1180 NW Maple St., Suite 310
Issaquah, WA 98027

T 425.395.0010
TRCcompanies.com

TECHNICAL MEMORANDUM

DATE: November 21, 2022

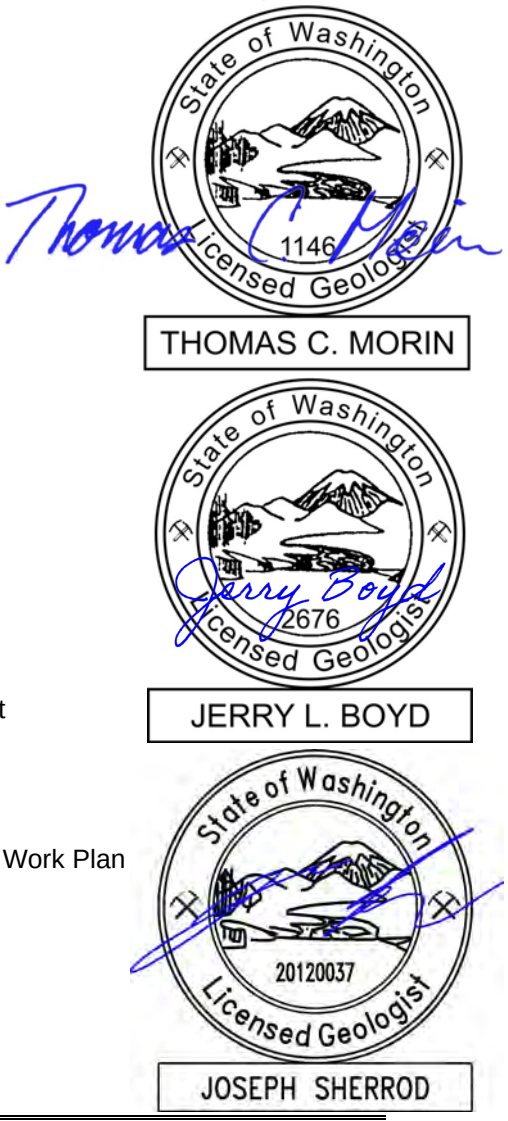
TO: Ms. Sunny Becker
Washington State Department of Ecology
Toxics Cleanup Program

CC: Mr. Tim Hamann, Onni John Street (Land) LLC
Mr. Amir Gharoon, Onni John Street (Land) LLC
Mr. Vianny Saucedo, Onni John Street (Land) LLC
Mr. John Houlihan, Jr., Houlihan Law
Mr. JT Cooke, Houlihan Law

FROM: Mr. Thomas Morin, L.G., – Vice President/Principal Geologist
Mr. Jerry Boyd, L.G., Senior Geologist
Mr. Joe Sherrod, L.G., Senior Geologist

RE: Soil Gas Assessment – Implementation of the Interim Action Work Plan
Seattle Times Site
1120 John Street
Seattle, Washington
Agreed Order No. DE 20468

TRC Project Number: 483101



INTRODUCTION

On behalf of Onni John Street (Land) LLC (Onni) and in support of its requirements under Agreed Order (AO) No. DE 20468, TRC Environmental Corporation (TRC) has prepared this technical memorandum to document the collection of soil gas samples at the Seattle Times Site (Site) located at 1120 John Street, Seattle, Washington (Property). The Property boundary and recent soil borings are depicted on Figure 1.

As outlined in Section 4.5.3 of the *Revised Interim Action Work Plan* (IAWP), the analysis of soil gas samples collected from elevations below the planned development's lowest floor will be used to assess the potential for vapor intrusion into the structure to be constructed at the Property. Impacted soil gas at the Property is related to the presence of halogenated volatile organic compounds (hVOCs) in groundwater migrating onto the Property from the from the Troy Laundry Site. As noted in the IAWP, the results of the soil gas investigation are to be used to evaluate the potential inclusion of a vapor intrusion barrier beneath the building.

In accordance with IAWP, TRC conducted the planned soil gas sampling activities at the Property on May 5 and 6, 2022 and June 2, 2022. This technical memorandum presents the results of the soil gas investigation and based on the results, the determination to install a vapor intrusion barrier as part of the building construction.

