BLUE SAGE ENVIRONMENTAL, INC.
198007 E. 30th Avenue
Kennewick, WA 99337

August 16, 2015

Rob Olsen, REHS
Tacoma-Pierce County Health Department
3629 South D Street, MS: 310
Tacoma, WA 98418-6812

RE: The Defiant Goldfish Bar Bistro

Dear Rob:

8 hour Indoor Vapor Intrusion (VI) air monitoring has been completed at The Defiant Goldfish Bar Bistro. There were two air sampling events. The first was completed on June 10, 2015 and the second on July 28, 2015. This was accomplished each time by setting a SUMMA canister inside the building in a high human traffic area near normal breathing level. The canisters were provided by ESN-Northwest in Olympia, Washington and sent to the Eurofins Air Toxics laboratory in Folsom, California for analysis. Air samples were analyzed for BTEX, and Aromatic and Aliphatic compounds as listed in Ecology's Vapor Intrusion Table, updated April 6, 2015.

The June 10, 2015 sampling was completed following the removal of the concrete flooring slab that covered the Underground Storage Tanks (UST) located in the SE corner of the building. The tops of the USTs were exposed. Approximately 3.75 cubic yards of soil that had covered the tank tops was stockpiled directly north of the USTs, inside the building. The stockpiled soil had the odor of old gasoline. The analytical results of this VI air monitoring reported elevated levels of benzene and aliphatic compounds.

Following the release of old product and water from the north UST on June 30, 2015, cleanup of the spill was undertaken. An additional 1.75 cubic yards (approximation) of gasoline contaminated soil was removed from around the USTs. The open excavation was backfilled with a clean fill material, and sealed with a two foot layer of CDF (controlled density fill – cementitious material). All excavated soil from around the USTs was removed from inside the building and stockpiled on 6 mil visqueen.

On July 28, 2015, a second 8 hour indoor VI air monitoring was completed. The SUMMA canister was placed in approximately the same location as the first sampling on June 10, 2015. The canister was located in the NE quarter of the interior of the building approximately five feet off the ground. This area will have seating for patrons of the bar/bistro. Analytical results from this monitoring reported BTEX, and the aliphatic and

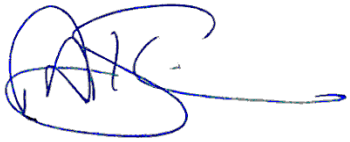
(509) 947-4059
akoch1967@yahoo.com

BLUE SAGE ENVIRONMENTAL, INC.
198007 E. 30th Avenue
Kennewick, WA 99337

aromatic ranges required by Ecology for Vapor Intrusion air monitoring as not detected. A summary table of the results and copies of the laboratory reports are attached.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Alexander H. Koch, Project Manager
Blue Sage Environmental, Inc.

cc: Adam Dopps, owner
Carol Johnston, Ecology

attachments

(509) 947-4059
akoch1967@yahoo.com

The Defiant Goldfish Bar Bistro
5310 N Pearl Street
Tacoma, WA 98407
Vapor Intrusion Air Monitoring

Chemical Name	CAS #	Risk Driver for Individual Chemicals	2015 Indoor Air Cleanup Level Method B (µg/m³)	June 10, 2015 Indoor Results	July 28, 2015 Indoor Results
benzene	71-43-2	Cancer	3.21E-01	2.2	nd
ethylbenzene	100-41-4	Noncancer	4.57E+02	6.2	nd
toluene	108-88-3	Noncancer	2.29E+03	40	nd
xylene;m-	108-38-3	Noncancer	4.57E+01	17	nd
xylene;o-	95-47-6	Noncancer	4.57E+01	6.7	nd
VPH [EC5-6 aliphatics + EC6-8 aliphatics] fraction	NONE	Noncancer	2.70E+03	1180	nd
VPH [EC8-10 aliphatics + EC 10-12 aliphatics] fraction	NONE	Noncancer	1.40E+02	1350	nd
VPH [EC8-10 aromatics + EC10-12 aromatics] fraction minus [naphthalene]	NONE	Noncancer	1.80E+02	96	nd
APH [EC5-8 aliphatics] fraction	NONE	Noncancer	2.70E+03	1180	nd
APH [EC9-12 aliphatics] fraction	NONE	Noncancer	1.40E+02	1350	nd
APH [EC9-10 aromatics] fraction	NONE	Noncancer	1.80E+02	96	nd

