dibromochloromethane	ug/L	20	20.4	102	80-126	
Ethylbenzene	ug/L	20	21.0	105	80-120	
Methylene chloride	ug/L	20	20.3	102	80-120	
Styrene	ug/L	20	21.8	109	80-123	
Tetrachloroethene	ug/L	20	20.6	103	80-123	
Toluene	ug/L	20	20.3	101	80-120	
trans-1,2-Dichloroethene	ug/L	20	20.5	103	80-120	
trans-1,3-Dichloropropene	ug/L	20	20.7	104	80-129	
Trichloroethene	ug/L	20	20.4	102	80-120	
Vinyl chloride	ug/L	20	20.7	104	62-125	
Xylene (Total)	ug/L	60	65.3	109	80-120	
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1510759 1510760

Parameter	Units	60186403027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	22.1	22.4	111	112	88-124	1	9	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.0	19.9	95	100	78-116	5	13	
1,1,2-Trichloroethane	ug/L	ND	20	20	18.7	20.6	93	103	84-112	10	10	

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QUALITY CONTROL DATA

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1510759 1510760											
Parameter	Units	60186403027		MS	MSD	MS		MSD	% Rec		Max
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD
1,1-Dichloroethane	ug/L	ND	20	20	20	20.8	20.6	104	103	82-121	1
1,1-Dichloroethene	ug/L	ND	20	20	20	21.8	21.7	109	109	78-124	0
1,2-Dichloroethane	ug/L	ND	20	20	20	20.5	21.3	103	107	79-121	4
1,2-Dichloropropane	ug/L	ND	20	20	20	19.6	20.3	98	102	82-119	4
2-Butanone (MEK)	ug/L	ND	100	100	100	86.1	91.4	86	91	66-114	6
2-Hexanone	ug/L	ND	100	100	100	86.7	93.5	87	94	71-116	8
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	100	95.6	97.7	96	98	72-122	2
Acetone	ug/L	ND	100	100	100	111	86.8	109	85	65-113	24
Benzene	ug/L	ND	20	20	20	22.6	21.9	113	109	46-155	3
Bromodichloromethane	ug/L	ND	20	20	20	21.1	21.0	106	105	77-127	0
Bromoform	ug/L	ND	20	20	20	18.5	19.2	93	96	70-125	4
Bromomethane	ug/L	ND	20	20	20	12.2	15.8	61	79	41-140	25
Carbon disulfide	ug/L	ND	20	20	20	24.8	23.2	124	116	68-140	7
Carbon tetrachloride	ug/L	ND	20	20	20	22.7	22.6	114	113	68-147	1
Chlorobenzene	ug/L	ND	20	20	20	21.0	21.4	105	107	83-121	2
Chloroethane	ug/L	ND	20	20	20	20.9	17.3	105	86	69-126	19
Chloroform	ug/L	ND	20	20	20	20.1	20.2	101	101	86-119	0
Chloromethane	ug/L	ND	20	20	20	19.1	13.0	96	65	23-168	38
cis-1,2-Dichloroethene	ug/L	ND	20	20	20	20.8	20.8	102	103	85-117	0
cis-1,3-Dichloropropene	ug/L	ND	20	20	20	19.5	19.9	98	99	74-115	2
Dibromochloromethane	ug/L	ND	20	20	20	19.0	19.7	95	98	65-134	4
Ethylbenzene	ug/L	ND	20	20	20	21.2	20.9	106	104	51-148	2
Methylene chloride	ug/L	ND	20	20	20	19.7	18.3	99	92	75-118	7
Styrene	ug/L	ND	20	20	20	21.3	21.2	107	106	17-174	1
Tetrachloroethene	ug/L	12.2	20	20	20	32.1	33.3	100	105	78-127	3
Toluene	ug/L	ND	20	20	20	20.9	21.3	105	106	47-149	2
trans-1,2-Dichloroethene	ug/L	ND	20	20	20	21.7	21.5	108	108	84-119	1
trans-1,3-Dichloropropene	ug/L	ND	20	20	20	18.7	19.7	93	98	71-120	5
Trichloroethene	ug/L	0.82J	20	20	20	21.2	21.1	102	102	70-135	0
Vinyl chloride	ug/L	ND	20	20	20	21.5	19.5	107	97	58-130	10
Xylene (Total)	ug/L	ND	60	60	60	65.6	64.0	109	107	39-158	2
1,2-Dichloroethane-d4 (S)	%							102	101	80-120	
4-Bromofluorobenzene (S)	%							98	102	80-120	
Toluene-d8 (S)	%							98	100	80-120	
Preservation pH		1.0				1.0	1.0				0

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FORT SMITH AR VOCs

Pace Project No.: 60186566

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60186566001	MW-175-GW-20150120	EPA 5030B/8260	MSV/67172		
60186566002	TB-02	EPA 5030B/8260	MSV/67172		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60186566



