GeoEngineers

Plaza 600 Building
600 Stewart Street, Suite 1700
Seattle, Washington 98101
206.728.2674

June 20, 2018

Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7500

Attention: Christopher Maurer, P.E.

Subject: Notice Under IRIS - 500 Fifth Avenue North Property Environmental Covenant – Site ID No 2593
Removal of AS/SVE System Components
Seattle, Washington
File No. 12068-001-24

INTRODUCTION

This letter summarizes the removal of the above-ground components of the air sparging and soil vapor extraction (AS/SVE) treatment system, capping of the underground AS/SVE piping in a new vault and the restoration of the cap disturbance in accordance with the Environmental Covenant placed on the 500 Fifth Avenue North Property located in Seattle, Washington (Figure 1).

BACKGROUND

In-situ groundwater treatment has been performed by the Seattle Center to prevent the off-property migration of gasoline-related contaminants and to reduce the overall contaminant mass for this Site. Groundwater monitoring activities related to the Gasoline Contamination Site (from historic City of Seattle bus barn operations), and operation and maintenance of the in-situ groundwater treatment system and long-term natural attenuation performance monitoring details are described in Shannon & Wilson's Post-Construction Groundwater Monitoring Plan (Shannon & Wilson, 2017). In accordance with this plan, components of the in-situ treatment system would be decommissioned following eight quarters of rebound monitoring where results indicate continued compliance with established cleanup standards in compliance monitoring wells and performance wells show a continued stable and/or shrinking plume status.

In accordance with the Post-Construction Groundwater Monitoring Plan, results of the February 2018 groundwater monitoring event (8th quarterly groundwater monitoring event) showed a continued stable and/or shrinking contaminant plume which triggered the decommissioning of above ground in-situ groundwater treatment system components. However, below ground components of the treatment

system remain in place pending continued performance monitoring to ensure compliance with the cleanup standards. Groundwater monitoring activities are summarized in Shannon & Wilson's December 2017 to February 2018 (29th Quarter) Phase II Groundwater and Remediation System Monitoring Report (Shannon & Wilson, 2018).

SUMMARY OF ACTIVITIES

Following the requirements of the 500 Fifth Avenue North Property Environmental Covenant, IRIS Holdings, LLC provided notification to the Washington State Department of Ecology (Ecology) on May 7, 2018 that the above ground components of the AS/SVE groundwater treatment system would be removed by the Seattle Center. In addition, the Seattle Center would also complete excavation activities within capped portions of the property to install a new vault that would house the AS/SVE piping to facilitate re-establishment of in-site groundwater treatment activities in the event that groundwater monitoring data showed unstable or an increasing contaminant plume.

In accordance with the procedures for soil and groundwater management described in the Ecology-approved Final Post-Construction Environmental Management Plan (GeoEngineers, 2017) the soil excavation and restoration activities of the soil cap were performed between May 21 and May 23, 2018. The location and schematic of new vault location relative to nearby site features is shown on Figure 2. Photos obtained during these activities showing the disturbance of the soil cap, management of soil during construction and restoration of the soil cap are provided in Appendix A. Below is a summary of the activities completed by Shannon & Wilson on behalf of the Seattle Center at the site.

1. Shannon & Wilson coordinated the removal of the above-ground portions of the AS/SVE in-situ groundwater treatment system, including blowers, filter vessels and impacted filter media from the Phase II treatment compound located in the eastern portion of the 500 Fifth Avenue North Property.
2. Associated piping for the AS/SVE system were abandoned in place and a small polycarbonate vault was installed around the cut and capped piping in the landscaped area west of the former Phase II treatment compound, in the event the piping may need to be used again.
3. Installation of the vault required the excavation and temporary stockpiling of clean topsoil and underlying fill soil associated with the Contaminated Fill Site. A visual marker, orange construction-type fencing encountered between approximately 2 and 3 feet below ground surface was cut and removed to expose the underlying fill soil. An excavation measuring approximately 5 feet long by 5 feet wide by 6 feet deep was completed to access the buried AS/SVE piping. The AS/SVE piping was cut and capped in place and a vault positioned at this location for future access to the system piping.
4. Excavated topsoil and underlying fill soil (soil beneath the visual marker) was temporarily stockpiled at the property following the stockpile management procedures outlined in the Post-Construction Environmental Management Plan. Upon completion of the vault installation activities, stockpiled fill and topsoil was returned to the excavation.
5. Following placement of the fill soil, the visual marker was restored to prior to the placement of the clean topsoil.