METHODOLOGY

Soil gas samples were collected from temporary monitoring probes within soil borings at depths approximately 60 feet below the pre-development ground surface (bgs) or approximately 45 to 50 feet above mean sea level (amsl; referenced to vertical datum NAVD88). These elevations correspond to approximately 5 to 10 feet below the concrete slab of the bottom floor of the planned redevelopment. The lower four levels of the building comprise the parking garage serving the development.

Soil gas samples were collected from temporary borings CSB-36 and CSB-37 on May 5 and 6, 2022, respectively. Two additional soil gas samples were collected from temporary soil borings, CSB-40 and CSB-42 on June 2 and 3, 2022, respectively (Figure 1). An insufficient volume of soil gas was collected from temporary boring CSB-42; therefore, the sample was not analyzed by the analytical laboratory.

Barometric conditions were generally stable throughout the sampling period. During the May 2022 soil gas collection the barometric pressure was about 29.39 inches of mercury (in. Hg) on May 5 and 29.37 in. Hg on May 6. The June 2022 soil gas collection event noted average daily barometric pressure of 29.5 in. Hg on June 2 and 29.37 in. Hg on June 3. Precipitation was not recorded in significant amounts during any of the soil gas sampling events.

Soil Gas Sampling

Each soil gas sample was collected from approximately 60 feet bgs or an elevation of 45 to 50 feet amsl. Each temporary boring was advanced to 60 feet where a single use 12-inch stainless steel vapor screen was installed from 59 to 60 feet bgs. Washed, 10-20 silica sand was then used to fill the well annulus from 60 feet bgs to approximately 57 feet bgs. Drill tooling (sonic drill rods or hollow-stem augers) were pulled upwards approximately 3.5 feet from the bottom of the boring, connecting the temporary vapor point and filter pack material to the native formation. Approximately 2 to 3 feet of hydrated bentonite powder was placed in the well annulus creating a seal.

Small diameter polyethylene tubing (0.25-inch) was secured to the upper portion of the temporary screen. Collectively, the stainless-steel vapor screen and polyethylene tubing is referred to as the sample collection train.

Approximately 0.5 liter of soil gas was purged from the sample collection train using an electric vacuum pump. This was done to remove ambient air entrained in the sample collection train prior to construction. At the completion of purging activities, extracted soil gas was screened with a photoionization detector (PID). PID values are presented in parts per million (ppm) below:

- CSB-36, 0.0 ppm;
- CSG-37, 0.0 ppm; and
- CSG-40, 9.8 ppm.

Soil gas samples were collected in 1-liter decontaminated SUMMA® canisters coupled with a low-flow grab sample regulator provided by analytical laboratory Friedman and Bruya, Inc. (FBI) in Seattle, Washington. Prior to sampling, the on-Site TRC geologist assembled the surface sampling manifold provided by FBI and securely fastened all compression and push connections.

A shut-in test was then performed to determine if any surface leaks existed within the sampling manifold or sample regulator. The shut-in test is performed by closing all manifold and sample train valves, opening the regulator briefly to induce a vacuum on the surface manifold. A successful shut-in test holds a consistent vacuum above 10 inches of mercury for no less than 3 minutes. Each soil gas sample successfully passed shut-in test procedures.

To commence sampling, the regulator valve was opened, and initial vacuum recorded. Each SUMMA® canister collected volume for approximately 5 minutes until negative 2 to 3 inches of mercury registered on the regulator. The canister at boring location CSB-36:SG drew a sample over approximately 32 minutes and was stopped before drawing the full volume; however, a sample was still able to be analyzed from this canister and meet the necessary screening criteria. After each sample was collected, the canister regulator was closed, the final vacuum recorded, and the canister resecured for transportation to FBI.

Ambient Air Sampling

Ambient or background air samples were collected up wind of the soil gas sample locations during each of the sampling events. One-liter decontaminated SUMMA® canisters coupled with a grab sample regulator were provided by FBI and used for sample collection.

In general, each ambient air sample was placed in the approximate breathing zone (5 feet above ground surface) to capture surface conditions during each sampling event. Ambient air sample AA-1 was collected on May 6, 2022. Based on the prevailing wind direction (north-northwest) the sampling canister was located near AOPC 6 in the surface parking lot. Ambient air sample AA-2 was collected on June 2, 2022. Based on the prevailing wind direction (south-southwest) the sample canister was located along the northern property boundary near AOPC 9.