60186566

Client Name: Environ

Courier: Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 5689 1283 9504 Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1-7

Date and initials of person examining contents: Jan 12/15

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☐ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	
Pace containers used:	☒ Yes ☐ No ☐ N/A	9.
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	11.
Filtered volume received for dissolved tests?	☐ Yes ☒ No ☐ N/A	12.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	
Includes date/time/ID/analyses Matrix: <u>Wt</u>		13.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	14.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>001 09 2014</u>		15.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	
		16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: mw

Date: 1/12/15

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: Environ Address: 7500 College Blvd., Ste. 925 Overland Park, KS 66210 Email To: wstonestreet@environcorp.com Phone: 913-563-5926 Fax: Requested Due Date/TAT: Standard TAT		Section B Required Project Information: Report To: Wendy Stonestreet Copy To: Tamara Gleason Address: tggleason@environcorp.com Purchase Order No.: Project Name: Fort Smith, AR Project Number: 3434446A		Section C Invoice Information: Attention: Tamara Gleason Company Name: Address: Pace Quote Reference: Pace Project Manager: MJ Walls Pace Profile #: 7444 water, 7709 soil	
REGULATORY AGENCY ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER Site Location STATE: AR					

ITEM #	Section D Required Client Information		Valid Matrix Codes		MATRIX CODE (see valid codes to left)		SAMPLE TYPE (G=GRAB C=COMP)		COLLECTED		SAMPLE TEMP AT COLLECTION		# OF CONTAINERS		Preservatives		Analysis Test Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
	MATRIX	CODE	DRINKING WATER	DW	WATER	WT	WASTE WATER	WW	PRODUCT	P	SOIL/SOLID	SL	OIL	OL	WIPE	WP				AIR
1	MW-175-GW-20150120	WT																		
2	Trip Blank - 02	WT																		
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS RELINQUISHED BY / AFFILIATION: Environ DATE: 1/20/15 TIME: 1715 ACCEPTED BY / AFFILIATION: Nick Zurweller DATE: 1/21/15 TIME: 830 SAMPLE CONDITIONS: Y Y Y Y Y		Temp in °C Received on (Y/N) Custody Sealed (Y/N) Samples Intact (Y/N)
---	--	---



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Simi Valley, CA 93065
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F: +1 805 526 7270
www.alsglobal.com

LABORATORY REPORT

January 29, 2015

Wendy Stonestreet
Environ International Corporation
7500 College Boulevard, Suite 925
Overland Park, KS 66210

RE: Whirlpool Fort Smith / 3433244 A

Dear Wendy:

Enclosed are the results of the sample submitted to our laboratory on January 20, 2015. For your reference, this analysis has been assigned our service request number P1500228.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kelly Horiuchi at 4:50 pm, Jan 29, 2015

Kelly Horiuchi
Laboratory Director



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Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: Environ International Corporation
Project: Whirlpool Fort Smith / 3433244 A

Service Request No: P1500228

CASE NARRATIVE

The sample was received intact under chain of custody on January 20, 2015 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed in SIM mode for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is not included on the laboratory's AIHA-LAP scope of accreditation.

The Summa canister was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L14-2
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	838341
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	CA200007
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-14-5
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA01627201 4-4
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Environ International Corporation
Project ID: Whirlpool Fort Smith / 3433244 A

Service Request: P1500228

Date Received: 1/20/2015
Time Received: 10:10

TO-15 - VOC SIM

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
VP-7-201501	P1500228-001	Air	1/19/2015	18:20	SC01519	-3.44	3.90	X



2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Air - Chain of Custody Record & Analytical Service Request

[illegible]

ALS Environmental Sample Acceptance Check Form

Client: Environ International Corporation

Work order: P1500228

Project: Whirlpool Fort Smith / 3433244 A

Sample(s) received on: 1/20/15

Date opened: 1/20/15

by: KKELPE

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

	Yes	No	N/A
1 Were sample containers properly marked with client sample ID?	☒	☐	☐
2 Container(s) supplied by ALS ?	☒	☐	☐
3 Did sample containers arrive in good condition?	☒	☐	☐
4 Were chain-of-custody papers used and filled out?	☒	☐	☐
5 Did sample container labels and/or tags agree with custody papers?	☒	☐	☐
6 Was sample volume received adequate for analysis?	☒	☐	☐
7 Are samples within specified holding times?	☒	☐	☐
8 Was proper temperature (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9 Was a trip blank received?	☐	☒	☐
10 Were custody seals on outside of cooler/Box?	☐	☒	☐
Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
Were signature and date included?	☐	☐	☒
Were seals intact?	☐	☐	☒
Were custody seals on outside of sample container?	☐	☒	☐
Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
Were signature and date included?	☐	☐	☒
Were seals intact?	☐	☐	☒
11 Do containers have appropriate preservation , according to method/SOP or Client specified information?	☐	☐	☒
Is there a client indication that the submitted samples are pH preserved?	☐	☐	☒
Were VOA vials checked for presence/absence of air bubbles?	☐	☐	☒
Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	☐	☐	☒
12 Tubes: Are the tubes capped and intact?	☐	☐	☒
Do they contain moisture?	☐	☐	☒
13 Badges: Are the badges properly capped and intact?	☐	☐	☒
Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1500228-001.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environ International Corporation