TREATMENT SYSTEM WASTE CHARACTERIZATION AND DISPOSAL

During the decommissioning of the AS/SVE system, granular activated carbon (GAC) vessels were emptied and their filter media removed. Approximately 3,300 pounds of waste water contained within the GAC vessels was transferred to six 55-gallon drums for temporary storage pending permitted disposal. A sample of the waste water was submitted for chemical analysis at Friedman and Bruya, Inc. laboratory in Seattle, Washington. This sample was submitted for chemical analysis of gasoline range petroleum hydrocarbons by Ecology Method NWTPH-Gx, and petroleum-related volatile organic compounds: Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) by EPA Method 8021b. Gasoline-range petroleum and BTEX were not detected greater than laboratory detection limits in the water sample. A copy of the laboratory data is provided in Appendix B.

Based on the analytical results, waste water contained in the six 55-gallon drums were transported to Chemical Waste Management for stabilization and permitted disposal at their facility in Arlington, Oregon. In addition, approximately 4.67 tons of carbon filter media removed from the treatment vessels was transported to Cadman in Everett, Washington for permitted disposal. Disposal receipts for the waste water and carbon filter media are provided in Appendix C.

CONCLUSIONS

This letter summarizes the removal of the above-ground portions of the AS/SVE groundwater treatment system and installation activities for a new vault within the soil cap in compliance with the Environmental Covenant placed on the 500 Fifth Avenue North Property. Waste water and spent treatment media (i.e., GAC) was properly handled and disposed of at permitted disposal facilities. Soil excavation activities and restoration of the soil cap was completed including segregation and temporary stockpiling of clean topsoil and underlying fill soil, and restoration of the visual marker were completed in compliance with the Ecology-approved Final Post-Construction Environmental Management Plan.

Please let us know if you have any questions concerning the activities completed at the 500 Fifth Avenue North Property (Site ID No 2593).

Sincerely,
GeoEngineers, Inc.

