PBS | Engineering + Environmental *Est. 1982*

September 24, 2013

Tod A. Gold
Joyce Ziker Parkinson LLC
5th Ave # 2040
Seattle, WA 98101

RE: Summary Indoor Air Testing Data Report
Lynnwood Public Facilities District
3815 – 196th St. S.W., Lynnwood, WA
PBS Project No.: 41232.000

Dear Mr. Gold;

PBS Engineering and Environmental, Inc. (PBS) was requested to perform indoor air testing and provide laboratory analysis data for the above referenced site. The objective was to assess potential vapor intrusion from suspected releases to soil and groundwater from a former dry cleaner at the site.

Work Scope

The work scope included collecting air samples in four locations for the following chemical constituents: vinyl chloride, methylene chloride, trans-1,2-dichloroethene, cis-1,2-dichloroethene, chloroform, trichloroethene (TCE) and tetrachloroethene (PCE). Additionally our work scope included preparing a brief summary report of the sample collection activities and the laboratory data.

Field Activities

On August 15, 2013, PBS met with Grant Dull, Lynnwood Public Facilities District, at the subject site and site sample locations were selected. Mr. Dull provided access to the sample collection locations based on relative proximity to the location of the former dry cleaner: the PHO and Sandwich Restaurant, the Public Facilities District Office, the Carniceria Michoacan Grocery and the building roof (ambient/outdoors). PBS collected one air sample in each of the above areas using the SUMMA Canister method. PBS set the samples on August 13 and collected the sample canisters August 14 approximately 12 hours later. The work was performed consistent with the Department of Ecology's Draft Guidance for Evaluating Soil Vapor in Washington State (October 2009).

Six-liter SUMMA ™ canisters were ordered from the laboratory with flow regulators set to run for 12 hours. The canisters were individually-certified for chlorinated solvent

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VOCs. A Canister is a pre-cleaned evacuated stainless steel canister fitted with a regulator set to collected air over a 12 hour period. The intent was to collect the air samples when the least amount of interference was present (i.e. the spaces were not occupied, doors and windows closed and all ventilation systems were not operating).

The equipment used for sampling was dedicated to each sample location and was not reused. The canisters were set on the floor in each location for collection. The intent was to capture the location of the potentially highest occurrence of chemical vapors. The outdoor/ambient sample was collected from the roof approximately 200 feet north from the south end of the building. This location was chosen for the security of the sample container and best available location to represent outdoor air. After sample collection was completed, each canister was closed and a tag was attached indicating the sample ID, canister ID, sample date, pressure readings and the time sample collection occurred. The samples were then shipped overnight to ALS Laboratories, Utah, under chain-of-custody documentation.

Samples were analyzed for chlorinated volatile organic compounds (vinyl chloride, methylene chloride, trans-1, 2-dichloroethene, cis-1, 2-dichloroethene, chloroform, trichloroethene and tetrachloroethene) by Modified EPA Method TO-15 SIM with method reporting limits suitable for indoor air evaluation.

The attached data table provides the laboratory results of the air testing and cleanup levels established by the Washington Department of Ecology for comparison.

Please let us know if you have any questions regarding this data.

Respectfully,

PBS Engineering and Environmental, Inc.,

Gregg Middaugh
Senior Project Manager

Attachments (2) – PBS Data Table, Laboratory Reports

Data Table
Summary of Analytical Data
Former Dry Cleaner Lynnwood Public Facilities District
September 24, 2013

Locations	Vinyl Chloride[3]		Methylene Chloride		trans-1,2-Dichloroethene (DCE)		cis-1,2-Dichloroethene (DCE)		Chloroform		Trichloroethene (TCE)		Tetrachloroethene (PCE)	
	(ppb)	($\mu g/m^3$)	(ppb)	($\mu g/m^3$)	(ppb)	($\mu g/m^3$)	(ppb)	($\mu g/m^3$)	(ppb)	($\mu g/m^3$)	(ppb)	($\mu g/m^3$)	(ppb)	($\mu g/m^3$)
-001 PHO	ND	ND	0.14	0.49	ND	ND	ND	ND	0.83	**4.0**	0.014	0.074	0.97	6.6
-002 PFD Office	ND	ND	0.12	0.42	0.019	0.076	ND	ND	0.23	**1.1**	0.0086	0.046	0.12	0.82
-003 Grocery	0.22	**0.57**	0.33	1.1	ND	ND	ND	ND	1.1	**5.4**	0.055	0.29	0.55	3.8
-004 Outdoor	ND	ND	0.096	0.33	ND	ND	ND	ND	0.030	**0.15**	0.0071	0.038	0.037	0.25
MTCA – CLARC Updated Method B Air Cleanup Levels[1,2]	-	0.28	-	5.3	-	27(NC)	-	-	-	0.11	-	0.37	-	9.6
WAC – PEL[3]	1,000	-	25,000	-	200,000	-	200,000	-	2,000	-	50,000	-	25,000	-