Client Sample ID: VP-7-201501

Client Project ID: Whirlpool Fort Smith / 3433244 A

ALS Project ID: P1500228

ALS Sample ID: P1500228-001

Test Code: EPA TO-15 SIM

Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: SC01519

Date Collected: 1/19/15

Date Received: 1/20/15

Date Analyzed: 1/23/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.44 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.65

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	1.5	0.041	0.58	0.016	
75-35-4	1,1-Dichloroethene	0.42	0.041	0.11	0.010	
156-60-5	trans-1,2-Dichloroethene	ND	0.041	ND	0.010	
75-34-3	1,1-Dichloroethane	ND	0.041	ND	0.010	
156-59-2	cis-1,2-Dichloroethene	0.25	0.041	0.063	0.010	
107-06-2	1,2-Dichloroethane	0.20	0.041	0.049	0.010	
71-55-6	1,1,1-Trichloroethane	ND	0.041	ND	0.0076	
79-01-6	Trichloroethene	2.8	0.041	0.52	0.0077	
127-18-4	Tetrachloroethene	0.44	0.041	0.065	0.0061	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environ International Corporation

Client Sample ID: Method Blank

Client Project ID: Whirlpool Fort Smith / 3433244 A

ALS Project ID: P1500228

ALS Sample ID: P150123-MB

Test Code: EPA TO-15 SIM

Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 1/23/15

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.025	ND	0.0098	
75-35-4	1,1-Dichloroethene	ND	0.025	ND	0.0063	
156-60-5	trans-1,2-Dichloroethene	ND	0.025	ND	0.0063	
75-34-3	1,1-Dichloroethane	ND	0.025	ND	0.0062	
156-59-2	cis-1,2-Dichloroethene	ND	0.025	ND	0.0063	
107-06-2	1,2-Dichloroethane	ND	0.025	ND	0.0062	
71-55-6	1,1,1-Trichloroethane	ND	0.025	ND	0.0046	
79-01-6	Trichloroethene	ND	0.025	ND	0.0047	
127-18-4	Tetrachloroethene	ND	0.025	ND	0.0037	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: Environ International Corporation
Client Project ID: Whirlpool Fort Smith / 3433244 A

ALS Project ID: P1500228

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 1/19/15

Date(s) Received: 1/20/15

Date(s) Analyzed: 1/23/15

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		% Recovered	% Recovered	% Recovered		
Method Blank	P150123-MB	96	106	92	70-130	
Lab Control Sample	P150123-LCS	97	89	94	70-130	
VP-7-201501	P1500228-001	92	87	93	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Environ International Corporation

Client Sample ID: Lab Control Sample

Client Project ID: Whirlpool Fort Smith / 3433244 A

ALS Project ID: P1500228

ALS Sample ID: P150123-LCS

Test Code: EPA TO-15 SIM

Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 1/23/15

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	4.04	3.55	88	63-120	
75-35-4	1,1-Dichloroethene	4.28	4.44	104	67-114	
156-60-5	trans-1,2-Dichloroethene	4.24	3.93	93	66-115	
75-34-3	1,1-Dichloroethane	4.16	4.03	97	65-117	
156-59-2	cis-1,2-Dichloroethene	4.28	4.18	98	66-116	
107-06-2	1,2-Dichloroethane	4.20	3.67	87	61-118	
71-55-6	1,1,1-Trichloroethane	4.16	4.01	96	65-114	
79-01-6	Trichloroethene	4.16	3.78	91	66-116	
127-18-4	Tetrachloroethene	3.96	3.86	97	65-118	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

January 27, 2015

Wendy Stonestreet
Environ International Corporation
7500 College Blvd Ste 925
Overland Park, KS 66210

RE: Project: FORT SMITH AR VOCs
Pace Project No.: 60186564

Dear Wendy Stonestreet:

Enclosed are the analytical results for sample(s) received by the laboratory on January 21, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mary Jane Walls
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PM Lab Management

Enclosures

cc: Tamara Gleason, ENVIRON International Corporation



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407

Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60186564001	MW-176-GW-20150120	Water	01/20/15 16:15	01/21/15 08:30
60186564002	VP-10-GW-20150120	Water	01/20/15 15:55	01/21/15 08:30