Robert S. Trahan
Senior Environmental Scientist

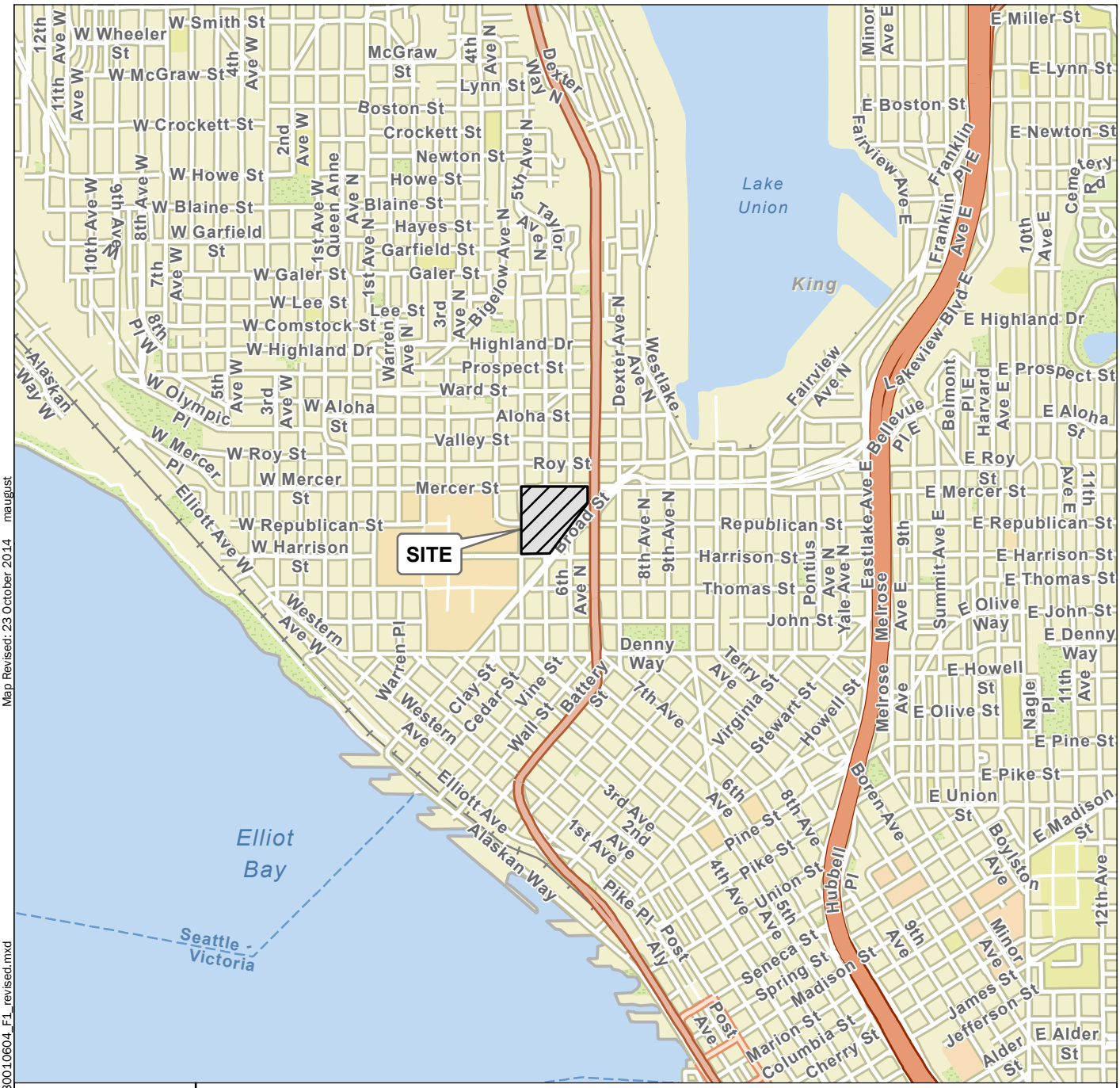
Tony Orme, PE
Associate

CTB:RST:TO:lw

Attachments:
Figure 1. Vicinity Map
Figure 2. Site Plan
Appendix A. Photo Log
Appendix B. Chemical Analytical Data
Appendix C. Disposal Receipts

cc: Christine Page, IRIS Holdings, LLC, christene.page@gatesfoundation.com
Lisa Johnson, IRIS Holdings, LLC, lisa.johnson@gatesfoundation.com
Robert Trahan, GeoEngineers, rtrahan@geoengineers.com
Debi Hudacek, Seneca Group, debih@senecagroup.com
Konrad Liegel, Konrad J. Liegel, Attorney-At-Law, PLLC, konrad@konradliegel.com
Ned Dunn, City of Seattle, ned.dunn@seattle .gov

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.



Data Sources: ESRI Data & Maps

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Projection: NAD 1983 UTM Zone 10N