To initiate sample collection, the regulator valve was opened, and initial vacuum pressure recorded. Each sample was collected over an approximately 5-mintue interval until negative 2 to 3 in. Hg remained in the sample canister. The canister regulator was then closed, the final vacuum pressure recorded, and the canister was secured for transportation to FBI.

Samples were recorded on the chain-of-custody, transported to FBI, and analyzed for hVOCs using U.S Environmental Protection Agency (EPA) Method TO-15 under standard turnaround time.

RESULTS

Soil gas sample results are summarized in Table 1 along with Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method B Sub-Slab Soil Gas Screening Levels (SL_{sg})and Ecology's recently published South Lake Union Group (SLUG) remediation levels (RELs) for soil gas. The SLUG RELs correspond to the MTCA Screening Levels in the Cleanup Levels and Risk Calculations (CLARC) for the "Vapor Intrusion Worker" scenario. Analytical reports are included as Attachment A.

Ecology communication indicated that the SLUG RELs will be the applicable standard to evaluate the need for placement of a vapor barrier beneath the proposed building. Ecology also indicated that soil gas concentrations exceeding an REL at any point within the footprint of the proposed building would generally require placement of a vapor intrusion barrier beneath the entire footprint of the building.

Trichloroethene (TCE), 1,2-dichloroethane (EDC), and cis-1,2-dichloroethene (cDCE) were the only hVOCs detected at a concentration exceeding a method detection limit (MDL).

TCE was detected in three samples at concentrations ranging from 78 micrograms per cubic meter (µg/m3) to 1,900 µg/m^3. The TCE concentrations at CSB-37:SG (280 µg/m^3) and CSB-40:SG (1,900 µg/m^3) exceeded the SLUG REL of 95 µg/m^3.

EDC was detected in three soil gas samples at concentrations ranging from 1.3 µg/m^3 at sample location CSB-37 to 4.8 µg/m^3 at CSB-40. A SLUG REL has not been established for EDC. The EDC concentration detected at CSB-40:SG exceeded the SL_{sg} of 3.2 µg/m^3.

cDCE was detected in one soil gas sample (CSB-36:SG) at a concentration of 33 µg/m^3. Neither a SLUG REL nor an SL_{sg} have been established for cDCE.

No analytes were detected in either ambient air sample at a concentration exceeding the MDL.

CONCLUSIONS

Based on the reported TCE concentrations greater than the SLUG REL and Ecology's directions, a chemical vapor intrusion barrier will be installed beneath the entire footprint of the proposed building to minimize the potential for soil vapor intrusion.

PLANNED ACTIONS

The IAWP contemplated continued soil gas sampling as excavation proceeded across the Property. Based upon the findings of the initial soil gas assessment, Ecology's statements, and the consequent determination to install a vapor intrusion barrier across the entire footprint of the building, Onni will not be collecting additional soil gas samples during further excavations.

Onni is currently evaluating vapor barrier products appropriate for this application. Upon selection of the product, the specifications and installation details will be provided to Ecology.

ENCLOSURES

Table

Table 1 Soli Gas Sampling Analytical Results (in µg/m^3)

Figure

Figure 1 Halogenated Soil Vapor Concentrations (May – June 2022)

Attachment

Attachment A Laboratory Analytical Reports

Table

Table 1
Detected Halogenated Volatile Organic Compounds in Soil Gas
Implementation of Interim Action Work Plan
Seattle Times Site
1120 John Street, Seattle, Washington