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SAMPLE ANALYTE COUNT

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60186564001	MW-176-GW-20150120	EPA 5030B/8260	PRG	38
60186564002	VP-10-GW-20150120	EPA 5030B/8260	PRG	38

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PROJECT NARRATIVE

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

Method: EPA 5030B/8260

Description: 8260 MSV

Client: Environ_AR

Date: January 27, 2015

General Information:

2 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/67208

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

Sample: MW-176-GW-20150120 Lab ID: 60186564001 Collected: 01/20/15 16:15 Received: 01/21/15 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 5030B/8260									
Acetone	ND	ug/L	10.0	5.0	1		01/24/15 01:08	67-64-1	
Benzene	ND	ug/L	1.0	0.50	1		01/24/15 01:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.50	1		01/24/15 01:08	75-27-4	
Bromoform	ND	ug/L	1.0	0.50	1		01/24/15 01:08	75-25-2	
Bromomethane	ND	ug/L	5.0	2.5	1		01/24/15 01:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	5.0	1		01/24/15 01:08	78-93-3	
Carbon disulfide	ND	ug/L	5.0	2.5	1		01/24/15 01:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.50	1		01/24/15 01:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.50	1		01/24/15 01:08	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:08	75-00-3	
Chloroform	ND	ug/L	1.0	0.50	1		01/24/15 01:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.50	1		01/24/15 01:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.50	1		01/24/15 01:08	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:08	107-06-2	
1,1-Dichloroethene	2.6	ug/L	1.0	0.50	1		01/24/15 01:08	75-35-4	
cis-1,2-Dichloroethene	16.8	ug/L	1.0	0.50	1		01/24/15 01:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.50	1		01/24/15 01:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.50	1		01/24/15 01:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.50	1		01/24/15 01:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.50	1		01/24/15 01:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.50	1		01/24/15 01:08	100-41-4	
2-Hexanone	ND	ug/L	10.0	5.0	1		01/24/15 01:08	591-78-6	
Methylene chloride	ND	ug/L	1.0	0.50	1		01/24/15 01:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	2.5	1		01/24/15 01:08	108-10-1	
Styrene	ND	ug/L	1.0	0.50	1		01/24/15 01:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:08	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.50	1		01/24/15 01:08	127-18-4	
Toluene	ND	ug/L	1.0	0.50	1		01/24/15 01:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:08	79-00-5	
Trichloroethene	720	ug/L	10.0	5.0	10		01/27/15 01:46	79-01-6	
Vinyl chloride	0.57J	ug/L	1.0	0.50	1		01/24/15 01:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1.5	1		01/24/15 01:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		01/24/15 01:08	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	80-120		1		01/24/15 01:08	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		01/24/15 01:08	2037-26-5	
Preservation pH	1.0		0.10	0.10	1		01/24/15 01:08		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

Sample: VP-10-GW-20150120 Lab ID: 60186564002 Collected: 01/20/15 15:55 Received: 01/21/15 08:30 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 5030B/8260									
Acetone	5.8J	ug/L	10.0	5.0	1		01/24/15 01:23	67-64-1	
Benzene	ND	ug/L	1.0	0.50	1		01/24/15 01:23	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.50	1		01/24/15 01:23	75-27-4	
Bromoform	ND	ug/L	1.0	0.50	1		01/24/15 01:23	75-25-2	
Bromomethane	ND	ug/L	5.0	2.5	1		01/24/15 01:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	5.0	1		01/24/15 01:23	78-93-3	
Carbon disulfide	ND	ug/L	5.0	2.5	1		01/24/15 01:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.50	1		01/24/15 01:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.50	1		01/24/15 01:23	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:23	75-00-3	
Chloroform	ND	ug/L	1.0	0.50	1		01/24/15 01:23	67-66-3	
Chloromethane	ND	ug/L	1.0	0.50	1		01/24/15 01:23	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.50	1		01/24/15 01:23	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:23	107-06-2	
1,1-Dichloroethene	2.8	ug/L	1.0	0.50	1		01/24/15 01:23	75-35-4	
cis-1,2-Dichloroethene	18.8	ug/L	1.0	0.50	1		01/24/15 01:23	156-59-2	
trans-1,2-Dichloroethene	0.51J	ug/L	1.0	0.50	1		01/24/15 01:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.50	1		01/24/15 01:23	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.50	1		01/24/15 01:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.50	1		01/24/15 01:23	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.50	1		01/24/15 01:23	100-41-4	
2-Hexanone	ND	ug/L	10.0	5.0	1		01/24/15 01:23	591-78-6	
Methylene chloride	ND	ug/L	1.0	0.50	1		01/24/15 01:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	2.5	1		01/24/15 01:23	108-10-1	
Styrene	ND	ug/L	1.0	0.50	1		01/24/15 01:23	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.50	1		01/24/15 01:23	127-18-4	
Toluene	ND	ug/L	1.0	0.50	1		01/24/15 01:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.50	1		01/24/15 01:23	79-00-5	
Trichloroethene	636	ug/L	10.0	5.0	10		01/27/15 02:01	79-01-6	
Vinyl chloride	0.61J	ug/L	1.0	0.50	1		01/24/15 01:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1.5	1		01/24/15 01:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99 %		80-120		1		01/24/15 01:23	460-00-4	
1,2-Dichloroethane-d4 (S)	105 %		80-120		1		01/24/15 01:23	17060-07-0	
Toluene-d8 (S)	95 %		80-120		1		01/24/15 01:23	2037-26-5	
Preservation pH	1.0		0.10	0.10	1		01/24/15 01:23		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