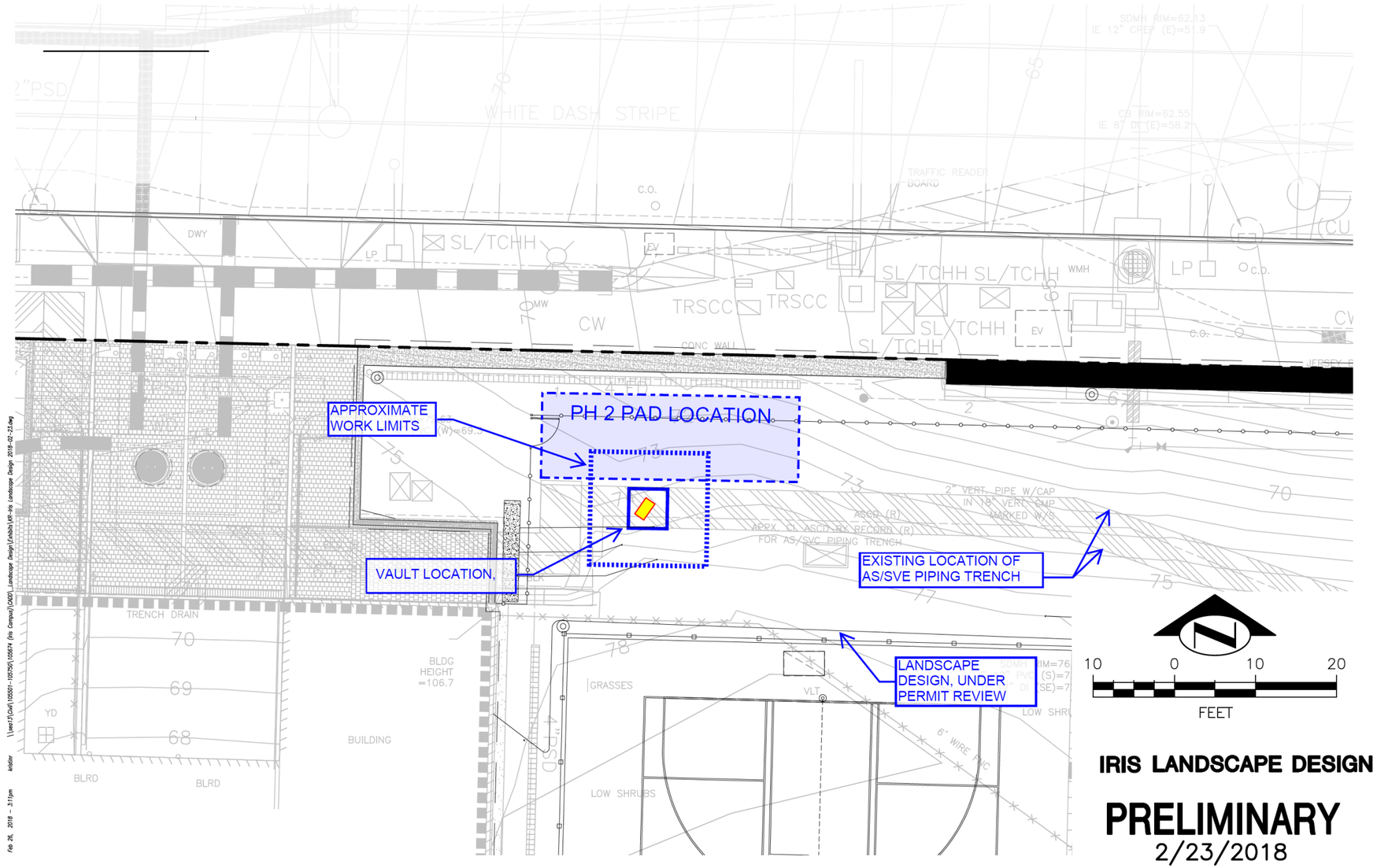
Office:
Path: \\sea\projects\12\12068001\06\GIS\MXDs\120680010604_F1_revised.mxd
Map Revised: 23 October 2014 maugust

Vicinity Map

500 Fifth Avenue North Property
Seattle, Washington

GeoEngineers

Figure 1



IRIS LANDSCAPE DESIGN

PRELIMINARY
2/23/2018

Legend

Figure is an interpretation of Shannon & Wilson's field measurements, provided by KPFF June 6, 2018

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source:

N W E S

Not to Scale

Site Plan

500 Fifth Avenue North Property
Seattle, Washington

GeoEngineers

Figure 2

projects.geoengineers.12068001.24.AS-SVE Treatment System Removal Letter\AS-SVE System Removal_Fig 02 Date Exported: 06/015/18

APPENDIX A
Photo Log



Photograph 1. Photo of the cut and capped AS/SVE piping. Note the removal of clean overburden and temporary removal of the visual indicator (orange fencing).



Photograph 2. AS/SVE vault covering the piping, photo looking west.

AS/SVE System Removal	
IRIS - 500 Fifth Avenue North Property Seattle, WA	
GeoEngineers	Appendix A1

projects.geoengineers/12068001/24/AS-SVE Treatment System Removal Letter/AS-SVE System Removal Photo Log Date Exported: 06/015/18



Photograph 3. Cut and capped AS/SVE piping.



Photograph 4. Backfill of vault excavation with contaminated soil.

AS/SVE System Removal	
IRIS - 500 Fifth Avenue North Property Seattle, WA	
GeoEngineers	Appendix A2

projects.geoengineers/12068001/24/AS-SVE Treatment System Removal Letter/AS-SVE System Removal Photo Log Date Exported: 06/015/18