1. Washington Department of Ecology - Cleanup Level and Risk Calculation (CLARC) Guidance – Online Database Method B Air Cleanup Levels – September 2012
2. Washington Department of Ecology removed the inhalation referenced dose for cis-1,2-DCE in December 2010
3. Chapter 296-841 WAC – Table 3 - Permissible Exposure Limits (PEL's) for Airborne Contaminants (8 hour TWA)

All chemical constituents were derived from the Phase II Environmental Site Assessment Report prepared by GeoEngineers May 31, 2013
ND - None Detect
NC – Non-Carcinogen
99 – Red bolded numbers are exceedances of the MTCA – Table B-1 Indoor Air Cleanup Levels

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LABORATORY REPORT

September 3, 2013

Gregg Middaugh
PBS Engineering and Environmental
2517 Eastlake Ave E, Suite 100
Seattle, WA 98102

RE: Lynnwood Public Facilities / 41232.000

Dear Gregg:

Enclosed are the results of the samples submitted to our laboratory on August 21, 2013. For your reference, these analyses have been assigned our service request number P1303688.

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

Kate Aguilera

By Kate Aguilera at 2:24 pm, Sep 03, 2013

Kate Aguilera
Project Manager

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Client: PBS Engineering and Environmental
Project: Lynnwood Public Facilities / 41232.000

Service Request No: P1303688

CASE NARRATIVE

The samples were received intact under chain of custody on August 21, 2013 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 samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were 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. 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 canisters were 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.

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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	L11-203
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	2012039
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	494864
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	T104704413-13-4
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272013-3
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.

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DETAIL SUMMARY REPORT

Client: PBS Engineering and Environmental
Service Request: P1303688
Project ID: Lynnwood Public Facilities / 41232.000

Date Received: 8/21/2013
Time Received: 11:15

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC SIM
-001 PHO	P1303688-001	Air	8/15/2013	20:00	AC01453	-1.09	3.68	X
-002 PDF Office	P1303688-002	Air	8/15/2013	20:00	AC00817	-1.33	3.44	X
-003 Video	P1303688-003	Air	8/15/2013	20:00	AC00906	-2.28	3.55	X
-004 Ambient	P1303688-004	Air	8/15/2013	20:00	AS00434	-1.20	3.52	X

Air - Chain of Custody Record & Analytical Service Request

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Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No: P1303688

Company Name & Address (Reporting Information)	PBS ENVIRONMENTAL 2317 EASTLAKE AVE E, 101 SEATTLE WA
Project Manager	GREGG MIDDAUGH
Phone / Fax	206 233 9639 / —
Email Address for Result Reporting	MIDDAUGH@PBSENV.COM
Project Name	LYNNWOOD PUBLIC FACILITIES
Project Number	41232.000
P.O. # / Billing Information	SAME AS REPORTING INFO.
Sampler (Print & Sign)	GREGG MIDDAUGH Gregg Middaugh
ALS Contact:	STELLA HANG

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC. etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method: TO-15 SIM		Comments e.g. Actual Preservative or specific instructions
-001 PHO	(1)-1.00	8/15	8PM	AC01453	FCA00215	28	3	6L	X		# RPT
-002 PDF OFFICE	(2)-1.23	8/15	8PM	AC00817	FCA00581	28	4	6L	X		ONLY
-003 VIDEO	(3)-2.34	8/15	8PM	AC00906	FCA00530	28	6.5	6L	X		ACE, TCE
-004 AMBIENT	(4)-1.16	8/15	8PM	AS00434	FCA00316	28	4	6L	X		CHLOROFORM, METHYLENE CHLORIDE, VINYL CHLORIDE, 1,2 TRANS & CIS DCE

Report Tier Levels - please select

Tier I - Results (Default in not specified) _____ Tier III (Results + QC & Calibration Summaries) _____
Tier II (Results + QC Summaries _____ Tier IV (Date Validation Package) 10% Surcharge _____