QC Batch:	MSV/67172	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60186564001, 60186564002		

METHOD BLANK: 1510757 Matrix: Water

Associated Lab Samples: 60186564001, 60186564002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/23/15 21:25	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/23/15 21:25	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/23/15 21:25	
1,1-Dichloroethane	ug/L	ND	1.0	01/23/15 21:25	
1,1-Dichloroethene	ug/L	ND	1.0	01/23/15 21:25	
1,2-Dichloroethane	ug/L	ND	1.0	01/23/15 21:25	
1,2-Dichloropropane	ug/L	ND	1.0	01/23/15 21:25	
2-Butanone (MEK)	ug/L	ND	10.0	01/23/15 21:25	
2-Hexanone	ug/L	ND	10.0	01/23/15 21:25	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	01/23/15 21:25	
Acetone	ug/L	ND	10.0	01/23/15 21:25	
Benzene	ug/L	ND	1.0	01/23/15 21:25	
Bromodichloromethane	ug/L	ND	1.0	01/23/15 21:25	
Bromoform	ug/L	ND	1.0	01/23/15 21:25	
Bromomethane	ug/L	ND	5.0	01/23/15 21:25	
Carbon disulfide	ug/L	ND	5.0	01/23/15 21:25	
Carbon tetrachloride	ug/L	ND	1.0	01/23/15 21:25	
Chlorobenzene	ug/L	ND	1.0	01/23/15 21:25	
Chloroethane	ug/L	ND	1.0	01/23/15 21:25	
Chloroform	ug/L	ND	1.0	01/23/15 21:25	
Chloromethane	ug/L	ND	1.0	01/23/15 21:25	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/23/15 21:25	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/23/15 21:25	
Dibromochloromethane	ug/L	ND	1.0	01/23/15 21:25	
Ethylbenzene	ug/L	ND	1.0	01/23/15 21:25	
Methylene chloride	ug/L	ND	1.0	01/23/15 21:25	
Styrene	ug/L	ND	1.0	01/23/15 21:25	
Tetrachloroethene	ug/L	ND	1.0	01/23/15 21:25	
Toluene	ug/L	ND	1.0	01/23/15 21:25	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/23/15 21:25	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/23/15 21:25	
Vinyl chloride	ug/L	ND	1.0	01/23/15 21:25	
Xylene (Total)	ug/L	ND	3.0	01/23/15 21:25	
1,2-Dichloroethane-d4 (S)	%	101	80-120	01/23/15 21:25	
4-Bromofluorobenzene (S)	%	100	80-120	01/23/15 21:25	
Toluene-d8 (S)	%	99	80-120	01/23/15 21:25	

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QUALITY CONTROL DATA

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

LABORATORY CONTROL SAMPLE: 1510758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.1	105	80-120	
1,1,2,2-Tetrachloroethane	ug/L	20	19.9	100	73-121	
1,1,2-Trichloroethane	ug/L	20	20.4	102	80-120	
1,1-Dichloroethane	ug/L	20	20.5	103	80-120	
1,1-Dichloroethene	ug/L	20	20.6	103	80-120	
1,2-Dichloroethane	ug/L	20	21.2	106	81-120	
1,2-Dichloropropane	ug/L	20	20.3	101	80-120	
2-Butanone (MEK)	ug/L	100	101	101	67-122	
2-Hexanone	ug/L	100	99.7	100	75-121	
4-Methyl-2-pentanone (MIBK)	ug/L	100	109	109	76-120	
Acetone	ug/L	100	101	101	72-120	
Benzene	ug/L	20	21.9	110	80-120	
Bromodichloromethane	ug/L	20	21.7	109	80-120	
Bromoform	ug/L	20	20.0	100	73-138	
Bromomethane	ug/L	20	15.4	77	38-137	
Carbon disulfide	ug/L	20	22.3	112	71-129	
Carbon tetrachloride	ug/L	20	21.5	108	67-146	
Chlorobenzene	ug/L	20	21.0	105	80-120	
Chloroethane	ug/L	20	20.2	101	76-120	
Chloroform	ug/L	20	20.1	100	80-120	
Chloromethane	ug/L	20	19.3	97	34-165	
cis-1,2-Dichloroethene	ug/L	20	20.5	102	80-120	
cis-1,3-Dichloropropene	ug/L	20	21.4	107	80-120	
Dibromochloromethane	ug/L	20	20.4	102	80-126	
Ethylbenzene	ug/L	20	21.0	105	80-120	
Methylene chloride	ug/L	20	20.3	102	80-120	
Styrene	ug/L	20	21.8	109	80-123	
Tetrachloroethene	ug/L	20	20.6	103	80-123	
Toluene	ug/L	20	20.3	101	80-120	
trans-1,2-Dichloroethene	ug/L	20	20.5	103	80-120	
trans-1,3-Dichloropropene	ug/L	20	20.7	104	80-129	
Vinyl chloride	ug/L	20	20.7	104	62-125	
Xylene (Total)	ug/L	60	65.3	109	80-120	
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1510759 1510760