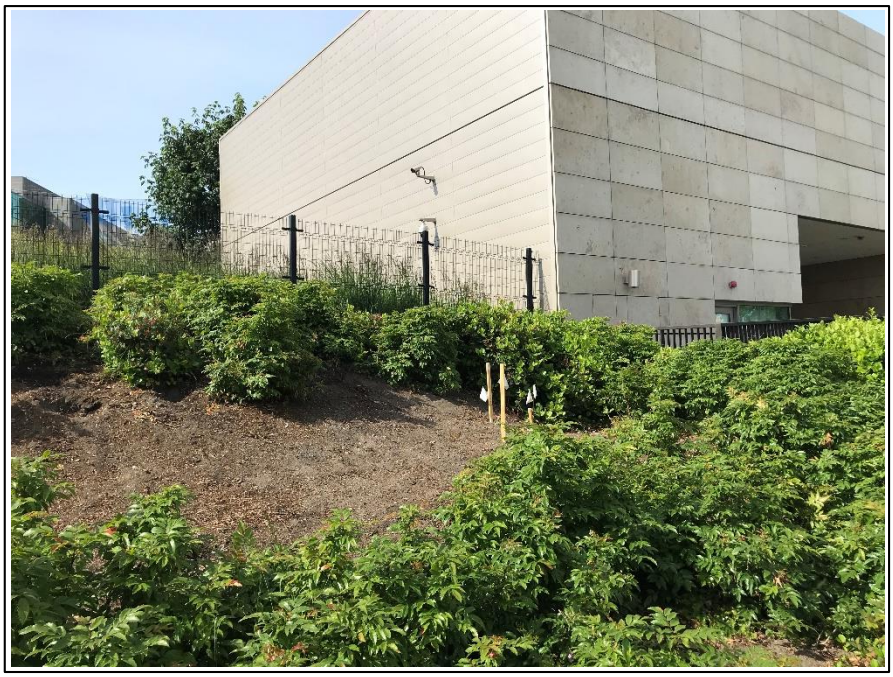
Photograph 5. Restored the visual marker identifying contaminated soil.



Photograph 6. Photo of stockpiled topsoil placed over the visual marker.

AS/SVE System Removal	
IRIS - 500 Fifth Avenue North Property Seattle, WA	
GeoEngineers	Appendix A3

projects.geoengineers/12068001/24/AS-SVE Treatment System Removal Letter/AS-SVE System Removal Photo Log Date Exported: 06/015/18



Photograph 7. Photo of the vault excavation area and restoration activities.

projects.geoengineers/.12068001/.24/AS-SVE Treatment System Removal Letter/AS-SVE System Removal Photo Log Date Exported: 06/015/18

APPENDIX B
Chemical Analytical Data

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

May 18, 2018

Christian Canfield, Project Manager
Shannon & Wilson, Inc.
400 N. 34th Street, Suite 100
Seattle, WA 98103

Dear Mr Canfield:

Included are the results from the testing of material submitted on May 16, 2018 from the Seattle Center 21-1-12176, F&BI 805279 project. There are 4 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
SWI0518R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 16, 2018 by Friedman & Bruya, Inc. from the Shannon & Wilson Seattle Center 21-1-12176, F&BI 805279 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Shannon & Wilson
805279 -01	S.C. Tank

All quality control requirements were acceptable.

Date of Report: 05/18/18
Date Received: 05/16/18
Project: Seattle Center 21-1-12176, F&BI 805279
Date Extracted: 05/16/18
Date Analyzed: 05/16/18

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
S.C. Tank 805279-01	<1	<1	<1	<3	<100	94
Method Blank 08-1009 MB	<1	<1	<1	<3	<100	93

Date of Report: 05/18/18
Date Received: 05/16/18
Project: Seattle Center 21-1-12176, F&BI 805279

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 805246-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	107	65-118
Toluene	ug/L (ppb)	50	111	72-122
Ethylbenzene	ug/L (ppb)	50	116	73-126
Xylenes	ug/L (ppb)	150	110	74-118
Gasoline	ug/L (ppb)	1,000	89	69-134

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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

805279

SAMPLE CHAIN OF CUSTODY

ME 05-16-18 | AI2 | UW1

Page # ____ of ____

Report To Christian Canfield

Company Shannon & Wilson, Inc.

Address 400 N. 34th St., Suite 100

City, State, ZIP Seattle, WA 98103

Phone 206-695-6716 Email ctc@shanwil.com

SAMPLERS (*signature*)

PROJECT NAME: Seattle Center

PO #: 21-1-12176

REMARKS: Rush

INVOICE TO: SWI

TURNAROUND TIME
- ☐ Standard Turnaround
- ☑ RUSH Next day

Rush charges authorized by:

SAMPLE DISPOSAL
- ☑ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
						ANALYSES REQUESTED											
S.C. Tank	01 A-B	5/16	1100	W	2			X	X								

Samples received at 22 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Christian Canfield	SWI	5/16	1140
Received by:	Matt Langston	FBI	5/16/18	1140
Relinquished by:				
Received by:				