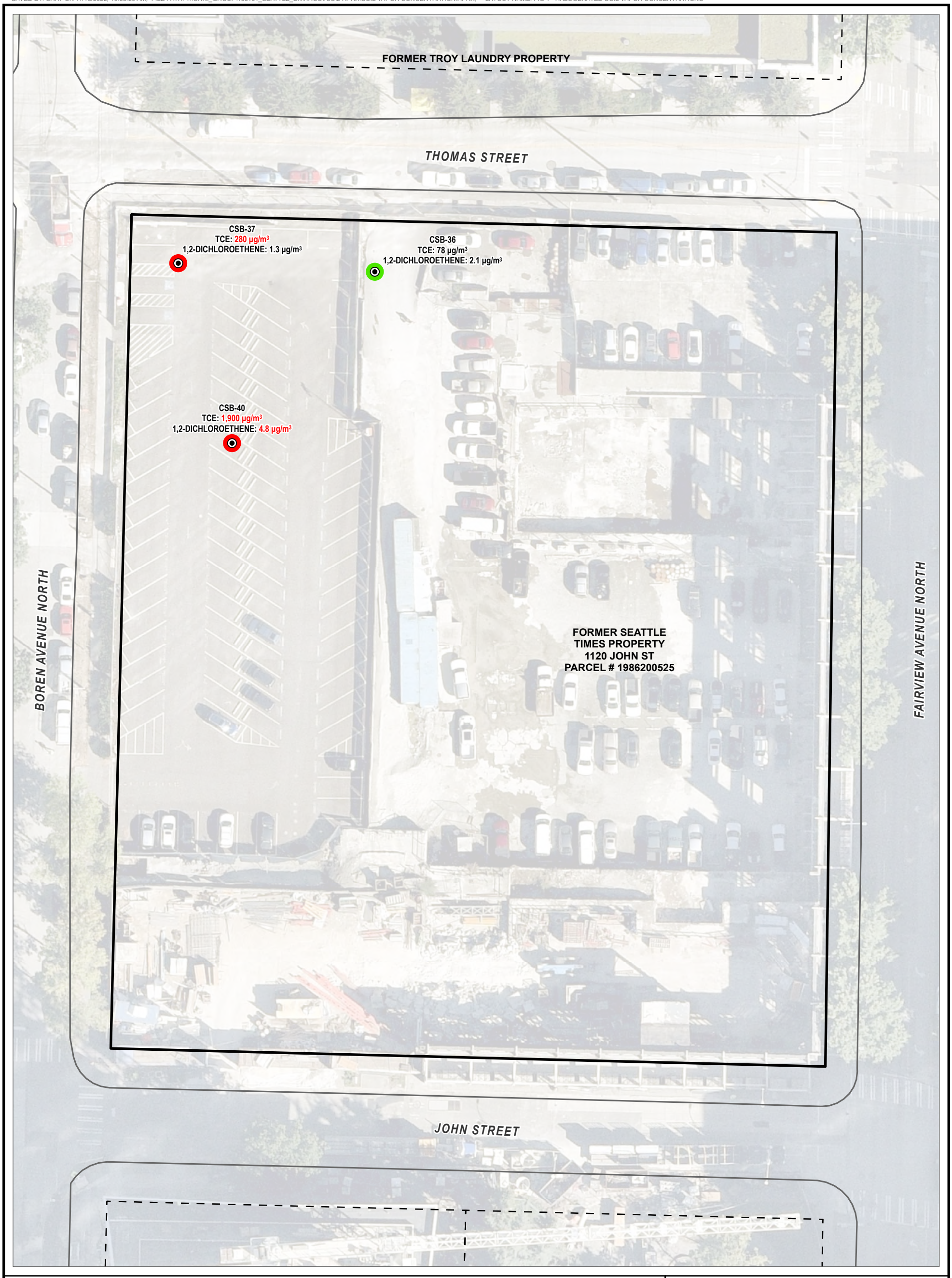
Sample ID	Sample Date	Tetrachloro-ethene (PCE)	Trichloro-ethene (TCE)	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane (EDC)	1,1-Dichloro-ethene	cis-1,2-Dichloro-ethene	trans-1,2-Dichloro-ethene	Chloro-ethane	Vinyl Chloride
CSB-36:SG	5/5/2022	<220	**78**	<17	<1.7	<13	**2.1**	<13	**33**	<13	<84	<8.2
CSB-37:SG	5/6/2022	<120	**280**	<9.3	<0.93	<6.9	**1.3**	<6.7	<6.7	<6.7	<45	<4.3
AA-1	5/6/2022	<40	<0.63	<3.2	<0.32	<2.4	<0.24	<2.3	<2.3	<2.3	<16	<1.5
CSB-40:SG	6/2/2022	<320	**1,900**	<26	<2.6	<19	**4.8**	<19	<19	<19	<120	<12
AA-2	6/2/2022	<34	<0.54	<2.7	<0.27	<2	<0.2	<2	<2	<2	<13	<1.3
Sub-Slab Soil Gas Screening Levels[b]		**320[c]**	**11[c]**	**76,000[d]**	**3.0[d]**	**52.0[c]**	**3.2[c]**	**3,000[d]**	**NVE**	**610[d]**	**NVE**	**9.5[c]**
South Lake Union Group Guidance - RELs[e]		**1500**	**95**	**NVE**	**NVE**	**NVE**	**NVE**	**NVE**	**NVE**	**5,200**	**NVE**	**44**

Notes:
All results presented in micrograms per cubic meter (µg/m^3).