Parameter	Units	60186403027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	22.1	22.4	111	112	88-124	1	9	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.0	19.9	95	100	78-116	5	13	
1,1,2-Trichloroethane	ug/L	ND	20	20	18.7	20.6	93	103	84-112	10	10	
1,1-Dichloroethane	ug/L	ND	20	20	20.8	20.6	104	103	82-121	1	9	

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QUALITY CONTROL DATA

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1510759 1510760											
Parameter	Units	60186403027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	21.8	21.7	109	109	78-124	0	12
1,2-Dichloroethane	ug/L	ND	20	20	20.5	21.3	103	107	79-121	4	12
1,2-Dichloropropane	ug/L	ND	20	20	19.6	20.3	98	102	82-119	4	10
2-Butanone (MEK)	ug/L	ND	100	100	86.1	91.4	86	91	66-114	6	13
2-Hexanone	ug/L	ND	100	100	86.7	93.5	87	94	71-116	8	13
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	95.6	97.7	96	98	72-122	2	12
Acetone	ug/L	ND	100	100	111	86.8	109	85	65-113	24	27
Benzene	ug/L	ND	20	20	22.6	21.9	113	109	46-155	3	13
Bromodichloromethane	ug/L	ND	20	20	21.1	21.0	106	105	77-127	0	10
Bromoform	ug/L	ND	20	20	18.5	19.2	93	96	70-125	4	11
Bromomethane	ug/L	ND	20	20	12.2	15.8	61	79	41-140	25	30
Carbon disulfide	ug/L	ND	20	20	24.8	23.2	124	116	68-140	7	10
Carbon tetrachloride	ug/L	ND	20	20	22.7	22.6	114	113	68-147	1	11
Chlorobenzene	ug/L	ND	20	20	21.0	21.4	105	107	83-121	2	9
Chloroethane	ug/L	ND	20	20	20.9	17.3	105	86	69-126	19	19
Chloroform	ug/L	ND	20	20	20.1	20.2	101	101	86-119	0	9
Chloromethane	ug/L	ND	20	20	19.1	13.0	96	65	23-168	38	49
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.8	20.8	102	103	85-117	0	10
cis-1,3-Dichloropropene	ug/L	ND	20	20	19.5	19.9	98	99	74-115	2	12
Dibromochloromethane	ug/L	ND	20	20	19.0	19.7	95	98	65-134	4	11
Ethylbenzene	ug/L	ND	20	20	21.2	20.9	106	104	51-148	2	14
Methylene chloride	ug/L	ND	20	20	19.7	18.3	99	92	75-118	7	11
Styrene	ug/L	ND	20	20	21.3	21.2	107	106	17-174	1	10
Tetrachloroethene	ug/L	12.2	20	20	32.1	33.3	100	105	78-127	3	9
Toluene	ug/L	ND	20	20	20.9	21.3	105	106	47-149	2	16
trans-1,2-Dichloroethene	ug/L	ND	20	20	21.7	21.5	108	108	84-119	1	12
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.7	19.7	93	98	71-120	5	10
Vinyl chloride	ug/L	ND	20	20	21.5	19.5	107	97	58-130	10	11
Xylene (Total)	ug/L	ND	60	60	65.6	64.0	109	107	39-158	2	15
1,2-Dichloroethane-d4 (S)	%						102	101	80-120		
4-Bromofluorobenzene (S)	%						98	102	80-120		
Toluene-d8 (S)	%						98	100	80-120		
Preservation pH		1.0			1.0	1.0				0	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

QC Batch:	MSV/67208	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60186564001, 60186564002		