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

APPENDIX C
Disposal Receipts

CADMAN
HEIDELBERGCEMENTGroup®
(888) 322-6847 425-961-7100

WEIGHMASTER STATION
98781100
Everett S&G
6300 Glenwood Avenue
Everett, WA 98213

TICKET NO.	1124021539	TICKET TIME	10:31:06	DATE	6/1/2018
Customer No.	Payment Type	Customer Name			Order No.
7949956	Account	CLEARCREEK CONTRACTORS, INC.			10076910
Customer Job. No.	Customer P.O.			Map Ref.	Disp. Ord. #
	218008			/	
Truck Type	Truck No.	Vehicle or License Plate No.	Trailer or License Plate No.	Zone	
Solo	CLE19UT				
Hauler/Carrier No.	Driver's Name	Delivered/Ordered	Load No.	Running Total	
		-2.93 /	1	-2.93	

EV/P GATES FOUNDATION, CARBON
440 5TH AVE N
SEATTLE

CADMAN HEIDELBERGCEMENTGroup www.cadman.com

Product	Description	Total	Unit Price	Amount
99005	CLASS 3 SOILS (TN)	2.93		

SCALE WEIGHT	GROSS & TARE		Fuel Surcharge	
Gross 18,780 LB		A STANDBY SURCHARGE WILL BE ASSESSED FOR LOADS THAT EXCEED 10 MINUTES UNLOADING TIME.	Sales Tax	
Tare 12,920 LB/P.T.	☒ Scale 1 ☐ Scale 2	LIABILITY WAIVER	Total	
Net 5,860 LB	X Regan, Angelique Deputy Weighmaster	Cadman, (Inc.) will not assume Liability for any property damage or any equipment damage for any delivery beyond the curb line.		

No one available to sign, customer waives receipt signature. ☐	Received by Signature X	Print Name (Customer) X	Driver's Signature X	Standby Time	
Arrive Job	Start Unloading	Finish Unloading	Standby Time	Customer's Initials X	This Tickets Grand Total

CADMAN
HEIDELBERGCEMENTGroup®
(888) 322-6847 425-961-7100

WEIGHMASTER STATION
98781100
Everett S&G
6300 Glenwood Avenue
Everett, WA 98213

TICKET NO.	1124021596	TICKET TIME	12:18:04	DATE	6/1/2018
Customer No.	Payment Type	Customer Name			Order No.
7949956	Account	CLEARCREEK CONTRACTORS, INC.			10076910
Customer Job. No.	Customer P.O.			Map Ref.	Disp. Ord. #
	218008			/	
Truck Type	Truck No.	Vehicle or License Plate No.	Trailer or License Plate No.	Zone	
Solo	CLE19UT				
Hauler/Carrier No.	Driver's Name	Delivered/Ordered	Load No.	Running Total	
		-4.67 /	2	-4.67	

EV/P GATES FOUNDATION, CARBON
440 5TH AVE N
SEATTLE

CADMAN HEIDELBERGCEMENTGroup www.cadman.com

Product	Description	Total	Unit Price	Amount
99005	CLASS 3 SOILS (TN)	1.74		

SCALE WEIGHT	GROSS & TARE		Fuel Surcharge	
Gross 16,400 LB		A STANDBY SURCHARGE WILL BE ASSESSED FOR LOADS THAT EXCEED 10 MINUTES UNLOADING TIME.	Sales Tax	
Tare 12,920 LB/P.T.*	☐ Scale 1 ☒ Scale 2	LIABILITY WAIVER	Total	
Net 3,480 LB	X Regan, Angelique Deputy Weighmaster	Cadman, (Inc.) will not assume Liability for any property damage or any equipment damage for any delivery beyond the curb line.		

No one available to sign, customer waives receipt signature. ☐	Received by Signature X	Print Name (Customer) X	Driver's Signature X	Standby Time	
Arrive Job	Start Unloading	Finish Unloading	Standby Time	Customer's Initials X	This Tickets Grand Total

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: [illegible]
2. Page 1 of
3. Emergency Response Phone: (800) 424-9300
4. Manifest Tracking Number: 016203138 JJK

GENERATOR

5. Generator's Name and Mailing Address
SEATTLE CENTER
305 6TH AVE N
SEATTLE WA 98109
Generator's Phone: [illegible]

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: CHEMICAL WASTE MANAGEMENT
U.S. EPA ID Number: ORD089152383