EDD required YES / No
Type: _____ Units: _____

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Relinquished by: (Signature)	Date: 8/16/13	Time: 2:30pm	Received by: (Signature)	Date: 8/16/13	Time: 1715	Project Requirements (MRLs, QAPP)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Cooler / Blank Temperature _____°C

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ALS Environmental

Sample Acceptance Check Form

Client: PBS Engineering and Environmental Work order: P1303688

Project: Lynnwood Public Facilities / 41232.000

Sample(s) received on: 8/21/13 Date opened: 8/21/13 by: MZAMORA

Note: This form is used for all samples received by CAS. 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 CAS**?	☒	☐	☐
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 if necessary 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
P1303688-001.01	6.0 L Ambient Can					
P1303688-002.01	6.0 L Ambient Can					
P1303688-003.01	6.0 L Ambient Can					
P1303688-004.01	6.0 L Silonite Can					

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

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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RESULTS OF ANALYSIS

Client: **PBS Engineering and Environmental**
Client Sample ID: **-001 PHO**
Client Project ID: **Lynnwood Public Facilities / 41232.000**

ALS Project ID: P1303688
ALS Sample ID: P1303688-001

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01453

Date Collected: 8/15/13
Date Received: 8/21/13
Date Analyzed: 8/29/13
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.09 Final Pressure (psig): 3.68

Canister Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.034	ND	0.013	
75-09-2	Methylene Chloride	**0.49**	0.14	**0.14**	0.039	
156-60-5	trans-1,2-Dichloroethene	ND	0.034	ND	0.0085	
156-59-2	cis-1,2-Dichloroethene	ND	0.034	ND	0.0085	
67-66-3	Chloroform	**4.0**	0.14	**0.83**	0.028	
79-01-6	Trichloroethene	**0.074**	0.034	**0.014**	0.0063	
127-18-4	Tetrachloroethene	**6.6**	0.034	**0.97**	0.0050	

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.

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RESULTS OF ANALYSIS

Client: **PBS Engineering and Environmental**
Client Sample ID: **-002 PDF Office** ALS Project ID: P1303688
Client Project ID: **Lynnwood Public Facilities / 41232.000** ALS Sample ID: P1303688-002

Test Code: EPA TO-15 SIM Date Collected: 8/15/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date Received: 8/21/13
Analyst: Simon Cao Date Analyzed: 8/29/13
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC00817

Initial Pressure (psig): -1.33 Final Pressure (psig): 3.44

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.034	ND	0.013	
75-09-2	Methylene Chloride	**0.42**	0.14	**0.12**	0.039	
156-60-5	trans-1,2-Dichloroethene	**0.076**	0.034	**0.019**	0.0086	
156-59-2	cis-1,2-Dichloroethene	ND	0.034	ND	0.0086	
67-66-3	Chloroform	**1.1**	0.14	**0.23**	0.028	
79-01-6	Trichloroethene	**0.046**	0.034	**0.0086**	0.0063	
127-18-4	Tetrachloroethene	**0.82**	0.034	**0.12**	0.0050	

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.

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RESULTS OF ANALYSIS

Client: **PBS Engineering and Environmental**
Client Sample ID: **-003 Video**
Client Project ID: **Lynnwood Public Facilities / 41232.000**

ALS Project ID: P1303688
ALS Sample ID: P1303688-003

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC00906

Date Collected: 8/15/13
Date Received: 8/21/13
Date Analyzed: 8/29/13
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.28 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.47

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	**0.57**	0.037	**0.22**	0.014	
75-09-2	Methylene Chloride	**1.1**	0.15	**0.33**	0.042	
156-60-5	trans-1,2-Dichloroethene	ND	0.037	ND	0.0093	
156-59-2	cis-1,2-Dichloroethene	ND	0.037	ND	0.0093	
67-66-3	Chloroform	**5.4**	0.15	**1.1**	0.030	
79-01-6	Trichloroethene	**0.29**	0.037	**0.055**	0.0068	
127-18-4	Tetrachloroethene	**3.8**	0.037	**0.55**	0.0054	

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.