METHOD BLANK: 1511906 Matrix: Water

Associated Lab Samples: 60186564001, 60186564002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	ug/L	ND	1.0	01/26/15 21:49	
1,2-Dichloroethane-d4 (S)	%	101	80-120	01/26/15 21:49	
4-Bromofluorobenzene (S)	%	98	80-120	01/26/15 21:49	
Toluene-d8 (S)	%	97	80-120	01/26/15 21:49	

LABORATORY CONTROL SAMPLE: 1511907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	20	20.3	101	80-120	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			98	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/67208

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FORT SMITH AR VOCs

Pace Project No.: 60186564

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60186564001	MW-176-GW-20150120	EPA 5030B/8260	MSV/67172		
60186564001	MW-176-GW-20150120	EPA 5030B/8260	MSV/67208		
60186564002	VP-10-GW-20150120	EPA 5030B/8260	MSV/67172		
60186564002	VP-10-GW-20150120	EPA 5030B/8260	MSV/67208		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60186564



Client Name: Environ

Courier: Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 5689 1283 9504 Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194

Type of Ice: Water Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1-7

Temperature should be above freezing to 6°C

Date and initials of person examining contents: Jan 12/15

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	
Pace containers used:	☒ Yes ☐ No ☐ N/A	9.
Containers intact:	☒ Yes ☐ No ☐ N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	11.
Filtered volume received for dissolved tests?	☐ Yes ☒ No ☐ N/A	12.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	
Includes date/time/ID/analyses Matrix: <u>wt</u>		13.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	14.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>001 09 2014</u>		15.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

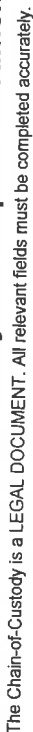
Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: me

Date: 1/12/15



The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: <u>1</u> of <u>1</u>	
Company:	Environ	Report To:	Wendy Stonestreet	Attention:	Tamara Gleason		
Address:	7500 College Blvd., Ste. 925	Copy To:	Tamara Gleason	Company Name:			
	Overland Park, KS 66210		tgleaseon@environcorp.com	Address:			
Email To:	wstonestreet@environcorp.com	Purchase Order No.:		Pace Quote Reference:			
Phone:	913-553-5926	Project Name:	Fort Smith, AR	Pace Project Manager:	MJ Walls		
				Pace Profile #:	7444 water, 7709 soil		
Requested Due Date/TAT:	Standard TAT	Project Number:	3434446A				
				REGULATORY AGENCY ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____			
				Site Location AR		STATE:	

[illegible]

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***Important Note:** By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days

F-ALL-Q-020rev.07. 15-Feb-2007



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LABORATORY REPORT

January 29, 2015

Wendy Stonestreet
Environ International Corporation
7500 College Boulevard, Suite 925
Overland Park, KS 66210

RE: Whirlpool Fort Smith / 3433244A

Dear Wendy:

Enclosed are the results of the sample submitted to our laboratory on January 20, 2015. For your reference, this analysis has been assigned our service request number P1500223.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kelly Horiuchi at 4:53 pm, Jan 29, 2015

Kelly Horiuchi
Laboratory Director



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Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: Environ International Corporation
Project: Whirlpool Fort Smith / 3433244A

Service Request No: P1500223

CASE NARRATIVE

The sample was received intact under chain of custody on January 20, 2015 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed in SIM mode for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is not included on the laboratory's AIHA-LAP scope of accreditation.

The response for the Chlorobenzene-d5 internal standard in the sample was unacceptable because of suspected matrix interference. The Bromofluorobenzene surrogate recovery was below the acceptance limit due to Chlorobenzene-d5 response. Since the target compounds reported were not associated with this internal standard, the data quality has not been affected. No corrective action was necessary.

The Summa canister was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L14-2
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	838341
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	CA200007
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-14-5
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA01627201 4-4
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Environ International Corporation
Project ID: Whirlpool Fort Smith / 3433244A

Service Request: P1500223

Date Received: 1/20/2015
Time Received: 10:10

TO-15 - VOC SIM

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
VP-9-201501	P1500223-001	Air	1/19/2015	16:05	SC02030	-3.04	3.78	X

Page 1 of 1

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ALS Environmental Sample Acceptance Check Form