7. Transporter 2 Company Name: UNION PACIFIC RAILROAD
U.S. EPA ID Number: NED981792910

8. Designated Facility Name and Site Address
CHEMICAL WASTE MANAGEMENT, INC.
12039 CEDAR SPRINGS LANE
ARLINGTON OR 97812-9709
Facility's Phone: 800-451-2011
U.S. EPA ID Number: ORD089152383

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. MATERIAL NOT REGULATED BY D.O.T.	6	DM	3,300	P	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
PO#4356081 STORM WATER

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: DREW BUTLER
Signature: Drew Butler
Month: 6 Day: 5 Year: 18

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: REG UNRAU
Signature:
Month: 6 Day: 8 Year: 18

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

U.S. EPA Form 8700-22

Read all instructions before completing this form.

1. This form has been designed for use on a 12-pitch (elite) typewriter which is also compatible with standard computer printers; a firm point pen may also be used—press down hard.
2. Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, and disposal facilities to complete this form (EPA Form 8700–22) and, if necessary, the continuation sheet (EPA Form 8700–22A) for both inter- and intrastate transportation of hazardous waste.

Public reporting burden for this collection of information is estimated to average 30 minutes for generators, 10 minutes for transporters, and 25 minutes for owners or operators of treatment, storage, and disposal facilities. This includes time for reviewing instructions, gathering data, completing, reviewing and transmitting the form. Any correspondence regarding the PRA burden statement for the manifest must be sent to the Director of the Collection Strategies Division in EPA's Office of Information Collection at the following address: U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW., Washington, DC 20460. Do not send the completed form to this address.

I. Instructions for Generators

Item 1. Generator's U.S. EPA Identification Number

Enter the generator's U.S. EPA twelve digit identification number, or the State generator identification number if the generator site does not have an EPA identification number.

Item 2. Page 1 of ___

Enter the total number of pages used to complete this Manifest (*i.e.*, the first page (EPA Form 8700-22) plus the number of Continuation Sheets (EPA Form 8700-22A), if any).

Item 3. Emergency Response Phone Number

Enter a phone number for which emergency response information can be obtained in the event of an incident during transportation. The emergency response phone number must:

1. Be the number of the generator or the number of an agency or organization who is capable of and accepts responsibility for providing detailed information about the shipment;
2. Reach a phone that is monitored 24 hours a day at all times the waste is in transportation (including transportation related storage); and
3. Reach someone who is either knowledgeable of the hazardous waste being shipped and has comprehensive emergency response and spill cleanup/incident mitigation information for the material being shipped or has immediate access to a person who has that knowledge and information about the shipment.

Note: Emergency Response phone number information should only be entered in Item 3 when there is one phone number that applies to all the waste materials described in Item 9b. If a situation (*e.g.*, consolidated shipments) arises where more than one Emergency Response phone number applies to the various wastes listed on the manifest, the phone numbers associated with each specific material should be entered after its description in Item 9b.

Item 4. Manifest Tracking Number

This unique tracking number must be pre-printed on the manifest by the forms printer.

Item 5. Generator's Mailing Address, Phone Number and Site Address

Enter the name of the generator, the mailing address to which the completed manifest signed by the designated facility should be mailed, and the generator's telephone number. Note, the telephone number (including area code) should be the normal business number for the generator, or the number where the generator or his authorized agent may be reached to provide instructions in the event the designated and/or alternate (if any) facility rejects some or all of the shipment. Also enter the physical site address from which the shipment originates only if this address is different than the mailing address.

Item 6. Transporter 1 Company Name, and U.S. EPA ID Number

Enter the company name and U.S. EPA ID number of the first transporter who will transport the waste. Vehicle or driver information may not be entered here.

Item 7. Transporter 2 Company Name and U.S. EPA ID Number

If applicable, enter the company name and U.S. EPA ID number of the second transporter who will transport the waste. Vehicle or driver information may not be entered here.

If more than two transporters are needed, use a Continuation Sheet(s) (EPA Form 8700-22A).

Item 8. Designated Facility Name, Site Address, and U.S. EPA ID Number

Enter the company name and site address of the facility designated to receive the waste listed on this manifest. Also enter the facility's phone number and the U.S. EPA twelve digit identification number of the facility.