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RESULTS OF ANALYSIS

Client: **PBS Engineering and Environmental**
Client Sample ID: **-004 Ambient** ALS Project ID: P1303688
Client Project ID: **Lynnwood Public Facilities / 41232.000** ALS Sample ID: P1303688-004

Test Code: EPA TO-15 SIM Date Collected: 8/15/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date Received: 8/21/13
Analyst: Simon Cao Date Analyzed: 8/29/13
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00434
Initial Pressure (psig): -1.20 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.034	ND	0.013	
75-09-2	Methylene Chloride	**0.33**	0.14	**0.096**	0.039	
156-60-5	trans-1,2-Dichloroethene	ND	0.034	ND	0.0085	
156-59-2	cis-1,2-Dichloroethene	ND	0.034	ND	0.0085	
67-66-3	Chloroform	**0.15**	0.14	**0.030**	0.028	
79-01-6	Trichloroethene	**0.038**	0.034	**0.0071**	0.0063	
127-18-4	Tetrachloroethene	**0.25**	0.034	**0.037**	0.0050	

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.

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RESULTS OF ANALYSIS

Client: **PBS Engineering and Environmental**
Client Sample ID: **Method Blank**
Client Project ID: **Lynnwood Public Facilities / 41232.000**

ALS Project ID: P1303688
ALS Sample ID: P130829-MB

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 8/29/13
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.025	ND	0.0098	
75-09-2	Methylene Chloride	ND	0.10	ND	0.029	
156-60-5	trans-1,2-Dichloroethene	ND	0.025	ND	0.0063	
156-59-2	cis-1,2-Dichloroethene	ND	0.025	ND	0.0063	
67-66-3	Chloroform	ND	0.10	ND	0.020	
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

Client: **PBS Engineering and Environmental**
Client Project ID: **Lynnwood Public Facilities / 41232.000** ALS Project ID: P1303688

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date(s) Collected: 8/15/13
Analyst: Simon Cao Date(s) Received: 8/21/13
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 8/29/13
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 % Recovered	Toluene-d8 % Recovered	Bromofluorobenzene % Recovered	Acceptance Limits	Data Qualifier
Method Blank	P130829-MB	**98**	**98**	**105**	70-130	
Lab Control Sample	P130829-LCS	**100**	**97**	**106**	70-130	
-001 PHO	P1303688-001	**98**	**100**	**102**	70-130	
-002 PDF Office	P1303688-002	**96**	**100**	**104**	70-130	
-003 Video	P1303688-003	**96**	**100**	**92**	70-130	
-004 Ambient	P1303688-004	**97**	**99**	**106**	70-130	
-004 Ambient	P1303688-004DUP	**96**	**100**	**105**	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.

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LABORATORY CONTROL SAMPLE SUMMARY

Client: **PBS Engineering and Environmental**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Lynnwood Public Facilities / 41232.000**

ALS Project ID: P1303688
ALS Sample ID: P130829-LCS

Test Code: EPA TO-15 SIM
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 8/29/13
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
75-01-4	Vinyl Chloride	4.00	**3.55**	**89**	56-117	
75-09-2	Methylene Chloride	4.32	**3.60**	**83**	59-111	
156-60-5	trans-1,2-Dichloroethene	4.24	**3.70**	**87**	61-111	
156-59-2	cis-1,2-Dichloroethene	4.28	**3.75**	**88**	63-112	
67-66-3	Chloroform	4.28	**3.68**	**86**	55-111	
79-01-6	Trichloroethene	4.16	**3.55**	**85**	58-113	
127-18-4	Tetrachloroethene	3.92	**3.29**	**84**	60-111	

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.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **PBS Engineering and Environmental**
Client Sample ID: **-004 Ambient** ALS Project ID: P1303688
Client Project ID: **Lynnwood Public Facilities / 41232.000** ALS Sample ID: P1303688-004DUP

Test Code: EPA TO-15 SIM Date Collected: 8/15/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/7890A/MS19 Date Received: 8/21/13
Analyst: Simon Cao Date Analyzed: 8/29/13
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00434
Initial Pressure (psig): -1.20 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.35

CAS #	Compound	Sample Result		Duplicate Sample Result		Average	% RPD	RPD Limit	Data Qualifier
		µg/m³	ppbV	µg/m³	ppbV	µg/m³			
75-01-4	Vinyl Chloride	ND	ND	ND	ND	-	-	25	
75-09-2	Methylene Chloride	0.334	0.0963	0.327	0.0941	0.3305	**2**	25	
156-60-5	trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
156-59-2	cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
67-66-3	Chloroform	0.148	0.0302	0.142	0.0292	0.145	**4**	25	
79-01-6	Trichloroethene	0.0382	0.00712	0.0370	0.00689	0.0376	**3**	25	
127-18-4	Tetrachloroethene	0.252	0.0372	0.245	0.0361	0.2485	**3**	25	

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