Client: Environ International Corporation

Work order: P1500223

Project: Whirlpool Fort Smith / 3433244A

Sample(s) received on: 1/20/15

Date opened: 1/20/15

by: KKELPE

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

	Yes	No	N/A
1 Were sample containers properly marked with client sample ID?	☒	☐	☐
2 Container(s) supplied by ALS ?	☒	☐	☐
3 Did sample containers arrive in good condition?	☒	☐	☐
4 Were chain-of-custody papers used and filled out?	☒	☐	☐
5 Did sample container labels and/or tags agree with custody papers?	☒	☐	☐
6 Was sample volume received adequate for analysis?	☒	☐	☐
7 Are samples within specified holding times?	☒	☐	☐
8 Was proper temperature (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9 Was a trip blank received?	☐	☒	☐
10 Were custody seals on outside of cooler/Box?	☐	☒	☐
Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
Were signature and date included?	☐	☐	☒
Were seals intact?	☐	☐	☒
Were custody seals on outside of sample container?	☐	☒	☐
Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
Were signature and date included?	☐	☐	☒
Were seals intact?	☐	☐	☒
11 Do containers have appropriate preservation , according to method/SOP or Client specified information?	☐	☐	☒
Is there a client indication that the submitted samples are pH preserved?	☐	☐	☒
Were VOA vials checked for presence/absence of air bubbles?	☐	☐	☒
Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	☐	☐	☒
12 Tubes: Are the tubes capped and intact?	☐	☐	☒
Do they contain moisture?	☐	☐	☒
13 Badges: Are the badges properly capped and intact?	☐	☐	☒
Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1500223-001.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environ International Corporation

Client Sample ID: VP-9-201501

Client Project ID: Whirlpool Fort Smith / 3433244A

ALS Project ID: P1500223

ALS Sample ID: P1500223-001

Test Code: EPA TO-15 SIM

Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Container ID: SC02030

Date Collected: 1/19/15

Date Received: 1/20/15

Date Analyzed: 1/23/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.04 Final Pressure (psig): 3.78

Canister Dilution Factor: 1.58

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	4.1	0.040	1.6	0.015	
75-35-4	1,1-Dichloroethene	1.7	0.040	0.42	0.010	
156-60-5	trans-1,2-Dichloroethene	0.14	0.040	0.035	0.010	
75-34-3	1,1-Dichloroethane	0.36	0.040	0.089	0.0098	
156-59-2	cis-1,2-Dichloroethene	0.14	0.040	0.035	0.010	
107-06-2	1,2-Dichloroethane	2.3	0.040	0.56	0.0098	
71-55-6	1,1,1-Trichloroethane	0.045	0.040	0.0083	0.0072	
79-01-6	Trichloroethene	31	0.040	5.8	0.0074	
127-18-4	Tetrachloroethene	0.29	0.040	0.043	0.0058	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environ International Corporation

Client Sample ID: Method Blank

Client Project ID: Whirlpool Fort Smith / 3433244A

ALS Project ID: P1500223

ALS Sample ID: P150123-MB

Test Code: EPA TO-15 SIM

Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 1/23/15

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.025	ND	0.0098	
75-35-4	1,1-Dichloroethene	ND	0.025	ND	0.0063	
156-60-5	trans-1,2-Dichloroethene	ND	0.025	ND	0.0063	
75-34-3	1,1-Dichloroethane	ND	0.025	ND	0.0062	
156-59-2	cis-1,2-Dichloroethene	ND	0.025	ND	0.0063	
107-06-2	1,2-Dichloroethane	ND	0.025	ND	0.0062	
71-55-6	1,1,1-Trichloroethane	ND	0.025	ND	0.0046	
79-01-6	Trichloroethene	ND	0.025	ND	0.0047	
127-18-4	Tetrachloroethene	ND	0.025	ND	0.0037	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: Environ International Corporation
Client Project ID: Whirlpool Fort Smith / 3433244A

ALS Project ID: P1500223

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 1/19/15
Date(s) Received: 1/20/15
Date(s) Analyzed: 1/23/15

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		% Recovered	% Recovered	% Recovered		
Method Blank	P150123-MB	96	106	92	70-130	
Lab Control Sample	P150123-LCS	97	89	94	70-130	
VP-9-201501	P1500223-001	92	90	16	70-130	S

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

S = Surrogate recovery not within specified limits.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Environ International Corporation

Client Sample ID: Lab Control Sample

Client Project ID: Whirlpool Fort Smith / 3433244A

ALS Project ID: P1500223

ALS Sample ID: P150123-LCS

Test Code: EPA TO-15 SIM

Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19

Analyst: Wida Ang

Sample Type: 6.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 1/23/15

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
75-01-4	Vinyl Chloride	4.04	3.55	88	63-120	
75-35-4	1,1-Dichloroethene	4.28	4.44	104	67-114	
156-60-5	trans-1,2-Dichloroethene	4.24	3.93	93	66-115	
75-34-3	1,1-Dichloroethane	4.16	4.03	97	65-117	
156-59-2	cis-1,2-Dichloroethene	4.28	4.18	98	66-116	
107-06-2	1,2-Dichloroethane	4.20	3.67	87	61-118	
71-55-6	1,1,1-Trichloroethane	4.16	4.01	96	65-114	
79-01-6	Trichloroethene	4.16	3.78	91	66-116	
127-18-4	Tetrachloroethene	3.96	3.86	97	65-118	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.