Bold	Bold result indicates the compound was detected.
	Shaded cell indicates that the compound was detected at a concentration greater than the MTCA Method B screening level.
RED	Value in red is greater than its respective South Lake Union Group Remediation Levels (RELs).
<	Less than laboratory method detection limit
a	Analyzed by EPA Method TO-15.
b	Based on Model Toxics Control Act (MTCA) Method B Soil Gas Screening Levels.
c	Based on the Method B Screening level (cancer).
d	Based on the Method B Screening level (noncancer).
e	Ecology Memorandum to the South Lake Union Group dated July 18, 2022. The document establishes commercial Remediation Levels (RELs) for specific common contaminants in the area.
AA	Ambient air sample for background determination
NVE	No value established for this compound.

Figures

COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON NORTH FIPS 4601 FEET; MAP ROTATION: 0
-- SAVED BY: SRAY ON 11/18/2022, 10:53:20 AM; FILE PATH: T:\ONNI_GROUP\483101_SEATTLE_ENVIROSVCS\2-APRX\SOIL VAPOR CONCENTRATION.APRX; LAYOUT NAME: FIG 1 - HALOGENATED SOIL VAPOR CONCENTRATIONS



BORING WITH TRICHLOROETHENE (TCE) LESS THAN THE REL IN SOIL GAS

BORING WITH TCE GREATER THAN THE REL IN SOIL GAS

PAVEMENT EDGE

APPROXIMATE PARCEL BOUNDARY

APPROXIMATE PROPERTY BOUNDARY

DATA SOURCES: TRC, DIGITALMAP, KING COUNTY (2021), NEARMAP (2020).

NOTES:
ORIGINAL GRAPHICS INCLUDED IN COLOR. IF PRINTED IN BLACK AND WHITE, INFORMATION MIGHT BE MISSING.
CONCENTRATIONS IN MICROGRAMS PER CUBIC METER (µg/m³).
RED CONCENTRATIONS ARE GREATER THAN THE SOUTH LAKE UNION GROUP (SLUG) COMMERCIAL REMEDIATION LEVELS (RELs).

0 20 40 FEET

1:480 1" = 40'

PROJECT:
ONNI GROUP
SEATTLE TIMES SITE
1120 JOHN STREET, SEATTLE, WASHINGTON

TITLE:
HALOGENATED SOIL VAPOR CONCENTRATIONS (MAY-JUNE 2022)

DRAWN BY:	S. RAY	PROJ. NO.:	483101.0000.0000
CHECKED BY:	J. BOYD		
APPROVED BY:	J. BOYD		**FIGURE 1**
DATE:	NOVEMBER 2022		

TRC
1180 NW MAPLE STREET, SUITE 310
ISSAQUAH, WA 98027
PHONE: 425.395.0010

FILE: SOIL VAPOR CONCENTRATION

Attachment A
Laboratory Analytical Reports

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

May 13, 2022

Jerry Boyd, Project Manager
TRC Environmental
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: Onni Seattle Times 483101, F&BI 205092

Dear Mr Boyd:

Included are the results from the testing of material submitted on May 5, 2022 from the Onni Seattle Times 483101, F&BI 205092 project. There are 5 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Cynthia Moon, Joe Sherrod
TRC0513R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 5, 2022 by Friedman & Bruya, Inc. from the TRC Environmental Onni Seattle Times 483101, F&BI 205092 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	TRC Environmental
205092 -01	CSB-36:SG

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	CSB-36:SG	Client:	TRC Environmental
Date Received:	05/05/22	Project:	Onni Seattle Times 483101
Date Collected:	05/05/22	Lab ID:	205092-01 1/32
Date Analyzed:	05/09/22	Data File:	050921.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	92	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<8.2	<3.2
Chloroethane	<84	<32
1,1-Dichloroethene	<13	<3.2
trans-1,2-Dichloroethene	<13	<3.2
1,1-Dichloroethane	<13	<3.2
cis-1,2-Dichloroethene	33	8.4
1,2-Dichloroethane (EDC)	2.1	0.51
1,1,1-Trichloroethane	<17	<3.2
Trichloroethene	78	14
1,1,2-Trichloroethane	<1.7	<0.32
Tetrachloroethene	<220	<32