Item 9. U.S. DOT Description (Including Proper Shipping Name, Hazard Class or Division, Identification Number, and Packing Group)

Item 9a. If the wastes identified in Item 9b consist of both hazardous and nonhazardous materials, then identify the hazardous materials by entering an "X" in this Item next to the corresponding hazardous material identified in Item 9b.

Item 9b. Enter the U.S. DOT Proper Shipping Name, Hazard Class or Division, Identification Number (UN/NA) and Packing Group for each waste as identified in 49 CFR 172. Include technical name(s) and reportable quantity references, if applicable.

Note: If additional space is needed for waste descriptions, enter these additional descriptions in Item 27 on the Continuation Sheet (EPA Form 8700-22A). Also, if more than one Emergency Response phone number applies to the various wastes described in either Item 9b or Item 27, enter applicable Emergency Response phone numbers immediately following the shipping descriptions for those Items.

Item 10. Containers (Number and Type)

Enter the number of containers for each waste and the appropriate abbreviation from Table I (below) for the type of container.

TABLE I.--TYPES OF CONTAINERS

BA = Burlap, cloth, paper, or plastic bags.	DT = Dump truck.
CF = Fiber or plastic boxes, cartons, cases.	DW = Wooden drums, barrels, kegs.
CM = Metal boxes, cartons, cases (including roll-offs).	HG = Hopper or gondola cars.
CW = Wooden boxes, cartons, cases.	TC = Tank cars.
CY = Cylinders.	TP = Portable tanks.
DF = Fiberboard or plastic drums, barrels, kegs.	TT = Cargo tanks (tank trucks).
DM = Metal drums, barrels, kegs.	

Item 11. Total Quantity

Enter, in designated boxes, the total quantity of waste. Round partial units to the nearest whole unit, and *do not* enter decimals or fractions. To the extent practical, report quantities using appropriate units of measure that will allow you to report quantities with precision. Waste quantities entered should be based on actual measurements or reasonably accurate estimates of actual quantities shipped. Container capacities are not acceptable as estimates.

Item 12. Units of Measure (Weight/Volume)

Enter, in designated boxes, the appropriate abbreviation from Table II (below) for the unit of measure.

TABLE II.--UNITS OF MEASURE

G = Gallons (liquids only).	N = Cubic Meters.
K = Kilograms.	P = Pounds.
L = Liters (liquids only).	T = Tons (2000 Pounds).
M = Metric Tons (1000 kilograms).	Y = Cubic Yards.

Note: Tons, Metric Tons, Cubic Meters, and Cubic Yards should only be reported in connection with very large bulk shipments, such as rail cars, tank trucks, or barges.

Item 13. Waste Codes

Enter up to six federal and state waste codes to describe each waste stream identified in Item 9b. State waste codes that are not redundant with federal codes must be entered here, in addition to the federal waste codes which are most representative of the properties of the waste.

Item 14. Special Handling Instructions and Additional Information

1. Generators may enter any special handling or shipment-specific information necessary for the proper management or tracking of the materials under the generator's or other handler's business processes, such as waste profile numbers, container codes, bar codes, or response guide numbers. Generators also may use this space to enter additional descriptive information about their shipped materials, such as chemical names, constituent percentages, physical state, or specific gravity of wastes identified with volume units in Item 12.
2. This space may be used to record limited types of federally required information for which there is no specific space provided on the manifest, including any alternate facility designations; the manifest tracking number of the original manifest for rejected wastes and residues that are re-shipped under a second manifest; and the specification of PCB waste descriptions and PCB out-of-service dates required under 40 CFR 761.207. Generators, however, cannot be required to enter information in this space to meet state regulatory requirements.

Item 15. Generator's/Offeror's Certifications

1. The generator must read, sign, and date the waste minimization certification statement. In signing the waste minimization certification statement, those generators who have not been exempted by statute or regulation from the duty to make a waste minimization certification under section 3002(b) of RCRA are also certifying that they have complied with the waste minimization requirements. The Generator's Certification also contains the required attestation that the shipment has been properly prepared and is in proper condition for transportation (the shipper's certification). The content of the shipper's certification statement is as follows: "I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent." When a party other than the generator prepares the shipment for transportation, this party may also sign the shipper's certification statement as the offeror of the shipment.
2. Generator or Offeror personnel may preprint the words, "On behalf of" in the signature block or may hand write this statement in the signature block prior to signing the generator/offeror certification, to indicate that the individual signs as the employee or agent of the named principal.

Note: All of the above information except the handwritten signature required in Item 15 may be pre-printed.