Blue Sage Environmental, Inc.
Kennewick, WA (509) 947-4059

eurofins | Air Toxics

8/10/2015
Ms. Jennifer Arnold
ESN Northwest
1210 Eastside St
SE Suite 200
Olympia WA 98501

Project Name:
Project #:
Workorder #: 1507521A

Dear Ms. Jennifer Arnold

The following report includes the data for the above referenced project for sample(s) received on 7/31/2015 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1507521A

Work Order Summary

CLIENT:	Ms. Jennifer Arnold ESN Northwest 1210 Eastside St SE Suite 200 Olympia, WA 98501	**BILL TO:**	Ms. Jennifer Arnold ESN Northwest 1210 Eastside St SE Suite 200 Olympia, WA 98501
PHONE:	360-459-4670	**P.O. #**	20150716
FAX:	360-4595-3432	**PROJECT #**	
DATE RECEIVED:	07/31/2015	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/10/2015		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	INSIDE BUILDING	TO-15	0.5 psi	4.9 psi
02A	Lab Blank	TO-15	NA	NA
03A	CCV	TO-15	NA	NA
04A	LCS	TO-15	NA	NA
04AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 08/10/15

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
ESN Northwest
Workorder# 1507521A

One 6 Liter Summa Canister sample was received on July 31, 2015. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

The Chain of Custody (COC) information for sample INSIDE BUILDING did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Despite the use of flow controllers for sample collection, the final canister vacuums for sample INSIDE BUILDING was measured at ambient pressure in the field. These ambient pressure readings were confirmed by the laboratory upon sample receipt.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: INSIDE BUILDING

Lab ID#: 1507521A-01A

No Detections Were Found.

eurofins | Air Toxics

Client Sample ID: INSIDE BUILDING

Lab ID#: 1507521A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080410**	**Date of Collection:**	**7/28/15 10:00:00 AM**
Dil. Factor:	**1.29**	**Date of Analysis:**	**8/4/15 02:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.64	Not Detected	2.1	Not Detected
Ethyl Benzene	0.64	Not Detected	2.8	Not Detected
Toluene	0.64	Not Detected	2.4	Not Detected
m,p-Xylene	0.64	Not Detected	2.8	Not Detected
o-Xylene	0.64	Not Detected	2.8	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	88	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1507521A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080408**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/4/15 12:20 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	Not Detected	1.6	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1507521A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080405**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/4/15 10:16 AM**	

Compound	%Recovery
Benzene	94
Ethyl Benzene	102
Toluene	84
m,p-Xylene	106
o-Xylene	111

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1507521A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/4/15 09:04 AM**	

Compound	%Recovery	Method Limits
Benzene	90	70-130
Ethyl Benzene	96	70-130
Toluene	81	70-130
m,p-Xylene	98	70-130
o-Xylene	106	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1507521A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/4/15 09:28 AM**	

Compound	%Recovery	Method Limits
Benzene	90	70-130
Ethyl Benzene	98	70-130
Toluene	81	70-130
m,p-Xylene	100	70-130
o-Xylene	107	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

8/13/2015
Ms. Jennifer Arnold
ESN Northwest
1210 Eastside St
SE Suite 200
Olympia WA 98501

Project Name:
Project #:
Workorder #: 1507521B

Dear Ms. Jennifer Arnold

The following report includes the data for the above referenced project for sample(s) received on 7/31/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 APH are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

WORK ORDER #: 1507521B

Work Order Summary

CLIENT:	Ms. Jennifer Arnold ESN Northwest 1210 Eastside St SE Suite 200 Olympia, WA 98501	**BILL TO:**	Ms. Jennifer Arnold ESN Northwest 1210 Eastside St SE Suite 200 Olympia, WA 98501
PHONE:	360-459-4670	**P.O. #**	20150716
FAX:	360-4595-3432	**PROJECT #**	
DATE RECEIVED:	07/31/2015	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/13/2015		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	INSIDE BUILDING	Modified TO-15 APH	0.5 psi	4.9 psi
01B	INSIDE BUILDING	Modified TO-15 APH	0.5 psi	4.9 psi
02A	Lab Blank	Modified TO-15 APH	NA	NA
02B	Lab Blank	Modified TO-15 APH	NA	NA
03A	CCV	Modified TO-15 APH	NA	NA
03B	CCV	Modified TO-15 APH	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 08/13/15