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	TRC Environmental
Date Received:	Not Applicable	Project:	Onni Seattle Times 483101
Date Collected:	Not Applicable	Lab ID:	02-0989 mb
Date Analyzed:	05/09/22	Data File:	050911.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.11	<0.02
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1

Date of Report: 05/13/22
Date Received: 05/05/22
Project: Onni Seattle Times 483101, F&BI 205092

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 205100-01 1/6.2 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.6	<1.6	nm
Chloroethane	ug/m3	<16	<16	nm
1,1-Dichloroethene	ug/m3	<2.5	<2.5	nm
trans-1,2-Dichloroethene	ug/m3	<2.5	<2.5	nm
1,1-Dichloroethane	ug/m3	<2.5	<2.5	nm
cis-1,2-Dichloroethene	ug/m3	<2.5	<2.5	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.25	<0.25	nm
1,1,1-Trichloroethane	ug/m3	<3.4	<3.4	nm
Trichloroethene	ug/m3	<0.67	<0.67	nm
1,1,2-Trichloroethane	ug/m3	<0.34	<0.34	nm
Tetrachloroethene	ug/m3	<42	<42	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	103	70-130
Chloroethane	ug/m3	36	98	70-130
1,1-Dichloroethene	ug/m3	54	103	70-130
trans-1,2-Dichloroethene	ug/m3	54	106	70-130
1,1-Dichloroethane	ug/m3	55	105	70-130
cis-1,2-Dichloroethene	ug/m3	54	101	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	97	70-130
1,1,1-Trichloroethane	ug/m3	74	105	70-130
Trichloroethene	ug/m3	73	98	70-130
1,1,2-Trichloroethane	ug/m3	74	99	70-130
Tetrachloroethene	ug/m3	92	105	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205092

SAMPLE CHAIN OF CUSTODY

05-05-22

Page # 1 of 1

Report To Jerry Boyd

Company TRC

Address 1180 NW Maple St, Suite 310

City, State, ZIP Issaquah, WA 98027

Phone (425) 395-0010 Email JBoyd@trccompanies.com cc: CMoon@trccompanies.com

SAMPLERS (*signature*)

PROJECT NAME & ADDRESS: Omni Seattle Times 483101

PO # 182129

NOTES:

INVOICE TO

TURNAROUND TIME
- ☒ Standard
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Default: Clean after 3 days
- ☐ Archive (Fee may apply)

SAMPLE INFORMATION / ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
CSB-36:SG	01	7998	224	IA / (SG)	5/5/22	29.5	1537	20.5	1609			X				Moisture in bottom of borehole
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

Samples received at ___ °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Madison Taylor	Madison Taylor	TRC	5/5/22	1732
Received by: VNH	VNH	FBI	5/5/22	1732
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

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fbi@isomedia.com
www.friedmanandbruya.com

May 16, 2022

Jerry Boyd, Project Manager
TRC Environmental
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: Onni 182124, F&BI 205116

Dear Mr Boyd:

Included are the results from the testing of material submitted on May 6, 2022 from the Onni 483101 182124, F&BI 205116 project. There are 6 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Cynthia Moon, Joe Sherrod
TRC0516R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 6, 2022 by Friedman & Bruya, Inc. from the TRC Environmental Onni 483101 182124, F&BI 205116 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	TRC Environmental
205116 -01	CSB-37:SG
205116 -02	AA-1

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	CSB-37:SG	Client:	TRC Environmental
Date Received:	05/06/22	Project:	Onni 483101 182124
Date Collected:	05/06/22	Lab ID:	205116-01 1/17
Date Analyzed:	05/09/22	Data File:	050919.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<4.3	<1.7
Chloroethane	<45	<17
1,1-Dichloroethene	<6.7	<1.7
trans-1,2-Dichloroethene	<6.7	<1.7
1,1-Dichloroethane	<6.9	<1.7
cis-1,2-Dichloroethene	<6.7	<1.7
1,2-Dichloroethane (EDC)	1.3	0.32
1,1,1-Trichloroethane	<9.3	<1.7
Trichloroethene	280	53
1,1,2-Trichloroethane	<0.93	<0.17
Tetrachloroethene	<120	<17