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 & VPH Fractions
ESN Northwest
Workorder# 1507521B

One 6 Liter Summa Canister sample was received on July 31, 2015. The laboratory performed analysis via EPA Method TO-15 and Air Toxics VPH (Volatile Petroleum Hydrocarbon) methods for the Determination of VPH Fractions using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. This method is designed to measure gaseous phase aliphatic and aromatic compounds in ambient air and soil gas collected in stainless steel Summa canisters. Air Toxics VPH method is a hybrid of EPA TO-15, MADEP APH and WSDE VPH methods. Chromatographic peaks were identified via mass spectrum as either aliphatic or aromatic petroleum hydrocarbons and included in the appropriate range as defined by the method. The volatile Aliphatic hydrocarbons are collectively quantified within the C5 to C6 range, C6 to C8 range, C8 to C10 range and the C10 to C12 range. Additionally, the volatile Aromatic hydrocarbons are collectively quantified within the C8 to C10 range and the C10 to C12 range. The Aromatic ranges refer to the equivalent carbon (EC) ranges.

Aliphatic data is calculated from the Total Ion chromatogram which has been reprocessed in a duplicate file differentiated from the original by the addition of an alphanumeric extension. The Aromatic calculation also uses the information contained in the associated Extracted Ion file.

Receiving Notes

The Chain of Custody (COC) information for sample INSIDE BUILDING did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Despite the use of a flow controller for sample collection, the final canister vacuum for sample INSIDE BUILDING was measured at ambient pressure in the field. This ambient pressure reading was confirmed by the laboratory upon sample receipt.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

Summary of Detected Compounds
MODIFIED METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: INSIDE BUILDING

Lab ID#: 1507521B-01A

No Detections Were Found.

Client Sample ID: INSIDE BUILDING

Lab ID#: 1507521B-01B

No Detections Were Found.

eurofins | Air Toxics

Client Sample ID: INSIDE BUILDING

Lab ID#: 1507521B-01A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	3080410a	Date of Collection:	7/28/15 10:00:00 AM
Dil. Factor:	1.29	Date of Analysis:	8/4/15 02:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	13	Not Detected	42	Not Detected
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	13	Not Detected	53	Not Detected
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	13	Not Detected	75	Not Detected
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	13	Not Detected	90	Not Detected

Container Type: 6 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: INSIDE BUILDING

Lab ID#: 1507521B-01B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080410c**	**Date of Collection: 7/28/15 10:00:00 AM**	
Dil. Factor:	**1.29**	**Date of Analysis: 8/4/15 02:10 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	13	Not Detected	63	Not Detected
>C10-C12 Aromatic Hydrocarbons	13	Not Detected	71	Not Detected

Container Type: 6 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1507521B-02A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080408a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/4/15 12:20 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	10	Not Detected	32	Not Detected
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	10	Not Detected	41	Not Detected
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	10	Not Detected	58	Not Detected
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	10	Not Detected	70	Not Detected

Container Type: NA - **Not Applicable**

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1507521B-02B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080408c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/4/15 12:20 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
>C8-C10 Aromatic Hydrocarbons	10	Not Detected	49	Not Detected
>C10-C12 Aromatic Hydrocarbons	10	Not Detected	55	Not Detected

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1507521B-03A

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080406a**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 8/4/15 11:08 AM**

Compound	%Recovery
C5-C6 Aliphatic Hydrocarbons (ref. to Pentane + Hexane)	104
>C6-C8 Aliphatic Hydrocarbons (ref. to Heptane)	101
>C8-C10 Aliphatic Hydrocarbons (ref. to Decane)	99
>C10-C12 Aliphatic Hydrocarbons (ref. to Dodecane)	79

Container Type: NA - **Not Applicable**

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1507521B-03B

MODIFIED METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080406c**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 8/4/15 11:08 AM**

Compound	%Recovery
>C8-C10 Aromatic Hydrocarbons	110
>C10-C12 Aromatic Hydrocarbons	70

Container Type: NA - Not Applicable