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	AA-1	Client:	TRC Environmental
Date Received:	05/06/22	Project:	Onni 483101 182124
Date Collected:	05/06/22	Lab ID:	205116-02 1/5.9
Date Analyzed:	05/09/22	Data File:	050918.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.5	<0.59
Chloroethane	<16	<5.9
1,1-Dichloroethene	<2.3	<0.59
trans-1,2-Dichloroethene	<2.3	<0.59
1,1-Dichloroethane	<2.4	<0.59
cis-1,2-Dichloroethene	<2.3	<0.59
1,2-Dichloroethane (EDC)	<0.24	<0.059
1,1,1-Trichloroethane	<3.2	<0.59
Trichloroethene	<0.63	<0.12
1,1,2-Trichloroethane	<0.32	<0.059
Tetrachloroethene	<40	<5.9

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	TRC Environmental
Date Received:	Not Applicable	Project:	Onni 483101 182124
Date Collected:	Not Applicable	Lab ID:	02-0989 mb
Date Analyzed:	05/09/22	Data File:	050911.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	93	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.11	<0.02
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1

Date of Report: 05/16/22
Date Received: 05/06/22
Project: Onni 483101 182124, F&BI 205116

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 205100-01 1/6.2 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.6	<1.6	nm
Chloroethane	ug/m3	<16	<16	nm
1,1-Dichloroethene	ug/m3	<2.5	<2.5	nm
trans-1,2-Dichloroethene	ug/m3	<2.5	<2.5	nm
1,1-Dichloroethane	ug/m3	<2.5	<2.5	nm
cis-1,2-Dichloroethene	ug/m3	<2.5	<2.5	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.25	<0.25	nm
1,1,1-Trichloroethane	ug/m3	<3.4	<3.4	nm
Trichloroethene	ug/m3	<0.67	<0.67	nm
1,1,2-Trichloroethane	ug/m3	<0.34	<0.34	nm
Tetrachloroethene	ug/m3	<42	<42	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	103	70-130
Chloroethane	ug/m3	36	98	70-130
1,1-Dichloroethene	ug/m3	54	103	70-130
trans-1,2-Dichloroethene	ug/m3	54	106	70-130
1,1-Dichloroethane	ug/m3	55	105	70-130
cis-1,2-Dichloroethene	ug/m3	54	101	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	97	70-130
1,1,1-Trichloroethane	ug/m3	74	105	70-130
Trichloroethene	ug/m3	73	98	70-130
1,1,2-Trichloroethane	ug/m3	74	99	70-130
Tetrachloroethene	ug/m3	92	105	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205116

SAMPLE CHAIN OF CUSTODY

05-06-22

Page # 1 of 1

Report To Jerry Boyd

Company TRC

Address 1180 NW Maple St, Suite 310

City, State, ZIP Issaquah, WA 98027

Phone (425) 395-0010 Email JBoyd@trccompanies.com cc: CMoon@trccompanies.com

SAMPLERS (*signature*)

PROJECT NAME & ADDRESS: Onni Seattle Times Project #483101, 1120 John St, Seattle, WA

PO # 182124

NOTES:

INVOICE TO

TURNAROUND TIME
- [x] Standard
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Default: Clean after 3 days
- [ ] Archive (Fee may apply)

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
CSB-37:SG	01	8526	225	IA / (SG)	5/6/22	>30	1413	4	1421			X				
AA-1	02	8531	204	IA / (SG)	5/6/22	26	1434	3	1440			X				
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Madison	Madison Taylor	TRC	5/6/22	1654
Received by:		BISRAT TADESSE	FBI	5/6/22	1654
Relinquished by:					
Received by:			Samples received at 16 °C		

FORMS\COC\COCTO-15.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 15, 2022

Jerry Boyd, Project Manager
TRC Environmental
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: Onni Seattle Times 182124, F&BI 206057

Dear Mr Boyd:

Included are the results from the testing of material submitted on June 2, 2022 from the Onni Seattle Times 182124, F&BI 206057 project. There are 6 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Cynthia Moon. Joe Sherrod
TRC0615R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 2, 2022 by Friedman & Bruya, Inc. from the TRC Environmental Onni Seattle Times 182124, F&BI 206057 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	TRC Environmental
206057 -01	CSB-40:SG
206057 -02	AA-2

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	CSB-40:SG	Client:	TRC Environmental
Date Received:	06/02/22	Project:	Onni Seattle Times 182124
Date Collected:	06/02/22	Lab ID:	206057-01 1/47
Date Analyzed:	06/07/22	Data File:	060227.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<12	<4.7
Chloroethane	<120	<47
1,1-Dichloroethene	<19	<4.7
trans-1,2-Dichloroethene	<19	<4.7
1,1-Dichloroethane	<19	<4.7
cis-1,2-Dichloroethene	<19	<4.7
1,2-Dichloroethane (EDC)	4.8	1.2
1,1,1-Trichloroethane	<26	<4.7
Trichloroethene	1,900	360
1,1,2-Trichloroethane	<2.6	<0.47
Tetrachloroethene	<320	<47

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	AA-2	Client:	TRC Environmental
Date Received:	06/02/22	Project:	Onni Seattle Times 182124
Date Collected:	06/02/22	Lab ID:	206057-02 1/5
Date Analyzed:	06/07/22	Data File:	060226.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	82	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<1.3	<0.5
Chloroethane	<13	<5
1,1-Dichloroethene	<2	<0.5
trans-1,2-Dichloroethene	<2	<0.5
1,1-Dichloroethane	<2	<0.5
cis-1,2-Dichloroethene	<2	<0.5
1,2-Dichloroethane (EDC)	<0.2	<0.05
1,1,1-Trichloroethane	<2.7	<0.5
Trichloroethene	<0.54	<0.1
1,1,2-Trichloroethane	<0.27	<0.05
Tetrachloroethene	<34	<5

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	TRC Environmental
Date Received:	Not Applicable	Project:	Onni Seattle Times 182124
Date Collected:	Not Applicable	Lab ID:	02-1348 MB
Date Analyzed:	06/06/22	Data File:	060212.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	84	70	130

Compounds:	Concentration ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Trichloroethene	<0.11	<0.02
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1

Date of Report: 06/15/22
Date Received: 06/02/22
Project: Onni Seattle Times 182124, F&BI 206057

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: 206083-01 1/4.3 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.1	<1.1	nm
Chloroethane	ug/m3	<11	<11	nm
1,1-Dichloroethene	ug/m3	<1.7	<1.7	nm
trans-1,2-Dichloroethene	ug/m3	<1.7	<1.7	nm
1,1-Dichloroethane	ug/m3	<1.7	<1.7	nm
cis-1,2-Dichloroethene	ug/m3	<1.7	<1.7	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.17	<0.17	nm
1,1,1-Trichloroethane	ug/m3	<2.3	<2.3	nm
Trichloroethene	ug/m3	<0.46	<0.46	nm
1,1,2-Trichloroethane	ug/m3	<0.23	<0.23	nm
Tetrachloroethene	ug/m3	140	140	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	85	70-130
Chloroethane	ug/m3	36	101	70-130
1,1-Dichloroethene	ug/m3	54	102	70-130
trans-1,2-Dichloroethene	ug/m3	54	100	70-130
1,1-Dichloroethane	ug/m3	55	98	70-130
cis-1,2-Dichloroethene	ug/m3	54	100	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	95	70-130
1,1,1-Trichloroethane	ug/m3	74	103	70-130
Trichloroethene	ug/m3	73	104	70-130
1,1,2-Trichloroethane	ug/m3	74	105	70-130
Tetrachloroethene	ug/m3	92	116	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

206057

SAMPLE CHAIN OF CUSTODY

6/2/22

Page # 1 of 1

Report To Jerry Boyd / Joe Sherrod

Company TRC

Address 1180 NW Maple St.

City, State, ZIP Issaquah, WA 98027

Phone _____ Email jboyd@trcompanies.com

SAMPLERS (*signature*)

PROJECT NAME & ADDRESS	PO #
Omni Seattle Times	182124
NOTES:	INVOICE TO: TRC

TURNAROUND TIME
- ☑ Standard
- ☐ RUSH _____

Rush charges authorized by: _____

SAMPLE DISPOSAL
- ☐ Default: Clean after 3 days
- ☐ Archive (Fee may apply)

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 ~~cVOCs~~ HVOCs	APH	Helium		Notes
CSB-40: SG	01	3390	31	IA (SG)	6/2/22	30.00	1231	4	1236			X				
AA-2	02	4175	02	IA / (SG)	6/2/22	28.00	1230	5	1239			X				
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

NP

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Joe Sherrod	TRC	6/2/22	1634
Received by: Windy Madden	Windy Madden	F+BT	6/2/22	1634
Relinquished by:				
Received by:		Samples received at 22 °C		

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